e-chain®



igus.eu ... e-chains® and e-chain systems® ... 2022 ... motion? plastics!

systems

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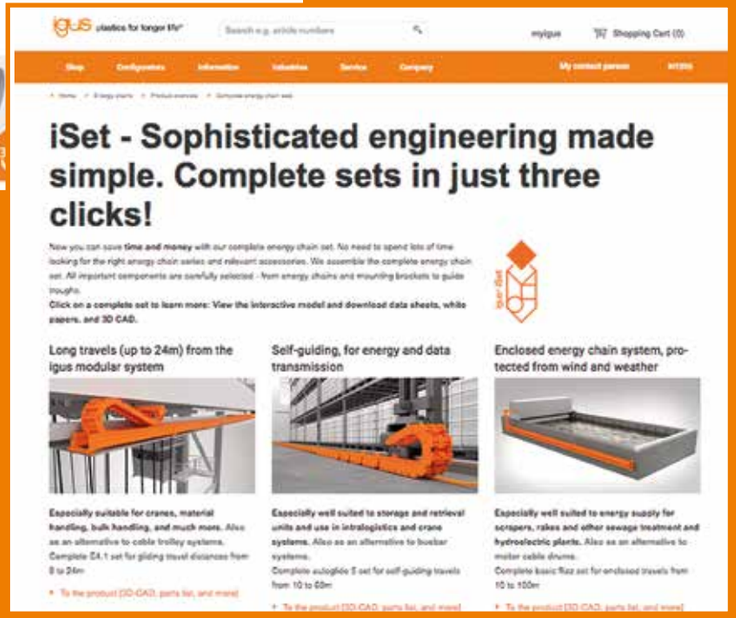
地址：台中市神岡區中山路667巷26弄18號

電話：（04）2561-0236 轉 11 或 18

傳真：（04）2561-0010

Moving energy made easy: online







Designing with igus® e-chains® - calculation tools, installation types, applications
readychain® and readycable®,
igus® installation service with guarantee
▶ From page 108



igus® solutions for simple applications
e-rib, E1 system, snapchain,
OCR office chain*, office e-chain®
▶ From page 166



Easy to fill e-chains® with "easy" design or zip-open design
easy chain®, zipper e-chain® and e-tubes
▶ From page 212



All-rounder e-chains® and e-tubes micro ... mini ... medium
E2 micro, mini, E2.1 micro, E2.1, E2/000
▶ From page 274



Protection against dirt and swarf - openable e-tubes
E2 e-tubes - series E2 R100, E2 R, R2.1, RX
▶ From page 442



E4 - universal modular kit - e-chains® and e-tubes for any application
E4.1L, E4Q*, E4.1, E4/light
▶ From page 538



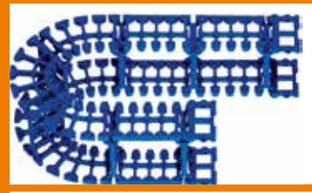
Plastic-steel hybrid e-chain® Tough, shake-proof and compact
YE system*
▶ From page 772



Cleanroom energy supply systems as connectable individual profiles or as openable corrugated tubes
Modular and flat cable guidance system e-skin® flat SKF.
Corrugated tubes consisting of an upper and lower shell e-skin® SK, SKS, SKY.
▶ From page 798



Cleanroom e-chains® and e-tubes low noise, low vibration and high dynamics
E6.1, E6, E3, T3
▶ From page 832



e-chain® designed according to hygienic principles - FDA and EU-compliant materials
System TH3
▶ From page 944

igus® guarantees
The igus® e-chain® service life guarantee of up to 36 months is valid for the number of double strokes calculated according to the igus® e-chains® online service life calculator (▶ **www.igus.eu/info/energy-chains-service-life-calculator**) or for a maximum of 36 months after the delivery date, whichever comes first. Guarantee conditions and scope: for the specified guarantee period, we will deliver a replacement free of charge (delivery ex-works). This applies to igus® e-chain® components for wear and tear. This does not include failure due to mechanical impact and damage due to incorrect assembly. Shipping of replacement parts does not prolong the guarantee period. Further information on e-chains® guarantee at ▶ **www.igus.eu/e-chain-guarantee**

The igus® chainflex® guarantee is conditional upon operating conditions being valid for the cable range in question. These consist of parameters such as temperature, movement type, torsion, media influence and bend radius. The guarantee you receive will cover a maximum of 36 months or a maximum of ten million double strokes (for cables of the chainflex® 800 family, up to five million double strokes; for high-end cables, up to 40 million double strokes), whichever comes first. This is described in the current catalogue, in the data sheets and in the online chainflex® service life calculator (▶ **www.igus.eu/ChainflexTools/ServiceLifeCalculator**). Further information on the chainflex® guarantee at ▶ **www.igus.eu/guarantee**

Disclaimer
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e-chains® for robotic and 3D circular and spiral movements
triflex® R, retraction system, easy triflex®, triflex®, twisterchain, twisterband
▶ From page 958



Solutions for multi-axis motion
e-spool® flex 2.0*, e-spool® compact, e-spool® with manual pull-out, e-spool® standard and HD, e-spool® power
▶ From page 1126



Solutions for vertical motion
liftband, guidelok slimline P, e-loop®*
▶ From page 1146



Solutions for horizontal motion
guidelok horizontal, basic flizz®, micro flizz®
▶ From page 1174



Solutions for predictive maintenance and condition monitoring
smart plastics - i.Sense* - i.Cee* condition monitoring - predictive maintenance and igus® engineering
▶ From page 1194



e-chains® for long travels
E4/4HD, P4 system, rol e-chain®
▶ From page 1212



Make savings on long travel distances with self-guiding e-chains®
autoglide 5*, E2/000AG, E4.1AG
▶ From page 1264



Guide troughs for long travels for standard and heavy-duty applications
Aluminium SuperTrough and steel guide trough
▶ From page 1290



Other guide trough systems
Steel and aluminium support tray, guidefast, guidelite, tubular trough, snap-in trough
▶ From page 1354



chainfix strain relief for maximum holding force
Clamps, tiewrap plates, honeycomb strain relief, etc.
▶ From page 1392

Tech up.
Cost down.



Dear customer,

When using energy supply systems from igus®, you will always find the best e-chain system® for your application. At a small price. In this catalogue, we show you the whole product range of our energy chains, from the proven top-seller up to new developments. Whether for cleanrooms, robots, long travels or maritime use - the modular igus® system makes energy supply easy. With smart plastics, we have also developed systems and sensors that offer condition monitoring and predictive maintenance. We offer many online configurators to help you quickly find the right product for your specific requirement. One of these tools is the service life calculator. With it, you have the additional option of requesting a certificate for a guarantee of up to 36 months for your chosen system. We can give this guarantee because we know exactly what our products can do through numerous tests in the laboratory and in real life. And even after your system has run its course, we are there for you and take back old energy chains to recycle them in our "**Chainge**" program.

Michael Blaß
CEO e-chain systems®



e-chain systems®.

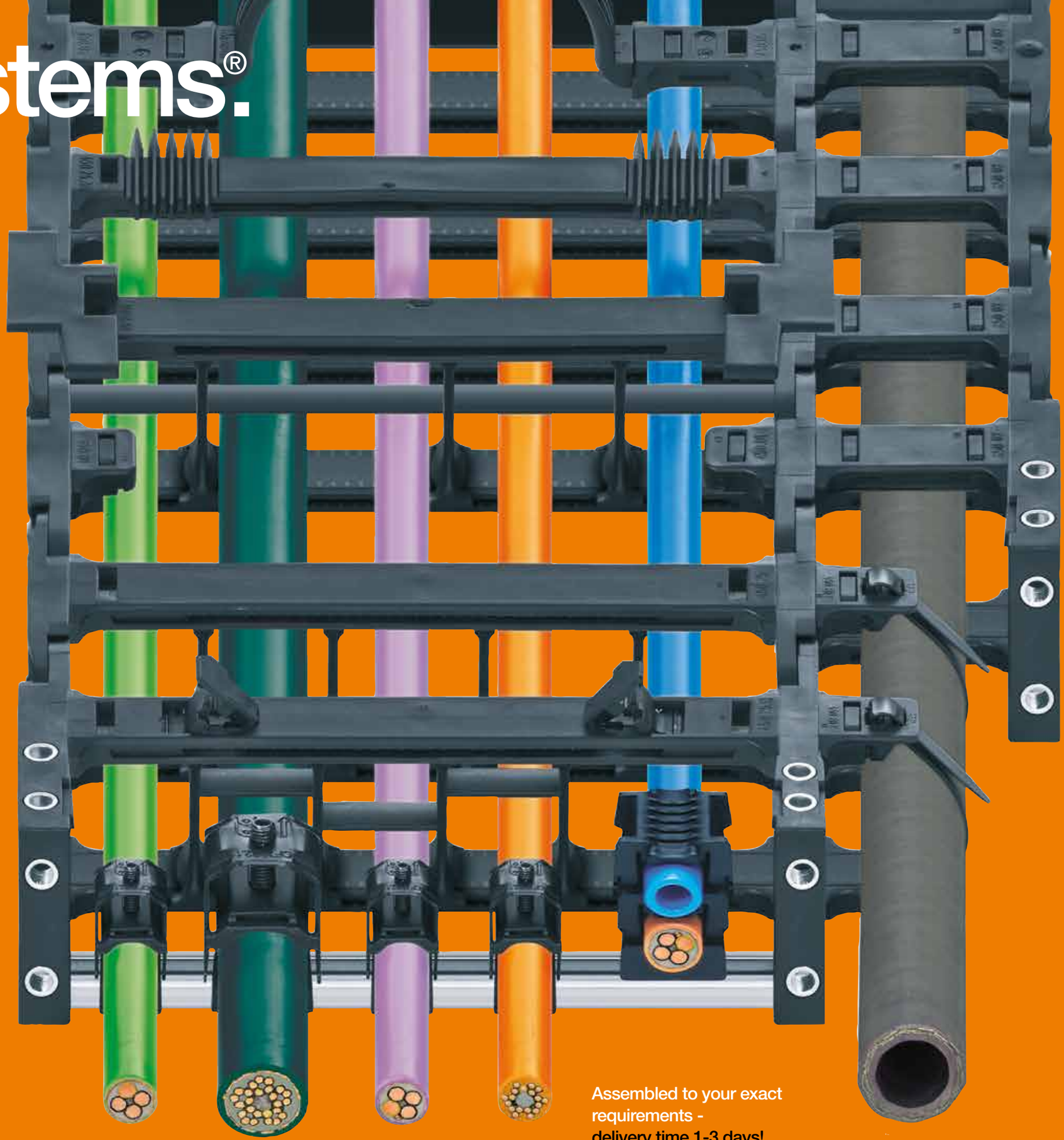
Moving energy made easy

Millions of igus® e-chains® are working in customer applications worldwide - from beverage dispensers to steelworks. They have a modular design and are therefore easy to assemble. They are resistant to different media and are ideal for very small spaces as well as for large, heavy cables and hoses.

e-chains® and e-chain systems® are indispensable for modern machines, and they are constantly moving and supplying power, data and energy. igus® has been developing, producing and testing polymer e-chains® since 1971. Our expert knowledge is being continuously refined with the help of our customers to constantly improve our product range.

- Many options in terms of movement and length
- High requirements regarding service life where dynamic loads are very high
- For different environments and applications
- Innovative products that can be assembled very quickly
- Large range of products - find the right solution quickly
- System quotes, including made-to-measure harnessing and "turnkey" installation

► **www.igus.eu/the-chain**



Assembled to your exact requirements - delivery time 1-3 days!

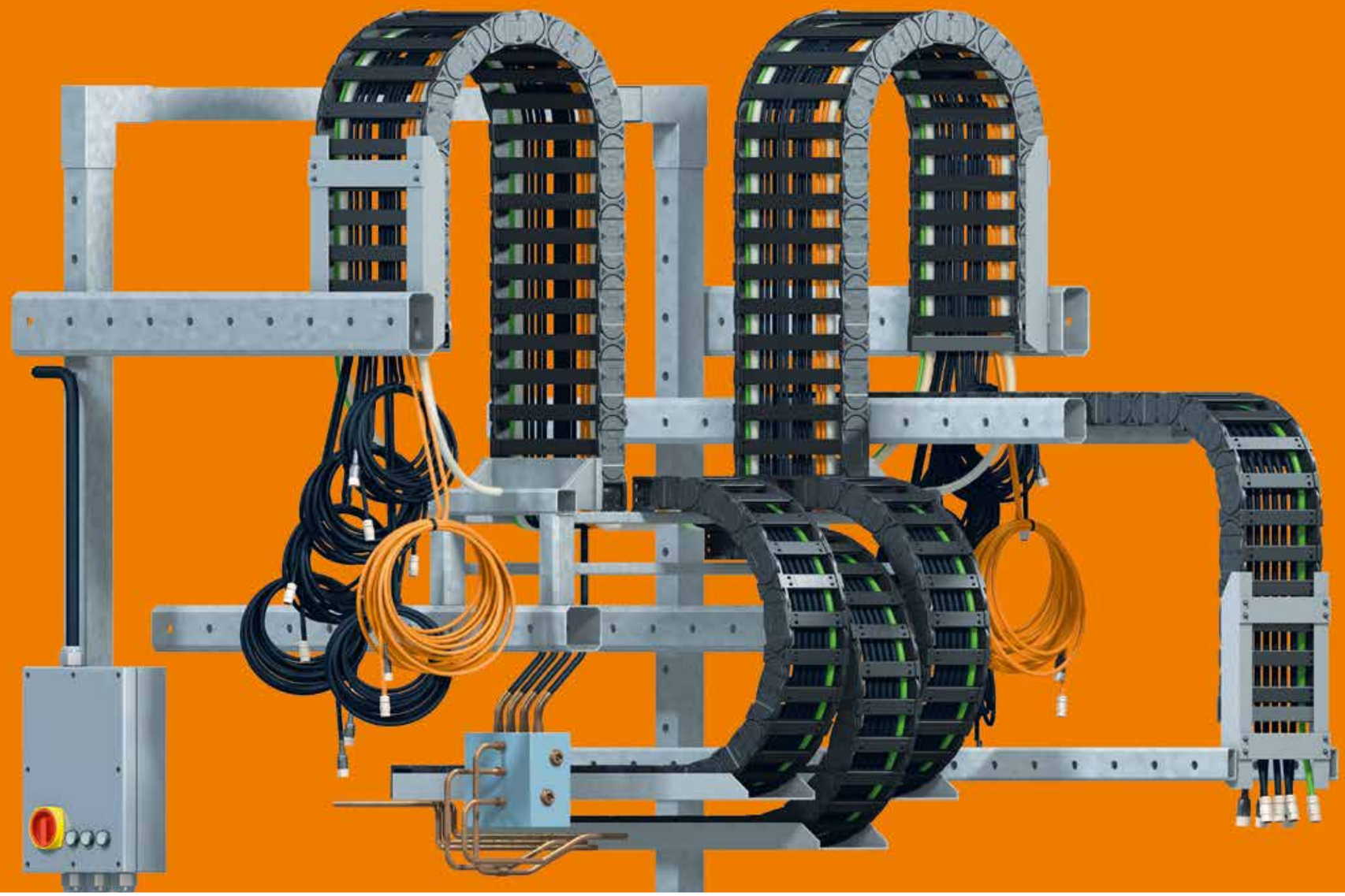
readychain®

Ready-to-install e-chain systems®: reduce assembly and harnessing time by 95%
Ready-made energy supply systems are developed, fitted with connectors and delivered ready to fit to your machine. Customers can dispense with their own storage space for e-chains®, cables and connectors, saving time and space for internal logistics and for assembly and installation of their energy supply system. The ready-made modules reduce process costs for our customers by up to 80% and dramatically increase throughput. Machine downtime is also minimised. To achieve this, we supply the systems worldwide from 12 assembly and logistics centres.

- Harnessing time is reduced by up to 95%
- Reduction in manufacturing costs
- Minimal amount of logistics work - no storage space necessary
- Procurement optimisation - one system, one part number
- Reduce assembly time - less machine downtime
- Installation on the spot - international service with 32 subsidiaries
- Special designs are possible - igus® is developing further components

► www.igus.eu/readychain

Premium
Consists of an energy chain equipped with electrical cables, pneumatic and hydraulic hoses and sensor systems including connectors as well as transport and assembly rack.





Basic
Consists of an e-chain® equipped with electrical cables, pneumatic and hydraulic hoses without plug connections.



Standard
Consists of an e-chain® equipped with electrical cables, pneumatic and hydraulic hoses and sensor systems including connectors.



Standard plus
Consists of an e-chain® equipped with electrical cables, pneumatic and hydraulic hoses and sensor systems including connectors as and mounting metalwork.

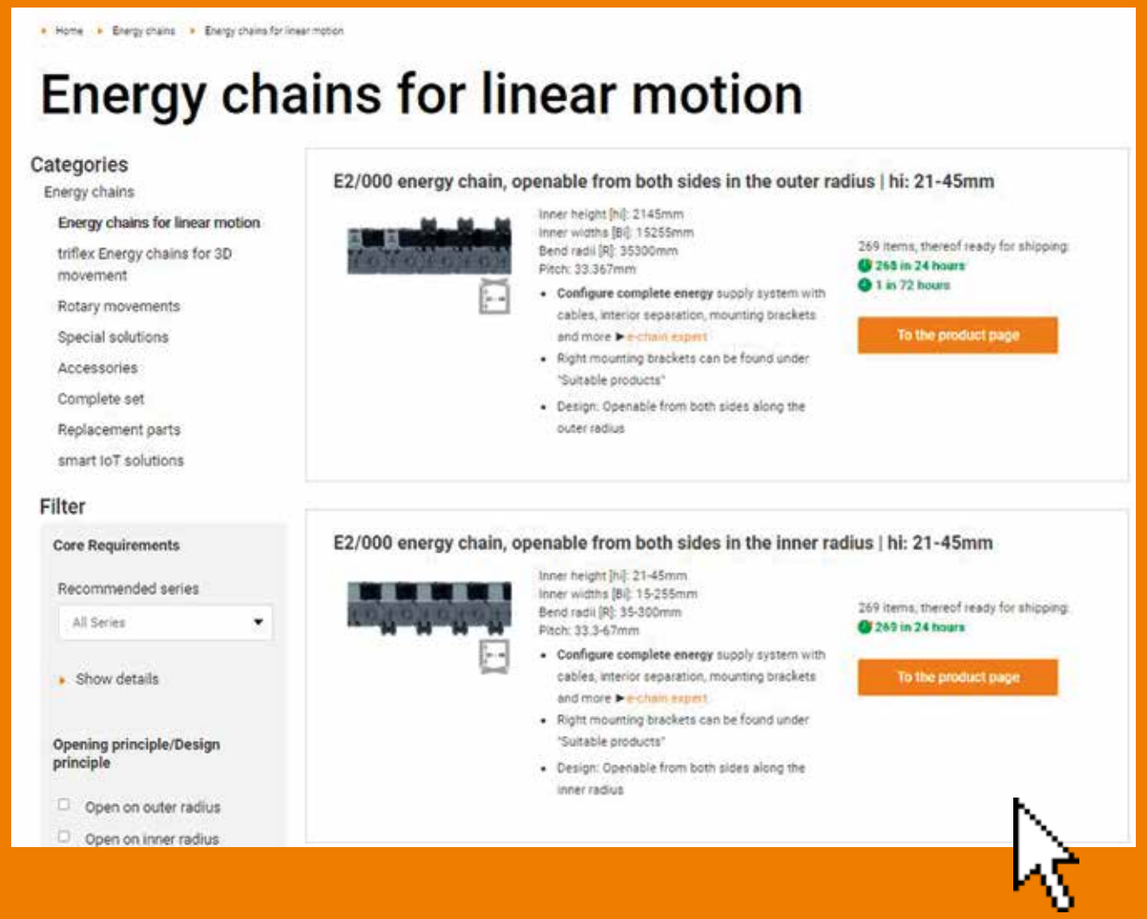
Online tools.

Digital assistance to save time
Do you want to have the right product in your hands as quickly as possible? Then use our online tools. With just a few clicks, you can identify parts, run a simulation with your application parameters, calculate the expected service life and place an order. Or use our CAD software to design products online. All this is possible and without cost or registration.

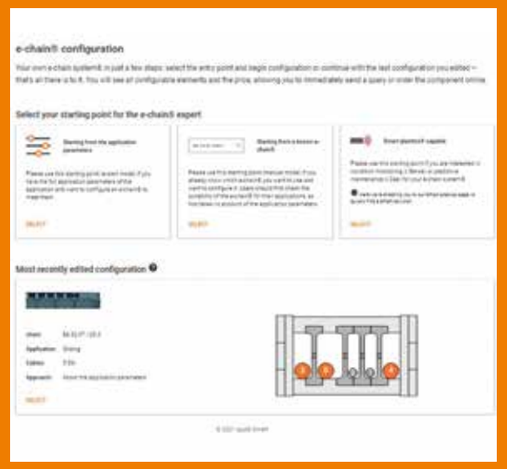
You will also find online:
- Comparisons and selection tools
- DXF data
- Data sheets
- Application pictures and videos
- Assembly instructions
- Personal support

► www.igus.eu/configurator

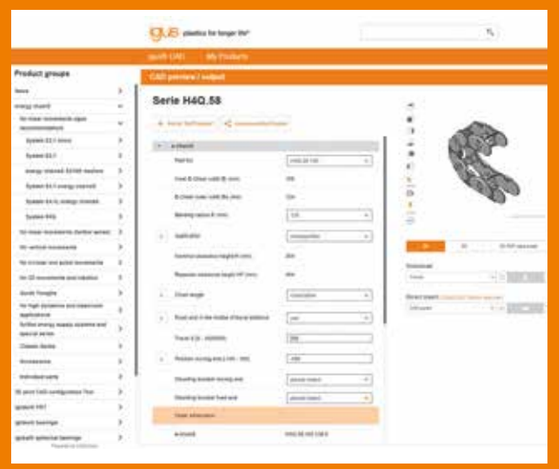
FIND
with the igus® product filters



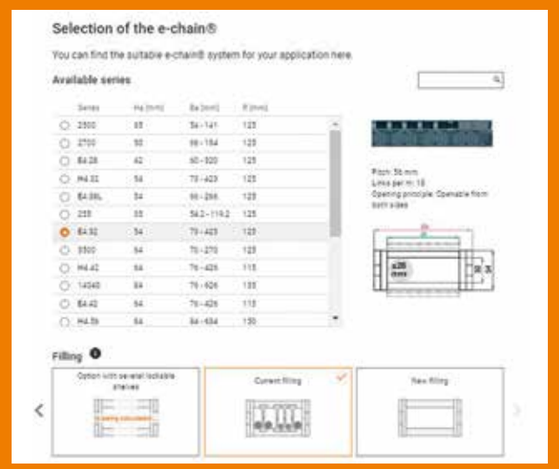
CALCULATE & CONFIGURE ONLINE
with igus® expert systems



CAD DOWNLOAD
with igus® configurators and CAD



ORDER DIRECTLY/SUBMIT ENQUIRY
in the igus® online shop



Tested.

We operate the largest test laboratory in the industry for you - 10 billion test cycles per year in the laboratory for energy chains and chainflex® cables (as of 04/2022)

Are e-chains® correct for your application? You don't need to guess. Instead, we operate the largest test laboratory in the industry on an area of 3,800 square metres. We test energy chain systems there under the realistic conditions. 180 test stations perform over ten billion test cycles with e-chains® and chainflex® cables every year. We use the results to develop the optimum energy supply system for any application and to make reliable statements about service life. Regardless of whether your application is in the dusty desert or freezing cold. For this reason, we also offer you an above-average guarantee of up to 36 months - as the only supplier worldwide to do so (as of 04/2022).



IPA-certified in-house cleanroom laboratory



Cable test, more than 80 million strokes



Bend factor test, 76 million strokes at 9.4 x d



Outdoor test facility for travel lengths of up to 400m



Swarf test, 100% swarf-resistant



Test for torsion and twisting



3,800m² igus® lab.It is the largest test lab in the energy chain industry with 65 e-chain® test machines and about 7,515 test results per year

► www.igus.eu/testlab

Guaranteed.

Up to 36 months e-chain® guarantee* - use the service life calculator to determine the guaranteed service life and receive your individual guarantee certificate online

The service life of e-chains® often exceeds 10 years. The new guarantee service gives customers the confidence of being able to design their individual application right and always choose the most cost-effective e-chain® that works reliably.

- Up to 36 months guarantee* on all e-chain® components that have failed due to wear and tear
- Generate individual guarantee certificate via the igus® e-chain® service life calculator and have it sent by e-mail
- Free replacement parts for e-chains® that fail due to wear and tear
- The chainflex® cables used in the e-chain® also come with up to 36 months guarantee



▶ Quickly harnessed ... ▶ ... quickly delivered ... ▶ ... with an up to 36-month guarantee*!



Guarantee information*

The igus® e-chain® guarantee of up to 36 months applies to the number of double strokes according to the online service life calculator (www.igus.eu/info/energy-chains-service-life-calculator). The guarantee conditions available at ▶ www.igus.eu/e-chain-guarantee apply.

The igus® chainflex® guarantee of up to 36 months is valid for the calculated number of double strokes according to the online service life calculator (www.igus.eu/ChainflexTools/ServiceLifeCalculator).
The guarantee conditions available at ▶ www.igus.eu/guarantee apply.

Guarantee igus e-chain 36 up to 36 months guarantee

Guarantee igus chainflex 36 up to 36 months guarantee

▶ www.igus.eu/ECS-service-life

Recycling.

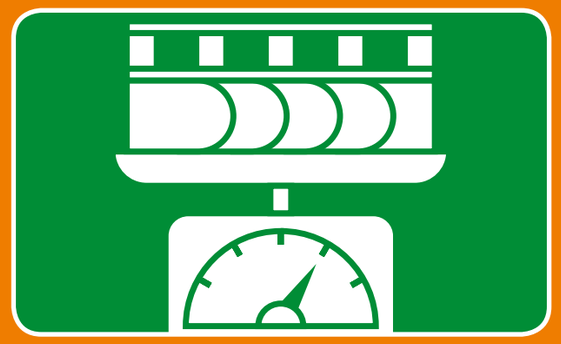
Let's protect the environment together! We can recycle old energy chains, irrespective of their manufacturer

CO_2 emissions in the industry are driving climate change. Industry must take responsibility to counteract this development. We have therefore launched the **chainge** recycling program.

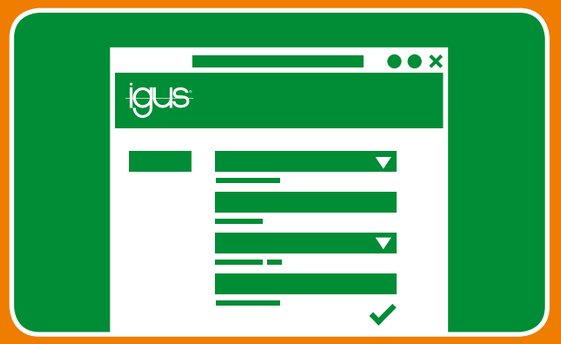
Send us your old energy chains instead of simply disposing of them with industrial waste. We will separate the material into its constituent materials and shred it. We use the granulate of igus® energy chains for moulding new products. We turn the recycled material from competitors' chains over to circular economy exchanges. Of course, the program is also rewarding for you. We compensate your commitment with a voucher for new igus® products.



1. Clean



2. Weigh



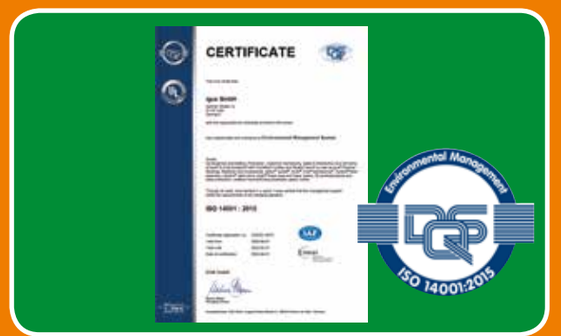
3. Fill out the form



4. Pack



5. You will receive a voucher that you can then use for new igus® products



Our environmental management is certified according to DQS ISO 14001:2015

iem
igus® enviromental management



the chainge
the igus® green chainge recycling program

► www.igus.eu/chainge

Fast delivery.

Our supply chain pushes the accelerator for you
We guarantee fast delivery worldwide - with 4,250 employees in Germany and at 31 international subsidiaries as well as offices and support points in numerous other countries. 97% of the catalogue parts are immediately available. Your order will be ready to ship within 24-48 hours - even sooner if you wish. You can conveniently track the shipment online.

And best of all: there are no surcharges for small quantities, no cutting charges for cables and no packaging costs.



Shipped from 24hrs



No minimum order quantity



7-20 plus Saturday service



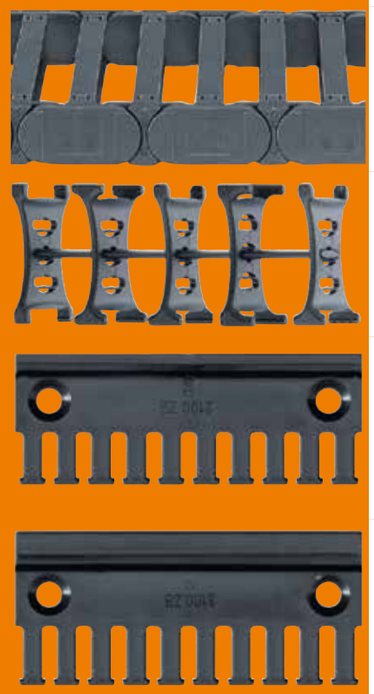
Online order tracking

► www.igus.eu/24hrs

24hrs

Single components e.g.

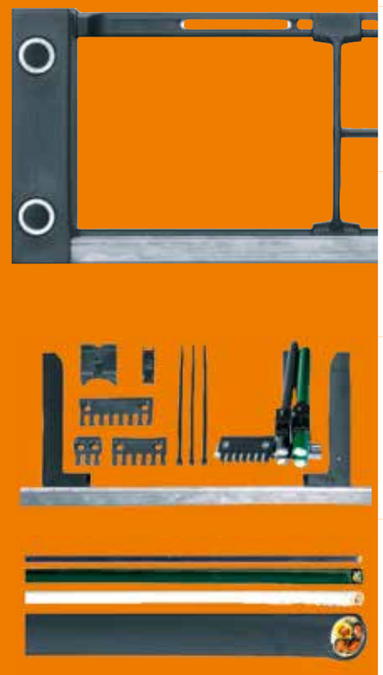
A single e-chain® link, 6m of e-chain®, 3 strain relief elements, etc.



24-72hrs

Customised e-chain systems® e.g.

11.46m of igus® e-chains® with interior separators, mounting brackets and strain relief elements according to your specifications. Also with loose accessories as chainflex® cables, guide troughs, mounting brackets, strain relief and installation materials



3-5 business days

Harnessed systems, e.g. readychain® basic

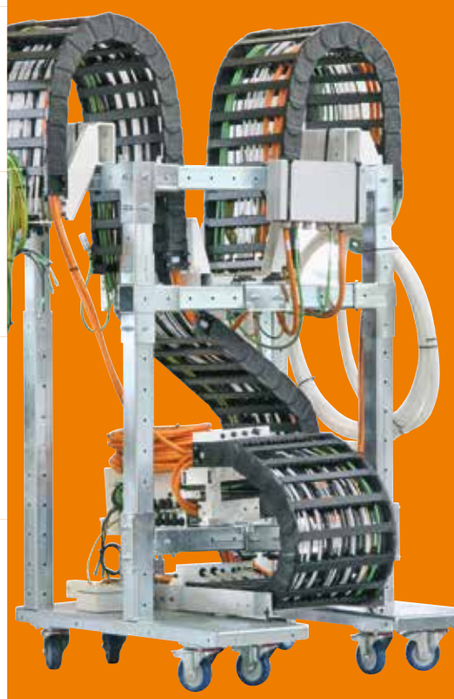
Simple, harnessed e-chain systems® including installed cables without connectors, labelled and tail lengths to your specifications



10 business days

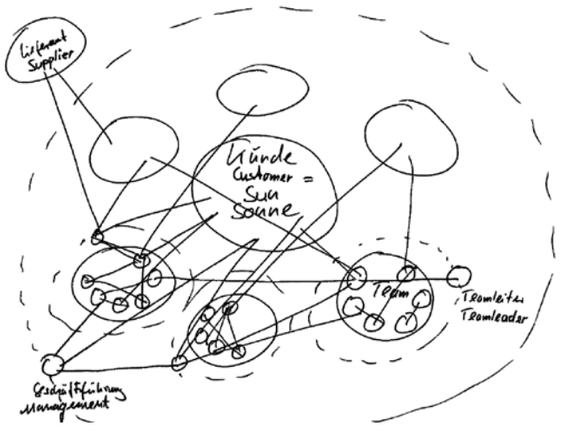
readychain® premium

Fully harnessed igus® e-chain system® with cables of all types as well as plug connections, connectors, projections and components according to your specifications



Quality.

The igus® factory - investment in better technology and faster delivery times
A few decades ago, it was unthinkable to replace metal with plastic in the production of energy chains. But that is precisely the secret of our success. We have pushed the boundaries of plastic technology a lot further. And at the same time, costs are being reduced all the time. 200,000 customers worldwide trust "**plastics for longer life". We will continue on our growth trend and, with all innovations and investments, we will focus more than ever on sophisticated yet simple solutions.**



"For us, customers have the same significance as the sun to life on earth. The sun gives light, warmth and energy; our customers give us ideas, work and money."

► www.igus.eu/quality


Material preparation


Injection moulding


Warehouse


Assembly factory


Toolmaking


Open offices



igus® services.

Virtual trade show - on your own or personally guided

We present our new products on a 400m² virtual trade show stand. Simply navigate to the desired area and get to know the new products at the click of a mouse.

- Discover trade show stand on your own
- Arrange a guided tour and consultation with one of our experts
- Proof from the igus® test laboratory

In-house exhibition at your site

We will visit you with our mobile pop-up trade show stand and together we can find the best solution for your application

- Mobile in-house trade show stand on site, with desired date and time
- Outdoors in the fresh air and in compliance with current hygiene regulations
- 50m² exhibition space can be set up within an hour

Stand displays with individual samples

Do you want to always have the latest motion plastics to try out on site? Then simply order the "igus® corner" for your premises.

The display stand is equipped with the products of your choice

- As a permanent exhibition or just for a limited time

Custom samples

Do you need very special samples for a project or for your department? Then order your individual sample box.

- We gladly explain the technical details and answer your questions in an online meeting

► **www.igus.eu/discover-more**



Virtual trade show - on your own or personally guided



Online seminars with the motion plastics® experts



Stand displays with individual samples at your premises



400m² trade show stand, which you can visit virtually



Individual sample packs, personally explained during a remote visit



In-house trade show at your premises, in accordance with all the Covid 19 rules



Works.

Energy supply made easy for every industry - with igus® e-chain systems®
Our task is to supply energy and data to moving power consuming equipment safely and reliably. Such equipment is constantly in motion and has to function reliably in difficult ambient conditions as well as under high levels of stress and at high speeds. e-chain systems® can be used universally in these kinds of application.

For example: machine tools, woodworking equipment, cranes, material handling systems, robots ...



Harnessed energy chains - readychain®



Extremely long travels with rol e-chains® (here 615m)



igus® e-chain system® on cranes



Energy supply systems in tunnelling machines



Low vibration and noise for camera movement



triflex® R e-chains® on robots



Huge plastic e-chains® with up to 350mm inner height

► www.igus.eu/applications

Product overview

Continued ▶▶

▶▶ For existing corrugated tubes

Reinforcement for corrugated tubes
e-rib | Easy to clip-on



NW 23-48

The reinforcement for existing corrugated tube systems. Easy to retrofit, simply clip the e-rib onto a corrugated hose.

▶ From page 168

▶▶ igus® solutions for simple applications

e-chain® with 1 piece strip design
E1 | Openable



10-20

Cost-effective, one-piece strip design for simple applications. Openable along the outer radius. Easy to fill.

▶ From page 180

e-chains® for cable bundles
snapchain | Adjustable loops



50-120

Guide cable bundles quickly and easily; loops open along the outer radius (TZ) or along the inner radius (TE).

▶ From page 188

... and cost-effective

e-chain® version Z
easy chain® | "easy" design



9.4-48.5

Split crossbar along the inner radius. Some types with multi-chamber design.

▶ From page 212

▶▶ Zip fastening e-chains® and e-tubes

e-chains®
zipper | Openable



9-32

Open and close at lightning speed. Crossbars on a strip. Zip-open along the outer radius.

▶ From page 240

e-tubes
zipper | Openable



10.3-32

Fully enclosed design. Open and close at lightning speed. Lids on a strip. Zip-open along the outer radius.

▶ From page 240

▶▶ Small and medium sizes ...

e-chains®, one-piece design
E2 mini | Non-openable



18-41

One-piece, non-openable.

▶ From page 304

e-chains®, one-piece design
E2 mini | Openable



20-32

Openable along the inner radius from one side with film hinge. Enclosed along the outer radius.

▶ From page 304

e-chains®, two-piece design
E2 mini | Openable



17-32

Openable along the outer radius, from one side.

▶ From page 304

▶▶ igus® solutions for office and furniture

Office e-chains®
OCR | "Easy" design



Flexible with "easy" design. Can be attached with integrated magnets, adhesive strip or screws.

▶ From page 194

Energy supply for office applications and furniture
office e-chain® | "easy" design



21

This e-chain® was designed especially for the furniture industry. Split crossbar along the inner radius.

▶ From page 202

▶▶ Easy to fill ...

e-chain® version E
easy chain® | "easy" design



5-48.5

Split crossbar along the outer radius. Some types with multi-chamber design.

▶ From page 212

▶▶ For the smallest spaces, inner heights and bend radii

e-chains®, one-piece design
E2 micro | Non-openable



5-15

For the smallest installation spaces. One-piece, non-openable.

▶ From page 274

e-chains®, one-piece design
E2 micro | Openable



11.5-15.6

Openable along the inner radius from one side with film hinge.

▶ From page 274

e-chains®, two-piece design
E2 micro | Openable



10.3-14.3

Openable along the outer radius, from one side.

▶ From page 274

...

e-chains®, two-piece design
E2 mini | Openable



17-32

Openable along the inner radius, from one side.

▶ From page 304

▶▶ For very small spaces, strong ...

e-chains®, one-piece design
E2C.1 micro | Non-openable



10.6-14.9

New generation, strong, low-noise, for the smallest installation spaces. One-piece, non-openable.

▶ From page 334

e-chains®, two-piece design
E2i.1 micro | Openable



10.1-14.4

New generation, strong, low-noise, for the smallest installation spaces. lids openable along the inner radius, from both sides.

▶ From page 334

Product overview

Continued

...

e-chains®, two-piece design
E2.1 micro | Openable



10.1-14.4

New generation, strong, low-noise, for the smallest installation spaces. Crossbars openable along the outer radius, from both sides.

► From page 334

The strong all-rounder ...

e-chains®, two-piece design
E2.1i | Openable



26-48

More useable interior space while the outer height is the same as the E2/000 e-chains®. lids openable along the inner radius, from both sides.

► From page 348

e-chains®, two-piece design
E2.1 | Openable



26-48

More useable interior space while the outer height is the same as the E2/000 e-chains®. Crossbars openable along the outer radius, from both sides.

► From page 348

...

e-tubes, two-piece design
E2/000 | Openable



21-45

High strength, quiet operation. Lids openable along the inner radius, from both sides.

► From page 374

Prevent ingress of dust and dirt, easy to open ...

R2.1 e-tubes
R2.1i | Openable



26-48

Cost-effective, strong e-tubes. Lids openable along the inner radius, from both sides.

► From page 442

R2.1 e-tubes
R2.1 | Openable



26-75

Cost-effective, strong e-tubes. Lids openable along the outer radius, from both sides.

► From page 442

... extremely swarf-resistant

e-tubes
RX | Openable



42-73

Extremely swarf-resistant. Round contour prevents swarf accumulation. Lids removable along the outer radius.

► From page 516

The best combination of stability and low weight

e-chain® with crossbars every link
E4.1L | Openable



31-64

Light and cable-friendly design. Crossbars openable along the inner and outer radius from both sides.

► From page 538

e-tubes
R4.1L | Openable



31-48

Light and cable-friendly design. Lids openable along inner and outer radius, from both sides.

► From page 538

E2/000 ... all-rounder for a wide range of applications ...

e-chains®, two-piece design
E2/000 | Openable



21-45

High strength, quiet operation. lids openable along the inner radius, from both sides.

► From page 374

e-chains®, two-piece design
E2/000 | Openable



21-45

High strength, quiet operation. Crossbars openable along the outer radius, from both sides.

► From page 374

Half e-tubes, two-piece design
E2/000 | Openable



21-45

High strength, quiet operation. lids openable along the inner radius, from both sides.

► From page 374

... cost-effective ...

E2 e-tubes
R100 | Openable



21-50

Cost-effective swarf protection. Lids openable along the inner radius, from both sides.

► From page 466

E2 e-tubes
R100 | Openable



21-50

Cost-effective swarf protection. Lids openable along the outer radius, from both sides.

► From page 466

... smooth operation ...

E2 e-tubes
R | Openable



25-45

Swarf protection at higher speeds and smooth running. Lids removable along the outer radius.

► From page 492

The next generation of easy-to-assemble e-chains®

e-chain® with crossbars every link
E4Q | Openable without tools



34-82

Easy opening and closing, without tools. Crossbars removable along the inner and outer radius.

► From page 580

e-chains® with crossbars every 2nd link
H4Q | Openable without tools



34-82

Easy, cost-effective opening and closing, without tools. Crossbars removable along the inner and outer radius.

► From page 580

The modern classic ...

e-chain® with crossbars every link
E4.1 | Openable



21-350

For especially demanding applications. Crossbars removable along the inner and outer radius.

► From page 616

Product overview

Continued

... for demanding applications

e-chains® with crossbars every 2nd link
H4.1 | Openable



32-80

For almost any application, the standard. Crossbars removable along the inner and outer radius.

► From page 616

e-tubes
R4.1 | Openable



28-108

Fully enclosed design. Lids openable along the outer radius, from one side. Shelves can be removed from the inner radius.

► From page 616

Light, strong ...

e-chain® with crossbars every link
E4/light | Openable



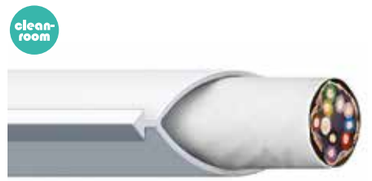
56-112

For especially demanding applications. Crossbars removable along the inner and outer radius.

► From page 710

Profiles, cleanroom suitable, compact

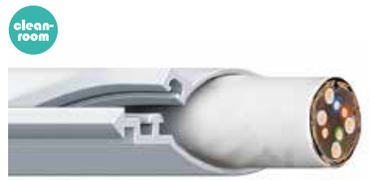
e-skin® single pods
SKF.C | Fully enclosed



Protected against particle intrusion with closed cable chambers. Optional support e-chain® available. IPA cleanroom Class 1.

► From page 798

e-skin® single pods
SKF.O | Openable



Openable. Replace cables quickly with a special locking mechanism. IPA cleanroom Class 1.

► From page 798

e-skin® support e-chain®
SKF.S | Complement to SKF12C



Can be combined with SKF12C series for unsupported length and a defined bend radius. IPA cleanroom Class 1.

► From page 798

High dynamics and cleanroom compatible

e-chains®
E6.1 | Openable



29

Extremely low noise 32dB(A), low vibration. Crossbars openable along the inner and outer radius from both sides.

► From page 832

e-chains®
E6.1 | Openable



29-80

Extremely low noise 32dB(A), low vibration. Crossbars removable along the inner and outer radius.

► From page 832

Low vibration, quiet ...

e-chains®
E6 | Openable



29-80

Low noise - 37dB(A), low vibration, cleanroom suitable. Crossbars removable along the inner and outer radius.

► From page 870

... and cost-effective

e-chains® with crossbars every 2nd link
E4/light | Openable



56-86

For almost any application, the standard. Crossbars removable along the inner and outer radius.

► From page 710

e-tubes
E4/light | Openable



56-108

Fully enclosed design. Lids openable along the outer radius, from one side. Shelves can be removed from the inner radius.

► From page 710

Plastic-steel hybrid

e-chains® with crossbars every 2nd link
YE | Openable



42-56

The best mix of lightweight polymer and tough steel for large unsupported lengths. Crossbars removable.

► From page 772

Corrugated tube cleanroom energy supply systems, cleanroom suitable

e-skin® cleanroom corrugated tube
SK | Openable



28-38

e-skin® SK for longer unsupported lengths. "Zipper" function. IPA cleanroom Class 1.

► From page 812

e-skin® cleanroom corrugated tube
SKS soft | Openable



20-40

e-skin® soft SKS with more elastic material and lower installation height. "Zipper" function. IPA cleanroom Class 1.

► From page 812

e-skin® cleanroom corrugated tube
SKY hybrid | Openable



28-38

e-skin® hybrid SKY combines the advantages of e-skin® SK and e-skin® soft SKF. "Zipper" function. IPA cleanroom Class 1.

► From page 812

... low abrasion, cleanroom suitable

e-tubes
R6 | Openable



28-52

Low noise - 37dB(A), low vibration, cleanroom suitable. Lids removable along the inner and outer radius.

► From page 870

Small, dynamic and cleanroom suitable

e-chains®
E3 | Openable



10-22

Low noise - 38dB(A). Crossbars on a strip. Zip-open along the outer radius.

► From page 916

T-band e-chain®
T3 | Openable



29

Smooth running "T-band", quiet, cost-effective. Crossbars removable along the inner and outer radius.

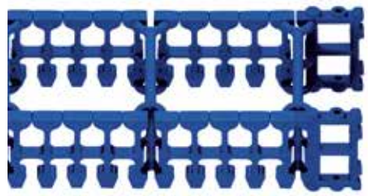
► From page 934

Product overview

Continued

Hygienic design

T-band e-chain®
TH3 | Open design



25,5-
2 x 20

3-piece e-chain®, hygienic design. Open design for effective and easy cleaning, FDA-compliant material.

► From page 944

For multi-axis movement ... and robots ...

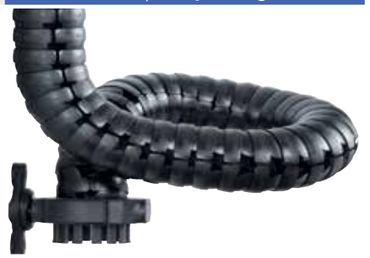
Multi-axis e-tubes
triflex® R TRC | Non-openable



Completely enclosed for chip-protection. With smooth and robust exterior.

► From page 960

Multi-axis e-chains®
triflex® R TRE | "easy" design



"easy" design, easy to fill. Simply press cables in.

► From page 960

... e-chains® and e-tubes for multi-axis movement

Multi-axis e-tubes
triflex® R TRCF | Openable



Closed design with snap lock mechanism. Easy to fill.

► From page 960

Multi-axis e-chains®
triflex® R TRL | "easy" design



Light version with "easy" design, cost-effective. Simply press cables in.

► From page 960

Multi-axis e-chains®
triflex® R TRLF | Openable



Light version with snap-lock mechanism. Easy to fill. Openable by hand.

► From page 960

For simple multi-axis applications

Multi-axis e-chains®
easy triflex® | "easy" design



13-38.5

For simple multi-axis applications. "easy" design - simply press cables in. Easy filling from both sides.

► From page 1060

For multi-axis applications, fully enclosed

Multi-axis e-tubes
triflex® | Fully enclosed



16-75

Fully enclosed, for simple multi-axis applications.

► From page 1078

Circular movements

e-chains® for circular movements
twisterchain | Openable



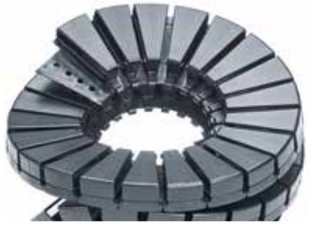
28-56

Circular/spiral movements up to 360° from stock (up to 400° upon request). Crossbars removable along the inner and outer radius.

► From page 1086

Up to 7,000° rotary movements in the most confined of spaces

e-chains® for spiral movements
twisterband | Fits very closely around the rotary axis



9-22

Rotary movement in the most confined space. Openable with film hinge or with "easy" design.

► From page 1108

e-chains® for spiral movements
twisterband HD | Fits tightly around the rotary axis, strong



11-30

Rotary movement in the smallest spaces. Strong pin and hook connection of the e-chain® links, openable.

► From page 1108

Solutions for ...

Continuous panel feed
e-spool® flex 2.0



≤15
Max. extension length [m]

Uninterrupted cable guidance. No slip ring required. The cable is always safely routed and properly wound.

► From page 1126

Multi-axis motion ...

Compact, space-saving
e-spool® compact



≤4
Travel distance ≤ [m]

Compact, space-saving cable reel without slip ring for reliable guidance and flexible filling.

► From page 1126

Easy manual operation
e-spool® for manual operation



≤5
Travel distance ≤ [m]

The manually operated e-spool® is designed for applications where only one cable or hose is pulled out by hand.

► From page 1126

Flexible use
e-spool® standard and HD



≤14
Travel distance ≤ [m]

The cable drum without a slip ring. Guidance of many different cables types together in a compact system. Standard and HD options.

► From page 1126

...

Motor-driven
e-spool® power



≤25
Travel distance ≤ [m]

The e-spool® power is a motor-driven e-spool® for travels of up to 25m. Product upon request.

► From page 1126

Solutions for vertical motion

Vertical guidance
liftband



13
Travel distance ≤ [m]

Modular, quiet, space-saving; vertical guidance for media, energy and data. Cable guidance up to 13m height with limited installation space.

► From page 1146

Vertical guidance
guidelok slimline P



50
Travel distance ≤ [m]

Vertical guidance up to 50m, both safe and quick. For e-chains® in highly dynamic storage and retrieval units. No swinging of the e-chain®.

► From page 1152

Product overview

Continued

...

... more information online ...

Offshore, vertical guidance
e-loop®



150-360

Safe cable guidance for hanging applications. e-loop® as an alternative to the service loop.

► From page 1158

Vertical guidance
guidelok slimline P.S



Made completely from plastic, cost-effective, light and easy to assemble. Significant savings in cost and weight, guidelok slimline P.S.

More information online

► www.igus.eu/glsl-ps

Vertical guidance
guidelite GLV



Safe cable guidance for vertical applications in one system: lighter, low-noise, easier and lower costs, guidelite GLV.

More information online

► www.igus.eu/GLV

Solutions for predictive maintenance and condition monitoring ...

Industry 4.0
smart plastics



smart plastics - components equipped with connectivity and sensors for automation solutions suitable for "Industry 4.0".

► From page 1194

Condition monitoring
i.Sense | Condition Monitoring



i.Sense, condition monitoring - simplest, fastest way for a self-monitoring smart plastics product, using sensors.

► From page 1198

Predictive maintenance
i.Cee | Predictive Maintenance



i.Cee, predictive maintenance - sensors, software and the elements of condition monitoring create a system that allows dynamic service life calculation and determines the best times for maintenance.

► From page 1202

Profile rollers

Profile-rol e-chains®
P4 | Openable



32-42

Reduce energy consumption by 57%. For long travels at high speeds. Crossbars removable along the inner and outer radius.

► From page 1232

Profile-rol e-chains®
P4.1 | Openable



56-80

Less friction, twice the service life - the new P4.1 generation with removable crossbars.

► From page 1232

E4/4 rol e-chain® ...

e-chain® with crossbars every link
E4/4 rol e-chain® | Openable



32-80

Rolling instead of gliding. Crossbars removable along the inner and outer radius.

► From page 1242

Solutions for horizontal motion ...

Upper run guide
guidelok | Horizontal



50
Travel distance ≤ [m]

Upper run guide for long travels, unsupported in swarf areas. Up to 50m possible.

► From Page 1168

Enclosed guide
basic flizz®



100
Travel distance ≤ [m]

Cost-effective, enclosed solution for long travels. Protection against weather and dirt exposure. Available as HD version.

► From page 1174

e-chains® in aluminium profiles
micro flizz®



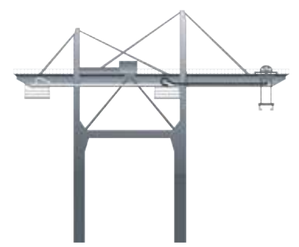
30-100
Travel distance ≤ [m]

Unsupported e-chains® in aluminium profiles. Reliably supply long travels using the smallest e-chains®.

► From page 1182

...

Engineering service
Modular projects



Special solutions from stock. Faster project planning, detailed service manuals and documentation, time and cost savings.

► From page 1208

Heavy-duty e-chains® for long travels ...

e-chain® with crossbars every link
E4/4HD | Openable



56-80

For very heavy fill weights, crossbars removable along the inner and outer radius.

► From page 1214

e-tubes
R4/4HD | Openable



56-80

Heavy-duty, especially for heavy fill weights. Lids openable along the outer radius, from one side. Shelves can be removed from the inner radius.

► From page 1214

... normal and heavy-duty design ...

e-tubes
R4/4 rol e-tube | Openable



32-80

Rolling instead of gliding, fully enclosed. Lids openable along the outer radius, from one side.

► From page 1242

Heavy-duty e-chains® with crossbars every link
E4/4 HD rol e-chain® | Openable



56-80

Rolling instead of gliding. Heavy-duty, for very long travels with very heavy fill weights. Crossbars removable.

► From page 1242

E2/000 rol e-chains®

e-chains®
E2/000 rol e-chain® | Openable



35-45

For travel lengths up to 150m, energy efficient and cost-effective. Crossbars openable along the outer radius, from both sides.

► From page 1258

Product overview

Technical details

autoglide self-guiding e-chain®

Self-guiding e-chain®
autoglide 5 | Openable



25-35

Installed in one hour. The alternative to busbar systems. Travels safely on a PVC-jacketed steel cable.

► From page 1266

Self-guiding e-chain®
autoglide E2/000AG | Openable



25-35

Crossbars openable along the inner radius fitted with moulded autoglide grooves. Openable along the inner radius, from both sides.

► From page 1276

Self-guiding e-chain®
autoglide E4.1AG | Openable



32-56

Crossbars openable along the inner radius fitted with moulded autoglide grooves. Crossbars removable along the inner and outer radius.

► From page 1282

Steel guide troughs

For easy support of the lower run
Steel support tray



80-306

Steel support tray kit for support of the lower run, cost-effective, one piece. Complete system, ready to install.

► From page 1356

Other igus® guide trough systems ...

For easy support of the lower run
Aluminium support tray



41-73

The flexible construction kit to support the lower run - aluminium support tray. Seawater-resistant aluminium profile.

► From page 1362

Energy supply for cranes girders and indoor cranes
guidefast



42.5-120

Economical energy supply for crane girders and indoor cranes, fast installation.

► From page 1368

chainfix strain relief ...

Installation profile
C-profiles | 92.42 | 92.52



C-profile - Part No. 92.42 as standard (can be integrated into KMA); Part No. 92.52 for increased holding force (mounting in front of e-chain®).

► From page 1406

For C-profiles
Clamps | CFX



Standard clamps with standard base. Suitable for C-profile 92.42.XXX - can be integrated into KMA with C-profile option. Galvanised steel or stainless steel (material 1.4301).

► From page 1410

For C-profiles
Clamps | CFXL



Clamps with wide base for increased holding force. Suitable for C-profile 92.52.XX, C-profile always assembled in front of the e-chain. Cannot be integrated into KMA.

► From page 1411

Aluminium SuperTroughs

For general applications
Aluminium SuperTrough | Basic



77-236

igus® standard guide troughs. Very simple, modular assembly.

► From page 1298

For heavy-duty applications
Aluminium SuperTrough | Heavy-duty



87-236

Guide troughs for tough applications. Online catalogue at:

More Information online
► www.igus.eu/alu-guide

Steel guide troughs

For extreme loads
Steel guide troughs



70-480

For applications in tough environments, large products selection.

► From page 1326

...

For less demanding applications
guidelite



76-425

For travel lengths up to 150m, quick and cost-effective. Very lightweight polymer components.

► From page 1374

For less demanding applications
System RS | Tubular trough



90-146

Resistant to dirt. Cost-effective. Quick assembly.

► From page 1380

For less demanding applications
System SP | Snap-in trough



55.5-138.6

Very slimline trough. Fast assembly and cost-effective.

► From page 1386

...

For C-profiles
Multi-clamps



Save both time and space during installation, cost-effective. Compact and modular, for small outer diameters.

► From page 1413

For C-profiles
Clamps for pneumatic hoses



New: Strain relief of pneumatic hoses without crushing or damage. The cross section of pneumatic hoses is fully retained.

► From page 1416

For C-profiles / Mounting brackets
Tiewrap plates | Universal



Tiewrap plates as individual parts. Screwed on KMA with C-profile or can be clipped onto some mounting brackets.

► From page 1420

Product overview

Technical details

... other chainfix strain relief options ...

For C-profiles / openable crossbars / fixed crossbars
Tiewrap plates | Options



5 options: 1. With clip-on connection to C-profile. **2.** New: For top-hat (DIN) rails 15 (TS92.31). **3.** For R series E2 e-tubes. **4.** For fixed crossbars. **5.** For openable crossbars.

► From page 1422

Honeycomb strain relief
CFU.V



CFU.V strain relief with innovative honeycomb design. Fast filling, openable from both sides for assembly in seconds. For increased holding force.

► From page 1426

For e-chain® links
Strain relief separators



Separator with integrated strain relief teeth. For easy strain relief either at the first or last e-chain® link with cable tiewraps.

► From page 1428

...

For C-profiles / top-hat (DIN) rail 15
CFV | Strain relief elements



Stepped strain relief elements with tie-wrap teeth. For a strain relief for use outside of the e-chain® section.

► From page 1432

For C-profiles / top-hat (DIN) rail 35
CFN | Nuggets



Simple strain relief with cable tiewraps for C-profile or top-hat (DIN) rail 35.

► From page 1433

For C-profiles
CFB | Strain relief connector system



Polymer, modular strain relief connector system, can be mounted into C-profile. For many cables types together in a compact system.

► From page 1434

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

	Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]	Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
e-rib - reinforcement for existing corrugated tube systems																				
Reinforcement for corrugated tubes | Simply clip onto a corrugated hose																				
		EL.00.23.0	Nominal width NW 23	28	30	41	–	–	–	–	–	–	–	–	–	–	❍	–	●●●	176
		EL.01.29.0[1]	Nominal width NW 29	34.5	36	44.5	–	–	–	–	–	–	–	–	–	–	❍	–	●●●	177
		EL.00.36.0	Nominal width NW 36	42	43	56	–	–	–	–	–	–	–	–	–	–	❍	–	●●●	178
		EL.00.48.0	Nominal width NW 48	54	54	68	–	–	–	–	–	–	–	–	–	–	❍	–	●●●	179
E1 - cost-effective, one-piece strip design for simple applications																				
e-chains® | Openable along the outer radius																				
		E1.10	10 ø 9	13	15.5	17	018	20	upon request	–	–	–	–	–	▲	❍	▲	●	●●●	184
		E1.17	17 ø 15	21 - 44	25	26 - 49	028	25.5	upon request	–	–	–	–	–	▲	❍	▲	●	●●●	185
		E1.18	18 ø 16	15	26	20	028	25.25	upon request	–	–	–	–	–	▲	❍	▲	●	●●●	186
		E1.20	20 ø 18	15	27	22	028	25	upon request	–	–	–	–	–	▲	❍	▲	●	●●●	187
snapchain - guide cable bundles quickly and easily																				
Version TE | Loops openable along the outer radius																				
		TE14.50	Length of loops: 50mm	–	–	–	028 - 125	30.5	–	–	–	–	–	–	–	–	▲	●	●●●	192
		TE26.120	Length of loops: 120mm	–	–	–	063 - 200	56	–	–	–	–	–	–	–	–	▲	●	●●●	193
Version TZ | Loops openable along the inner radius																				
		TZ14.50	Length of loops: 50mm	–	–	–	028 - 125	30.5	–	–	–	–	–	–	–	–	▲	●	●●●	192
		TZ26.120	Length of loops: 120mm	–	–	–	063 - 200	56	–	–	–	–	–	–	–	–	▲	●	●●●	193
OCR office e-chain® - award-winning design																				
e-chains® | "easy" design, split crossbar along the inner radius																				
		OCR.50	14.5 ø 13	3 x 14.5	50	50	–	20 / 25	–	–	–	–	–	–	–	–	❍	–	●◐●	200
office e-chain® - energy guide for offices and furniture																				
e-chains® | "easy" design, split crossbar along the inner radius																				
		ZF14	21 ø 14	38	25	46.6	028	30.5	–	–	–	–	–	–	▲	❍	●	▲	●●●	208

1) EL.01.29.0 only for PMA corrugated tube I-PISG-29B/S

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

easy chain® - easy to fill and cost-effective

e-chain® version E | "easy" design - split crossbar along the outer radius





Opening principle	Chamber design	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Interior separation options: Injection-moulded separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
	1-chamber	E03	5	ø 3	5 - 10	8	8.7 - 13.7	010 - 028	10	0.24	0.4	–	–	–	❍	❍	●	■	◔◔◔	218
		E04	7	ø 4.5	7	10	13	015 - 048	16.7	0.35	0.55	–	–	–	▲	❍	●	●	◔◔◔	220
		E045	9.4	ø 5.5	10 - 16	12.5	16 - 23	018 - 038	13	0.25	0.4	–	–	–	▲	❍	●	■	◔◔◔	222
		E06	10.7	ø 6.5	10 - 20	15	16.5 - 26.5	018 - 038	20	0.45	0.55	–	–	–	▲	❍	●	■	◔◔◔	224
		E065	11.3	ø 7	16	15	24.8	018 - 038	15	0.45	0.6	–	–	–	▲	❍	●	■	◔◔◔	226
		E08	14.6	ø 10	10 - 50	19.3	18.2 - 58.2	028 - 048	20	0.7	1	–	–	–	▲	❍	●	●	◔◔◔	228
		E14	19	ø 13	15 - 50	25	27 - 62	028 - 125	30.5	0.5	0.65	–	–	–	▲	❍	●	●	◔◔◔	230
		E200	24.3	ø 20	57	35	74.4	055 - 200	46	2	1.75	–	–	–	▲	❍	●	●	◔◔◔	232
		E16	32	ø 25	23 - 100	39	37.5 - 115.3	040 - 100	30.5	0.7	1	–	–	–	▲	❍	●	●	◔◔◔	234
		E26	36.5	ø 28	75	50	92	063 - 250	56	4	2	–	–	–	▲	❍	●	●	◔◔◔	236
		E300	48.5	ø 35	75	64	95	075 - 300	67	8	2.25	–	–	–	▲	❍	●	●	◔◔◔	238
	2-chamber	E045.2	9.4	ø 5.5	7 - 9	12.5	23 - 27	018 - 038	13	0.25	0.4	●	–	–	▲	❍	●	●	◔◔◔	222
		E065.2	11.3	ø 7	9	15	29.3	018 - 038	15	0.45	0.6	●	–	–	▲	❍	●	●	◔◔◔	226
		E200.2	24.3	ø 20	37 - 50	35	94.4 - 120.4	055 - 200	46	2	1.75	●	–	–	▲	❍	●	●	◔◔◔	232
		E26.2	37.1	ø 20	48	50	117	063 - 250	56	4	2	●	–	–	▲	❍	●	●	◔◔◔	236
		E300.2	48.5	ø 18	48	64	120	075 - 300	67	8	2.25	●	–	–	▲	❍	●	●	◔◔◔	238
	3-chamber	E045.3	9.4	ø 5.5	9	12.5	37	018 - 038	13	0.25	0.4	●	–	–	▲	❍	●	●	◔◔◔	222
		E065.3	11.3	ø 7	9	15	39.3	018 - 038	15	0.45	0.6	●	–	–	▲	❍	●	●	◔◔◔	226
		E26.3	37.1	ø 20	47	50	167	063 - 250	56	4	2	●	–	–	▲	❍	●	●	◔◔◔	236
		E300.3	48.5	ø 18	47	64	170	075 - 300	67	8	2.25	●	–	–	▲	❍	●	●	◔◔◔	238
	4-chamber	E065.4	11.3	ø 7	9	15	49.3	018 - 038	15	0.45	0.6	●	–	●	▲	❍	●	●	◔◔◔	226

e-chain® version Z | "easy" design - split crossbar along the inner radius



Opening principle	Chamber design	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Interior separation options: Injection-moulded separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
	1-chamber	Z045	9.4	ø 5.5	16	12.5	23	018 - 038	13	0.25	0.4	–	–	–	▲	❍	●	■	◔◔◔	222
		Z06	10.5	ø 6.5	10 - 20	15	16.5 - 26.5	018 - 038	20	0.45	0.55	–	–	–	▲	❍	●	■	◔◔◔	224
		Z08	14.6	ø 10	10 - 50	19.3	18.2 - 58.2	028 - 048	20	0.70	1	–	–	–	▲	❍	●	●	◔◔◔	228
		Z14	19	ø 13	15 - 50	25	27 - 62	028 - 125	30.5	0.50	0.65	–	–	–	▲	❍	●	●	◔◔◔	230
		Z200	24.3	ø 20	57	35	74.4	055 - 200	46	2	1.75	–	–	–	▲	❍	●	●	◔◔◔	232
		Z16	32	ø 25	23 - 100	39	37.5 - 115.3	040 - 100	30.5	0.7	1	–	–	–	▲	❍	●	●	◔◔◔	234
		Z26	36.5	ø 20	75	50	92	063 - 250	56	4	2	–	–	–	▲	❍	●	●	◔◔◔	236
		Z300	48.5	ø 35	75	64	95	075 - 300	67	8	2.25	–	–	–	▲	❍	●	●	◔◔◔	238
	2-chamber	Z045.2	9.4	ø 5.5	16	12.5	23	018 - 038	13	0.25	0.4	●	–	–	▲	❍	●	●	◔◔◔	222
		Z200.2	24.3	ø 20	37 - 50	35	94.4 - 120.4	055 - 200	46	2	1.75	●	–	–	▲	❍	●	●	◔◔◔	232
		Z26.2	37.1	ø 20	48	50	117	063 - 250	56	4	2	●	–	–	▲	❍	●	●	◔◔◔	236
		Z300.2	48.5	ø 18	48	64	120	075 - 300	67	8	2.25	●	–	–	▲	❍	●	●	◔◔◔	238
	3-chamber	Z065.3	11.3	ø 7	9	15	39.3	018 - 038	15	0.45	0.6	●	–	–	▲	❍	●	●	◔◔◔	226
		Z26.3	37.1	ø 28	47	50	167	063 - 250	56	4	2	●	–	–	▲	❍	●	●	◔◔◔	236
		Z300.3	48.5	ø 18	47	64	170	075 - 300	67	8	2.25	●	–	●	▲	❍	●	●	◔◔◔	238

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

zipper - zip fastening e-chains® and e-tubes

e-chains® | Crossbars on a strip - zip-open along the outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
047	9	ø 7	10 - 16	12.5	16 - 22	018 - 038	13	0.25	0.4	–	–	–	–	▲	❍	▲	■	●◐○	246
07	10.3	ø 8	6 - 64	15	12,5 - 71	018 - 048	20	0.4	0.55	–	–	–	–	▲2) ■	❍	▲	■	●◐○	248
09	15	ø 12	10 - 64	19.3	18.2 - 72.2	028 - 048	20	0.7	1	–	●	●	–	▲2) ■	❍	▲	■	●◐○	252
15	17	ø 15	15 - 100	24	26 - 113	038 - 180	30.5	1.5	1.2	–	●	●	–	▲	❍	▲	■	●◐○	258
17	32	ø 28	15 - 100	39	25.5 - 113	063 - 125	30.5	1	1	–	●	●	–	▲	❍	▲	■	●◐○	266

e-tubes | Lids on a strip - zip-open along the outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
R07	10.3	ø 8	10 - 50	15	16.5 - 57	038 - 048	20	0.4	0.55	–	–	–	–	▲	❍	▲	■	●◐○	250
R09	15	ø 12.5	10 - 50	19.3	18.2 - 58.2	048 - 100	20	0.7	1	–	–	–	–	▲	❍	▲	■	●◐○	256
R15	17	ø 15	25 - 80	24	36 - 94	063 - 180	30.5	1.5	1.2	–	●	●	–	▲	❍	▲	■	●◐○	262
R17	32	ø 28	15 - 63	39	26 - 74	063 - 125	30.5	1.5	1.2	–	●	●	–	▲	❍	▲	■	●◐○	270

2) ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142 or at ▶ www.igus.eu/ESD**

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

E2 micro - smallest inner heights and bend radii

e-chains® | Non-openable



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
□	03	5	ø 3.5	5 - 10	8	8.7 - 13.7	010 - 028		10	0.24	0.4	–	–	–	–	▲	❍	●	■	●○○	280
□	04	7	ø 5	7 - 30	10	12 - 35	015 - 048		16.7	0.35	0.5	–	–	–	–	▲	❍	▲	●	●○○	282
□	05[1]	10	ø 8	6 - 64	12	10 - 68	018 - 038		20	0.375	0.55	–	–	–	–	▲	❍	▲	●	●○○	284
□	045	10.3	ø 8	6 - 64	12.5	12 - 70	018 - 083		13	0.25	0.5	–	▲	–	–	▲	❍	▲	■	●○○	286
□	06[1]	10.5	ø 8	6 - 64	15	12,5 - 71	018 - 038		20	0.48	0.6	–	▲	–	–	▲	❍	▲	●	●○○	290
□	08[2]	14.9	ø 12	10 - 50	19.3	18.2 - 58.2	025 - 048		20	0.75	1	–	–	–	–	▲	❍	▲	●	●○○	300

e-chains® | Openable along the inner radius, from one side



⧄	074**	11.5	ø 10.3	10 - 20	15	16.3 - 26.3	018 - 038		20	0.4	0.55	–	–	–	–	▲	❍	●	●	●○○	292
⧄	094**	15.6	ø 14	10 - 30	19.3	18.2 - 38.2	028 - 048		20	0.7	1	–	–	–	–	▲	❍	●	●	●○○	294

e-chains® | Openable along the outer radius, from one side



⧄	B07[3]	10.3	ø 8	16 - 40	15	22.5 - 47	018 - 038		20	0.4	0.55	–	–	–	–	▲	❍	▲	■	●○○	288
⧄	B09[4]	14.3	ø 12	16 - 40	19.3	24.2 - 48.2	028 - 048		20	0.7	1	–	●	●	–	▲	❍	▲	■	●○○	296

E2 mini - small and medium sizes

e-chains® | Non-openable



□	10	18	ø 16	15 - 100	23	26 - 113	028 - 180		30.5	1.5	1.2	–	●	–	–	▲	❍	▲	●	●○○	310
□	11.031	23	ø 21	31	28	41.2	045 - 070		30.5	1.5	1.35	–	–	–	–	▲	❍	▲	●	●○○	314
□	11.080	28	ø 25	80	33.4	93	038 - 065		30.5	1.5	1.5	–	–	–	–	▲	❍	▲	●	●○○	316
□	11.1/11.2	41	ø 22.5	15 - 25	46	25.5 - 35.5	040 - 100		30.5	1.5	1.35	–	–	–	–	▲	❍	▲	●	●○○	318

e-chains® | Openable along the inner radius, from one side



⧄	14**	20	ø 16	15 - 50	25	26 - 61	028 - 125		30.5	0.5	0.65	–	–	–	–	▲	❍	●	●	●◐○	320
⧄	B15i	17	ø 14	15 - 100	23	26 - 113	038 - 180		30.5	1.5	1.2	–	●	●	–	▲	❍	▲	●	●◐○	322
⧄	B17i	32	ø 28	25 - 63	39	35.5 - 76	048 - 125***		30.5	1	1	–	●	●	–	▲	❍	▲	●	●◐○	326
⧄	F17**	32	ø 14	15	39	26	048		30.5	1.5	1.2	–	●	●	–	▲	❍	●	●	●◐○	330

e-chains® | Openable along the outer radius, from one side



⧄	B15	17	ø 14	15 - 100	23	26 - 113	038 - 180		30.5	1.5	1.2	–	●	●	–	▲	❍	▲	●	●◐○	322
⧄	B17	32	ø 28	15 - 100	39	25.5 - 113	048 - 125		30.5	1	1	–	●	●	–	▲	❍	▲	●	●◐○	326

For new designs we recommend E2.1 micro system series: 1) E2C.10, 2) E2C.15, 3) E2.10, 4) E2.15

** One-piece, openable along the inner radius with film hinge

*** Radius 125 for B17i.2. upon request (please see product range table of the respective series)

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

E2.1 micro - for very small spaces, strong

e-chains® | Openable along the inner radius, from both sides



e-chain® | Openable along the outer radius, from both sides



e-chains® | Non-openable



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
e-chains® | Openable along the inner radius, from both sides																			
E2i.10	**10.1**	ø 8	6 - 50	15	13.4 - 57.4	018 - 038	20	0.7	0.75	–	▲	–	–	▲	❍	▲	●	●●●	340
E2i.15	**14.4**	ø 12.5	10 - 50	19.3	17.8 - 57.8	028 - 048	20	1.25	1.3	–	–	–	–	▲	❍	▲	●	●●●	344
e-chain® | Openable along the outer radius, from both sides																			
E2.10	**10.1**	ø 8	6 - 50	15	13.4 - 57.4	018 - 038	20	0.7	0.75	–	▲	–	–	▲	❍	▲	●	●●●	340
E2.15	**14.4**	ø 12.5	10 - 50	19.3	17.8 - 57.8	028 - 048	20	1.25	1.3	–	–	–	–	▲	❍	▲	●	●●●	344
e-chains® | Non-openable																			
E2C.10	**10.6**	ø 8	6 - 50	15	13.4 - 57.4	018 - 038	20	0.7	0.75	–	▲	–	–	▲[2] ■	❍	■	●	●●●	340
E2C.15	**14.9**	ø 12.5	10 - 50	19.3	17.8 - 57.8	028 - 075	20	1.25	1.3	–	–	–	–	▲[2] ■	❍	■	●	●●●	344

E2.1 - the strong all-rounder, easy to open

e-chains® | Openable along the inner radius, from both sides



e-chain® | Openable along the outer radius, from both sides



e-chains® | Non-openable



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
e-chains® | Openable along the inner radius, from both sides																			
E2i.21*	**21**	ø 18	50 - 68	28	63.8 - 81.8	035 - 180	33.3	2	1.75	–	●	●	●	▲	❍	▲	■	●●●	upon request
E2i.26	**26**	ø 24	25 - 103	35	42 - 120	048 - 250	46	5	2.25	–	●	●	●	▲	❍	▲	■	●●●	356
E2i.38	**38**	ø 34.2	50 - 175	50	67 - 192	063 - 250	56	8	2.75	–	●	●	●	▲	❍	▲	■	●●●	362
E2i.48	**48**	ø 43.2	75 - 250	64	97 - 272	075 - 300	67	14	3	–	●	●	●	▲	❍	▲	■	●●●	368
e-chain® | Openable along the outer radius, from both sides																			
E2.21*	**21**	ø 18	50 - 68	28	63.8 - 81.8	035 - 180	33.3	2	1.75	–	●	●	●	▲	❍	▲	■	●●●	upon request
E2.26	**26**	ø 24	25 - 103	35	42 - 120	048 - 250	46	5	2.25	–	●	●	●	▲	❍	▲	■	●●●	356
E2.38	**38**	ø 34.2	50 - 175	50	67 - 192	063 - 250	56	8	2.75	–	●	●	●	▲	❍	▲	■	●●●	362
E2.48	**48**	ø 43.2	75 - 250	64	97 - 272	075 - 300	67	14	3	–	●	●	●	▲	❍	▲	■	●●●	368
e-chains® | Non-openable																			
E2C.21*	**21**	ø 18	50 - 68	28	63.8 - 81.8	035 - 180	33.3	2	1.75	–	●	●	●	▲	❍	▲	■	●●●	upon request

* Available upon request Delivery time upon request.

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

E2/000 - proven all-rounder for a wide range of applications

e-chains® | Crossbars openable along the inner radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1400	21	ø 18	15 - 125	28	28.5 - 138.5	035 - 180	33.3	2	1.75	75*	●	●	–	▲	❍	▲	●	●○○	382
2400[1]	25	ø 23	25 - 125	35	41 - 141	055 - 250	46	5	2.25	100*	●	●	●	▲	❍	▲	●	●○○	394
2600[2]	35	ø 32	50 - 175	50	66 - 194	063 - 250	56	8	2.75	120*	●	●	●	▲	❍	▲	●	●○○	406
3400[3]	45	ø 42	50 - 250	64	70 - 270	075 - 300	67	13	3	150*	●	●	●	▲	❍	▲	●	●○○	422

e-chains® | Crossbars openable along the outer radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1500	21	ø 18	15 - 125	28	28.5 - 138.5	035 - 180	33.3	2	1.75	75	●	●	–	▲[2] ■	❍	▲	●	●○○	382
2500[1]	25	ø 23	25 - 125	35	41 - 141	055 - 250	46	5	2.25	100	●	●	●	▲[2] ■	❍	▲	●	●○○	394
2700[2]	35	ø 32	50 - 175	50	66 - 194	063 - 250	56	8	2.75	120	●	●	●	▲[2] ■	❍	▲	●	●○○	406
3500[3]	45	ø 42	50 - 250	64	70 - 270	075 - 300	67	13	3	150	●	●	●	▲	❍	▲	●	●○○	422
255	24	ø 22	38 - 103	35	54 - 119	055 - 250	27.8	2	1.8	100	●	●	●	▲	❍	▲	■	●○○	438

Half e-tubes | Crossbars openable along the inner radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1450	21	ø 18	15 - 125	28	28.5 - 138.5	075 - 180	33.3	2	1.75	75*	●	●	–	▲	❍	▲	●	●○○	388
2450	25	ø 23	25 - 125	35	41 - 141	055 - 250	46	5	2.25	100*	●	●	▲	▲	❍	▲	●	●○○	400
2650	35	ø 32	50 - 175	50	66 - 194	100 - 250	56	8	2.75	120*	●	●	●	▲	❍	▲	●	●○○	414
3450	45	ø 42	50 - 250	64	70 - 270	125 - 300	67	13	3	150*	●	●	●	▲	❍	▲	●	●○○	430

e-tubes | Lids openable along the inner radius, from both sides



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
1480	21	ø 18	15 - 125	28	28.5 -138.5	075 - 180	33.3	2	1.75	75*	●	●	–	▲	❍	▲	❍	●○○	388
2480	25	ø 23	25 - 125	35	41 - 141	075 - 250	46	5	2.25	100*	●	●	▲	▲	❍	▲	❍	●○○	400
2680	35	ø 32	50 - 175	50	66 - 194	100 - 250	56	8	2.75	120*	●	●	●	▲	❍	▲	❍	●○○	414
3480	45	ø 42	50 - 250	64	70 - 270	125 - 300	67	13	3	150[1]	●	●	●	▲	❍	▲	❍	●○○	430

For new designs we recommend E2.1 system series: 1) E2.26, 2) E2.38, 3) E2.48 1* Conditionally suitable if the crossbars are openable along the inner radius

⚠ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142 or at ▶ www.igus.eu/ESD**

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

	Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]	Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
R2.1 - protection against dirt and swarf, easy to open																					
e-tubes R2.1 | Lids openable along the inner radius, from both sides																					
		R2i.26	26	ø 23	25 - 75	36	41 - 91	060 - 250		35	4	2	–	●	▲	●	▲	❍	▲	●	●●○	450
		R2i.40	40	ø 36	50 - 175	54	66.2 - 191.2	080 - 250		48	8	2.75	–	●	▲	●	▲	❍	▲	●	●●○	454
		R2i.48	48	ø 43	100 - 250	64	120 - 270	100 - 300		58	10	2.75	–	●	▲	●	▲	❍	▲	●	●●○	458
e-tubes R2.1 | Lids openable along the outer radius, from both sides																					
		R2.26	26	ø 23	50 - 100	36	66 - 116	060 - 250		35	4	2	–	●	▲	●	▲	❍	▲	●	●●○	450
		R2.40	40	ø 36	75 - 175	54	91.2 -191.2	080 - 250		48	8	2.75	–	●	▲	●	▲	❍	▲	●	●●○	454
		R2.48	48	ø 43	100 - 250	64	120 - 270	100 - 300		58	10	2.75	–	●	▲	●	▲	❍	▲	●	●●○	458
		R2.75	75	ø 60	111 - 200	90	135 - 224	130 - 250		60	12	3	–	●	▲	●	▲	❍	▲	●	●●○	462
E2 R100 - cost-effective protection against dirt and swarf																					
e-tubes R100 | Lids openable along the inner radius, from both sides																					
		R117	21	ø 17	20 - 100	28	32 - 112	063 - 180		30.5	1.5	1.2	–	●	–	–	–	❍	▲	❍	●●●	472
		R157	40	ø 37	40 - 200	50	56 - 216	100 - 250		46	8	2.25	–	●	●	●	▲	❍	▲	❍	●●●	478
		R167	50	ø 46	50 - 250	64	68 - 268	100 - 300		58.8	10	2.5	–	●	●	●	▲	❍	▲	❍	●●●	486
e-tubes R100 | Lids openable along the outer radius, from both sides																					
		R118	21	ø 17	25 - 80	28	37 - 92	063 - 180		30.5	1.5	1.2	–	●	–	–	–	❍	▲	❍	●●●	472
		R158	40	ø 37	40 - 200	50	56 - 216	100 - 250		46	8	2.25	–	●	●	●	▲	❍	▲	❍	●●●	478
		R168	50	ø 46	50 - 200	64	68 - 218	100 - 300		58.8	10	2.5	–	●	●	●	▲	❍	▲	❍	●●●	486
E2 R - swarf protection at higher speeds and smooth running																					
e-tubes R | Lids removable along the outer radius																					
		R48	25	ø 22	25 - 130	36	36 - 141	060 - 250		30.3	1	1.5	50	●	▲	–	▲	❍	▲	●	●●○	498
		R58	35	ø 32	50 - 200	50	66 - 216	075 - 250		33.3	8	2.3	75	●	●	●	▲	❍	▲	●	●●○	504
		R68	45	ø 42	50 - 250	64	68 - 268	100 - 300		36	10	2.5	100	●	●	●	▲	❍	▲	●	●●○	510
RX - extremely swarf-resistant e-tubes																					
e-tubes RX | Lids removable along the outer radius																					
		RX32	42	ø 37	80	56	98.4	080 - 150		32	4	1.7	–	–	–	–	▲	❍	▲	●	●●○	522
		RX40	52	ø 48	100	70	123	100 - 300		40	6	1.8	–	–	–	–	▲	❍	▲	●	●●○	526
		RX48	62	ø 56	120	84	147.5	120 - 255		48	9	2.1	–	●	●	–	▲	❍	▲	●	●●○	530
		RX56	73	ø 65	140	98	172.2	140		56	11	2.3	–	●	●	–	▲	❍	▲	●	●●○	534

** Available upon request Delivery time upon request.

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

E4.1L - the best combination of strength and low weight

e-chains® | Crossbars openable along the inner and outer radius, from both sides





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4.31L	31	ø 28	40 - 175	42	54 - 189	055 - 250	46	7	2	80	●	–	●	▲	❍	▲	▲■	●●●	548
E4.38L	38	ø 34	50 - 300	54	66 - 316	063 - 300	56	13	2.75	80	●	–	●	▲	❍	▲	▲■	●●●	554
E4.48L	48	ø 43	50 - 300	64	70 - 320	075 - 350	67	26	3.75	100	●	–	●	▲	❍	▲	▲■	●●●	562
E4.64L	64	ø 57	75 - 350	84	101 - 376	100 - 400	91	40	4.1	120	●	–	●	▲	❍	▲	▲■	●●●	572

e-tubes | Fully enclosed - lids openable along the inner and outer radius, from both sides





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
R4.31L	31	ø 28	50 - 100	42	64 - 114	075 - 250	46	7	2	80	●	–	●	▲	❍	▲	▲■	●●●	548
R4.38L	38	ø 34	50 - 250	54	66 - 266	125 - 300	56	13	2.75	80	●	–	●	▲	❍	▲	▲■	●●●	554
R4.48L	48	ø 43	50 - 250	64	70 - 270	125 - 350	67	26	3.75	100	●	–	●	▲	❍	▲	▲■	●●●	562

E4Q - the next generation of easy-to-assemble e-chains®

e-chains® | Crossbars every link - crossbars removable along the inner and outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4Q.34	34	ø 30	075 - 250	54	98 - 273	063 - 300	56	20	3.60	200	●	–	●	▲	❍	▲■	▲■	●●●	592
E4Q.44	44	ø 40	075 - 250	64	101 - 276	075 - 350	67	40	4.00	300	●	–	●	▲	❍	▲	▲■	●●●	598
E4Q.58	58	ø 52	100 - 425	84	134 - 459	135 - 500	91	65	5.00	400	●	–	●	▲	❍	▲	▲■	●●●	604
E4Q.82	82	ø 72	100 - 425	108	150 - 475	150 - 1.000	111	85	6.20	400	●	–	●	▲	❍	▲	▲■	●●●	610

e-chains® | Crossbars every 2nd link - crossbars removable along the inner and outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
H4Q.34	34	ø 30	075 - 250	54	98 - 273	063 - 300	56	20	3.60	100 [2)]	●	–	●	▲	❍	▲■	▲■	●●●	592
H4Q.44	44	ø 40	075 - 250	64	101 - 276	075 - 350	67	40	4.00	100 [2)]	●	–	●	▲	❍	▲	▲■	●●●	598
H4Q.58	58	ø 52	100 - 425	84	134 - 459	135 - 500	91	65	5.00	100 [2)]	●	–	●	▲	❍	▲	▲■	●●●	604
H4Q.82	82	ø 72	100 - 425	108	150 - 475	150 - 1.000	111	85	6.20	100 [2)]	●	–	●	▲	❍	▲	▲■	●●●	610

2) Longer travels possible upon request.

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

E4.1 - the modern classic for demanding applications

e-chains® | Crossbars every link - crossbars removable along the inner and outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4.21	21	ø 18	30 - 140	28	44 - 154	038 - 200	30.5	4	2.5	120	●	●	–	▲2) ■	❍	▲	▲■	●●❍	626
E4.28	28	ø 25	40 - 300	42	60 - 320	055 - 250	46	10	2.5	200	●	●	●	▲2) ■	❍	▲	▲■	●●❍	632
E4.32	32	ø 28	50 - 400	54	73 - 423	063 - 300	56	15	3.3	200	●	–	●	▲2) ■	❍	▲	▲■	●●❍	640
E4.42	42	ø 38	50 - 400	64	76 - 426	075 - 350	67	37	4	300	●	–	●	▲2) ■	❍	▲	▲■	●●❍	650
E4.56	56	ø 50	50 - 600	84	84 - 634	135 - 500	91	62.5	5	400	●	–	●	▲2) ■	❍	▲	▲■	●●❍	662
E4.80	80	ø 72	50 - 600	108	100 - 650	150 - 1.000	111	80	6.2	400	●	–	●	▲2) ■	❍	▲	▲■	●●❍	674
E4.112	112	ø 100	50 - 600	140	102 - 652	200 - 1,000	143	85	6.5	450	●	–	●	▲	❍	▲	▲■	●●❍	686
E4.162	162	ø 145	200 - 600	195	256 - 656	250 - 1,000	200	90	6.8	450	●	–	●	▲	❍	▲	■	●●❍	694
800	200	ø 184	200 - 600	236	260 - 660	325 - 1,000	250	90	8	450	●	–	●	▲	❍	▲	■	●●❍	698
840	204	ø 184	100 - 563	236	160 - 623	325 - 1,000	250	90	8	450	●	–	–	▲	❍	▲	■	●●❍	702
E4.350	350	ø 315	400 - 800	450	540 - 940	500 - 1,000	470	600	6.2	upon request	●	–	●	▲	–	▲	–	●●●	706

e-chains® | Crossbars every 2nd link - crossbars removable along the inner and outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
H4.32	32	ø 28	50 - 400	54	73 - 423	063 - 300	56	15	3.3	100 1)	●	–	●	▲	❍	▲■	▲■	●◐❍	640
H4.42	42	ø 38	50 - 400	64	76 - 426	075 - 350	67	37	4	100 1)	●	–	●	▲	❍	▲	▲■	●◐❍	650
H4.56	56	ø 50	50 - 600	84	84 - 634	135 - 500	91	62.5	5	100 1)	●	–	●	▲	❍	▲	▲■	●◐❍	662
H4.80	80	ø 72	50 - 600	108	100 - 650	150 - 1.000	111	80	6.2	100 1)	●	–	●	▲	❍	▲	▲■	●◐❍	674

e-tubes | Fully enclosed - lids openable along the outer radius, from one side





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
R4.28	28	ø 25	50 - 300	42	70 - 320	075 - 250	46	10	2.5	200	●	●	●	▲	❍	▲	▲■	●●◐	632
R4.32	32	ø 28	50 - 300	54	73 - 323	125 - 300	56	15	3.3	200	●	–	●	▲	❍	▲	▲■	●●◐	640
R4.42	42	ø 38	50 - 300	64	76 - 326	125 - 350	67	37	4	300	●	–	●	▲	❍	▲	▲■	●●◐	650
R4.56	56	ø 50	75 - 462	84	109 - 497	150 - 500	91	62.5	5	400	●	–	●	▲	❍	▲	▲■	●●◐	662
R4.80	80	ø 72	100 - 462	108	200 - 513	200 - 1,000	111	80	6.2	400	●	–	●	▲	❍	▲	▲■	●●◐	674
R4.112	108	ø 100	200 - 500	140	252 - 552	250 - 1,000	143	85	6.5	450	●	–	●	▲	❍	▲	▲■	●●❍	686

1) Longer travels possible upon request.

2) ▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142 or at ▶ www.igus.eu/ESD**

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

E4/light - light, strong and cost-effective

e-chains® | Crossbars every link - crossbars removable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
14040	56	ø 50	50 - 600	84	76 - 626	135 - 500	91	40	4	150	●	–	●	▲	❍	▲	●	●◐○	718
14240	62	ø 56	50 - 400	84	76 - 426	135 - 500	91	40	4	150	●	–	●	▲[2] ■	❍	▲	●	●○○	728
14550	70	ø 62	50 - 600	98	77 - 627	150 - 600	91	55	4.2	250	●	–	●	▲	❍	▲	●	●◐○	736
15050	80	ø 72	50 - 600	108	80 - 630	150 - 600	91	55	4.6	250	●	–	●	▲[2] ■	❍	▲	●	●◐○	744
15250	86	ø 75	50 - 400	108	80 - 430	150 - 600	91	55	4.6	250	●	–	●	▲	❍	▲	●	●◐○	754
1640	112	ø 100	50 - 600	140	84 - 634	200 - 600	143	50	4.5	400	●	–	●	▲ ■	❍	▲	●	●●◐	762

e-chains® | Crossbars every 2nd link - crossbars removable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
14140	56	ø 50	50 - 600	84	76 - 626	135 - 500	91	40	4	100 [1]	●	–	●	▲	❍	▲	●	●○○	718
14340	62	ø 56	50 - 400	84	76 - 426	135 - 500	91	40	4	100 [1]	●	–	●	▲	❍	▲	●	◐○○	728
14650	70	ø 62	50 - 600	98	77 - 627	150 - 600	91	55	4.2	100 [1]	●	–	●	▲	❍	▲	●	◐◐○	736
15150	80	ø 72	50 - 600	108	80 - 630	150 - 600	91	55	4.6	100 [1]	●	–	●	▲	❍	▲	●	●○○	744
15350	86	ø 75	50 - 400	108	80 - 430	150 - 600	91	55	4.6	100 [1]	●	–	●	▲	❍	▲	●	◐◐○	754

e-tubes | Fully enclosed - lids openable along the outer radius, from one side



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
R18840	56	ø 50	75 - 462	84	101 - 489	150 - 500	91	40	4	150	●	–	●	▲	❍	▲	●	●●○	718
R19050	70	ø 62	75 - 462	98	102 - 489	200 - 600	91	55	4.2	250	●	–	●	▲	❍	▲	●	●◐○	736
R19850	80	ø 72	75 - 462	108	105 - 493	200 - 600	91	55	4.6	250	●	–	●	▲	❍	▲	●	●●○	744
R1608	108	ø 100	200 - 500	140	234 - 534	250 - 600	143	50	4.5	400	●	–	●	▲	❍	▲	●	●●◐	762

1) Longer travels possible upon request.

2) ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142 or at ▶ www.igus.eu/ESD**

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

YE - plastic-steel hybrid e-chains®

e-chains® | Crossbars every 2nd link - crossbars removable along the inner and outer radius



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]	Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
	YE.42	42 ø 38	100* - 400	76	118 - 418	100	67	190	6.5	–	●	–	●	–	–	▲	–	●◐○	782
	YE.56	56 ø 50	100* - 400	90	124 - 624	100 - 500	91	350	7.1	–	●	–	●	–	–	▲	–	●◐○	788

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

SKF - e-skin® flat single pods - connectable profiles

e-skin® flat SKF.C | Prevent particle ingress with closed cable chambers



Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
	SKF12C[1)2)]	**12**	10	**2 - 6**[3)]	13	–	–		–	–	–	–	–	–	–	–	■■	–	■■	●●●	**804**
	SKF15C[1)]	**15**	13	**2 - 6**[3)]	16	–	–		–	–	–	–	–	–	–	–	■■	–	■■	●●●	**804**

3) Number of chambers

e-skin® flat single pod SKF.O | Openable with a special locking mechanism



	SKF12O[1)]	**12**	10	**2 - 6**[3)]	13	–	–		–	–	–	–	–	–	–	–	■■	–	■■	●●●	**805**

3) Number of chambers

e-skin® SKF.S | Support e-chain® SKF12C series for unsupported length and a defined bend radius



	SKF.S.08[1)]	–	–	–	8	**8**	040-100		18 - 25	–	upon request	–	–	–	–	–	■■	–	■■	●●●	**806**

SK | SKS | SKY - openable e-skin® cleanroom corrugated tube energy supply systems

e-skin® SK | For longer unsupported lengths



	SK28	**28**	ø 25	68	40	95	055[4)]		–	1.0	1	–	–	●	–	–	■■	–	■■	●●●	**822**
	SK40	**38**	ø 30	85	57	118	100[4)]		–	1.75	1.5	–	–	●	–	–	■■	–	■■	●●●	**822**

e-skin® SKS | With more elastic material and lower installation height



	SKS20	**20**	ø 13	33	25	50	055[4)]		–	0.6	0.6	upon request	–	●	–	–	■■	–	■■	●●●	**823**
	SKS28	**28**	ø 25	68	40	95	055[4)]		–	0.75	0.75	0.7	–	●	–	–	■■	–	■■	●●●	**823**
	SKS40	**38**	ø 30	85	57	118	100[4)]		–	1.25	1.25	1.3	–	●	–	–	■■	–	■■	●●●	**823**

e-skin® SKY | Combines the advantages of e-skin® SK and e-skin® soft SKF



	SKY28	**28**	ø 25	68	40	95	055[4)]		–	0.75	0.75	0.9	–	●	–	–	■■	–	■■	●●●	**824**
	SKY40	**38**	ø 30	85	57	118	100[4)]		–	1.5	1.5	1.4	–	●	–	–	■■	–	■■	●●●	**824**

1) e-skin® flat: cleanroom solutions of this type should be designed in conjunction with igus® engineering team.
Please contact us at ▶ www.igus.eu/contact

2) Support e-chain® for unsupported length and an optionally available, defined bend radius

3) Number of chambers

4) Note: The minimum bend radius is determined by the bottom of the e-skin® corrugated tube!

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

E6.1 - low noise 32dB(A), dynamic, light and cleanroom suitable

e-chains® | Crossbars openable along the inner and outer radius, from both sides





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E61.29	29	ø 25	30 - 140	35	44 - 154	055 - 150		22	3	1.75	–	●	●	●	▲	■■	▲	■■	●●●	840

e-chains® | Crossbars removable along the inner and outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
EF61.29	29	ø 25	30 - 140	35	44- 154	055 - 150		22	3	1.75	–	●	●	●	▲	■■	▲	■■	●●●	840
E61.35	35	ø 31	30 - 140	42	46 - 156	055 - 150		25	6	1.9	–	●	●	●	▲	■■	▲	■■	●●●	846
E61.40	40	ø 36	40 - 300	54	56 - 316	063 - 200		27.8	10	2.75	–	●	●	●	▲	■■	▲	■■	●●●	850
E61.52	52	ø 46	40 - 300	65	64 - 324	075 - 200		30	15	3	–	●	●	●	▲	■■	▲	■■	●●●	856
E61.62	62	ø 54	50 - 400	84	82 - 432	115		50	43	4	–	●	●	●	▲	■■	▲	■■	●●●	860
E61.80	80	ø 72	50 - 600	108	78 - 628	150		65	55	5.25	–	●	–	●	▲	■■	▲	■■	●●●	864

E6 - extremely low noise 37dB(A), low vibration and abrasion, cleanroom suitable

e-chains® | Crossbars every 2nd link - crossbars removable along the inner and outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E6.29	29	ø 25	30 - 140	35	46 - 156	055 - 150		22	3	1.75	❍	●	●	●	▲	■■	▲	■■	●●●	878
E6.35	35	ø 31	30 - 140	42	50 - 160	055 - 150		25	6	1.9	❍	●	●	●	▲	■■	▲	■■	●●●	884
E6.40	40	ø 36	40 - 300	54	60 - 320	063 - 200		27.8	10	2.75	❍	●	●	●	▲	■■	▲	■■	●●●	888
E6.52	52	ø 46	40 - 300	65	64 - 324	075 - 250		30	15	3	❍	●	●	●	▲	■■	▲	■■	●●●	894
E6.62	62	ø 54	50 - 400	84	86 - 436	115 - 350		50	43	4	❍	●	●	●	▲	■■	▲	■■	●●●	900
E6.80L	80	ø 72	87 - 550	108	115 - 578	150 - 300		65	25	2.5	❍	●	–	●	▲	■■	▲	■■	●●●	904
E6.80	80	ø 72	50 - 600	108	100 - 650	150 - 450		65	55	5.25	❍	●	–	●	▲	■■	▲	■■	●●●	910

e-tubes | Fully enclosed - lids removable along the inner and outer radius





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
R6.29	28	ø 25	30 - 120	35	46 - 136	055 - 150		22	3	1.75	❍	●	–	–	▲	■■	▲	■■	●●●	878
R6.40	40	ø 36	62	54	82	063 - 200		27.8	10	2.75	❍	●	–	–	▲	■■	▲	■■	●●●	888
R6.52	52	ø 46	50 - 200	66	74 - 224	075 - 250		30	15	3	❍	●	–	–	▲	■■	▲	■■	●●●	894

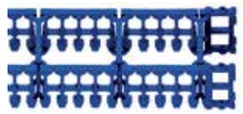
Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]	Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E3 - high dynamics and cleanroom compatible																			
e-chains® | Crossbars on a strip - zip-open along the outer radius																			
	E3.10	10 ø 8	20 - 60	15	32 - 72	015 - 48	16.7	0.3	0.7	–	●	–	–	–	■■	▲	■■	●●❍	922
	E3.15	15 ø 13	20 - 60	20	32 - 72	032 - 75	16.7	0.7	0.9	–	●	▲	–	–	■■	▲	■■	●●❍	926
	E3.22	22 ø 20	20 - 60	27	32 - 72	044 - 75	16.7	0.85	1.2	–	●	▲	–	–	■■	▲	■■	●●❍	930
T3 - smooth running "T-band", quiet, cost-effective																			
e-chains® | Crossbars removable along the inner and outer radius																			
	T3.29	29 ø 25	30 - 140	35	55 - 165	038	15	1	1.45	–	●	●	●	▲	■■	▲	■■	●●❍	940

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

TH3 - e-chain® designed according to hygienic principles

Open design - easy to clean



Chamber design	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch mm/side link	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Interior separation options: Chamber design	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
2-segment	TH3.25.2/26	25.5	ø 23.4/18.4	70	35	86	070	56	1.8	1.2	●	–	–	–	❍	●	■	●●○	950
	TH3.45.2/20	2 x 20	ø 18	70	57	90	090	96.5	2.0	1.4	●	–	–	–	❍	●	●	●●○	954
3-segment	TH3.25.3/26	25.5	ø 23.4/18.4	95	35	111	070	56	1.8	1.2	●	–	–	–	❍	●	■	●●○	950
	TH3.45.3/20	2 x 20	ø 18	95	57	115	090	96.5	2.0	1.4	●	–	–	–	❍	●	●	●●○	954
4-segment	TH3.25.4/26*	25.5	ø 23.4/18.4	120	35	136	070	56	1.8	1.2	●	–	–	–	❍	●	■	●●○	950
	TH3.45.4/20*	2 x 20	ø 18	120	57	140	090	96.5	2.0	1.4	●	–	–	–	❍	●	●	●●○	954
5-segment	TH3.25.5/26*	25.5	ø 23.4/18.4	145	35	161	070	56	1.8	1.2	●	–	–	–	❍	●	■	●●○	950
	TH3.45.5/20	2 x 20	ø 18	145	57	165	090	96.5	2.0	1.4	●	–	–	–	❍	●	●	●●○	954

* Available upon request Delivery time upon request.

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

triflex® R - for multi-axis movements and robots

TRC e-tubes | Fully enclosed, non-openable - swarf protection



Series / product	Cable ≤ ø [mm] d1	d1	Inner width from - to Bi1 [mm]	Bi2 [mm]	Outer width from - to Ba [mm]	Bend radius from - to R [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
TRC.30	10	8	12	10	34.5	050	11.3	–	–	–	●	–	–	▲	❍	●	●	●●❍	968
TRC.40	13	11	15	13	43	058	13.9	–	–	–	●	–	–	▲2) ■	❍	●	●	●●❍	968
TRC.50	16.5	14	18.8	16.2	54	080	17.4	–	–	–	●	–	–	▲	❍	●	●	●●❍	968
TRC.60	20.5	17.5	22.5	19.5	65	087	20.4	–	–	–	●	–	–	▲2) ■	❍	●	●	●●❍	968
TRC.70	26	22	28	24	81	110	25.6	–	–	–	●	–	–	▲2) ■	❍	●	●	●●❍	968
TRC.85	31	26	33	28	94.5	135	30.6	–	–	–	●	–	–	▲	❍	●	●	●●❍	968
TRC.100	35.5	30.5	37.5	32.5	108	145	34.5	–	–	–	●	–	–	▲	❍	●	●	●●❍	968
TRC.125 1)	41	41	433.	433.	135	182	44.1	–	–	–	●	–	–	▲	❍	●	●	●●❍	968

TRE e-chains® | "easy" design, very easy to fill - simply press cables in



Series / product	Cable ≤ ø [mm] d1	d1	Inner width from - to Bi1 [mm]	Bi2 [mm]	Outer width from - to Ba [mm]	Bend radius from - to R [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
TRE.30	10	8	12	10	34.5	050	11.3	–	–	–	●	–	–	▲	❍	●	●	●●❍	970
TRE.40	13	11	15	13	43	058	13.9	–	–	–	●	–	–	▲	❍	●	●	●●❍	970
TRE.50	16.5	14	18.8	16.2	54	080	17.4	–	–	–	●	–	–	▲	❍	●	●	●●❍	970
TRE.60	20.5	17.5	22.5	19.5	65	087	20.4	–	–	–	●	–	–	▲	❍	●	●	●●❍	970
TRE.70	26	22	28	24	81	110	25.6	–	–	–	●	–	–	▲	❍	●	●	●●❍	970
TRE.85	31	26	33	28	94.5	135	30.6	–	–	–	●	–	–	▲	❍	●	●	●●❍	970
TRE.100	35.5	30.5	37.5	32.5	108	145	34.5	–	–	–	●	–	–	▲	❍	●	●	●●❍	970
TRE.125 1)	41	41	433.	433.	135	182	44.1	–	–	–	●	–	–	▲	❍	●	●	●●❍	970

TRCF e-tubes | Fully enclosed design, with snap lock mechanism - swarf protection



Series / product	Cable ≤ ø [mm] d1	d1	Inner width from - to Bi1 [mm]	Bi2 [mm]	Outer width from - to Ba [mm]	Bend radius from - to R [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
TRCF.65	20	–	22.3	–	70.2	100	23.1	–	–	–	●	–	–	▲	❍	●	●	●●●	972
TRCF.65 3)	20	–	22.3	–	70.2	200	23.1	–	–	–	●	–	–	▲	❍	●	●	●●●	972
TRCF.85	28	–	30	–	94.5	135	30.6	–	–	–	●	–	–	▲	❍	●	●	●●●	972
TRCF.85 3)	28	–	30	–	94.5	240	30.6	–	–	–	●	–	–	▲	❍	●	●	●●●	972
TRCF.100	32	–	34.3	–	108	145	34.5				●	–	–	▲	❍	●	●	●●●	972

TRL e-chains® | Light version with "easy" design, cost-effective - simply press cables in



Series / product	Cable ≤ ø [mm] d1	d1	Inner width from - to Bi1 [mm]	Bi2 [mm]	Outer width from - to Ba [mm]	Bend radius from - to R [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
TRL.30 2)	10	8	12	11	34.5	050	11.3	–	–	–	●	–	–	▲	❍	●	●	●❍❍	974
TRL.40	13	–	15	–	45	058	13.9	–	–	–	●	–	–	▲	❍	●	●	●❍❍	974
TRL.60	20.5	–	18.8	–	65	087	20.4	–	–	–	●	–	–	▲	❍	●	●	●❍❍	974
TRL.70	26	–	22.5	–	81	110	25.6	–	–	–	●	–	–	▲	❍	●	●	●❍❍	974
TRL.100	35.5	–	28	–	108	145	34.5	–	–	–	●	–	–	▲	❍	●	●	●❍❍	974

TRLF e-chains® | Light version with snap-lock mechanism - easy to fill



Series / product	Cable ≤ ø [mm] d1	d1	Inner width from - to Bi1 [mm]	Bi2 [mm]	Outer width from - to Ba [mm]	Bend radius from - to R [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
TRLF.65	22	–	24.4	–	70.2	100	23.1	–	–	–	●	–	–	▲	❍	●	●	●●❍	976
TRLF.85	30	–	32.8	–	94.5	135	30.6	–	–	–	●	–	–	▲	❍	●	●	●●❍	976
TRLF.100	35.5	–	37.5	–	108	145	34.4	–	–	–	●	–	–	▲	❍	●	●	●●❍	976
TRLF.125	44.5	–	46.8	–	135	182	44.1	–	–	–	●	–	–	▲	❍	●	●	●●❍	976

1) Max. cable diameter 41mm. Max. cable diameter changes to Ø 36mm, if lengthening or shortening an already populated triflex® R

2) TRL 30 with 2-chamber design

3) Special size with larger bend radius and a special range of accessories

2) ▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142 or at ▶ www.igus.eu/ESD**

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]	Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Unsupported fill weight ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Interior separation options: Full-width shelves	Interior separation options: Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
easy triflex® - for simple multi-axis applications, easy filling from both sides																			
e-chains® | "easy" design, very easy to fill - simply press cables in																			
	E332.25	25 ø 09	25	34	34	048 - 200	14.5	–	–	–	●	–	–	▲	❍	●	●	●◐○	1066/1067
	E332.32	32 ø 12	32	50	50	075 - 250	25	–	–	–	●	–	–	▲	❍	●	●	●◐○	1066/1067
	E332.50	50 ø 21	50	68	68	100 - 250	30	–	–	–	●	–	–	▲	❍	●	●	●◐○	1066/1067
	E332.75	75 ø 33	75	96	96	140 - 300	36	–	–	–	●	–	–	▲	❍	●	●	●◐○	1066/1067
	E333.25	25 ø 09	25	34	34	048 - 200	14.5	–	–	–	●	–	–	▲	❍	●	●	●◐○	1068
	E333.32	32 ø 12	32	50	50	075 - 250	25	–	–	–	●	–	–	▲	❍	●	●	●◐○	1068
	E333.50	50 ø 21	50	68	68	100 - 250	30	–	–	–	●	–	–	▲	❍	●	●	●◐○	1068
	E333.75	75 ø 33	75	96	96	140 - 300	36	–	–	–	●	–	–	▲	❍	●	●	●◐○	1068
triflex® - enclosed for simple multi-axis applications																			
e-tubes | Fully enclosed, non-openable - swarf protection																			
	332.16	16 ø 14	16	26	26	038 - 100	13.3	–	–	–	–	–	–	▲	❍	▲	❍	●◐○	1078/1080
	332.32	32 ø 28	32	50	50	075 - 250	25	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	1078/1080
	332.50	50 ø 45	50	68	68	100 - 250	30	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	1078/1080
	332.75	75 ø 67	75	96	96	140 - 300	36	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	1078/1080
	333.16	16 ø 14	16	26	26	038 - 100	13.3	–	–	–	–	–	–	▲	❍	▲	❍	●◐○	1081
	333.32	32 ø 28	32	50	50	075 - 250	25	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	1081
	333.50	50 ø 45	50	68	68	100 - 250	30	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	1081
	333.75	75 ø 67	75	96	96	140 - 300	36	–	–	–	●	–	–	▲	❍	▲	❍	●◐○	1081
e-tubes | Fully enclosed, openable - swarf protection																			
	352.50	50 ø 45	50	68	68	100 - 250	30	–	–	–	●	–	–	▲	❍	▲	❍	●●●	1078/1080
	353.50	50 ø 45	50	68	68	100 - 250	30	–	–	–	●	–	–	▲	❍	▲	❍	●●●	1081

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

twisterchain - circular and spiral movements up to 360° from stock (up to 400° upon request)

e-chains® | Crossbars removable along the inner and outer radius



Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight up to 360° ≤ [kg/m] 180°	360°	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
2208*	28	ø 25	52.5 - 112.5	42	80 - 140	055 - 150	44	1	1.5	–	–	●	●	●	▲	❍	▲	●	●●●	1092
TC32	32	ø 28	87.5 - 150	54	108.5 - 171	100 - 250	56	4	2	–	–	●	●	●	▲	❍	▲	●	●●●	1094
TC42	42	ø 38	87.5 - 200	64	110.5 - 223	100 - 250	67	6	3.6	–	–	●	●	●	▲	❍	▲	●	●●●	1096
TC56	56	ø 50	125 - 200	84	155 - 230	150 - 400	91	8	5	–	–	●	●	●	▲	❍	▲	●	●●●	1098

twisterband - up to 7,000°** rotary movements in the smallest spaces

e-chains® | Openable with film hinge or "easy" design



						R min.	R max.													
TB12.23.9	9	ø 7	23	–	–	024	035		–	–	–	–	–	–	–	–	❍	●	●	●●●	1114
TB20.44.12	12	ø 9	44	–	–	034	057		–	–	–	–	–	–	–	–	❍	●	●	●●●	1114
TB20.44.18	18	ø 14	44	–	–	034	057		–	–	–	–	●	–	–	–	❍	●	●	●●●	1114
TB29.27.22	22	ø 17	27	–	–	069	082		–	–	–	–	●	–	–	–	❍	●	●	●●●	1114
TB30.75.22	22	ø 17	75	–	–	044	077		–	–	–	–	●	–	–	–	❍	●	●	●●●	1114

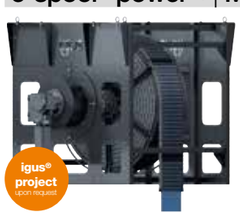
e-chains® | Links with strong pin and hook connection - openable with film hinge



TBHD12.24.11	11	ø 10	24	–	–	024	035		–	–	–	–	●	–	–	❍	❍	●	●	●●●	1118
TBHD20.44.18	18	ø 14	44	–	–	037	063		–	–	–	–	●	–	–	❍	❍	●	●	●●●	1118
TBHD30.75.22	22	ø 17	75	–	–	044	077		–	–	–	–	●	–	–	❍	❍	●	●	●●●	1118
TBHD42.135.30	30	ø 24	135	–	–	056	119		–	–	–	–	●	–	–	❍	❍	●	●	●●●	1118

*twisterchain classic (1st generation),

**Up to 7,000° rotation horizontally and 3,000° rotation vertically. Up to 3,600° available from stock; above 3,600° please contact igus®.

Product description and benefits	Suitable industries and applications	Travel length ≤ [m]	Speed ≤ [m/s]	Price index	Page
e-spool® - the cable reel without a slip ring					
e-spool® flex 2.0 | Continuous panel feed					
 ● Without interruption (no slip ring), for energy, data, fluids and air ● Space-saving ● Universal assembly ● Constant tensile strain on the cable ● Locking mechanism ● Cost-effective ● Harnessed cable with connectors is easy to install and remove	● Can be used wherever a cable must move freely during use and must be stowed away safely after use ● Control pendants for robots ● Cable retraction system for workshops, measuring and production areas ● In medical technology ● Machine tools ● Indoor cranes	≤ 15	≈ 1.0	●○○	**1132**
e-spool® compact | Space-saving, spring-driven					
 ● Compact, space-saving cable drum without slip ring ● Different media (power, air data and fluids) can be routed together in one system ● Energy supply in all directions ● Space-saving and virtually "invisible" ● Extension lengths up to 2m and 4m ● Cables can be retrospectively added or changed	● Manual workplaces ● Workstations ● Assembly lines ● Small telescopic/retractable applications	≤ 4	≈ 1.0	●○○	**1136**
e-spool® for manual operation | Reliable and space-saving					
 ● For applications where one cable or hose is pulled out manually ● Compact, space-saving cable drum without slip ring ● Integrated ratchet to lock/release the retraction (very similar to a vacuum cleaner cable) ● Also suitable for media or air hoses ● Handle with mounting option and strain relief ● An extension length of up to 5m can be insert achieved	● Robot teach pendants ● Workstations ● Assembly lines	≤ 5	≈ 1.0	●○○	**1138**
e-spool® standard and HD | Flexible use					
 ● Flexible energy supply - guidance of different media in one system ● Flexible use - energy supply in any direction is possible ● Cost-effective - twisterband enables rotary movement ● Space-saving - e-chain® retracts into a compact unit ● No tensile strain on the cables ● Cables can be retrospectively added or changed	● Telescopic applications ● Theatre, stage and lighting technology ● Space-saving alternative to zig-zag solutions	≤ 14	≈ 1.0	●●○	**1141/1142**
e-spool® power [1] | Motor-driven, for long extension lengths					
 ● Travel distances up to 25m (longer distances upon request) ● Solid tubular steel construction ● Flexible filling with electrical and fibre optic cables, and pneumatic hoses ● Future-proof, additions and upgrades possible ● No tensile strain on the cables	● Theatre, stage and lighting technology ● Indoor cranes ● Outdoors cranes	≤ 25	≈ 1.0	●●●	**1144**

1) Systems of this type should always be designed in conjunction with our engineering team. Please contact us at ▶ **www.igus.eu/contact**

Product description and benefits	Suitable industries and applications	Travel length ≤m	Speed ≤ [m/s]	Price index	Page
liftband - cable guidance up to 13m height with limited installation space					
Vertical guidance					
 ● Modular, quiet, space-saving; vertical guidance for media, energy and data ● High vertical applications that need a compact solution can be achieved with liftband ● 2 sizes: inner width 25mm and 32mm ● 2 bend radii: 175mm and 250mm ● Alternative to zig-zag solutions ● Lighter and with reduced installation space ● Vertical applications implemented with ease ● Max. extension length: 13m	● Theatre and stage technology ● Indoor cranes ● Mobile telescopic antennas	13	1	●○○	**1150**
guidelok slimline P / P.S - safe vertical guidance					
Vertical guidance					
 ● Up to 7m/s and 10m/s² ● Up to 80% less trough required, saving costs and weight ● For hanging systems up to 50m ● No swinging of the e-chain®, high reliability due to the lock mechanism and guiding rails ● Fast and easy installation ● Reduced noise ● Easy access for servicing ● Low weight due to plastic construction ● Energy and data and all kinds of media can be safely guided	● Storage and retrieval units ● Lifts ● Elevators ● Construction and crane lifts ● Hoists ● Automatic mini-load system	50	7	●○○	**1154**
e-loop® [1] - safe cable guidance for hanging applications					
Vertical guidance					
 ● The e-loop® as an alternative to the service loop - available as a dynamic version with crossbars every link and as a static version with crossbars every 2nd link ● Dynamic e-loop®: for all moving applications, e.g. top drive systems ● Static e-loop®: for purely static cable guidance - offers the opportunity to combine large cable packages as a single unit ● Modular system, easy to open ● Offers operational reliability due to locking tension of all bolted connections ● An optional "drop safe" version is also available, with additional screw locking ● Maximum cable or hose diameters: 108mm ● Protects against impact due to robust PU outer body ● Dirt and weather-resistant ● Easy maintenance	● Storage and retrieval units ● Lifts ● Elevators ● Construction and crane lifts ● Hoists ● Automatic miniload warehouses	Project-related	3	●●◐	**1164**

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Product description and benefits	Suitable industries and applications	Travel length ≤m	Speed ≤ [m/s]	Price index	Page
guidelok horizontal - upper run guide, unsupported in swarf areas					
Upper run guide					
 ● Unsupported travel lengths up to 50m are possible ● Swarf cannot get stuck between upper and lower run ● Modular system with few parts (also possible without lateral trough) ● Enormous increase of unsupported lengths for e-chains® ● Lower push/pull forces (smaller e-chains®, unsupported and rollers = energy-efficient) ● Lower cost than most steel chains or gliding systems ● Open guide trough design, swarf can fall through	● Machine tools ● Heavy swarf environments ● Wherever a gliding application is not recommended	50	1	●●○	**1172**
basic flizz® - cost-effective, enclosed solution for long travels					
Enclosed guide					
 ● Low-maintenance system for travel lengths up to 100m ● Protection against weather and dirt exposure ● Cost-effective, fully enclosed complete system ● Standardised and modular design ● Easy installation using a bracket with different mounting options ● Cable lengths up to 50% shorter than festoons, low-profile installation ● Cables are guided with a defined bend radius so tensile forces are absorbed by the e-chain® ● Cables cannot tangle or get damaged ● No slip ring contact (as with cable reels) ● Cables or hoses can be easily retrofitted as required ● Reduce power costs - directly driven by the scraper	● Wastewater and sewage treatment plants ● Longitudinal scrapers ● Sand traps ● Grease traps ● Wastewater treatment plants ● Electroplating facilities ● Cranes ● Plant construction ● River locks	100	10	●◐○	**1178**
micro flizz® - compact, enclosed solution for long travels					
e-chains® in aluminium profiles					
 ● Maintenance-free, compact, quiet and cost-effective complete system - the alternative to busbar systems ● Easy to clean ● No particle pollution due to abrasion ● Quiet, lubrication-free, and easy to install ● Operating speeds of up to 6m/s in high accelerations ● Data rates of up to 10Gbit/s. Safely guides FOC and bus cables ● Travel lengths of up to 100m ● Can be installed horizontally and vertically ● Low space requirement ● 3 sizes available	● Storage and retrieval units ● Indoor cranes ● Industrial gates ● Workplace equipment ● Wastewater and sewage treatment plants ● Camera systems ● Sliding doors ● Operator panels ● Measuring systems ● Studio equipment ● Material handling	100	6	●◐○	**1188**

Product description and benefits	Suitable industries and applications	Price index	Page

smart plastics - enable Industry 4.0 energy supply

smart plastics - components equipped with connectivity and sensors



If you want to entirely network the machines in your manufacturing plant with the internet of things (IoT) in order to be **Industry 4.0**-compatible and optimise such items as maintenance, you will need time and money. A digitalisation strategy that begins by connecting and networking individual assemblies and components is faster and costs much less. Plant operators benefit immediately from the connectivity of smart components: status monitoring for automated plant can be implemented in real time without additional personnel, and maintenance can be organised predictively. smart plastics offer two options: the simple and rather analogue condition monitoring i.Sense (sense = perception), for integration with maximum safety. For the complete networking of the machines with the internet (**IoT**), the predictive maintenance i.Cee (Cee, derived from "see") is just right.

- Cranes
- Automotive production
- Bulk handling
- Logistics
- Semiconductor industry

upon request | 1196

i.Sense - condition monitoring



- Simplest, fastest way for a self-monitoring smart plastics product, by attachment of sensors
- Alarm or message when a previously defined, measured limit value is exceeded
- Values outside defined limits can directly trigger a system shut-down
- Detects machine status regularly or continuously
- Uses fast switch-off to avoid crashes

- If condition monitoring is required

upon request | 1198

i.Cee - predictive maintenance



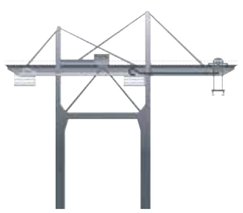
- Precisely predicts maintenance
- Prevents downtime or loss of quality
- Sensors and software help to create a system for dynamic service life calculation and optimal maintenance times
- Wide variety of designs, offering a high degree of individuality
- Maximum system and user safety and product service life

- If predictive maintenance is required

upon request | 1202

Modular projects - special solutions from stock

Engineering service



- Faster quotations, faster project planning
- Detailed service manuals and documentation
- Time and cost savings
- Absolute functional reliability
- System guarantee available upon request and depending on the application
- i.Sense EC.P - electronic Push/Pull Detection System
- Fixed end modules for easy attachment of the e-chain® inside the guide trough, with no drilling required
- Gliding elements for even longer service life of e-chains® where long travels are involved
- HD trough systems with different installation set designs, matching the respective application

- Cranes
- Offshore
- And many other industries

upon request | 1210

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

	Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Fill weight (depending on radius) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4/4HD heavy-duty - very high fill weights for long travels																						
e-chains® | Crossbars every link - crossbars removable along the inner and outer radius																						
		4040HD[1)]	56	ø 50	50 - 600	84	104 - 654	135 - 300		91	16	–	> 350	●	●	●	▲	❍	▲	–	●◐○	1220
		5050HD[1)]	80	ø 74	50 - 600	108	110 - 660	200 - 500		91	60	–	> 500	●	●	●	▲	❍	▲	–	●◐○	1226
e-tubes | Fully enclosed - lids openable along the outer radius, from one side																						
		8840HD[1)]	56	ø 50	75 - 462	84	129 - 516	150 - 300		91	16	–	> 350	●	●	●	▲	❍	▲	–	●●○	1220
		9850HD[1)]	80	ø 74	75 - 462	108	135 - 522	200 - 500		91	60	–	> 500	●	●	●	▲	❍	▲	–	●●○	1226
P4 - long travels, fast and quiet																						
e-chains® | Crossbars every link - crossbars removable along the inner and outer radius																						
		P4.32[1)]	32	ø 28	100 - 250	54	132 - 282	150 - 250		56	6	–	> 500	●	●	●	▲	❍	▲	–	●●◐	1236
		P4.42[1)]	42	ø 38	100 - 200	64	154 - 254	100 - 250		67	7	–	> 600	●	●	●	▲	❍	▲	–	●●◐	1237
P4.1 - new generation - longest travels, even faster and quieter																						
e-chains® | Crossbars every link - crossbars removable along the inner and outer radius																						
		P41.56[1)]	56	ø 50	187 - 400	84	257 - 470	200 - 350		91	13	–	> 1,000	●	●	●	▲	❍	▲	–	●●◐	1240
		P41.80[1)]	80	ø 72	187 - 400	108	263 - 476	200 - 350		100	30	–	> 1,000	●	●	●	▲	❍	▲	–	●●◐	1241

1) Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

Opening principle	Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]		Pitch e-chain® link [mm]	Fill weight (depending on radius) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4/4 rol e-chain® - travel lengths up to 800m, rolling instead of gliding																					
e-chains® | Crossbars every link - crossbars removable along the inner and outer radius																					
	2828R[1]	32	ø 28	50 - 400	54	74 - 424	125 - 300**		56	6	–	> 250	●	●	●	▲	❍	▲	–	●●○	1246
	3838R[1]	42	ø 38	50 - 400	64	77 - 427	150 - 350**		67	7	–	> 330	●	●	●	▲	❍	▲	–	●●○	1248
	4040R[1]	56	ø 50	50 - 600	84	86 - 636	200 - 400**		91	13	–	> 500	●	●	●	▲	❍	▲	–	●●○	1250
	5050R[1]	80	ø 72	50 - 600	108	100 - 650	250 - 500**		100	16	–	> 600	●	●	●	▲	❍	▲	–	●●○	1254
e-tubes | Fully enclosed - lids openable along the outer radius, from one side																					
	7728R[1]	32	ø 28	50 - 300	54	74 - 324	150 - 300		55	6	–	> 250	●	●	●	▲	❍	▲	–	●●◐	1246
	7838R[1]	42	ø 38	50 - 300	64	77 - 427	200 - 350		67	7	–	> 330	●	●	●	▲	❍	▲	–	●●◐	1248
	8840R[1]	56	ø 50	75 - 462	84	111 - 499	300 - 400		91	13	–	> 500	●	●	●	▲	❍	▲	–	●●◐	1250
	9850R[1]	80	ø 72	75 - 462	108	125 - 513	300 - 500		100	16	–	> 600	●	●	●	▲	❍	▲	–	●●◐	1254
E4/4 rol e-chain® RHD heavy-duty - for extremely high fill weights																					
e-chains® | Crossbars every link - crossbars removable along the inner and outer radius																					
	4040RHD[1]	56	ø 50	87 - 550	84	141 - 604	200 - 400		91	16	–	> 600	●	●	●	▲	❍	▲	–	●●○	1252
	5050RHD[1]	80	ø 72	50 - 600	108	110 - 660	250 - 500		100	30	–	> 800	●	●	●	▲	❍	▲	–	●●○	1256
E2/000 rol e-chain® - travel lengths up to 150m, energy-efficient and cost-effective																					
e-chains® | Crossbars openable along the outer radius, from both sides																					
	2700R[1]	35	ø 32	50 - 175	50	66 - 194	150		56	2.5	–	150	●	●	●	▲	❍	▲	–	◐○○	1262
	3500R[1]	45	ø 42	75 - 225	64	95 - 245	125 - 200		67	5 - 8	–	150	●	●	●	▲	❍	▲	–	◐○○	1263

1) Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

**Smaller bend radii (only for e-chains®) available upon request. Please consult igus® for delivery time.

Legend
- ● Standard
- ❍ Suitable only to a limited extent
- ▲ Possible as an option
- ■ Especially suitable

autoglide - make savings on long travel distances with self-guiding e-chains®

autoglide 5 | Energy and data transmission installed in one hour





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight (depending on radius and dynamics) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
2400AG5[1)]	25	ø 23	57 - 77	35	73 - 93	075 - 150**	46	2	–	80	●	●	●	▲	❍	–	▲	●○○	1274
2600AG5[1)]	35	ø 32	75 - 100	50	91 - 116	075 - 150**	56	2.5	–	80	●	●	●	▲	❍	–	▲	●○○	1275

autoglide E2/000AG | Crossbars openable along the inner radius, from both sides





Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight (depending on radius and dynamics) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
2400AG[1)]	25	ø 23	57 - 77	35	73 - 93	075 - 150**	46	2	–	40	●	●	●	▲	❍	–	▲	●○○	1280
2600AG[1)]	35	ø 32	75 - 100	50	91 - 116	075 - 150**	56	2.5	–	60	●	●	●	▲	❍	–	▲	●○○	1281

autoglide E4.1AG | Crossbars removable along the inner and outer radius



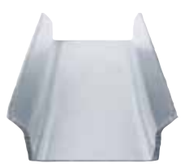


Series / product	Inner height *hi* [mm] + ≤ ø [mm]		Inner width from - to *Bi* [mm]	Outer height *ha* [mm]	Outer width from - to *Ba* [mm]	Bend radius from - to *R* [mm]	Pitch e-chain® link [mm]	Fill weight (depending on radius and dynamics) ≤ [kg/m]	Unsupported length FL_B ≤ [m]	Long travel length ≤ [m]	Interior separation options: Separators	Full-width shelves	Shelves	ESD	Cleanroom	UL-V2 / V0	Quiet	Price index	Page
E4.32AG[1)]	32	ø 28	112 - 262	54	136 - 286	100 - 250**	56	5 - 7	–	60	●	●	●	▲	❍	▲	▲	●○○	1286
E4.42AG[1)]	42	ø 38	112 - 262	64	139 - 289	125 - 250**	67	4 - 9.6	–	70	●	●	●	▲	❍	▲	▲	●○○	1287
E4.56AG[1)]	56	ø 50	150 - 250	84	184 - 284	150 - 250**	91	6.4 - 12	–	80	●	●	●	▲	❍	▲	▲	●○○	1288

1) Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

**Larger bend radii upon request. Please consult igus® for delivery time.

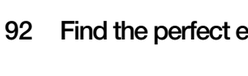
Legend
- ● Aluminium
- ❍ Galvanised steel
- ■ Stainless steel upon request
- ▲ Galvanised steel/polymer

Series / product	Outer height H_{Ra} [mm]	zipper	E2 mini	E2.1	E2/000	E2 e-tubes		E4.1L	E4Q	E4.1	E4/light	E6	Side part material	Price index	Page
Aluminium SuperTrough - basic version for general use															
Basic version - for general applications - standard															
															
970.30.SL | 970.31.SL	77	15/R15	10/B15	–	–	–		–	–	–	–	–	●	●●❍	1,308
970.30.SL | 970.32.SL	77	–	–	–	1400[1]/1450[1]/1480[1]/1500	–		–	–	E4.21	–	–	●	●●❍	1310
971.30.SL | 971.31.SL	87	–	–	E2.26	2400[1]/2450[1]/2480[1]/2500/255	R48		–	–	–	–	E6.29/R6.29[2]	●	●●❍	1312
972.02.30.SL | 972.02.31.SL	117	–	–	–	–	–		E4.31L/R4.31L	–	E4.28/R4.28	–	E6.35[2]	●	●●❍	1314
972.30.SL | 972.31.SL	117	–	–	–	–	–		E4.38L/R4.38L	E4Q.34/H4Q.34	E4.32/H4.32/R4.32	–	E6.40/R6.40[2]	●	●●❍	1316
972.30.SL | 972.32.SL	117	–	–	E2.38	2600[1]/2650[1]/2680[1]/2700	R58		–	–	–	–	–	●	●●❍	1318
973.30.SL | 973.31.SLH[3]	144	–	–	E2.48	3400[1]/3450[1]/3480[1]/3500	R68		E4.48L/R4.48L	E4Q.44/H4Q.44	E4.42/H4.42/R4.42	–	E6.52/R6.52[2]	●	●●❍	1320
974.30.SL | 974.31.SLH[3]	184	–	–	–	–	–		E4.64L	E4Q.58/H4Q.58	E4.56/H4.56/R4.56	14040/14140/18840/14240/14340	E6.62[2]	●	●●❍	1322
975.30.SL | 975.31.SLH[3]	236	–	–	–	–	–		–	E4Q.82/H4Q.82	E4.80/H4.80/R4.80	15050/15150/19850/15250/15350	E6.80[2]	●	●●❍	1324
Aluminium SuperTrough - heavy-duty version, for heavy-duty applications															
Heavy-duty version - for heavy-duty applications															
															
971.30.SL | 971.31.SL	87	–	–	E2.26	2400[1]/2450[1]/2480[1]/2500/255	R48		–	–	–	–	E6.29/R6.29[2]	●	●●❍	1313
972.02.30.SL | 972.02.31.SL	117	–	–	–	–	–		E4.31L/R4.31L	–	E4.28/R4.28	–	E6.35[2]	●	●●❍	1315
972.30.SL | 972.31.SL	117	–	–	–	–	–		E4.38L/R4.38L	E4Q.34/H4Q.34	E4.32/H4.32/R4.32	–	E6.40/R6.40[2]	●	●●❍	1317
972.30.SL | 972.32.SL	117	–	–	E2.38	2600[1]/2650[1]/2680[1]/2700	R58		–	–	–	–	–	●	●●❍	1319
973.30.SL | 973.31.SLH[3]	144	–	–	E2.48	3400[1]/3450[1]/3480[1]/3500	R68		E4.48L/R4.48L	E4Q.44/H4Q.44	E4.42/H4.42/R4.42	–	E6.52/R6.52[2]	●	●●❍	1321
974.30.SL | 974.31.SLH[3]	184	–	–	–	–	–		E4.64L	E4Q.58/H4Q.58	E4.56/H4.56/R4.56	14040/14140/18840/14240/14340	E6.62[2]	●	●●❍	1323
975.30.SL | 975.31.SLH[3]	236	–	–	–	–	–		–	E4Q.82/H4Q.82	E4.80/H4.80/R4.80	15050/15150/19850/15250/15350	E6.80[2]	●	●●❍	1325
Steel guide through - very strong and tough for heavy-duty applications															
Steel - for extremely heavy-duty applications															
															
92.30 | 92.31	70	–	–	E2.26	2400[1]/2450[1]/2480[1]/2500/255	–		–	–	–	–	E6.29/R6.29[2]	❍■	●●❍	1334
95.30 | 95.31	100	–	–	E2.38	2600[1]/2650[1]/2680[1]/2700	R58		–	–	–	–	–	❍■	●●❍	1336
99.30 | 99.31	100	–	–	–	–	–		E4.31L/R4.31L	–	E4.28/R4.28	–	E6.35[2]	❍■	●●❍	1338
97.30 | 97.31	130	–	–	–	–	–		E4.38L/R4.38L	E4Q.34/H4Q.34	E4.32/H4.32/R4.32	–	E6.40/R6.40[2]	❍■	●●❍	1340
93.30 | 93.31	130	–	–	E2.48	3400[1]/3450[1]/3480[1]/3500	R68		E4.48L/R4.48L	E4Q.44/H4Q.44	E4.42/H4.42/R4.42	–	E6.52/R6.52[2]	❍■	●●❍	1342
94.30 | 94.31	170	–	–	–	–	–		E4.64L	E4Q.58/H4Q.58	E4.56/H4.56/R4.56	14040/14140/14240/14340/18840	E6.62[2]	❍■	●●❍	1344
94.14450.30 | 94.14450.31	170	–	–	–	–	–		–	–	–	14550/14650/R19050	–	❍■	●●❍	1346
96.30 | 96.31	220	–	–	–	–	–		–	E4Q.82/H4Q.82	E4.80/H4.80/R480	15050/15150/19850	E6.80[2]	❍■	●●❍	1348
98.30 | 98.31	300	–	–	–	–	–		–	–	E4.112/R4.112	1640/1608	–	❍■	●●❍	1350
90.30 | 90.31	480	–	–	–	–	–		–	–	–	800/840	–	❍■	●●❍	1352
Steel guide trough - one-piece, u-shaped, special solution for series 10, B15, 15															
															
91.10 - 91.71	48	15/R15	10/B15	–	–	–		–		–	–	–	❍■	●●❍	1333

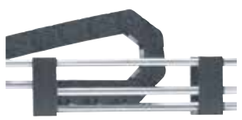
1) Conditionally suitable if the crossbars are openable along the inner radius 2) For long travels applications, please consult igus®

3) With new assembly and abrasion-optimised high-speed glide bar

● Aluminium
❍ Galvanised steel
■ Stainless steel upon request
❑ Steel, powder coated

Series / product	Inner width B_{Ri} [mm]	Outer height H_{Ra} [mm]	**E2.1** (suitable for all types)	**E2/000** (suitable for all types)	**E4.1L** (suitable for all types)		**E4Q** (suitable for all types)	**E4.1** (suitable for all types)	**E4/light** (suitable for all types)	**E6.1** (suitable for all types)	**E6** (suitable for all types)	Side part material	Price index	Page
Steel support tray - for support of the lower run														
Support tray - type 01														
														
S9.010/011.05.	80	43	E2.26, E2.38	2400 ... 2480, 2600 ... 2680	E4.31L, E4.38L		E4Q.34	E4.21, E4.28, E4.32	–	E61.29, E61.35, E61.40	E6.29, E6.35, E6.40	❑	●○○	1358
S9.010/011.07.	105	43	E2.26, E2.38	2400 ... 2480, 2600 ... 2680	E4.31L, E4.38L		E4Q.34	E4.21, E4.28, E4.32	–	E61.29, E61.35, E61.40	E6.29, E6.35, E6.40	❑	●○○	1358
S9.010/011.10.	130	43	E2.26, E2.38	2400 ... 2480, 2600 ... 2680	E4.31L, E4.38L		E4Q.34	E4.21, E4.28, E4.32	–	E61.29, E61.35, E61.40	E6.29, E6.35, E6.40	❑	●○○	1358
S9.010/011.15.	175	43	E2.38	2600 ... 2680	E4.31L, E4.38L		E4Q.34	E4.28, E4.32	–	E61.40	E6.40	❑	●○○	1358
Support tray - type 02														
														
S9.020/021.10.	156	53	E2.48	3400 ... 3480	E4.48L, E4.64L		E4Q44, E4Q58, E4Q82	E4.42, E4.56, E4.80	14040, 14240, 15050, 14550, 15250	E61.52, E61.62, E61.80	E6.52, E6.62, E6.80	❑	●○○	1360
S9.020/021.15.	206	53	E2.48	3400 ... 3480	E4.48L, E4.64L		E4Q44, E4Q58, E4Q82	E4.42, E4.56, E4.80	14040, 14240, 15050, 14550, 15250	E61.52, E61.62, E61.80	E6.52, E6.62, E6.80	❑	●○○	1360
S9.020/021.20.	256	53	E2.48	3400 ... 3480	E4.48L, E4.64L		E4Q44, E4Q58, E4Q82	E4.42, E4.56, E4.80	14040, 14240, 15050, 14550, 15250	E61.52, E61.62, E61.80	E6.52, E6.62, E6.80	❑	●○○	1360
S9.020/021.25.	306	53	E2.48	3400 ... 3480	E4.48L, E4.64L		E4Q44, E4Q58, E4Q82	E4.42, E4.56, E4.80	14040, 14240, 15050, 14550, 15250	E61.52, E61.62, E61.80	E6.52, E6.62, E6.80	❑	●○○	1360
Aluminium support tray - flexible support of the lower run														
Modular system														
														
9AT.35.SL | 9AT.35.SLA			E2.26	2400 ... 2480, 2600 ... 2680	E4.31L, E4.38L		E4Q.34	E4.28, E4.32, E4.80	E61.29/E61.35/E61.40	E61.29, E61.35, E61.40	E6.29, E6.35, E6.40	●	●○○	1362

Legend
- ● Aluminium
- ❍ Galvanised steel
- ■ Stainless steel upon request
- ▲ Galvanised steel/polymer

Series / product	Outer height H_{Ra} [mm]	zipper	E2 mini	E2.1		E2/000	E2 e-tubes	E4Q	E4.1	Side part material	Price index	Page
guidefast - for crane girders and indoor cranes												
For crane girders and indoor cranes												
												
GF91.30/31.025	61	–	–	–		1500	–	–	–	❍	●○○	1371
GF91.30/31.050	61	–	–	–		1500	–	–	–	❍	●○○	1371
GF92.30/31.03	75	–	–	E2.26		2500/255	R48	–	–	❍	●○○	1371
GF92.30/31.05	75	–	–	E2.26		2500/255	–	–	–	❍	●○○	1371
GF92.30/31.07	75	–	–	E2.26		2500/255	–	–	–	❍	●○○	1371
GF92.30/31.09	75	–	–	E2.26		2500/255	R58	–	–	❍	●○○	1371
GF92.30/31.10	75	–	–	E2.26		2500/255	R68	–	–	❍	●○○	1371
GF95.30/31.05	105	–	–	E2.38		2700	–	–	–	❍	●○○	1371
GF95.30/31.07	105	–	–	E2.38		2700	–	–	–	❍	●○○	1371
GF95.30/31.10	105	–	–	E2.38		2700	–	–	–	❍	●○○	1371
guidelite - travel lengths up to 150m, quick and cost-effective												
For less demanding applications												
												
9GL.64.50.450.XX	145	–	–	E2.48		2500 / 2700 / 3500	–	E4Q.34	E4.21/E4.28/E4.32	▲	◐○○	1376
9GL.64.50.LLL	145	–	–	E2.26 / E2.38		1500/ 2500 / 2700 / 3500	–	E4Q.34	E4.21/E4.28/E4.32	▲	◐○○	1378
Tubular trough system RS - lets light and swarf through												
For less demanding applications												
												
92.70 / 92.71	90	–	–	E2.26		2500/255	–	–	–	▲	◐○○	1382
93.70 / 93.71	146	–	–	E2.48		3500	–	–	–	▲	◐○○	1383
95.70 / 95.71	126.3	–	–	E2.38		2700	–	–	–	▲	◐○○	1384
Snap-in trough system SP - simple and cost-effective												
For less demanding applications												
												
91.930	55.5	15/R15	10/B15	–		–	–	–	–	▲	●○○	1388
92.930	76.6	–	–	E2.26		2500/255	–	–	–	▲	●○○	1389
93.930	138.6	–	–	E2.48		3500	–	–	–	▲	●○○	1390
95.930	106.6	–	–	E2.38		2700	–	–	–	▲	●○○	1391

Strain relief	Product description	from - to ø [mm]	easy chain®	E2.1	E2/000	R2.1	E2 e-tubes	E4.1L	E4Q	E4.1	E4/light	E6.1 / E6	Page
Steel and stainless steel clamps - for maximum tensile forces													
	● **CFX*** single, double, triple clamps with standard base	6 - 50	–	X	X	–	–	X	X	X	X	X	1410
	● **CFXL*** single, double, triple clamps with wide base for increased holding force	6 - 50	–	X	X	–	–	X	X	X	X	X	1411
	● **CFX12*** - multi-clamps	6 - 50	–	X	X	–	–	X	X	X	X	X	1413
	● **CFX16*** - multi-clamps	6 - 50	–	X	X	–	–	X	X	X	X	X	1414
	● **CFX12*** - clamps for pneumatic hoses New	4 - 8	–	X	X	–	–	X	X	X	X	X	1416
	● **CFX16*** - clamps for pneumatic hoses New	6 - 12	–	X	X	–	–	X	X	X	X	X	1417
chainfix tiewrap plates - universal, bolted or clip-on													
	● **Option 1A:** tiewrap plates as individual parts "Series 2000" and cable tiewraps	≤ ø 36	X	X	X	–	X	X	X	X	X	X	1420
	● **Option 1B:** tiewrap plates as individual parts "Series 3000" and cable tiewraps	≤ ø 36	X	X	X	–	X	X	X	X	X	X	1421
chainfix tiewrap plates - optional variants													
	● **Option 1:** tiewrap plates with clip-on connection to C-profile		–	–	X	–	–	X	X	X	X	X	1422
	● **Option 2:** strain relief tooth for top-hat (DIN) 15 (TS92.31) New		–	–	X	–	–	X	X	X	X	X	1422
	● **Option 2:** integrated strain relief for R series E2 e-tubes		–	–	–	–	X	–	–	–	–	–	1423
	● **Option 4:** tiewrap plates for fixed crossbars		X	–	X	–	–	–	–	–	–	–	1424
	● **Option 5:** tiewrap plates for openable crossbars		–	X	X	–	–	X	X	X	X	X	1425
CFU.V - Strain relief with innovative honeycomb design													
	● 80% faster filling (compared to CFX strain relief), openable from both sides for assembly in seconds		–	X	X	X	X	X	X	X	X	X	1426
Strain relief separators - separator with integrated strain relief teeth													
	● For easy strain relief with cable tiewraps		–	X	X	X	X	X	X	X	–	X	1428
CFV strain relief element - stepped strain relief													
	● Relieve cable strain easily, for use outside of the e-chain® section. With stepped strain relief teeth, even for fully enclosed e-tubes		–	X	X	X	X	X	X	X	X	X	1432
CFN - chainfix nuggets for C-profile and top-hat (DIN) rail 35													
	● **Option 1:** simple and universal cable fixation (for cable diameters of Ø 20mm and Ø 30mm)	≤ 30	–	X	X	–	–	X	X	X	X	X	1433
	● **Option 2:** fastening through clipping onto standard top-hat (DIN) rail 35	≤ 20	–	X	X	–	–	X	X	X	X	X	1433
CFB - strain relief connector system, modular and customised													
	● **CFB** polymer strain relief connector system, for many cables in a very confined space	4.3 - 14											1434

*Standard material: galvanised steel. Also available as stainless steel version (stainless steel material: 1.4301/AISI 304)

Selection by inner height



Continued

hi	Series	Product	Page
5 - 10mm			
5	03	E2 micro	**280**
5	E03	easy chain®	**218**
7	04	E2 micro	**282**
7	E04	easy chain®	**220**
9	TB12.23.09	twisterband	**1114**
9	047	zipper	**246**
9.4	E045	easy chain®	**222**
9.4	E045.2	easy chain®	**222**
9.4	E045.3	easy chain®	**222**
9.4	Z045	easy chain®	**222**
9.4	Z045.2	easy chain®	**222**
9.4	Z045.3	easy chain®	**222**
10	E1.10.013	E1	**184**
10	05	E2 micro	**284**
10	E3.10	E3	**922**
10.1-16mm			
10.1	E2.10	E2.1 micro	**340**
10.1	E2i.10	E2.1 micro	**340**
10.3	045	E2 micro	**286**
10.3	B07	E2 micro	**288**
10.3	07	zipper	**248**
10.3	R07	zipper tube	**250**
10.5	06	E2 micro	**290**
10.6	E2C.10	E2.1 micro	**340**
10.7	E06	easy chain®	**224**
10.7	Z06	easy chain®	**224**
11	TBHD12.24.11	twisterband	**1118**
11.3	E065	easy chain®	**226**
11.3	E065.2	easy chain®	**226**
11.3	E065.3	easy chain®	**226**
11.3	Z065	easy chain®	**226**
11.3	Z065.2	easy chain®	**226**
11.3	Z065.3	easy chain®	**226**
11.5	074	E2 micro	**292**
12	SKF12C	e-skin® flat	**804**
12	SKF12O	e-skin® flat	**805**
12	TRC.30	triflex® R	**968**
12	TRE.30	triflex® R	**970**
12	TRL.30	triflex® R	**974**
12	TB20.44.12	twisterband	**1114**
13	E332.25	easy triflex®	**1066**
13	E333.25	easy triflex®	**1068**
14.3	B09	E2 micro	**296**
14.4	E2.15	E2.1 micro	**344**
14.4	E2i.15	E2.1 micro	**344**
14.5	OCR.50	office chain	**200**
14.6	E08	easy chain®	**228**
14.7	Z08	easy chain®	**228**
14.9	E2C.15	E2.1 micro	**344**

hi	Series	Product	Page
15	08	E2 micro	**300**
15	E3.15	E3	**926**
15	SKF15C	e-skin® flat	**804**
15	TRC.40	triflex® R	**968**
15	TRE.40	triflex® R	**970**
15	TRL.40	triflex® R	**974**
15	09	zipper	**252**
15	R09	zipper tube	**256**
15.6	094	E2 micro	**294**
16	332.16	triflex®	**1078**
16	333.16	triflex®	**1081**
17-23mm			
17	E1.17.021	E1	**185**
17	E1.17.044	E1	**185**
17	B15	E2 mini	**322**
17	B15i	E2 mini	**322**
17	E332.32	easy triflex®	**1066**
17	E333.32	easy triflex®	**1068**
17	15	zipper	**258**
17	R15	zipper tube	**262**
18	E1.18.015	E1	**186**
18	10	E2 mini	**310**
18	TE14	snapchain	**192**
18	TZ14	snapchain	**192**
18	TB20.44.18	twisterband	**1114**
18	TBHD20.44.18	twisterband	**1118**
18.8	TRC.50	triflex® R	**968**
18.8	TRE.50	triflex® R	**970**
19	E14	easy chain®	**230**
19	Z14	easy chain®	**230**
20	E1.20.015	E1	**187**
20	14	E2 mini	**320**
20	SKS20	e-skin® SKS	**823**
21	117	E2 tube R100	**472**
21	118	E2 tube R100	**472**
21	1400	E2/000	**382**
21	1450	E2/000	**382**
21	1500	E2/000	**382**
21	1480	E2/000 tube	**382**
21	E4.21	E4.1	**626**
21	ZF14	office chain	**208**
22	E3.22	E3	**930**
22	TB29.27.22	twisterband	**1114**
22	TB30.75.22	twisterband	**1114**
22	TBHD30.75.22	twisterband	**1118**
22.3	TRCF.65	triflex® R	**972**
22.5	TRC.60	triflex® R	**968**
22.5	TRE.60	triflex® R	**970**
22.5	TRL.60	triflex® R	**974**
23	11.031	E2 mini	**314**

hi	Series	Product	Page
25-30mm			
24	255	E2/000	**438**
24.3	E200	easy chain®	**232**
24.3	E200.2	easy chain®	**232**
24.3	Z200	easy chain®	**232**
24.3	Z200.2	easy chain®	**232**
24.4	TRLF.65	triflex® R	**976**
25	2400AG	autoglide	**1280**
25	2400AG5	autoglide 5	**1274**
25	48	E2 tube R	**498**
25	2400	E2/000	**394**
25	2450	E2/000	**394**
25	2500	E2/000	**394**
25	2480	E2/000 tube	**394**
25.5	TH3.25.2	TH3	**950**
25.5	TH3.25.3	TH3	**950**
25.5	TH3.25.4	TH3	**950**
25.5	TH3.25.5	TH3	**950**
26	E2.26	E2.1	**356**
26	E2i.26	E2.1	**356**
26	E332.50	easy triflex®	**1066**
26	E333.50	easy triflex®	**1068**
26	R2.26	R2.1	**450**
26	R2i.26	R2.1	**450**
28	11.080	E2 mini	**316**
28	E4.28	E4.1	**632**
28	EL.00.23.0	e-rib	**176**
28	SK28	e-skin® SK	**822**
28	SKS28	e-skin® SKS	**823**
28	SKY28	e-skin® SKY	**824**
28	R4.28	R4.1 tube	**632**
28	TRC.70	triflex® R	**968**
28	TRE.70	triflex® R	**970**
28	TRL.70	triflex® R	**974**
28	2208	twisterchain	**1092**
29	E6.29	E6	**878**
29	E61.29	E6.1	**840**
29	EF61.29	E6.1	**840**
29	R6.29	R6 tube	**878**
29	T3.29	T3 Band	**940**
30	TRCF.85	triflex® R	**972**
30	TBHD42.135.30	twisterband	**1118**
31-35mm			
31	E4.31L	E4.1L	**548**
31	R4.31L	R4.1L tube	**548**
32	E4.32AG	autoglide	**1286**
32	B17	E2 mini	**326**
32	B17i	E2 mini	**326**
32	F17	E2 mini	**330**
32	E4.32	E4.1	**640**

hi	Series	Product	Page
32	H4.32	E4.1	**640**
32	E16	easy chain®	**234**
32	Z16	easy chain®	**234**
32	P4.32	P4	**1236**
32	R4.32	R4.1 tube	**640**
32	2828R	Rol e-chain®	**1246**
32	7728R	Rol e-chain®	**1246**
32	332.32	triflex®	**1078**
32	333.32	triflex®	**1080**
32	TC32	twisterchain	**1094**
32	17	zipper	**266**
32	R17	zipper tube	**270**
32.8	TRLF.85	triflex® R	**976**
33	TRC.85	triflex® R	**968**
33	TRE.85	triflex® R	**970**
34	E4Q.34	E4Q	**592**
34	H4Q.34	E4Q	**592**
34.3	TRCF.100	triflex® R	**972**
34.5	EL.01.29.0	e-rib	**177**
35	2600AG	autoglide	**1281**
35	2600AG5	autoglide 5	**1275**
35	58	E2 tube R	**504**
35	2600	E2/000	**406**
35	2650	E2/000	**406**
35	2700	E2/000	**406**
35	2680	E2/000 tube	**406**
35	2700R	E2/000 Rol e-chain®	**1262**
35	E6.35	E6	**884**
35	E61.35	E6.1	**846**
36.5-48.5mm			
36.5	E26	easy chain®	**236**
36.5	Z26	easy chain®	**236**
37.1	E26.2	easy chain®	**236**
37.1	E26.3	easy chain®	**236**
37.1	Z26.2	easy chain®	**236**
37.1	Z26.3	easy chain®	**236**
37.5	TRC.100	triflex® R	**968**
37.5	TRE.100	triflex® R	**970**
37.5	TRL.100	triflex® R	**974**
37.5	TRLF.100	triflex® R	**976**
38	E2.38	E2.1	**362**
38	E2i.38	E2.1	**362**
38	E4.38L	E4.1L	**554**
38	SK40	e-skin® SK	**822**
38	R4.38L	R4.1L tube	**554**
38.5	E332.75	easy triflex®	**1066**
38.5	E333.75	easy triflex®	**1068**
40	157	E2 tube R100	**478**
40	158	E2 tube R100	**478**
40	E6.40	E6	**888**

Selection by inner height



Selection by product, series and page

hi	Series	Product	Page
40	E61.40	E6.1	850
40	SKS40	e-skin® SKS	823
40	SKY40	e-skin® SKY	824
40	R2.40	R2.1	454
40	R2i.40	R2.1	454
40	R6.40	R6 tube	888
40	TH3.45.2	TH3	954
40	TH3.45.3	TH3	954
40	TH3.45.4	TH3	954
40	TH3.45.5	TH3	954
41	11.1	E2 mini	318
41	11.2	E2 mini	318
42	E4.42AG	autoglide	1287
42	E4.42	E4.1	650
42	H4.42	E4.1	650
42	EL.00.36.0	e-rib	178
42	P4.42	P4	1237
42	R4.42	R4.1 tube	650
42	3838R	Rol e-chain®	1248
42	7838R	Rol e-chain®	1248
42	RX32	RX tube	522
42	TC42	twisterchain	1096
42	YE.42	YE	782
433.	TRC.125	triflex® R	968
433.	TRE.125	triflex® R	970
44	E4Q.44	E4Q	598
44	H4Q.44	E4Q	598
45	68	E2 tube R	510
45	3400	E2/000	422
45	3450	E2/000	422
45	3500	E2/000	422
45	3480	E2/000 tube	422
45	3500R	E2/000 Rol e-chain®	1263
46.8	TRLF.125	triflex® R	976
47	TE26	snapchain	193

hi	Series	Product	Page
47	TZ26	snapchain	193
48	E2.48	E2.1	368
48	E2i.48	E2.1	368
48	E4.48L	E4.1L	562
48	R2.48	R2.1	458
48	R2i.48	R2.1	458
48	R4.48L	R4.1L tube	562
48.5	E300	easy chain®	238
48.5	E300.2	easy chain®	238
48.5	E300.3	easy chain®	238
48.5	Z300	easy chain®	238
48.5	Z300.2	easy chain®	238
48.5	Z300.3	easy chain®	238
50-56mm			
50	167	E2 tube R100	486
50	168	E2 tube R100	486
50	332.50	triflex®	1078
50	333.50	triflex®	1080
50	352.50	triflex®	1078
50	353.50	triflex®	1081
52	E6.52	E6	894
52	E61.52	E6.1	856
52	R6.52	R6 tube	894
52	RX40	RX tube	526
54	EL.00.48.0	e-rib	179
56	E4.56AG	autoglide	1288
56	E4.56	E4.1	662
56	H4.56	E4.1	662
56	4040HD	E4/4 HD	1220
56	8840HD	E4/4 HD tube	1220
56	14040	E4/light	718
56	14140	E4/light	718
56	18840	E4/light tube	718
56	P41.56	P4.1	1240
56	R4.56	R4.1 tube	662

hi	Series	Product	Page
56	4040R	Rol e-chain®	1250
56	4040RHD	Rol e-chain®	1252
56	8840R	Rol e-chain®	1250
56	TC56	twisterchain	1098
56	YE.56	YE	788
58-86mm			
58	E4Q.58	E4Q	604
58	H4Q.58	E4Q	604
62	14240	E4/light	728
62	14340	E4/light	728
62	E6.62	E6	900
62	E61.62	E6.1	860
62	RX48	RX tube	530
64	E4.64L	E4.1L	572
70	14550	E4/light	736
70	14650	E4/light	736
70	19050	E4/light tube	736
73	RX56	RX tube	534
75	R2.75	R2.1	462
75	332.75	triflex®	1078
75	333.75	triflex®	1081
80	E4.80	E4.1	674
80	H4.80	E4.1	674
80	5050HD	E4/4 HD	1226
80	9850HD	E4/4 HD tube	1226
80	15050	E4/light	744
80	15150	E4/light	744
80	19850	E4/light tube	744
80	E6.80	E6	904
80	E6.80L	E6	910
80	E61.80	E6.1	864
80	P41.80	P4.1	1241
80	R4.80	R4.1 tube	674
80	5050R	Rol e-chain®	1254
80	5050RHD	Rol e-chain®	1256

hi	Series	Product	Page
80	9850R	Rol e-chain®	1254
82	E4Q.82	E4Q	610
82	H4Q.82	E4Q	610
86	15250	E4/light	754
86	15350	E4/light	754
108-350 mm			
108	1608	E4/light tube	762
112	E4.112	E4.1	686
112	H4.112	E4.1	686
112	1640	E4/light	762
112	R4.112	R4.1 tube	686
162	E4.162	E4.1	694
200	800	E4.1	698
204	840	E4.1	702
350	E4.350	E4.1	706

Selection by product, series and page

Continued

Series	Product	Page
03	E2 micro	280
04	E2 micro	282
05	E2 micro	284
06	E2 micro	290
07	zipper	248
08	E2 micro	300
09	zipper	252
10	E2 mini	310
14	E2 mini	320
15	zipper	258
17	zipper	266
045	E2 micro	286
047	zipper	246
48	E2 tube R	498
58	E2 tube R	504
68	E2 tube R	510
074	E2 micro	292
094	E2 micro	294
117	E2 tube R100	472
118	E2 tube R100	472
157	E2 tube R100	478
158	E2 tube R100	478
167	E2 tube R100	486
168	E2 tube R100	486
255	E2/000	438
800	E4.1	698
840	E4.1	702
1400	E2/000	382
1450	E2/000	382
1480	E2/000 tube	382
1500	E2/000	382
1608	E4/light tube	762
1640	E4/light	762
2208	twisterchain	1092
2400	E2/000	394
2450	E2/000	394
2480	E2/000 tube	394
2500	E2/000	394
2600	E2/000	406
2650	E2/000	406
2680	E2/000 tube	406
2700	E2/000	406
3400	E2/000	422
3450	E2/000	422
3480	E2/000 tube	422
3500	E2/000	422
11.031	E2 mini	314
11.080	E2 mini	316
14040	E4/light	718

Series	Product	Page
14140	E4/light	718
14240	E4/light	728
14340	E4/light	728
14550	E4/light	736
14650	E4/light	736
15050	E4/light	744
15150	E4/light	744
15250	E4/light	754
15350	E4/light	754
18840	E4/light tube	718
19050	E4/light tube	736
19850	E4/light tube	744
11.1	E2 mini	318
11.2	E2 mini	318
907.645	guidelok horizontal	1172
907.837	guidelok horizontal	1172
2400AG	autoglide	1280
2400AG5	autoglide 5	1274
2600AG	autoglide	1281
2600AG5	autoglide 5	1275
2700R	E2/000 rol e-chain®	1262
2828R	rol e-chain®	1246
332.16	triflex®	1078
332.32	triflex®	1078
332.50	triflex®	1078
332.75	triflex®	1078
333.16	triflex®	1081
333.32	triflex®	1080
333.50	triflex®	1080
333.75	triflex®	1081
3500R	E2/000 rol e-chain®	1263
352.50	triflex®	1078
353.50	triflex®	1081
3838R	rol e-chain®	1248
4040HD	E4/4 HD	1220
4040R	rol e-chain®	1250
4040RHD	rol e-chain®	1252
5050HD	E4/4 HD	1226
5050R	rol e-chain®	1254
5050RHD	rol e-chain®	1256
7728R	rol e-chain®	1246
7838R	rol e-chain®	1248
8840HD	E4/4 HD tube	1220
8840R	rol e-chain®	1250
9850HD	E4/4 HD tube	1226
9850R	rol e-chain®	1254
autoglide	autoglide	1264
autoglide 5	autoglide	1266
B07	E2 micro	288

Series	Product	Page
B09	E2 micro	296
B15	E2 mini	322
B15i	E2 mini	322
B17	E2 mini	326
B17i	E2 mini	326
basic flizz®	basic flizz®	1174
basic flizz® 2500	basic flizz®	1178
basic flizz® 3500	basic flizz®	1179
CFB	chainfix	1434
CFU	chainfix	1426
Clamps	chainfix	1408
Clamps for pneumatic hoses	chainfix	
Condition Monitoring	smart plastics	1194
Condition monitoring	smart plastics	1194
e-loop®	e-loop®	1158
e-spool power	e-spool	1144
E03	easy chain®	218
E04	easy chain®	220
E045	easy chain®	222
E045.2	easy chain®	222
E045.3	easy chain®	222
E06	easy chain®	224
E065	easy chain®	226
E065.2	easy chain®	226
E065.3	easy chain®	226
E08	easy chain®	228
E1.10.013	E1	184
E1.17.021	E1	185
E1.17.044	E1	185
E1.18.015	E1	186
E1.20.015	E1	187
E14	easy chain®	230
E16	easy chain®	234
E2.10	E2.1 micro	340
E2.15	E2.1 micro	344
E2.26	E2.1	356
E2.38	E2.1	362
E2.48	E2.1	368
E200	easy chain®	232
E200.2	easy chain®	232
E26	easy chain®	236
E26.2	easy chain®	236
E26.3	easy chain®	236
E2C.10	E2.1 micro	340
E2C.15	E2.1 micro	344
E2i.10	E2.1 micro	340
E2i.15	E2.1 micro	344
E2i.26	E2.1	356
E2i.38	E2.1	362

Series	Product	Page
E2i.48	E2.1	368
E3.10	E3	922
E3.15	E3	926
E3.22	E3	930
E300	easy chain®	238
E300.2	easy chain®	238
E300.3	easy chain®	238
E332.25	easy triflex®	1066
E332.32	easy triflex®	1066
E332.50	easy triflex®	1066
E332.75	easy triflex®	1066
E333.25	easy triflex®	1068
E333.32	easy triflex®	1068
E333.50	easy triflex®	1068
E333.75	easy triflex®	1068
E4.112	E4.1	686
E4.162	E4.1	694
E4.21	E4.1	626
E4.28	E4.1	632
E4.31L	E4.1L	548
E4.32	E4.1	640
E4.32AG	autoglide	1286
E4.350	E4.1	706
E4.38L	E4.1L	554
E4.42	E4.1	650
E4.42AG	autoglide	1287
E4.48L	E4.1L	562
E4.56	E4.1	662
E4.56AG	autoglide	1288
E4.64L	E4.1L	572
E4.80	E4.1	674
E4Q.34	E4Q	592
E4Q.44	E4Q	598
E4Q.58	E4Q	604
E4Q.82	E4Q	610
E6.29	E6	878
E6.35	E6	884
E6.40	E6	888
E6.52	E6	894
E6.62	E6	900
E6.80	E6	904
E6.80L	E6	910
E61.29	E6.1	840
E61.35	E6.1	846
E61.40	E6.1	850
E61.52	E6.1	856
E61.62	E6.1	860
E61.80	E6.1	864
EF61.29	E6.1	840

Selection by product, series and page

Contents

Series	Product	Page
EL.00.23.0	e-rib	176
EL.00.36.0	e-rib	178
EL.00.48.0	e-rib	179
EL.01.29.0	e-rib	177
ELP.220.01	e-loop®	1164
ELP.300.01	e-loop®	1165
ELP.430.01	e-loop®	1166
F17	E2 mini	330
GLSL.P.2700	guidelok	1154
GLSL.P.2700	guidelok	1154
guidefast	guidefast	1368
guidelite	guidelite	1374
guidelok horizontal	guidelok	1168
guidelok slimline P	guidelok	1152
H4.112	E4.1	686
H4.32	E4.1	640
H4.42	E4.1	650
H4.56	E4.1	662
H4.80	E4.1	674
H4Q.34	E4Q	592
H4Q.44	E4Q	598
H4Q.58	E4Q	604
H4Q.82	E4Q	610
Honeycomb strain relief	chainfix	1426
Honeycomb strain relief	chainfix	1422
i.Cee	smart plastics	1194
i.Sense	smart plastics	1194
LB.E332	liftband	1148
liftband	liftband	1146
MF06	micro flizz®	1188
MF08	micro flizz®	1189
MF10	micro flizz®	1190
micro flizz®	micro flizz®	1182
Mounting clamps for robots	triflex® R	994
Nugget	chainfix	1433
OCR.50	office chain	200
P4.32	rol e-chain®	1236
P4.42	rol e-chain®	1237
P41.56	rol e-chain®	1240
P41.80	rol e-chain®	1241
Predictive maintenance	smart plastics	1194
Predictive maintenance	smart plastics	1194
R07	zipper tube	250
R09	zipper tube	256
R15	zipper tube	262
R17	zipper tube	270
R2.26	R2.1	450
R2.40	R2.1	454
R2.48	R2.1	458
R2.75	R2.1	462
R2i.26	R2.1	450
R2i.40	R2.1	454
R2i.48	R2.1	458
R4.112	R4.1 tube	686
R4.28	R4.1 tube	632
R4.31L	R4.1L tube	548
R4.32	R4.1 tube	640
R4.38L	R4.1L tube	554
R4.42	R4.1 tube	650
R4.48L	R4.1L tube	562
R4.56	R4.1 tube	662
R4.80	R4.1 tube	674
R6.29	R6 tube	878
R6.40	R6 tube	888
R6.52	R6 tube	894
RS - modular retraction system	triflex® R	1010
RSE - retraction system with deflection	triflex® R	1026
RSE·RSEC linear retraction system	triflex® R	1034
RSEL·RSSL linear retraction system	triflex® R	1,044
RSP - pneumatic retraction system	triflex® R	1018
RX32	RX tube	522
RX40	RX tube	526
RX48	RX tube	530
RX56	RX tube	534
SK28	e-skin® SK	822
SK40	e-skin® SK	822
SKF12C	e-skin® flat	804
SKF12O	e-skin® flat	805
SKF15C	e-skin® flat	804
SKS20	e-skin® SKS	823
SKS28	e-skin® SKS	823
SKS40	e-skin® SKS	823
SKY28	e-skin® SKY	824
SKY40	e-skin® SKY	824
SP1.240	e-spool	1136
SP1.400	e-spool	1136
SP1.600	e-spool	1141
SP1.700	e-spool	1141
SP1.850	e-spool	1141
SP2.600	e-spool	1141
SP2.700	e-spool	1141
SP2.850	e-spool	1141
SPC1.300	e-spool	1138
SPF.250.08.01	e-spool flex 2.0	1132
SPF.250.11.01	e-spool flex 2.0	1132
SPF.250.15.01	e-spool flex 2.0	1132
SPHD1.400	e-spool	1136
SPHD1.600	e-spool	1142
SPHD1.700	e-spool	1142
SPHD1.850	e-spool	1142
SPHD2.600	e-spool	1142
SPHD2.700	e-spool	1142
SPHD2.850	e-spool	1142
Strain relief	chainfix	1392
Strain relief separator	chainfix	1428
Support tray, aluminium	Guide trough	1362
Support tray, steel	Guide trough	1356
T3.29	T3 Band	940
TB12.23.09	twisterband	1114
TB20.44.12	twisterband	1114
TB20.44.18	twisterband	1114
TB29.27.22	twisterband	1114
TB30.75.22	twisterband	1114
TBHD12.24.11	twisterband	1118
TBHD20.44.18	twisterband	1118
TBHD30.75.22	twisterband	1118
TBHD42.135.30	twisterband	1118
TC32	twisterchain	1094
TC42	twisterchain	1096
TC56	twisterchain	1098
TE14	snapchain	192
TE26	snapchain	193
TH3.25.2	TH3	950
TH3.25.3	TH3	950
TH3.25.4	TH3	950
TH3.25.5	TH3	950
TH3.45.2	TH3	954
TH3.45.3	TH3	954
TH3.45.4	TH3	954
TH3.45.5	TH3	954
Tiewrap plates	chainfix	1420
TRC.100	triflex® R	968
TRC.125	triflex® R	968
TRC.30	triflex® R	968
TRC.40	triflex® R	968
TRC.50	triflex® R	968
TRC.60	triflex® R	968
TRC.70	triflex® R	968
TRC.85	triflex® R	968
TRCF.100	triflex® R	972
TRCF.65	triflex® R	972
TRCF.85	triflex® R	972
TRE.100	triflex® R	970
TRE.125	triflex® R	970
TRE.30	triflex® R	970
TRE.40	triflex® R	970
TRE.50	triflex® R	970
TRE.60	triflex® R	970
TRE.70	triflex® R	970
TRE.85	triflex® R	970
TRL.100	triflex® R	974
TRL.30	triflex® R	974
TRL.40	triflex® R	974
TRL.60	triflex® R	974
TRL.70	triflex® R	974
TRLF.100	triflex® R	976
TRLF.125	triflex® R	976
TRLF.65	triflex® R	976
TRLF.85	triflex® R	976
Troughs, Alu SuperTrough	Guide trough	1298
Troughs, snap-in trough	Guide trough	1386
Troughs, steel	Guide trough	1326
Troughs, tubes	Guide trough	1380
TZ14	snapchain	192
TZ26	snapchain	193
Universal bracket, COB	triflex® R	994
UR brackets	triflex® R	998
YE.42	YE	782
YE.56	YE	788
Z045	easy chain®	222
Z045.2	easy chain®	222
Z045.3	easy chain®	222
Z06	easy chain®	224
Z065	easy chain®	226
Z065.2	easy chain®	226
Z065.3	easy chain®	226
Z08	easy chain®	228
Z14	easy chain®	230
Z16	easy chain®	234
Z200	easy chain®	232
Z200.2	easy chain®	232
Z26	easy chain®	236
Z26.2	easy chain®	236
Z26.3	easy chain®	236
Z300	easy chain®	238
Z300.2	easy chain®	238
Z300.3	easy chain®	238
ZF14	office chain	208

Application icons

Accessibility of e-chains® and e-tubes

- "easy" design - simply press cables in
- One-piece, non-openable
- Lids removable along the outer radius
- triflex® R - fully enclosed design, non openable
- Zipper - zip-open along the outer radius
- Crossbars openable along the outer radius, from both sides
- Crossbars removable along the inner and outer radius
- triflex® R - "easy" design, simply press cables in
- Openable along the inner radius, from one side
- Crossbars openable from both sides along the inner radius
- Openable from both sides - lids openable along the outer radius, from one side
- triflex® R - "easy" design, simply press cables in
- Openable along the outer radius, from one side
- Lids removable along the outer radius
- Easy filling from both sides with "easy" design
- triflex® R - with snap-lock mechanism

Application icons

- Unsupported
- Recommended standard
- igus® calculation
- Gliding
- igus® information
- Mounting brackets
- Hanging
- igus® order example
- chainfix strain relief
- Standing
- igus® web www.igus.eu
- Interior separation
- Zig-zag
- igus® delivery time
- Guide troughs
- Side-mounted
- Order key
- NC without pretension
- Circularmovement
- Temperature
- Noise-optimised
- Horizontal and vertical application
- Speed / acceleration
- Quick version
- Nested
- UL classification
- ESD e-chains®
- Applications side by side
- Weight
- Cleanroom certificates
- Combined motion
- Preferred series
- iF Design Award

Price index

- Low price category
- Medium price category
- Highest price category

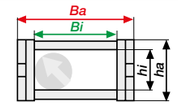


Quicklinks

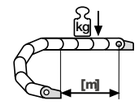
Quicklinks for more information and additional features on each page. Visit directly your chosen product online, e.g. ▶ **www.igus.eu/E4.56** and you'll find more details, 3D CAD files, DXF files, PDF downloads, application examples and many more for your chosen igus® product.

Selection guide designing e-chains®

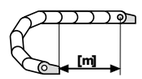
1 Sizing e-chains®
Determine the size of the e-chain® based on the specified installation space of your machine and/or of the selected filling (such as the number of cables/outer diameter of cable).



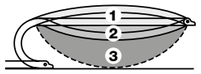
2 Determine fill weight
Determine the weight of the filling (cables and/or media hoses) in [kg/m] using the chainflex® quick selection or the manufacturer's information.

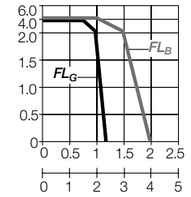


3 Determine length of travel
Compare the fill weight calculated in (point ❷) to the maximum fill weight of the selected e-chain® and check suitability for unsupported application.



4 Unsupported length
The maximum unsupported length initially depends on the fill weight and the e-chain® selected. At the same time, there are three different levels of unsupported length: recommended range of application: FL_G❷ Permitted sag: FL_B❸ Critical sag: should never be allowed! Twice the value of the unsupported length determines the maximum travel in the unsupported type of operation. For evaluation the weight of the cables to be carried must be known, then an exact evaluation can be made using a diagram on the introductory page of the selected product. You will find the values for FL_G and FL_B on the following pages in this chapter as an overview and within every individual series' chapter. They are necessary for: ● Finding the fill weight and length of travel for the appropriate e-chain® ● Identifying the maximum load of the e-chain® used.

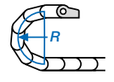




If the application works self-supporting, then the selection follows the following criteria:

5 Opening principle:
The quick finder gives an overview of the possibilities to fill the e-chain®.

6 Bend radius *R:*
Determine the possible bend radius ***R*** [mm] of the e-chain® with respect to the cable diameter.



7 Interior separation is possible with:
Separators · Full-width shelves · Shelves

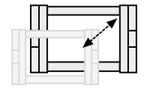
8
The price index gives you the possibility of making price comparisons of similar sizes within the range.
Low · Medium · High

9 Additional criteria:
... for selection criteria such as pitch, permissible temperatures etc., please refer to our quick finder.

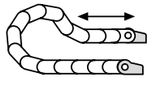
or

The following options are available if there is no possibility of self-supporting e-chain® application:

A You can choose the **next and stronger** e-chain®, that can be operated unsupported.



B Option:
You can design your application **to be gliding.**



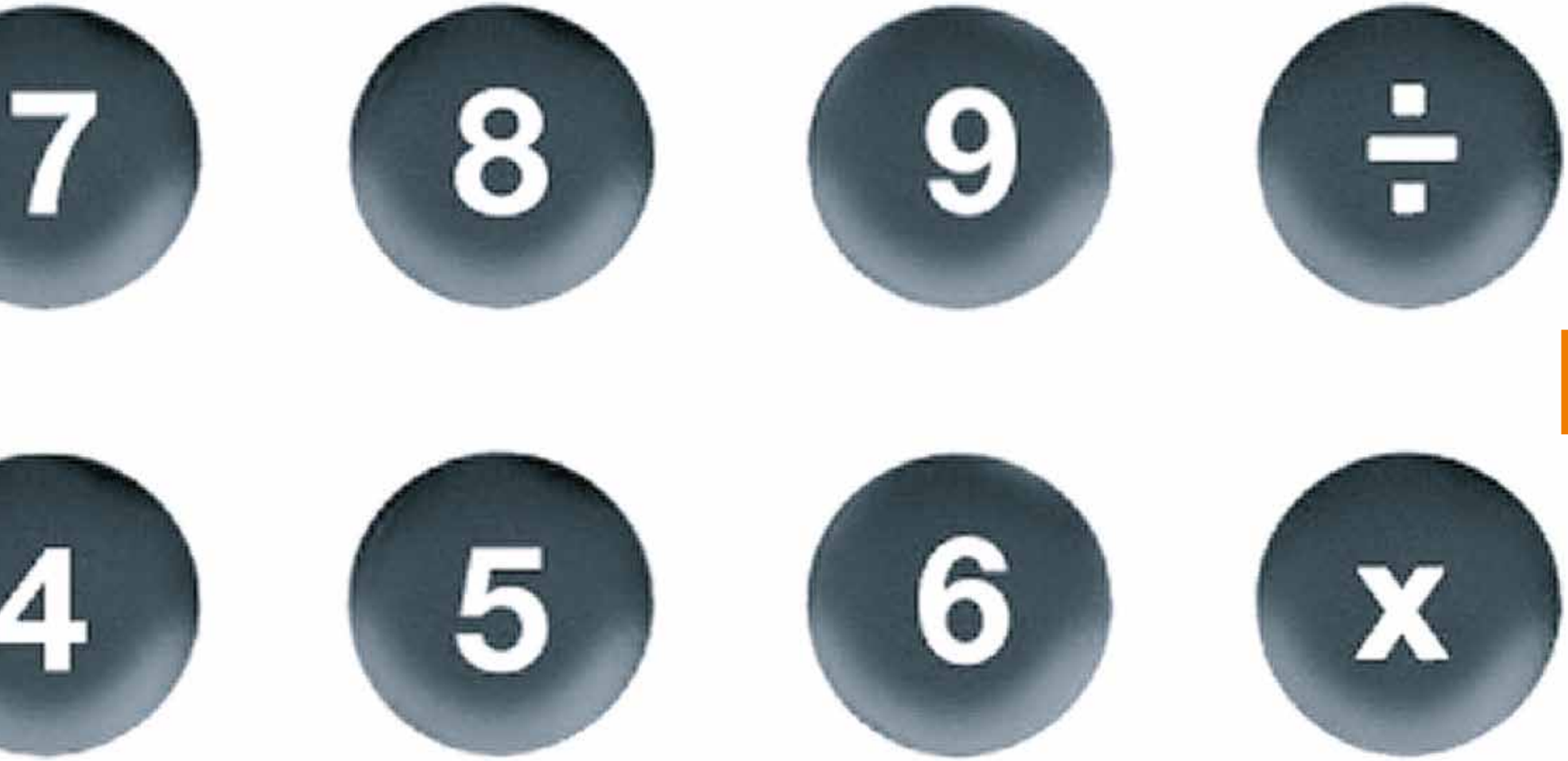
You can contact us directly or fax us your e-chain® requests! We will respond immediately!

Part No. e-chain®

. . .

Alternative e-chain® dimensions:

hi:	*Bi*:	*ha*:	*Ba*:
Fill weight			[kg/m]
Travel			[m]



Designing with igus®

Calculation tools, types of installation, applications

Table of Contents | Designing with igus®

Introduction

the-chain | Designing with igus® Page 111
igus® terms | Alphabetical order Page 112
Calculation | e-chain® length and camber Page 113
igus® e-chain® types | Overview Page 114
E4 modular system | With crossbars every link, with crossbars every 2nd link, special solutions Page 115

Installation types

Unsupported | Short travels Page 116
Unsupported | Noise-optimised Page 119
Gliding | Long travels Page 120
Vertical hanging | Application Page 124
Vertical standing | Application Page 126
Zig-zag | **liftband** | Application Page 127
Side-mounted | Application Page 128
Circular movement | ***RBR*** | Application Page 130
Circular movement | ***RBR*** | Guide troughs Page 132

Distribution rules and strain relief

Distribution rules | Cables and hoses Page 134
chainfix | Strain relief elements Page 138

Technical data, standards, material data

igus® material data | Technical environment Page 140
Material igumid | Technical environment Page 141
ESD e-chains® | Technical environment Page 142
igus® e-chains® for cleanroom | Technical environment Page 144
igus® cleanroom laboratory | Technical environment Page 145
Dirty environment | Technical environment Page 146
Material data igumid | **Colours** | Technical environment Page 147
Chemical resistance | Technical environment Page 148
Certification | Standards and certificates Page 149

igus® readychain® and readycable®

readychain® | Harnessed e-chain systems® Page 150
readycable® | Harnessed cables in 24-48hrs Page 160

igus® installation service including guarantee

Installation service | Save time and money Page 162

the-chain | Designing with igus®

the-chain - moving energy made easy - an all-in-one energy supply system

There are many options to supply your equipment and systems with energy and data. But there is no solution as universal and durable as the e-chain system®. Whether you have a circular movement, a suspended or standing application, a long travel distance or high loads - igus® plastic e-chains® will help you solve nearly any type of energy supply problem, quickly, safely and with ease. By tapping into the extensive igus® construction kit, you will find the solution to match your needs and application: from individual components to a complete turnkey installation at your facility. Our time-saving digital tools help throughout - from the concept up to configuration and service life simulation. Request price and delivery time online. Download the CAD file of your individual configuration, all at no cost and without registration. ▶ **www.igus.eu/online**. Should you have trouble finding exactly the product you need, our engineers are always at your disposal to help you design **the-chain**.



igus® twisterchain and E4 e-chains® with chainflex® cables for trouble-free and fail-safe guidance

The igus® laboratory and field experience

Our calculations and analyses are based on the result of ongoing practical tests in our technical centre and our experience with gliding applications. The focal points of our tests are push/pull forces, friction values and abrasion under widely varying conditions and speeds, as well as factors such as dirt, weathering or impact. We test all system components such as cables, hoses, strain relief and other accessories, in addition to the e-chains® or e-tubes and guide troughs.



3,800m² test lab - more than 15,000 tests every year

igus® terms | Alphabetical order

Application icons

- Unsupported
- Gliding
- Hanging
- Standing
- Zig-zag
- Side-mounted
- Circularmovement
- Horizontal and vertical application
- Nested
- Applications side by side
- Combined motion

Short cuts and description

α	=	Angle of rotation	[°]
ΔM	=	Deviation of the centre point	[mm]
a	=	Acceleration	[m/s²]
AR	=	Outer radius, e-chain® (twisterchain)	[mm]
Ba	=	Outer e-chain® width	[mm]
Bi	=	Inner e-chain® width	[mm]
B_{Ra}	=	Guide trough outer width	[mm]
B_{Ri}	=	Guide trough inner width	[mm]
D	=	Over length e-chain® radius in final position	[mm]
D_2	=	Over length for long travels gliding	[mm]
FL_B	=	Unsupported length with sag	[m]
FL_G	=	Unsupported straight length	[m]
FL_U	=	Unsupported lower run	[m]
FZ_{max}	=	Maximum fill weight	[kg/m]
H	=	Nominal clearance height	[mm]
H_2	=	Clearance height with lowered moving end	[mm]
ha	=	Outer e-chain® height	[mm]
H_F	=	Required clearance height	[mm]
hi	=	Inner e-chain® height	[mm]
H_{Ra}	=	Outer trough height	[mm]
H_{Ri}	=	Inner trough height	[mm]
IR	=	Inner radius, e-chain® (twisterchain)	[mm]
K	=	Add-on for bend radius (K is taken from the data tables of the individual series)	[mm]
K_2	=	Add-on for bend radius if the mounting point is lowered (for long travels)	[mm]
L_K	=	e-chain® length	[mm]
n	=	Number of links	[1]
n_{Mon}	=	Number of installation sets (left/right)	[1]
n_{Ri}	=	Number of trough sets (left/right)	[1]
R	=	Bend radius	[mm]
RBR	=	Reverse Bend Radius	[mm]
S	=	Travel	[mm]
$S/2$	=	Half length of travel	[mm]
T	=	e-chains® pitch	[mm]
v	=	Speed	[m/s]
X_1	=	Inner machine limit (twisterchain)	[mm]
X_2	=	Outer radius e-chain®, including clearance (twisterchain)	[mm]
ΔCL	=	Offset fixed end	[mm]

igus® formulae

SFL_B	$= 2 \times FL_B$	Calculation of maximum travel length, unsupported with sag
SFL_G	$= 2 \times FL_G$	Calculation of maximum travel length, unsupported straight
B_{Ri}	$= Ba + 4$	Minimum guide trough width
H_{Ri}	$\geq 2 \times ha$	Minimum guide trough height for gliding applications
K	$= \pi \times R + (2 \times T)$	Add-on for bend radius
L_K	$= S/2 + \Delta M + K$	e-chain® length, fixed end is outside the centre of travel (FL_G, FL_B and ΔM)
L_K	$= S/2 + K$ [m]	e-chain® length, for all types of applications, fixed end in the centre of travel, - except circular movements and most long travels
L_K	$= S/2 + K_2$ [m]	e-chain® length for long travels, fixed end in the centre of travel

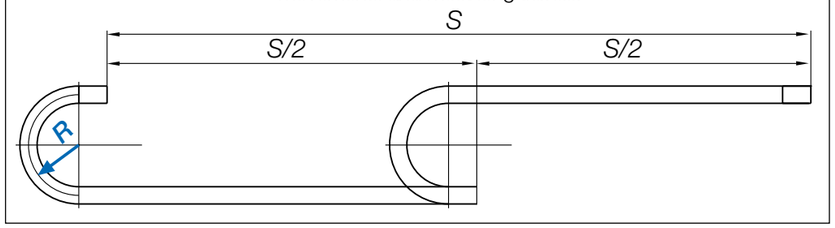
Calculation | e-chain® length and camber

Calculation of the e-chain® length

If the fixed end of the e-chain® is located in the centre of the travel, the e-chain® length L_K is calculated by using half the length of travel and adding the value ***K*** for the bend radius. You can obtain the value ***K*** from the tables in the catalogue. Placing the fixed end in the centre of the travel is **the most cost-effective solution** because it requires the shortest e-chain®, cables and hoses.

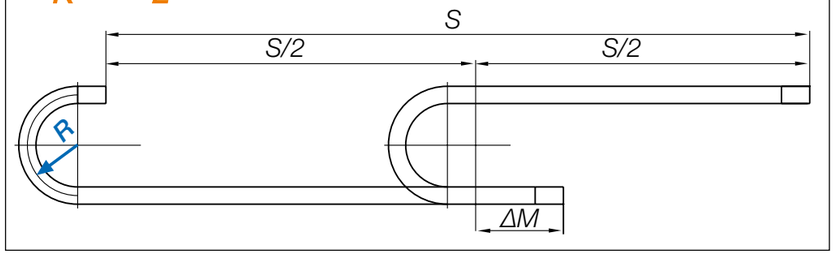
$$L_K = S/2 + K$$

This formula is generally valid for all types of applications if the fixed end is in the centre of the travel. Exceptions: circular movements and most long travels.



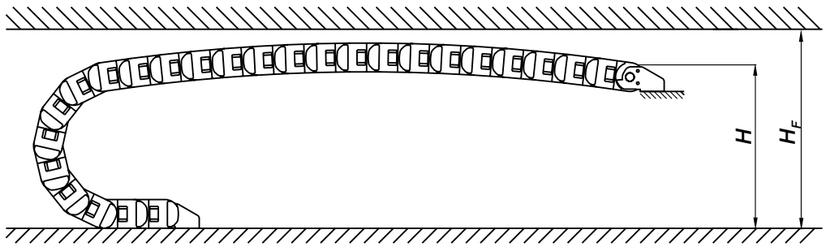
$$L_K = S/2 + \Delta M + K$$

This formula is valid if the fixed end is outside the centre of the travel.



Pre-load

The largest possible unsupported length is influenced by the design, material and camber. Camber is the curve of the upper run along its unsupported length. All igus® e-chains® are manufactured with camber. In the installation dimensions section of each respective e-chain® description, you will find the measurement H_F, which specifies the necessary clearance height, taking the camber into account. The camber allows for longer unsupported lengths and increases service life and operating safety. Upon request, we can deliver e-chains® without camber for restricted space applications - however, these no camber e-chains® do not have the same load-bearing capacity. Please consult igus®.



Principle of camber for igus® e-chains® H_F = required installation height

The fixed end in the centre of the travel is the most cost-effective solution

$K = \pi \times R + (2 \times T)$
L_K = Length e-chain®
S = Travel
$S/2$ = Half length of travel
R = Bend radius
ΔM = Deviation of the centre point
K = Add-on for bend radius
T = e-chains® pitch
(***K*** is taken from the data tables of the individual igus® series)

No Camber - Special "NC" e-chains® with no camber also available. Please consult igus®.

H = Nominal clearance height
H_F = Required clearance height

The necessary clearance height depends on the camber of the e-chain®. Find values for the necessary clearance height H_F on each product page

igus® e-chain® types | Overview

More than 100,000 e-chains® parts available from stock!













Moving energy made easy

In its scope and range, e-chain® products from igus® are unique on the market. igus® energy chains cover a range of inner heights from 5mm to 350mm - the right energy supply system for every application. The most common types are briefly presented below. Further special solutions are described in the respective sections with their design features.

easy chain® - easy to fill and cost-effective. The e-chain® links of the easy chain® are one-piece. Due to the "easy" design, cables can be pressed into the e-chains® easily and quickly. Filling can be carried out either along the inner or outer radius. Opening and closing is not necessary. **Typical applications areas:** simple adjustment movements, e.g. office equipment, electronic devices.

E2 e-chains® and e-tubes - large modular kit for medium duty applications. The e-chain® links consist of two parts: a bottom part and a matching crossbar or lid/bottom in the case of e-tubes. There are different versions of the opening mechanism: openable from one side, openable from both sides, with/without film hinge, crossbars/lid on a zipper band. As a cost-effective alternative, there are also one-piece, non-openable versions for some series. **Typical application areas:** suitable for almost any application area.

E4 e-chains® and e-tubes - large modular kit for any application. The e-chain® links consist of four parts each: two side parts and two crossbars that connect the side parts. In the case of e-tubes, lids and bottoms are installed instead of crossbars. With some E4 e-chains® a design with crossbars every 2nd link is also possible, i.e. the crossbars are only installed in every second e-chain® link. This offers some advantages, but also has limitations for some applications. **Typical application areas:** suitable for almost any application area.

E6 e-chains® - for particularly dynamic applications. The e-chain® links consist of six parts each: two side parts, two crossbars and two link joining piece. The special feature is that the individual side parts are not connected to each other via a pin/bore connection, but by an extremely low-wear joining piece. Due to this connector principle and a very small pitch, the E6 e-chains® are very smooth-running and wear-resistant. **Typical areas of application:** cleanroom, semiconductor industry.

YE Hybrid e-chains® - in the YE series, plastic and steel side parts are combined in order to combine the best advantages of both materials: due to steel inner links, approx. 50% greater unsupported length is achieved compared to plastic e-chains®. Nevertheless they are up to 50% lighter than comparable pure steel chains and very easy to assemble through screwless and rivetless connections. **Typical areas of application:** Access platforms, construction machinery, lifting platforms

Examples of other energy supply solutions from igus®: triflex® R for robotic applications axis 2-6 ● twisterchain for rotary movement of robot axis 1 ● twisterband for up to 7,000° rotation angle ● e-spool®, the cable reel without slip-rings ● e-loop® for drilling equipment ● e-skin® for cleanroom ● e-rib for reinforcing corrugated tubes ● snapchain for the simplest cable bundling and guidance ● microflizz®, compact solution for long travels ● and much more.

E4 modular system | With crossbars every link, with crossbars every 2nd link, more special solutions

Almost endless combination options

The igus® E4 modular system offers almost unlimited combination options. For example, many special solutions can be implemented, such as swarf protection using lids and bottoms (e-tubes) or the guidance of large vacuum hoses by using an extender crossbar. In the field of standard applications, the question is usually whether it has to be an e-chain® with crossbars every link or whether a more cost-effective version with crossbars every 2nd link is sufficient. There are technical requirements that make the use of an e-chain® with crossbars every link necessary in order to achieve an optimum service life of the overall system. Generally speaking, in very demanding applications and environmental conditions, the e-chain® with crossbars every link offers more safety and stability, e.g. port cranes, steel mills, waste bunkers and composting plants.

When to use a version with crossbars every link?

- When guiding very thin cables to prevent the cables from moving out of place
- For narrow e-chains®, to improve lateral stability
- For high lateral accelerations (> 5m/s²), e.g. for highly dynamic linear robots
- In high humidity, because the holding force of the crossbars is lower, e.g. in train washing facilities, composting plants
- When guiding hydraulic hoses, in order to distribute the force of the hoses over more crossbars
- For travel lengths over 100m
- For gliding e-chains® with travel speeds above 2m/s

When to use a version with crossbars every 2nd link?

If a version with crossbars every link is not required and the following advantages are to be gained:

- Interior separation easily attainable/accessible
- Less installation work (less crossbars)
- Approx. 10-15% more cost-effective depending on width
- Up to 20% lighter depending on the width

E4: four-piece energy chains. The largest product family in the igus® product range. E4 e-chains®: E4/4, E4.1, E4.1L and E4Q

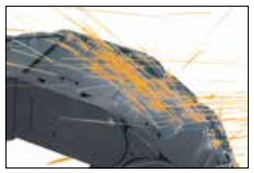


E4 e-chains® with crossbars every link



E4 e-chains® with crossbars every 2nd link

E4 system special solutions: e-tubes, e-chains® with extender crossbars and lids



e-tubes are used where cables need to be protected from the impact of swarf and other small parts, e.g. in the working area of machine tools.



The e-chains® with extender crossbars are exceptionally suitable for guiding very large vacuum hoses that have large diameters and are relatively low weight. A large E4 extender crossbar product range enables many application-specific solutions

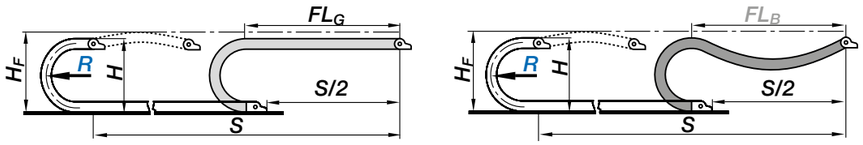


The use of **additional extension links** increases the filling capacity and the maximum fill weight of the E4 e-chains® while maintaining the same maximum unsupported length.

The FL_G type of installation always generates the longest service life and can be operated with the max. values for speed and acceleration

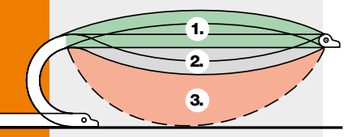


Example for unsupported straight FL_G



Unsupported

If the upper run of the e-chain® operates without touching the lower run over the entire travel, it is called an unsupported application. The distance between moving end and the beginning of the radius curve of the e-chain® is called the **unsupported length.** The unsupported application is the most common. igus® e-chains® are very well suited for high dynamics and long service life. The maximum unsupported length depends on the fill weight and the type of e-chain® or e-tube. As a result, we differentiate among three types of unsupported length:



1. Unsupported with straight upper run FL_G
2. Unsupported with permitted sag FL_B
3. Critical sag

1. Unsupported with straight upper run FL_G

The e-chain® is unsupported FL_G when the upper run still has camber, is straight or has a maximum sag of 1/2 of the e-chain® link height. Installing the e-chain® in FL_G is always recommended. The e-chain® runs smoothly without additional vibration.

2. Unsupported with permitted sag FL_G

The e-chain® is unsupported FL_B when the sag is more than 1/2 e-chain® link height and less than the smallest available radius of this e-chain® series. In most applications the e-chain® can be used unsupported FL_B without any problems. There are restrictions concerning the maximum speed and acceleration.

3. Critical sag

When the sag of the e-chain® is higher than allowed for FL_B, it is in critical sag. Using an e-chain® in critical sag should be avoided or solved with special solutions. An e-chain® should never be installed with critical sag. Applications may reach critical sag after long service times. The e-chain® or e-tube should be replaced in these cases.

Unsupported | Short travels

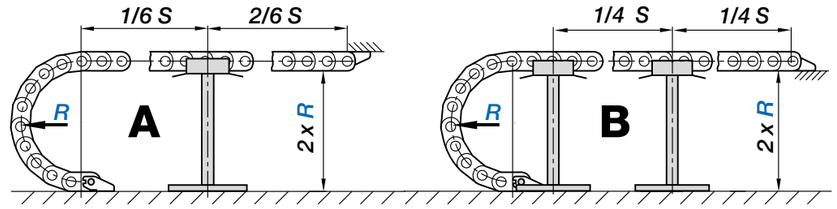


Example of unsupported with sag, FL_B

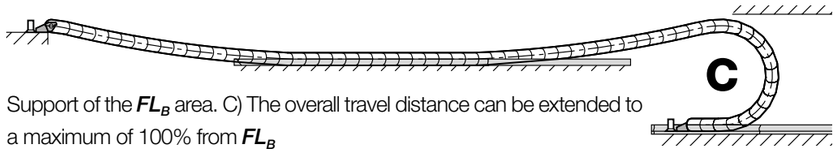
What to do if the unsupported length is insufficient?

If your application, fill weight and travel fall outside the unsupported length parameters of the desired e-chain®, you have the following options:

- Select a stronger igus® e-chain®
- Support the e-chain® in the unsupported area. This option means restrictions for acceleration, speed and noise as a consequence - three fundamental examples are detailed to below - please consult igus® if you are considering this possibility - we will gladly provide you with a detailed proposal
- Use a multiband e-chain® or nest two igus® e-chains® inside one another. (Please consult igus®)
- Design the travel distance as a gliding application



Support of the FL_G area. A) The overall straight, unsupported travel can be increased here by a maximum of 50% of the FL_G and in case of option B) by a maximum of 100%



Support of the FL_B area. C) The overall travel distance can be extended to a maximum of 100% from FL_B

For every igus® e-chain® or e-tube, you will find the values for FL_G and FL_B in two locations: on the following pages in this chapter as an overview and within every individual series' chapter. They are essential for:

- Finding a suitable e-chain® for your fill weight and travel distance
- Identifying the maximum load for the selected e-chain®

Unsupported | Short travels

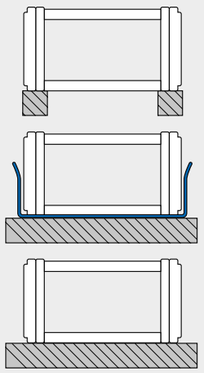
Standard

We recommend pivoting mounting brackets as standard for unsupported applications. We recommend locking mounting brackets as standard if speeds > 20m/s or accelerations > 20m/s²

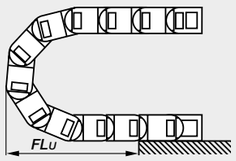
Standard values of maximal speed and acceleration

Unsupported		FL_G	FL_B
v max.	[m/s]	20	3
v peak	[m/s]	50	–
a max.	[m/s²]	200	6
a peak	[m/s²]	784	–

Standard value of FL_G ***service life: 10 million cycles***

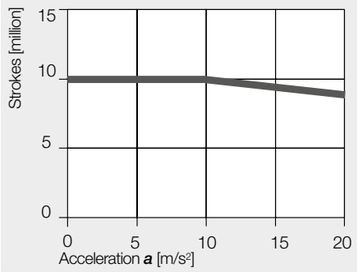


Different surfaces and support trays are possible



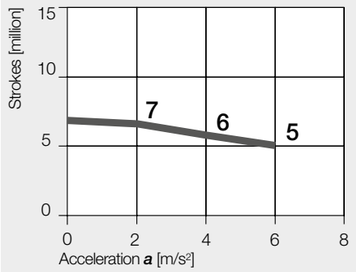
FL_U = Unsupported lower run

FL_G* service life *Z



Standard values on service life for FL_G, depending on acceleration

FL_B* service life *Z



Standard values on service life for FL_B, depending on acceleration

Speed, acceleration and service life

For unsupported applications, the acceleration (***a***) is the more critical parameter than the speed (***v***). High acceleration can cause the e-chain® to vibrate and reduce its service life. This is a particular issue if the e-chain® already has a sag greater than the FL_G value. Max. values for acceleration (***a***), speed (***v***)and service life are achieved only with e-chains® incorporating the FL_G design. igus® e-chain systems® can sustain very high loads. To date, a peak acceleration of 784m/s² has been achieved during continuous use. The guideline values that result from continuous experiments in the igus® laboratory and countless practical applications can be obtained from the two diagrams for your design. Our tests confirm that these standard values apply to all igus® e-chains® and e-tubes. It is crucial to determine whether the application will be designed as unsupported straight FL_G or unsupported, with sag FL_B.

Contact surfaces

Unsupported igus® e-chains® normally require some type of surface on which the lower portion of the e-chain® runs. A wide range of configurations is available, as the drawings on the right demonstrate. Many material options are feasible: metals, polymers, stone, wood, concrete, glass, etc. We also have solutions to minimise the noise generated by the e-chain® lower portion. When selecting the running surface, please ensure that dirt and debris cannot collect in the e-chain® path.

Mounting brackets

We recommend pivoting mounting brackets as standard for unsupported applications. Pivoting mounting brackets compensate for the camber, can be installed more easily and decrease the load on the first e-chain® link in operation. Exception: if the acceleration is greater than 20m/s² or if the height is limited to the H_F measurement. In such cases, locking mounting brackets keep the e-chain® under the H_F measurement.

Unsupported lower run

e-chains® without support along the lower run have restricted use. The value FL_U usually must be determined in a test by igus®. The maximum permissible amount of the projection depends on the fill weight, the selected e-chain®, the dynamics, and other factors. The combination of fill weight, e-chain® type and FL_U is always different. If the lower run of the e-chain® cannot be supported over the whole travel, please consult igus®.

Unsupported | Noise-optimised

Minimise noise levels with igus® e-chain systems®

The igus® product range includes e-chains® optimised for low noise. The table below briefly illustrates the differences in noise level among various e-chains®. In addition to the e-chain®, the running surface, the dynamics and the cable and hose package play a role in overall noise generation. Have our specialists design the quietest e-chain system® for your application, for example.

E6.1 ≤ 32dB(A)*



A value of 32dB(A)* was measured during the igus® internal test 4479 for the series **E61.29.070.055.0**. The quieter operation than the standard E6 system is due to a very small pitch and a brake in the stop dog system.

T3 ≤ 33dB(A)*



The T-shaped band chain T3 was measured with a value of only 33dB(A)* at 1.0m/s in the igus® laboratory for the series **T3.29.050.038.0** with unsupported length.

E3 ≤ 38dB(A)*



Long-term tests in the igus® acoustic laboratory showed a value of only 38dB(A)* for the **E3.22.060.044.0** series according to DIN 45635 measured at a speed of 1.8m/s and an acceleration of 3m/s².

E6 ≤ 46dB(A)



A measurement conducted by the Rhineland Technical Inspection Authority (TÜV Rheinland) in May 2002 indicated a value of ≤ 46dB(A) at 2m/s and with an unsupported length of 1.5m with **series E6.52.10.100.0**.

E4.1 ≤ 46dB(A)*



A measurement for the **ES4.42** series in the igus® acoustic laboratory indicated a value of 46dB(A)* at 1.0m/s with an unsupported length. Special, optional noise dampeners greatly attenuate rolling noise.

E4/00 ≤ 46dB(A)



A measurement conducted by TÜV Rheinland for the **221.10.200.0** series indicated a value of 46dB(A) at 1.0m/s with an unsupported length. Optional noise dampeners greatly attenuate rolling noise.

Selected noise tests - external noise corrected measurement values

e-chain® series	System	Averaging of the corrected sound pressure levels	Test method unsupported
E61.29*	**E6.1**	≈ 32dB(A)	1.0m/s
T3.29*	**T3**	33dB(A)	1.0m/s
E3.22*	**E3**	≈ 38dB(A)	1.8m/s
E6.52	**E6**	≈ 46 dB(A)	2.0m/s
ES4.42*	**E4.1**	≈ 46 dB(A)	1.0m/s
221	**E4/00**	≈ 46 dB(A)	1.5m/s
Chain 1 third-party product		≈ 77 dB(A)	2.0m/s
Chain 2 third-party product		≈ 68 dB(A)	2.0m/s
Chain 3 third-party product		≈ 73 dB(A)	2.0m/s

Source: TÜV Rheinland / *Internal test in the igus® laboratory, Cologne

We offer numerous e-chains® optimised for low noise. Use the quietest e-chain system® for your application





We have received an official certificate from the Rhineland Technical Inspection Authority (TÜV Rheinland Berlin-Brandenburg) and we are able to provide you with a copy upon request

Recommended ratio of inner width *Bi* to bend radius *R*

The minimum inner width of an e-chain® on long travels depends on its bend radius. For particularly large bend radii on long travels, please consult igus®.

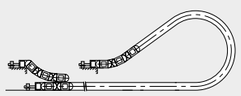
igus® specifies:

$Bi_{min.} \geq {}^{R}/_{4}$

$L_K = {}^{S}/_{2} + K2$

L_K = e-chain® length
S = Travel
${}^{S}/_{2}$ = Half length of travel
R = Bend radius
ΔCL = Offset fixed end
H_{Ri} = Trough inner height
H_2 = Clearance height with lowered moving end
D_2 = Over length for long travels gliding

$K2$ = Add-on with lowered moving end



Advantages for lowered moving end

- Space-saving
- Longer travels
- Longer service life



Example of lowered moving end

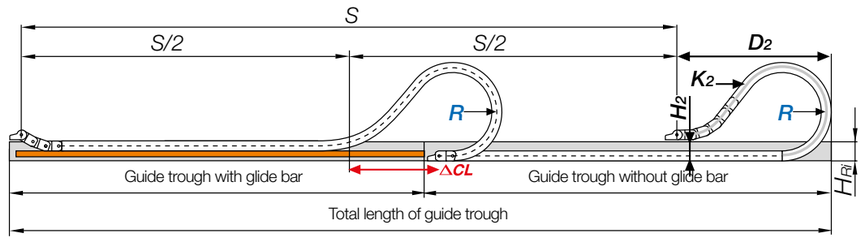
Gliding applications principle

For long travels, the upper run of the igus® e-chains® rests on the lower run. The upper run of the chain glides partly on the lower run and partly on a glide bar. The diagram below shows this. For lateral guidance, a guide trough is necessary. If the stationary mounting bracket and the fixed end of the cables and hoses can be placed **in the centre**, the e-chain® length is calculated as follows: $L_K = {}^{S}/_{2} + K_2$.

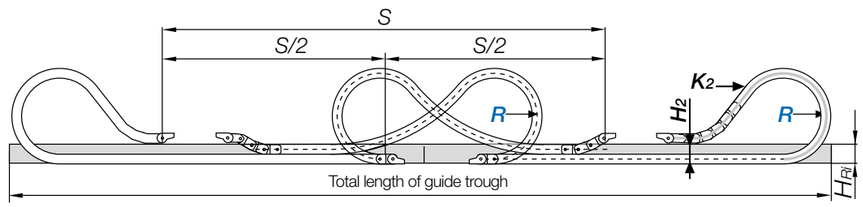
Depending on the technical data and the selected e-chain®, the mounting point of the moving end of the e-chain® must be lowered on some units (lowered moving end).



Long travel with an energy-efficient rol e-chain® - saving drive power



Schematic showing the function of an e-chain system® on a gliding application. The fixed end of this application is located in the centre of the travel.



Configuration involving two opposed e-chains®. The travel is measured as shown and can be used when there are high loads or restricted space

Gliding | Long travels

Advantages for long travel applications with igus® e-chains®

- Travels over 1,000m
- 6m/s speed (up to 10m/s possible after consultation with igus®)
- Fill weights up to 70kg/m
- Service life of 10 years and more with igus® e-chain systems®
- More than 20 years of continuous improvement of the igus® rol e-chains® for long travels and reduced drive force



E4 e-chain® with extension links for many cables and large hoses on a long travel application

Further advantages compared to alternative technologies

● Many different types of cables and hoses can operate together in the same system (i.e. electrical, data, fibre optic cables with hydraulic and pneumatic hoses) ● Space-saving installation ● Quiet operation ● High accelerations ● Durable in wind, weather, dirt and chemicals ● Simple assembly of the modular system on the spot ● Rapid assembly and replacement of cables and hoses

Design assistance, free of charge

We recommend that igus® calculate every gliding application for you. We will always offer the most cost-effective solution, taking the technical requirements and operating safety into consideration.

To be able to advise you accurately, we require the following specifications: ● Travel [m] ● Travel speed [m/min] or [m/s] ● Acceleration [m/s²] ● Fill weight [kg/m] ● Maximum cable/hose outer diameter [mm] ● Type and number of cables and hoses ● Required bend radius [mm] ● Cycle frequency (n/day or n/hour) ● Technical environment



Extremely long travels with rol e-chains® and chainflex® cables (here 615m)

Standard

We recommend pivoting mounting brackets for gliding applications

Please consult igus®. Within hours you will receive a detailed system proposal

If the fixed point is in the centre of the travel, use half of the guide trough with glide bars and the other half without glide bars



Various igus® guide trough systems are available ▶Page 1298

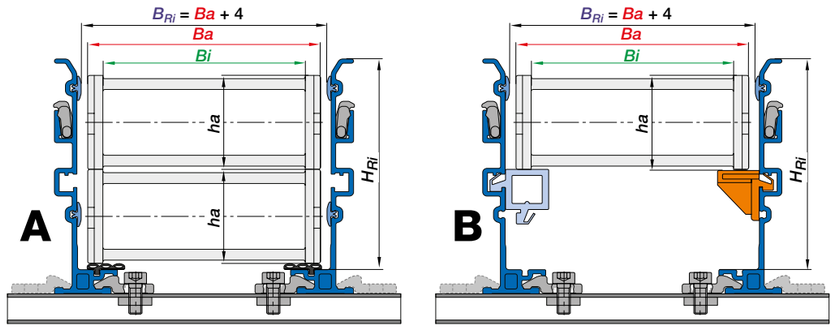
Long travels with igus® guide troughs

Guide troughs allow igus® e-chain® and e-tubes to continue smooth, low-friction operation in long travel applications. Principle sketches are shown on this page. The height of the trough must be at least twice that of the e-chain® height. The sides must provide a chamfered opening. The trough inner width is the same as the e-chain® outer width, plus 4mm for an aluminium SuperTrough $B_{Ri} = Ba + 4$. Along the side of the trough, where the upper run cannot glide on the lower run, glide bars must be installed. We recommend the use of polymer glide bars from igus®. They are optimally matched to the e-chain® material and offer the lowest values for friction, noise and wear. Guide troughs with and without glide bars can be obtained from stock for almost all igus® e-chains®. Important: When assembling the trough parts, the following points must be given particular attention: ● Properly align all trough parts upon installation ● All screw heads should be flush with the trough ● Smooth level transition between the end of the e-chain® and the glide bars ● Solid connection with the glide surface. These points must be observed when using assembly-friendly igus® guide troughs.

Ba = Outer e-chain® width
Bi = Inner e-chain® width
ha = e-chain® outer height
H_{Ri} = Trough inner height
B_{Ri} = Inner trough width depending on *Ba*

Aluminium SuperTrough
$H_{Ri} \geq 2 \times ha$
$B_{Ri} = Ba + 4$
Steel guide trough
$B_{Ri} = Ba + 5$

- Alu SuperTrough set
- glide bar
- Installation set basic
- C-profile



A) Guide trough without glide bars - upper run glides on the lower run
B) The upper run glides on the glide bars from the middle of the travel. We recommend the use of igus® polymer glide bars. They are optimally matched to the e-chain® material and offer the lowest values for friction, noise and wear (Illustration on the right, orange with the new high-speed glide bar, super aluminium trough series 973/974/975)

Glide friction values for e-chains® made of igumid G and various glide bars

igus® igumid G	igus® polymer glide bar	Galvanised steel sheet	Anodised aluminium	AISI 304 stainless steel (material: 1.4301)
Coefficient of friction dynamic	0.19	0.45	0.54	0.48

Source: igus® lab

Gliding | Long travels

Travel speeds and accelerations

Travel speeds up to 5m/s in continuous operation are possible and in use on current applications. In special cases, up to 10m/s possible after consultation with igus®. For example, E4 e-chains® achieve speeds of 22m/s and accelerations of 784m/s² in crash test units. In these cases, however, only a few thousand cycles are required per year. Acceleration plays a crucial role in the life calculation. Differentiations must be made between normal operational acceleration and a sudden jolt of acceleration such as unexpected stops or so-called "E-stops." Even in these situations, igus® e-chains® prove to be very durable.



Automated storage/retrieval system with system E2 and chainflex® cables - travel lengths up to 80m and speed of $v = 4.5$m/s

Service life

We offer service life calculations for your application based on our extensive gliding application experience. As developers of polymer plain bearings, we possess vast material behaviour knowledge which we apply to the development of e-chains® as well. Units with 200m travels have been in operation for 8 years with minimum maintenance. Units up to 60m travels have been in operation for 15 years with almost no maintenance. Please consult igus® for references and calculations for your project. The maintenance-free aspects of igus® e-chain systems® over long periods and under harsh operating conditions is often the deciding factor in choosing igus®. Our system guarantee (depends on the application) provides additional peace of mind.

Technical environment

Long travel applications using igus® e-chains® run in water, in dirt, in the tropics, in explosion risk areas (with special design features) and many other conditions. You will find more details in the Technical Environment section of this chapter. Guide troughs can be supplied in corrosion-free materials.

Calculation

Comprehensive tests place us in the position of knowing our products capabilities. Important factors in these tests are: ● Push/pull forces under both ambient and extreme temperatures ● Humidity and dirt ● Friction values of the polymers, alone and against various glide surfaces ● Behaviour of electrical cables under push/pull conditions ● Behaviour of hydraulic and media hoses under push/pull conditions ● Service life, and noise generation. If we cannot calculate your application based on these factors, we can carry out a test for you in our laboratory. Please consult igus®.

Technical data - gliding applications		
Max. travel	600m - 800m	
v max	10m/s	
a max	50m/s²	Depending on the application, please check with igus®
Fill weight max.	70kg/m	Depending on the application, please check with igus®

Corrosion-free igus® guide troughs are available in the material:

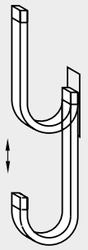
- Galvanised steel
- AISI 316Ti/AISI 316L stainless steel material 1.4571/1.4404 upon request
- Seawater resistant aluminium



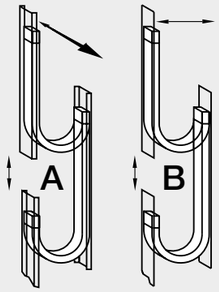
Long travel "off the reel." Up to 100m travel pre-assembled and ready to install

Standard

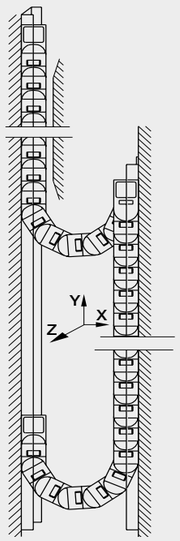
We recommend locking mounting brackets for vertical hanging applications.



In most cases, vertical motion applications do not require lateral guidance



Lateral acceleration can occur in two directions. Guidance is necessary



Principle of a hanging igus® e-chain® with lateral guidance, lateral accelerations in both directions are contained. Lateral accelerations in both directions are contained



Hanging applications with heights over 100m are possible with e-chains®



Hanging installation with one-sided U-profile and igus® e-chains®

Vertical, hanging applications

For hanging applications, heights of over 100m are possible with igus® e-chains®. Particularly in the area of material flow technology, the igus® e-chain® enables a bundled supply of a wide variety of cable types. The use of an e-chain® ensures that individual cables are not entangled in parts of shelves or protruding pallets.

Cables and hoses

Two important factors in vertical hanging applications are how the cables and hoses lay in the e-chain® and and how they are secured at the end points: all cables and hoses must be hung so that they bear their own weight. The e-chain® fulfils the function of orderly conduit bundling only and should not absorb any further tensile forces. igus® interior separation elements should be used for distinct division of all cables and hoses. The cables and hoses must be secured carefully to both end points of the e-chain®. The strain relief must be designed so that the opposite run cannot catch. Safe strain relief and clear separation of the cables and hoses are the basic prerequisites for hanging installations. **Cables must be able to move freely and bear their own weight.**

Vertical motion with lateral acceleration

If the application has a purely vertical movement without lateral acceleration, a lateral support is not necessary. If lateral acceleration occurs, lateral guidance of the e-chain® must be provided in most cases. The diagram shows the principle of such guidance. Partial guidance is also an option - however, it must at least cover the area in which the e-chain® may sway. However, it must at least cover the area in which the energy chain may sway. Lateral acceleration can occur in two directions. The lateral guidance must be installed accordingly. **If you have a choice, the layout in figure A is preferred.** The lateral acceleration then acts transversely to the e-chain®, where it is more stable. When using a guide, an e-chain® with camber should be selected. This ensures that the chain is pressed into the trough.

No Camber version with igus® special NC e-chains®

A normal igus® e-chain® with camber is suitable for hanging use if enough space is available. Camber contributes to quiet operation of the e-chain®, but needs a little more space. If there is no room - as is frequently the case for storage and retrieval systems in narrow aisles - a no camber e-chain® must be ordered. igus® offers numerous NC versions without camber. (No Camber, without pretension).

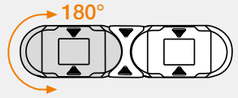
NC version by simply rotating the outer link at E4.1 system.

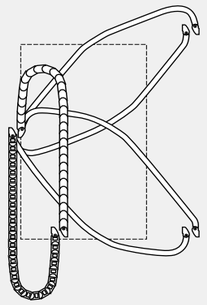
Order example: E4.32.10.175.0.NC



The E4.1 system is one of igus® best solutions for hanging applications

With E4.1 it's easy to create a NC-version. Simply rotate the e-chain® outer link





Hanging igus® e-chain systems® can reach different points

Technical data - vertical hanging		
Stroke height max.	100m	
v max	20m/s	Depending on stroke height and strength of the e-chain®
a max	50m/s²	Depending on stroke height and strength of the e-chain®

Special solution for vertical motion: guidelok slimline P - safe and fast vertical guidance

● Up to 7m/s and 10m/s² ● Up to 80% less trough required, saving costs and weight ● For hanging systems up to 50m ● No swinging of the e-chain®, high reliability due to the locking mechanism and guiding rails ● Faster and easier installation ● Reduced noise ● Easy access for servicing ● Low weight due to plastic construction ● Energy, data and fluids supply without interruption in one system

More information ▶ from page 1152



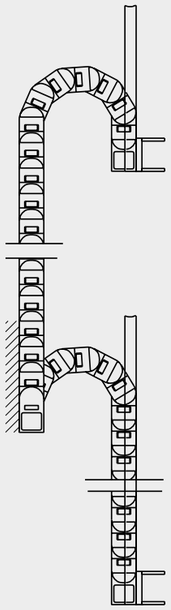
igus® guidelok slimline P vertical guidance in a high-bay warehouse, high reliability



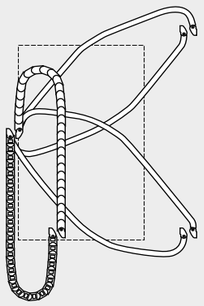


Standard

We recommend locking mounting brackets for vertical standing applications



Options for a standing application with support of the first e-chain® links: on the right, with U-shaped guidance - on the left, with the support of the first e-chain® links

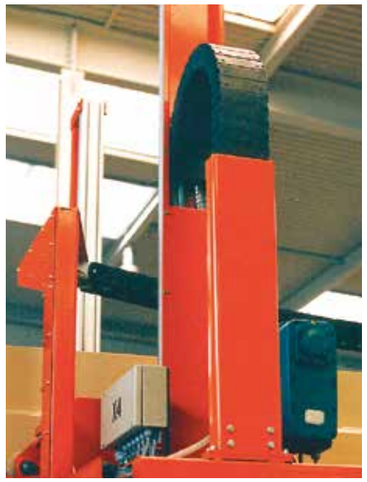


Standing e-chain systems® can reach very different points

Vertical standing | Application



Locking igus® KMA mounting brackets with flush mounting



U-shaped supported igus® e-tube for high lateral acceleration

Vertical standing applications

Standing applications are standard on many machines and plants. Cables will be guided safely in vertical strokes.

Mounting brackets

The mounting brackets must be attached so that the e-chain® cannot bow outwards. The igus® product range offers locking or one-sided, locking mounting brackets for almost all types of e-chains®. Locking KMA mounting brackets are highly recommended because they can be attached flush to the machine.

Cables and hoses

Cables and hoses must be laid in the e-chain® so that they can bend freely and bear their own weight. For precise guidance of the cables and hoses, we strongly recommend igus® interior separation elements. Cables must have strain relief at both ends.

Lateral acceleration

If lateral acceleration occurs, the e-chain® should, in most cases, be supported along the outer radius. For higher e-chain® heights, it is generally recommended that at least the first three links on the outer radius be supported. For maximum heights and weights, the whole distance must often be supported. Due to the wide variety of combinations involving fill weights, stroke heights, e-chain® types and bend radii, we strongly recommend you make use of our consulting services.

Combined motion

Combined vertical and horizontal movements are possible with igus® e-chains® for a cost-saving solution.

Technical data - vertical standing applications	
Maximum stroke height - without support	≈ 4m
Max. stroke height - with support of the first e-chain® links	≈ 6m
Max. stroke height - with full support	≈ 20m
v max (depending on stroke height and fill weight)	20m/s
a max (depending on stroke height and fill weight)	50m/s²

Zig-zag | **liftband** | Application



Zig-zag application: de-commissioning of a nuclear power station. About 14 m high steel containers are milled into small swarf for disposal

Zig-zag design

The modular design of igus® e-chains® facilitates this space-saving and unconventional solution. For modern platform technology, such as theatre stages, a variety of cables and hoses which adjust the stage height must be accommodated. Lack of space almost invariably presents difficulties. The picture shows an e-chain® in a zig-zag configuration. The unextended e-chain® is stored in a basket. If the platform is raised, the e-chain® unfolds, generating little or no noise. This construction is possible with the e-chains® of the E4.1 system as well as many other types. Please consult igus® for these kinds of applications.

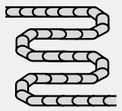
Technical data - zig-zag		
Max. travel	40m	More upon request
v max	0.4m/s	Depending on the application, please check with igus®
a max	1.0m/s²	Depending on the application, please check with igus®

Special solution for vertical motion: liftband - guide up to a height of 13m with limited installation space

● For high vertical applications that have plenty of space horizontally but allow only for little system height ● Modular, silent, space-saving; vertical guidance for energy, data and media ● Max. extension length: 13m ● Available in 2 sizes ● Alternative to zig-zag solution, but lighter and smaller installation space ● Vertical applications implemented with ease

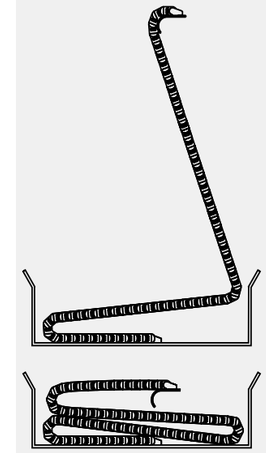
More information ▶ from page 1146





Standard

We recommend pivoting mounting brackets for zig-zag applications



Space-saving installation - travel heights of more than 20m possible



Standard

We recommend locking mounting brackets for side-mounted applications

Side-mounted e-chains® are strongly recommended if the installation height is restricted



Unsupported E4 e-chains® on a travelling column machine. The Y and Z axes have a travel of 8,000mm and 1,750mm at a speed of 25 meters per minute

Standard values for side-mounted unsupported lengths are available upon request. The unsupported lengths can be extended by supporting the links next to the mounting brackets



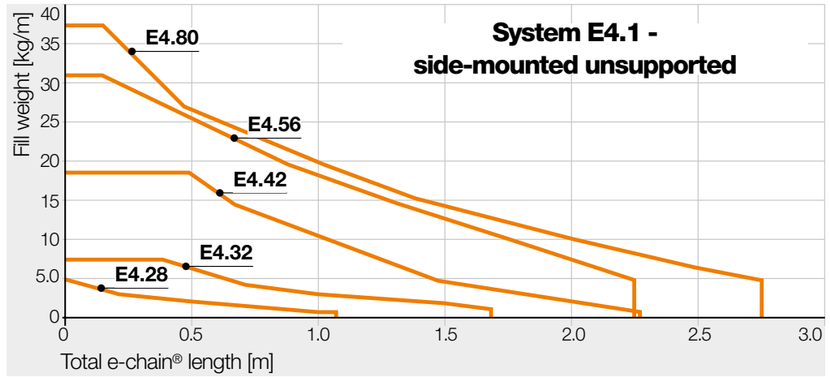
The lying e-chain®, one side of the igus® e-chain® is supported

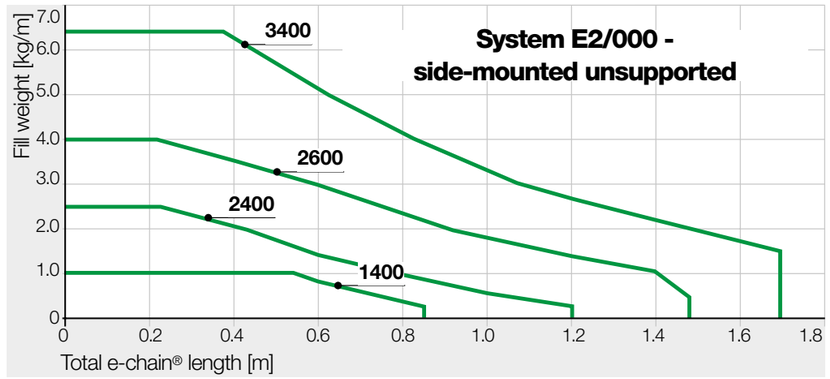
Unsupported - side-mounted

igus® e-chains® placed on their side can be used unsupported to a limited extent. The turned unsupported length in this case is dependent on the following factors: ● Time ● Fill weight ● Width of the e-chain® ● Bend radius ● Parallelism of the application

The greater the fill weight of the e-chain®, the shorter the available unsupported length. When placed on its side, the e-chain® width, in effect, becomes the height. As this height increases, the e-chain system® becomes proportionally more stable. If further movement in a second axis is added to the parallel motion of two e-chains®, the unsupported length is impaired. For applications with low fill weight, the standard mounting brackets are adequate. If, however, the fill weight is high and the travels are long, the e-chain® must then be supported either in whole or in part. Due to the variety of application possibilities, we strongly recommend that you make use of our consulting services.

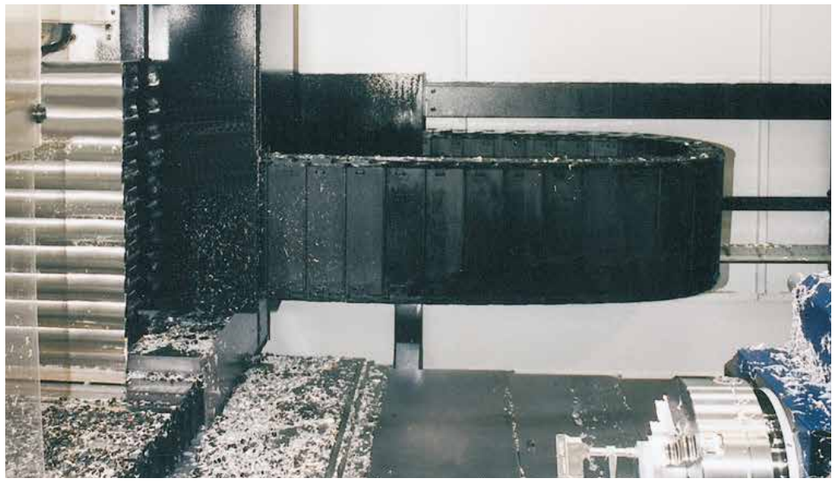
Example load diagrams for e-chains® side-mounted at 90°





The unsupported lengths can be extended by supporting the links next to the mounting brackets. Please consult igus® for more series and details.

Side-mounted | Application



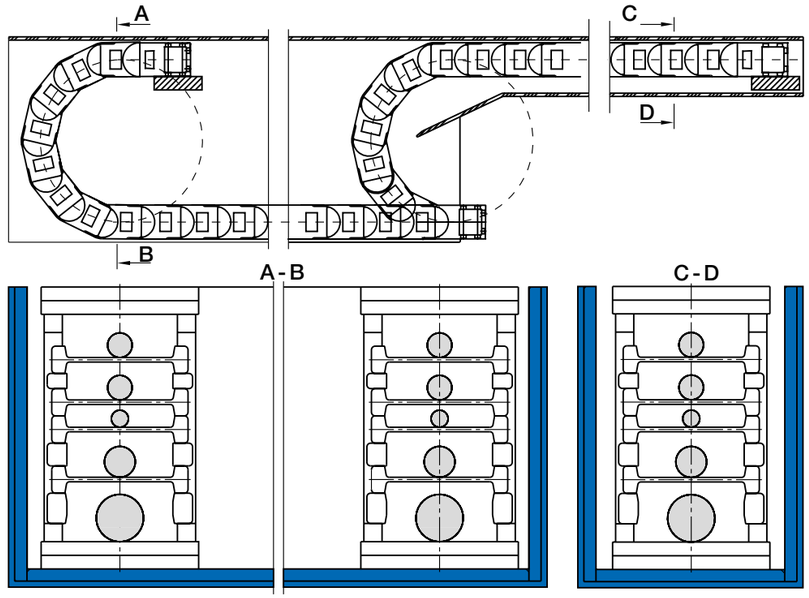
System E4/light e-tube in direct swarf area

Long travel, gliding

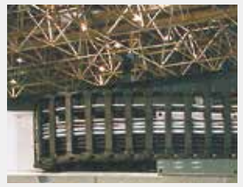
Side-mounted e-chains® can travel over 100m with adequate guidance. All e-chain® types are designed to operate gliding on their side. The corresponding glide surface is usually an igus® polymer, stainless steel (1.4301 material) or galvanised steel, depending on how high the demands on the travel speed and service life are. Roller and ball bearings or additional gliding elements are not necessary for igus® e-chains®.

Cables and hoses

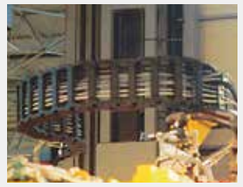
Cables and hoses must be guided so that the e-chain system® can move freely at all times. The igus® modular separation options offers numerous possibilities, such as vertical separators and spacers. igus® will gladly provide an application analysis, free of charge.



Principle of a guide trough for long travel, side-mounted



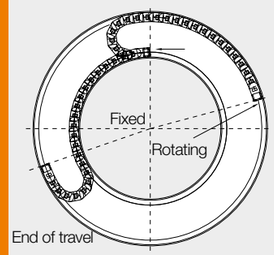
igus® system E4 with partial support

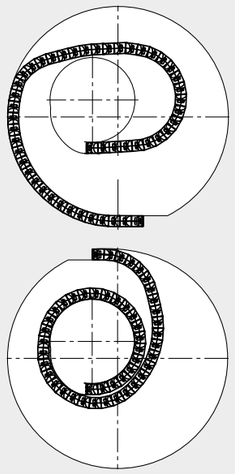


igus® unsupported e-chain® system E4

Standard

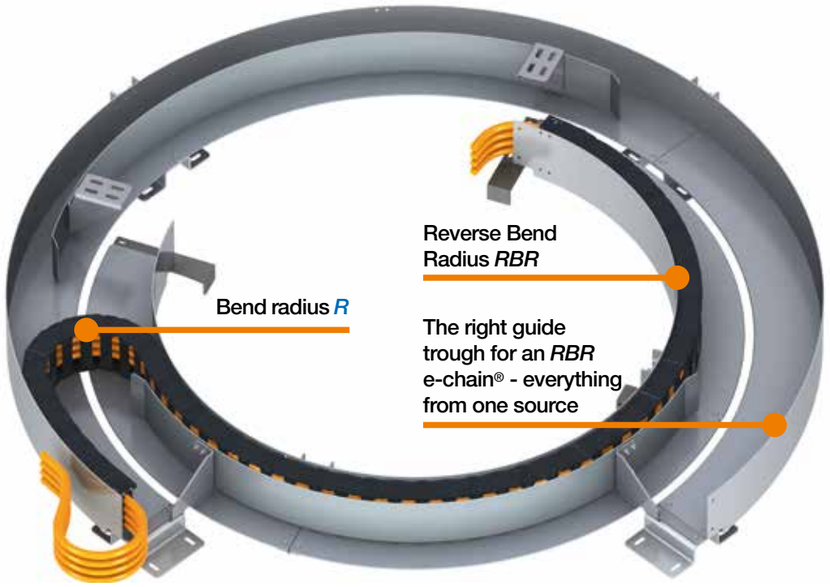
We recommend pivoting mounting brackets for most applications with circular movement with ***RBR***





Standard E2/000 e-chain®, angle of rotation 225°. As an alternative to the Reverse Bend Radius (***RBR***) solutions, the e-chain® can also be rolled up in some applications.

Guide trough systems RM and MRM for rotation angle up to 900° and high loads ▶ **Page 132**



Rotating energy supply - the modular system for fast rotating applications with *RBR*

For several years igus® has been developing customised systems for circular movements with e-chains®, to offer rotating energy supply systems. As a result rotating systems can be supplied with energy, data and liquids for the machine tool industry, in robotics, in bucket wheel excavators and ship cranes. The rotating energy supply systems consist of an e-chain® with a Reverse Bend Radius (***RBR***) and a guide trough system adapted to the e-chain® and the circular motion. igus® offers both trough systems designed for specific projects and some dimensions as pre-engineered standard rotary modules. These guide trough systems consists of two circular guide elements. One part of the guide trough is attached to the static part of the system and the other part to the rotating part of the system. The fixed end of the e-chain® can be freely placed, as both the inside and outside parts of the rotary modules can be rotated. Reverse Bend Radius means that the e-chain® can bend in two directions. Versions with Reverse Bend Radius (***RBR***) can be made for many igus® e-chains® by reworking the standard chain links. The ***RBR*** does not necessarily need to be identical to the normal bend radius (***R***) of an e-chain®. A wide range of circular movements can be achieved with the RBR option.

- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life
- Modular construction with standardised mounting options
- Integrated strain relief and cable guidance directly in the guide trough
- Determine the rotating energy supply quickly and easily using the CAD configurator ▶ **www.igus.eu/*rbr*-configurator**
- Depending on the application in question, the e-chains® glide on surfaces made of plastic, stainless steel or galvanised steel and are guided by special channels in a predefined circular movement.
- Failsafe cables for rotary guide systems ▶ **www.igus.eu/chainflex**

Technical data - circular movement *RBR*		
Max. angle of rotation	540°	For higher rotation angles up to 900° Multi Rotation Module (MRM) ▶ **Page 132**
v max	2m/s	Depending on the application, please check with igus®
a max	20m/s²	Depending on the application, please check with igus®

More information ▶ www.igus.eu/rbr-configurator

Circular movement | *RBR* | Application

Table of *RBR e-chains*® available from stock

Part No. *RBR*	*hi* [mm]	Part No. *RBR*	*hi* [mm]	Part No. *RBR*	*hi* [mm]	Part No. *RBR*	*hi* [mm]
snapchain		B15i.025.075/450.0	17	2400.10.075/075.0	25	E332.50.2.100/200.0	2 x 26
TE14.50.028/028.0	–	B15i.050.100/460.0	17	2400.12.075/075.0	25	E332.50.2.125/125.0	2 x 26
TE26.120.063/063.0	–	B17.4.100/80.0	32	2400.12.055/250.0	25	E332.50.2.150/150.0	2 x 26
easy chain®		B17.4.100/100.0	32	2450.05.100/2000.0	25	E332.50.2.200/200.0	2 x 26
E14/Z14.1.038/038.0	19	B17.5.075/650.0	32	2480.05.100/2000.0	25	E332.50.2.250/250.0	2 x 26
E14/Z14.2.038/038.0	19	**E2.1 micro**		2500.03.075/650.0	25	E332.75.2.140/140.0	2 x 38.5
E14/Z14.3.038/038.0	19	E2C.10.40.038/038.0	10	2600.06.075/075.0	35	E332.75.2.175/175.0	2 x 38.5
E14/Z14.3.075/075.0	19	E2C.10.40.038/080.0	10	2600.07.075/075.0	35	E332.75.2.200/200.0	2 x 38.5
E14/Z14.4.038/038.0	19	E2.15.30.048/055.0	15	2600.10.075/075.0	35	E332.75.2.250/250.0	2 x 38.5
E2 micro		E2C.15.10.048/1050.0	15	2700.05.063/063.0	35	E332.75.2.300/300.0	2 x 38.5
03.05.010/070.0	5	E2C.15.16.038/075.0	15	2700.15.150/090.0	35	**triflex®**	
03.10.010/070.0	5	**E2/000**		3400.075.075/075.0	45	332.16.038/038.0	16
05.16.018/018.0	10	1400.020.035/480.0	21	3400.100.075/075.0	45	332.16.048/048.0	16
06.20.018/018.0	10.5	1400.020.048/048.0	21	3400.125.075/075.0	45	332.16.075/075.0	16
06.20.038/350.0	10.5	1400.020.075/075.0	21	3400.150.075/075.0	45	332.16.100/100.0	16
06.30.018/018.0	10.5	1400.025.038/038.0	21	3400.175.075/075.0	45	332.32.075/075.0	32
06.64.018/018.0	10.5	1400.025.048/048.0	21	3400.250.075/075.0	45	332.32.075/125.0	32
E2 mini		1400.025.075/075.0	21	**R2.1**		332.32.100/100.0	32
10.015.028/028.0	18	1400.038.038/038.0	21	R2i.40.175.100/1040.0	40	332.32.100/250.0	32
10.015.038/038.0	18	1400.038.048/048.0	21	**E4.1**		332.32.100/300.0	32
10.015.048/048.0	18	1400.038.075/075.0	21	E4.21.*Bi*.048/390.0	21	332.32.125/125.0	32
10.025.028/028.0	18	1400.050.038/038.0	21	E4.42.*Bi*.100/500.0	42	332.32.150/150.0	32
10.025.038/038.0	18	1400.050.048/048.0	21	E4.42.*Bi*.160/450.0	42	332.32.200/200.0	32
10.025.048/048.0	18	1400.050.075/075.0	21	**E4/4**		332.32.250/250.0	32
10.025.075/075.0	18	1400.068.038/038.0	21	2828.*Bi*.150/685.0	32	332.50.100/100.0	50
10.038.028/028.0	18	1400.068.048/048.0	21	4040C.*Bi*.135/1500.0	56	332.50.125/125.0	50
10.038.038/038.0	18	1400.068.075/075.0	21	5050.*Bi*.150/150.0	80	332.50.150/150.0	50
10.038.048/048.0	18	1400.080.038/038.0	21	**easy triflex®**		332.50.200/200.0	50
10.038.075/075.0	18	1400.080.048/048.0	21	E332.25.2.048/048.0	2 x 13	332.50.250/250.0	50
10.050.028/028.0	18	1400.080.075/075.0	21	E332.25.2.048/075.0	2 x 13	332.75.140/140.0	75
10.050.038/038.0	18	1400.100.038/038.0	21	E332.25.2.075/075.0	2 x 13	332.75.175/175.0	75
10.050.048/048.0	18	1400.100.048/048.0	21	E332.25.2.100/100.0	2 x 13	332.75.200/200.0	75
10.050.075/075.0	18	1400.100.065/185.0	21	E332.25.2.125/125.0	2 x 13	332.75.250/250.0	75
B15.015.048/048.0	17	1400.100.075/075.0	21	E332.25.2.150/150.0	2 x 13	332.75.300/300.0	75
B15.025.038/038.0	17	1500.038.075/450.0	21	E332.25.2.175/175.0	2 x1 3	352.50.100/100.0	50
B15.025.048/048.0	17	2400.03.075/075.0	25	E332.25.2.200/200.0	2 x 13	352.50.125/125.0	50
B15.025.075/075.0	17	2400.05.075/075.0	25	E332.32.2.075/075.0	2 x 17	352.50.150/150.0	50
B15.038.048/048.0	17	2400.02.075/075.0	25	E332.32.2.100/100.0	2 x 17	352.50.200/200.0	50
B15.038.075/075.0	17	2400.03.055/1400.0	25	E332.32.2.125/125.0	2 x 17	352.50.250/250.0	50
B15.050.038/038.0	17	2400.07.075/075.0	25	E332.32.2.150/150.0	2 x 17		
B15.050.048/048.0	17	2400.09.055/250.0	25	E332.32.2.200/200.0	2 x 17		
B15.050.075/075.0	17	2400.09.075/075.0	25	E332.50.2.100/100.0	2 x 26		

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.



Configure in seconds ...

The length of the e-chain® is calculated according to the rotation angle and the diameters. The e-chain® should be as short as possible. The e-chain® length required for your rotation angle can be determined easily, quickly and reliably via the igus® CAD configurator.

▶ **www.igus.eu/rbr-configurator**

The e-chain® series appearing in the table are ***RBR*** versions available from stock. Almost all igus® e-chains® can be delivered as an ***RBR*** version. Please contact us for any enquiry.

3D CAD, configurators, service life calculation and more ▶ www.igus.eu



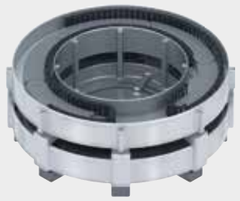
Circular movement with ***RBR***, diameter 6000mm. The inner ring rotates



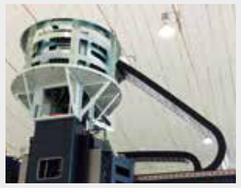
igus® system RM - guide troughs for circular movement applications with ***RBR***

igus® guide troughs- standard modular system RM

Depending on the dynamics and load of the application, the guides are made of steel or stainless steel (material: 1.4301). For applications with high duty cycle, we provide a plastic sliding liner in the guide troughs. The igus® e-chains® do not require any additional sliding pads either for contact with the substrate or with the side walls. We would be happy to offer complete systems with guide troughs, and also support you with drawings for your own construction.



Typical application areas: off shore, stacker/reclaimer, bucket-wheel excavators, rotary cranes, other rotating applications





igus® MRM modules: Rotate heavy filling in a small space, e.g., in machine tools or telescopes

igus® Multi Rotation Module (MRM) helps to realise circular movements up to 900° and more

With the Multi Rotation Module (MRM) you can implement larger angles of rotation of 900° and more. Thanks to stackable add-on modules the angle of rotation can be extended virtually indefinitely. One layer for rotations up to 540°, two layers for 900°, larger angles of rotation are possible with more layers. The rotation and add-on modules are ideally suited for rotary movements with high fill weights and limited space.

- Several individual systems are stacked on each other and thus are combined to a complete system
- The maximum rotation of the individual levels can be easily added, thereby enabling rotary movements up to 900 degrees and more
- Compact design enables the operation even in tight spaces, extendable "at will"
- High fill weights possible
- e-chains® can be freely assembled
- Peripheral speeds up to 1m/s



How it works

- Is the defined rotation angle of the lower layer reached, the next upper module is carried along automatically due to an integrated connection system. The entire system only needs a mechanical force transfer
- The construction minimises potential interference. The Multi Rotation Module system is ideal for rotary applications, heavy loads and for harsh environments
- Unlike other systems using sliding contacts, the e-chain® can also guide hoses for air, gas or fluids, as well as bus and fibre optic cables
- Even for tough environmental conditions

More information ▶ www.igus.eu/MRM

Strong, quiet and up to 360°* - circular and spiral movements - twisterchain

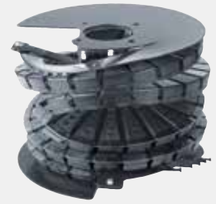
● Tough, quiet and high dynamics, suitable for high fill weights ● Rotary speeds up to 1m/s and more ● e-chains® for circular and spiral movements up to 360° from stock (up to 400° upon request) ● Modular interior separation ● Smooth, cable-friendly interior ● Openable from both sides - crossbars removable along the inner and outer radius ● Available with guide trough for very smooth operation ● Successfully tested for over 1 million cycles in the igus® laboratory

More information ▶ from page 1086



Rotary movements in small spaces - twisterband

● Rotary movements up to 7,000°(horizontal installation orientation) and up to 3,000° (vertical: installation position) possible (*Rotary movements up to 3,600° can be ordered from stock. From 3,600°, please contact your igus® representative.) ● Rotary speeds of up to 180°/s possible ● Crossbars openable with film hinge or openable "easy" design ● HD version with strong pin and hook connection for an even longer service life and temperatures from 0°C to +80°C ● Compact, modular and lightweight ● Bands can be lengthened and shortened as required ● Minimum installation space, fits tightly around the rotary axis ● Can be used reliably in various installation positions (horizontal, vertical, upside down) ● Cost-effective and easy to fill **More information ▶ From page 1108**



Special solutions for multi-axis motion
The cable reel without a slip ring - igus® e-spool®

● More versatile and flexible to use than cable reeling drums ● Different media (power, data and fluids) can be routed together in one system ● Energy supply in all directions (horizontal, vertical, diagonal) ● If travels must be kept free ● Very well suited for use in theatre and stage technology ● No tensile load on the cables ● Cables can be retrospectively added or changed ● Alternative to zig-zag solutions ● Max. deployment and retract speed: 1m/s ● Large standard product range and special projects available

More information ▶ from page 1126



igus® e-spool® and zig-zag solutions in a theatre. Space-saving and maintenance-free: guide all kind of energy, data and media safely, in all directions



e-spool® flex 2.0* - continuous panel feed



e-spool® compact - spring-driven



e-spool® - for manual operation



e-spool® - standard and HD

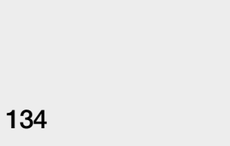


e-spool® power - motor-driven

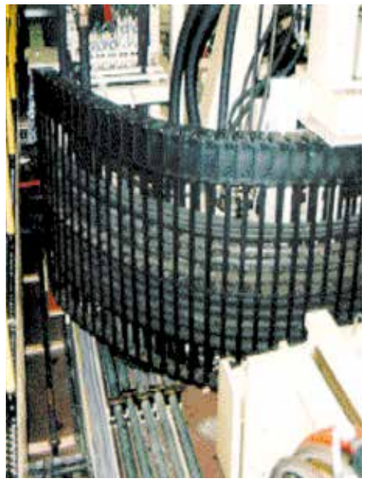
3D CAD, configurators, service life calculation and more ▶ www.igus.eu

Rules for:
- Maximum conduit diameters
- Separation
- Bend radius

Electrical cables need at least 10% clearance space all around, hydraulic hoses need 20%



The maximum conduit diameter is specified for each series on its respective chapter



Hydraulics and electric cables are separated from one another in this example

General rules for igus® cables and hoses in e-chains®

The key advantage of igus® e-chain systems® is they can safely accommodate a wide variety of forms of data cables and energy suppliers in one system. You gave options of how to separate the different medias. For example, maintain minimum distances between bus and motor cables. You can mix pneumatics, electrical cables and hydraulics in the same compartments. In addition to the quality of the cables used, the arrangement of each cable within the e-chain® and the space allowed are important for the system's service life. Various separation options allow e-chains® to be adapted to the specific requirements of each application. This section provides detailed recommendations. Due to the variety of the application parameters, we strongly recommend you take advantage of our free consultation services. Simply give us a list of your cable requirements (or merely the required electrical or other services) and you will receive our recommendation by the end of the next business day.

Maximum cable or hose diameter

The maximum cable and/or hose diameter equals the inner height of the selected e-chains® and e-tubes plus minimum clearance. This minimum clearance is 10% for electrical round cables and 20% for hydraulic hoses, for example. An e-chain® is ideally filled if minimum lateral clearance to the next cable or hose has been factored in. Depending on the nature of the cables, the dynamics, and the expected service life, more clearance may be required. In specific cases, filling may be designed with less clearance. Please contact us.



Orderly cables with igus® interior separation

e-chain® interior separation

Cables and hoses with very different diameters should be laid separately. Separators are used for this. Cables and hoses must under no circumstances have the opportunity to tangle. **Therefore, the clearance height of a compartment with several similar cables or hoses next to one another must not be more than one and a half times the cable/hose diameter.**



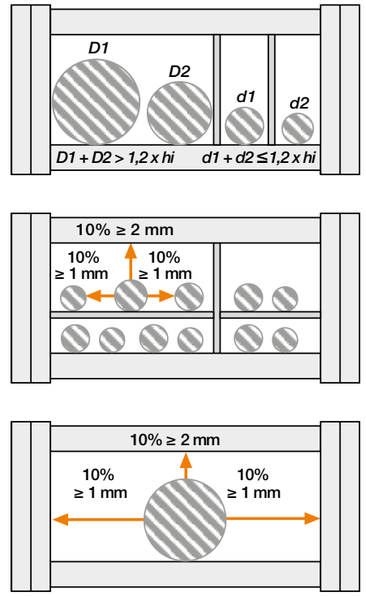
Distribution rules | Cables and hoses

Distribution rules

The cables and hoses must be laid so that they can move freely at all times and so that no tensile force is exerted on the e-chain® at the radius. For high-speed applications and high numbers of load cycles, cables or hoses must not be laid on top of each other without horizontal separation. The standard values for this are: travel speed over 0.5m/s and load cycles over 10,000 p.a. igus® interior separation offers a safe solution for such cases.

Further guidelines for distribution

The cable or hose weight should be symmetrically distributed along the width of the e-chain®. Cables and hoses with different jacket materials must not be allowed to stick together. If necessary, they must be laid separately. All igus® chainflex® cables series can be combined. The cables should always involve strain relief at the fixed and at the moving end. Exceptions are made only for certain hydraulic hoses with length compensation issues or other high pressure hoses (i.e. hydraulic hoses). **Generally, the faster and more frequently the e-chain® operates, the more important the exact positioning of the cables and hoses inside the e-chain® becomes. Due to the wide variety of the possibilities, we strongly recommend you take advantage of our free consultation services for your specific applications. igus® tip: interior separation configurator ▶ www.igus.eu/quickchain100**



Clearance space for round electrical cables

Bend radius *R*

The bend radius of your e-chain® depends on the thickest or stiffest cable or hose in your filling. The bend radii should be adjusted to the recommendations of the cable or hose manufacturer. Selecting a larger radius than the minimum will extend service life. The specification of minimum bend radii for cables and hoses refers to normal temperatures. Other bend radii may be recommended. We recommend complete e-chain systems® - where bend radii for all cables and hoses, interior separation and service life are optimally matched. igus® chainflex® cables permit the smallest bend radius of 5 x d for one million strokes.



An E4 extender chain with vacuum hose also guides an E2 e-chain® here

d1 + d2 > 1,2 x hi

Distribution rule 1:

If ***d1 + d2 > 1,2 x inner height***, no separation between the two cables/hoses is necessary. Two cables/hoses should never be left unguided on top of one another or be allowed to become tangled.

d1 + d2 ≤ 1,2 x hi

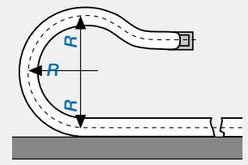
Distribution rule 2:

If ***d1 + d2 ≤ 1,2 x inner height***, a vertical separator or a horizontal shelf must be used to reduce the inner height. This prevents ***d1*** and ***d2*** from tangling.

igus® clearance space for various cables/hoses

Cable type	%
Electrical round cables	10
Electrical flat cables	10
Pneumatic hoses	5-10
Hydraulic hoses	20
Media hoses	15-20

Please note: Don't fill e-chains® and e-tubes more than 80% of the cross-section!



Principle sketch bend radius *R*



No more corkscrewing with igus® e-chain systems®

Round electrical cables

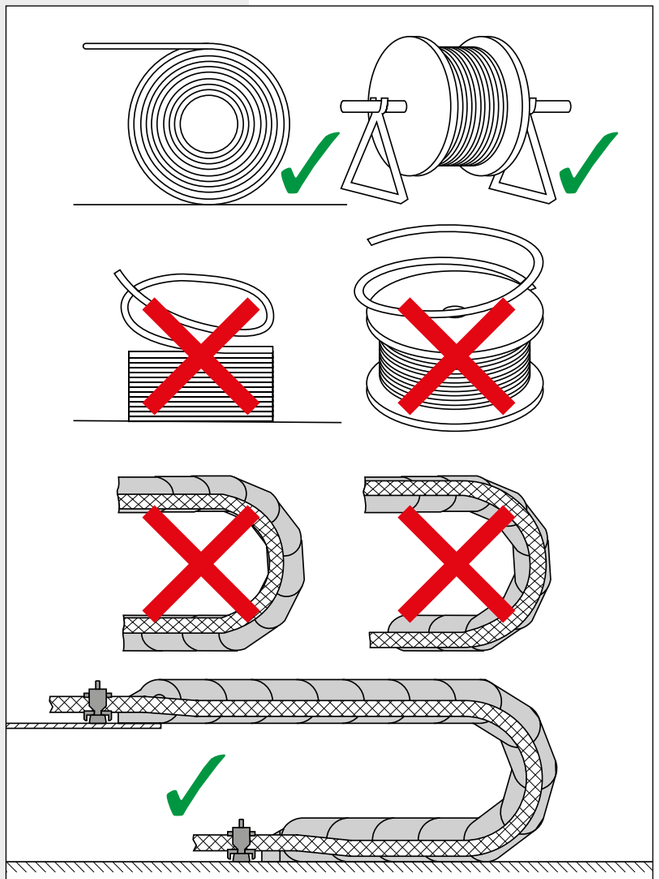
For electrical cables, the round cable is a safe, simple and cost-effective solution for e-chain systems®. We recommend the following criteria for selecting the proper round electrical cables: ● Small minimum bend radii and mounting heights ● Long service life at minimum bend radius ● Service life expectations for your application (short or long travel, hanging) ● Test data on service life from realistic tests ● Uncomplicated installation process - no hanging, laying out, etc. of cables ● Strain relief integrated directly into the mounting bracket ● Flexible shields for shielded cables ● Abrasion-resistant and nonadhesive outer jackets ● Large selection to avoid expensive custom designs. For bus cables and fibre optic cable, special attention must be paid to how effective transmission rates and shielding remain after millions of cycles at the minimum bend radius.

Installation and strain relief for round electrical cables

1) Cables must be laid straight, without any twisting. Cables must not be uncoiled from the top of the spool. igus® chainflex® cables are immediately ready for placement directly into the e-chain®. They need not be disconnected or laid out before installation.

2) The cables must be laid so that each individual cable can move freely from side to side.

3) The cables must be able to move freely along the radius. This must be double-checked if the upper run operates at the cable's maximum bend radius.



Cables must be able to bend freely. chainflex® cables can be strain-relieved directly at the mounting bracket

4) The division of the e-chains® interior using igus® interior separators or shelves is necessary if several cables and/or hoses with varying diameters are laid out. It is important to prevent cables and hoses from tangling.

5) Cables and hoses with different jacket materials must not be allowed to stick together. If necessary, they should be separated. igus® chainflex® cables can be combined with all others.

6) Round electrical cables must be secured with strain relief at both ends. In exceptional cases, the cables may be fixed with strain relief at the moving end of the e-chain® only. A gap of 10-30 times the cable diameter between the end of the bend segment and the fixed point is recommended for most cables. chainflex® cables can, on the other hand, have strain relief directly at the mounting bracket, as testing has confirmed.

We will be pleased to provide you with recommendations for complete e-chain systems®: bend radii of all cables and hoses, interior separation and service life are then optimised.

Pneumatic hoses

In principle, the rules for round cables also apply to pneumatic hoses. In practice, it has been demonstrated that pneumatic hoses are less susceptible to wear. After consultation, they can be laid together more closely than the 10% clearance rule allows. This requires double-sided strain relief. For pneumatic hoses made of rubber, we recommend that the 10% clearance rule be strictly followed because these hoses tend to stick to each other and to other cables and hoses.



Fully pre-assembled e-chain system® with several pneumatic and hydraulic hoses

Flat cables

It is especially important for flat cables to move freely at the bend radius. Two adjacent flat cables should be kept apart with separators. If two flat cables are laid on top of one another, we strongly recommend horizontal interior separation. Flat and round cables should be laid separately in the e-chain®. There should be strain relief at both ends. Flat cables are only recommended to a limited extent for use in e-chains®.

Hydraulic hoses

During planning, pay special attention to longitudinal and transverse expansion when the hoses are pressurised. We recommend e-chains® with crossbars every link to distribute the force of the hoses over more crossbars. Sufficient room must be left (20% clearance). It is important for selected hoses to be sufficiently flexible (they must bend in the specified radius). The surface of the hoses must also be abrasion-resistant and able to glide. The igus® interior separation elements minimise hose abrasion with their wide, smooth, rounded contact surfaces. Hoses with textile braiding are usually more flexible than those with steel wire braiding. Because lateral hydraulic hose movements within the e-chain® can lead to increased abrasion in the hose material, hoses should be secured in position with vertical separators, and jamming must be avoided. Notch separators that snap into the crossbar, for example, keep the hoses firmly in place in the e-chain® even if there is strong vibration and shocks.

Strain relief

Hydraulic hoses are most often stretched lengthwise during operation. This must be taken into account when strain relief is applied. More hose length can be factored in or strain relief implemented. In some cases, one-sided strain relief on the moving end can be tolerated.

rollclip

In almost all cases, the broad, smooth, rounded contact surfaces of all igus® e-chains®/e-tubes are sufficient to protect hydraulic hoses from abrasion. In extreme cases, the rollclip can be subsequently installed. In the crossbar, the hoses come into contact with a series of plastic cylinders which rotate with them. Extreme cases include particularly soft jacket materials, particularly small bend radii, and highly dynamic loads. Our experience shows that over 95% of all applications can be solved without rollclips.

● **Pneumatic hoses**
The igus® program also offers polymer pneumatic hoses called chainflex® Air

● **Flat cables**
Outer jackets made of rubber must be specified particularly carefully, because of potentially high friction

● **Hydraulic hoses**
Hydraulic hoses need more space: 20% all-around clearance. **We recommend e-chains® with crossbars every link to distribute the force of the hoses over more crossbars!**



Drastically reduce the jacket abrasion of very stiff cables and hoses with the E4.1 roller crossbar. The rolling contact surfaces with tribo-optimised plain bearings increase the service life considerably.

Ideally, the cables/hoses should be strain relieved at both ends of the e-chain®. At the very least, they must be strain relieved at the moving end of the e-chain®.

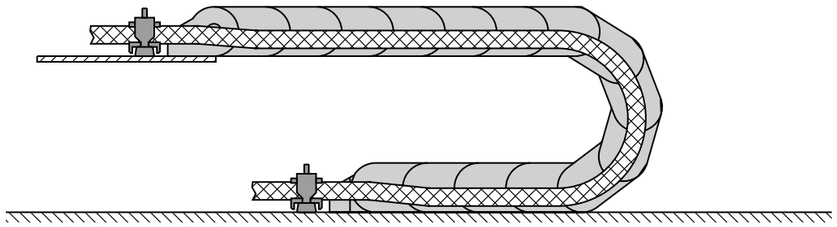


Strain relief for electrical cables

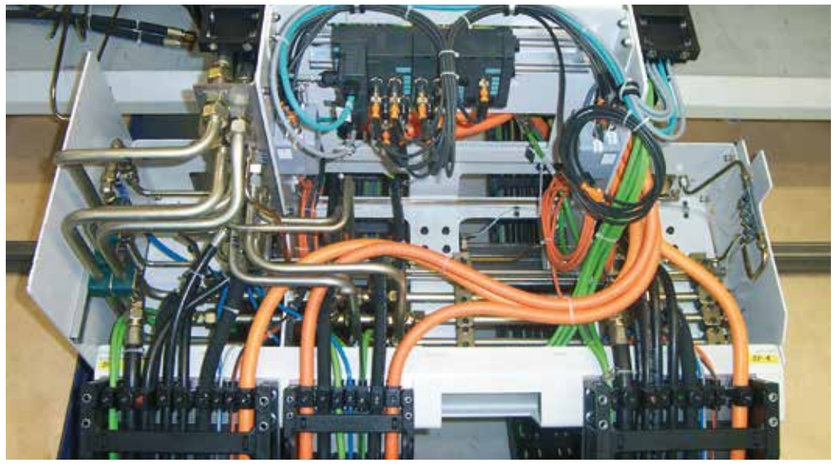
Strain relief can consist of standard elements or can be custom-made. For most applications, our standard program of C-profiles with mounting brackets and space-saving chainfix clamps can be used. We also offer simple strain relief solutions using tiewrap plates and cable tiewraps. In ideal cases, the cables should be secured at both ends of the e-chain® with strain relief. (In a few instances, strain relief at the moving end of the e-chain® is sufficient - please consult igus® for these cases).

Minimum gap between the strain relief and the beginning of the bend radius

Tests on our premises and in field applications have shown strain relief located at the last bend point of the e-chain® has no influence over the durability of igus® chainflex® cables. It is possible, therefore, to integrate the strain relief with the mounting bracket. Strain relief options, i.e. chainfix clamp or space-saving tiewrap plate, are offered by igus® for almost all e-chains®.



chainflex® cables can be directly strain-relieved in the mounting bracket (minimum gap to the last rotating e-chain® link is not necessary)



igus® chainfix strain relief in mounting bracket in practice - used here for cables and hoses

chainfix | Strain relief elements

Steel and stainless steel clamps - for maximum tensile forces

From page ▶ 1408

Even for larger hose and cable diameters up to 50mm ● chainfix clamps with up to 15mm reduced installation height and up to 3.5 times higher force absorption compared to conventional clamps ● Marking of the correct installation direction ● Optional: CFXL clamps for increased holding force for heavy-duty applications ● Also available with other components as multi-clamps or pneumatic clamps



chainfix tiewrap plates - universal, bolted or clip-on

From page ▶ 1420

The tiewrap plate is integrated on the end of the mounting bracket, and cables and hoses can be fixed using cable tiewrap ● Quick and easy to assemble (clip on) ● The tiewrap plate is also captivated by the fixation of the mounting brackets ● Longer service life for cables ● Space-saving design ● Assembly in the C-profile of the KMA (plastic/metal mounting brackets) possible



chainfix tiewrap plates - five optional variants

From page ▶ 1422

Version 1: Tiewrap plates with clip-on connection to C-profile - be clamped directly into the C-profile without screws ● **Version 2:** Strain relief tooth for Top-hat (DIN) rail 15 (TS92.31) ● **Version 3:** Integrated strain reliefs for series R E2 e-tubes ● **Version 4:** Tiewrap plates for fixed crossbars ● **Version 5:** Tiewrap plates for crossbars ● Attachable tiewrap plates can be detached and relocated, using only a screwdriver as a lever.



CFU.V - Strain relief with innovative honeycomb design

From page ▶ 1426

● 80% faster to fill (compared to a CFX strain relief), openable from both sides for installation in seconds ● Flexible honeycomb design for high holding force of the cables ● Tribologically optimised honeycombs for best hold ● Different cables with diameters of 2mm -17mm can be easily strain relieved ● Cables can be easily replaced ● Simple positioning of the cables



Strain relief separators - separator with integrated strain relief teeth

From page ▶ 1428

For easy strain relief with cable tiewraps ● Can be integrated in mounting bracket ● To be fitted at the first and last e-chain® link ● Strain relief separator can bepositioned as required ● Easy to assemble without any screws ● Cost-effective ● For most series from stock



CFV - stepped strain relief for use outside of the e-chain® section

From page ▶ 1432

Easy strain relief for cables, even in enclosed e-tubes ● Stepped strain relief - good access ● Matching for e-chains® and e-tubes ● Easy retrofit assembly possible ● Simple installation into top-hat rails and C-profile on KMA mounting brackets



CFN - chainfix nuggets for C-profile and top-hat (DIN) rail 35

From page ▶ 1433

Simple strain relief - pre-assembled cable tiewrap ● **Version 1 for the C-profile:** simple and universal cable fixing (of cables up to Ø 20mm and Ø 30mm diameter) ● **Version 2 for standard rail 35:** fixing by clipping onto a standard rail 35



CFB - strain relief connector system, modular and customised

From page ▶ 1434

● Modular, customised plug-in system, many cables in a very tight space ● Can be installed in the mounting bracket or in front of the e-chain® ● Available in 2 versions, cost-effective and efficient ● Quick installation with standard screw connection



*Standard material: galvanised steel. Also available as stainless steel version (stainless steel material: 1.4301/AISI 304)

igus® materials:
- igumid G
- igumid NB
- igumid ESD
- igumid TE
- igumid GE
- igumid DT

Find technical data about igus® materials, temperatures and chemical resistance ▶ **From page 147**



igus® factory - automatic compounding and conveyor belt for igumid G

plastics for longer life® - igus® know-how in polymer materials

Each year, igus® engineers develop more than 500 new plastic compounds and test igus® products in more than 15,000 experiments per year. That's how in recent years they have built an extensive database of the tribological properties of polymers. This database makes it possible for us to assess better most of the applications in advance and provide our customer with confidence during use. Our calculations and analyses are based on the result of ongoing practical tests in our technical centre and our experience with gliding applications. The focal points of our tests are push/pull forces, friction values and abrasion under widely varying conditions and speeds, as well as factors such as dirt, weathering or impact and bumps. We test all system components such as cables, hoses, strain relief and other accessories, in addition to the e-chains® or e-tubes and guide troughs.

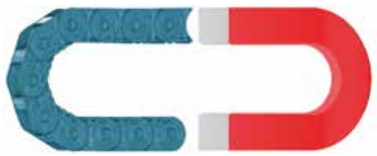
Technical environment:
- Fire resistance
- Radiation
- Weathering
- Cold, heat
- Explosion risk areas
- Vacuum
- Hot swarf
- Dirt, dust
- Cleanroom
- Chemicals

Technical environment

The igumid G material, from which igus® e-chains® are made, possesses the following wide-ranging features to cope with a variety of environments: the ability to handle pressure and strenuous loads, abrasion resistance, sturdiness, stable behaviour at high and low temperatures, and suitability for outdoor use. The igus® igumid compounds satisfy these, sometimes contradictory, requirements. Numerous application examples, from refrigerator blocks to steel mills, prove this. In extreme cases, we also offer modifications and other igus® compounds as a solution.

Magnetically detectable plastic e-chains®

● For the food and tobacco industry. ● The material igumid DT is detected to the tiniest fragment all common metal detection systems and can therefore be selected automatically ● Particles as small as 1.0mm can be recognised for fragments passing at speeds of 20m/min.
More information ▶ www.igus.eu/detectable-chain



Flammability of igumid G

The flame-retardant characteristics of igumid G can be described using various classifications. Most of igus® e-chains® are made from igumid G, i.e. the popular E4.1 and E2/000 e-chain systems®. Classifications:
- Test procedure VDE 0304 parts 3/5.70
- Tested according to UL94 "Standard tests for Flammability of Plastic Materials for arts in Devices and Appliances" classification 94 HB for 3.2 and 1.6mm thickness of the body
- Tested according to DIN 4102 "Fire Behaviour of Building Materials and Parts" classification materials class B 2
- For further requirements, please consult igus® for special solutions, such as materials with self-extinguishing properties (UL94-V2 or UL94-V0).

Flammability of igumid NB

All easy e-chains® and series 14, F17 e-chains® are made from the flame-retardant igumid NB material. These e-chains® have the following flame-retardant classifications:
- UL94 classification - V2
- VDE 0304 part 3/5.70 classification- IIb
- DIN 4102 flammability of materials - B2
- Please consult igus® for material availability of V0

Weathering and temperature resistance

igumid G is very suitable for outdoor applications. In our experience, the mechanical properties of the e-chain® are not impaired. igus® e-chains® are used in applications as cold as -40°C (40°F). Installation may be eventually compromised at temperatures below -25°C (-13°F). In such cases, we offer special solutions made from cold-elastic materials. +120°C (248°F) continuous temperatures are possible with igumid G, short-term up to +180°C (370°F). However, the mechanical values are reduced and the service life is impaired.

Resistance to radiation

igus® offers several solutions for high-radiation areas. igumid G is very resistant to high-energy radiation. Under gamma radiation, in the range of 8×10^4 rd, the mechanical properties of igumid G change very little.



Reflecting telescope at 2,200m. Robust under high wind speeds, snow, ice and increased UV radiation



rol e-chain® on a coal unloading system with fire protection regulations - travel 190m, fill weight 8kg/m, travel speed 0.5m/s



Tests in the igus® cold chamber are carried out under realistic real-world conditions with a moving e-chain

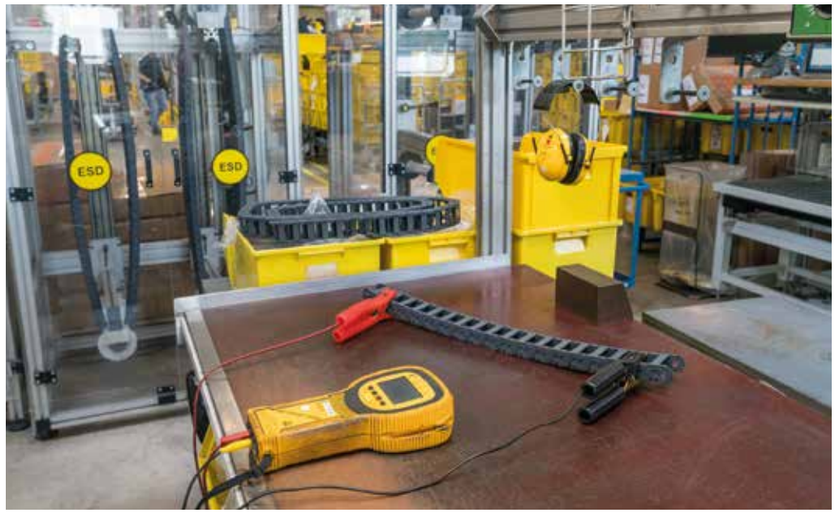
Flammability class
igumid G:
- UL94-HB (Standard)

igumid NB:
- UL94-V2 (Standard)
- UL94-V0 (upon request)

igumid G:
- UV-resistant!
- Temperature range from -40°C (40°F) up to +120°C (248°F)

ESD (Electro Static Discharge) - avoidance of static charges in the field of manufacturing processes of electronic components or assemblies

Note:
According to a statement by TÜV Rheinland 557/ Ex125071309.00/17, igus® e-chains® do not fall under the scope of application of Directive 2014/34/EU



100% of the produced ESD e-chains® are checked for their continuous conductivity from one end to the other

ESD with igus® e-chains® (ESD = Electro Static Discharge)

The need to prevent static buildup in moving applications has been increasing in modern production equipment. Measurements of the electrical surface leakage resistance for igus® e-chains® made from the special igumid GC material were made in 1992 by the igus® GmbH together with the PTB (Physikalisch-Technische-Bundesanstalt) in Braunschweig, supplemented by additional certifications in 1998 and 1999 according to DIN 53482 and the guidelines for static electricity ZH1/200 of the Federation of Trade Associations. igus® recommends using the igumid ESD material to discharge such electrostatic energy in the production of sensitive electrical components. igumid ESD has been fully tested for over 10 million cycles in the igus® test laboratory.

Advantages of standardised ESD products

- ESD material tested with over 10 million cycles for highest requirements
- e-chains® with mounting brackets and interior separation in ESD and ATEX design, available from stock
- Proven over years of use in explosion-proof areas
- Short delivery times

Conductivity of igus® products from igumid ESD

In contrast to temporary conductive surface coatings or volatile incorporated antistatic agents, the additives used offer long lasting and maintenance-free conductivity. If individual e-chain® components offer conductivity, this is not sufficient: the whole e-chain® from one end to the other must have a continuous conductivity. All products in this catalogue are optimised in this regard and the continuous conductivity is measured and documented prior to delivery with 100% testing.All products in this catalogue are optimised in this regard and the continuous conductivity is measured and documented prior to delivery with 100% testing. Only e-chains® that have passed this test are provided with the test seal and delivered. Colour* of igumid ESD products: similar to RAL7015, slate-grey to ensure distinguishability from standard materials.

(*Exception: cover zipper and triflex® R - here black in colour)

ESD e-chains® | Technical environment

1. General safety information

These additional operating instructions apply to our ESD e-chains® in colour grey (similar to RAL 7015). They supplement the installation instructions for the standard e-chains® and the catalogue information. The information in these instructions relates only to data regarding ESD areas. The technical information in the installation instructions for standard e-chains® and the category information still apply unless these instructions explicitly exclude or replace the relevant information.

2. Assembly, removal and installation

Please follow the information in the installation instructions for the standard e-chains® and the catalogue information on assembly, removal and installation for trouble-free operation. igus® ESD e-chains® must be grounded with appropriate measures in accordance with drawing number 18392 in order to discharge any occurring electrostatic. **Assembly, installation, commissioning and maintenance may be performed only by personnel properly trained in explosion protection!** Please also note the corresponding national safety regulations and the relevant national regulations in respect of explosion protection during installation and operation.

3. Initial operation

Before commissioning the system, check that the system has been installed correctly in accordance with the installation instructions for the standard e-chains® and the catalogue information. Correct grounding must be checked in particular in the case of ESD e-chains®.

4. Maintenance

igus® e-chains® require very low maintenance. Correct grounding of the ESD e-chains® must be inspected at regular intervals. In case of large projects a customised maintenance plans can become an issue and will be created if necessary.



The igus® ESD/ATEX e-chains® available from stock are shown online at ▶ www.igus.eu/esd or order a separate catalogue

Table of ESD e-chains® available from stock

Part No. ESD	*hi* [mm]	*Bi* [mm]	More information
zipper			
07	10.3	10 - 50	▶ www.igus.eu/07_ESD
09	15	16 - 50	▶ wwwigus.eu/09_ESD
E4.1			
E4.21	21	30 - 80	▶ www.igus.eu/E4.21_ESD
E4.28	28	40 - 125	▶ www.igus.eu/E4.28_ESD
E4.32	32	50 - 200	▶ www.igus.eu/E4.32_ESD
E4.42	42	50 - 200	▶ www.igus.eu/E4.42_ESD
E4.56	56	75 - 300	▶ www.igus.eu/E4.56_ESD
E4.80	80	75 - 300	▶ www.igus.eu/E4.80_ESD

Part No. ESD	*hi* [mm]	*Bi* [mm]	More information
E2.1 micro			
E2C.10	10.6	16 - 30	▶ www.igus.eu/E2C.10_ESD
E2C.15	14.9	16 - 30	▶ www.igus.eu/E2C.15_ESD
E4/light			
14240	62	50 - 200	▶ www.igus.eu/14240_ESD
15050	80	75 - 300	▶ www.igus.eu/15050_ESD

Part No. ESD	*hi* [mm]	*Bi* [mm]	More information
E2/000			
1500	21	15 - 80	▶ www.igus.eu/1500_ESD
2500	25	25 - 125	▶ www.igus.eu/2500_ESD
2700	35	50 - 125	▶ www.igus.eu/2700_ESD
triflex® R			
TRC.40	15/13	15 / 13	▶ www.igus.eu/TRC_ESD
TRC.60	22.5/19.5	22.5/19.5	▶ www.igus.eu/TRC_ESD
TRC.70	28/24	28 / 24	▶ www.igus.eu/TRC_ESD

Available from stock. Ready to ship in 72hrs.*

*Average time before the ordered goods are dispatched.

igus® e-chains® for cleanroom | Technical environment

Advantages of igus® e-chains® in cleanroom applications:

- IPA cleanroom Class 1 according to EN ISO 14644-1
- Abrasion-resistant
- Modular design
- Quick filling, openable
- Available from stock
- No minimum order quantity
- With up to 36 months guarantee



igus® cleanroom laboratory according to IPA certification ISO Class 1 in accordance with EN ISO 14644-1

Virtually 10,000 igus® e-chains® are certified for cleanroom applications IPA cleanroom class 1 to cleanroom class 5 [1)]

For almost 20 years, igus® has been among the frontrunners of energy supply systems in cleanrooms. igus® supplies a wide range of IPA-tested e-chains® that enable machine-specific energy supply in cleanrooms and are easy to install. Since the quality requirements for cleanroom technology applications are constantly growing, igus® is continuously working on improving its products. In order to be able to respond even faster to customer requirements, igus® has built a cleanroom laboratory for the rapid development of particle-free motion plastics together with the Fraunhofer IPA Institute. The laboratory is suitable for cleanrooms up to Class 1 air purity according to ISO 14644-1.

Fraunhofer Institute IPA tests for various igus® e-chains® (according to DIN EN ISO 14644-

IPA cleanroom Class	e-chain® series for cleanrooms	Report number	Speed [m/s]
ISO Class 1	**SKS28.068.02.1 e-skin® soft + cable**	IG 1907-1125	0.5 / 1.0 / 2.0
ISO Class 1	**SKY28.068.02.1 e-skin® hybrid**	IG 1907-1125	0.5 / 1.0 / 2.0
ISO Class 1	**SKF12.3.03.0106 e-skin® flat**	IG 1907-1125	0.5 / 1.0 / 2.0
ISO Class 1	**SKF12.3.03.0101 e-skin® flat**	IG 1907-1125	0.5 / 1.0 / 2.0
ISO Class 1	**SKF12.3.03.0102 e-skin® flat**	IG 1907-1125	0.5 / 1.0 / 2.0
ISO Class 1	**0.SKY28.068.02.1 e-skin® hybrid**	IG 1907-1125	0.5 / 1.0 / 2.0
ISO Class 1	**0.SKS28.068.02.1 e-skin® soft**	IG 1907-1125	0.5 / 1.0 / 2.0
ISO Class 1	**0.SK28.068.02.1 e-skin**	IG 1907-1125	0.5 / 1.0 / 2.0
ISO Class 1	**E61.29.050.075.0**	IG1303-640	0.5 / 1.0 / 2.0
ISO Class 1	**E3.15.040.075.0**	IG0704-400	0.5 / 1.0 / 2.0
ISO Class 2	**1500.050.038.0**	IG1303-640-1	0.5 / 1.0 / 2.0
ISO Class 2	**T3.29.050.038.0**	IG1303-640-1	0.5 / 1.0 / 2.0
ISO Class 2	**E14.3.038.0**	IG0308-295	0.5 / 1.0 / 2.0
ISO Class 3	**2500.05.055.0**	IG0308-295	0.5 / 1.0 / 2.0
ISO Class 3	**E6.29.060.150.0**	IG0704-400	0.5 / 1.0 / 2.0
ISO Class 5	**E4.32.10.063.0**	IG1303-640-1	0.5 / 1.0 / 2.0

1) Individual series of diverse igus® e-chains® from e-skin®, E6, E6.1, T3, E3, E2/000, E4.1 and easy chain® families have been given ISO Class 1 to ISO Class 5 certification by the Fraunhofer IPA institute in accordance with DIN EN ISO 14644-1 (Report IG1303-640-1, IG0704-400, IG308-295 and IG 1907-1125). This corresponds to almost 10,000 articles from the e-chain® product range of the same type of construction/based on the same principle.

The Fraunhofer Institute IPA has tested various igus® e-chains® according to DIN EN ISO 14644-1 - for precise statements on their application options in the cleanroom.



Free white paper: igus® energy supply for cleanroom ▶ www.igus.eu/cleanroom

igus® cleanroom laboratory | Technical environment

Unique igus® cleanroom laboratory for IPA cleanroom Class 1 components - innovative cleanroom technology successfully on the test rig!

In semiconductor manufacturing, components such as e-chains® and cables must meet the highest standards regarding their release of particles. In order to be able to develop new motion plastics that are suitable for use in cleanrooms, the Fraunhofer IPA, working as a development and certification partner on behalf of igus®, has now designed and built a tailor-made cleanroom laboratory with an IPA cleanroom Class 1 system in Cologne. In the new laboratory, customer tests and new developments can be carried out in advance under real conditions within a very short time. Furthermore, our new cleanroom laboratory helps considerably in the continuous further development of our cleanroom products and materials.



Some igus® cleanroom e-chains® in comparison:

Specification/ Description	e-skin® flat SKF	e-skin® SK	e-skin® soft SKS	e-skin® hybrid SKY	igus® E6/E6.1
IPA cleanroom Class 1 according to EN ISO 14644-1	√	√	√	√	√
Modular design	●●●●●	●●●	●●●	●●●	●●●●
Components individually interchangeable	√	√	√	√	√
Openable	●●●●	●●●●●	●●●●●	●●●●●	●●●●●
Easy maintenance	●●●	●●●●	●●●●	●●●●	●●●●●
Available from stock	√	√	√	√	√
Can be shortened	√	√	√	√	√
No minimum order quantity	√	√	√	√	√
Cost-effective	●●●	●●●●	●●●	●●●●	●●●●●
Suitable for unsupported applications	●●●●	●●●	●●	●●	●●●●●
For high dynamics	●●●	●●●	●●●	●●●	●●●●●
Low clearance height	●●●●●	●●●	●●●●	●●●●	●●●
Fill weight	●●	●●●●	●●●	●●●	●●●●●
Quiet, smooth operation	●●●●●	●●●●	●●●●	●●●●	●●●●
Online calculation of service life	X	X	X	X	√
Online interior separation configurator	X	√	√	√	√
Suitable for the following industries	Electrical manufacturing, 3C industries, bonding dispensers, semiconductors, FPD production, medical technology, microelectronics, AOI	Electrical manufacturing, 3C industries, dispensers, glass cutting, semiconductors, FPD production, microelectronics, AOI	Electrical manufacturing, 3C industries, dispensers, glass cutting, semiconductors, FPD production, microelectronics, AOI	Electrical manufacturing, 3C industries, dispensers, glass cutting, semiconductors, FPD production, microelectronics, AOI	Electrical manufacturing, semiconductors, FPD production, microelectronics, panel robots, packaging, plotters, medical technology

Legend
●●●●● = Ideal
● = Less suitable
√ = yes / X = no

igus® experience with:
Dust, dirt, mud, compost, wood, textile fibres, paper dust, abrasive paste, cooling agents, glass dust, glass splinters, coal dust, sand, corundum and much more.



e-tubes that repel hot swarf, up to +850°C with the igus® igumid HT material
▶ **www.igus.eu/HT**



igus® tests: e-chains® and chainflex® cables are tested for resistance against chemicals and oils in long-term tests

Spatter, hot swarf

Laboratory tests and numerous field applications have proved that igus® e-chains® and e-tubes reliably protect cables in welding robots and machine tools since 20 years. e-tubes made from the igus® igumid HT material are resistant to hot swarf up to +850°C (1,562°F), no swarf sticks. This opens new possibilities for replacing more complex and expensive steel tubes. All E2 and E4 e-tubes from the standard product range are available in igumid HT material upon request. igumid G in direct contact with large amounts of melted aluminium is not recommended.

Dirt, dust, swarf

Materials and design make igus® e-chains® excellent problem-solvers in tough environments. Please consult igus® with your application.

Vacuum

igus® e-chains® made of igumid G can be used in vacuum applications. Very little outgassing occurs.

Chemical resistance

igumid G is resistant to fuel, lubricants, oils, fats, alcohol, ester, ketone, and aliphatic and aromatic hydrocarbons. Oxidants and acids are damaging. The table ▶ **Page 148** shows an excerpt of the resistance to chemicals. Acid-resistant e-chains® are available upon request.

Coolant resistance

e-chains® and e-tubes have proven resistance to cooling agents. However, we are always willing to perform individual tests if you have particular problems or advanced developments. **Table on resistance to chemicals ▶Page 148**



igus® e-tubes in the swarf area of a machine tool



Hot asphalt is no problem for igus® e-tubes



System E4 in an incinerating plant, safe also in abrasive dirt and dust



Compost sludge, numerous related references available upon request

Material data igumid

Material data table	Units of measurement	igumid G	igumid NB	igumid ESD	igumid TE	igumid GE
Mechanical properties						
Yield stress (dry/wet)	MPa	190/130	78/40	*	*	*
Elongation at break (dry/wet)	%	004/006	20/210	*	*	*
Flexural modulus (tensile test)	MPa	9.000/7.000	2.900/1.200	*	*	*
Limit of elasticity (bending)	MPa	7,800	3,000	9,500	1,290	7,200
Flexural strength	MPa	240	120	230	55	200
Shore D hardness	–	79	79	83	72	80
General properties						
Density	g/cm³	1.37	1.14	1.2	1.02	1.46
Moisture absorption 23/50 r.h.	% weight	1.4	3.4	1.9	0.8	0.7
Maximum water absorption	% weight	5.6	7.6	7.3	1.6	4
Electrical properties						
Specific volume resistance	Ω*cm	$>10^{11}$	$>10^{11}$	$<10^{9}$	$>10^{11}$	$>10^{11}$
Surface resistance ROA	Ω	$>10^{11}$	$>10^{11}$	$<10^{9}$	$>10^{11}$	$>10^{11}$
Thermal properties						
Lower operating temperature	°C / °F	-40°C / -40°F	-40°C / -40°F	-40°C / -40°F	-40°C / -40°F	-40°C / -40°F
Upper long-term application temperature	°C / °F	+120°C / +248°F	+80°C / +176°F	+80°C / +176°F	+70°C / +158°F	+120°C / +248°F
Upper short-term application temperature	°C / °F	+180°C / +356°F	+170°C / +338°F	+150°C / +302°F	140°C / +284°F	+200°C / +392°F
Material certificates						
Fire resistance according to UL94	–	HB	V2	HB	HB	HB
Silicone-free	–	√	√	√	√	√
Halogen-free	–	√	√	√	√	X
2002/95/EC (RoHS)	–	√	√	√	√	√
2002/96/EC (WEEE)	–	√	√	√	√	–
Colour						
according to RAL, approx.	–	■ ≈RAL9004	■ ≈RAL9004	■ ≈RAL7015	■ ≈RAL9004	■ ≈RAL9004

√ = Yes / X = No / *Values upon request

Colours and special solutions

Product prices are always based on the colour black. e-chains® in any colour shown in the colour selection chart are subject to a percentage based colour surcharge. Any other colours that are not shown in the chart are individually calculated depending on the article and quantity, insofar as this is technically possible. As a rule, coloured e-chains® are not available from stock. Delivery time and surcharges for coloured e-chains® are available upon request. As a rule, all specifications related to stability (for instance unsupported lengths) and material characteristics apply only to black e-chains®. The characteristics of coloured e-chains® may differ. This also applies to all e-chains® from special materials, such as conducting e-chains® made from igumid ESD material or other special materials. For technical reasons HT and ESD materials cannot be supplied in other colours.

e-chain® colour variations with RAL-numbers

Black	Standard, from stock	≈ RAL 9004	**Index .0**	**Orange**	Special colour	≈ RAL 2003	**Index .2**
Silver-grey	Special colour	≈ RAL 7001	**Index .31**	**Yellow**	Special colour	≈ RAL 1018	**Index .4**
White	Special colour	≈ RAL 9003	**Index .1**	**Light grey**	Special colour	≈ RAL 7035	**Index .14**
Grey-white	Special colour	≈ RAL 9002	**Index .1S**				

Black e-chains® ready to ship* in 24 - 48hrs. Above special colours upon request.

*Average time before the ordered goods are dispatched.

The values specified are values determined by laboratory tests and are material-specific. All specifications apply to black e-chains®

Chemical resistance of igumid

Medium	Concentration % weight	igumid G / NB	igumid TE
Acetone	100	●●	●●
Formic acid (aqueous)	2	● 1)	●●
Ammonia (aqueous)	10	●●	●●
Gasoline	100	●●	●●
Benzene	100	●●	●●
Bitumen	100	● 1)	X
Boric acid (aqueous)	10	●●	●
Butyric acid	100	●	X
Calcium chloride (aqueous)	Sat. aq. sol.	●●	●●
Chlorinated hydrocarbons		●●	●
Chlorine water	Sat. aq. sol.	X 2)	X
Chromic acid (aqueous)	1	● 1)	X
Diesel oil	100	●●	●●
Acetic acid	2	●●	●
Colour		●●	●●
Greases, cooking fat		●●	●●
Fluorinated hydrocarbons		●●	●●
Formaldehyde (aqueous)	30	● 1)	●
Hydraulic oils		●●	●
Caustic potash	10	●●	●●
Potassium carbonate (aqueous)	60	●●	●●
Potassium sulphate (aqueous)	100	●●	●●
Methyl acetate	100	●●	●●
Milk		●●	●●
Mineral oil		●●	●●
Sodium carbonate (aqueous)	50	●●	●●
Oil, lubricating oil		●●	●●
Oil, cooking		●●	●●
Oleic acid	100	●●	●●
Paraffin oil		●●	●●
Perchloroethylene	100	●●	X
Polyester resins (with styrene)		●●	●●
Propane gas		●●	●●
Mercury		●●	●●
Hydrochloric acid	pH_2	● 1)	X
Hydrochloric acid	2	X 1)	X
Hydrochloric acid	10	X 1)	X
Ink, printing ink		●●	●●
Vaseline		●●	●●
Tartaric acid		● 1)	●●
Zinc sulphate (aqueous)	10	●●	X

●● = Resistant
● = limited resistant
X = Non-resistant
Sat. aq. sol. = Saturated aqueous solution

1) Here we have an optional special durable material, please contact us.

2) Here, we have an optional conditionally resistant special material, please contact us.

DIN EN ISO 9001:2016 and IATF 16949:2016

igus® is certified in accordance with DIN EN ISO 9001:2015 and IATF 16949:2016 in the field of energy supply systems, cables and harnessing, as well as plastic plain bearings.

ESD (Electro Static Discharge)

According to a statement by TÜV Rheinland 557/ Ex 125071309.00 / 17, igus® energy chains do not fall under the scope of application of Directive 2014/34/EU. The material igumid ESD combines the requirements according to ESD in its specifications and is recommended by igus® to avoid static charges in the area of the manufacturing processes of electronic components or assemblies ▶**Page . 142**

IPA Cleanroom

A lot of e-chains® are suitable for the use in cleanrooms according to DIN EN ISO 14644-1. Confirmed by the IPA Fraunhofer Institute▶**Page . 144**
Winner of the IPA Fraunhofer Institute's REINER! purity technology award for pioneering developments in purity technology.

UL, CSA, CEI and VDE

All igumid materials for e-chains® and e-tubes have got the UL-material approval. The material igumid NB has got the fire protection class approval IIb according to the test VDE 0304 Part 3/5.70, the approval V2 according UL94 and the construction material class B2 according DIN 4102.

Interbus, CC-Link, DESINA and NFPA

chainflex® cables are produced according to a lot of international standards. **Interbus certification: for Interbus certification of certain CF11 bus cables. CC-Link:** CC Link is a Fieldbus established by Mitsubishi Electric Automation. igus® chainflex® CFBUS.035 is CC Link certified. **DESINA**: many chainflex® cables are Desina-compliant. **NFPA:** with the CF130.US and CF140.US, igus® offers the MTW (Machine Tool Wire) cable which meets the requirements of NFPA 79.

Clearly quieter

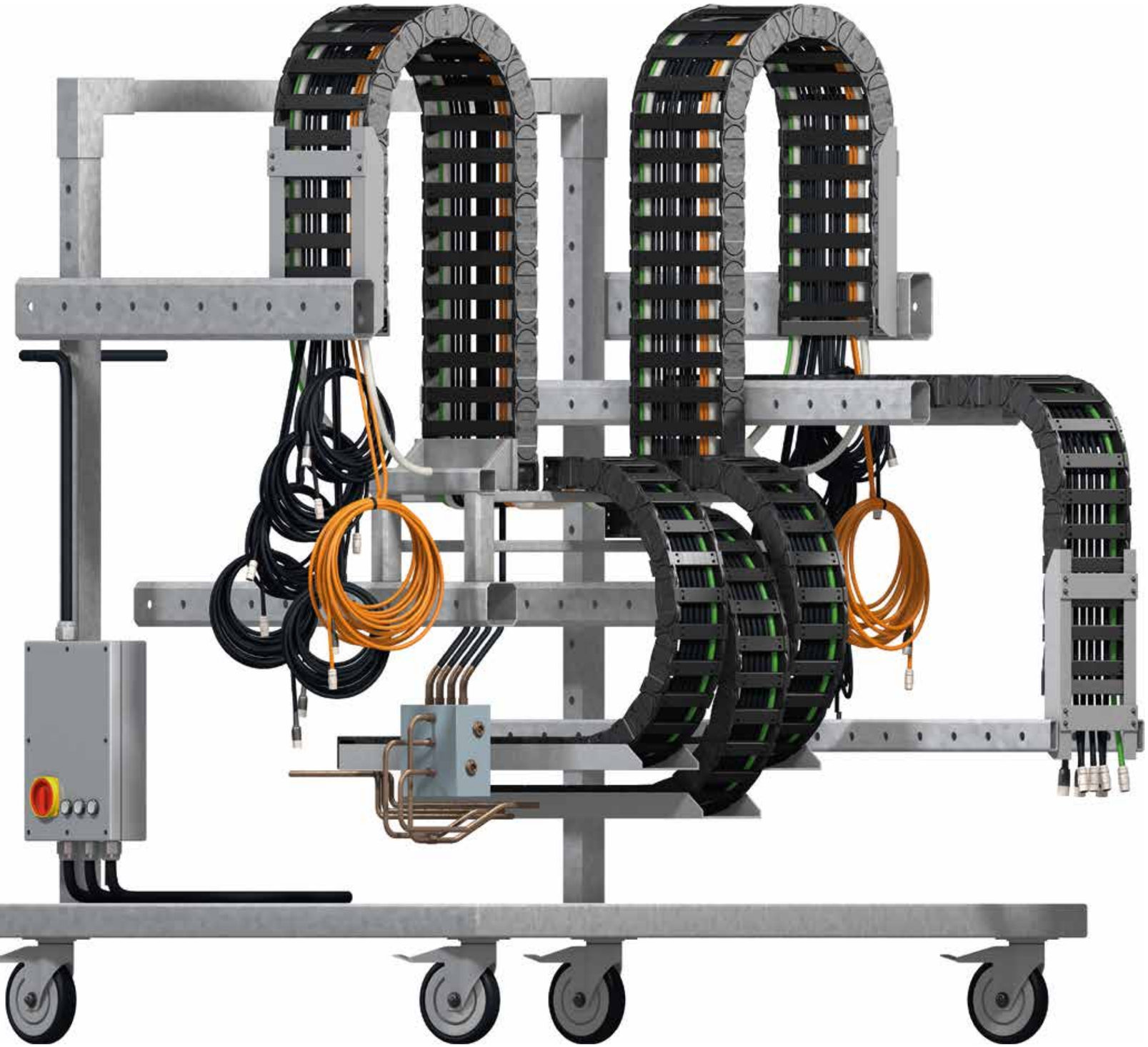
igus® e-chain systems® are clearly quieter. In the acoustic laboratory of the TÜV and the igus® GmbH different e-chains® were compared ▶ **Page 119**.

igumid

The material igumid is free from toxins, according to 2002/95/EC (RoHS)

Award-winning designs

Since 1987, 42 of our products have been honoured by "iF Forum Design GmbH" in the "Industry Design" category. The iF Design Award goes to especially innovative and attractive products. We have also been among the winners of the reddot and German Design Award several times.
▶ **www.igus.eu/iF**



igus®
readychain® & readycable®

Ready-to-install energy supply systems.
Cables with connectors.
Minimise process costs.
Everything from one source.

Assembled energy supply systems, connectors and cables from igus®. Everything from one source, directly from the manufacturer, delivered quickly to your machine



Ready-to-install systems, from connectors through assembled cables up to complex energy supply modules, delivered in 1-10 days



Customer-specific production



From one off to mass production

readychains® - increase your capacity and cash flow quickly with igus®

- Reduce overhead costs
- Reduce your throughput times from days to hours
- Respond flexibly to order variations
- Utilise igus® manufacturing capacities and our know-how in cable assembly

Reduce the number of suppliers and orders by 75%

- One order, one invoice, one delivery
- A partner for minimal machine downtimes
- All readychain® components are subjected to extensive quality checks and function tests

Industrially harnessed energy chain modules direct from the manufacturer ... You decide the quantity, the travel and the degree of harnessing ...

3 Benefits: readychain® basic



1. ONE supplier - combine all component suppliers
2. Reduce assembly time
3. Reduce failures

Reduction of assembly time
Reduction of logistics cost
Procurement optimisation

Further information, videos, configurators and product finders
▶ www.igus.eu/RCbasic

6 Benefits: readychain® standard



4. No electrical termination needed
5. 100% digitally tested
6. No cable surplus

Reduction of assembly time
Reduction of logistics cost
Procurement optimisation

Further information, videos, configurators and product finders
▶ www.igus.eu/RCstandard

9 Benefits: readychain® standard+



7. Reduce interfaces
8. Optimise connections/interfaces
9. Ready-to-install multi-axis system

Reduction of assembly time
Reduction of logistics cost
Procurement optimisation

Further information, videos, configurators and product finders
▶ www.igus.eu/RCstandard+

13 Benefits: readychain® premium



10. Optimise your transport / assembly
11. One single assembly
12. One Part No. / Product group
13. Plug & Play

Reduction of assembly time
Reduction of logistics cost
Procurement optimisation

Further information, videos, configurators and product finders
▶ www.igus.eu/RCpremium

Up to 1,600 readychain® systems per week, over 4,700m² floor space, "chain-cable-guarantee" since 1989. 3 shifts, 24 project engineers, 359 employees just for assembly



In the igus® readychain® factory, we assemble customised e-chain systems®.



Up-to-date production processes, custom-build or serial production



Full service from system acceptance to installation



14 readychain® factories worldwide



Customised cable assembly

1 Everything from one source

The readychain® system includes pre-assembled, customised e-chain systems®. The "Plug & Play" solutions are configured, manufactured and delivered according to individual customer specifications. The use of the mounting rack can yield benefits even at low quantities.



2 Flexible components

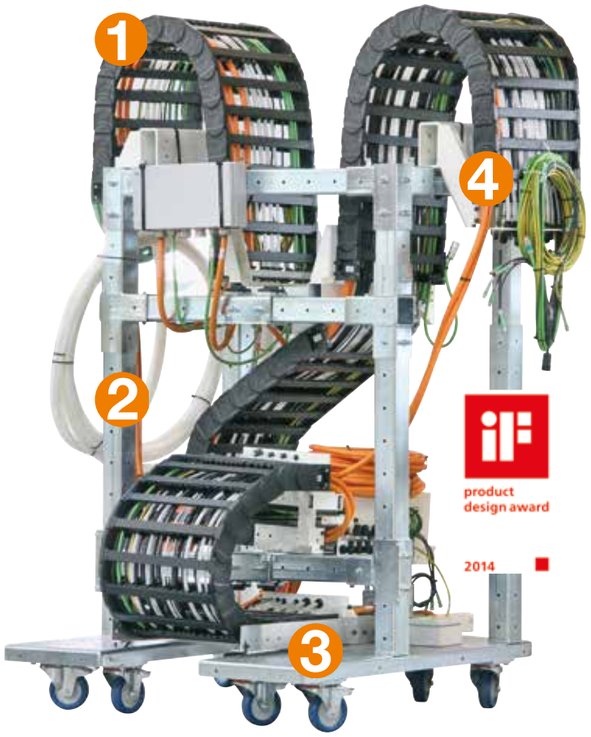
The telescopic supports and braces of the readychain® rack allow flexible adaptation to the installation needs on site. Changes in serial production can be undertaken easily. By using modular parts, additional components can also be easily attached to the rack.

3 Sustainable use

The components of the readychain® rack are galvanised and thus designed for a long life. Each rack can be constructed within a few hours. The individual elements can be reused at any time removing the need to dispose of custom made parts, such as conventional welded transport racks.

4 Precise fitting "Plug & Play"

All interfaces and attachments are designed in such a way that the installation of the e-chain® can be managed quickly and easily. The complete package includes the matching plugs and connectors, plates, sensor actuator boxes, linear bearings, links to the central lubrication etc., all reducing the installation time considerably.



80% savings during prototyping. Assembly transport rack for ready-to-install energy supply systems.





readychain® | Connectors, cables and accessories

igus® connectors



Round connector kit



Square connector kit



Tools and accessories

igus® readycable®



4,600 drive cables suitable for 24 manufacturers, in 7 cable qualities



Catalogue standards: video-/vision-/bus technology



Catalogue standards: network/ethernet/FOC/Field bus



Catalogue standards: CF.INI initiator cables up to 4 x d

igus® hoses and attachments



Configured online with hose cable configurator



readychain® | Configured, fitted, with system guarantee

1 System acceptance
2 Project phase
3 Initial acceptance of prototype
4 igus® installation



readychain® service

- We visit you
- Define interfaces
- Logistics planning
- Cycle integration
- Time schedule



System acceptance on your machine



readychain® service

- Component selection
- Interface optimisation
- Documentation
- Integrated project management
- Cost optimisation



Project planning



readychain® Skype service*

- Initial acceptance from your work place
- Build your prototype with an igus® project engineer, live in your meeting
- Your requests for changes explained with a model or visit us for production acceptance

*Only available in Germany



Prototype including transport rack



readychain® installation

- System installation by igus® specialists
- igus® supervision service for your own installation
- Transparent, fixed price



Installation on site

Capacity for 600,000 assembled cables a year, more than 18,000 test programmes, 1,800 test adapters



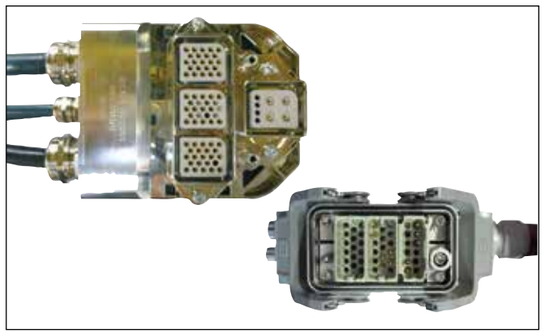
Process reliability - crimp forces monitored, automated and time-optimised



Computer-based high-voltage testing and inspection of all assembled cables



Modern machinery - automatic stripper-crimper



Special cable assemblies to your specifications





Unique guarantees for e-chains® and chainflex® cables

In our warehouse the material waits for your order and not your order for the materials!



igus® warehouse for e-chains®:

100,000 e-chain® components ... hundreds of metres of guide troughs ... numerous strain relief solutions



igus® warehouse für chainflex® cables:

5 million metres of cable ... 3,800m² test lab with more than 15,000 tests every year ... more than 8,000 cables per week



igus® warehouse for harnessing:

5,000 connector components ... everything ready for use immediately ... just-in-time

readycable® | From 24hrs ... for 24 manufacturers

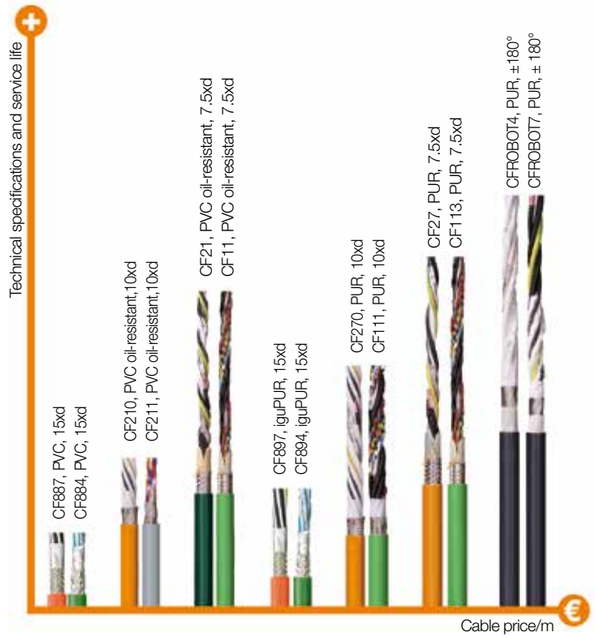
No. 1 in moving, harnessed cables for e-chains®

The most cost-effective cable for your drive

igus® offers 7 price levels with the same electrical properties for readycable® harnessed drive cables to your requirements:

- From ± 180° torsion to small movements
- From the smallest to the largest radii
- For outdoor or indoor applications
- Seven different outer jacket materials
- As chainflex® measuring system and servo cables

Find drive cable and calculate the savings potential
▶ www.igus.eu/readycable-finder



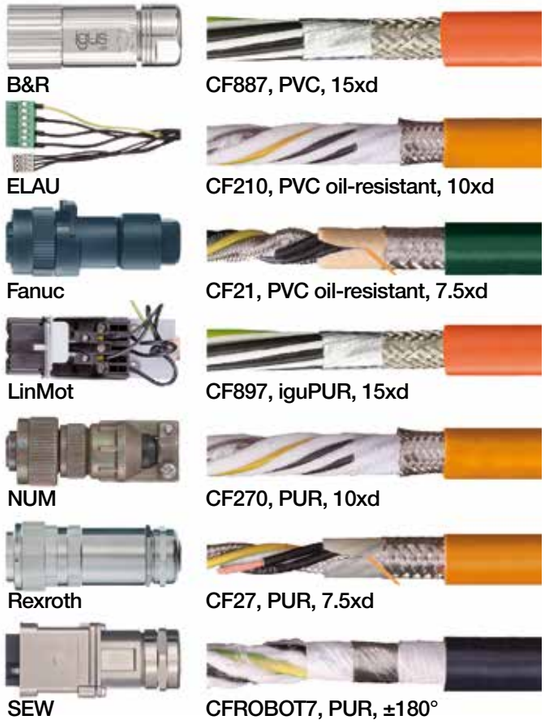


Harnessed drive cables - your alternative to 24 manufacturers

... Allen Bradley ... B&R ... Baumüller ... Beckhoff ... Berger Lahr ... Control Techniques ... Danaher Motion ... ELAU ... Fagor ... Fanuc Festo ... Heidenhain ... Jetter ... Lenze ... LinMot ... LTi DRiVES ... Mitsubishi Electric ... NUM ... Omron ... Parker ... Rexroth ... SEW ... Siemens ... Stöber ...

readycable® | From 24hrs ... 100% tested ... with guarantee

Example:



- Always find the most cost-effective solution for your application
- Seven price levels with the same electrical properties
- 4,600 drive cables suitable for 24 manufacturers, in 7 cable qualities
- With up to 36 months guarantee for every chainflex® cable
- To your required length
- No cutting charges
- Each cable electrically tested
- Configure drive cables online
- Fast delivery - up to 25 cables from the current catalogue range in 24hrs

60,000 test programmes

- High-voltage tests
- Digital continuity test
- 1,800 test adapters
- Custom tests

More information ▶ www.igus.eu/test

Predictable reliability ... tested!

- With up to 36 months igus® guarantee for every cable and e-chain®**
- More than 2.0 billion test strokes per year
- 1.4 million electric measurements per year
- Security for machine builders
- Clear statements on durability and service life
- Unique in the market (as of 10/2020)

More information ▶ www.igus.eu/chainflex-guarantee
▶ www.igus.eu/e-chain-guarantee





** The igus® e-chain® guarantee of up to 36 months is valid for the number of double strokes calculated according to the online service life calculator (www.igus.eu/info/energy-chains-service-life-calculator). The guarantee conditions available at [www.igus.eu/guarantee] apply.
*The igus® chainflex® guarantee of up to 36 months is valid for the number of double strokes calculated according to the online service life calculator (www.igus.eu/ChainflexTools/ServiceLifeCalculator). The guarantee conditions available at [www.igus.eu/guarantee] apply.

igus® installation service including guarantee

Improve technology and reduce costs with complete igus® systems













Save time and money - installation and maintenance of your e-chain system®

New installation

- Installation of a tailored e-chain system® on-site at your facility or your new plant
- Documentation and planning of the project at your construction site
- Configuration of the system interfaces and consulting by igus® engineering
- Fast and error-free installation on your machine
- Everything from one source - including customised system guarantee

Conversion / Modernisation / Retrofit

- Modernisation and implementation concept for the conversion of existing energy supply systems to e-chain systems®
- Increase your application capability or capacity
- Reduction of costs and energy consumption
- Increased service life
- Increased plant reliability and availability

Inspection

- Assessment of the technical condition of the your energy supply system
- Determination of the repair and maintenance requirements
- Reporting of deficiencies, risks and optimisation proposals
- Documentation of the plant condition in the inspection report

Maintenance

- Preventive maintenance of more complex e-chain systems® proactively recognise and address any damage or issues, therefore extending the service life of your system
- Adjustments on e-chains®, cables and strain reliefs
- Measurement, assessment, and documentation in the maintenance handbook

Repair / Service

- Prompt, flexible, and professional exchange and service on e-chain systems® and their components

From one source - components, service, and reliability

Your reliable plant
"Improving technology and reducing costs"

System guarantee up to 36 months
(depending on application)

Supervisor service | New installation | Installation support

igus® installation service

Inspection and maintenance | Repair service and maintenance | Modernisation and retrofit

igus® energy chains | igus® chainflex® cables | igus® harnessed system

Tested: igus® lab, Cologne

Development and production: igus® GmbH, Cologne



Fast, professional installation by specialised installation staff: saves installation time and cost, increases the service life, prevents failures.



Predictable igus® fixed prices for the installation and maintenance - saves you administrative work in planning and purchasing.



Predictable installation time for your system at your premises - helps you in schedule and contributes to high system availability.



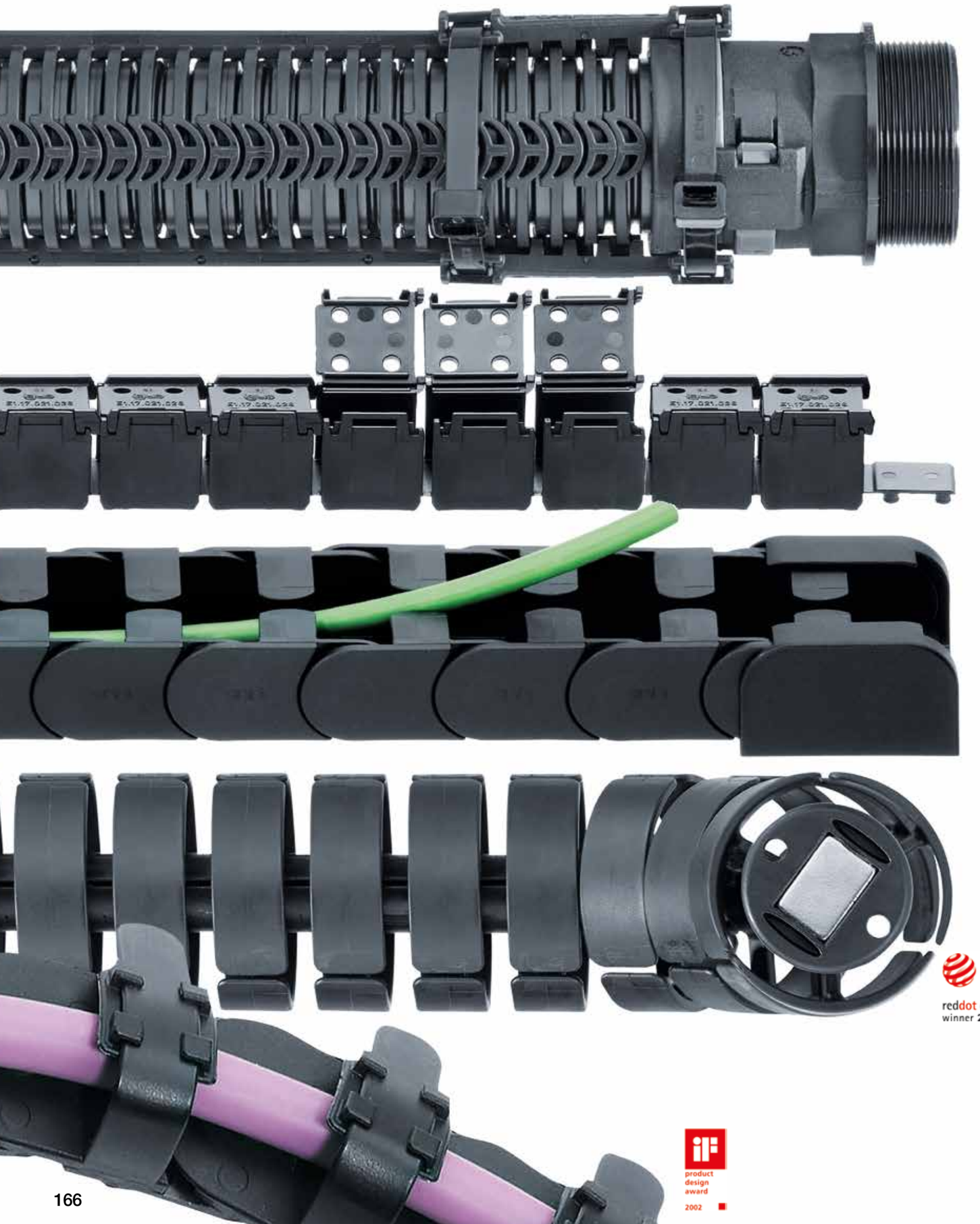
Short access routes through certified partner in your area - keeps travel and response times short and saves installation costs.



Short term, flexible installation dates even on weekends or at night - if you need immediate support or if the scheduled date has to be shifted. Simply give us a call and we will find a solution.



Everything from one source from the manufacturer - including customised system guarantee!: We will guide you! Ranging from the initial review to the system configuration, the delivery, and including the on-site installation of the system on your plant. You can refocus on your core business



igus® solutions for simple applications

- Reinforcement for existing corrugated tube systems - e-rib ▶ From page 168
- Cost-effective, one-piece strip design - E1 system ▶ From page 180
- Guide cable bundles quickly and easily - snapchain ▶ From page 188
- Cable guides for office and furniture - OCR office chain ▶ From page 194 and office e-chain® ▶ From page 202

reddot design award
winner 2018

product
design
award
2002



e-rib

Reinforcement for existing corrugated tube systems

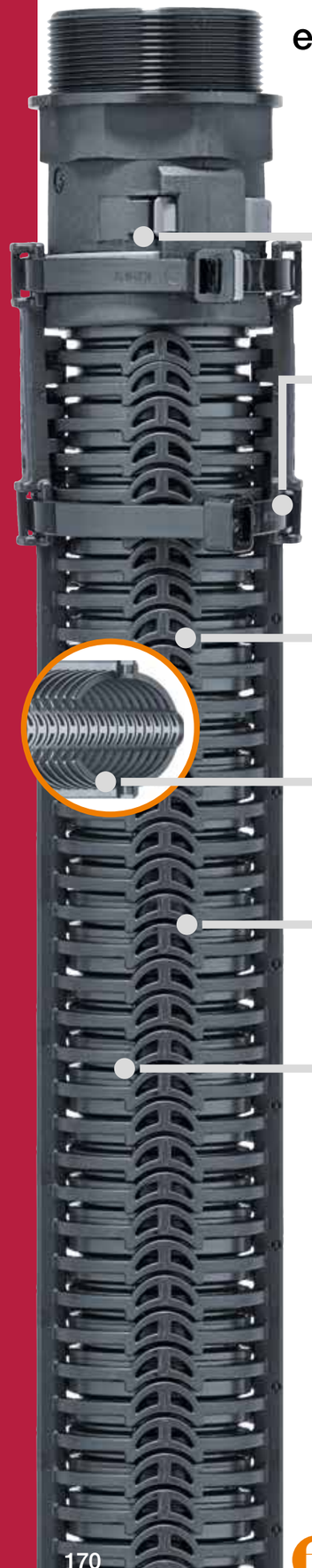
Advantages of the e-rib series:

- When low-cost corrugated tubes are used to protect and carry cables but stability must be increased
- To stabilise corrugated tubes used in highly dynamic applications
- Longer service life for cables in corrugated tubes
- 4 sizes for nominal hose widths NW23, NW29*, NW36 and NW48 available *NW29 for PMA corrugated tubes

When to use another system:

- If a fully enclosed, yet still openable corrugated tube is needed

▶ **e-skin®, page 812**



Mounting bracket: connector elements for secure fixing

Additional security: retention clips for greater dynamic responsiveness

Independent of hose manufacturer: 4 sizes for nominal hose widths NW23, NW29*, NW36 and NW48 available

*NW29 only for PMA corrugated tubes

Easy to retrofit: simply clip onto a corrugated hose

Space-saving: less installation space required

Strong: prevents unintentional sideways movement

Reinforcement for existing corrugated tube systems - e-rib

Corrugated tubes are used in many applications where the mechanical demands on the energy supply are low. The key advantages are easy, versatile and exceptionally cost-effective guidance of energy, data and media. However, fast movements can lead to damaging sideways movement. The igus® e-rib is easy to clip onto a corrugated hose and can help prevent this. The e-rib fills the joints of the corrugated hose to stabilise it in such a way that it can only move in one direction. The corrugated hose has an unsupported length due to the lateral guide elements. As a retrofit, the e-rib allows an upgrade of existing applications in just a few steps. The e-rib is independent of the hose manufacturer (depending on size) and available in four sizes.

- Strength prevents unintentional sideways movement
- Radius stop-dog to prevent buckling
- Small installation space required
- Easy to retrofit
- The corrugated remains full closed and sealed

Typical industries and applications

● Fast, short and unsupported applications ● Standing or hanging applications ● Automotive industry ● Machine and plant construction ● Pick & Place applications ● Plotter ● Handling systems ● Medical technology ● SCARA robots

More information ▶ www.igus.eu/e-rib

Series	Nominal width NW [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Mounting bracket	Page
 **e-rib -** reinforcement for existing corrugated tube systems						
EL.00.23.0	23	28	41	30	**EL.00.12**	**176**
EL.01.29.0 [1)]	29	34.5	44.5	35	**EL.01.12**	**177**
EL.00.36.0	36	42	56	43	**EL.00.12**	**178**
EL.00.48.0	48	54	68	54	**EL.00.12**	**179**

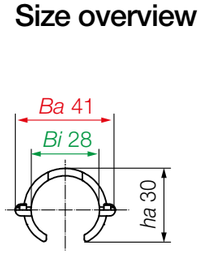
1) EL.01.29.0 only for PMA corrugated tube I-PISG-29B/S

Other sizes available upon request. Delivery time upon request.

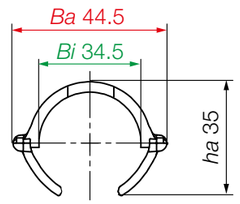
Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

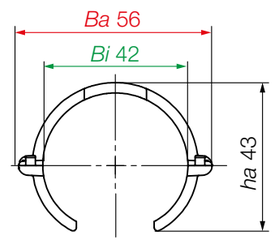
Size overview - e-rib



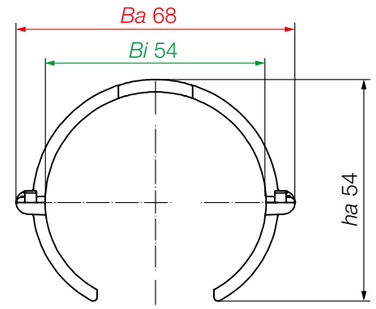
EL.00.23.0
Nominal width NW 23mm



EL.01.29.0 [1)]
Nominal width NW 29mm
1) Only for PMA corrugated tube I-PISG-29B/S



EL.00.36.0
Nominal width NW 36mm



EL.00.48.0
Nominal width NW 48mm

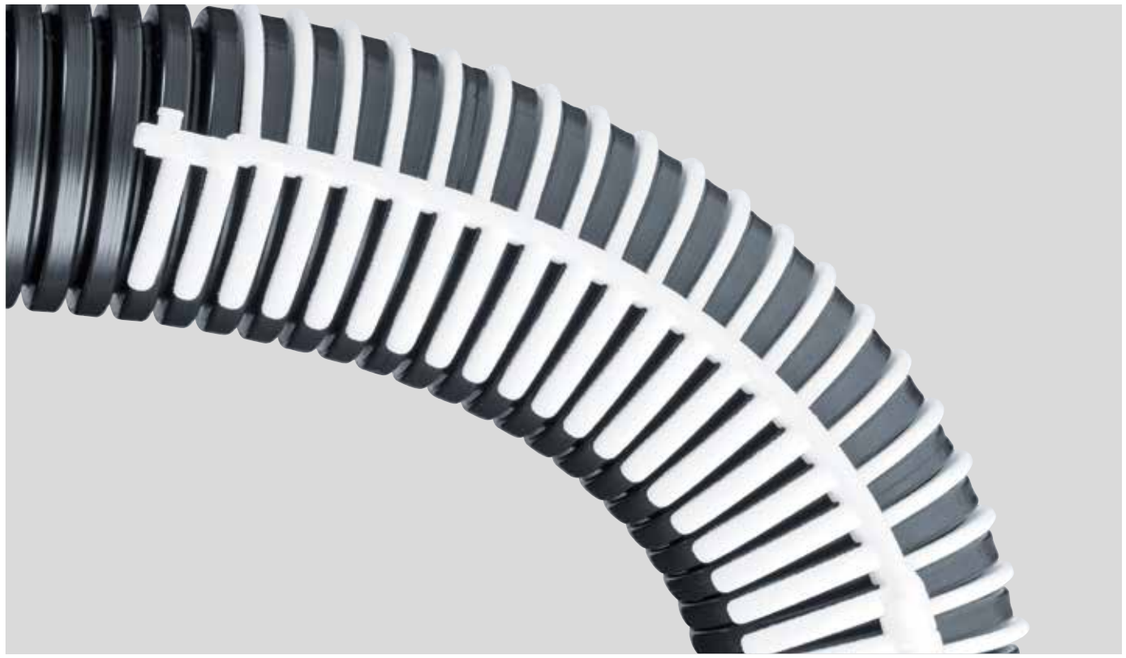
igus 3D CAD, configurators, service life calculation and more ▶ www.igus.eu/e-rib

Technical data

e-chain® material - permitted temperature °C, igumid NB	+5°C up to +80°C
Mounting bracket material - permitted temperature °C, igumid NB	+5°C up to +80°C
Flammability class	VDE 0304 IIC UL94-V2

Overview nominal width | Manufacturer | Pitch

Part No. e-rib	For nominal width NW [mm]	For corrugated tube systems	e-rib segments per 1 metre	e-rib segment length [mm]
EL.00.23.0	NW 23	Independent of manufacturer	7 segments	147mm
EL.01.29.0	NW 29	Only for PMA corrugated tube I-PISG-29B/S	10 segments	100mm
EL.00.36.0	NW 36	Independent of manufacturer	7 segments	147mm
EL.00.48.0	NW 48	Independent of manufacturer	7 segments	147mm



The e-rib is clipped onto the corrugated tube and stabilises it in such a way that it can only move in one direction

Order example | Order key and colour examples | Examples based on series EL.00.36

Order example for e-rib, colour black, with mounting bracket and securing clips for one metre corrugated tube (independent of manufacturer):

e-rib (for 1.0m)	Please indicate the quantity	EL.00.36.0
+ Mounting brackets	1 set mounting bracket	EL.00.12
+ Securing clips	**Option**: with 2 securing clips	EL.00.S
+ Cable tiewrap	**Option**: 1 cable tiewrap (for securing clips)	MAT0170899
Order text:	7 pieces EL.00.36.0 + 2 x EL.00.12 + 2 x EL.00.S + 1 x MAT0170899	

Order key

Example: Part No. e-rib **EL.00.36.0**

- Series e-rib
- Index **00** for all manufacturers Index **01** only for PMA
- Nominal width (NW)
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-ribs ready to ship in 24-48hrs.*

Above special colours upon request.

*Average time before the ordered goods are dispatched.



The igus® e-rib corrugated tube reinforcement can be easily retrofitted onto existing systems

1



igus® delivers the required length. Any excess length can easily be cut off.

2



To attach the e-rib to the hose fitting, there must be no connection point on the last 7 ribs of the e-rib, otherwise the mounting bracket will not lock securely.

3



If necessary, cut off thicker end section and any excess length and place the two mounting brackets on the side plates.

4



Finally, the mounting brackets are fixed with two cable tiewraps.

Find a video online
► www.igus.eu/e-rib



Tests from the igus® laboratory: The igus® e-rib (pictured on the right) stabilises the corrugated hose significantly in sideways movement during acceleration or deceleration



The e-rib stabilises the corrugated hose so that it can only move in one direction. With its lateral guide elements, the corrugated hose requires no support along its length due to the e-rib

e-rib | Series EL.00.23 | Product range

Reinforcement for existing corrugated tube systems

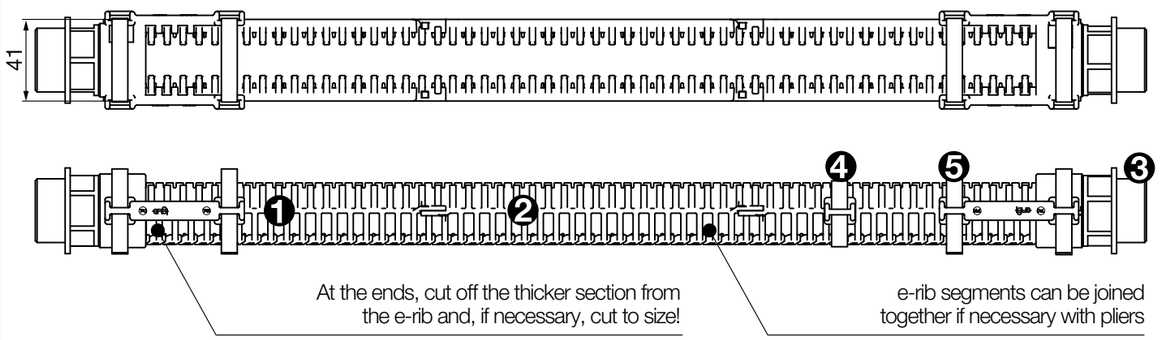
NW 23



EL.00.23 | e-rib for corrugated tubes from different manufacturers | Nominal width 23

Part No. e-rib	NW [mm]	*Bi* [mm]	*Ba* [mm]	*ha* [mm]	Segments per metre	Segment length [mm]	Weight [kg/m]	Mounting bracket
EL.00.23.0	23	28	41	30	7	147	≈ 0.16	EL.00.12

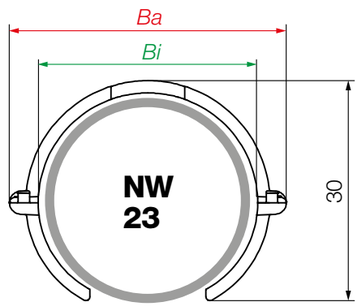
Installation dimensions and product description



Position	Designation	Part No.
❶	PMA corrugated tube	I-PISG-23B
❷	e-rib	EL.00.23
❸	PMA connection fitting	I-BVND-M323GT
❹	Securing clip, optional*	EL.00.S
❺	Mounting bracket connection set	EL.00.12

Note: For each locking device 2 clips EL.00.S and one cable tiewrap MAT0170899 are required!

*Securing clips for additional attachment. They can be placed anywhere on the e-rib and fixed to the corrugated tube with a cable tiewrap.



e-rib | Series EL.01.29 | Product range

Reinforcement for PMA corrugated tube I-PISG-29B/S

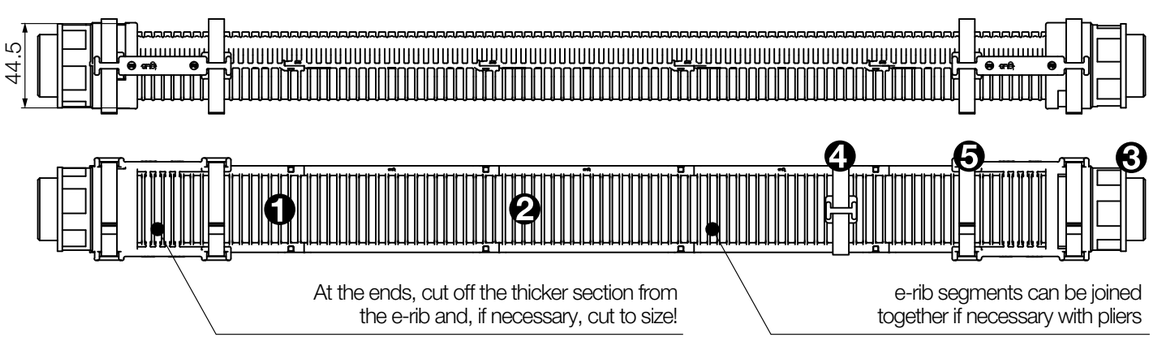
NW 29



EL.00.29 | e-rib - only for PMA corrugated tube I-PISG-29B/S | Nominal width 29

Part No. e-rib	NW [mm]	*Bi* [mm]	*Ba* [mm]	*ha* [mm]	Segments per metre	Segment length [mm]	Weight [kg/m]	Mounting bracket
EL.01.29.0	29	34.5	44.5	35	10	100	≈ 0.12	EL.01.12

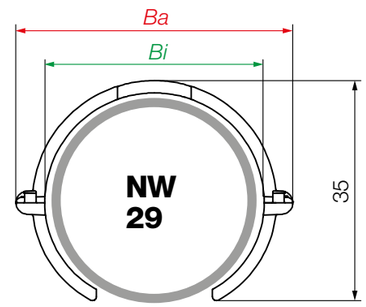
Installation dimensions and product description



Position	Designation	Part No.
❶	PMA corrugated tube	I-PISG-29B
❷	e-rib	EL.01.29
❸	PMA connection fitting	I-BVND-P299GT
❹	Securing clip, optional*	EL.01.S
❺	Mounting bracket connection set	EL.01.12

Note: For each locking device 2 clips EL.01.S and one cable tiewrap MAT0170899 are required!

*Securing clips for additional attachment. They can be placed anywhere on the e-rib and fixed to the corrugated tube with a cable tiewrap.



e-rib | Series EL.00.36 | Product range

Reinforcement for existing corrugated tube systems

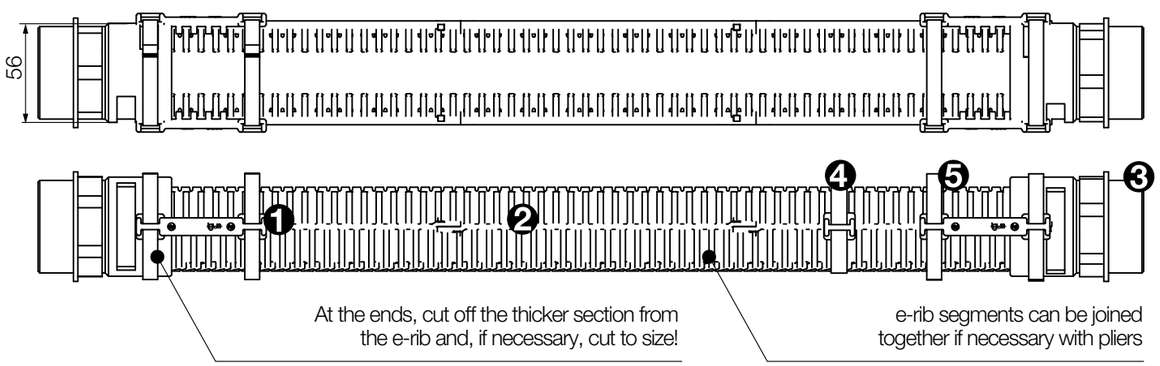
NW 36



EL.00.36 | e-rib for corrugated tubes from different manufacturers | Nominal width 36

Part No. e-rib	NW [mm]	*Bi* [mm]	*Ba* [mm]	*ha* [mm]	Segments per metre	Segment length [mm]	Weight [kg/m]	Mounting bracket
EL.00.36.0	36	42	56	43	7	147	≈ 0.22	EL.00.12

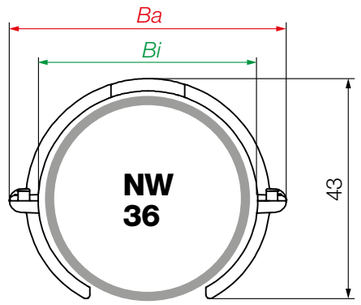
Installation dimensions and product description



Position	Designation	Part No.
❶	PMA corrugated tube	I-PISG-36B
❷	e-rib	EL.00.36
❸	PMA connection fitting	I-BVND-M506GT
❹	Securing clip, optional*	EL.00.S
❺	Mounting bracket connection set	EL.00.12

Note: For each locking device 2 clips EL.00.S and one cable tiewrap MAT0170899 are required!

*Securing clips for additional attachment. They can be placed anywhere on the e-rib and fixed to the corrugated tube with a cable tiewrap.



e-rib | Series EL.00.48 | Product range

Reinforcement for existing corrugated tube systems

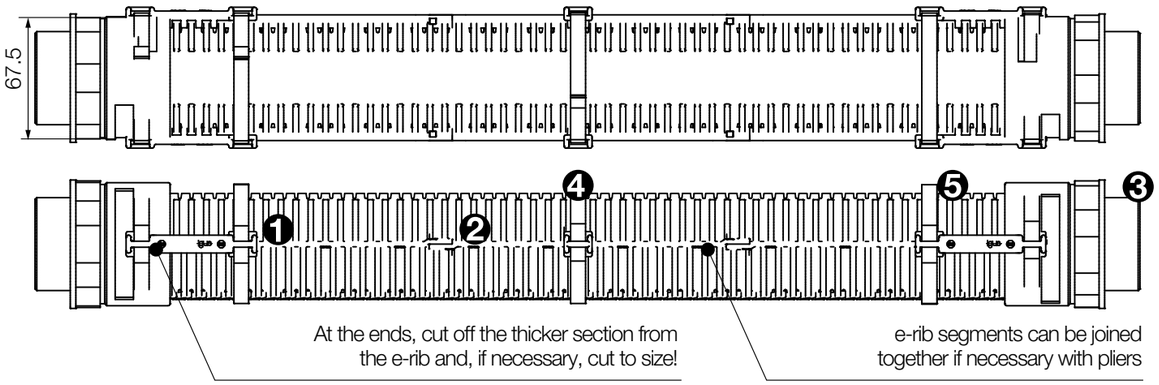
NW 48



EL.00.48 | e-rib for corrugated tubes from different manufacturers | Nominal width 48

Part No. e-rib	NW [mm]	*Bi* [mm]	*Ba* [mm]	*ha* [mm]	Segments per metre	Segment length [mm]	Weight [kg/m]	Mounting bracket
EL.00.48.0	48	54	68	54	7	147	≈ 0.27	EL.00.12

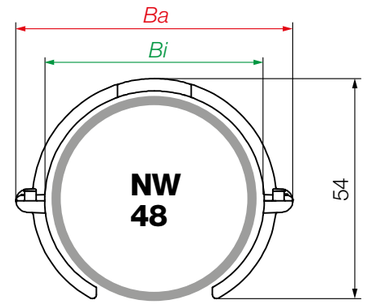
Installation dimensions and product description



Position	Designation	Part No.
❶	PMA corrugated tube	I-PISG-48B
❷	e-rib	EL.00.48
❸	PMA connection fitting	I-BVND-M508GT
❹	Securing clip, optional*	EL.00.S
❺	Mounting bracket connection set	EL.00.12

Note: For each locking device 2 clips EL.00.S and one cable tiewrap MAT0170899 are required!

*Securing clips for additional attachment. They can be placed anywhere on the e-rib and fixed to the corrugated tube with a cable tiewrap.





E1

Cost-effective, one-piece strip design for simple applications

Advantages of the E1 series:

- If a small amount of filling is required
- If a cost-effective e-chain® is required
- If easy installation is required
- If a simple solution is required
- For low duty cycles

When to use another e-chain® series:

- For higher fill weights
  - ▶ **easy chain®, page 212**
  - ▶ **zipper, page 240**
- When easy filling with connectorised cables is required
  - ▶ **easy chain®, page 212**



Easy to lengthen: strips can simply be snapped together

Easy shortening: just separate at each strip

Save time: easy to fill due to openable lids

Cost-effective: lightweight and low-priced

Space-saving: compact design with smooth contour

Variety of options: different materials and colours available upon request

Practical: easy attachment to the machine

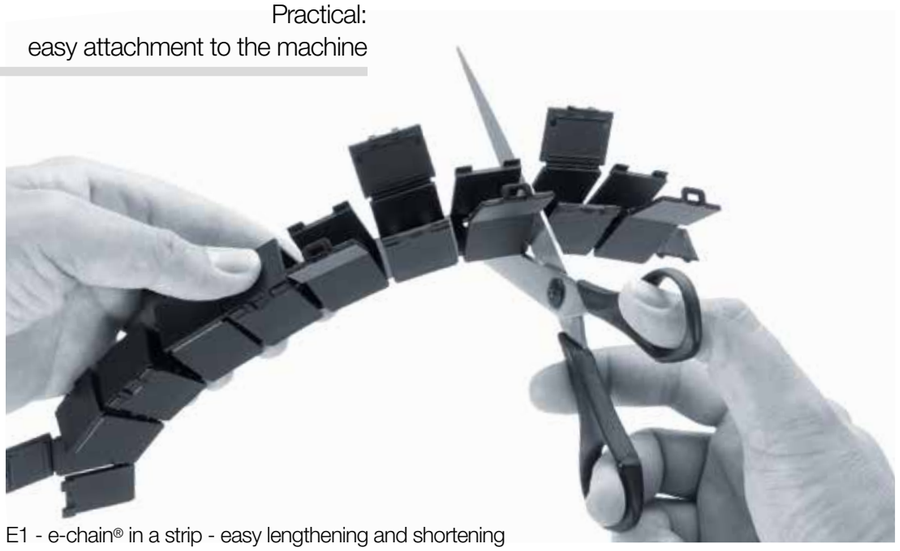
Cost-effective, one-piece strip design for simple applications - E1

Modular, one-piece strip for simple applications - the new E1 make additional applications possible where energy chain were previously too expensive. E1 is cost-effective with large numbers, quick to mount and provides a system of order and safety for the constantly moving cables.

Typical industries and applications

● Automotive sector ● Office equipment ● Vending machine manufacturing ● Electronic equipment ● Light engineering etc.

UL94-V2 classification



E1 - e-chain® in a strip - easy lengthening and shortening

More information ▶ www.igus.eu/E1

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Segment length [mm]	Page
							
e-chain® in a strip - openable along the outer radius							
E1.10.013	10	13	17	15.5	018	200	**184**
E1.17.021	17	21	26	25	028	255	**185**
E1.17.031	17	31	36	25	028	204	**185**
E1.17.044	17	44	49	25	028	255	**185**
E1.18.015	18	15	20	26	028	127.5	**186**
E1.20.015	20	15	22	27	028	250	**187**

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Technical data

e-chain® material - permitted temperature °C, igumid NB	Application dependant, upon request
Flammability class, igumid NB	**VDE 0304 IIC UL94-V2**

Order example | Order key and colour examples | Examples based on series E1.17

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate number of segments	**E1.17.044.028.0**
Order text:	**5 x E1.17.044.028.0**	

Order key

Openable along the outer radius **E1.17.044.028.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

E1 | Series E1.10 | Product range

e-chain® in a strip, smallest size

10

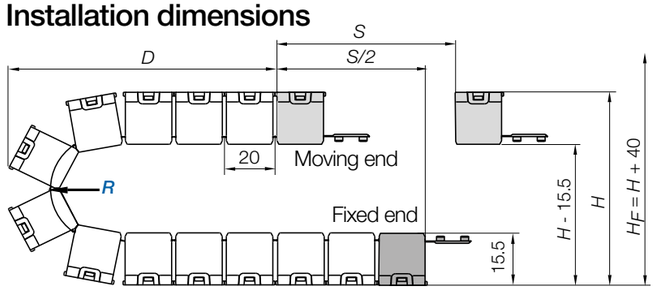


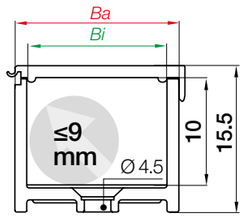
e-chain® | Series E1.10 | Openable along the outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/segment]
E1.10.013.R.0	13	17	| 018 |	≈ 0.0164

Complete Part No. with required radius (*R*). Example: **E1.10.13.018.0**

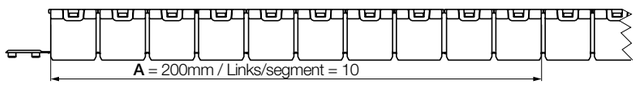
Installation dimensions





Inner height [mm]	10
Pitch [mm/link]	20
Segment/m	5
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

Series	Segment length A [mm]	Links/segment	Segments/m
E1.10.013.	200	10	5 (1.000 mm)



R	018
H	62
D	66
K	100

The required clearance height:

$H_F = H + 40$mm

More radii available upon request, please consult igus®.

E1 | Series E1.17 | Product range

e-chain® in a strip, small size

17

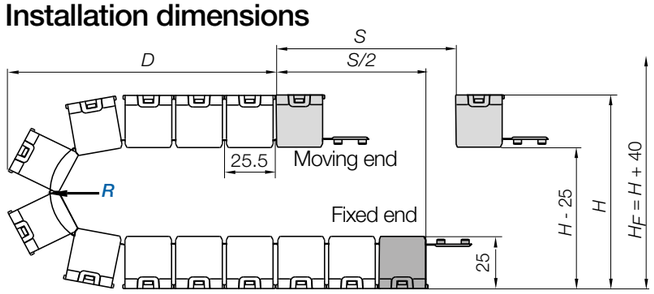


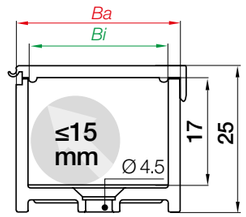
e-chain® | Series E1.17 | Openable along the outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/segment]
E1.17.021.R.0	21	26	| 028 |	≈ 0.0478
E1.17.031.R.0	31	36	| 028 |	≈ 0.0580
E1.17.044.R.0	44	49	| 028 |	≈ 0.0695

Complete Part No. with required radius (*R*). Example: **E1.17.021.028.0**

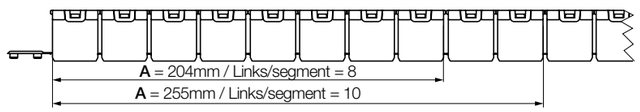
Installation dimensions





Inner height [mm]	17
Pitch [mm/link]	25.5
Segment/m	4 or 5
corresponds to [mm]	1,020
e-chain® length	$L_K = S/2 + K$

Series	Segment length A [mm]	Links/segment	Segments/m
E1.17.021.	255	10	4 (1.020 mm)
E1.17.031.	204	8	5 (1.020 mm)
E1.17.044.	255	10	4 (1.020 mm)



R	028
H	92
D	76
K	120

The required clearance height:

$H_F = H + 40$mm

More radii available upon request, please consult igus®.

Mounting brackets for the series E1.17.021



Compact, universal mounting bracket for E1.17.021: Part No. **E1.170.021.TS** - for easy attachment

E1 | Series E1.18 | Product range

e-chain® in a strip, small size

18

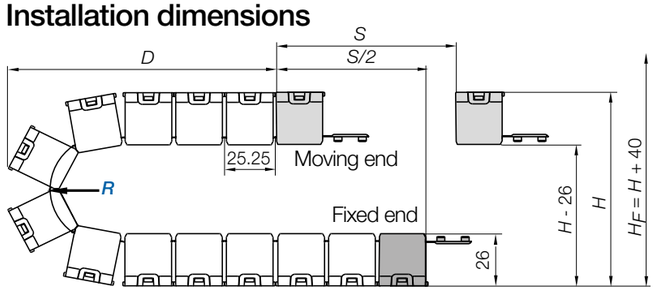


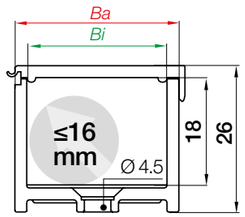
e-chain® | Series E1.18 | Openable along the outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/segment]
E1.18.015.R.0	15	20	| 028 |	≈ 0.0169

Complete Part No. with required radius (R). Example: **E1.18.15.028.0**

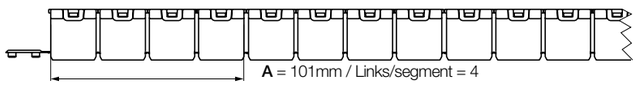
Installation dimensions





Inner height [mm]	18
Pitch [mm/link]	25.25
Segment/m	10
corresponds to [mm]	1,010
e-chain® length	$L_K = S/2 + K$

Series	Segment length A [mm]	Links/segment	Segments/m
E1.18.015.	101	4	10 (1,010mm)



R	028
H	92
D	76
K	120

The required clearance height:

$H_F = H + 40$mm

More radii available upon request, please consult igus®.

E1 | Series E1.20 | Product range

e-chain® in a strip, lids open alternate sides

20

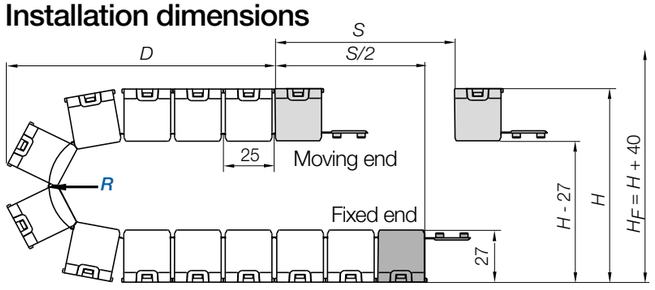


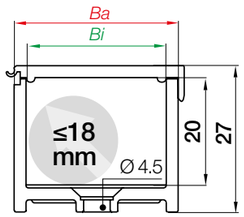
e-chain® | Series E1.20 | Openable along the outer radius | Lids open alternate sides

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/segment]
E1.20.015.R.0	15	22	| 028 |	≈ 0.0443

Complete Part No. with required radius (R). Example: **E1.17.021.028.0**

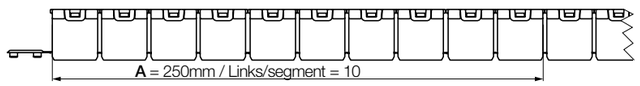
Installation dimensions





Inner height [mm]	20
Pitch [mm/link]	25
Segment/m	4
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

Series	Segment length A [mm]	Links/segment	Segments/m
E1.20.015.	250	10	4 (1.000 mm)



R	028
H	92
D	76
K	120

The required clearance height:

$H_F = H + 40$mm

More radii available upon request, please consult igus®.

snapchain

Assemble cable packages quickly in bundles

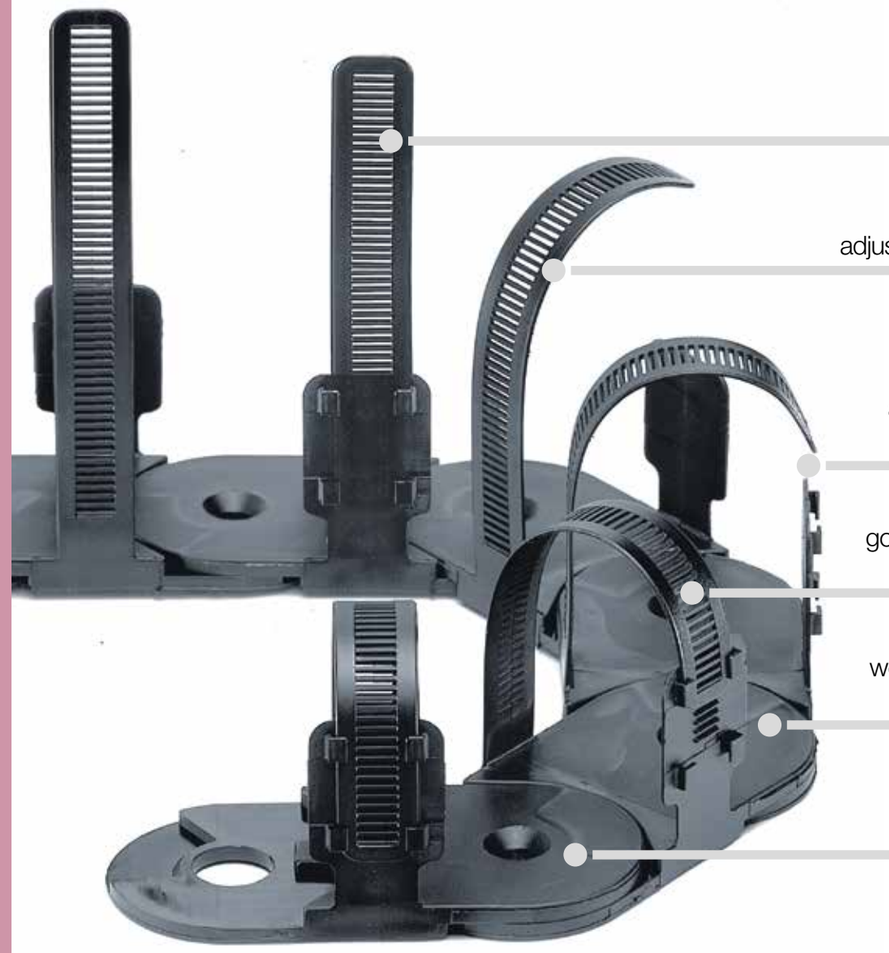
Advantages of the snapchain series:

- If a small amount of filling is required
- If a cost-effective e-chain® is required
- If easy installation is required
- If a simple solution is required
- For low duty cycles
- Various fastening options

When to use another e-chain® series:

- For higher fill weights
  - ► **easy chain®, page 212**
  - ► **zipper, page 240**
- When easy filling with connectorised cables is required
  - ► **easy chain®, page 212**

product design award 2002



Save time:
guide cable bundles quickly and easily

Flexible:
adjust and change at any time

Opening principle:
TE26 version can be opened along the outer and TZ26 can be opened along the inner radius

Cost-effective:
good alternative to complex hinged cable trays

Simple:
well-suited to short lengths, ideally 5 - 10 links

Flexible:
can be bent in 1 or 2 directions (***RBR***)

Guide cable bundles quickly and easily - snapchain

igus® snapchain cost-effective e-chains® for simple filling. snapchains are easy to assemble and cost-effective. If a simple solution for low duty cycles is required.

Typical industries and applications

● Switch cabinet construction ● Electrical equipment ● Computer cabinets ● Office furniture ● Whenever cables are moved infrequently

iF product design award
2002 igus® snapchain



Series	Loop length [mm]	Pitch [mm]	Bend radius *R* [mm]	Page
TE14.50	50	30.5	028 - 125	**192**
TE26.120	120	56	063 - 200	**193**
TZ14.50	50	30.5	028 - 125	**192**
TZ26.120	120	56	063 - 200	**193**



Version TE -
loops openable along the outer radius

Version TZ -
loops openable along the inner radius

Ready to ship in 3 weeks*
*Average time before the ordered goods are dispatched.

Technical data

e-chain® material - permitted temperature °C, igumid NB	**-40°C / +80°C**
Flammability class, igumid NB	**VDE 0304 IIC UL94-V2**

Order example | Order key and colour examples | Examples based on series TE26

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links	**TE26.120.100.0**
Order text:	**1m TE26.120.100.0**	

Order key

"TE" - split crossbar along outer radius **TE26.120.100.0**
"TZ" - split crossbar along the inner radius **TZ26.120.100.0**
Version "TE" or "TZ"
Series / Type
Length of loops
Bend radius *R*
Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Above special colours upon request.

snapchain | Series TE14·TZ14 | Product range



Guide cable bundles quickly and easily, small size



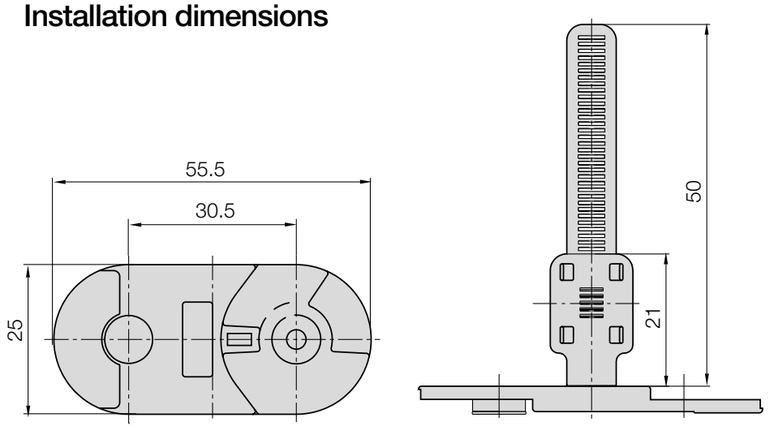
Version TE | Series TE14 | Loops open along the outer radius
Version TZ | Series TZ14 | Loops open along the inner radius

Part No. Version TE	Part No. NC version	*R* Available bend radii [mm]	Weight [kg/m]
TE14.50.*R*.0 ◎	TZ14.50.*R*.0	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.15

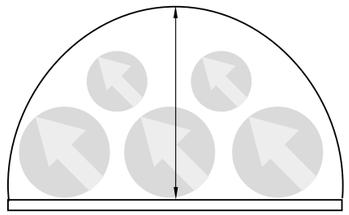
◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ From page 130

Complete Part No. with required radius (*R*). Example: **TE14.50.100.0**

Installation dimensions



Loop length [mm]	50
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = s/2 + K$



Cable package max.: 18mm

snapchain | Series TE26·TZ26 | Product range



Guide cable bundles quickly and easily, large size



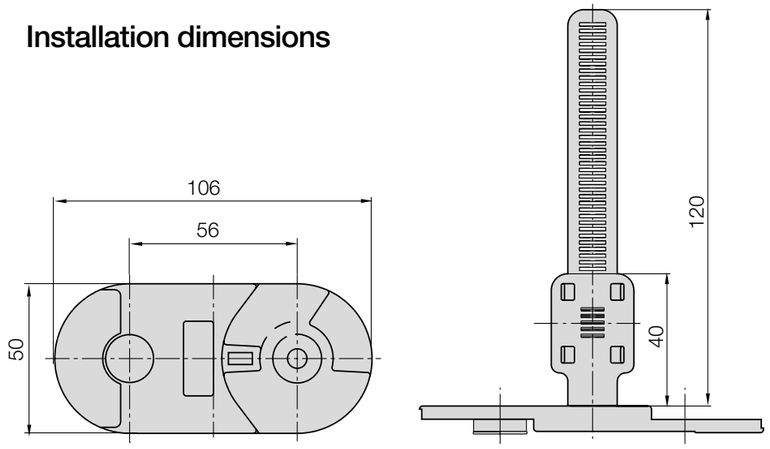
Version TE | Series TE26 | Loops open along the outer radius
Version TZ | Series TZ26 | Loops open along the inner radius

Part No. Version TE	Part No. NC version	*R* Available bend radii [mm]	Weight [kg/m]
TE26.120.*R*.0 ◎	TZ26.120.*R*.0	| 063 | 075 | 100 | 125 | 150 | 200 |	≈ 0.43

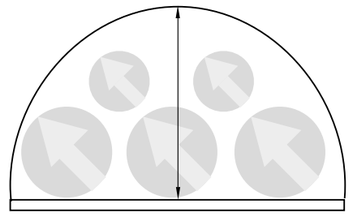
◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ From page 130

Complete Part No. with required radius (*R*). Example: **TE26.120.100.0**

Installation dimensions



Loop length [mm]	120
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = s/2 + K$



Cable package max.: 47mm



OCR

Award-winning design - moving energy made more practical - OCR office e-chain®

Advantages of the OCR office e-chain® series:

- Award-winning design - OCR office e-chain®
- Movable in all axes, round and square versions
- Simply press in or pull out cables with "easy" design
- Mounting brackets with magnets for easy attachment in seconds
- Flexible, locking or both combined

When to use another e-chain® series:

- If a closed outer side (half-tubes) is required
  ► **office e-chain®, from page 202**
- When an unsupported application is required
  ► **easy chain®, page 212**
- Where small semi-static applications are required
  ► **E1, page 180**



Mounting brackets with various attachment options

Can be attached with integrated magnets, adhesive strip or screws

Magnetic clips: for intermediate attachment of the OCR office chain at any point along its length

Save time: simply press cables in, with "easy" design

Abrasion-optimised: cable-friendly due to smooth interior

Flexible use: the OCR can be locked (compressed) and flexible (extended)

Colours: different colours available upon request

Stylish: reddot design award winner 2018

reddot design award winner 2018

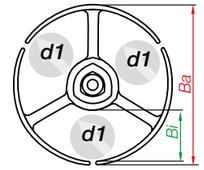
Award-winning design - moving energy made more practical - OCR office e-chain®

Routing cables at home or in the office is often a difficult task. Numerous cables of printers, monitors and other devices need to be organised. With the OCR office e-chain® from igus®, this is done in a flash. The highlight of this e-chain® is that you can implement both movable and locked guides and also combine them if required: e-chains® links extended = flexible, compressed = locking. The mounting brackets can be used to tape the chain on, attach it with screws or secure it in different places with magnets.
The intermediate bracket makes it possible to attach parts of the e-chain® to metal surfaces with metal clips.

- Intermediate bracket can simply be clipped onto the e-chain® at any point.
- Can be attached with integrated magnets, adhesive strip or screws
- Flexible fitting
- Each OCR e-chain® link can be used either as flexible or locked
- Mounting bracket with magnets for easy attachment
- Different colours upon request
- reddot design award winner 2018

Typical industries and applications

● Office equipment ● Furniture making ● IT systems ● Wherever cables have to be routed neatly

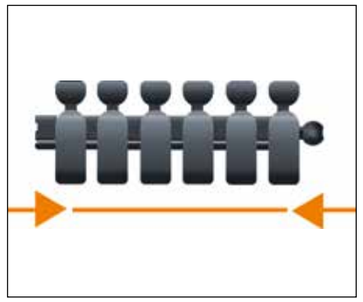
Series	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Number of chambers	Max. cable ø *d1* [mm]	Pitch 1) [mm]	Pitch 2) [mm]	Page
 **OCR office e-chain®** flexible, locked or both, with "easy" design - simply push in the cables 							
OCR.50	3 x 14.5	50	3	13	25	20	200

1) when compressed 2) when extended

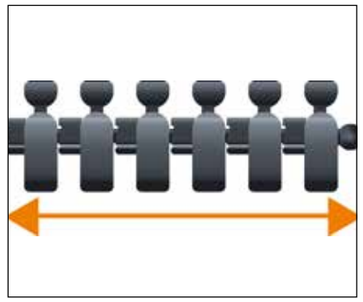
Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

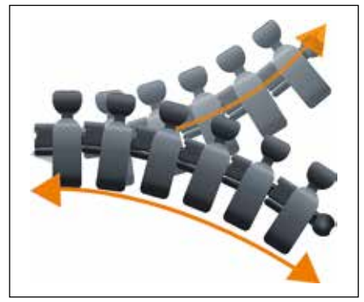
OCR | Design | Features



The OCR is locked when compressed ...



... to extend the OCR cable guide, simply pull it apart ...



... and flexible when extended



The mounting brackets can be glued in place, attached with integrated magnets or ...



... or simply screwed in.



The intermediate bracket makes it possible to attach parts of the e-chain® to metal surfaces with metal clips.

Technical data

e-chain® material - permitted temperature °C, igumid NB	**-40°C / +80°C**
Mounting bracket material - permitted temperature °C, igumid NB	**-40°C / +80°C**
Intermediate bracket material - permitted temperature °C, igumid NB	**-40°C / +80°C**
Flammability class, igumid NB	**VDE 0304 IIC UL94-HB**

Order example | Order key and colour options

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and intermediate brackets:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 40 links	**OCR.50.0**
+ Mounting brackets	1 set	**OCR.500.12**
+ intermediate bracket	piece, depending on application / customer request*.	**OCR.500.3**

Order text: **1m OCR.50.0 + OCR.500.12 (+ X piece* OCR.500.3)**

Order key

Split crossbar along the outer radius

OCR.50.0

- Series / Type
- Width index (depends on *Ba*)
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

Simple cable guidance system for office furniture - OCO

The OCO.20 (Office Chain Oval) design study is a simple cable guidance system for office furniture. It is movable in two directions and impresses with its timeless, clear design. It can also be shortened or lengthened and attached very easily.

Upon request, more information ▶ www.igus.eu/OCO





With the OCR office e-chain® that is movable in all axes - create order in the office quickly and easily



When compressed, the e-chains® links are locking and can also be used as unsupported upright links



Flexible connection options for almost any application

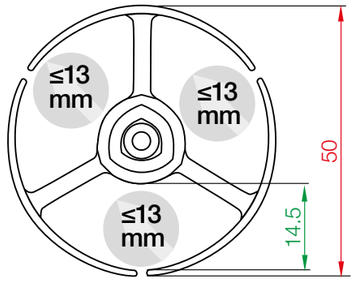
OCR office chain | Series OCR.50 | Product range

Flexible cable guidance for office and furniture



Series OCR.50 | "easy" design, simply press cables in

Part No. e-chains®	Bi [mm]	Ba [mm]	Number of chambers	Weight [kg/m]
OCR.50	3 x 14.5	50	3	≈ 0.32

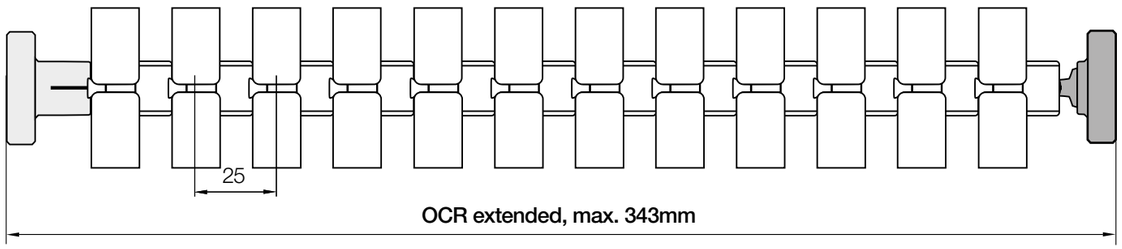


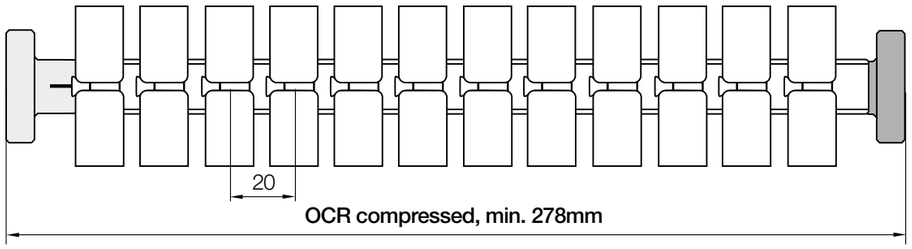
Installation dimensions

OCR extended, flexible	
Inner height [mm]	14.5
Pitch [mm/link]	25
Links/m	40
corresponds to [mm]	1,000

OCR compressed, locked	
Inner height [mm]	14.5
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000

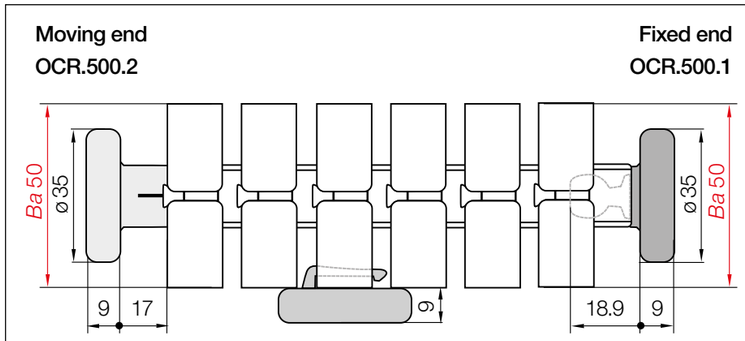
Sample length OCR | With 12 e-chain® links

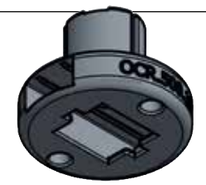




OCR office e-chain® | Series OCR.50 | Accessories

Mounting brackets, polymer with block magnets





Mounting bracket
OCR.500.1



Mounting bracket
OCR.500.2

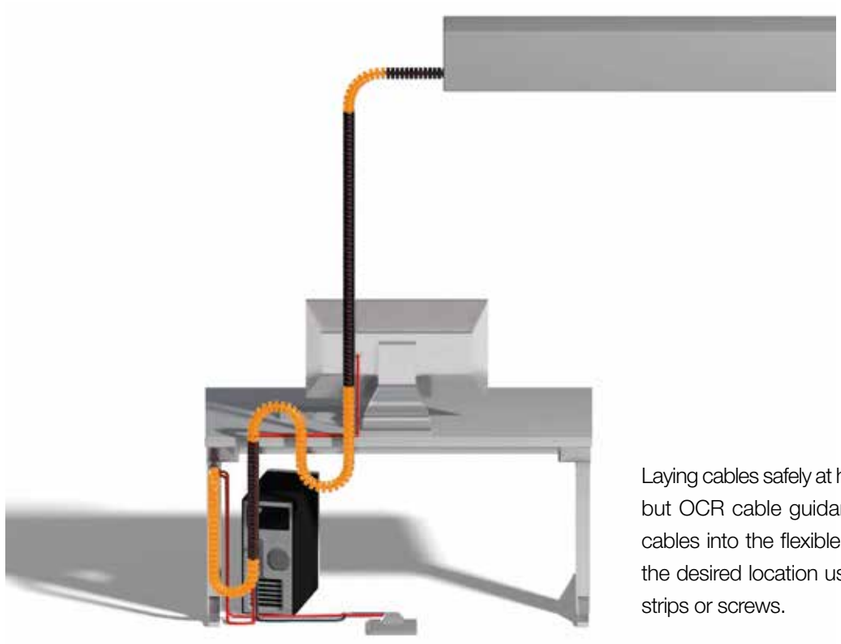


Intermediate link
OCR.500.3
With the intermediate bracket, the OCR can be fixed at defined distances

Moving end
Fixed end

Part No. Full set	Part No. intermediate link, individual part	ø [mm]
OCR.500.12	OCR.500.3	35

Intermediate bracket can simply be clipped onto the e-chain® at any point.



Laying cables safely at home or in the office can be a challenge, but OCR cable guidance makes it easy! Simply press the cables into the flexible furniture chain and install the OCR in the desired location using the integrated magnets, adhesive strips or screws.

office e-chain®

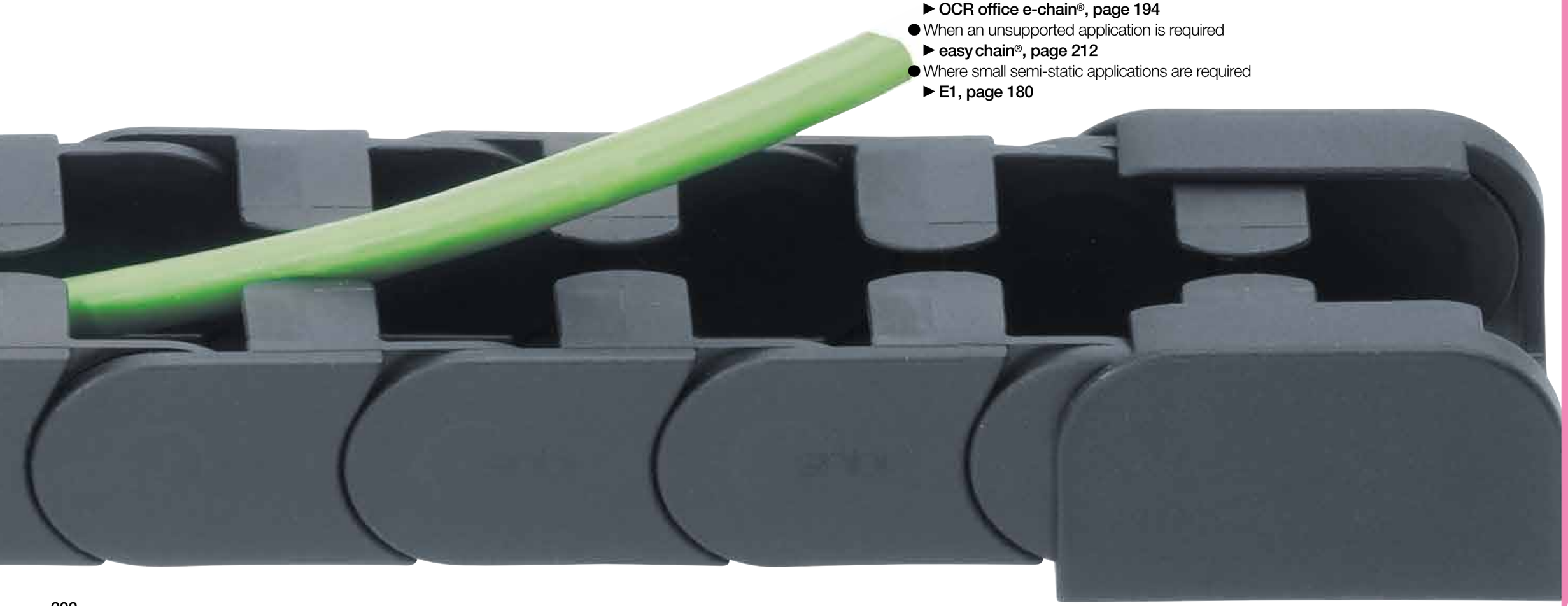
Cable guidance for office and furniture

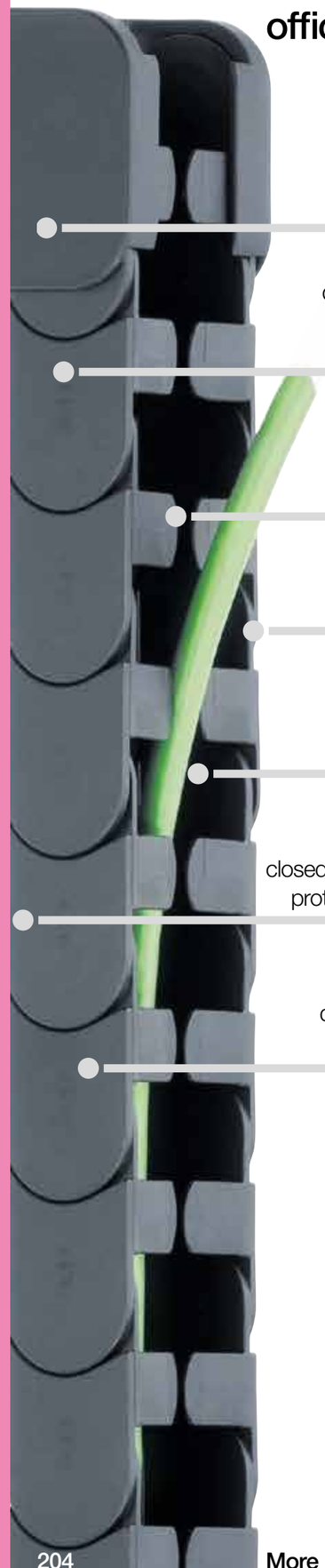
Advantages of the office e-chain® series:

- Aesthetic design
- Closed outer sides (half-tube)
- Easy to fill, even when installed
- Cable-friendly due to smooth interior
- UL94-V2 certified e-chain®
- Mounting brackets can be either screwed or bonded due to the large flat surface on the bottom

When to use another e-chain® series:

- When a multi-axis solution is required
  ► **OCR office e-chain®, page 194**
- When an unsupported application is required
  ► **easy chain®, page 212**
- Where small semi-static applications are required
  ► **E1, page 180**





Mounting brackets: the e-chain® is easily clipped on

Stylishly simple: designed and developed especially for the furniture industry

Save time: simply press cables in, with "easy" design

Flammability class: UL94-V2

Abrasion-optimised: cable-friendly due to smooth interior

Protected: closed on the outside for cable protection and concealment

Colours: different colours available upon request

Cable guidance for office and furniture - office e-chain®

Cables fitted quickly, e-chain® attached quickly, attractive design, nice and tidy. This e-chain® was designed and developed especially for the furniture industry.

- Aesthetic design
- Closed outer sides (half-tube)
- Mounting brackets easy to clip on
- Easy to fill, even when installed with "easy" design
- Cable-friendly due to smooth interior
- UL94-V2-certified
- Mounting brackets can be either screwed or bonded due to the large flat surface on the bottom

Typical industries and applications

● Electrically adjustable furniture ● Miscellaneous applications without highly dynamic movements

UL94-V2 classification

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Page
 **office e-chain®** "easy" design - split crossbar along the inner radius						
ZF14	21	38	46.6	25	028	208

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.



Mounting brackets suitable for moving and fixed ends. e-chain® clips on easily. Small barbs on mounting bracket lock onto the e-chain® opening crossbar.

Technical data

e-chain® material - permitted temperature °C, igumid NB	**-40°C / +80°C**
Mounting bracket material - permitted temperature °C, igumid G	**-40°C/+120°C**
Flammability class, igumid NB	**VDE 0304 IIC UL94-HB**
Flammability class, igumid G	**VDE 0304 IIC UL94-V2**

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Order example | Order key and colour options

Order example for complete e-chain® (1.0m), colour black, with mounting brackets:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 33 links	**ZF14.038.028.0**
Order text:	**1m ZF14.038.028.0**	

Order key

Split crossbar along the outer radius **ZF14.038.028.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.



Manage cables quickly and easily with the office e-chain®, the cable guide for offices and furniture

office e-chain® | Series ZF14 | Product range

Cable guidance for office and furniture

21

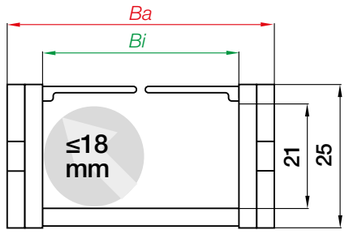


Version ZF14 | "easy" design, split crossbar along the inner radius

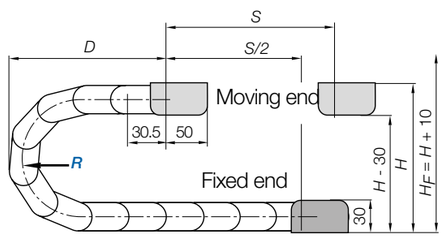
Part No.	Bi	Ba	R Available bend radii	Weight
e-chains®	[mm]	[mm]	[mm]	[kg/m]
ZF14.038.R.0	38	46.6	| 028 |	≈ 0.297

Complete Part No. with required radius (R). Example: **ZF14.038.028.0**

Installation dimensions



Inner height [mm]	21
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

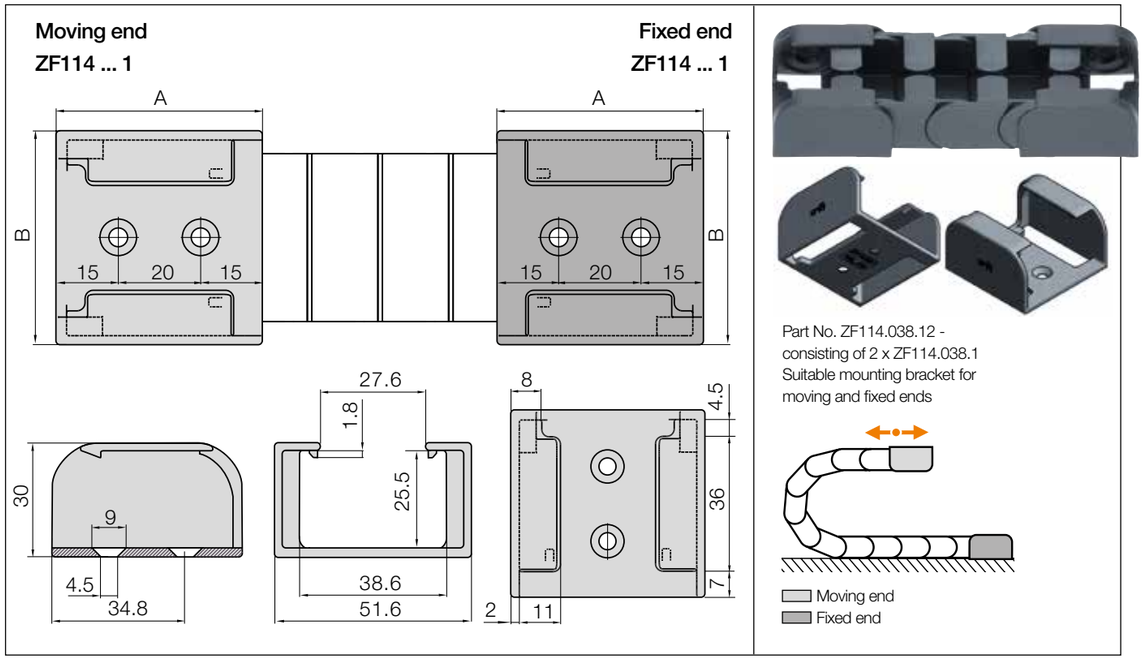


R	028
H^{+5}	86
D	116.5
K	211

The required clearance height: $H_F = H$ + **10mm** (with 0.2kg/m fill weight)

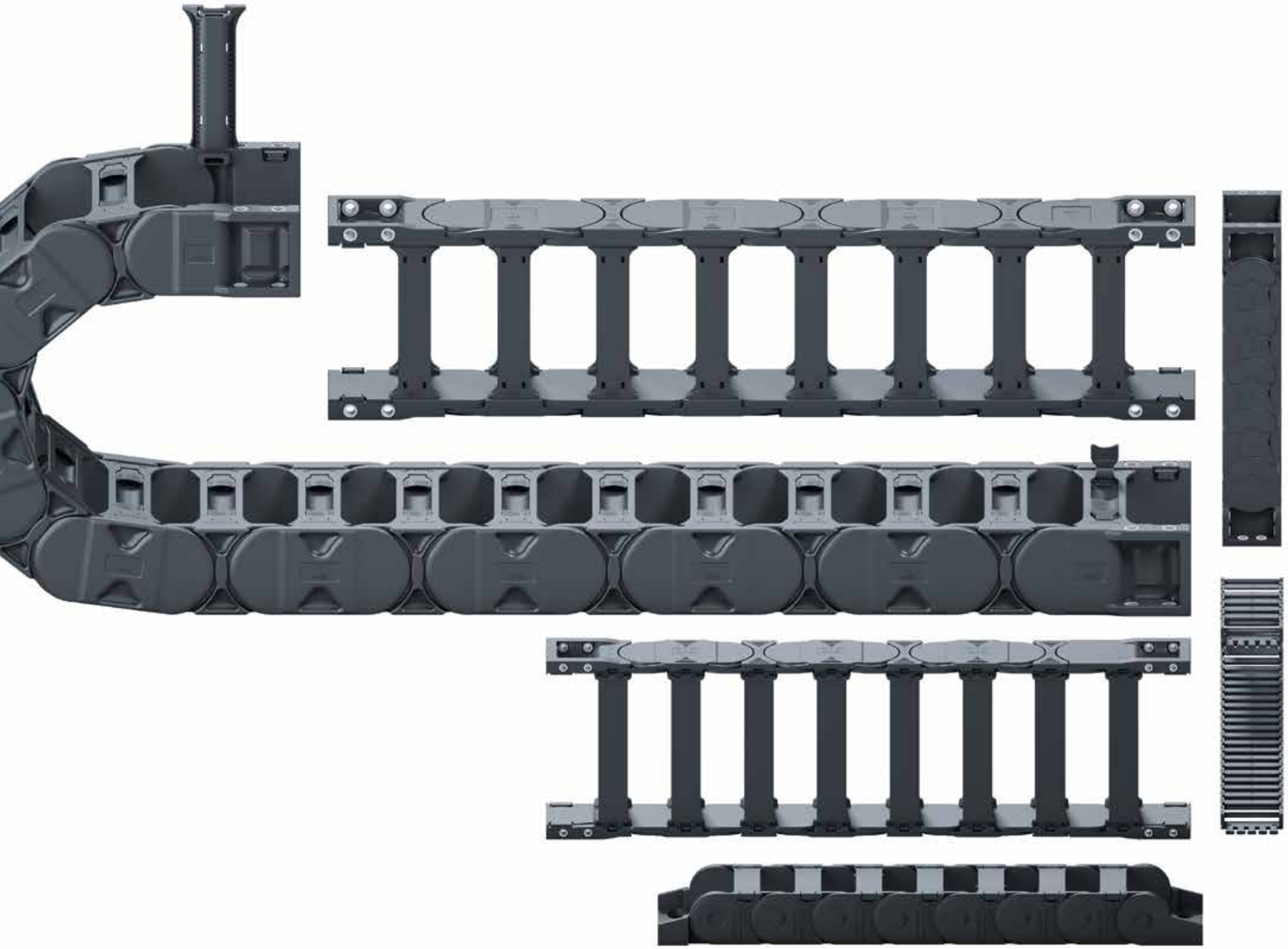
office e-chain® | Series ZF14 | Accessories

Mounting brackets, polymer one-piece



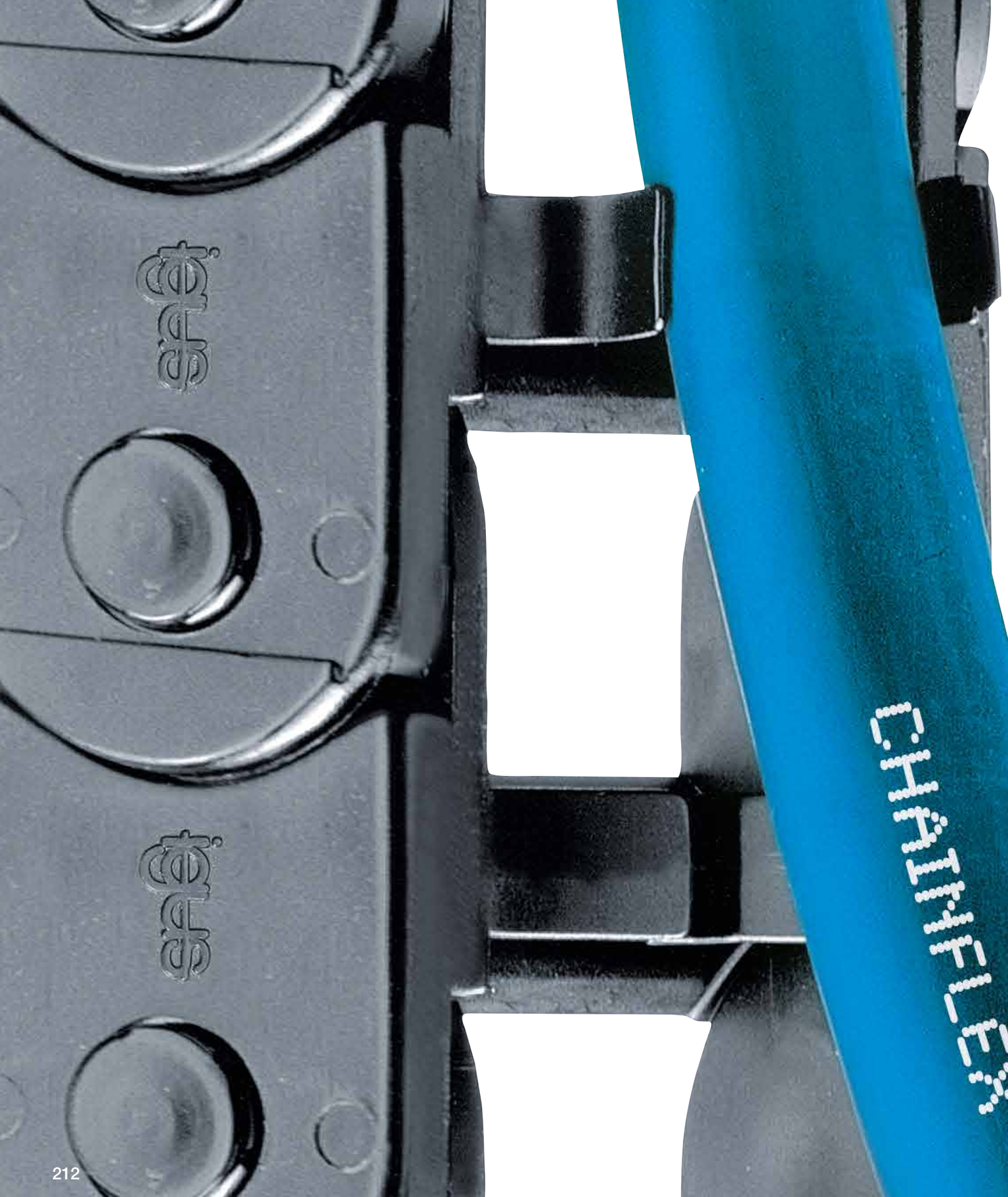
Width index	Part No. Full set	A [mm]	B [mm]
038 ▶	ZF114.038.12	51.6	50

Suitable mounting bracket for moving and fixed ends



igus®
e-chain-systems®

- Easy and fast filling
- All-rounders - small, medium - e-chains® and e-tubes
- e-tubes - protection against dirt and swarf
- Universal modular kit, e-chains® and e-tubes for any application
- igus® cleanroom energy supply systems, super quiet and with IPA cleanroom class 1 according to EN ISO 14644-1
- Hygienic design e-chain® with FDA compliance



easy chain®

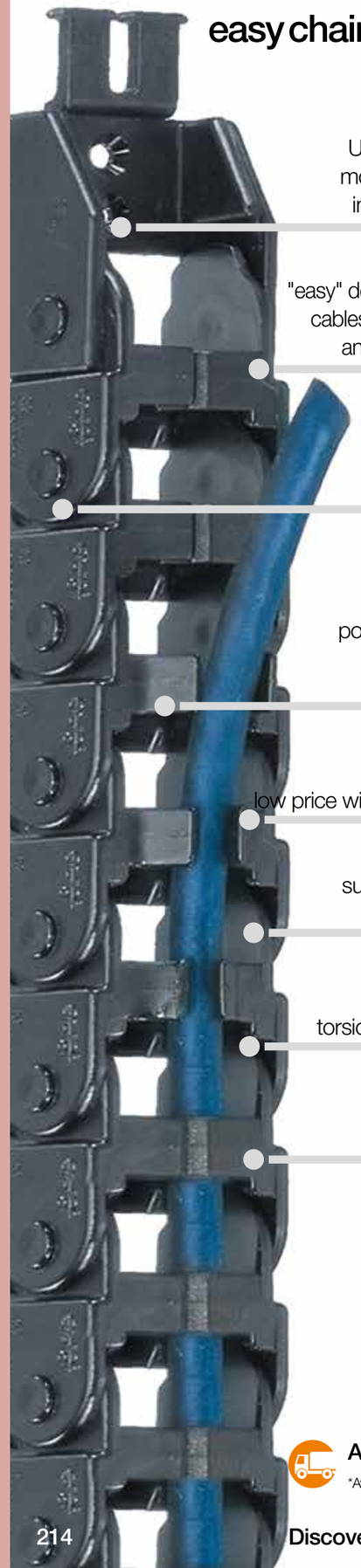
Easy to fill and cost-effective

Advantages of the easy chain® series:

- Easy filling without opening and closing the lids
- If quiet running is required
- If a light and cost-effective e-chain® is required
- For high accelerations

When to use another e-chain® series:

- For applications with large unsupported lengths
  ► **E2/000, page 374**
- When secure closing of the crossbars is required
  ► **E2/000, page 374**
- When openable crossbars are not necessary
  ► **E2 micro, page 334**
- Version Z is not suitable for gliding applications
  ► **zipper, page 240**



Universal connection: mounting bracket with integrated strain relief

Quick assembly: "easy" design - simply press cables in without opening and closing crossbars

Flexible: easy to lengthen and shorten at any point

Keep order: interior separation possible with moulded chamber design (some types)

Cost-effective: low price with one-piece design

Cleanroom: suitable for cleanroom applications

Flexible: torsional motion possible

Flammability class: UL94-V2

Easy to fill and cost-effective - easy chain®

Cost-effective, easy to fill e-chains® are available in two versions. In the "E" version the cable is simply installed from the outside, and in the "Z" version from the inside. The primary reason to choose easy chains® is to save time when fitting cables.The material, igumid NB, presents more application opportunities due to its flexibility, UL94-V2 classification and excellent cleanroom qualities. The one-piece design keeps the easy chain® very cost-effective.

Typical industries and applications

● Cleanroom applications ● Electronics machines ● Office furniture ● Vending machines ● Packaging machines ● General machinery, etc.

IPA Qualification Certificate - Report IG 0308-295:
ISO Class 2, according to DIN EN ISO 14644-1 for easy chain®, series E14.3.038 at *v* = 1.0m/s

Electrically conductive ESD e-chains® upon request

With easy chain® rotary and torsional motions are possible

42 dB(A) - value determined at the igus® test lab, *v* = 1.0m/s unsupported, series E06.10.038.0

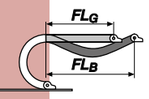
UL94-V2 classification

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Chamber design	Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
	**easy chain® - version "E"** "easy" design - split crossbar along the outer radius							
1-chamber 	**E03**	5	5 - 10	8.7 - 13.7	8	010 - 028	0.40	218
	E04	7	7	13	10	015 - 048	0.55	220
	E045	9.4	10 - 16	16 - 23	12.5	018 - 038	0.40	222
	E06	10.7	10 - 20	16.5 - 26.5	15	018 - 038	0.55	224
	E065	11.3	16	24.8	15	018 - 038	0.60	226
	E08	14.6	10 - 50	18.2 - 58.2	19.3	028 - 048	1.00	228
	E14	19	15 - 50	27 - 62	25	028 - 125	0.65	230
	E200	24.3	57	74.4	35	055 - 200	1.75	232
	E16	32	23 - 100	37.5 - 115.3	39	040 - 125	1.00	234
	E26	36.5	75	92	50	063 - 250	2.00	236
	E300	48.5	75	95	64	075 - 300	2.25	238
2-chamber 	**E045.2**	9.4	7 - 9	23 - 27	12.5	018 - 038	0.40	222
	E065.2	11.3	9	29.3	15	018 - 038	0.60	226
	E200.2	24.3	37 - 50	94.4 - 120.4	35	055 - 200	1.75	232
	E26.2	37.1	48	117	50	063 - 250	2.00	236
	E300.2	48.5	48	120	64	075 - 300	2.25	238
3-chamber	**E045.3**	9.4	9	37	12.5	018 - 038	0.40	222
	E065.3	11.3	9	39.3	15	018 - 038	0.60	226
	E26.3	37.1	47	167	50	063 - 250	2.00	236
	E300.3	48.5	47	170	64	075 - 300	2.25	238
4-chamber 	**E065.4**	11.3	9	49.3	15	018 - 038	0.60	226
	**easy chain® - version "Z"** "easy" design - split crossbar along the inner radius							
1-chamber 	**Z045**	9.4	16	23	12.5	018 - 038	0.40	222
	Z06	10.5	10 - 20	16.5 - 26.5	15	018 - 038	0.55	224
	Z08	14.7	10 - 50	18.2 - 58.2	19.3	028 - 048	1.00	228
	Z14	19	15 - 50	27 - 62	25	028 - 125	0.65	230
	Z200	24.3	57	74.4	35	055 - 200	1.75	232
	Z16	32	23 - 100	37.5 - 115.3	39	040 - 125	1.00	234
	Z26	36.5	75	92	50	063 - 250	2.00	236
	Z300	48.5	75	95	64	075 - 300	2.25	238
2-chamber 	**Z045.2**	9.4	16	23	12.5	018 - 038	0.40	222
	Z200.2	24.3	37 - 50	94.4 - 120.4	35	055 - 200	1.75	232
	Z26.2	37.1	48	117	50	063 - 250	2.00	236
	Z300.2	48.5	48	120	64	075 - 300	2.25	238
3-chamber 	**Z065.3**	11.3	9	39.3	15	018 - 038	0.60	226
	Z26.3	37.1	47	167	50	063 - 250	2.00	236
	Z300.3	48.5	47	170	64	075 - 300	2.25	238

Technical data



Speed gliding / acceleration gliding	≤ 3 [m/s] / ≤ 10 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
e-chain® material - permitted temperature °C, igumid NB	-40°C / +80°C
Mounting bracket* material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid NB	VDE 0304 IIC UL94-V2
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag *Also available made of igumid NB. Delivery time upon request!

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
E03	≤ 0.80m	upon request	upon request	upon request	with rework	upon request
E04	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
E045/Z045	≤ 0.80m	upon request	upon request	upon request	with rework	upon request
E06/Z06	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
E065/Z065	≤ 1.20m	upon request	upon request	upon request	with rework	upon request
E08/Z08	max. 2.00 m	upon request	upon request	upon request	with rework	upon request
E14/Z14	≤ 1.30m	upon request	upon request	upon request	with rework	upon request
E200/Z200	≤ 3.50m	≤ 10m	≤ 1.5m	≤ 0.5m	with rework	upon request
E16/Z16	≤ 4.00m	≤ 10m	≤ 1.5m	≤ 0.5m	with rework	upon request
E26/Z26	≤ 4.00m	≤ 10m	≤ 1.5m	≤ 0.5m	with rework	upon request
E300/Z300	≤ 4.50m	≤ 10m	≤ 1.5m	≤ 0.5m	with rework	upon request

Options with order keys | Examples based on series E200

Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*ESD - electrically conductive material*
Part No. Standard	Part No. NC version	Part No. *RBR*	Part No. igumid ESD
E200.05.*R*.0	E200.05.*R*.0.NC	E200.05.*R1/R2*.0	E200.05.*R*.0.ESD
Ready to ship in 24 - 48hrs.*	Ready to ship in 12 business days*	Ready to ship in 12 business days*◎	Delivery time upon request

◎ *RBR* version - some radii available from stock - further information and the complete product range ▶ From page 130

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E200

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 22 links	E200.05.100.0
+ Mounting brackets	1 set (with tiewrap plates)	2050.34PZB
Order text:	**1m E200.05.100.0 + 2050.34PZB**	

Order key

"E" - split crossbar along outer radius **E200. 05. 100 .0**
"Z" - split crossbar along the inner radius **Z200. 05. 100 .0**

Version "E" or "Z"
Series / Type
Width index (depends on *Bi*)
Bend radius *R*
Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*
Above special colours upon request.

easy chain® | Series E03 | Product range

Smallest applications, simply press cables in

5



Version E | Series E03 | "easy" design, split crossbar along the outer radius

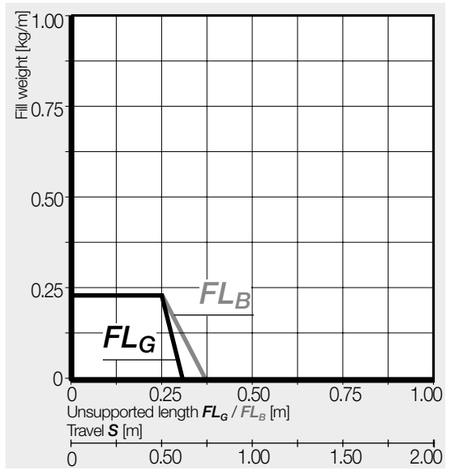
Part No. Version E	Bi [mm]	Ba* [mm]	R Available bend radii [mm]	Weight [kg/m]
E03.05.R.0[1)]	5	8.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.03
E03.07.R.0[2)]	7	10.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.04
E03.10.R.0[2)]	10	13.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.05

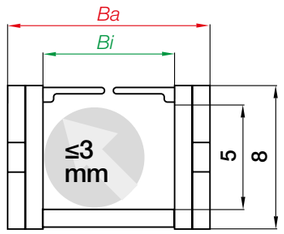
1) Crossbars do not overlap. Gap = 1mm / 2) Crossbars do not overlap. Gap = 2mm

*Ba**: pin dimension approx. 0.1 - 0.3mm wider.

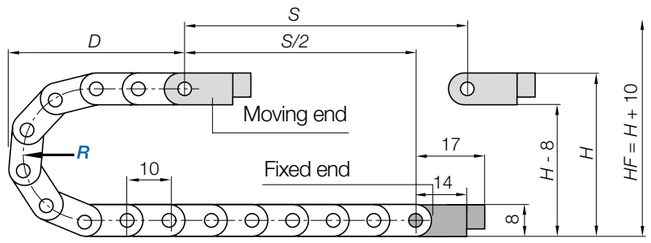
Complete Part No. with required radius (*R*). Example: **E03.05.028.0**

Installation dimensions





Inner height [mm]	5
Pitch [mm/link]	10
Links/m	100
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

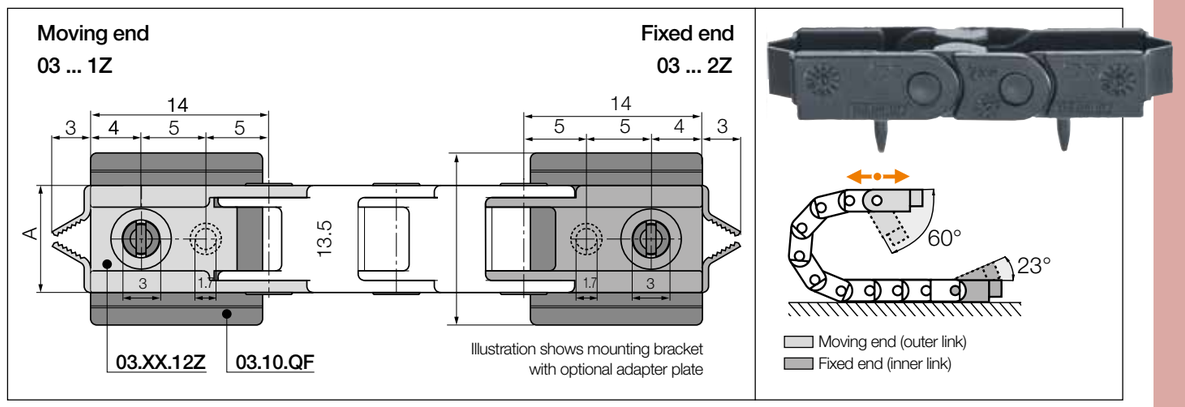


R	010	012	015	018	028
H	28	32	38	44	64
D	29	31	34	37	47
K	55	60	70	80	110

The required clearance height: $H_F = H + 10mm$ (with 0.1kg/m fill weight)

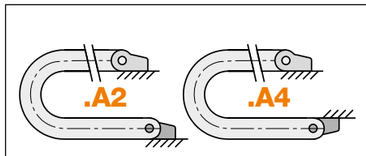
easy chain® | Series E03 | Accessories

Mounting brackets, polymer one-piece | Pivoting



Width index		Part No. Full set	A [mm]
05.	▶	03.05.12Z	8.4
07.	▶	03.07.12Z	10.4
10.	▶	03.10.12Z	13.4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A2** or **.A4** .

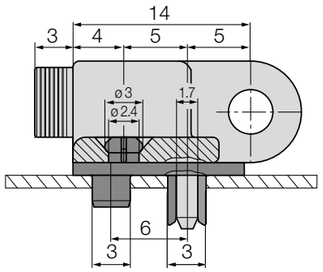
Order example

03.05.12Z.A2

.A ... to indicate option with brackets pre-fitted

Full set

Series



Adapter plate for rapid installation for all sizes, Part No. 03.10.QF

The adapter has scored lines so that it can be adapted to the respective e-chain® width. The adapter plate is not always necessary when attaching the mounting brackets as they can also be screwed on without the adapter plate.



Optional adapter plate

easy chain® | Series E04 | Product range

Low weight, simply press cables in

7



Version E | Series E04 | "easy" design, split crossbar along the outer radius

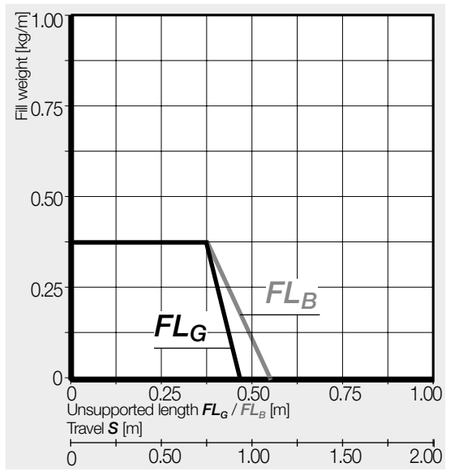
Part No. Version E	*Bi* [mm]	*Ba** [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E04.07.*R*.0[1)]	7	13	| 015 | 018 | 028 | 038 | 048 |	≈ 0.08

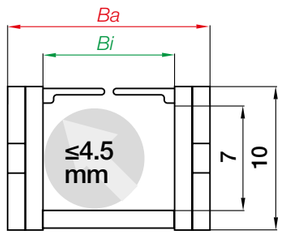
1) Crossbars do not overlap. Gap = 2.5mm Special solution with opening gap 0.8mm: **Part No. E04.07.015.0.S**

Ba: pin dimension approx. 0.1 - 0.3mm wider.

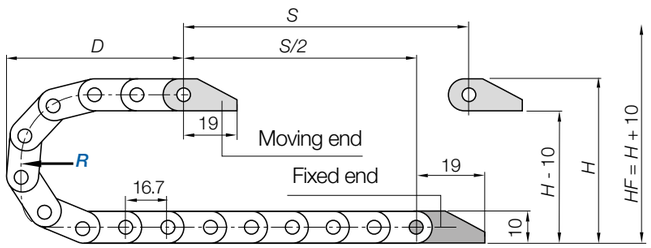
Complete Part No. with required radius (*R*). Example: **E04.07.028.0**

Installation dimensions





Inner height [mm]	7
Pitch [mm/link]	16.7
Links/m	60
corresponds to [mm]	1,002
e-chain® length	$L_K = S/2 + K$

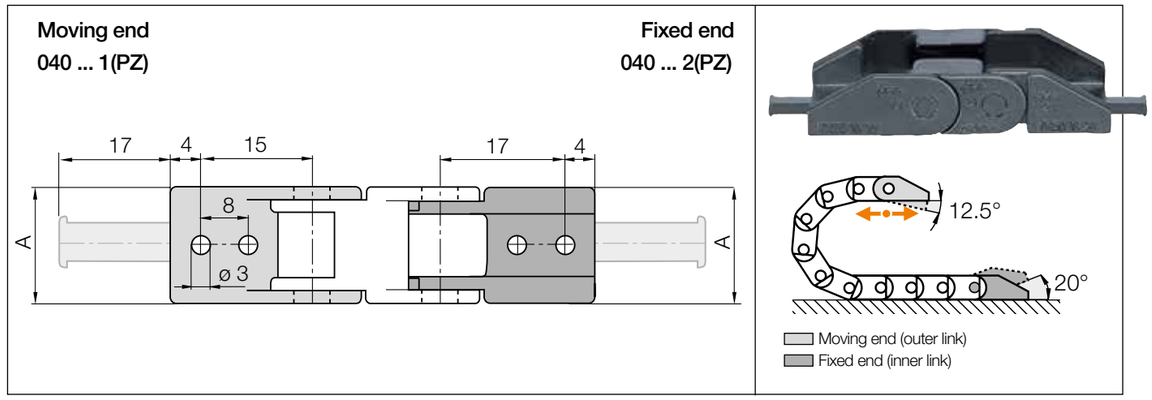


R	015	018	028	038	048
H	40	46	66	86	106
D	45	48	58	68	78
K	85	90	125	155	185

The required clearance height: $H_F = H + 10$mm (with 0.1kg/m fill weight)

easy chain® | Series E04 | Accessories

Mounting brackets, polymer one-piece | Pivoting



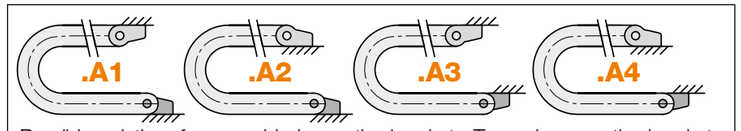
Width index	Standard	Part No. full set **with tiewrap plates***	Part No. full set **without tiewrap plates**	A [mm]	Number of teeth
.07. ▶		**040.07.12PZ**	**040.07.12**	12	1

*040.07.12PZ only installation versions A2 and A4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Mounting bracket with strain relief tiewrap plate has reductions of ø 3mm

Mounting bracket without strain relief tiewrap plate only has holes of ø 3mm



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

040.07.12PZ.A2

Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

easy chain® | Series E045·Z045 | Product range

9.4 9.4

Small pitch, smooth running, simply press cables in



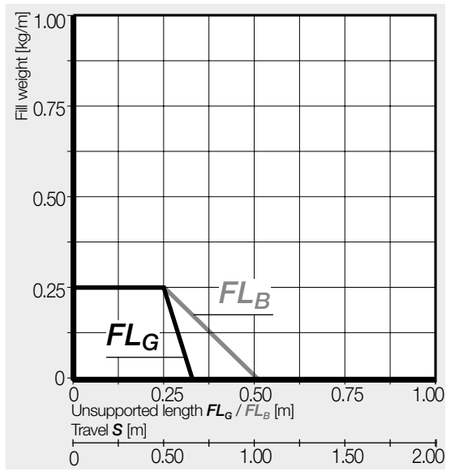
Standard **Version E | Series E045 | "easy" design, split crossbar along the outer radius**
Version Z | Series Z045 | "easy" design, split crossbar along the inner radius

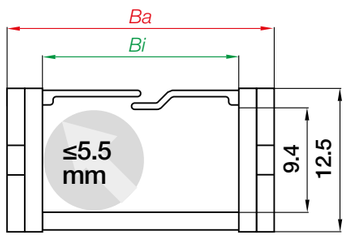
Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba** [mm]	*R* Available bend radii [mm]	Weight [kg/m]
1-chamber	E045.10.*R*.0[1)]	–	10	16	| 018 | 028 | 038 |	≈ 0.09
Bi	E045.16.*R*.0	Z045.16.*R*.0	16	23	| 018 | 028 | 038 |	≈ 0.11
	1) Crossbars do not overlap. Gap = 2mm					
2-chamber	E045.2/7.*R*.0[2)]	Z045.2/7.*R*.0[2)]	7/7	23	| 018 | 028 | 038 |	≈ 0.13
Bi1 Bi2	E045.2/9.*R*.0[2)]	–	9/9	27	| 018 | 028 | 038 |	≈ 0.14
	2) Crossbars do not overlap. Gap = 2.25mm					
3-chamber	E045.3/9.*R*.0[3)]	–	9/9/9	37	| 018 | 028 | 038 |	≈ 0.17
Bi1 Bi2 Bi3						
	1) Crossbars do not overlap. Gap = 2.25mm					

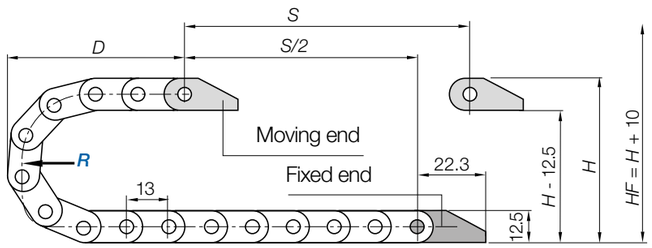
*Ba**: pin dimension approx. 0.5mm - 1.0mm wider.

Complete Part No. with required radius (*R*). Example: **E045.16.038.0**

Installation dimensions







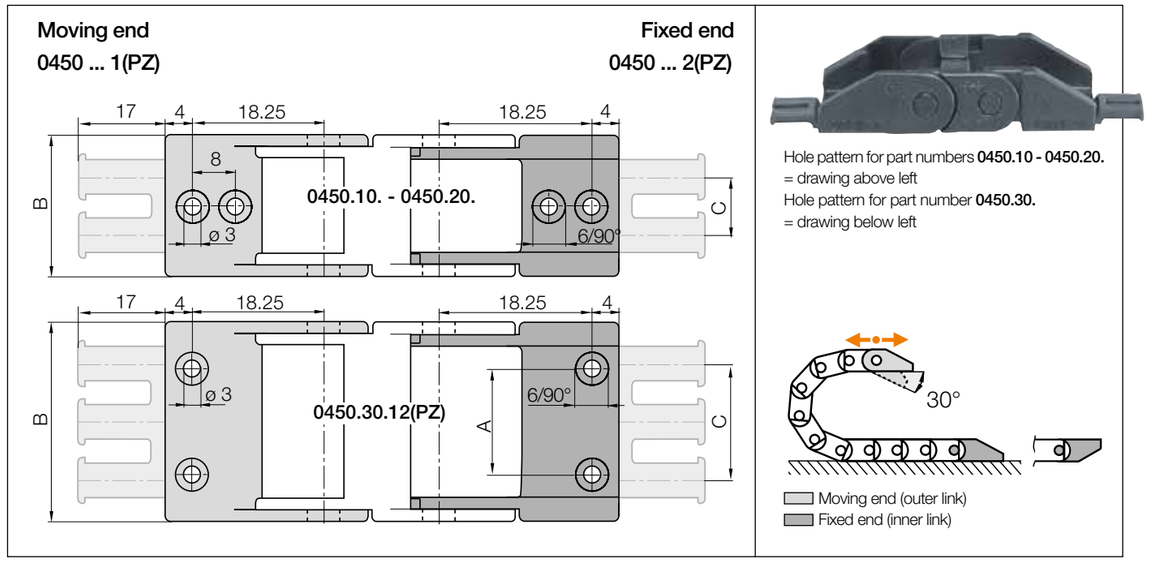
Inner height [mm]	9.4
Pitch [mm/link]	13
Links/m	77
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$

R	018	028	038
H	48.5	68.5	88.5
D	44	54	64
K	85	115	150

The required clearance height: $H_F = H + 10mm$ (with 0.1kg/m fill weight)

easy chain® | Series E045·Z045 | Accessories

Mounting brackets, polymer one-piece | One end pivoting

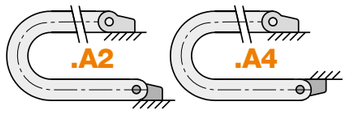


Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	Number of teeth
10.	▶	0450.10.12PZ	0450.10.12	–	16	–	1
16.	▶	0450.16.12PZ	0450.16.12	–	22	10	2
2/7.	▶	0450.16.12PZ	0450.16.12	–	22	10	2
2/9.	▶	0450.20.12PZ	0450.20.12	–	26	10	2
3/9.	▶	0450.30.12PZ	0450.30.12	22	36	20	3

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Mounting bracket with strain relief tiewrap plate has reductions of ø 3mm / ø 6mm 90°

Mounting bracket without strain relief tiewrap plate only has holes of ø 3mm



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A2** or **.A4** .

0450.10.12PZ.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

easy chain® | Series E06·Z06 | Product range

Low weight, simply press cables in

10.7 Version E | 10.5 Version Z



Standard Version E | Series E06 | "easy" design, split crossbar along the outer radius
Version Z | Series Z06 | "easy" design, split crossbar along the inner radius

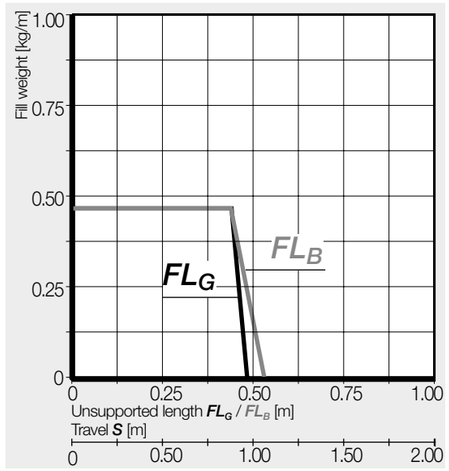
Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba** [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E06.10.*R*.0[1)]	Z06.10.*R*.0[1)]	10	16.5	| 018 | 028 | 038 |	≈ 0.14
E06.16.*R*.0[1)]	Z06.16.*R*.0[1)]	16	22.5	| 018 | 028 | 038 |	≈ 0.16
E06.20.*R*.0	Z06.20.*R*.0	20	26.5	| 018 | 028 | 038 |	≈ 0.18

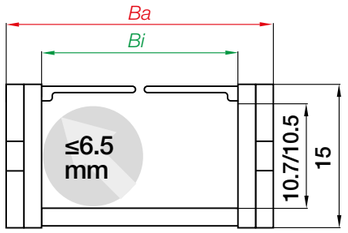
1) Crossbars do not overlap. Gap = 5.5mm Special solution with opening gap 3.5mm: **Part No. E06.10.018.0.S3**

*Ba**: pin dimension approx. 1.5mm - 2.0mm wider.

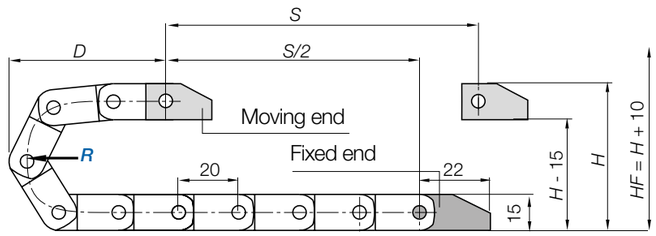
Complete Part No. with required radius (*R*). Example: **E06.10.028.0**

Installation dimensions





E06 Inner height [mm]	10.7
Z06 Inner height [mm]	10.5
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

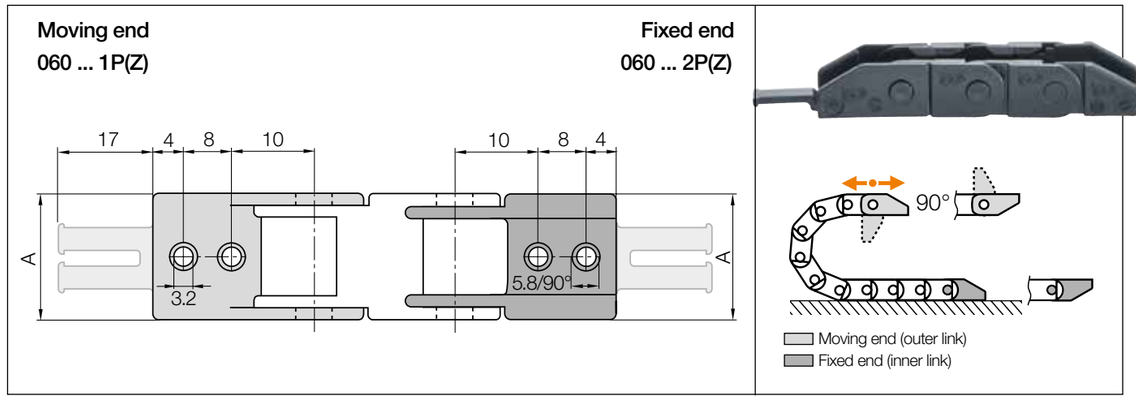


R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

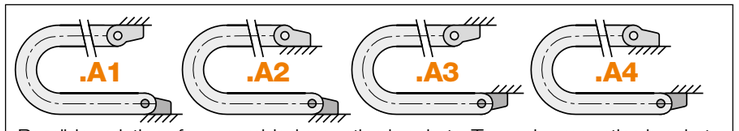
easy chain® | Series E06·Z06 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	Number of teeth
10. ▶		**060.10.12PZ**	**060.10.12**	16.5	1
16. ▶		**060.16.12PZ**	**060.16.12**	22.5	2
20. ▶		**060.20.12PZ**	**060.20.12**	27.0	2

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

060.10.12PZ.A1 **Order example**
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

easy chain® | Series E065·Z065 | Product range

Small pitch, smooth running, simply press cables in

11.3 11.3



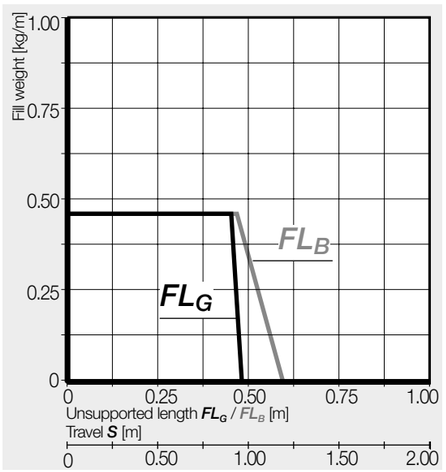
Standard **Version E | Series E065 | "easy" design, split crossbar along the outer radius**
Version Z | Series Z065 | "easy" design, split crossbar along the inner radius

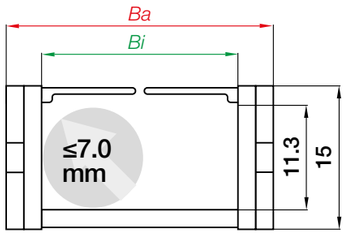
Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba** [mm]	*R* [mm]	Weight [kg/m]
1-chamber 	E065.16.*R*.0[1)]	–	16	24.8	| 018 | 028 | 038 |	≈ 0.17
	1) Crossbars do not overlap. Gap = 2.5mm					
2-chamber 	E065.2/9.*R*.0[1)]	–	9/9	29.3	| 018 | 028 | 038 |	≈ 0.19
	1) Crossbars do not overlap. Gap = 2.5mm					
3-chamber 	E065.3/9.*R*.0[1)]	Z065.3/9.*R*.0[1)]	9/9/9	39.3	| 018 | 028 | 038 |	≈ 0.22
	1) Crossbars do not overlap. Gap = 2.5mm					
4-chamber 	E065.4/9.*R*.0[1)]	–	9/9/9/9	49.3	| 018 | 028 | 038 |	≈ 0.25
	1) Crossbars do not overlap. Gap = 2.5mm					

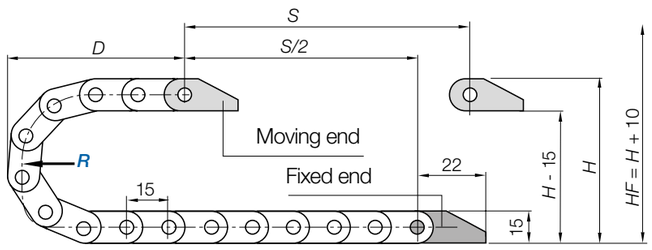
*Ba**: pin dimension approx. 1.0mm - 1.6mm wider.

Complete Part No. with required radius (*R*). Example: **E065.16.038.0**

Installation dimensions







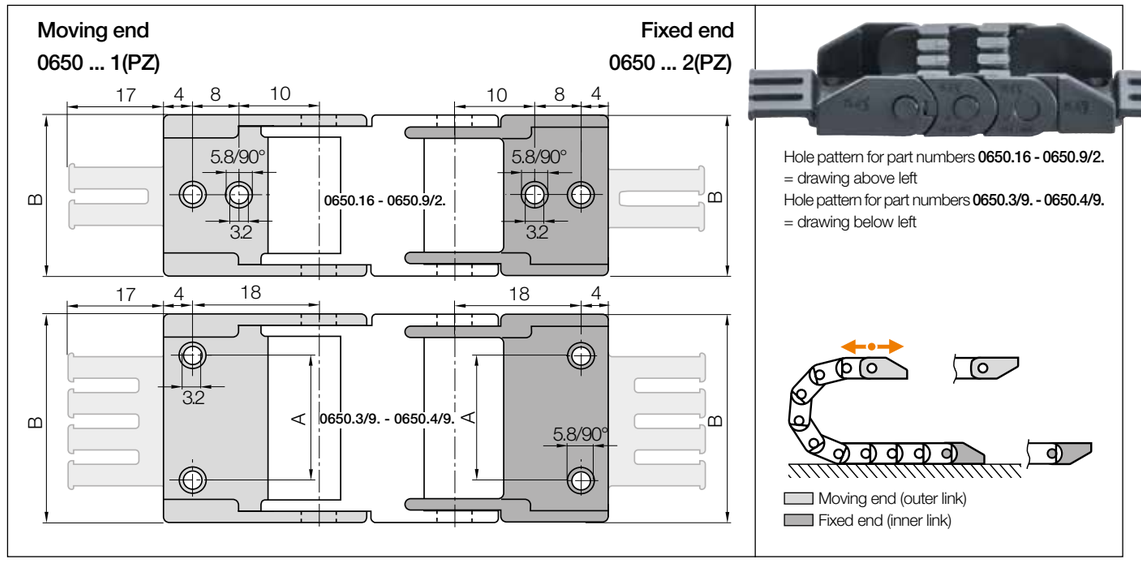
Inner height [mm]	**11.3**
Pitch [mm/link]	**15**
Links/m	**67**
corresponds to [mm]	**1,005**
e-chain® length	$L_K = S/2 + K$

R	018	028	038
H	51	71	91
D	48	58	68
K	90	120	150

The required clearance height: $H_F = H + 10$mm (with 0.2kg/m fill weight)

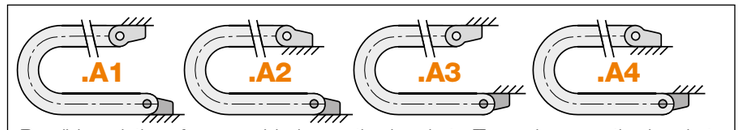
easy chain® | Series E065·Z065 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
16. ▶		0650.16.12PZ	0650.16.12	–	22.5	2
2/9. ▶		0650.2/9.12PZ	0650.2/9.12	–	27	2
3/9. ▶		0650.3/9.12PZ	0650.3/9.12	22	37	3
4/9. ▶		0650.4/9.12PZ	0650.4/9.12	32	47	4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

0650.16.12PZ.A2 **Order example**

.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

easy chain® | Series E08·Z08 | Product range

Small pitch, simply press cables in

14.6 Version E | 14.7 Version Z



Standard **Version E | Series E08 | "easy" design, split crossbar along the outer radius**
Version Z | Series Z08 | "easy" design, split crossbar along the inner radius

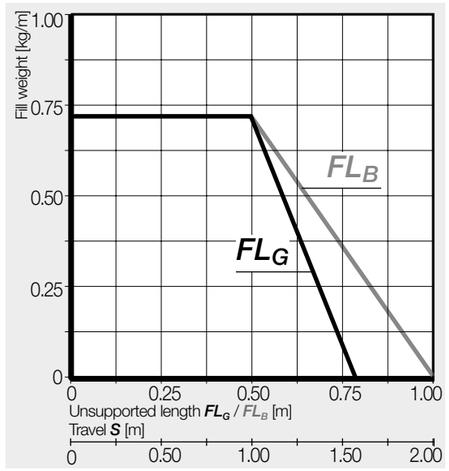
Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba** [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E08.10.*R*.0[1]	Z08.10.*R*.0[1]	10	18.2	| 028 | 038 | 048 |	≈ 0.21
E08.16.*R*.0[2]	Z08.16.*R*.0[2]	16	24.2	| 028 | 038 | 048 |	≈ 0.24
E08.20.*R*.0	Z08.20.*R*.0	20	28.2	| 028 | 038 | 048 |	≈ 0.25
E08.30.*R*.0	Z08.30.*R*.0	30	38.2	| 028 | 038 | 048 |	≈ 0.28
E08.40.*R*.0	Z08.40.*R*.0	40	48.2	| 028 | 038 | 048 |	≈ 0.31
E08.50.*R*.0	Z08.50.*R*.0	50	58.2	| 028 | 038 | 048 |	≈ 0.37

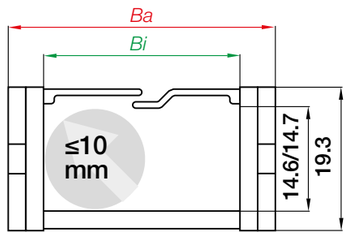
1) Crossbars do not overlap. Gap = 5.5mm / 2) Crossbars do not overlap. Gap = 4.0mm

Ba: pin dimension approx. 1.4mm - 1.8mm wider.

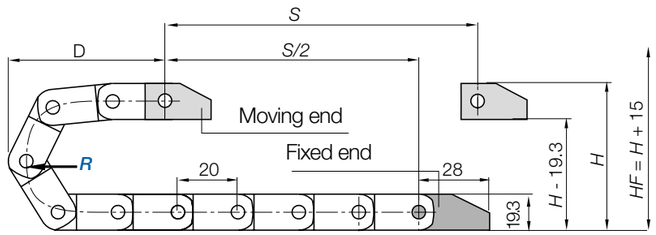
Complete Part No. with required radius (*R*). Example: **E08.10.028.0**

Installation dimensions





E08 Inner height [mm]	14.6
Z08 Inner height [mm]	14.7
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

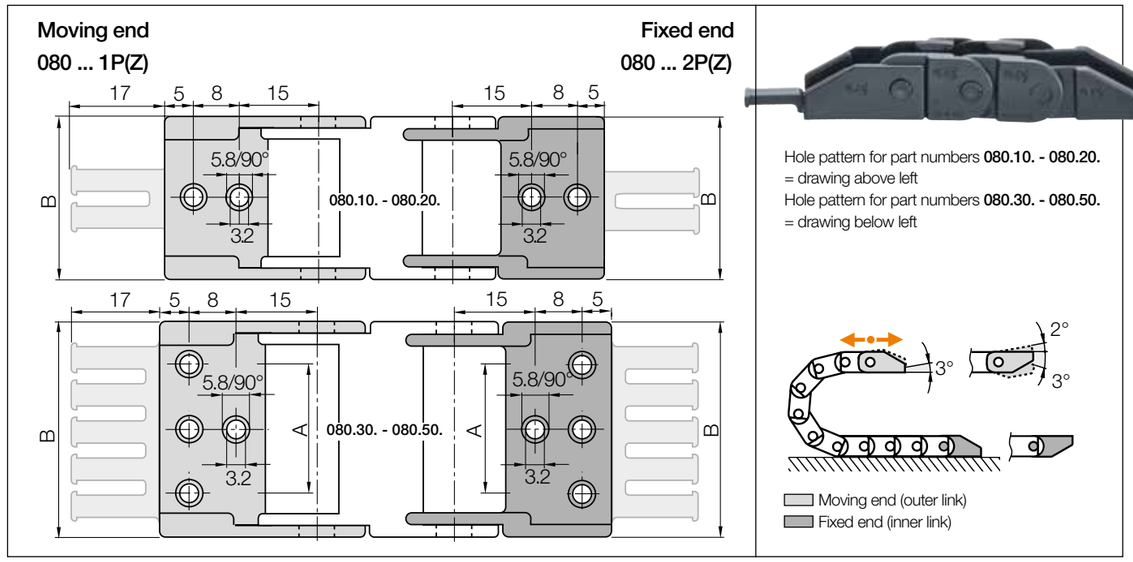


R	028	038	048
H	75	95	115
D	68	78	88
K	130	160	195

The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

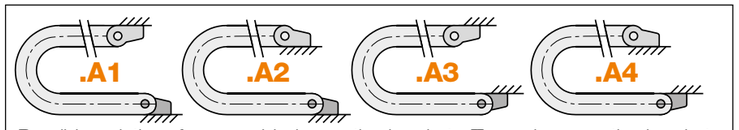
easy chain® | Series E08·Z08 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10.12PZ	080.10.12	–	18.2	1
16. ▶		080.16.12PZ	080.16.12	–	24.2	2
20. ▶		080.20.12PZ	080.20.12	–	28.2	2
30. ▶		080.30.12PZ	080.30.12	22	38.2	3
40. ▶		080.40.12PZ	080.40.12	32	48.2	4
50. ▶		080.50.12PZ	080.50.12	42	58.2	5

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

080.10.12PZ.A2 **Order example**

.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

easy chain® | Series E14·Z14 | Product range

Economical size, simply press cables in

19 19



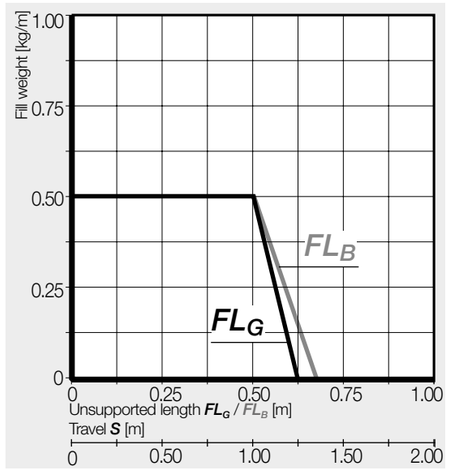
Standard **Version E | Series E14 | "easy" design, split crossbar along the outer radius**
Version Z | Series Z14 | "easy" design, split crossbar along the inner radius

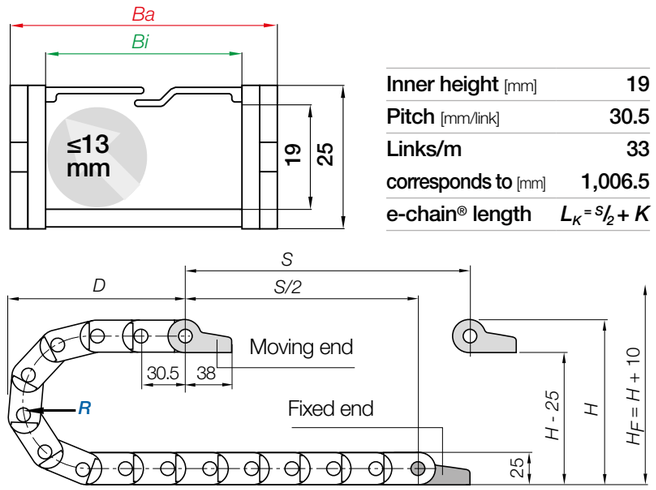
Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E14.1.*R*.0	Z14.1.*R*.0	15	27	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.31
E14.2.*R*.0	Z14.2.*R*.0	25	37	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.32
E14.3.*R*.0	Z14.3.*R*.0	38	50	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.40
E14.4.*R*.0	Z14.4.*R*.0	50	62	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.44

RBR version (Reverse Bend Radius), some radii available from stock. More information ▶ **From page 130**

Complete Part No. with required radius (*R*). Example: **E14.1.028.0**

Installation dimensions





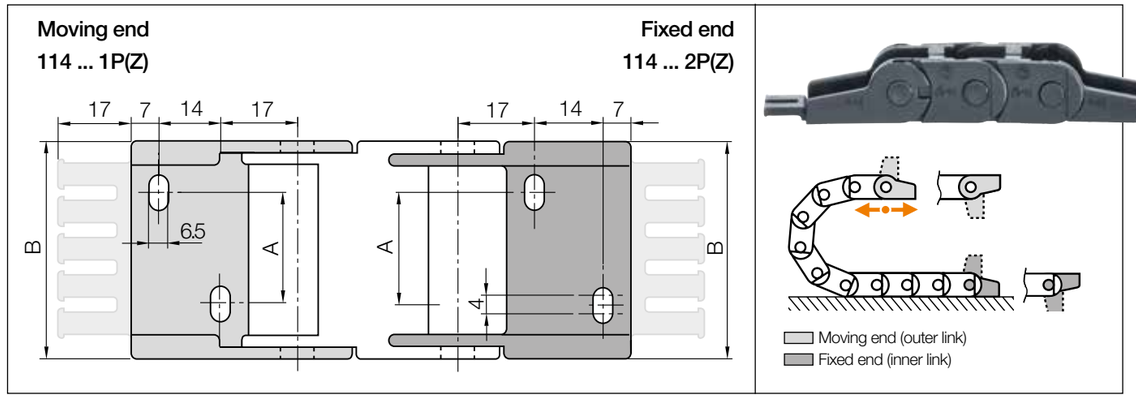
Inner height [mm]	19
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

R	028	038	048	075	100	125
H	81	101	121	175	225	275
D	86	96	106	133	158	183
K	150	185	215	300	380	455

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

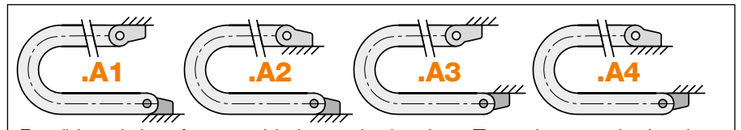
easy chain® | Series E14·Z14 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set **with tiewrap plates**	Part No. full set **without tiewrap plates**	A [mm]	B [mm]	Number of teeth
1.		**114.1.12PZ**	**114.1.12P**	–	26.3	2
2.		**114.2.12PZ**	**114.2.12P**	10	36.3	3
3.		**114.3.12PZ**	**114.3.12P**	23	49.3	4
4.		**114.4.12PZ**	**114.4.12P**	35	61.3	5

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



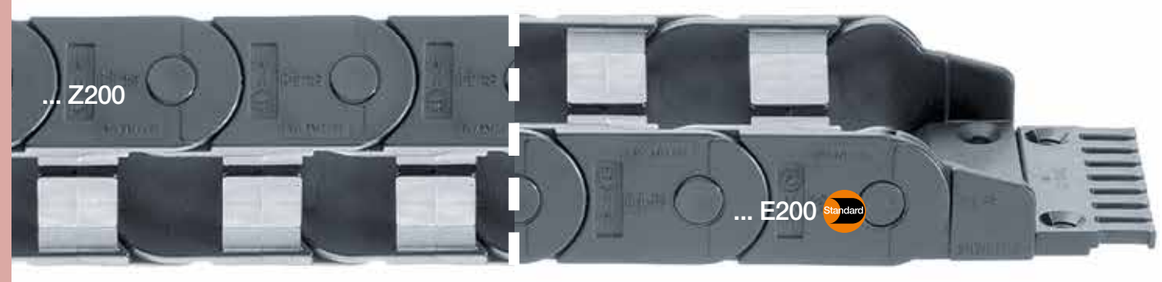
Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

114.2.12PZ.A1 **Order example**

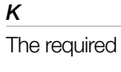
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

easy chain® | Series E200·Z200 | Product range

Medium size, simply press cables in

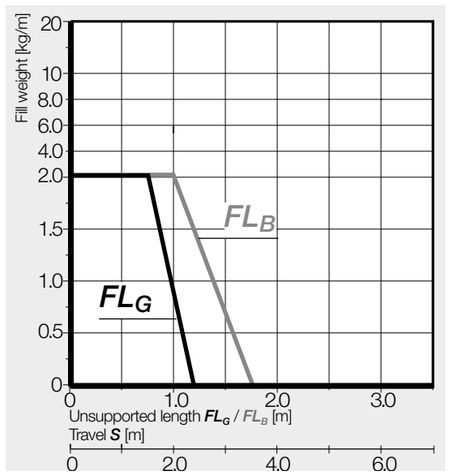


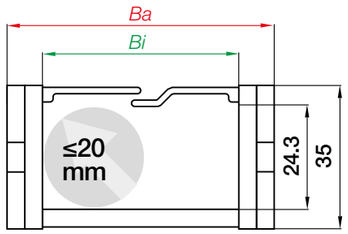
Standard Version E | Series E200 | "easy" design, split crossbar along the outer radius
Version Z | Series Z200 | "easy" design, split crossbar along the inner radius

Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
1-chamber	E200.05.*R*.0	Z200.05.*R*.0	57	74.4	| 055 | 075 | 100 | 150 | 200 |	≈ 0.70
						
2-chamber	E200.2/35.*R*.0	Z200.2/35.*R*.0	37/37	94.4	| 055 | 075 | 100 | 150 | 200 |	≈ 0.79
	E200.2/50.*R*.0	Z200.2/50.*R*.0	50/50	120.4	| 055 | 075 | 100 | 150 | 200 |	≈ 0.82
						

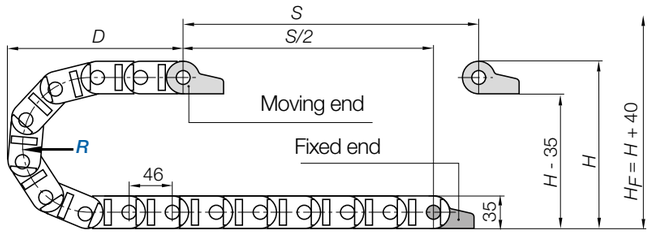
Complete Part No. with required radius (*R*). Example: **E200.05.150.0**

Installation dimensions





Inner height [mm]	24.3
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$



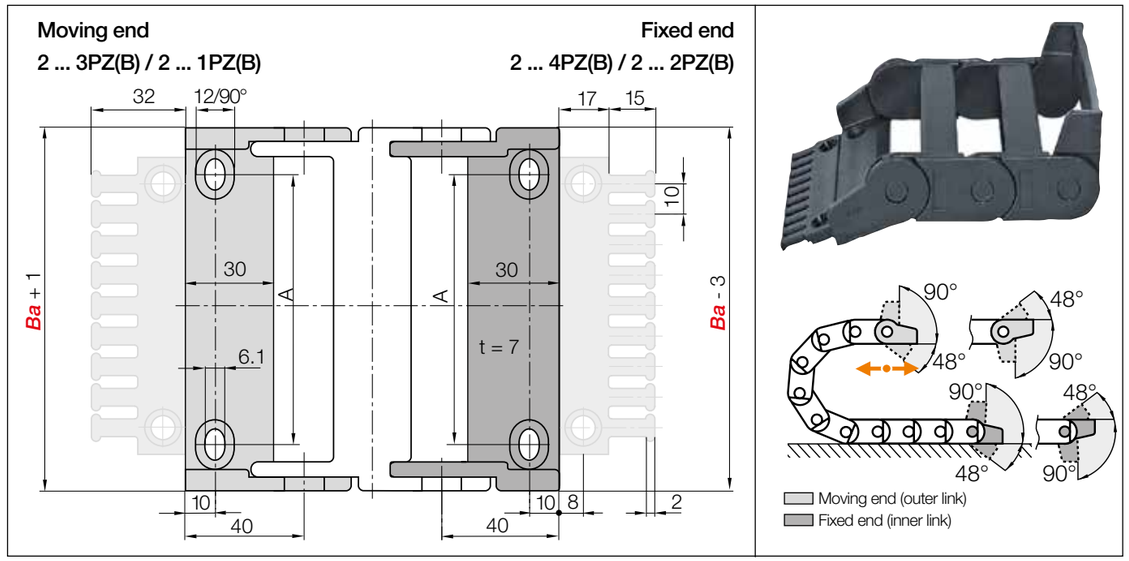
R	055	075	100	150	200
H^{+4}	145	185	235	335	435
D	142	162	187	237	287
K	265	330	410	565	725

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

easy chain® | Series E200·Z200 | Accessories

Mounting brackets, polymer | Pivoting | Locking

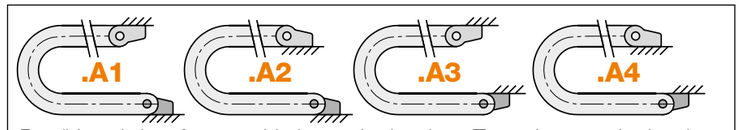
▶ 1392



Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
05. ▶		2050.34PZB	2050.34PZ	2050.12PZB	2050.12PZ	44	6
2/35. ▶		2070.34PZB	2070.34PZ	2070.12PZB	2070.12PZ	64	8
2/50. ▶		2100.34PZB	2100.34PZ	2100.12PZB	2100.12PZ	90	10

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2050.34PZBK1**



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

2050.34PZB.A1 **Order example**
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

easy chain® | Series E16·Z16 | Product range

Large inner height, simply press cables in

32 32



Version E | Series E16 | "easy" design, split crossbar along the outer radius
Version Z | Series Z16 | "easy" design, split crossbar along the inner radius

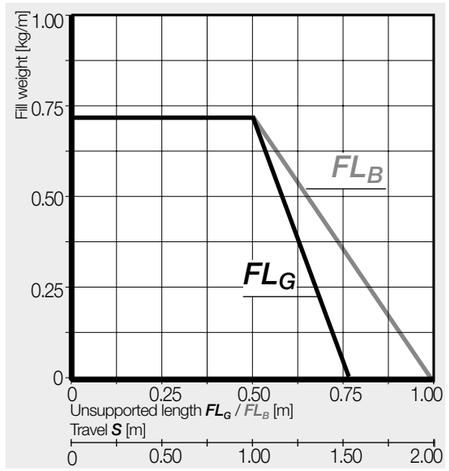
Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
E16.2.*R*.0[1)]	Z16.2.*R*.0	23	37.5	|040 | 060 | 075 | 100 | – |	≈ 0.51
E16.3.*R*.0	Z16.3.*R*.0[1)]	36	50.5	|040 | 060 | 075 | 100 | 125 |	≈ 0.57
E16.4.*R*.0	Z16.4.*R*.0[1)]	48	62.5	|040 | 060 | 075 | 100 | – |	≈ 0.62
E16.5.*R*.0	Z16.5.*R*.0	63	78.5	|040 | 060 | 075 | 100 | – |	≈ 0.75
E16.6.*R*.0	Z16.6.*R*.0[1)]	80	95.5	| – | 060 | 075 | 100 | – |	≈ 0.83
E16.7.*R*.0	Z16.7.*R*.0	100	115.3	| – | 060 | 075 | 100 | 125 |	≈ 0.91

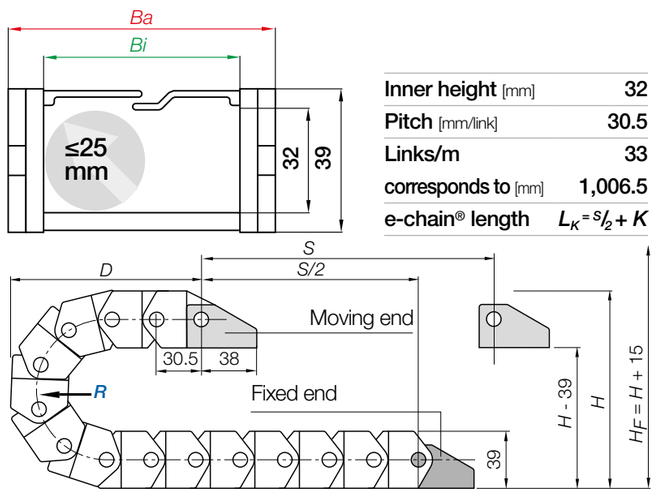
Special solution with opening gap 3mm: **Part No. E16.2.100.0.N3 / Z16.2.075.0.N3**

1) Radius 040 only available for these widths

Complete Part No. with required radius (*R*). Example: **E16.7.100.0**

Installation dimensions





Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

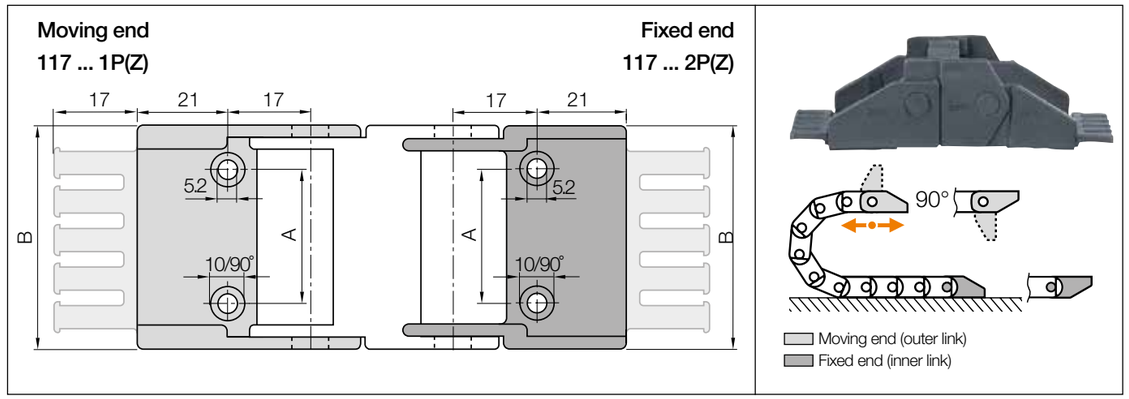
R	040[1)]	060	075	100	125
H	119	159	189	239	289
D	105	125	140	165	190
K	190	250	300	380	455

The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

1) Radius 040 only available for E16.2 / Z16.3 / Z16.4 / Z16.5

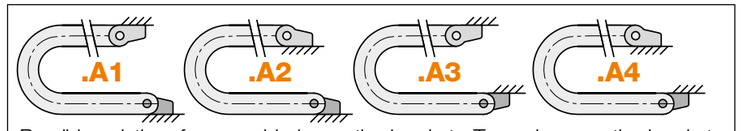
easy chain® | Series E16·Z16 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
2.	▶	117.2.12PZ	117.2.12P	12	35.5	3
3.	▶	117.3.12PZ	117.3.12P	25	48.5	4
4.	▶	117.4.12PZ	117.4.12P	37	60.5	5
5.	▶	117.5.12PZ	117.5.12P	48	76.0	6
6.	▶	117.6.12PZ	117.6.12P	65	93.0	8
7.	▶	117.7.12PZ	117.7.12P	85	113.0	10

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

117.2.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

easy chain® | Series E26·Z26 | Product range

Large inner height, simply press cables in



2 + 3 chamber design
Inner height: 37.1

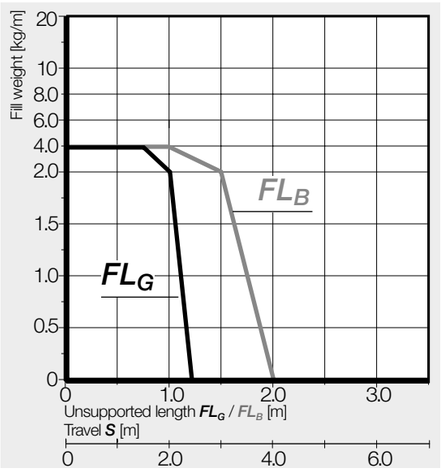


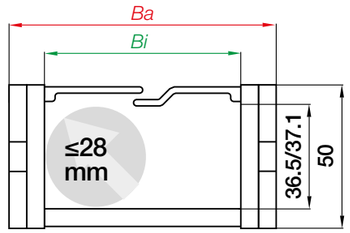
Version E | Series E26 | "easy" design, split crossbar along the outer radius
Version Z | Series Z26 | "easy" design, split crossbar along the inner radius

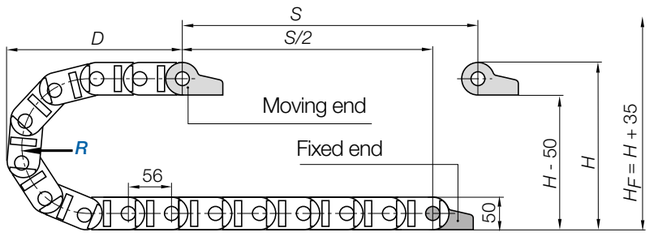
Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
1-chamber	E26.07.*R*.0	Z26.07.*R*.0	75	92	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 0.96
2-chamber	E26.2/45.*R*.0	Z26.2/45.*R*.0	48/48	117	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.14
3-chamber	E26.3/45.*R*.0	Z26.3/45.*R*.0	47/48/47	167	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.30

Complete Part No. with required radius (*R*). Example: **E26.07.150.0**

Installation dimensions







Inner height [mm]	
1-chamber	36.5
2 & 3-chamber	37.1
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

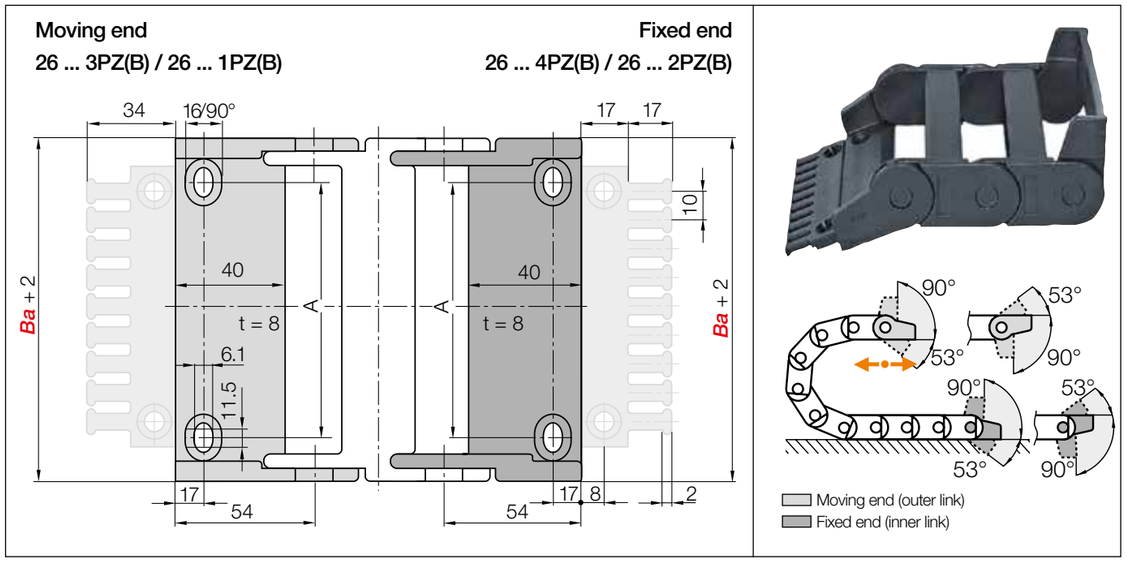
R	063	075	100	125	150	175	200	250
H+5	176	200	250	300	350	400	450	550
D	172	184	209	234	259	284	309	359
K	310	350	430	505	585	665	745	900

The required clearance height: $H_F = H + 35$mm (with 2.0kg/m fill weight)

easy chain® | Series E26·Z26 | Accessories

Mounting brackets, polymer | Pivoting | Locking

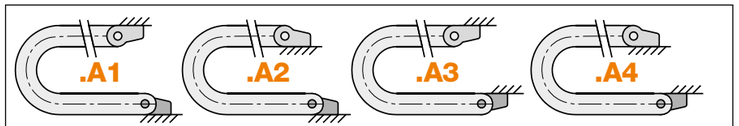
▶ 1392



Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
07. ▶		2607.34PZB	2607.34PZ	2607.12PZB	2607.12PZ	55	7
2/45. ▶		2610.34PZB	2610.34PZ	2610.12PZB	2610.12PZ	80	10
3/45. ▶		2615.34PZB	2615.34PZ	2615.12PZB	2615.12PZ	130	15

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2607.34PZBK1**



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

2607.34PZB.A2 **Order example**
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

easy chain® | E300·Z300 | Product range

Large inner height, simply press cables in



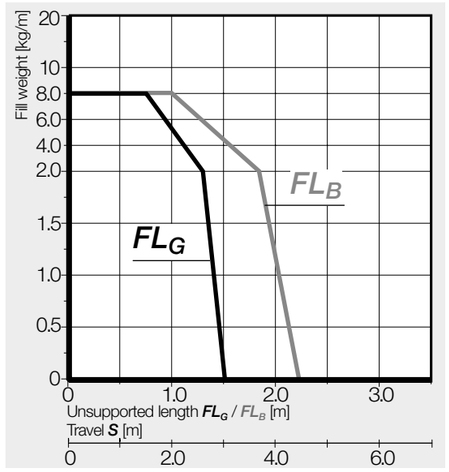


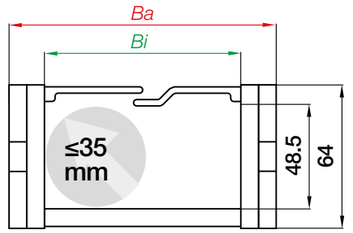
Version E | Series E300 | "easy" design, split crossbar along the outer radius
Version Z | Series Z300 | "easy" design, split crossbar along the inner radius

Chamber design	Part No. Version E	Part No. Version Z	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
1-chamber	E300.075.*R*.0	Z300.075.*R*.0	75	95	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.60
2-chamber	E300.2/45.*R*.0	Z300.2/45.*R*.0	48/48	120	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.78
3-chamber	E300.3/45.*R*.0	Z300.3/45.*R*.0	47/46/47	170	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.92

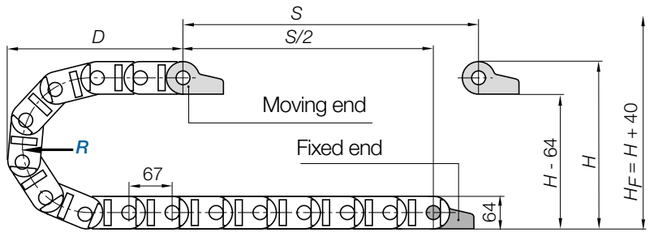
Complete Part No. with required radius (*R*). Example: **E300.075.150.0**

Installation dimensions





Inner height [mm]	48.5
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$



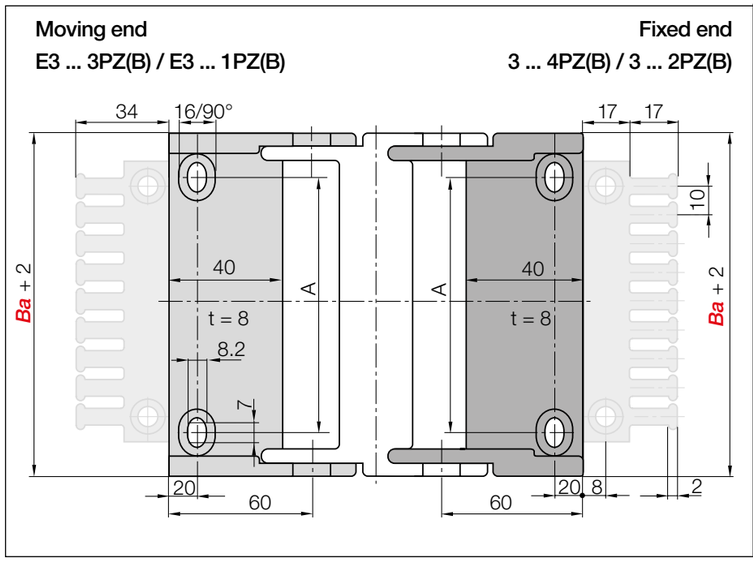
R	075	100	125	150	200	250	300
H^{+5}	214	264	314	364	464	564	664
D	208	233	258	283	333	383	433
K	370	450	530	610	765	920	1,080

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

easy chain® | Series E300·Z300 | Accessories

Mounting brackets, polymer | Pivoting | Locking

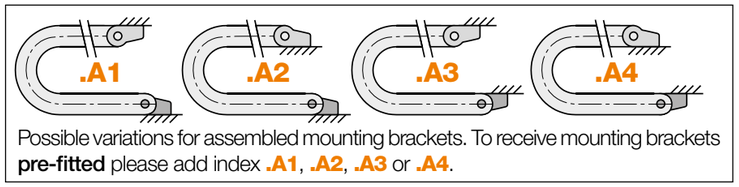
▶ 1392



Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
075. ▶		**3075.34PZB**	**3075.34PZ**	**3075.12PZB**	**3075.12PZ**	53	7
2/45. ▶		**3100.34PZB**	**3100.34PZ**	**3100.12PZB**	**3100.12PZ**	78	10
3/45. ▶		**3150.34PZB**	**3150.34PZ**	**3150.12PZB**	**3150.12PZ**	128	15

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **3075.34PZBK1**



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

3075.34PZB.A2 **Order example**
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

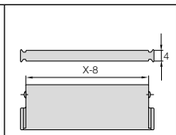
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

Interior separation

Modular shelf

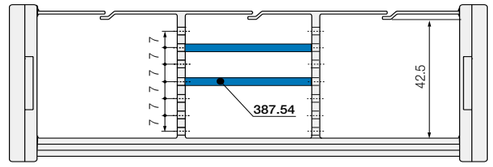
For additional horizontal subdivision of the inner space, shelves are available for e-chains® series E300.3/45 and Z300.3/45. They can be fitted at 7 different heights.





Shelf for e-chains®	
unassembled	386,54
assembled	387,54





zipper

Zip fastening e-chains® and e-tubes

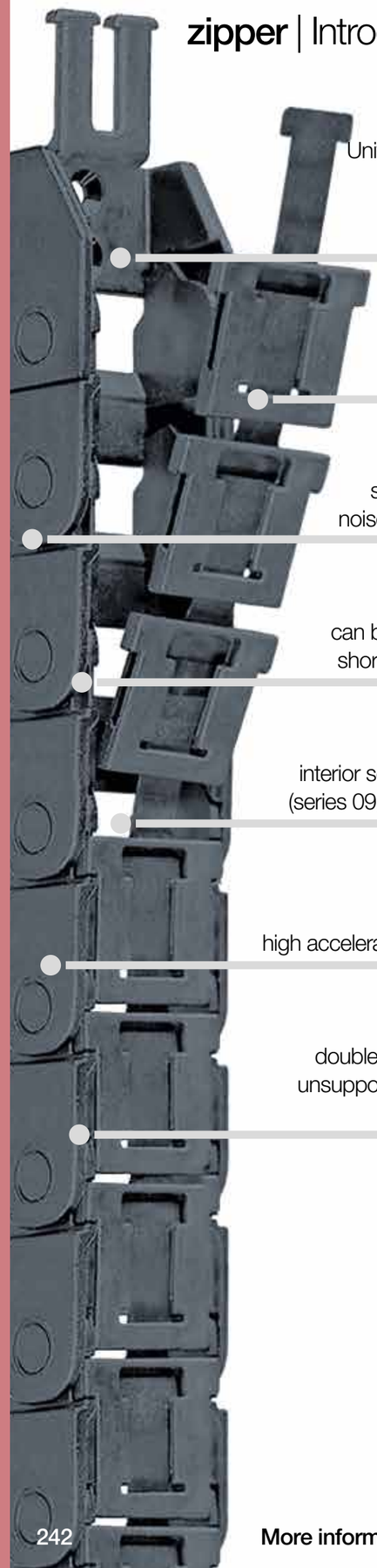
Advantages of the zipper series:

- Zipper-like design for quick opening and closing of lids
- zipper e-chains® can be lengthened and shortened at any point
- Small pitch for quiet, smooth operation
- Interior separation possible

When to use another e-chain® series:

- When an easy filling without opening and closing of the chain is required
  ► **easy chain®, page 212**
- If an easy-to-open and cost-effective e-chain® is required
  ► **E2.1 micro, page 334**
- When openable crossbars are not necessary
  ► **E2 micro, page 274**





Universal connection: mounting bracket with integrated strain relief

Fast opening: zip-open along the outer radius

Smooth running: small pitch for low-noise, smooth running

Flexible: can be lengthened and shortened at any point

Keep order: interior separation possible (series 09, 15/R15, 17/R17)

Dynamic: high accelerations are possible

Strong: double stop-dog for long unsupported travels (series 15/R15, 17/R17)

Zip fastening e-chains® and e-tubes - zipper

igus® "zipper" e-chains® and e-tubes deliver in terms of practicality and performance. The "zipper" function makes them a very useful product to reduce assembly time. The small pitch, the tough-elastic zipper-band, and the sturdy link work well in high acceleration applications. The "zipper" series is one of the most popular igus® e-chain® series for demanding applications.

- Zipper-like design for quick opening and closing of lids
- zipper e-chains® can be lengthened and shortened at any point
- Small pitch for quiet, smooth operation
- High accelerations: 100m/s² and more

Typical industries and applications

● Pick & place robots ● Semi-conductor machines ● Linear motors, actuators ● Measuring equipment ● Machine tools (zipper e-tube) ● General machinery, etc.

58 dB(A) - value determined at the igus® test-lab, *v* = 1.0m/s unsupported, series 09.50.028.0

UL94-V0 classification upon request

Electrically conductive ESD e-chains® - several series available from stock

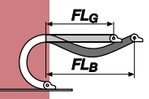
iF product design award
2002 igus® Series R09
1989 igus® Series 15

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
zipper - e-chains® crossbars on a strip - zip-open along the outer radius							
047	9	10 - 16	16 - 22	12.5	018 - 038	0.40	**246**
07	10.3	06 - 64	12.5 - 71	15	018 - 048	0.55	**248**
09	15	10 - 64	18.2 - 72.2	19.3	028 - 048	1.00	**252**
15	17	15 - 100	26 - 113	24	038 - 180	1.20	**258**
17	32	15 - 100	25.5 - 113	39	063 - 125	1.00	**266**
							
zipper - e-tubes - protection against dirt and swarf lids on a strip - zip-open along the outer radius							
R07	10.3	10 - 50	16.5 - 57	15	038 - 048	0.55	**250**
R09	15	10 - 50	18.2 - 58.2	19.3	048 - 100	1.00	**256**
R15	17	25 - 80	36 - 94	24	063 - 180	1.20	**262**
R17	32	15 - 63	26 - 74	39	063 - 125	1.20	**270**

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Technical data



Speed gliding / acceleration gliding	≤ 10 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material lower part - permitted temperature °C, igumid G	-40°C/+120°C
Material lid - permitted temperature °C, igumid TE	-40°C / +70°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported
047	≤ 0.80m	upon request	upon request	upon request
07 / R07	≤ 1.10m	upon request	upon request	upon request
09 / R09	max. 2.00 m	upon request	upon request	upon request
15 / R15	≤ 2.40m	upon request	upon request	upon request
17 / R17	max. 2.00 m	upon request	upon request	upon request

Options with order keys | Examples based on series 15

Standard	*NC version - (No Camber) without pretension*	*ESD - electrically conductive material*
Part No. Standard	**Part No. NC version**	**Part No. igumid ESD**
15.025.*R*.0	15.025.*R*.0.NC	15.025.*R*.0.ESD
Ready to ship in 24 - 48hrs.*	Ready to ship in 12 business days*	Ready to ship in 12 business days* ⚠

⚠ ESD version - some series available from stock - further information and the complete product range ▶ From page 142

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series 15

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 33 links	15.025.075.0
+ Mounting brackets	1 set (with tiewrap plates)	1025.34PZ
Interior separation	with 2 separators assembled every 2nd link	2 x 154
Order text:		1m 15.025.075.0 + 1025.34PZ + 2 x 154

Order key

e-chain® zip-open along the outer radius 15.025.075.0
e-tube zip-open along the outer radius R15.025.075.0

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*
Above special colours upon request.

zipper | e-chains® | Series 047 | Product range

9

Fast opening, small pitch, smooth running

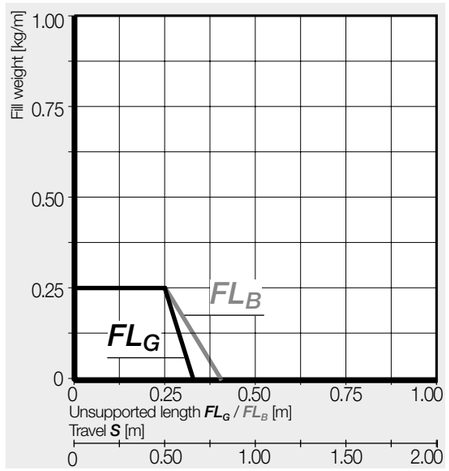


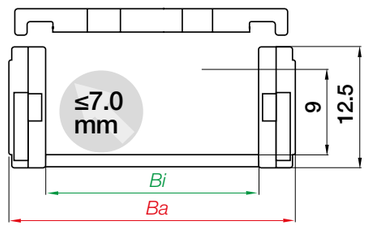
e-chains® | Series 047 | Crossbars on a strip - zip-open along the outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
047.10.R.0	10	16	| 018 | 028 | 038 |	≈ 0.10
047.16.R.0	16	22	| 018 | 028 | 038 |	≈ 0.11

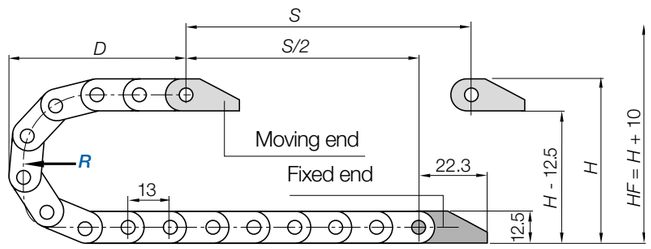
Complete Part No. with required radius (R). Example: **047.10.038.0**

Installation dimensions





Inner height [mm]	9
Pitch [mm/link]	13
Links/m	77
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$

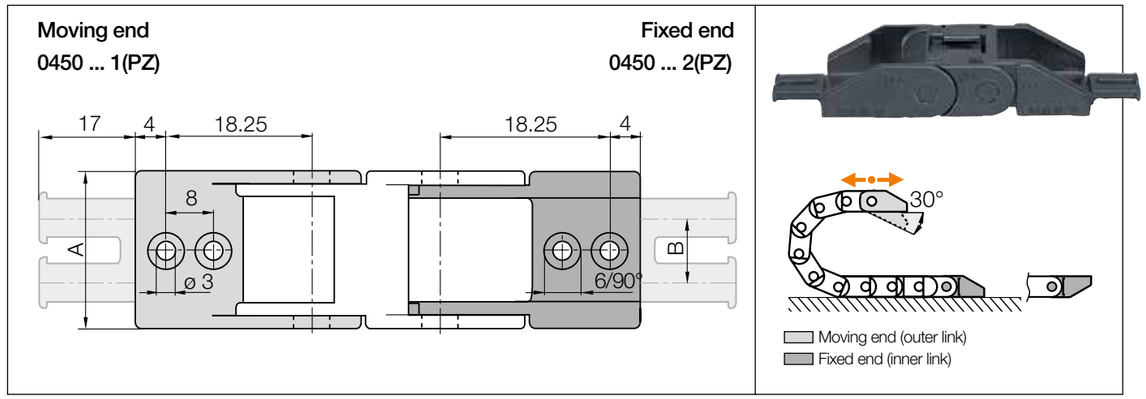


R	018	028	038
H	48.5	68.5	88.5
D	44	54	64
K	85	115	150

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

zipper | e-chains® | Series 047 | Accessories

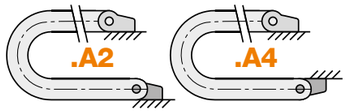
Mounting brackets, polymer one-piece | One end pivoting



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		0450.10.12PZ	0450.10.12	16	–	1
16. ▶		0450.16.12PZ	0450.16.12	22	10	2

Mounting bracket with strain relief tiewrap plate has reductions of ø 3mm / ø 6mm 90°

Mounting bracket without strain relief tiewrap plate only has holes of ø 3mm



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A2** or **.A4** .

0450.10.12PZ.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

zipper | e-chains® | Series 07 | Product range

10,3

Fast opening, small pitch, smooth running



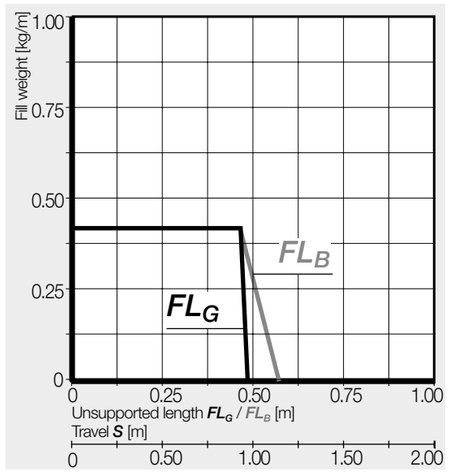
e-chains® | Series 07 | Crossbars on a strip - zip-open along the outer radius

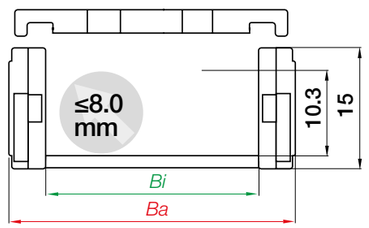
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
07.06.R.0	06	12.5	| 018 | 028 | 038 | – |	≈ 0.13
07.10.R.0⚠	10	16.5	| 018 | 028 | 038 | – |	≈ 0.14
07.16.R.0⚠	16	22.5	| 018 | 028 | 038 | – |	≈ 0.16
07.20.R.0⚠	20	27	| 018 | 028 | 038 | – |	≈ 0.17
07.30.R.0⚠	30	37	| 018 | 028 | 038 | – |	≈ 0.20
07.40.R.0⚠	40	47	| 018 | 028 | 038 | – |	≈ 0.23
07.50.R.0⚠	50	57	| 018 | 028 | 038 | – |	≈ 0.26
07.64.R.0	64	71	| 018 | 028 | 038 | 048 |	≈ 0.30

⚠ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

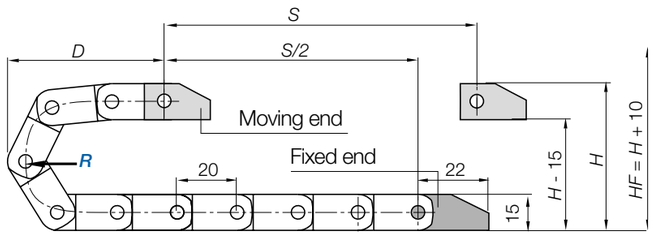
Complete Part No. with required radius (*R*). Example: **07.40.038.0**

Installation dimensions





Inner height [mm]	10.3
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



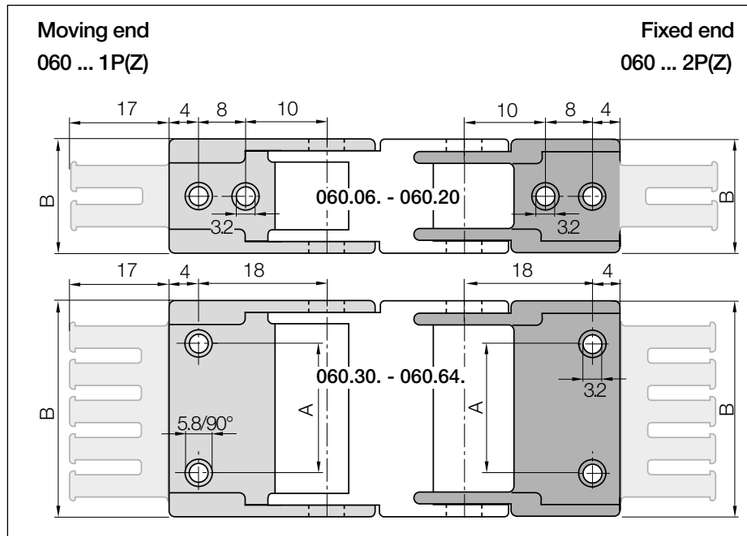
R	018	028	038	048*
H	51	71	91	111
D	56	66	76	86
K	100	130	160	195

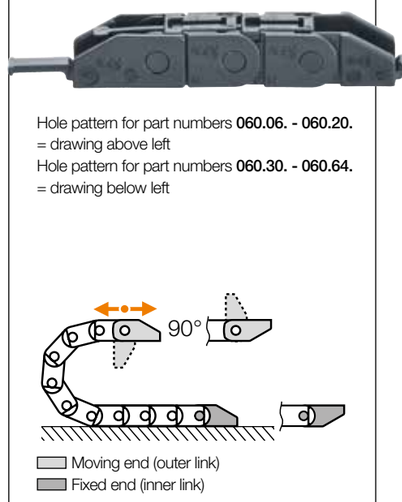
The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

*Radius 048 only for series 07.64

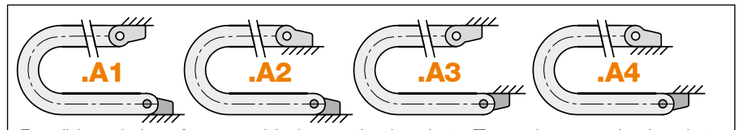
zipper | e-chains® | Series 07 | Accessories

Mounting brackets, polymer one-piece | Locking





Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
06. ▶		060.06.12PZ	060.06.12	–	12.5	1
10. ▶		060.10.12PZ	060.10.12	–	16.5	1
16. ▶		060.16.12PZ	060.16.12	–	22.5	2
20. ▶		060.20.12PZ	060.20.12	–	27.0	2
30. ▶		060.30.12PZ	060.30.12	22	37.0	3
40. ▶		060.40.12PZ	060.40.12	32	47.0	4
50. ▶		060.50.12PZ	060.50.12	42	57.0	5
64. ▶		060.64.12PZ	060.64.12	56	71.0	6



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

060.40.12PZ.A1 **Order example**

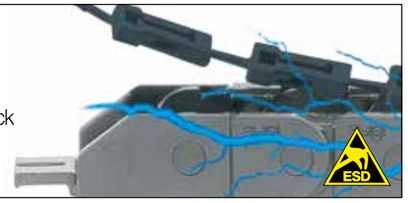
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information and the complete product range

▶ From page 142 or at ▶ www.igus.eu/esd



zipper | e-tubes | Series R07 | Product range

Fast opening, enclosed zipper-band

10,3

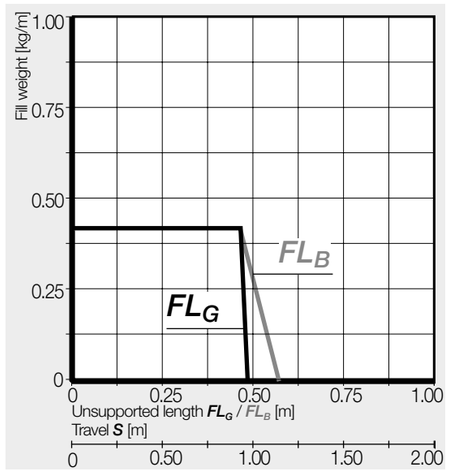


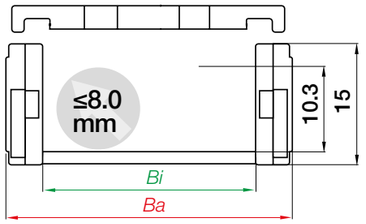
e-tube | Series R07 | Lids on a strip - zip-open along the outer radius

Part No. e-tubes	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
R07.10.R.0	10	16.5	| 038 | 048 |	≈ 0.16
R07.16.R.0	16	22.5	| 038 | 048 |	≈ 0.18
R07.20.R.0	20	27	| 038 | 048 |	≈ 0.19
R07.30.R.0	30	37	| 038 | 048 |	≈ 0.22
R07.40.R.0	40	47	| 038 | 048 |	≈ 0.25
R07.50.R.0	50	57	| 038 | 048 |	≈ 0.28

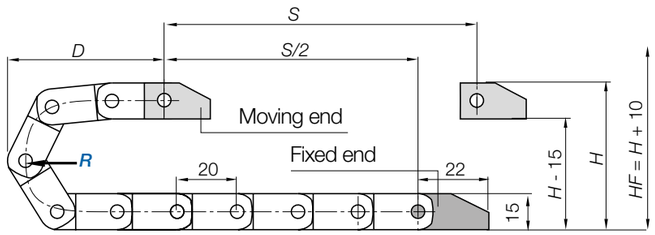
Complete Part No. with required radius (*R*). Example: **R07.40.038.0**

Installation dimensions





Inner height [mm]	10.3
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

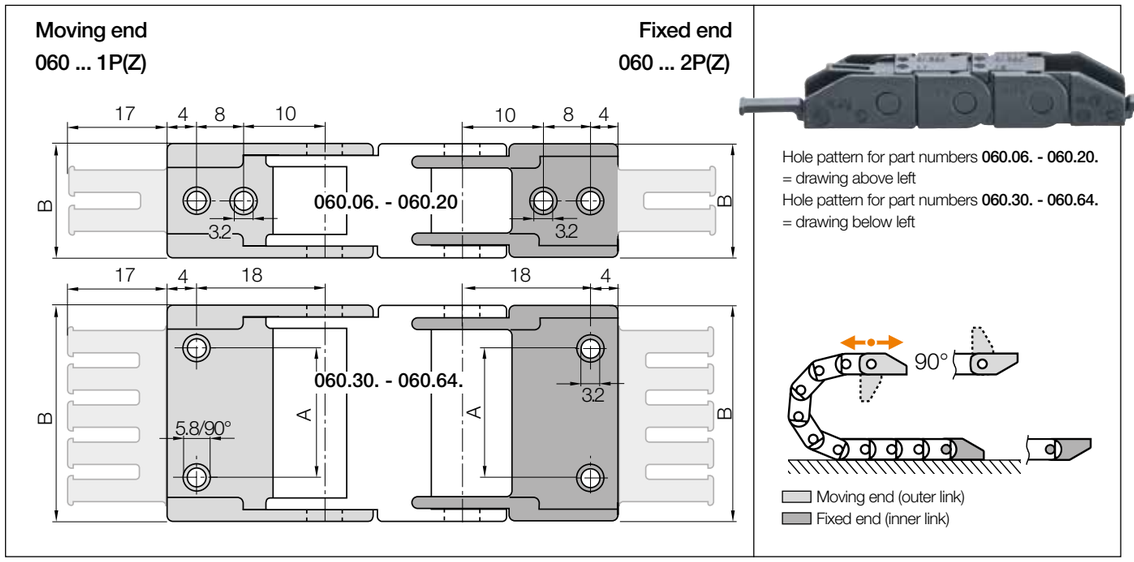


R	038	048
H	91	111
D	76	86
K	160	195

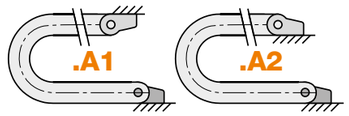
The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

zipper | e-tubes | Series R07 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		060.10.12PZ	060.10.12	–	16.5	1
16. ▶		060.16.12PZ	060.16.12	–	22.5	2
20. ▶		060.20.12PZ	060.20.12	–	27.0	2
30. ▶		060.30.12PZ	060.30.12	22	37.0	3
40. ▶		060.40.12PZ	060.40.12	32	47.0	4
50. ▶		060.50.12PZ	060.50.12	42	57.0	5



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1** or **.A2** .

060.40.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

zipper | e-chains® | Series 09 | Product range

15

Fast opening, for high accelerations



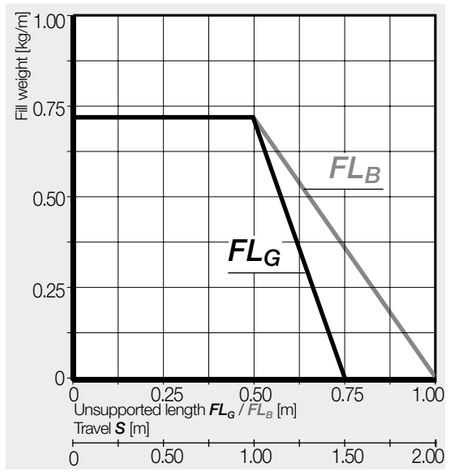
e-chains® | Series 09 | Crossbars on a strip - zip-open along the outer radius

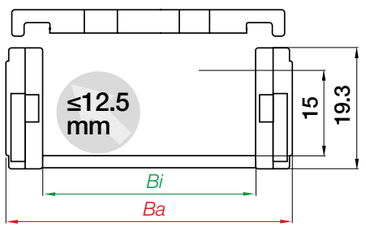
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
09.10.R.0	10	18.2	| 028 | 038 | 048 |	≈ 0.21
09.16.R.0⚠	16	24.2	| 028 | 038 | 048 |	≈ 0.24
09.20.R.0⚠	20	28.2	| 028 | 038 | 048 |	≈ 0.25
09.30.R.0⚠	30	38.2	| 028 | 038 | 048 |	≈ 0.28
09.40.R.0⚠	40	48.2	| 028 | 038 | 048 |	≈ 0.31
09.50.R.0⚠	50	58.2	| 028 | 038 | 048 |	≈ 0.34
09.64.R.0	64	72.2	| 028 | 038 | 048 |	≈ 0.39

⚠ ESD version (Electro Static Discharge) available from stock. More information ▶ From page 142

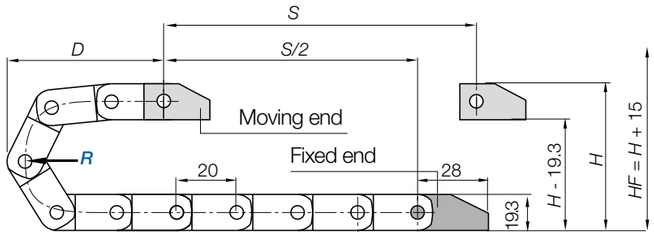
Complete Part No. with required radius (*R*). Example: **09.40.048.0**

Installation dimensions





Inner height [mm]	15
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

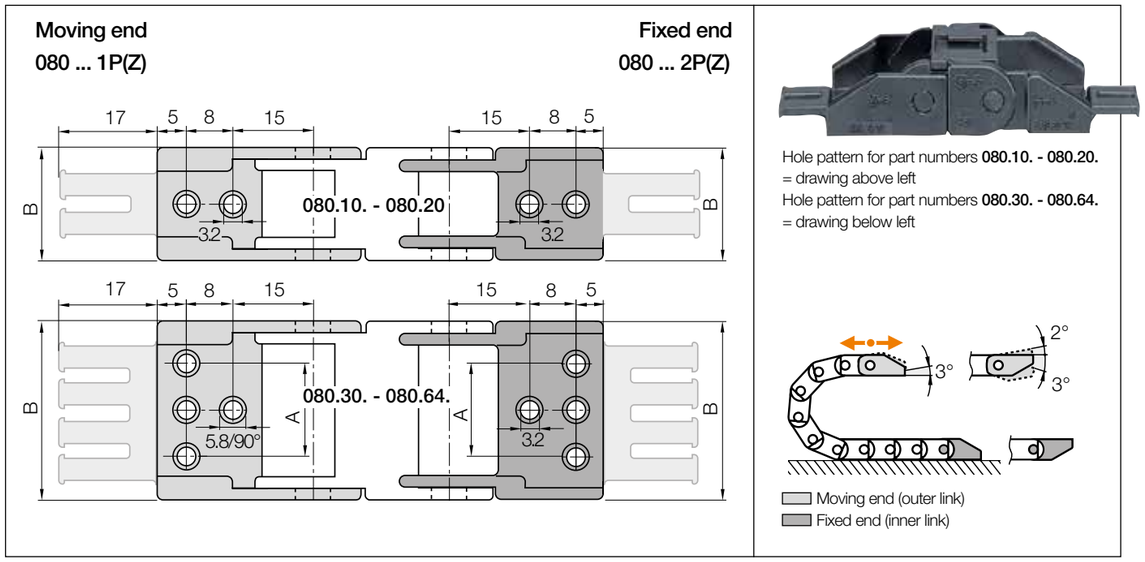


R	028	038	048
H	75	95	115
D	68	78	88
K	130	160	195

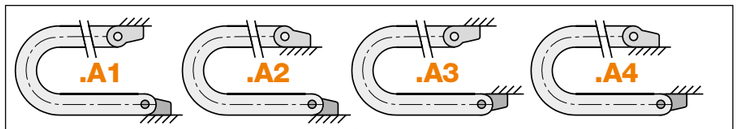
The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

zipper | e-chains® | Series 09 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10.12PZ	080.10.12	–	18.2	1
16. ▶		080.16.12PZ	080.16.12	–	24.2	2
20. ▶		080.20.12PZ	080.20.12	–	28.2	2
30. ▶		080.30.12PZ	080.30.12	22	38.2	3
40. ▶		080.40.12PZ	080.40.12	32	48.2	4
50. ▶		080.50.12PZ	080.50.12	42	58.2	5
64. ▶		080.64.12PZ	–	56	72.2	6



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

080.40.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

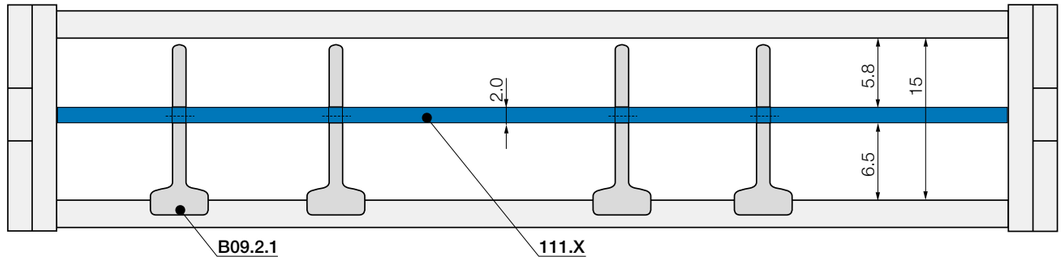
ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information and the complete product range
▶ From page 142 or at ▶ www.igus.eu/esd

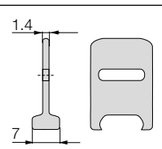


Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



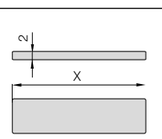


Slotted separator	
unassembled	**B09.2**
assembled	**B09.2.1**

Slotted separator

Vertical subdivision in e-chains®. The slot allows basic vertical/horizontal shelving arrangements.





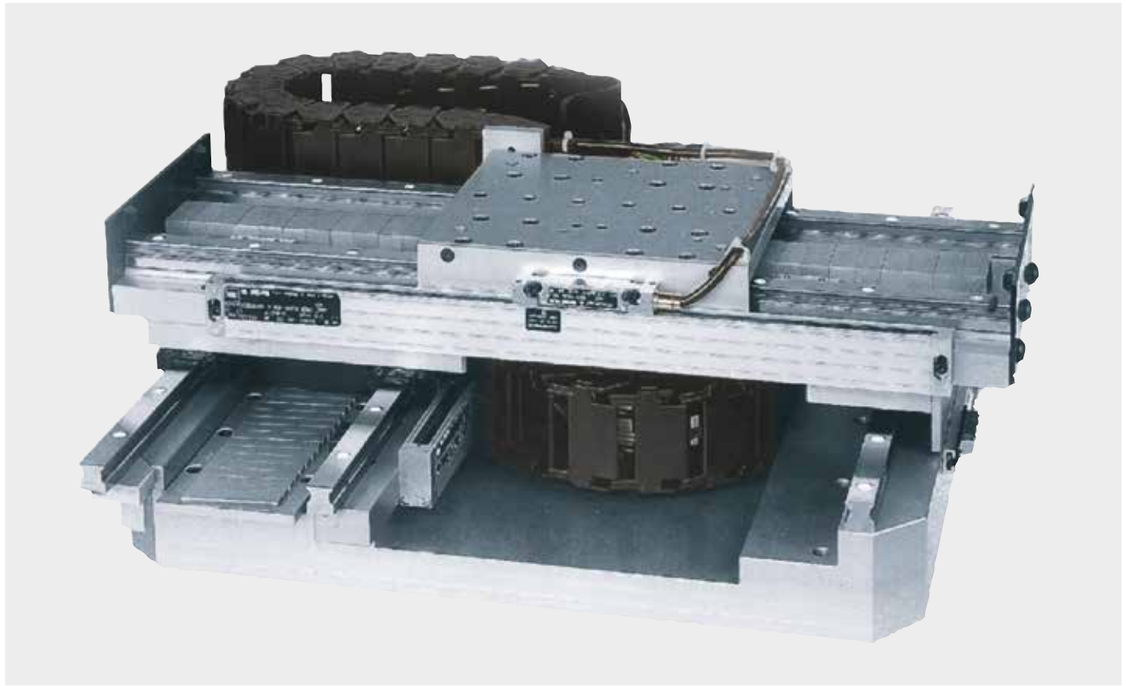
Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
016	**110.16**	**111.16**	030	**110.30**	**111.30**	050	**110.50**	**111.50**
020	**110.20**	**111.20**	040	**110.40**	**111.40**			



igus® zipper e-chain® on an X/Y unit. Acceleration: 100m/s²

zipper | **e-tubes** | Series R09 | Product range

15

Fast opening, enclosed zipper-band

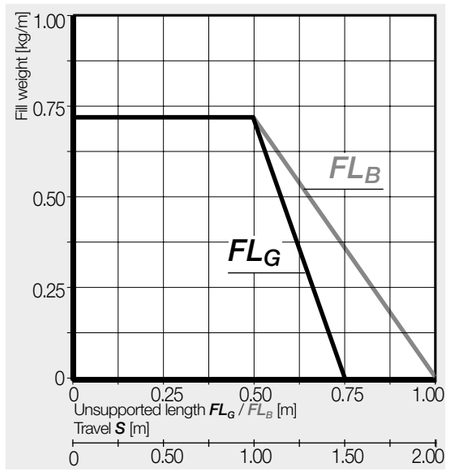


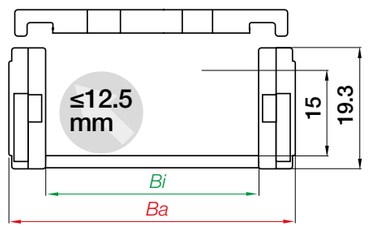
e-tube | Series R09 | Lids on a strip - zip-open along the outer radius

Part No. e-tubes	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
R09.10.*R*.0	10	18.2	| 048 | 075 | 100 |	≈ 0.23
R09.16.*R*.0	16	24.2	| 048 | 075 | 100 |	≈ 0.26
R09.20.*R*.0	20	28.2	| 048 | 075 | 100 |	≈ 0.27
R09.30.*R*.0	30	38.2	| 048 | 075 | 100 |	≈ 0.30
R09.40.*R*.0	40	48.2	| 048 | 075 | 100 |	≈ 0.33
R09.50.*R*.0	50	58.2	| 048 | 075 | 100 |	≈ 0.36

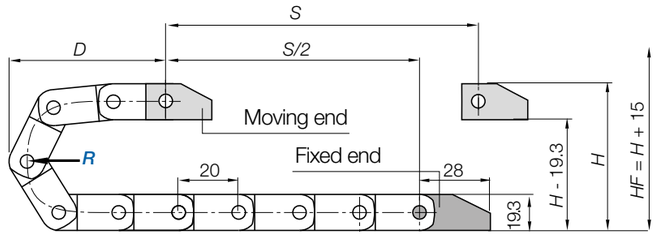
Complete Part No. with required radius (*R*). Example: R09.40.048.0

Installation dimensions





Inner height [mm]	15
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

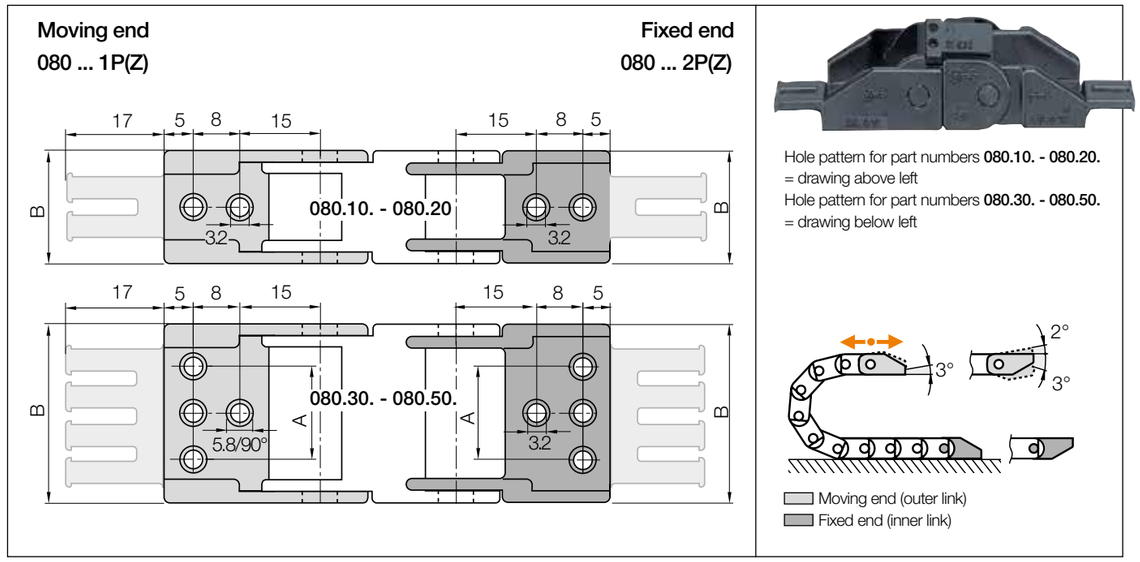


R	048	075	100
H	115	169	219
D	88	115	140
K	195	280	355

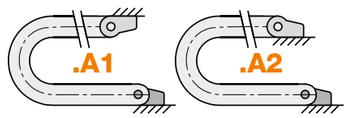
The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

zipper | **e-tubes** | Series R09 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10.12PZ	080.10.12	–	18.2	1
16. ▶		080.16.12PZ	080.16.12	–	24.2	2
20. ▶		080.20.12PZ	080.20.12	–	28.2	2
30. ▶		080.30.12PZ	080.30.12	22	38.2	3
40. ▶		080.40.12PZ	080.40.12	32	48.2	4
50. ▶		080.50.12PZ	080.50.12	42	58.2	5



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1** or **.A2** .



Order example

zipper | e-chains® | Series 15 | Product range

17

Fast opening, high strength



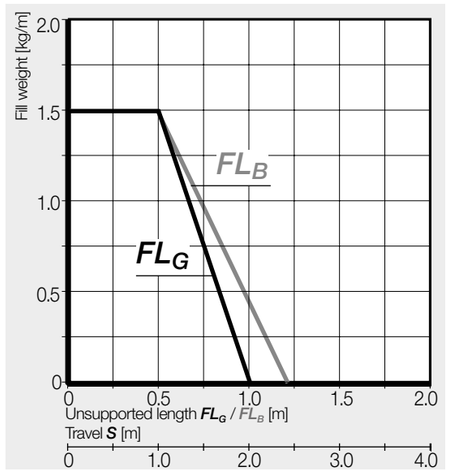
e-chains® | Series 15 | Crossbars on a strip - zip-open along the outer radius

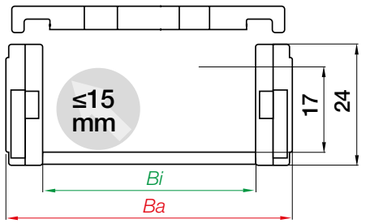
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
15.015.R.0	15	26	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.35
15.025.R.0	25	36	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.40
15.038.R.0	38	49	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.46
15.050.R.0	50	61	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.52
15.5 .R.0	63	76	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.63
15.6 .R.0	80	94	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.70
15.7 .R.0	100	113	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.76

Before using this series on long travels please consult igus®.

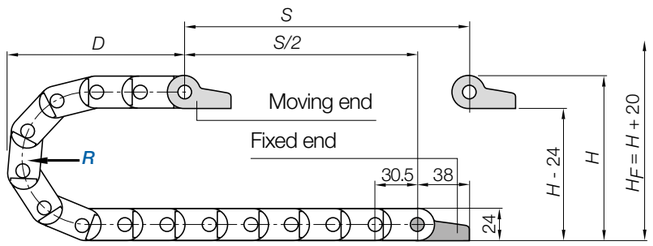
Complete Part No. with required radius (R). Example: **15.025.038.0**

Installation dimensions





Inner height [mm]	17
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$



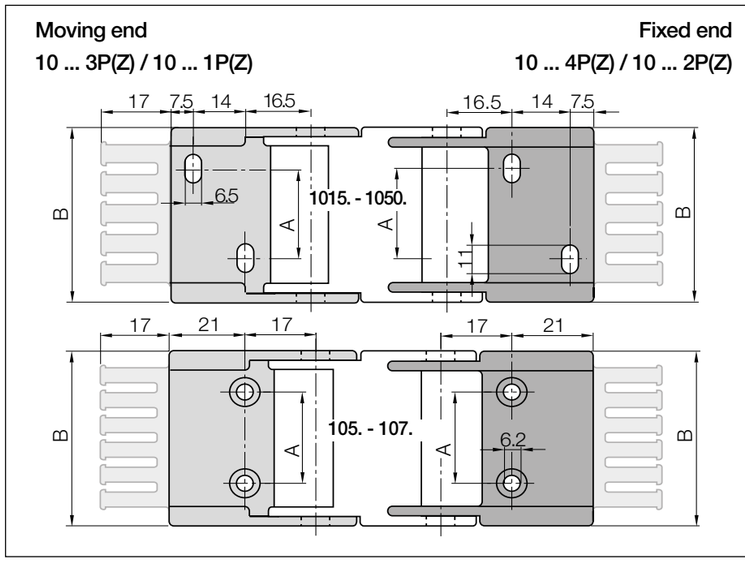
R	038	048	075	100	110	125	145	180
H	99	119	173	223	243	273	313	383
D	95	105	132	157	167	182	202	237
K	185	215	300	380	410	455	520	630

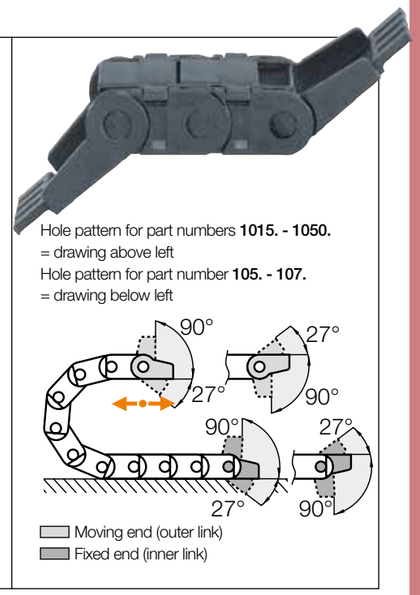
The required clearance height: $H_F = H + 20$mm (with 1.0kg/m fill weight)

zipper | e-chains® | Series 15 | Accessories

Mounting brackets, polymer one-piece | Pivoting | Locking

▶ 1333





Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶		1015.34PZ	1015.34P	1015.12PZ	1015.12P	–	25.5	2
025. ▶		1025.34PZ	1025.34P	1025.12PZ	1025.12P	10	35.5	3
038. ▶		1038.34PZ	1038.34P	1038.12PZ	1038.12P	23	48.5	4
050. ▶		1050.34PZ	1050.34P	1050.12PZ	1050.12P	35	60.5	5
5. ▶		105. 34PZ	105. 34P	105. 12PZ	105. 12P	48	75.0	6
6. ▶		106. 34PZ	106. 34P	106. 12PZ	106. 12P	65	92.0	8
7. ▶		107. 34PZ	107. 34P	107. 12PZ	107. 12P	85	112.0	10

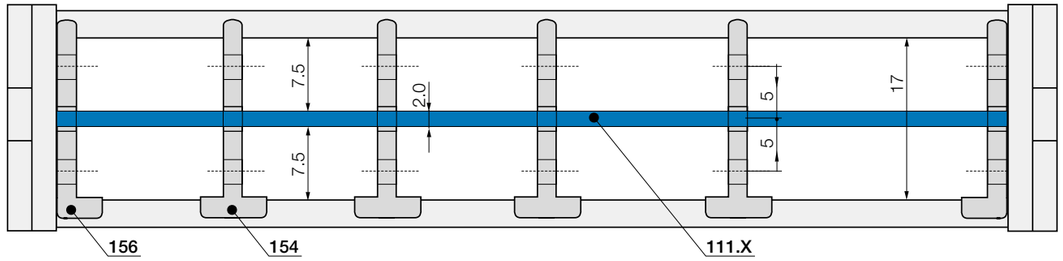


Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

1025.34PZ.A1 — **Order example**

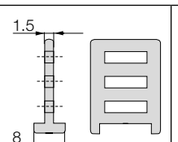
- .A ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



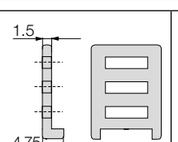


Slotted separator	
unassembled	**153**
assembled	**154**

Slotted separator

Vertical subdivision in e-chains®. The slot allows basic vertical/horizontal shelving arrangements.



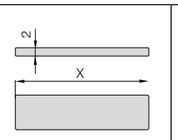


Slotted side plate	
unassembled	**155**
assembled	**156**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!





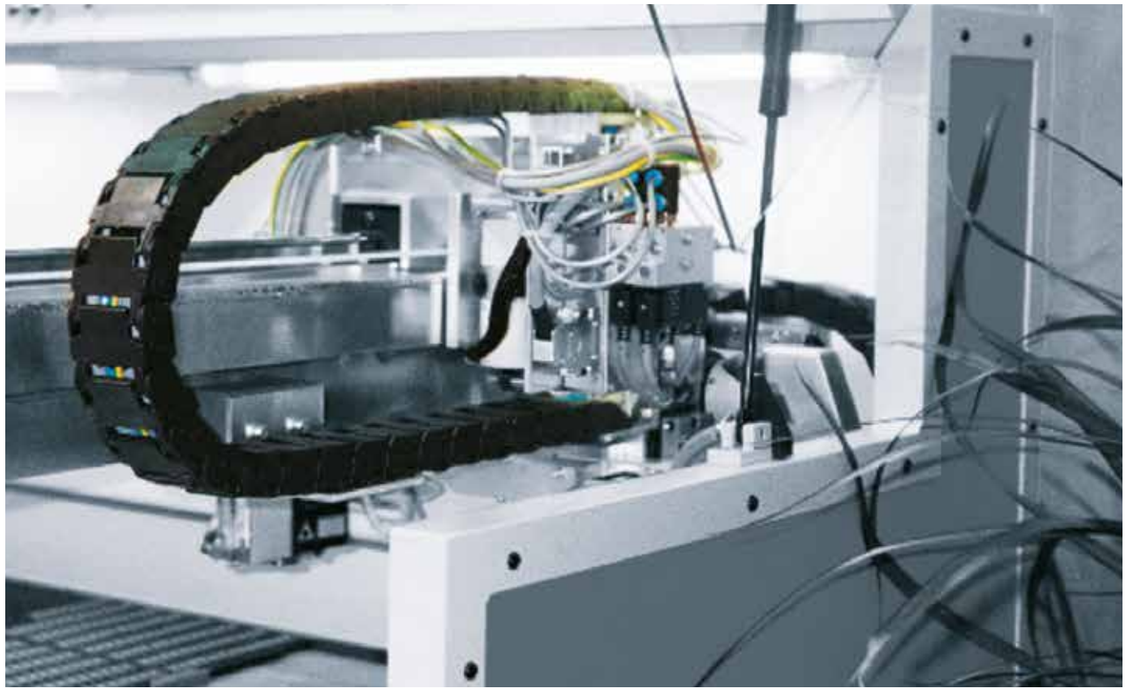
Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	063	**110.63**	**111.63**			
038	**110.38**	**111.38**	080	**110.80**	**111.80**			



igus® zipper e-chain® series 15 in a special purpose machine for quick cable installation

zipper | **e-tubes** | Series R15 | Product range

17

Fast opening, enclosed zipper-band



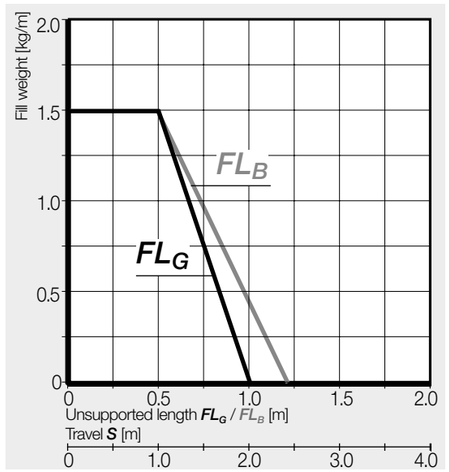
e-tube | Series R15 | Lids on a strip - zip-open along the outer radius

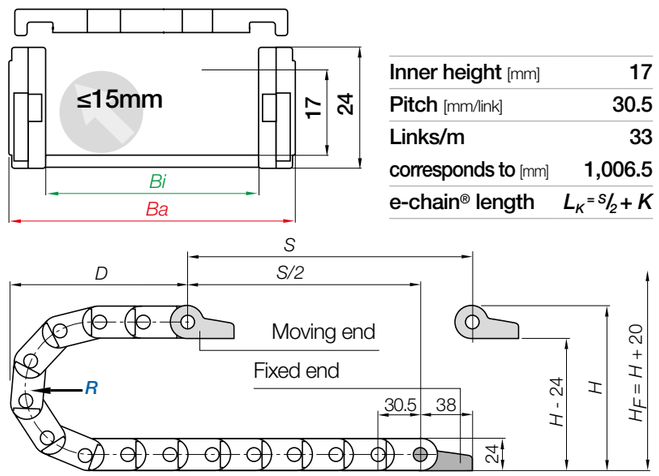
Part No.	*Bi*	*Ba*	*R* Available bend radii	Weight
e-tubes	[mm]	[mm]	[mm]	[kg/m]
R15.025.*R*.0	25	36	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.45
R15.038.*R*.0	38	49	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.51
R15.063.*R*.0	63	76	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.68
R15.080.*R*.0	80	94	| 063 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.75

Before using this series on long travels please consult igus®.

Complete Part No. with required radius (*R*). Example: **R15.025.063.0**

Installation dimensions





Inner height [mm]	17
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

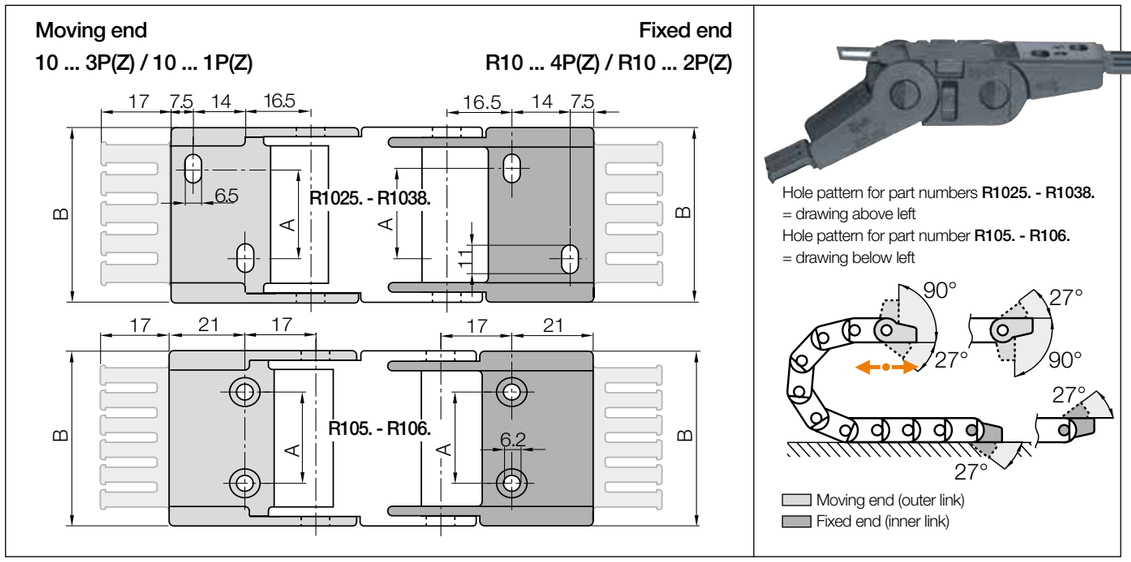
R	063	075	100	110	125	145	180	180
H	149	173	223	243	273	313	383	383
D	120	132	157	167	182	202	237	237
K	260	300	380	410	455	520	630	630

The required clearance height: $H_F = H + 20$mm (with 1.0kg/m fill weight)

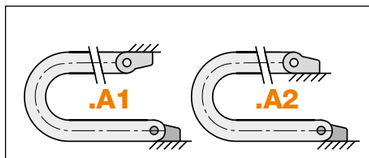
zipper | **e-tubes** | Series R15 | Accessories

Mounting brackets, polymer one-piece | Pivoting | Locking

▶ 1333



Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
025. ▶		**R1025.34PZ**	**R1025.34P**	**R1025.12PZ**	**R1025.12P**	10	35.5	3
038. ▶		**R1038.34PZ**	**R1038.34P**	**R1038.12PZ**	**R1038.12P**	23	48.5	4
063. ▶		**R105. 34PZ**	**R105. 34P**	**R105. 12PZ**	**R105. 12P**	48	75.0	6
080. ▶		**R106. 34PZ**	**R106. 34P**	**R106. 12PZ**	**R106. 12P**	65	92.0	8

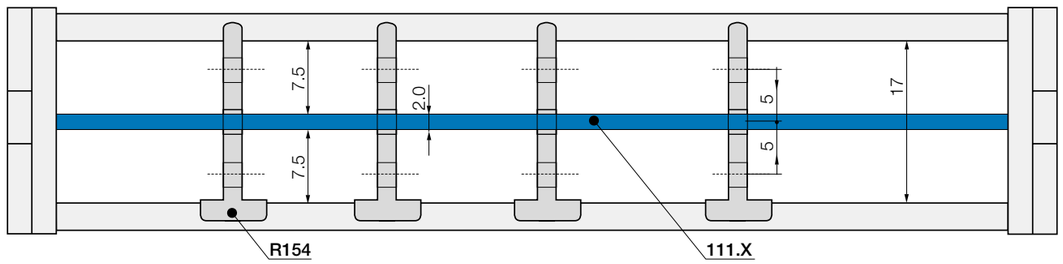


Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1** or **.A2** .

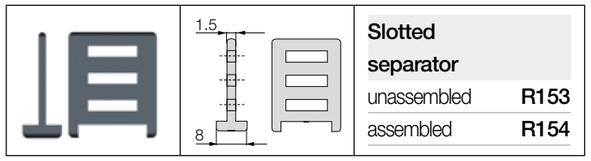
R1025.34PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Interior separation



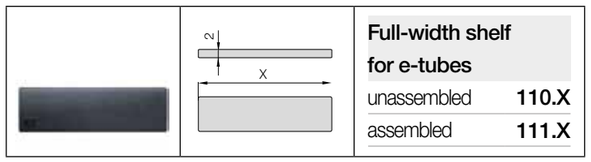
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	**R153**
assembled	**R154**

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical/ horizontal shelving arrangements.



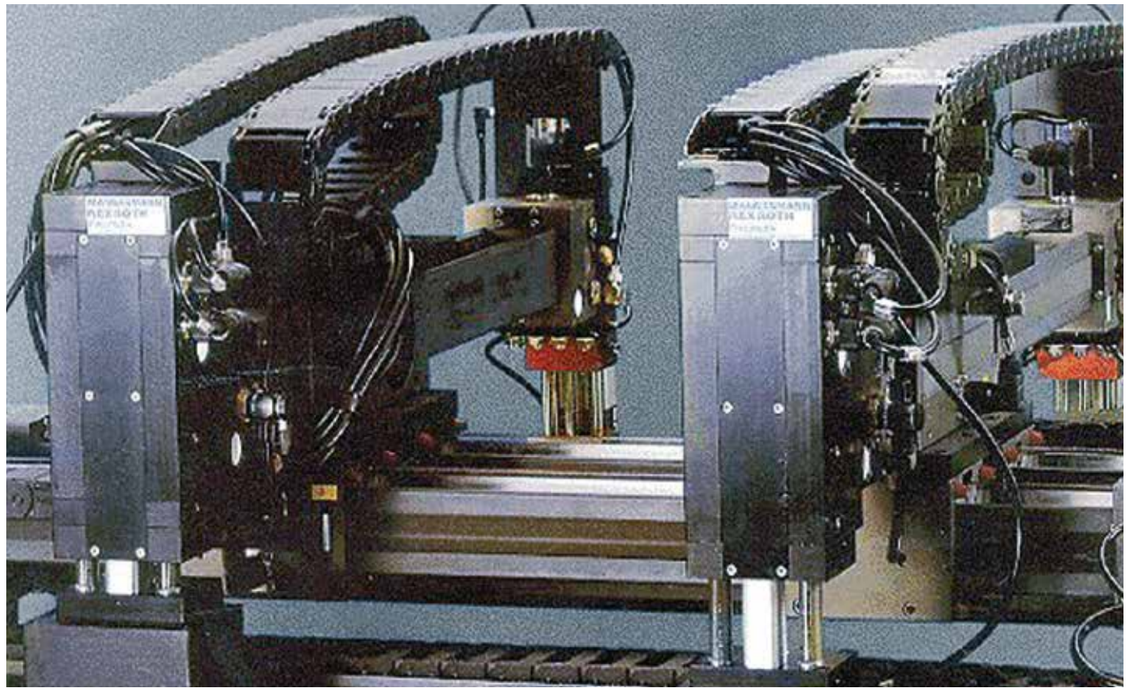
Full-width shelf for e-tubes	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
025	**110.25**	**111.25**	063	**110.63**	**111.63**
038	**110.38**	**111.38**	080	**110.80**	**111.80**



Series 15 on a pick and place machine. Acceleration: 100 m/s² , smooth running

zipper | e-chains® | Series 17 | Product range

32

Fast opening, large inner height

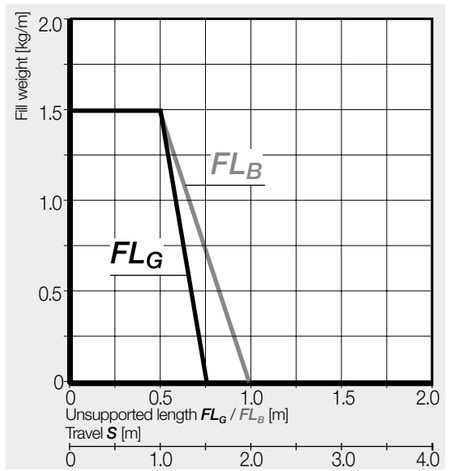


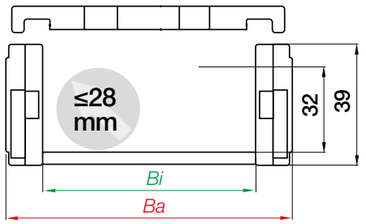
e-chains® | Series 17 | Crossbars on a strip - zip-open along the outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
17.1.R.0	15	25.5	| 063 | 075 | 100 | 125 |	≈ 0.52
17.2.R.0	25	35.5	| 063 | 075 | 100 | 125 |	≈ 0.59
17.3.R.0	38	48.5	| 063 | 075 | 100 | 125 |	≈ 0.65
17.4.R.0	50	60.5	| 063 | 075 | 100 | 125 |	≈ 0.70
17.5.R.0	63	76	| 063 | 075 | 100 | 125 |	≈ 0.83
17.6.R.0	80	93	| 063 | 075 | 100 | 125 |	≈ 0.92
17.7.R.0	100	113	| 063 | 075 | 100 | 125 |	≈ 1.06

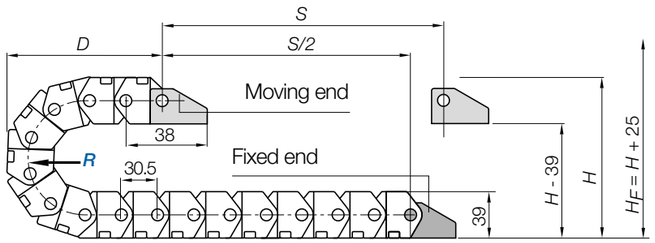
Complete Part No. with required radius (R). Example: **17.2.075.0**

Installation dimensions





Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

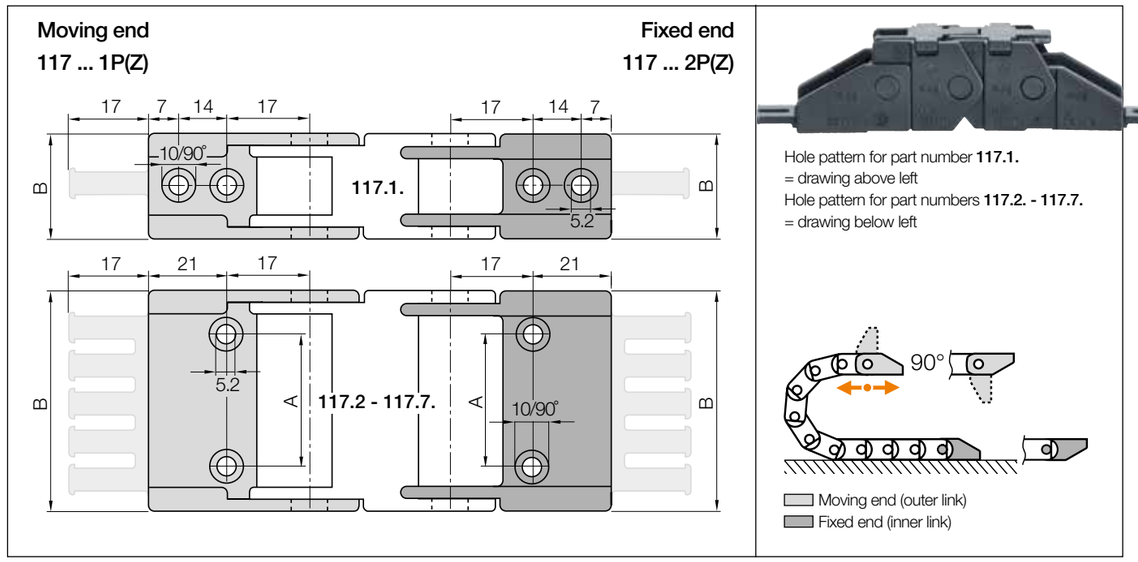


R	063	075	100	125
H	165	189	239	289
D	128	140	165	190
K	260	300	380	455

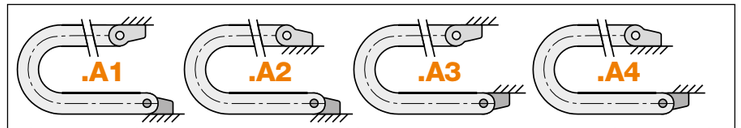
The required clearance height: $H_F = H + 25mm$ (with 1.5kg/m fill weight)

zipper | e-chains® | Series 17 | Accessories

Mounting brackets, polymer one-piece | Locking



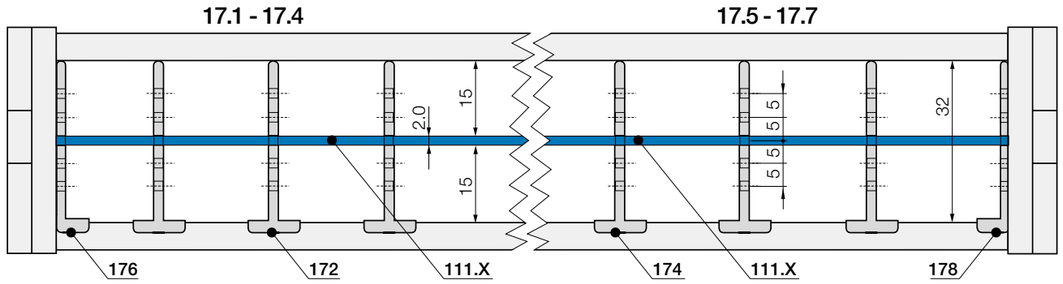
Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
1.	▶	117.1.12PZ	117.1.12P	–	25.5	1
2.	▶	117.2.12PZ	117.2.12P	12	35.5	3
3.	▶	117.3.12PZ	117.3.12P	25	48.5	4
4.	▶	117.4.12PZ	117.4.12P	37	60.5	5
5.	▶	117.5.12PZ	117.5.12P	48	76	6
6.	▶	117.6.12PZ	117.6.12P	65	93	8
7.	▶	117.7.12PZ	117.7.12P	85	113	10



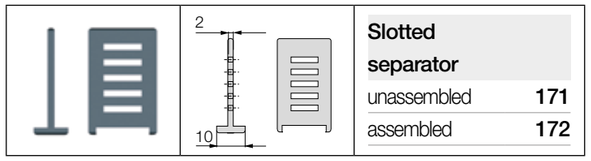
Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

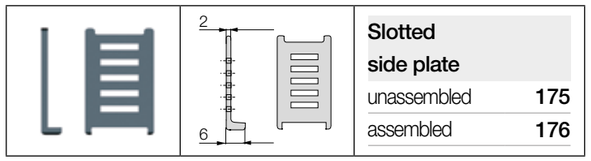


Slotted separator	
unassembled	**171**
assembled	**172**

For width index 17.1 up to 17.4

Slotted separator

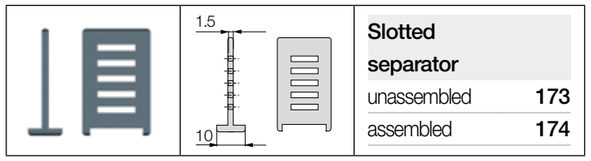
Vertical subdivision in e-chains®. The slot allows basic vertical/horizontal shelving arrangements.



Slotted side plate	
unassembled	**175**
assembled	**176**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!

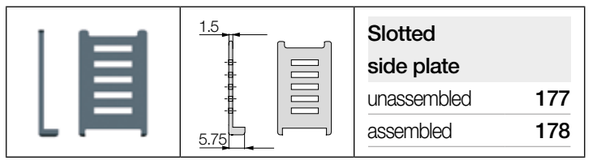


Slotted separator	
unassembled	**173**
assembled	**174**

For width index 17.5 up to 17.7

Slotted separator

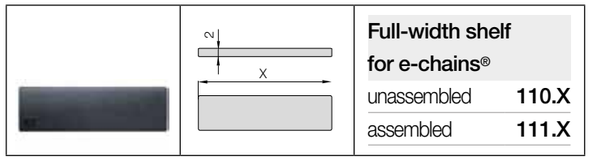
Vertical subdivision in e-chains®. The slot allows basic vertical/horizontal shelving arrangements.



Slotted side plate	
unassembled	**177**
assembled	**178**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!



Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

For all widths

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

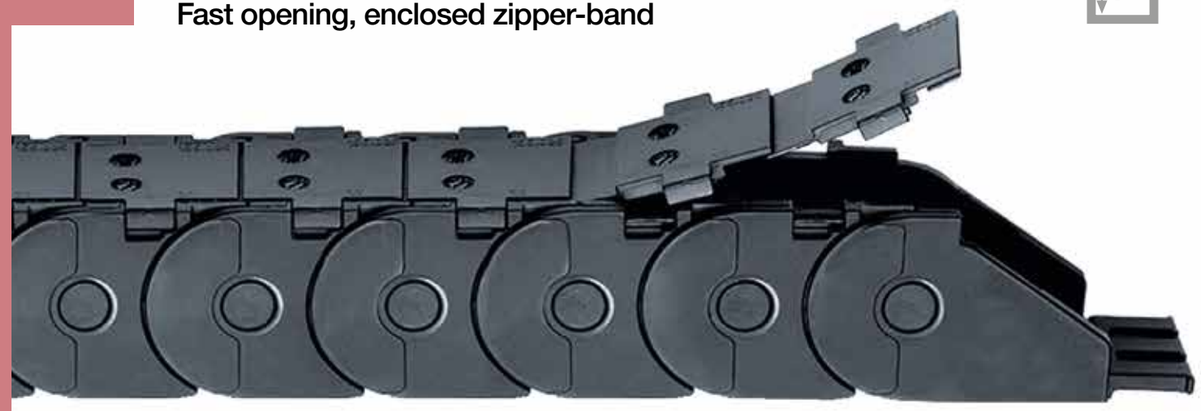
Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	063	**110.63**	**111.63**			
038	**110.38**	**111.38**	080	**110.80**	**111.80**			

zipper | **e-tubes** | Series R17 | Product range

32

Fast opening, enclosed zipper-band

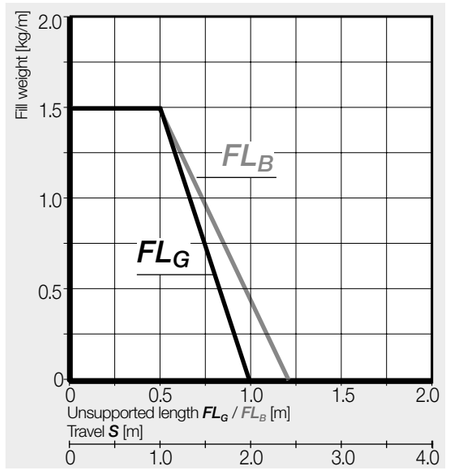


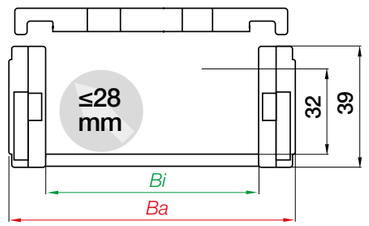
e-tube | Series R17 | Lids on a strip - zip-open along the outer radius

Part No.	*Bi*	*Ba*	*R* Available bend radii	Weight
e-tubes	[mm]	[mm]	[mm]	[kg/m]
R17.015 .*R*.0	15	26	| 063 | 075 | 100 | 125 |	≈ 0.57
R17.025 .*R*.0	25	36	| 063 | 075 | 100 | 125 |	≈ 0.64
R17.063 .*R*.0	63	74	| 063 | 075 | 100 | 125 |	≈ 0.88

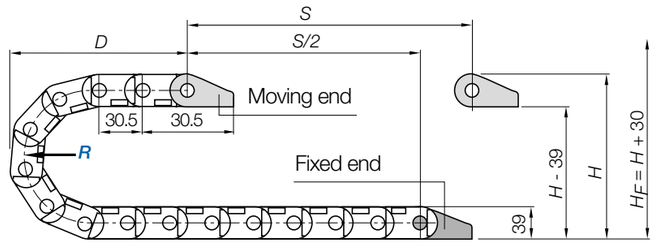
Complete Part No. with required radius (*R*). Example: **R17.015.063.0**

Installation dimensions





Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

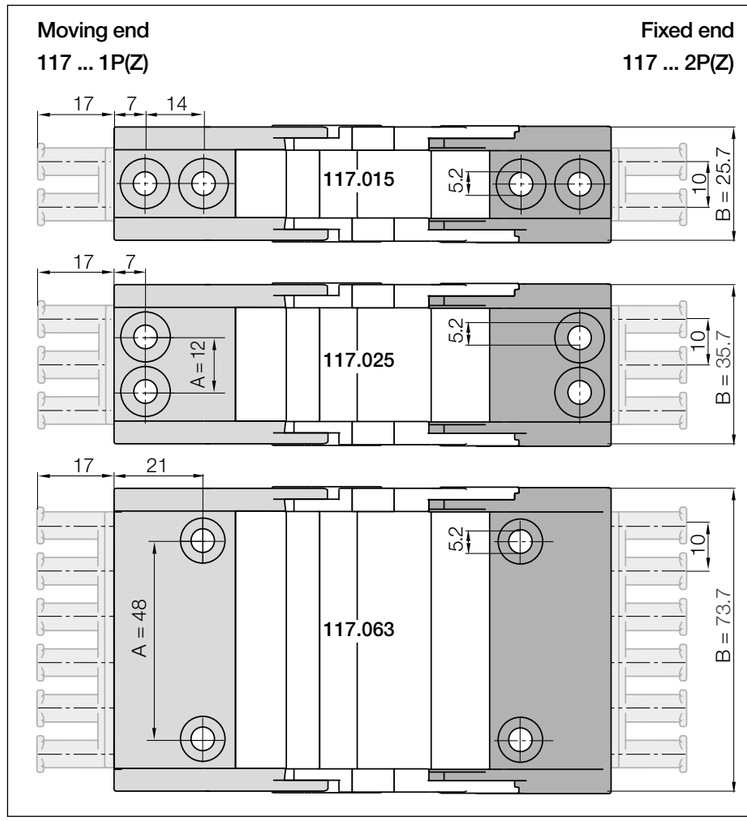


R	063	075	100	125
H	165	189	239	289
D	128	140	165	190
K	260	300	380	455

The required clearance height: $H_F = H + 30$mm (with 1.0kg/m fill weight)

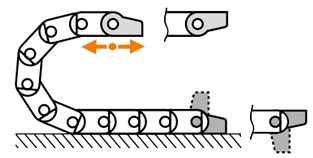
zipper | **e-tubes** | Series R17 | Accessories

Mounting brackets, polymer one-piece | Locking





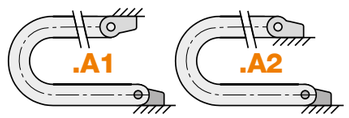
Hole pattern for part number **117.015.**
= drawing above left
Hole pattern for part number **117.025.**
= drawing left, centre
Hole pattern for part number **117.063.**
= drawing below left



Moving end (outer link)
Fixed end (inner link)

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶		117.015.12PZ	117.015.12P	–	25.7	2
025. ▶		117.025.12PZ	117.025.12P	12	35.7	3
063. ▶		117.063.12PZ*	117.063.12P*	48	73.7	6

*Pivoting requires rework

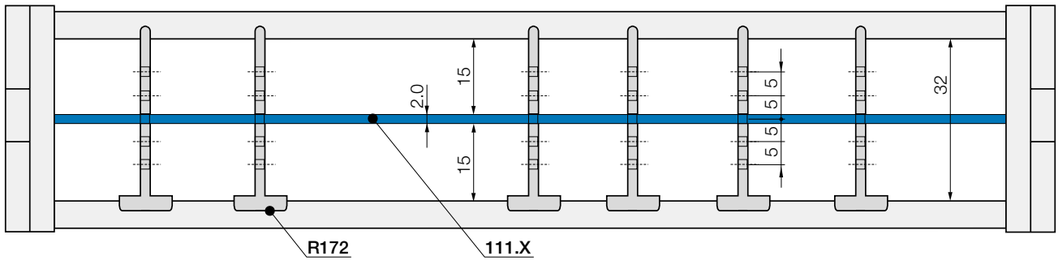


Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1** or **.A2** .

117.015.12PZ.A1 Order example

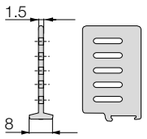
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



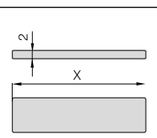


Slotted separator	
unassembled	**R171**
assembled	**R172**

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical/ horizontal shelving arrangements.





Full-width shelf for e-tubes	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	063	**110.63**	**111.63**
025	**110.25**	**111.25**			



E2 micro

Small inner heights and bend radii

Advantages of the E2 micro series:

- For the smallest applications
- Lightweight and cost-effective
- Quiet operation due to small pitch
- Ideal for applications with low inertia
- Variety of options - E2 micro as non-openable or openable along the inner or outer radius

When to use another e-chain® series:

- When openable crossbars are required
  - ► **E2.1 micro, page 334**
  - ► **zipper, page 240**
- When easy filling with connectorised cables is required
  - ► **easy chain®, page 212**



Universal connection: mounting bracket with strain relief option

Cost-efficient: very lightweight, low price

Smooth Design: dirt-repellent outer contour

Smooth running: small pitch for low-noise, smooth running

Cost-effective: one-piece design, non-openable

Series 074 /094: moulded crossbar, openable along the inner radius with film hinge

Series B07/B09: openable along the outer radius

Smallest inner heights and bend radii - E2 micro

E2 micro e-chains® are very small, one- and two-piece (B07/B09) e-chains® with low weight, making them ideal for highly dynamic applications. E2.1 micro e-chains® are optimal for smallest installation spaces, and are available in many versions. igus® also offers numerous accessories and mounting options. Upgrades of the openable versions are available for many types; different types are interchangeable and can therefore be used as, spare parts for existing applications, for example.

Typical industries and applications

● Models (micro e-chain®) ● Automatic doors ● Vehicles ● Measuring machines ● Electronic engineering ● Handling ● Pick und place robots ● General machinery, etc.

Clean-Room Cleanroom test upon request

UL94-V2 classification - for series 03, 074, 094 (UL94-V0 upon request)

iF product design award
1989 igus® series 05

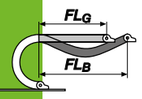
Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **E2 micro - one-piece design** non-openable							
03	5	5 - 10	8.70 - 13.7	8	010 - 028	0.40	**280**
04	7	7 - 30	12 - 35	10	015 - 048	0.50	**282**
05	10	6 - 64	10 - 68	12	018 - 038	0.55	**284**
045	10.3	6 - 64	12 - 70	12.5	018 - 083	0.50	**286**
06 [1)]	10.5	6 - 64	12.5 - 71	15	018 - 038	0.60	**290**
08 [2)]	15	10 - 50	18.2 58.2	19.3	025 - 048	1.00	**300**
 **E2 micro - one-piece design** openable along the inner radius with film hinge							
074	11.5	10 - 20	16.3 - 26.3	15	018 - 038	0.55	**292**
094	15.6	10 - 30	18.2 - 38.2	19.3	028 - 048	1.00	**294**
 **E2 micro - two-piece design** openable along the outer radius							
B07 [3)]	10.3	16 - 40	22.5 - 47	15	018 - 038	0.55	**288**
B09 [4)]	14.3	16 - 40	24.2 - 48.2	19.3	028 - 048	1.00	**296**

For new designs we recommend E2.1 micro system series: 1) E2C.10, 2) E2C.15, 3) E2.10, 4) E2.15 ▶ From page 334

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Technical data



Speed gliding / acceleration gliding	≤ 3 [m/s] / ≤ 10 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Material - permitted temperature °C, igumid NB (only series 03, 074, 094)	-40°C / +80°C
Material lower part - permitted temperature °C, igumid G (only series B07, B09)	-40°C/+120°C
Material crossbar - permitted temperature °C, igumid NB (only series B07, B09)	-40°C / +80°C
Flammability class	igumid G = VDE 0304 IIC UL94-HB / igumid NB = VDE 0304 IIC UL94-V2

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
03	≤ 0.80m	upon request	upon request	upon request	with rework	upon request
04	≤ 1.00m	upon request	upon request	upon request	with rework	upon request
05	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
045	≤ 1.00m	upon request	upon request	upon request	with rework	upon request
B07 3)	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
06 1)	≤ 1.20m	upon request	upon request	upon request	with rework	upon request
074	≤ 1.10m	upon request	upon request	upon request	with rework	upon request
094	max. 2.00 m	upon request	upon request	upon request	with rework	upon request
B09 4)	max. 2.00 m	upon request	upon request	upon request	with rework	upon request
08 2)	max. 2.00 m	upon request	upon request	upon request	with rework	upon request

For new designs we recommend E2.1 micro system series: 1) E2C.10, 2) E2C.15, 3) E2.10, 4) E2.15 ▶ From page 334

Options with order keys | Examples based on series 08

Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*ESD - electrically conductive material*
Part No. Standard	Part No. NC version	Part No. *RBR*	Part No. igumid ESD**
08.50.*R*.0	08.50.*R*.0.NC	08.50.*R1/R2*.0	08.50.*R*.0.ESD
Ready to ship in 24 - 48hrs.*	Ready to ship in 3-5 business days*	Ready to ship in 12 business days* ◎	Delivery time upon request*

◎ *RBR* version (Reverse Bend Radius) - some radii available from stock - further information and the complete product range ▶ From page 130

⚠ **If an ESD-Version (Electro Static Discharge) from stock is required, please select an E2.1 system ▶ From page 334

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series 08

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 50 links	08.50.038.0
+ Mounting brackets	1 set (with tiewrap plates)	080.50.12PZ
Interior separation	with 2 separators assembled every 2nd link	2 x B09.2.1
Order text:		1m 08.50.038.0 + 080.50.12PZ + 2 x B09.2.1

Order key

One-piece, non-openable **08.50.038.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

E2 micro | Series 03 | Product range

Small installation spaces

5



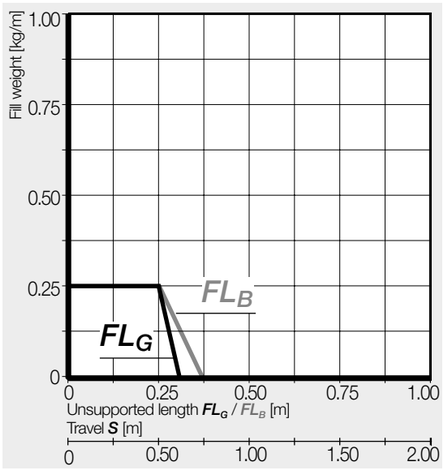
e-chains® | Series 03 | One-piece, non-openable

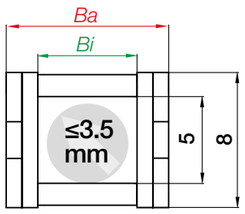
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
03.05.R.0◎	5	8.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.04
03.07.R.0	7	10.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.05
03.10.R.0◎	10	13.7	| 010 | 012 | 015 | 018 | 028 |	≈ 0.06

◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ From page 130

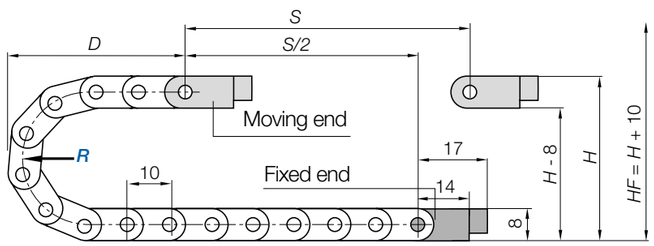
Complete Part No. with required radius (*R*). Example: **03.05.028.0**

Installation dimensions





Inner height [mm]	5
Pitch [mm/link]	10
Links/m	100
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

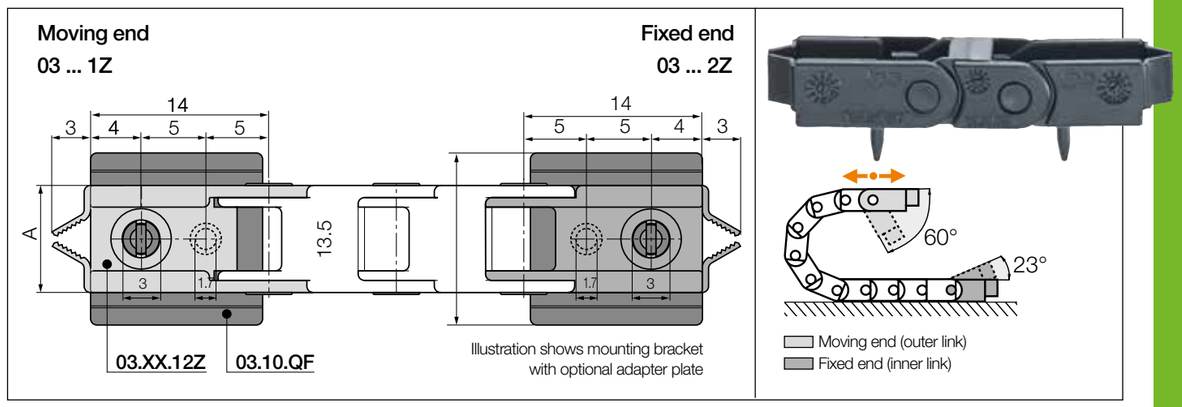


R	010	012	015	018	028
H	28	32	38	44	64
D	29	31	34	37	47
K	55	60	70	80	110

The required clearance height: $H_F = H + 10mm$ (with 0.1kg/m fill weight)

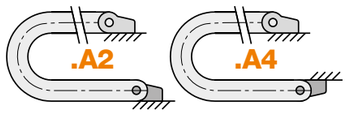
E2 micro | Series 03 | Accessories

Mounting brackets, polymer one-piece | Pivoting



Width index	Part No. Full set	A [mm]
05. ▶	03.05.12Z	8.7
07. ▶	03.07.12Z	10.7
10. ▶	03.10.12Z	13.7

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A2** or **.A4** .

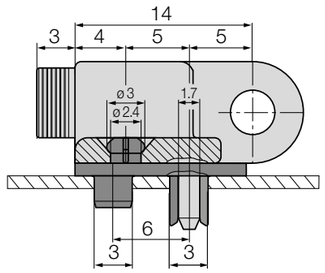
Order example

03.05.12Z.A2

.A ... to indicate option with brackets pre-fitted

Full set

Series



Adapter plate for rapid installation for all sizes, Part No. 03.10.QF

The adapter has scored lines so that it can be adapted to the respective e-chain® width. The adapter plate is not always necessary when attaching the mounting brackets as they can also be screwed on without the adapter plate.



Optional adapter plate

E2 micro | Series 04 | Product range

Lightweight

7

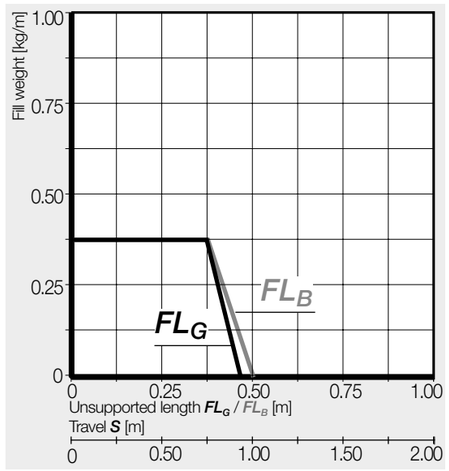


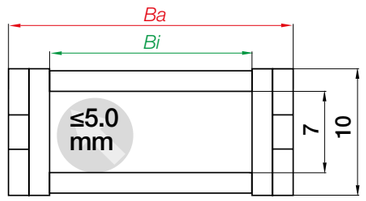
e-chains® | Series 04 | One-piece, non-openable

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
04.07.R.0	7	12	| 015 | 018 | 028 | 038 | 048 |	≈ 0.07
04.10.R.0	10	15	| 015 | 018 | 028 | 038 | 048 |	≈ 0.08
04.16.R.0	16	21	| 015 | 018 | 028 | 038 | 048 |	≈ 0.09
04.20.R.0	20	25	| 015 | 018 | 028 | 038 | 048 |	≈ 0.10
04.30.R.0	30	35	| 015 | 018 | 028 | 038 | 048 |	≈ 0.11

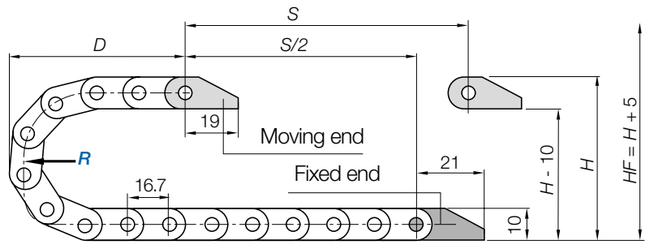
Complete Part No. with required radius (R). Example: **04.10.028.0**

Installation dimensions





Inner height [mm]	7
Pitch [mm/link]	16.7
Links/m	60
corresponds to [mm]	1,002
e-chain® length	$L_K = S/2 + K$

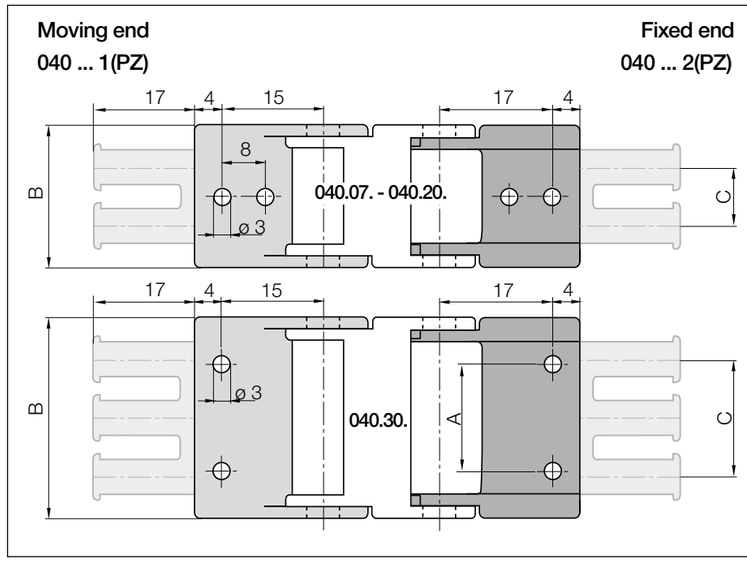


R	015	018	028	038	048
H	40	46	66	86	106
D	45	48	58	68	78
K	85	90	125	155	185

The required clearance height: $H_F = H + 5$mm (with 0.1kg/m fill weight)

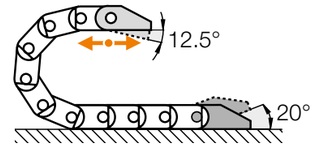
E2 micro | Series 04 | Accessories

Mounting brackets, polymer one-piece | Pivoting





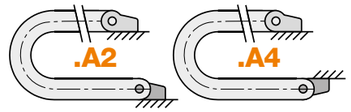
Hole pattern for part numbers **040.07. - 040.20.**
= drawing above left
Hole pattern for part number **040.30.**
= drawing below left



Moving end (outer link)
Fixed end (inner link)

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	Number of teeth
07. ▶		040.07.12PZ	040.07.12	–	12	–	1
10. ▶		040.10.12PZ	040.10.12	–	15	–	1
16. ▶		040.16.12PZ	040.16.12	–	21	10	2
20. ▶		040.20.12PZ	040.20.12	–	25	10	2
30. ▶		040.30.12PZ	040.30.12	22	35	20	3

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A2** or **.A4** .

040.07.12PZ.A2 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series 05 | Product range

Low weight, high dynamics, cost-effective

10



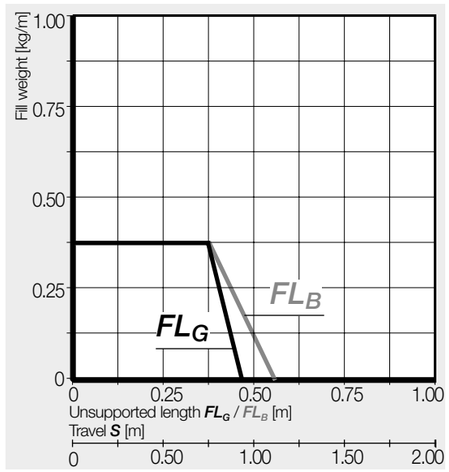
e-chains® | Series 05 | One-piece, non-openable

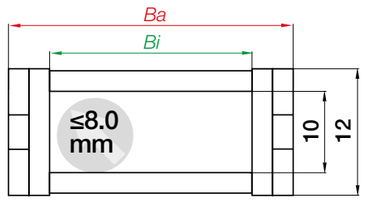
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
05.06.R.0	6	10	| 018 | 028 | 038 |	≈ 0.06
05.10.R.0	10	14	| 018 | 028 | 038 |	≈ 0.07
05.16.R.0◎	16	20	| 018 | 028 | 038 |	≈ 0.07
05.20.R.0	20	24	| 018 | 028 | 038 |	≈ 0.08
05.30.R.0	30	34	| 018 | 028 | 038 |	≈ 0.09
05.64.R.0	64	68	| 018 | 028 | 038 |	≈ 0.19

◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ **From page 130**

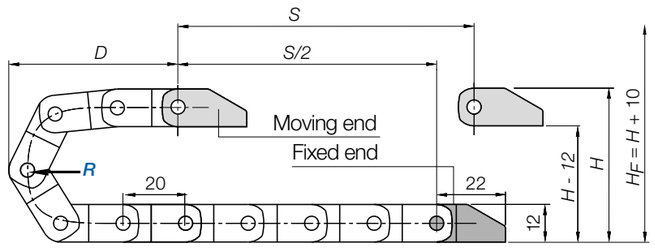
Complete Part No. with required radius (*R*). Example: **05.10.028.0**

Installation dimensions





Inner height [mm]	10
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

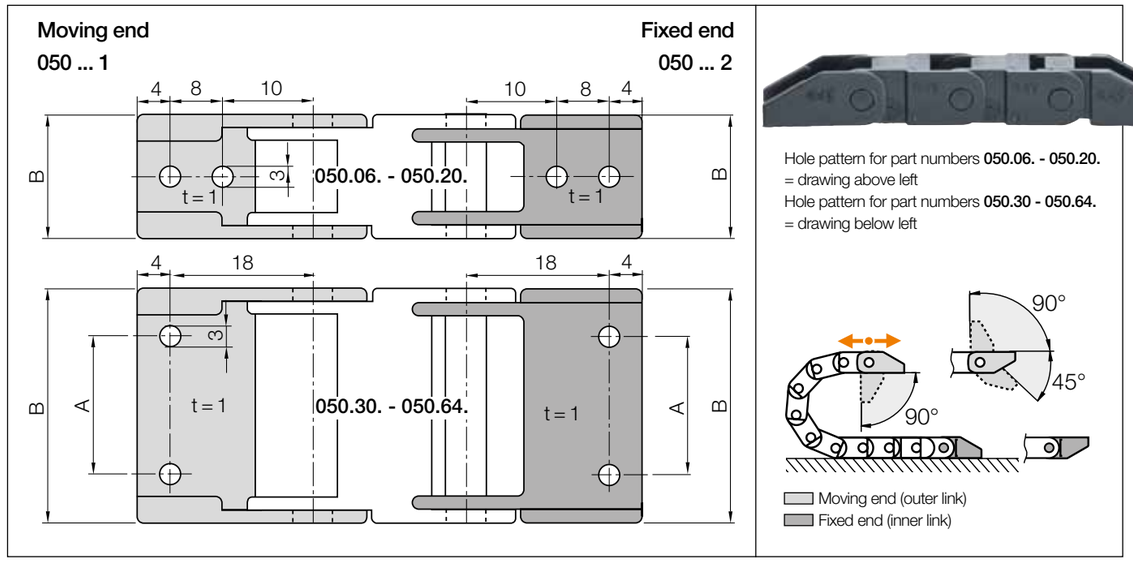


R	018	028	038
H	48	68	88
D	54	64	74
K	100	130	160

The required clearance height: $H_F = H + 10$mm (with 0.2kg/m fill weight)

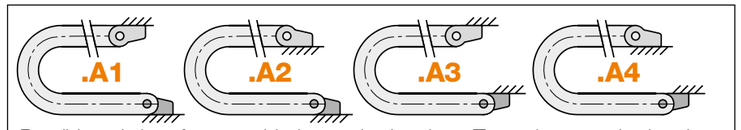
E2 micro | Series 05 | Accessories

Mounting brackets, polymer one-piece | One end pivoting



Width index	Standard	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
06. ▶		050.06.12	–	10.7	–
10. ▶		050.10.12	–	14.7	–
16. ▶		050.16.12	–	20.7	–
20. ▶		050.20.12	–	24.7	–
30. ▶		050.30.12	22	34.7	–
64. ▶		050.64.12	56	68.7	–

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

Order example

050.10.12.A2

- .A ... to indicate option with brackets pre-fitted
- Full set
- Series

E2 micro | Series 045 | Product range

Small pitch, smooth running

10,3



e-chains® | Series 045 | One-piece, non-openable

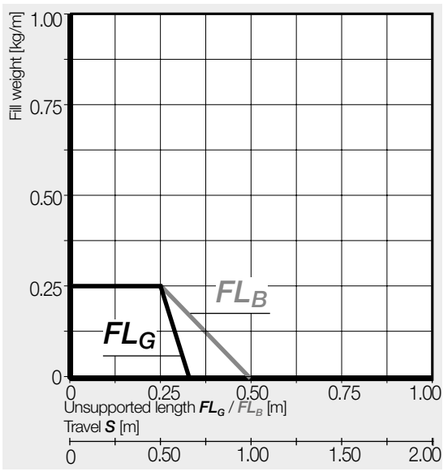
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
045.06 .R.0	6	12	| 018 | 028 | 038 | – |	≈ 0.09
045.10 .R.0	10	16	| 018 | 028 | 038 | – |	≈ 0.10
045.16 .R.0	16	22	| 018 | 028 | 038 | – |	≈ 0.11
045.20 .R.0 ◎	20	26	| 018 | 028 | 038 | 083 |	≈ 0.13
045.30 .R.0 ◎	30	36	| 018 | 028 | 038 | – |	≈ 0.16
045.64 .R.0 ◎	64	70	| 018 | 028 | 038 | – |	≈ 0.19

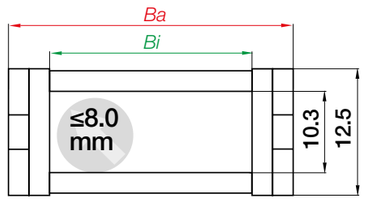
*Radius 083 only for Part No. 045.20.

◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ From page 130

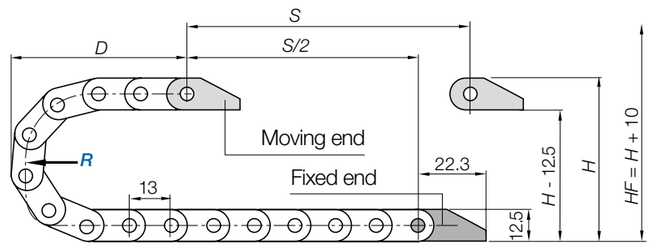
Complete Part No. with required radius (*R*). Example: **045.10.028.0**

Installation dimensions





Inner height [mm]	10.3
Pitch [mm/link]	13
Links/m	77
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$



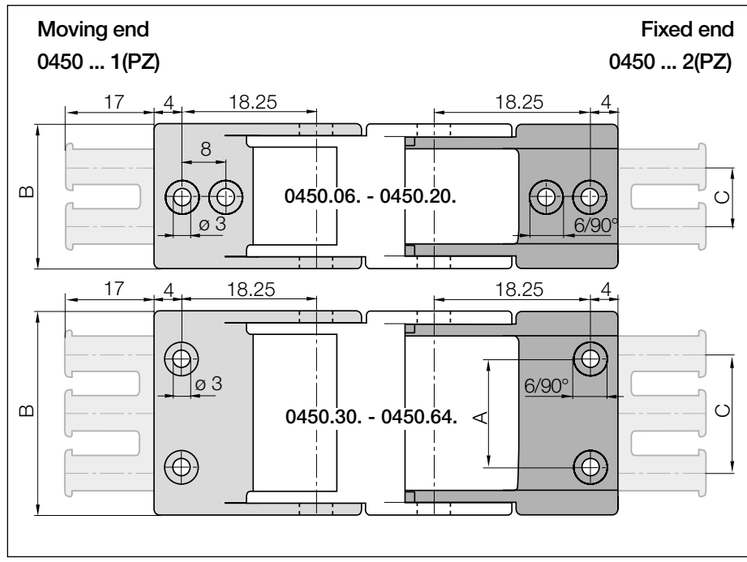
R	018	028	038	083*
H	48.5	68.5	88.5	178.5
D	44	54	64	109
K	85	115	150	290

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

*Radius 083 only for Part No. 045.20.

E2 micro | Series 045 | Accessories

Mounting brackets, polymer one-piece | One end pivoting

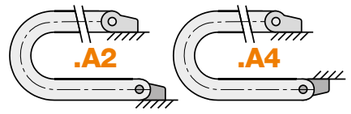


Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	Number of teeth
06. ▶		0450.06.12PZ	0450.06.12	–	12	–	1
10. ▶		0450.10.12PZ	0450.10.12	–	16	–	1
16. ▶		0450.16.12PZ	0450.16.12	–	22	10	2
20. ▶		0450.20.12PZ	0450.20.12	–	26	10	2
30. ▶		0450.30.12PZ	0450.30.12	22	36	20	3
64. ▶		0450.64.12PZ	0450.64.12	56	70	50	6

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

Mounting bracket with strain relief tiewrap plate has reductions of ø 3mm / ø 6mm 90°

Mounting bracket without strain relief tiewrap plate only has holes of ø 3mm



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A2** or **.A4** .

0450.10.12PZ.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series B07 | Product range

For new designs we recommend E2.1 micro series E2.10 ▶ From page 340

10.3

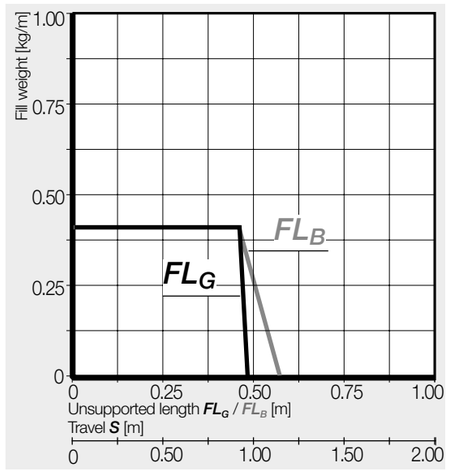


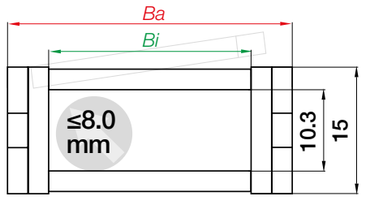
e-chains® | Series B07 | Openable along the outer radius, from one side

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
B07.16.*R*.0	16	22.5	| 018 | 028 | 038 |	≈ 0.16
B07.20.*R*.0	20	27	| 018 | 028 | 038 |	≈ 0.17
B07.30.*R*.0	30	37	| 018 | 028 | 038 |	≈ 0.20
B07.40.*R*.0	40	47	| 018 | 028 | 038 |	≈ 0.23

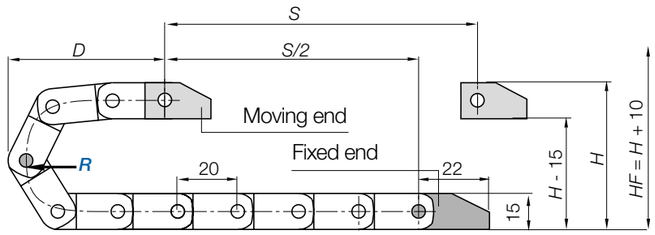
Complete Part No. with required radius (*R*). Example: **B07.40.038.0**

Installation dimensions





Inner height [mm]	10.3
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

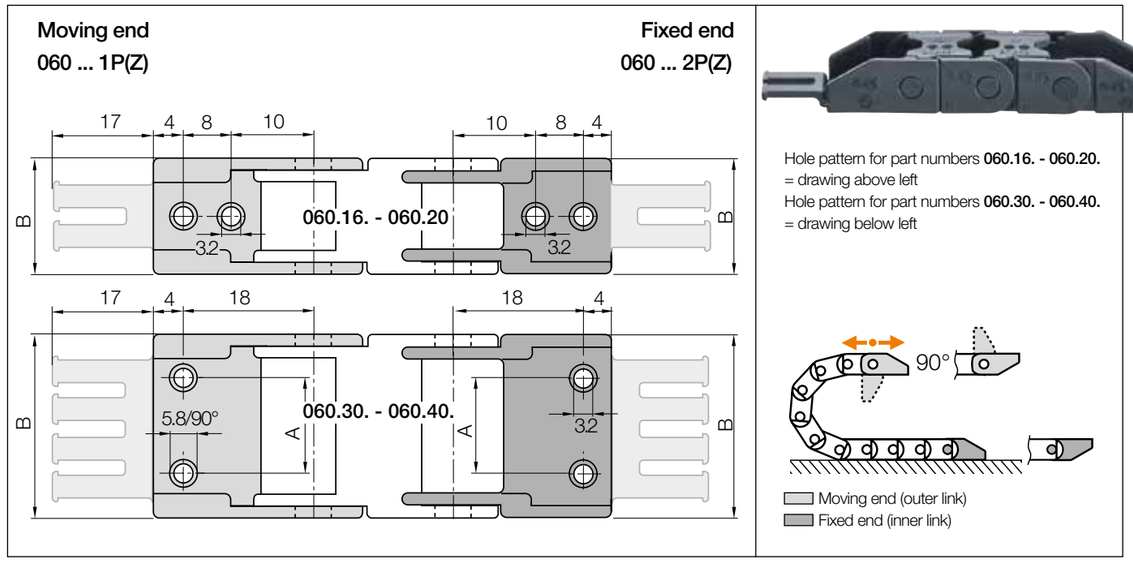


R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

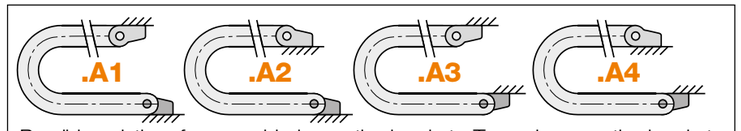
E2 micro | Series B07 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
16. ▶		060.16.12PZ	060.16.12	–	22.5	2
20. ▶		060.20.12PZ	060.20.12	–	27.0	2
30. ▶		060.30.12PZ	060.30.12	22	37.0	3
40. ▶		060.40.12PZ	060.40.12	32	47.0	4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

060.40.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series 06 | Product range

For new designs we recommend E2.1 micro series E2C.10 ▶ From page 340

10.5

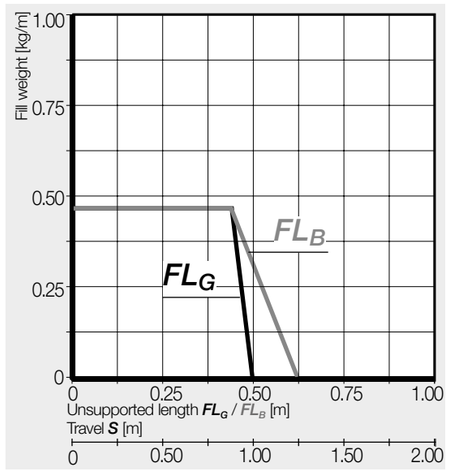


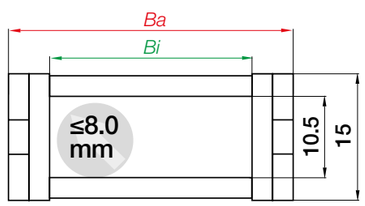
e-chains® | Series 06 | One-piece, non-openable

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
06.06.R.0	6	12.5	| 018 | 028 | 038 |	≈ 0.13
06.10.R.0	10	16.5	| 018 | 028 | 038 |	≈ 0.14
06.16.R.0	16	22.5	| 018 | 028 | 038 |	≈ 0.16
06.20.R.0	20	27	| 018 | 028 | 038 |	≈ 0.17
06.30.R.0	30	37	| 018 | 028 | 038 |	≈ 0.20
06.40.R.0	40	47	| 018 | 028 | 038 |	≈ 0.23
06.50.R.0	50	57	| 018 | 028 | 038 |	≈ 0.26
06.64.R.0	64	71	| 018 | 028 | 038 |	≈ 0.30

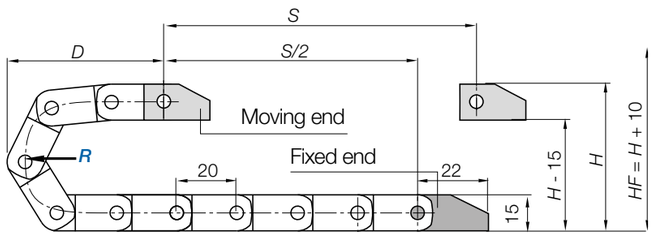
Complete Part No. with required radius (*R*). Example: **06.10.028.0**

Installation dimensions





Inner height [mm]	10.5
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

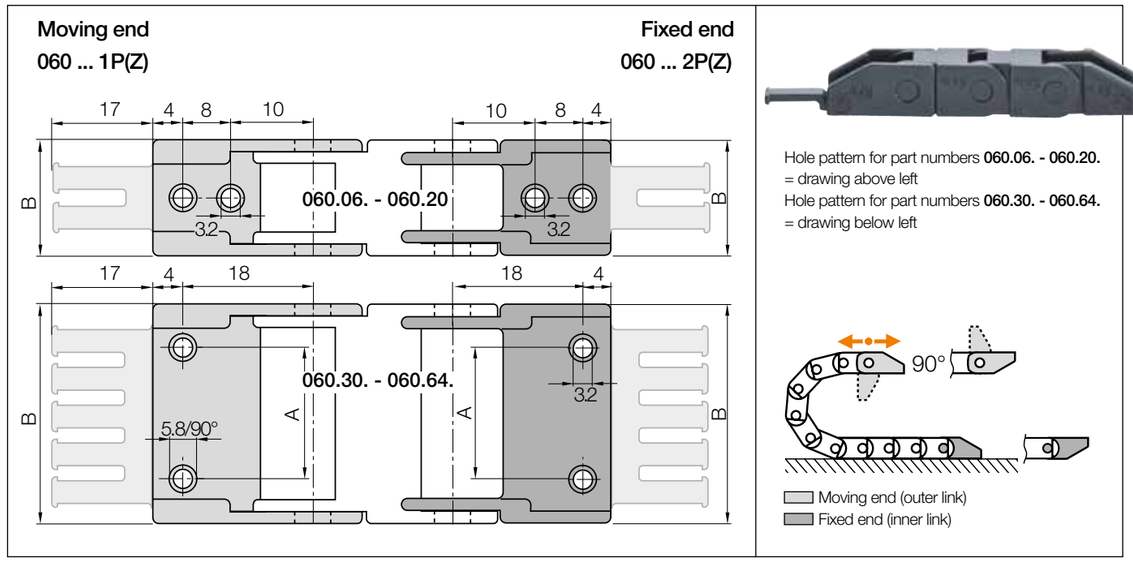


R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10$mm (with 0.2kg/m fill weight)

E2 micro | Series 06 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
06. ▶		060.06.12PZ	060.06.12	–	12.5	1
10. ▶		060.10.12PZ	060.10.12	–	16.5	1
16. ▶		060.16.12PZ	060.16.12	–	22.5	2
20. ▶		060.20.12PZ	060.20.12	–	27.0	2
30. ▶		060.30.12PZ	060.30.12	22	37.0	3
40. ▶		060.40.12PZ	060.40.12	32	47.0	4
50. ▶		060.50.12PZ	060.50.12	42	57.0	5
64. ▶		060.64.12PZ	060.64.12	56	71.0	6

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

060.10.12PZ.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 micro | Series 074 | Product range

Openable along the inner radius, cost-effective

11,5

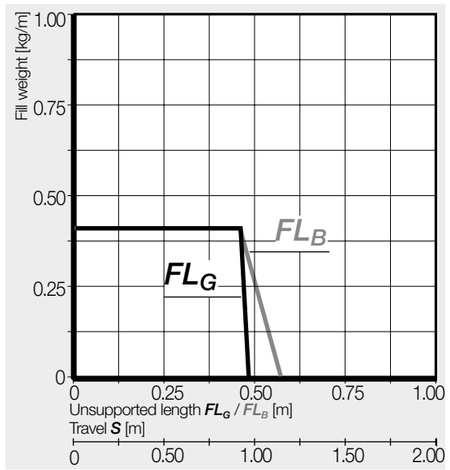


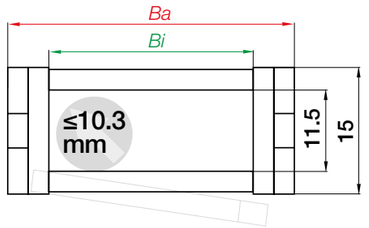
e-chains® | Series 074 | Openable along the inner radius from one side with film hinge

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
074. 06 .R.0	06	12.3	| 018 | 028 | 038 |	≈ 0.14
074. 10 .R.0	10	16.3	| 018 | 028 | 038 |	≈ 0.15
074. 16 .R.0	16	22.3	| 018 | 028 | 038 |	≈ 0.16
074. 20 .R.0	20	26.3	| 018 | 028 | 038 |	≈ 0.17

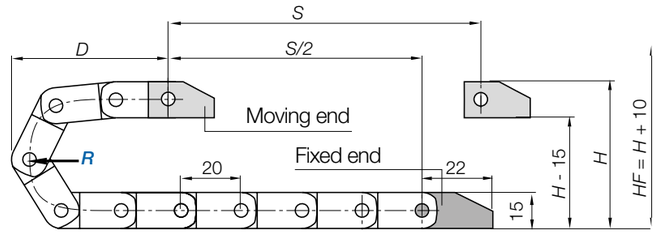
Complete Part No. with required radius (*R*). Example: **074.10.018.0**

Installation dimensions





Inner height [mm]	11.5
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

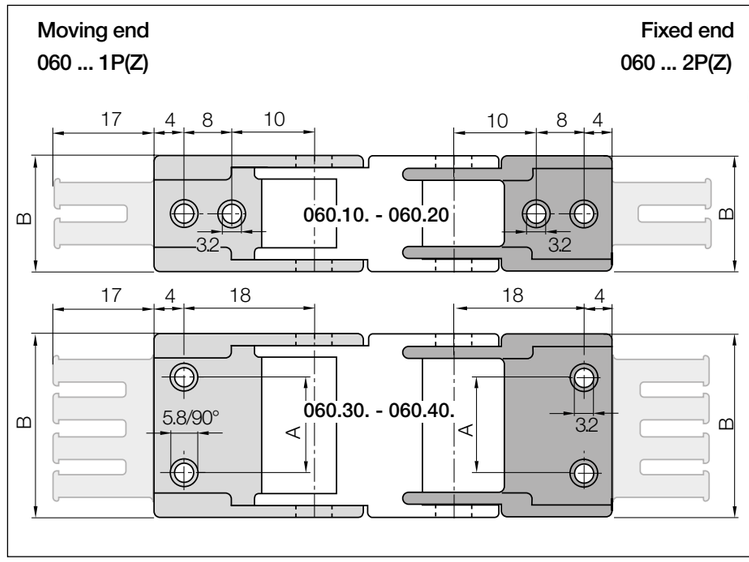


R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

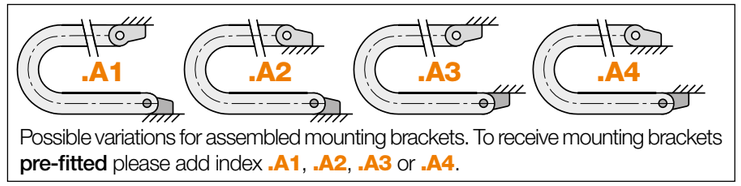
E2 micro | Series 074 | Accessories

Mounting brackets, polymer one-piece | Locking

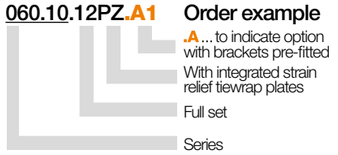


Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
06. ▶		060.06.12PZ	060.06.12	–	12.5	1
10. ▶		060.10.12PZ	060.10.12	–	16.5	1
16. ▶		060.16.12PZ	060.16.12	–	22.5	2
20. ▶		060.20.12PZ	060.20.12	–	27	2

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



E2 micro | Series 094 | Product range

Openable along the inner radius, cost-effective

15.6

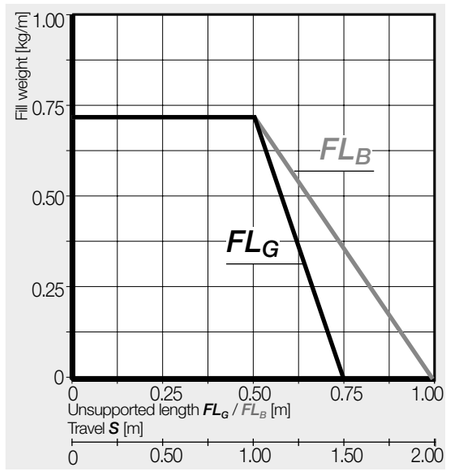


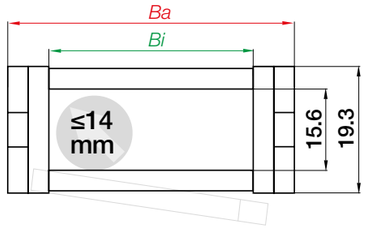
e-chains® | Series 094 | Openable along the inner radius from one side with film hinge

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
094.10.R.0	10	18.2	| 028 | 038 | 048 |	≈ 0.23
094.16.R.0	16	24.2	| 028 | 038 | 048 |	≈ 0.24
094.20.R.0	20	28.2	| 028 | 038 | 048 |	≈ 0.25
094.30.R.0	30	38.2	| 028 | 038 | 048 |	≈ 0.28

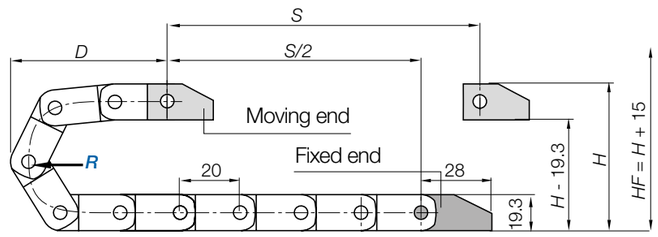
Complete Part No. with required radius (*R*). Example: **094.10.028.0**

Installation dimensions





Inner height [mm]	15.6
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

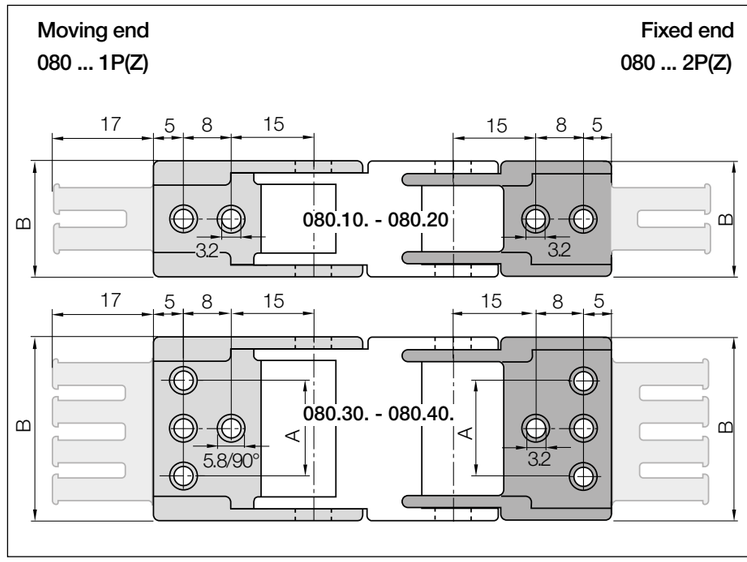


R	028	038	048
H	75	95	115
D	68	78	88
K	130	160	195

The required clearance height: $H_F = H + 15mm$ (with 0.3kg/m fill weight)

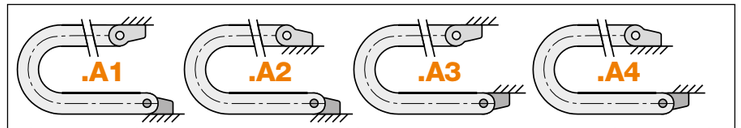
E2 micro | Series 094 | Accessories

Mounting brackets, polymer one-piece | Locking

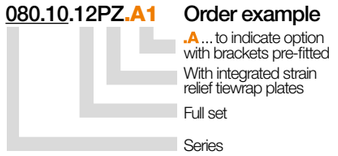


Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10.12PZ	080.10.12	–	18.2	1
16. ▶		080.16.12PZ	080.16.12	–	24.2	2
20. ▶		080.20.12PZ	080.20.12	–	28.2	2
30. ▶		080.30.12PZ	080.30.12	22	38.2	3

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



E2 micro | Series B09 | Product range

For new designs we recommend E2.1 micro series E2.15 ▶ From page 344

14.3

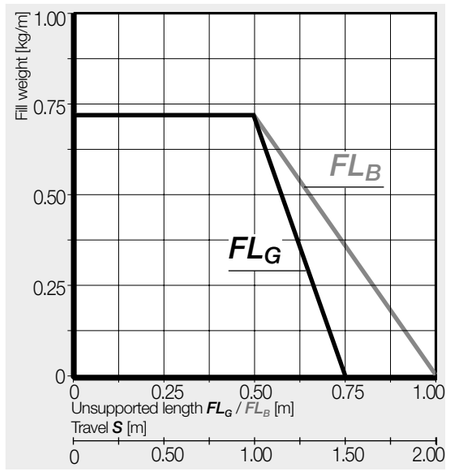


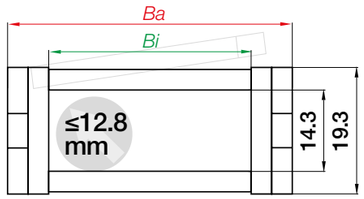
e-chains® | Series B09 | Openable along the outer radius, from one side

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
B09.16.*R*.0	16	24.2	| 028 | 038 | 048 |	≈ 0.24
B09.20.*R*.0	20	28.2	| 028 | 038 | 048 |	≈ 0.25
B09.30.*R*.0	30	38.2	| 028 | 038 | 048 |	≈ 0.28
B09.40.*R*.0	40	48.2	| 028 | 038 | 048 |	≈ 0.31

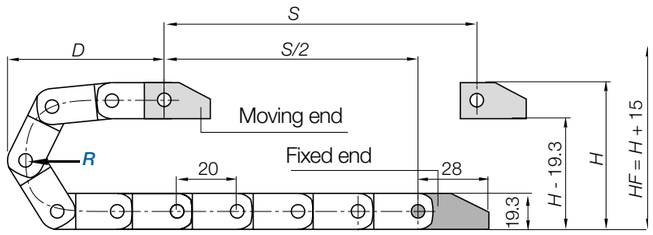
Complete Part No. with required radius (*R*). Example: **B09.40.038.0**

Installation dimensions





Inner height [mm]	14.3
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

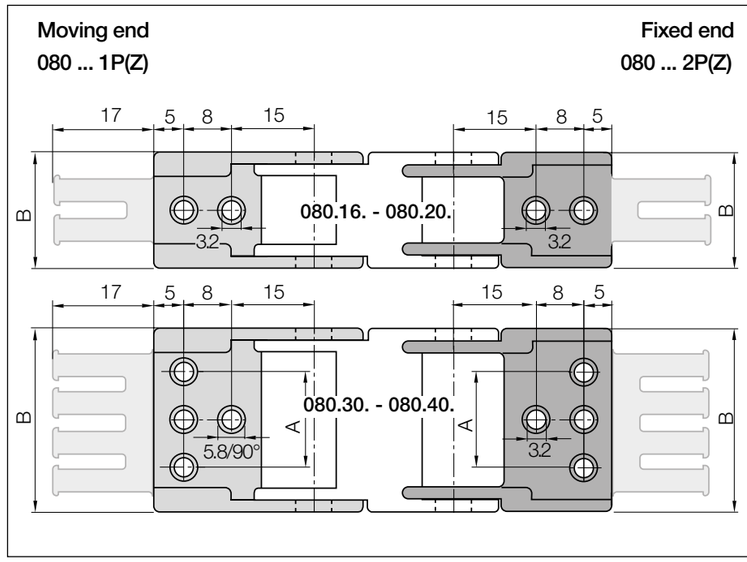


R	028	038	048
H	75	95	115
D	68	78	88
K	130	160	195

The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

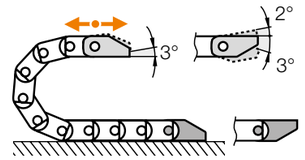
E2 micro | Series B09 | Accessories

Mounting brackets, polymer one-piece | Locking



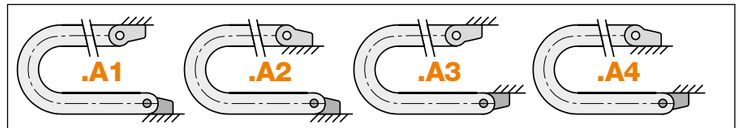


Hole pattern for part numbers **080.16. - 080.20.**
= drawing above left
Hole pattern for part numbers **080.30. - 080.40.**
= drawing below left

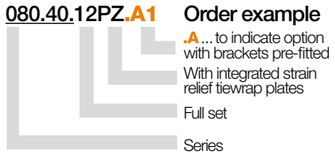


Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
16. ▶		**080.16.12PZ**	**080.16.12**	–	24.2	2
20. ▶		**080.20.12PZ**	**080.20.12**	–	28.2	2
30. ▶		**080.30.12PZ**	**080.30.12**	22	38.2	3
40. ▶		**080.40.12PZ**	**080.40.12**	32	48.2	4

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB

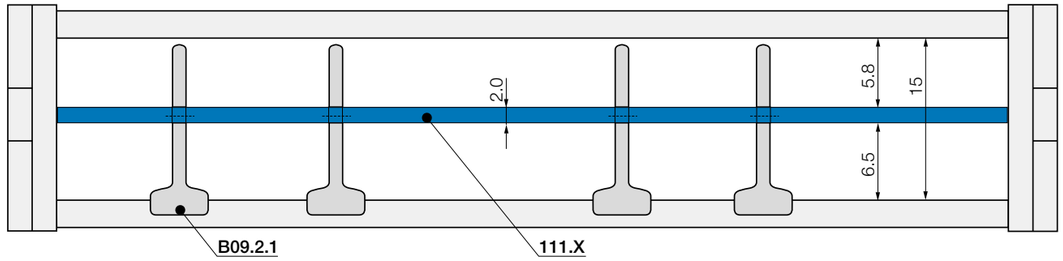


Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



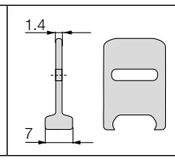
E2 micro | Series B09 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



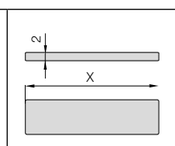


Slotted separator	
unassembled	**B09.2**
assembled	**B09.2.1**

Slotted separator

Vertical subdivision in e-chains®. The slot allows basic vertical/horizontal shelving arrangements.





Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
010	**110.10**	**111.10**	020	**110.20**	**111.20**	050	**110.50**	**111.50**
013	**110.13**	**111.13**	030	**110.30**	**111.30**			
016	**110.16**	**111.16**	040	**110.40**	**111.40**			

E2 micro | Application example



E2 micro e-chain® space-saving, zig-zag design in a mobile OP table

E2 micro | Series 08 | Product range

For new designs we recommend E2.1 micro series E2C.15 ▶ From page 344

15



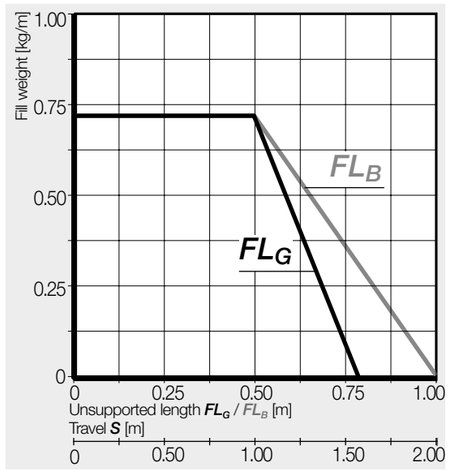
e-chains® | Series 08 | One-piece, non-openable

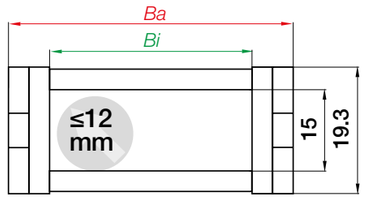
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
08.10.R.0	10	18.2	| 025 | 028 | 038 | 048 |	≈ 0.21
08.13.R.0	13	21.2	| – | 028 | 038 | – |	≈ 0.23
08.16.R.0◎	16	24.2	| – | 028 | 038 | 048 |	≈ 0.24
08.20.R.0	20	28.2	| 025 | 028 | 038 | 048 |	≈ 0.25
08.30.R.0	30	38.2	| – | 028 | 038 | 048 |	≈ 0.28
08.40.R.0	40	48.2	| – | 028 | 038 | 048 |	≈ 0.31
08.50.R.0	50	58.2	| – | 028 | 038 | 048 |	≈ 0.37

◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ From page 130

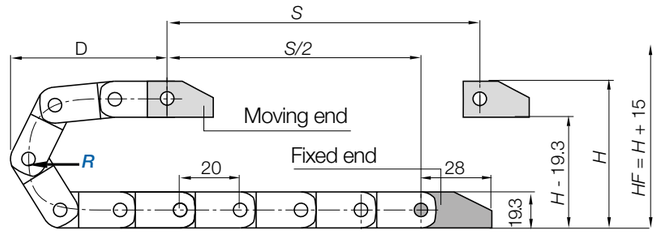
Complete Part No. with required radius (*R*). Example: **08.50.038.0**

Installation dimensions





Inner height [mm]	15
Pitch [mm/link]	20
Links/m	50
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



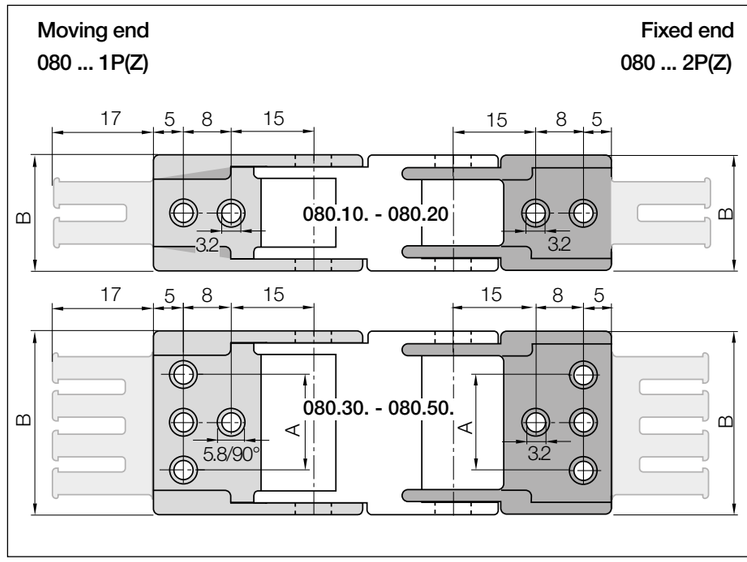
R	025*	028	038	048*
H	69	75	95	115
D	65	68	78	88
K	120	130	160	195

The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

*Radius only available for some widths (please see product range table above)

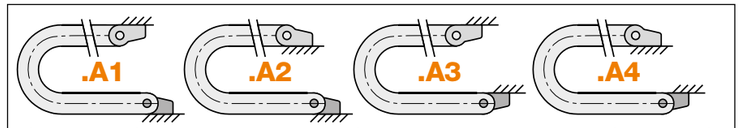
E2 micro | Series 08 | Accessories

Mounting brackets, polymer one-piece | Locking

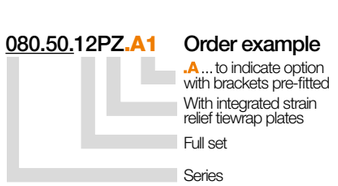


Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶		080.10.12PZ	080.10.12	–	18.2	1
13. ▶		–	080.13.12	–	21.2	–
16. ▶		080.16.12PZ	080.16.12	–	24.2	2
20. ▶		080.20.12PZ	080.20.12	–	28.2	2
30. ▶		080.30.12PZ	080.30.12	22	38.2	3
40. ▶		080.40.12PZ	080.40.12	32	48.2	4
50. ▶		080.50.12PZ	080.50.12	42	58.2	5

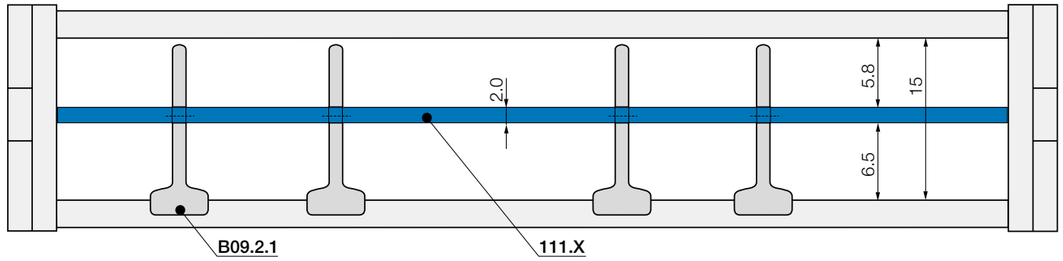
Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

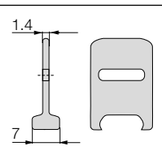


Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



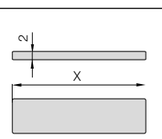


Slotted separator	
unassembled	**B09.2**
assembled	**B09.2.1**

Slotted separator

Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.





Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
010	**110.10**	**111.10**	020	**110.20**	**111.20**	050	**110.50**	**111.50**
013	**110.13**	**111.13**	030	**110.30**	**111.30**			
016	**110.16**	**111.16**	040	**110.40**	**111.40**			



Series 03 - extremely small installation space on a paint-spraying machine



E2 mini

Small and medium sizes

Advantages of the E2 mini series:

- If a small, but extremely strong e-chain® is required
- Quiet operation due to small pitch
- For highly dynamic applications
- Variety of options - E2 mini as non-openable or openable along the inner or outer radius

When to use another e-chain® series:

- When openable crossbars are required
  - ▶ **E2.1 micro, page 334**
  - ▶ **zipper, page 240**
- When easy filling with connectorised cables is required
  - ▶ **easy chain®, page 212**



Universal connection: mounting bracket with integrated strain relief

Space-saving: small inner heights and bend radii

Smooth Design: dirt-repellent outer contour

Smooth running: small pitch for low-noise, smooth running

Flexible use: one-piece e-chains®, openable along the inner radius with film hinge (series 14/F17)

Flexible use: two-piece e-chains®, openable along the outer radius (series B15/B17)

Flexible use: two-piece e-chains®, openable along the inner radius (series B15i/B17i)

Flexible use: one-piece e-chains®, non-openable (series 10/11.031/ 11.080/11.1/11.)

Small and medium sizes - E2 mini

E2 mini are small one- or two-piece e-chains®, recommended for highly dynamic applications. igus® also offers a range of accessories and fixation options. Upgrades to openable versions are available for many types. Different types are interchangeable and can also serve as replacements.

Typical industries and applications

● Construction machinery ● Handling ● Furniture ● Packaging machines ● Textile machines ● Vehicle applications ● Woodworking machines ● Glass machines ● Automation ● General machinery, etc.

UL94-V2 classification - for series 14 and F17 (UL94-V0 upon request)

Electrically conductive ESD e-chains® upon request

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
E2 mini - one-piece e-chains® non-openable							
10	18	15 - 100	26 - 113	23	028 - 180	1.20	**310**
11.031	23	31	41.2	28	045 - 070	≈ 1.35	**314**
11.080	28	80	93	33.4	038 - 065	1.50	**316**
11.1/11.2	41	15 - 25	25.5 - 35.5	46	040 - 100	≈ 1.35	**318**
							
E2 mini - one-piece e-chains® openable along the inner radius with film hinge							
14	20	15 - 50	26 - 61	25	028 - 125	0.65	**320**
F17	32	15	26	39	048	1.20	**330**
							
E2 mini - two-piece e-chains® openable along the outer radius							
B15	17	15 - 100	26 - 113	23	038 - 180	1.20	**322**
B17	32	15 - 100	25.5 - 113	39	048 - 125	1.00	**326**
							
E2 mini - two-piece e-chains® openable along the inner radius							
B15i	17	15 - 100	26 - 113	23	038 - 180	1.20	**322**
B17i	32	25 - 63	35.5 - 76	39	048 - 125**	1.00	**326**

**Radius 125 for B17i.2. upon request (see product range table)

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Technical data

Speed gliding / acceleration gliding	≤ 3 [m/s] / ≤ 10 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Material - permitted temperature °C, igumid NB (only Series 14)	-40°C / +80°C
Material lower part - permitted temperature °C, igumid G (only Series B15/B15i, B17/B17i, F17)	-40°C/+120°C
Material crossbar- permitted temperature °C, igumid NB (only Series B15/B15i, B17/B17i, F17)	-40°C / +80°C
Flammability class	igumid G = VDE 0304 IIC UL94-HB / igumid NB = VDE 0304 IIC UL94-V2

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
10*	≤ 2.40m	upon request	upon request	upon request	with rework	upon request
11.031	≤ 2.70m	upon request	upon request	upon request	–	upon request
11.080	≤ 3.00m	upon request	upon request	upon request	–	upon request
11.1/11.2	≤ 2.70m	upon request	upon request	upon request	with rework	upon request
14	≤ 1.30m	upon request	upon request	upon request	with rework	upon request
B15i / B15*	≤ 2.40m	upon request	upon request	upon request	with rework	upon request
B17i / B17	max. 2.00 m	upon request	upon request	upon request	with rework	upon request
F17	≤ 2.40m	upon request	upon request	upon request	with rework	upon request

*Before using this series on long travels please consult igus®.

Options with order keys | Examples based on series B15

Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*ESD - electrically conductive material*
Part No. Standard	Part No. NC version	Part No. *RBR*	Part No. igumid ESD
B15.025.*R*.0	B15.025.*R*.0.NC	B15.025.*R1/R2*.0	B15.025.*R*.0.ESD
Ready to ship in 24 - 48hrs.*	Ready to ship in 3-5 business days*	Ready to ship in 12 business days* ◎	Delivery time upon request

◎ *RBR* version (Reverse Bend Radius) - some radii available from stock - further information and the complete product range ▶ From page 130

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series B15

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 33 links	B15.025.038.0
+ Mounting brackets	1 set (with tiewrap plates)	1025.34PZ
Interior separation	with 2 separators assembled every 2nd link	2 x 154
Order text:		1m B15.025.038.0 + 1025.34PZ + 2 x 154

Order key

openable along the outer radius B15.025.038.0
openable along the inner radius B15i.025.038.0

Series / Type
Width index (depends on *Bi*)
Bend radius *R*
Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*
Above special colours upon request.

E2 mini | Series 10 | Product range

Strong and cost-effective

18



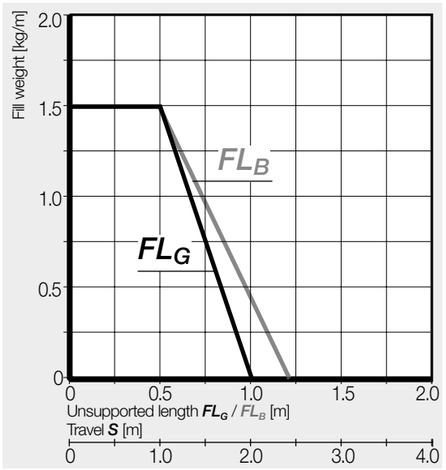
e-chains® | Series 10 | One-piece, non-openable

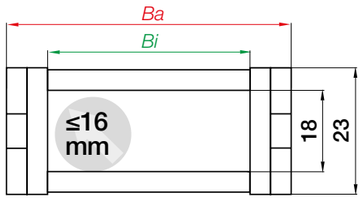
Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
10.015.R.0◎	15	26	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.35
10.025.R.0◎	25	36	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.40
10.038.R.0◎	38	49	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.46
10.050.R.0◎	50	61	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.52
10.5 .R.0	63	76	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.63
10.6 .R.0	80	94	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.70
10.7 .R.0	100	113	| 028 | 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.76

◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ From page 130

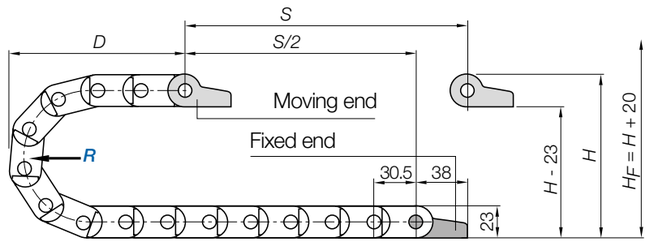
Complete Part No. with required radius (*R*). Example: **10.025.038.0**

Installation dimensions





Inner height [mm]	18
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$



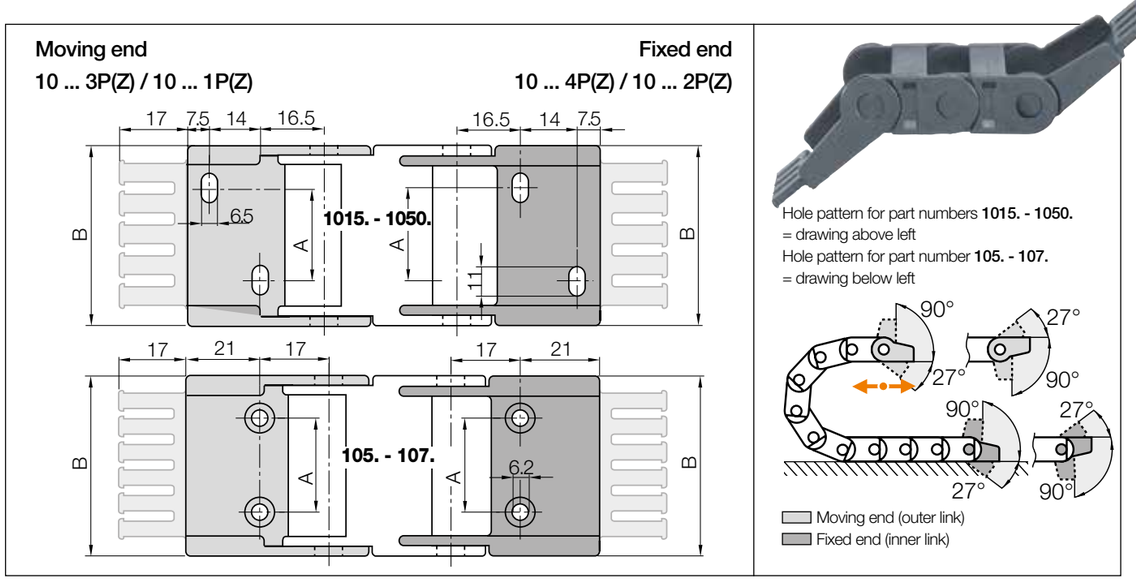
R	028	038	048	075	100	110	125	145	180
H	79	99	119	173	223	243	273	313	383
D	85	95	105	132	157	167	182	202	237
K	150	185	215	300	380	410	455	520	630

The required clearance height: $H_F = H + 20mm$ (with 0.5kg/m fill weight)

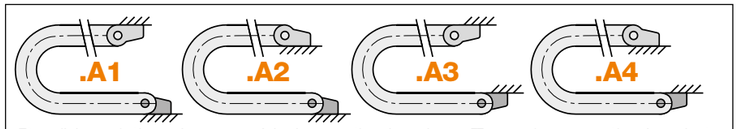
E2 mini | Series 10 | Accessories

Mounting brackets, polymer one-piece | Pivoting | Locking

▶ 1333



Width index	Standard	Part No. full set pivoting: with tiewrap plates	Part No. full set pivoting: without tiewrap plates	Part No. full set locking: with tiewrap plates	Part No. full set locking: without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶		1015.34PZ	1015.34P	1015.12PZ	1015.12P	–	25.5	2
025. ▶		1025.34PZ	1025.34P	1025.12PZ	1025.12P	10	35.5	3
038. ▶		1038.34PZ	1038.34P	1038.12PZ	1038.12P	23	48.5	4
050. ▶		1050.34PZ	1050.34P	1050.12PZ	1050.12P	35	60.5	5
5. ▶		105. 34PZ	105. 34P	105. 12PZ	105. 12P	48	75.0	6
6. ▶		106. 34PZ	106. 34P	106. 12PZ	106. 12P	65	92.0	8
7. ▶		107. 34PZ	107. 34P	107. 12PZ	107. 12P	85	112	10



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

1025.34PZ.A1 — **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Rotating energy supply systems with Reverse Bend Radius *(RBR)* - some radii available from stock

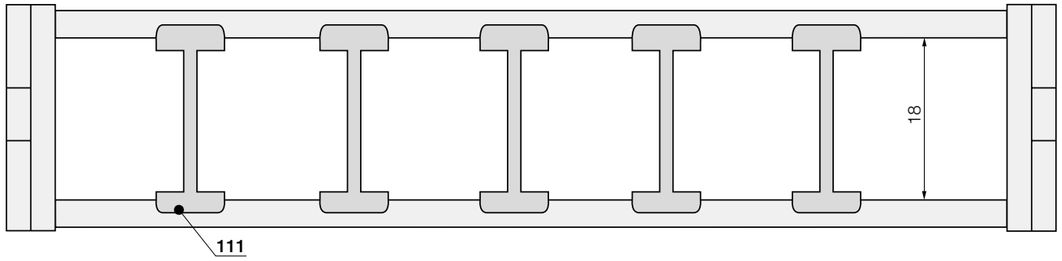
- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life
- Short delivery times 24hrs, from stock

More information and the complete product range ▶ From page 130



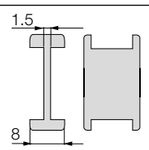
E2 mini | Series 10 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



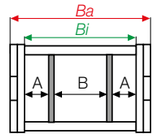


Separator, for e-chains®	
unassembled	**101**
assembled	**111**

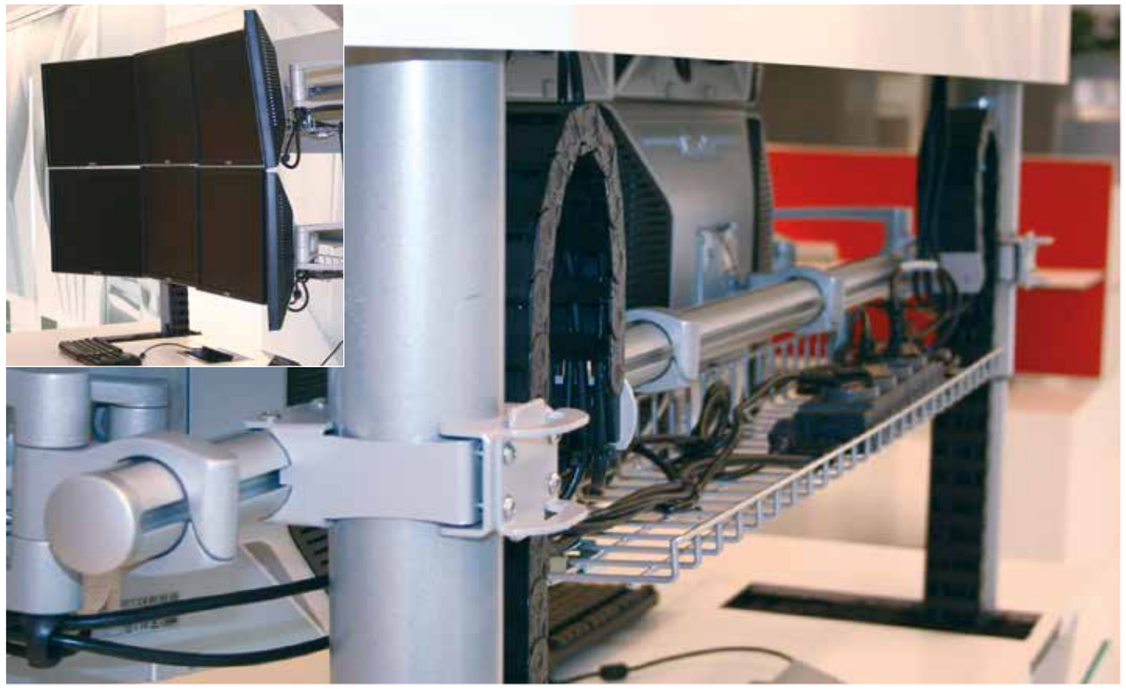
Separator

For easy vertical separation in e-chains®. Separators can be arranged in any position in the cross-section. **Interior separation is not possible for series 10.015.*R*.0.**

Options | With moulded-in vertical separation

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Chamber design	A [mm]	B [mm]	Weight [kg/m]
10. 038.*R*.0 .S	38	49	| 075 |		10	15	≈ 0.79
10. 050.*R*.0 .S	50	61	| 075 |		13	21	≈ 0.85

Complete Part No. with required radius (*R*). Example: **10.038.075.0.S** or **10.050.075.0.S**



Cost-effective cable guidance with E2 mini in a moving monitor application

E2 mini | Series 11.031 | Product range

Large inner height, asymmetric design

23

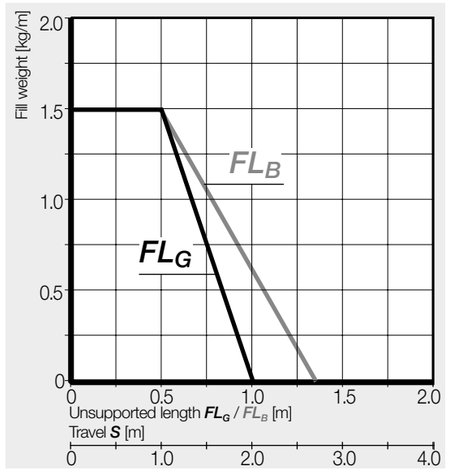


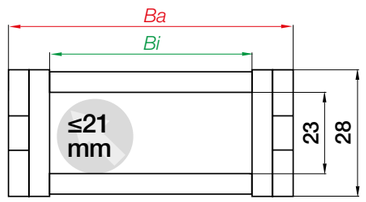
e-chains® | Series 11.031 | One-piece, non-openable

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
11.031.*R*.0	31	41.2	| 045 | 070 |	≈ 0.43

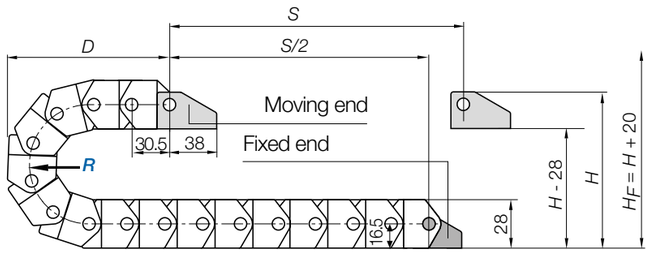
Complete Part No. with required radius (*R*). Example: **11.031.045.0**

Installation dimensions





Inner height [mm]	23
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

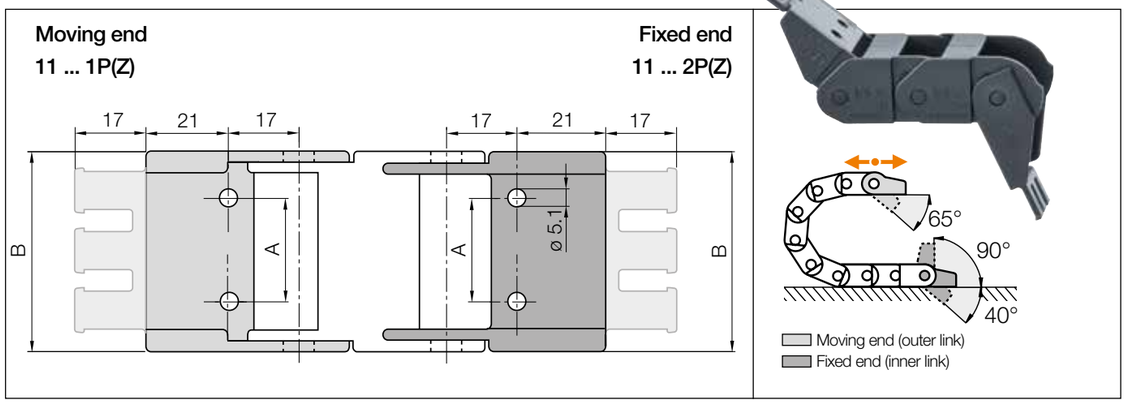


R	045	070
H	123	173
D	107	132
K	205	285

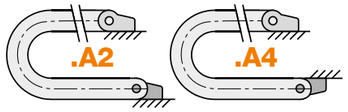
The required clearance height: $H_F = H + 20$mm (with 0.5kg/m fill weight)

E2 mini | Series 11.031 | Accessories

Mounting brackets, polymer one-piece | Pivoting



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
031. ▶		11.031.12PZ	11.031.12P	16	42	3



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A2** or **.A4** .

11.031.12PZ.A2 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

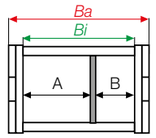
E2 mini | Series 11.080 | Product range

Large inner height, asymmetric design

28

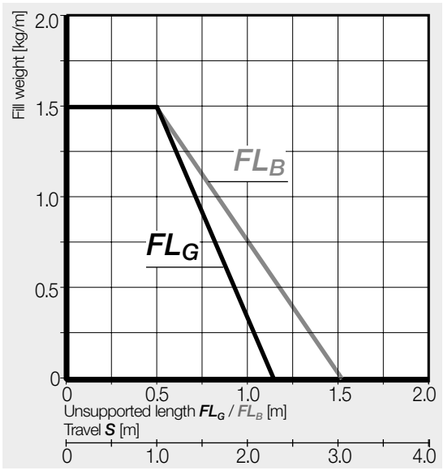


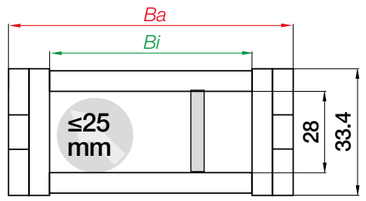
e-chains® | Series 11.080 | Non-openable, with moulded-in vertical separation

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Chamber design	A [mm]	B [mm]	Weight [kg/m]
11. 080. R .0	80	93	| 038 | 065 |		46	32	≈ 0.73

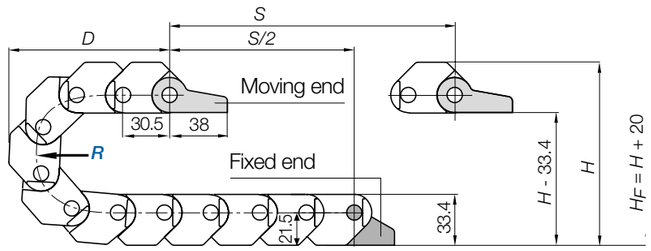
Complete Part No. with required radius (R). Example: **11.080.038.0**

Installation dimensions





Inner height [mm]	28
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

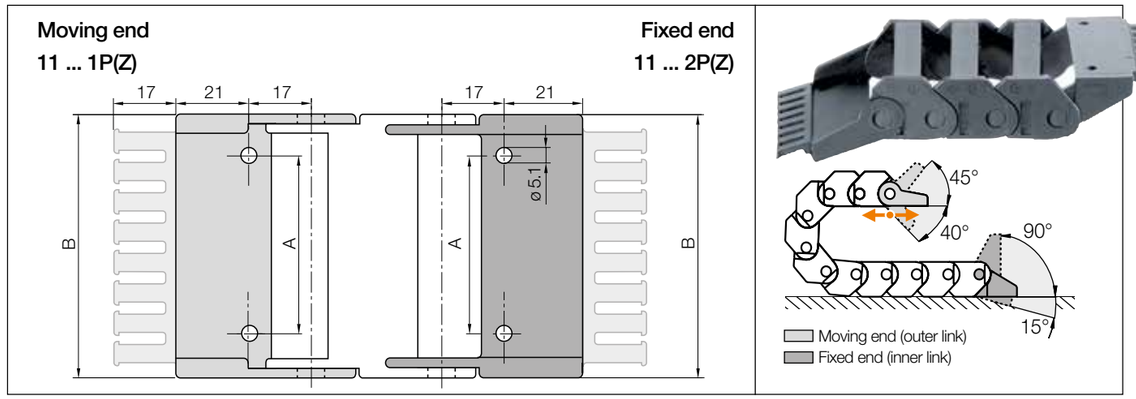


R	038	065
H	119	173
D	105	132
K	185	270

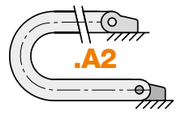
The required clearance height: $H_F = H + 20mm$ (with 0.5kg/m fill weight)

E2 mini | Series 11.080 | Accessories

Mounting brackets, polymer one-piece | Pivoting



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
080. ▶		11.080.12PZ	11.080.12P	65	93	8



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A2**

11.080.12PZ.A2 Order example

- .A ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 mini | Series 11.1 11.2 | Product range

Very large inner height, small outer width, asymmetric design

41

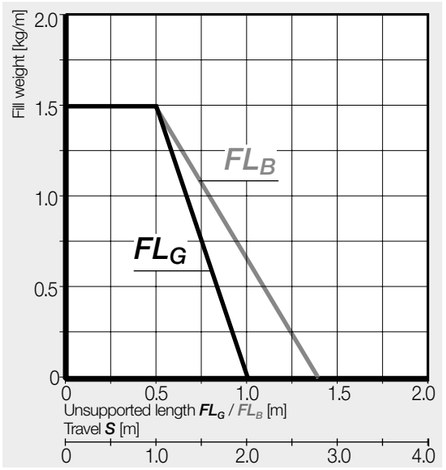


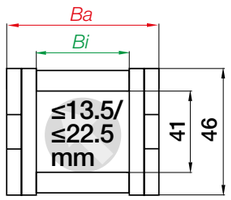
e-chains® | Series 11.1·11.2 | One-piece, non-openable

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
11.1.*R*.0	15	25.5	| 040 | 063 | 075 | 100 |	≈ 0.50
11.2.*R*.0	25	35.5	| 040 | 063 | 075 | 100 |	≈ 0.53

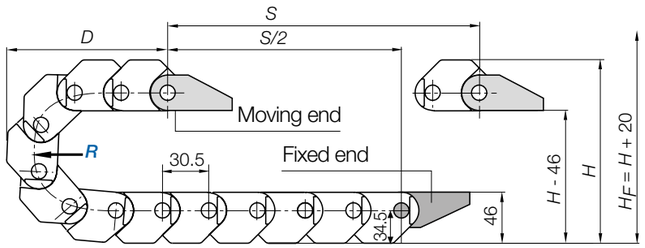
Complete Part No. with required radius (*R*). Example: **11.1.040.0**

Installation dimensions





Inner height [mm]	**41**
Pitch [mm/link]	**30.5**
Links/m	**33**
corresponds to [mm]	**1,006.5**
e-chain® length	$L_K = S/2 + K$

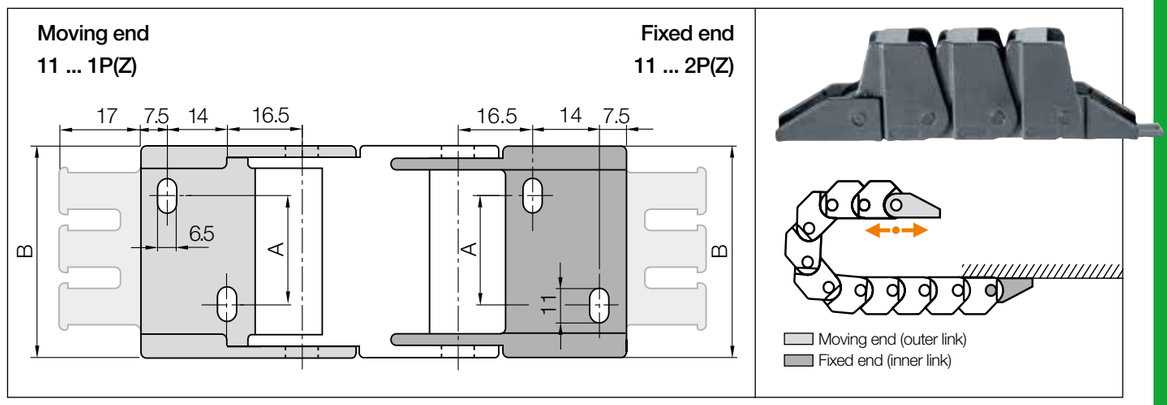


R	040	063	075	100
H	149	195	219	269
D	120	143	155	180
K	190	260	300	380

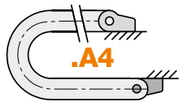
The required clearance height: $H_F = H + 20mm$ (with 0.5kg/m fill weight)

E2 mini | Series 11.1 11.2 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
1. ▶		**101.12PZ**	**101.12P**	–	26	2
2. ▶		**102.12PZ**	**102.12P**	10	36	3



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A4**

101.12PZ.A4 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 mini | Series 14 | Product range

Openable along the inner radius, enclosed outer radius

20

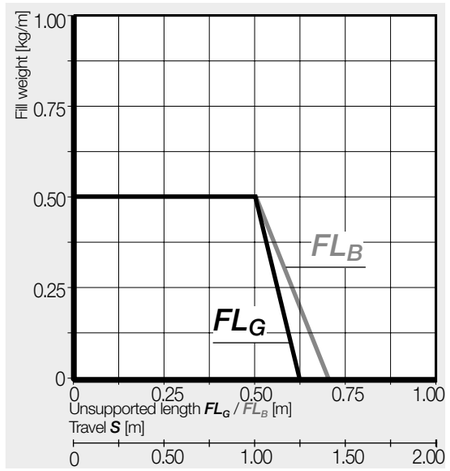


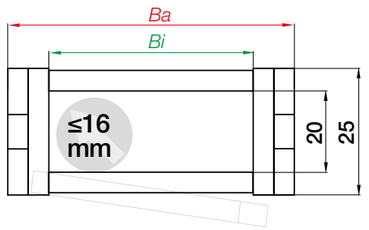
e-chains® | Series 14 | Openable along the inner radius from one side with film hinge

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
14.1.R.0	15	26	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.31
14.2.R.0	25	36	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.32
14.3.R.0	38	49	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.40
14.4.R.0	50	61	| 028 | 038 | 048 | 075 | 100 | 125 |	≈ 0.41

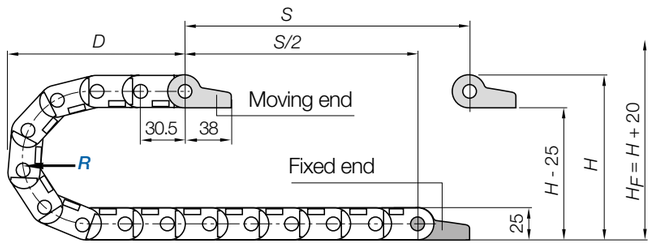
Complete Part No. with required radius (*R*). Example: **14.2.038.0**

Installation dimensions





Inner height [mm]	20
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

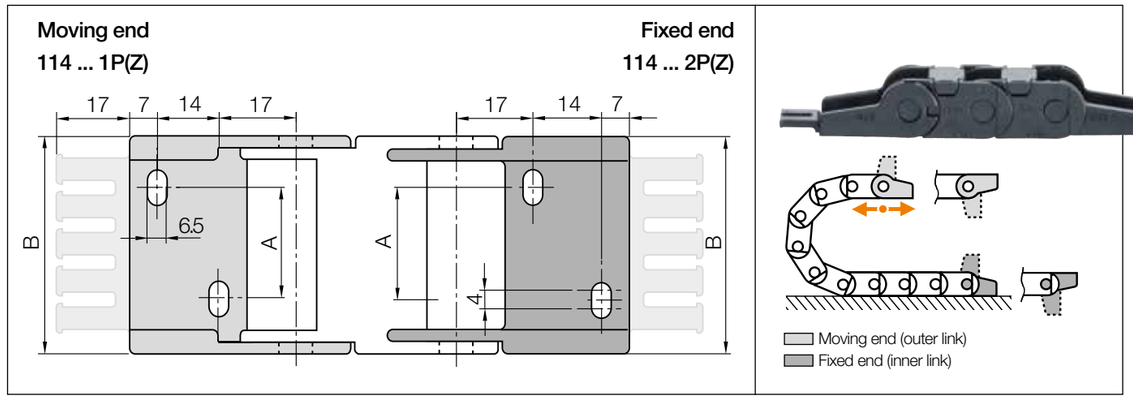


R	028	038	048	075	100	125
H	81	101	121	175	225	275
D	86	96	106	133	158	183
K	150	185	215	300	380	455

The required clearance height: $H_F = H + 20$mm (with 0.5kg/m fill weight)

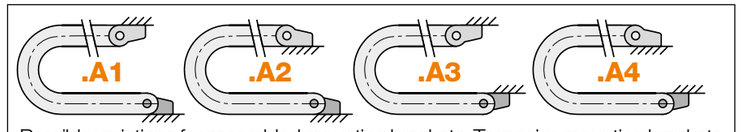
E2 mini | Series 14 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
1.	▶	114.1.12PZ	114.1.12P	–	26.3	2
2.	▶	114.2.12PZ	114.2.12P	10	36.3	3
3.	▶	114.3.12PZ	114.3.12P	23	49.3	4
4.	▶	114.4.12PZ	114.4.12P	35	61.3	5

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

114.2.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

E2 mini | Series B15i B15 | Product range

For new designs we recommend E2.1 micro series E2.17 ▶ www.igus.eu/E2.1micro

17 17



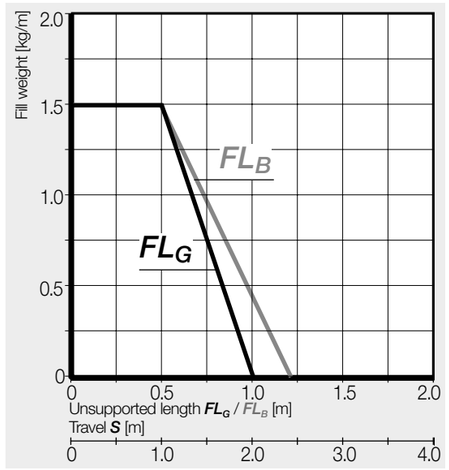
e-chains® | Series B15i | Openable along the inner radius, from one side
e-chains® | Series B15 | Openable along the outer radius, from one side

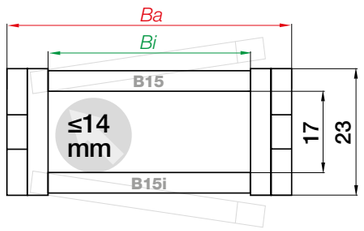
Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
B15i.015.*R*.0	B15.015.*R*.0 ◎	15	26	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.35
B15i.025.*R*.0 ◎	B15.025.*R*.0 ◎	25	36	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.40
B15i.038.*R*.0	B15.038.*R*.0 ◎	38	49	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.46
B15i.050.*R*.0 ◎	B15.050.*R*.0 ◎	50	61	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.52
B15i.5 .*R*.0	B15.5 .*R*.0	63	76	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.63
B15i.6 .*R*.0	B15.6 .*R*.0	80	94	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.70
B15i.7 .*R*.0	B15.7 .*R*.0	100	113	| 038 | 048 | 075 | 100 | 110 | 125 | 145 | 180 |	≈ 0.76

◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ From page 130

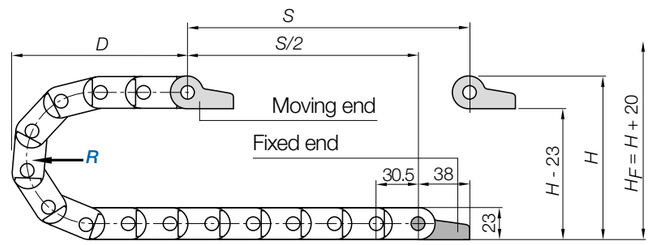
Complete Part No. with required radius (*R*). Example: **B15.025.038.0**

Installation dimensions





Inner height [mm]	17
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$



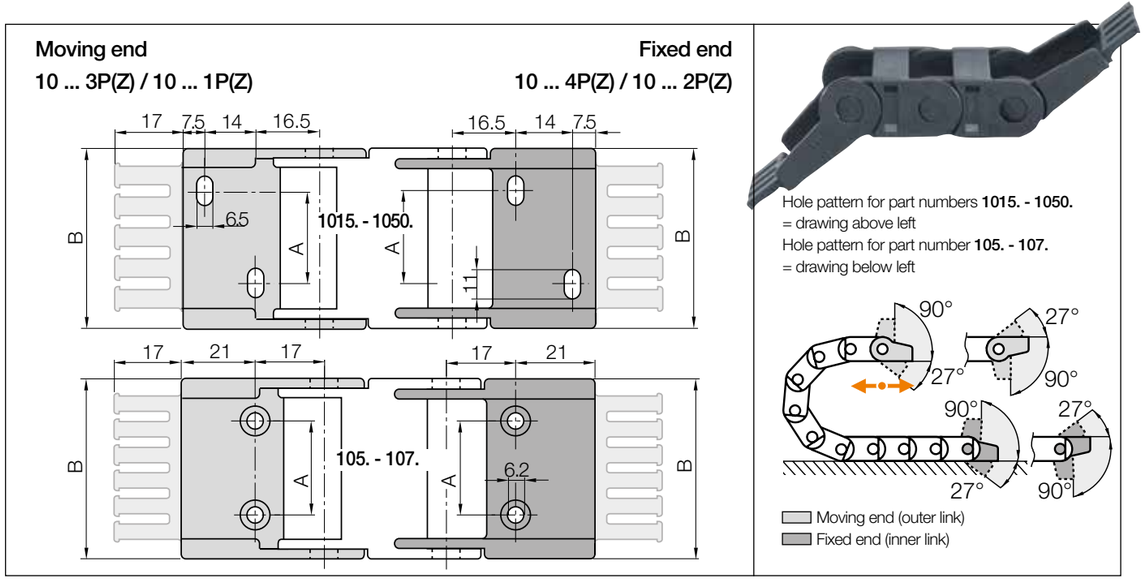
R	038	048	075	100	110	125	145	180
H	99	119	173	223	243	273	313	383
D	95	105	132	157	167	182	202	237
K	185	215	300	380	410	455	520	630

The required clearance height: $H_F = H + 20$mm (with 0.5kg/m fill weight)

E2 mini | Series B15i B15 | Accessories

Mounting brackets, polymer one-piece | Pivoting | Locking

▶ 344



Width index	Standard	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶		1015.34PZ	1015.34P	1015.12PZ	1015.12P	–	25.5	2
025. ▶		1025.34PZ	1025.34P	1025.12PZ	1025.12P	10	35.5	3
038. ▶		1038.34PZ	1038.34P	1038.12PZ	1038.12P	23	48.5	4
050. ▶		1050.34PZ	1050.34P	1050.12PZ	1050.12P	35	60.5	5
5. ▶		105. 34PZ	105. 34P	105. 12PZ	105. 12P	48	75.0	6
6. ▶		106. 34PZ	106. 34P	106. 12PZ	106. 12P	65	92.0	8
7. ▶		107. 34PZ	107. 34P	107. 12PZ	107. 12P	85	112.0	10



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

1025.34PZ.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Rotating energy supply systems with Reverse Bend Radius *(RBR)* - some radii available from stock

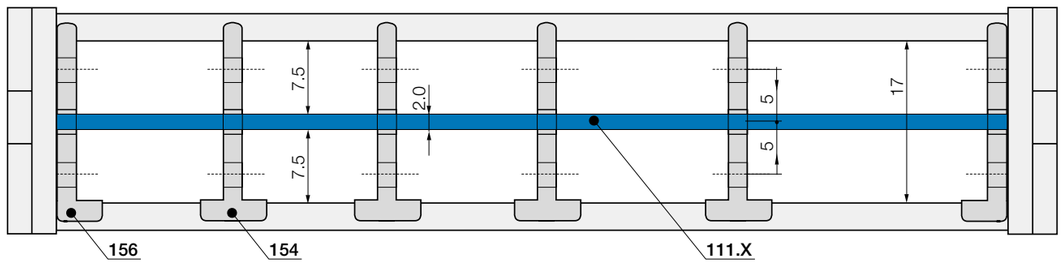
- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life
- Short delivery times 24hrs, from stock

More information and the complete product range ▶ From page 130

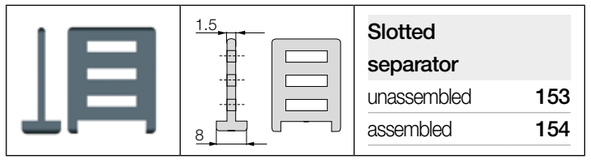


E2 mini | Series B15i B15 | Accessories

Interior separation



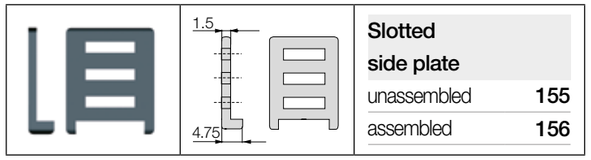
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	**153**
assembled	**154**

Slotted separator

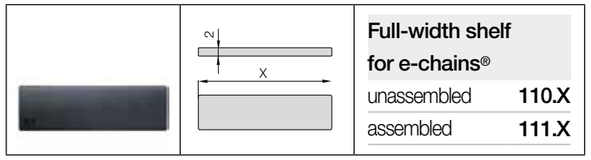
Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.



Slotted side plate	
unassembled	**155**
assembled	**156**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!



Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	063	**110.63**	**111.63**			
038	**110.38**	**111.38**	080	**110.80**	**111.80**			

E2 mini | Series B15i·B15 | Application example



E2 mini is a space-saving, reliable cable guide, here supplying power to lift doors

E2 mini | Series B17i·B17 | Product range

Openable along the inner or outer radius



e-chains® | Series B17i | Openable along the inner radius, from one side
e-chains® | Series B17 | Openable along the outer radius, from one side

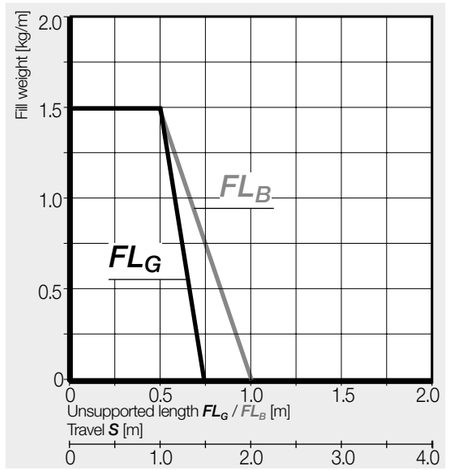
Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
–	B17.1.*R*.0	15	25.5	| 048 | 063 | 075 | 100 | 125 |	≈ 0.52
B17i.2.*R*.0	B17.2.*R*.0	25	35.5	| 048 | 063 | 075 | 100 | 125* |	≈ 0.59
B17i.3.*R*.0	B17.3.*R*.0	38	48.5	| 048 | 063 | 075 | 100 | 125 |	≈ 0.65
B17i.4.*R*.0	B17.4.*R*.0 ◎	50	60.5	| 048 | 063 | 075 | 100 | 125 |	≈ 0.70
B17i.5.*R*.0	B17.5.*R*.0 ◎	63	76	| 048 | 063 | 075 | 100 | 125 |	≈ 0.83
–	B17.6.*R*.0	80	93	| 048 | 063 | 075 | 100 | 125 |	≈ 0.92
–	B17.7.*R*.0	100	113	| 048 | 063 | 075 | 100 | 125 |	≈ 1.06

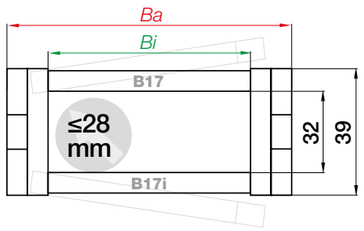
*Radii for B17i.2. upon request

◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ From page 130

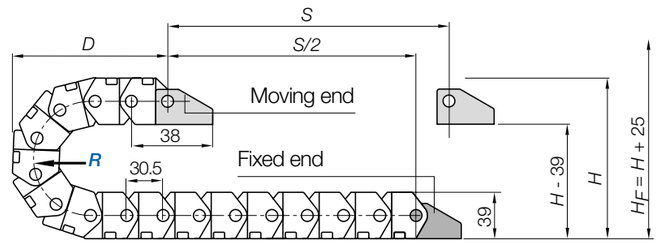
Complete Part No. with required radius (*R*). Example: **B17.2.048.0**

Installation dimensions





Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$



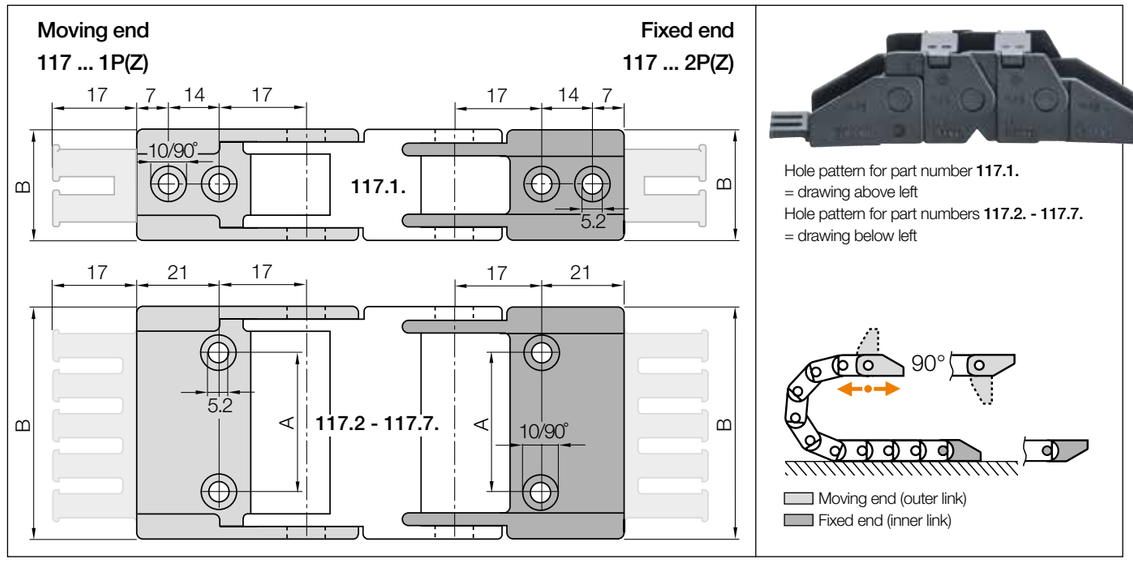
R	048	063	075	100	125*
H	135	165	189	239	289
D	113	128	140	165	190
K	215	260	300	380	455

The required clearance height: $H_F = H + 25$mm (with 1.5kg/m fill weight)

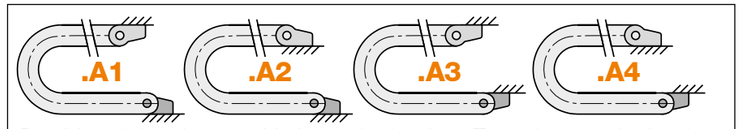
*Radii for B17i.2. upon request

E2 mini | Series B17i·B17 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
1.	▶	117.1.12PZ	117.1.12P	–	25.5	2
2.	▶	117.2.12PZ	117.2.12P	12	35.5	3
3.	▶	117.3.12PZ	117.3.12P	25	48.5	4
4.	▶	117.4.12PZ	117.4.12P	37	60.5	5
5.	▶	117.5.12PZ	117.5.12P	48	76.0	6
6.	▶	117.6.12PZ	117.6.12P	65	93.0	8
7.	▶	117.7.12PZ	117.7.12P	85	113	10



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

117.2.12PZ.A1 **Order example**

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

Rotating energy supply systems with Reverse Bend Radius *(RBR)* - some radii available from stock

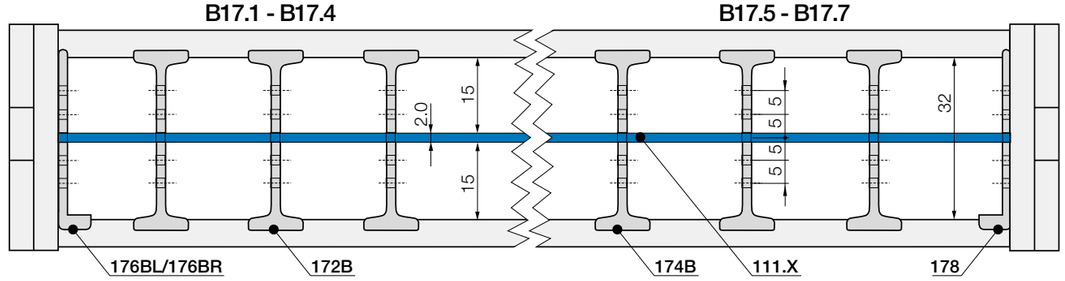
- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life
- Short delivery times 24hrs, from stock

More information and the complete product range ▶ From page 130

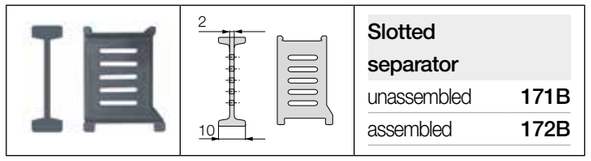


E2 mini | Series B17i·B17 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

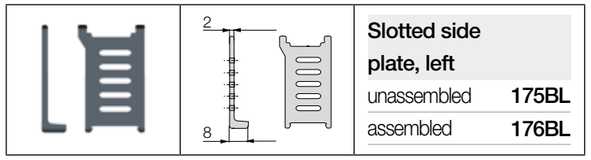


Slotted separator	
unassembled	**171B**
assembled	**172B**

For width index B17.1 up to B17.4

Slotted separator

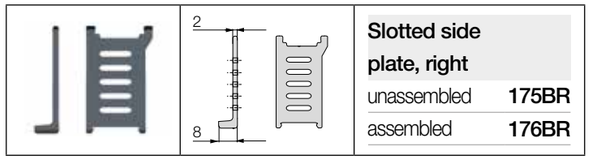
Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.



Slotted side plate, left	
unassembled	**175BL**
assembled	**176BL**

Slotted side plate, left (from B17.2)

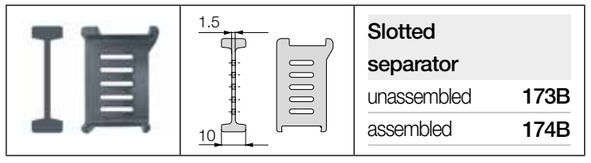
Allows modular shelving right up to the side links. No clearance required!



Slotted side plate, right	
unassembled	**175BR**
assembled	**176BR**

Slotted side plate, right (from B17.2)

Allows modular shelving right up to the side links. No clearance required!

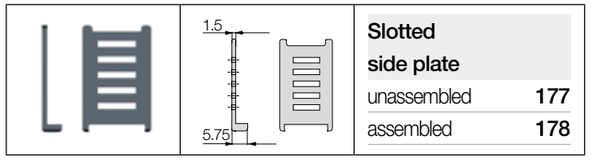


Slotted separator	
unassembled	**173B**
assembled	**174B**

For width index B17.5 up to B17.7

Slotted separator

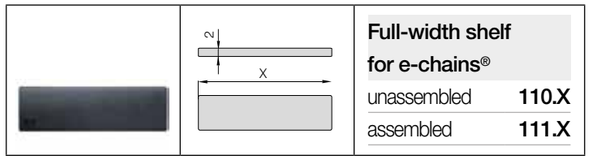
Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.



Slotted side plate	
unassembled	**177**
assembled	**178**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!



Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

For all widths

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	063	**110.63**	**111.63**			
038	**110.38**	**111.38**	080	**110.80**	**111.80**			

E2 mini | Application example



Five E2 mini chains installed above one another and side by side. The bend radii are exactly matched to each other

E2 mini | Series F17 | Product range

Large inner height, small outer width, enclosed outer radius

32

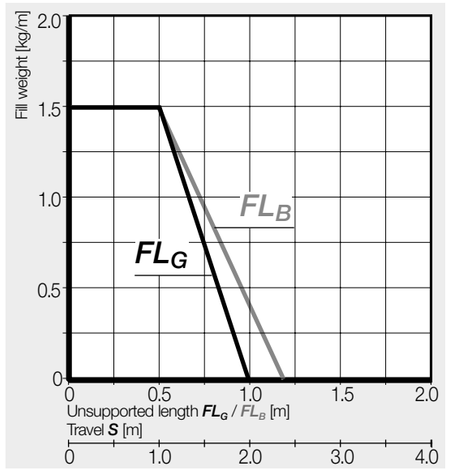


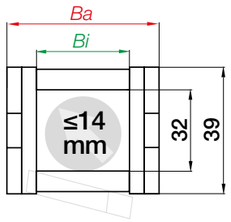
e-chains® | Series F17 | Openable along the inner radius from one side with film hinge

Part No. e-chains®	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Weight [kg/m]
F17.015.*R*.0	15	26	| 048 | 075 |	≈ 0.52

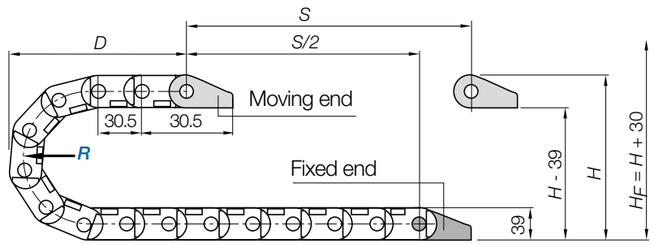
Complete Part No. with required radius (*R*). Example: **F17.015.048.0**

Installation dimensions





Inner height [mm]	32
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-chain® length	$L_K = S/2 + K$

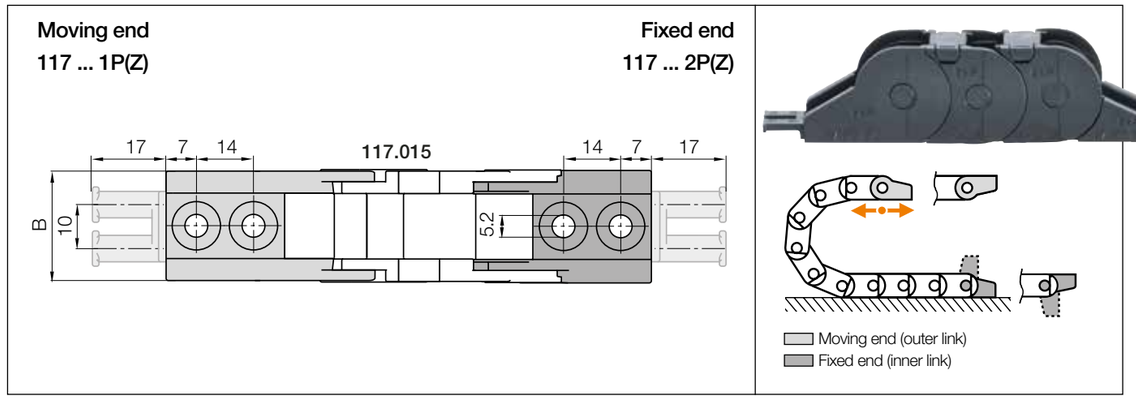


R	048	075
H	135	189
D	113	140
K	215	300

The required clearance height: $H_F = H + 30$mm (with 0.5kg/m fill weight)

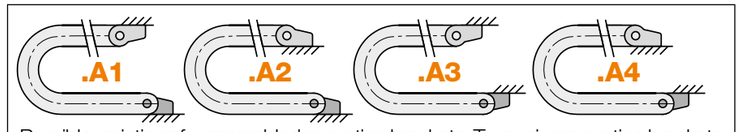
E2 mini | Series F17 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶		117.015.12PZ	117.015.12P	–	25.7	2

Material mounting bracket - igumid G, temperature: -40° up to +120°C, VDE 0304 IIC UL94-HB



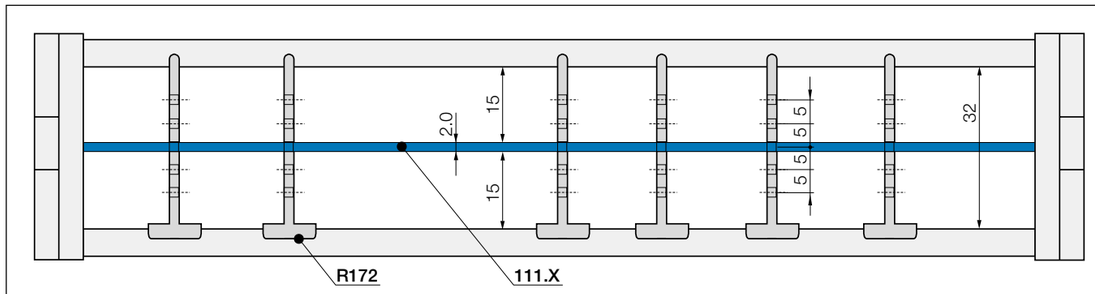
Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

117.015.12PZ.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

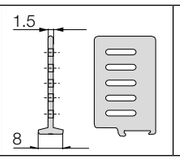
E2 mini | Series F17 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



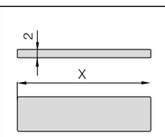


Slotted separator	
unassembled	**R171**
assembled	**R172**

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical/ horizontal shelving arrangements.





Full-width shelf for e-chains®	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled
015	**110.15**	**111.15**



E2 mini e-chain® with Reverse Bend Radius ***RBR***



E2.1 micro

Very confined spaces, fast assembly

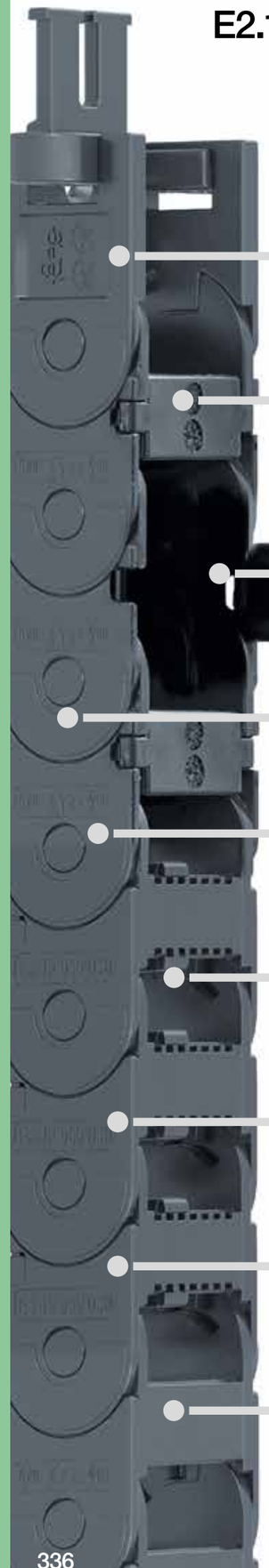
Advantage of the E2.1 micro series:

- More useable installation space*
- 25% longer unsupported length*
- 100% more fill weight*
- 10% weight saving*
- e-chain® opener for opening long sections of e-chains® quickly. Provided free of charge with first delivery
- Cable friendly interior separation range
- Openable from both sides (left or right)
- Available in 2 sizes, from stock
- Version with electrically conductive ESD material, tested with over 10 million cycles for the most demanding applications

* in comparison to equivalent igus® series

When to use another e-chain® series:

- When a quicker fitting of cables is required
  ► **easy chain®, page 322**
- When an e-chain® that is suitable for cleanrooms is needed
  ► **E3 system, page 916**
- When an openable e-chain® is not necessary
  ► **E2 micro, page 274**



Universal connection: mounting bracket with strain relief and quickflange option

Cable-friendly: very smooth contours ensure the longest cable life

Variety of options: non-openable or openable along the inner or outer radius

Strong: large, assembly-friendly pins

Cost-effective: lightweight and low-priced

Lockable interior separation: recommended for side-mounted applications

Quiet operation: integrated brake reduces noise

Smooth Design: dirt-repellent outer contour

Tough: square stop-dog system for large fill weights

For very small spaces, strong - E2.1 micro

E2 micro e-chains® are very small, lightweight one- and two-piece e-chains®, making them ideal for highly dynamic applications. E2.1 micro e-chains® are optimal for smallest installation spaces, and are available in many versions. They feature a strong stop-dog system for up to 25% longer unsupported travels as well as 100% higher fill weights (compared to similar igus® types). They are lightweight, robust and easy to open. An e-chain® opener is included in order to open the e-chain® in one go. Many accessories like interior separation and fixation options are also available.

Typical industries and applications

● Models (micro e-chain®) ● Automatic doors ● Vehicles ● Measuring machines ● Electronic engineering ● Handling ● Pick und place robots ● General machinery, etc.

UL94-V0 classification upon request

Electrically conductive ESD e-chains® - several series available from stock



For a quick and easy opening, an e-chain® opener is included with every first order of openable E2.1 micro from igus®

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **E2.1 micro - two-piece design** openable along the inner radius							
E2i.10	10.1	6 - 50	13.4 - 57.4	15	018 - 038	0.75	**340**
E2i.15	14.4	10 - 50	17.8 - 57.8	19.3	028 - 075	1.30	**344**
 **E2.1 micro - two-piece design** openable along the outer radius							
E2.10	10.1	6 - 50	13.4 - 57.4	15	018 - 038	0.75	**340**
E2.15	14.4	10 - 50	17.8 - 57.8	19.3	028 - 075	1.30	**344**
 **E2.1 micro - one-piece design** non-openable							
E2C.10	10.6	6 - 50	13.4 - 57.4	15	018 - 038	0.75	**340**
E2C.15	14.9	10 - 50	17.8 - 57.8	19.3	028 - 075	1.30	**344**

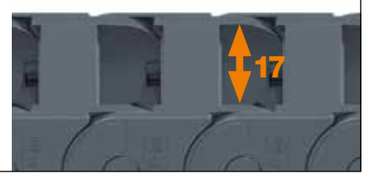
Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

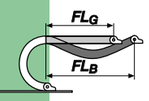
E2.1 series - new size with 17mm inner height

- E2.17 is lighter and offers more inner height than the previous E2 mini B15 with the same outer dimensions
- Strong stop-dog system for up to 25% longer unsupported length compared to the predecessor E2 mini series B15

Upon request - more information ▶ www.igus.eu/info/energy-chains-overview-e2-1



Technical data



Speed gliding / acceleration gliding	≤ 10 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
E2i.10/E2.10/E2C.10	≤ 1.50 m	upon request	upon request	upon request	with rework	upon request
E2i.15/E2.15/E2C.15	≤ 2.60 m	upon request	upon request	upon request	with rework	upon request

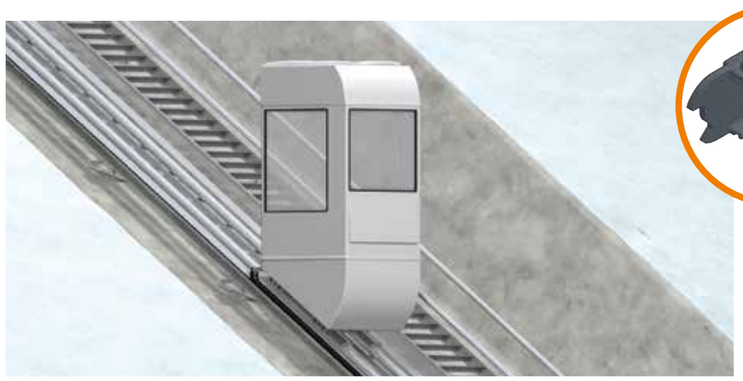
E2.1 micro special | ice-chain

ice-chain - outdoors at low temperatures

- In order to prevent e-chains® from freezing at very low temperature in an inclined lift, two "nubs" have been injection-moulded onto the e-chain®
- Closed link for maximum holding strength
- High strength for large unsupported lengths

More information ▶ www.igus.eu/icechain







When the e-chain® rarely moves and temperatures are very low, injection-moulded nubs prevent the igus® ice-chain from freezing to the running surface

Options with order keys | Examples based on series E2.10

Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*ESD - electrically conductive material*
Part No. Standard	**Part No. NC version**	**Part No. *RBR***	**Part No. igumid ESD**
E2i.10.20.*R*.0 e-chain® openable along the inner radius	**E2i.10.20.*R*.0.NC** e-chain® openable along the inner radius	**E2i.10.20.*R1/R2*.0** e-chain® openable along the inner radius	**E2i.10.20.*R*.0.ESD** e-chain® openable along the inner radius
E2.10.20.*R*.0 e-chain® openable along the outer radius	**E2.10.20.*R*.0.NC** e-chain® openable along the outer radius	**E2.10.20.*R1/R2*.0** e-chain® openable along the outer radius	**E2.10.20.*R*.0.ESD** e-chain® openable along the outer radius
E2C.10.20.*R*.0 One-piece, non-openable	**E2C.10.20.*R*.0.NC** One-piece, non-openable	**E2C.10.20.*R1/R2*.0** One-piece, non-openable	**E2C.10.20.*R*.0.ESD** One-piece, non-openable
Ready to ship in 24 - 48hrs.*	Ready to ship in 2-5 business days*	Ready to ship in 12 business days*	Ready to ship in 12 business days*

RBR version (Reverse Bend Radius) - some radii available from stock - further information and the complete product range ▶ From page 130

ESD version - some series available from stock - further information and the complete product range ▶ From page 142

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E2.10

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 50 links	**E2.10.20.18.0**
+ Mounting brackets	1 set (with tiewrap plates)	**E2.100.20.34PZ**
Interior separation	with 2 separators assembled every 2nd link	**E2.10.2.1**
Order text:	**1m E2.10.20.18.0 + E2.100.20.34PZ + 2 x E2.10.2.1**	

Order key

Openable along the inner radius	E2i.	10.20.18.0
Openable along the outer radius	E2.	10.20.18.0
One-piece, non-openable	E2C.	10.20.18.0
Series / Type		
Width index (depends on *Bi*)		
Bend radius *R*		
Colour index (standard black)		

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

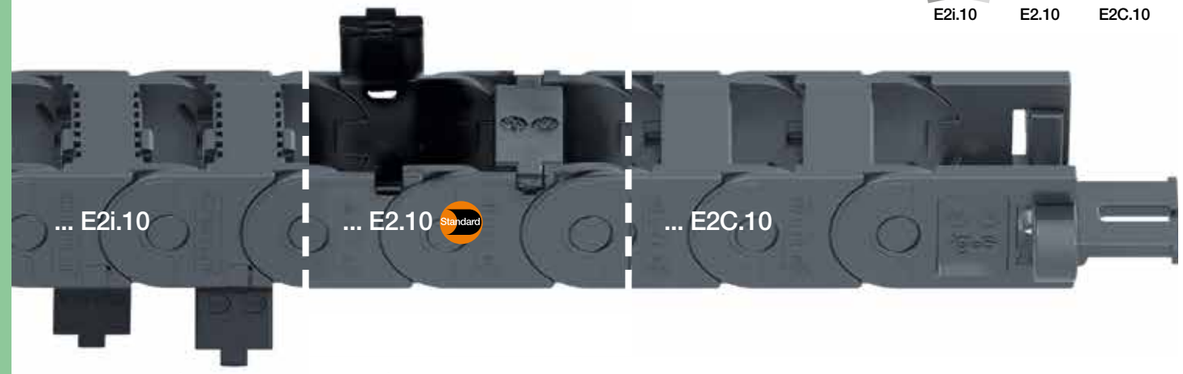
Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

E2.1 micro | Series E2.10 | Product range

Very confined spaces, fast assembly





e-chains® | Series E2i.10 | Openable along the inner radius, from both sides
Standard e-chains® | Series E2.10 | Openable along the outer radius, from both sides
e-chains® | Series E2C.10 | One-piece, non-openable

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Part No. e-chains® one-piece, non-openable	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	E2i.10 [kg/m]	E2.10 [kg/m]	E2C.10 [kg/m]
E2i.10.06.*R*.0*	E2.10. 06.*R*.0*	E2C.10.06.*R*.0*	6	13.4	| 018 | 028 | 038 |	≈ 0.13	≈ 0.13	≈ 0.14
E2i.10.10.*R*.0*	E2.10. 10.*R*.0*	E2C.10.10.*R*.0*◎	10	17.4	| 018 | 028 | 038 |	≈ 0.14	≈ 0.14	≈ 0.14
E2i.10.16.*R*.0	E2.10. 16.*R*.0	E2C.10.16.*R*.0▲	16	23.4	| 018 | 028 | 038 |	≈ 0.16	≈ 0.16	≈ 0.16
E2i.10.20.*R*.0	E2.10. 20.*R*.0	E2C.10.20.*R*.0▲	20	27.4	| 018 | 028 | 038 |	≈ 0.17	≈ 0.17	≈ 0.17
E2i.10.30.*R*.0	E2.10. 30.*R*.0	E2C.10.30.*R*.0▲	30	37.4	| 018 | 028 | 038 |	≈ 0.19	≈ 0.19	≈ 0.20
E2i.10.40.*R*.0	E2.10. 40.*R*.0	E2C.10.40.*R*.0	40	47.4	| 018 | 028 | 038 |	≈ 0.22	≈ 0.22	≈ 0.23
E2i.10.50.*R*.0	E2.10. 50.*R*.0	E2C.10.50.*R*.0	50	57.4	| 018 | 028 | 038 |	≈ 0.25	≈ 0.25	≈ 0.25

*Interior separation not suitable for inner widths *Bi* 06 and 10.

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

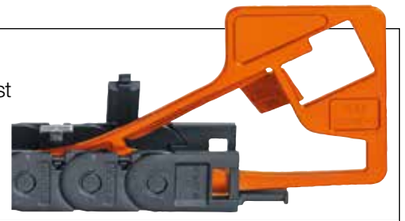
◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ **From page 130**

Complete Part No. with required radius (*R*). Example: **E2.10.20.038.0**

Reduce assembly time - E2.1 micro e-chain® opener

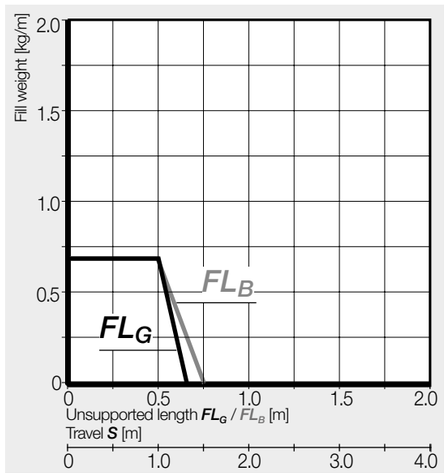
- For a quick and easy opening, an e-chain® opener is included with every first order of openable E2.1 micro from igus®
- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go

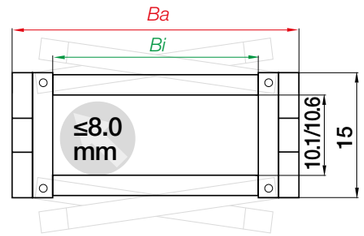
More information ▶ www.igus.eu/E2.1open



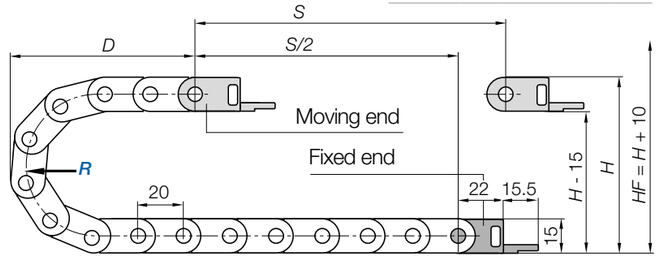
E2.1 micro | Series E2.10 | Installation dimensions

Unsupported applications | Short travels





E2i.10	Inner height [mm]	10.1
E2.10	Inner height [mm]	10.1
E2C.10	Inner height [mm]	10.6
Pitch [mm/link]		20
Links/m		50
corresponds to [mm]		1,000
e-chain® length		$L_K = S/2 + K$



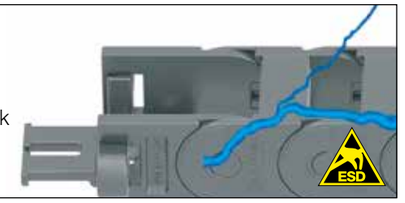
R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10mm$ (with 0.2kg/m fill weight)

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

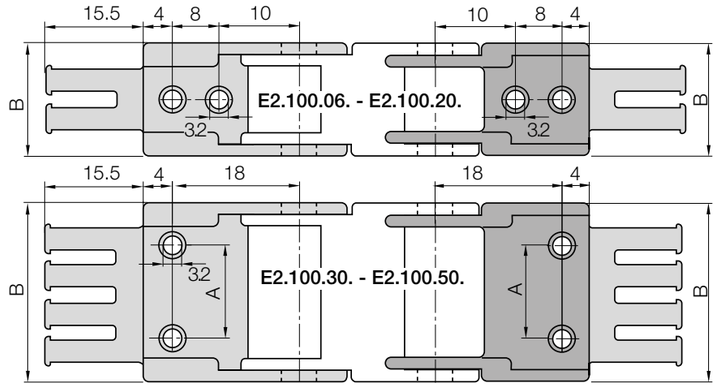
More information and the complete product range
▶ From page 142 or at ▶ www.igus.eu/esd



E2.1 micro | Series E2.10 | Accessories

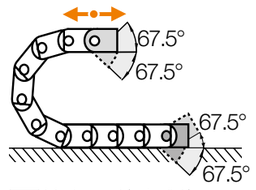
Mounting brackets, polymer one-piece | Pivoting | Locking

Moving end		Fixed end
E2.100 ... 3PZ	both ends pivoting	E2.100 ... 4PZ
E2.100 ... 5PZ	one end* pivoting	E2.100 ... 6PZ
E2.100 ... 1PZ	both ends locking	E2.100 ... 2PZ





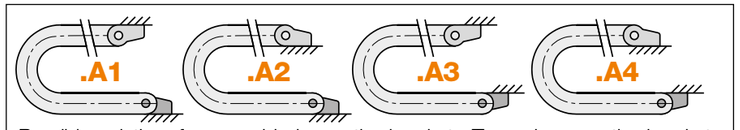
Hole pattern for part numbers
E2.100.06. - E2.100.20. = drawing above left
Hole pattern for part numbers
E2.100.30. - E2.100.50. = drawing below left



Moving end (outer link)
Fixed end (inner link)

Width index	Standard	Part No. full set **with tiewrap plates** both ends pivoting	Part No. full set **with tiewrap plates** one end* pivoting	Part No. full set **with tiewrap plates** both ends locking	A [mm]	B [mm]	Number of teeth
06. ▶		**E2.100.06.34PZ**	**E2.100.06.56PZ**	**E2.100.06.12PZ**	–	13.4	1
10. ▶		**E2.100.10.34PZ**	**E2.100.10.56PZ**	**E2.100.10.12PZ**	–	17.4	1
16. ▶		**E2.100.16.34PZ**	**E2.100.16.56PZ**	**E2.100.16.12PZ**	–	23.4	2
20. ▶		**E2.100.20.34PZ**	**E2.100.20.56PZ**	**E2.100.20.12PZ**	–	27.4	2
30. ▶		**E2.100.30.34PZ**	**E2.100.30.56PZ**	**E2.100.30.12PZ**	22	37.4	3
40. ▶		**E2.100.40.34PZ**	**E2.100.40.56PZ**	**E2.100.40.12PZ**	32	47.4	4
50 ▶		**E2.100.50.34PZ**	**E2.100.50.56PZ**	**E2.100.50.12PZ**	42	57.4	5

*One end pivoting: pivot angle = bend radius. One end only pivots towards the inner radius - whether fitted A1 or A4!



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

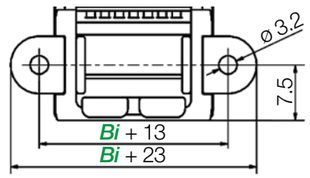
E2.100.20.34PZ.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- width index
- Series

Additional features



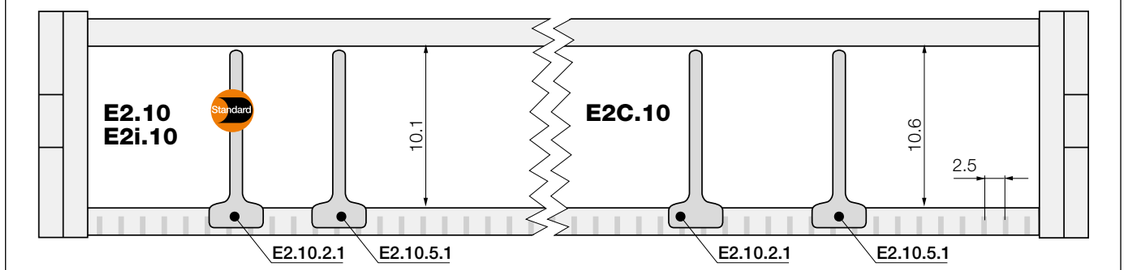
The quickflange can be clipped-in to all mounting brackets. Contains a housing for hexagonal nut and socket cap bolt M3. **Single Part No.: E2.150.QF or Part No. incl. mounting bracket: E2.100.20.34PZ.QF**



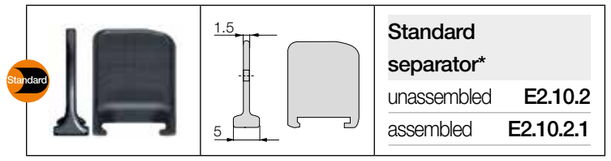
E2.10
E2i.10
E2C.10

E2.1 micro | Series E2.10 | Accessories

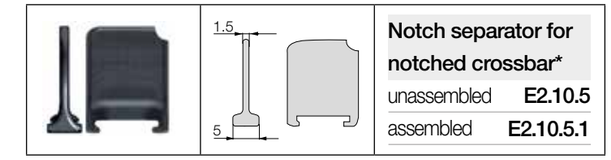
Interior separation | Increase cable service life



Note: for one-piece, non-openable e-chain® links please assemble the interior separation before fitting the e-chain®!
As standard separators are fitted every 2nd e-chain® link!



Standard separator*
unassembled **E2.10.2**
assembled **E2.10.2.1**



Notch separator for notched crossbar*
unassembled **E2.10.5**
assembled **E2.10.5.1**

Standard - for any application

For easy vertical separation in e-chains®. Separators can be arranged in any position in the cross-section. Without notches, freely movable.

Locks securely in preset increments

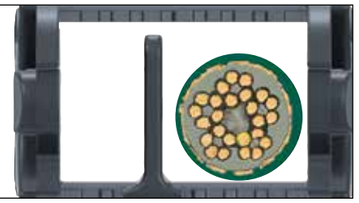
Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Note*: interior separation not suitable for inner widths *Bi* 06 and 10!

75% less wear

- igus® separators increase the service life of the cables by a factor of 4
- Separators with a rounded design for less cable wear and abrasion
- Optimised for easier and faster assembly

More information ▶ www.igus.eu/E2.1open



Interior separation assembly tool for the E2.1 micro

- Easy fitting of separators and shelves
- Significant assembly time reduction
- Grip and tool tip can be ordered separately and are easy to change

More information ▶ www.igus.eu/E2.1open



E2.1 micro | Series E2.15 | Product range

Very confined spaces, fast assembly





e-chains® | Series E2i.15 | Openable along the inner radius, from both sides
Standard e-chains® | Series E2.15 | Openable along the outer radius, from both sides
e-chains® | Series E2C.15 | One-piece, non-openable

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Part No. e-chains® one-piece, non-openable	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	E2i.15 [kg/m]	E2.15 [kg/m]	E2C.15 [kg/m]
E2i.15.10.*R*.0	E2.15. 10.*R*.0	E2C.15.10.*R*.0 ◎	10	17.8	| 028 | 038 | 048 | – |	≈ 0.18	≈ 0.18	≈ 0.19
E2i.15.13.*R*.0	E2.15. 13.*R*.0	E2C.15.13.*R*.0	13	20.8	| 028 | 038 | 048 | – |	≈ 0.19	≈ 0.19	≈ 0.20
E2i.15.16.*R*.0	E2.15. 16.*R*.0	E2C.15.16.*R*.0 ⚠	16	23.8	| 028 | 038 | 048 | – |	≈ 0.20	≈ 0.20	≈ 0.20
E2i.15.20.*R*.0	E2.15. 20.*R*.0	E2C.15.20.*R*.0 ⚠	20	27.8	| 028 | 038 | 048 | – |	≈ 0.21	≈ 0.21	≈ 0.21
E2i.15.30.*R*.0	E2.15. 30.*R*.0 ◎	E2C.15.30.*R*.0 ⚠	30	37.8	| 028 | 038 | 048 | – |	≈ 0.24	≈ 0.24	≈ 0.24
E2i.15.40.*R*.0	E2.15. 40.*R*.0	E2C.15.40.*R*.0	40	47.8	| 028 | 038 | 048 | 075* |	≈ 0.26	≈ 0.26	≈ 0.26
E2i.15.50.*R*.0	E2.15. 50.*R*.0	E2C.15.50.*R*.0	50	57.8	| 028 | 038 | 048 | – |	≈ 0.29	≈ 0.29	≈ 0.29

*Radius 075 only for series E2C.15.40

⚠ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

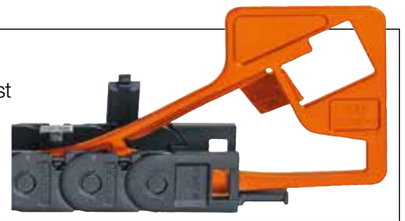
◎ ***RBR*** version (Reverse Bend Radius), some radii available from stock. More information ▶ **From page 130**

Complete Part No. with required radius (*R*). Example: **E2.15.20.038.0**

Reduce assembly time - E2.1 micro e-chain® opener

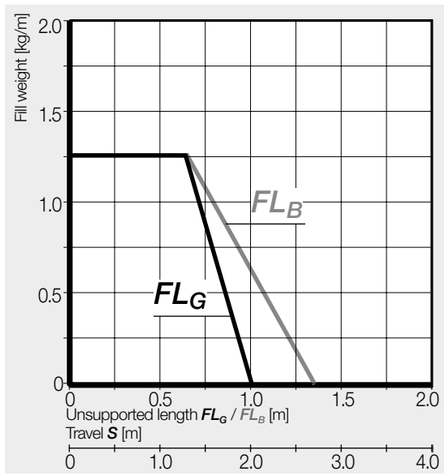
- For a quick and easy opening, an e-chain® opener is included with every first order of openable E2.1 micro from igus®
- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go

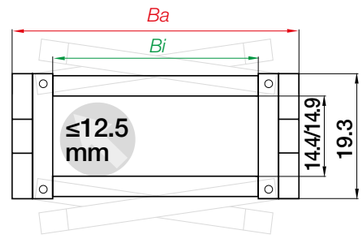
More information ▶ www.igus.eu/E2.1open



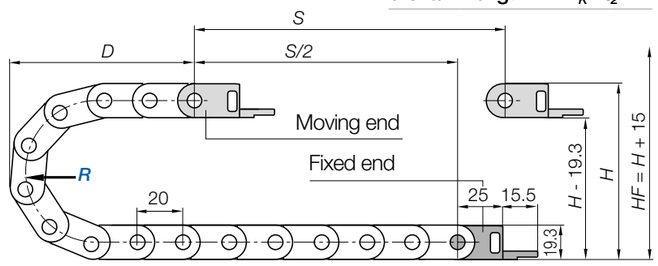
E2.1 micro | Series E2.15 | Installation dimensions

Unsupported applications | Short travels





E2i.15	Inner height [mm]	14.4
E2.15	Inner height [mm]	14.4
E2C.15	Inner height [mm]	14.9
Pitch [mm/link]		20
Links/m		50
corresponds to [mm]		1,000
e-chain® length		$L_K = S/2 + K$



R	028	038	048	075*
H	75	95	115	169
D	68	78	88	115
K	130	160	195	280

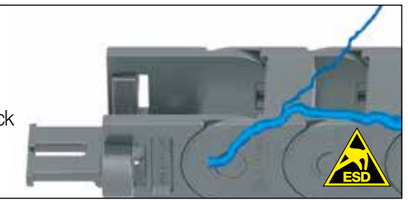
The required clearance height: $H_F = H + 15$mm (with 0.3kg/m fill weight)

*Radius 075 only for series E2C.15.40

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

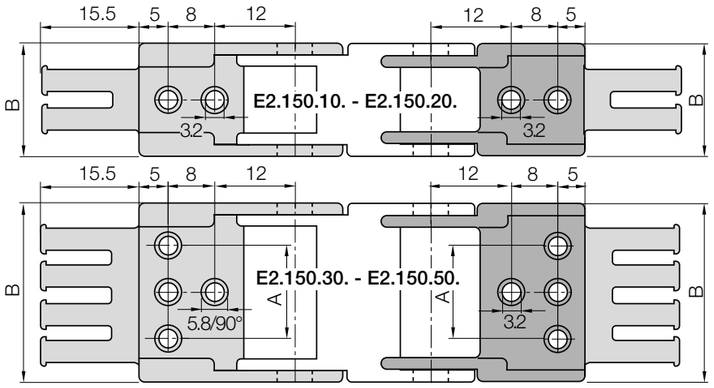
More information and the complete product range
▶ From page 142 or at ▶ www.igus.eu/esd



E2.1 micro | Series E2.15 | Accessories

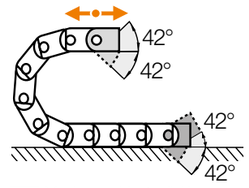
Mounting brackets, polymer one-piece | Pivoting | Locking

Moving end		Fixed end
E2.150 ... 3PZ	both ends pivoting	E2.150 ... 4PZ
E2.150 ... 5PZ	one end* pivoting	E2.150 ... 6PZ
E2.150 ... 1PZ	both ends locking	E2.150 ... 2PZ





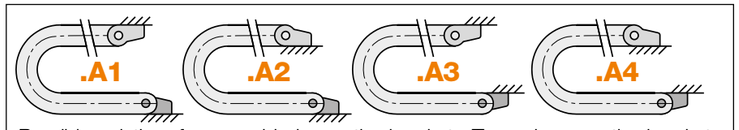
Hole pattern for part numbers
E2.150.10. - E2.150.20. = drawing above left
Hole pattern for part numbers
E2.150.30. - E2.150.50. = drawing below left



Moving end (outer link)
Fixed end (inner link)

Width index	Part No. full set **with tiewrap plates** both ends pivoting	Part No. full set **with tiewrap plates** one end* pivoting	Part No. full set **with tiewrap plates** both ends locking	A [mm]	B [mm]	Number of teeth
10. ▶	**E2.150.10.34PZ**	**E2.150.10.56PZ**	**E2.150.10.12PZ**	–	17.8	1
13. ▶	**E2.150.13.34PZ**	**E2.150.13.56PZ**	**E2.150.13.12PZ**	–	20.8	1
16. ▶	**E2.150.16.34PZ**	**E2.150.16.56PZ**	**E2.150.16.12PZ**	–	23.8	2
20. ▶	**E2.150.20.34PZ**	**E2.150.20.56PZ**	**E2.150.20.12PZ**	–	27.8	2
30. ▶	**E2.150.30.34PZ**	**E2.150.30.56PZ**	**E2.150.30.12PZ**	22	37.8	3
40. ▶	**E2.150.40.34PZ**	**E2.150.40.56PZ**	**E2.150.40.12PZ**	32	47.8	4
50. ▶	**E2.150.50.34PZ**	**E2.150.50.56PZ**	**E2.150.50.12PZ**	42	57.8	5

*One end pivoting: pivot angle = bend radius. One end only pivots towards the inner radius - whether fitted A1 or A4!



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

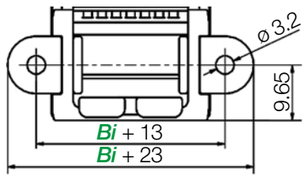
E2.150.20.34PZ.A1 Order example

- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- width index
- Series

Additional features

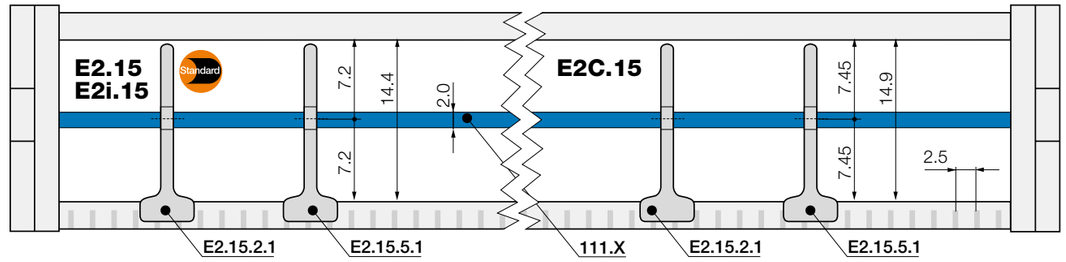


The quickflange can be clipped-in to all mounting brackets. Contains a housing for hexagonal nut and socket cap bolt M3. **Single Part No.: E2.150.QF or Part No. incl. mounting bracket: E2.150.20.34PZ.QF**

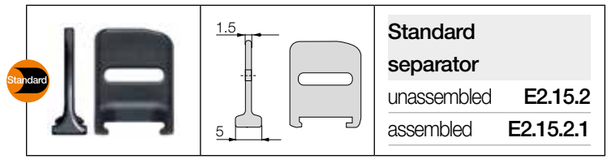


E2.1 micro | Series E2.15 | Accessories

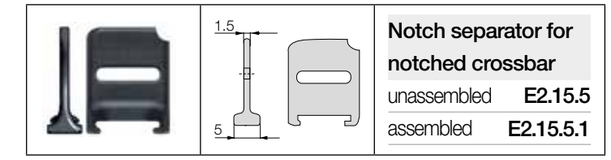
Interior separation | Increase cable service life



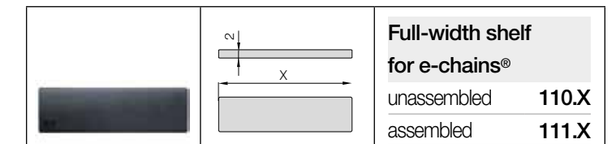
Note: for one-piece, non-openable e-chain® links please assemble the interior separation before fitting the e-chain®! As standard separators are fitted every 2nd e-chain® link!



Standard separator
unassembled **E2.15.2**
assembled **E2.15.2.1**



Notch separator for notched crossbar
unassembled **E2.15.5**
assembled **E2.15.5.1**



Full-width shelf for e-chains®
unassembled **110.X**
assembled **111.X**

Standard - for any application

For easy vertical separation in e-chains®. Separators can be arranged in any position in the cross-section. Without notches, freely movable.

Locks securely in preset increments

Notch separator for exact positioning in e-chains®. Recommended for side-mounted applications.

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

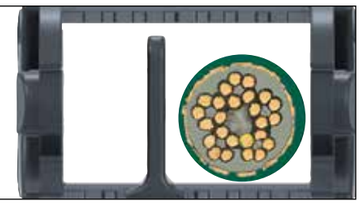
Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
010	**110.10**	**111.10**	020	**110.20**	**111.20**	050	**110.50**	**111.50**
013	**110.13**	**111.13**	030	**110.30**	**111.30**			
016	**110.16**	**111.16**	040	**110.40**	**111.40**			

75% less wear

- igus® separators increase the service life of the cables by a factor of 4
- Separators with a rounded design for less cable wear and abrasion
- Optimised for easier and faster assembly

More information ▶ www.igus.eu/E2.1open



Interior separation assembly tool for the E2.1 micro

- Easy fitting of separators and shelves
- Significant assembly time reduction
- Grip and tool tip can be ordered separately and are easy to change

More information ▶ www.igus.eu/E2.1open





E2.1

The strong all-rounder, easy to open

Advantages of the E2.1 series:

- More useable interior space with inner heights of 26, 38 and 48mm while the outer height is the same as the E2/000 e-chains®
- Easy to open - openable along the inner and outer radius, from both sides (left or right)
- Greater strength for unsupported applications
- Longer service life for gliding applications
- Integrated grid for interior separation in 2.5mm steps
- Cable-friendly due to smooth interior
- Quiet operation due to integrated brake
- igus® e-chain® opener for rapid opening available
- Complete interior separation range

When to use another e-chain® series:

- When a light, cost-effective e-chain®/e-tube with higher dynamics is needed
  ► **E4.1L, from page 538**
- When even higher strength is required
  ► **E4.1L, from page 538**
- For very simple applications with fast filling
  ► **easy chain®, from page 212**



Universal connection: many mounting options with or without strain relief

Easy to open: openable along the inner and outer radius, from both sides (left or right)

Cable-friendly: very smooth contours ensure the longest cable life

Economical: E2.1 is lighter and offers more inner height than the E2/000 system with the same outer dimensions

Quiet operation: optimised integrated brake reduces noise

Long service life: due to integrated gliding surfaces even on long travels

High strength: large pin/bore and crossbar with high locking force

The strong all-rounder, easy to open - E2.1

The proven e-chain system® E2/000 has been the worldwide standard in machinery since the year 2000. All the product improvements of previous years have now been combined into the new generation of series E2.1, and with it a new standard has been set. More useable installation space while the same outer dimensions are the same and quieter with a longer service life and increased stability.

- More useable interior space while the outer height is the same as the E2/000 e-chains®
- Easy to open - openable along the inner and outer radius, from both sides (left or right)
- Quieter due to improved brake
- Greater strength for unsupported applications
- Longer service life for gliding applications
- Integrated positional system 2.5mm
- Complete interior separation range

Typical industries and applications

● Machine tools ● Wood processing machines ● General mechanical engineering and all other areas



1m of e-chain® can be opened in 2 seconds.
igus® e-chain® opener for rapid opening

55dB(A) - value determined at the igus® test-lab, *v* = 2.0m/s unsupported, series E2.38.100.100.0

More information ▶ www.igus.eu/E2.1

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **E2i.1 - two-piece design** crossbars openable along the inner radius, from both sides							
E2i.21*	21	50 - 68	63.8 - 81.8	28	035 - 180	1.75	upon request
E2i.26	26	25 - 103	42 - 120	35	048 - 250	2.25	**356**
E2i.38	38	50 - 175	67 - 192	50	063 - 250	2.75	**362**
E2i.48	48	75 - 250	97 - 272	64	075 - 300	3.00	**368**

* Available upon request Delivery time upon request.

 **E2.1 - two-piece design** crossbars openable along the outer radius, from both sides							
E2.21*	21	50 - 68	63.8 - 81.8	28	035 - 180	1.75	upon request
E2.26	26	25 - 103	42 - 120	35	048 - 250	2.25	**356**
E2.38	38	50 - 175	67 - 192	50	063 - 250	2.75	**362**
E2.48	48	75 - 250	97 - 272	64	075 - 300	3.00	**368**

* Available upon request Delivery time upon request.

 **E2C.1 - one-piece design** non-openable							
E2C.21*	21	50 - 68	63.8 - 81.8	28	035 - 180	1.75	upon request

* Available upon request Delivery time upon request.

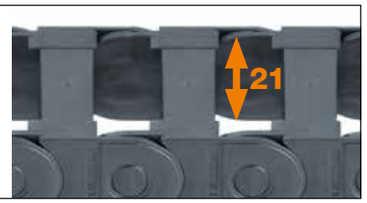
Available from stock. Ready to ship in 24 - 48hrs.*

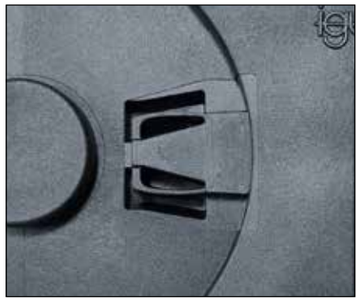
*Average time before the ordered goods are dispatched.

E2.1 series - new size with 21mm inner height

- E2.21 is lighter and offers more inner height than the previous E2/000 with the same outer dimensions
- Larger gliding surfaces for longer service life in gliding applications compared to previous series

Upon request - more information ▶ www.igus.eu/info/energy-chains-overview-e2-1





Special brake in the stop-dogs reduces noise level by up to 3dB(A)



Crossbar with integrated grid and openable from both ends - from the top or the side with a screwdriver



Separators are secure even when e-chain® is open



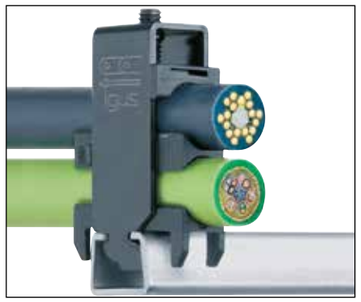
Plastic-metal mounting brackets for strong connection of the e-chain® to the machine, optionally available with C-profile



Integrated gliding surfaces ensure a long service life even in the case of long travels/gliding applications



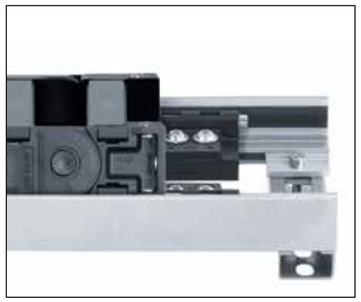
Lean separators enable extremely fast cable filling in several layers



Strain relief elements include clamps, tiewrap plates, nuggets, etc. ► **From page 1392**



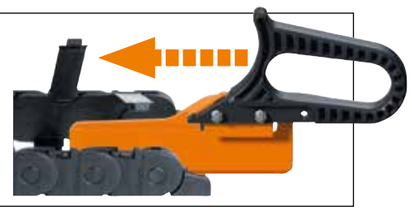
Aluminium "SuperTrough" - the standard igus® guide trough ► **From page 1298**



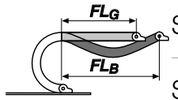
Aluminium support trays for support of the lower run ► **From page 1362**

Reduce assembly time - E2.1 e-chain® opener
- igus® e-chain® opener with ergonomic handle for rapid opening
- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- Avoid crossbars damage

More information ► www.igus.eu/opener-E2.1



Technical data



Speed gliding[1] / acceleration gliding[1]	≤ 10 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) For openable series along the inner radius in gliding applications, please consult igus®

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag	Unsupported length lower run
E2i.26 / E2.26	≤ 4.25m	≤ 100m	≤ 40m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
E2i.38 / E2.38	≤ 5.5m	≤ 120m	≤ 50m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
E2i.48 / E2.48	≤ 6.0m	≤ 150m	≤ 80m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request

1) For openable series along the inner radius in gliding applications, please consult igus®



More useable filling space, quiet operation due to integrated brake - the new generation E2 e-chains®

Options with order keys | Examples based on series E2i.38/E2.38

	Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*Unsupported lengths +25% possible*
	Part No. Standard	**Part No. NC version**	**Part No. *RBR***	**Part No. XXL material** [2]
	Standard	NC		+25%
	E2i.38.065.*R*.0	**E2i.38.065.*R*.0.NC**	**E2i.38.065.*R1/R2*.0**	**E2i.38.065.*R*.0.XXL**
	e-chain® openable along inner radius [1]	e-chain® openable along inner radius [1]	e-chain® openable along inner radius [1]	e-chain® openable along inner radius [1]
	E2.38.065.*R*.0	**E2.38.065.*R*.0.NC**	**E2.38.065.*R1/R2*.0**	**E2.38.065.*R*.0.XXL**
	e-chain® openable along the outer radius	e-chain® openable along the outer radius	e-chain® openable along the outer radius	e-chain® openable along the outer radius
	Ready to ship in 24 - 48hrs.*	Ready to ship in 3-5 business days*	Ready to ship in 12 business days*	Delivery time upon request*

	ESD - electrically conductive material	*Magnetically detectable plastic e-chains®*
	Part No. igumid ESD [3]	**Part No. igumid DT**
	ESD	
	E2i.38.065.*R*.0.ESD	**E2i.38.065.*R*.0.DT**
	e-chain® openable along inner radius [1]	e-chain® openable along inner radius [1]
	E2.38.065.*R*.0.ESD	**E2.38.065.*R*.0.DT**
	e-chain® openable along the outer radius	e-chain® openable along the outer radius
	Ready to ship in 12 business days*	Ready to ship in 20 business days*

3) If an ESD-Version (Electro Static Discharge) from stock is required, please select a E2/000 system ▶ From page 374

1) For openable series along the inner radius in gliding applications, please consult igus®

2) Bottom part made from XXL material

*Average time before the ordered goods are dispatched.



Crossbar with integrated grid and openable from both ends - from the top or the side with a screwdriver

Order example | Examples based on series E2.38

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 22 links	**E2.38.065.100.0**
+ Mounting brackets	1 set (with tiewrap plates)	**2606.34PZB**
Interior separation	with 2 separators assembled every 2nd link	**2 x 38.1.1**
Order text:	**1m E2.38.065.100.0 + 2606.34PZB + 2 x 38.1.1**	

Order key and colour examples | Examples based on series E2i.38/E2.38

Order key

e-chains® openable along the inner radius **E2i.38.065.100.0**

e-chains® openable along the outer radius **E2.28.065.100.0**

- Series / Type
- Inner height
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

E2.1 | E2i.26·E2.26 | Product range

The strong all-rounder, easy to open



e-chains® | Series E2i.26 | Crossbars openable along the inner radius, from both sides
e-chains® | Series E2.26 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	E2i.26 [kg/m]	E2.26 [kg/m]
E2i.26.025.*R*.0	E2.26. 025.*R*.0	25	42	| 048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.77	≈ 0.77
E2i.26.038.*R*.0	E2.26. 038.*R*.0	38	55	| 048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.84	≈ 0.84
E2i.26.057.*R*.0	E2.26. 057.*R*.0	57	74	| 048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.92	≈ 0.92
E2i.26.077.*R*.0	E2.26. 077.*R*.0	77	94	| 048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.99	≈ 0.99
E2i.26.089.*R*.0	E2.26. 089.*R*.0	89	106	| 048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.03	≈ 1.03
E2i.26.103.*R*.0	E2.26. 103.*R*.0	103	120	| 048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.10	≈ 1.10
E2i.26.125.*R*.0*	E2.26. 125.*R*.0*	125	142	| 048 | 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.19	≈ 1.19

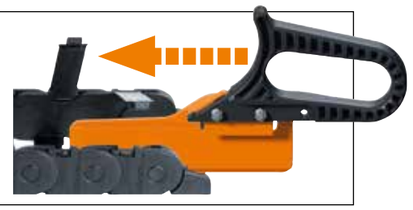
*Width available upon request. Delivery time upon request.

Complete Part No. with required radius (*R*). Example: **E2.26.038.048.0**

Reduce assembly time - E2.1 e-chain® opener

- igus® e-chain® opener with ergonomic handle for rapid opening
- Reduce opening times from 33 to 2 seconds
- Part No. EO2.26 for series E2.26 / E2i.26
- Avoid crossbars damage

More information ▶ www.igus.eu/opener-E2.1



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

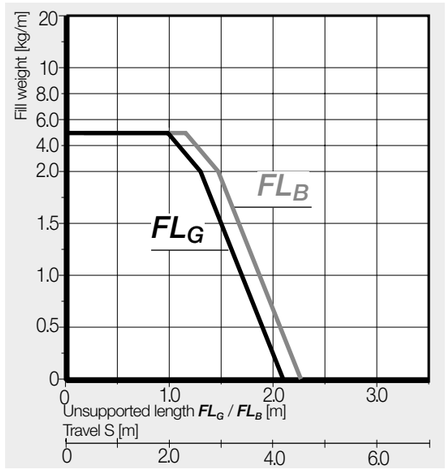
More information ▶ From page 1362

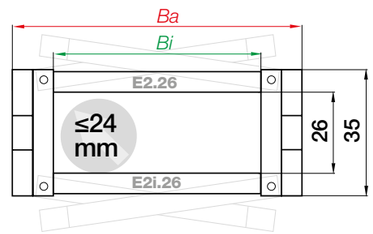


E2.1 | E2i.26·E2.26 | Installation dimensions

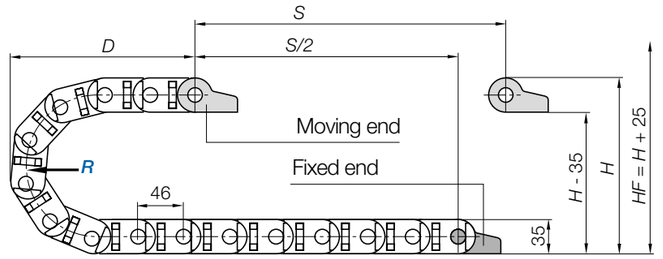
Unsupported applications | Short travels

▶ 1392 ▶ 1312





Inner height [mm]	26
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

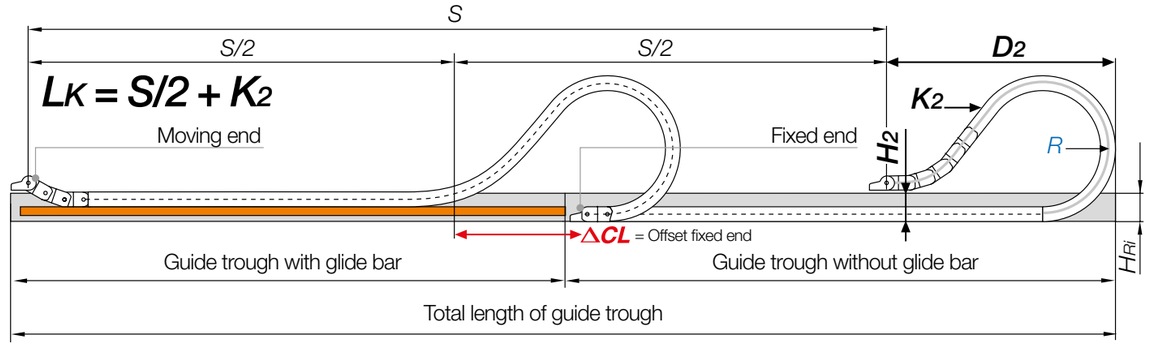


R	048	055	075	100	125	150	175	200	225	250
H	131	145	185	235	285	335	385	435	485	535
D	135	142	162	187	212	237	262	287	312	337
K	245	265	330	410	485	565	645	725	800	880

The required clearance height: $H_F = H + 25$mm (with 1.5kg/m fill weight)

Before using series E2i.26 on long travels please consult igus®.

Gliding applications | For travel lengths from 10m to max. 100m



Note: Before using series E2i.26 on long travels please consult igus®.

For long travels, igus® recommends series E2.26 openable along the outer radius.

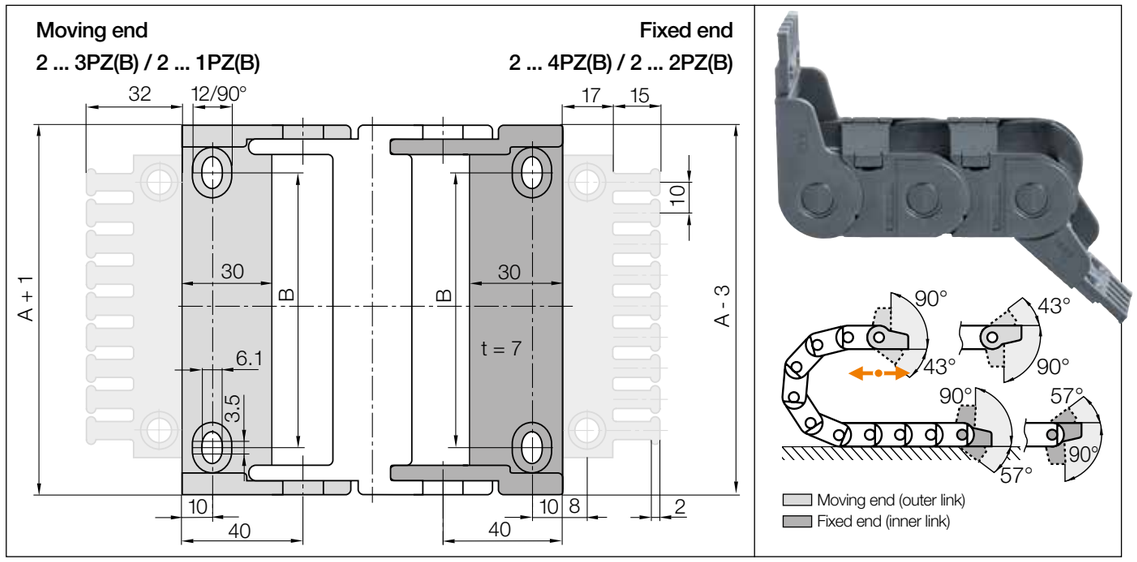
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	048	055	075	100	125	150	175	200	225	250
H_2	131	110	150	100	100	100	100	100	100	100
D_2^{+25}	135	145	162	380	440	590	755	950	1,040	1,130
K_2	245	265	330	644	736	1,012	1,242	1,472	1,610	1,794
ΔCL	–	–	–	204	244	364	504	674	754	804

Before using series E2i.26 on long travels please consult igus®.

E2.1 | E2i.26·E2.26 | Accessories

Mounting brackets, polymer | Pivoting | Locking

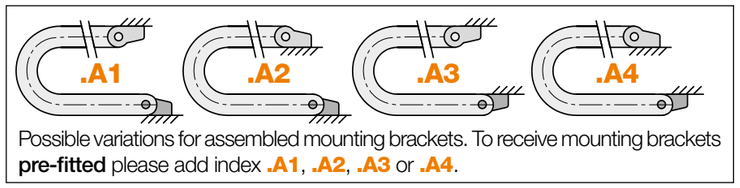


Standard Polymer pivoting | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

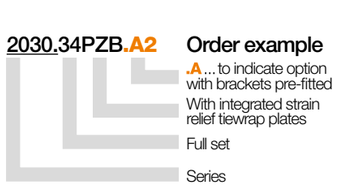
Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
025. ▶	**2020.34PZB**	**2020.34PZ**	**2020.12PZB**	**2020.12PZ**	41	12	3
038. ▶	**2030.34PZB**	**2030.34PZ**	**2030.12PZB**	**2030.12PZ**	54	25	4
057. ▶	**2050.34PZB**	**2050.34PZ**	**2050.12PZB**	**2050.12PZ**	73	44	6
077. ▶	**2070.34PZB**	**2070.34PZ**	**2070.12PZB**	**2070.12PZ**	93	64	8
089. ▶	**2090.34PZB**	**2090.34PZ**	**2090.12PZB**	**2090.12PZ***	105	77	9
103. ▶	**2100.34PZB**	**2100.34PZ**	**2100.12PZB**	**2100.12PZ***	119	90	10
125. ▶	2125.34PZB*	2125.34PZ*	2125.12PZB*	2125.12PZ*	141	112	12

*Width available upon request. Delivery time upon request.

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2020.34PZBK1**



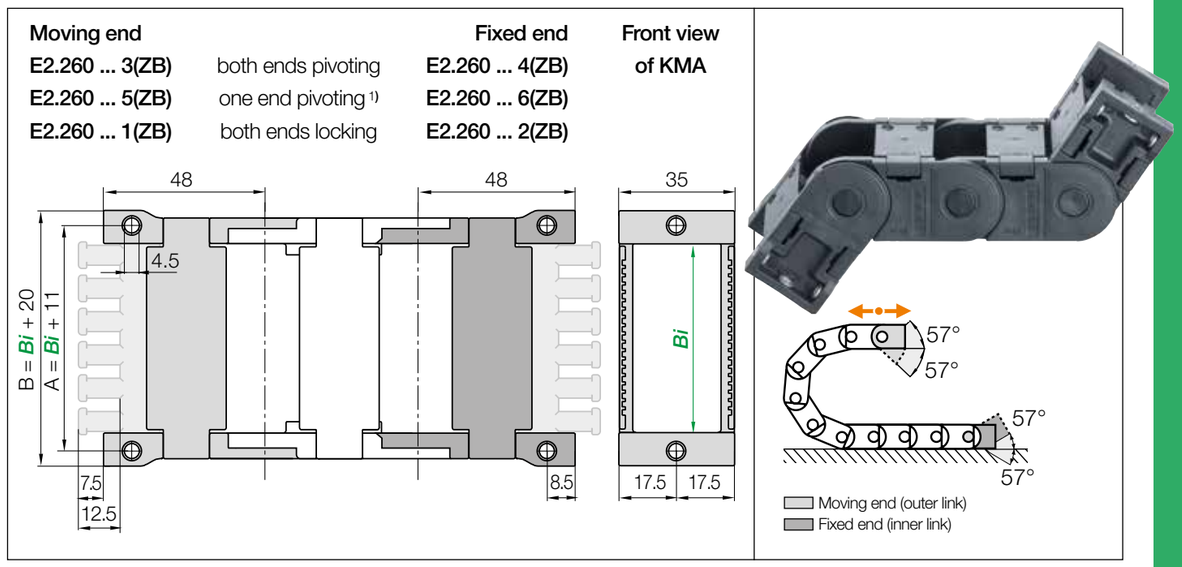
Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E2.1 | E2i.26·E2.26 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

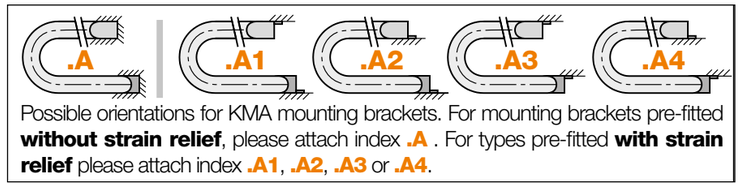


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA with tiewrap plates both ends pivoting	Part No. full set KMA with tiewrap plates one end pivoting 1)	Part No. full set KMA with tiewrap plates both ends locking	A [mm]	B [mm]	*Bi* [mm]	Number of teeth
025. ▶	**E2.260.025.34ZB**	**E2.260.025.56ZB**	**E2.260.025.12ZB**	36	45	25	2
038. ▶	**E2.260.038.34ZB**	**E2.260.038.56ZB**	**E2.260.038.12ZB**	49	58	38	4
057. ▶	**E2.260.057.34ZB**	**E2.260.057.56ZB**	**E2.260.057.12ZB**	68	77	57	6
077. ▶	**E2.260.077.34ZB**	**E2.260.077.56ZB**	**E2.260.077.12ZB**	88	97	77	7
089. ▶	**E2.260.089.34ZB**	**E2.260.089.56ZB**	**E2.260.089.12ZB**	100	109	89	9
103. ▶	**E2.260.103.34ZB**	**E2.260.103.56ZB**	**E2.260.103.12ZB**	114	123	103	10
125. ▶	E2.260.125.34ZB*	E2.260.125.56ZB*	E2.260.125.12ZB*	136	145	125	12

*Width available upon request. Please consult igus® for delivery time. 1) One end pivoting only to the inner radius

Optional strain relief: without tiewrap plates, please state part number **without index ZB**! (KMA = plastic-metal mounting bracket)



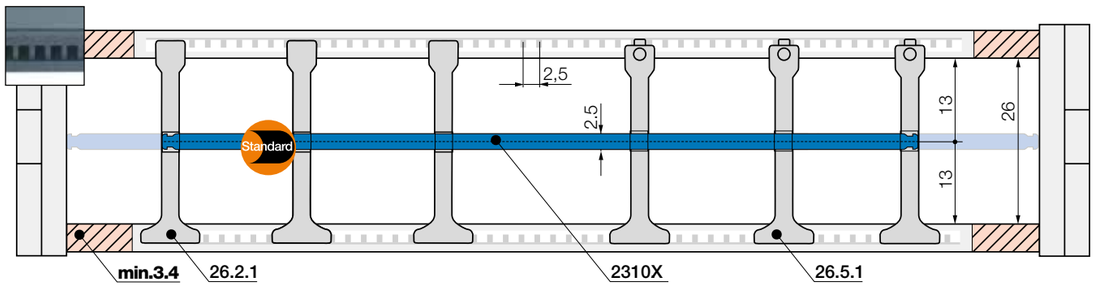
Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without strain relief**, please attach index **.A** . For types pre-fitted **with strain relief** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



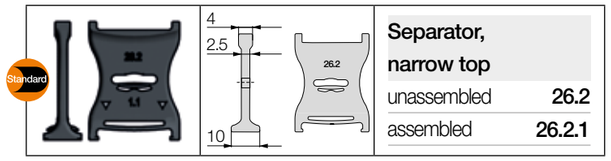
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E2.1 | E2i.26·E2.26 | Accessories

Interior separation | Increase cable service life



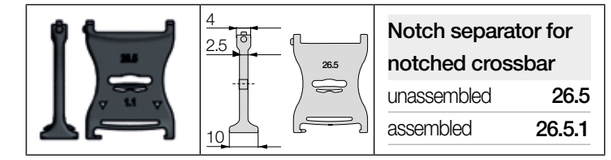
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 3.4mm**
As standard separators are fitted every 2nd e-chain® link!



Separator, narrow top	
unassembled	**26.2**
assembled	**26.2.1**

For even faster installation

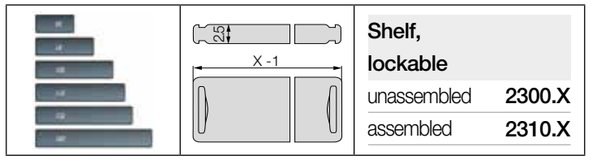
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar	
unassembled	**26.5**
assembled	**26.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



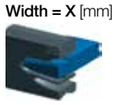
Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.087**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.090**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 26.Z - more information ► From page 1428



E2.1 | e-chain® with extender crossbar

Guidance for hydraulic hoses

E2.1 e-chain® with extender crossbars - guidance for hydraulic hoses

- Safe, space-saving guidance of two hydraulic hoses
- Special solution for heavy machinery, e.g. for elevating work platforms
- Very hose-friendly guidance due to optimised inner contours of the e-chain®

More information ► www.igus.eu/hydraulic-chain





E2.1 e-chain® with extender crossbars, guidance for hydraulic hoses - can be fitted along supporting legs, **more information ► www.igus.eu/hydraulic-chain**

E2.1 | E2i.38·E2.38 | Product range

The strong all-rounder, easy to open



e-chains® | Series E2i.38 | Crossbars openable along the inner radius, from both sides
e-chains® | Series E2.38 | Crossbars openable along the outer radius, from both sides

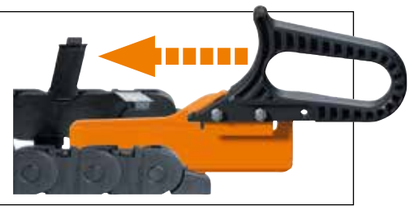
Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	E2.38 [kg/m]	E2i.38 [kg/m]
E2i.38.050.*R*.0	E2.38. 050.*R*.0	50	67	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.01	≈ 1.01
E2i.38.065.*R*.0	E2.38. 065.*R*.0	65	82	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.08	≈ 1.08
E2i.38.075.*R*.0	E2.38. 075.*R*.0	75	92	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.12	≈ 1.12
E2i.38.090.*R*.0	E2.38. 090.*R*.0	90	107	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.19	≈ 1.19
E2i.38.100.*R*.0	E2.38. 100.*R*.0	100	117	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.22	≈ 1.22
E2i.38.125.*R*.0	E2.38. 125.*R*.0	125	142	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.33	≈ 1.33
E2i.38.150.*R*.0	E2.38. 150.*R*.0	150	167	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.44	≈ 1.44
E2i.38.175.*R*.0	E2.38. 175.*R*.0	175	192	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.55	≈ 1.55

Complete Part No. with required radius (*R*). Example: **E2.38.065.100.0**

Reduce assembly time - E2.1 e-chain® opener

- igus® e-chain® opener with ergonomic handle for rapid opening
- Reduce opening times from 33 to 2 seconds
- Part No. EO2.38 for series E2.38 / E2i.38
- Avoid crossbars damage

More information ▶ www.igus.eu/opener-E2.1



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

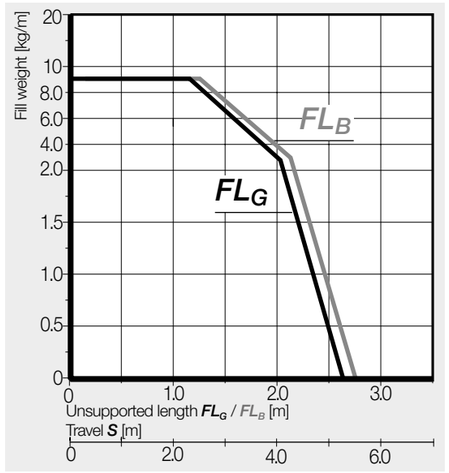
More information ▶ From page 1362

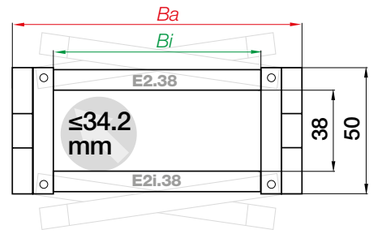


E2.1 | E2i.38·E2.38 | Installation dimensions

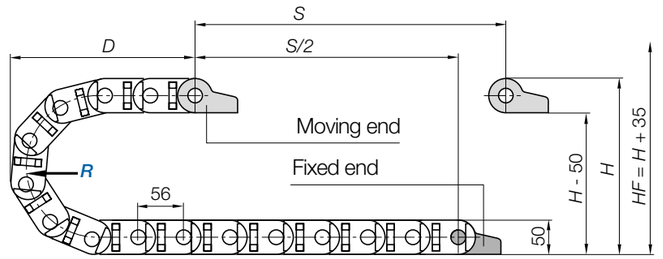
Unsupported applications | Short travels

▶ 1392 ▶ 1318





Inner height [mm]	38
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

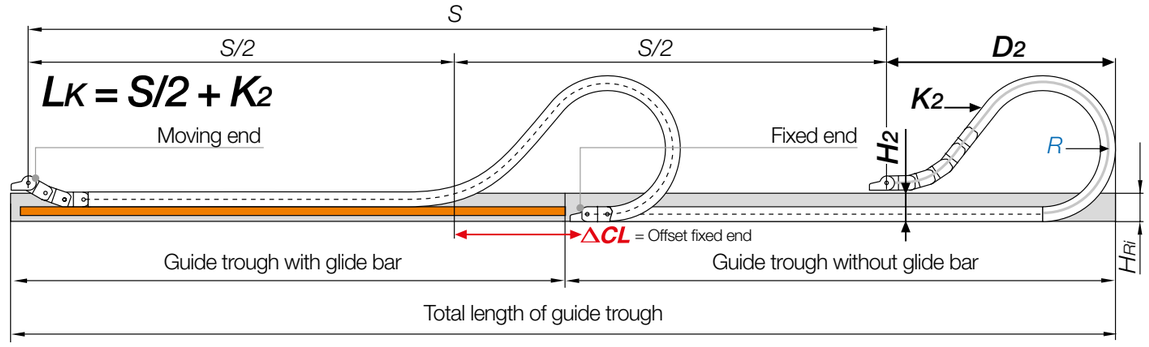


R	063	075	100	125	150	175	200	250
H	176	200	250	300	350	400	450	550
D	172	184	209	234	259	284	309	359
K	310	350	430	505	585	665	745	900

The required clearance height: $H_F = H + 35$mm (with 2.0kg/m fill weight)

Before using series E2i.38 on long travels please consult igus®.

Gliding applications | For travel lengths from 10m to max. 120m



Note: Before using series E2i.38 on long travels please consult igus®.

For long travels, igus® recommends series E2.38 openable along the outer radius.

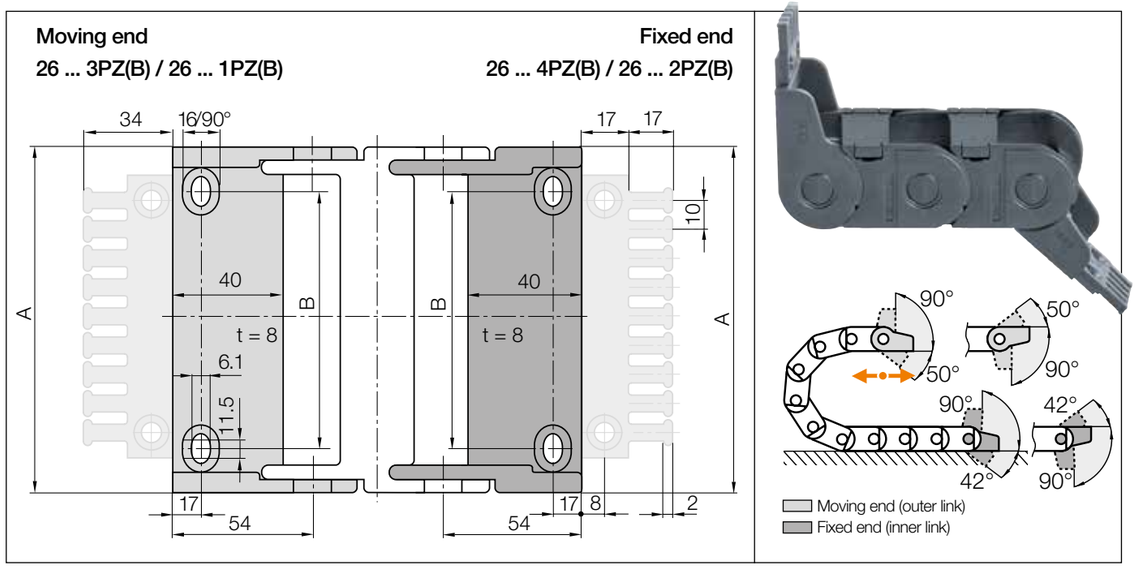
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	063	075	100	125	150	175	200	250
H_2	176	200	166	166	166	166	166	166
D_2^{+25}	172	184	395	510	545	700	805	995
K_2	310	350	616	784	896	1,120	1,288	1,624
ΔCL	–	–	144	244	244	374	464	594

Before using series E2i.38 on long travels please consult igus®.

E2.1 | E2i.38·E2.38 | Accessories

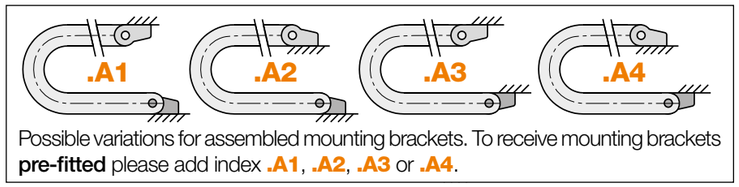
Mounting brackets, polymer | Pivoting | Locking



Standard **Polymer pivoting** | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
050. ▶	**2605.34PZB**	**2605.34PZ**	**2605.12PZB**	**2605.12PZ**	68	30	5
065. ▶	**2606.34PZB**	**2606.34PZ**	**2606.12PZB**	**2606.12PZ**	83	45	5
075. ▶	**2607.34PZB**	**2607.34PZ**	**2607.12PZB**	**2607.12PZ**	93	55	7
090. ▶	**2609.34PZB**	**2609.34PZ**	**2609.12PZB**	**2609.12PZ**	108	70	9
100. ▶	**2610.34PZB**	**2610.34PZ**	**2610.12PZB**	**2610.12PZ**	118	80	10
125. ▶	**2612.34PZB**	**2612.34PZ**	**2612.12PZB**	**2612.12PZ**	143	105	12
150. ▶	**2615.34PZB**	**2615.34PZ**	**2615.12PZB**	**2615.12PZ**	168	130	15
175. ▶	**2617.34PZB**	**2617.34PZ**	**2617.12PZB**	**2617.12PZ**	193	155	17

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2606.34PZBK1**



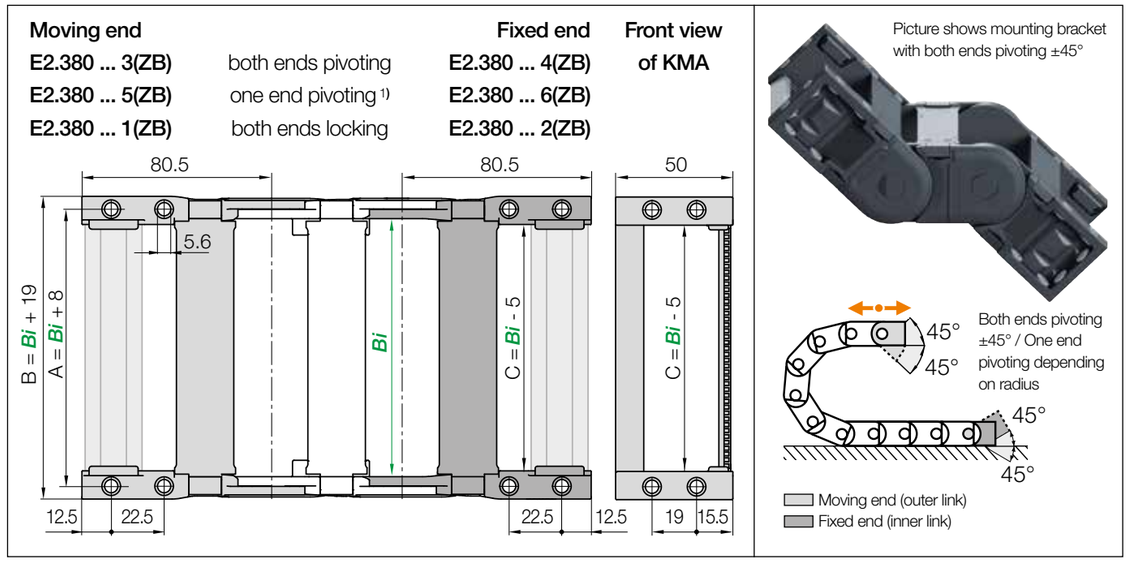
Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

2605.34PZB.A1 **Order example**
.A ... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E2.1 | E2i.38·E2.38 | Accessories New

KMA mounting brackets | Attachment from any side | Pivoting | Locking

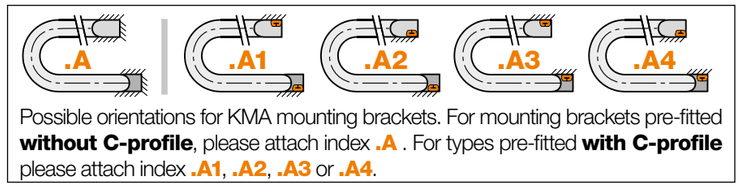


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA with tiewrap plates** both ends pivoting	Part No. full set **KMA with tiewrap plates** one end pivoting 1)	Part No. full set **KMA with tiewrap plates** both ends locking	A [mm]	B [mm]	C [mm]	*Bi* [mm]
050. ▶	**E2.380.050.34.C**	**E2.380.050.56.C**	**E2.380.050.12.C**	58	69	45	50
065. ▶	**E2.380.065.34.C**	**E2.380.065.56.C**	**E2.380.065.12.C**	73	84	60	65
075. ▶	**E2.380.075.34.C**	**E2.380.075.56.C**	**E2.380.075.12.C**	83	94	70	75
090. ▶	**E2.380.090.34.C**	**E2.380.090.56.C**	**E2.380.090.12.C**	98	109	85	90
100. ▶	**E2.380.100.34.C**	**E2.380.100.56.C**	**E2.380.100.12.C**	108	119	95	100
125. ▶	**E2.380.125.34.C**	**E2.380.125.56.C**	**E2.380.125.12.C**	133	144	120	125
150. ▶	**E2.380.150.34.C**	**E2.380.150.56.C**	**E2.380.150.12.C**	158	169	145	150
175. ▶	**E2.380.175.34.C**	**E2.380.175.56.C**	**E2.380.175.12.C**	183	194	170	175

1) One end pivoting only to the inner radius

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



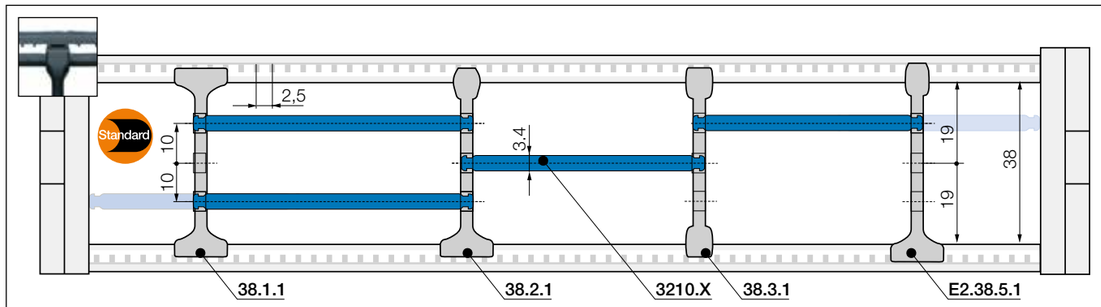
Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

E2.380.050.34.C.A2 **Order example**
.A ... to indicate option with brackets pre-fitted
C-profile option
Full set
width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

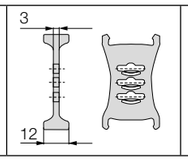
E2.1 | E2i.38·E2.38 | Accessories

Interior separation | Increase cable service life



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



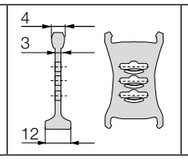


Standard separator, wide base	
unassembled	**38.1**
assembled	**38.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



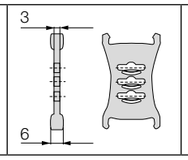


Separator, narrow top	
unassembled	**38.2**
assembled	**38.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



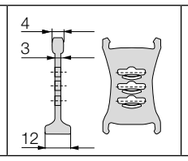


Separator, narrow	
unassembled	**38.3**
assembled	**38.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.

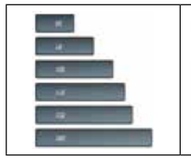


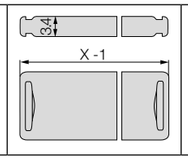


Notch separator for notched crossbar	
unassembled	**E2.38.5**
assembled	**E2.38.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





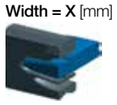
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

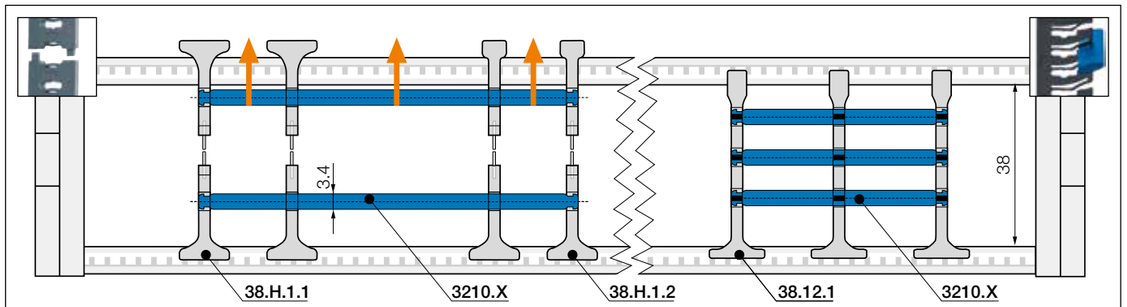
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

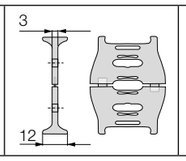
E2.1 | E2i.38·E2.38 | Accessories

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



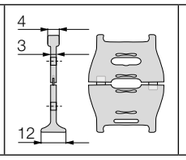


Split separator, wide base/top	
unassembled	**38.H.1**
assembled	**38.H.1.1**

Split separators

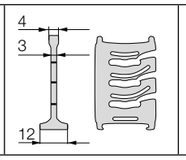
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**38.H.2**
assembled	**38.H.2.1**





Lean separator[1)]	
unassembled	**38.12**
assembled	**38.12.1**

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



E2.1 | E2i.48·E2.48 | Product range

The strong all-rounder, easy to open



e-chains® | Series E2i.48 | Crossbars openable along the inner radius, from both sides
e-chains® | Series E2.48 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	E2.48 [kg/m]	E2i.48 [kg/m]
E2i.48.050.*R*.0*	E2.48. 050.*R*.0*	50	72	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 1.77	≈ 1.77
E2i.48.075.*R*.0	E2.48. 075.*R*.0	75	97	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 1.86	≈ 1.86
E2i.48.100.*R*.0	E2.48. 100.*R*.0	100	122	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 2.00	≈ 2.00
E2i.48.115.*R*.0	E2.48. 115.*R*.0	115	137	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 2.06	≈ 2.06
E2i.48.125.*R*.0	E2.48. 125.*R*.0	125	147	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 2.12	≈ 2.12
E2i.48.150.*R*.0	E2.48. 150.*R*.0	150	172	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 2.24	≈ 2.24
E2i.48.175.*R*.0	E2.48. 175.*R*.0	175	197	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 2.36	≈ 2.36
E2i.48.200.*R*.0	E2.48. 200.*R*.0	200	222	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 2.48	≈ 2.48
E2i.48.225.*R*.0	E2.48. 225.*R*.0	225	247	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 2.60	≈ 2.60
E2i.48.250.*R*.0	E2.48. 250.*R*.0	250	272	| 075 | 100 | 125 | 150 | 175 | 200 | 250 | 300 |	≈ 2.72	≈ 2.72

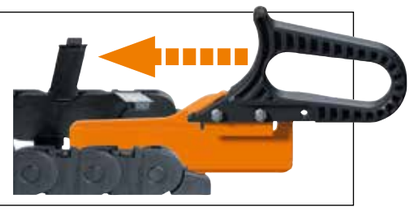
*Width available upon request. Delivery time upon request.

Complete Part No. with required radius (*R*). Example: **E2.48.075.075.0**

Reduce assembly time - E2.1 e-chain® opener

- igus® e-chain® opener with ergonomic handle for rapid opening
- Reduce opening times from 33 to 2 seconds
- Part No. EO2.48 for series E2.48/E2i.48
- Avoid crossbars damage

More information ▶ www.igus.eu/opener-E2.1



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

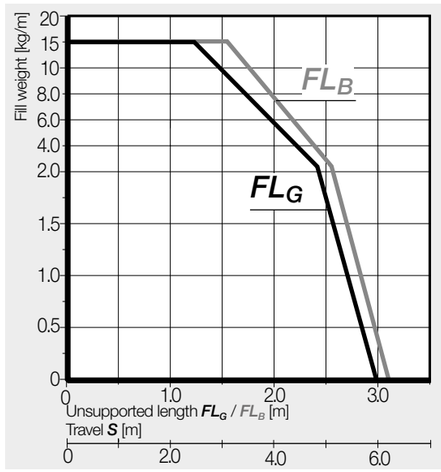
More information ▶ From page 1356

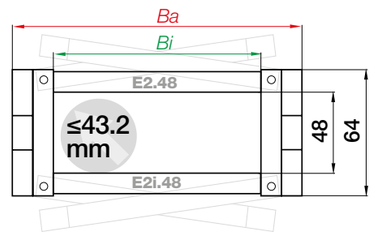


E2.1 | E2i.48·E2.48 | Installation dimensions

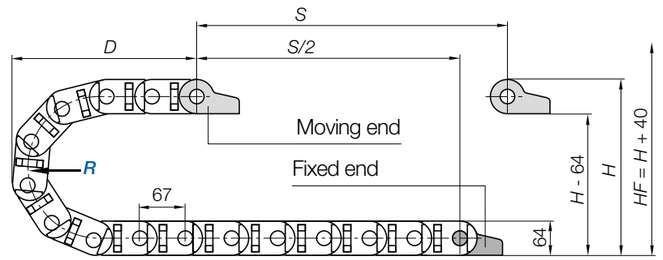
Unsupported applications | Short travels

▶ 1392 ▶ 1320





Inner height [mm]	48
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

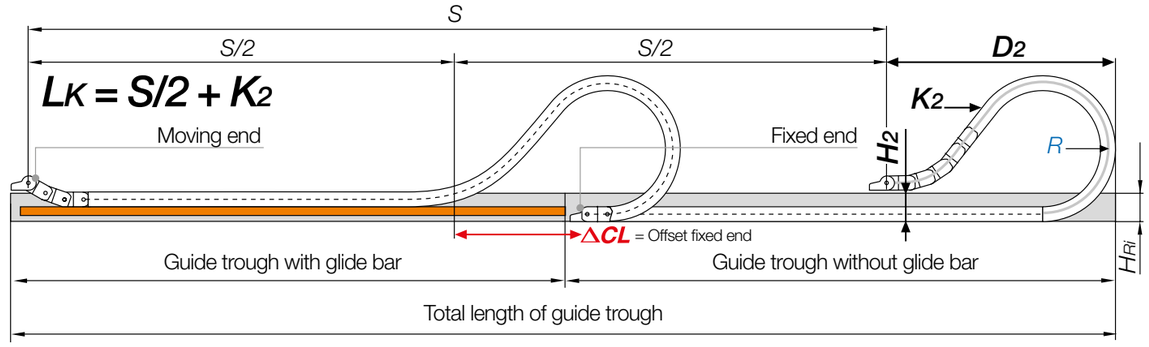


R	075	100	125	150	175	200	250	300
H	214	264	314	364	414	464	564	664
D	208	233	258	283	308	333	383	433
K	370	450	530	610	685	765	920	1,080

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

Before using series E2i.48 on long travels please consult igus®.

Gliding applications | For travel lengths from 10m to max. 150m



Note: Before using series E2i.48 on long travels please consult igus®.

For long travels, igus® recommends series E2.48 openable along the outer radius.

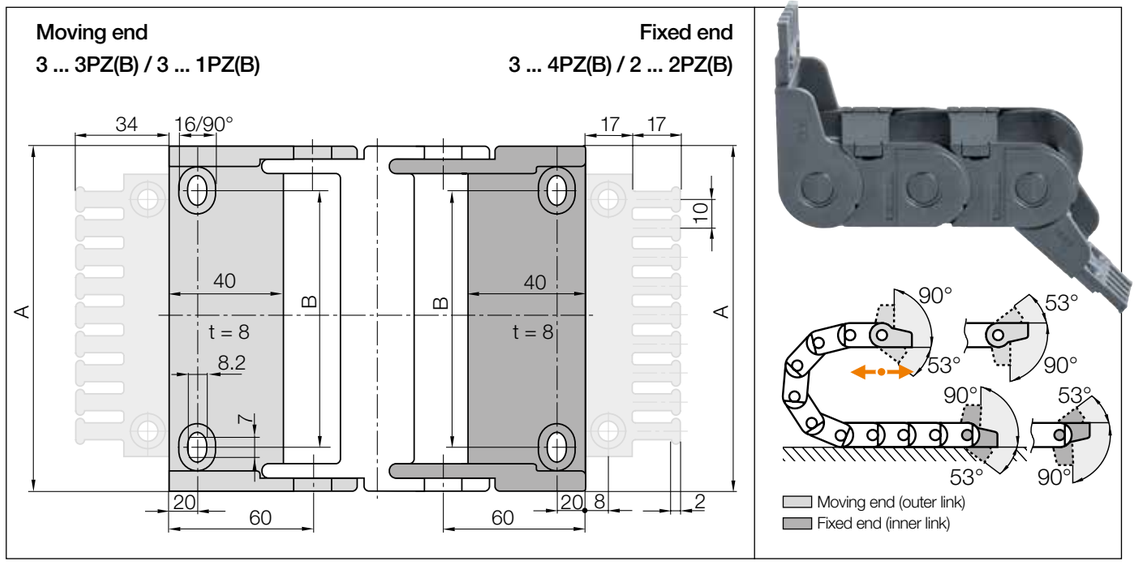
In case of travels between 6 and 10m we recommend an e-chain® with a longer unsupported length.

R	075	100	125	150	175	200	250	300
H_2	214	264	186	186	186	186	186	186
D_2^{+25}	208	233	475	570	725	780	1,010	1,150
K_2	370	450	804	1,005	1,072	1,340	1,675	1,943
ΔCL	–	–	233	303	433	463	643	733

Before using series E2i.48 on long travels please consult igus®.

E2.1 | E2i.48·E2.48 | Accessories

Mounting brackets, polymer | Pivoting | Locking

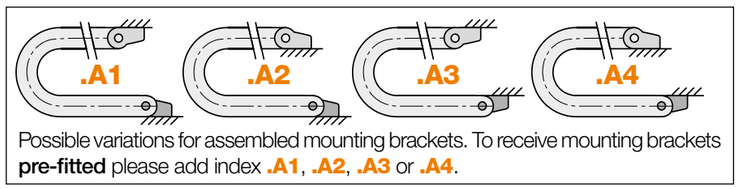


Standard **Polymer pivoting** | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

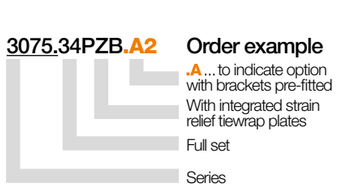
Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
050. ▶	3050.34PZB*	3050.34PZ*	3050.12PZB*	3050.12PZ*	71	28	5
075. ▶	**3075.34PZB**	**3075.34PZ**	**3075.12PZB**	**3075.12PZ**	96	53	7
100. ▶	**3100.34PZB**	**3100.34PZ**	**3100.12PZB**	**3100.12PZ**	121	78	10
115. ▶	**3115.34PZB**	**3115.34PZ**	**3115.12PZB**	**3115.12PZ**	136	93	11
125. ▶	**3125.34PZB**	**3125.34PZ**	**3125.12PZB**	**3125.12PZ**	146	103	12
150. ▶	**3150.34PZB**	**3150.34PZ**	**3150.12PZB**	**3150.12PZ**	171	128	15
175. ▶	**3175.34PZB**	**3175.34PZ**	**3175.12PZB**	**3175.12PZ**	196	153	17
200. ▶	**3200.34PZB**	**3200.34PZ***	**3200.12PZB***	**3200.12PZ**	221	178	20
225. ▶	**3225.34PZB**	**3225.34PZ***	**3225.12PZB***	**3225.12PZ**	246	203	22
250. ▶	**3250.34PZB**	**3250.34PZ***	**3250.12PZB***	**3250.12PZ**	271	228	25

*Width available upon request. Delivery time upon request.

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **3275.34PZBK1**



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

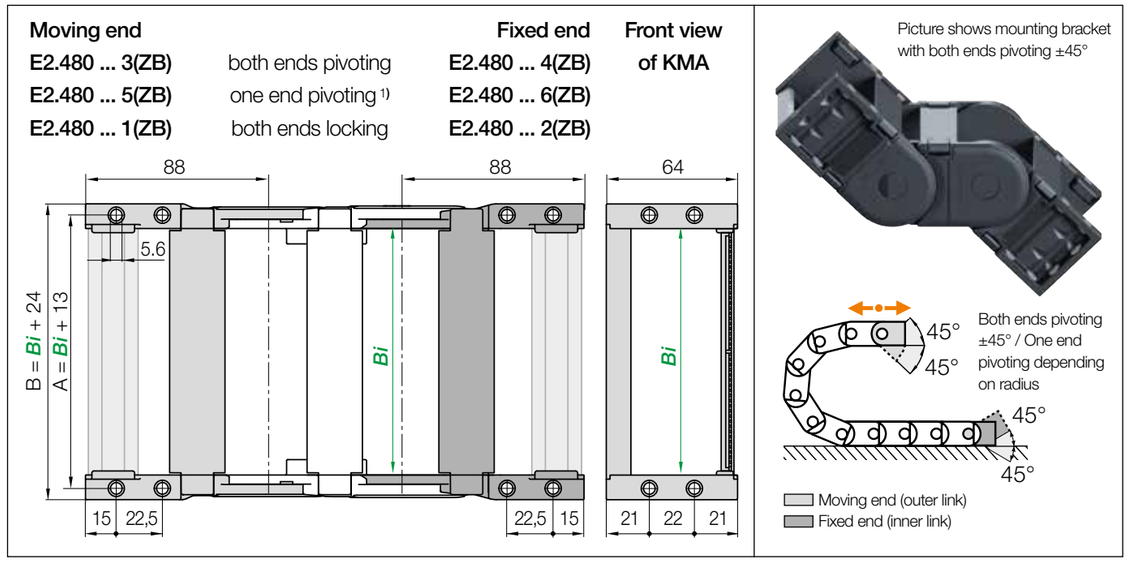


Order example

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E2.1 | E2i.48·E2.48 | Accessories New

KMA mounting brackets | Attachment from any side | Pivoting | Locking

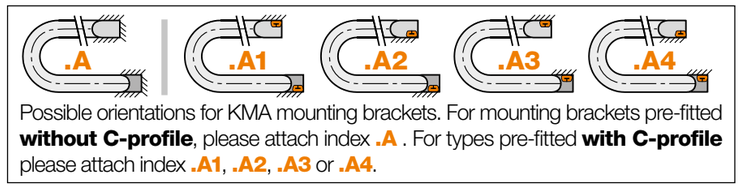


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

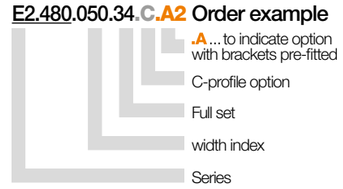
Width index	Part No. full set **KMA with tiewrap plates** both ends pivoting	Part No. full set **KMA with tiewrap plates** one end pivoting 1)	Part No. full set **KMA with tiewrap plates** both ends locking	A [mm]	B [mm]	*Bi* [mm]
050. ▶	E2.480.050.34.**C***	E2.480.050.56.**C***	E2.480.050.12.**C***	63	74	50
075. ▶	**E2.480.075.34.C**	**E2.480.075.56.C**	**E2.480.075.12.C**	88	99	75
100. ▶	**E2.480.100.34.C**	**E2.480.100.56.C**	**E2.480.100.12.C**	113	124	100
115. ▶	**E2.480.115.34.C**	**E2.480.115.56.C**	**E2.480.115.12.C**	128	139	115
125. ▶	**E2.480.125.34.C**	**E2.480.125.56.C**	**E2.480.125.12.C**	138	149	125
150. ▶	**E2.480.150.34.C**	**E2.480.150.56.C**	**E2.480.150.12.C**	163	174	150
175. ▶	**E2.480.175.34.C**	**E2.480.175.56.C**	**E2.480.175.12.C**	188	199	175
200. ▶	**E2.480.200.34.C**	**E2.480.200.56.C**	**E2.480.200.12.C**	213	224	200
225. ▶	**E2.480.225.34.C**	**E2.480.225.56.C**	**E2.480.225.12.C**	238	249	225
250. ▶	**E2.480.250.34.C**	**E2.480.250.56.C**	**E2.480.250.12.C**	263	274	250

*Width available upon request. Please consult igus® for delivery time. 1) One end pivoting only to the inner radius

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

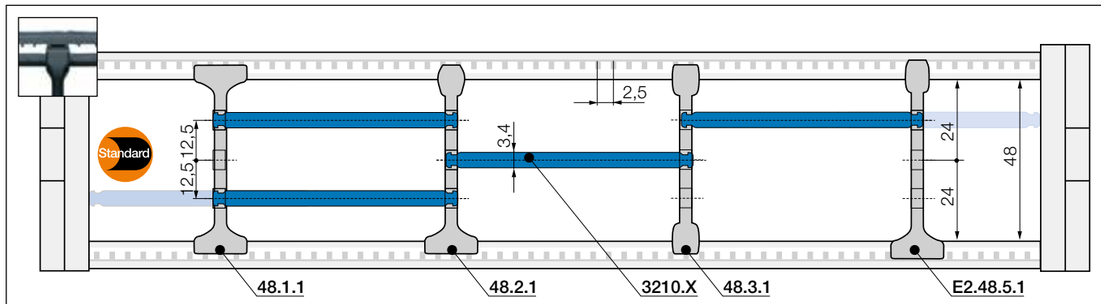


Order example

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

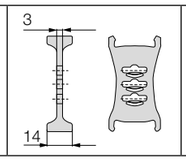
E2.1 | E2i.48·E2.48 | Accessories

Interior separation | Increase cable service life



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



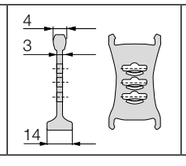


Standard separator, wide base	
unassembled	**48.1**
assembled	**48.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



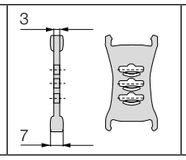


Separator, narrow top	
unassembled	**48.2**
assembled	**48.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



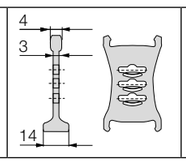


Separator, narrow	
unassembled	**48.3**
assembled	**48.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.

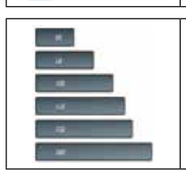


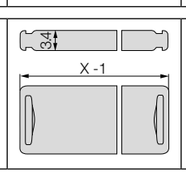


Notch separator for notched crossbar	
unassembled	**E2.48.5**
assembled	**E2.48.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





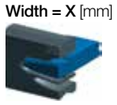
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

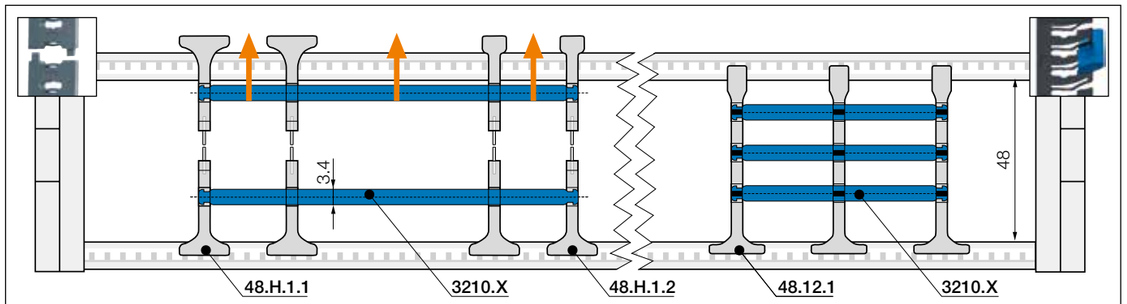
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

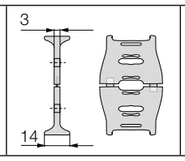
E2.1 | E2i.48·E2.48 | Accessories

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



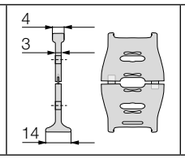


Split separator, wide base/top	
unassembled	**48.H.1**
assembled	**48.H.1.1**

Split separators

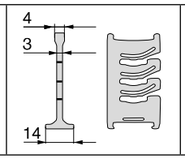
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**48.H.2**
assembled	**48.H.2.1**





Lean separator[1)]	
unassembled	**48.12**
assembled	**48.12.1**

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



CFU strain relief with innovative honeycomb design

- Fast filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Universal use, compact, space-saving design

More information ▶ From page 1426





E2/000

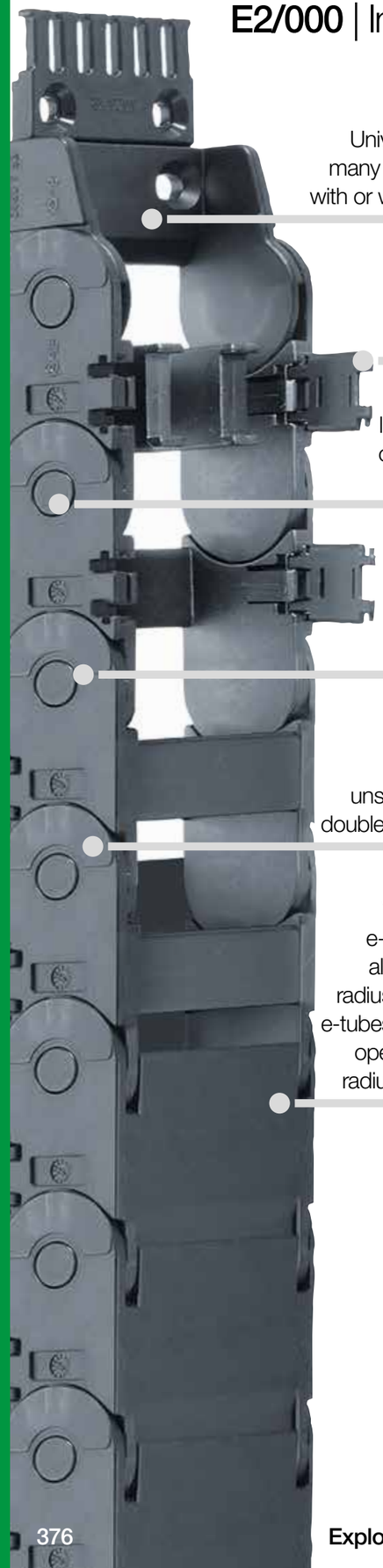
All-rounder for a wide range of applications

Vorteile Serie E2/000:

- When a medium-sized, strong system (e-chains®, half e-tubes, completely enclosed e-tubes) is required
- For unsupported lengths up to 3.0m and fill weights up to 13kg/m
- For travel lengths up to 150m
- If an openable system is required to quickly open from either the left or right
- Various fastening options

When to use another e-chain® series:

- If a stronger, light, cost-effective e-chain®/e-tube is required
  ▶ **E4.1L, page 538**
- For very simple applications with fast filling
  ▶ **easy chain®, page 212**
- If very sealed e-tubes are required
  ▶ **R2.1 e-tube, page 442**
  ▶ **E2 R100 e-tube, page 466**
  ▶ **E2 R e-tube, page 492**
  ▶ **RX e-tube, page 516**



Universal connection: many mounting options with or without strain relief

Easy assembly: e-chain® links openable on left or right

High strength: large pin/bore and crossbar with high locking force

Long service life: lateral gliding surfaces

For long unsupported lengths: double stop-dog system

Variety of options: e-chains® openable along inner or outer radius from both sides, e-tubes and half e-tubes openable along inner radius from both sides

The all-rounder for a wide range of applications - E2/000

Series E2/000 is the fourth generation in this size. All past experience went into this series: easy and versatile assembly combined with ruggedness - high strength paired with quieter motion - long cable service life and many mounting options. The design is consistent across all E2/000 variants. It is the standard product for machinery around the world.

Typical industries and applications

● Material handling ● Construction machinery ● Woodworking machines ● Machine tools ● Glass machines ● Plastic machines ● Long travel applications in many industries ● Semiconductors ● Theatre, entertainment and amusement parks, etc. ● Vehicles ● General machinery, etc.

Electrically conductive ESD e-chains® - several series available from stock

46dB(A) - level determined at the igus® test-lab, v = 1.0m/s unsupported, e.g. series 2600.05.075.0

UL94-V0 classification upon request

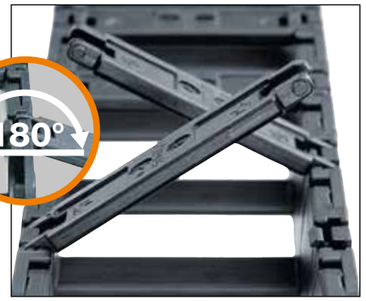
IPA Qualification Certificate - Report IG 1303-640-1:
ISO Class 2, according to DIN EN ISO 14644-1 for system E2/000, series 1500.050.038.0 at v = 0.5m/s, 1,0m/s, 2,0m/s

IPA Qualification Certificate - Report IG 0308-295:
ISO Class 3, according to DIN EN ISO 14644-1 for system E2/000, series 2500.05.055.0 at v = 2.0m/s

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **E2/000 e-chains®** crossbars openable along the inner radius, from both sides							
1400	21	15 - 125	28.5 - 138.5	28	035 - 180	1.75	**382**
2400 [1]	25	25 - 125	41 - 141	35	055 - 250	2.25	**394**
2600 [2]	35	50 - 175	66 - 194	50	063 - 250	2.75	**406**
3400 [3]	45	50 - 250	70 - 270	64	075 - 300	3.00	**422**
 **E2/000 e-chains® - standard for system E2** crossbars openable along the outer radius, from both sides							
1500	21	15 - 125	28.5 - 138.5	28	035 - 180	1.75	**382**
2500 [1]	25	25 - 125	41 - 141	35	055 - 250	2.25	**394**
2700 [2]	35	50 - 175	66 - 194	50	063 - 250	2.75	**406**
3500 [3]	45	50 - 250	70 - 270	64	075 - 300	3.00	**422**
255	24	38 - 103	54 - 119	35	055 - 250	1.80	**438**
 **E2/000 half e-tubes** crossbars openable along the inner radius, from both sides. Non-openable lids along the outer radius							
1450	21	15 - 125	28.5 - 138.5	28	075 - 180	1.75	**388**
2450	25	25 - 125	41 - 141	35	055 - 250	2.25	**400**
2650	35	50 - 175	66 - 194	50	100 - 250	2.75	**414**
3450	45	50 - 250	70 - 270	64	125 - 300	3.00	**430**
 **E2/000 full e-tubes** lids openable along the inner radius, from both sides. Non-openable lids along the outer radius							
1480	21	15 - 125	28.5 - 138.5	28	075 - 180	1.75	**388**
2480	25	25 - 125	41 - 141	35	075 - 250	2.25	**400**
2680	35	50 - 175	66 - 194	50	100 - 250	2.75	**414**
3480	45	50 - 250	70 - 270	64	125 - 300	3.00	**430**

For new designs we recommend E2.1 system series E2.15: 1) E2.26, 2) E2.38, 3) E2.48 ▶ From page 348

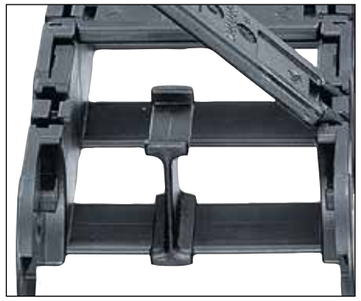
Available from stock. Ready to ship in 24 - 48hrs.*
*Average time before the ordered goods are dispatched.



Openable mechanism, openable along the left or right and to 180°



Lean separators enable extremely fast cable filling in several layers



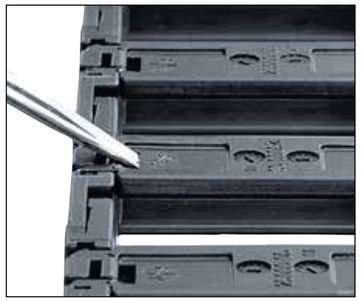
Separators are secure even when e-chain® is open



Half e-tube - fully enclosed along the outer radius. Openable along the inner radius on left or right



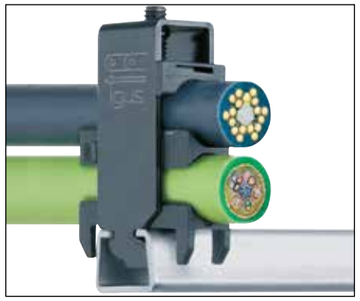
Fast closing by hand - secure without additional locking devices



Mechanical opening from the top - rapid opening with a screwdriver or the e-chain® opener



Open E2/000 in a flash with the e-chain® opener▶ **www.igus.eu/E2opener**



Strain relief elements include clamps, tiewrap plates, nuggets, etc. ▶ **From page 1392**



e-chains® with extender crossbars - large increase of the interior space



Aluminium "SuperTrough" - the standard igus® guide trough ▶ **From page 1298**

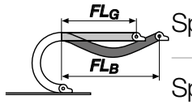


rol e-chain® E2/000 - rolling instead of gliding. Reduction in manufacturing costs



Aluminium and steel support trays for support of the lower run▶ **From page 1362**

Technical data



Speed gliding[1] / acceleration gliding[1]	≤ 10 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) For openable series along the inner radius in gliding applications, please consult igus®

Installation types, maximum travels

Series	Unsupported	Gliding [1]	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag	Unsupported length lower run
1400 / 1500 1450 / 1480	≤ 3.9m	≤ 75m	≤ 20m	≤ 2.0m	≤ 0.7m	with rework	upon request	upon request
2400[1] / 2500[1] 2450 / 2480	≤ 4.25m	≤ 100m	≤ 40m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
2600[2] / 2700[2] 2650 / 2680	≤ 5.5m	≤ 120m	≤ 50m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
3400[3] / 3500[3] 3450 / 3480	≤ 6.0m	≤ 150m	≤ 80m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
255	≤ 3.6m	≤ 100m	≤ 40m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request

1) For openable series along the inner radius in gliding applications, please consult igus®

For new designs we recommend E2.1 system series E2.15: 1) E2.26, 2) E2.38, 3) E2.48 ▶ From page 348

Reduce assembly time | E2/000 e-chain® opener

- Reduce opening times from 33 to 2 seconds (tested on 1m, 2700.07 series)
- Open a long e-chain® section in one go

More information and video ▶ www.igus.eu/E2opener

For E2/000 series	For widths *Bi* [mm]	Part No. e-chain® opener
1400 / 1500	20, 25, 50, 68, 80, 100	908.254.1400
2400 / 2500	05, 07, 09	908.254.2400
2600 / 2700	06, 07, 09, 10	EO.2600
3400 / 3500	50, 75, 100, 115	908.254.3400

Options with order keys | Examples based on series 2400/2500/2450/2480

Standard	*Optional noise dampers*	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*
Part No. Standard	**Part No. Low noise (with pads)**	**Part No. NC version**	**Part No. *RBR***
2400.03.*R*.0 e-chain® openable along inner radius [1]	**S2400.03.*R*.0** e-chain® openable along inner radius [1]	**2400.03.*R*.0.NC** e-chain® openable along inner radius [1]	**2400.03.*R1/R2*.0** e-chain® openable along inner radius [1]
2500.03.*R*.0 e-chain® openable along the outer radius	–	**2500.03.*R*.0.NC** e-chain® openable along the outer radius	**2500.03.*R1/R2*.0** e-chain® openable along the outer radius
2450.03.*R*.0 Half e-tube openable along the inner radius [1]	**S2450.03.*R*.0** Half e-tube openable along the inner radius [1]	**2450.03.*R*.0.NC** Half e-tube openable along the inner radius [1]	***RBR*** for e-tubes - please consult igus®
2480.03.*R*.0 e-tube openable along the inner radius [1]	**S2480.03.*R*.0** e-tube openable along the inner radius [1]	**2480.03.*R*.0.NC** e-tube openable along the inner radius [1]	***RBR*** for e-tubes - please consult igus®
Ready to ship in 24 - 48hrs.*	**Ready to ship in 12 business days***	**Ready to ship in 3-5 business days***	**Ready to ship in 12 business days*** ◎

Unsupported lengths +25% possible	*e-tube - no burning-in of hot swarf up to 850°C*	*ESD - electrically conductive material*	*Magnetically detectable plastic e-chains®*
Part No. XXL material[2]	**Part No. igumid HT**	**Part No. igumid ESD**	**Part No. igumid DT**
2400.03.*R*.0.XXL e-chain® openable along inner radius [1]	**2480.03.*R*.0.HT** Complete e-tube	**2400.03.*R*.0.ESD** e-chain® openable along inner radius [1]	**2400.03.*R*.0.DT** e-chain® openable along inner radius [1]
2500.03.*R*.0.XXL e-chain® openable along the outer radius	**2480.03HT.*R*.0** only lids [3]	**2500.03.*R*.0.ESD** e-chain® openable along the outer radius	**2500.03.*R*.0.DT** e-chain® openable along the outer radius
2450.03.*R*.0.XXL Half e-tube openable along the inner radius [1]	–	**2450.03.*R*.0.ESD** Half e-tube openable along the inner radius [1]	**2450.03.*R*.0.DT** Half e-tube openable along the inner radius [1]
2480.03.*R*.0.XXL e-tube openable along the inner radius [1]	–	**2480.03.*R*.0.ESD** e-tube openable along the inner radius [1]	**2480.03.*R*.0.DT** e-tube openable along the inner radius [1]
Delivery time upon request*	**Ready to ship in 6 weeks***	**Ready to ship in 12 business days*** ⚠	**Ready to ship in 20 business days***

⚠ ESD version - some series available from stock - further information and the complete product range ▶ From page 142

◎ *RBR* version - some radii available from stock - further information and the complete product range ▶ From page 130

*Average time before the ordered goods are dispatched.

1) Before using this series in gliding applications, please consult igus® 2) Lower part made from XXL material 3) Lids made of igumid HT material. Side links made of standard material

Order example | Examples based on series 2500

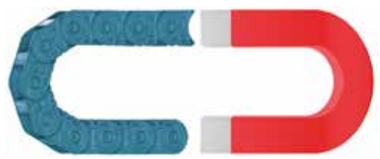
Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 22 links	**2500.03.100.0**
+ Mounting brackets	1 set (with tiewrap plates)	**2030.34PZB**
Interior separation	with 2 separators assembled every 2nd link	**2 x 25.1.1**
Order text:	**1m 2500.03.100.0 + 2030.34PZB + 2 x 25.1.1**	

Magnetically detectable plastic e-chains® for the food and tobacco industry

- igumid DT - automatic detection by all common metal detection systems
- Particles as small as 1.0mm can be recognised for fragments passing at speeds of 20m/min

More information ▶ www.igus.eu/detectable-chain



Order key and colour examples | Examples based on series 2400/2500/2450/2480

Order key

e-chains® openable along the outer radius	2500.03.100.0
e-chains® openable along the inner radius	2400.03.100.0
Half e-tube openable along the inner radius	2450.03.100.0
Full e-tube openable along the inner radius	2480.03.100.0
Series / Type	
Width index (depends on *Bi*)	
Bend radius *R*	
Colour index (standard black)	

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

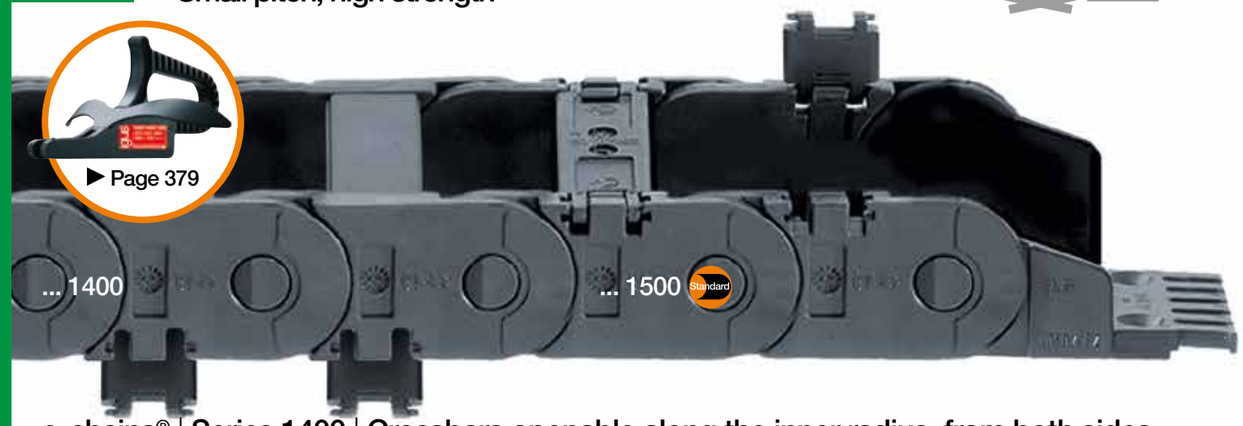
Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

E2/000 | e-chains® 1400·1500 | Product range

21 21

Small pitch, high strength



e-chains® | Series 1400 | Crossbars openable along the inner radius, from both sides
e-chains® | Series 1500 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Bi	Ba	R Available bend radii	1400	1500
		[mm]	[mm]	[mm]	[kg/m]	[kg/m]
1400.015.R.0	1500.015.R.0▲	15	28.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.46	≈ 0.46
1400.020.R.0◎	1500.020.R.0	20	33.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.47	≈ 0.47
1400.025.R.0◎	1500.025.R.0▲	25	38.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.49	≈ 0.49
1400.038.R.0◎	1500.038.R.0▲◎	38	51.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.53	≈ 0.53
1400.050.R.0◎	1500.050.R.0▲	50	63.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.56	≈ 0.56
1400.068.R.0◎	1500.068.R.0▲	68	81.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.63	≈ 0.63
1400.080.R.0◎	1500.080.R.0▲	80	93.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.67	≈ 0.67
1400.100.R.0◎	1500.100.R.0	100	113.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.74	≈ 0.74
1400.125.R.0	1500.125.R.0	125	138.5	035 | 038 | 048 | 075 | 100 | 125 | 145 | 180	≈ 0.83	≈ 0.83

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

◎ ***RBR*** version (Reverse Bend Radius), some radii available from stock. More information ▶ **From page 130**

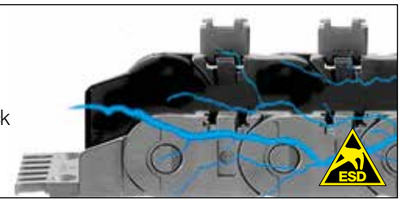
Half e-tubes, series 1450 and full e-tube series 1480 ▶ **From page 388**

Complete Part No. with required radius (*R*). Example: **1500.038.100.0**

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information and the complete product range
▶ From page 142 or at ▶ www.igus.eu/esd



Rotating energy supply systems with Reverse Bend Radius *(RBR)* - some radii available from stock

- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life
- Short delivery times 24hrs, from stock

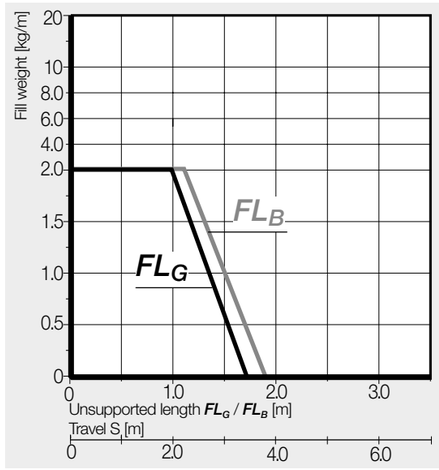
More information and the complete product range ▶ From page 130

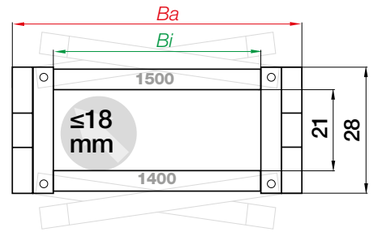


e-chains® 1400·1500 | Installation dimensions

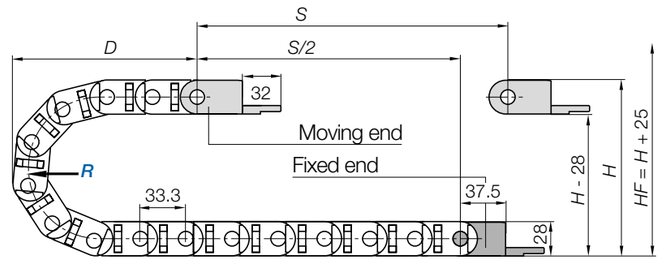
Unsupported applications | Short travels

▶ 1392 ▶ 1310





Inner height [mm]	21
Pitch [mm/link]	33.3
Links/m	30
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

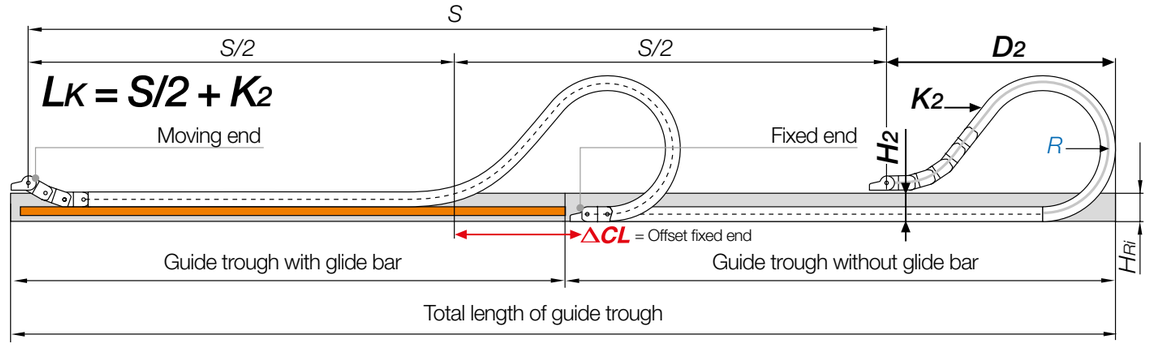


R	035	038	048	075	100	125	145	180
H	98	104	124	178	228	278	318	388
D	99	102	112	139	164	189	209	244
K	180	190	220	305	385	460	525	635

The required clearance height: $H_F = H + 25$mm (with 0.5kg/m fill weight)

Before using series 1400 on long travels please consult igus®.

Gliding applications | For long travel lengths from 10m to max. 75m



Note: Before using series 1400/1450/1480 on long travels please consult igus®.

For long travels, igus® recommends series 1500 openable along the outer radius.

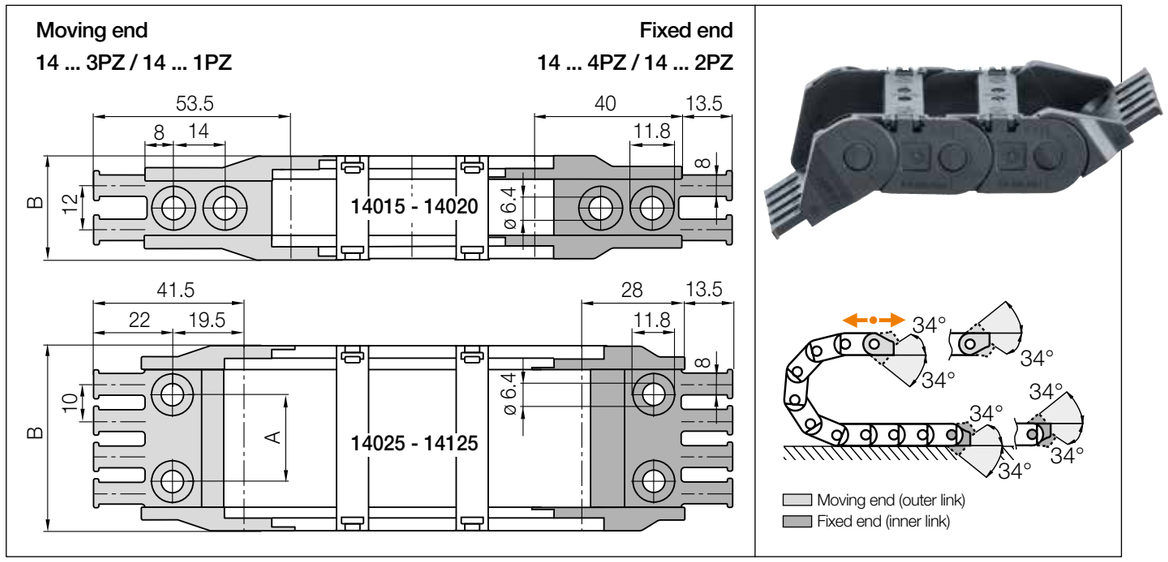
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	035	038	048	075	100	125	145	180
H_2	70	76	96	150	100	100	100	100
D_2^{+25}	99	102	112	139	340	495	540	690
K_2	180	190	220	305	600	800	940	1,170
ΔCL	–	–	–	–	179	305	340	445

Before using series 1400 on long travels please consult igus®.

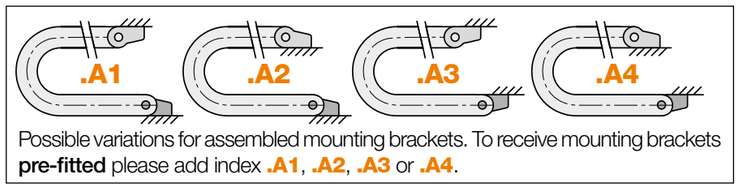
E2/000 | e-chains® 1400·1500 | Accessories

Mounting brackets, polymer | Pivoting | Locking

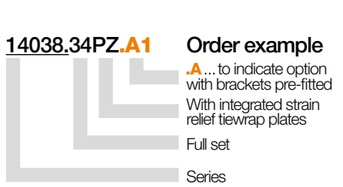


Standard **Polymer pivoting** | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶	**14015.34PZ**	–	**14015.12PZ**	–	–	28.5	2
020. ▶	**14020.34PZ**	–	**14020.12PZ**	–	–	33.5	2
025. ▶	**14025.34PZ**	–	**14025.12PZ**	–	13	38.5	2
038. ▶	**14038.34PZ**	–	**14038.12PZ**	–	24	51.5	4
050. ▶	**14050.34PZ**	–	**14050.12PZ**	–	36	63.5	5
068. ▶	**14068.34PZ**	–	**14068.12PZ**	–	54	81.5	7
080. ▶	**14080.34PZ**	–	**14080.12PZ**	–	66	93.5	8
100. ▶	**14100.34PZ**	–	**14100.12PZ**	–	86	113.5	10
125. ▶	**14125.34PZ**	–	**14125.12PZ**	–	111	138.5	13



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



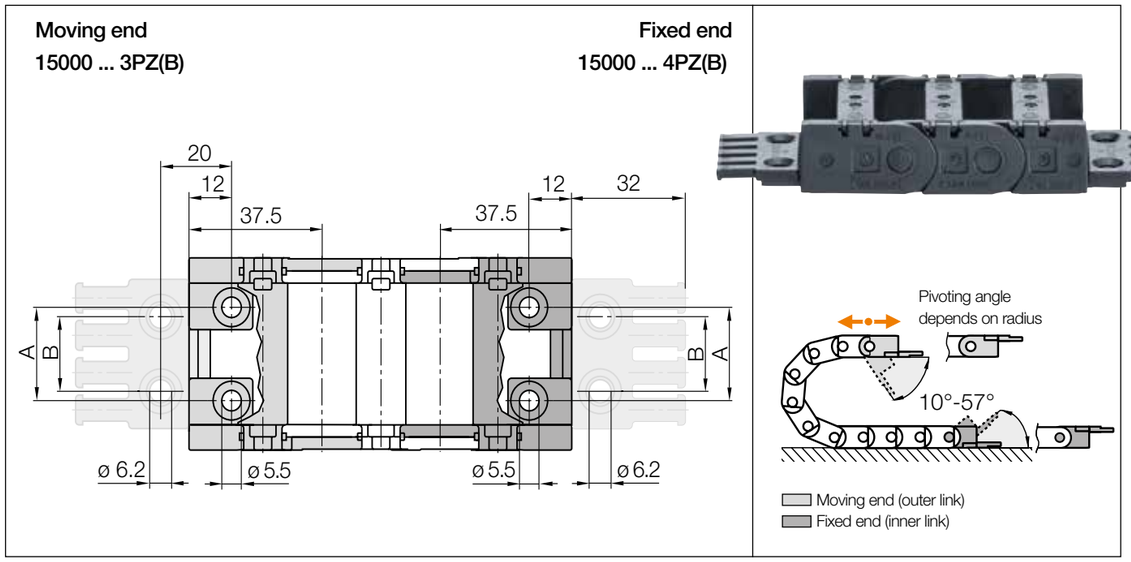
Order example

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E2/000 | e-chains® 1400·1500 | Accessories

1400
1500

Mounting brackets, polymer | Pivoting



Polymer pivoting | Recommended for unsupported and gliding applications
For tight installation spaces

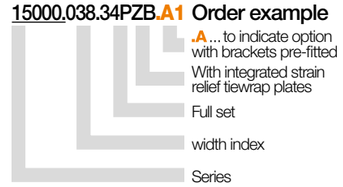
Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶	–	–	–	–	–	–	–
020. ▶	–	–	–	–	–	–	–
025. ▶	**15000.025.34PZB**	**15000.025.34PZ**	–	–	12	15	3
038. ▶	**15000.038.34PZB**	**15000.038.34PZ**	–	–	25	20	4
050. ▶	**15000.050.34PZB**	**15000.050.34PZ**	–	–	37	30	5
068. ▶	**15000.068.34PZB**	**15000.068.34PZ**	–	–	55	40	6
080. ▶	**15000.080.34PZB**	**15000.080.34PZ**	–	–	67	60	8
100. ▶	**15000.100.34PZB**	**15000.100.34PZ**	–	–	87	80	10
125. ▶	**15000.125.34PZB***	**15000.125.34PZ***	–	–	112	100	12

*Tiewrap plate (consists of 2x2050.ZB) does not snap on but needs to be bolted down separately.

Note: Mounting brackets not to assemble at the gable end.



For mounting brackets pre-fitted **without strain relief**, please attach index **.A**.
For types pre-fitted **with strain relief**please attach index **.A1**, **.A2**, **.A3** or **.A4**



Order example



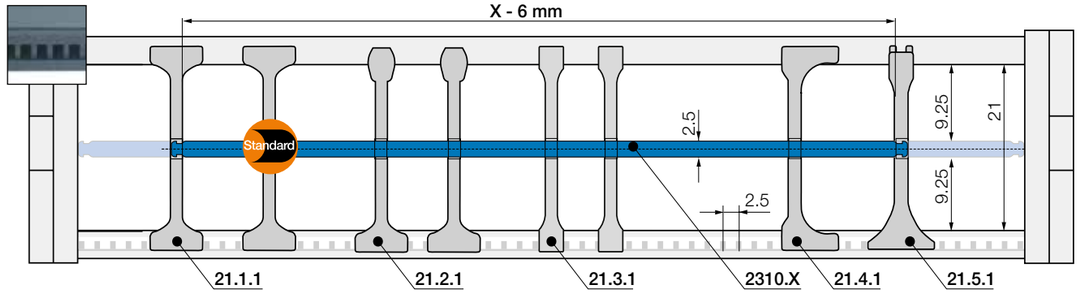
Option: steel mounting bracket, locking. For e-chains® and e-tubes, Part No. 14000.12
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

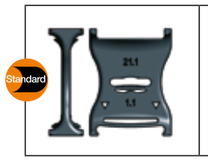
E2/000 | e-chains® 1400·1500 | Accessories

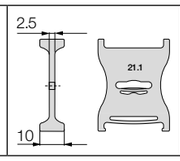
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/1400** ▶ **www.igus.eu/1500**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



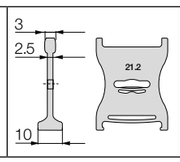


Standard separator, wide base	
unassembled	**21.1**
assembled	**21.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



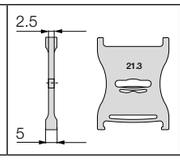


Separator, narrow top	
unassembled	**21.2**
assembled	**21.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



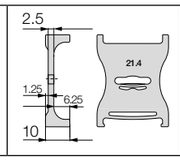


Separator, narrow	
unassembled	**21.3**
assembled	**21.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



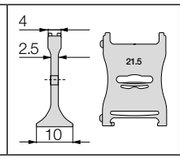


Separator, asymmetrical	
unassembled	**21.4**
assembled	**21.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.





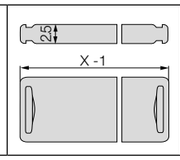
Notch separator for notched crossbar	
unassembled	**21.5**
assembled	**21.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.

Note: For this series notches only on fixed crossbars, not on openable crossbars





Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.087**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.090**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 21.1.Z - more information ▶ From page 1428



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362





E2/000 series 1400 in aircraft refuelling truck - telescopic crane with six sections

E2/000 | e-tubes 1450·1480 | Product range

Protection against dirt and swarf



Half e-tubes | Series 1450 | Crossbars openable along inner radius from both sides, closed along outer radius
Full e-tubes | Series 1480 | Lids openable along inner radius from both sides, fully enclosed

Part No. half e-tubes openable along the inner radius	Part No. full e-tubes openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	1450 [kg/m]	1480 [kg/m]
1450.015 .*R*.0	1480.015 .*R*.0	15	28.5	| 035* | 038* | 048* | 075 | 100 | 125 | 145 | 180 |	≈ 0.48	≈ 0.50
1450.025 .*R*.0	1480.025 .*R*.0	25	38.5	| 035* | 038* | 048* | 075 | 100 | 125 | 145 | 180 |	≈ 0.54	≈ 0.57
1450.038 .*R*.0	1480.038 .*R*.0	38	51.5	| 035* | 038* | 048* | 075 | 100 | 125 | 145 | 180 |	≈ 0.59	≈ 0.61
1450.050 .*R*.0	1480.050 .*R*.0	50	63.5	| 035* | 038* | 048* | 075 | 100 | 125 | 145 | 180 |	≈ 0.65	≈ 0.67
1450.068 .*R*.0	1480.068 .*R*.0	68	81.5	| 035* | 038* | 048* | 075 | 100 | 125 | 145 | 180 |	≈ 0.74	≈ 0.77
1450.080 .*R*.0	1480.080 .*R*.0	80	93.5	| 035* | 038* | 048* | 075 | 100 | 125 | 145 | 180 |	≈ 0.80	≈ 0.84
1450.100 .*R*.0	1480.100 .*R*.0	100	113.5	| 035* | 038* | 048* | 075 | 100 | 125 | 145 | 180 |	≈ 0.90	≈ 0.95
1450.125 .*R*.0	1480.125 .*R*.0	125	138.5	| 035* | 038* | 048* | 075 | 100 | 125 | 145 | 180 |	≈ 1.03	≈ 1.08

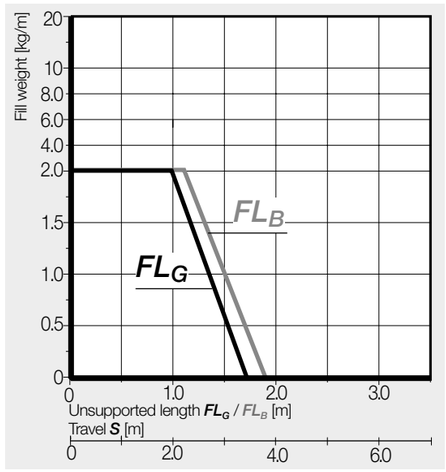
*Radius available upon request. Delivery time upon request.

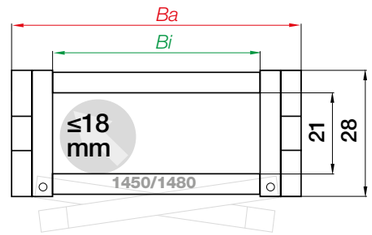
For radii 035, 038, 048 the e-tube is not fully enclosed. Please consult igus®.

Complete Part No. with required radius (*R*). Example: **1450.038.100.0**

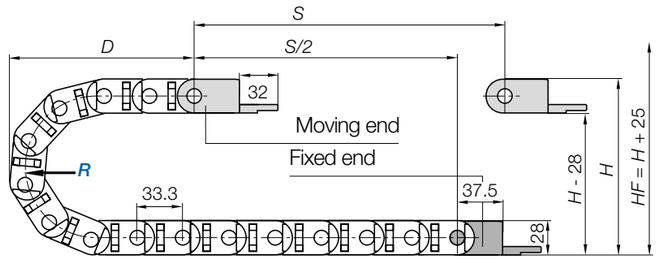
E2/000 | e-tubes 1450·1480 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	21
Pitch [mm/link]	33.3
Links/m	30
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	035*	038*	048*	075	100	125	145	180
H	98	104	124	178	228	278	318	388
D	99	102	112	139	164	189	209	244
K	180	190	220	305	385	460	525	635

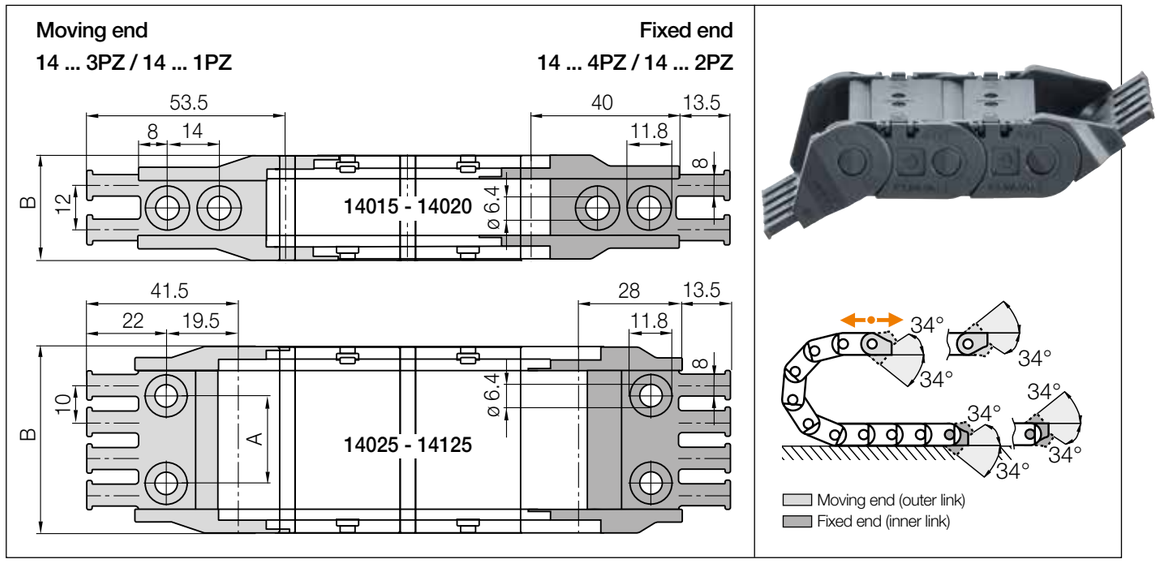
The required clearance height: $H_F = H + 25$mm (with 0.5kg/m fill weight)

*Radius available upon request. Delivery time upon request.Before using 1450/1480 series on long travels please consult igus®.

If a gliding application is required for a long travel, please consult igus®.

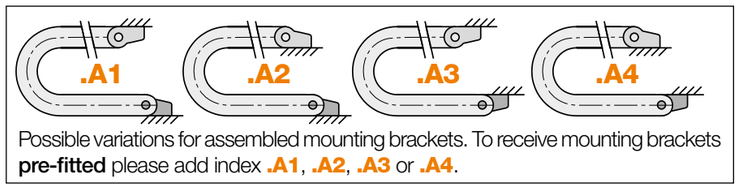
E2/000 | **e-tubes** 1450·1480 | Accessories

Mounting brackets, polymer | Pivoting | Locking

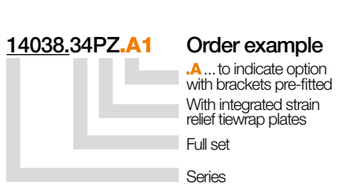


Polymer pivoting | Recommended for unsupported applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶	**14015.34PZ**	–	**14015.12PZ**	–	–	28.5	2
025. ▶	**14025.34PZ**	–	**14025.12PZ**	–	13	38.5	2
038. ▶	**14038.34PZ**	–	**14038.12PZ**	–	24	51.5	4
050. ▶	**14050.34PZ**	–	**14050.12PZ**	–	36	63.5	5
068. ▶	**14068.34PZ**	–	**14068.12PZ**	–	54	81.5	7
080. ▶	**14080.34PZ**	–	**14080.12PZ**	–	66	93.5	8
100. ▶	**14100.34PZ**	–	**14100.12PZ**	–	86	113.5	10
125. ▶	**14125.34PZ**	–	**14125.12PZ**	–	111	138.5	13



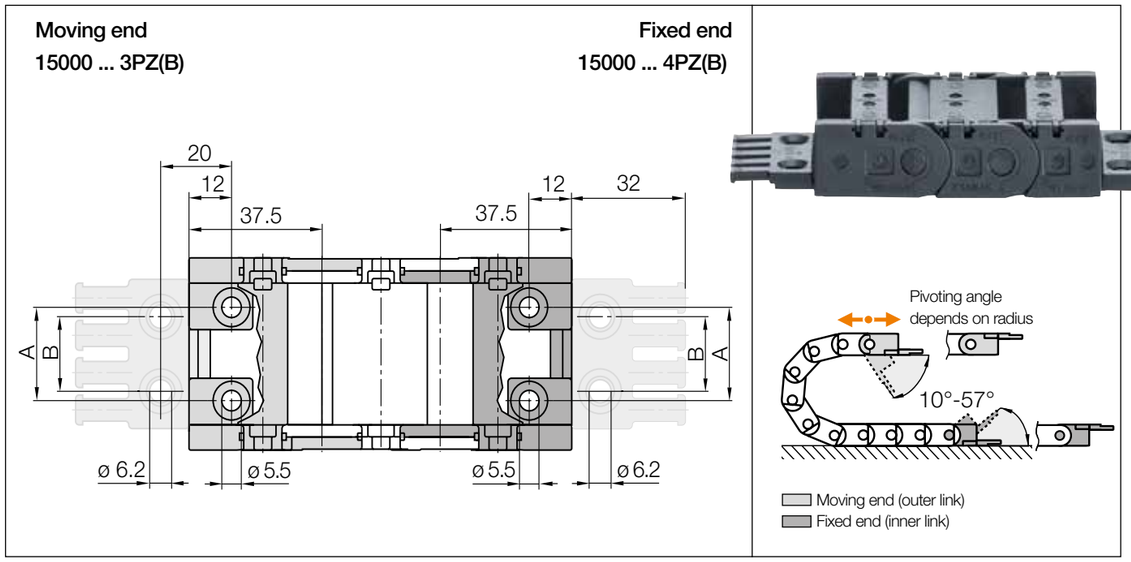
Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E2/000 | **e-tubes** 1450·1480 | Accessories

Mounting brackets, polymer | Pivoting



Polymer pivoting | Recommended for unsupported and gliding applications
For tight installation spaces

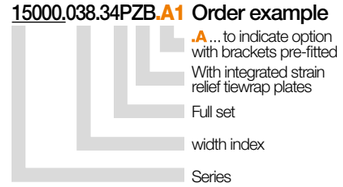
Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
015. ▶	–	–	–	–	–	–	–
025. ▶	**15000.025.34PZB**	**15000.025.34PZ**	–	–	12	15	3
038. ▶	**15000.038.34PZB**	**15000.038.34PZ**	–	–	25	20	4
050. ▶	**15000.050.34PZB**	**15000.050.34PZ**	–	–	37	30	5
068. ▶	**15000.068.34PZB**	**15000.068.34PZ**	–	–	55	40	6
080. ▶	**15000.080.34PZB**	**15000.080.34PZ**	–	–	67	60	8
100. ▶	**15000.100.34PZB**	**15000.100.34PZ**	–	–	87	80	10
125. ▶	**15000.125.34PZB***	**15000.125.34PZ***	–	–	112	100	12

*Tiewrap plate (consists of 2x2050.ZB) does not snap on but needs to be bolted down separately.

Note: Mounting brackets not to assemble at the gable end.



For mounting brackets pre-fitted **without strain relief**, please attach index **.A**.
For types pre-fitted **with strain relief**please attach index **.A1**, **.A2**, **.A3** or **.A4**



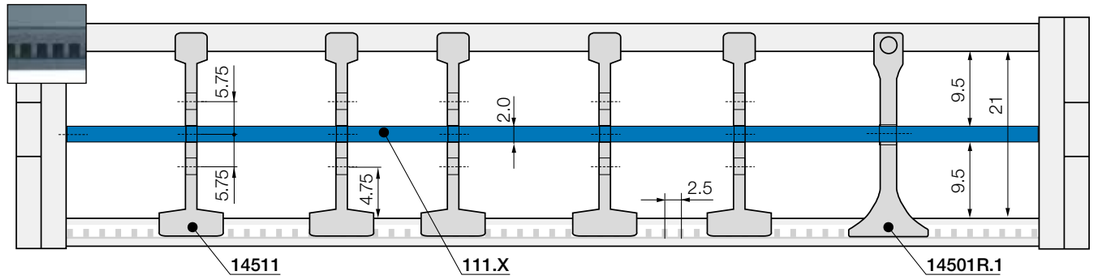


Option: steel mounting bracket, locking. For e-chains® and e-tubes, Part No. 14000.12
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

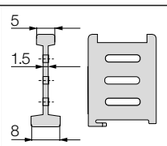
E2/000 | **e-tubes** 1450·1480 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



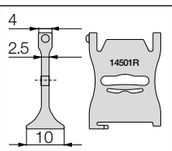


Slotted separator	
unassembled	**14501**
assembled	**14511**

Slotted separator

Vertical subdivision in e-chains®. The slot allows basic vertical/horizontal shelving arrangements.





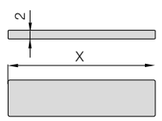
Notch separator for notched crossbar	
unassembled	**14501R**
assembled	**14501R.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.

Note: For this series notches only on fixed crossbars, not on openable crossbars/lids





Full-width shelf for e-tubes	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**110.15**	**111.15**	038	**110.38**	**111.38**	080	**110.80**	**111.80**
020	**110.20**	**111.20**	050	**110.50**	**111.50**	100	**110.100**	**111.100**
025	**110.25**	**111.25**	068	**110.68**	**111.68**	125	**110.125**	**111.125**

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

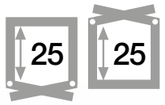
More information ► From page 1362





Delivery of an igus® readychain® - here system E2/000 complete with chainflex® cables pre-fitted

E2/000 | e-chains® 2400·2500 | Product range



For new designs we recommend E2.1 micro series E2.26 ▶ From page 356



e-chains® | Series 2400 | Crossbars openable along the inner radius, from both sides
e-chains® | Series 2500 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Bi	Ba	R Available bend radii	2400	2500
		[mm]	[mm]	[mm]	[kg/m]	[kg/m]
2400.02.R.0	2500.02.R.0▲◎	25	41	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.77	≈ 0.77
2400.03.R.0◎	2500.03.R.0▲◎	38	54	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.83	≈ 0.83
2400.05.R.0	2500.05.R.0▲◎	57	73	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.91	≈ 0.91
2400.07.R.0	2500.07.R.0▲◎	77	93	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.01	≈ 1.01
2400.09.R.0	2500.09.R.0▲◎	89	105	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.08	≈ 1.08
2400.10.R.0	2500.10.R.0▲◎	103	119	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.15	≈ 1.15
2400.12.R.0	2500.12.R.0▲◎	125	141	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.22	≈ 1.22

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

◎ ***RBR*** version (Reverse Bend Radius), some radii available from stock. More information ▶ **From page 130**

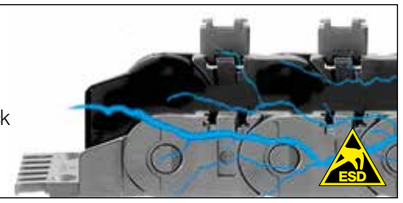
Half e-tubes, series 2450 and full e-tube series 2480 ▶ **From page 400**

Complete Part No. with required radius (***R***). **Example: 2500.03.100.0**

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information and the complete product range ▶ From page 142 or at ▶ www.igus.eu/esd



Rotating energy supply systems with Reverse Bend Radius *(RBR)* - some radii available from stock

- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life
- Short delivery times 24hrs, from stock

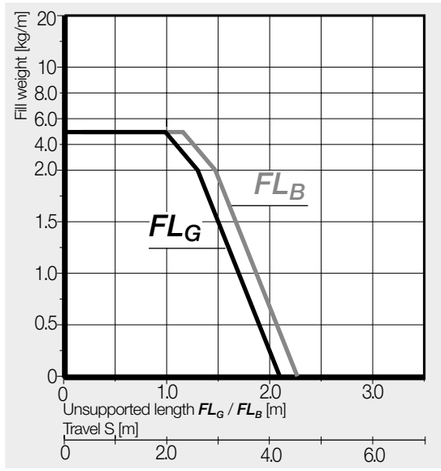
More information and the complete product range ▶ From page 130

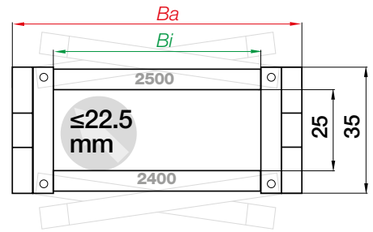


e-chains® 2400·2500 | Installation dimensions

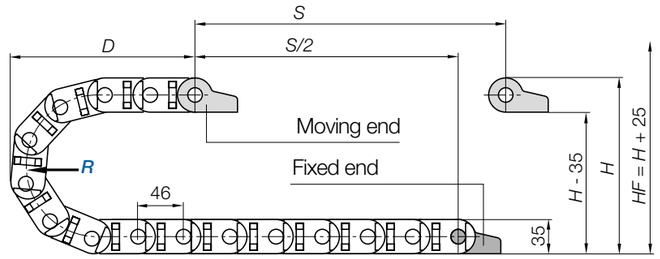
▶ 1392 ▶ 1312

Unsupported applications | Short travels





Inner height [mm]	25
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

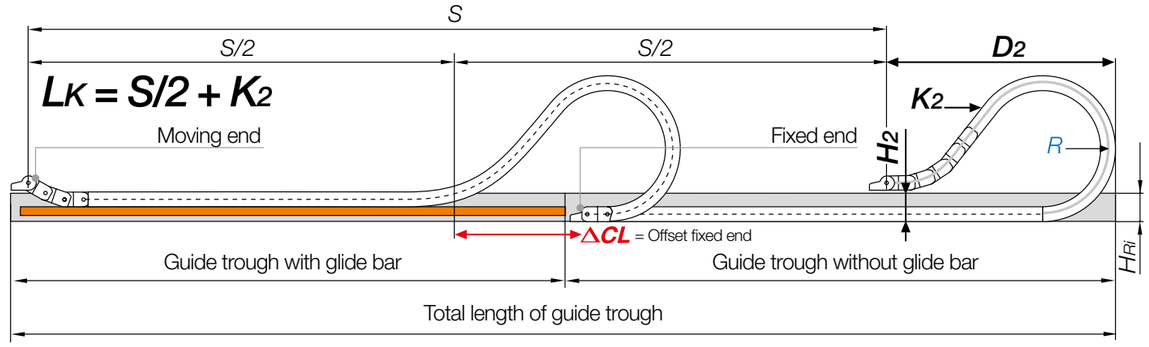


R	055	075	100	125	150	175	200	225	250
H	145	185	235	285	335	385	435	485	535
D	142	162	187	212	237	262	287	312	337
K	265	330	410	485	565	645	725	800	880

The required clearance height: $H_F = H + 25$mm (with 1.5kg/m fill weight)

Before using series 2400 on long travels please consult igus®.

Gliding applications | For travel lengths from 10m to max. 100m



Note: Before using series 2400/2450/2480 on long travels please consult igus®.

For long travels, igus® recommends series 2500 openable along the outer radius.

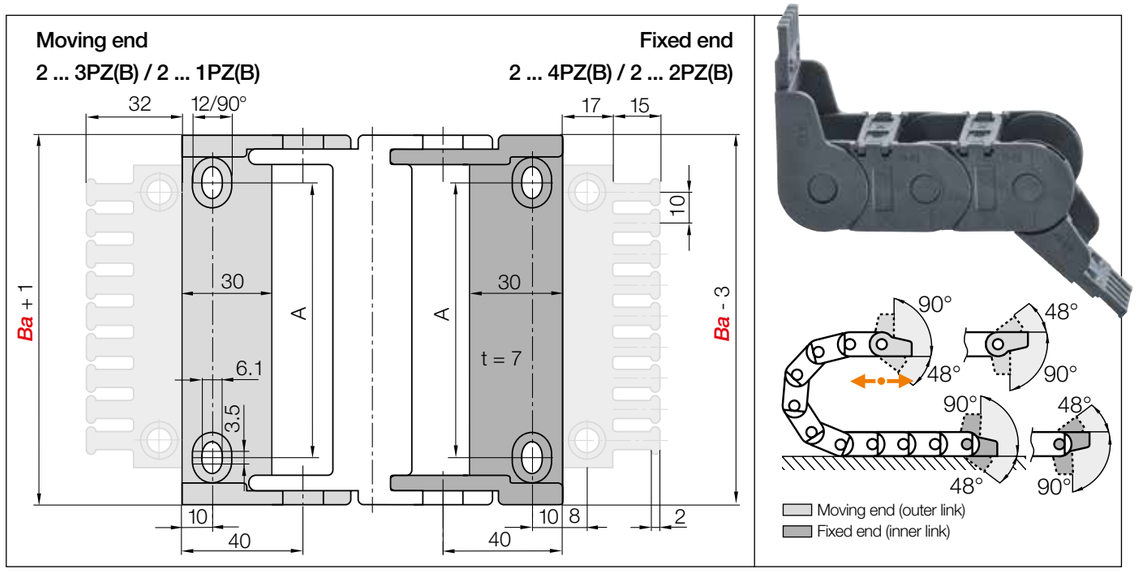
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	055	075	100	125	150	175	200	225	250
H_2	110	150	100	100	100	100	100	100	100
D_2^{+25}	142	162	380	440	590	755	950	1,040	1,130
K_2	265	330	644	736	1,012	1,242	1,472	1,610	1,794
ΔCL	–	–	204	244	364	504	674	754	804

Before using series 2400 on long travels please consult igus®.

E2/000 | e-chains® 2400·2500 | Accessories

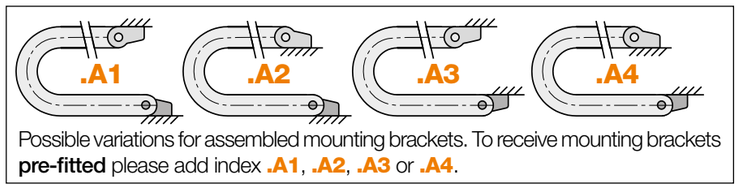
Mounting brackets, polymer | Pivoting | Locking



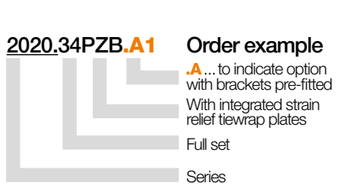
Standard Polymer pivoting | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
02. ▶	2020.34PZB	2020.34PZ	2020.12PZB	2020.12PZ	12	3
03. ▶	2030.34PZB	2030.34PZ	2030.12PZB	2030.12PZ	25	4
05. ▶	2050.34PZB	2050.34PZ	2050.12PZB	2050.12PZ	44	6
07. ▶	2070.34PZB	2070.34PZ	2070.12PZB	2070.12PZ	64	8
09. ▶	2090.34PZB	2090.34PZ	2090.12PZB	2090.12PZ	77	9
10. ▶	2100.34PZB	2100.34PZ	2100.12PZB	2100.12PZ	90	10
12. ▶	2125.34PZB	2125.34PZ	2125.12PZB	2125.12PZ	112	12

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2020.34PZBK1**



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



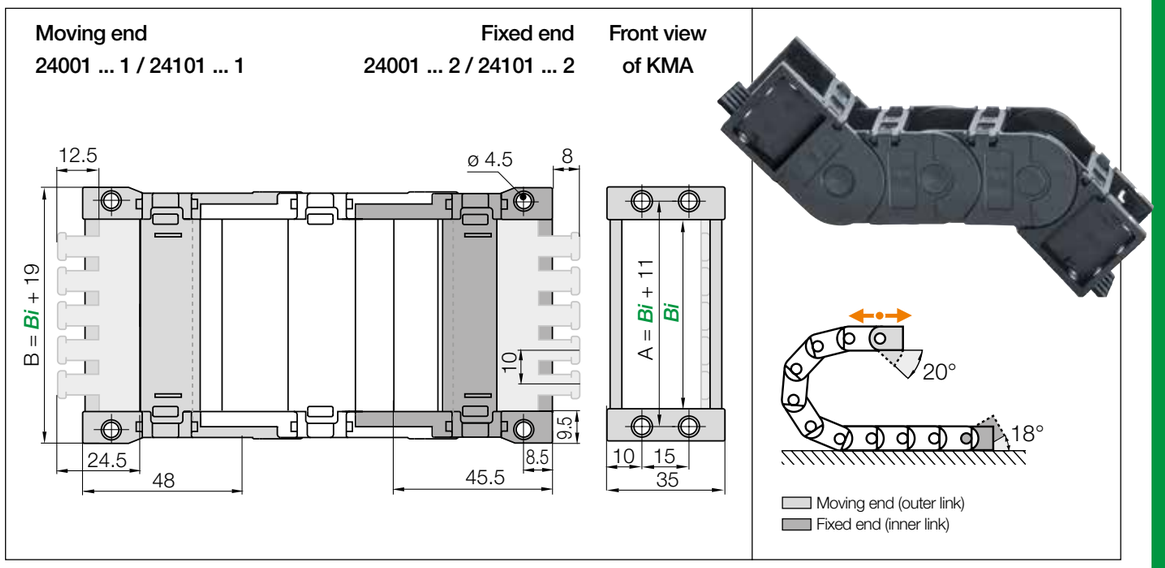
Order example

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

2400
2500

E2/000 | e-chains® 2400·2500 | Accessories

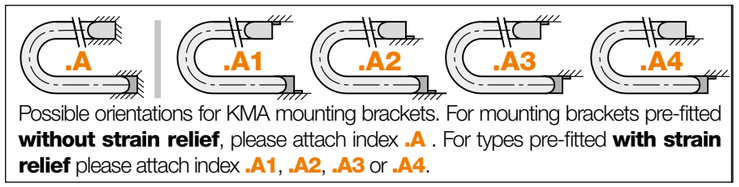
KMA mounting brackets | Attachment from any side | Pivoting | Locking



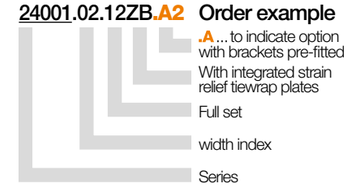
KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part no. full set KMA **pivoting** with tiewrap plates	Part no. full set KMA **pivoting** without tiewrap plates	Part No. full set KMA **locking** with tiewrap plates	Part No. full set KMA **locking** without tiewrap plates	A [mm]	B [mm]	Number of teeth
02. ▶	24001.02.12ZB	24001.02.12	24101.02.12ZB	24101.02.12	36	44	2
03. ▶	24001.03.12ZB	24001.03.12	24101.03.12ZB	24101.03.12	49	57	4
05. ▶	24001.05.12ZB	24001.05.12	24101.05.12ZB	24101.05.12	68	76	6
07. ▶	24001.07.12ZB	24001.07.12	24101.07.12ZB	24101.07.12	88	86	7
09. ▶	24001.09.12ZB	24001.09.12	24101.09.12ZB	24101.09.12	100	108	9
10. ▶	24001.10.12ZB	24001.10.12	24101.10.12ZB	24101.10.12	114	122	10
12. ▶	24001.12.12ZB	24001.12.12	24101.12.12ZB	24101.12.12	136	144	12

(KMA = polymer metal mounting bracket)



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without strain relief**, please attach index **.A** . For types pre-fitted **with strain relief** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Order example



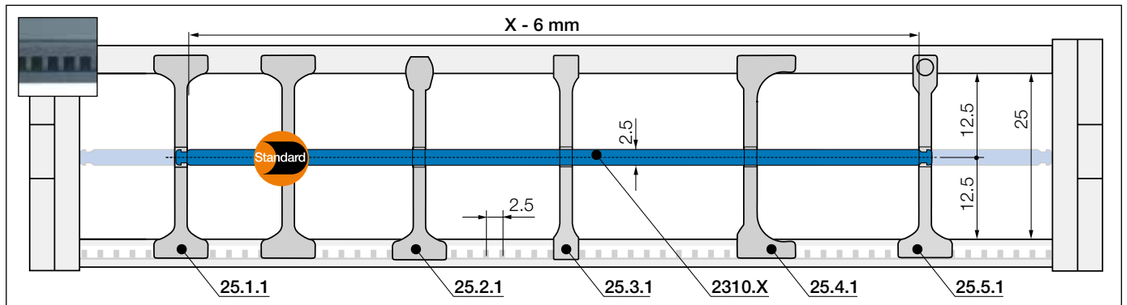
Option: steel mounting bracket, pivoting. For e-chains® and e-tubes, Part No. 2000.3
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

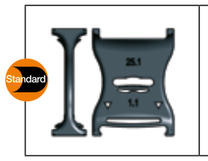
E2/000 | e-chains® 2400·2500 | Accessories

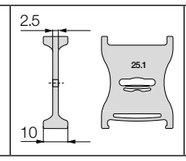
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ www.igus.eu/2400 ▶ www.igus.eu/2500



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



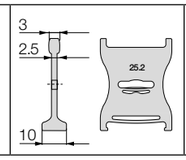


Standard separator, wide base	
unassembled	25.1
assembled	25.1.1

Standard - for any application

Separator with a wide base for maximum holding force.



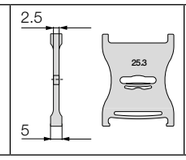


Separator, narrow top	
unassembled	25.2
assembled	25.2.1

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



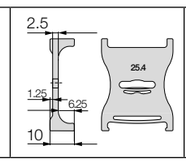


Separator, narrow	
unassembled	25.3
assembled	25.3.1

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



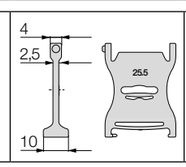


Separator, asymmetrical	
unassembled	25.4
assembled	25.4.1

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.



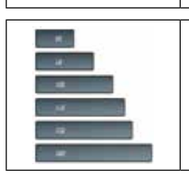


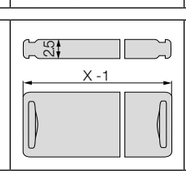
Notch separator for notched crossbar	
unassembled	25.5
assembled	25.5.1

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.

Note: For this series notches only on fixed crossbars, not on openable crossbars





Shelf, lockable	
unassembled	2300.X
assembled	2310.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

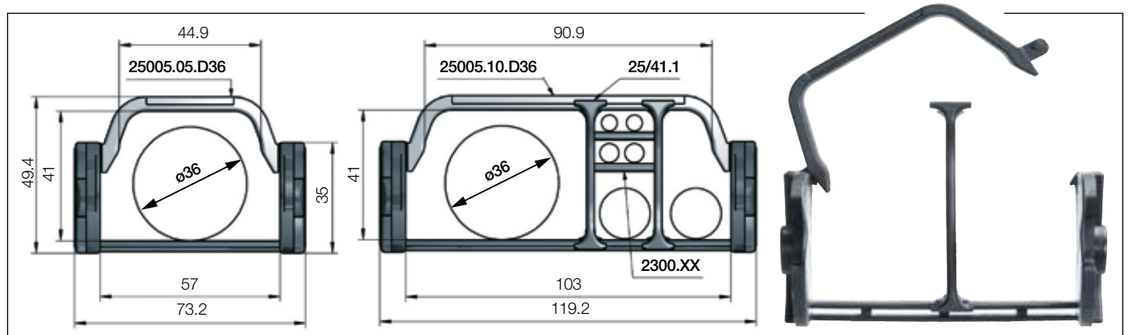
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	2300.015	2310.015	060	2300.060	2310.060	087	2300.087	2310.087
025	2300.025	2310.025	062	2300.062	2310.062	090	2300.090	2310.090
030	2300.030	2310.030	065	2300.065	2310.065	100	2300.100	2310.100
038	2300.038	2310.038	070	2300.070	2310.070	103	2300.103	2310.103
040	2300.040	2310.040	075	2300.075	2310.075	110	2300.110	2310.110
050	2300.050	2310.050	077	2300.077	2310.077	120	2300.120	2310.120
057	2300.057	2310.057	080	2300.080	2310.080	125	2300.125	2310.125

E2/000 | e-chains® 2400·2500 | Further accessories

e-chains® with extender crossbar | Product Range



e-chains® with extender crossbars - large increase of the interior space for the smooth guiding of large hoses.
Suitable for hoses with a maximum outer diameter of 36mm.

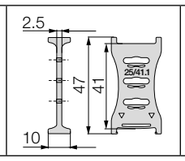
Part No. e-chains® Extender crossbars openable along inner radius	Part No. e-chains® Extender crossbars openable along outer radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]
2400.05 D36 .R.0	2500.05 D36 .R.0	57	73	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
2400.10 D36 .R.0	2500.10 D36 .R.0	103	119	| 055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |

* Radius 055 only possible with e-chains® series 2500, openable along outer radius!

Complete Part No. with required radius (R). Example: 2500.05D36.100.0

Interior separation for e-chains® with extender crossbars

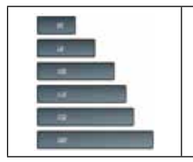


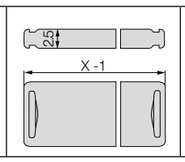


Separator e-chain® with extender crossbars	
unassembled	25/41.1
assembled	25/41.1.1

Standard separator, wide base

Separator with a wide base for maximum holding force. As standard separators are fitted every 2nd e-chain® link!





Shelf, lockable	
unassembled	2300.X
assembled	2310.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 2020.Z - more information ▶ From page 1428



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362



E2/000 | e-tubes 2450·2480 | Product range

25

Protection against dirt and swarf



Half e-tubes | Series 2450 | Crossbars openable along inner radius from both sides, closed along outer radius
Full e-tubes | Series 2480 | Lids openable along inner radius from both sides, fully enclosed

Part No. half e-tubes openable along the inner radius	Part No. full e-tubes openable along the inner radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]	2450 [kg/m]	2480 [kg/m]
2450.02.R.0	2480.02.R.0	25	41	055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.80	≈ 0.82
2450.03.R.0	2480.03.R.0	38	54	055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.88	≈ 0.92
2450.05.R.0	2480.05.R.0	57	73	055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 0.99	≈ 1.03
2450.07.R.0	2480.07.R.0	77	93	055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.12	≈ 1.17
2450.09.R.0	2480.09.R.0	89	105	055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.20	≈ 1.26
2450.10.R.0	2480.10.R.0	103	119	055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.27	≈ 1.34
2450.12.R.0	2480.12.R.0	125	141	055* | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250	≈ 1.35	≈ 1.43

RBR version (Reverse Bend Radius), some radii available from stock. More information ▶ From page 130

*Radius available upon request. Delivery time upon request.

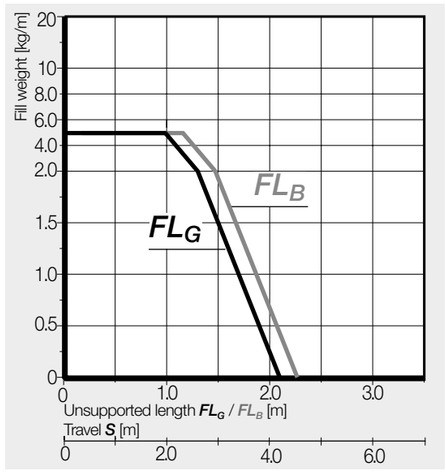
Radius 055: the e-tube is not completely enclosed. Please consult igus®.

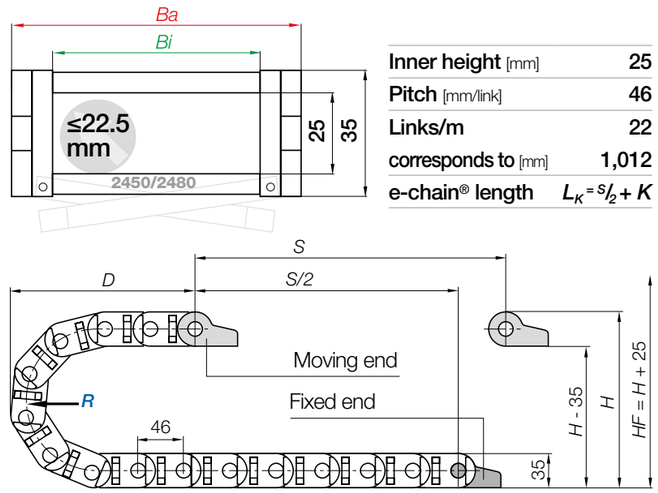
Complete Part No. with required radius (R). Example: **2450.03.100.0**

E2/000 | e-tubes 2450·2480 | Installation dimensions

▶ 1392

Unsupported applications | Short travels





Inner height [mm]	25
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

R	055*	075	100	125	150	175	200	225	250
H	145	185	235	285	335	385	435	485	535
D	142	162	187	212	237	262	287	312	337
K	265	330	410	485	565	645	725	800	880

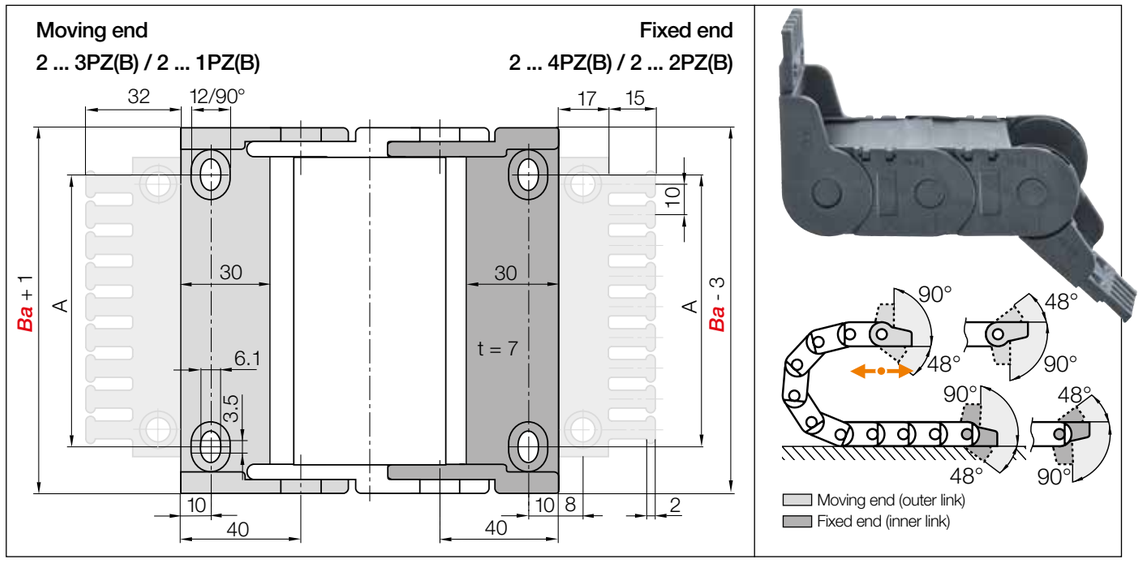
The required clearance height: $H_F = H + 25$mm (with 1.5kg/m fill weight)

*Radius available upon request. Delivery time upon request.Before using 2450/2480 series on long travels please consult igus®.

If a gliding application is required for a long travel, please consult igus®.

E2/000 | **e-tubes** 2450·2480 | Accessories

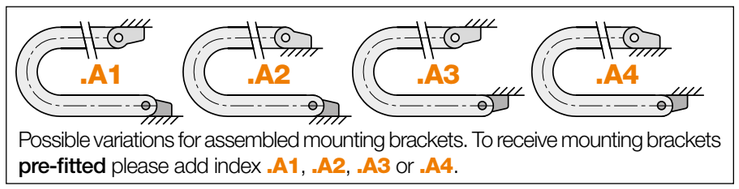
Mounting brackets, polymer | Pivoting | Locking



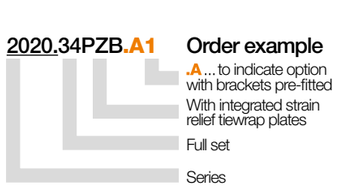
Standard Polymer pivoting | Recommended for unsupported applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
02. ▶	2020.34PZB	2020.34PZ	2020.12PZB	2020.12PZ	12	3
03. ▶	2030.34PZB	2030.34PZ	2030.12PZB	2030.12PZ	25	4
05. ▶	2050.34PZB	2050.34PZ	2050.12PZB	2050.12PZ	44	6
07. ▶	2070.34PZB	2070.34PZ	2070.12PZB	2070.12PZ	64	8
09. ▶	2090.34PZB	2090.34PZ	2090.12PZB	2090.12PZ	77	9
10. ▶	2100.34PZB	2100.34PZ	2100.12PZB	2100.12PZ	90	10
12. ▶	2125.34PZB	2125.34PZ	2125.12PZB	2125.12PZ	112	12

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2020.34PZBK1**



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

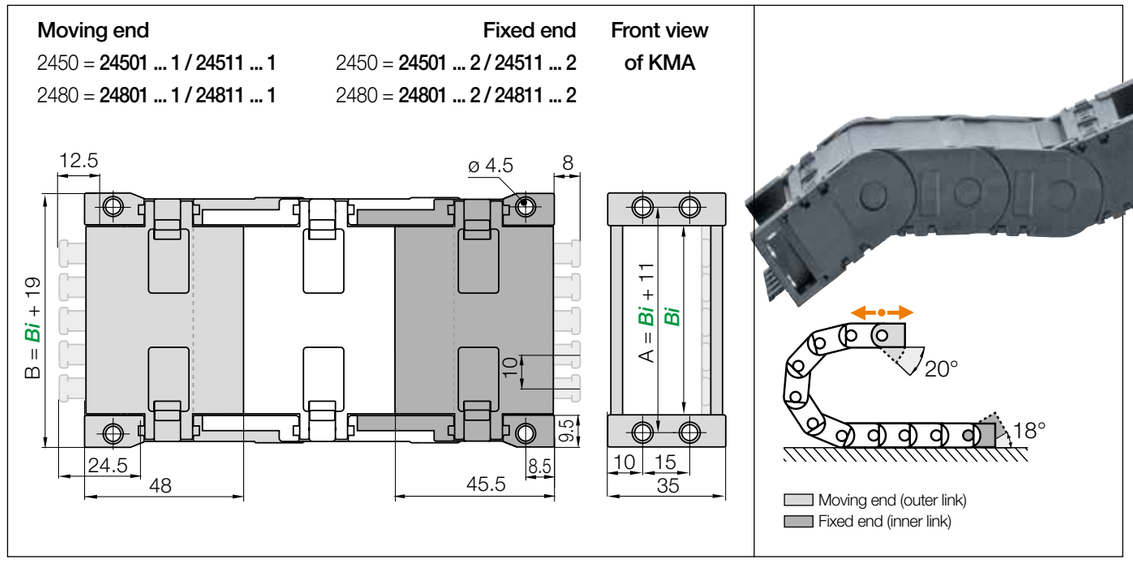


Order example

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E2/000 | **e-tubes** 2450·2480 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



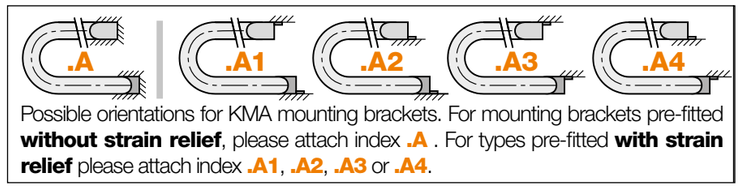
KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA **pivoting**[1] with tiewrap plates	Part No. full set KMA **pivoting**[1] without tiewrap plates	Part No. full set KMA **locking**[2] with tiewrap plates	Part No. full set KMA **locking**[2] without tiewrap plates	A [mm]	B [mm]	Number of teeth
02. ▶	24501 | 24801 .02.12ZB	24501 | 24801 .02.12	24511 | 24811 .02.12ZB	24511 | 24811 .02.12	36	44	2
03. ▶	24501 | 24801 .03.12ZB	24501 | 24801 .03.12	24511 | 24811 .03.12ZB	24511 | 24811 .03.12	49	57	4
05. ▶	24501 | 24801 .05.12ZB	24501 | 24801 .05.12	24511 | 24811 .05.12ZB	24511 | 24811 .05.12	68	76	6
07. ▶	24501 | 24801 .07.12ZB	24501 | 24801 .07.12	24511 | 24811 .07.12ZB	24511 | 24811 .07.12	88	86	7
09. ▶	24501 | 24801 .09.12ZB	24501 | 24801 .09.12	24511 | 24811 .09.12ZB	24511 | 24811 .09.12	100	108	9
10. ▶	24501 | 24801 .10.12ZB	24501 | 24801 .10.12	24511 | 24811 .10.12ZB	24511 | 24811 .10.12	114	122	10
12. ▶	24501 | 24801 .12.12ZB	24501 | 24801 .12.12	24511 | 24811 .1212ZB	24511 | 24811 .12.12	136	144	12

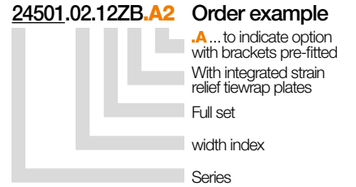
1) KMA pivoting Part No. 24501 for half e-tube series 2450 / KMA pivoting Part No. 24801 for full e-tube series 2480

2) KMA locking Part No. 24511 for half e-tube series 2450 / KMA locking Part No. 24811 for full e-tube series 2480

(KMA = polymer metal mounting bracket)



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without strain relief**, please attach index **.A** . For types pre-fitted **with strain relief** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Order example

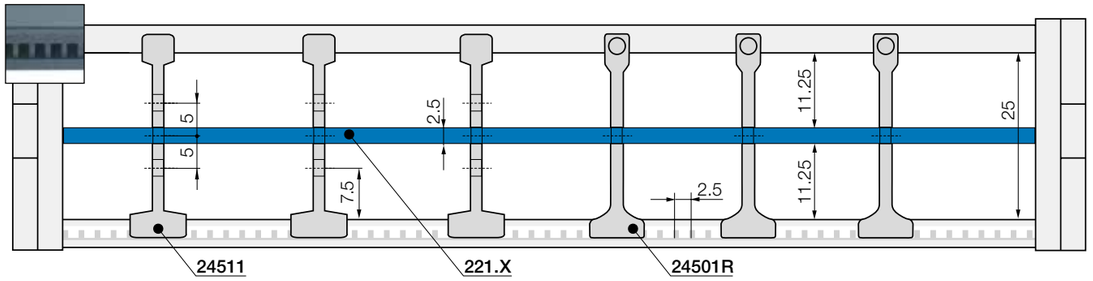


Option: steel mounting bracket, pivoting. For e-chains® and e-tubes, Part No. 2000.3
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

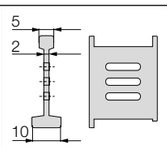
E2/000 | **e-tubes** 2450·2480 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



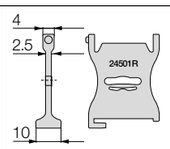


Slotted separator	
unassembled	**24501**
assembled	**24511**

Slotted separator

Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.





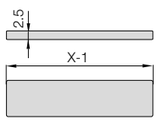
Notch separator for notched crossbar	
unassembled	**24501R**
assembled	**24501R.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.

Note: For this series notches only on fixed crossbars, not on openable crossbars/lids





Full-width shelf for e-tubes	
unassembled	**220.X**
assembled	**221.X**

Full-width shelf

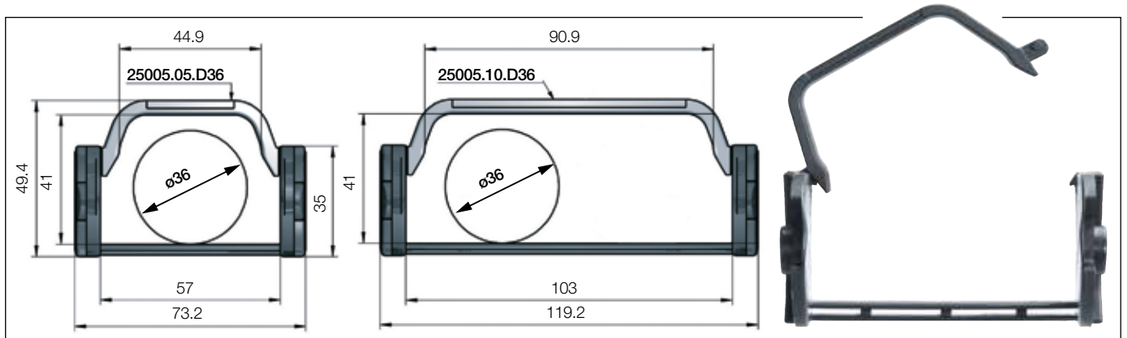
This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
025	**220.25**	**221.25**	077	**220.77**	**221.77**	125	**220.125**	**221.125**
038	**220.38**	**221.38**	090	**220.90**	**221.90**			
057	**220.57**	**221.57**	103	**220.103**	**221.103**			

E2/000 | **e-tubes** 2450 | Further accessories

e-chains® with extender crossbar | Product Range



e-chains® with extender crossbars only for series 2450 - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 36mm.

Part No. half e-tubes Extender crossbars openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
2450.05 D36 .*R*.0	57	73	| 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |
2450.10 D36 .*R*.0	103	119	| 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |

Complete Part No. with required radius (*R*). Example: **2450.05D36.100.0**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 2020.ZR - more information ▶ From page 1428



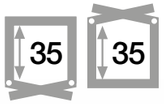
Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362



E2/000 | e-chains® 2600·2700 | Product range



For new designs we recommend E2.1 micro series E2.38 ▶ From page 362



e-chains® | Series 2600 | Crossbars openable along the inner radius, from both sides
e-chains® | Series 2700 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Bi	Ba	R Available bend radii	2600	2700
		[mm]	[mm]	[mm]	[kg/m]	[kg/m]
2600.05.R.0	2700.05.R.0▲◎	50	66	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.17	≈ 1.17
2600.06.R.0◎	2700.06.R.0▲	65	81	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.24	≈ 1.24
2600.07.R.0◎	2700.07.R.0▲	75	91	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.30	≈ 1.30
2600.09.R.0	2700.09.R.0▲	90	106	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.37	≈ 1.37
2600.10.R.0◎	2700.10.R.0▲	100	116	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.39	≈ 1.39
2600.12.R.0	2700.12.R.0▲	125	141	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.48	≈ 1.48
2600.15.R.0	2700.15.R.0◎	150	166	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.62	≈ 1.62
2600.17.R.0	2700.17.R.0	175	194	| 063 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.85	≈ 1.85

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

◎ ***RBR*** version (Reverse Bend Radius), some radii available from stock. More information ▶ **From page 130**

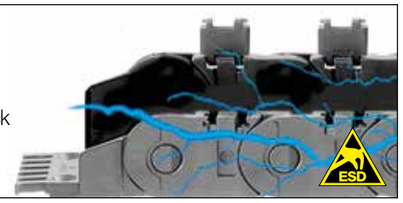
Half e-tubes, series 2650 and full e-tube series 2680 ▶ **From page 414**

Complete Part No. with required radius (*R*). Example: **2700.05.100.0**

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information and the complete product range ▶ From page 142 or at ▶ www.igus.eu/esd



Rotating energy supply systems with Reverse Bend Radius *(RBR)* - some radii available from stock

- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life
- Short delivery times 24hrs, from stock

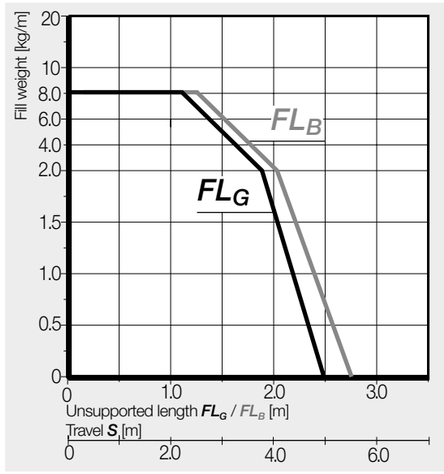
More information and the complete product range ▶ From page 130

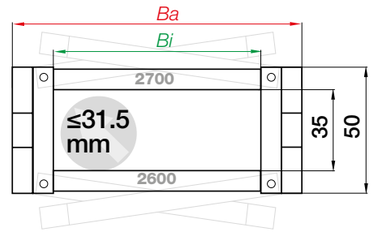


e-chains® 2600·2700 | Installation dimensions

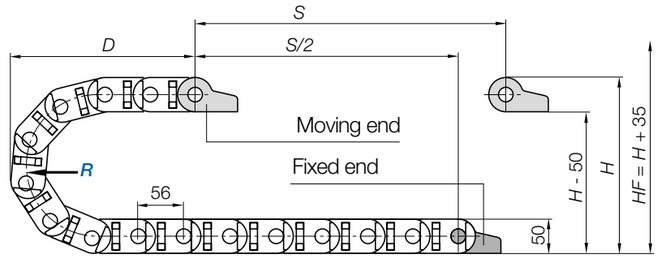
▶ 1392 ▶ 1318

Unsupported applications | Short travels





Inner height [mm]	35
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

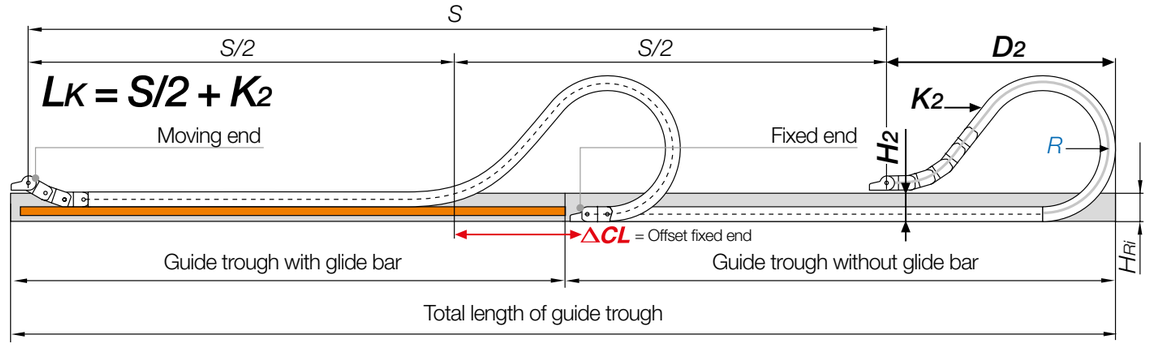


R	063	075	100	125	150	175	200	250
H	176	200	250	300	350	400	450	550
D	172	184	209	234	259	284	309	359
K	310	350	430	505	585	665	745	900

The required clearance height: $H_F = H + 35$mm (with 2.0kg/m fill weight)

Before using 2600 series on long travels please consult igus®.

Gliding applications | For travel lengths from 10m to max. 120m



Note: Before using series 2600/2650/2680 on long travels please consult igus®.

For long travels, igus® recommends series 2700 openable along the outer radius.

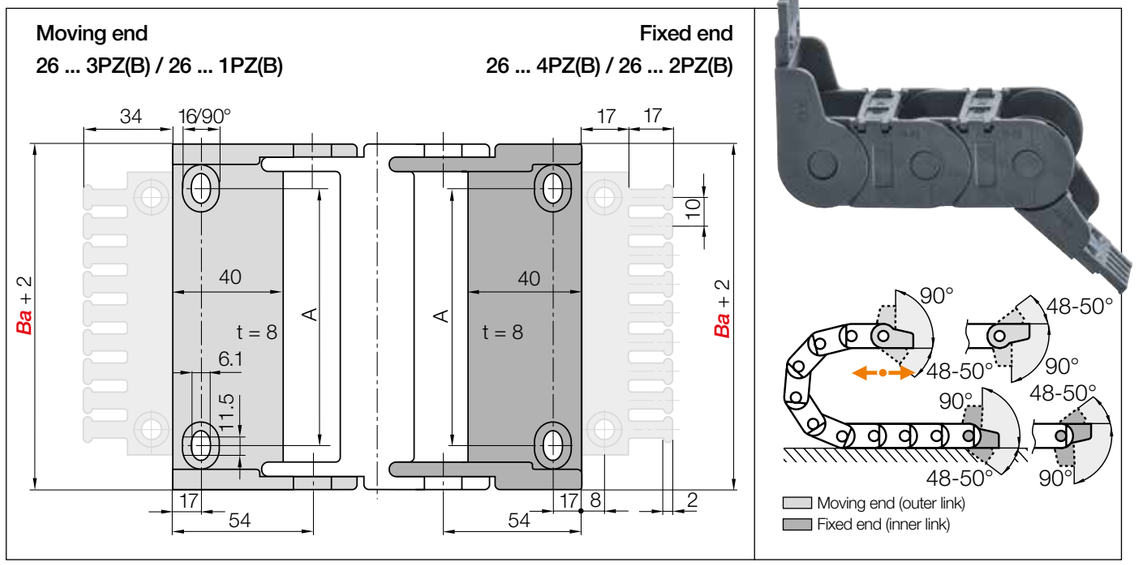
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	063	075	100	125	150	175	200	250
H_2	130	150	166	166	166	166	166	166
D_2^{+25}	140	150	395	510	545	700	805	995
K_2	335	375	616	784	896	1,120	1,288	1,624
ΔCL	–	–	144	244	244	374	464	594

Before using 2600 series on long travels please consult igus®.

E2/000 | e-chains® 2600·2700 | Accessories

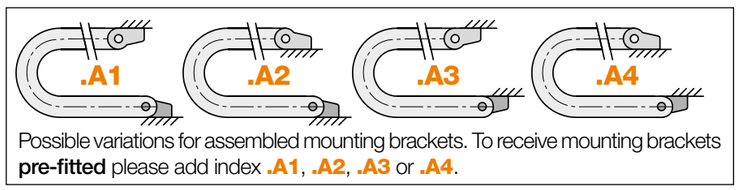
Mounting brackets, polymer | Pivoting | Locking



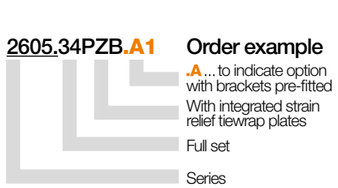
Polymer pivoting | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
05. ▶	2605.34PZB	2605.34PZ	2605.12PZB	2605.12PZ	30	5
06. ▶	2606.34PZB	2606.34PZ	2606.12PZB	2606.12PZ	45	5
07. ▶	2607.34PZB	2607.34PZ	2607.12PZB	2607.12PZ	55	7
09. ▶	2609.34PZB	2609.34PZ	2609.12PZB	2609.12PZ	70	9
10. ▶	2610.34PZB	2610.34PZ	2610.12PZB	2610.12PZ	80	10
12. ▶	2612.34PZB	2612.34PZ	2612.12PZB	2612.12PZ	105	12
15. ▶	2615.34PZB	2615.34PZ	2615.12PZB	2615.12PZ	130	15
17. ▶	2617.34PZB	2617.34PZ	2617.12PZB	2617.12PZ	155	17

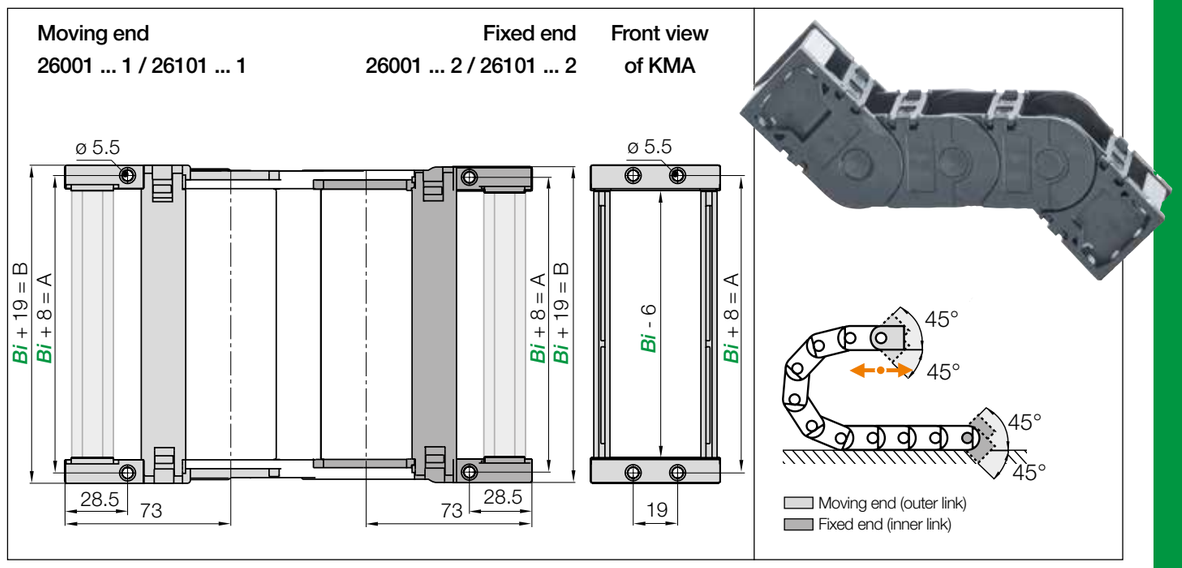
Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2605.34PZBK1**



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

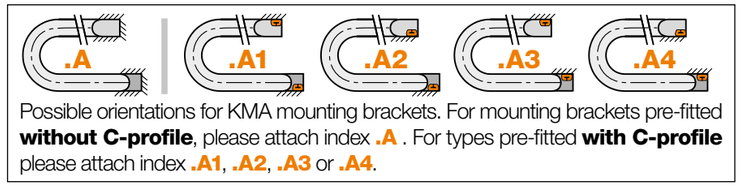


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

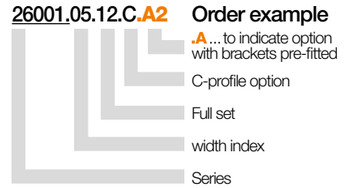
Width index	Part no. full set KMA **pivoting** with C-profile	Part no. full set KMA **pivoting** Without C-profile	Part No. full set KMA **locking** with C-profile	Part No. full set KMA **locking** Without C-profile	A [mm]	B [mm]
05. ▶	26001.05.12.C	26001.05.12	26101.05.12.C	26101.05.12	58	69
06. ▶	26001.06.12.C	26001.06.12	26101.06.12.C	26101.06.12	73	84
07. ▶	26001.07.12.C	26001.07.12	26101.07.12.C	26101.07.12	83	94
09. ▶	26001.09.12.C	26001.09.12	26101.09.12.C	26101.09.12	98	109
10. ▶	26001.10.12.C	26001.10.12	26101.10.12.C	26101.10.12	108	119
12. ▶	26001.12.12.C	26001.12.12	26101.12.12.C	26101.12.12	133	144
15. ▶	26001.15.12.C	26001.15.12	26101.15.12.C	26101.15.12	158	169
17. ▶	26001.17.12.C	26001.17.12	26101.17.12.C	26101.17.12	183	194

Option: KMA one end pivoting to the inner or outer radius: moving end Part No. 26101 ... 3 / fixed end Part No. 26101 ... 4

(KMA = polymer metal mounting bracket)



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.





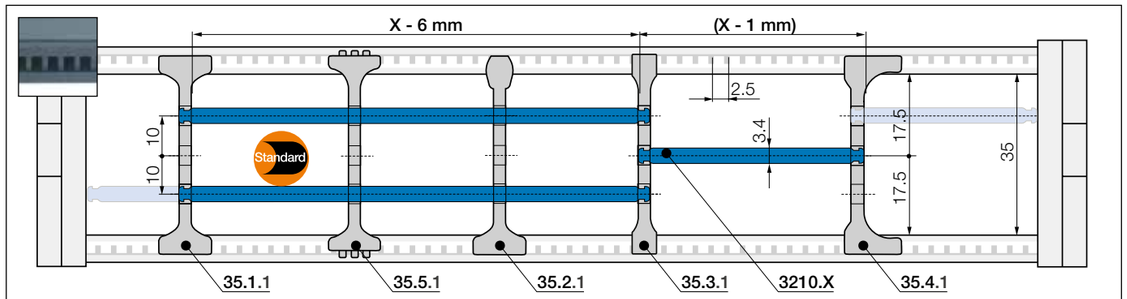
Option: steel mounting bracket, locking. For e-chains® and e-tubes, Part No. 260.12
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

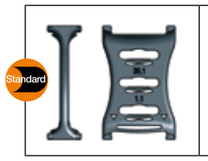
E2/000 | e-chains® 2600·2700 | Accessories

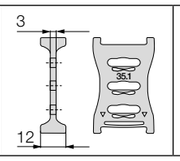
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ www.igus.eu/2600 ▶ www.igus.eu/2700



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



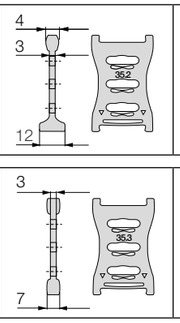


Standard separator, wide base	
unassembled	**35.1**
assembled	**35.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.





Separator, narrow top	
unassembled	**35.2**
assembled	**35.2.1**

For even faster installation

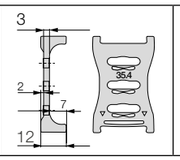
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

Separator, narrow	
unassembled	**35.3**
assembled	**35.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



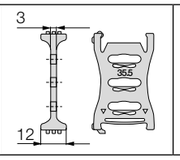


Separator, asymmetrical	
unassembled	**35.4**
assembled	**35.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.



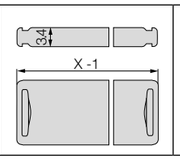


Notch separator for notched crossbar	
unassembled	**35.5**
assembled	**35.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





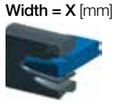
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

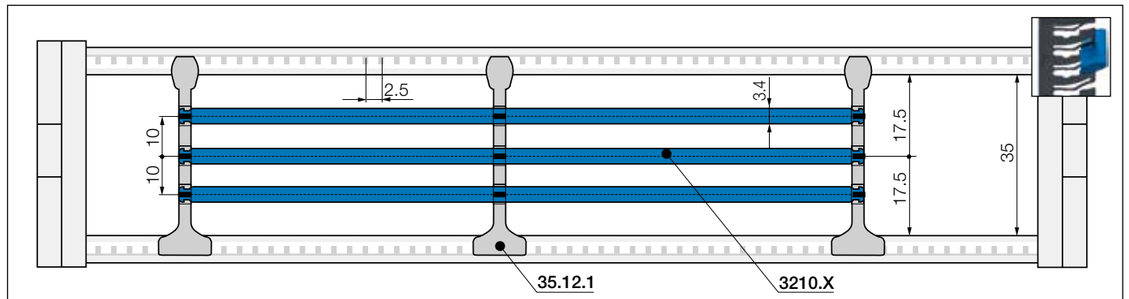


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

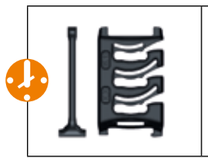
E2/000 | e-chains® 2600·2700 | Accessories

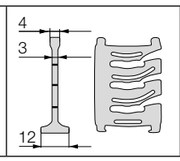
2600
2700

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Lean separator[1)]	
unassembled	**35.12**
assembled	**35.12.1**

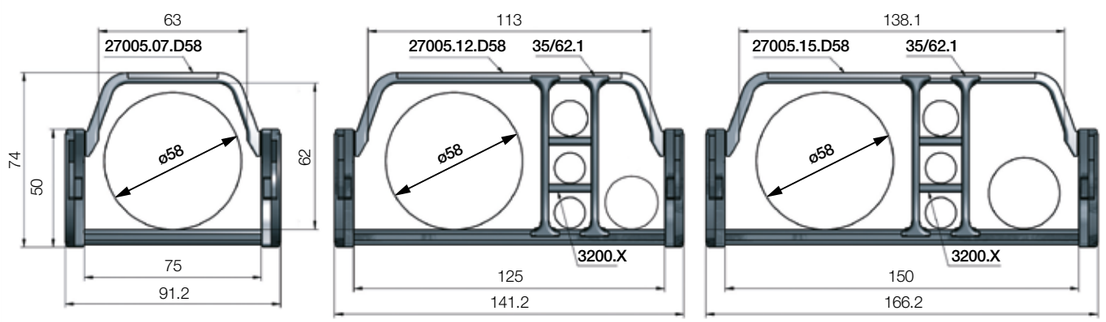
Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



e-chains® with extender crossbar | Product Range



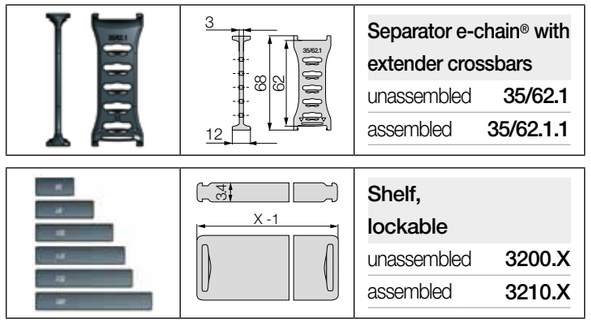
e-chains® with extender crossbars - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 58mm.

Part No. e-chains® Extender crossbars openable along inner radius	Part No. e-chains® Extender crossbars openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
2600.07 D58 .*R*.0	2700.07 D58 .*R*.0	75	91	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |
2600.12 D58 .*R*.0	2700.12 D58 .*R*.0	125	141	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |
2600.15 D58 .*R*.0	2700.15 D58 .*R*.0	150	166	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |

*Radius 063 and 075 only possible with e-chains® series 2700, openable along outer radius!

Complete Part No. with required radius (*R*). Example: **2700.15D58.100.0**

Interior separation for e-chains® with extender crossbars



Separator e-chain® with extender crossbars	
unassembled	**35/62.1**
assembled	**35/62.1.1**

Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Standard separator, wide base

Separator with a wide base for maximum holding force. As standard separators are fitted every 2nd e-chain® link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

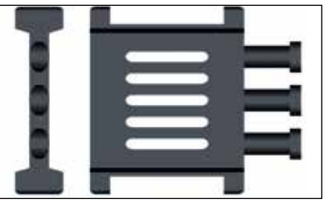
E2/000 | e-chains® 2600·2700 | Further accessories

2600
2700

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 262.Z - more information ▶ From page 1428



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362





Telescopic loader - an E2/000 e-chain® guides the hydraulic hoses via the telescopic mast to the attachment

E2/000 | e-tubes 2650·2680 | Product range

Protection against dirt and swarf



Half e-tubes | Series 2650 | Crossbars openable along inner radius from both sides, closed along outer radius
Full e-tubes | Series 2680 | Lids openable along inner radius from both sides, fully enclosed

Part No. half e-tubes openable along the inner radius	Part No. full e-tubes openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	2650 [kg/m]	2680 [kg/m]
2650.05.*R*.0	2680.05.*R*.0	50	66	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.25	≈ 1.33
2650.06.*R*.0	2680.06.*R*.0	65	81	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.36	≈ 1.43
2650.07.*R*.0	2680.07.*R*.0	75	91	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.40	≈ 1.51
2650.09.*R*.0	2680.09.*R*.0	90	106	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.55	≈ 1.62
2650.10.*R*.0	2680.10.*R*.0	100	116	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.61	≈ 1.81
2650.12.*R*.0	2680.12.*R*.0	125	141	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.70	≈ 1.99
2650.15.*R*.0	2680.15.*R*.0	150	166	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.80	≈ 2.17
2650.17.*R*.0	2680.17.*R*.0	175	194	| 063* | 075* | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 2.00	≈ 2.35

*Radius available upon request. Delivery time upon request.

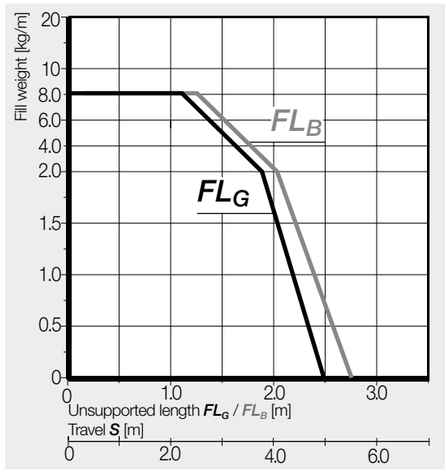
Radii 063, 075: the e-tube is not completely enclosed. Please consult igus®.

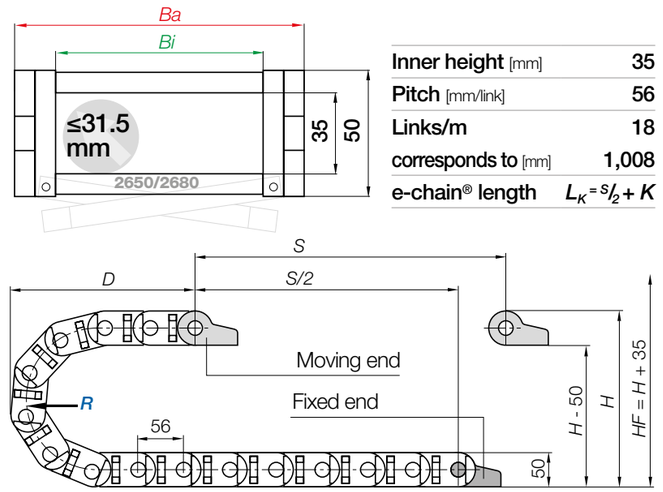
Complete Part No. with required radius (*R*). Example: **2650.05.100.0**

E2/000 | e-tubes 2650·2680 | Installation dimensions

Unsupported applications | Short travels

▶ 1392





Inner height [mm]	35
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

R	063*	075*	100	125	150	175	200	250
H	176	200	250	300	350	400	450	550
D	172	184	209	234	259	284	309	359
K	310	350	430	505	585	665	745	900

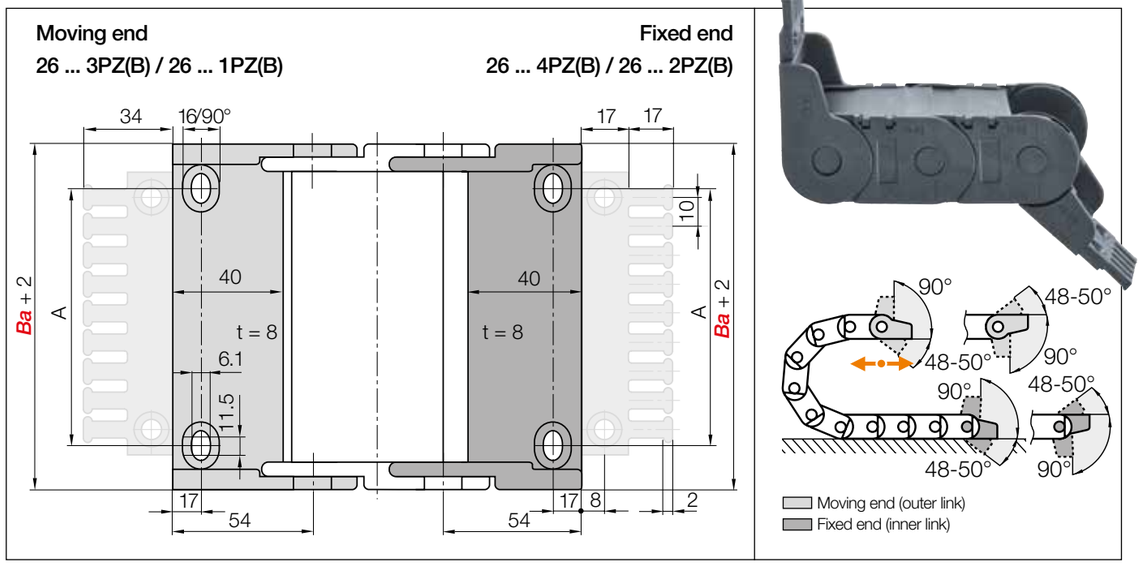
The required clearance height: $H_F = H + 35$mm (with 2.0kg/m fill weight)

*Radius available upon request. Delivery time upon request.Before using 2650/2680 series on long travels please consult igus®.

If a gliding application is required for a long travel, please consult igus®.

E2/000 | **e-tubes** 2650·2680 | Accessories

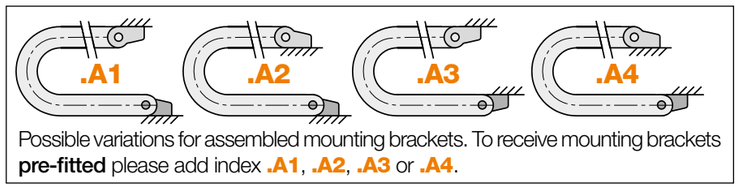
Mounting brackets, polymer | Pivoting | Locking



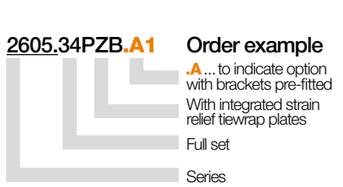
Polymer pivoting | Recommended for unsupported applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
05. ▶	2605.34PZB	2605.34PZ	2605.12PZB	2605.12PZ	30	5
06. ▶	2606.34PZB	2606.34PZ	2606.12PZB	2606.12PZ	45	5
07. ▶	2607.34PZB	2607.34PZ	2607.12PZB	2607.12PZ	55	7
09. ▶	2609.34PZB	2609.34PZ	2609.12PZB	2609.12PZ	70	9
10. ▶	2610.34PZB	2610.34PZ	2610.12PZB	2610.12PZ	80	10
12. ▶	2612.34PZB	2612.34PZ	2612.12PZB	2612.12PZ	105	12
15. ▶	2615.34PZB	2615.34PZ	2615.12PZB	2615.12PZ	130	15
17. ▶	2617.34PZB	2617.34PZ	2617.12PZB	2617.12PZ	155	17

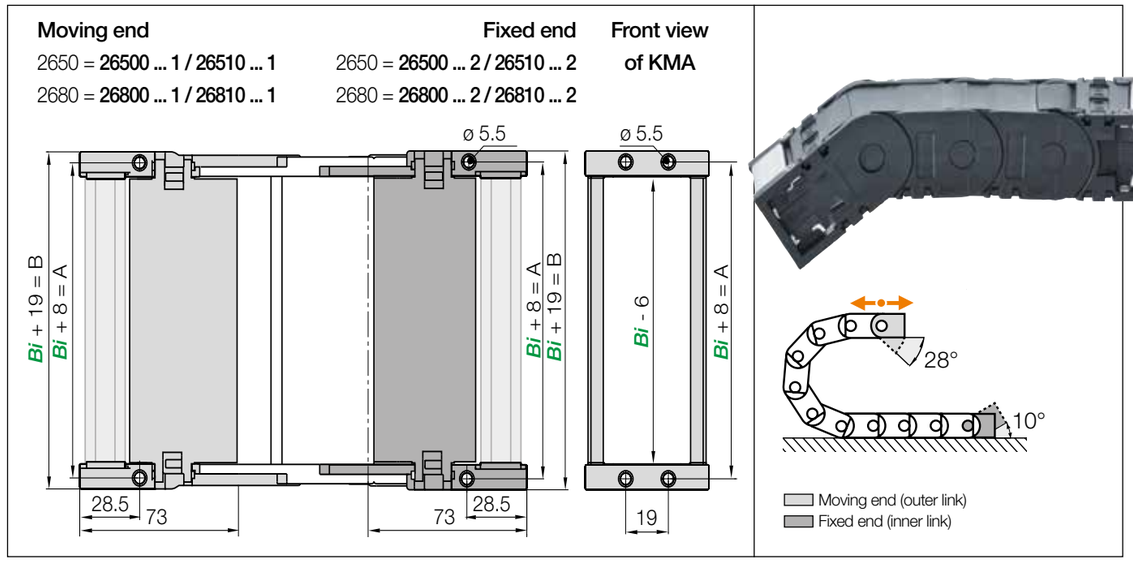
Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2605.34PZBK1**



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392



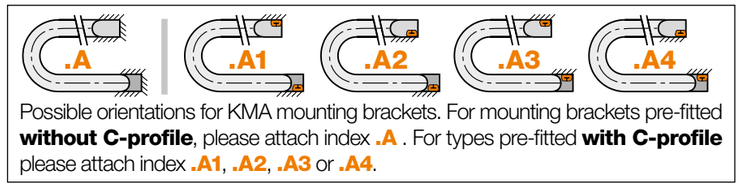
KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA **pivoting**[1] with C-profile	Part No. full set KMA **pivoting**[1] Without C-profile	Part No. full set KMA **locking**[2] with C-profile	Part No. full set KMA **locking**[2] Without C-profile	A [mm]	B [mm]
05. ▶	26500 | 26800 .05.12.C	26500 | 26800 .05.12	26510 | 26810 .05.12.C	26510 | 26810 .05.12	58	69
06. ▶	26500 | 26800 .06.12.C	26500 | 26800 .06.12	26510 | 26810 .06.12.C	26510 | 26810 .06.12	73	84
07. ▶	26500 | 26800 .07.12.C	26500 | 26800 .07.12	26510 | 26810 .07.12.C	26510 | 26810 .07.12	83	94
09. ▶	26500 | 26800 .09.12.C	26500 | 26800 .09.12	26510 | 26810 .09.12.C	26510 | 26810 .09.12	98	109
10. ▶	26500 | 26800 .10.12.C	26500 | 26800 .10.12	26510 | 26810 .10.12.C	26510 | 26810 .10.12	108	119
12. ▶	26500 | 26800 .12.12.C	26500 | 26800 .12.12	26510 | 26810 .12.12.C	26510 | 26810 .12.12	133	144
15. ▶	26500 | 26800 .15.12.C	26500 | 26800 .15.12	26510 | 26810 .15.12.C	26510 | 26810 .15.12	158	169
17. ▶	26500 | 26800 .17.12.C	26500 | 26800 .17.12	26510 | 26810 .17.12.C	26510 | 26810 .17.12	183	194

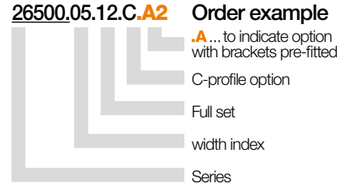
1) KMA pivoting Part No. 26500 for half e-tube series 2650 / KMA pivoting Part No. 26800 for full e-tube series 2680

2) KMA locking Part No. 26510 for half e-tube series 2650 / KMA locking Part No. 26810 for full e-tube series 2680

(KMA = polymer metal mounting bracket)



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.





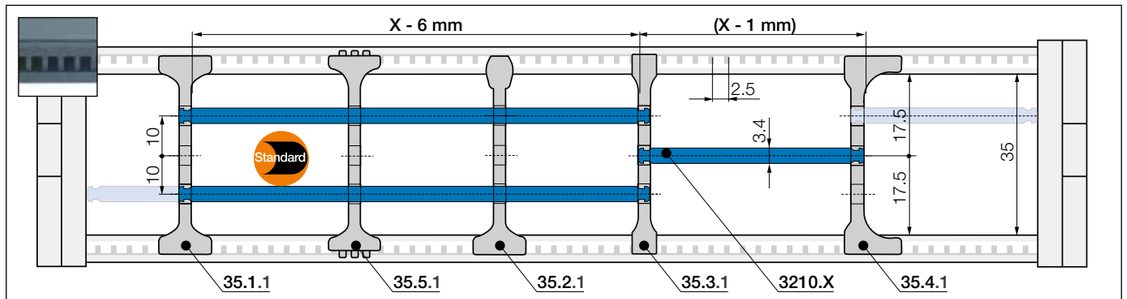
Option: steel mounting bracket, locking. For e-chains® and e-tubes, Part No. 260.12
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

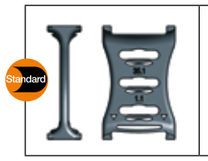
E2/000 | **e-tubes** 2650·2680 | Accessories

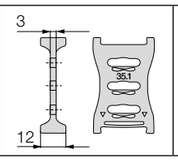
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/2650** ▶ **www.igus.eu/2680**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



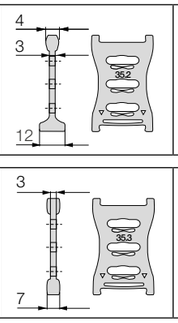


Standard separator, wide base	
unassembled	**35.1**
assembled	**35.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.





Separator, narrow top	
unassembled	**35.2**
assembled	**35.2.1**

For even faster installation

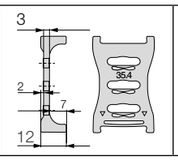
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

Separator, narrow	
unassembled	**35.3**
assembled	**35.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



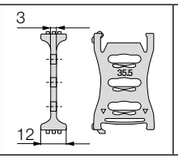


Separator, asymmetrical	
unassembled	**35.4**
assembled	**35.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

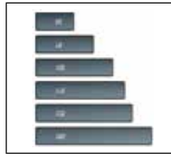


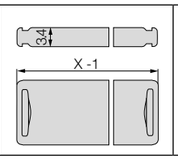


Notch separator for notched crossbar	
unassembled	**35.5**
assembled	**35.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





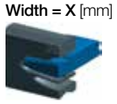
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

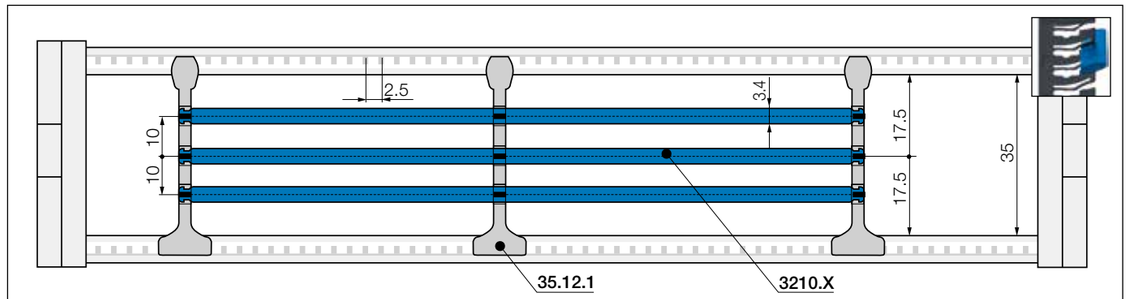


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

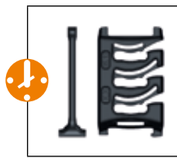
2650
2680

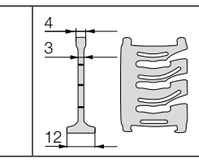
E2/000 | **e-tubes** 2650·2680 | Accessories

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





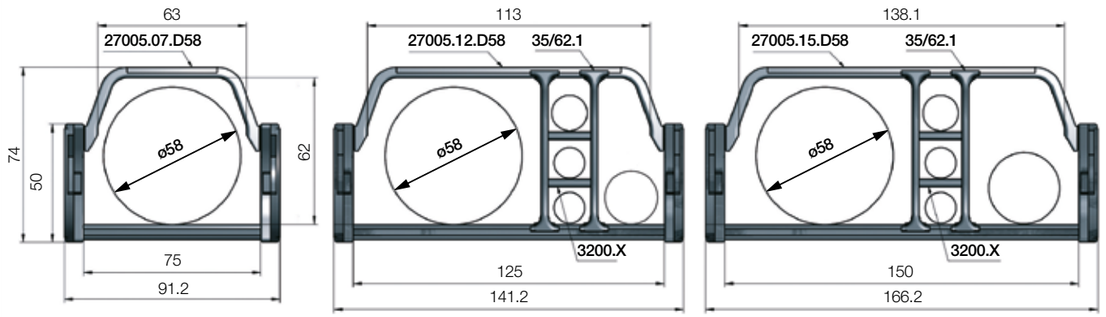
Lean separator[1)]	
unassembled	**35.12**
assembled	**35.12.1**

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



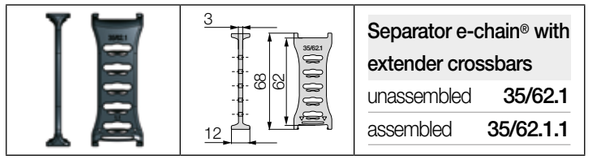


e-chains® with extender crossbars only for series 2650 - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 58mm.

Part No. half e-tubes Extender crossbars openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
2650.07 D58 .*R*.0	75	91	| 100 | 125 | 150 | 175 | 200 | 250 |
2650.12 D58 .*R*.0	125	141	| 100 | 125 | 150 | 175 | 200 | 250 |
2650.15 D58 .*R*.0	150	166	| 100 | 125 | 150 | 175 | 200 | 250 |

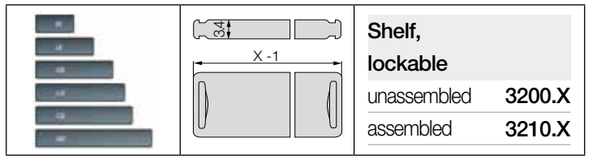
Complete Part No. with required radius (*R*). Example: **2650.15D58.100.0**

Interior separation for e-chains® with extender crossbars



Separator e-chain® with extender crossbars

unassembled	**35/62.1**
assembled	**35/62.1.1**



Shelf, lockable

unassembled	**3200.X**
assembled	**3210.X**

Standard separator, wide base

Separator with a wide base for maximum holding force. As standard separators are fitted every 2nd e-chain® link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362



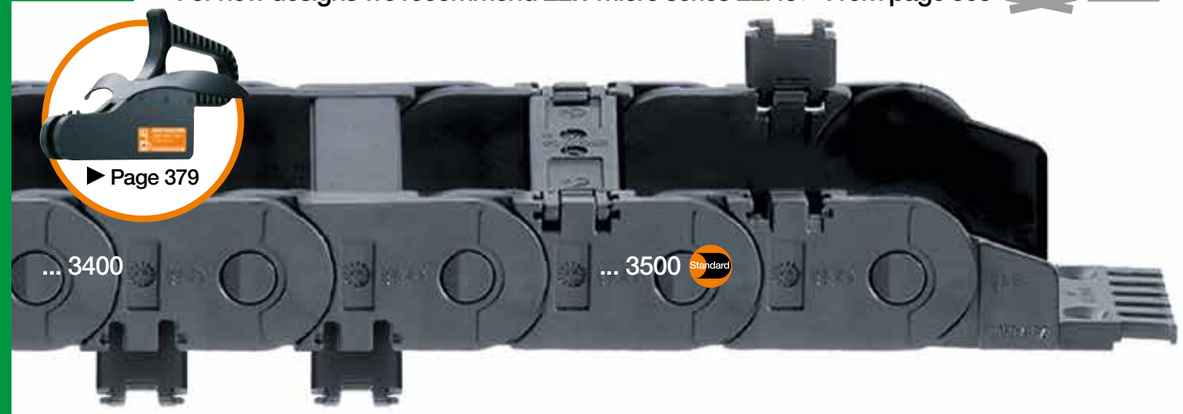


Flat knitting machine - the igus® E2/000 system is reliable even at high accelerations and for millions of cycles

E2/000 | e-chains® 3400·3500 | Product range

45 45

For new designs we recommend E2.1 micro series E2.48 ▶ From page 368



e-chains® | Series 3400 | Crossbars openable along the inner radius, from both sides
e-chains® | Series 3500 | Crossbars openable along the outer radius, from both sides

Part No. e-chains® openable along inner radius	Part No. e-chains® openable along outer radius	Bi	Ba	R Available bend radii	3400	3500
		[mm]	[mm]	[mm]	[kg/m]	[kg/m]
3400.050.R.0	3500.050.R.0	50	70	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.60	≈ 1.60
3400.075.R.0◎	3500.075.R.0	75	95	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.78	≈ 1.78
3400.100.R.0◎	3500.100.R.0	100	120	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.93	≈ 1.93
3400.115.R.0	3500.115.R.0	115	135	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 1.99	≈ 1.99
3400.125.R.0◎	3500.125.R.0	125	145	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.03	≈ 2.03
3400.150.R.0◎	3500.150.R.0	150	170	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.17	≈ 2.17
3400.175.R.0◎	3500.175.R.0	175	195	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.28	≈ 2.28
3400.200.R.0	3500.200.R.0	200	220	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.45	≈ 2.45
3400.225.R.0	3500.225.R.0	225	245	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.59	≈ 2.59
3400.250.R.0◎	3500.250.R.0	250	270	| 075 | 100 | 125 | 150 | 200 | 250 | 300 |	≈ 2.73	≈ 2.73

◎ *RBR* version (Reverse Bend Radius), some radii available from stock. More information ▶ **From page 130**

Half e-tubes, series 3450 and full e-tube series 3480 ▶ **From page 430**

Complete Part No. with required radius (*R*). Example: **3500.075.200.0**

Rotating energy supply systems with Reverse Bend Radius *(RBR)* - some radii available from stock

- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life
- Short delivery times 24hrs, from stock

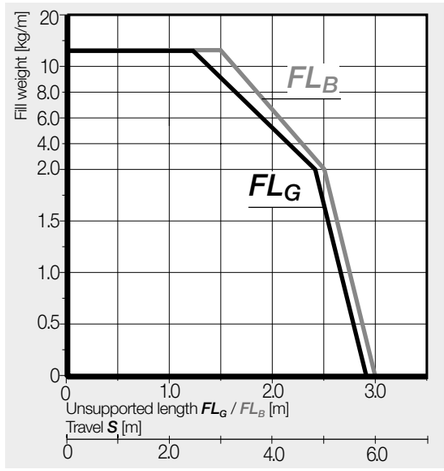
More information and the complete product range ▶ From page 130

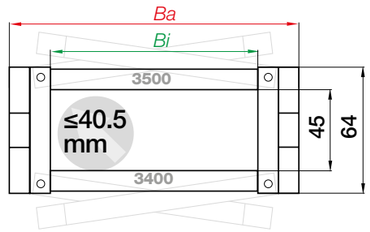


E2/000 | e-chains® 3400·3500 | Installation dimensions

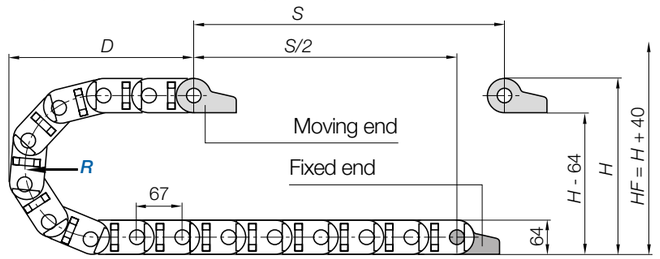
▶ 1392 ▶ 1320

Unsupported applications | Short travels





Inner height [mm]	45
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

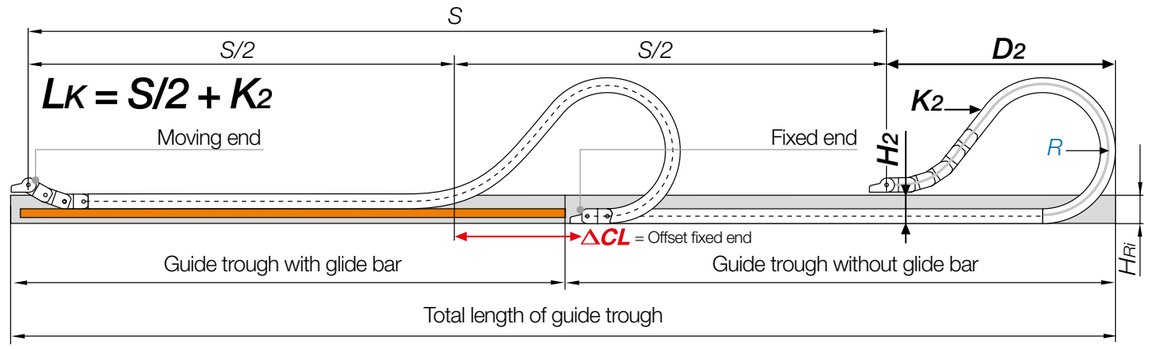


R	075	100	125	150	200	250	300
H	214	264	314	364	464	564	664
D	208	233	258	283	333	383	433
K	370	450	530	610	765	920	1,080

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

Before using series 3400 on long travels please consult igus®.

Gliding applications | For travel lengths from 10m to max. 150m



Note: Before using series 3400/3450/3480 on long travels please consult igus®.

For long travels, igus® recommends series 3500 openable along the outer radius.

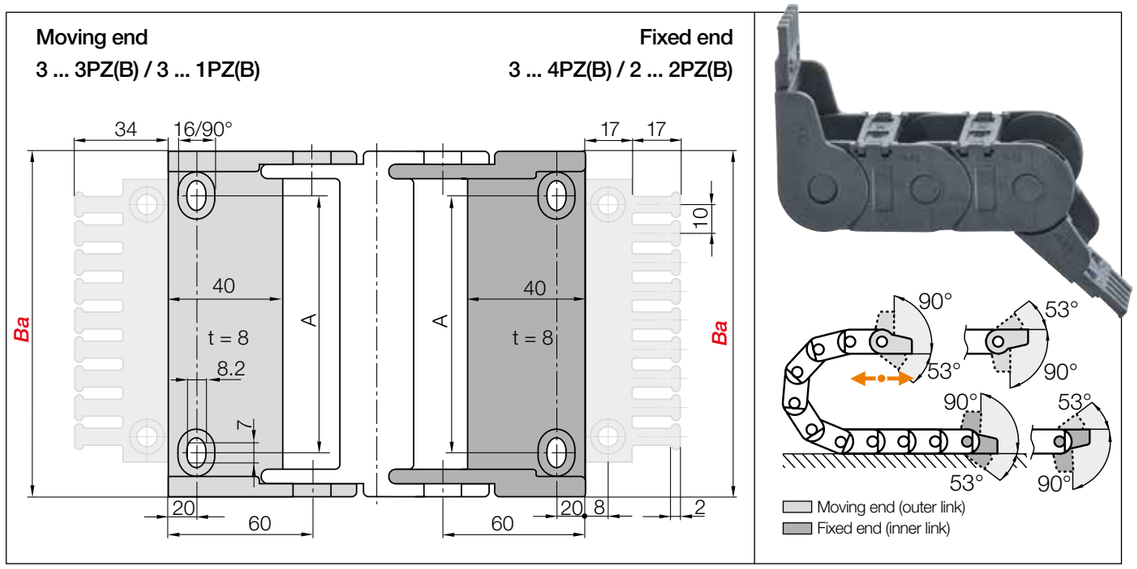
In case of travels between 6 and 10m we recommend an e-chain® with a longer unsupported length.

R	075	100	125	150	200	250	300
H_2	150	200	186	186	186	186	186
D_2^{+25}	208	233	475	570	780	1,010	1,150
K_2	370	450	804	1,005	1,340	1,675	1,943
ΔCL	–	–	233	303	463	643	733

Before using series 3400 on long travels please consult igus®.

E2/000 | e-chains® 3400·3500 | Accessories

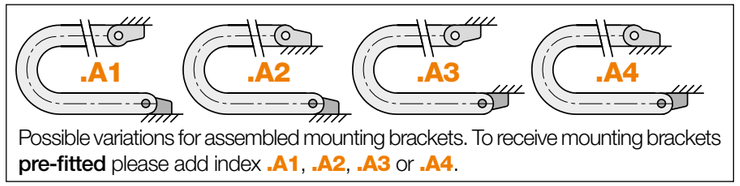
Mounting brackets, polymer | Pivoting | Locking



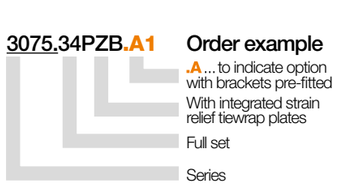
Standard **Polymer pivoting** | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
050. ▶	3050.34PZB	3050.34PZ	3050.12PZB	3050.12PZ	28	5
075. ▶	3075.34PZB	3075.34PZ	3075.12PZB	3075.12PZ	53	7
100. ▶	3100.34PZB	3100.34PZ	3100.12PZB	3100.12PZ	78	10
115. ▶	3115.34PZB	3115.34PZ	3115.12PZB	3115.12PZ	93	11
125. ▶	3125.34PZB	3125.34PZ	3125.12PZB	3125.12PZ	103	12
150. ▶	3150.34PZB	3150.34PZ	3150.12PZB	3150.12PZ	128	15
175. ▶	3175.34PZB	3175.34PZ	3175.12PZB	3175.12PZ	153	17
200. ▶	3200.34PZB	3200.34PZ	3200.12PZB	3200.12PZ	178	20
225. ▶	3225.34PZB	3225.34PZ	3225.12PZB	3225.12PZ	203	22
250. ▶	3250.34PZB	3250.34PZ	3250.12PZB	3250.12PZ	228	25

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **3250.34PZBK1**



Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



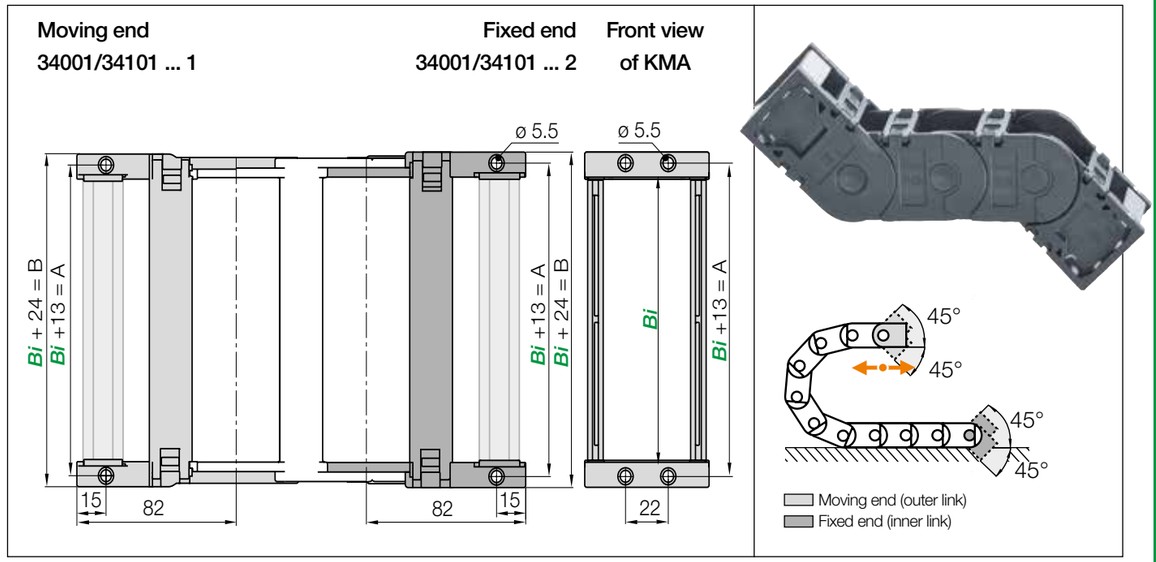
Order example

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

3400
3500

E2/000 | e-chains® 3400·3500 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

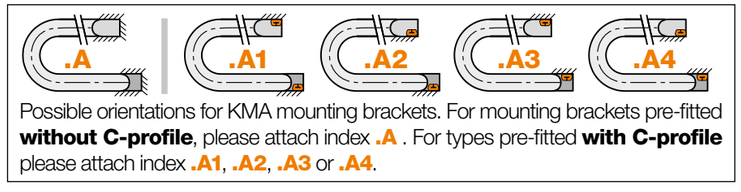


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

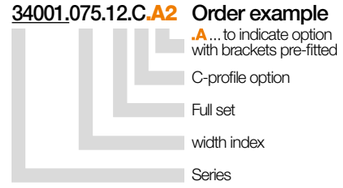
Width index	Part no. full set KMA **pivoting** with C-profile	Part no. full set KMA **pivoting** Without C-profile	Part No. full set KMA **locking** with C-profile	Part No. full set KMA **locking** Without C-profile	A [mm]	B [mm]
050. ▶	34001.050.12.C	34001.050.12	34101.050.12.C	34101.050.12	63	74
075. ▶	34001.075.12.C	34001.075.12	34101.075.12.C	34101.075.12	88	99
100. ▶	34001.100.12.C	34001.100.12	34101.100.12.C	34101.100.12	113	124
115. ▶	34001.115.12.C	34001.115.12	34101.115.12.C	34101.115.12	128	139
125. ▶	34001.125.12.C	34001.125.12	34101.125.12.C	34101.125.12	138	149
150. ▶	34001.150.12.C	34001.150.12	34101.150.12.C	34101.150.12	163	174
175. ▶	34001.175.12.C	34001.175.12	34101.175.12.C	34101.175.12	188	199
200. ▶	34001.200.12.C	34001.200.12	34101.200.12.C	34101.200.12	213	224
225. ▶	34001.225.12.C	34001.225.12	34101.225.12.C	34101.225.12	238	249
250. ▶	34001.250.12.C	34001.250.12	34101.250.12.C	34101.250.12	263	274

Option: KMA one end pivoting to the inner or outer radius: moving end Part No. 34001 ... 3 / fixed end Part No. 34001 ... 4

(KMA = polymer metal mounting bracket)



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Order example



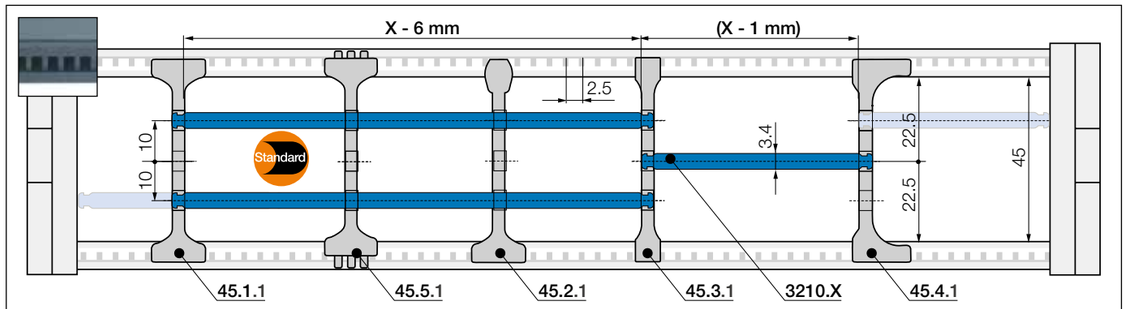
Option: steel mounting bracket, pivoting. For e-chains® and e-tubes, Part No. 3000.12
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

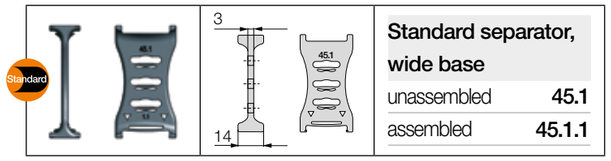
E2/000 | e-chains® 3400·3500 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ www.igus.eu/3400 ▶ www.igus.eu/3500



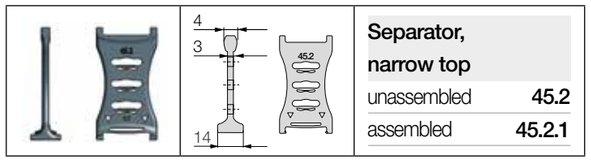
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**45.1**
assembled	**45.1.1**

Standard - for any application

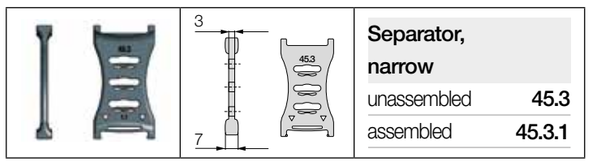
Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	**45.2**
assembled	**45.2.1**

For even faster installation

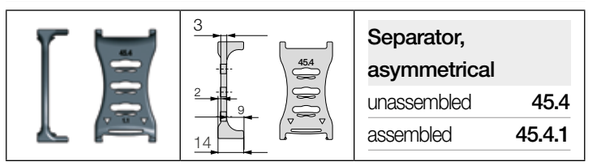
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	**45.3**
assembled	**45.3.1**

For a large number of thin cables

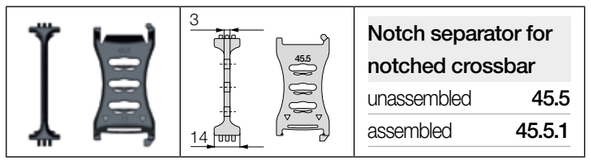
Separator with a narrow base for a large number of thin cables side by side. Saves space.



Separator, asymmetrical	
unassembled	**45.4**
assembled	**45.4.1**

For side-mounted applications

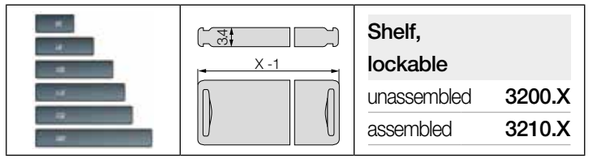
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar	
unassembled	**45.5**
assembled	**45.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



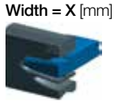
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

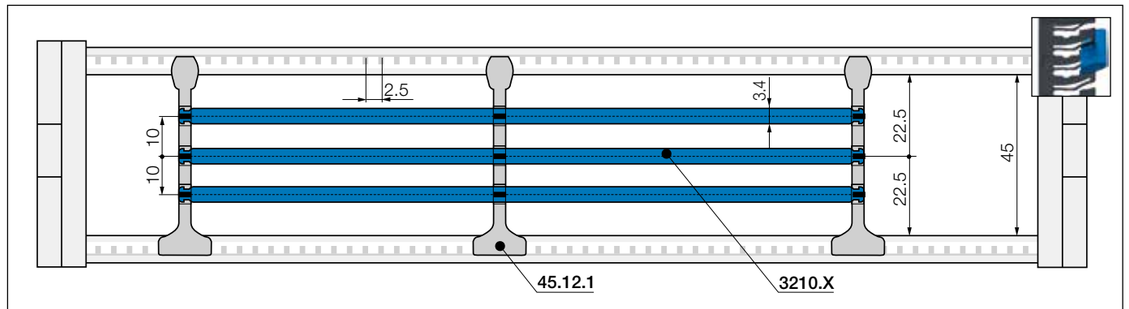


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

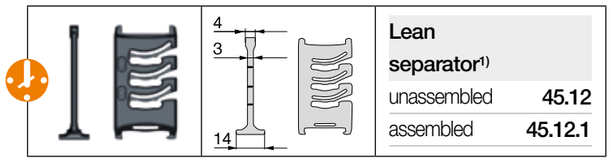
3400
3500

E2/000 | e-chains® 3400·3500 | Accessories

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Lean separator[1)]	
unassembled	**45.12**
assembled	**45.12.1**

Lean separators[1)]

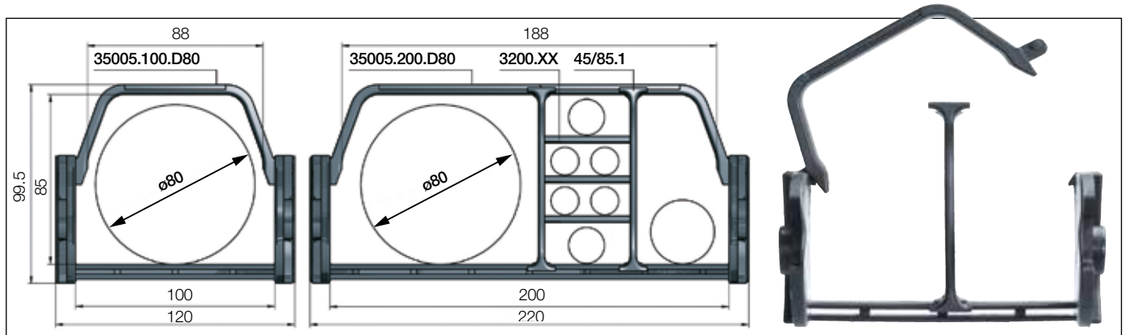
For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



E2/000 | e-chains® 3400·3500 | Further accessories

e-chains® with extender crossbar | Product Range



e-chains® with extender crossbars - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 80mm.

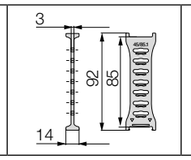
Part No. e-chains® Extender crossbars openable along inner radius	Part No. e-chains® Extender crossbars openable along outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
3400.100 D80.*R*.0	3500.100D80.*R*.0	100	120	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |
3400.200 D80.*R*.0	3500.200D80.*R*.0	200	220	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |

*Radius 075 and 100 only possible with e-chains® series 3500, openable along outer radius!

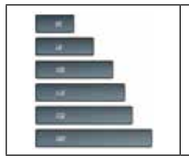
Complete Part No. with required radius (*R*). Example: **3500.100D80.200.0**

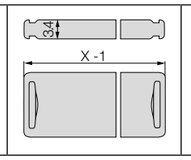
Interior separation for e-chains® with extender crossbars





Separator e-chain® with extender crossbars	
unassembled	**45/85.1**
assembled	**45/85.1.1**





Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Standard separator, wide base

Separator with a wide base for maximum holding force. As standard separators are fitted every 2nd e-chain® link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 301.Z - more information ▶ From page 1428



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356

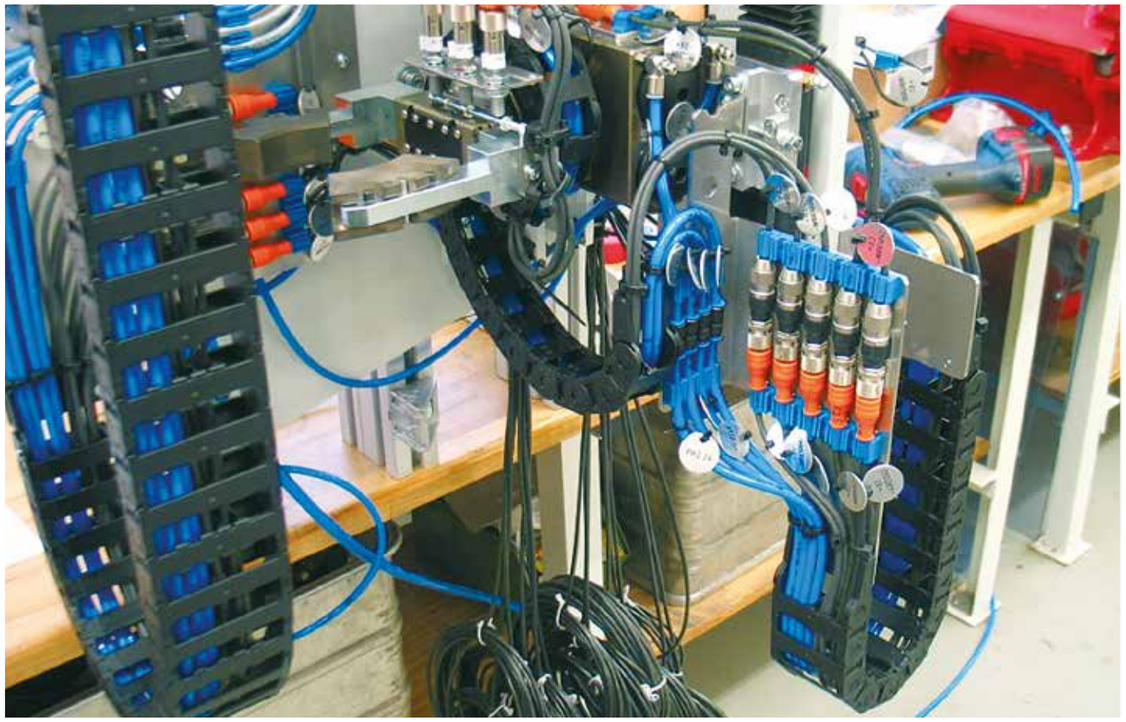


CFU strain relief with innovative honeycomb design

- Fast filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Universal use, compact, space-saving design

More information ▶ From page 1426





E2/000 - dirt-resistant e-chain®, which saves installation space - here in a machine tool for workpieces

E2/000 | e-tubes 3450·3480 | Product range

45

Protection against dirt and swarf



Half e-tubes | Series 3450 | Crossbars openable along inner radius from both sides, closed along outer radius
Full e-tubes | Series 3480 | Lids openable along inner radius from both sides, fully enclosed

Part No. half e-tubes openable along the inner radius	Part No. full e-tubes openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	3450 [kg/m]	3480 [kg/m]
3450.050.*R*.0	3480.050.*R*.0	50	70	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 1.77	≈ 1.96
3450.075.*R*.0	3480.075.*R*.0	75	95	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 1.95	≈ 2.07
3450.100.*R*.0	3480.100.*R*.0	100	120	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.15	≈ 2.30
3450.115.*R*.0	3480.115.*R*.0	115	135	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.30	≈ 2.46
3450.125.*R*.0	3480.125.*R*.0	125	145	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.42	≈ 2.49
3450.150.*R*.0	3480.150.*R*.0	150	170	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.60	≈ 2.62
3450.175.*R*.0	3480.175.*R*.0	175	195	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.75	≈ 2.80
3450.200.*R*.0	3480.200.*R*.0	200	220	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 2.90	≈ 2.94
3450.225.*R*.0	3480.225.*R*.0	225	245	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 3.12	≈ 3.15
3450.250.*R*.0	3480.250.*R*.0	250	270	| 075* | 100* | 125 | 150 | 200 | 250 | 300 |	≈ 3.30	≈ 3.28

*Radius available upon request. Delivery time upon request.

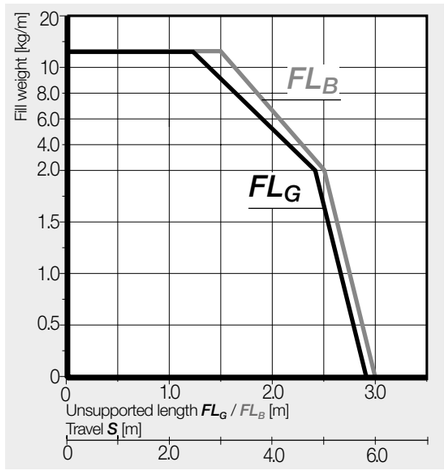
Radii 075, 100: the e-tube is not completely enclosed. Please consult igus®.

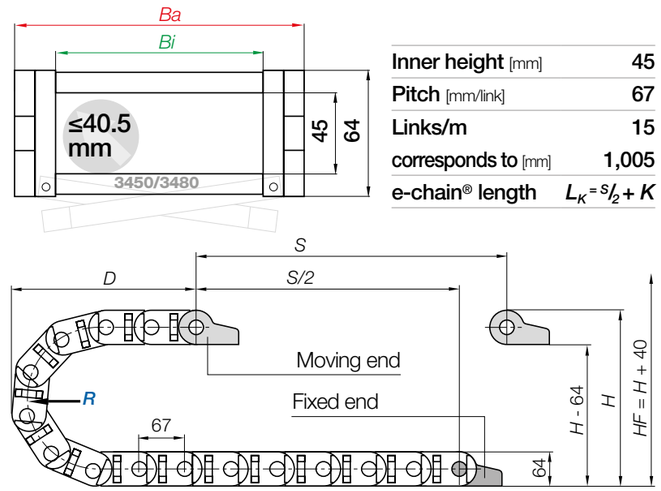
Complete Part No. with required radius (*R*). Example: **3450.075.200.0**

E2/000 | e-tubes 3450·3480 | Installation dimensions

▶ 1392

Unsupported applications | Short travels





	Inner height [mm]	45
	Pitch [mm/link]	67
	Links/m	15
	corresponds to [mm]	1,005
	e-chain® length	$L_K = S/2 + K$

R	075*	100*	125	150	200	250	300
H	214	264	314	364	464	564	664
D	208	233	258	283	333	383	433
K	370	450	530	610	765	920	1,080

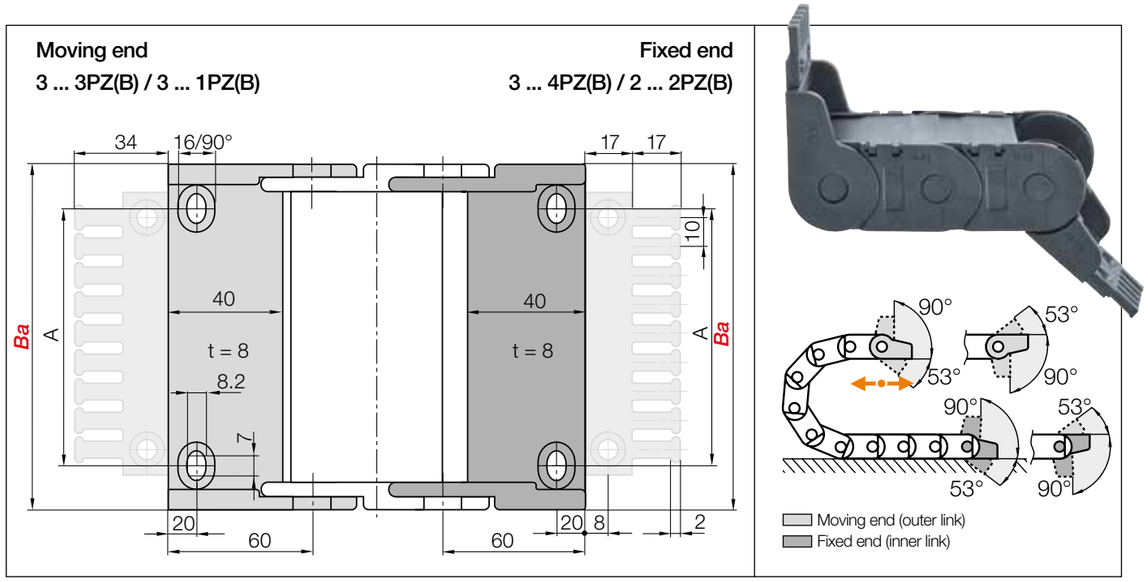
The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

*Radius available upon request. Delivery time upon request.Before using 3450/3480 series on long travels please consult igus®.

If a gliding application is required for a long travel, please consult igus®.

E2/000 | **e-tubes** 3450·3480 | Accessories

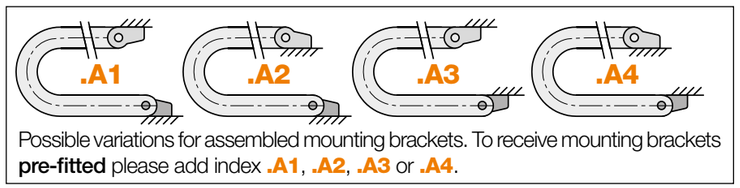
Mounting brackets, polymer | Pivoting | Locking



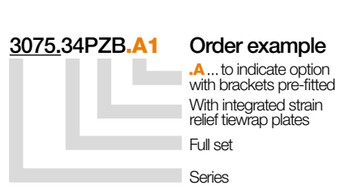
Standard **Polymer pivoting** | Recommended for unsupported applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
050. ▶	**3050.34PZB**	**3050.34PZ**	**3050.12PZB**	**3050.12PZ**	28	5
075. ▶	**3075.34PZB**	**3075.34PZ**	**3075.12PZB**	**3075.12PZ**	53	7
100. ▶	**3100.34PZB**	**3100.34PZ**	**3100.12PZB**	**3100.12PZ**	78	10
115. ▶	**3115.34PZB**	**3115.34PZ**	**3115.12PZB**	**3115.12PZ**	93	11
125. ▶	**3125.34PZB**	**3125.34PZ**	**3125.12PZB**	**3125.12PZ**	103	12
150. ▶	**3150.34PZB**	**3150.34PZ**	**3150.12PZB**	**3150.12PZ**	128	15
175. ▶	**3175.34PZB**	**3175.34PZ**	**3175.12PZB**	**3175.12PZ**	153	17
200. ▶	**3200.34PZB**	**3200.34PZ**	**3200.12PZB**	**3200.12PZ**	178	20
225. ▶	**3225.34PZB**	**3225.34PZ**	**3225.12PZB**	**3225.12PZ**	203	22
250. ▶	**3250.34PZB**	**3250.34PZ**	**3250.12PZB**	**3250.12PZ**	228	25

Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **3250.34PZBK1**

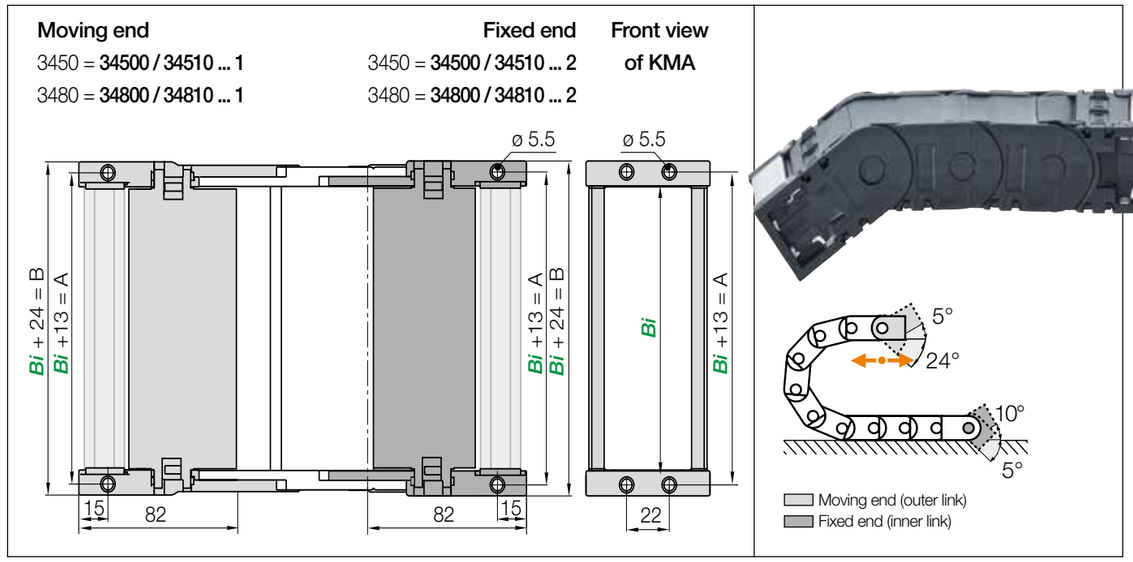


Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Order example

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**



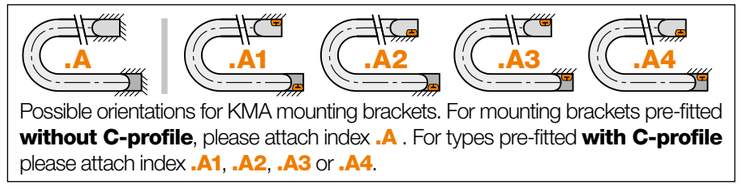
Standard **KMA pivoting** | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA **pivoting**[1] **with C-profile**	Part No. full set KMA **pivoting**[1] **Without C-profile**	Part No. full set KMA **locking**[2] **with C-profile**	Part No. full set KMA **locking**[2] **Without C-profile**	A [mm]	B [mm]
050. ▶	**34500 | 34800 .050.12.C**	**34500 | 34800 .050.12**	**34510 | 34810 .050.12.C**	**34510 | 34810 .050.12**	63	74
075. ▶	**34500 | 34800 .075.12.C**	**34500 | 34800 .075.12**	**34510 | 34810 .075.12.C**	**34510 | 34810 .075.12**	88	99
100. ▶	**34500 | 34800 .100.12.C**	**34500 | 34800 .100.12**	**34510 | 34810 .100.12.C**	**34510 | 34810 .100.12**	113	124
115. ▶	**34500 | 34800 .115.12.C**	**34500 | 34800 .115.12**	**34510 | 34810 .115.12.C**	**34510 | 34810 .115.12**	128	139
125. ▶	**34500 | 34800 .125.12.C**	**34500 | 34800 .125.12**	**34510 | 34810 .125.12.C**	**34510 | 34810 .125.12**	138	149
150. ▶	**34500 | 34800 .150.12.C**	**34500 | 34800 .150.12**	**34510 | 34810 .150.12.C**	**34510 | 34810 .150.12**	163	174
175. ▶	**34500 | 34800 .175.12.C**	**34500 | 34800 .175.12**	**34510 | 34810 .175.12.C**	**34510 | 34810 .175.12**	188	199
200. ▶	**34500 | 34800 .200.12.C**	**34500 | 34800 .200.12**	**34510 | 34810 .200.12.C**	**34510 | 34810 .200.12**	213	224
225. ▶	**34500 | 34800 .225.12.C**	**34500 | 34800 .225.12**	**34510 | 34810 .225.12.C**	**34510 | 34810 .225.12**	238	249
250. ▶	**34500 | 34800 .250.12.C**	**34500 | 34800 .250.12**	**34510 | 34810 .250.12.C**	**34510 | 34810 .250.12**	263	274

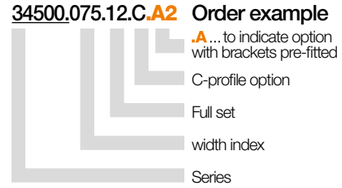
1) KMA pivoting Part No. 34500 for half e-tube series 3450 / KMA pivoting Part No. 34800 for full e-tube series 3480

2) KMA locking Part No. 34510 for half e-tube series 3450 / KMA locking Part No. 34810 for full e-tube series 3480

(KMA = polymer metal mounting bracket)



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Order example



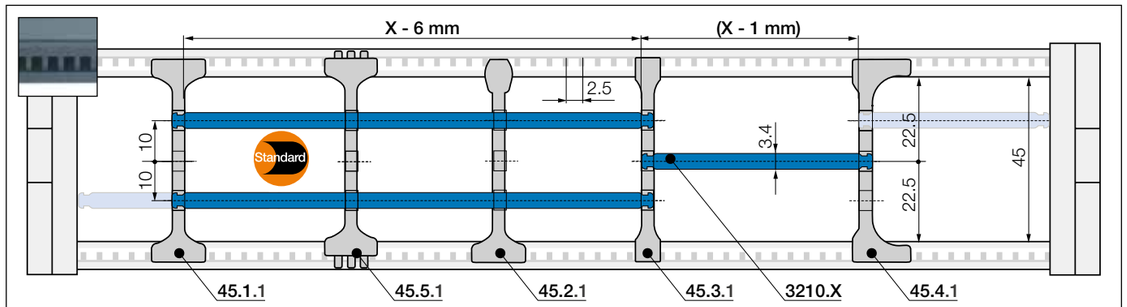
Option: steel mounting bracket, pivoting. For e-chains® and e-tubes, Part No. 3000.12
● Locking connections ● One part (2-piece) for all e-chain® widths ● Electrically conductive

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

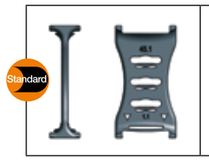
E2/000 | **e-tubes** 3450·3480 | Accessories

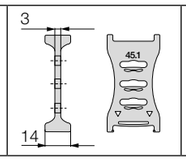
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/3450** ▶ **www.igus.eu/3480**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



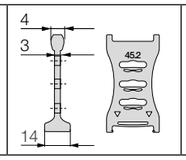


Standard separator, wide base	
unassembled	**45.1**
assembled	**45.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



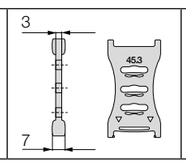


Separator, narrow top	
unassembled	**45.2**
assembled	**45.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



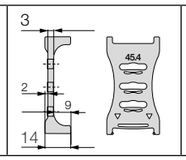


Separator, narrow	
unassembled	**45.3**
assembled	**45.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



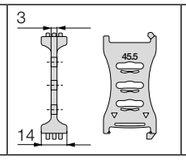


Separator, asymmetrical	
unassembled	**45.4**
assembled	**45.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

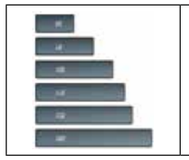


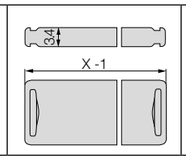


Notch separator for notched crossbar	
unassembled	**45.5**
assembled	**45.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





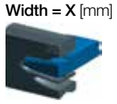
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

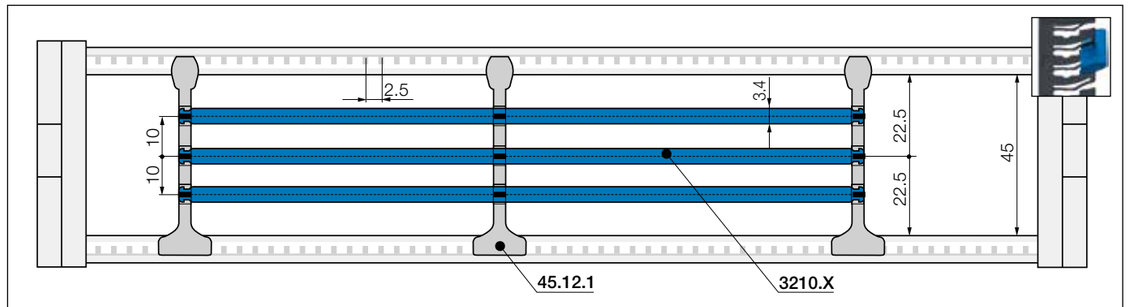
Shelves

Width = X [mm]



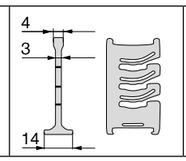
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Lean separator[1)]	
unassembled	**45.12**
assembled	**45.12.1**

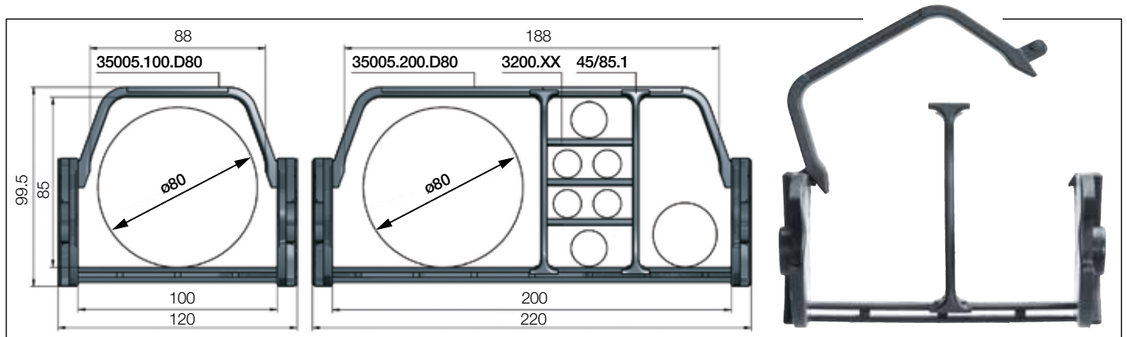
Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



e-chains® with extender crossbar | Product Range



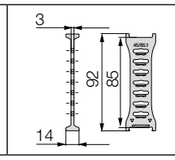
e-chains® with extender crossbars only for series 3450 - large increase of the interior space for the smooth guiding of large hoses. Suitable for hoses with a maximum outer diameter of 80mm.

Part No. half e-tubes Extender crossbars openable along the inner radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]
3450.100 D80.*R*.0	100	120	| 125 | 150 | 200 | 250 | 300 |
3450.200 D80.*R*.0	200	220	| 125 | 150 | 200 | 250 | 300 |

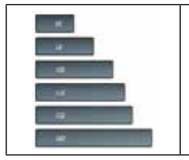
Complete Part No. with required radius (*R*). Example: **3450.100D80.200.0**

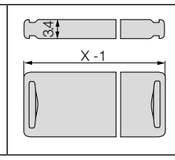
Interior separation for e-chains® with extender crossbars





Separator e-chain® with extender crossbars	
unassembled	**45/85.1**
assembled	**45/85.1.1**





Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Standard separator, wide base

Separator with a wide base for maximum holding force. As standard separators are fitted every 2nd e-chain® link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 34501.Z - more information ▶ From page 1428



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



CFU strain relief with innovative honeycomb design

- Fast filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Universal use, compact, space-saving design

More information ▶ From page 1426





E2/000 - robust energy supply even with constant air draught and the resulting pendulum movements in this 160m lift for the Post Tower, Bonn

E2 medium | e-chains® 255 | Product range

Small pitch, smooth running

24



e-chains® | Series 255 | Crossbars openable along the outer radius, from one side

Part No.	Bi	Ba	R Available bend radii	255
e-chains®	[mm]	[mm]	[mm]	[kg/m]
255. 03 .R.0	38	54	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.81
255. 05 .R.0	57	73	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 0.90
255. 07 .R.0	77	93	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.01
255. 10 .R.0	103	119	| 055 | 075 | 100 | 125 | 150 | 175 | 200 | 225 | 250 |	≈ 1.15

Complete Part No. with required radius (*R*). Example: **255.10.200.0**

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

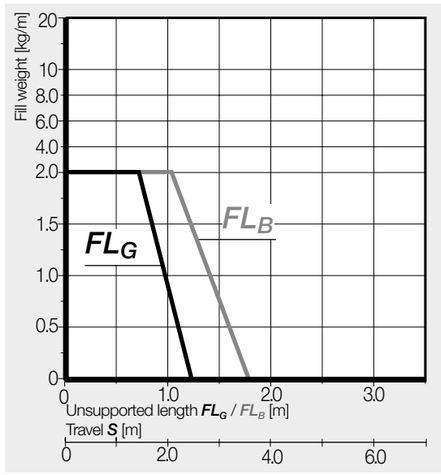
More information ▶ From page 1362

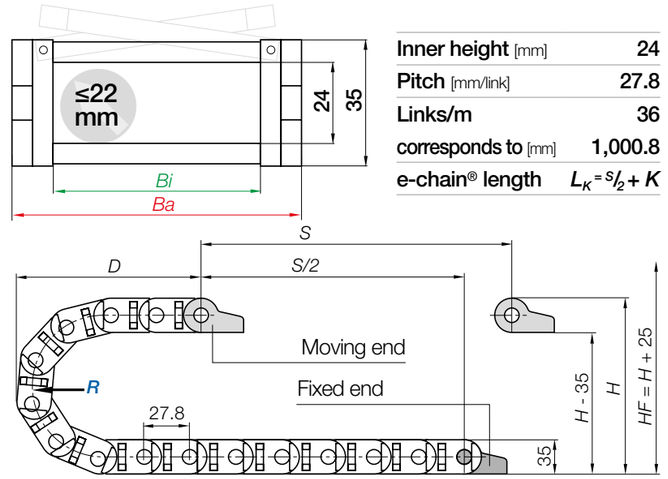


E2 medium | e-chains® 255 | Installation dimensions

Unsupported applications | Short travels

▶ 1392 ▶ 1334



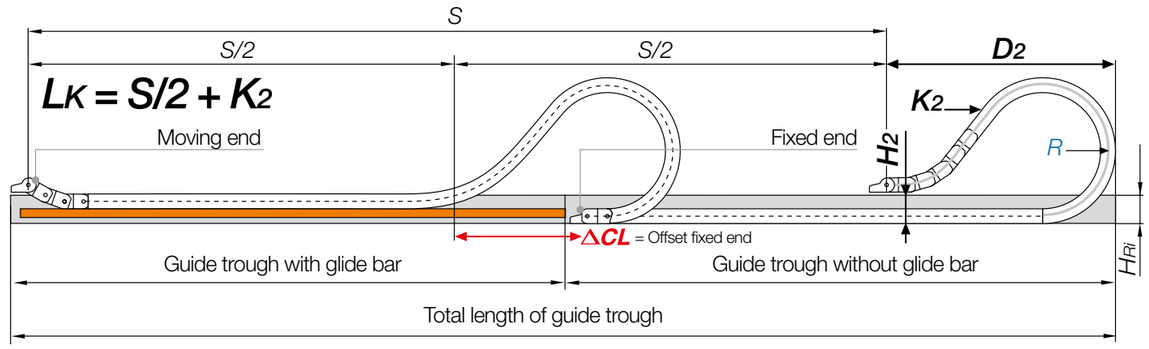


Inner height [mm]	24
Pitch [mm/link]	27.8
Links/m	36
corresponds to [mm]	1,000.8
e-chain® length	$L_K = S/2 + K$

R	055	075	100	125	150	175	200	225	250
H^{+4}_{0}	145	185	235	285	335	385	435	485	535
D	114	134	159	184	209	234	259	284	309
K	230	295	370	450	530	610	685	765	845

The required clearance height: $H_F = H + 25$mm (with 1.5kg/m fill weight)

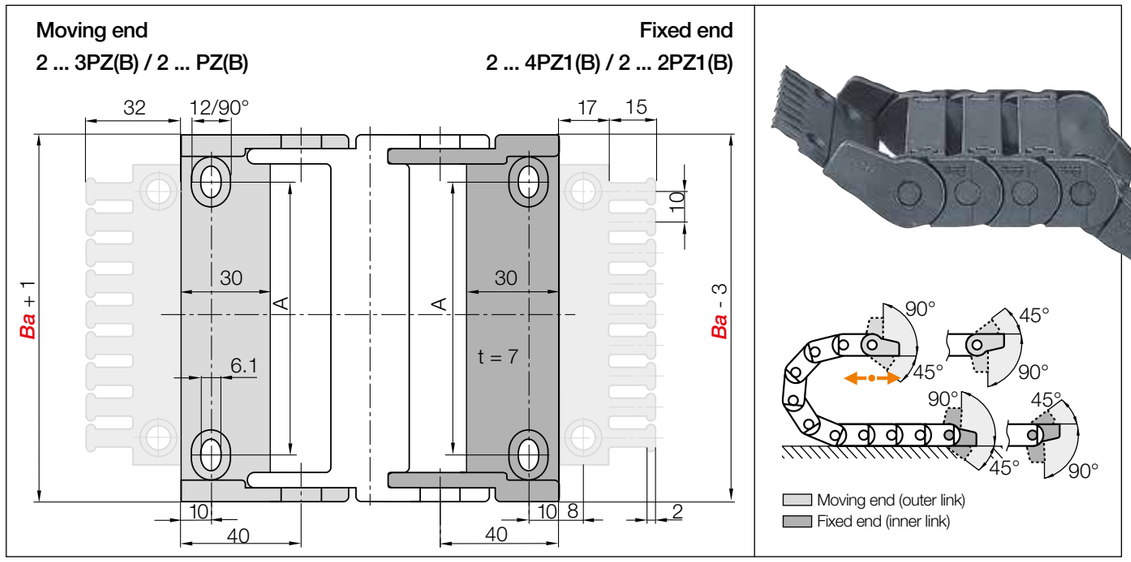
Gliding applications | For travel lengths from 10m to max. 100m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	055	075	100	125	150	175	200	225	250
H_2	110	150	100	100	100	100	100	100	100
D_2^{+25}	114	134	380	495	570	665	740	1,040	1,130
K_2	230	295	612	806	945	1,112	1,223	1,610	1,779
ΔCL	–	–	222	322	372	437	497	*	822

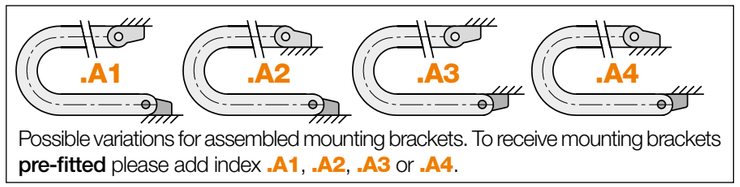
*upon request



Polymer pivoting | Recommended for unsupported and gliding applications
Polymer locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **pivoting** with tiewrap plates	Part No. full set **pivoting** without tiewrap plates	Part No. full set **locking** with tiewrap plates	Part No. full set **locking** without tiewrap plates	A [mm]	Number of teeth
03.	**2030.34PZ1B**	**2030.34PZ1**	**2030.12PZ1B**	**2030.12PZ1**	25	4
05.	**2050.34PZ1B**	**2050.34PZ1**	**2050.12PZ1B**	**2050.12PZ1**	44	6
07.	**2070.34PZ1B**	**2070.34PZ1**	**2070.12PZ1B**	**2070.12PZ1**	64	8
10.	**2100.34PZ1B**	**2100.34PZ1**	**2100.12PZ1B**	**2100.12PZ1**	90	10

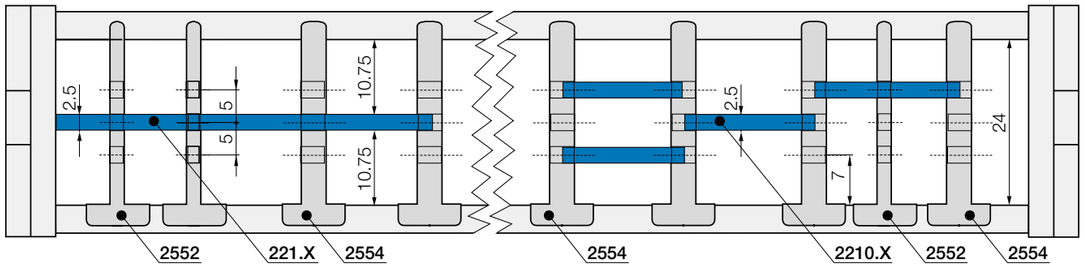
Full set with tiewrap plate + 10 cable tiewraps, please add index **K1**. Example: **2030.34PZB<u>K1</u>**



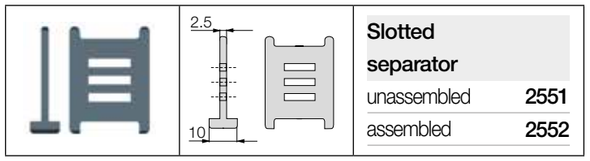
Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

2100.34PZ1B.A1 Order example
- **.A** ... to indicate option with brackets pre-fitted
- With integrated strain relief tiewrap plates
- Full set
- Series

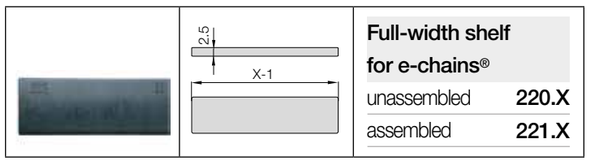
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	**2551**
assembled	**2552**



Full-width shelf for e-chains®	
unassembled	**220.X**
assembled	**221.X**

Option 1 | Full-width shelves

Slotted separator

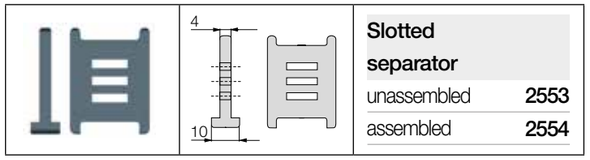
Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.

Full-width shelf

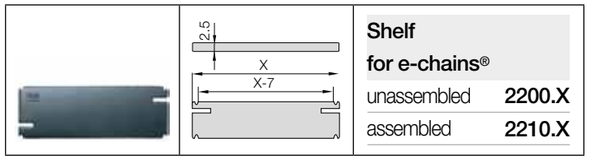
This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
038	**220.38**	**221.38**	077	**220.77**	**221.77**
057	**220.57**	**221.57**	103	**220.103**	**221.103**



Slotted separator	
unassembled	**2553**
assembled	**2554**



Shelf for e-chains®	
unassembled	**2200.X**
assembled	**2210.X**

Option 2 | Shelves

Slotted separator

Vertical separation in e-chains®. The slot allows basic vertical/ horizontal shelving arrangements.

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	038	**2200.38**	**2210.38**	068	**2200.68**	**2210.68**
023	**2200.23**	**2210.23**	043	**2200.43**	**2210.43**	073	**2200.73**	**2210.73**
028	**2200.28**	**2210.28**	048	**2200.48**	**2210.48**	088	**2200.88**	**2210.88**
033	**2200.33**	**2210.33**	058	**2200.58**	**2210.58**	099	**2200.99**	**2210.99**

R2.1

Protection against dust and dirt ingress and quickly openable

Advantages of the R2.1 system:

- Very light, ideal for high dynamics
- Large inner height and therefore cost-effective
- Cables are protected from swarf
- Easy to fill, lids openable along the inner or outer radius, from both sides
- Low noise operation due to integrated brake
- Integrated separator, recommended for side-mounted applications

When to use another e-tube:

- Extremely swarf-resistant according to IP40
  ▶ **RX e-tubes, page 516**
- For higher fill weights and unsupported lengths
  ▶ **R4.1L e-tubes, page 538**

reddot design award
winner 2018





Protection against dust and dirt ingress and quickly openable - R2.1

Cost-effective, robust e-tubes with an inner height of 26, 40, 48 or 75mm. Openable and removable lids along inner or outer radius, openable from both sides. Designed to provide a tight seal, with strong double stop-dogs for high fill weights and unsupported lengths.

- Large inner height and therefore cost-effective
- Cables are protected from swarf
- Easy to fill, lids openable from both sides along the inner or outer radius
- Low noise operation due to integrated brake
- Integrated separator, recommended for side-mounted applications

Typical industries and applications

● Machine tools ● Wood processing machines ● Textile machines ● General mechanical engineering ● In all areas with dirt and swarf

e-tubes made from igumid HT material for hot swarf of up to +850 °C available upon request

Electrically conductive ESD e-tubes upon request

UL94-V0 classification upon request

reddot design award
winner 2018

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
R2i.1 e-tubes - lids openable along the inner radius, from both sides							
R2i.26	26	25 - 75	41 - 91	36	060 - 250	2.00	**450**
R2i.40	40	50 - 175	66.2 - 191.2	54	080 - 250	2.75	**454**
R2i.48	48	100 - 250	120 - 270	64	100 - 300	2.75	**458**
							
R2.1 e-tubes - lids openable along the outer radius, from both sides							
R2.26	26	50 - 100	66 - 116	36	060 - 250	2.00	**450**
R2.40	40	75 - 175	91.2 - 191.2	54	080 - 250	2.75	**454**
R2.48	48	100 - 250	120 - 270	64	100 - 300	2.75	**458**
R2.75	75	111 - 200	135 - 224	90	130 - 250	3.00	**462**

Available from stock. Ready to ship in 48 - 72hrs.*

*Average time before the ordered goods are dispatched.



Ideal for areas with swarf - R2.1 e-tubes are extremely tightly sealed



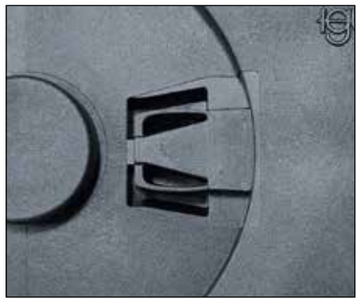
R2.1L e-tubes - lids with integrated separator notches openable along the inner and outer radius, either both sides



Pivoting and locking KMA mounting brackets for strong connection of the e-tube to the machine



Ideal for areas with swarf - R2.1 e-tubes are extremely tightly sealed



Special brake in the stop-dogs reduces noise level by up to 3dB(A)

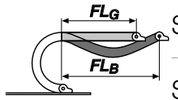


Aluminium support trays for support of the lower run ▶ **From page 1362**



Lean separators enable extremely fast cable filling in several layers

Technical data



Speed gliding[1] / acceleration gliding[1]	upon request
Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 100 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) If a gliding application is required for a long travel, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported
R2.26 / R2i.26	≤ 4.0m	≤ 30m	≤ 2.0m	≤ 0.7m
R2.40 / R2i.40	≤ 5.5m	≤ 40m	≤ 3.0m	≤ 1.0m
R2.48 / R2i.48	≤ 5.5m	≤ 50m	≤ 3.0m	≤ 1.0m
R2.75	≤ 6.0m	≤ 50m	≤ 5.0m	≤ 2.0m

R2.1 e-tubes | Options and order keys

Options with order keys | Examples based on series R2.75

	Standard	*NC version - (No Camber) without pretension*	*e-tube - no burning-in of hot swarf up to 850°C*	*ESD - electrically conductive material*
	Part No. Standard	**Part No. NC version**	**Part No. igumid HT**	**Part No. igumid ESD**
	R2.75.111.*R*.0	R2.75.111.*R*.0.**NC**	R2.75.111.*R*.0.**HT**	R2.75.111.*R*.0.**ESD**
	Ready to ship in 48-72hrs.*	Ready to ship in 5 business days*	Ready to ship in 6 weeks*	Delivery time upon request

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series R2.75

Order example for complete e-tube (1.0m), colour black, with mounting brackets and interior separation:

e-tube (1.0m)	Please indicate e-tube length or number of links: 1.0m or 17 links	R2.75.111.130.0
+ Mounting brackets	KMA - 1 set	R2.750.111.12
Interior separation	with 2 separators assembled every 2nd link	2 x 75.1.1
Order text:	**1m R2.75.111.130.0 + R2.750.111.12 + 2 x 75.1.1**	

Order key

R2.75.111.130.0

- Openable from both sides along the outer radius
- Series / Type
- Inner height
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

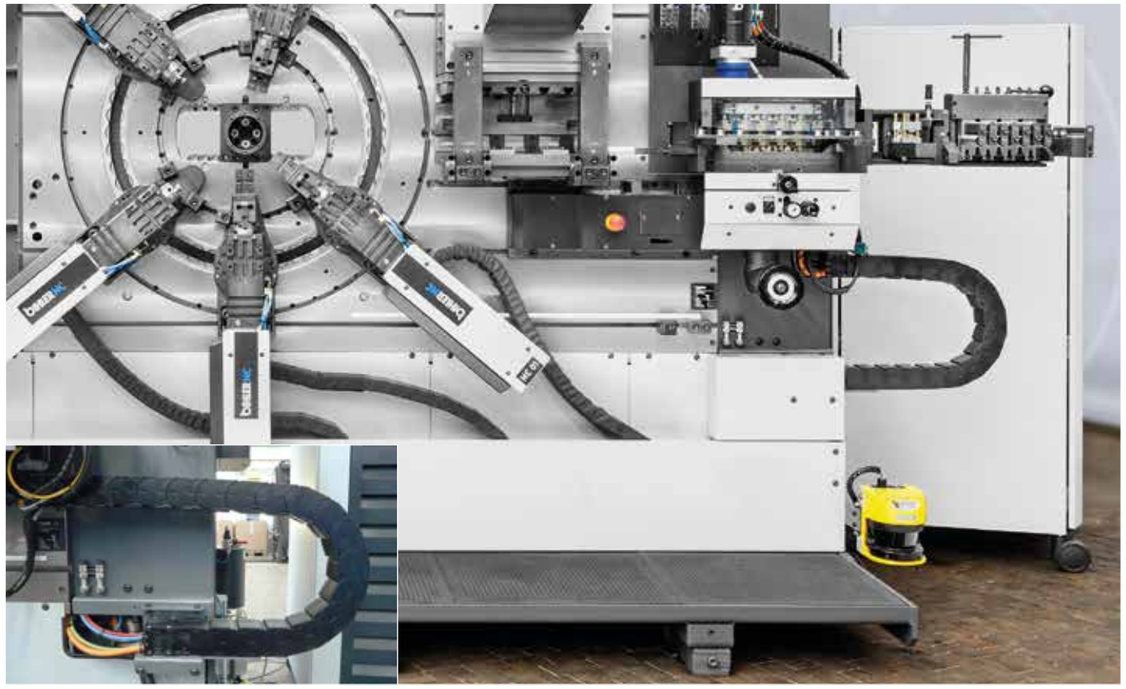
Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 48-72hrs.*

Above special colours upon request.

R2.1 e-tube | Application example



igus® R2.1 e-tube in operation in a machine for stamping and bending. This allows the individual units to be moved and positioned electrically

R2.1 e-tubes | R2i.26 R2.26 | Product range

Protection against dust and dirt ingress and quickly openable



e-tubes | Series R2i.26 | Lids openable along the inner radius, from both sides
e-tubes | Series R2.26 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]	R2i.26 [kg/m]	R2.26 [kg/m]
R2i.26.025.R.0	R2.26.025.R.0*	25	41	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 0.870	≈ 0.870
R2i.26.038.R.0	R2.26.038.R.0*	38	54	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 0.957	≈ 0.957
R2i.26.050.R.0	R2.26.050.R.0	50	66	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.044	≈ 1.044
R2i.26.075.R.0	R2.26.075.R.0	75	91	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.218	≈ 1.218
R2i.26.100.R.0*	R2.26.100.R.0	100	116	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.392	≈ 1.392
R2i.26.130.R.0*	R2.26.130.R.0*	130	146	| 060 | 075 | 100 | 125 | 150 | 175 | 200 | 250 |	≈ 1.600	≈ 1.600

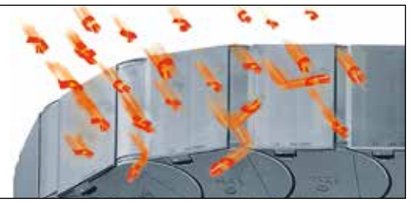
*Width available upon request. Delivery time upon request.

Complete Part No. with required radius (*R*). Example: **R2i.26.050.060.0**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

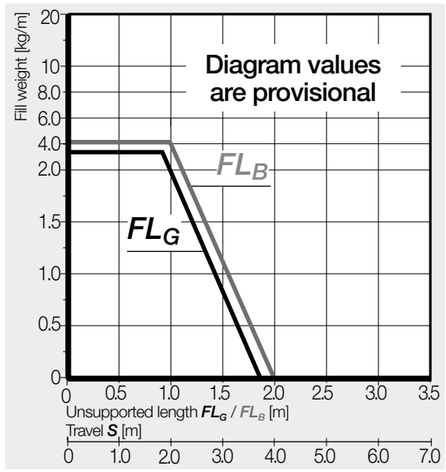
More information ▶ www.igus.eu/HT

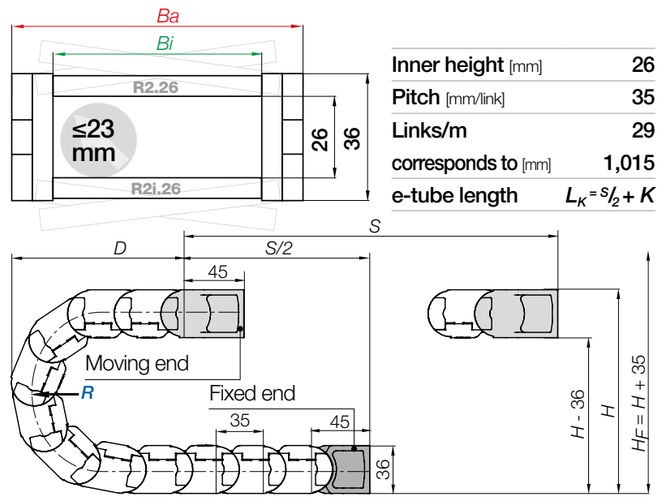


R2.1 e-tubes | R2i.26·R2.26 | Installation dimensions

▶ 1392

Unsupported applications | Short travels





Inner height [mm]	26
Pitch [mm/link]	35
Links/m	29
corresponds to [mm]	1,015
e-tube length	$L_K = S/2 + K$

R	060	075	100	125	150	175	200	250
H	156	186	236	286	336	386	436	536
D	130.5	145.5	170.5	195.5	220.5	245.5	270	320.5
K	260	310	385	465	545	620	700	860

The required clearance height: $H_F = H + 35$mm (with 1.5kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

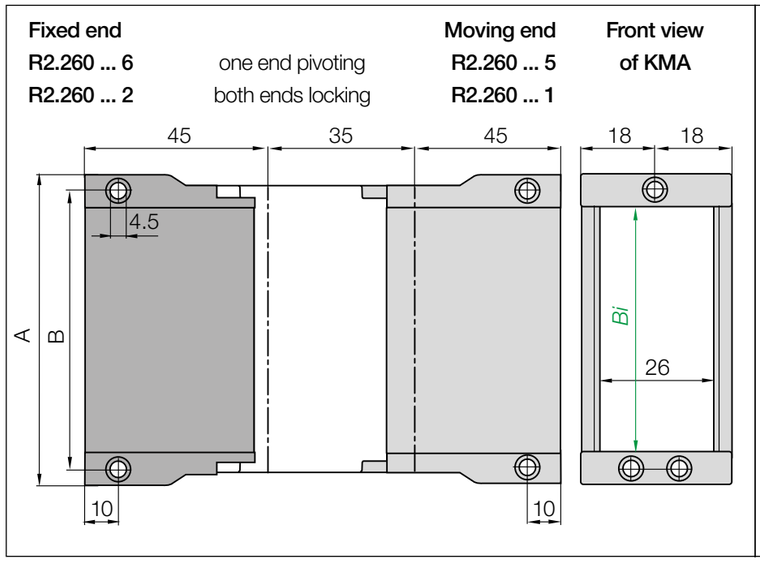
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

More information ▶ From page 1362

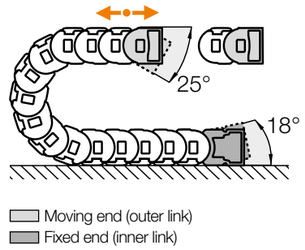


R2.1 e-tubes | Series R2i.26·R2.26 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking





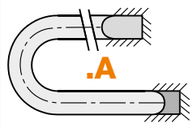


KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA one end pivoting	Part No. full set KMA locking	A [mm]	B [mm]	Bi [mm]
025. ▶	R2.260.025.56	R2.260.025.12	43	34.5	25
038. ▶	R2.260.038.56	R2.260.038.12	56	47.5	38
050. ▶	R2.260.050.56	R2.260.050.12	68	59.5	50
075. ▶	R2.260.075.56	R2.260.075.12	93	84.5	75
100. ▶	R2.260.100.56	R2.260.100.12	118	109.5	100
130. ▶	R2.260.130.56*	R2.260.130.12*	148	139.5	130

*Width available upon request. Delivery time upon request.

(KMA = polymer metal mounting bracket)



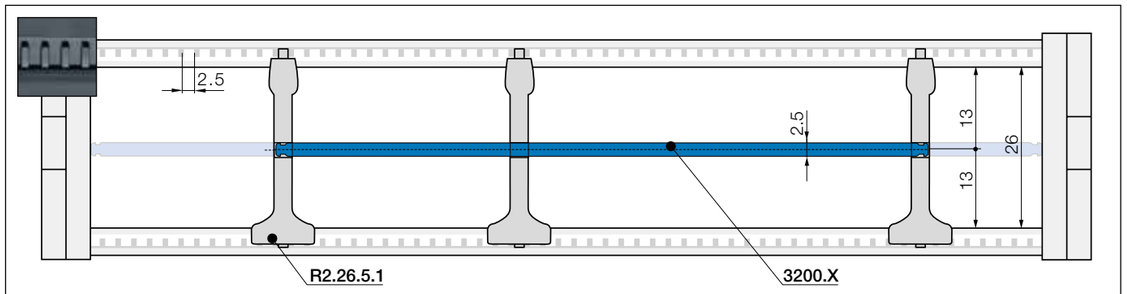
The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .

R2.260.050.12.A **Order example**
- Pre-assembled
- Full set
- width index
- Series

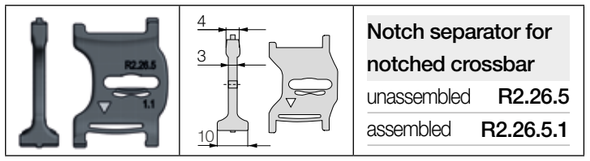
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

R2.1 e-tubes | Series R2i.26·R2.26 | Accessories

Interior separation | Increase cable service life



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

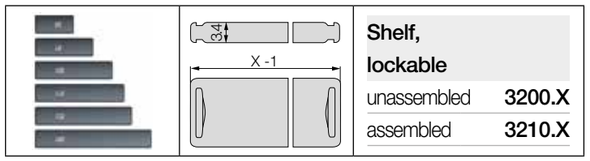


Notch separator for notched crossbar

unassembled	R2.26.5
assembled	R2.26.5.1

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



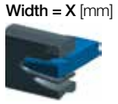
Shelf, lockable

unassembled	3200.X
assembled	3210.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	3200.050	3210.050	115	3200.115	3210.115	175	3200.175	3210.175
075	3200.075	3210.075	125	3200.125	3210.125	200	3200.200	3210.200
100	3200.100	3210.100	150	3200.150	3210.150			

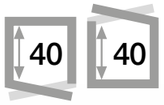
Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. R2.26.Z - more information ▶ From page 1428



R2.1 e-tubes | R2i.40·R2.40 | Product range



Protection against dust and dirt ingress and quickly openable



e-tubes | Series R2i.40 | Lids openable along the inner radius, from both sides
e-tubes | Series R2.40 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R2i.40 [kg/m]	R2.40 [kg/m]
R2i.40.050.*R*.0	R2.40.050.*R*.0*	50	66.2	|080|100|125|150|175|200|250|	≈ 1.25	≈ 1.25
R2i.40.075.*R*.0	R2.40.075.*R*.0	75	91.2	|080|100|125|150|175|200|250|	≈ 1.50	≈ 1.50
R2i.40.100.*R*.0	R2.40.100.*R*.0*	100	116.2	|080|100|125|150|175|200|250|	≈ 1.75	≈ 1.75
R2i.40.125.*R*.0*	R2.40.125.*R*.0	125	141.2	|080|100|125|150|175|200|250|	≈ 2.00	≈ 2.00
R2i.40.150.*R*.0	R2.40.150.*R*.0	150	166.2	|080|100|125|150|175|200|250|	≈ 2.25	≈ 2.25
R2i.40.175.*R*.0	R2.40.175.*R*.0	175	191.2	|080|100|125|150|175|200|250|	≈ 2.50	≈ 2.50
R2i.40.200.*R*.0*	R2.40.200.*R*.0*	200	216.2	|080|100|125|150|175|200|250|	≈ 2.75	≈ 2.75

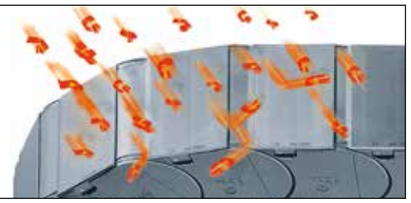
*Width available upon request. Delivery time upon request.

Complete Part No. with required radius (*R*). Example: **R2i.40.075.080.0**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

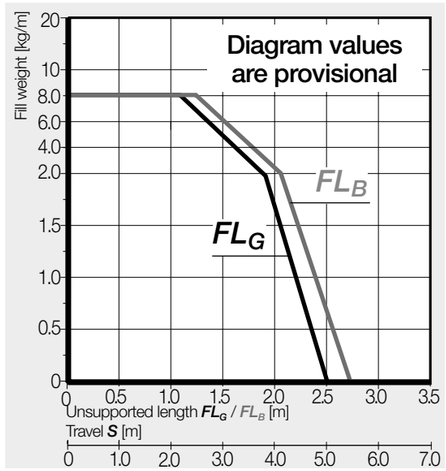
More information ▶ www.igus.eu/HT

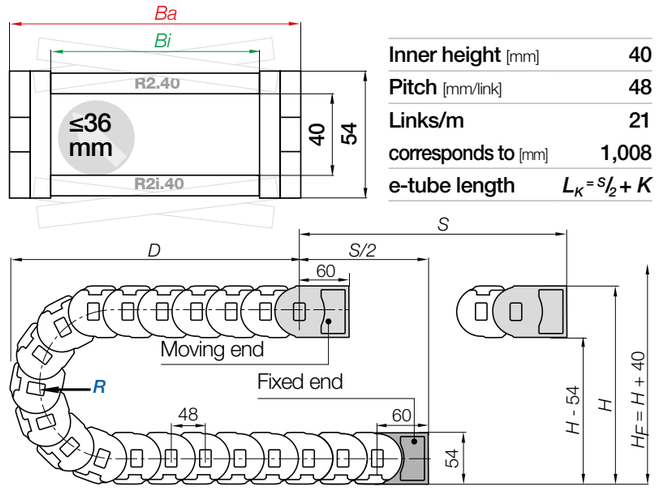


R2.1 e-tubes | R2i.40·R2.40 | Installation dimensions

▶ 1392

Unsupported applications | Short travels





Inner height [mm]	40						
Pitch [mm/link]	48						
Links/m	21						
corresponds to [mm]	1,008						
e-tube length	$L_K = S/2 + K$						

R	080	100	125	150	175	200	250
H	214	254	304	354	404	454	554
D	179	199	224	249	274	299	349
K	350	415	490	570	650	725	885

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

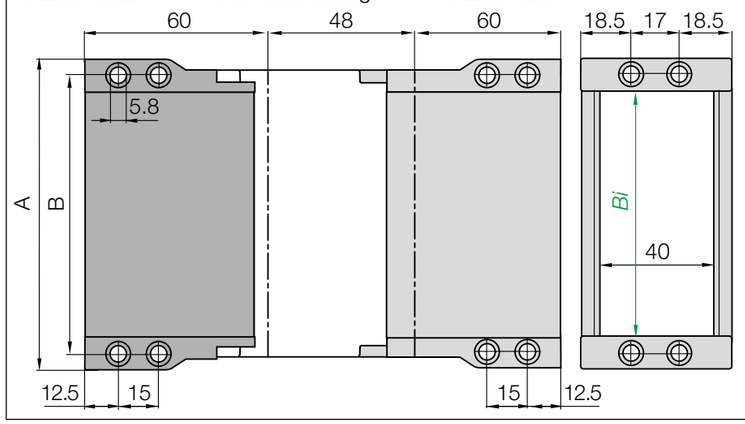
More information ▶ From page 1362



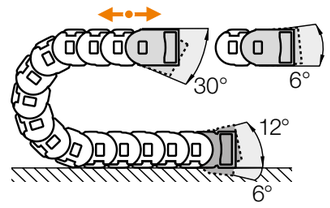
R2.1 e-tubes | Series R2i.40·R2.40 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

Fixed end		Moving end	Front view
R2.400 ... 4	both ends pivoting	R2.400 ... 3	of KMA
R2.400 ... 6	one end pivoting	R2.400 ... 5	
R2.400 ... 2	both ends locking	R2.400 ... 1	





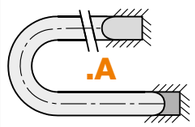


KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA both ends pivoting	Part No. full set KMA one end pivoting	Part No. full set KMA both ends locking	A Shaft Ø [mm]	B [mm]	Bi [mm]
50.	R2.400.050.34	R2.400.050.56	R2.400.050.12	74	62	50
75.	R2.400.075.34	R2.400.075.56	R2.400.075.12	99	87	75
100.	R2.400.100.34	R2.400.100.56	R2.400.100.12	124	112	100
125.	R2.400.125.34*	R2.400.125.56*	R2.400.125.12*	149	137	125
150.	R2.400.150.34	R2.400.150.56	R2.400.150.12	174	162	150
175.	R2.400.175.34	R2.400.175.56	R2.400.175.12	199	187	175
200.	R2.400.200.34*	R2.400.200.56*	R2.400.200.12*	224	212	200

*Width available upon request. Delivery time upon request.

(KMA = polymer metal mounting bracket)



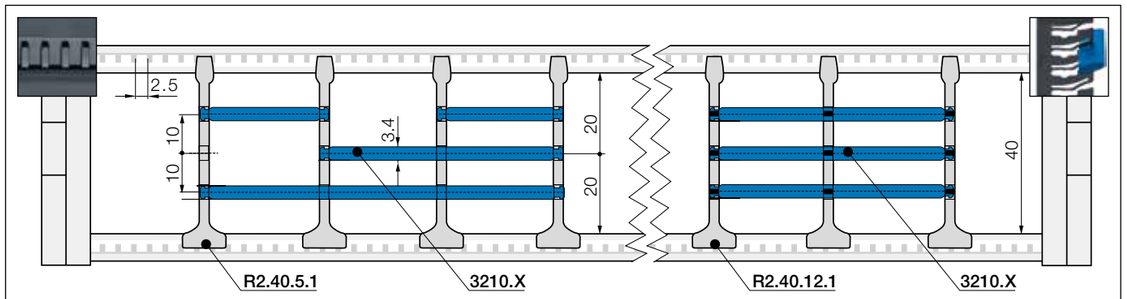
The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .

R2.400.075.56.A **Order example**
- Pre-assembled
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

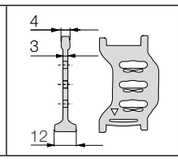
R2.1 e-tubes | Series R2i.40·R2.40 | Accessories

Interior separation | Increase cable service life



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

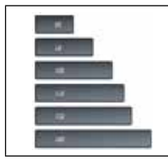


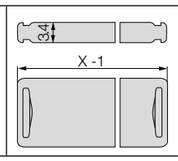


Notch separator for notched crossbar	
unassembled	R2.40.5
assembled	R2.40.5.1

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



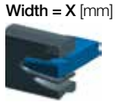


Shelf, lockable	
unassembled	3200.X
assembled	3210.X

Horizontal separation

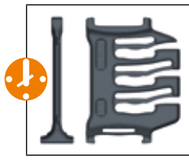
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

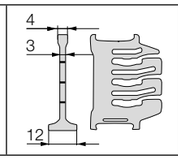
Shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	3200.050	3210.050	115	3200.115	3210.115	175	3200.175	3210.175
075	3200.075	3210.075	125	3200.125	3210.125	200	3200.200	3210.200
100	3200.100	3210.100	150	3200.150	3210.150			

Interior separation | To allow faster filling





Lean separator[1]	
unassembled	R2.40.12
assembled	R2.40.12.1

Lean separators[1]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. R2.40.Z - more information ▶ From page 1428



R2.1 e-tubes | R2i.48·R2.48 | Product range

48 48

Protection against dust and dirt ingress and quickly openable



e-tubes | Series R2i.48 | Lids openable along the inner radius, from both sides
e-tubes | Series R2.48 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R2i.48 [kg/m]	R2.48 [kg/m]
R2i.48.050.*R*.0*	R2.48.050.*R*.0*	50	70	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 1.92	≈ 1.92
R2i.48.075.*R*.0*	R2.48.075.*R*.0*	75	95	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.23	≈ 2.23
R2i.48.100.*R*.0	R2.48.100.*R*.0	100	120	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.55	≈ 2.55
R2i.48.115.*R*.0	R2.48.115.*R*.0	115	135	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.74	≈ 2.74
R2i.48.125.*R*.0	R2.48.125.*R*.0*	125	145	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.86	≈ 2.86
R2i.48.150.*R*.0*	R2.48.150.*R*.0*	150	170	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.18	≈ 3.18
R2i.48.175.*R*.0*	R2.48.175.*R*.0*	175	195	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.49	≈ 3.49
R2i.48.200.*R*.0	R2.48.200.*R*.0*	200	220	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.81	≈ 3.81
R2i.48.225.*R*.0*	R2.48.225.*R*.0*	225	245	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 4.05	≈ 4.05
R2i.48.250.*R*.0	R2.48.250.*R*.0	250	270	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 4.44	≈ 4.44

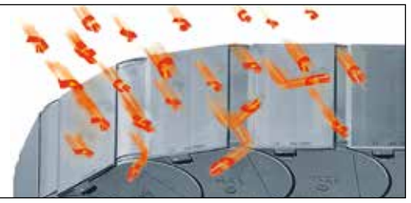
*Width available upon request. Delivery time upon request.

Complete Part No. with required radius (*R*). Example: **R2i.48.115.100.0**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



CFU strain relief with innovative honeycomb design

- Fast filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Universal use, compact, space-saving design

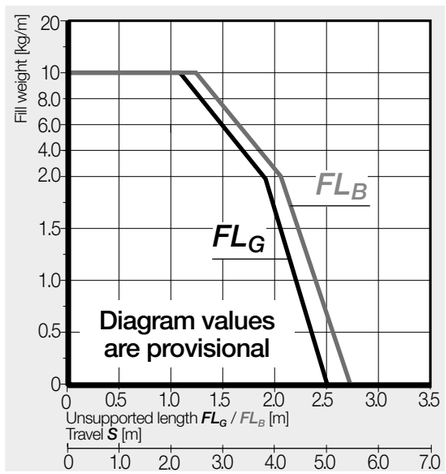
More information ▶ Page 1426

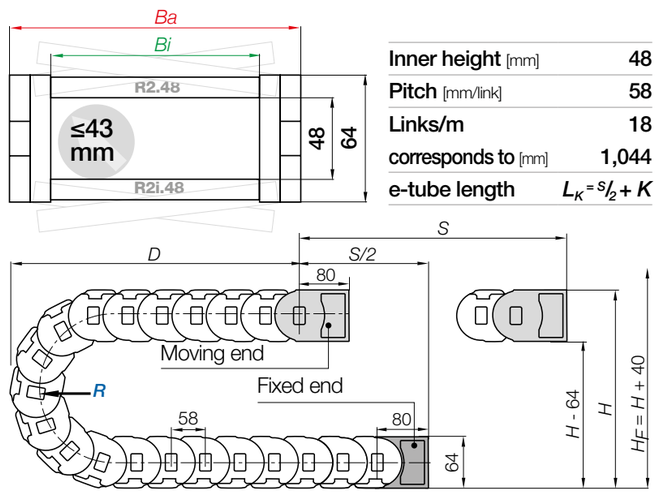


R2.1 e-tubes | R2i.48·R2.48 | Installation dimensions

▶ 1392

Unsupported applications | Short travels





R	**100**	**125**	**150**	**175**	**200**	**225**	**250**	**300**
H	264	314	364	414	464	514	564	664
D	219	244	269	294	319	344	369	419
K	435	510	590	670	745	825	905	1,060

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

Inner height [mm]	48
Pitch [mm/link]	58
Links/m	18
corresponds to [mm]	1,044
e-tube length	$L_K = S/2 + K$

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

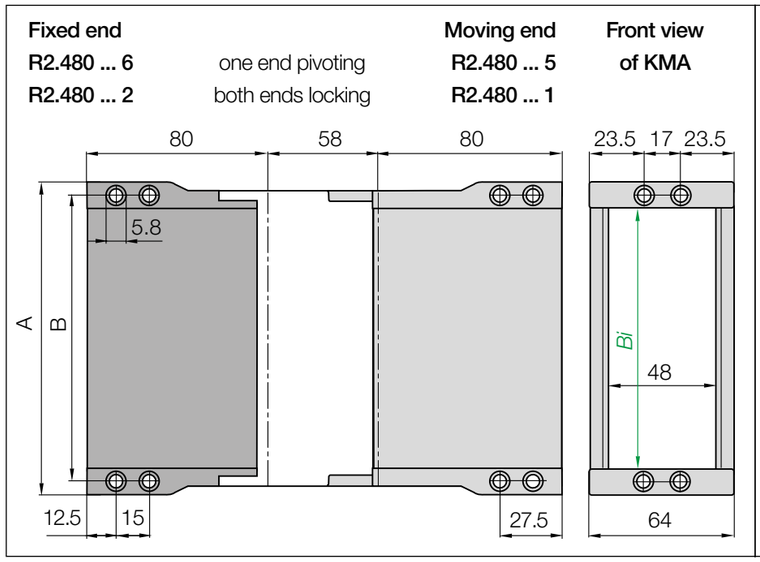
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

More information ▶ From page 1362



R2.1 e-tubes | Series R2i.48·R2.48 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

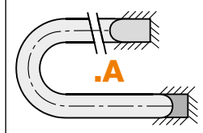


KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set KMA one end pivoting	Part No. full set KMA both ends locking	A [mm]	B [mm]	Bi [mm]
050. ▶	R2.480.050.56*	R2.480.050.12*	74	62	50
075. ▶	R2.480.075.56*	R2.480.075.12*	99	87	75
100. ▶	**R2.480.100.56**	**R2.480.100.12**	124	112	100
115. ▶	**R2.480.115.56**	**R2.480.115.12**	139	127	115
125. ▶	**R2.480.125.56**	**R2.480.125.12**	149	137	125
150. ▶	R2.480.150.56*	R2.480.150.12*	174	162	150
175. ▶	R2.480.175.56*	R2.480.175.12*	199	187	175
200. ▶	**R2.480.200.56**	**R2.480.200.12**	224	212	200
225. ▶	R2.480.225.56*	R2.480.225.12*	249	237	225
250. ▶	**R2.480.250.56**	**R2.480.250.12**	274	262	250

*Width available upon request. Delivery time upon request.

(KMA = polymer metal mounting bracket)

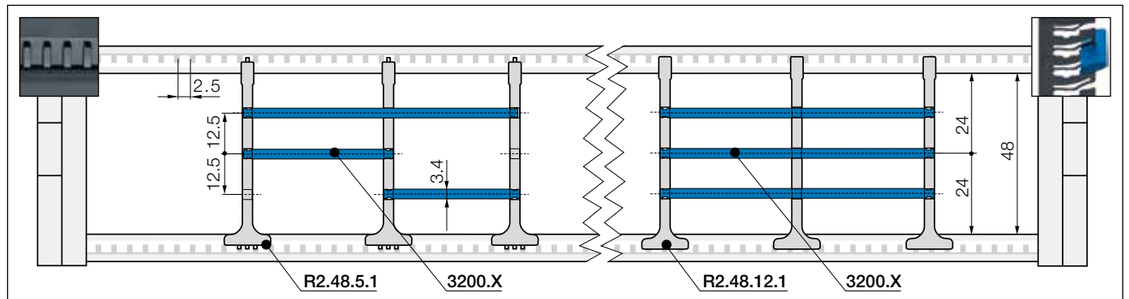


The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .

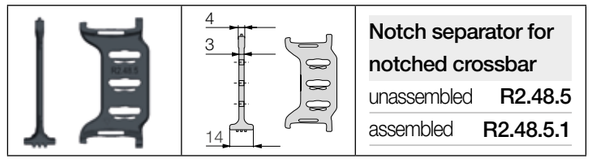
R2.480.115.56.**A** **Order example**
- Pre-assembled
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

Interior separation | Increase cable service life



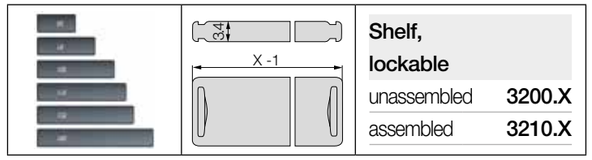
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Notch separator for notched crossbar	
unassembled	R2.48.5
assembled	R2.48.5.1

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.

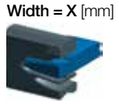


Shelf, lockable	
unassembled	3200.X
assembled	3210.X

Horizontal separation

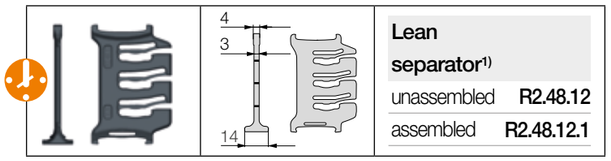
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

Interior separation | To allow faster filling



Lean separator[1)]	
unassembled	R2.48.12
assembled	R2.48.12.1

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



R2.1 e-tubes | Series R2.75 | Product range

Protection against dust and dirt ingress and quickly openable



e-tubes | Series R2.75 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the outer radius	Bi [mm]	Ba [mm]	R Available bend radii [mm]	R2.75 [kg/m]
R2.75.111.R.0	111	135	|130 |150 |200 |250 |300* |350* |400* |	≈ 3.175
R2.75.163.R.0	163	187	|130 |150 |200 |250 |300* |350* |400* |	≈ 3.672
R2.75.200.R.0	200	224	|130 |150 |200 |250 |300* |350* |400* |	≈ 4.012

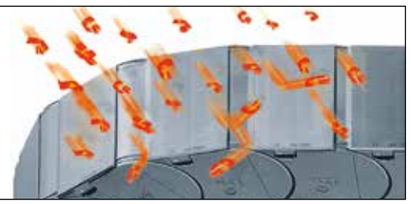
*Radius available upon request. Delivery time upon request.

Complete Part No. with required radius (*R*). Example: **R2.75.111.130.0**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

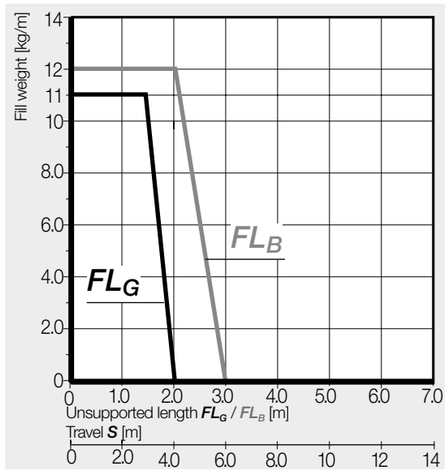
More information ▶ www.igus.eu/HT

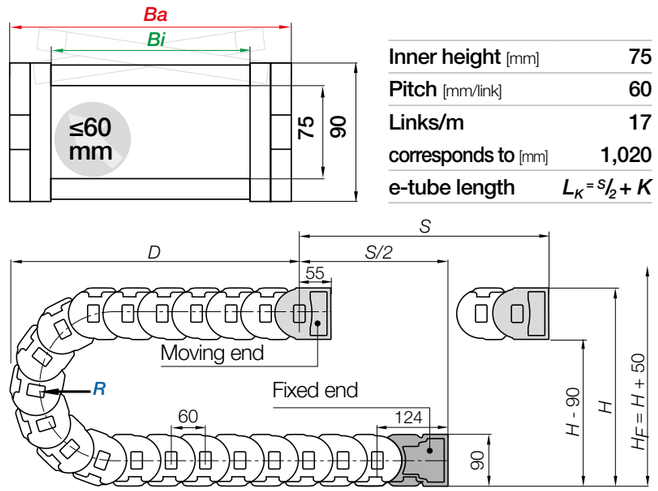


R2.1 e-tubes | Series R2.75 | Installation dimensions

▶ 1392

Unsupported applications | Short travels





Inner height [mm]	75						
Pitch [mm/link]	60						
Links/m	17						
corresponds to [mm]	1,020						
e-tube length	$L_K = S/2 + K$						

R	130	150	200	250	300*	350*	400*
H	350	390	490	590	690	790	890
D	265	285	335	385	435	485	535
K	530	595	750	910	1,065	1,220	1.380

The required clearance height: $H_F = H + 50mm$ (with 3.0kg/m fill weight)

*Radius available upon request. Delivery time upon request.

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

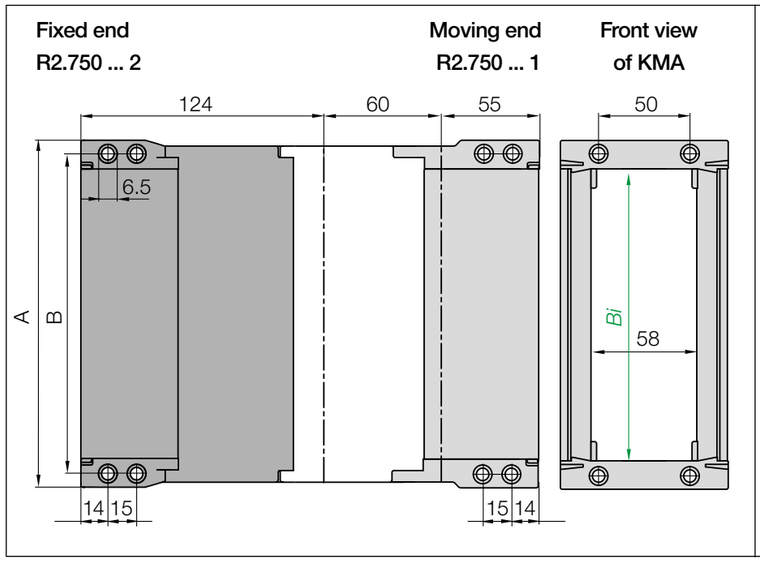
- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

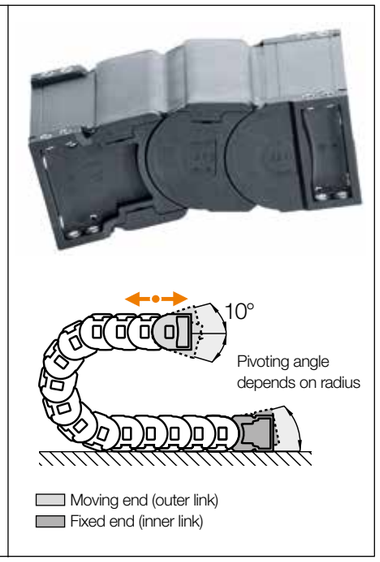
More information ▶ From page 1362



R2.1 e-tubes | Series R2.75 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

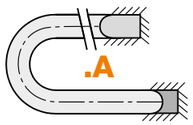




KMA pivoting | Recommended for unsupported applications

Width index	Standard	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
111 ▶		**R2.750.111.12**	–	141	127	**111**
163 ▶		**R2.750.163.12**	–	193	179	**163**
200 ▶		**R2.750.200.12**	–	230	216	**200**

(KMA = polymer metal mounting bracket)



The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .

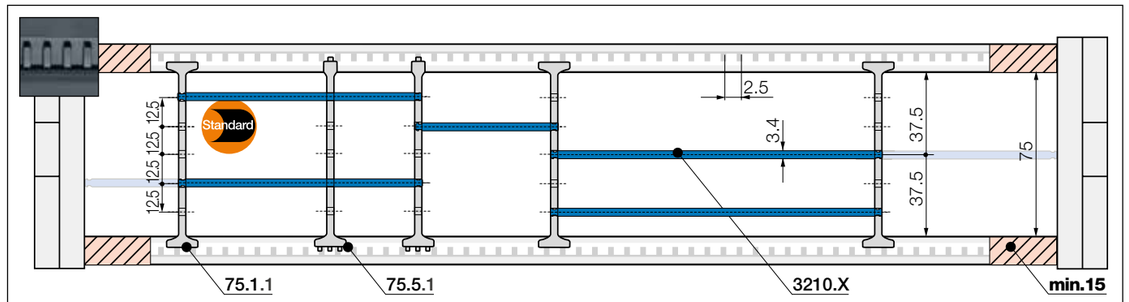
R2.750.111.12.A Order example
- Pre-assembled
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

R2.75

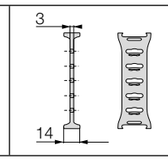
R2.1 e-tubes | Series R2.75 | Accessories

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 15mm**
As standard separators are fitted every 2nd e-tube link!



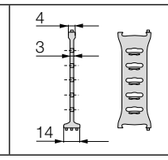


Standard separator, wide base	
unassembled	**75.1**
assembled	**75.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.

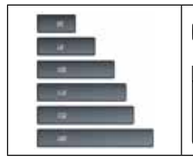


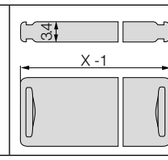


Notch separator for notched crossbar	
unassembled	**75.5**
assembled	**75.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





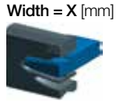
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	115	**3200.115**	**3210.115**	175	**3200.175**	**3210.175**
075	**3200.075**	**3210.075**	125	**3200.125**	**3210.125**	200	**3200.200**	**3210.200**
100	**3200.100**	**3210.100**	150	**3200.150**	**3210.150**			



E2 R100

e-tubes for cost-effective protection against dirt and swarf

Advantages of the E2 R100 series:

- High level of protection against swarf (including hot swarf)
- Lids openable along the inner or outer radius, from both sides
- Robust and sealed
- Space-efficient with optimised ratio of inner to outer dimensions
- Light, easy to install and cost-effective
- Recommended for short travels and unsupported applications

When to use another e-tube:

- When larger interior heights are required ▶ **R2.1 e-tubes, page 442**
- When even higher strength is required ▶ **R4.1L e-tubes, page 538**
- When no swarf protection is required ▶ **Series E2/000, page 374**
- For extremely swarf-resistant e-tubes ▶ **RX system, page 516**
- When a particularly quiet operation is required using a smaller pitch ▶ **E2 R e-tubes, page 492**



Protection against dirt and swarf, cost-effective - E2 R100 e-tubes

Cost-effective, for applications with low and medium speeds. E2 R100 e-tubes work in hot swarf areas, in areas of dirt and dust generated by woodworking, steel-mills, pulp and paper, textile, agriculture, coal-fired plants and many other hostile environments.

- High level of protection against swarf (including hot swarf)
- Robust and sealed
- Space-efficient with optimised ratio of inner to outer dimensions
- Modular interior separation
- Universal KMA mounting brackets with attachment options from any side

Typical industries and applications

● Machine tools ● Wood processing machines ● General mechanical engineering ● In all areas with dirt and swarf

e-tubes made from igumid HT material for hot swarf of up to +850 °C available upon request

Electrically conductive ESD e-tubes upon request

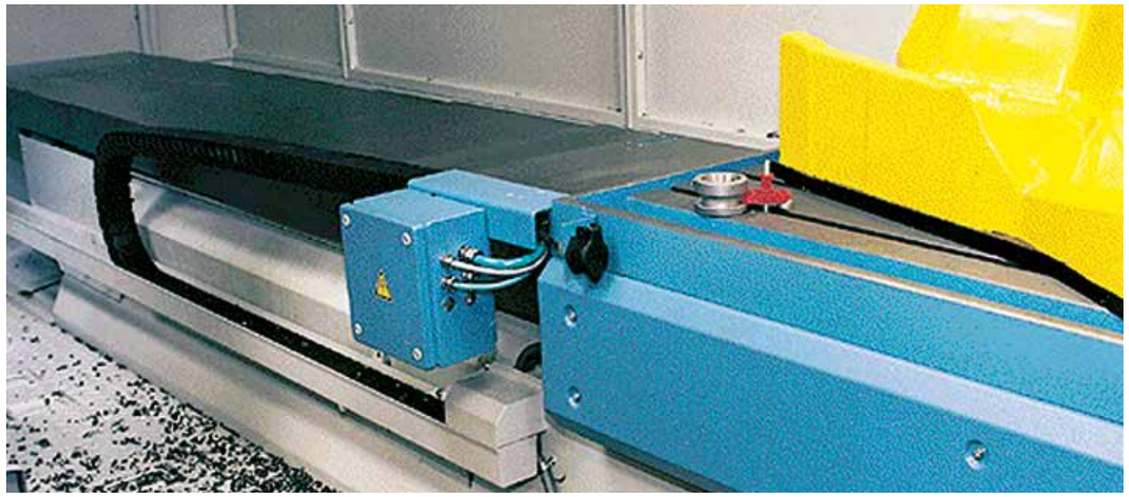
UL94-V0 classification upon request

iF product design award
2000 series R117/R118

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
E2 R100 e-tubes - lids openable along the inner radius, from both sides							
R117	21	20 - 100	32 - 112	28	063 - 180	1.20	**472**
R157	40	40 - 200	56 - 216	50	100 - 250	2.25	**478**
R167	50	50 - 250	68 - 268	64	100 - 300	2.50	**486**
							
E2 e-tubes R100 - lids openable along the outer radius, from both sides							
R118	21	25 - 80	37 - 92	28	063 - 180	1.20	**472**
R158	40	40 - 200	56 - 216	50	100 - 250	2.25	**478**
R168	50	50 - 200	68 - 218	64	100 - 300	2.50	**486**

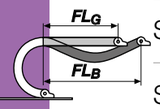
Available from stock. Ready to ship in 48 - 72hrs.*

*Average time before the ordered goods are dispatched.



igus® e-tubes provide safe protection for cables and can easily be opened

Technical data



Speed gliding[1] / acceleration gliding[1]	upon request
Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 100 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) If a gliding application is required for a long travel, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported
R117 / R118	≤ 2.5m	≤ 20m	≤ 2.0m	≤ 0.7m
R157 / R158	≤ 4.5m	≤ 40m	≤ 3.0m	≤ 1.0m
R167 / R168	≤ 5.0m	≤ 50m	≤ 3.0m	≤ 1.0m

Options with order keys | Examples based on series R167

	Standard	*NC version - (No Camber) without pretension*	*e-tube - no burning-in of hot swarf up to 850°C*	*ESD - electrically conductive material*
	Part No. Standard	Part No. NC version	Part No. igumid HT	Part No. igumid ESD
	Standard	NC		ESD
	168.100.*R*.0+	168.100.*R*.0.+NC	168.100.*R*.0.+HT	168.100.*R*.0.+ESD
	Ready to ship in 48-72hrs.*	Ready to ship in 5 business days*	Ready to ship in 6 weeks*	Ready to ship in 12 business days*

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series R168

Order example for complete e-tube (1.0m), colour black, with mounting brackets and interior separation:

e-tube (1.0m)	Please indicate e-tube length or number of links: 1.0m or 17 links	168.100.100.0.+
+ Mounting brackets	KMA - 1 set	1680.100.12
Interior separation	with 2 separators assembled every 2nd link	2 x 1686.01
Order text:		1m 168.100.100.0.+ + 1680.100.12 + 2 x 1686.01

Order key

e-tube openable along the outer radius 168.100.100.0.+
e-tube openable along the inner radius 167.100.100.0.+

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

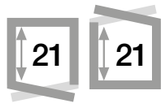
Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 48-72hrs.*

Above special colours upon request.

E2 R100 e-tubes | R117 R118 | Product range



Swarf protection, even against hot swarf, cost-effective



e-tubes | Series R117 | Lids openable along the inner radius, from both sides
e-tubes | Series R118 | Lids openable along the outer radius, from both sides

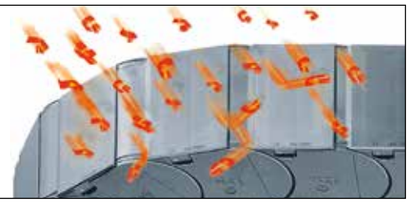
Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R117 [kg/m]	R118 [kg/m]
117.020.*R*.0	–	20	32	|063|075|100|110|125|145|180|	≈ 0.43	≈ 0.43
117.025.*R*.0	118.025.*R*.0	25	37	|063|075|100|110|125|145|180|	≈ 0.46	≈ 0.46
117.038.*R*.0	–	38	50	|063|075|100|110|125|145|180|	≈ 0.56	≈ 0.56
117.048.*R*.0	118.048.*R*.0	48	60	|063|075|100|110|125|145|180|	≈ 0.66	≈ 0.66
117.063.*R*.0	–	63	75	|063|075|100|110|125|145|180|	≈ 0.76	≈ 0.76
117.080.*R*.0	118.080.*R*.0	80	92	|063|075|100|110|125|145|180|	≈ 0.89	≈ 0.89
117.100.*R*.0	–	100	112	|063|075|100|110|125|145|180|	≈ 1.06	≈ 1.06

Complete Part No. with required radius (*R*). Example: **118.080.100.0**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

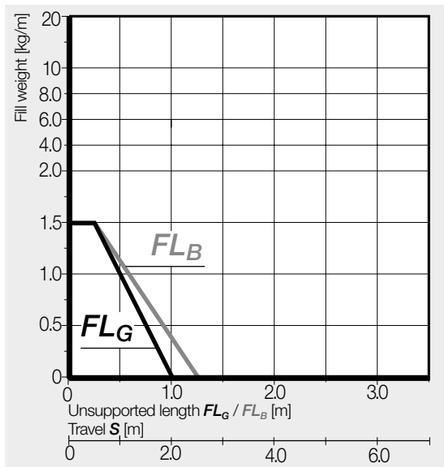
More information ▶ www.igus.eu/HT

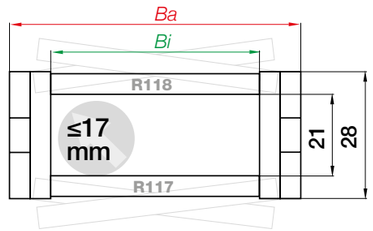


E2 R100 e-tubes | R117·R118 | Installation dimensions

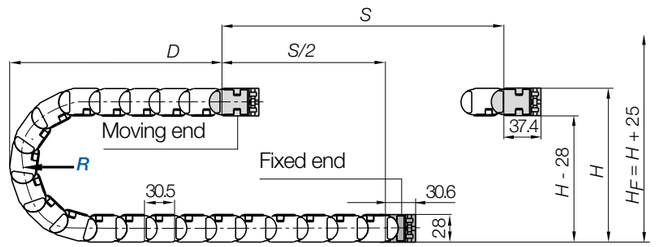
▶ 1392

Unsupported applications | Short travels



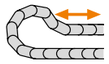


Inner height [mm]	21
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,006.5
e-tube length	$L_K = S/2 + K$



R	063	075	100	110	125	145	180
H	154	178	228	248	278	318	388
D	123	135	160	170	185	205	240
K	260	300	380	410	455	520	630

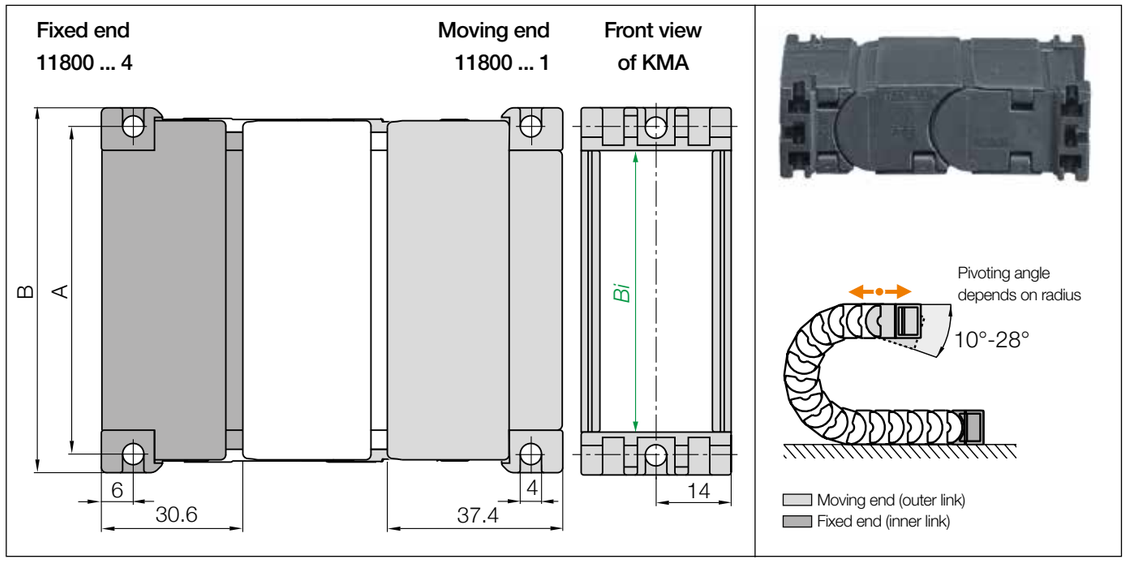
The required clearance height: $H_F = H + 25$mm (with 1.0kg/m fill weight)



If a gliding application is required for a long travel, please consult igus®.

R100 e-tubes | Series R117 R118 | Accessories

KMA mounting brackets | Attachment from any side | One end pivoting



KMA, one end pivoting | Recommended for unsupported applications

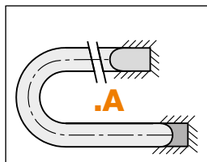
Width index	Part No. full set **KMA one end pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
020. ▶	**11800.020.14**	–	29	36	**20**
025. ▶	**11800.025.14**	–	34	41	**25**
038. ▶	**11800.038.14**	–	47	54	**38**
048. ▶	**11800.048.14**	–	57	64	**48**
063. ▶	**11800.063.14**	–	72	79	**63**
080. ▶	**11800.080.14**	–	89	96	**80**
100. ▶	**11800.100.14**	–	109	116	**100**

Pivoting option at fixed end available upon request **Part No. 11800 ... 12**

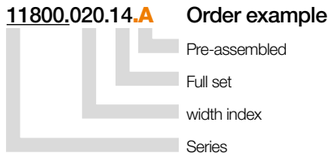
(KMA = polymer metal mounting bracket)

The mounting brackets are supplied with hexagon nuts and can be attached with M4 bolts,

or the mounting brackets may also be attached with M4 hexagon socket DIN 912 cap bolts.



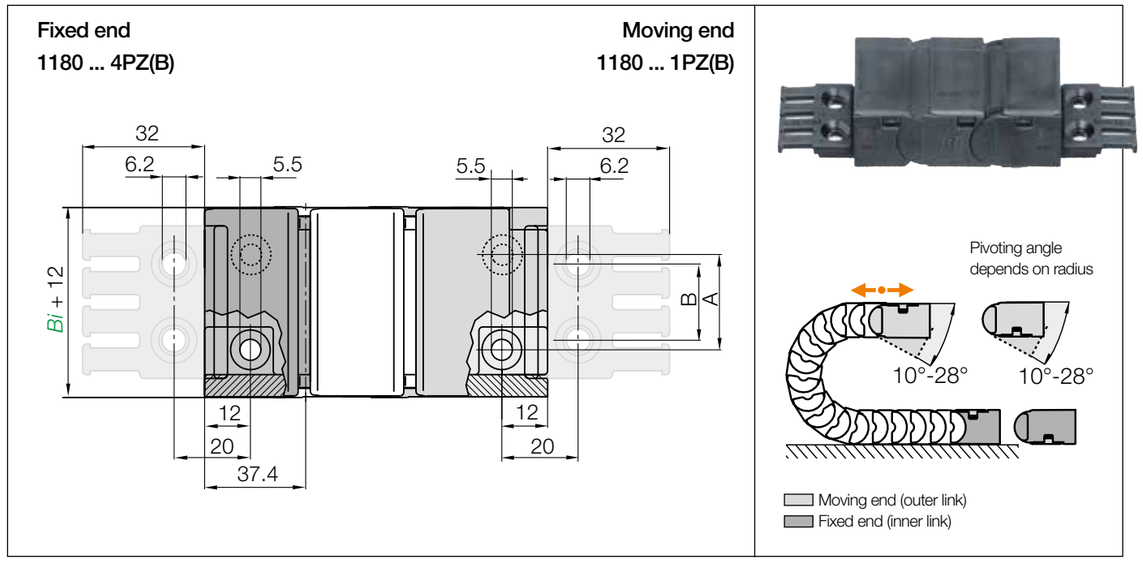
The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .



Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

R100 e-tubes | Series R117 R118 | Accessories

Angled polymer bracket | One end pivoting



Angled polymer bracket one end pivoting | Recommended for unsupported applications

Width index	Part No. full set **with tiewrap plates**	Part No. full set **without tiewrap plates**	A [mm]	B [mm]	*Bi* [mm]	Number of teeth
025. ▶	**1180.025.14PZB**	**1180.025.14PZ**	12	15	**25**	3
038. ▶	**1180.038.14PZB**	**1180.038.14PZ**	25	20	**38**	4
048. ▶	**1180.048.14PZB**	**1180.048.14PZ**	35	30	**48**	5
063. ▶	**1180.063.14PZB**	**1180.063.14PZ**	50	40	**63**	6
080. ▶	**1180.080.14PZB**	**1180.080.14PZ**	67	60	**80**	8
100. ▶	**1180.100.14PZB**	**1180.100.14PZ**	87	80	**100**	10

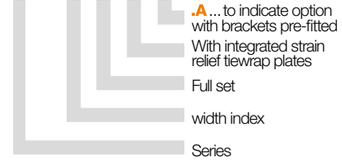
Strain relief is possible on the moving end and/or the fixed end.

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8. Length depends on the thickness of the attachment base ● Hexagon nut M5 DIN 7991 ● Washer 5.3 DIN 125-ST



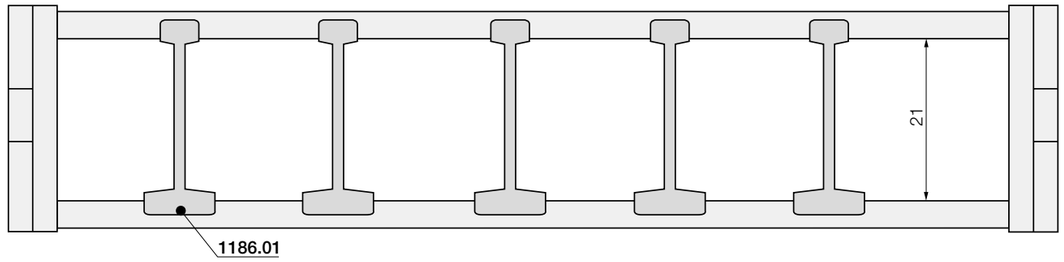
For mounting brackets pre-fitted **without strain relief**, please attach index **.A**.
For types pre-fitted **with strain relief**please attach index **.A1**, **.A2**, **.A3** or **.A4**



Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

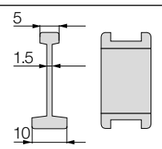
R100 e-tubes | Series R117 R118 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!





Standard separator	
unassembled	**1185.01**
assembled	**1186.01**

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

E2 R100 e-tubes | Application example



Typical use of igus® E2 R100 e-tubes - standing application in a machine tool

E2 R100 e-tubes | R157·R158 | Product range

40 40

Swarf protection, even against hot swarf, cost-effective



e-tubes | Series R157 | Lids openable along the inner radius, from both sides
e-tubes | Series R158 | Lids openable along the outer radius, from both sides

Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R157 [kg/m]	R158 [kg/m]
157.040.*R*.0.+[1]	158.040.*R*.0.+[1]	40	56	|100|125|150|175|200|250|	≈ 1.21	≈ 1.21
157.050.*R*.0.+	158.050.*R*.0.+	50	66	|100|125|150|175|200|250|	≈ 1.30	≈ 1.30
157.075.*R*.0.+	158.075.*R*.0.+	75	91	|100|125|150|175|200|250|	≈ 1.50	≈ 1.50
157.088.*R*.0.+	158.088.*R*.0.+	88	104	|100|125|150|175|200|250|	≈ 1.57	≈ 1.57
157.090.*R*.0.+[2] *	158.090.*R*.0.+[2] *	88	104	|100|125|150|175|200|250|	≈ 1.63	≈ 1.63
157.100.*R*.0.+	158.100.*R*.0.+	100	116	|100|125|150|175|200|250|	≈ 1.71	≈ 1.71
157.125.*R*.0.+	158.125.*R*.0.+	125	141	|100|125|150|175|200|250|	≈ 1.92	≈ 1.92
157.135.*R*.0.+	158.135.*R*.0.+	135	150	|100|125|150|175|200|250|	≈ 2.10	≈ 2.10
157.150.*R*.0.+	158.150.*R*.0.+	150	166	|100|125|150|175|200|250|	≈ 2.13	≈ 2.13
157.175.*R*.0.+	158.175.*R*.0.+	175	191	|100|125|150|175|200|250|	≈ 2.34	≈ 2.34
157.200.*R*.0.+	158.200.*R*.0.+	200	216	|100|125|150|175|200|250|	≈ 2.55	≈ 2.55

1) Lid removable only, not hinged 2) Same dimensions as 157.088 - less recent design, no hinged option

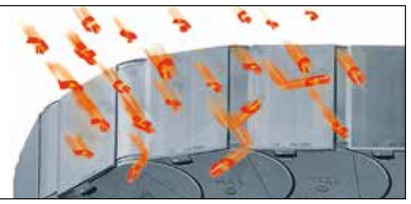
*Width available upon request. Delivery time upon request.

Complete Part No. with required radius (*R*). Example: **158.100.100.0.+**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

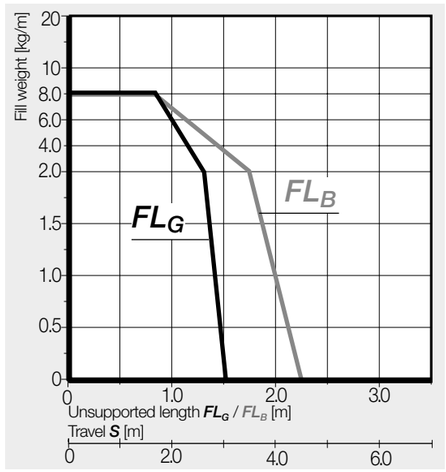
More information ▶ www.igus.eu/HT

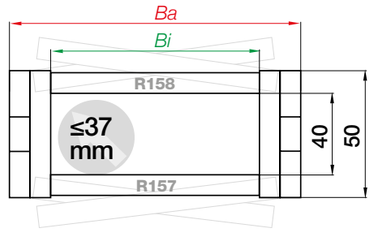


E2 R100 e-tubes | R157·R158 | Installation dimensions

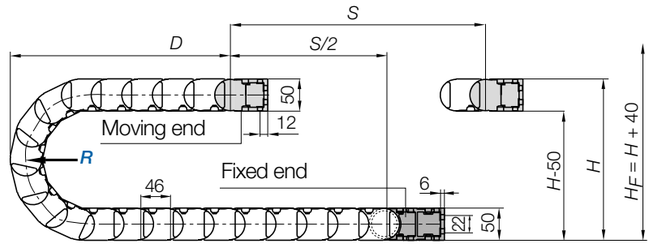
▶ 1392

Unsupported applications | Short travels





Inner height [mm]	40
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-tube length	$L_K = S/2 + K$



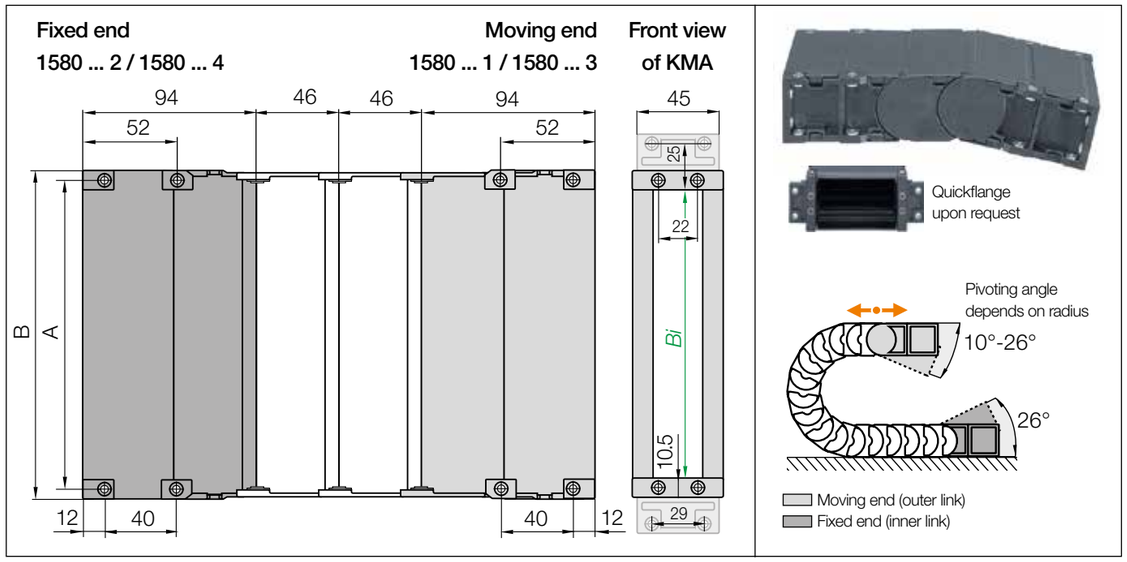
R	100	125	150	175	200	250
H	250	300	350	400	450	550
D	194	219	244	269	294	344
K	410	485	565	645	725	880

The required clearance height: $H_F = H + 40$mm (with 1.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

R100 e-tubes | Series R157·R158 | Accessories

KMA, **long** | Attachment from any side | Pivoting | Locking



Standard **KMA, long pivoting** | Recommended for unsupported applications
KMA, long locking | Recommended for vertical hanging and standing applications

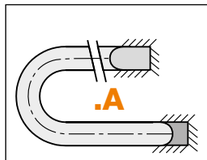
Width index	Standard	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
040. ▶		**15801.040.12**	**15800.040.34**	50	61	**40**
050. ▶		**15800.050.12**	**15800.050.34**	60	71	**50**
075. ▶		**15800.075.12**	**15800.075.34**	85	96	**75**
088. ▶		**15800.088.12**	**15800.088.34**	98	109	**88**
090. ▶		**15801.090.12**	**15801.090.34**	98	109	**88**
100. ▶		**15800.100.12**	**15800.100.34**	110	121	**100**
125. ▶		**15800.125.12**	**15800.125.34**	135	146	**125**
135. ▶		**15800.135.12**	**15800.135.34**	145	156	**135**
150. ▶		**15800.150.12**	**15800.150.34**	160	171	**150**
175. ▶		**15800.175.12**	**15800.175.34**	185	196	**175**
200. ▶		**15800.200.12**	**15800.200.34**	210	221	**200**

(KMA = polymer metal mounting bracket)

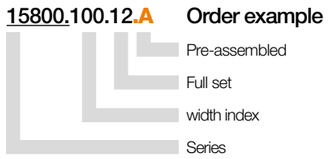
The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 15800.100.12.QF. Unassembled quickflange: Part No. 15800.QF



The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .

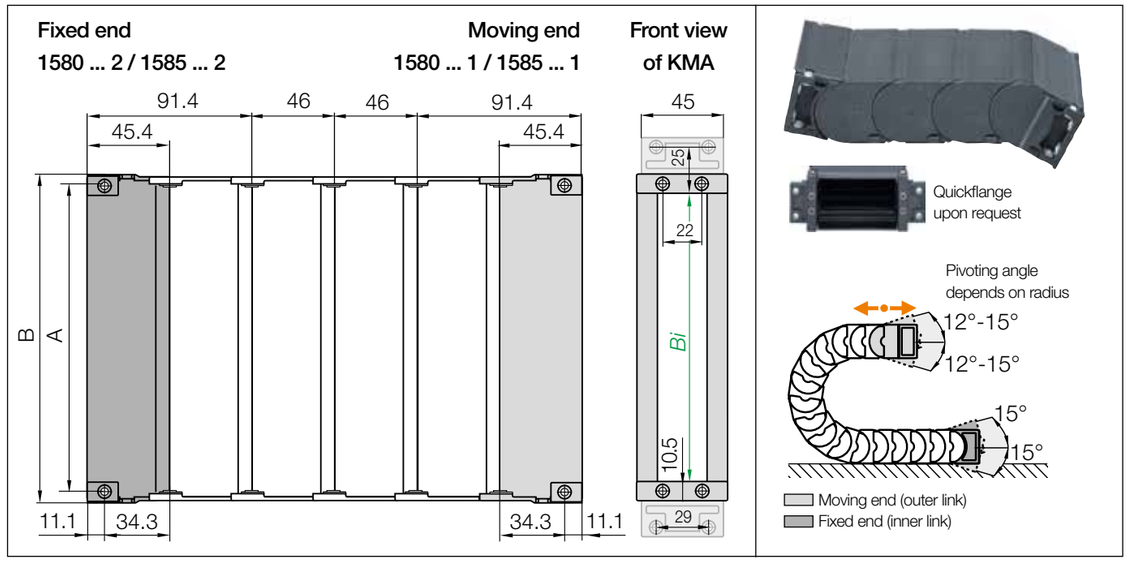


Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

R157
R158

R100 e-tubes | Series R157·R158 | Accessories

KMA, **short** | Attachment from any side | Pivoting | Locking



KMA, short pivoting | Recommended for unsupported applications
KMA, short locking | Recommended for vertical hanging and standing applications

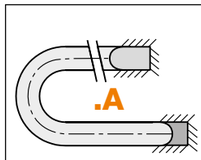
Width index	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
040. ▶	**1580.040.12**	**1585.040.12**	50	61	**40**
050. ▶	**1580.050.12**	**1585.050.12**	60	71	**50**
075. ▶	**1580.075.12**	**1585.075.12**	85	96	**75**
088. ▶	**1580.088.12**	**1585.088.12**	98	109	**88**
090. ▶	**1580.090.12**	**1585.090.12**	98	109	**88**
100. ▶	**1580.100.12**	**1585.100.12**	110	121	**100**
125. ▶	**1580.125.12**	**1585.125.12**	135	146	**125**
135. ▶	**1580.135.12**	**1585.135.12**	145	156	**135**
150. ▶	**1580.150.12**	**1585.150.12**	160	171	**150**
175. ▶	**1580.175.12**	**1585.175.12**	185	196	**175**
200. ▶	**1580.200.12**	**1585.200.12**	210	221	**200**

(KMA = polymer metal mounting bracket)

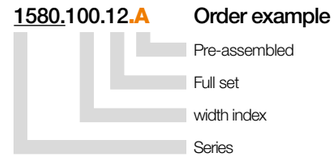
The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 15800.100.12.QF. Unassembled quickflange: Part No. 15800.QF



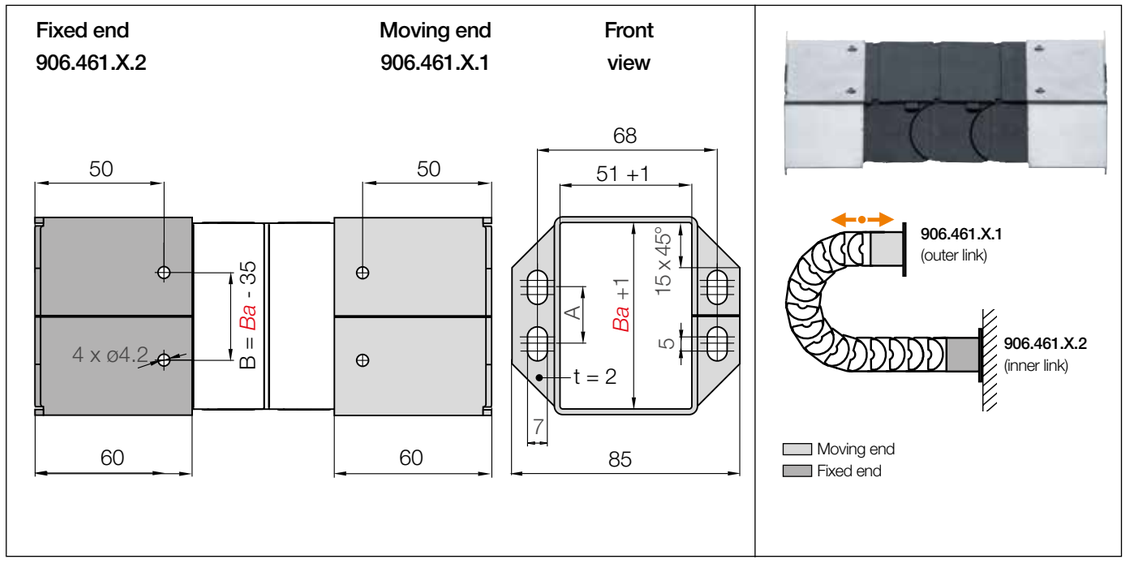
The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .



Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

R100 e-tubes | Series R157·R158 | Accessories

Mounting brackets, flange steel | Locking

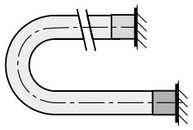


Steel flange, locking | Recommended for unsupported applications

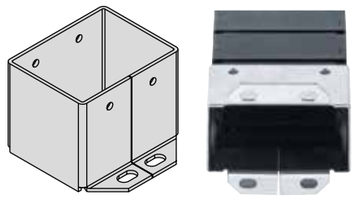
Width index	Hole pattern	Part No. full set **Steel flange**	Bi [mm]	Ba [mm]	A [mm]	B [mm]
050. ▶	**58.05**	906.461.1.12*	50	66	20	31
075. ▶	**58.1**	906.461.2.12*	75	91	30	57

* Available upon request Delivery time upon request.

Mounting only with hexagon socket DIN 912 M6 and washer DIN 125, 6.3mm



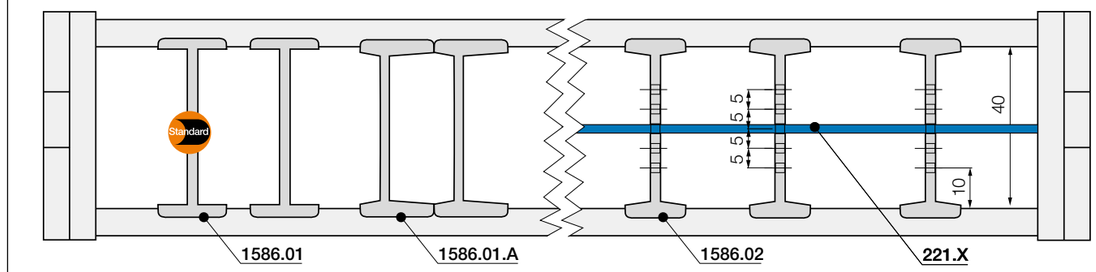
Metallic flange brackets with common hole patterns can easily replace alternatives, without having to alter the hole pattern. Flush attachment possibilities at both ends of the e-tube using flange mounting brackets made of steel.



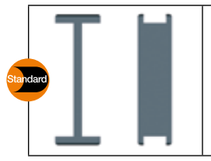
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

R100 e-tubes | Series R157·R158 | Accessories

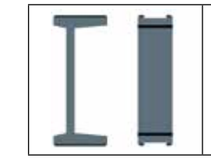
Interior separation | Option 1 | Option 2 | (Option 3 ▶ next page)



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Standard separator	
unassembled	**1585.01**
assembled	**1586.01**



Separator, asymmetrical	
unassembled	**1585.01.A**
assembled	**1586.01.A**

Option 1 | Separators

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

Separator, asymmetrical

For side-mounted applications. Asymmetrical separator, no additional spacers necessary.



Slotted separator	
unassembled	**1585.02**
assembled	**1586.02**



Full-width shelf for e-tubes	
unassembled	**220.X**
assembled	**221.X**

Option 2 | Full-width shelves

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical/ horizontal shelving arrangements.

Full-width shelf

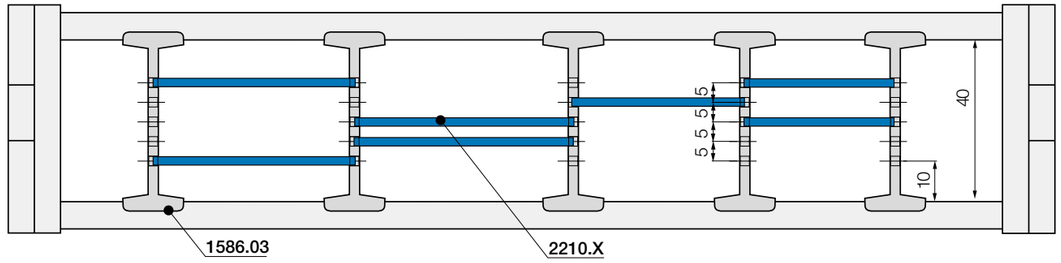
This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

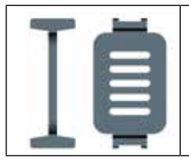
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
040	**220.40**	**221.40**	100	**220.100**	**221.100**	175	**220.175**	**221.175**
050	**220.50**	**221.50**	125	**220.125**	**221.125**	200	**220.200**	**221.200**
075	**220.75**	**221.75**	135	**220.135**	**221.135**			
088	**220.88**	**221.88**	150	**220.150**	**221.150**			

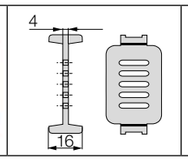
R100 e-tubes | Series R157·R158 | Accessories

Interior separation | Option 3



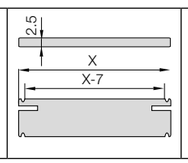
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!





Slotted separator	
unassembled	**1585.03**
assembled	**1586.03**





Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Option 3 | Shelves

Slotted separator

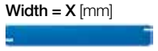
Allows modular shelving arrangements.

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.88**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.99**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			

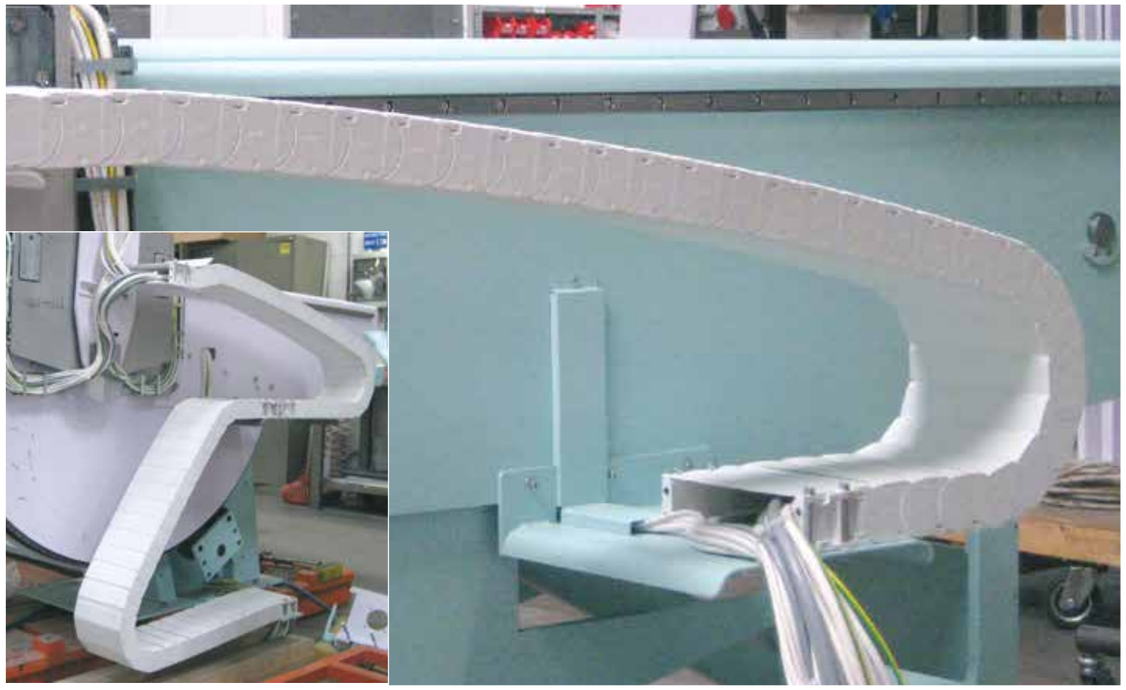
Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 1585.01.Z - more information ▶ From page 1428

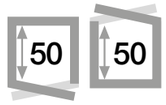


E2 R100 e-tubes | Application example



White igus® e-tube series E2 R100 in a medical application

E2 R100 e-tubes | R167·R168 | Product range



Swarf protection, even against hot swarf, cost-effective



e-tubes | Series R167 | Lids openable along the inner radius, from both sides
e-tubes | Series R168 | Lids openable along the outer radius, from both sides

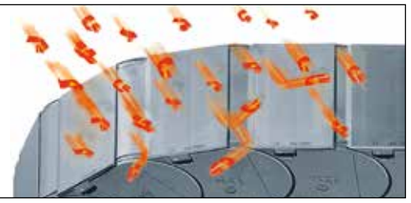
Part No. e-tubes openable along the inner radius	Part No. e-tubes openable along the outer radius	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	R167 [kg/m]	R168 [kg/m]
167.050.*R*.0.+	168.050.*R*.0.+	50	68	|100|125|150|175|200|225|250|300|	≈ 1.58	≈ 1.58
167.075.*R*.0.+	168.075.*R*.0.+	75	93	|100|125|150|175|200|225|250|300|	≈ 1.84	≈ 1.84
167.100.*R*.0.+	168.100.*R*.0.+	100	118	|100|125|150|175|200|225|250|300|	≈ 2.09	≈ 2.09
167.115.*R*.0.+	168.115.*R*.0.+	115	133	|100|125|150|175|200|225|250|300|	≈ 2.24	≈ 2.24
167.125.*R*.0.+	–	125	143	|100|125|150|175|200|225|250|300|	≈ 2.35	≈ 2.35
167.150.*R*.0.+	168.150.*R*.0.+	150	168	|100|125|150|175|200|225|250|300|	≈ 2.60	≈ 2.60
167.175.*R*.0.+	168.175.*R*.0.+	175	193	|100|125|150|175|200|225|250|300|	≈ 2.86	≈ 2.86
167.200.*R*.0.+	168.200.*R*.0.+	200	218	|100|125|150|175|200|225|250|300|	≈ 3.11	≈ 3.11
167.225.*R*.0.+	–	225	243	|100|125|150|175|200|225|250|300|	≈ 3.37	≈ 3.37
167.250.*R*.0.+	–	250	268	|100|125|150|175|200|225|250|300|	≈ 3.62	≈ 3.62

Complete Part No. with required radius (*R*). Example: **168.100.100.0.+**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



CFU strain relief with innovative honeycomb design

- Fast filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Universal use, compact, space-saving design

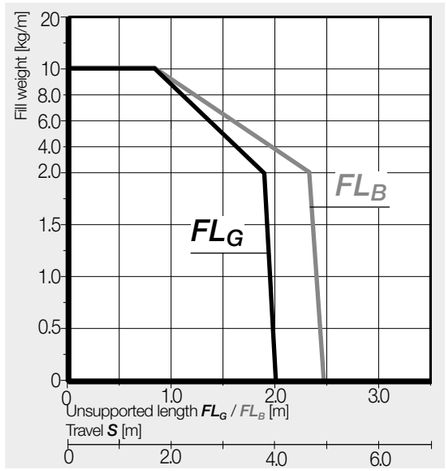
More information ▶ Page 1426

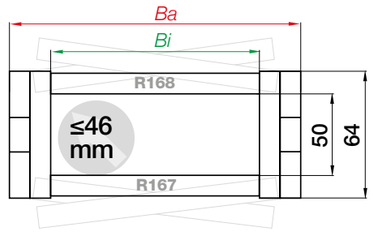


E2 R100 e-tubes | R167·R168 | Installation dimensions

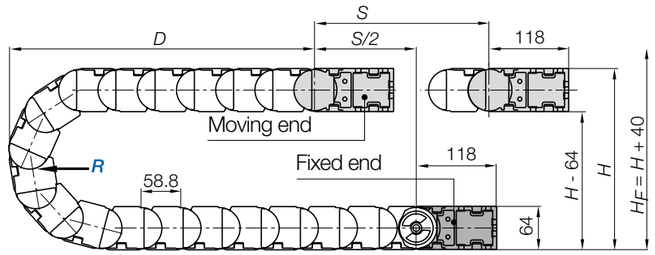
▶ 1392

Unsupported applications | Short travels





Inner height [mm]	50
Pitch [mm/link]	58.8
Links/m	17
corresponds to [mm]	999.6
e-tube length	$L_K = S/2 + K$



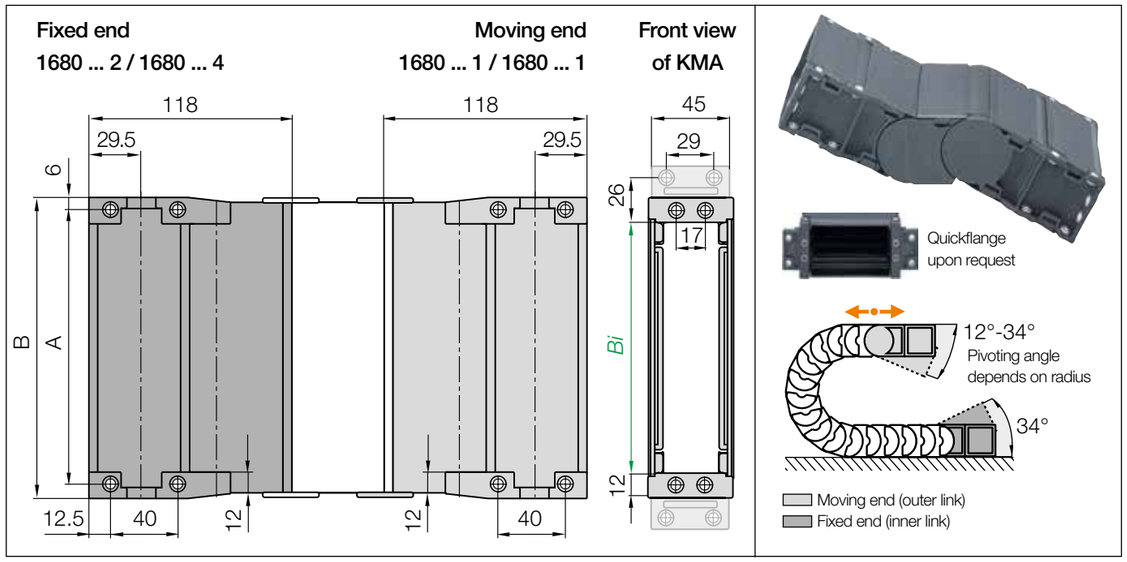
R	100	125	150	175	200	225	250	300
H	264	314	364	414	464	514	564	664
D	220	245	270	295	320	345	370	420
K	435	515	590	670	750	825	905	1,065

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

R100 e-tubes | Series R167·R168 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part no. full set **KMA pivoting**	Part No. full set **KMA fixed end locking*:**	A [mm]	B [mm]	Bi [mm]
050. ▶	**1680.050.12**	**1680.050.14**	62	74	**50**
075. ▶	**1680.075.12**	**1680.075.14**	87	99	**75**
100. ▶	**1680.100.12**	**1680.100.14**	112	124	**100**
115. ▶	**1680.115.12**	**1680.115.14**	127	139	**115**
125. ▶	**1680.125.12**	**1680.125.14**	137	149	**125**
150. ▶	**1680.150.12**	**1680.150.14**	162	174	**150**
175. ▶	**1680.175.12**	**1680.175.14**	187	199	**175**
200. ▶	**1680.200.12**	**1680.200.14**	212	224	**200**
225. ▶	**1680.225.12**	**1680.225.14**	237	249	**225**
250. ▶	**1680.250.12**	**1680.250.14**	262	274	**250**

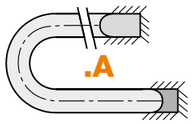
(KMA = polymer metal mounting bracket)

*only the fixed end is locking, the moving end is pivoting

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 1680.100.12.QF. Unassembled quickflange: Part No. 16800.QF



The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .

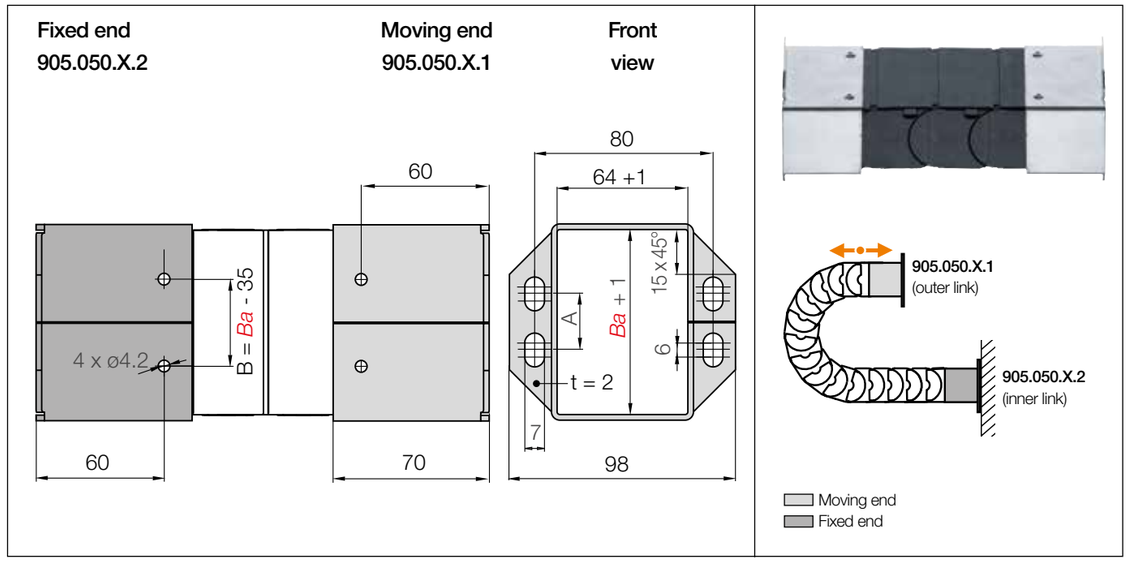
1680.100.12.A Order example
Pre-assembled
Full set
width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

R167
R168

R100 e-tubes | Series R167·R168 | Accessories

Mounting brackets, flange steel | Locking

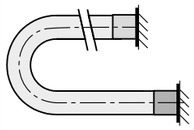


Steel flange, locking | Recommended for unsupported applications

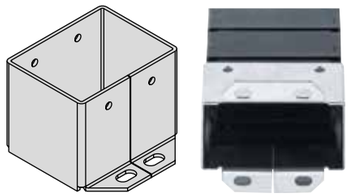
Width index	Hole pattern	Part No. full set **Steel flange**	Bi [mm]	Ba [mm]	A [mm]	B [mm]
075. ▶	**68.01**	905.050.1.12*	**75**	**93**	30	58
115. ▶	**68.02**	905.050.2.12*	**115**	**133**	50	98
175. ▶	**68.03**	905.050.3.12*	**175**	**193**	100	158

* Available upon request Delivery time upon request.

Mounting only with hexagon socket DIN 912 M6 and washer DIN 125, 6.3mm



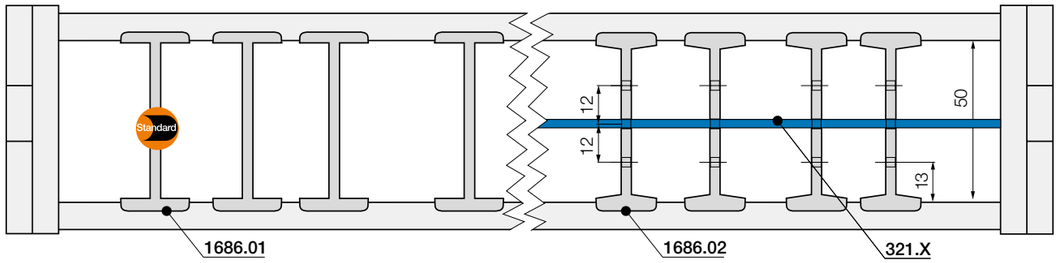
Metallic flange brackets with common hole patterns can easily replace alternatives, without having to alter the hole pattern. Flush attachment possibilities at both ends of the e-tube using flange mounting brackets made of steel.



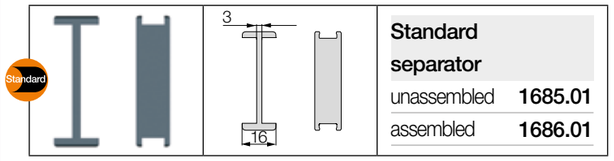
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

R100 e-tubes | Series R167·R168 | Accessories

Interior separation | Option 1 | Option 2



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

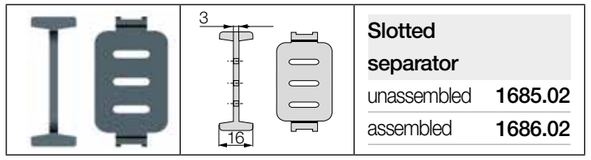


Standard separator	
unassembled	**1685.01**
assembled	**1686.01**

Option 1 | Separators

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

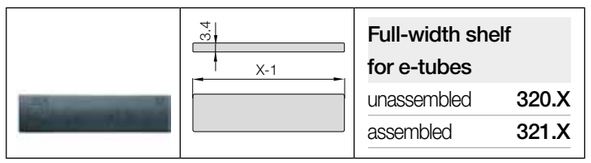


Slotted separator	
unassembled	**1685.02**
assembled	**1686.02**

Option 2 | Full-width shelves

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical and horizontal shelving arrangements.



Full-width shelf for e-tubes	
unassembled	**320.X**
assembled	**321.X**

Full-width shelf

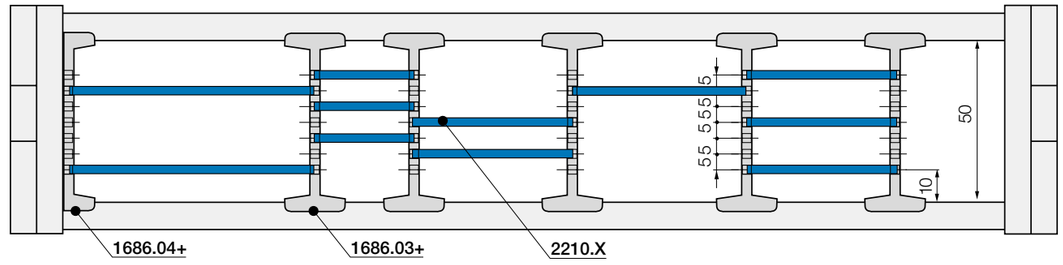
This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

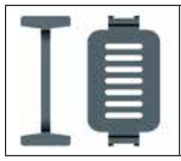
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**320.050**	**321.050**	150	**320.150**	**321.150**	250	**320.250**	**321.250**
075	**320.075**	**321.075**	175	**320.175**	**321.175**			
115	**320.115**	**321.115**	200	**320.200**	**321.200**			
125	**320.125**	**321.125**	225	**320.225**	**321.225**			

R100 e-tubes | Series R167·R168 | Accessories

Interior separation | Option 3



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Slotted separator	
unassembled	**1685.03**
assembled	**1686.03+**

Option 3 | Shelves

Slotted separator

Allows modular shelving arrangements.



Slotted side plate	
unassembled	**1685.04**
assembled	**1686.04+**

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!



Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.88**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.99**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 1685.01.Z - more information ▶ From page 1428



E2 R

e-tubes for swarf protection at higher speeds and smooth running

Advantages of the E2 R series:

- Strong e-tubes with small pitch for low noise, smooth running
- High level of protection against swarf (including hot swarf)
- Lids removable along the outer radius
- Robust and sealed
- Space-efficient with optimised ratio of inner to outer dimensions

When to use another e-tube:

- When a particularly cost-effective solution is required
  ► **R2.1 e-tubes, page 442**
- When no swarf protection is required
  ► **E2/000 e-chains®, page 374**
- For extremely swarf-resistant e-tubes
  ► **RX system, page 516**
- When even higher strength is required
  ► **R4.1L e-tubes, page 538**



Swarf protection at higher speeds and smooth running - E2 R e-tubes

E2 R e-tubes - small pitch for higher speeds and smooth motion. igus® e-tubes work in hot swarf areas, in areas of dirt and dust generated by woodworking, steel mills, pulp and paper, textile, agriculture, coal plant and many other hostile environments.

- High level of protection against swarf (including hot swarf)
- Robust and sealed
- Space-efficient with optimised ratio of inner to outer dimensions
- Modular interior separation
- Universal KMA mounting brackets with attachment options from any side

Typical industries and applications

● Machine tools ● Wood processing machines ● General mechanical engineering ● In all areas with dirt and swarf

e-tubes made from igumid HT material for hot swarf of up to +850 °C available upon request

Electrically conductive ESD e-tubes upon request

UL94-V0 classification upon request

iF product design award
1987 igus® series R68

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
R48	25	25 - 130	36 - 141	36	060 - 250	1.50	**498**
R58	35	50 - 200	66 - 216	50	075 - 250	2.30	**504**
R68	45	50 - 250	68 - 268	64	100 - 300	2.50	**510**

E2 R e-tubes -
lids removable along the outer radius

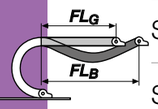
Available from stock. Ready to ship in 48 - 72hrs.*
*Average time before the ordered goods are dispatched.



E2 e-tubes in swarf area of a machine tool. With igumid HT material resistant to swarf up to +850°C

Technical data

Speed gliding[1] / acceleration gliding[1]	≤ 3 [m/s] / ≤ 10 [m/s²]
Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 100 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB



FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) If a gliding application is required for a long travel, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported	Zig-zag	Unsupported length lower run
R48	≤ 3.00m	≤ 50m	≤ 50m	≤ 4.0m	≤ 1.5m	upon request	upon request
R58	≤ 4.50m	≤ 75m	≤ 50m	≤ 4.0m	≤ 2.0m	upon request	upon request
R68	≤ 5.00m	≤ 100m	≤ 60m	≤ 4.0m	≤ 2.0m	upon request	upon request

1) For gliding applications, please consult igus®.

Options with order keys | Examples based on series R58

	Standard	*NC version - (No Camber) without pretension*	*e-tube - no burning-in of hot swarf up to 850°C*	*ESD - electrically conductive material*
	Part No. Standard	Part No. NC version	Part No. igumid HT	Part No. igumid ESD
	58.100.R.0	58.100.R.0.NC	58.100.R.0.HT	58.100.R.0.ESD
	Ready to ship in 48-72hrs.*	Ready to ship in 5 business days*	Ready to ship in 6 weeks*	Ready to ship in 12 business days*

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series R58

Order example for complete e-tube (1.0m), colour black, with mounting brackets and interior separation:

e-tube (1.0m)	Please indicate e-tube length or number of links: 1.0m or 28 links	58.100.100.0
+ Mounting brackets	KMA - 1 set	580.100.12
Interior separation	with 2 separators assembled every 2nd link	2 x 582
Order text:	**1m 58.100.100.0 + 580.100.12 + 2 x 582**	

Order key

Lids removable along the outer radius

58.100.100.0

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 48-72hrs.*

Above special colours upon request.

E2 R e-tubes | Series R48 | Product range

25

Protection against dirt and debris, small pitch for smooth motion



e-tubes | Series R48 | Lids removable along the outer radius

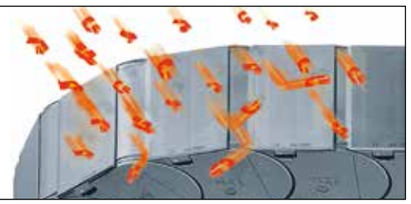
Part No.	Bi	Ba	R Available bend radii	R48
e-tubes	[mm]	[mm]	[mm]	[kg/m]
48.025.R.0	25	36	|060|075|100|125|150|175|200|250|	≈ 0.64
48.050.R.0	50	61	|060|075|100|125|150|175|200|250|	≈ 0.84
48.075.R.0	75	86	|060|075|100|125|150|175|200|250|	≈ 1.03
48.100.R.0	100	111	|060|075|100|125|150|175|200|250|	≈ 1.23
48.130.R.0	130	141	|060|075|100|125|150|175|200|250|	≈ 1.46

Complete Part No. with required radius (*R*). Example: **48.100.100.0**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

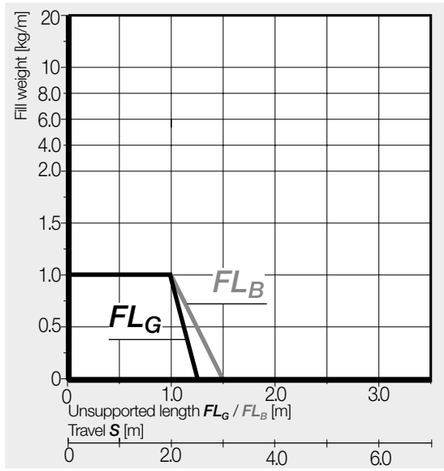
More information ▶ www.igus.eu/HT

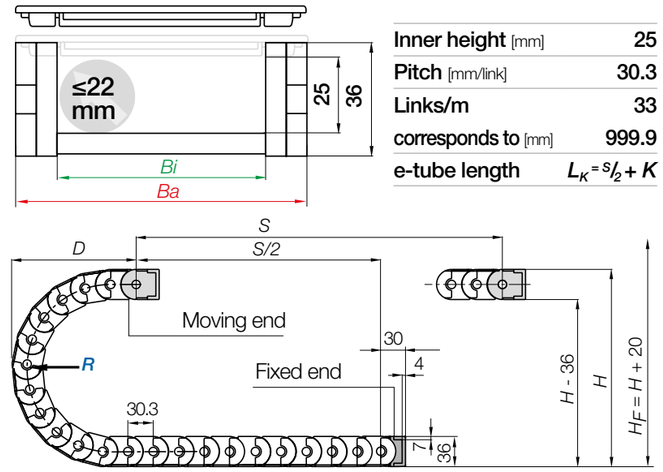


E2 R e-tubes | R48 | Installation dimensions

▶ 1392 ▶ 1312

Unsupported applications | Short travels



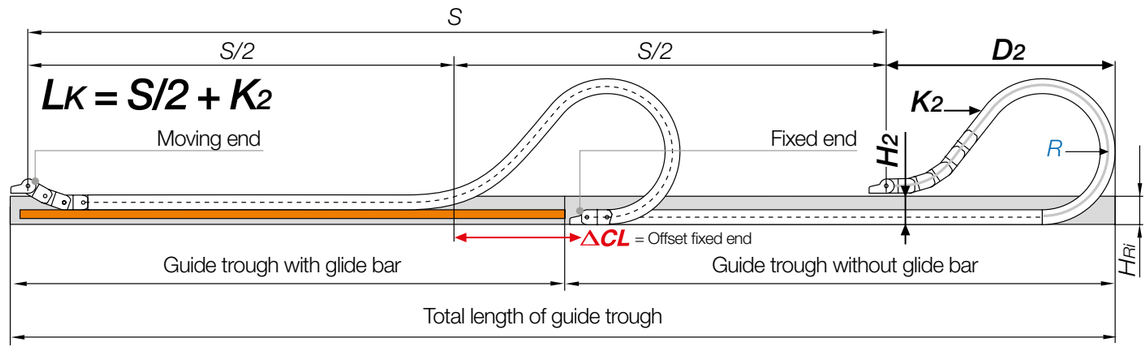


Inner height [mm]	25
Pitch [mm/link]	30.3
Links/m	33
corresponds to [mm]	999.9
e-tube length	$L_K = S/2 + K$

R	060	075	100	125	150	175	200	250
H	156	186	236	286	336	386	436	536
D	123	138	163	188	213	238	263	313
K	250	300	375	455	535	615	690	850

The required clearance height: $H_F = H + 20$mm (with 0.5kg/m fill weight)

Gliding applications | For long travel lengths from 5m to max. 50m



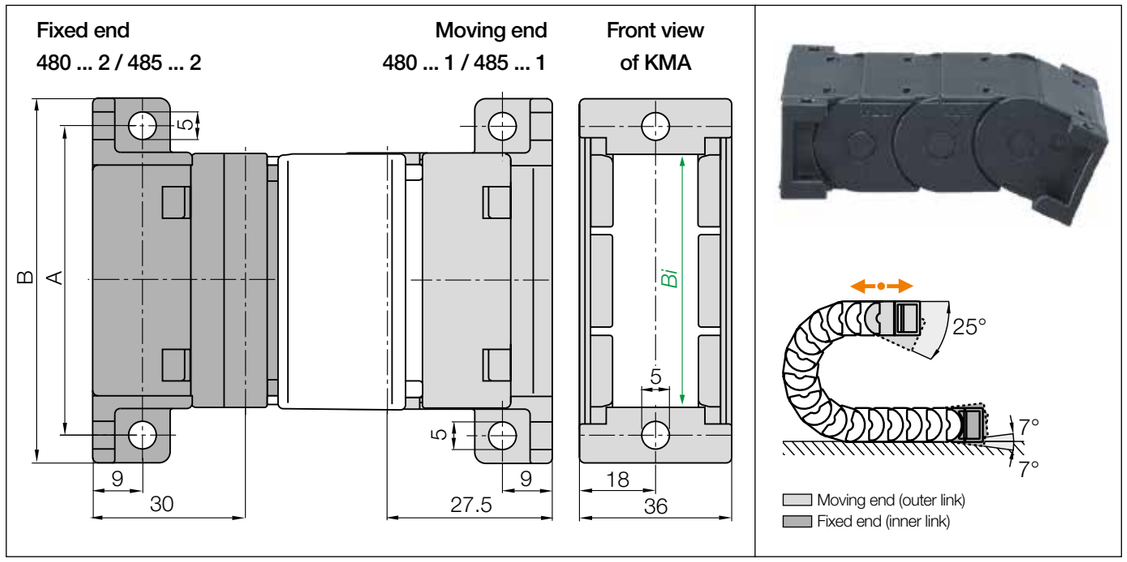
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 2 and 5m we recommend an e-tube with a longer unsupported length.
If a gliding application is required for a long travel, please consult igus®.

R	060	075	100	125	150	175	200	250
H_2	156	186	176	176	176	176	176	*
D_2	110	125	330	450	610	730	690	*
K_2	250	300	545	758	970	1,151	1,182	*
ΔCL	–	–	170	270	380	470	*	*

*Values upon request

E2 R e-tubes | Series R48 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



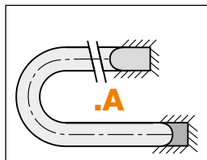
KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part no. full set **KMA pivoting**	Part No. full set **KMA locking**	A [mm]	B [mm]	*Bi* [mm]
025. ▶	**480.025.12**	**485.025.12**	45	55	**25**
050. ▶	**480.050.12**	**485.050.12**	70	80	**50**
075. ▶	**480.075.12**	**485.075.12**	95	105	**75**
100. ▶	**480.100.12**	**485.100.12**	120	130	**100**
130. ▶	**480.130.12**	**485.130.12**	150	160	**130**

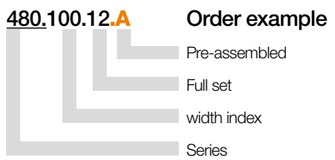
(KMA = polymer metal mounting bracket)

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

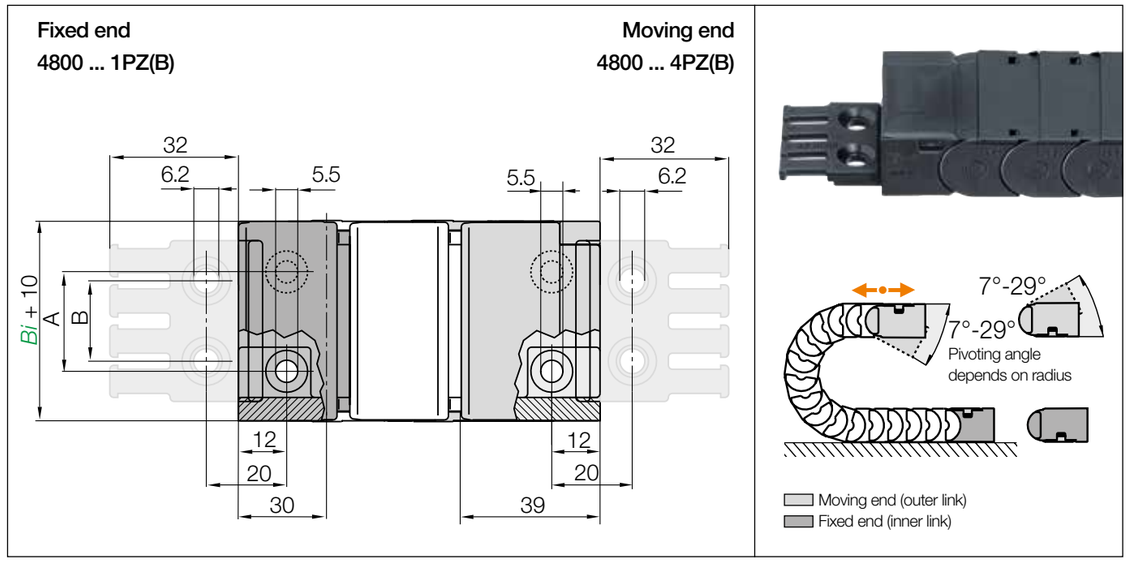


The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .



Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

Angled polymer bracket | One end pivoting



Angled polymer bracket | One end pivoting
Recommended for unsupported applications

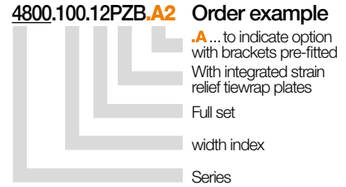
Width index	Part No. full set **with tiewrap plates**	Part No. full set **without tiewrap plates**	A [mm]	B [mm]	Number of teeth
025. ▶	**4800.025.12PZB**	**4800.025.12**	12	15	3
050. ▶	**4800.050.12PZB**	**4800.050.12**	37	30	5
075. ▶	**4800.075.12PZB**	**4800.075.12**	62	60	8
100. ▶	**4800.100.12PZB**	**4800.100.12**	87	80	10
130. ▶	–	**4800.130.12**	117	–	–

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8. Length depends on the thickness of the attachment base ● Hexagon nut M5 DIN 7991 ● Washer 5.3 DIN 125-ST



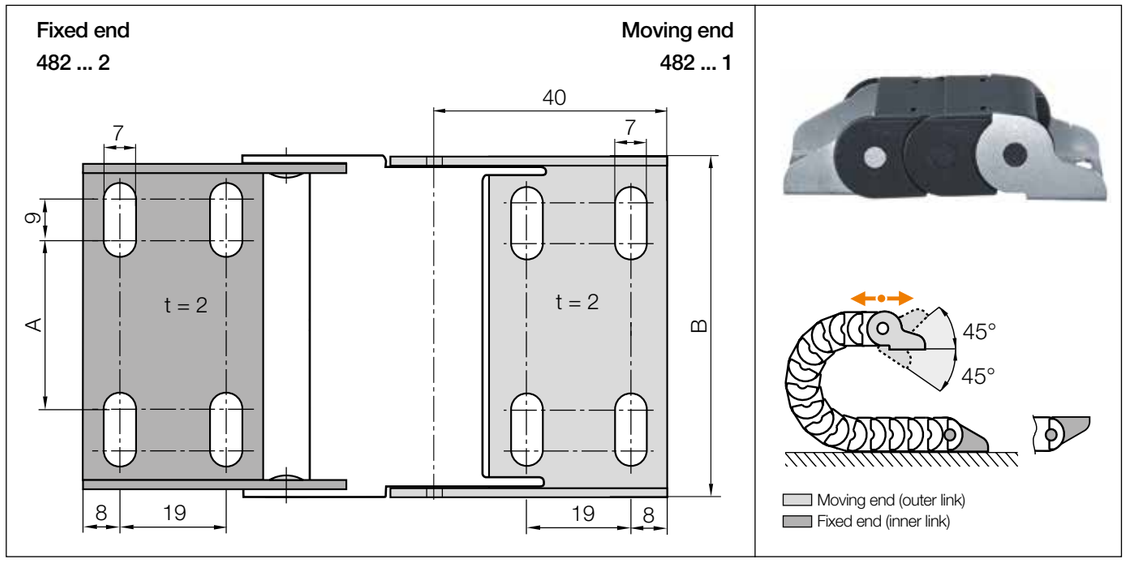
For mounting brackets pre-fitted **without strain relief**, please attach index **.A**.
For types pre-fitted **with strain relief**please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

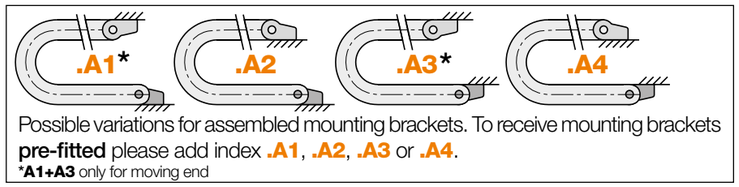
E2 R e-tubes | Series R48 | Accessories

Steel mounting brackets | One end pivoting



Steel mounting brackets | One end pivoting
Recommended for unsupported, vertical hanging, standing applications

Width index	Part No. full set **Steel one end pivoting**	A [mm]	B [mm]
025. ▶	**482.025 .12**	–	35
050. ▶	**482.050 .12**	22	60
075. ▶	**482.075 .12**	47	85
100. ▶	**482.100 .12**	72	110
130. ▶	**482.130 .12**	102	140



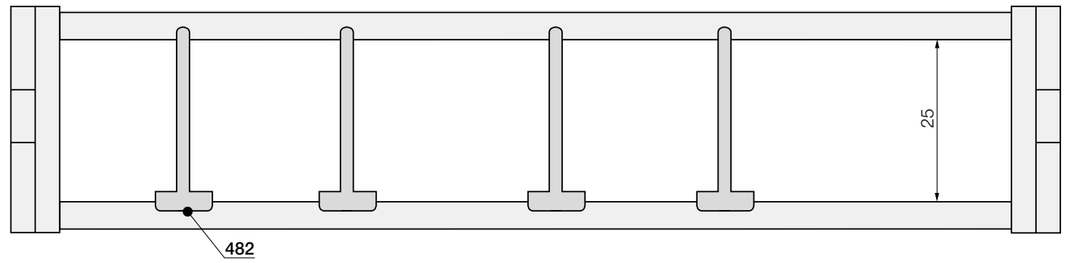
Possible variations for assembled mounting brackets. To receive mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.
***A1+A3** only for moving end

482.100.12.A1 Order example

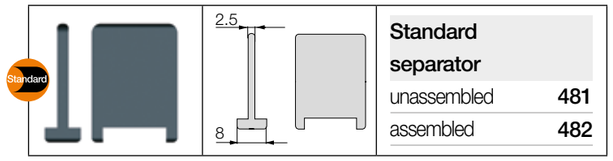
.A ... to indicate option with brackets pre-fitted
Full set
width index
Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Standard separator	
unassembled	**481**
assembled	**482**

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point in the e-tube
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 481.ZR - more information ▶ From page 1428



E2 R e-tubes | Series R58 | Product range

35

Protection against dirt and debris, small pitch for smooth motion



e-tubes | Series R58 | Lids removable along the outer radius

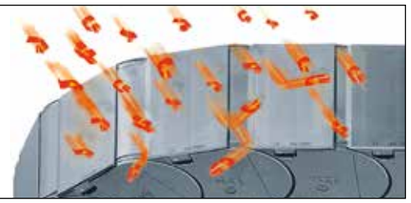
Part No.	Bi	Ba	R Available bend radii	R58
e-tubes	[mm]	[mm]	[mm]	[kg/m]
58. 050.R.0	50	66	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 1.50
58. 075.R.0	75	91	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 1.77
58. 100.R.0	100	116	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 2.04
58. 125.R.0	125	141	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 2.31
58. 150.R.0	150	166	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 2.61
58. 175.R.0	175	191	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 2.88
58. 200.R.0	200	216	| 075 | 100 | 125 | 150 | 200 | 250 |	≈ 3.15

Complete Part No. with required radius (*R*). Example: **58.100.100.0**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

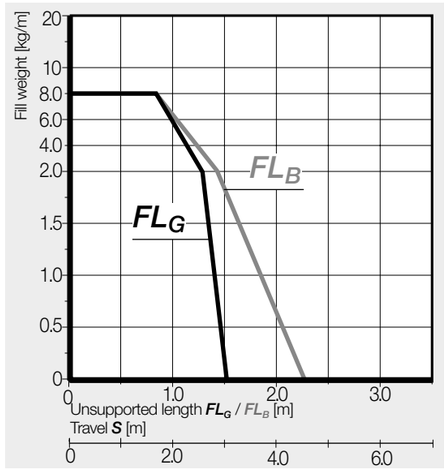
More information ▶ www.igus.eu/HT

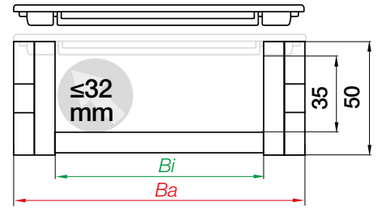


E2 R e-tubes | R58 | Installation dimensions

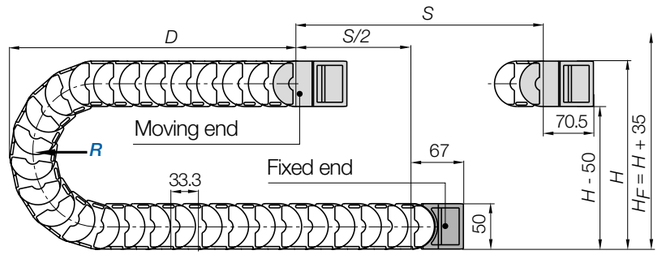
▶ 1392 ▶ 1318

Unsupported applications | Short travels





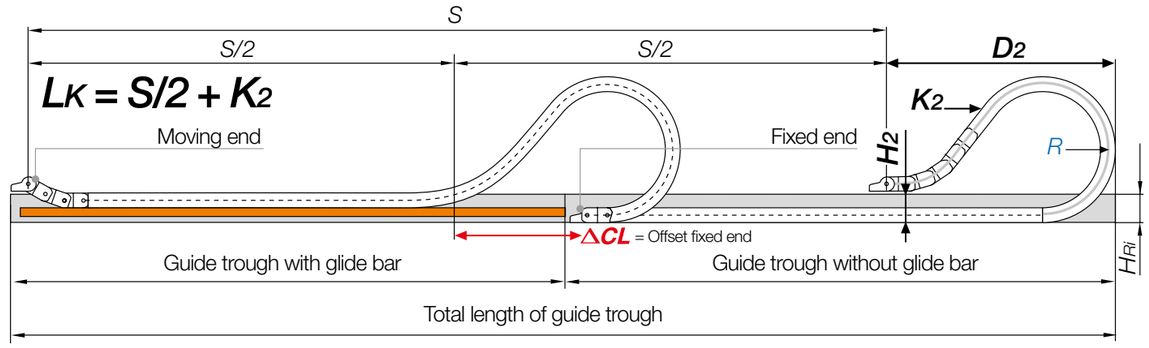
Inner height [mm]	35
Pitch [mm/link]	33.3
Links/m	30
corresponds to [mm]	999
e-tube length	$L_K = S/2 + K$



R	075	100	125	150	200	250
H	200	250	300	350	450	550
D	150	175	200	225	275	325
K	305	385	460	540	695	855

The required clearance height: $H_F = H + 35mm$ (with 0.5kg/m fill weight)

Gliding applications | For long travel lengths from 5m to max. 75m



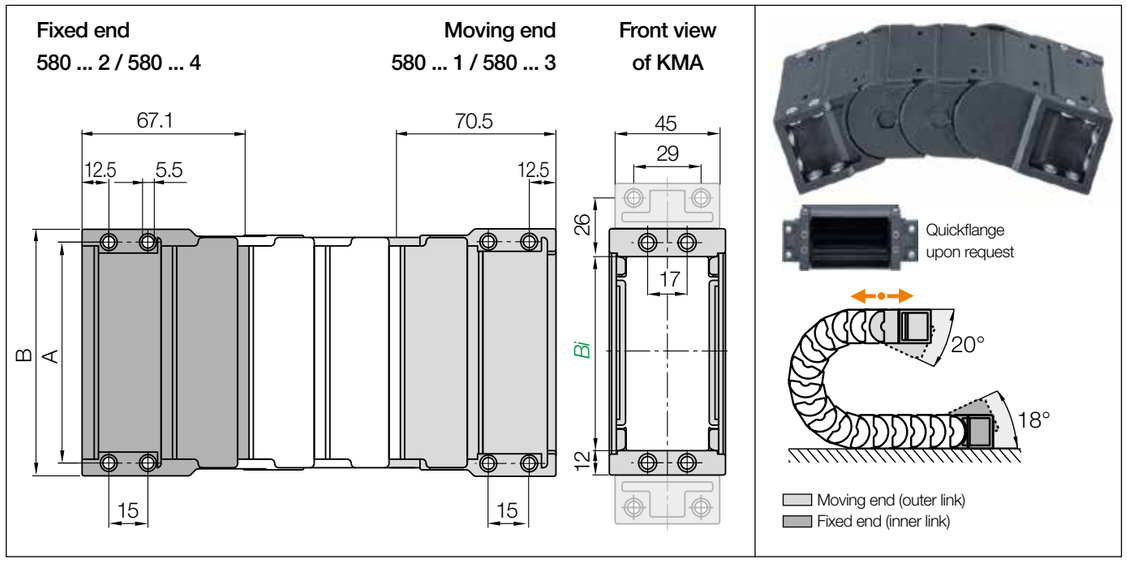
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 3 and 5m we recommend an e-tube with a longer unsupported length.
If a gliding application is required for a long travel, please consult igus®.

R	075	100	125	150	200	250
H_2	150	166	166	166	166	166
D_2	150	310	380	480	800	1,050
K_2	375	500	699	866	1,265	1,665
ΔCL	*	122	167	247	512	717

*Value upon request

E2 R e-tubes | Series R58 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

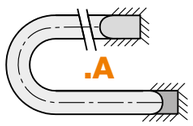
Width index	Part no. full set KMA pivoting	Part No. full set KMA locking	A [mm]	B [mm]	Bi [mm]
050. ▶	580.050.12	580.050.34	62	74	50
075. ▶	580.075.12	580.075.34	87	99	75
100. ▶	580.100.12	580.100.34	112	124	100
125. ▶	580.125.12	580.125.34	137	149	125
150. ▶	580.150.12	580.150.34	162	174	150
175. ▶	580.175.12	580.175.34	187	199	175
200. ▶	580.200.12	580.200.34	212	224	200

(KMA = polymer metal mounting bracket)

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 580.100.12.QF. Unassembled quickflange: Part No. 16800.QF



The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .

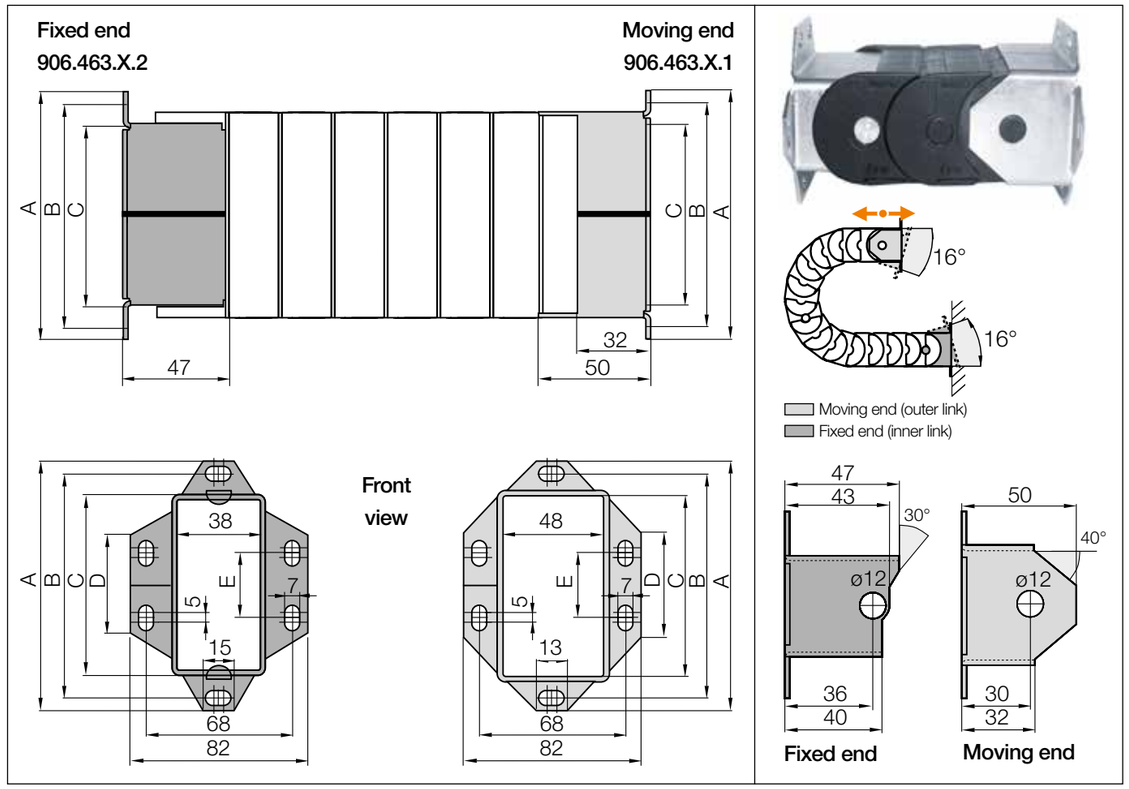
580.100.12.A Order example
- Pre-assembled
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

R58

E2 R e-tubes | Series R58 | Accessories

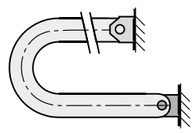
Mounting brackets, steel flange | Pivoting



Steel flange, pivoting | Recommended for unsupported applications

Width index	Hole pattern	Part No. Moving end	Bi [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
050. ▶	58.05	906.463.05.1	50	90.5	78.5	58.3	24.5	20
075. ▶	58.1	906.463.1.1	75	116	104	83.3	50	30

Width index	Hole pattern	Part No. Fixed end	Bi [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
050. ▶	58.05	906.463.05.2	50	90.5	78.5	57.5	28	20
075. ▶	58.1	906.463.1.2	75	116	104	82.5	45	30

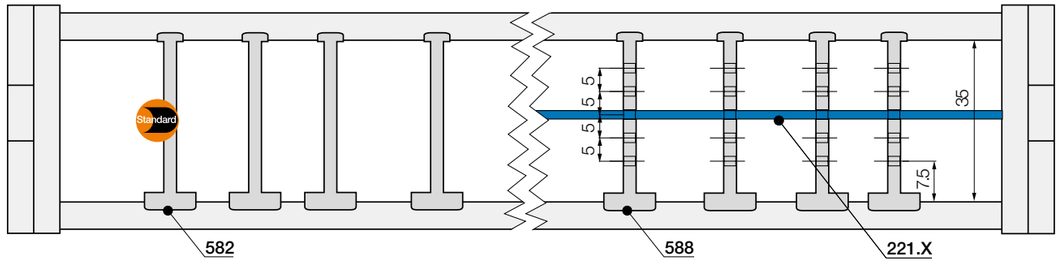


Metallic flange brackets with common hole patterns can easily replace alternatives, without having to alter the hole pattern. Flush attachment possibilities at both ends of the e-tube using flange mounting brackets made of steel.

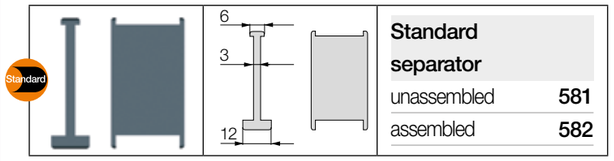
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E2 R e-tubes | Series R58 | Accessories

Interior separation | Option 1 | Option 2



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

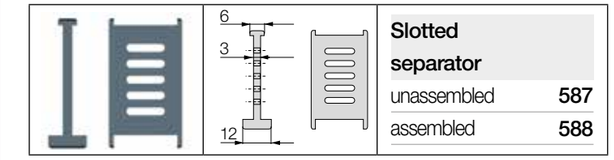


Standard separator	
unassembled	**581**
assembled	**582**

Option 1 | Separators

Standard separator

For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

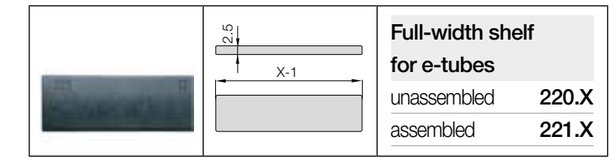


Slotted separator	
unassembled	**587**
assembled	**588**

Option 2 | Full-width shelves

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical and horizontal shelving arrangements.



Full-width shelf for e-tubes	
unassembled	**220.X**
assembled	**221.X**

Full-width shelf

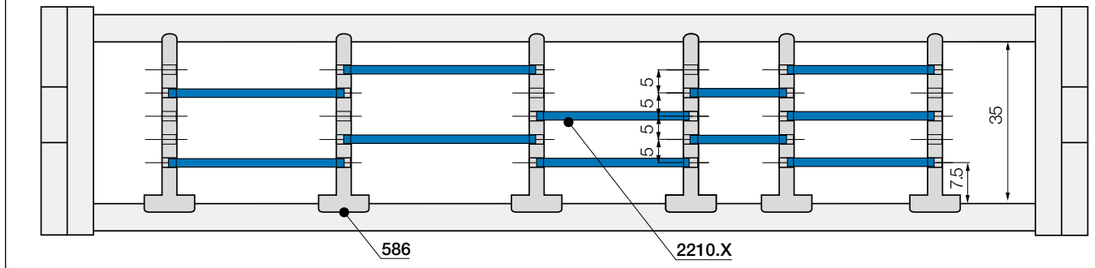
This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

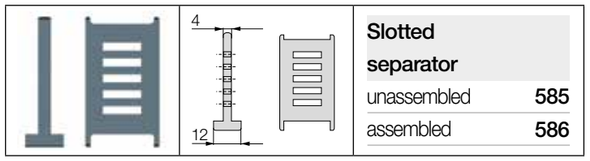
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**220.50**	**221.50**	125	**220.125**	**221.125**	200	**220.200**	**221.200**
075	**220.75**	**221.75**	150	**220.150**	**221.150**			
100	**220.100**	**221.100**	175	**220.175**	**221.175**			

E2 R e-tubes | Series R58 | Accessories

Interior separation | Option 3



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!

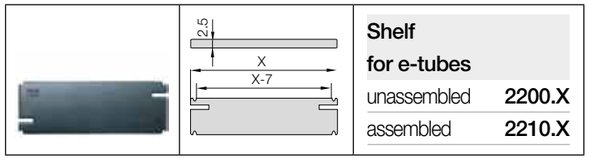


Slotted separator	
unassembled	**585**
assembled	**586**

Option 3 | Shelves

Slotted separator

Allows modular shelving arrangements.



Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.88**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.99**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			

E2 R e-tubes | Series R68 | Product range

45

Protection against dirt and debris, small pitch for smooth motion



e-tubes | Series R68 | Lids removable along the outer radius

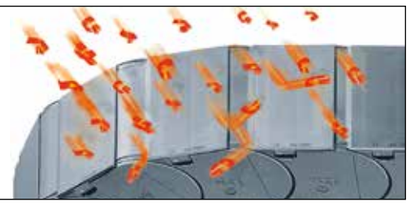
Part No.	Bi	Ba	R Available bend radii	R68
e-tubes	[mm]	[mm]	[mm]	[kg/m]
68. 050 .R.0	50	68	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 1.90
68. 075 .R.0	75	93	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.18
68. 100 .R.0	100	118	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.46
68. 115 .R.0	115	133	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.63
68. 125 .R.0	125	143	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 2.77
68. 150 .R.0	150	168	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.05
68. 175 .R.0	175	193	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.36
68. 200 .R.0	200	218	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.64
68. 225 .R.0	225	243	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 3.92
68. 250 .R.0	250	268	| 100 | 125 | 150 | 175 | 200 | 225 | 250 | 300 |	≈ 4.23

Complete Part No. with required radius (*R*). Example: **68.100.100.0**

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



CFU strain relief with innovative honeycomb design

- Fast filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Universal use, compact, space-saving design

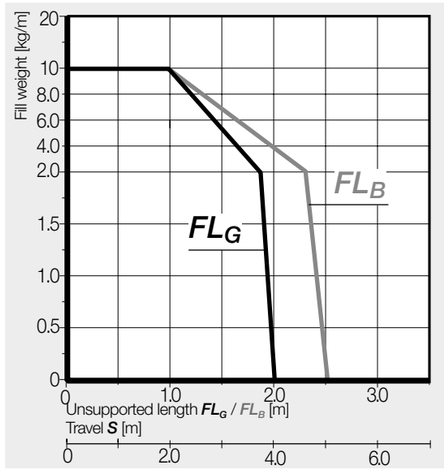
More information ▶ Page 1426

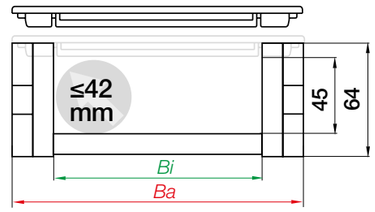


E2 R e-tubes | R68 | Installation dimensions

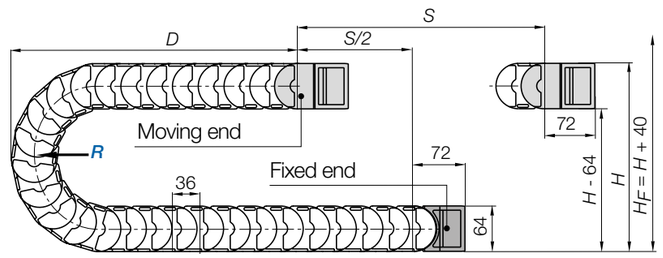
▶ 1392 ▶ 1320

Unsupported applications | Short travels





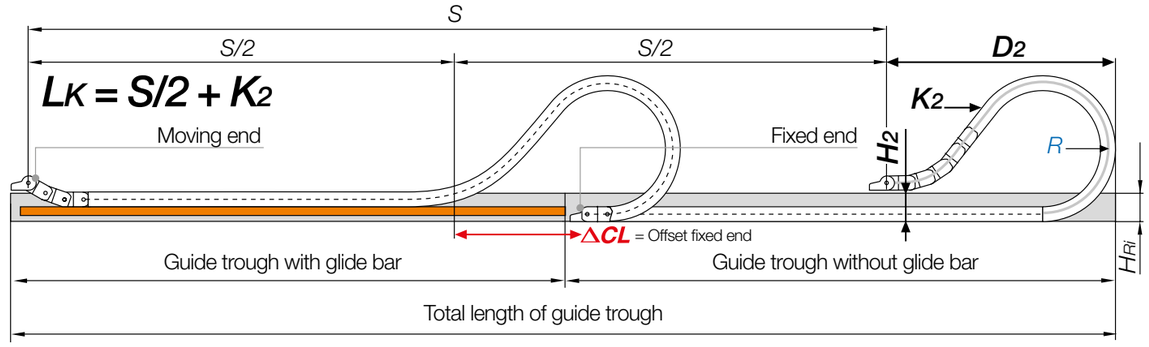
Inner height [mm]	45
Pitch [mm/link]	36
Links/m	28
corresponds to [mm]	1,008
e-tube length	$L_K = S/2 + K$



R	100	125	150	175	200	225	250	300
H	264	314	364	414	464	514	564	664
D	186	211	236	261	286	311	336	386
K	390	465	545	625	705	780	860	1,015

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

Gliding applications | For long travel lengths from 6m to max. 100m



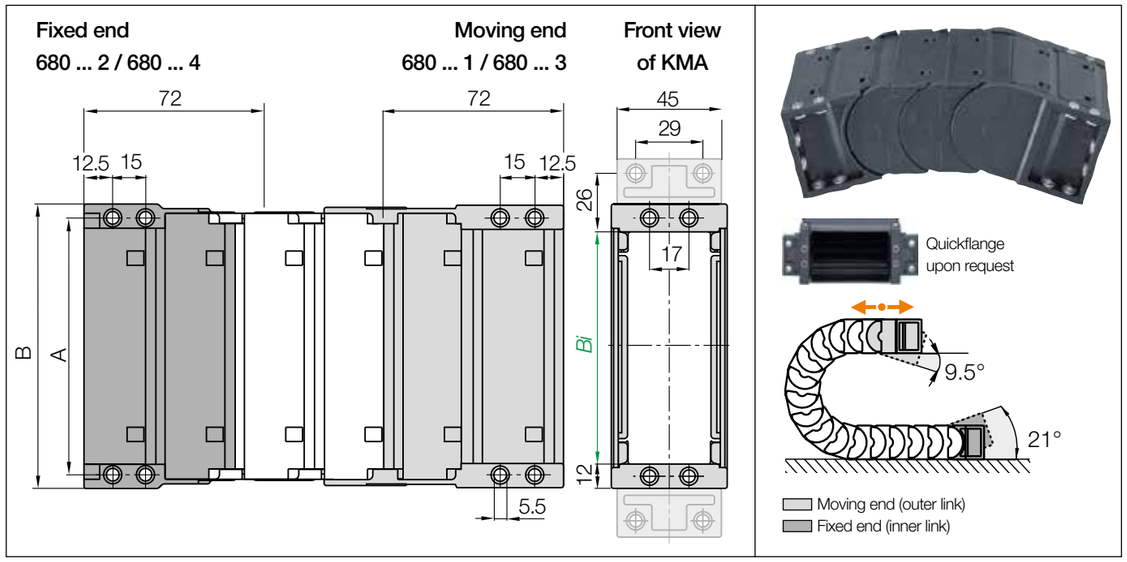
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 4 and 6m we recommend an e-tube with a longer unsupported length.
If a gliding application is required for a long travel, please consult igus®.

R	100	125	150	175	200	225	250	300
H_2	201	220	220	220	220	220	220	220
D_2	200	370	440	540	650	700	850	1,050
K_2	500	648	792	900	1,116	1,269	1,476	1,800
ΔCL	*	164	204	294	364	439	514	664

*Value upon request

E2 R e-tubes | Series R68 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported applications
KMA locking | Recommended for vertical hanging and standing applications

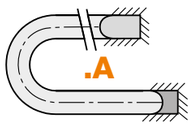
Width index	Part no. full set KMA pivoting	Part No. full set KMA locking	A [mm]	B [mm]	Bi [mm]
050. ▶	680.050.12	680.050.34	62	74	50
075. ▶	680.075.12	680.075.34	87	99	75
100. ▶	680.100.12	680.100.34	112	124	100
115. ▶	680.115.12	680.115.34	127	139	115
125. ▶	680.125.12	680.125.34	137	149	125
150. ▶	680.150.12	680.150.34	162	174	150
175. ▶	680.175.12	680.175.34	187	199	175
200. ▶	680.200.12	680.200.34	212	224	200
225. ▶	680.225.12	680.225.34	237	249	225
250. ▶	680.250.12	680.250.34	262	274	250

(KMA = polymer metal mounting bracket)

The following parts are required for attachment of the mounting brackets:

● Socket head cap bolt M5 DIN 912-8.8 Length depends on the thickness of the attachment base ● Washer 5.3 DIN 125-ST ● Hexagon nut M5 DIN 934-8

To receive full sets with pre-fitted quickflange please add index QF ▶ For example: Part No. 680.100.12.QF. Unassembled quickflange: Part No. 16800.QF



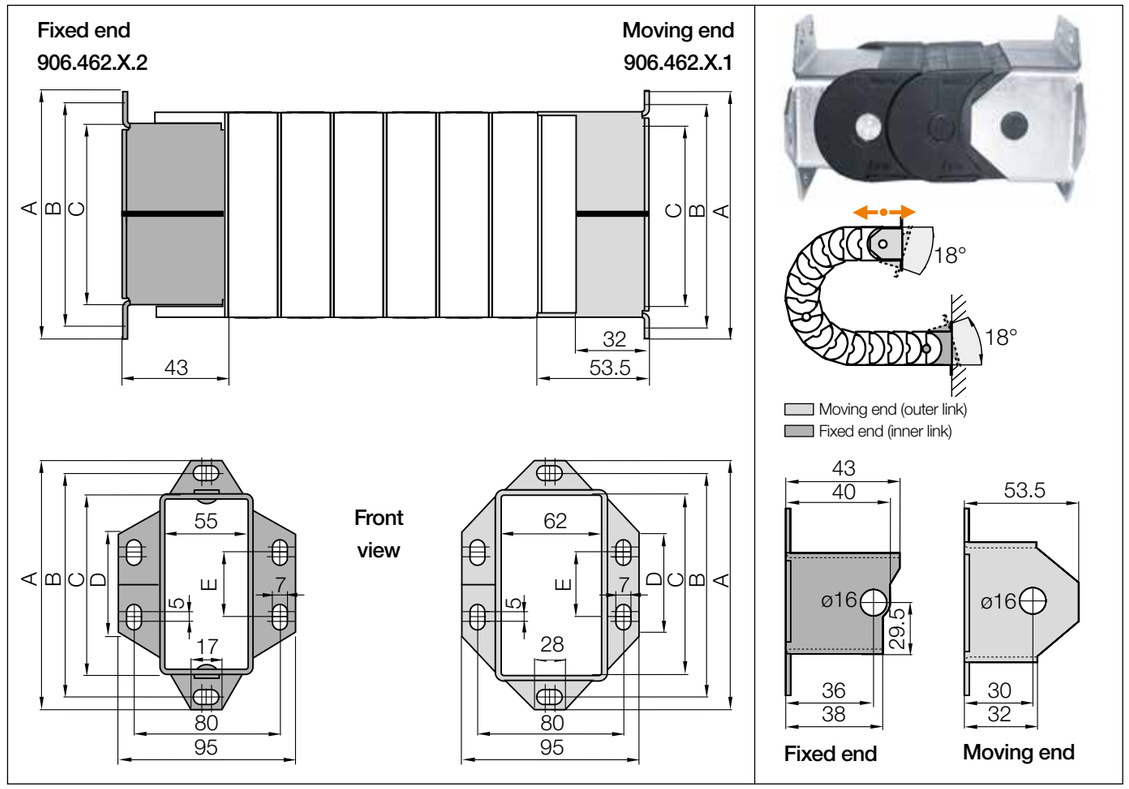
The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket **pre-fitted** please add index **.A** .

680.100.12.A **Order example**
Pre-assembled
Full set
width index
Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E2 R e-tubes | Series R68 | Accessories

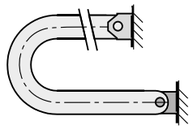
Mounting brackets, steel flange | Pivoting



Steel flange, pivoting | Recommended for unsupported applications

Width index	Hole pattern	Part No. Moving end	Bi [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
075. ▶	68.1	906.462.1.1	75	116	104	83.3	50	30
115. ▶	68.2	906.462.2.1	115	156	144	123.3	90	50
175. ▶	68.3	906.462.3.1	175	216	204	183.3	150	100

Width index	Hole pattern	Part No. Fixed end	Bi [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
075. ▶	68.1	906.462.1.2	75	116	104	83.4	38	30
115. ▶	68.2	906.462.2.2	115	156	144	123.4	78	50
175. ▶	68.3	906.462.3.2	175	216	204	183.4	138	100

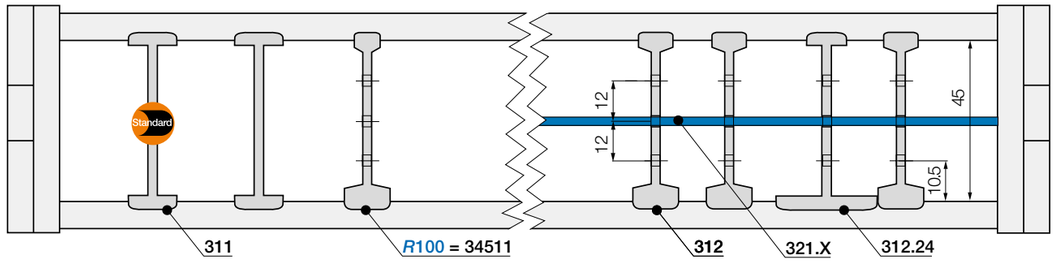


Metallic flange brackets with common hole patterns can easily replace alternatives, without having to alter the hole pattern. Flush attachment possibilities at both ends of the e-tube using flange mounting brackets made of steel.

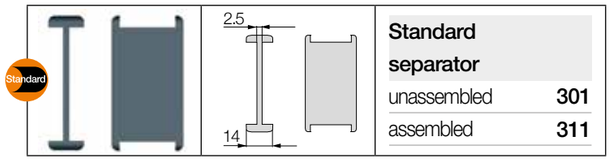
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E2 R e-tubes | Series R68 | Accessories

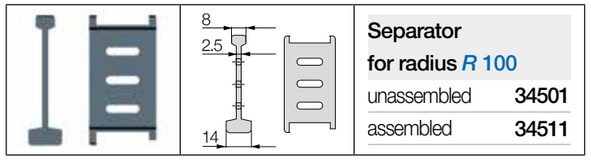
Interior separation | Option 1 | Option 2



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Standard separator	
unassembled	**301**
assembled	**311**



Separator for radius *R* 100	
unassembled	**34501**
assembled	**34511**

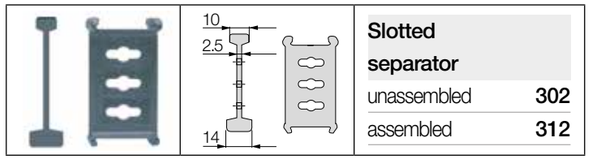
Option 1 | Separators

Standard separator

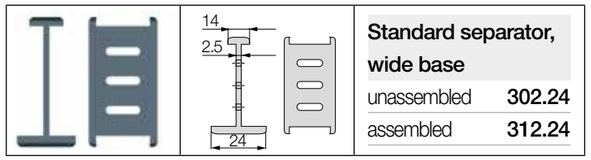
For simple vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses. **Not suitable for bend radius *R* 100!**

Separator for radius *R* 100

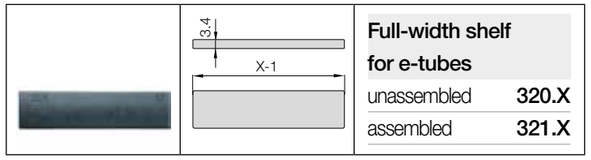
If you select this bend radius please use this separator for a vertical subdivision.



Slotted separator	
unassembled	**302**
assembled	**312**



Standard separator, wide base	
unassembled	**302.24**
assembled	**312.24**



Full-width shelf for e-tubes	
unassembled	**320.X**
assembled	**321.X**

Option 2 | Full-width shelves

Slotted separator

Vertical separation in e-tubes. The slot allows basic vertical and horizontal shelving arrangements.

Slotted separator, wide base

If a wide space between the separators has to be kept or separators have to be fixed in their position.

Full-width shelf

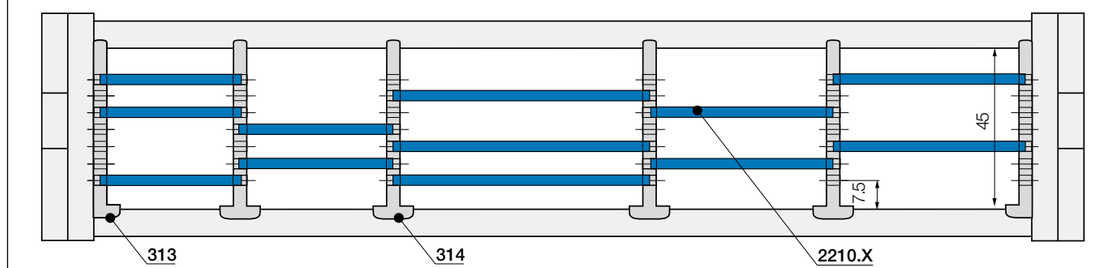
This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves
Width = X [mm]

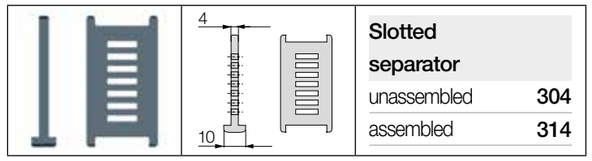
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**320.050**	**321.050**	150	**320.150**	**321.150**	250	**320.250**	**321.250**
075	**320.075**	**321.075**	175	**320.175**	**321.175**			
115	**320.115**	**321.115**	200	**320.200**	**321.200**			
125	**320.125**	**321.125**	225	**320.225**	**321.225**			

E2 R e-tubes | Series R68 | Accessories

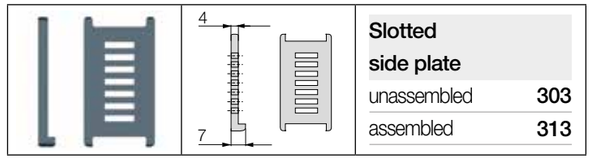
Interior separation | Option 3



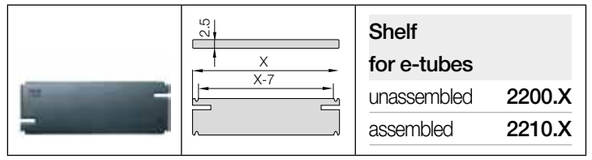
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-tube link!



Slotted separator	
unassembled	**304**
assembled	**314**



Slotted side plate	
unassembled	**303**
assembled	**313**



Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Option 3 | Shelves

Slotted separator

Allows modular shelving arrangements.

Slotted side plate

Allows modular shelving right up to the side links. No clearance required!

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.88**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.99**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			



RX

Extremely swarf-resistant without undercuts or edges

Advantages of the RX system:

- Openable along the outer radius
- Round contour prevents swarf accumulation
- Injection-moulded seal between links
- No holes, gaps or undercuts
- RX e-tubes - IP40 tested
- Covered pin/bore connection and stop-dogs
- Interior separation and support tray available
- ***RBR*** version with Reverse Bend Radius available

When to use another e-tube:

- For swarf protection on gliding applications
  ► **R4.1 e-tubes, page 616**
- When a particularly cost-effective solution is required
  ► **R2.1 e-tubes, page 442**



Flush attachment: mounting bracket with strain relief option

Smooth design: without undercuts or edges

Keep order: modular separation available

Fast assembly: lids removable along the outer radius

Safe: covered pin/bore connection and stop-dogs

Fast opening: with inbuilt locking mechanism

Swarf-resistant design: round contour prevents swarf accumulation

Extremely swarf- resistant e-tubes - RX system

Problem solver for energy supply systems in areas with swarf; openable along the outer radius. Swarf and dirt can significantly reduce the service life of cables and hoses. With the RX system igus® offers an extremely tough but smoothly shaped polymer e-tube.

- Openable along the outer radius
- Round contour prevents swarf accumulation
- Injection-moulded seal between links
- No holes, gaps or undercuts
- Covered pin/bore connection and stop-dogs
- Series RX40 has been tested for IP protection class (IP40) (TÜV NORD CERT GmbH)
- ***RBR*** version with Reverse Bend Radius available

Typical industries and applications

● Machine tools ● All applications in swarf area ● With dust and dirt ● General mechanical engineering

IP40 RX e-tubes - IP tested
▶ **www.igus.eu/RX_tested**

ESD Electrically conductive ESD e-tubes upon request

Optionally available with igumid HT material for hot swarf up to +850°C

UL94-V0 classification upon request

product design award 2005

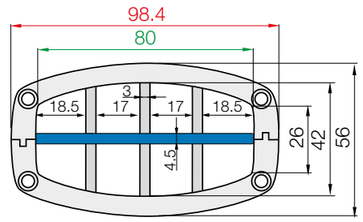
reddot design award honourable mention 2011

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **RX system - extremely swarf-resistant e-tubes** lids removable along the outer radius							
RX32	26 / 42	80	98.4	56	080 - 175	1.70	**522**
RX40	32 / 52	100	123.0	70	100 - 300	1.80	**526**
RX48	35 / 62	120	147.6	84	120 - 255	2.10	**530**
RX56	41 / 73	140	172.2	98	140 - 250	2.30	**534**

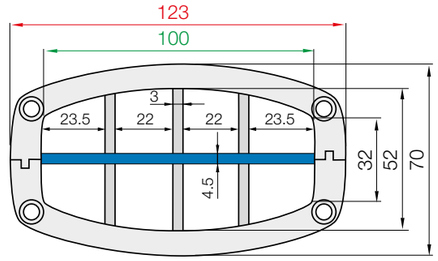
Available from stock. Ready to ship in 72hrs.*

*Average time before the ordered goods are dispatched.

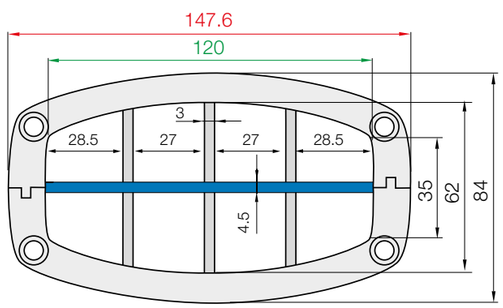
RX32



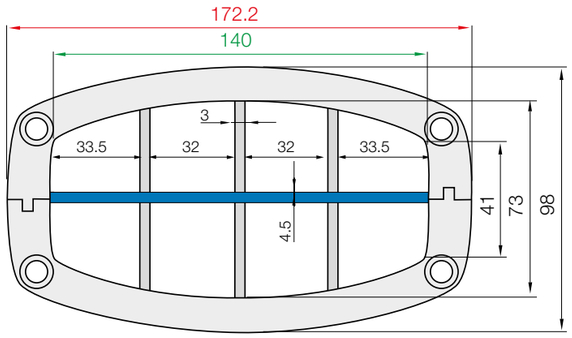
RX40



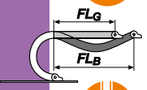
RX48



RX56



Technical data

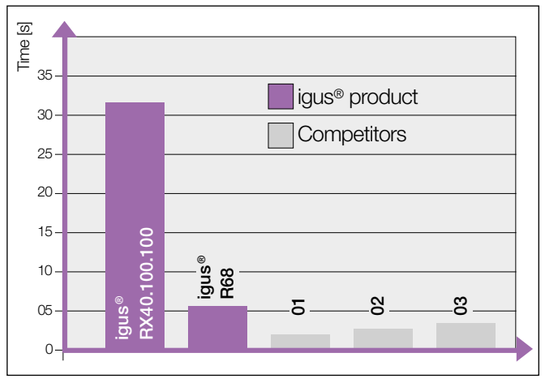


Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 100 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

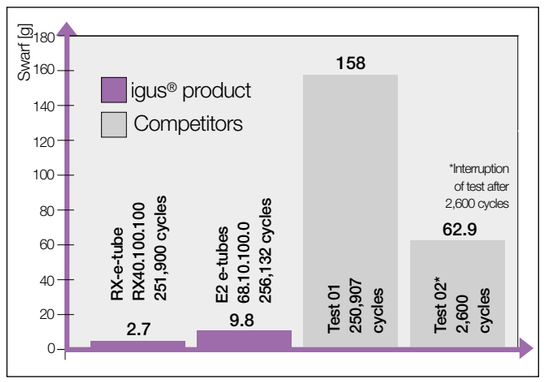
FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
RX32	≤ 3.40m	upon request	upon request	upon request	with rework	upon request
RX40	≤ 3.80m	upon request	upon request	upon request	with rework	upon request
RX48	≤ 4.20m	upon request	upon request	upon request	with rework	upon request
RX56	≤ 4.60m	upon request	upon request	upon request	with rework	upon request



Sealed - various tube styles were tested under water. For the RX e-tube, it takes more than 30 sec. to fill up with water



Swarf ingress - various tube styles were covered with a defined quantity of swarf. Only 2.7 g of chips were found in the interior of the RX tube after 251,900 cycles

Options with order keys | Examples based on series RX40

Standard	*Reverse Bend Radius (RBR) for circular movements*	*e-tube - no burning-in of hot swarf up to 850°C*	*ESD - electrically conductive material*
Part No. Standard	Part No. *RBR*	Part No. igumid HT	Part No. igumid ESD
			
RX40.100.*R*.0	RX40.100.*R1/R2*.0	RX40.100.*R*.0.HT	RX40.100.*R*.0.ESD
Ready to ship in 72hrs.*	Ready to ship in 20 business days*	Ready to ship in 6 weeks*	Ready to ship in 12 business days*

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series RX40

Order example for complete e-tube (1.0m), colour black, with mounting brackets and interior separation:

e-tube (1.0m)	Please indicate e-tube length or number of links: 1.0m or 18 links	RX40.100.100.0
+ Mounting brackets	Set	RX401.100.12ZB
+ interior separation	with 1 separator (central position) assembled every 2nd link	1 x RX40.1.1
+ interior separation	with 2 separators (lateral position) assembled every 2nd link	2 x RX40.2.1
Order text:		1m RX40.100.140.0 + RX401.100.12ZB + 1 x RX40.1.1 + 2 x RX40.2.1

Order key

Lids removable along the outer radius

RX40.100.100.0

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 72hrs.*

Above special colours upon request.

RX e-tubes | Series RX32 | Product range

Extremely swarf-resistant, medium size

42



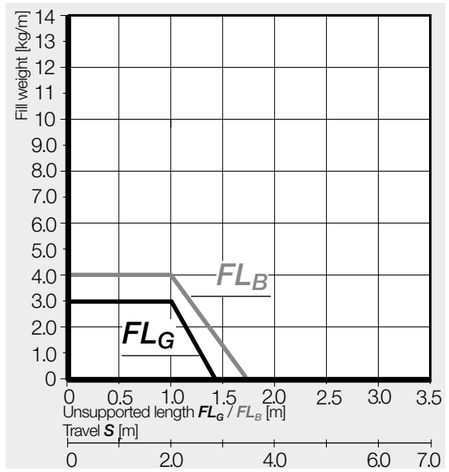
e-tubes | Series RX32 | Lids removable along the outer radius

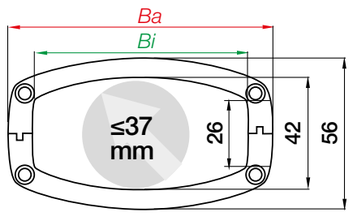
Part No.	*Bi*	*Ba*	*R* Available bend radii	RX32
e-tubes	[mm]	[mm]	[mm]	[kg/m]
RX32. 080 .*R*.0	80	98.4	| 080 | 100 | 125 | 150 | 175 | 200* | 225* | 250* |	≈ 1.23

*Radius available upon request. Delivery time upon request.

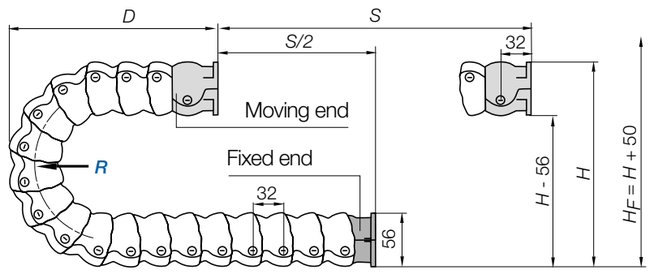
Complete Part No. with required radius (*R*). Example: **RX32.080.080.0**

Installation dimensions





Inner height [mm]	42
Pitch [mm/link]	32
Links/m	32
corresponds to [mm]	1,024
e-tube length	$L_K = S/2 + K$



R	080	100	125	150	175	200*	225*	250*
H	216	256	306	356	406	456	506	556
D	156	176	201	226	251	276	301	326
K	320	380	460	540	615	695	775	850

The required clearance height: $H_F = H + 50$mm (with 0.5kg/m fill weight)

*Radius available upon request. Delivery time upon request.

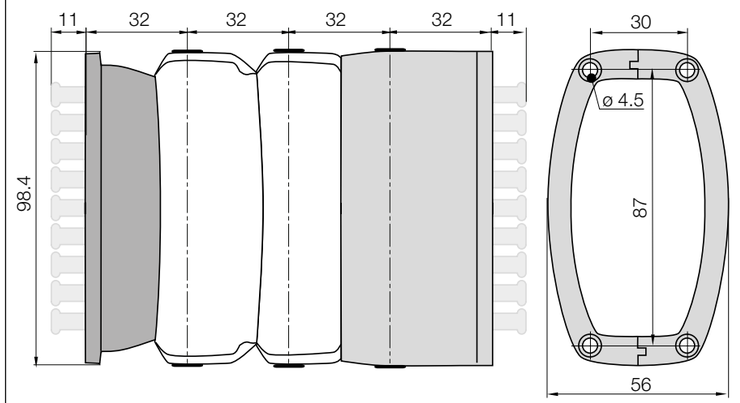
RX e-tubes | Series RX32 | Accessories

Mounting brackets, flange | Polymer, two-piece | Locking

Fixed end
RX321.080.2(ZB)

Moving end
RX321.080.1(ZB)

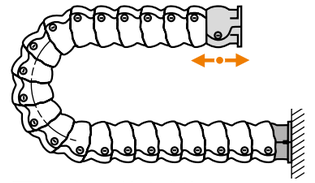
Front view



Side view of RX e-tube with flange mounting brackets



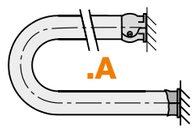
Two-piece mounting bracket with flange attachment



Moving end (outer link)
Fixed end (inner link)

Mounting brackets, flange | Locking

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	Number of teeth
080. ▶		RX321.080.12ZB	RX321.080.12	8



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **.A** .

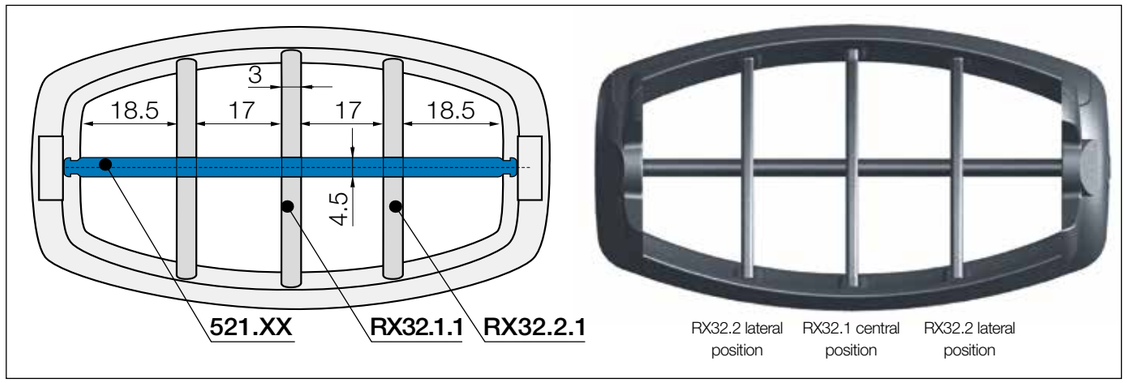
RX321.080.12ZB.A Order example

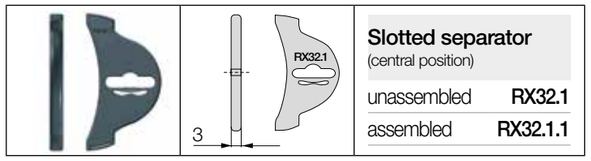
- Pre-assembled
- With integrated strain relief tiewrap plates
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

RX e-tubes | Series RX32 | Accessories

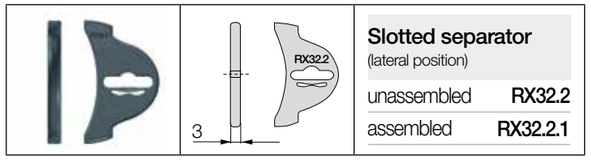
Interior separation





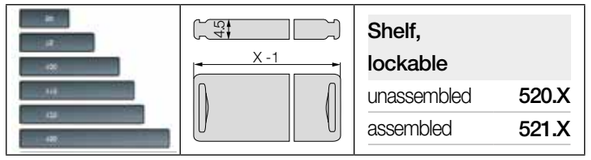
Slotted separator
(central position)

unassembled	**RX32.1**
assembled	**RX32.1.1**



Slotted separator
(lateral position)

unassembled	**RX32.2**
assembled	**RX32.2.1**



Shelf, lockable

unassembled	**520.X**
assembled	**521.X**

Vertical separation - slotted separators:

RX32.1 (central position)
RX32.2 (lateral position)

Vertical separation of the interior space using cable-friendly, polymer separators. Due to their slots, basic vertical and horizontal shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.



Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
024	**520.24**	**521.24**	064	**520.64**	**521.64**
044	**520.44**	**521.44**	084	**520.84**	**521.84**

RX e-tubes | Series RX32 | Further accessories

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ▶ www.igus.eu/RX

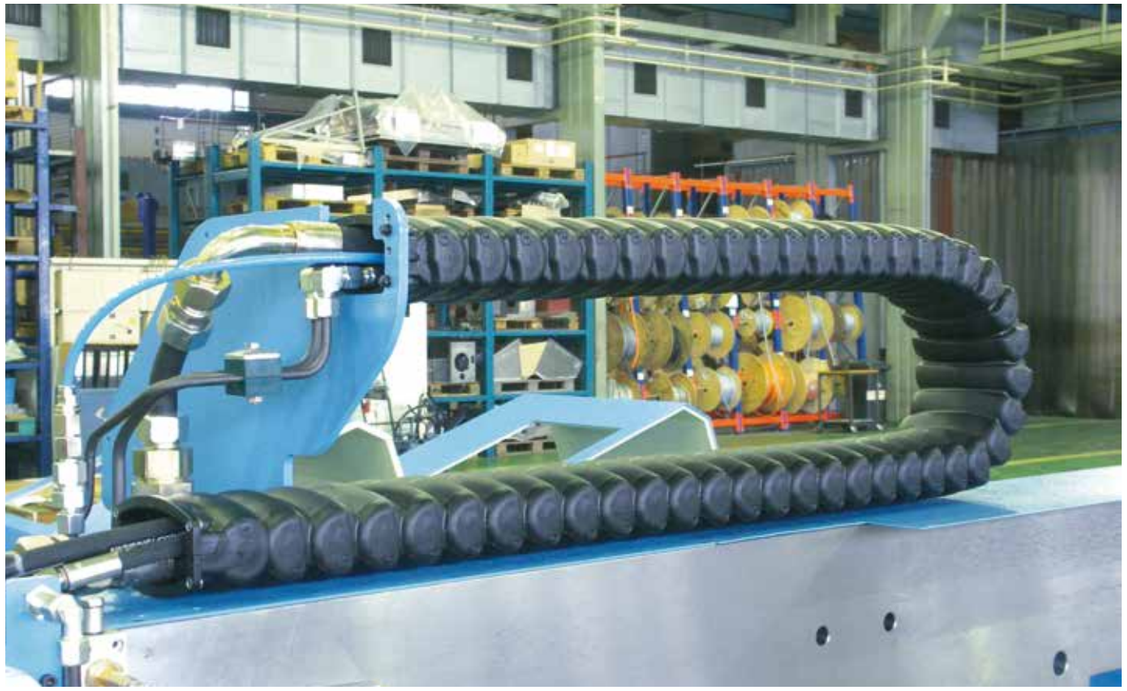


Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Quick assembly
- In das RX e-rohr Flansch-Anschlusselement integrierbar

More information ▶ www.igus.eu/RX32





Supply of the main spindle in a tooling machine with igus® RX e-tube. The rounded contour of the energy supply repels all kinds of swarf

RX e-tubes | Series RX40 | Product range

Extremely swarf-resistant, medium size

52

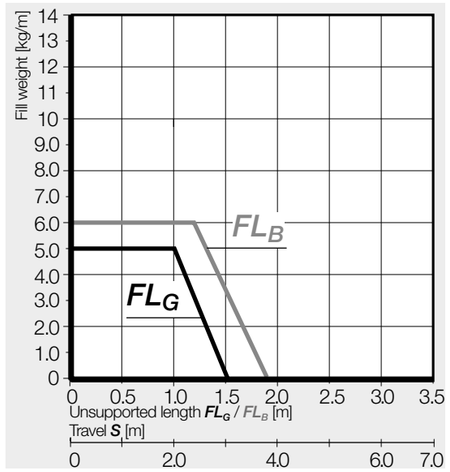


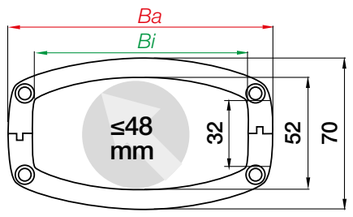
e-tubes | Series R40 | Lids removable along the outer radius

Part No.	Bi	Ba	R Available bend radii									RX40
e-tubes	[mm]	[mm]	[mm]									[kg/m]
RX40. 100 .R.0	100	123	100	125	150	175	200	225	250	275	300	≈ 1.89

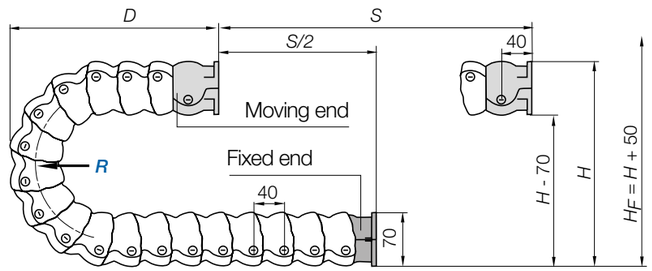
Complete Part No. with required radius (*R*). Example: **RX40.080.080.0**

Installation dimensions





Inner height [mm]	52
Pitch [mm/link]	40
Links/m	25
corresponds to [mm]	1,000
e-tube length	$L_K = S/2 + K$

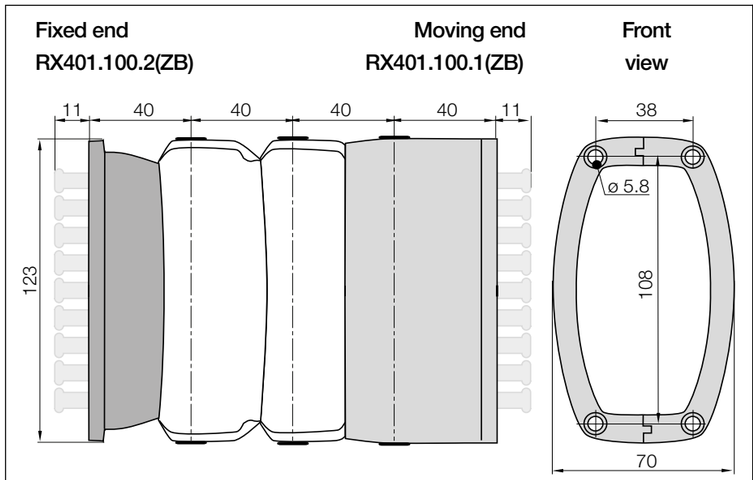


R	100	125	150	175	200	225	250	275	300
H	270	320	370	420	470	520	570	620	670
D	195	220	245	270	295	320	345	370	395
K	395	475	555	630	710	790	870	945	1,025

The required clearance height: $H_F = H$ + 50mm (with 0.5kg/m fill weight)

RX e-tubes | Series RX40 | Accessories

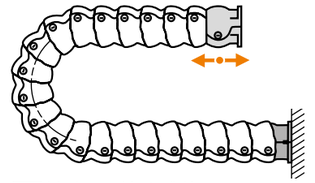
Mounting brackets, flange | Polymer, two-piece | Locking



Side view of RX e-tube with flange mounting brackets



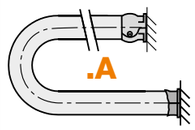
Two-piece mounting bracket with flange attachment



Moving end (outer link)
Fixed end (inner link)

Mounting brackets, flange | Locking

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	Number of teeth
100. ▶		RX401.100.12ZB	RX401.100.12	10



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **.A** .

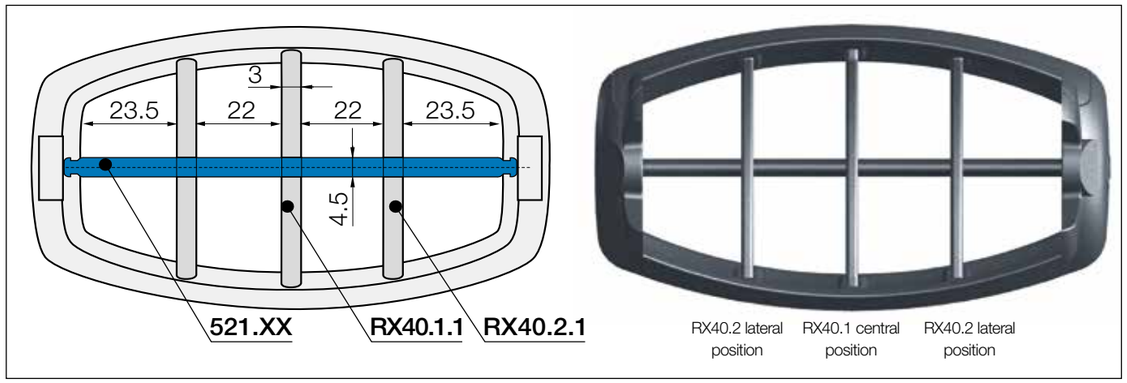
RX401.100.12ZB.A Order example

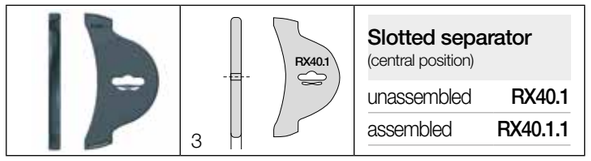
- Pre-assembled
- With integrated strain relief tiewrap plates
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

RX e-tubes | Series RX40 | Accessories

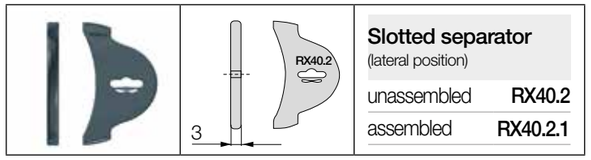
Interior separation





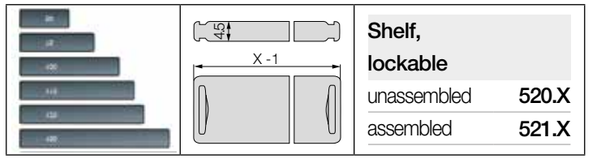
Slotted separator
(central position)

unassembled	**RX40.1**
assembled	**RX40.1.1**



Slotted separator
(lateral position)

unassembled	**RX40.2**
assembled	**RX40.2.1**



Shelf, lockable

unassembled	**520.X**
assembled	**521.X**

Vertical separation - slotted separators:

RX40.1 (central position)
RX40.2 (lateral position)

Vertical separation of the interior space using cable-friendly, polymer separators. Due to their slots, basic vertical and horizontal shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.



Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
029	**520.29**	**521.29**	079	**520.79**	**521.79**
054	**520.54**	**521.54**	104	**520.104**	**521.104**

RX e-tubes | Series RX40 | Further accessories

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ▶ www.igus.eu/RX



Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Quick assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ▶ www.igus.eu/RX40





Swarf tests at the igus® test lab prove the excellent sealing of igus® RX e-tube. **Video online ▶www.igus.eu/RX_tested**

RX e-tubes | Series RX48 | Product range

62

Extremely swarf-resistant, large size



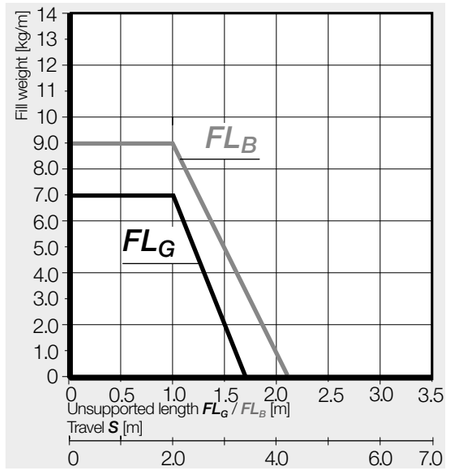
e-tubes | Series RX48 | Lids removable along the outer radius

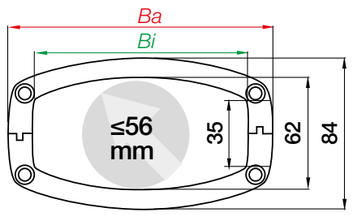
Part No.	*Bi*	*Ba*	*R* Available bend radii	RX48
e-tubes	[mm]	[mm]	[mm]	[kg/m]
RX48. 120 .*R*.0	120	147.6	| 120 | 150 | 175* | 200* | 225 | 250* | 275* | 300* | 325* |	≈ 2.76

*Radius available upon request. Delivery time upon request.

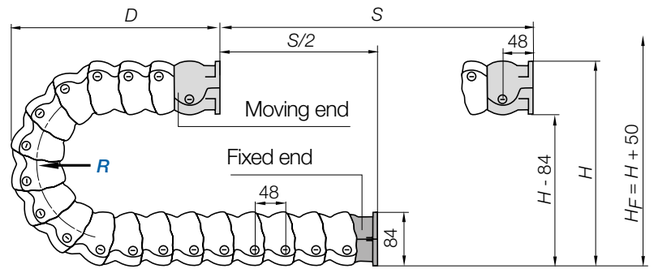
Complete Part No. with required radius (*R*). Example: **RX48.120.120.0**

Installation dimensions





Inner height [mm]	62
Pitch [mm/link]	48
Links/m	21
corresponds to [mm]	1,008
e-tube length	$L_K = S/2 + K$



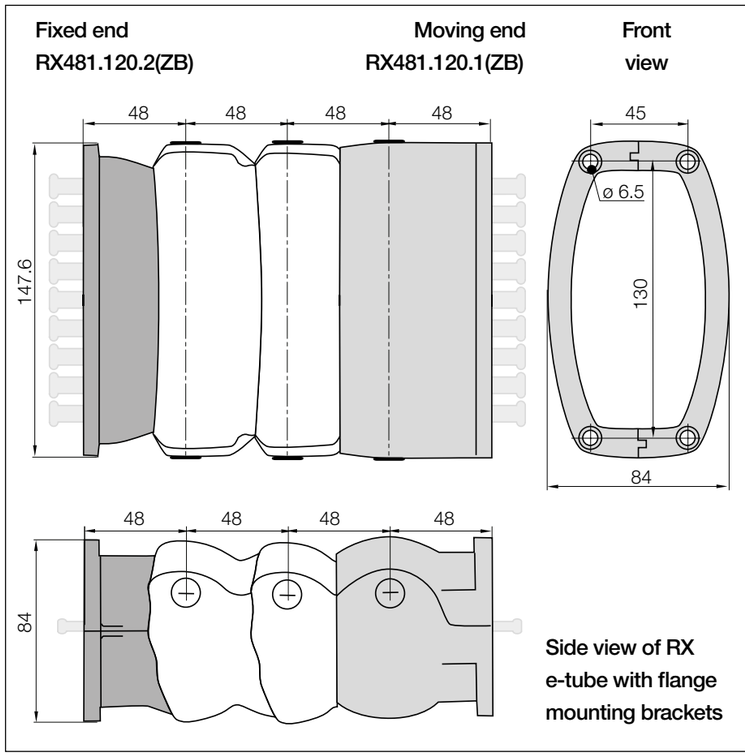
R	120	150	175*	200*	225	250*	275*	300*	325*
H	324	384	434	484	534	584	634	684	734
D	234	264	289	314	339	364	389	414	439
K	475	570	650	725	805	885	960	1,040	1,120

The required clearance height: $H_F = H + 50mm$ (with 0.5kg/m fill weight)

*Radius available upon request. Delivery time upon request.

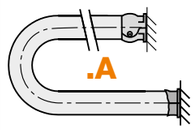
RX e-tubes | Series RX48 | Accessories

Mounting brackets, flange | Polymer, two-piece | Locking



Mounting brackets, flange | Locking

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	Number of teeth
120. ▶		RX481.120.12ZB	RX481.120.12	12



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **.A** .

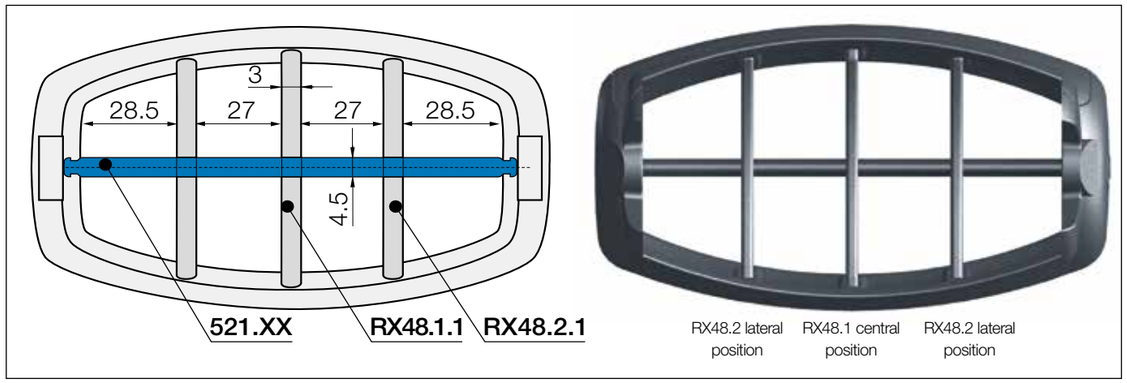
RX481.120.12ZB.A Order example

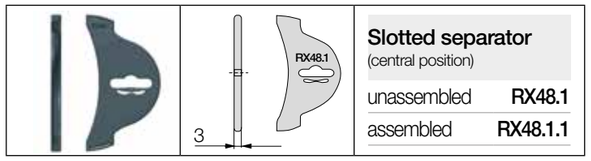
- Pre-assembled
- With integrated strain relief tiewrap plates
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

RX e-tubes | Series RX48 | Accessories

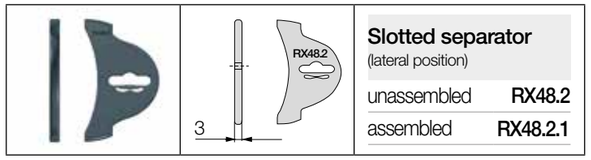
Interior separation





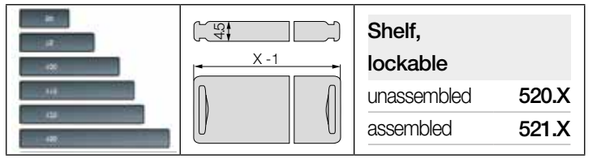
Slotted separator
(central position)

unassembled	**RX48.1**
assembled	**RX48.1.1**



Slotted separator
(lateral position)

unassembled	**RX48.2**
assembled	**RX48.2.1**



Shelf, lockable

unassembled	**520.X**
assembled	**521.X**

Vertical separation - slotted separators:

RX48.1 (central position)
RX48.2 (lateral position)

Vertical separation of the interior space using cable-friendly, polymer separators. Due to their slots, basic vertical and horizontal shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.



Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
034	**520.34**	**521.34**	094	**520.94**	**521.94**
064	**520.64**	**521.64**	124	**520.124**	**521.124**

RX e-tubes | Series RX48 | Further accessories

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ▶ www.igus.eu/RX



Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Quick assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ▶ www.igus.eu/RX48





With the extremely swarf-resistant igus® RX e-tube and harnessed chainflex® cables, the service life of this woodworking machine was considerably increased. Because of dust and dirt, previous cables failed after one month

RX e-tubes | Series RX56 | Product range

Extremely swarf-resistant, very large size

73



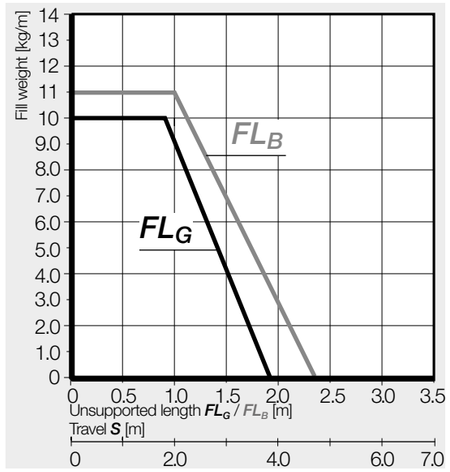
e-tubes | Series RX56 | Lids removable along the outer radius

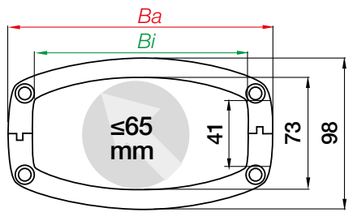
Part No.	*Bi*	*Ba*	*R* Available bend radii	RX56
e-tubes	[mm]	[mm]	[mm]	[kg/m]
RX56. 140 .*R*.0	140	172.2	| 140 | 175* | 200* | 225* | 250 | 275* | 300* | 325* | 350* |	≈ 3.83

*Radius available upon request. Delivery time upon request.

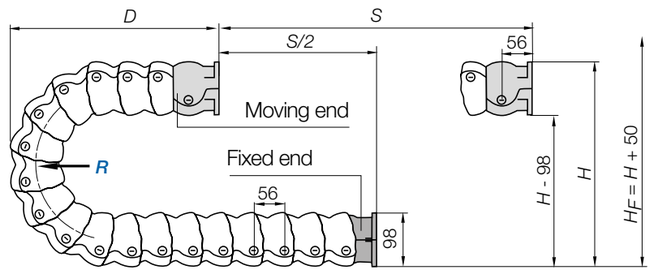
Complete Part No. with required radius (*R*). Example: **RX56.140.140.0**

Installation dimensions





Inner height [mm]	73
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-tube length	$L_K = S/2 + K$



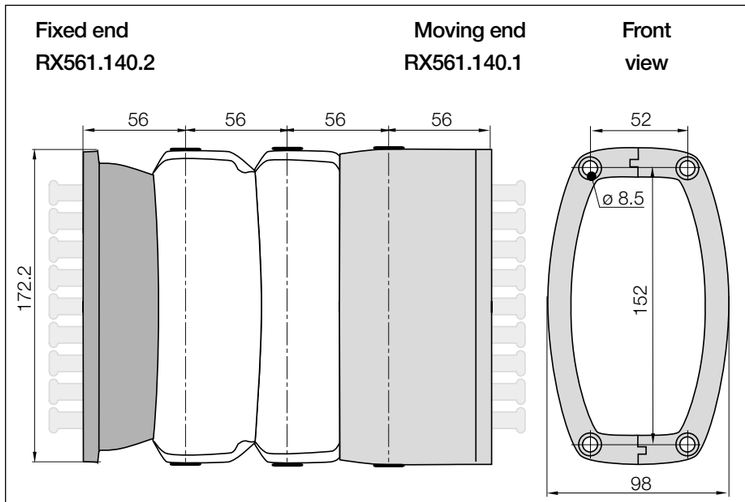
R	140	175*	200*	225*	250	275*	300*	325*	350*
H	378	448	498	548	598	648	698	748	798
D	273	308	333	358	383	408	433	458	483
K	555	665	745	820	900	980	1,055	1,135	1,215

The required clearance height: $H_F = H + 50mm$ (with 0.5kg/m fill weight)

*Radius available upon request. Delivery time upon request.

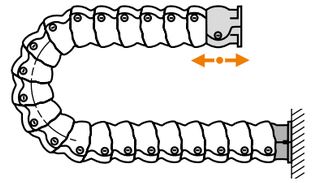
RX e-tubes | Series RX56 | Accessories

Mounting brackets, flange | Polymer, two-piece | Locking





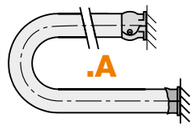
Two-piece mounting bracket with flange attachment



Moving end (outer link)
Fixed end (inner link)

Mounting brackets, flange | Locking

Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	Number of teeth
140. ▶		upon request	RX561.140.12	upon request



Flange mounting brackets for flush attachment. Option: with M6 insert nuts. To receive brackets **pre-fitted** please add index **.A** .

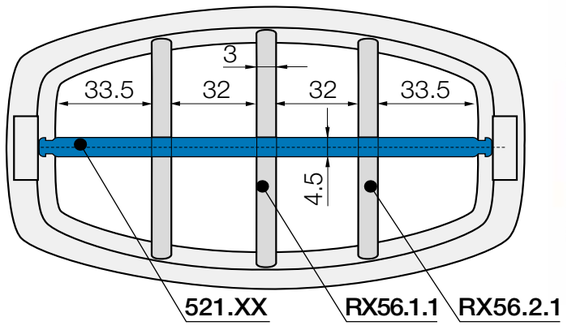
RX561.140.12.A **Order example**

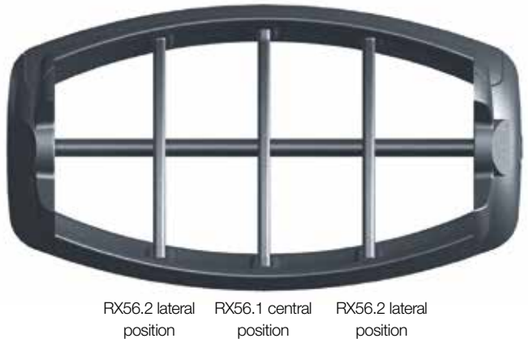
- Pre-assembled
- Full set
- width index
- Series

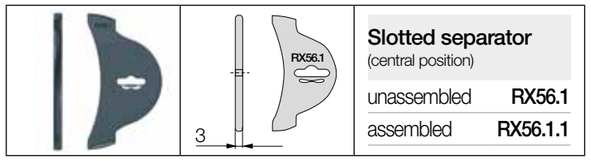
Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

RX e-tubes | Series RX56 | Accessories

Interior separation

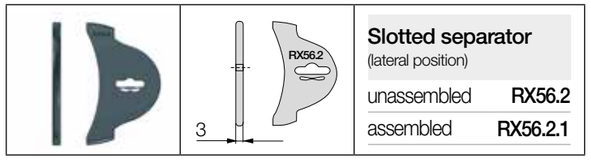






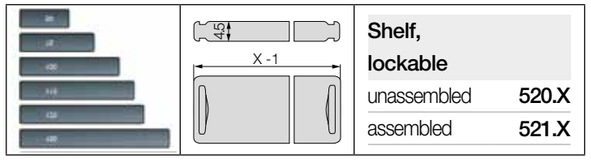
Slotted separator
(central position)

unassembled	**RX56.1**
assembled	**RX56.1.1**



Slotted separator
(lateral position)

unassembled	**RX56.2**
assembled	**RX56.2.1**



Shelf, lockable

unassembled	**520.X**
assembled	**521.X**

Vertical separation - slotted separators:

RX56.1 (central position)
RX56.2 (lateral position)

Vertical separation of the interior space using cable-friendly, polymer separators. Due to their slots, basic vertical and horizontal shelving arrangements are possible. As standard separators are fitted every 2nd e-tube link!

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.



Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
039	**520.39**	**521.39**	109	**520.109**	**521.109**
074	**520.74**	**521.74**	144	**520.144**	**521.144**

RX e-tubes | Series RX56 | Further accessories

Hot swarf up to +850°C for e-tubes

- e-tubes can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- Guides the RX e-tube safely and lets the swarf pass through easily
- Available in different lengths

More information ▶ www.igus.eu/RX



Strain relief block for flange mounting brackets

- Strain relief block to match cable layout
- Quick assembly
- Can be integrated in the RX e-tube flange mounting bracket

More information ▶ www.igus.eu/RX56





The RX e-tube used in this compact turning machine has Reverse Bend Radius (***RBR***) and operates even with the very restricted space



E4.1L

The best combination of stability and low weight

**Moving energy made even easier -
fast harnessing and time-less design**

Advantages of the E4.1L system:

- 30% lighter and more cost-effective than the comparable E4.1
- Very cost-efficient: strong and light due to optimised e-chain® link design
- Ideal ratio of internal and external dimensions with thinner outer links and optimised crossbar geometry
- e-chains® and e-tubes openable along the inner and outer radius, from both sides
- Inside completely accessible for easy filling
- Very tightly fitting lids on the e-tubes, virtually no gaps or openings
- Also suitable for side-mounted, standing and hanging applications
- Lower weight, high strength and good dynamics

When to use another e-chain® series:

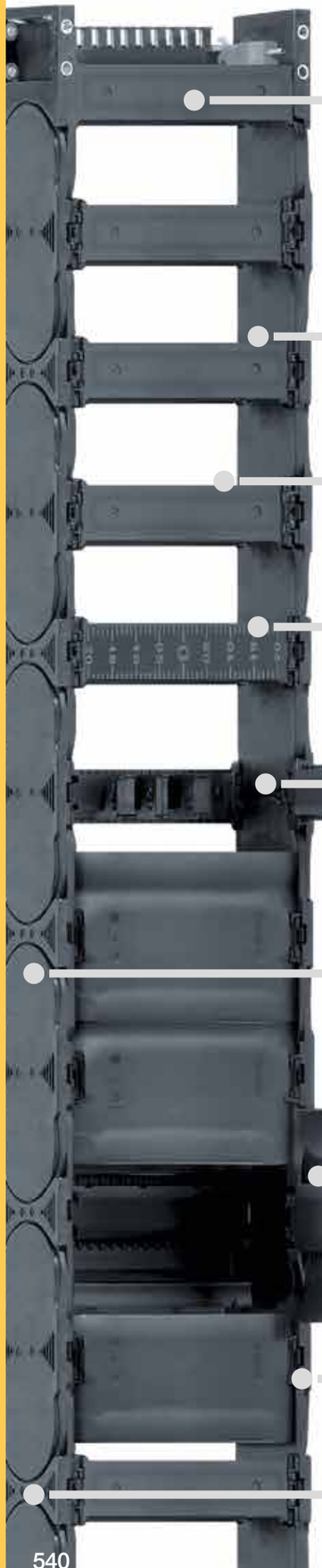
- For easy, tool-free opening and closing - the next generation of easy-to-assemble e-chains®
  ▶ **E4Q, page 580**
- When the e-chain® needs to be extremely quiet (32dB(A)) with very low vibration
  ▶ **E6.1, page 832**
- When the e-chain® should have a cleanroom ISO Class 1 classification
  ▶ **E6.1, page 832**
- If even higher strength is required
  ▶ **E4.1, page 616**







1) Approx. 50% time saving with lean interior separation compared to standard interior separation, tested in the igus® laboratory
2) Approx. 80% time saving with CFU lean strain relief compared to chainfix CFX, tested in the igus® laboratory
3) Approx. 67% less assembly time with E4.48L compared to E4.42, tested in the igus® laboratory



The best combination of strength and low weight - E4.1L

Significantly reduce assembly and harnessing time with the E4.1L(ean). Whether as an e-chain® or a chip-proof energy tube, with its sleek design and matching accessories the E4.1L brings maximum efficiency at a cost-effective price. An easily accessible interior, improved crossbars and separators and the new honeycomb strain relief system result in an 80% faster installation. Easily adaptable to any application due to the modular design, this universal solution makes optimal use of the space, is lighter than the alternatives and yet extremely strong. A cable-friendly interior ensures a long service life for the cables. The E4.1L reduces downtime and the installation and maintenance time whilst saving time and money in operation and acquisition.

Typical industries and applications

● Machine Tools ● General Mechanical Engineering ● If the stability of the E2/000 is not enough for you, but an E4.1 is oversized

Electrically conductive ESD e-chains® upon request

High strength

iF product design award
2014 for series R4.1L

Explore the benefits ▶ www.igus.eu/best/E4.1

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
e-chains® with crossbars every link the lightweight all-rounder - even for demanding applications **Please observe the guidelines for the e-chains® selection, further information ▶ From page 114**							
E4.31L	31	40 - 175	54 - 189	42	055 - 250	2.00	**548**
E4.38L	38	50 - 300	66 - 316	54	063 - 300	2.75	**554**
E4.48L	48	50 - 300	70 - 320	64	075 - 350	3.75	**562**
E4.64L	64	75 - 350	101 - 376	84	100 - 400	4.00	**572**
							
e-tubes lightweight, fully enclosed, excellent cable protection **Please observe the guidelines for the e-chains® selection, further information ▶ From page 114**							
R4.31L	31	50 - 100	64 - 114	42	075 - 250	2.00	**548**
R4.38L	38	50 - 250	66 - 266	54	125 - 300	2.75	**554**
R4.48L	48	50 - 250	70 - 270	64	125 - 350	3.75	**562**

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

What does "Lean" mean in the E4.1L system?

Making a system "lean" means that its individual components are ideally matched to each other, making it more optimised. The aim is to avoid waste and increase efficiency. This is achieved in two ways: from the customer's point of view in order to fulfil their requirements, and from the producer's point of view in order to improve productivity and efficiency. igus® implements these lean properties in its energy supply systems in order to make time-saving e-chain® assembly possible, while also enabling quick and easy harnessing with cables.

3D CAD, configurators, service life calculation and more ▶ www.igus.eu/lean



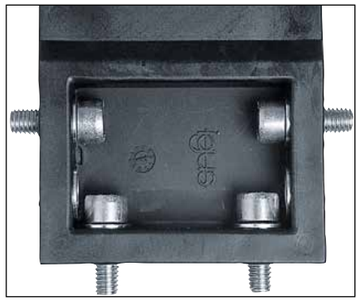
E4.1L e-chains® and R4.1L e-tube crossbars, lids and shelves are openable along the inner and outer radius, from both sides



Lean separators enable extremely fast cable filling in several layers



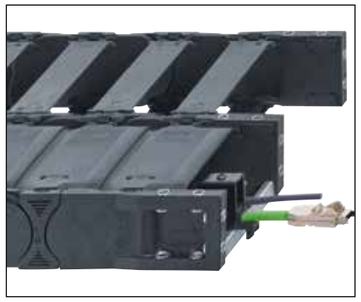
Assembled in seconds - CFU honeycomb strain relief. Simply insert cables and hoses into the honeycomb and close



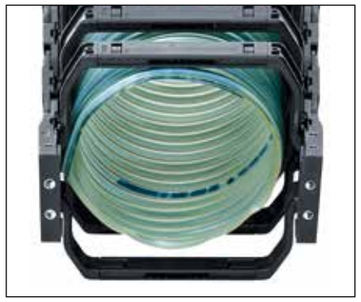
KMA mounting brackets with attachment options from any side



Safe parallel guiding of corrugated tubes with the optional, external TUB guidance



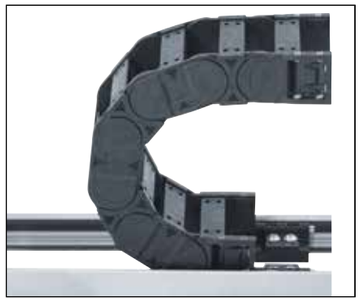
Extension links - for extremely wide e-chains® up to 2.0m with 50% more fill weight



Flexible extender crossbar range - e-chain® extender with crossbars for enlarging the interior

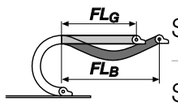


Aluminium "SuperTrough" - the standard igus® guide trough ▶ **From page 1298**



Aluminium and steel support trays for support of the lower run ▶ **From page 1362**

Technical data



Speed gliding[1] / acceleration gliding[1]	≤ 5 [m/s] / ≤ 25 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) Series E4.31L / R4.31L: If a gliding application is required for a long travel, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported
E4.31L / R4.31L	≤ 4.0m	upon request	≤ 40m	≤ 2.5m	≤ 0.6m
E4.38L / R4.38L	≤ 5.5m	≤ 80m	≤ 50m	≤ 3.0m	≤ 1.0m
E4.48L / R4.48L	≤ 7.5m	≤ 100m	≤ 80m	≤ 3.0m	≤ 1.2m
E4.64L	≤ 4.0m	upon request	≤ 80m	≤ 8.0m	≤ 2.0m

1) Series E4.31L / R4.31L: If a gliding application is required for a long travel, please consult igus®.

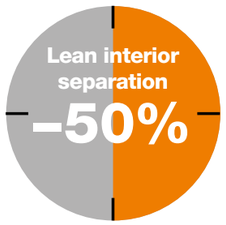


Swarf test in the igus® lab - protection demonstrated in this test setup; stop-dogs completely free of swarf



The light and fully enclosed R4.1 L e-tubes from igus® are now available in a high-temperature version

Interior separation



Approx. 50% time saving with lean interior separation compared to standard interior separation*





Lean interior separation vs. standard interior separation - time saving due to easy shelf fitting

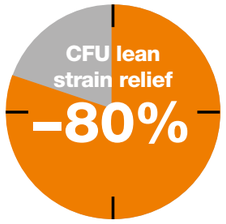
Time-saving lean separators

- The design of the igus® lean separators allows extremely fast fitting of shelves in several layers
- Enables extremely fast replacement of individual cables in a very full e-chain®
- Several layers of cables fitted quickly
- Save up to 50%* assembly time

*Lean interior separation vs. standard interior separation. Measured on a 4m long e-chain® fitted with 12 cables in the igus® lab

approx. 50% time saving*

Strain relief



Approx. 80% time saving with CFU strain relief compared to conventional chainfix CFX clamps*





Lean strain relief CFU vs. chainfix CFX - time-saving due to the innovative honeycomb structure

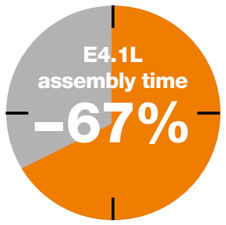
CFU.V strain relief with innovative honeycomb design for fast assembly and high holding force

- 80%* faster filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Different cables with diameters from 2mm to 17mm can be strain-relieved without problems
- Cables can be replaced easily
- Easy positioning of cables

*Lean strain relief CFU vs. chainfix CFX. Measured on a 4m long e-chain® fitted with 12 cables in the igus® lab

approx. 80% time saving*

Opening crossbars and lids



Approx. 67% less assembly time with E4.1L compared to E4.1*





Serie E4.48L vs. E4.42 - time-saving due to easy opening mechanism

E4.1L - fast to harness

- With one of igus® fastest opening systems for simple e-chains® harnessing
- Save up to 67%* assembly time
- Lower weight, cable-friendly interior and improved ratio of inner to outer size
- Easy accessibility of the complete inner space, openable from both sides

*Series E4.48L vs. E4.42. Assembly time tested at the igus® lab

approx. 67% time saving*

Options with order keys | Examples based on series E4.38L/R4.38L

Standard	*Simply turn outer side link, no additional rework*	*Reverse Bend Radius (RBR) for circular movements*	*Unsupported lengths +25% possible*	*ESD - electrically conductive material*
Part No. Standard	**Part No. NC version**	**Part No. *RBR***	**Part No. XXL material**	**Part No. igumid ESD**
E4.38L.100.*R*.0	**E4.38L.100.*R*.0.NC**	**E4.38L.100.*R1/R2*.0**	**E4.38L.100.*R*.0.XXL**	**E4.38L.100.*R*.0.ESD**
e-chains® with crossbars every link	e-chains® with crossbars every link	e-chains® with crossbars every link	e-chains® with crossbars every link	e-chains® with crossbars every link
R4.38L.100.*R*.0	**R4.38L.100.*R*.0.NC**	***RBR*** for e-tubes - please consult igus®	**R4.38L.100.*R*.0.XXL**	**R4.38L.100.*R*.0.ESD**
e-tube, closed	e-tube, closed		e-tube, closed [1)]	e-tube, closed
Ready to ship in 24 - 48hrs.*	Ready to ship in 24 - 48hrs.*	Ready to ship in 12 business days*	Ready to ship in 12 business days*	Ready to ship in 12 business days*

Order example | Examples based on series E4.38L

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 18 links	**E4.38L.100.150.0**
+ Mounting brackets	1 set (with odd number of links and integrated C-profiles)	**E4.380.100.1.12.C**
Interior separation	with 2 separators assembled every 2nd link	**2 x 38.1.1**
Order text:		**1m E4.38L.100.150.0 + E4.380.100.1.12.C + 2 x 38.1.1**

E4.1L | Options and order keys

Order key and colour examples | Examples based on series E4.38L/R.4.38L

Order key

e-chain® with crossbars every link **E4.38L.100.150.0**

e-tube fully enclosed **R4.38L.100.150.0**

- Series / Type
- Inner height
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

E4.1L | Series E4.31L·R4.31L | Product range

Light design, high dynamics, cost-effective



e-chains® | E4.31L | Crossbars every link (openable along inner and outer radius, from both sides)
e-tubes | R4.31L | Fully enclosed (lids openable along inner and outer radius, from both sides)

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E4.31L [kg/m]	R4.31L [kg/m]
E4.31L. 040.*R*.0	–	40	54	≈ 0.70	–
E4.31L. 050.*R*.0	R4.31L. 050.*R*.0	50	64	≈ 0.74	≈ 0.87
E4.31L. 062.*R*.0	–	62	76	≈ 0.76	–
E4.31L. 075.*R*.0	R4.31L. 075.*R*.0	75	89	≈ 0.78	≈ 1.01
E4.31L. 087.*R*.0	–	87	101	≈ 0.83	–
E4.31L. 100.*R*.0	R4.31L. 100.*R*.0	100	114	≈ 0.88	≈ 1.10
E4.31L. 112.*R*.0	–	112	126	≈ 0.93	–
E4.31L. 125.*R*.0	R4.31L. 125.*R*.0**	125	139	≈ 0.96	≈ 1.28
E4.31L. 137.*R*.0**	–	137	151	≈ 0.98	–
E4.31L. 150.*R*.0	R4.31L. 150.*R*.0**	150	164	≈ 1.00	≈ 1.40
E4.31L. 162.*R*.0	–	162	176	≈ 1.04	–
E4.31L. 175.*R*.0	R4.31L. 175.*R*.0**	175	189	≈ 1.13	≈ 1.55
E4.31L. 187.*R*.0**	–	187	201	≈ 1.17	–
E4.31L. 200.*R*.0**	R4.31L. 200.*R*.0**	200	214	≈ 1.17	≈ 1.68

**Width available upon request. Delivery time upon request.

1) Radius not available for e-tubes

Available bend radii

R [mm] | 055[1)] | 063[1)] | 075 | 090 | 100 | 125 | 150 | 175 | 200 | 250 |

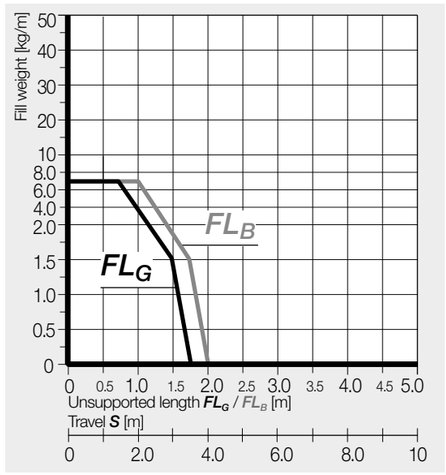
Complete Part No. with required radius (*R*). Example:

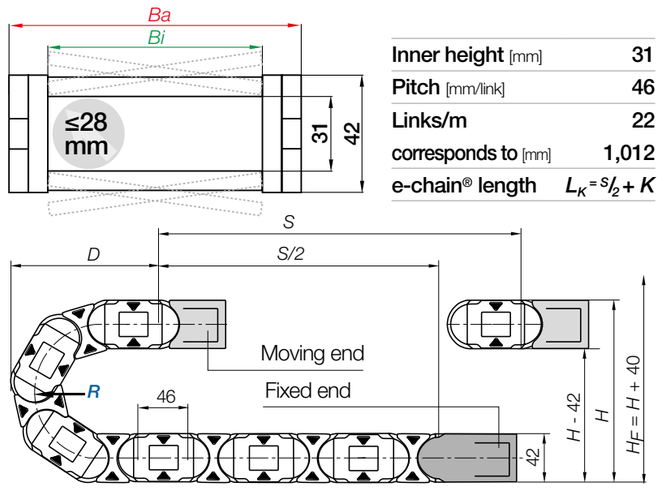
E4.31L.050.075.0 = crossbars every link / R4.31L.050.075.0 = fully enclosed

E4.1L | E4.31L·R4.31L | Installation dimensions

Unsupported applications | Short travels

▶ 1392 ▶ 1314





Inner height [mm]	31
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

R	055[1)]	063[1)]	075	090	100	125	150	175	200	250
H	152	168	192	222	242	292	342	392	442	542
D	145	153	165	180	190	215	240	265	290	340
K	265	290	330	375	410	485	565	645	725	880

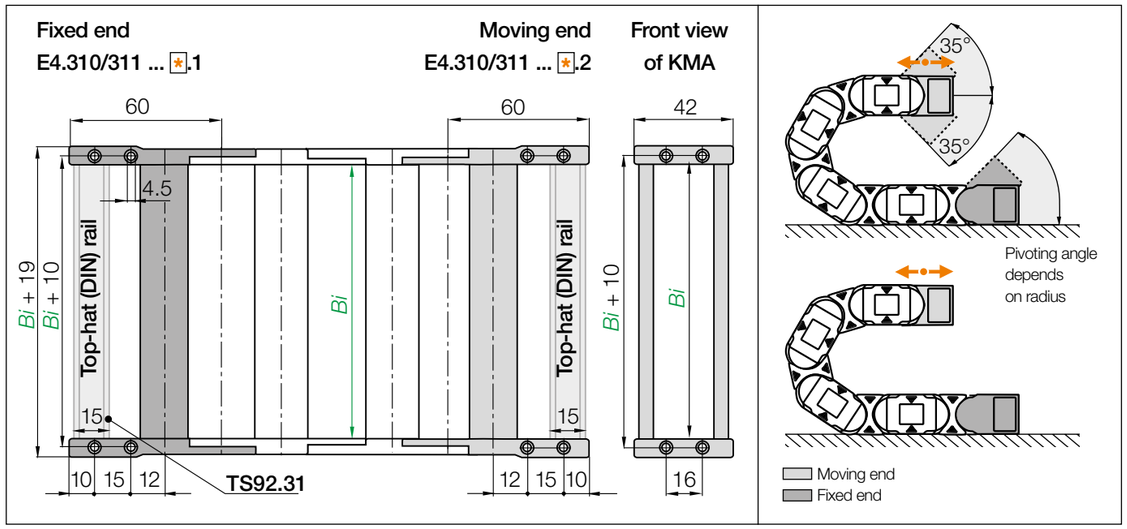
The required clearance height: $H_F = H + 40$mm (with 1.0kg/m fill weight)

1) Radius not available for e-tubes

If a gliding application is required for a long travel, please consult igus®.

E4.1L | **e-chains®** E4.31L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]	Width index	Part No. full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
040. ▶	**E4.310.040.✱.12.C**	**E4.311.040.✱.12.C**	40	125. ▶	**E4.310.125.✱.12.C**	**E4.311.125.✱.12.C**	125
050. ▶	**E4.310.050.✱.12.C**	**E4.311.050.✱.12.C**	50	137. ▶	E4.310.137.✱.12.C*	E4.311.137.✱.12.C*	137
062. ▶	**E4.310.062.✱.12.C**	**E4.311.062.✱.12.C**	62	150. ▶	**E4.310.150.✱.12.C**	**E4.311.150.✱.12.C**	150
075. ▶	**E4.310.075.✱.12.C**	**E4.311.075.✱.12.C**	75	162. ▶	**E4.310.162.✱.12.C**	**E4.311.162.✱.12.C**	162
087. ▶	**E4.310.087.✱.12.C**	**E4.311.087.✱.12.C**	87	175. ▶	**E4.310.175.✱.12.C**	**E4.311.175.✱.12.C**	175
100. ▶	**E4.310.100.✱.12.C**	**E4.311.100.✱.12.C**	100	187. ▶	E4.310.187.✱.12.C*	E4.311.187.✱.12.C*	187
112. ▶	**E4.310.112.✱.12.C**	**E4.311.112.✱.12.C**	112	200. ▶	E4.310.200.✱.12.C*	E4.311.200.✱.12.C*	200

(KMA = polymer metal mounting bracket) For the TS92.31 top-hat (DIN) rail option please add index **.C**

* Width available upon request. **Note:** If a gliding application is required for a long travel, please consult igus®.

Strain relief elements with tiewrap teeth

- Stepped strain relief element outside of the e-chain® cross section
- For e-chains® and e-tubes
- Easy to retrofit
- Simple installation into top-hat (DIN) rail 15 (TS92.31)

Part No. CFV.31.N15 - more information ▶ From page 1432



Strain relief tooth 2010.HZ for top-hat (DIN) rail

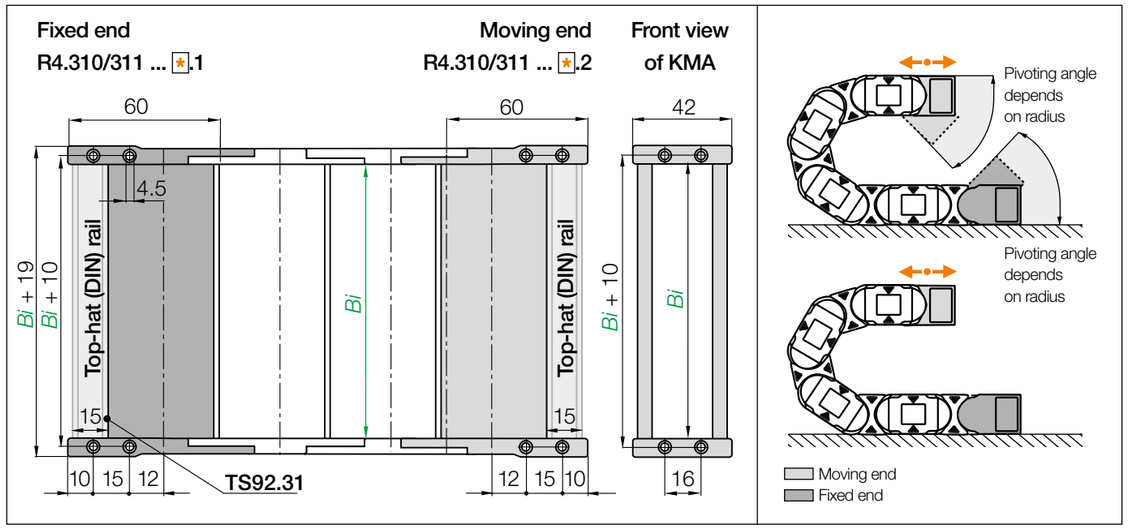
- Width per strain relief tooth: 10mm
- Four ZE teeth on each side are required for a 40mm inner width
- Easy to retrofit
- Simple installation into top-hat (DIN) rail 15 (TS92.31)

Part No. 2010.ZH - more information ▶ From page 1422



E4.1L | **e-tubes** R4.31L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



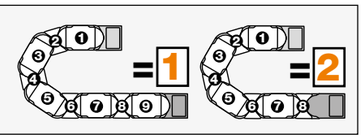
KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]	Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
050. ▶	**R4.310.050.✱.12.C**	**R4.311.050.✱.12.C**	050	150. ▶	R4.310.150.✱.12.C*	R4.311.150.✱.12.C*	150
075. ▶	**R4.310.075.✱.12.C**	**R4.311.075.✱.12.C**	075	175. ▶	R4.310.175.✱.12.C*	R4.311.175.✱.12.C*	175
100. ▶	**R4.310.100.✱.12.C**	**R4.311.100.✱.12.C**	100	200. ▶	R4.310.200.✱.12.C*	R4.311.200.✱.12.C*	200
125. ▶	R4.310.125.✱.12.C*	R4.311.125.✱.12.C*	125				

(KMA = polymer metal mounting bracket) For the TS92.31 top-hat (DIN) rail option please add index **.C**

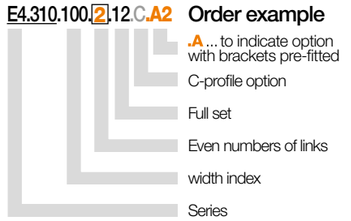
* Width available upon request. **Note:** If a gliding application is required for a long travel, please consult igus®.

Note ✱: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





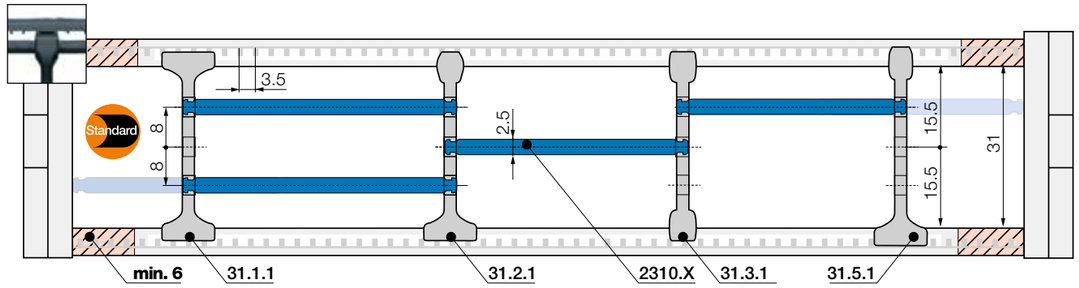
Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

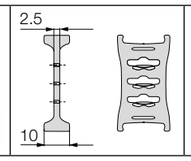
E4.1L | Series E4.31L·R4.31L | Accessories

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 6mm** | **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!



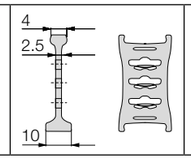


Standard separator, wide base	
unassembled	**31.1**
assembled	**31.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.

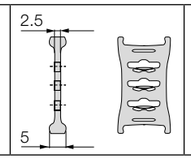




Separator, narrow top	
unassembled	**31.2**
assembled	**31.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

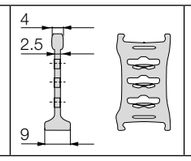


Separator, narrow	
unassembled	**31.3**
assembled	**31.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.

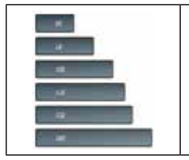


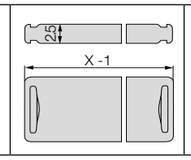


Notch separator for notched crossbar	
unassembled	**31.5**
assembled	**315.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





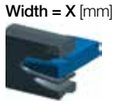
Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

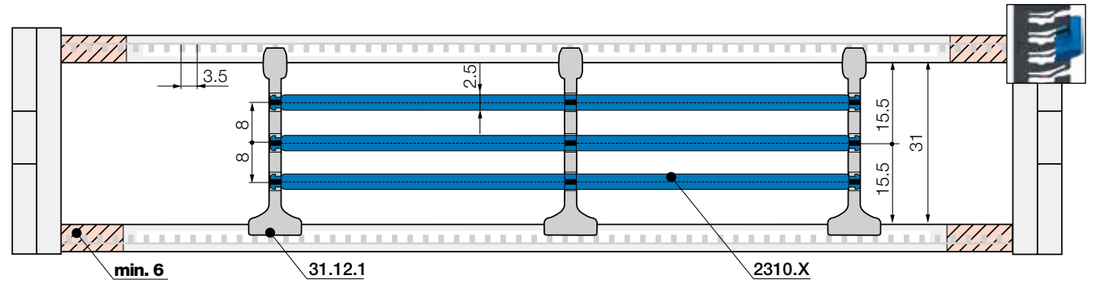


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

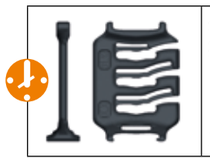
E4.31L
R4.31L

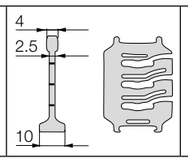
E4.1L | Series E4.31L·R4.31L | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 6mm** | **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!





Lean separator[1)]	
unassembled	**31.12**
assembled	**31.12.1**

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 31.Z - more information ▶ From page 1428



Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

More information ▶ From page 1362



E4.1L | Series E4.38L·R4.38L | Product range

Light design, high dynamics, cost-effective

38



e-chains® | E4.38L | Crossbars every link (openable along inner and outer radius, from both sides)
e-tubes | R4.38L | Fully enclosed (lids openable along inner and outer radius, from both sides)

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E4.38L [kg/m]	R4.38L [kg/m]
E4.38L. 050.R.0	R4.38L. 050.R.0	50	66	≈ 1.13	≈ 1.20
E4.38L. 062.R.0	–	62	78	≈ 1.19	–
E4.38L. 075.R.0	R4.38L. 075.R.0	75	91	≈ 1.26	≈ 1.38
E4.38L 087.R.0	–	87	103	≈ 1.30	–
E4.38L. 100.R.0	R4.38L. 100.R.0	100	116	≈ 1.37	≈ 1.60
E4.38L. 105.R.0	–	105	121	≈ 1.39	–
E4.38L. 112.R.0	–	112	128	≈ 1.44	–
E4.38L. 125.R.0	R4.38L. 125.R.0	125	141	≈ 1.50	≈ 1.75
E4.38L. 137.R.0	–	137	153	≈ 1.55	–
E4.38L. 150.R.0	R4.38L. 150.R.0	150	166	≈ 1.65	≈ 1.92
E4.38L. 162.R.0	–	162	178	≈ 1.69	–
E4.38L. 175.R.0	R4.38L. 175.R.0	175	191	≈ 1.74	≈ 2.10
E4.38L. 187.R.0	–	187	203	≈ 1.80	–
E4.38L. 200.R.0	R4.38L. 200.R.0	200	216	≈ 1.86	≈ 2.29
E4.38L. 212.R.0	–	212	228	≈ 1.90	–
E4.38L. 225.R.0	–	225	241	≈ 1.97	–
E4.38L. 237.R.0	–	237	253	≈ 2.05	–
E4.38L. 250.R.0	R4.38L. 250.R.0	250	266	≈ 2.11	≈ 2.65
E4.38L. 262.R.0	–	262	278	≈ 2.15	–
E4.38L. 275.R.0**	–	275	291	≈ 2.22	–
E4.38L. 287.R.0**	–	287	303	≈ 2.30	–
E4.38L. 300.R.0	R4.38L. 300.R.0**	300	316	≈ 2.36	≈ 3.00
E4.38L. 312.R.0**	–	312	328	≈ 2.40	–
E4.38L. 325.R.0**	–	325	341	≈ 2.47	–
E4.38L. 337.R.0**	–	337	353	≈ 2.55	–
E4.38L. 350.R.0**	–	350	366	≈ 2.57	–
E4.38L. 362.R.0**	–	362	378	≈ 2.60	–
E4.38L. 375.R.0**	–	375	391	≈ 2.65	–
E4.38L. 387.R.0**	–	387	403	≈ 2.76	–
E4.38L. 400.R.0**	–	400	416	≈ 2.83	–

**Width available upon request. Delivery time upon request.

1) Radius not available for e-tubes

Available bend radii

R [mm] | 063[1)] | 075[1)] | 100[1)] | 125 | 150 | 175 | 200 | 250 | 300 |

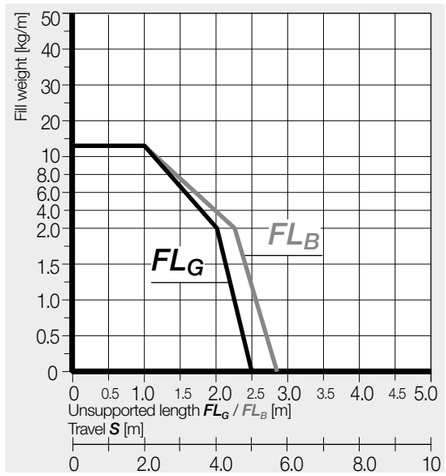
Complete Part No. with required radius (R). Example:

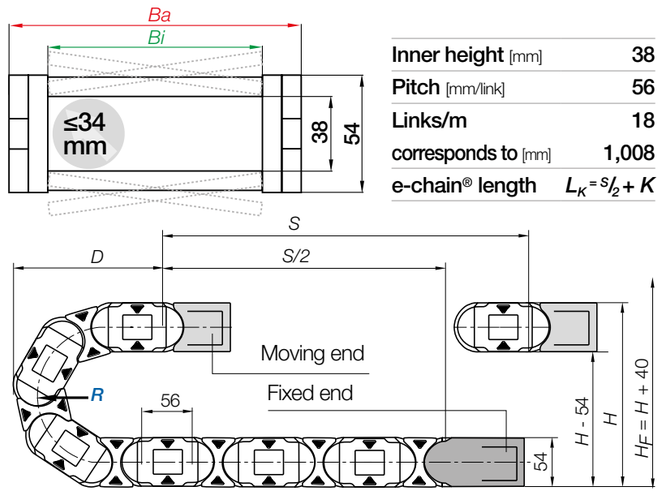
E4.38L.100.150.0 = crossbars every link / R4.38L.100.150.0 = fully enclosed

E4.1L | E4.38L·R4.38L | Installation dimensions

Unsupported applications | Short travels

▶ 1392 ▶ 1316





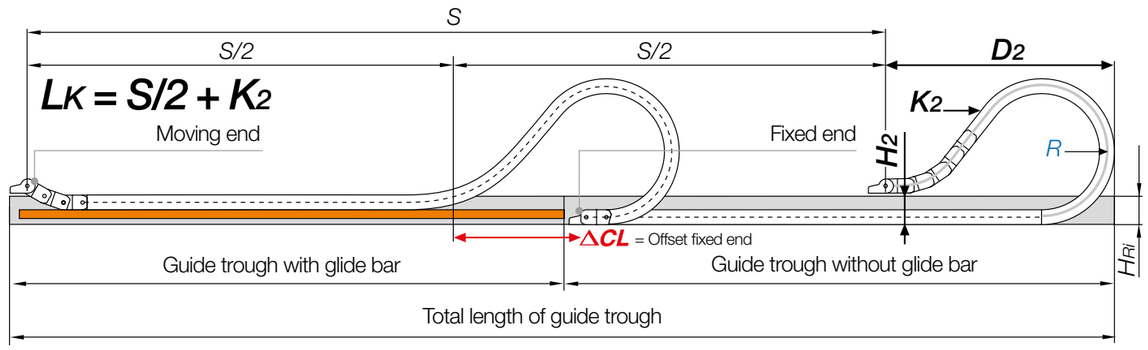
Inner height [mm]	38
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

R	063[1)]	075[1)]	100[1)]	125	150	175	200	250	300
H	180	204	254	304	354	404	454	554	654
D	174	186	211	236	261	286	311	361	411
K	310	350	430	505	585	665	745	900	1,055

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

1) Radius not available for e-tubes

Gliding applications | For travel lengths from 10m to max. 80m



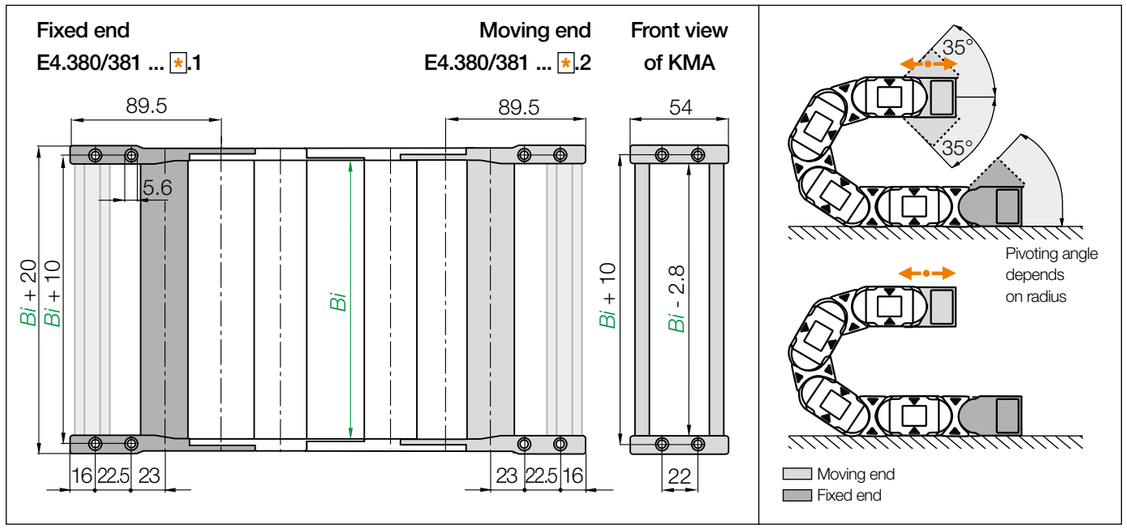
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	063[1)]	075[1)]	100[1)]	125	150	175	200	250[2)]	300[2)]
H_2	180	204	96	96	96	96	96	–	–
D_2	174	186	370	470	500	655	770	–	–
K_2	310	350	616	784	896	1,120	1,288	–	–
ΔCL	–	–	160	210	240	370	460	–	–

2) Radius not suitable for long travel applications. Please consult igus®.

E4.1L | **e-chains®** E4.38L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

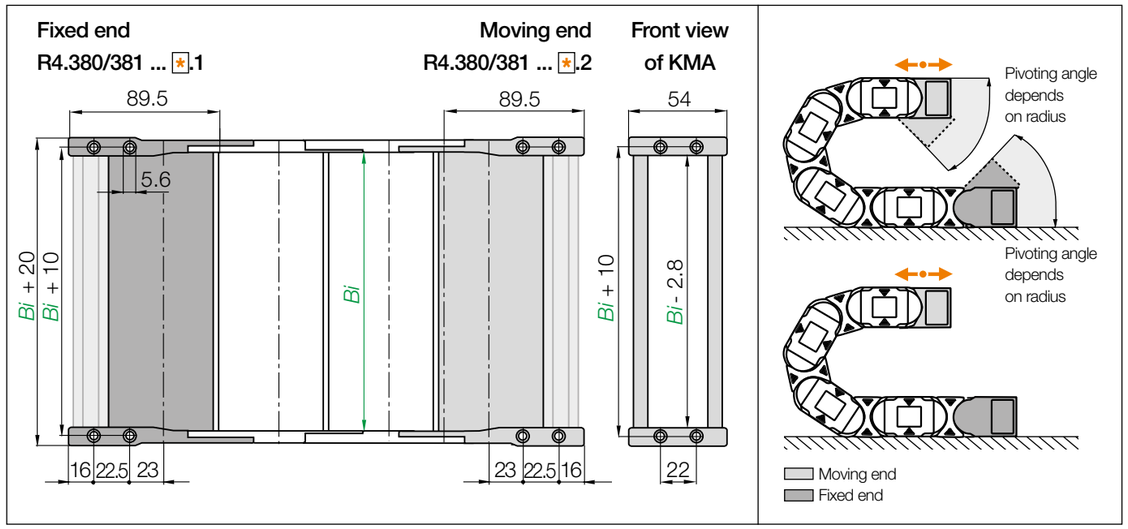
Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]	Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
050. ▶	**E4.380.050.*.12.C**	**E4.381.050.*.12.C**	50	225. ▶	**E4.380.225.*.12.C**	**E4.381.225.*.12.C**	225
062. ▶	**E4.380.062.*.12.C**	**E4.381.062.*.12.C**	62	237. ▶	**E4.380.237.*.12.C**	**E4.381.237.*.12.C**	237
075. ▶	**E4.380.075.*.12.C**	**E4.381.075.*.12.C**	75	250. ▶	**E4.380.250.*.12.C**	**E4.381.250.*.12.C**	250
087. ▶	**E4.380.087.*.12.C**	**E4.381.087.*.12.C**	87	262. ▶	**E4.380.262.*.12.C**	**E4.381.262.*.12.C**	262
100. ▶	**E4.380.100.*.12.C**	**E4.381.100.*.12.C**	100	275. ▶	E4.380.275.*.12.C*	E4.381.275.*.12.C*	275
105. ▶	**E4.380.105.*.12.C**	**E4.381.105.*.12.C**	105	287. ▶	E4.380.287.*.12.C*	E4.381.287.*.12.C*	287
112. ▶	**E4.380.112.*.12.C**	**E4.381.112.*.12.C**	112	300. ▶	**E4.380.300.*.12.C**	**E4.381.300.*.12.C**	300
125. ▶	**E4.380.125.*.12.C**	**E4.381.125.*.12.C**	125	312. ▶	E4.380.312.*.12.C*	E4.381.312.*.12.C*	312
137. ▶	**E4.380.137.*.12.C**	**E4.381.137.*.12.C**	137	325. ▶	E4.380.325.*.12.C*	E4.381.325.*.12.C*	325
150. ▶	**E4.380.150.*.12.C**	**E4.381.150.*.12.C**	150	337. ▶	E4.380.337.*.12.C*	E4.381.337.*.12.C*	337
162. ▶	**E4.380.162.*.12.C**	**E4.381.162.*.12.C**	162	350. ▶	E4.380.350.*.12.C*	E4.381.350.*.12.C*	350
175. ▶	**E4.380.175.*.12.C**	**E4.381.175.*.12.C**	175	362. ▶	E4.380.362.*.12.C*	E4.381.362.*.12.C*	362
187. ▶	**E4.380.187.*.12.C**	**E4.381.187.*.12.C**	187	375. ▶	E4.380.375.*.12.C*	E4.381.375.*.12.C*	375
200. ▶	**E4.380.200.*.12.C**	**E4.381.200.*.12.C**	200	387. ▶	E4.380.387.*.12.C*	E4.381.387.*.12.C*	387
212. ▶	**E4.380.212.*.12.C**	**E4.381.212.*.12.C**	212	400. ▶	E4.380.400.*.12.C*	E4.381.400.*.12.C*	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

*Width available upon request. Delivery time upon request.

E4.1L | **e-tubes** R4.38L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



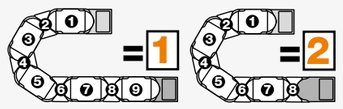
KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]	Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
050. ▶	**R4.380.050.*.12.C**	**R4.381.050.*.12.C**	050	175. ▶	**R4.380.175.*.12.C**	**R4.381.175.*.12.C**	175
075. ▶	**R4.380.075.*.12.C**	**R4.381.075.*.12.C**	075	200. ▶	**R4.380.200.*.12.C**	**R4.381.200.*.12.C**	200
100. ▶	**R4.380.100.*.12.C**	**R4.381.100.*.12.C**	100	250. ▶	**R4.380.250.*.12.C**	**R4.381.250.*.12.C**	250
125. ▶	**R4.380.125.*.12.C**	**R4.381.125.*.12.C**	125	300. ▶	R4.380.300.*.12.C*	R4.381.300.*.12.C*	300
150. ▶	**R4.380.150.*.12.C**	**R4.381.150.*.12.C**	150				

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

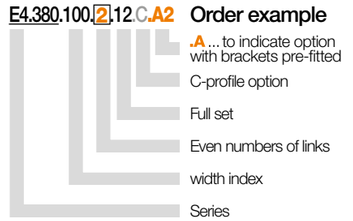
*Width available upon request. Delivery time upon request.

Note *: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





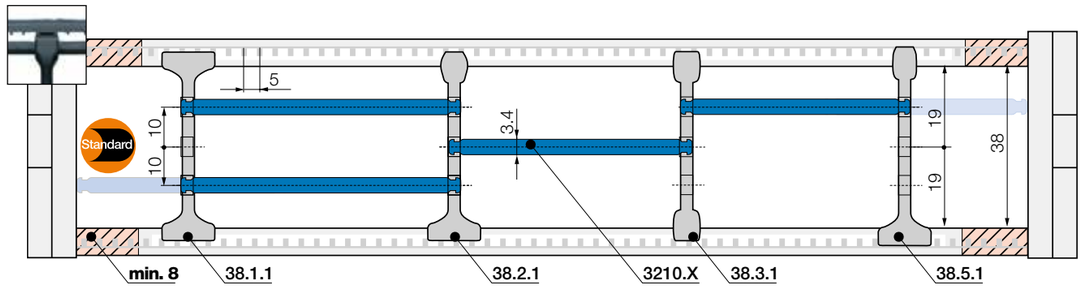
Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

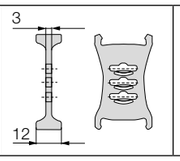
E4.1L | Series E4.38L·R4.38L | Accessories

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 8mm** | **e-chain®: 8mm**
As standard separators are fitted every 2nd e-chain® link!



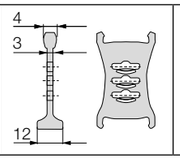


Standard separator, wide base	
unassembled	**38.1**
assembled	**38.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



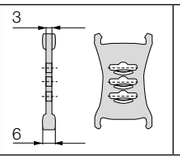


Separator, narrow top	
unassembled	**38.2**
assembled	**38.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



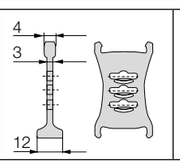


Separator, narrow	
unassembled	**38.3**
assembled	**38.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.

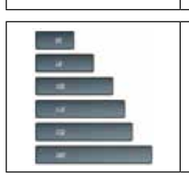


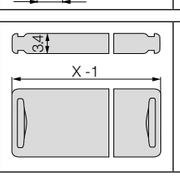


Notch separator for notched crossbar	
unassembled	**38.5**
assembled	**38.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





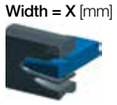
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

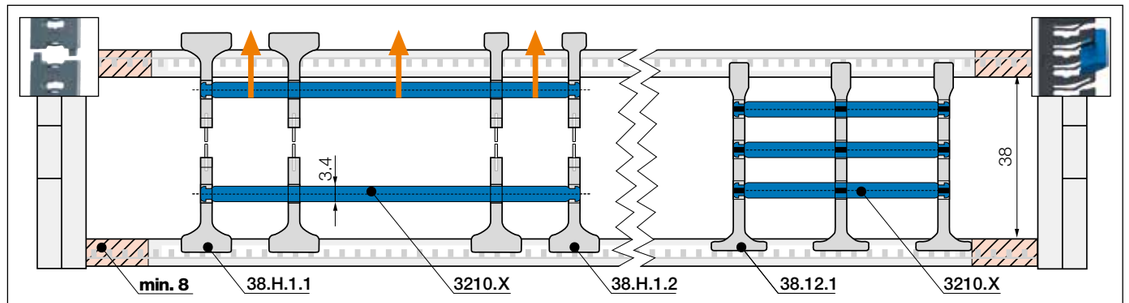


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4.38L
R4.38L

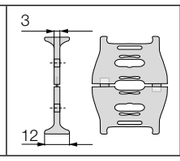
E4.1L | Series E4.38L·R4.38L | Accessories

Interior separation | To allow faster filling



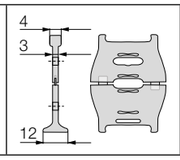
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 8mm** | **e-chain®: 8mm**
As standard separators are fitted every 2nd e-chain® link!





Split separator, wide base/top	
unassembled	**38.H.1**
assembled	**38.H.1.1**



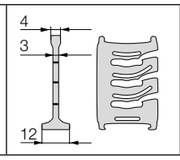


Split separator, narrow top	
unassembled	**38.H.2**
assembled	**38.H.2.1**

Split separators

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Lean separator[1)]	
unassembled	**38.12**
assembled	**38.12.1**

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



Separator with integrated strain relief teeth

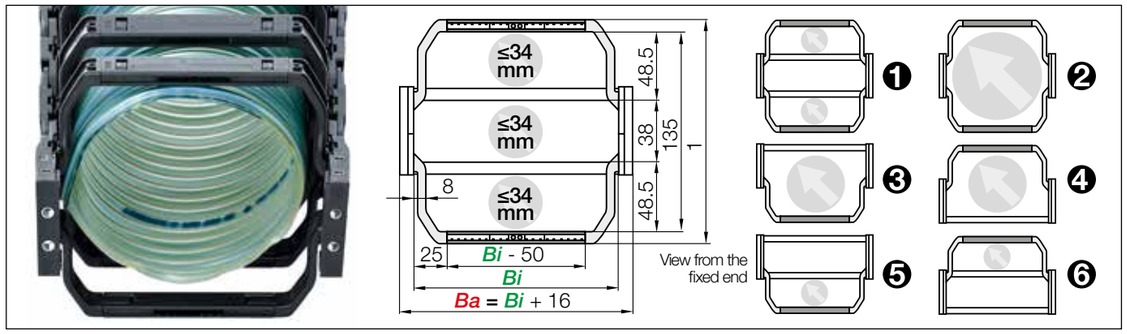
- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 38.Z - more information ▶ From page 1428



E4.1L | Series E4.38L·R4.38L | Further accessories

e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part number e-chain® with extender crossbar
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	E4.38L.XXXHB48.R.0
❷ Extender crossbar on both sides along the inner and outer radius [2]	122	E4.38L.XXXB48.R.0
❸ Extender crossbar along the outer radius [3]	78	E4.38L.XXXBE48.R.0
❹ Extender crossbar along the inner radius [2]	78	E4.38L.XXXBZ48.R.0
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	E4.38L.XXXHBE48.R.0
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	E4.38L.XXXHBZ48.R.0

1) Minimum bend radius: R 125 2) Minimum bend radius: R 150 3) Minimum bend radius: R 063

Bi [mm] **Available widths** (other widths available upon request. Delivery time upon request.

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 | 262 | 300 |

Complete Part No. with the width index XXX of Bi and the minimum bend radius (R). Example:

E4.38L.100B48.150.0 = Bi 100 / Extender crossbar on both sides along inner and outer radius / bend radius (R) 150



The E4.1L can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

More information ▶ From page 1362

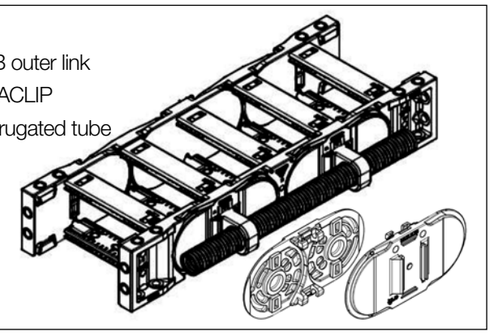


E4.1L | Series E4.38L·R4.38L | Further accessories

TUB



❶ TUB outer link
❷ PMACLIP
❸ Corrugated tube



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths 07, 10 ,12, 17mm to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

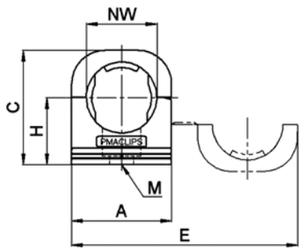
Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.38L.XXXTUBR.R.0	E4.38L.XXXTUBL.R.0	E4.38L.XXXTUB.R.0	07 / 10 / 12 / 17

*As viewed from the fixed end

Complete Part No. with the width index XXX of Bi and the minimum bend radius (R). Example:

E4.38L.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip





PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part number PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-07-0	07	17.0	20.0	21.5	13.5	40.5	M4
I-BFH-10-0	10	20.5	20.0	24.5	15.5	47.5	M5
I-BFH-12-0	12	24.0	20.0	27.0	16.5	54.5	M5
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6

E4.1L | Series E4.48L·R4.48L | Product range

Light design, high dynamics, cost-effective

48



Standard **e-chains® | E4.48L | Crossbars every link** (openable along inner and outer radius, from both sides)
e-tubes | R4.48L | Fully enclosed (lids openable along inner and outer radius, from both sides)

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E4.48L [kg/m]	R4.48L [kg/m]
E4.48L. 050.R.0	R4.48L. 050.R.0	50	70	≈ 1.53	≈ 1.64
E4.48L. 062.R.0	R4.48L. 062.R.0	62	82	≈ 1.58	≈ 1.69
E4.48L. 075.R.0	R4.48L. 075.R.0	75	95	≈ 1.64	≈ 1.82
E4.48L 087.R.0	R4.48L 087.R.0**	87	107	≈ 1.67	≈ 1.91
E4.48L. 100.R.0	R4.48L. 100.R.0	100	120	≈ 1.73	≈ 2.01
E4.48L. 105.R.0	–	105	125	≈ 1.74	–
E4.48L. 112. R.0	R4.48L. 112. R.0	112	132	≈ 1.79	≈ 2.15
E4.48L. 125.R.0	R4.48L. 125.R.0	125	145	≈ 1.84	≈ 2.18
E4.48L. 137.R.0	–	137	157	≈ 1.88	–
E4.48L. 150.R.0	R4.48L. 150.R.0	150	170	≈ 1.97	≈ 2.36
E4.48L. 162.R.0	–	162	182	≈ 2.00	–
E4.48L. 175.R.0	R4.48L. 175.R.0	175	195	≈ 2.04	≈ 2.58
E4.48L. 187.R.0	–	187	207	≈ 2.09	–
E4.48L. 200.R.0	R4.48L. 200.R.0	200	220	≈ 2.14	≈ 2.70
E4.48L. 212.R.0	–	212	232	≈ 2.18	–

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E4.48L [kg/m]	R4.48L [kg/m]
E4.48L. 225.R.0	R4.48L. 225.R.0	225	245	≈ 2.24	≈ 2.97
E4.48L. 237.R.0	–	237	257	≈ 2.30	–
E4.48L. 250.R.0	R4.48L. 250.R.0	250	270	≈ 2.35	≈ 3.08
E4.48L. 262.R.0	–	262	282	≈ 2.39	–
E4.48L. 275.R.0**	–	275	295	≈ 2.45	–
E4.48L. 287.R.0**	–	287	307	≈ 2.51	–
E4.48L. 300.R.0	R4.48L. 300.R.0**	300	320	≈ 2.56	≈ 3.42
E4.48L. 312.R.0**	–	312	332	≈ 2.60	–
E4.48L. 325.R.0**	–	325	345	≈ 2.66	–
E4.48L. 337.R.0**	–	337	357	≈ 2.72	–
E4.48L. 350.R.0**	–	350	370	≈ 2.74	–
E4.48L. 362.R.0**	–	362	382	≈ 2.77	–
E4.48L. 375.R.0**	–	375	395	≈ 2.81	–
E4.48L. 387.R.0**	–	387	407	≈ 2.90	–
E4.48L. 400.R.0**	–	400	420	≈ 2.96	–

**Width available upon request. Delivery time upon request.

1) Radius not available for e-tubes

Available bend radii

R [mm] | 075[1)] | 100[1)] | 125 | 150 | 175 | 200 | 250 | 300 | 350 |

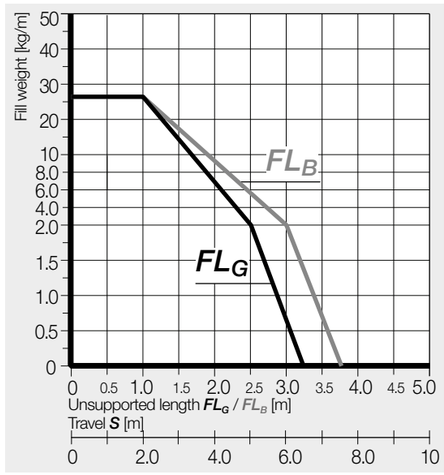
Complete Part No. with required radius (*R*). Example:

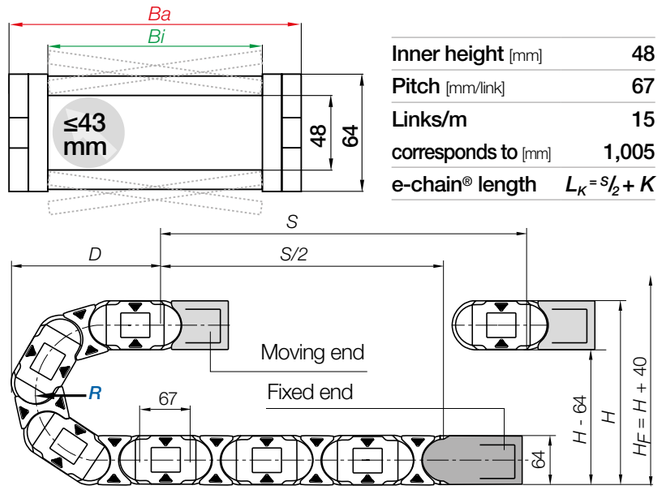
E4.48L.175.150.0 = crossbars every link / R4.48L.175.150.0 = fully enclosed

E4.1L | E4.48L·R4.48L | Installation dimensions

Unsupported applications | Short travels

▶ 1392 ▶ 1320





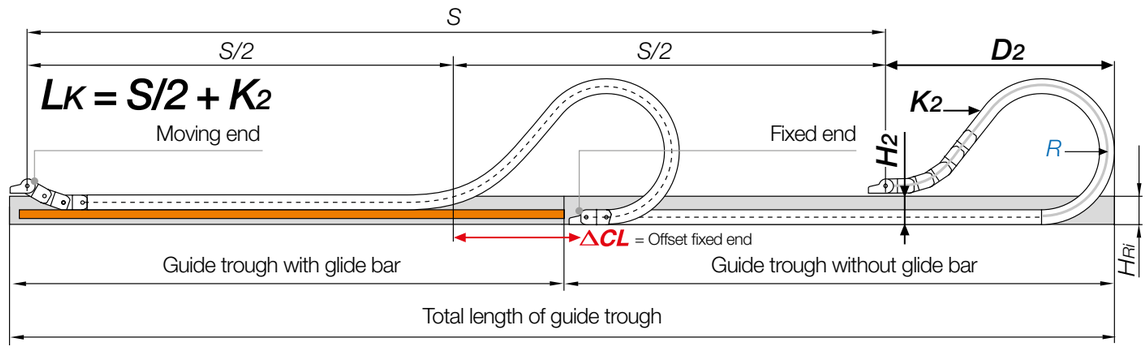
Inner height [mm]	48
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

R	075[1)]	100[1)]	125	150	175	200	250	300	350
H	214	264	314	364	414	464	564	664	764
D	208	233	258	283	308	333	383	433	483
K	370	450	530	610	685	765	920	1,080	1,235

The required clearance height: $H_F = H + 40$mm (with 2.5kg/m fill weight)

1) Radius not available for e-tubes

Gliding applications | For travel lengths from 10m to max. 100m



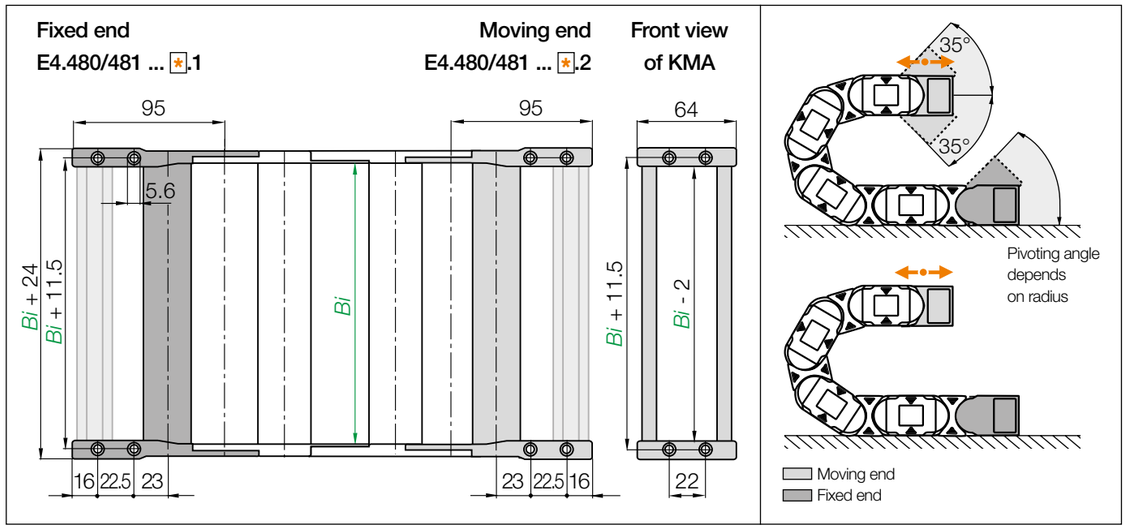
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	075[1)]	100[1)]	125	150	175	200	250	300[2)]	350[2)]
H_2	214	264	106	106	106	106	106	–	–
D_2	208	233	475	570	670	780	1,030	–	–
K_2	370	450	804	938	1,139	1,340	1,675	–	–
ΔCL	–	–	230	300	380	460	660	–	–

1) Radius not available for e-tubes 2) Radius not suitable for long travel applications. Please consult igus®.

E4.1L | **e-chains®** E4.48L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

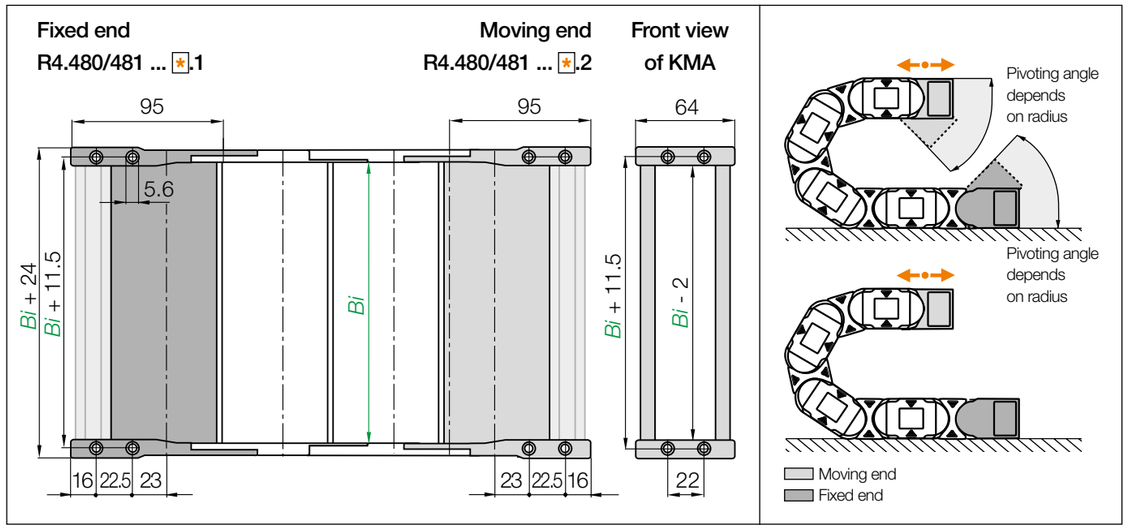
Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]	Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
050. ▶	**E4.480.050.✱.12**.C	**E4.481.050.✱.12**.C	50	225. ▶	**E4.480.225.✱.12**.C	**E4.481.225.✱.12**.C	225
062. ▶	**E4.480.062.✱.12**.C	**E4.481.062.✱.12**.C	62	237. ▶	**E4.480.237.✱.12**.C	**E4.481.237.✱.12**.C	237
075. ▶	**E4.480.075.✱.12**.C	**E4.481.075.✱.12**.C	75	250. ▶	**E4.480.250.✱.12**.C	**E4.481.250.✱.12**.C	250
087. ▶	**E4.480.087.✱.12**.C	**E4.481.087.✱.12**.C	87	262. ▶	**E4.480.262.✱.12**.C	**E4.481.262.✱.12**.C	262
100. ▶	**E4.480.100.✱.12**.C	**E4.481.100.✱.12**.C	100	275. ▶	E4.480.275.✱.12.C*	E4.481.275.✱.12.C*	275
105. ▶	**E4.480.105.✱.12**.C	**E4.481.105.✱.12**.C	105	287. ▶	E4.480.287.✱.12.C*	E4.481.287.✱.12.C*	287
112. ▶	**E4.480.112.✱.12**.C	**E4.481.112.✱.12**.C	112	300. ▶	**E4.480.300.✱.12**.C	**E4.481.300.✱.12**.C	300
125. ▶	**E4.480.125.✱.12**.C	**E4.481.125.✱.12**.C	125	312. ▶	E4.480.312.✱.12.C*	E4.481.312.✱.12.C*	312
137. ▶	**E4.480.137.✱.12**.C	**E4.481.137.✱.12**.C	137	325. ▶	E4.480.325.✱.12.C*	E4.481.325.✱.12.C*	325
150. ▶	**E4.480.150.✱.12**.C	**E4.481.150.✱.12**.C	150	337. ▶	E4.480.337.✱.12.C*	E4.481.337.✱.12.C*	337
162. ▶	**E4.480.162.✱.12**.C	**E4.481.162.✱.12**.C	162	350. ▶	E4.480.350.✱.12.C*	E4.481.350.✱.12.C*	350
175. ▶	**E4.480.175.✱.12**.C	**E4.481.175.✱.12**.C	175	362. ▶	E4.480.362.✱.12.C*	E4.481.362.✱.12.C*	362
187. ▶	**E4.480.187.✱.12**.C	**E4.481.187.✱.12**.C	187	375. ▶	E4.480.375.✱.12.C*	E4.481.375.✱.12.C*	375
200. ▶	**E4.480.200.✱.12**.C	**E4.481.200.✱.12**.C	200	387. ▶	E4.480.387.✱.12.C*	E4.481.387.✱.12.C*	387
212. ▶	**E4.480.212.✱.12**.C	**E4.481.212.✱.12**.C	212	400. ▶	E4.480.400.✱.12.C*	E4.481.400.✱.12.C*	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

*Width available upon request. Delivery time upon request.

E4.1L | **e-tubes** R4.48L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



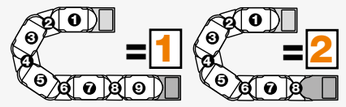
Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]	Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
050. ▶	**R4.480.050.✱.12**.C	**R4.481.050.✱.12**.C	050	150. ▶	**R4.480.150.✱.12**.C	**R4.481.150.✱.12**.C	150
062. ▶	**R4.480.062.✱.12**.C	**R4.481.062.✱.12**.C	062	175. ▶	**R4.480.175.✱.12**.C	**R4.481.175.✱.12**.C	175
075. ▶	**R4.480.075.✱.12**.C	**R4.481.075.✱.12**.C	075	200. ▶	**R4.480.200.✱.12**.C	**R4.481.200.✱.12**.C	225
087. ▶	R4.480.087.✱.12.C*	R4.481.087.✱.12.C*	087	225. ▶	R4.480.225.✱.12.C*	R4.481.225.✱.12.C*	200
100. ▶	**R4.480.100.✱.12**.C	**R4.481.100.✱.12**.C	100	250. ▶	**R4.480.250.✱.12**.C	**R4.481.250.✱.12**.C	250
112. ▶	**R4.480.112.✱.12**.C	**R4.481.112.✱.12**.C	112	300. ▶	R4.480.300.✱.12.C*	R4.481.300.✱.12.C*	300
125. ▶	**R4.480.125.✱.12**.C	**R4.481.125.✱.12**.C	125				

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

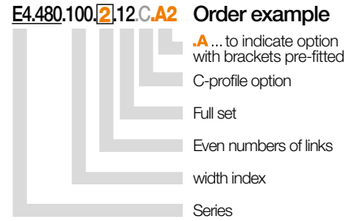
*Width available upon request. Delivery time upon request.

Note ✱: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





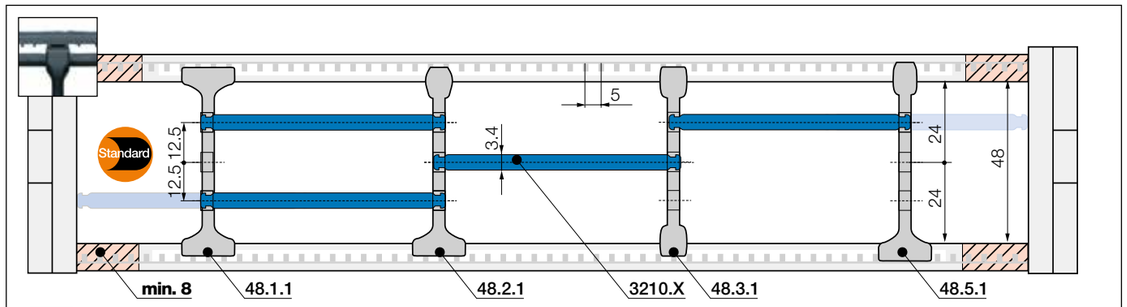
Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

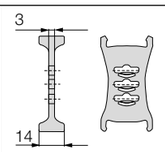
E4.1L | Series E4.48L·R4.48L | Accessories

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 8mm** | **e-chain®: 8mm**
As standard separators are fitted every 2nd e-chain® link!



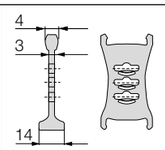


Standard separator, wide base	
unassembled	**48.1**
assembled	**48.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



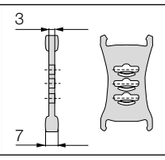


Separator, narrow top	
unassembled	**48.2**
assembled	**48.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



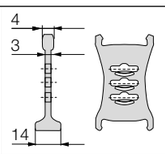


Separator, narrow	
unassembled	**48.3**
assembled	**48.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.

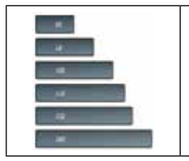


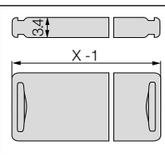


Notch separator for notched crossbar	
unassembled	**48.5**
assembled	**48.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





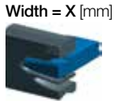
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

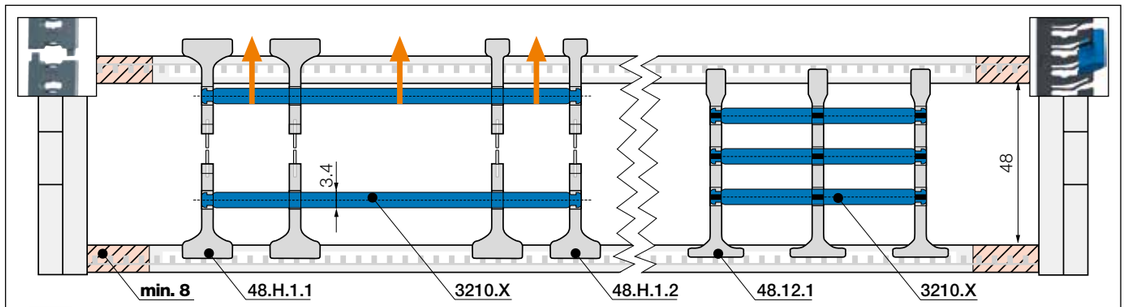
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

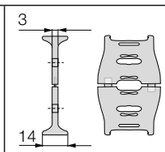
E4.1L | Series E4.48L·R4.48L | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 8mm** | **e-chain®: 8mm**
As standard separators are fitted every 2nd e-chain® link!



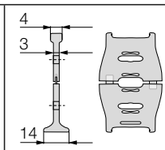


Split separator, wide base/top	
unassembled	**48.H.1**
assembled	**48.H.1.1**

Split separators

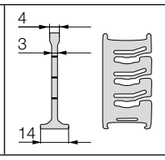
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**48.H.2**
assembled	**48.H.2.1**





Lean separator[1)]	
unassembled	**48.12**
assembled	**48.12.1**

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

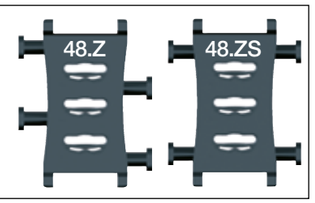
With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

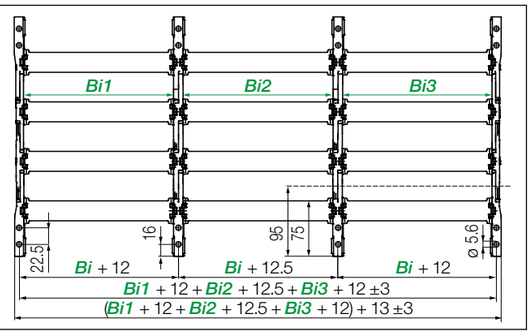
2 versions: Part No. 48.Z / Part No. 48.ZS - more information ▶ From page 1428



E4.1L | Series E4.48L·R4.48L | Further accessories

Extension links





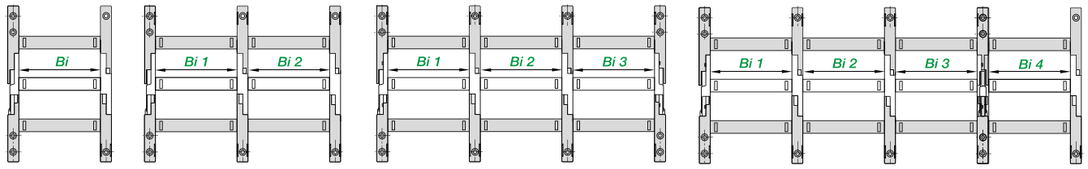
Extension links | For extremely wide e-chains® up to 2.0m with 50% more fill weight

- Extension link e-chains® for 50% higher fill weight extension link up to widths of 2.0m and more
- For heavy fill weights or e-chains® with many heavy cables next to each other
- e-chains® and e-tubes can be combined

Part number Extension link e-chain®	Part number Extension link e-tube	Part number Extension link as an individual part
E4.48L.*Bi1*/*Bi2*/*Bi3*.*R*.0	R4.48L.*Bi1*/*Bi2*/*Bi3*.*R*.0	E4.48ML.*R*.

Complete Part No.with the width index *Bi1*/*Bi2*/*Bi3*/*etc.* and the radius (*R*). Example: **E4.48L.175/175/175.150.0**

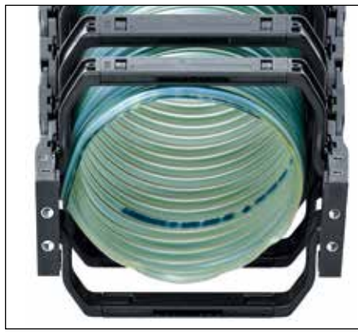
Increase of the fill weight per extension link

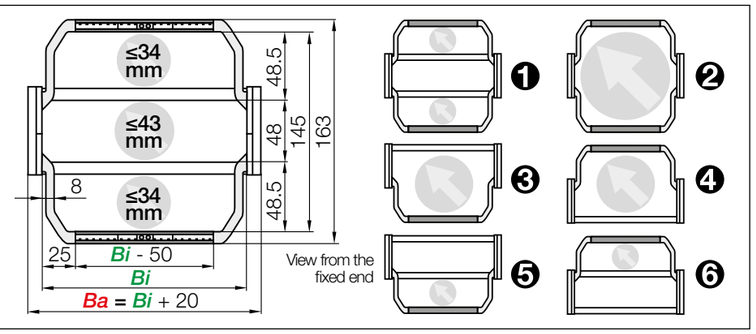


Normal fill weight | **+50% more fill weight** | **+100% more fill weight** | **+150% more fill weight**

E4.1L | Series E4.48L·R4.48L | Further accessories

e-chain® with openable extender crossbars





Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part number e-chain® with extender crossbar
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	E4.48L.XXXHB48.*R*.0
❷ Extender crossbar on both sides along the inner and outer radius [2]	130	E4.48L.XXXB48.*R*.0
❸ Extender crossbar along the outer radius [3]	85	E4.48L.XXXBE48.*R*.0
❹ Extender crossbar along the inner radius [2]	85	E4.48L.XXXBZ48.*R*.0
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	E4.48L.XXXHBE48.*R*.0
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	E4.48L.XXXHBZ48.*R*.0

1) Minimum bend radius: *R* 100 2) Minimum bend radius: *R* 150 3) Minimum bend radius: *R* 075

Bi [mm] **Available widths** (other widths available upon request. Delivery time upon request.

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 | 262 | 300 |

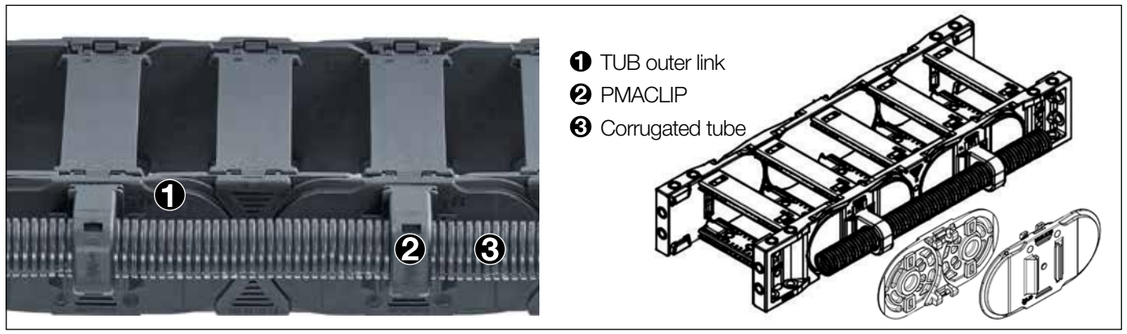
Complete Part No. with the width index XXX of *Bi* and the minimum bend radius (*R*). Example:

E4.48L.100B48.150.0 = *Bi* 100 / Extender crossbar on both sides along inner and outer radius / bend radius (*R*) 150



The E4.1L can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

TUB



❶ TUB outer link
❷ PMACLIP
❸ Corrugated tube

TUB | Safe guidance for corrugated tubes parallel to the e-chain®

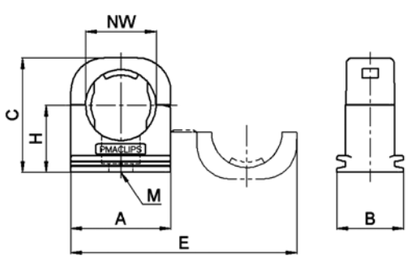
- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP support to be easily clipped on corrugated tubes with nominal widths 07, 10 ,12, 17, 23, 29, 36mm
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.48L.XXXTUBR.R.0	E4.48L.XXXTUBL.R.0	E4.48L.XXXTUB.R.0	07 / 10 / 12 / 17 / 23 / 29 / 36

*As viewed from the fixed end

Complete Part No. with the width index XXX of *Bi* and the minimum bend radius (*R*). Example:
E4.48L.100TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip





PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part number PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-07-0	07	17.0	20.0	21.5	13.5	40.5	M4
I-BFH-10-0	10	20.5	20.0	24.5	15.5	47.5	M5
I-BFH-12-0	12	24.0	20.0	27.0	16.5	54.5	M5
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6
I-BFH-23-0	23	38.5	20.0	42.0	24.0	85.0	M6
I-BFH-29-0	29	45.5	20.0	48.0	27.0	99.0	M6
I-BFH-36-0	36	55.5	20.0	56.0	31.0	119.0	M6

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



CFU strain relief with innovative honeycomb design

- Fast filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Universal use, compact, space-saving design

More information ▶ Page 1428



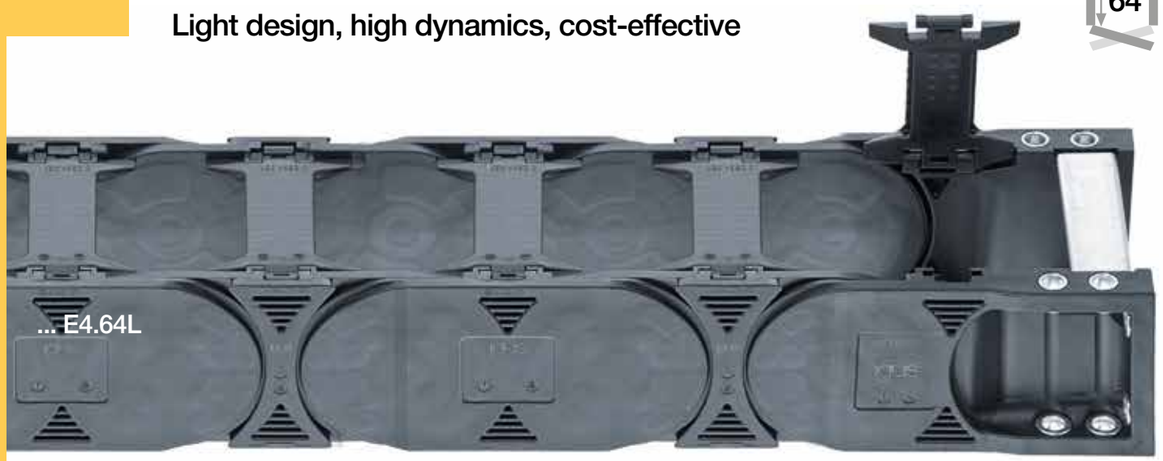


Due to the modular design, the E4.1L system can be adapted to almost any application. As an open version for cable guidance, with extender crossbars for large hoses, or enclosed chip-resistant tube complete with guide trough – just three of many options

E4.1L | Series E4.64L | Product range

Light design, high dynamics, cost-effective

64



e-chains® | E4.64L | **Crossbars every link** (openable along inner and outer radius, from both sides)

Part No.	Bi	Ba	E4.64L
e-chains®	[mm]	[mm]	[kg/m]
E4.64L. 050.*R*.0*	50	76	≈ 2.37
E4.64L. 062.*R*.0*	62	88	≈ 2.41
E4.64L. 075.*R*.0	75	101	≈ 2.47
E4.64L. 087.*R*.0	87	113	≈ 2.54
E4.64L. 100.*R*.0	100	126	≈ 2.57
E4.64L. 112.*R*.0	112	138	≈ 2.63
E4.64L. 125.*R*.0	125	151	≈ 2.67
E4.64L. 137.*R*.0*	137	163	≈ 2.72
E4.64L. 150.*R*.0	150	176	≈ 2.77
E4.64L. 162.*R*.0*	162	188	≈ 2.83
E4.64L. 175.*R*.0	175	201	≈ 2.87
E4.64L. 187.*R*.0	187	213	≈ 2.93
E4.64L. 200.*R*.0	200	226	≈ 2.97
E4.64L. 212.*R*.0	212	238	≈ 3.03
E4.64L. 225.*R*.0	225	251	≈ 3.08

Part No.	Bi	Ba	E4.64L
e-chains®	[mm]	[mm]	[kg/m]
E4.64L. 237.*R*.0*	237	263	≈ 3.12
E4.64L. 250.*R*.0	250	276	≈ 3.18
E4.64L. 262.*R*.0*	262	288	≈ 3.22
E4.64L. 275.*R*.0*	275	301	≈ 3.28
E4.64L. 287.*R*.0*	287	313	≈ 3.33
E4.64L. 300.*R*.0	300	326	≈ 3.38
E4.64L. 312.*R*.0*	312	338	≈ 3.43
E4.64L. 325.*R*.0	325	351	≈ 3.48
E4.64L. 337.*R*.0*	337	363	≈ 3.54
E4.64L. 350.*R*.0	350	376	≈ 3.58
E4.64L. 362.*R*.0*	362	388	≈ 3.63
E4.64L. 375.*R*.0*	375	401	≈ 3.68
E4.64L. 387.*R*.0*	387	413	≈ 3.73
E4.64L. 400.*R*.0*	400	426	≈ 3.78

*Width available upon request. Delivery time upon request.

Available bend radii

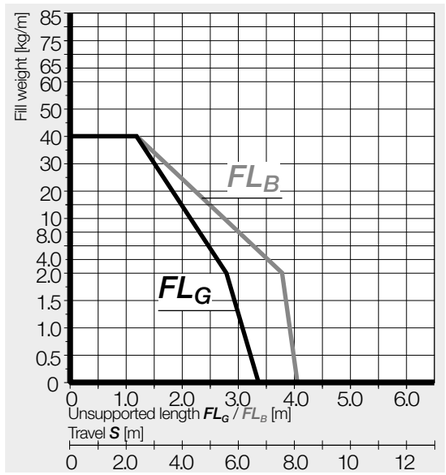
R [mm] | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 350 | 400 |

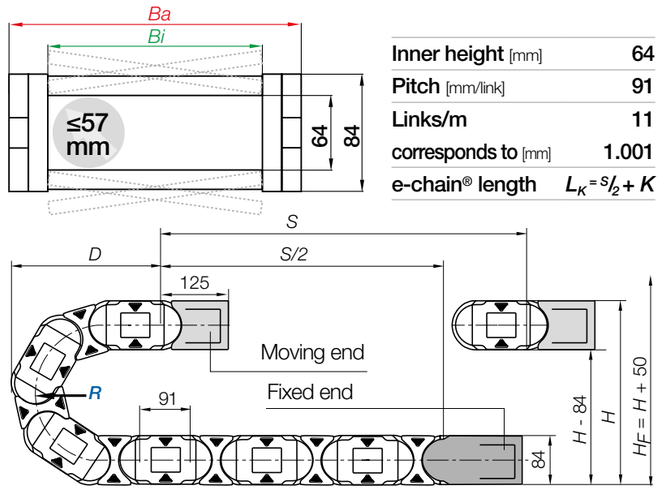
Complete Part No. with required radius (*R*). Example: **E4.64L.150.150.0 = crossbars every link**

E4.1L | Series E4.64L | Installation dimensions

▶ 1392 ▶ 1322

Unsupported applications | Short travels



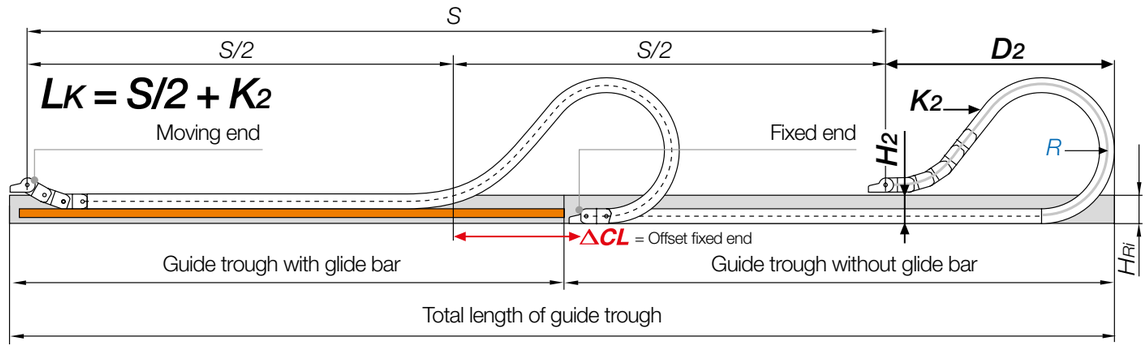


Inner height [mm]	64
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$

R	100	125	150	175	200	250	300	350	400
H	284	334	384	434	484	584	684	784	884
D	279	304	329	354	379	429	479	529	579
K	500	575	655	735	815	970	1,125	1,285	1,440

The required clearance height: $H_F = H + 50$mm (with 2.0kg/m fill weight)

Gliding applications | For long travels, upon request



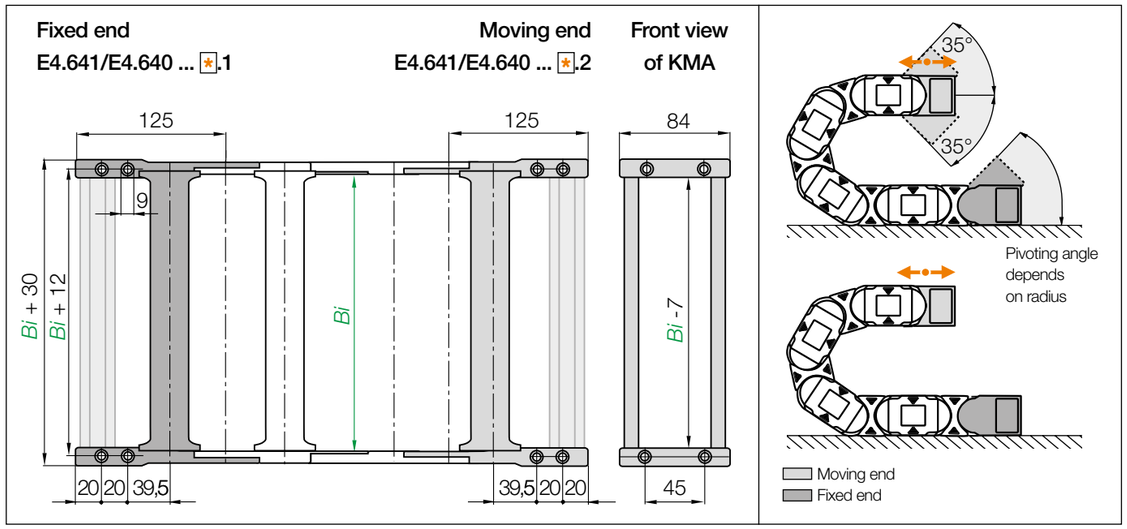
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	100	125	150	175	200	250	300	350	400
H_2	**	180	180	180	180	180	–	–	–
D_2	**	505	580	705	830	1,080	–	–	–
K_2	**	819	910	1,183	1,365	1,729	–	–	–
ΔCL	**	209	259	359	459	570	–	–	–

**Values upon request

E4.1L | e-chains® E4.64L | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



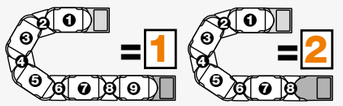
Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
050. ▶	E4.640.050.*.12.C*	E4.641.050.*.12.C*	50
062. ▶	E4.640.062.*.12.C*	E4.641.062.*.12.C*	62
075. ▶	**E4.640.075.*.12.C**	**E4.641.075.*.12.C**	75
087. ▶	**E4.640.087.*.12.C**	**E4.641.087.*.12.C**	87
100. ▶	**E4.640.100.*.12.C**	**E4.641.100.*.12.C**	100
112. ▶	**E4.640.112.*.12.C**	**E4.641.112.*.12.C**	112
125. ▶	**E4.640.125.*.12.C**	**E4.641.125.*.12.C**	125
137. ▶	E4.640.137.*.12.C*	E4.641.137.*.12.C*	137
150. ▶	**E4.640.150.*.12.C**	**E4.641.150.*.12.C**	150
162. ▶	E4.640.162.*.12.C*	E4.641.162.*.12.C*	162
175. ▶	**E4.640.175.*.12.C**	**E4.641.175.*.12.C**	175
187. ▶	**E4.640.187.*.12.C**	**E4.641.187.*.12.C**	187
200. ▶	**E4.640.200.*.12.C**	**E4.641.200.*.12.C**	200
212. ▶	**E4.640.212.*.12.C**	**E4.641.212.*.12.C**	212
225. ▶	**E4.640.225.*.12.C**	**E4.641.225.*.12.C**	225

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
237. ▶	E4.640.237.*.12.C*	E4.641.237.*.12.C*	237
250. ▶	**E4.640.250.*.12.C**	**E4.641.250.*.12.C**	250
262. ▶	E4.640.262.*.12.C*	E4.641.262.*.12.C*	262
275. ▶	E4.640.275.*.12.C*	E4.641.275.*.12.C*	275
287. ▶	E4.640.287.*.12.C*	E4.641.287.*.12.C*	287
300. ▶	**E4.640.300.*.12.C**	**E4.641.300.*.12.C**	300
312. ▶	E4.640.312.*.12.C*	E4.641.312.*.12.C*	312
325. ▶	**E4.640.325.*.12.C**	**E4.641.325.*.12.C**	325
337. ▶	E4.640.337.*.12.C*	E4.641.337.*.12.C*	337
350. ▶	**E4.640.350.*.12.C**	**E4.641.350.*.12.C**	350
362. ▶	E4.640.362.*.12.C*	E4.641.362.*.12.C*	362
375. ▶	E4.640.375.*.12.C*	E4.641.375.*.12.C*	375
387. ▶	E4.640.387.*.12.C*	E4.641.387.*.12.C*	387
400. ▶	E4.640.400.*.12.C*	E4.641.400.*.12.C*	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C** *Width available upon request. Delivery time upon request.

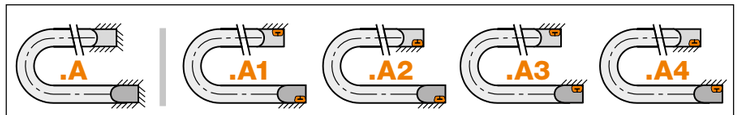
Note *: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.



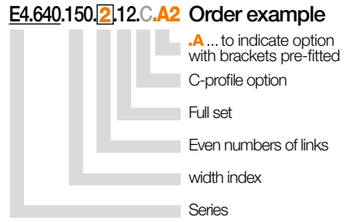
E4.64L

E4.1L | e-chains® E4.64L | Accessories

KMA mounting brackets | Attachment from any side



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



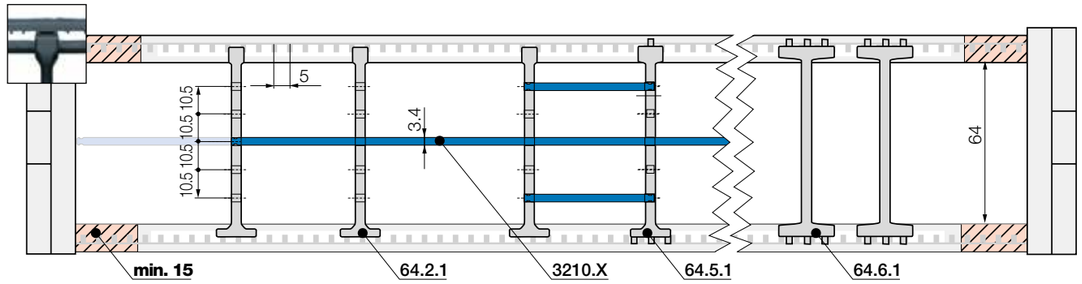
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392



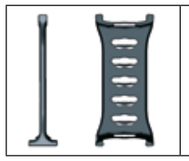
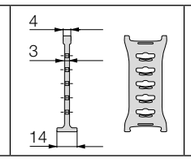
R4.1L e-tubes to guide motor, encoder and sensor cables on a bending machine

E4.1L | Series E4.64L | Accessories

Interior separation | Increase cable service life



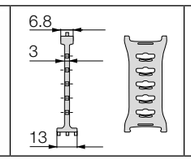
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 15mm**
As standard separators are fitted every 2nd e-chain® link!

Separator, narrow top	
unassembled	64.2
assembled	64.2.1

For even faster installation

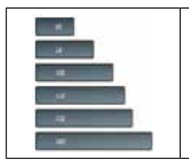
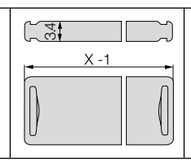
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

Notch separator for notched crossbar	
unassembled	64.5
assembled	64.5.1

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.

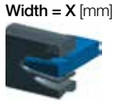
Shelf, lockable	
unassembled	3200.X
assembled	3210.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

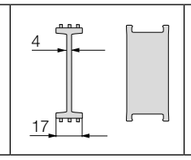
Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	3200.050	3210.050	125	3200.125	3210.125	225	3200.225	3210.225
075	3200.075	3210.075	150	3200.150	3210.150	250	3200.250	3210.250
100	3200.100	3210.100	175	3200.175	3210.175			
115	3200.115	3210.115	200	3200.200	3210.200			

More interior separation options

Notch locking separator, lockable for e-chains®	
unassembled	64.6
assembled	64.6.1

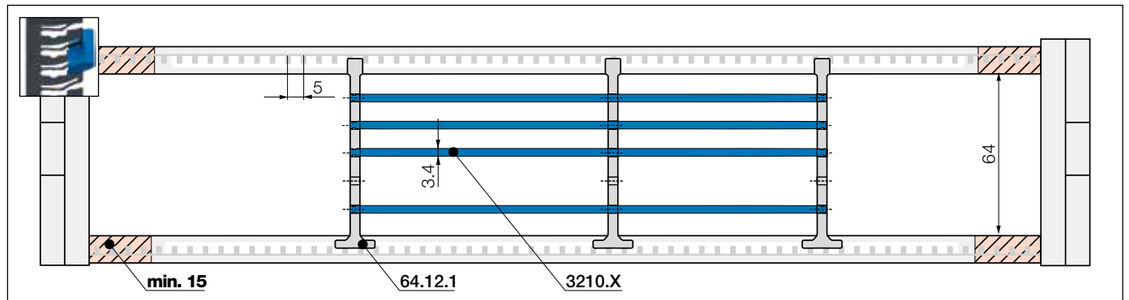
Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

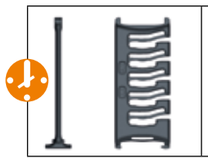
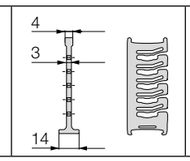
E4.64L

E4.1L | Series E4.64L | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 15mm**
As standard separators are fitted every 2nd e-chain® link!

Lean separator[1)]	
unassembled	64.12
assembled	64.12.1

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note:** Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!

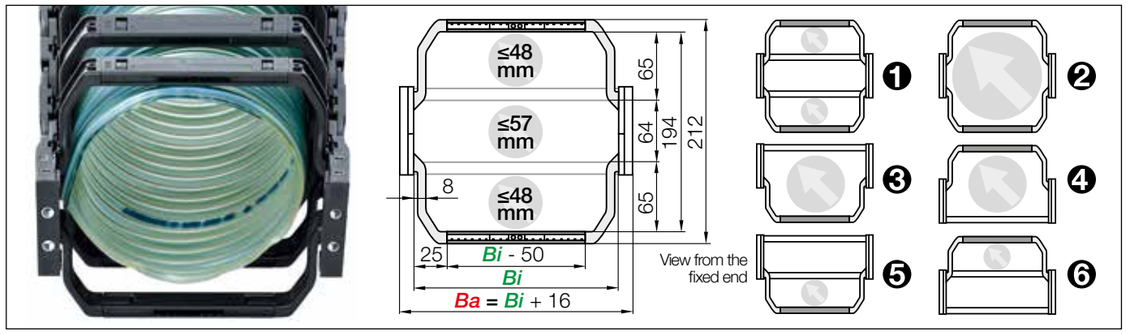
With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab





Low weight combined with high strength for long unsupported lengths: E4.1L

e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions	Hose	Part number
e-chain® with extender crossbar	**Ø ≤ [mm]**	**e-chain® with extender crossbar**
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1)]	48	**E4.64L.XXXHB65.R.0**
❷ Extender crossbar on both sides along the inner and outer radius [2)]	170	**E4.64L.XXXB65.R.0**
❸ Extender crossbar along the outer radius [3)]	115	**E4.64L.XXXBE65.R.0**
❹ Extender crossbar along the inner radius [2)]	115	**E4.64L.XXXBZ65.R.0**
❺ Extender crossbar and standard crossbar alternating along the outer radius [3)]	48	**E4.64L.XXXHBE65.R.0**
❻ Extender crossbar and standard crossbar alternating along inner radius [1)]	48	**E4.64L.XXXHBZ65.R.0**

1) Minimum bend radius: *R* 125 2) Minimum bend radius: *R* 150 3) Minimum bend radius: *R* 100

Bi [mm] **Available widths** (other widths available upon request. Delivery time upon request.

| 100 | 112 | 125 | 150 | 175 | 187 | 200 | 212 | 225 | 300 | 325 | 350 |

Complete Part No. with the width index XXX of *Bi* and the minimum bend radius (*R*). Example:

E4.64L.100B65.150.0 = *Bi* 100 / Extender crossbar on both sides along inner and outer radius / bend radius (*R*) 150



The E4.1L can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

Steel support tray for support of the lower run

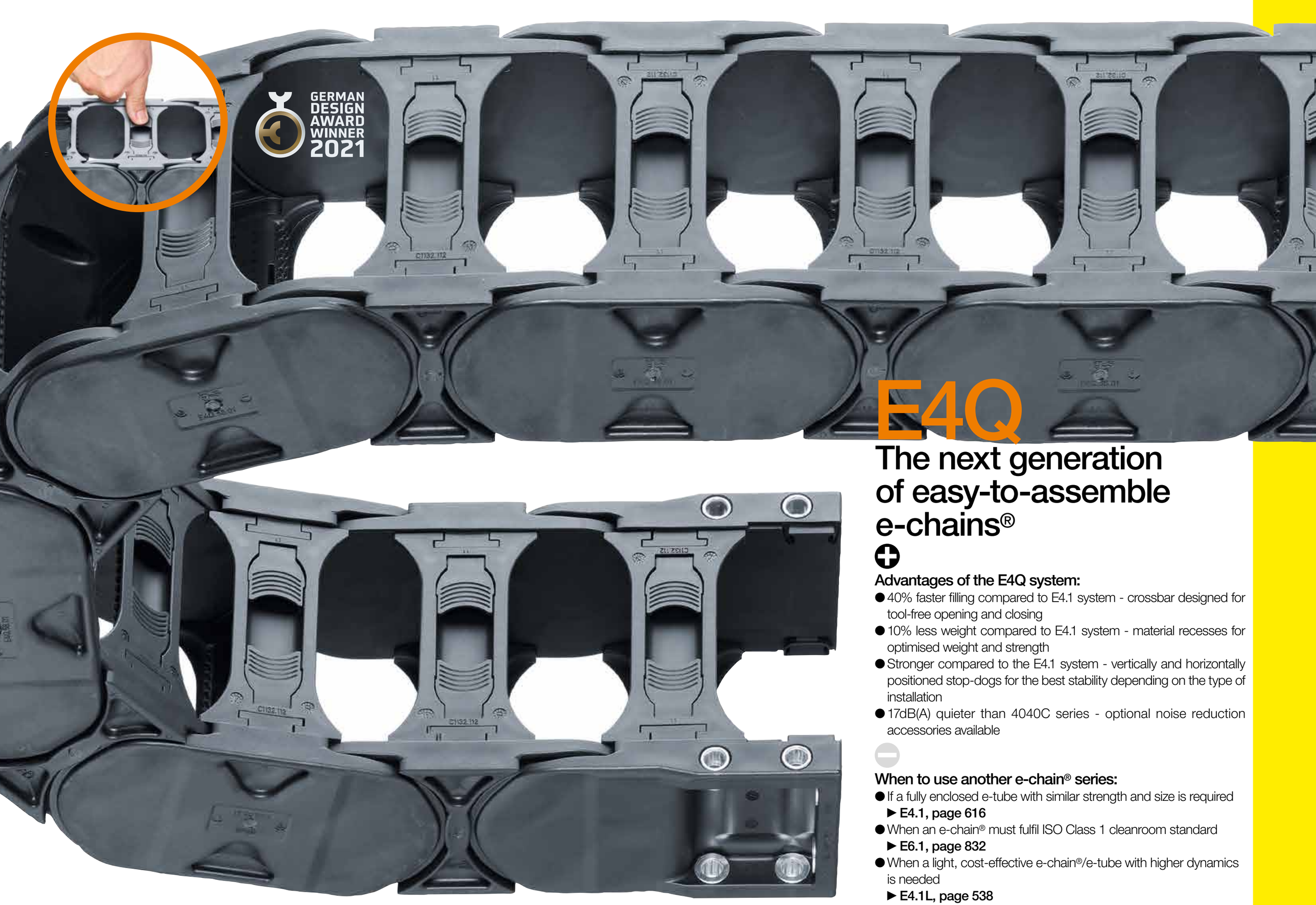
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356





The sharp S with the centrally arranged guided link system - in order to be able to implement the telescoping arm projecting from both sides, two igus® E4.1L series e-chains® were combined together offset by 180 degrees



E4Q

The next generation of easy-to-assemble e-chains®

Advantages of the E4Q system:

- 40% faster filling compared to E4.1 system - crossbar designed for tool-free opening and closing
- 10% less weight compared to E4.1 system - material recesses for optimised weight and strength
- Stronger compared to the E4.1 system - vertically and horizontally positioned stop-dogs for the best stability depending on the type of installation
- 17dB(A) quieter than 4040C series - optional noise reduction accessories available

When to use another e-chain® series:

- If a fully enclosed e-tube with similar strength and size is required
  ► **E4.1, page 616**
- When an e-chain® must fulfil ISO Class 1 cleanroom standard
  ► **E6.1, page 832**
- When a light, cost-effective e-chain®/e-tube with higher dynamics is needed
  ► **E4.1L, page 538**



Attachment from any side with KMA mounting brackets

40% faster filling[1]: crossbar designed for tool-free opening and closing

15% higher pull-out strength of the crossbars[1]: strong connection to the e-chain®

10% less weight[1]: material recesses for optimised weight and strength

Stronger[1]: optimum force distribution (four stop-dogs)

17dB(A) quieter[2]: optional noise reduction accessories available

1) Compared to E4.1 system

2) Compared to 4040C series

The next generation of easy-to-assemble e-chains® - E4Q

Easy opening and closing, without tools

The latest E4Q e-chains® generation combines proven design features of the 12-year old, robust E4.1 e-chains® standard with new bionic design elements and a novel opening mechanism. This gives the E4Q an even longer service life and significantly improved ease of installation.

- Tool-free opening and closing
- Sustainability - 10% less material means 10% less energy consumption during production
- Short cross-bar pickup for even easier filling of the e-chain®
- Optimised interior geometry for longer cable service life
- Integrated grid structure on crossbars for fixed interior separation with narrower separators
- Inner/outer link principle for straight run
- Undercut design ensures the best hold as well as high lateral and torsion strength

Typical industries and applications

● Machine tools ● Cranes ● Automation systems

GERMAN DESIGN AWARD WINNER 2021

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **e-chains® with crossbars every link** the all-rounder - also for particularly demanding applications Please observe the guidelines for the e-chains® selection, further information ▶ From page 114							
E4Q.34	34	075 - 400	98 - 432	54	063 - 300	3.60	**592**
E4Q.44	44	075 - 400	101 - 426	64	075 - 350	4.00	**598**
E4Q.58	58	100 - 500	134 - 534	84	135 - 500	5.00	**604**
E4Q.82	82	100 - 500	150 - 550	108	150 - 1,000	6.20	**610**
 **e-chains® with crossbars every 2nd link** the cost-effective, easy-to-install alternative for almost all applications Please observe the guidelines for the e-chains® selection, further information ▶ From page 114							
H4Q.34	34	075 - 400	98 - 432	54	063 - 300	3.60	**592**
H4Q.44	44	075 - 400	101 - 426	64	075 - 350	4.00	**598**
H4Q.58	58	100 - 500	134 - 534	84	135 - 500	5.00	**604**
H4Q.82	82	100 - 500	150 - 550	108	150 - 1,000	6.20	**610**

Available from stock. Ready to ship in 24 - 48hrs.*

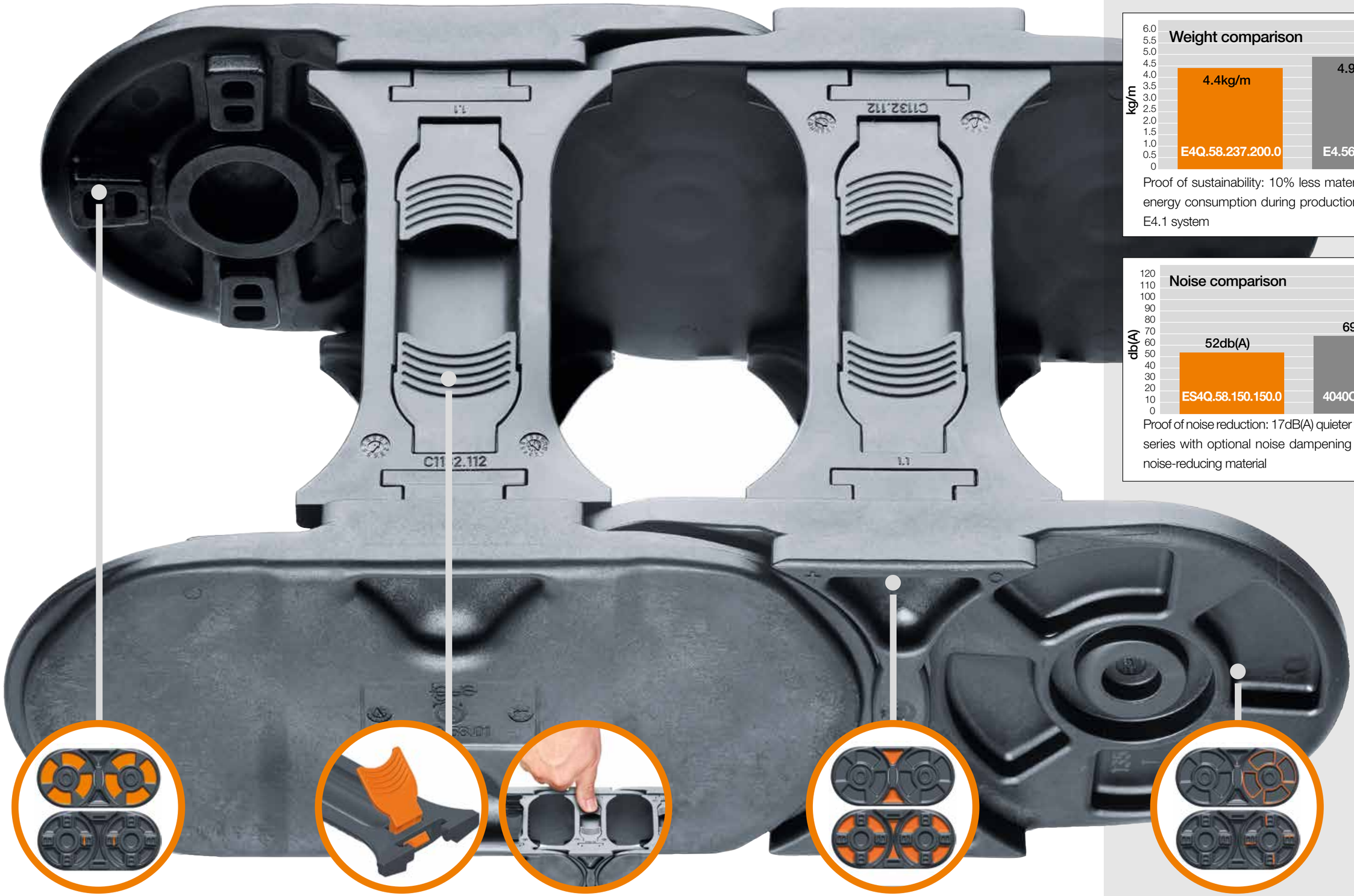
*Average time before the ordered goods are dispatched.



Easy handling - opening and closing of an e-chain® without tools, save up to 40% assembly time compared to E4.1 series

Open and close easily without tools ...

... simple handling



Optional noise dampening -
new system for noise reduction.
17dB(A) quieter than the 4040C series

Open and close the E4Q e-chain® entirely
without tools. 40% faster installation
or filling than the E4.1 system

Lighter e-chain® link structure thanks
to material savings in design.
10% lighter than the E4.1 system

More strength and a higher unsupported
length than with the E4.1 system thanks
to vertical and horizontal stop-dogs

Proof of sustainability: 10% less material = 10% less energy consumption during production compared to E4.1 system

Proof of noise reduction: 17dB(A) quieter than the 4040C series with optional noise dampening parts made of noise-reducing material

E4Q | Universal interior separation

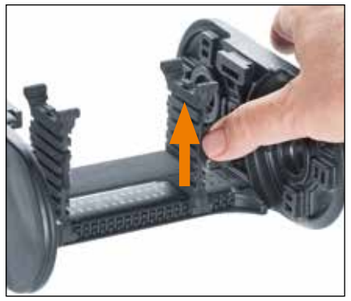
Particularly simplified assembly with the universal separators



Complete flexibility, reliability and ease of assembly in one

The universal system for modular shelving offers complete flexibility:

Depending on accessibility, choose the side from which you want to fit the shelf and whether it is easier to access the inner or outer radius of the e-chain® in order to release the crossbars. The shelves are locked in place by means of the integrated slider and additionally when the crossbar is fitted. Thanks to positive-locking, assembly is possible with virtually no force. Locking is simple and fast but the shelves are held securely in place. To unlock, release the crossbar on the inner or outer radius, depending on accessibility. The E4Q e-chains® can be opened quickly and without tools. After the crossbar has been released, the shelf can be unlocked by means of the slider and then simply pulled out.



Opening of the lock via integrated slider



Shelf can be used in several layers and securely locked



When the crossbar is inserted, the lock is automatically activated

E4Q | Interior separation options | Overview

Universal interior separation | For even more horizontal separation options

Universal interior separation

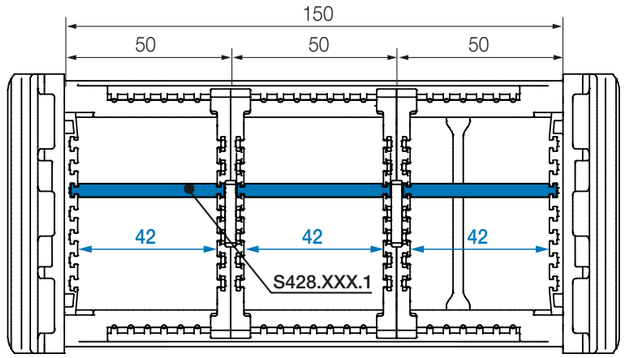
The interior separation elements shown here are exemplary and the number of slots depends on the inner height of the series!






Series	Universal middle plates	Universal side plates	Universal separators	Shelves, lockable (XXX = mm)
E4Q.34 / H4Q.34	34.21*	34.22*	34.23*	S428.XXX
E4Q.44 / H4Q.44	44.21*	44.22*	44.23*	S428.XXX
E4Q.58 / H4Q.58	58.21	58.22	58.23	S428.XXX
E4Q.82 / H4Q.82	82.21	82.22	82.23	S428.XXX

* Available upon request Delivery time upon request.



Note: The available width of the lockable shelf **Part No. S428.XXX** deviates by 8mm from the width stated in the part number. With the shelf S428.050, e.g. the space between the separators is 42mm.

Standard interior separation

The interior separation elements shown here are exemplary and the number of slots depends on the inner height of the series!






Series	Standard separator	Notch separator	Lean notch separator*	Shelves, lockable (X = mm)
E4Q.34 / H4Q.34	34.1	34.5	34.15*	3200.X
E4Q.44 / H4Q.44	44.1	44.5	44.15*	3200.X
E4Q.58 / H4Q.58	58.1	58.5	58.15	520.X
E4Q.82 / H4Q.82	82.1	82.5	82.15	520.X

* Available upon request Delivery time upon request.

***Note**: Please combine a maximum of four lean notch separators with one shelf. Not suitable for side-mounted e-chains®!*

E4Q | Features | Accessories



Open and close the e-chain® easily without tools



Four stop-dogs for maximum strength in any installation orientation



Less material in places where it has no function for strength.



Optional noise dampeners for even quieter operation



KMA mounting brackets with attachment options from any side



Notches in the crossbar for secure grip of the separators



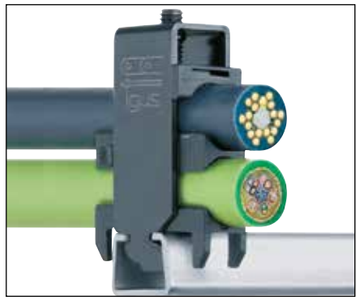
Particularly simplified assembly with the universal separators



Standard interior separation from the proven E4 modular system available from stock



Lean separators enable extremely fast cable filling in several layers



Strain relief elements include clamps, tiewrap plates, nuggets, etc. ▶ **From page 1392**



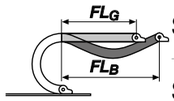
Aluminium and steel support trays for support of the lower run ▶ From page 1362



Super-aluminium trough with low wear glide bar for some series, available from stock ▶ **From page 1298**

E4Q | Technical data | Overview

Technical data



Speed gliding / acceleration gliding	≤ 10 [m/s] / ≤ 50 [m/s²]
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

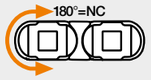
Installation types, maximum travels

Series	Unsupported	Gliding[1)]	Vertical hanging	Vertical standing	Side mounted unsupported
E4Q.34 / H4Q.34	≤ 7.2m	≤ 200m	≤ 80m	≤ 5.0m	≤ 1.5m
E4Q.44 / H4Q.44	≤ 8.0m	≤ 300m	≤ 100m	≤ 6.0m	≤ 2.0m
E4Q.58 / H4Q.58	≤ 10.0m	≤ 400m	≤ 100m	≤ 6.0m	≤ 2.5m
E4Q.82 / H4Q.82	≤ 12.4m	≤ 400m	≤ 120m	≤ 6.0m	≤ 3.0m

E4Q e-chain® sample request
Are you interested in our E4Q e-chain®? Order your free sample and see the innovative properties for yourself.
Request a sample here ▶ www.igus.eu/innovation



Options with order keys | Examples based on series E4Q.58/H4Q.58

Standard	*Optional noise dampers*	*Simply turn outer side link, no additional rework*	*Reverse Bend Radius (RBR) for circular movements*
Part No. **Standard**	**Part No.** **Low noise (with pads)**	**Part No.** **NC version**	**Part No.** ***RBR***
			
E4Q.58.150.*R*.0 e-chain® with crossbars every link	**ES4Q.58.150.*R*.0** e-chain® with crossbars every link	**E4Q.58.150.*R*.0.NC** e-chain® with crossbars every link	– ***RBR* is not possible**
H4Q.58.150.*R*.0 e-chain® with crossbars every 2nd link	**HS4Q.58.150.*R*.0** e-chain® with crossbars every 2nd link	**H4Q.58.150.*R*.0.NC** e-chain® with crossbars every 2nd link	– ***RBR* is not possible**
Ready to ship in 24 - 48hrs.*	**Delivery time upon request**	**Ready to ship in 24 - 48hrs.***	

System E4Q | Options and order keys

Unsupported lengths +25% possible	*ESD - electrically conductive material*
Part No. **XXL material**	**Part No.** **igumid ESD**
	
E4Q.58.150.*R*.0.XXL e-chain® with crossbars every link 1)	**E4Q.58.150.*R*.0.ESD** e-chain® with crossbars every link
H4Q.58.150.*R*.0.XXL e-chain® with crossbars every 2nd link 1)	**H4Q.58.150.*R*.0.ESD** e-chain® with crossbars every 2nd link
Ready to ship in 12 business days*	**Delivery time upon request**

*Average time before the ordered goods are dispatched.

1) Side-bands made from XXL material 2) Available upon request. Delivery time upon request

Order example | Examples based on series E4Q.58

Order example for complete e-chain® (3.0m), colour black, with mounting brackets and interior separation:

e-chain® (3.0m)	Please indicate e-chain® length or number of links: 3.0m or 33 links	**E4Q.58.150.*R*.0**
+ Mounting brackets	1 set (with odd number of links and integrated C-profiles)	**E4Q.582.150.1.12.C**
Interior separation	with 2 separators assembled every 2nd link	**2 x 58.1.1**
Order text:	**3m E4Q.58.150.300.0 + E4Q.582.150.1.12.C + 2 x 58.1.1**	

Order key and colour examples | Examples based on series E4Q.58/H4Q.58

Order key

e-chain® with crossbars every link **E4Q.58.150.300.0**

e-chain® with crossbars every 2nd link **H4Q.58.150.300.0**

- Series / Type
- Inner height
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

E4Q | Series E4Q.34 | Product range

The next generation of easy-to-assemble e-chains®

34



Series E4Q.34 | Crossbars every link (crossbars removable along the inner and outer radius)
Series H4Q.34 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)

Part No. e-chains®			Bi [mm]	Ba [mm]	E4Q.34 [kg/m]	H4Q.34 [kg/m]
E4Q.34.	H4Q.34.	075.R.0	75	98	≈ 1.61	1.43
E4Q.34.	H4Q.34.	087.R.0	87	111	≈ 1.65	≈ 1.45
E4Q.34.	H4Q.34.	100.R.0	100	123	≈ 1.70	≈ 1.47
E4Q.34.	H4Q.34.	108.R.0	108	131	≈ 1.73	≈ 1.49
E4Q.34.*	H4Q.34.*	112.R.0	112	136	≈ 1.74	≈ 1.49
E4Q.34.	H4Q.34.	125.R.0	125	148	≈ 1.79	≈ 1.52
E4Q.34.*	H4Q.34.*	137.R.0	137	161	≈ 1.83	≈ 1.54
E4Q.34.	H4Q.34.	150.R.0	150	173	≈ 1.96	≈ 1.60
E4Q.34.*	H4Q.34.*	162.R.0	162	186	≈ 2.00	≈ 1.63
E4Q.34.	H4Q.34.	168.R.0	168	191	≈ 2.03	≈ 1.64
E4Q.34.	H4Q.34.	175.R.0	175	198	≈ 2.06	≈ 1.65
E4Q.34.*	H4Q.34.*	187.R.0	187	211	≈ 2.10	≈ 1.67
E4Q.34.	H4Q.34.	200.R.0	200	223	≈ 2.15	≈ 1.70
E4Q.34.*	H4Q.34.*	212.R.0	212	236	≈ 2.19	≈ 1.72
E4Q.34.*	H4Q.34.*	225.R.0	225	248	≈ 2.24	≈ 1.74

Part No. e-chains®			Bi [mm]	Ba [mm]	E4Q.34 [kg/m]	H4Q.34 [kg/m]
E4Q.34.*	H4Q.34.*	237.R.0	237	261	≈ 2.28	≈ 1.76
E4Q.34.	H4Q.34.	250.R.0	250	273	≈ 2.32	≈ 1.78
E4Q.34.*	H4Q.34.*	262.R.0	262	286	≈ 2.36	≈ 1.81
E4Q.34.*	H4Q.34.*	275.R.0	275	298	≈ 2.41	≈ 1.83
E4Q.34.*	H4Q.34.*	287.R.0	287	311	≈ 2.46	≈ 1.85
E4Q.34.	H4Q.34.	300.R.0	300	323	≈ 2.51	≈ 1.88
E4Q.34.*	H4Q.34.*	312.R.0	312	336	≈ 2.55	≈ 1.90
E4Q.34.*	H4Q.34.*	325.R.0	325	348	≈ 2.60	≈ 1.92
E4Q.34.*	H4Q.34.*	337.R.0	337	361	≈ 2.64	≈ 1.94
E4Q.34.	H4Q.34.	350.R.0	350	373	≈ 2.69	≈ 1.97
E4Q.34.*	H4Q.34.*	362.R.0	362	386	≈ 2.73	≈ 1.99
E4Q.34.*	H4Q.34.*	375.R.0	375	398	≈ 2.78	≈ 2.01
E4Q.34.*	H4Q.34.*	387.R.0	387	411	≈ 2.82	≈ 2.03
E4Q.34.*	H4Q.34.*	400.R.0	400	423	≈ 2.90	≈ 2.08

*Width available upon request. Delivery time upon request.

Available bend radii

R [mm] | 063 | 075 | 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300 |

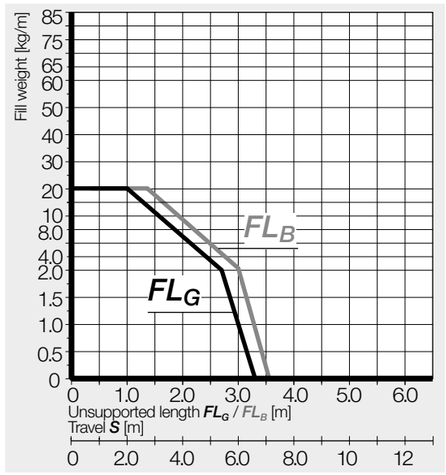
Complete Part No. with required radius (R). Example:

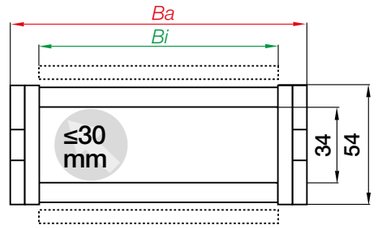
E4Q.34.150.150.0 = crossbars every link / H4Q.34.150.150.0 = crossbars every 2nd link

E4Q | Series E4Q.34 | Installation dimensions

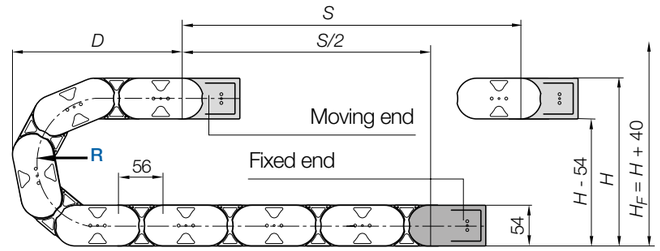
Unsupported applications | Short travels

▶ 1392 ▶ 1316





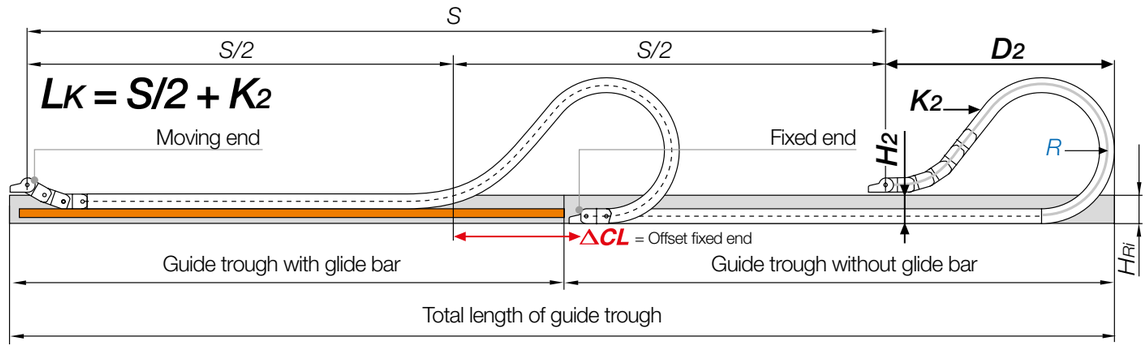
Inner height [mm]	34
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$



R	063	075	100	125	150	175	200	220	250	300
H +20 0	180	204	254	304	354	404	454	494	554	654
D	174	186	211	236	261	286	311	331	361	411
K	310	350	430	505	585	665	745	805	900	1,055

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

Gliding applications | For travel lengths from 10m to max. 200m



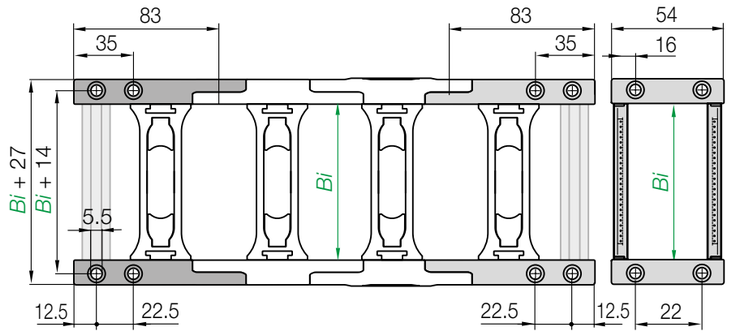
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 7 and 10m we recommend an e-chain® with a longer unsupported length.

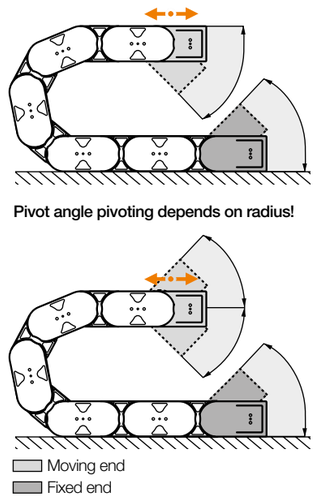
R	063	075	100	125	150	175	200	220	250	300
H_2	126	150	166	166	166	166	166	166	166	166
D_2^{+25}	146	158	370	470	500	655	770	900	930	1,100
K_2	310	350	616	784	896	1,120	1,288	1,456	1,568	1,904
ΔCL	–	–	160	210	240	370	460	540	570	690

E4Q | Series E4Q.34 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

Fixed end		Moving end	Front view of KMA
E4Q.342 ... ✱.1	One end pivoting [1]	E4Q.342 ... ✱.2	
E4Q.340 ... ✱.1	Both ends pivoting	E4Q.340 ... ✱.2	





Standard **One end pivoting [1] | Recommended for unsupported, vertical hanging, standing applications**
Both ends pivoting | Recommended for gliding applications

Part No. KMA full set				Part No. KMA full set			
Width index	Standard One end pivoting [1]	Both ends pivoting	*Bi* [mm]	Width index	Standard One end pivoting [1]	Both ends pivoting	*Bi* [mm]
075. ▶	E4Q.342.075 ✱.12.C	E4Q.340.075 ✱.12.C	75	237. ▶	E4Q.342.237 ✱.12.C**	E4Q.340.237 ✱.12.C**	237
087. ▶	E4Q.342.087 ✱.12.C	E4Q.340.087 ✱.12.C	87	250. ▶	E4Q.342.250 ✱.12.C	E4Q.340.250 ✱.12.C	250
100. ▶	E4Q.342.100 ✱.12.C	E4Q.340.100 ✱.12.C	100	262. ▶	E4Q.342.262 ✱.12.C**	E4Q.340.262 ✱.12.C**	262
108. ▶	E4Q.342.108 ✱.12.C	E4Q.340.108 ✱.12.C	108	275. ▶	E4Q.342.275 ✱.12.C**	E4Q.340.275 ✱.12.C**	275
112. ▶	E4Q.342.112 ✱.12.C**	E4Q.340.112 ✱.12.C**	112	287. ▶	E4Q.342.287 ✱.12.C**	E4Q.340.287 ✱.12.C**	287
125. ▶	E4Q.342.125 ✱.12.C	E4Q.340.125 ✱.12.C	125	300. ▶	E4Q.342.300 ✱.12.C**	E4Q.340.300 ✱.12.C**	300
137. ▶	E4Q.342.137 ✱.12.C**	E4Q.340.137 ✱.12.C**	137	312. ▶	E4Q.342.312 ✱.12.C**	E4Q.340.312 ✱.12.C**	312
150. ▶	E4Q.342.150 ✱.12.C	E4Q.340.150 ✱.12.C	150	325. ▶	E4Q.342.325 ✱.12.C**	E4Q.340.325 ✱.12.C**	325
162. ▶	E4Q.342.162 ✱.12.C**	E4Q.340.162 ✱.12.C**	162	337. ▶	E4Q.342.337 ✱.12.C**	E4Q.340.337 ✱.12.C**	337
168. ▶	E4Q.342.168 ✱.12.C	E4Q.340.168 ✱.12.C	168	350. ▶	E4Q.342.350 ✱.12.C**	E4Q.340.350 ✱.12.C**	350
175. ▶	E4Q.342.175 ✱.12.C	E4Q.340.175 ✱.12.C	175	362. ▶	E4Q.342.362 ✱.12.C**	E4Q.340.362 ✱.12.C**	362
187. ▶	E4Q.342.187 ✱.12.C**	E4Q.340.187 ✱.12.C**	187	375. ▶	E4Q.342.375 ✱.12.C**	E4Q.340.375 ✱.12.C**	375
200. ▶	E4Q.342.200 ✱.12.C	E4Q.340.200 ✱.12.C	200	387. ▶	E4Q.342.387 ✱.12.C**	E4Q.340.387 ✱.12.C**	387
212. ▶	E4Q.342.212 ✱.12.C**	E4Q.340.212 ✱.12.C**	212	400. ▶	E4Q.342.400 ✱.12.C**	E4Q340 400 ✱.12.C**	400
225. ▶	E4Q.342.225 ✱.12.C**	E4Q.340.225 ✱.12.C**	225				

1) One end pivoting - standard for E4Q mounting brackets. For the C-profile option please add index **.C**

**Width available upon request. Delivery time upon request. (KMA = polymer metal mounting bracket)

GSC glide pads - longer service life in abrasive environment

- Low-friction and low-wear gliding elements increase the service life of igus® e-chains® in gliding applications
- Easy to retrofit, opening crossbars remain accessible

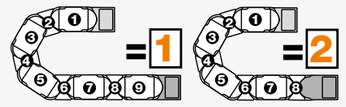
More information ▶ www.igus.eu/glide-pad

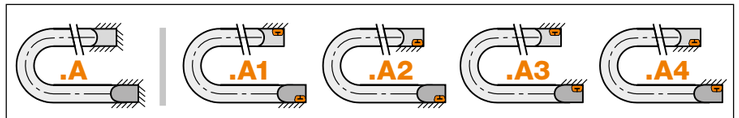


E4Q | Series E4Q.34 | Accessories

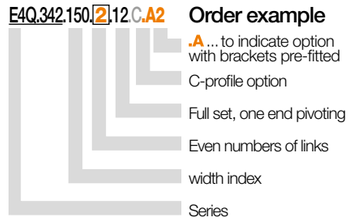
KMA mounting brackets | Attachment from any side | Pivoting

Note ✱: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index **1** (for odd) or **2** (for even) depending on an even or odd number of links required.





Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362

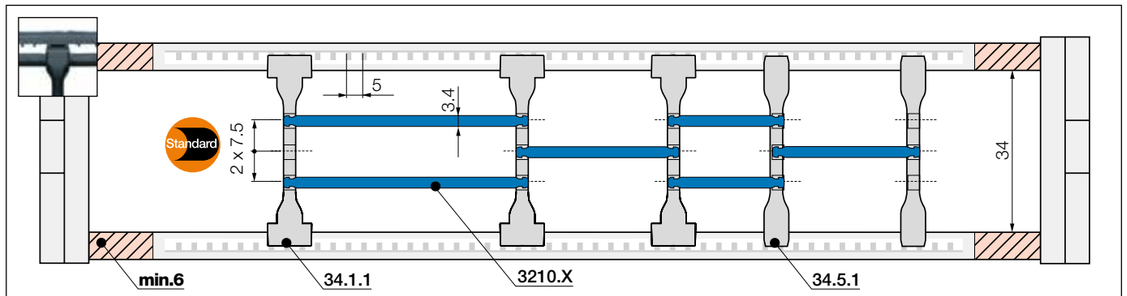




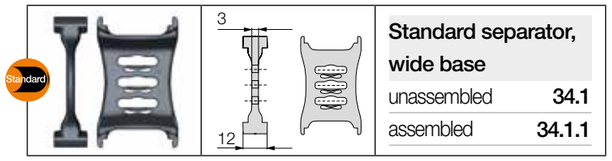
The E4Q series combines innovative design with a new level of strength and robustness

E4Q | Series E4Q.34 | Accessories

Interior separation | Increase cable service life



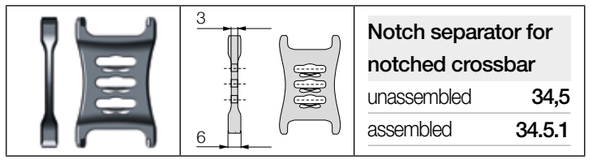
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**34.1**
assembled	**34.1.1**

Standard - for any application

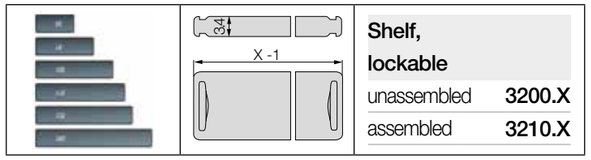
Separator with a wide base for maximum holding force.



Notch separator for notched crossbar	
unassembled	**34,5**
assembled	**34.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



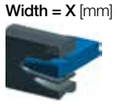
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

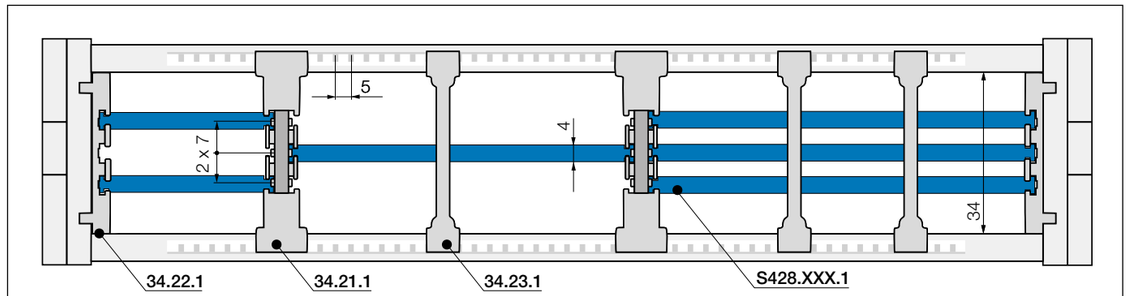
Width = X [mm]



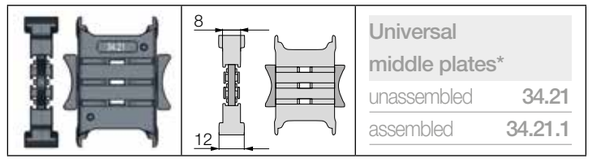
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4Q | Series E4Q.34 | Accessories - upon request

Universal interior separation | Modular shelving for complete flexibility



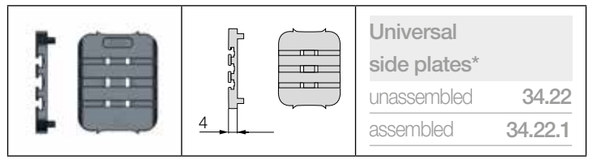
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Universal middle plates*	
unassembled	34.21
assembled	34.21.1

Universal middle plates

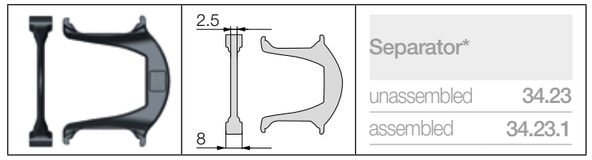
The shelves can be inserted from both sides. The shelves are locked in place by means of the integrated slider and additionally when the crossbar is fitted. For unlocking, the crossbar must be removed - on the inner or outer radius.



Universal side plates*	
unassembled	34.22
assembled	34.22.1

Universal side plates

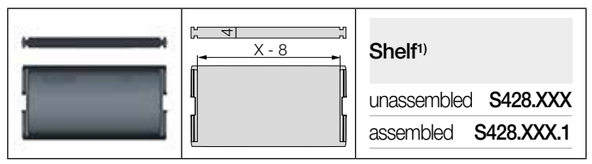
Allow modular shelving right up to the side links. Shelves can be inserted from both sides.



Separator*	
unassembled	34.23
assembled	34.23.1

Separators for universal interior separation

For additional vertical partitioning of the shelf system. When using the separator, the shelves can only be removed in one direction.



Shelf[1)]	
unassembled	S428.XXX
assembled	S428.XXX.1

Separators[1)] for universal interior separation

Shelves of various widths can be arranged in steps of 7mm.

Shelves[1)]

Width = XXX [mm]



XXX [mm]	unassembled	assembled	XXX [mm]	unassembled	assembled	XXX [mm]	unassembled	assembled
0182)	**S428.018**	**S428.018.1**	058	**S428.058**	**S428.058.1**	100*	**S428.100**	**S428.100.1**
023*	S428.023	S428.023.1	062*	**S428.062**	**S428.062.1**	108	**S428.108**	**S428.108.1**
025*	S428.025	S428.025.1	068*	**S428.068**	**S428.068.1**	125*	S428.125	S428.125.1
028*	S428.028	S428.028.1	070	**S428.070**	**S428.070.1**	150*	S428.150	S428.150.1
033*	S428.033	S428.033.1	075*	**S428.075**	**S428.075.1**	175*	S428.175	S428.175.1
0442)	**S428.044**	**S428.044.1**	083	**S428.083**	**S428.083.1**	200*	S428.200	S428.200.1
0502)	**S428.050**	**S428.050.1**	087*	S428.087	S428.087.1	208*	S428.208	S428.208.1

1) Note: The available width of the lockable shelf **Part No. S428.XXX** deviates by 8mm from the width stated in the part number ▶ **Page 587**

* Available upon request Delivery time upon request.

E4Q | Series E4Q.44 | Product range

The next generation of easy-to-assemble e-chains®

44



Series E4Q.44 | Crossbars every link (crossbars removable along the inner and outer radius)
Series H4Q.44 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	E4Q.44 [kg/m]	H4Q.44 [kg/m]
E4Q.44. H4Q.44. 075.R.0	75	101	≈ 1.61	1.43
E4Q.44. H4Q.44. 087.R.0	87	114	≈ 1.65	≈ 1.45
E4Q.44. H4Q.44. 100.R.0	100	126	≈ 1.70	≈ 1.47
E4Q.44. H4Q.44. 108.R.0	108	134	≈ 1.73	≈ 1.49
E4Q.44.* H4Q.44.* 112.R.0	112	139	≈ 1.74	≈ 1.49
E4Q.44. H4Q.44. 125.R.0	125	151	≈ 1.79	≈ 1.52
E4Q.44.* H4Q.44.* 137.R.0	137	164	≈ 1.83	≈ 1.54
E4Q.44. H4Q.44. 150.R.0	150	176	≈ 1.96	≈ 1.60
E4Q.44.* H4Q.44.* 162.R.0	162	189	≈ 2.00	≈ 1.63
E4Q.44. H4Q.44. 168.R.0	168	194	≈ 2.03	≈ 1.64
E4Q.44. H4Q.44. 175.R.0	175	201	≈ 2.06	≈ 1.65
E4Q.44.* H4Q.44.* 187.R.0	187	214	≈ 2.10	≈ 1.67
E4Q.44. H4Q.44. 200.R.0	200	226	≈ 2.15	≈ 1.70
E4Q.44.* H4Q.44.* 212.R.0	212	239	≈ 2.19	≈ 1.72
E4Q.44.* H4Q.44.* 225.R.0	225	251	≈ 2.24	≈ 1.74

Part No. e-chains®	Bi [mm]	Ba [mm]	E4Q.44 [kg/m]	H4Q.44 [kg/m]
E4Q.44.* H4Q.44.* 237.R.0	237	264	≈ 2.28	≈ 1.76
E4Q.44. H4Q.44. 250.R.0	250	276	≈ 2.32	≈ 1.78
E4Q.44.* H4Q.44.* 262.R.0	262	289	≈ 2.36	≈ 1.81
E4Q.44.* H4Q.44.* 275.R.0	275	301	≈ 2.41	≈ 1.83
E4Q.44.* H4Q.44.* 287.R.0	287	314	≈ 2.46	≈ 1.85
E4Q.44. H4Q.44. 300.R.0	300	326	≈ 2.51	≈ 1.88
E4Q.44.* H4Q.44.* 312.R.0	312	339	≈ 2.55	≈ 1.90
E4Q.44.* H4Q.44.* 325.R.0	325	351	≈ 2.60	≈ 1.92
E4Q.44.* H4Q.44.* 337.R.0	337	364	≈ 2.64	≈ 1.94
E4Q.44. H4Q.44. 350.R.0	350	376	≈ 2.69	≈ 1.97
E4Q.44.* H4Q.44.* 362.R.0	362	389	≈ 2.73	≈ 1.99
E4Q.44.* H4Q.44.* 375.R.0	375	401	≈ 2.78	≈ 2.01
E4Q.44.* H4Q.44.* 387.R.0	387	414	≈ 2.82	≈ 2.03
E4Q.44.* H4Q.44.* 400.R.0	400	426	≈ 2.90	≈ 2.08

*Width available upon request. Delivery time upon request.

Available bend radii

R [mm] | 075 | 100 | 115 | 125 | 150 | 160 | 175 | 200 | 250 | 300 | 350 |

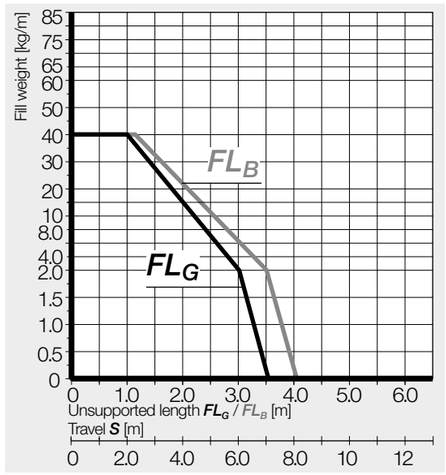
Complete Part No. with required radius (R). Example:

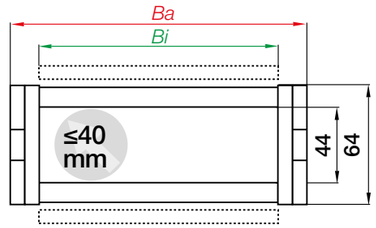
E4Q.44.150.150.0 = crossbars every link / H4Q.44.150.150.0 = crossbars every 2nd link

E4Q | Series E4Q.44 | Installation dimensions

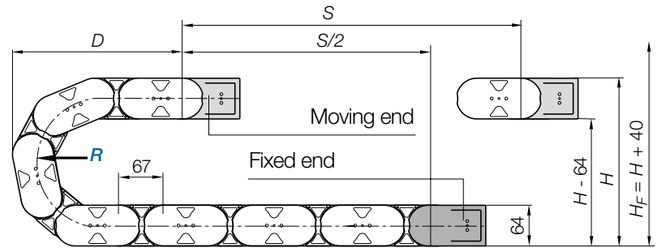
Unsupported applications | Short travels

▶ 1392 ▶ 1320





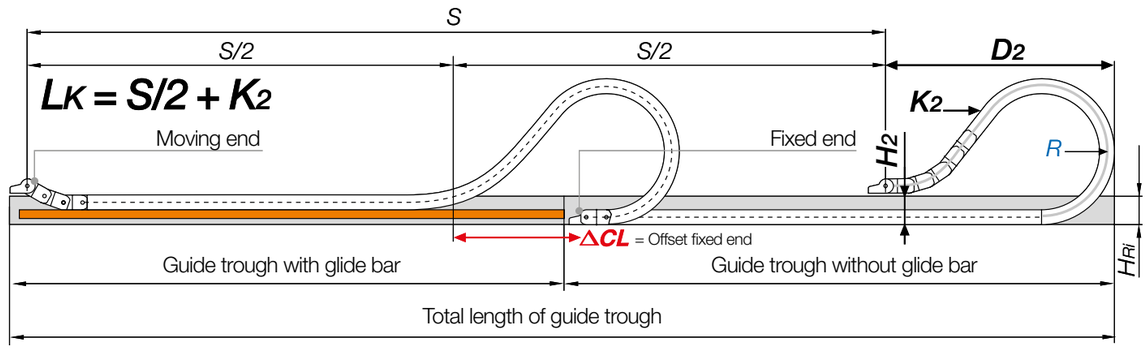
Inner height [mm]	44
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$



R	075	100	115	125	150	160	175	200	250	300	350
H -0 +25	214	264	294	314	364	384	414	464	564	664	764
D	208	233	248	258	283	293	308	333	383	433	483
K	370	450	500	530	610	640	685	765	920	1,080	1,235

The required clearance height: $H_F = H + 40$mm (with 3.0kg/m fill weight)

Gliding applications | For travel lengths from 12m to max. 300m



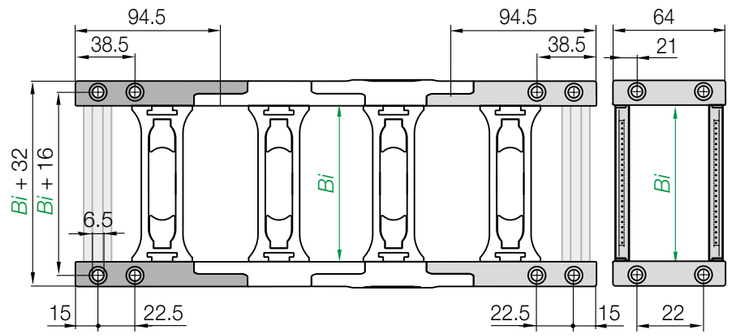
Note: We recommend the project planning of such a system to be carried out by igus®.
For travels between 8 and 12m, we recommend an e-chain® with a longer unsupported length.

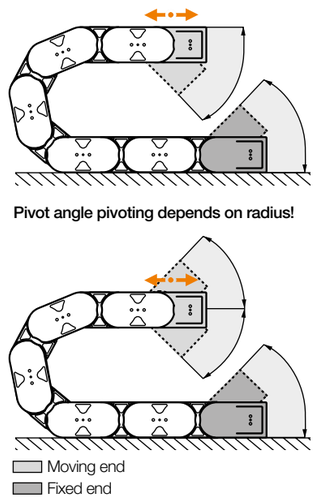
R	075	100	115	125	150	160	175	200	250	300	350
H_2	150	186	186	186	186	186	186	186	186	186	186
D_2 +25	174	390	435	475	570	620	675	780	1,030	1,150	1,500
K_2	370	603	737	804	938	1,072	1,139	1,340	1,675	1,943	2,412
ΔCL	–	170	200	230	300	340	380	460	660	730	1,030

E4Q | Series E4Q.44 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

Fixed end		Moving end	Front view of KMA
E4Q.442 ... ✱.1	One end pivoting [1]	E4Q.442 ... ✱.2	
E4Q.440 ... ✱.1	Both ends pivoting	E4Q.440 ... ✱.2	





Standard One end pivoting [1] | Recommended for unsupported, vertical hanging, standing applications
Both ends pivoting | Recommended for gliding applications

Part No. KMA full set			
Width index	Standard One end pivoting [1]	Both ends pivoting	Bi [mm]
075. ▶	E4Q.442.075.✱.12.C	E4Q.440.075.✱.12.C	75
087. ▶	E4Q.442.087.✱.12.C	E4Q.440.087.✱.12.C	87
100. ▶	E4Q.442.100.✱.12.C	E4Q.440.100.✱.12.C	100
108. ▶	E4Q.442.108.✱.12.C	E4Q.440.108.✱.12.C	108
112. ▶	E4Q.442.112.✱.12.C**	E4Q.440.112.✱.12.C**	112
125. ▶	E4Q.442.125.✱.12.C	E4Q.440.125.✱.12.C	125
137. ▶	E4Q.442.137.✱.12.C**	E4Q.440.137.✱.12.C**	137
150. ▶	E4Q.442.150.✱.12.C	E4Q.440.150.✱.12.C	150
162. ▶	E4Q.442.162.✱.12.C**	E4Q.440.162.✱.12.C**	162
168. ▶	E4Q.442.168.✱.12.C	E4Q.440.168.✱.12.C	168
175. ▶	E4Q.442.175.✱.12.C	E4Q.440.175.✱.12.C	175
187. ▶	E4Q.442.187.✱.12.C**	E4Q.440.187.✱.12.C**	187
200. ▶	E4Q.442.200.✱.12.C	E4Q.440.200.✱.12.C	200
212. ▶	E4Q.442.212.✱.12.C**	E4Q.440.212.✱.12.C**	212
225. ▶	E4Q.442.225.✱.12.C**	E4Q.440.225.✱.12.C**	225

Part No. KMA full set			
Width index	Standard One end pivoting [1]	Both ends pivoting	Bi [mm]
237. ▶	E4Q.442.237.✱.12.C**	E4Q.440.237.✱.12.C**	237
250. ▶	E4Q.442.250.✱.12.C	E4Q.440.250.✱.12.C	250
262. ▶	E4Q.442.262.✱.12.C**	E4Q.440.262.✱.12.C**	262
275. ▶	E4Q.442.275.✱.12.C**	E4Q.440.275.✱.12.C**	275
287. ▶	E4Q.442.287.✱.12.C**	E4Q.440.287.✱.12.C**	287
300. ▶	E4Q.442.300.✱.12.C*	E4Q.440.300.✱.12.C*	300
312. ▶	E4Q.442.312.✱.12.C**	E4Q.440.312.✱.12.C**	312
325. ▶	E4Q.442.325.✱.12.C**	E4Q.440.325.✱.12.C**	325
337. ▶	E4Q.442.337.✱.12.C**	E4Q.440.337.✱.12.C**	337
350. ▶	E4Q.442.350.✱.12.C*	E4Q.440.350.✱.12.C*	350
362. ▶	E4Q.442.362.✱.12.C**	E4Q.440.362.✱.12.C**	362
375. ▶	E4Q.442.375.✱.12.C**	E4Q.440.375.✱.12.C**	375
387. ▶	E4Q.442.387.✱.12.C**	E4Q.440.387.✱.12.C**	387
400. ▶	E4Q.442.400.✱.12.C**	E4Q440 400.✱.12.C**	400

1) One end pivoting - standard for E4Q mounting brackets. For the C-profile option please add index **.C**

**Width available upon request. Delivery time upon request. (KMA = polymer metal mounting bracket)

GSC glide pads - longer service life in abrasive environment

- Low-friction and low-wear gliding elements increase the service life of igus® e-chains® in gliding applications
- Easy to retrofit, opening crossbars remain accessible

More information ▶ www.igus.eu/glide-pad

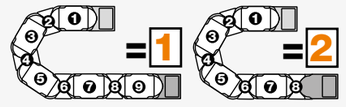


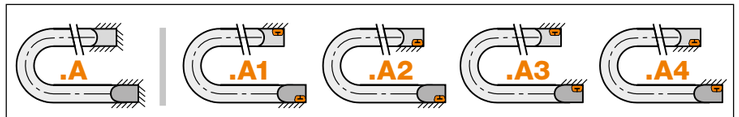
E4Q.44
H4Q.44

E4Q | Series E4Q.44 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

Note ✱: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index **1** (for odd) or **2** (for even) depending on an even or odd number of links required.





Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

Order example

E4Q.442.150.**2**.12.C.**A2**

- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set, one end pivoting
- Even numbers of links
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

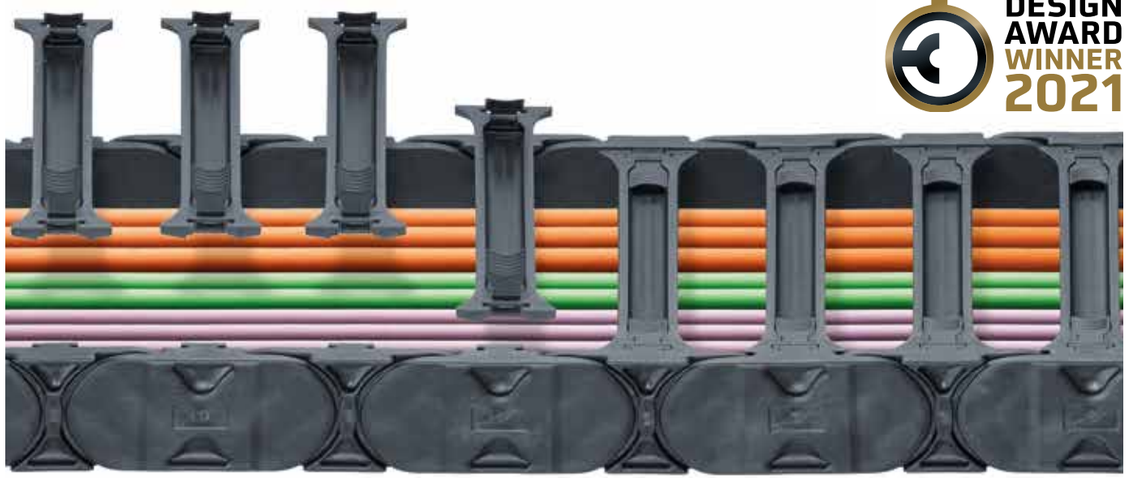
Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



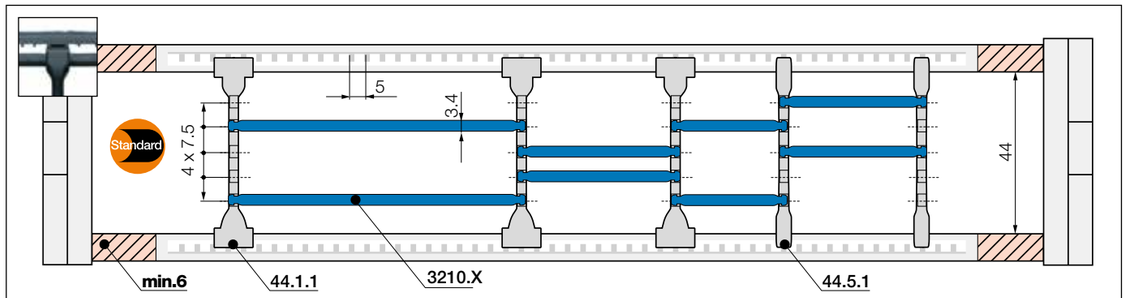
GERMAN DESIGN AWARD WINNER 2021



The E4Q series combines ease of installation with a new level of strength and stability

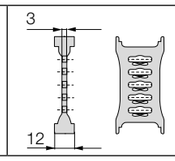
E4Q | Series E4Q.44 | Accessories

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!



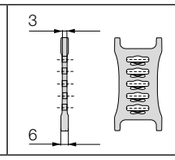


Standard separator, wide base	
unassembled	**44.1**
assembled	**44.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.

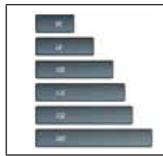


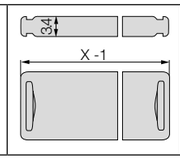


Notch separator for notched crossbar	
unassembled	**44,5**
assembled	**44.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





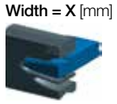
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

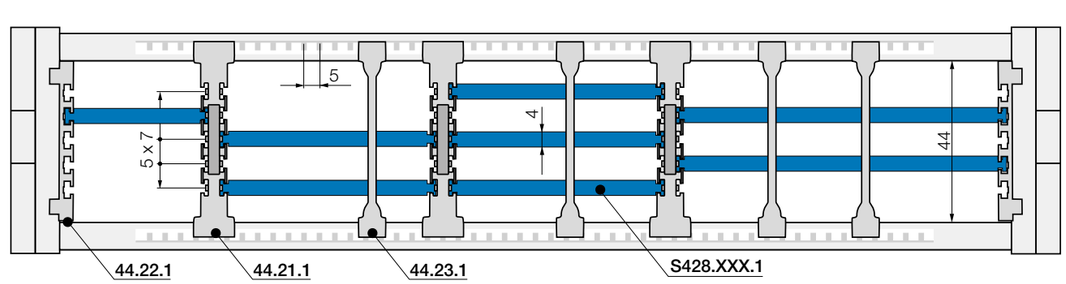
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

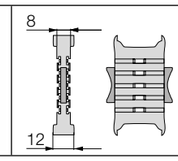
E4Q | Series E4Q.44 | Accessories - upon request

Universal interior separation | Modular shelving for complete flexibility



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



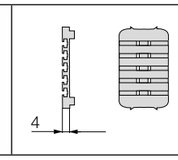


Universal middle plates*	
unassembled	44.21
assembled	44.21.1

Universal middle plates

The shelves can be inserted from both sides. The shelves are locked in place by means of the integrated slider and additionally when the crossbar is fitted. For unlocking, the crossbar must be removed - on the inner or outer radius.



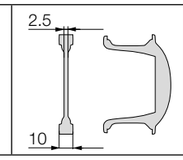


Universal side plates*	
unassembled	44.22
assembled	44.22.1

Universal side plates

Allow modular shelving right up to the side links. Shelves can be inserted from both sides.



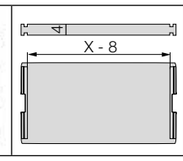


Separator*	
unassembled	44.23
assembled	44.23.1

Separators for universal interior separation

For additional vertical partitioning of the shelf system. When using the separator, the shelves can only be removed in one direction.





Shelf[1)]	
unassembled	S428.XXX
assembled	S428.XXX.1

Separators[1)] for universal interior separation

Shelves of various widths can be arranged in steps of 7mm.

Shelves[1)]

Width = XXX [mm]



XXX [mm]	unassembled	assembled	XXX [mm]	unassembled	assembled	XXX [mm]	unassembled	assembled
018*	**S428.018**	**S428.018.1**	058	**S428.058**	**S428.058.1**	100*	**S428.100**	**S428.100.1**
023*	S428.023	S428.023.1	062*	**S428.062**	**S428.062.1**	108	**S428.108**	**S428.108.1**
025*	S428.025	S428.025.1	068*	**S428.068**	**S428.068.1**	125*	S428.125	S428.125.1
028*	S428.028	S428.028.1	070	**S428.070**	**S428.070.1**	150*	S428.150	S428.150.1
033*	S428.033	S428.033.1	075*	**S428.075**	**S428.075.1**	175*	S428.175	S428.175.1
044*	**S428.044**	**S428.044.1**	083	**S428.083**	**S428.083.1**	200*	S428.200	S428.200.1
050*	**S428.050**	**S428.050.1**	087*	S428.087	S428.087.1	208*	S428.208	S428.208.1

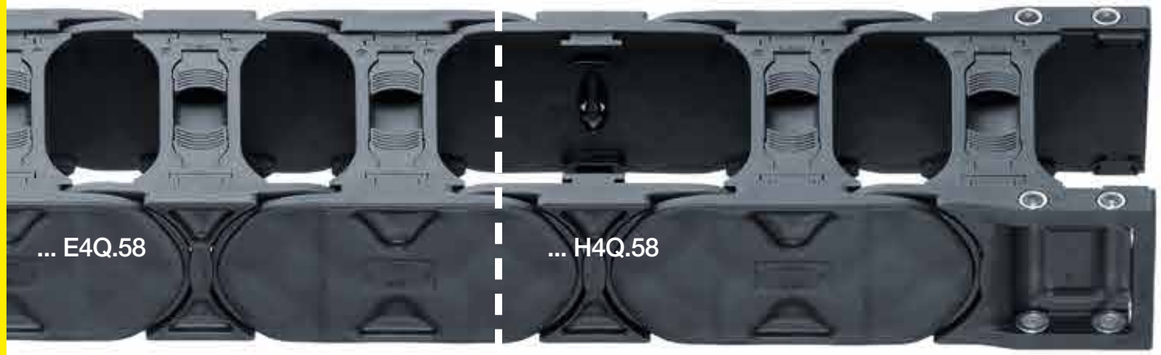
1) Note: The available width of the lockable shelf **Part No. S428.XXX** deviates by 8mm from the width stated in the part number ▶ **Page 587**

* Available upon request Delivery time upon request.

E4Q | Series E4Q.58 | Product range

The next generation of easy-to-assemble e-chains®

58



Series E4Q.58 | Crossbars every link (crossbars removable along the inner and outer radius)
Series H4Q.58 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	E4Q.58 [kg/m]	H4Q.58 [kg/m]
E4Q.58. H4Q.58. 100.R.0	100	134	≈ 3.66	≈ 3.31
E4Q.58. H4Q.58. 112.R.0	112	147	≈ 3.72	≈ 3.34
E4Q.58. H4Q.58. 125.R.0	125	159	≈ 3.75	≈ 3.36
E4Q.58. H4Q.58. 137.R.0	137	172	≈ 3.80	≈ 3.39
E4Q.58. H4Q.58. 150.R.0	150	184	≈ 3.89	≈ 3.43
E4Q.58. H4Q.58. 162.R.0	162	197	≈ 3.95	≈ 3.46
E4Q.58. H4Q.58. 175.R.0	175	209	≈ 3.98	≈ 3.48
E4Q.58. H4Q.58. 187.R.0	187	222	≈ 4.02	≈ 3.50
E4Q.58. H4Q.58. 200.R.0	200	234	≈ 4.14	≈ 3.55
E4Q.58. H4Q.58. 212.R.0	212	247	≈ 4.19	≈ 3.58
E4Q.58. H4Q.58. 225.R.0	225	259	≈ 4.21	≈ 3.59
E4Q.58. H4Q.58. 237.R.0	237	272	≈ 4.24	≈ 3.61
E4Q.58. H4Q.58. 250.R.0	250	284	≈ 4.30	≈ 3.63
E4Q.58. H4Q.58. 262.R.0	262	297	≈ 4.33	≈ 3.65
E4Q.58. H4Q.58. 275.R.0	275	309	≈ 4.41	≈ 3.69
E4Q.58. H4Q.58. 287.R.0	287	322	≈ 4.44	≈ 3.71
E4Q.58. H4Q.58. 300.R.0	300	334	≈ 4.52	≈ 3.74
E4Q.58.* H4Q.58.* 312.R.0	312	347	≈ 4.57	≈ 3.77
E4Q.58.* H4Q.58.* 325.R.0	325	359	≈ 4.63	≈ 3.80

Part No. e-chains®	Bi [mm]	Ba [mm]	E4Q.58 [kg/m]	H4Q.58 [kg/m]
E4Q.58. H4Q.58. 337.R.0	337	372	≈ 4.68	≈ 3.82
E4Q.58.* H4Q.58.* 350.R.0	350	384	≈ 4.73	≈ 3.85
E4Q.58. H4Q.58. 362.R.0	362	397	≈ 4.79	≈ 3.88
E4Q.58.* H4Q.58.* 375.R.0	375	409	≈ 4.84	≈ 3.90
E4Q.58. H4Q.58. 387.R.0	387	422	≈ 4.90	≈ 3.93
E4Q.58. H4Q.58. 400.R.0	400	434	≈ 4.95	≈ 3.96
E4Q.58. H4Q.58. 412.R.0	412	447	≈ 5.01	≈ 3.99
E4Q.58. H4Q.58. 425.R.0	425	459	≈ 5.07	≈ 4.02
E4Q.58.* H4Q.58.* 437.R.0	437	472	≈ 5.12	≈ 4.04
E4Q.58.* H4Q.58.* 450.R.0	450	484	≈ 5.17	≈ 4.07
E4Q.58.* H4Q.58.* 462.R.0	462	497	≈ 5.22	≈ 4.10
E4Q.58.* H4Q.58.* 475.R.0	475	509	≈ 5.28	≈ 4.12
E4Q.58.* H4Q.58.* 487.R.0	487	522	≈ 5.34	≈ 4.15
E4Q.58.* H4Q.58.* 500.R.0	500	534	≈ 5.39	≈ 4.18
E4Q.58.* H4Q.58.* 512.R.0	512	547	≈ 5.44	≈ 4.21
E4Q.58.* H4Q.58.* 525.R.0	525	559	≈ 5.50	≈ 4.23
E4Q.58.* H4Q.58.* 537.R.0	537	572	≈ 5.55	≈ 4.26
E4Q.58.* H4Q.58.* 550.R.0	550	584	≈ 5.61	≈ 4.29
E4Q.58.* H4Q.58.* 600.R.0	600	634	≈ 5.81	≈ 4.39

*Width available upon request. Delivery time upon request.

Available bend radii

R [mm] | 135 | 150 | 175 | 200 | 240 | 250 | 300 | 350 | 400 | 450 | 500 |

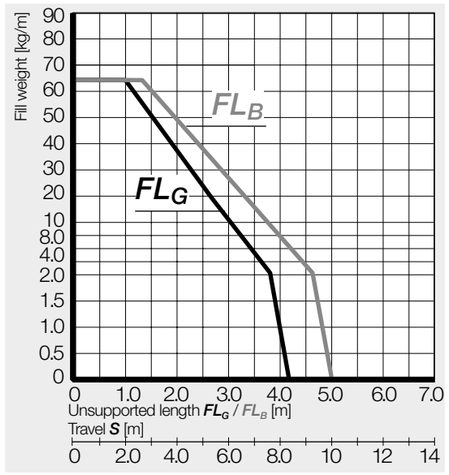
Complete Part No. with required radius (R). Example:

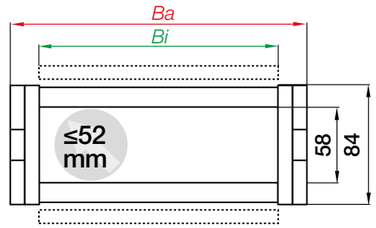
E4Q.58.100.135.0 = crossbars every link / H4Q.58.100.135.0 = crossbars every 2nd link

E4Q | Series E4Q.58 | Installation dimensions

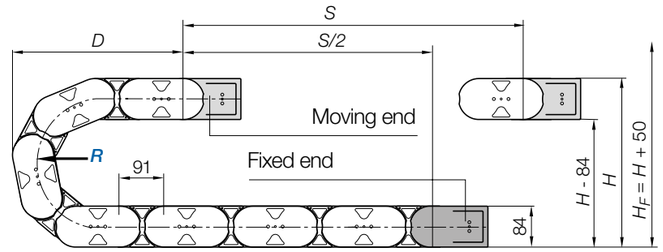
Unsupported applications | Short travels

▶ 1392 ▶ 1322





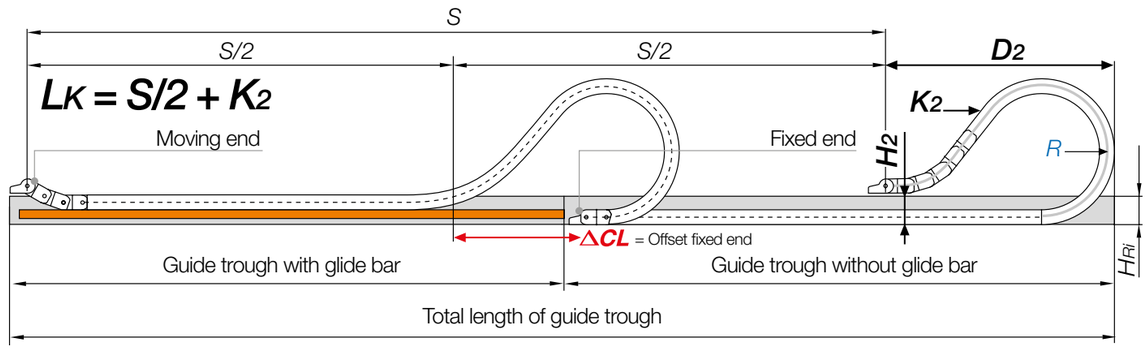
Inner height [mm]	58
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$



R	135	150	175	200	240	250	300	350	400	450	500
H -0 +25	354	384	434	484	564	584	684	784	884	984	1,084
D	314	329	354	379	419	429	479	529	579	629	679
K	610	655	735	815	940	970	1,125	1,285	1,440	1,600	1.755

The required clearance height: $H_F = H + 50$mm (with 3.0kg/m fill weight)

Gliding applications | For travel lengths from 12m to max. 400m

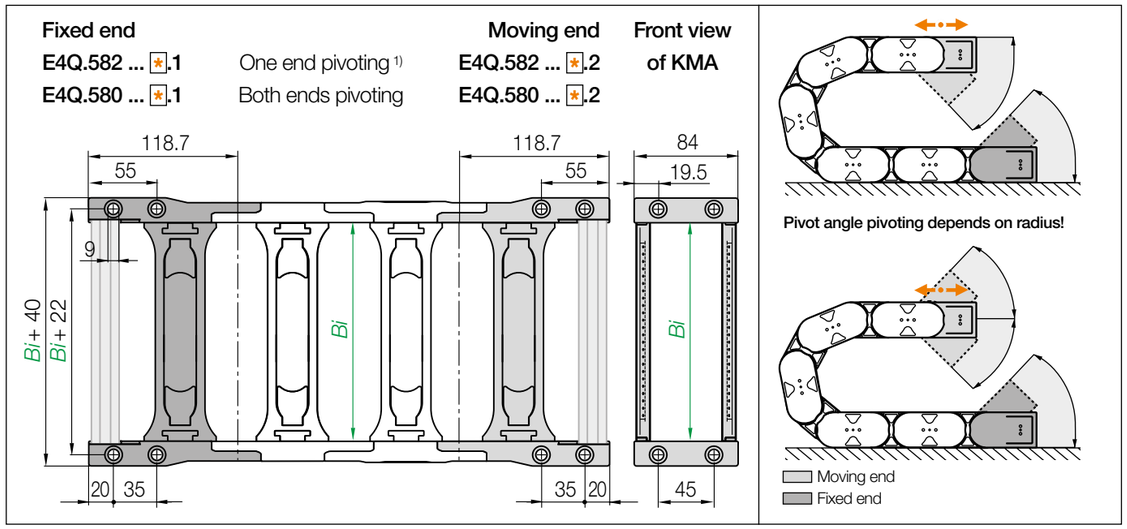


Note: We recommend the project planning of such a system to be carried out by igus®.
For travels between 10 and 12m, we recommend an e-chain® with a longer unsupported length.

R	135	150	175	200	240	250	300	350	400	450	500
H2	270	266	266	266	266	266	266	266	266	266	266
D2 +25	268	450	580	710	900	980	1,180	1,440	1,530	1,700	1,850
K2	610	819	1,092	1,274	1,547	1,638	2,002	2,275	2,548	2,912	3,276
ΔCL	–	159	259	359	509	559	709	909	959	1,059	1,159

E4Q | Series E4Q.58 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



Standard One end pivoting 1) | Recommended for unsupported, vertical hanging, standing applications
Both ends pivoting | Recommended for gliding applications

Part No. KMA full set			
Width index	**Standard** One end pivoting 1)	Both ends pivoting	*Bi* [mm]
100. ▶	E4Q.582.100.*.12.C	E4Q.580.100.*.12.C	100
112. ▶	E4Q.582.112.*.12.C	E4Q.580.112.*.12.C	112
125. ▶	E4Q.582.125.*.12.C	E4Q.580.125.*.12.C	125
137. ▶	E4Q.582.137.*.12.C	E4Q.580.137.*.12.C	137
150. ▶	E4Q.582.150.*.12.C	E4Q.580.150.*.12.C	150
162. ▶	E4Q.582.162.*.12.C	E4Q.580.162.*.12.C	162
175. ▶	E4Q.582.175.*.12.C	E4Q.580.175.*.12.C	175
187. ▶	E4Q.582.187.*.12.C	E4Q.580.187.*.12.C	187
200. ▶	E4Q.582.200.*.12.C	E4Q.580.200.*.12.C	200
212. ▶	E4Q.582.212.*.12.C	E4Q.580.212.*.12.C	212
225. ▶	E4Q.582.225.*.12.C	E4Q.580.225.*.12.C	225
237. ▶	E4Q.582.237.*.12.C	E4Q.580.237.*.12.C	237
250. ▶	E4Q.582.250.*.12.C	E4Q.580.250.*.12.C	250
262. ▶	E4Q.582.262.*.12.C	E4Q.580.262.*.12.C	262
275. ▶	E4Q.582.275.*.12.C	E4Q.580.275.*.12.C	275
287. ▶	E4Q.582.287.*.12.C	E4Q.580.287.*.12.C	287
300. ▶	E4Q.582.300.*.12.C	E4Q.580.300.*.12.C	300
312. ▶	E4Q.582.312.*.12.C**	E4Q.580.312.*.12.C**	312
325. ▶	E4Q.582.325.*.12.C**	E4Q.580.325.*.12.C**	325

Part No. KMA full set			
Width index	**Standard** One end pivoting 1)	Both ends pivoting	*Bi* [mm]
337. ▶	E4Q.582.337.*.12.C	E4Q.580.337.*.12.C	337
350. ▶	E4Q.582.350.*.12.C**	E4Q.580.350.*.12.C**	350
362. ▶	E4Q.582.362.*.12.C	E4Q.580.362.*.12.C	362
375. ▶	E4Q.582.375.*.12.C**	E4Q.580.375.*.12.C**	375
387. ▶	E4Q.582.387.*.12.C	E4Q.580.387.*.12.C	387
400. ▶	E4Q.582.400.*.12.C	E4Q.580.400.*.12.C	400
412. ▶	E4Q.582.412.*.12.C	E4Q.580.412.*.12.C	412
425. ▶	E4Q.582.425.*.12.C	E4Q.580.425.*.12.C	425
437. ▶	E4Q.582.437.*.12.C**	E4Q.580.437.*.12.C**	437
450. ▶	E4Q.582.450.*.12.C**	E4Q.580.450.*.12.C**	450
462. ▶	E4Q.582.462.*.12.C**	E4Q.580.462.*.12.C**	462
475. ▶	E4Q.582.475.*.12.C**	E4Q.580.475.*.12.C**	475
487. ▶	E4Q.582.487.*.12.C**	E4Q.580.487.*.12.C**	487
500. ▶	E4Q.582.500.*.12.C**	E4Q.580.500.*.12.C**	500
512. ▶	E4Q.582.512.*.12.C**	E4Q.580.512.*.12.C**	512
525. ▶	E4Q.582.525.*.12.C**	E4Q.580.525.*.12.C**	525
537. ▶	E4Q.582.537.*.12.C**	E4Q.580.537.*.12.C**	537
550. ▶	E4Q.582.550.*.12.C**	E4Q.580.550.*.12.C**	550
600. ▶	E4Q.582.600.*.12.C**	E4Q.580.600.*.12.C**	600

1) One end pivoting - standard for E4Q mounting brackets. For the C-profile option please add index **.C**

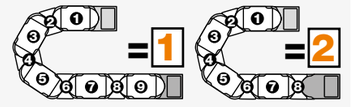
**Width available upon request. Delivery time upon request. (KMA = polymer metal mounting bracket)

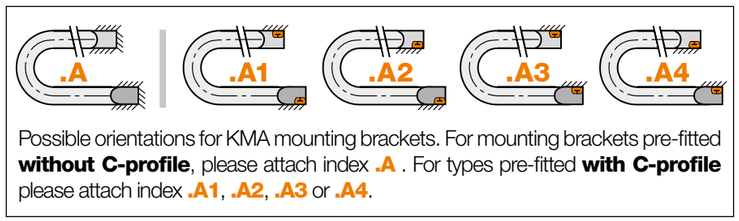
E4Q | Series E4Q.58 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

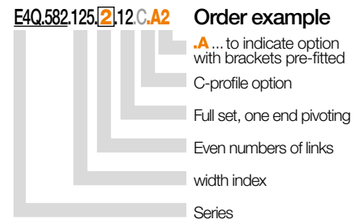
E4Q.58
H4Q.58

Note *: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



GSC glide pads - longer service life in abrasive environment

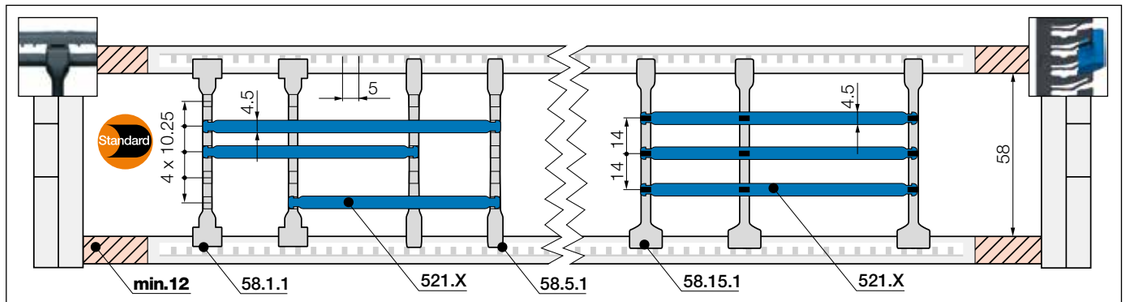
- Low-friction and low-wear gliding elements increase the service life of igus® e-chains® in gliding applications
- Easy to retrofit, opening crossbars remain accessible

More information ▶ www.igus.eu/glide-pad



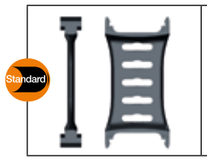
E4Q | Series E4Q.58 | Accessories

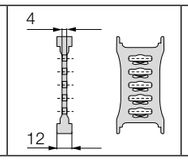
Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 12mm**

As standard separators are fitted every 2nd e-chain® link!



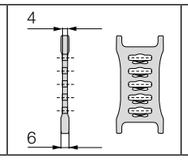


Standard separator, wide base	
unassembled	**58.1**
assembled	**58.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.

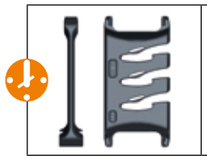


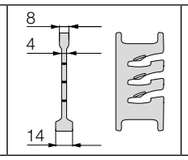


Notch separator for notched crossbar	
unassembled	**58.5**
assembled	**58.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



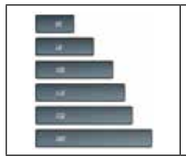


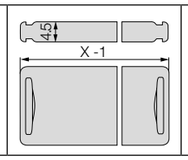
Lean notch separator[1]	
unassembled	**58.15**
assembled	**58.15.1**

Lean notch separators[1]

For quick fitting of shelves in several layers. Snaps securely into the crossbar in 5mm steps to be positioned securely.

1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!





Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

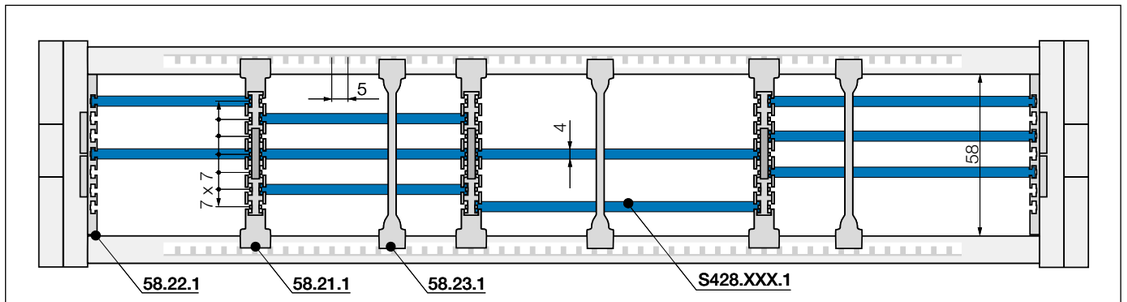
Lean notch separator design principle | For even faster filling

With the lean notch separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab (exemplary image on the right)



E4Q | Series E4Q.58 | Accessories

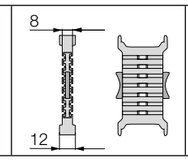
Universal interior separation | Modular shelving for complete flexibility



No lateral gap to side links necessary.

As standard separators are fitted every 2nd e-chain® link!



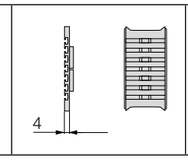


Universal middle plate	
unassembled	**58.21**
assembled	**58.21.1**

Universal middle plates

The shelves can be inserted from both sides. The shelves are locked in place by means of the integrated slider and additionally when the crossbar is fitted. For unlocking, the crossbar must be removed - on the inner or outer radius.

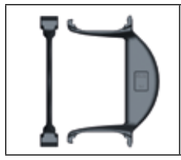


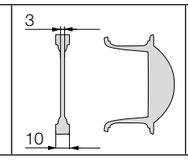


Universal side plate	
unassembled	**58.22**
assembled	**58.22.1**

Universal side plates

Allow modular shelving right up to the side links. Shelves can be inserted from both sides.



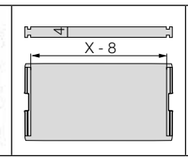


Separator	
unassembled	**58.23**
assembled	**58.23.1**

Separators for universal interior separation

For additional vertical partitioning of the shelf system. When using the separator, the shelves can only be removed in one direction.





Shelf[1]	
unassembled	**S428.XXX**
assembled	**S428.XXX.1**

Separators[1] for universal interior separation

Shelves of various widths can be arranged in steps of 7mm.

Shelves[1]

Width = XXX [mm]



XXX [mm]	unassembled	assembled	XXX [mm]	unassembled	assembled	XXX [mm]	unassembled	assembled
018*	**S428.018**	**S428.018.1**	058	**S428.058**	**S428.058.1**	100*	**S428.100**	**S428.100.1**
023*	S428.023	S428.023.1	062*	**S428.062**	**S428.062.1**	108	**S428.108**	**S428.108.1**
025*	S428.025	S428.025.1	068*	**S428.068**	**S428.068.1**	125*	S428.125	S428.125.1
028*	S428.028	S428.028.1	070	**S428.070**	**S428.070.1**	150*	S428.150	S428.150.1
033*	S428.033	S428.033.1	075*	**S428.075**	**S428.075.1**	175*	S428.175	S428.175.1
044*	**S428.044**	**S428.044.1**	083	**S428.083**	**S428.083.1**	200*	S428.200	S428.200.1
050*	**S428.050**	**S428.050.1**	087*	S428.087	S428.087.1	208*	S428.208	S428.208.1

1) Note: The available width of the lockable shelf **Part No. S428.XXX** deviates by 8mm from the width stated in the part number ▶ **Page 587**

* Available upon request Delivery time upon request.

E4Q | Series E4Q.82 | Product range

The next generation of easy-to-assemble e-chains®

82



Series E4Q.82 | Crossbars every link (crossbars removable along the inner and outer radius)
Series H4Q.82 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)

Part No. e-chains®			Bi [mm]	Ba [mm]	E4Q.82 [kg/m]	H4Q.82 [kg/m]
E4Q.82.	H4Q.82.	100.R.0	100	150	≈ 6.05	≈ 5.77
E4Q.82.	H4Q.82.	112.R.0	112	163	≈ 6.10	≈ 5.79
E4Q.82.	H4Q.82.	125.R.0	125	175	≈ 6.12	≈ 5.81
E4Q.82.	H4Q.82.	137.R.0	137	188	≈ 6.17	≈ 5.83
E4Q.82.	H4Q.82.	150.R.0	150	200	≈ 6.24	≈ 5.87
E4Q.82.	H4Q.82.	162.R.0	162	213	≈ 6.29	≈ 5.89
E4Q.82.	H4Q.82.	175.R.0	175	225	≈ 6.32	≈ 5.90
E4Q.82.	H4Q.82.	187.R.0	187	238	≈ 6.35	≈ 5.92
E4Q.82.	H4Q.82.	200.R.0	200	250	≈ 6.44	≈ 5.97
E4Q.82.	H4Q.82.	212.R.0	212	263	≈ 6.49	≈ 5.99
E4Q.82.	H4Q.82.	225.R.0	225	275	≈ 6.50	≈ 6.00
E4Q.82.	H4Q.82.	237.R.0	237	288	≈ 6.53	≈ 6.01
E4Q.82.	H4Q.82.	250.R.0	250	300	≈ 6.57	≈ 6.03
E4Q.82.	H4Q.82.	262.R.0	262	313	≈ 6.62	≈ 6.05
E4Q.82.	H4Q.82.	275.R.0	275	325	≈ 6.66	≈ 6.08
E4Q.82.	H4Q.82.	287.R.0	287	338	≈ 6.71	≈ 6.10
E4Q.82.	H4Q.82.	300.R.0	300	350	≈ 6.75	≈ 6.12
E4Q.82.*	H4Q.82.*	312.R.0	312	363	≈ 6.80	≈ 6.14
E4Q.82.*	H4Q.82.*	325.R.0	325	375	≈ 6.84	≈ 6.17

Part No. e-chains®			Bi [mm]	Ba [mm]	E4Q.82 [kg/m]	H4Q.82 [kg/m]
E4Q.82.	H4Q.82.	337.R.0	337	388	≈ 6.89	≈ 6.19
E4Q.82.*	H4Q.82.*	350.R.0	350	400	≈ 6.93	≈ 6.21
E4Q.82.	H4Q.82.	362.R.0	362	413	≈ 6.97	≈ 6.23
E4Q.82.*	H4Q.82.*	375.R.0	375	425	≈ 7.02	≈ 6.25
E4Q.82.	H4Q.82.	387.R.0	387	438	≈ 7.07	≈ 6.28
E4Q.82.	H4Q.82.	400.R.0	400	450	≈ 7.11	≈ 6.30
E4Q.82.	H4Q.82.	412.R.0	412	463	≈ 7.15	≈ 632
E4Q.82.	H4Q.82.	425.R.0	425	475	≈ 7.20	≈ 6.35
E4Q.82.*	H4Q.82.*	437.R.0	437	488	≈ 7.24	≈ 6.37
E4Q.82.*	H4Q.82.*	450.R.0	450	500	≈ 7.29	≈ 6.39
E4Q.82.*	H4Q.82.*	462.R.0	462	513	≈ 7.33	≈ 6.41
E4Q.82.*	H4Q.82.*	475.R.0	475	525	≈ 7.38	≈ 6.43
E4Q.82.*	H4Q.82.*	487.R.0	487	538	≈ 7.42	≈ 6.46
E4Q.82.*	H4Q.82.*	500.R.0	500	550	≈ 7.47	≈ 6.48
E4Q.82.*	H4Q.82.*	512.R.0	512	563	≈ 7.51	≈ 6.50
E4Q.82.*	H4Q.82.*	525.R.0	525	575	≈ 7.56	≈ 6.52
E4Q.82.*	H4Q.82.*	537.R.0	537	588	≈ 7.60	≈ 6.54
E4Q.82.*	H4Q.82.*	550.R.0	550	600	≈ 7.65	≈ 6.57
E4Q.82.*	H4Q.82.*	600.R.0	600	650	≈ 7.74	≈ 6.61

*Width available upon request. Delivery time upon request.

Available bend radii

R [mm] | 150 | 175 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 1.000 |

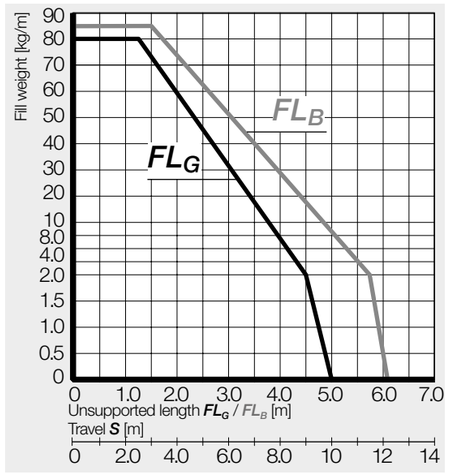
Complete Part No. with required radius (R). Example:

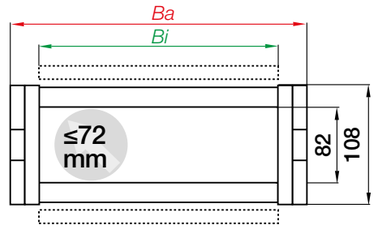
E4Q.82.125.150.0 = crossbars every link / H4Q.82.125.150.0 = crossbars every 2nd link

E4Q | Series E4Q.82 | Installation dimensions

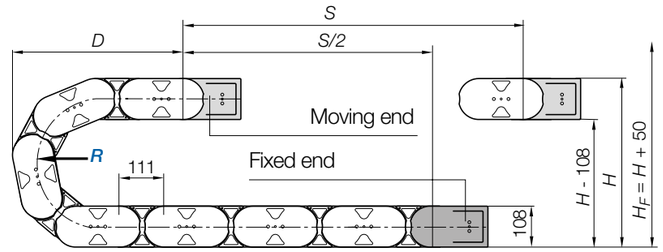
Unsupported applications | Short travels

▶ 1392 ▶ 1324





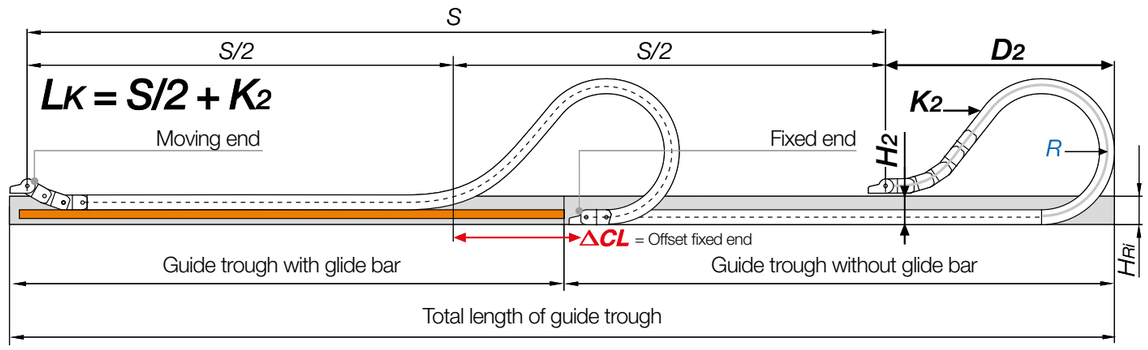
Inner height [mm]	82
Pitch [mm/link]	111
Links/m	9
corresponds to [mm]	999
e-chain® length	$L_K = S/2 + K$



R	150	175	200	250	300	350	400	450	500	600	1,000
H	408	458	508	608	708	808	908	1,008	1,108	1,308	2,108
D	371	396	421	471	521	571	621	671	721	821	1,221
K	695	775	855	1,010	1,165	1,325	1,480	1,640	1,795	2,110	3,365

The required clearance height: $H_F = H + 50$mm (with 3.0kg/m fill weight)

Gliding applications | For travel lengths from 12m to max. 400m

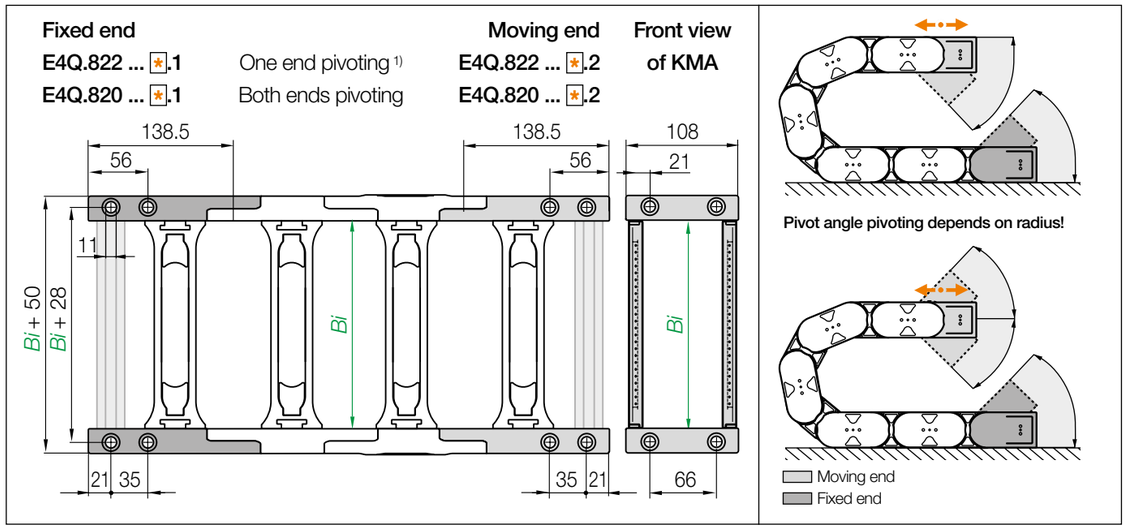


Note: We recommend the project planning of such a system to be carried out by igus®.
For travels between 10 and 12m, we recommend an e-chain® with a longer unsupported length.

R	150	175	200	250	300	350	400	450	500	600	1,000
H_2	242	242	242	242	242	242	242	242	242	242	–
D_2	550	675	800	1,000	1,200	1,450	1,600	1,850	2,100	2,500	–
K_2	890	1,000	1,330	1,665	2,000	2,330	2,660	3000	3,440	4,100	–
ΔCL	189	289	389	539	689	889	989	1,189	1,389	1,689	–

E4Q | Series E4Q.82 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



Standard **One end pivoting 1)** | Recommended for unsupported, vertical hanging, standing applications
Both ends pivoting | Recommended for gliding applications

Part No. KMA full set			
Width index	Standard One end pivoting 1)	Both ends pivoting	*Bi* [mm]
100. ▶	E4Q.822.100.✱.12.C	E4Q.820.100.✱.12.C	100
112. ▶	E4Q.822.112.✱.12.C	E4Q.820.112.✱.12.C	112
125. ▶	E4Q.822.125.✱.12.C	E4Q.820.125.✱.12.C	125
137. ▶	E4Q.822.137.✱.12.C	E4Q.820.137.✱.12.C	137
150. ▶	E4Q.822.150.✱.12.C	E4Q.820.150.✱.12.C	150
162. ▶	E4Q.822.162.✱.12.C	E4Q.820.162.✱.12.C	162
175. ▶	E4Q.822.175.✱.12.C	E4Q.820.175.✱.12.C	175
187. ▶	E4Q.822.187.✱.12.C	E4Q.820.187.✱.12.C	187
200. ▶	E4Q.822.200.✱.12.C	E4Q.820.200.✱.12.C	200
212. ▶	E4Q.822.212.✱.12.C	E4Q.820.212.✱.12.C	212
225. ▶	E4Q.822.225.✱.12.C	E4Q.820.225.✱.12.C	225
237. ▶	E4Q.822.237.✱.12.C	E4Q.820.237.✱.12.C	237
250. ▶	E4Q.822.250.✱.12.C	E4Q.820.250.✱.12.C	250
262. ▶	E4Q.822.262.✱.12.C	E4Q.820.262.✱.12.C	262
275. ▶	E4Q.822.275.✱.12.C	E4Q.820.275.✱.12.C	275
287. ▶	E4Q.822.287.✱.12.C	E4Q.820.287.✱.12.C	287
300. ▶	E4Q.822.300.✱.12.C	E4Q.820.300.✱.12.C	300
312. ▶	E4Q.822.312.✱.12.C**	E4Q.820.312.✱.12.C**	312
325. ▶	E4Q.822.325.✱.12.C**	E4Q.820.325.✱.12.C**	325

Part No. KMA full set			
Width index	Standard One end pivoting 1)	Both ends pivoting	*Bi* [mm]
337. ▶	E4Q.822.337.✱.12.C	E4Q.820.337.✱.12.C	337
350. ▶	E4Q.822.350.✱.12.C**	E4Q.820.350.✱.12.C**	350
362. ▶	E4Q.822.362.✱.12.C	E4Q.820.362.✱.12.C	362
375. ▶	E4Q.822.375.✱.12.C**	E4Q.820.375.✱.12.C**	375
387. ▶	E4Q.822.387.✱.12.C	E4Q.820.387.✱.12.C	387
400. ▶	E4Q.822.400.✱.12.C	E4Q.820.400.✱.12.C	400
412. ▶	E4Q.822.412.✱.12.C	E4Q.820.412.✱.12.C	412
425. ▶	E4Q.822.425.✱.12.C	E4Q.820.425.✱.12.C	425
437. ▶	E4Q.822.437.✱.12.C**	E4Q.820.437.✱.12.C**	437
450. ▶	E4Q.822.450.✱.12.C**	E4Q.820.450.✱.12.C**	450
462. ▶	E4Q.822.462.✱.12.C**	E4Q.820.462.✱.12.C**	462
475. ▶	E4Q.822.475.✱.12.C**	E4Q.820.475.✱.12.C**	475
487. ▶	E4Q.822.487.✱.12.C**	E4Q.820.487.✱.12.C**	487
500. ▶	E4Q.822.500.✱.12.C**	E4Q.820.500.✱.12.C**	500
512. ▶	E4Q.822.512.✱.12.C**	E4Q.820.512.✱.12.C**	512
525. ▶	E4Q.822.525.✱.12.C**	E4Q.820.525.✱.12.C**	525
537. ▶	E4Q.822.537.✱.12.C**	E4Q.820.537.✱.12.C**	537
550. ▶	E4Q.822.550.✱.12.C**	E4Q.820.550.✱.12.C**	550
600. ▶	E4Q.822.600.✱.12.C**	E4Q.820.600.✱.12.C**	600

1) One end pivoting - standard for E4Q mounting brackets. For the C-profile option please add index **.C**

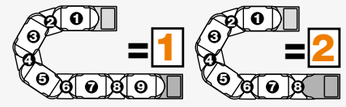
**Width available upon request. Delivery time upon request. (KMA = polymer metal mounting bracket)

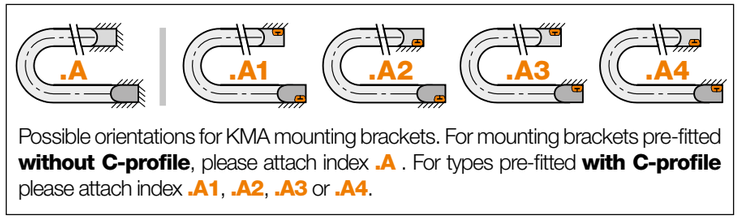
E4Q | Series E4Q.82 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

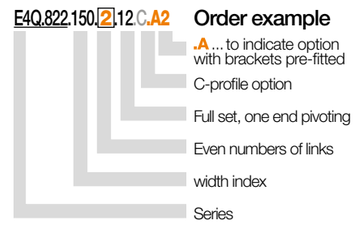
E4Q.82
H4Q.82

Note ✱: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

Steel support tray for support of the lower run

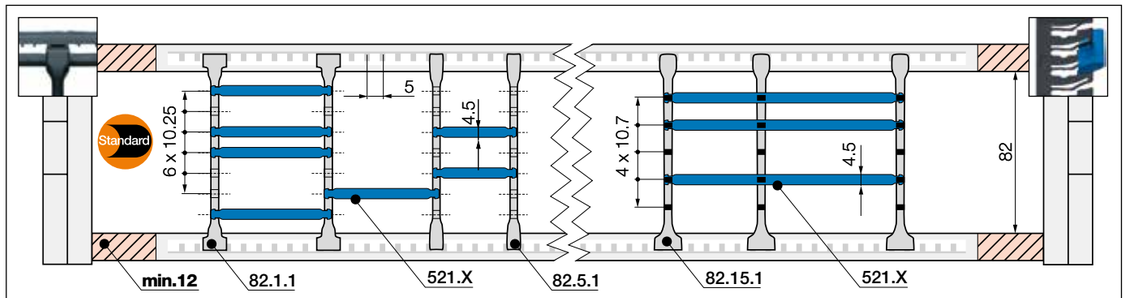
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356

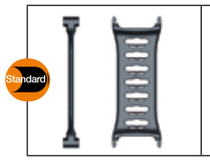


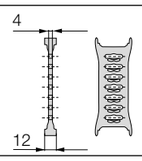
E4Q | Series E4Q.82 | Accessories

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 12mm**
As standard separators are fitted every 2nd e-chain® link!



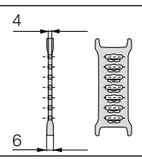


Standard separator, wide base	
unassembled	**82.1**
assembled	**82.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.

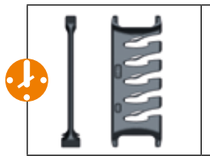


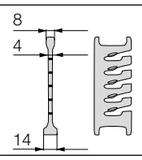


Notch separator for notched crossbar	
unassembled	**82.5**
assembled	**82.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



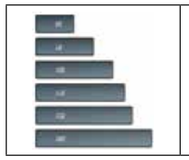


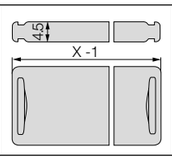
Lean notch separator[1)]	
unassembled	**82.15**
assembled	**82.15.1**

Lean notch separators[1)]

For quick fitting of shelves in several layers. Snaps securely into the crossbar in 5mm steps to be positioned securely.

1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!





Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**521.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**521.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

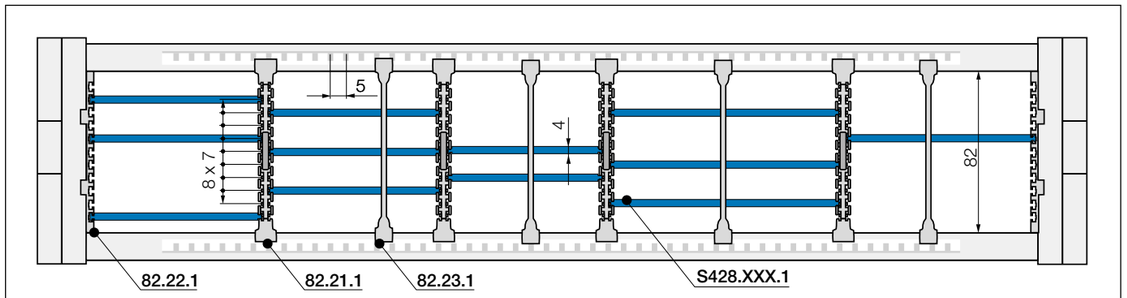
Lean notch separator design principle | For even faster filling

With the lean notch separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab (exemplary image on the right)



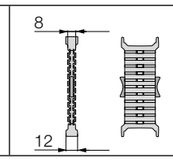
E4Q | Series E4Q.82 | Accessories

Universal interior separation | Modular shelving for complete flexibility



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!

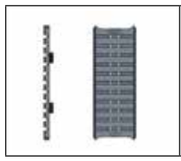


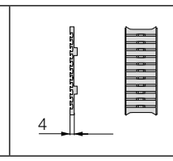


Universal middle plate	
unassembled	**82.21**
assembled	**82.21.1**

Universal middle plates

The shelves can be inserted from both sides. The shelves are locked in place by means of the integrated slider and additionally when the crossbar is fitted. For unlocking, the crossbar must be removed - on the inner or outer radius.

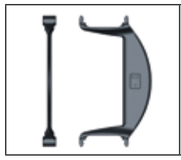


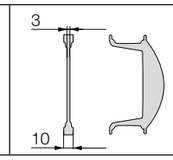


Universal side plate	
unassembled	**82.22**
assembled	**82.22.1**

Universal side plates

Allow modular shelving right up to the side links. Shelves can be inserted from both sides.



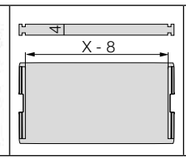


Separator	
unassembled	**82.23**
assembled	**82.23.1**

Separators for universal interior separation

For additional vertical partitioning of the shelf system. When using the separator, the shelves can only be removed in one direction.





Shelf[1)]	
unassembled	**S428.XXX**
assembled	**S428.XXX.1**

Separators[1)] for universal interior separation

Shelves of various widths can be arranged in steps of 7mm.

Shelves[1)]

Width = XXX [mm]



XXX [mm]	unassembled	assembled	XXX [mm]	unassembled	assembled	XXX [mm]	unassembled	assembled
018*	**S428.018**	**S428.018.1**	058	**S428.058**	**S428.058.1**	100*	**S428.100**	**S428.100.1**
023*	**S428.023**	**S428.023.1**	062*	**S428.062**	**S428.062.1**	108	**S428.108**	**S428.108.1**
025*	**S428.025**	**S428.025.1**	068*	**S428.068**	**S428.068.1**	125*	**S428.125**	**S428.125.1**
028*	**S428.028**	**S428.028.1**	070	**S428.070**	**S428.070.1**	150*	**S428.150**	**S428.150.1**
033*	**S428.033**	**S428.033.1**	075*	**S428.075**	**S428.075.1**	175*	**S428.175**	**S428.175.1**
044*	**S428.044**	**S428.044.1**	083	**S428.083**	**S428.083.1**	200*	**S428.200**	**S428.200.1**
050*	**S428.050**	**S428.050.1**	087*	**S428.087**	**S428.087.1**	208*	**S428.208**	**S428.208.1**

1) Note: The available width of the lockable shelf **Part No. S428.XXX** deviates by 8mm from the width stated in the part number ▶ **Page 587**

* Available upon request Delivery time upon request.

E4.1

Largest modular system for almost any application

Advantages of the E4.1 system:

- Undercut design for high lateral stability, high strength for long travels and for large unsupported lengths
- Well suited for side-mounted applications
- Noise-reducing brake and optional noise dampers
- Inner and outer links for quick assembly, with or without pretension
- Many modular options and accessories available

When to use another e-chain® series:

- For easy, tool-free opening and closing - the next generation of easy-to-assemble e-chains® ▶ **E4Q, page 580**
- When an e-chain® must fulfil IPA Class 1 cleanroom standard ▶ **E6.1, page 832**
- When a light, cost-effective e-chain®/e-tube with higher dynamics and a larger inner space with the same exterior dimensions is required ▶ **E4.1L, page 538**
- For applications that require special high unsupported lengths at different angles of elevation - igus® plastic-steel hybrid e-chain® ▶ **YE, page 772**



Largest modular system for almost any application - E4.1

The E4.1 system combines all the advantages of its three predecessors. The E4.1 series is stronger with the same or even smaller dimensions than previous versions. Almost all accessories and mounting dimensions are identical. You can increase the service life of your application with the igus® system E4.1 whilst reducing cost.

- Undercut design for high lateral stability
- High push/pull strength for long travels and unsupported lengths
- Well suited for side-mounted applications
- Noise-reducing brake and optional noise dampers
- Inner and outer links for quick assembly, with or without pretension

Typical industries and applications

● Cranes ● Indoor cranes ● Composting plants ● Sewage plants ● Machine tools ● General mechanical engineering ● Material handling technology ● Cooling technology ● Construction machinery ● Woodworking ● Robots and handling equipment

Fraunhofer IPA TESTED® DEVICE

IPA Qualification Certificate - Report IG 1303-640-1:
ISO Class 2, according to DIN EN ISO 14644-1 for series E4.32.10.063.0.CR at *v* = 0.5m/s, 1.0m/s, 2.0m/s

41 dB(A) - value determined at the igus® test-lab, *v* = 1.8m/s unsupported, series E4.21.060.038.0

Electrically conductive ESD e-chains® - several series available from stock

Explore the benefits ▶ www.igus.eu/best/E4.1

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
					**e-chains® with crossbars every link** the all-rounder - also for particularly demanding applications **Please observe the guidelines for the e-chains® selection, further information ▶ From page 114**		
E4.21	21	30 - 140	44 - 154	28	038 - 200	2.50	**626**
E4.28	28	40 - 300	60 - 320	42	055 - 250	2.50	**632**
E4.32	32	50 - 400	73 - 423	54	063 - 300	3.30	**640**
E4.42	42	50 - 400	76 - 426	64	075 - 350	4.00	**650**
E4.56	56	50 - 600	84 - 634	84	135 - 500	5.00	**662**
E4.80	80	50 - 600	100 - 650	108	150 - 1,000	6.20	**674**
E4.112	112	50 - 600	102 - 652	140	200 - 1,000	6.50	**619**
E4.162	162	200 - 600	256 - 656	195	250 - 1,000	6.75	**694**
800	200	200 - 600	260 - 660	236	325 - 1,000	8.00	**698**
840	204	100 - 563	160 - 623	236	325 - 1,000	8.00	**702**
E4.350	350	400 - 800	540 - 940	450	500 - 1,000	6.20	**619**
					**e-chains® with crossbars every 2nd link** the cost-effective, easy-to-install alternative for almost all applications **Please observe the guidelines for the e-chains® selection, further information ▶ From page 114**		
H4.32	32	50 - 400	73 - 423	54	063 - 300	3.30	**640**
H4.42	42	50 - 400	76 - 426	64	075 - 350	4.00	**650**
H4.56	56	50 - 600	84 - 634	84	135 - 500	5.00	**662**
H4.80	80	50 - 600	100 - 650	108	150 - 1,000	6.20	**674**
					**e-tubes** fully enclosed, excellent cable protection **Please observe the guidelines for the e-chains® selection, further information ▶ From page 114**		
R4.28	28	50 - 300	70 - 320	42	075 - 250	2.50	**632**
R4.32	32	50 - 300	73 - 323	54	125 - 300	3.30	**640**
R4.42	42	50 - 300	76 - 326	64	125 - 350	4.00	**650**
R4.56	56	75 - 462	109 - 497	84	135 - 500	5.00	**662**
R4.80	80	100 - 462	150 - 513	108	200 - 1,000	6.20	**674**
R4.112	108	200 - 500	252 - 552	140	250 - 1,000	6.50	**619**

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

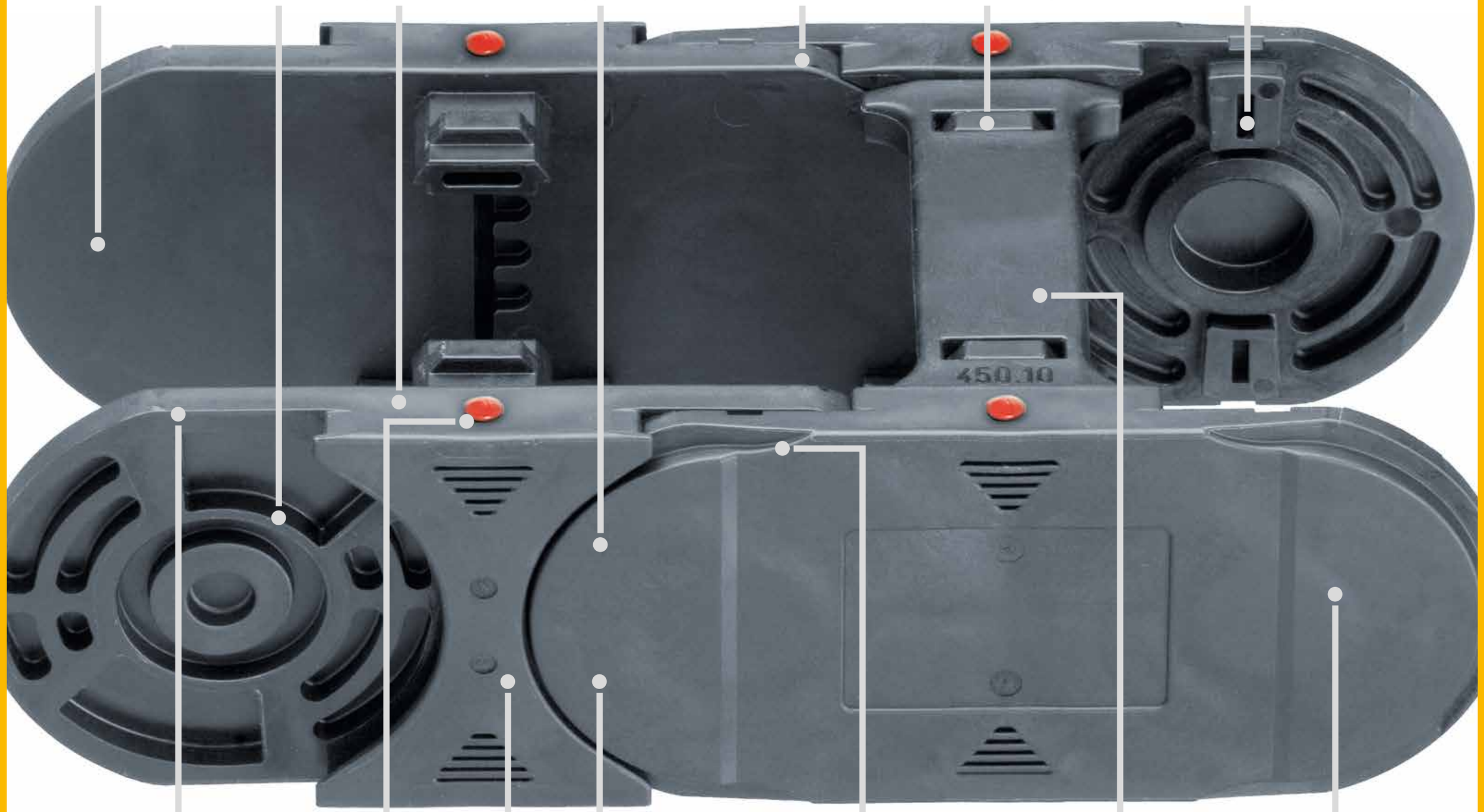
igus 3D CAD, configurators, service life calculation and more ▶ www.igus.eu/E4.1

System E4.1 | Any application with one e-chain®

Undercut design combined with the inner/outer-link solution

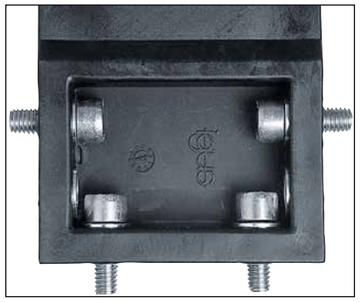
System E4.1 | Moving energy made easy

High stability and strength and easy installation

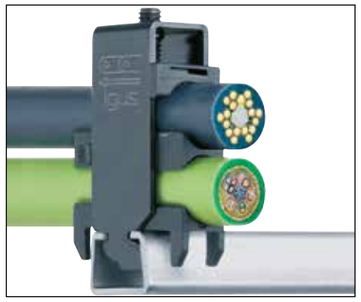




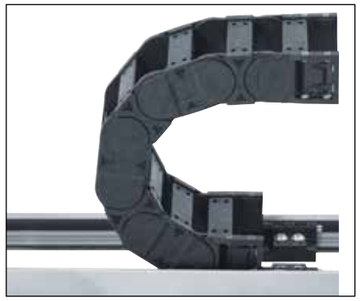
Lean separators enable extremely fast cable filling in several layers



KMA mounting brackets with attachment options from any side



Strain relief elements include clamps, tiewrap plates, nuggets, etc. ▶ **From page 1392**



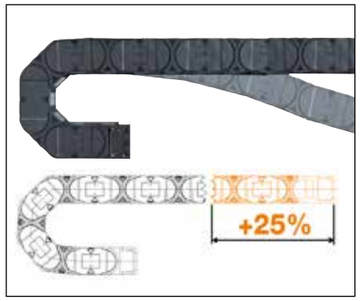
Aluminium and steel support trays for support of the lower run ▶ **From page 1356**



Aluminium "SuperTrough" - the standard igus® guide trough ▶ **From page 1298**



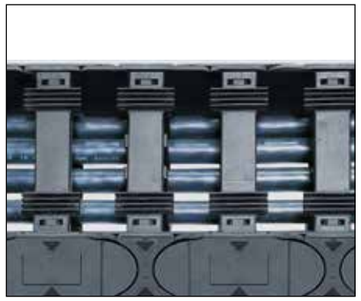
Safe parallel guiding of corrugated tubes with the optional, external TUB guidance



Up to 25% longer unsupported length with XXL material ▶ **www.igus.eu/E4.1**



Optimised interior separation products, cables last up to 4 times longer



autoglide crossbars - long travels without guide troughs



Flexible extender crossbar range - e-chain® extender for enlarging the interior, large range of widths possible

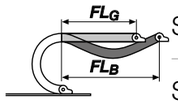


Round or square extender crossbar with fixed width - safe guiding for large hoses



The extension link design allows virtually unlimited side-by-side extension

Technical data



Speed gliding / acceleration gliding	**≤ 10 [m/s] / ≤ 50 [m/s²]**
Speed FL_G / acceleration FL_G	**≤ 20 [m/s] / ≤ 200 [m/s²]**
Speed FL_B / acceleration FL_B	**≤ 3 [m/s] / ≤ 6 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C/+120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Gliding	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag	Unsupported length lower run
E4.21	≤ 5.0m	≤ 120m	≤ 40m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
E4.28/ R4.28	≤ 5.0m	≤ 200m	≤ 80m	≤ 5.0m	≤ 1.2m	with rework	upon request	upon request
E4.32/H4.32/ R4.32	≤ 6.6m	≤ 200m	≤ 80m	≤ 5.0m	≤ 1.5m	with rework	upon request	upon request
E4.42/H4.42/ R4.42	≤ 8.0m	≤ 300m	≤ 100m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
E4.56/H4.56/ R4.56	≤ 10.0m	≤ 400m	≤ 100m	≤ 6.0m	≤ 2.5m	with rework	upon request	upon request
E4.80/H4.80/ R4.80	≤ 12.4m	≤ 400m	≤ 120m	≤ 6.0m	≤ 3.0m	with rework	upon request	upon request
E4.112/ R4.112	≤ 13.0m	≤ 450m	≤ 120m	≤ 6.0m	≤ 3.0m	with rework	upon request	upon request
E4.162	≤ 13.5m	≤ 450m	≤ 120m	≤ 6.0m	upon request	with rework	upon request	upon request
800	≤ 16.0m	≤ 450m	≤ 120m	≤ 6.0m	≤ 6.0m	with rework	upon request	upon request
840	≤ 16.0m	≤ 450m	≤ 120m	≤ 6.0m	≤ 6.0m	with rework	upon request	upon request
E4.350	≤ 13.0m	upon request	upon request	upon request	with rework	upon request	upon request	upon request

Options with order keys | Examples based on series E4.56/H4.56/R4.56

Standard	*Optional noise dampers*	*Simply turn outer side link, no additional rework*	*Reverse Bend Radius (RBR) for circular movements*
Part No. **Standard**	**Part No.** **Low noise (with pads)**	**Part No.** **NC version**	**Part No.** ***RBR***
E4.56.30.*R*.0 e-chain® with crossbars every link	**ES4.56.30.*R*.0** e-chain® with crossbars every link	**E4.56.30.*R*.0.NC** e-chain® with crossbars every link	**E4.56.30.*R1/R*2.0** e-chain® with crossbars every link
H4.56.30.*R*.0 e-chain® with crossbars every 2nd link	**HS4.56.30.*R*.0** e-chain® with crossbars every 2nd link	**H4.56.30.*R*.0.NC** e-chain® with crossbars every 2nd link	**H4.56.30.*R1/R2*.0** e-chain® with crossbars every 2nd link
R4.56.30.*R*.0 e-tube, closed	**RS4.56.30.*R*.0** e-tube, closed	**R4.56.30.*R*.0.NC** e-tube, closed	***RBR*** for e-tubes - please consult igus®
Ready to ship in 24 - 48hrs.*	Ready to ship in 12 business days*	Ready to ship in 24 - 48hrs.*	Ready to ship in 12 business days*

ESD version - some series available from stock - further information and the complete product range ▶ From page 142

***RBR* version - some radii available from stock - further information and the complete product range ▶ From page 130**

Order example | Examples based on series E4.56

Order example for complete e-chain® (3.0m), colour black, with mounting brackets and interior separation:

e-chain® (3.0m)	Please indicate e-chain® length or number of links: 3.0m or 33 links	**E4.56.30.300.0**
+ Mounting brackets	1 set (with odd number of links and integrated C-profiles)	**E4.560.30.1.12.C**
Interior separation	with 2 separators assembled every 2nd link	**2 x 56.1.1**
Order text:	**3m E4.56.30.300.0 + E4.560.30.1.12.C + 2 x 56.1.1**	

Magnetically detectable plastic e-chains®

- For the food and tobacco industry
- igumid DT - automatic detection by all common metal detection systems
- Particles as small as 1.0mm can be recognised for fragments passing at speeds of 20m/min

More information ▶ www.igus.eu/detectable-chain



System E4.1 | Options and order keys

Unsupported lengths +25% possible	*e-tube - no burning-in of hot swarf up to 850°C*	*ESD - electrically conductive material*
Part No. **XXL material**	**Part No.** **igumid HT**	**Part No.** **igumid ESD**
E4.56.30.*R*.0.XXL e-chain® with crossbars every link[1]	**R4.56.30.*R*.0.HT** Complete e-tube[2]	**E4.56.30.*R*.0.ESD** e-chain® with crossbars every link
H4.56.30.*R*.0.XXL e-chain® with crossbars every 2nd link	**R4.56.30HT.*R*.0** Lid and shelves made of HT material (side plates of standard material)	**H4.56.30.*R*.0.ESD** e-chain® with crossbars every 2nd link
R4.56.30.*R*.0.XXL e-tube, closed[1]		**R4.56.30.*R*.0.ESD** e-tube, closed
Ready to ship in 12 business days*	Ready to ship in 6 weeks*	Ready to ship in 12 business days*

*Average time before the ordered goods are dispatched.

1) Side-bands made from XXL material 2) Available upon request. Delivery time upon request

Order key and colour examples | Examples based on series E4.56/H4.56/R4.56

Order key

e-chain® with crossbars every link	**E4.56.30.300.0**
e-chain® with crossbars every 2nd link	**H4.56.30.300.0**
e-tube fully enclosed	**R4.56.30.300.0**
Series / Type	
Inner height	
Width index (depends on *Bi*)	
Bend radius *R*	
Colour index (standard black)	

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

Aluminium lid for plastic e-tube R4.1

- Lid notches allow easy positioning of the interior separation
- Special plastic clips facilitate easy assembly
- Any width possible, openable lids from both sides (material: aluminium EN AW-6060)
- **More information ▶ www.igus.eu/aluminium-lid**



E4.1 | Series E4.21 | Product range

Strong due to undercut design, small inner height

21



e-chains® | Series E4.21 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.21 [kg/m]
E4.21.030.R.0▲	30	44	≈ 0.60
E4.21.040.R.0▲	40	54	≈ 0.64
E4.21.050.R.0▲	50	64	≈ 0.67
E4.21.060.R.0▲	60	74	≈ 0.71
E4.21.070.R.0▲	70	84	≈ 0.74
E4.21.080.R.0▲	80	94	≈ 0.78

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.21 [kg/m]
E4.21.090.R.0	90	104	≈ 0.82
E4.21.100.R.0	100	114	≈ 0.85
E4.21.110.R.0	110	124	≈ 0.89
E4.21.120.R.0	120	134	≈ 0.92
E4.21.140.R.0	140	154	≈ 0.99

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

◎ All widths of the E4.21 with crossbars every link are available from stock as *RBR* version 048/390. More information ▶ **From page 130**

Available bend radii

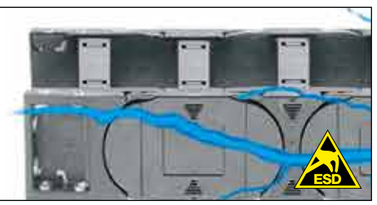
R [mm] | 038 | 048◎ | 063 | 075 | 100 | 150 | 200 |

Complete Part No. with required radius (R). Example: **E4.21.120.100.0 = crossbars every link**

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information and the complete product range
▶ From page 142 or at ▶ www.igus.eu/esd



Rotating energy supply systems with Reverse Bend Radius *(RBR)* - some radii available from stock

- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life
- Short delivery times 24hrs, from stock

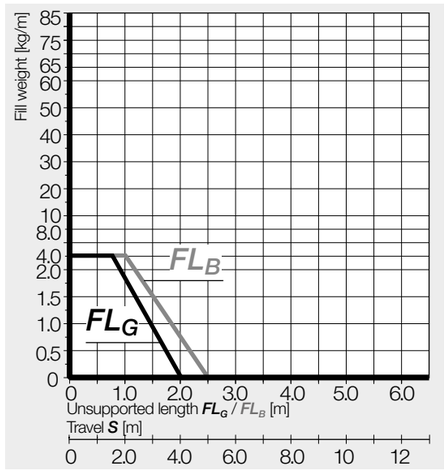
More information and the complete product range ▶ From page 130

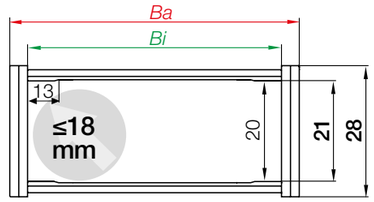


E4.1 | Series E4.21 | Installation dimensions

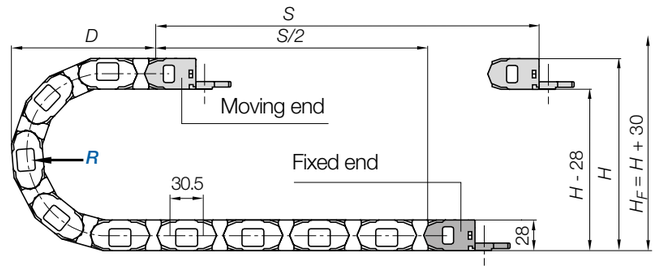
Unsupported applications | Short travels

▶ 1392 ▶ 1310





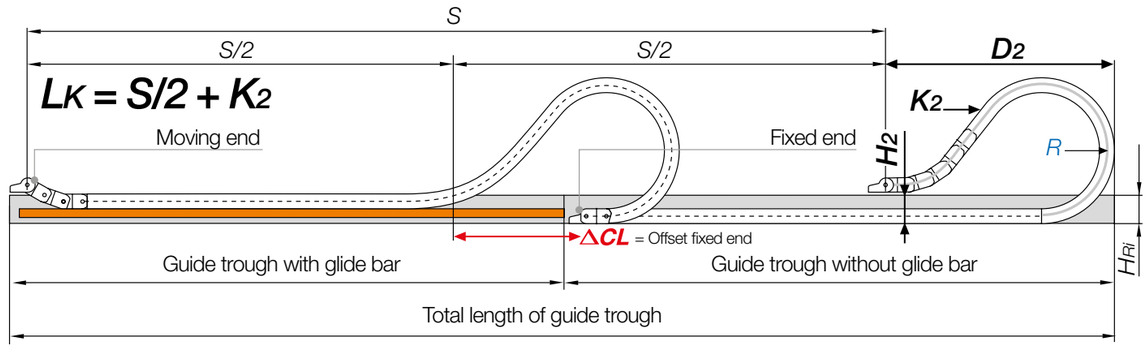
Inner height [mm]	21
Pitch [mm/link]	30.5
Links/m	33
corresponds to [mm]	1,007
e-chain® length	$L_K = S/2 + K$



R	038	048	063	075	100	150	200
H	104	124	154	178	228	328	428
D	98	108	123	135	160	210	260
K	185	215	260	300	380	535	690

The required clearance height: $H_F = H + 30$mm (with 1.5kg/m fill weight)

Gliding applications | For travel lengths from 10m to max. 120m

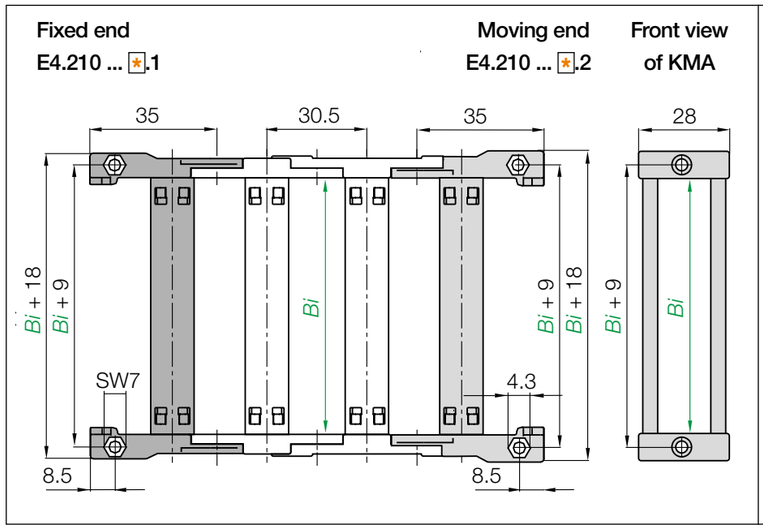


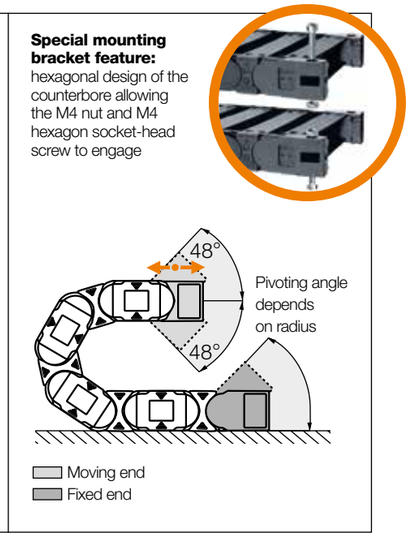
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	038	048	063	075	100	150	200
H_2	76	96	126	152	135	135	135
D_2	85	95	110	120	430	580	730
K_2	185	215	260	300	640.5	945.5	1,250.5
ΔCL	–	–	–	–	270	370	470

E4.1 | Series E4.21 | Accessories

KMA mounting brackets | Pivoting



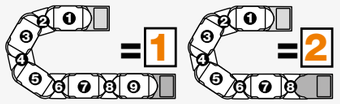


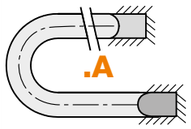
KMA pivoting | Recommended for unsupported and gliding applications

Width index	Part No. Full set KMA pivoting	Bi [mm]
030. ▶	E4.210.030.*.12	30
040. ▶	E4.210.040.*.12	40
050. ▶	E4.210.050.*.12	50
060. ▶	E4.210.060.*.12	60
070. ▶	E4.210.070.*.12	70
080. ▶	E4.210.080.*.12	80
090. ▶	E4.210.090.*.12	90
100. ▶	E4.210.100.*.12	100
110. ▶	E4.210.110.*.12	110
120. ▶	E4.210.120.*.12	120
140. ▶	E4.210.140.*.12	140

(KMA = polymer metal mounting bracket)

Note *: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket pre-fitted please add index **.A** .

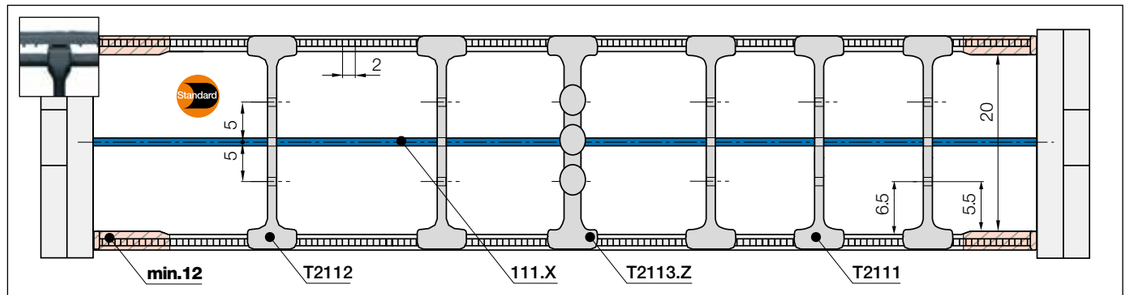
E4.210.120.2.12.**A** **Order example**

- Pre-assembled
- Full set
- Even numbers of links
- width index
- Series

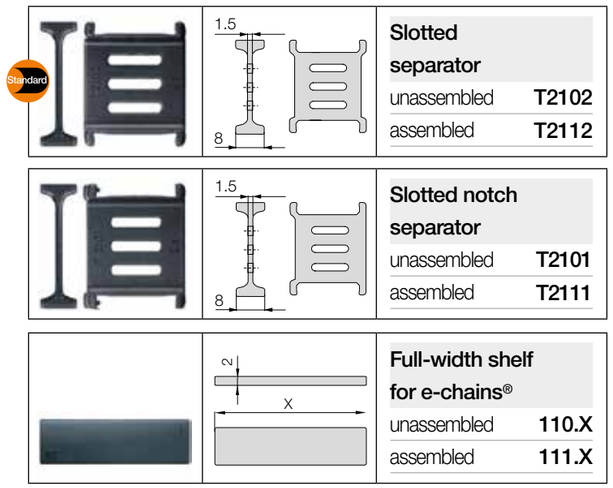
Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E4.1 | Series E4.21 | Accessories

Interior separation



Note: Please be aware of the minimum lateral gap to the side links! **e-chain® = 12mm**
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	T2102
assembled	T2112

Slotted separator*

For a vertical subdivision. The slot allows basic vertical/ horizontal shelving arrangements.

Slotted notch separator	
unassembled	T2101
assembled	T2111

Slotted notch separator*

Can be locked/fixed securely due to special recesses on the crossbars of the e-chain®. The separator cannot slide sideways during operation.

Full-width shelf for e-chains®	
unassembled	110.X
assembled	111.X

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

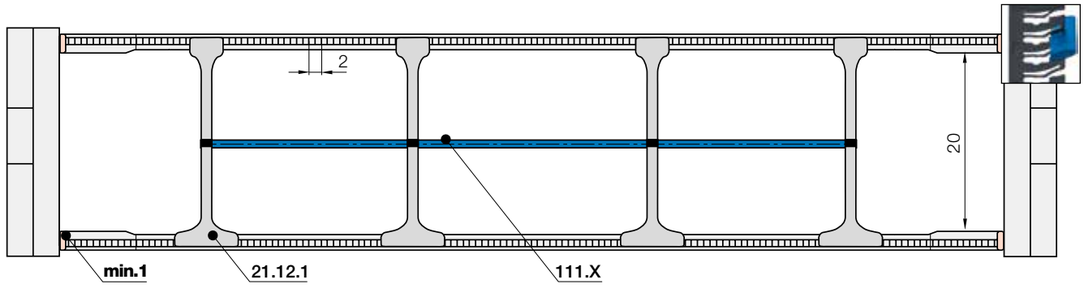
*Note: not suitable for Bi030. Special separator upon request.

Full-width shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
030	**110.30**	**111.30**	070	**110.70**	**111.70**	110	**110.110**	**111.110**
040	**110.40**	**111.40**	080	**110.80**	**111.80**	120	**110.120**	**111.120**
050	**110.50**	**111.50**	090	**110.90**	**111.90**			
060	**110.60**	**111.60**	100	**110.100**	**111.100**			

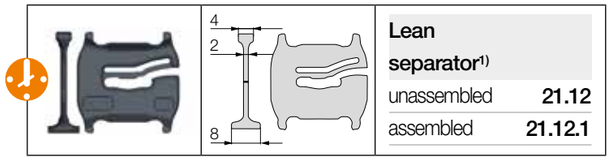
E4.1 | Series E4.21 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain® = 1mm**

As standard separators are fitted every 2nd e-chain® link!



Lean separator[1)]	
unassembled	21.12
assembled	21.12.1

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



E4.1 | Series E4.21 | Further accessories

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

More information ▶ From page 1362



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. T2103.Z - more information ▶ From page 1428





Many e-chains® are used in this customised CNC-machine for the woodworking industry

E4.1 | Series E4.28·R4.28 | Product range

Strong due to undercut design, small inner height



e-chains®| Series E4.28 | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series R4.28 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	E4.28 [kg/m]	R4.28 [kg/m]
E4.▲	–	28.040.R.0	40	60	≈ 1.06	–
E4.▲	R4.	28.050.R.0	50	70	≈ 1.11	≈ 2.20
E4.	–	28.052.R.0	52	72	≈ 1.13	–
E4.▲	–	28.062.R.0	62	82	≈ 1.17	–
E4.▲	–	28.070.R.0	70	90	≈ 1.20	–
E4.▲	R4.	28.075.R.0	75	95	≈ 1.23	≈ 2.32
E4.▲	–	28.087.R.0	87	107	≈ 1.28	–
E4.▲	R4.	28.100.R.0	100	120	≈ 1.37	≈ 2.54
E4.▲	R4.	28.125.R.0	125	145	≈1.51	≈ 2.78
E4.	R4.	28.150.R.0	150	170	≈ 1.61	≈ 3.02
E4.	R4.	28.175.R.0	175	195	≈ 1.71	≈ 3.26
E4.	R4.	28.200.R.0	200	220	≈ 1.84	≈ 3.50
E4.	R4.	28.225.R.0	225	245	≈ 1.99	≈ 3.82
E4.	R4.	28.250.R.0	250	270	≈ 2.14	≈ 3.98
E4.	–	28.275.R.0	275	295	≈ 2.27	–
E4.	R4.	28.300.R.0	300	320	≈ 2.39	≈ 4.46

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

*Radius not available for e-tubes

Available bend radii

R [mm] | 055* | 063* | 075 | 100 | 125 | 150 | 175 | 200 | 250 |

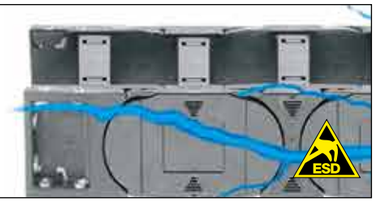
Complete Part No. with required radius (*R*). Example:

E4.28.100.100.0 = crossbars every link / R4.28.100.100.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

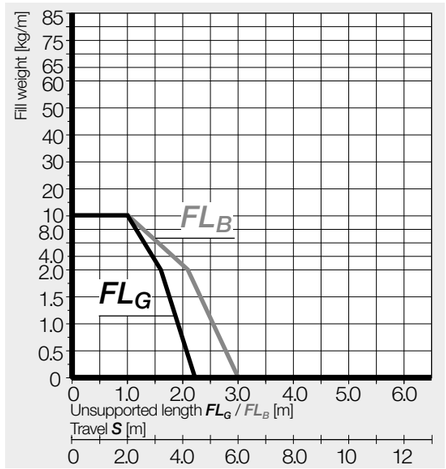
More information and the complete product range
▶ From page 142 or at ▶ www.igus.eu/esd

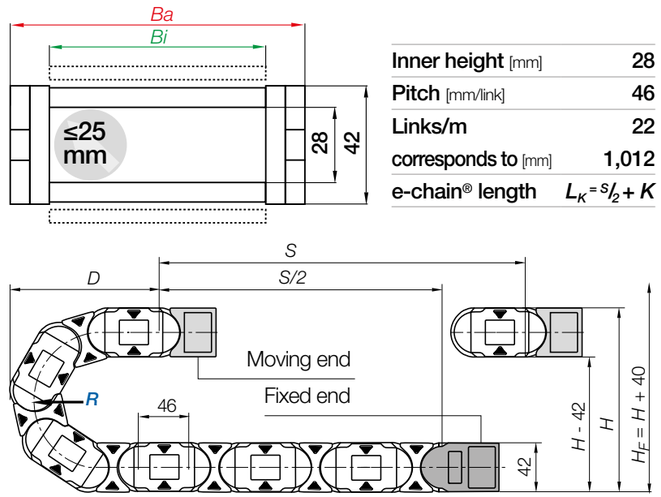


E4.1 | E4.28·R4.28 | Installation dimensions

Unsupported applications | Short travels

▶ 1392 ▶ 1314





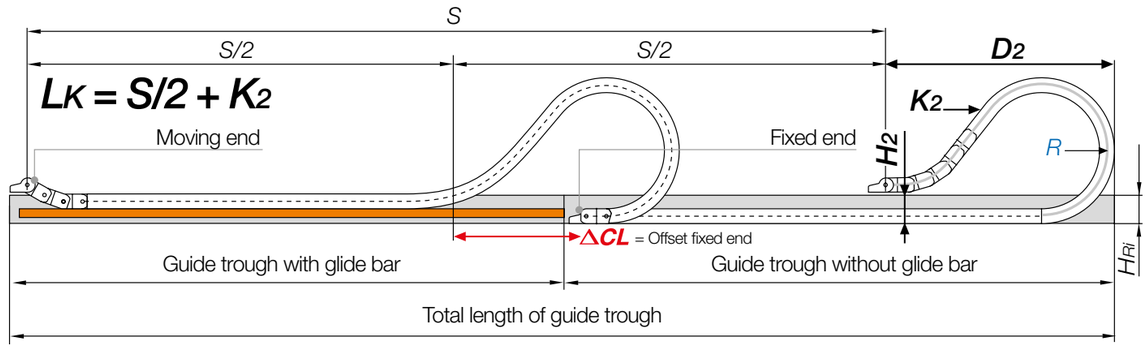
Inner height [mm]	28
Pitch [mm/link]	46
Links/m	22
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$

R	055*	063*	075	100	125	150	175	200	250
H	152	168	192	242	292	342	392	442	542
D	145	153	165	190	215	240	265	290	340
K	265	290	330	410	485	565	645	725	880

The required clearance height: $H_F = H + 40$mm (with 1.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For travel lengths from 10m to max. 200m



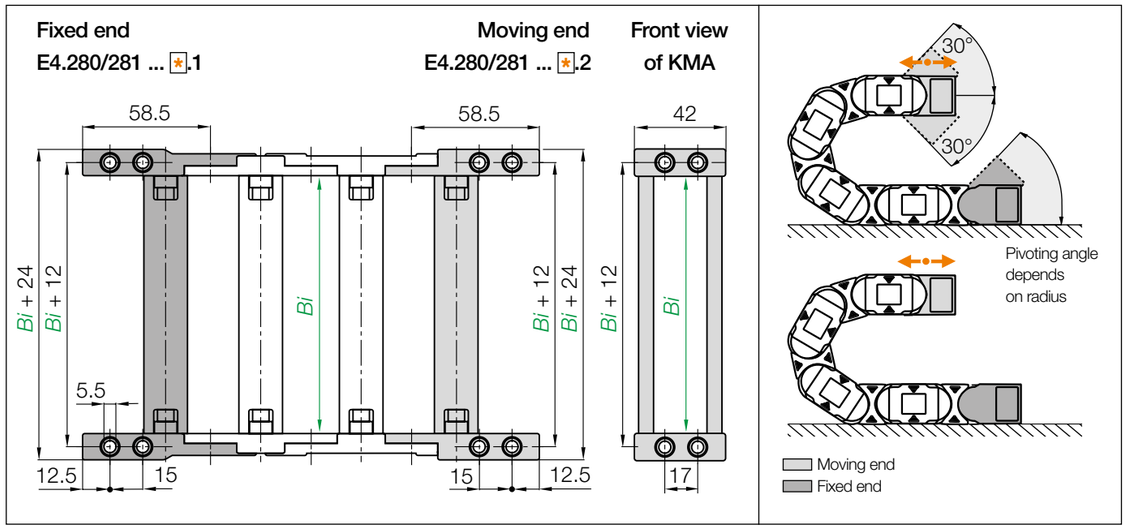
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	055*	063*	075	100	125	150	175	200	250
H_2	110	126	150	158	158	158	158	158	158
D_2^{+25}	122	130	142	350	490	530	665	730	935
K_2	265	290	330	598	782	920	1,104	1,242	1.610
ΔCL	–	–	–	150	270	300	400	450	600

*Radius not available for e-tubes

E4.1 | e-chains® E4.28 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

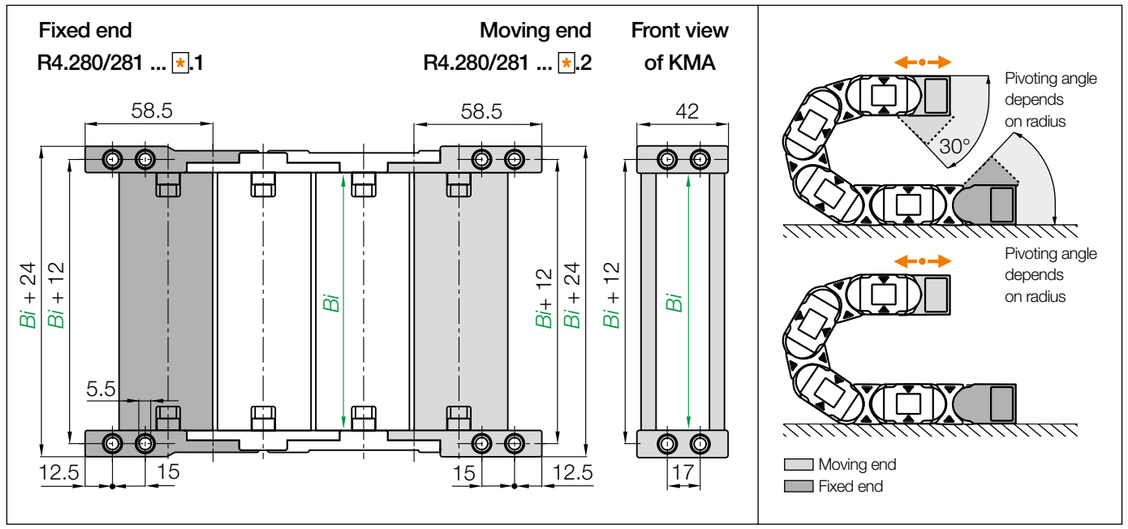
Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
040. ▶	E4.280.040.*.12	E4.281.040.*.12	40
050. ▶	E4.280.050.*.12	E4.281.050.*.12	50
052. ▶	E4.280.052.*.12	E4.281.052.*.12	52
062. ▶	E4.280.062.*.12	E4.281.062.*.12	62
070. ▶	E4.280.070.*.12	E4.281.070.*.12	70
075. ▶	E4.280.075.*.12	E4.281.075.*.12	75
087. ▶	E4.280.087.*.12	E4.281.087.*.12	87
100. ▶	E4.280.100.*.12	E4.281.100.*.12	100

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
125. ▶	E4.280.125.*.12	E4.281.125.*.12	125
150. ▶	E4.280.150.*.12	E4.281.150.*.12	150
175. ▶	E4.280.175.*.12	E4.281.175.*.12	175
200. ▶	E4.280.200.*.12	E4.281.200.*.12	200
225. ▶	E4.280.225.*.12	E4.281.225.*.12	225
250. ▶	E4.280.250.*.12	E4.281.250.*.12	250
275. ▶	E4.280.275.*.12	E4.281.275.*.12	275
300. ▶	E4.280.300.*.12	E4.281.300.*.12	300

(KMA = polymer metal mounting bracket)

E4.1 | e-tubes R4.28 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



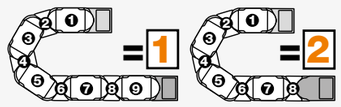
Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

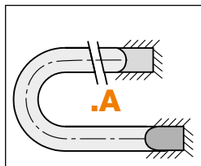
Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
050. ▶	R4.280.050.*.12	R4.281.050.*.12	50
075. ▶	R4.280.075.*.12	R4.281.075.*.12	75
100. ▶	R4.280.100.*.12	R4.281.100.*.12	100
125. ▶	R4.280.125.*.12	R4.281.125.*.12	125
150. ▶	R4.280.150.*.12	R4.281.150.*.12	150

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
175. ▶	R4.280.175.*.12	R4.281.175.*.12	175
200. ▶	R4.280.200.*.12	R4.281.200.*.12	200
225. ▶	R4.280.225.*.12	R4.281.225.*.12	225
250. ▶	R4.280.250.*.12	R4.281.250.*.12	250
300. ▶	R4.280.300.*.12	R4.281.300.*.12	300

(KMA = polymer metal mounting bracket)

Note *: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket pre-fitted please add index **.A** .

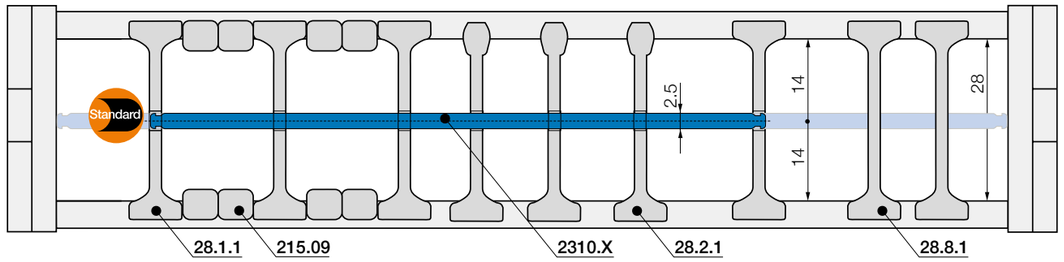


Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

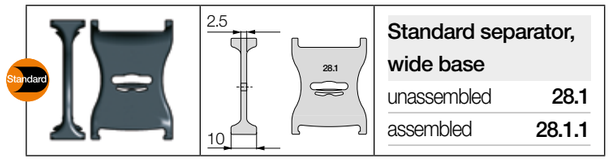
E4.1 | e-chains® E4.28 | Accessories

Interior separation | Increase cable service life | Only for e-chains®

Previous generation of interior separation with other options ▶ **www.igus.eu/E4.28**



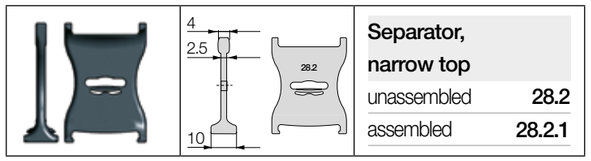
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**28.1**
assembled	**28.1.1**

Standard - for any application

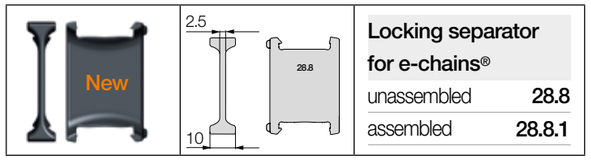
Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	**28.2**
assembled	**28.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

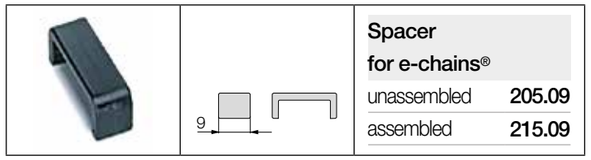


Locking separator for e-chains®	
unassembled	**28.8**
assembled	**28.8.1**

Locking separator for increased holding force

New

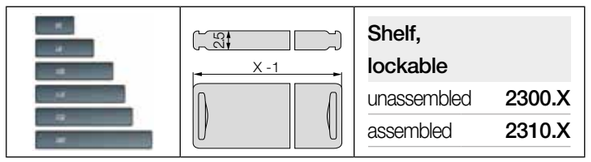
Locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses.



Spacer for e-chains®	
unassembled	**205.09**
assembled	**215.09**

Spacer

Separators can be fixed in position using spacers. To avoid reducing the internal height by 2mm, they can also be mounted on the opening crossbar from the outside (not for long travels).



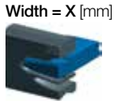
Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

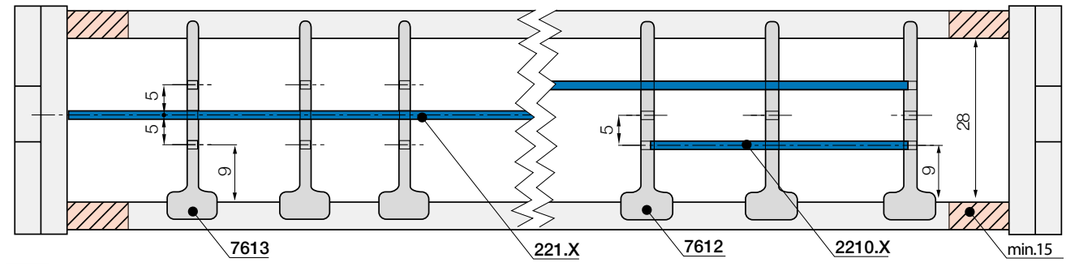
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

E4.1 | e-tubes R4.28 | Accessories

Interior separation | Option 1 | Option 2 | Only for e-tubes



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 15mm**
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	**7603**
assembled	**7613**

Option 1 | Full-width shelves

Slotted separator

For a vertical subdivision. The slot allows basic vertical/ horizontal shelving arrangements.



Full-width shelf for e-tubes	
unassembled	**220.X**
assembled	**221.X**

Full-width shelf

This option is for applications with many small cables with similar diameters. For full-width separation.

Full-width shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
040	**220.40**	**221.40**	075	**220.75**	**221.75**	150	**220.150**	**221.150**
050	**220.50**	**221.50**	087	**220.87**	**221.87**	175	**220.175**	**221.175**
062	**220.62**	**221.62**	100	**220.100**	**221.100**	200	**220.200**	**221.200**
070	**220.70**	**221.70**	125	**220.125**	**221.125**			



Slotted separator	
unassembled	**7602**
assembled	**7612**

Option 2 | Shelves

Slotted separator

Allows modular shelving arrangements.



Shelf for e-tubes	
unassembled	**2200.X**
assembled	**2210.X**

Shelf

For applications involving many cables with different diameters, shelves can be fitted at different heights.

Shelves

Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
018	**2200.18**	**2210.18**	043	**2200.43**	**2210.43**	088	**2200.88**	**2210.088**
023	**2200.23**	**2210.23**	048	**2200.48**	**2210.48**	099	**2200.99**	**2210.099**
028	**2200.28**	**2210.28**	058	**2200.58**	**2210.58**	124	**2200.124**	**2210.124**
033	**2200.33**	**2210.33**	068	**2200.68**	**2210.68**	149	**2200.149**	**2210.149**
038	**2200.38**	**2210.38**	073	**2200.73**	**2210.73**			

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

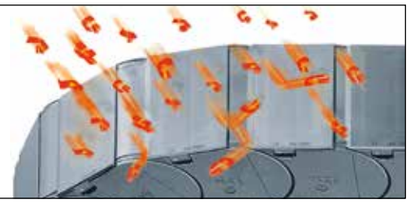
More information ▶ From page 1362



Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. 28.Z (e-chain®) / Part No. 28.ZT (e-tube) -
more information ▶ From page 1428





E4.1 e-chains®, supplied as readychains®, reliably supply power and data to different axes of this machine tool

E4.1 | Series E4.32·H4.32·R4.32 | Product range

32 32

Stable due to undercut design, medium inner height



e-chains®| Series E4.32 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains®| Series H4.32 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)
e-tubes | Series R4.32 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes						Bi [mm]	Ba [mm]	E4.32 [kg/m]	H4.32 [kg/m]	R4.32 [kg/m]
E4.⚠	H4.	R4.[1)]	32.05.	R.0		50	73	≈ 1.68	≈ 1.62	≈ 1.83
E4.⚠	H4.	–	32.06.	R.0		68	91	≈ 1.81	≈ 1.68	–
E4.⚠	H4.	R4.	32.07.	R.0		75	98	≈ 1.85	≈ 1.70	≈ 2.11
E4.⚠	H4.	–	32.087.	R.0		87	110	≈ 1.92	≈ 1.73	–
E4.	H4.	–	32.097.	R.0		97	120	≈ 1.98	≈ 1.76	–
E4.⚠	H4.	R4.	32.10.	R.0		100	123	≈ 2.00	≈ 1.78	≈ 2.33
E4.	H4.	R4.	32.11.	R.0		108	131	≈ 2.06	≈ 1.80	≈ 2.39
E4.	H4.	–	32.112.	R.0		112	136	≈ 2.07	≈ 1.81	–
E4.	H4.	R4.	32.12.	R.0		125	148	≈ 2.18	≈ 1.87	≈ 2.57
E4.	H4.	–	32.137.	R.0		137	161	≈ 2.24	≈ 1.89	–
E4.⚠	H4.	R4.	32.15.	R.0		150	173	≈ 2.33	≈ 1.94	≈ 2.84
E4.	H4.	–	32.162.	R.0		162	186	≈ 2.36	≈ 1.95	–
E4.	H4.	R4.	32.17.	R.0		168	191	≈ 2.44	≈ 1.99	≈ 3.00
E4.⚠	H4.	–	32.18.	R.0		175	198	≈ 2.46	≈ 2.00	–
E4.	H4.	–	32.187.	R.0		187	211	≈ 2.51	≈ 2.03	–
E4.⚠	H4.	R4.	32.20.	R.0		200	223	≈ 2.63	≈ 2.09	≈ 3.35
E4.	H4.	–	32.212.	R.0		212	236	≈ 2.68	≈ 2.12	–
E4.	H4.	–	32.23.	R.0		225	248	≈ 2.78	≈ 2.17	–
E4.	H4.	–	32.237.	R.0		237	261	≈ 2.81	≈ 2.18	–
E4.	H4.	R4.	32.25.	R.0		250	273	≈ 2.95	≈ 2.25	≈ 4.15
E4.	H4.	–	32.262.	R.0		262	286	≈ 3.03	≈ 2.29	–
E4.	H4.	–	32.28.	R.0		275	298	≈ 3.10	≈ 2.33	–
E4.	H4.	–	32.29.	R.0		287	311	≈ 3.14	≈ 2.34	–
E4.	H4.	R4.	32.30.	R.0		300	323	≈ 3.27	≈ 2.41	≈ 4.69
E4.	H4.	–	32.312.	R.0		312	336	≈ 3.29	≈ 2.42	–
E4.	H4.	–	32.325.	R.0		325	348	≈ 3.39	≈ 2.47	–
E4.	H4.	–	32.337.	R.0		337	361	≈ 3.45	≈ 2.50	–
E4.	H4.	–	32.350.	R.0		350	373	≈ 3.68	≈ 2.61	–
E4.	H4.	–	32.362.	R.0		362	386	≈ 3.78	≈ 2.66	–
E4.	H4.	–	32.375.	R.0		375	398	≈ 3.85	≈ 2.70	–
E4.	H4.	–	32.387.	R.0		387	411	≈ 3.92	≈ 2.73	–
E4.	H4.	–	32.400.	R.0		400	423	≈ 3.98	≈ 2.77	–

⚠ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

1) Lid removable, non-openable *Radius not available for e-tubes

Available bend radii

R [mm] | 063* | 075* | 100* | 125 | 150 | 175 | 200 | 220 | 250 | 300 |

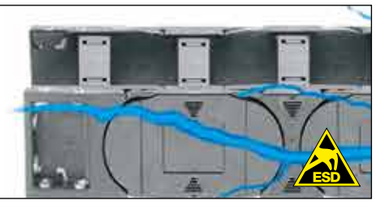
Complete Part No. with required radius (*R*). Example:

E4.32.30.300.0 = crossbars every link / H4.32.30.300.0 = crossbars every 2nd link / R4.32.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

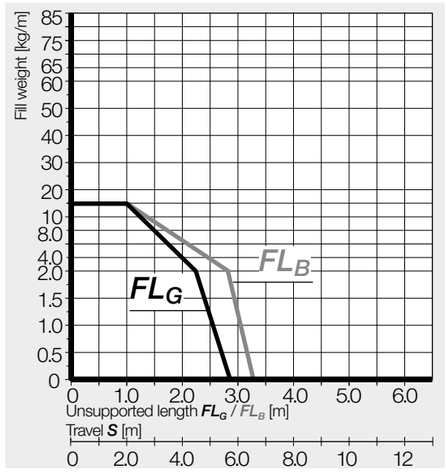
More information and the complete product range
▶ From page 142 or at ▶ www.igus.eu/esd

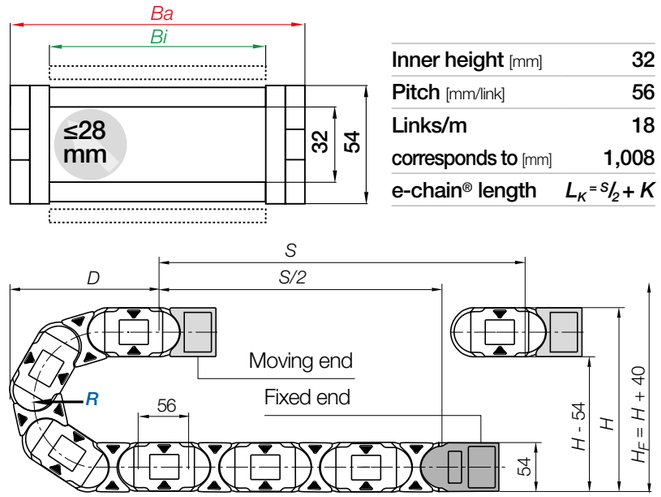


E4.1 | E4.32·H4.32·R4.32 | Installation dimensions

▶ 1392 ▶ 1316

Unsupported applications | Short travels





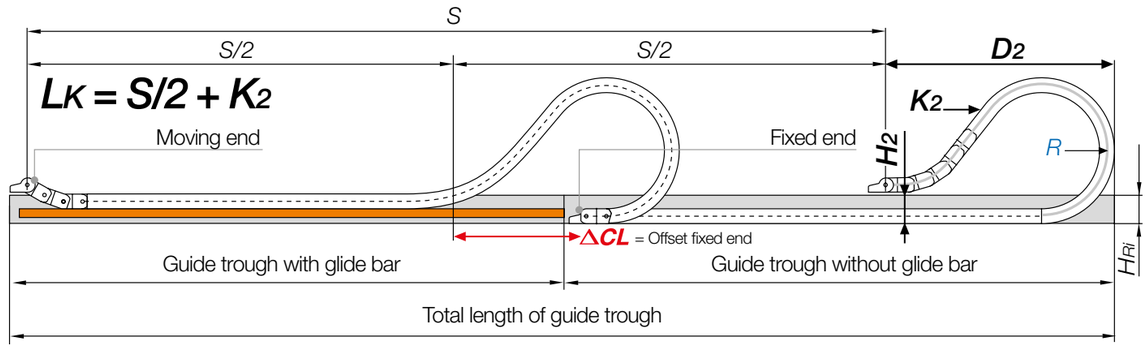
Inner height [mm]	32
Pitch [mm/link]	56
Links/m	18
corresponds to [mm]	1,008
e-chain® length	$L_K = S/2 + K$

R	063*	075*	100*	125	150	175	200	220	250	300
H $^{+20}_{0}$	180	204	254	304	354	404	454	494	554	654
D	174	186	211	236	261	286	311	331	361	411
K	310	350	430	505	585	665	745	805	900	1,055

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For travel lengths from 10m to max. 200m



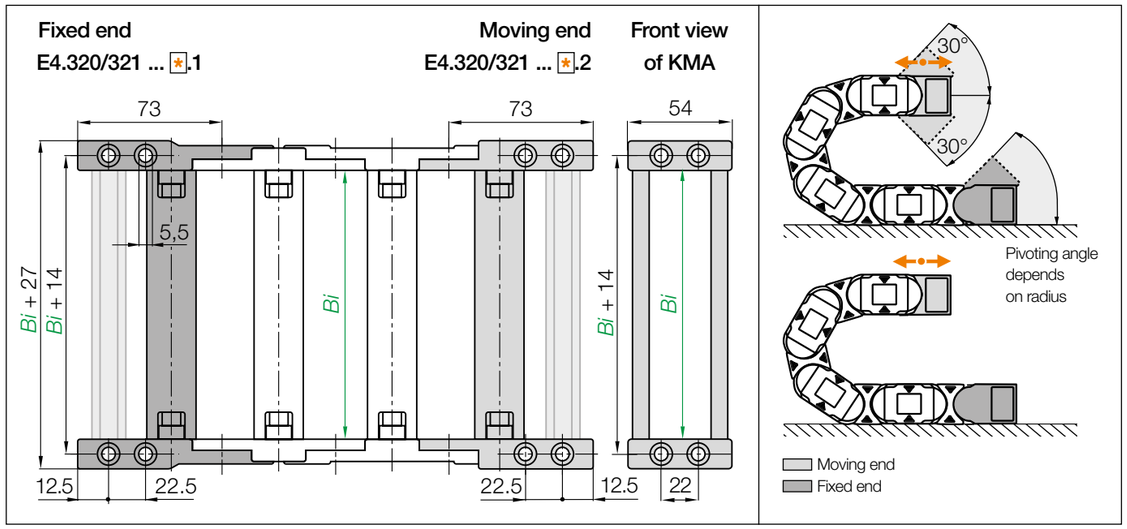
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 7 and 10m we recommend an e-chain® with a longer unsupported length.

R	063*	075*	100*	125	150	175	200	220	250	300
H_2	126	150	166	166	166	166	166	166	166	166
D_2^{+25}	146	158	370	470	500	655	770	900	930	1,100
K_2	310	350	616	784	896	1,120	1,288	1,456	1,568	1,904
ΔCL	–	–	160	210	240	370	460	540	570	690

*Radius not available for e-tubes

E4.1 | e-chains® E4.32·H4.32 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

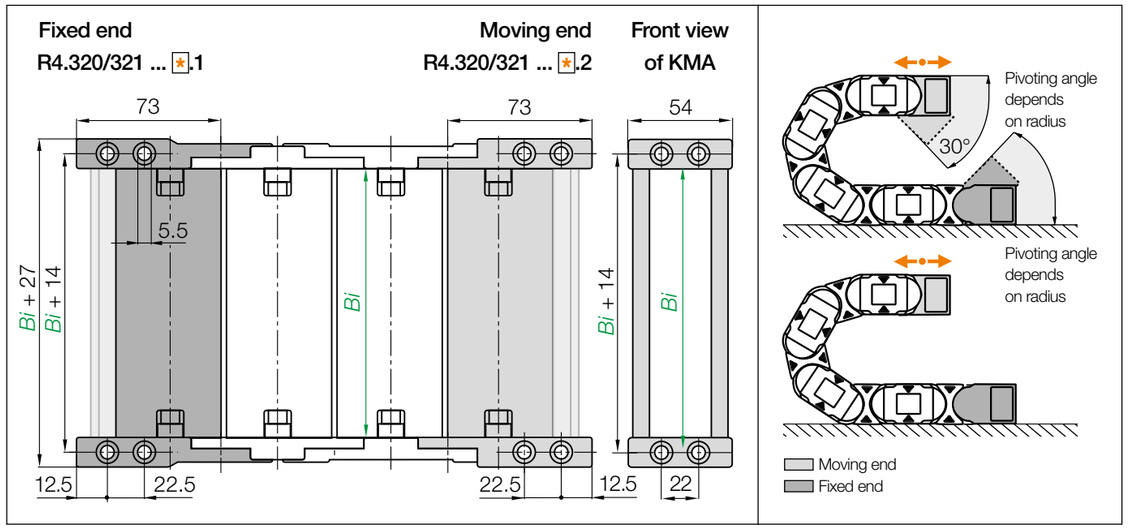
Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
05. ▶	E4.320.05 .*.12.C	E4.321.05 .*.12.C	50
06. ▶	E4.320.06 .*.12.C	E4.321.06 .*.12.C	68
07. ▶	E4.320.07 .*.12.C	E4.321.07 .*.12.C	75
087. ▶	E4.320.087.*.12.C	E4.321.087.*.12.C	87
09. ▶	E4.320.097.*.12.C	E4.321.097.*.12.C	97
10. ▶	E4.320.10 .*.12.C	E4.321.10 .*.12.C	100
11. ▶	E4.320.11 .*.12.C	E4.321.11 .*.12.C	108
112. ▶	E4.320.112.*.12.C	E4.321.112.*.12.C	112
12. ▶	E4.320.12 .*.12.C	E4.321.12 .*.12.C	125
137. ▶	E4.320.137.*.12.C	E4.321.137.*.12.C	137
15. ▶	E4.320.15 .*.12.C	E4.321.15 .*.12.C	150
162. ▶	E4.320.162.*.12.C	E4.321.162.*.12.C	162
17. ▶	E4.320.17 .*.12.C	E4.321.17 .*.12.C	168
18. ▶	E4.320.18 .*.12.C	E4.321.18 .*.12.C	175
187. ▶	E4.320.187.*.12.C	E4.321.187.*.12.C	187
20. ▶	E4.320.20 .*.12.C	E4.321.20 .*.12.C	200

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
212. ▶	E4.320.212.*.12.C	E4.321.212.*.12.C	212
23. ▶	E4.320.23 .*.12.C	E4.321.23 .*.12.C	225
237. ▶	E4.320.237.*.12.C	E4.321.237.*.12.C	237
25. ▶	E4.320.25 .*.12.C	E4.321.25 .*.12.C	250
262. ▶	E4.320.262.*.12.C	E4.321.262.*.12.C	262
28. ▶	E4.320.28 .*.12.C	E4.321.28 .*.12.C	275
29. ▶	E4.320.29 .*.12.C	E4.321.29 .*.12.C	287
30. ▶	E4.320.30 .*.12.C	E4.321.30 .*.12.C	300
312. ▶	E4.320.312.*.12.C	E4.321.312.*.12.C	312
325. ▶	E4.320.325.*.12.C	E4.321.325.*.12.C	325
337. ▶	E4.320.337.*.12.C	E4.321.337.*.12.C	337
350. ▶	E4.320.350.*.12.C	E4.321.350.*.12.C	350
362. ▶	E4.320.362.*.12.C	E4.321.362.*.12.C	362
375. ▶	E4.320.375.*.12.C	E4.321.375.*.12.C	375
387. ▶	E4.320.387.*.12.C	E4.321.387.*.12.C	387
400. ▶	E4.320.400.*.12.C	E4.321.400.*.12.C	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4.1 | e-tubes R4.32 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



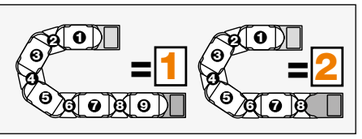
KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
05. ▶	R4.320.05 .*.12.C	R4.321.05 .*.12.C	50
07. ▶	R4.320.07 .*.12.C	R4.321.07 .*.12.C	75
10. ▶	R4.320.10 .*.12.C	R4.321.10 .*.12.C	100
11. ▶	R4.320.11 .*.12.C	R4.321.11 .*.12.C	108
12. ▶	R4.320.12 .*.12.C	R4.321.12 .*.12.C	125

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
15. ▶	R4.320.15 .*.12.C	R4.321.15 .*.12.C	150
17. ▶	R4.320.17 .*.12.C	R4.321.17 .*.12.C	168
20. ▶	R4.320.20 .*.12.C	R4.321.20 .*.12.C	200
25. ▶	R4.320.25 .*.12.C	R4.321.25 .*.12.C	250
30. ▶	R4.320.30 .*.12.C	R4.321.30 .*.12.C	300

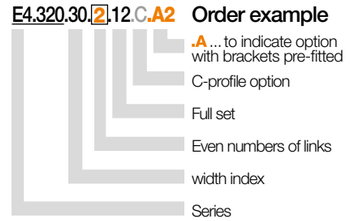
(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

Note *: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

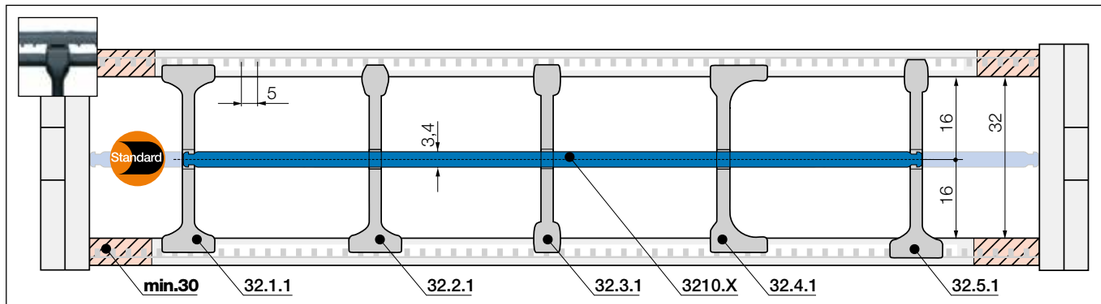


Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E4.1 | Series E4.32·H4.32·R4.32 | Accessories

Interior separation | Increase cable service life

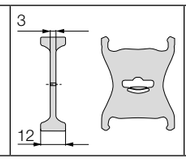
Previous generation of interior separation with other options ▶ **www.igus.eu/E4.32**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 30mm**

As standard separators are fitted every 2nd e-chain® link!



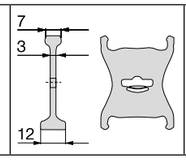


Standard separator, wide base	
unassembled	**32.1**
assembled	**32.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



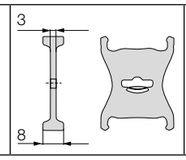


Separator, narrow top	
unassembled	**32.2**
assembled	**32.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



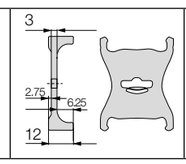


Separator, narrow	
unassembled	**32.3**
assembled	**32.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



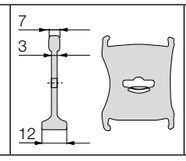


Separator, asymmetrical	
unassembled	**32.4**
assembled	**32.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.



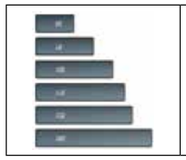


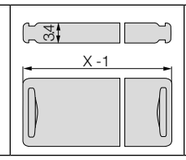
Notch separator* for notched crossbar	
unassembled	**32.5**
assembled	**32.5.1**

Locks securely in preset increments

(*Suitable from *Bi* 75)

Notch separator for exact positioning. Recommended for side-mounted applications.





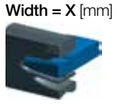
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

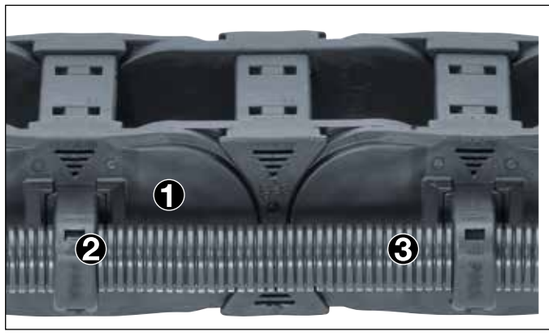
Width = X [mm]



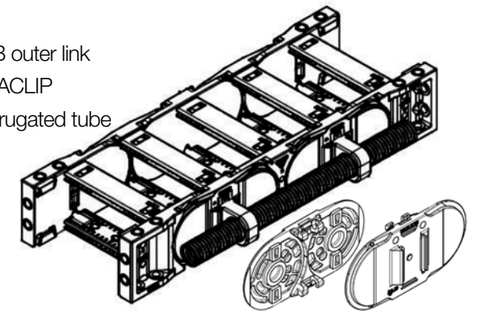
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories

TUB



❶ TUB outer link
❷ PMACLIP
❸ Corrugated tube



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths 07, 10 ,12, 17mm to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

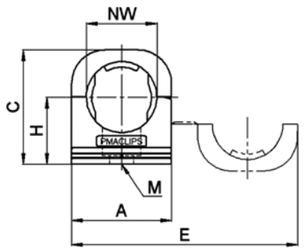
Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.32.XXXTUBR.R.0	**E4.32.XXXTUBL.R.0**	**E4.32.XXXTUB.R.0**	07 / 10 / 12 / 17

*As viewed from the fixed end

Complete Part No. with the width index **XXX** of Bi and the minimum bend radius (***R***). Example:

E4.32.10TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip



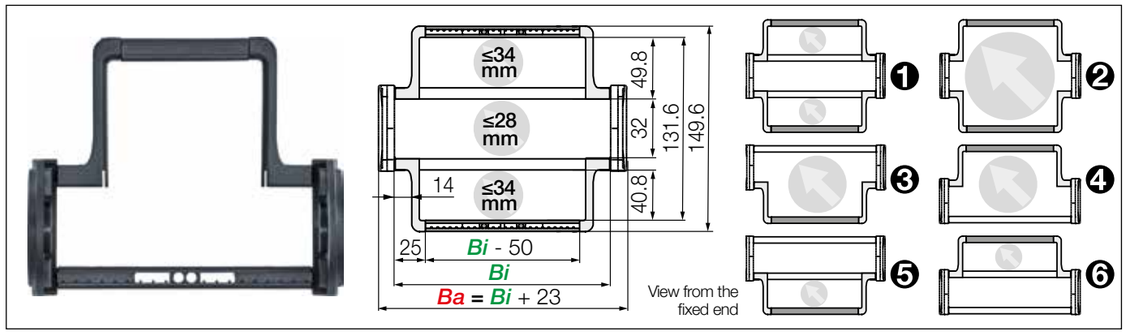


PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part number PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-07-0	07	17.0	20.0	21.5	13.5	40.5	M4
I-BFH-10-0	10	20.5	20.0	24.5	15.5	47.5	M5
I-BFH-12-0	12	24.0	20.0	27.0	16.5	54.5	M5
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories

e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part number crossbars every link	Part number crossbars every 2nd link
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	E4.32.XXXHB50.R.0	–
❷ Extender crossbar on both sides along the inner and outer radius [2]	120	E4.32.XXXB50.R.0	H4.32.XXXB50.R.0 [2]
❸ Extender crossbar along the outer radius [3]	72	E4.32.XXXBE50.R.0	H4.32.XXXBE50.R.0 [2]
❹ Extender crossbar along the inner radius [2]	72	E4.32.XXXBZ50.R.0	H4.32.XXXBZ50.R.0 [2]
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	E4.32.XXXHBE50.R.0	–
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	E4.32.XXXHBZ50.R.0	–

1) Minimum bend radius: R 125 2) Minimum bend radius: R 150 3) Minimum bend radius: R 063

Bi [mm] **Available inner widths**

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 |
| 262 | 275 | 287 | 300 | 312 | 325 | 337 | 350 | 362 | 375 | 387 | 400 |

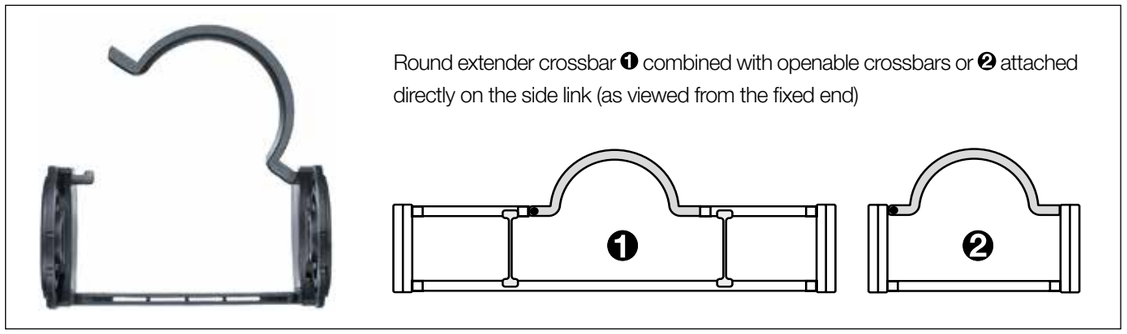
Part number with the width index XXX of the *Bi* and the radius (*R*) supplement e.g. **E4.32.10B50.150.0 = *Bi* 100 / e-chain® with crossbars every link / Extender crossbars from both sides along the inner and outer radius / Bend radius (*R*) 150**



The E4.1 can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories

Extender crossbar with fixed width



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 105mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
385.15RHD115	105	O round	no	yes
385.18RD115	105	O round	yes	no

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.32.10/15RHDE115/10.R.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.32.10/15RHDZ115/10.R.0**

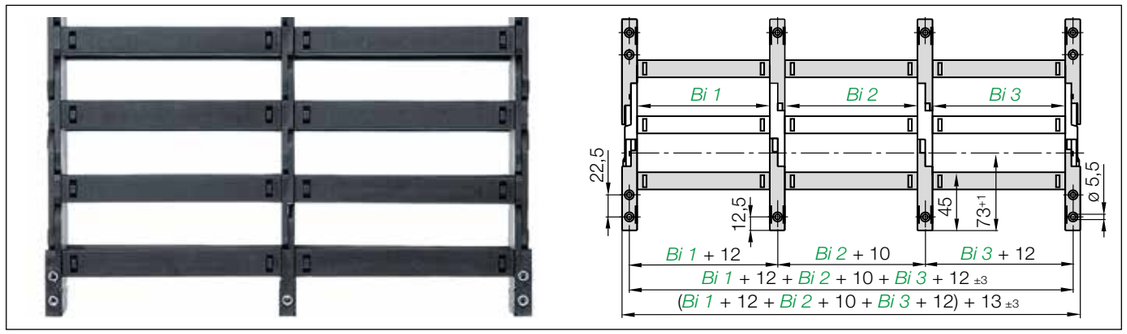
Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.32.18RDE115.R.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.32.18RDZ115.R.0**

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories

Extension links | Hinged crossbars | Swivel clip

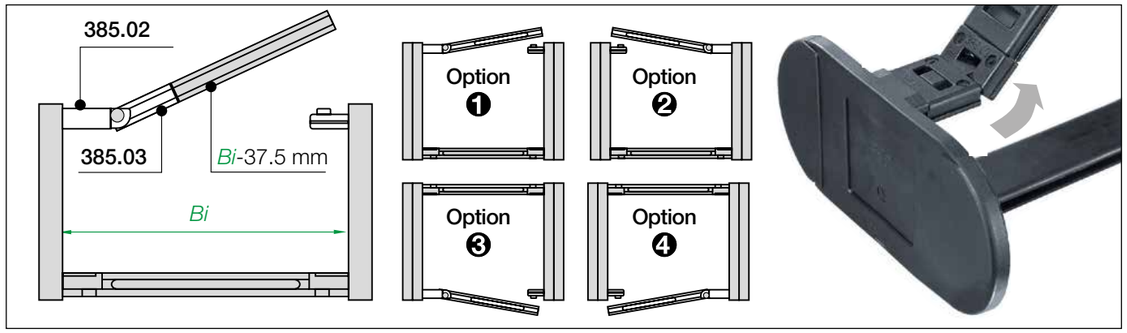


Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part number Extension link e-chain®	Part number Extension link e-tube	Part number Extension link as an individual part
E4.32.*Bi1*/*Bi2*/*Bi3*.*R*.0	R4.32.*Bi1*/*Bi2*/*Bi3*.*R*.0	284.*R*.

Complete Part No.with the width index *Bi1*/*Bi2*/*Bi3*/*etc.* and the radius (*R*). Example: **E4.32.10/20/10.200.0**



Hinged crossbars | Swivel clip | Openable crossbar remains attached to the e-chain®

- When opening crossbars must remain attached to the e-chain®
- Hinged crossbars consist of a swivel clip and a shortened crossbar
- Openable crossbar (shortened): *Bi*-37.5mm (smallest inner width *Bi* = 87.5)
- Please consult igus® for assistance with this product

Part number e-chain® with hinged crossbar	Part number swivel clip as an individual part	Part No. openable crossbar as an individual part
E4.32.*Bi*.Z.*R*.0	385.02	385.03

Complete Part No. with the width index *Bi*, the index **Z** for the required option and the radius (*R*). Example: **E4.32.137.1.200.0**

E4.1 | Series E4.32·H4.32·R4.32 | Further accessories
E4.32
H4.32
R4.32

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-tube
- Open design - dirt and debris fall through

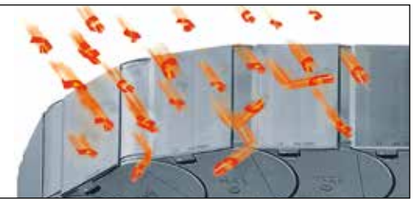
More information ▶ From page 1362



Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



GSC glide pads - longer service life in abrasive environment

- Low-friction and low-wear gliding elements increase the service life of igus® e-chains® in gliding applications
- Easy to retrofit

More information ▶ www.igus.eu/glide-pad



Option: E4Q - the next generation of easy-to-assemble igus® e-chains®

The latest E4Q e-chains® generation combines proven design features of the 12-year old, robust E4.1 e-chains® standard with new bionic design elements and a novel opening mechanism. This gives the E4Q an even longer service life and significantly improved ease of installation.

- Opening and closing without tools
- Greater strength and longer unsupported lengths
- Lighter e-chain® links due to material saving
- Optional noise dampening - new system for noise reduction

More information ▶ From page 580



E4.1 | Series E4.42·H4.42·R4.42 | Product range

42 | 42

Stable due to undercut design, medium inner height



e-chain® | Series E4.42 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains® | Series H4.42 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)
e-tubes | Series R4.42 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.42 [kg/m]	H4.42 [kg/m]	R4.42 [kg/m]
E4.▲ H4. R4.1)42.05. R.0	50	76	≈ 2.10	≈ 2.05	≈ 2.74
E4.▲ H4. R4.1)42.06. R.0	68	94	≈ 2.21	≈ 2.10	–
E4.▲ H4. R4. 42.07. R.0	75	101	≈ 2.24	≈ 2.12	≈ 3.05
E4.▲ H4. R4. 42.087.R.0	87	114	≈ 2.30	≈ 2.15	≈ 3.20
E4. H4. – 42.097.R.0	97	123	≈ 2.35	≈ 2.17	–
E4.▲ H4. R4. 42.10. R.0	100	126	≈ 2.37	≈ 2.18	≈ 3.34
E4. H4. R4. 42.11. R.0	108	134	≈ 2.42	≈ 2.20	≈ 3.39
E4. H4. – 42.112.R.0	112	139	≈ 2.43	≈ 2.21	–
E4. H4. R4. 42.12. R.0	125	151	≈ 2.52	≈ 2.26	≈ 3.58
E4. H4. – 42.137.R.0	137	164	≈ 2.57	≈ 2.28	–
E4.▲ H4. R4. 42.15. R.0	150	176	≈ 2.64	≈ 2.32	≈ 3.87
E4. H4. – 42.162.R.0	162	189	≈ 2.66	≈ 2.33	–
E4. H4. R4. 42.17. R.0	168	194	≈ 2.73	≈ 2.36	≈ 4.10
E4.▲ H4. – 42.18. R.0	175	201	≈ 2.75	≈ 2.37	–
E4. H4. – 42.187.R.0	187	214	≈ 2.79	≈ 2.39	–
E4.▲ H4. R4. 42.20. R.0	200	226	≈ 2.90	≈ 2.44	≈ 4.44
E4. H4. – 42.212.R.0	212	239	≈ 2.94	≈ 2.46	–
E4. H4. – 42.23. R.0	225	251	≈ 3.02	≈ 2.51	–
E4. H4. – 42.237.R.0	237	264	≈ 3.05	≈ 2.52	–
E4. H4. R4. 42.25. R.0	250	276	≈ 3.16	≈ 2.58	≈ 5.44
E4. H4. – 42.262.R.0	262	289	≈ 3.23	≈ 2.61	–
E4. H4. – 42.28. R.0	275	301	≈ 3.29	≈ 2.64	–
E4. H4. – 42.29. R.0	287	314	≈ 3.32	≈ 2.65	–
E4. H4. R4. 42.30. R.0	300	326	≈ 3.42	≈ 2.71	≈ 6.09
E4. H4. – 42.312.R.0	312	339	≈ 3.44	≈ 2.72	–
E4. H4. – 42.325.R.0	325	351	≈ 3.53	≈ 2.76	–
E4. H4. – 42.337.R.0	337	364	≈ 3.58	≈ 2.79	–
E4. H4. – 42.350.R.0	350	376	≈ 3.77	≈ 2.88	–
E4. H4. – 42.362.R.0	362	389	≈ 3.85	≈ 2.92	–
E4. H4. – 42.375.R.0	375	402	≈ 3.91	≈ 2.95	–
E4. H4. – 42.387.R.0	387	414	≈ 3.97	≈ 2.98	–
E4. H4. – 42.400.R.0	400	426	≈ 4.02	≈ 3.01	–

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

◎ All widths of the E4.42 with crossbars every link are available from stock as *RBR* version 100/500 and 160/450. More information ▶ **From page 130**

1) Lid removable, non-openable *Radius not available for e-tubes

Available bend radii

R [mm] | 075* | 100*◎ | 115* | 125 | 150 | 160◎ | 175 | 200 | 250 | 300 | 350 |

Complete Part No. with required radius (*R*). Example:

E4.42.30.300.0 = crossbars every link / H4.42.30.300.0 = crossbars every 2nd link / R4.42.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

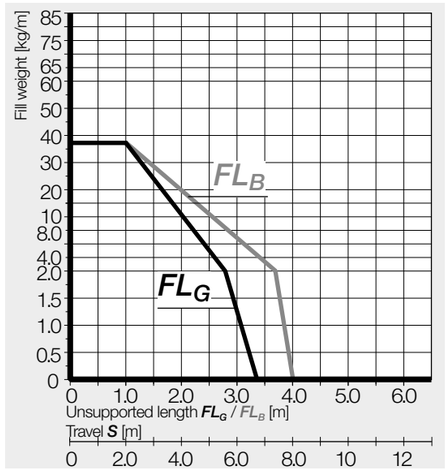
More information and the complete product range ▶ From page 142

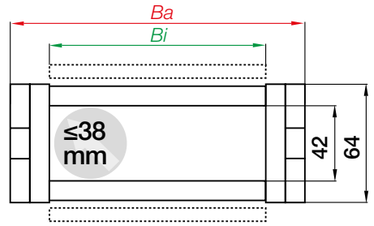


E4.1 | E4.42·H4.42·R4.42 | Installation dimensions

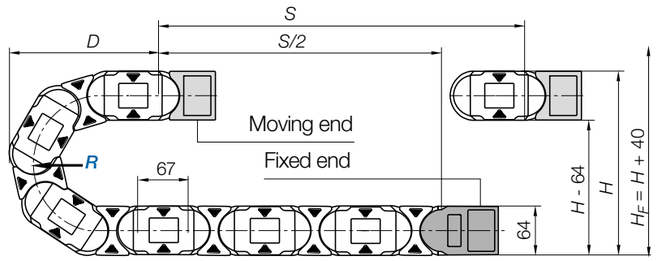
▶ 1392 ▶ 1320

Unsupported applications | Short travels





Inner height [mm]	42
Pitch [mm/link]	67
Links/m	15
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$

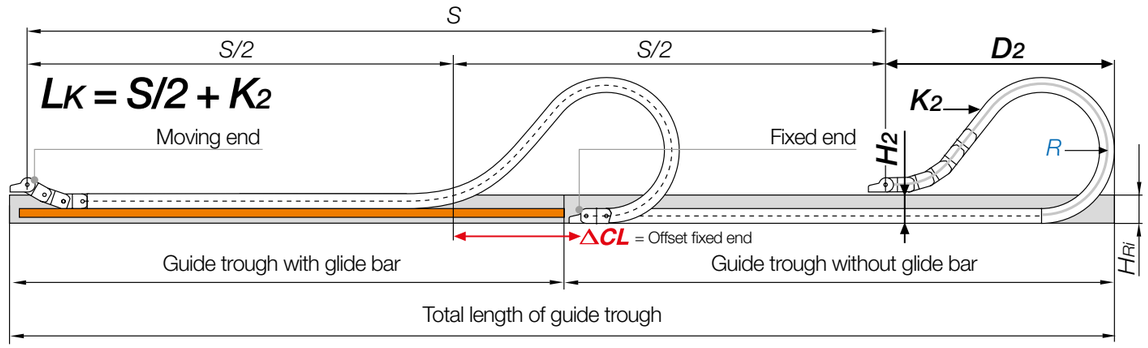


R	075*	100*	115*	125	150	160	175	200	250	300	350
H -0 +25	214	264	294	314	364	384	414	464	564	664	764
D	208	233	248	258	283	293	308	333	383	433	483
K	370	450	500	530	610	640	685	765	920	1,080	1,235

The required clearance height: $H_F = H + 40$mm (with 3.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For travel lengths from 12m to max. 300m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 8 and 12m we recommend an e-chain® with a longer unsupported length.

R	075*	100*	115*	125	150	160	175	200	250	300	350
H_2	150	186	186	186	186	186	186	186	186	186	186
D_2 +25	174	390	435	475	570	623	670	780	1,030	1,150	1,500
K_2	370	603	737	804	938	1,072	1,139	1,340	1,675	1,943	2,412
ΔCL	–	170	200	230	300	380	380	460	660	730	1,030

*Radius not available for e-tubes

Rotating energy supply systems with Reverse Bend Radius *(RBR)* - some radii available from stock

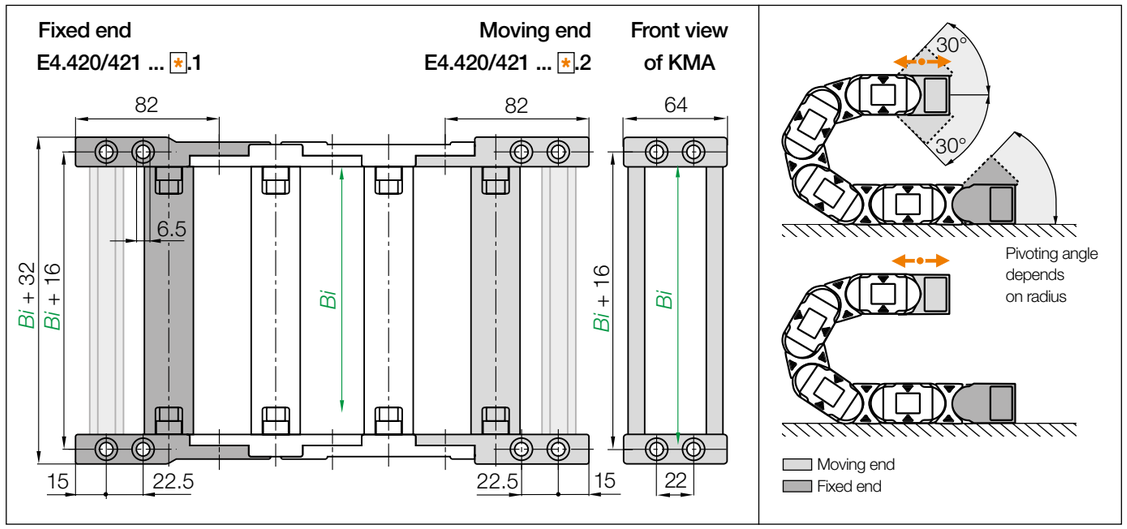
- Maximum rotation angle in minimal installation space
- Minimum displacement forces and maximum service life

More information and the complete product range ▶ From page 130



E4.1 | e-chains® E4.42·H4.42 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

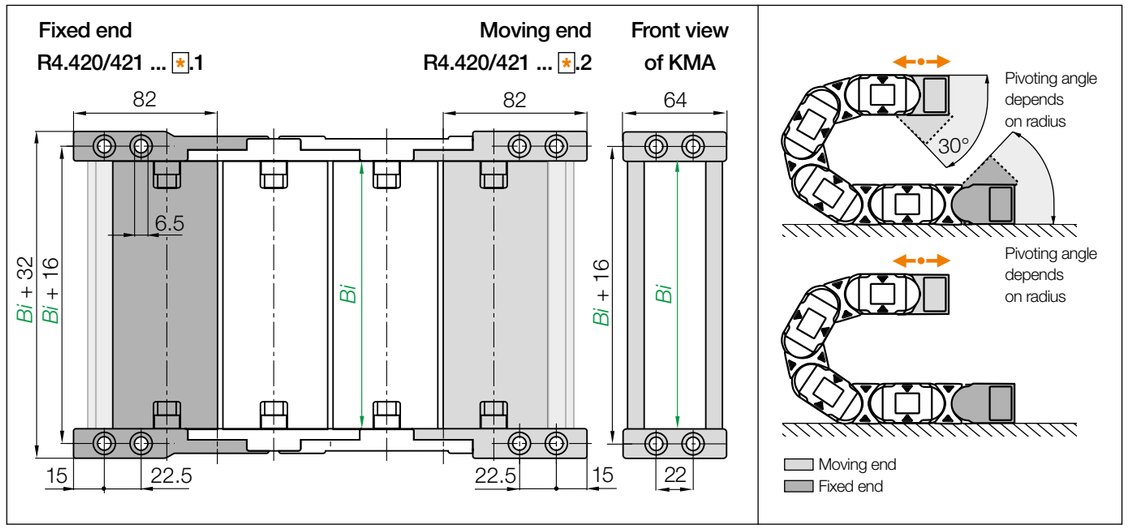
Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
05. ▶	E4.420.05 .*.12.C	E4.421.05 .*.12.C	50
06. ▶	E4.420.06 .*.12.C	E4.421.06 .*.12.C	68
07. ▶	E4.420.07 .*.12.C	E4.421.07 .*.12.C	75
087. ▶	E4.420.087.*.12.C	E4.421.087.*.12.C	87
09. ▶	E4.420.097.*.12.C	E4.421.097.*.12.C	97
10. ▶	E4.420.10 .*.12.C	E4.421.10 .*.12.C	100
11. ▶	E4.420.11 .*.12.C	E4.421.11 .*.12.C	108
112. ▶	E4.420.112.*.12.C	E4.421.112.*.12.C	112
12. ▶	E4.420.12 .*.12.C	E4.421.12 .*.12.C	125
137. ▶	E4.420.137.*.12.C	E4.421.137.*.12.C	137
15. ▶	E4.420.15 .*.12.C	E4.421.15 .*.12.C	150
162. ▶	E4.420.162.*.12.C	E4.421.162.*.12.C	162
17. ▶	E4.420.17 .*.12.C	E4.421.17 .*.12.C	168
18. ▶	E4.420.18 .*.12.C	E4.421.18 .*.12.C	175
187. ▶	E4.420.187.*.12.C	E4.421.187.*.12.C	187
20. ▶	E4.420.20 .*.12.C	E4.421.20 .*.12.C	200

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
212. ▶	E4.420.212.*.12.C	E4.421.212.*.12.C	212
23. ▶	E4.420.23 .*.12.C	E4.421.23 .*.12.C	225
237. ▶	E4.420.237.*.12.C	E4.421.237.*.12.C	237
25. ▶	E4.420.25 .*.12.C	E4.421.25 .*.12.C	250
262. ▶	E4.420.262.*.12.C	E4.421.262.*.12.C	262
28. ▶	E4.420.28 .*.12.C	E4.421.28 .*.12.C	275
29. ▶	E4.420.29 .*.12.C	E4.421.29 .*.12.C	287
30. ▶	E4.420.30 .*.12.C	E4.421.30 .*.12.C	300
312. ▶	E4.420.312.*.12.C	E4.421.312.*.12.C	312
325. ▶	E4.420.325.*.12.C	E4.421.325.*.12.C	325
337. ▶	E4.420.337.*.12.C	E4.421.337.*.12.C	337
350. ▶	E4.420.350.*.12.C	E4.421.350.*.12.C	350
362. ▶	E4.420.362.*.12.C	E4.421.362.*.12.C	362
375. ▶	E4.420.375.*.12.C	E4.421.375.*.12.C	375
387. ▶	E4.420.387.*.12.C	E4.421.387.*.12.C	387
400. ▶	E4.420.400.*.12.C	E4.421.400.*.12.C	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4.1 | e-tubes R4.42 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



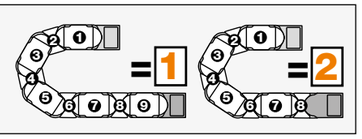
Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
05. ▶	R4.420.05 .*.12.C	R4.421.05 .*.12.C	50
06. ▶	R4.420.06 .*.12.C	R4.421.06 .*.12.C	68
07. ▶	R4.420.07 .*.12.C	R4.421.07 .*.12.C	75
087. ▶	R4.420.087.*.12.C	R4.421.087.*.12.C	087
10. ▶	R4.420.10 .*.12.C	R4.421.10 .*.12.C	100
11. ▶	R4.420.11 .*.12.C	R4.421.11 .*.12.C	108

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
12. ▶	R4.420.12. .*.12.C	R4.421.12 .*.12.C	125
15. ▶	R4.420.15 .*.12.C	R4.421.15 .*.12.C	150
17. ▶	R4.420.17 .*.12.C	R4.421.17 .*.12.C	168
20. ▶	R4.420.20 .*.12.C	R4.421.20 .*.12.C	200
25. ▶	R4.420.25 .*.12.C	R4.421.25 .*.12.C	250
30. ▶	R4.420.30 .*.12.C	R4.421.30 .*.12.C	300

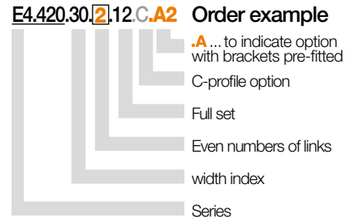
(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

Note *: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

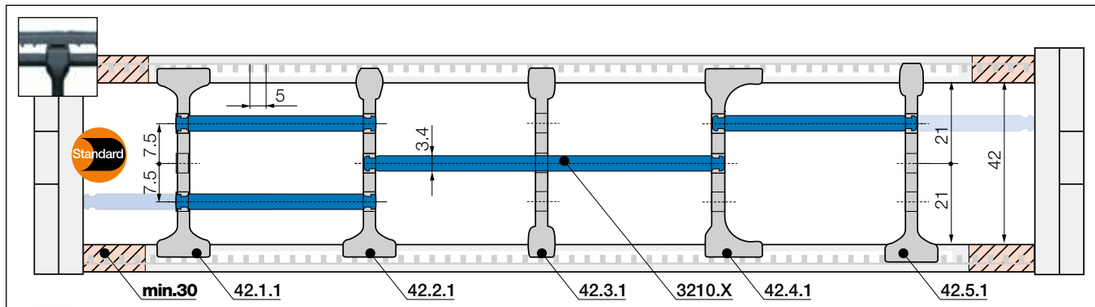


Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E4.1 | Series E4.42·H4.42·R4.42 | Accessories

Interior separation | Increase cable service life

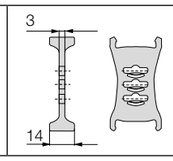
Previous generation of interior separation with other options ▶ **www.igus.eu/E4.42**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 30mm**

As standard separators are fitted every 2nd e-chain® link!



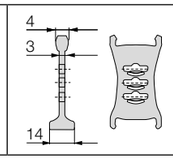


Standard separator, wide base	
unassembled	**42.1**
assembled	**42.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



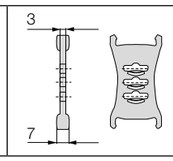


Separator, narrow top	
unassembled	**42.2**
assembled	**42.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



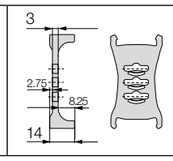


Separator, narrow	
unassembled	**42.3**
assembled	**42.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



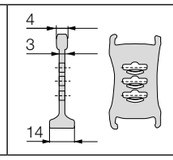


Separator, asymmetrical	
unassembled	**42.4**
assembled	**42.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.



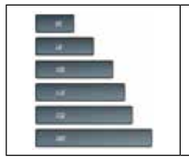


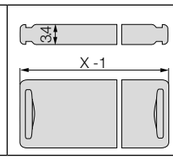
Notch separator* for notched crossbar	
unassembled	**42.5**
assembled	**42.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.

(*Suitable from *Bi* 75)





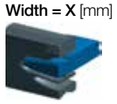
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

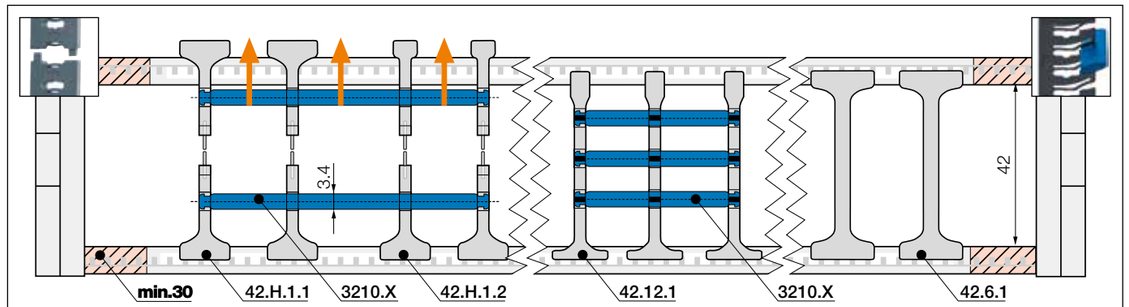


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4.42
H4.42
R4.42

E4.1 | Series E4.42·H4.42·R4.42 | Accessories

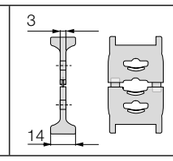
Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 30mm**

As standard separators are fitted every 2nd e-chain® link!

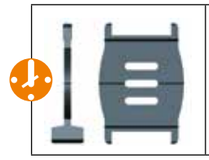


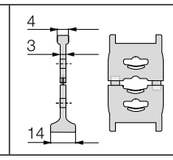


Split separator, wide base/top	
unassembled	**42.H.1**
assembled	**42.H.1.1**

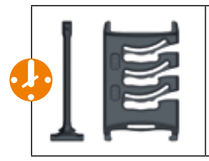
Split separators

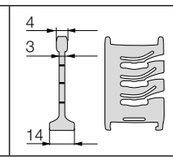
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**42.H.2**
assembled	**42.H.2.1**





Lean separator[1)]	
unassembled	**42.12**
assembled	**42.12.1**

Lean separators[1)]

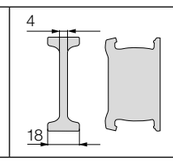
For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



More interior separation options | Only for e-chains®





Notch locking separator, lockable for e-chains®	
unassembled	**42.6**
assembled	**42.6.1**

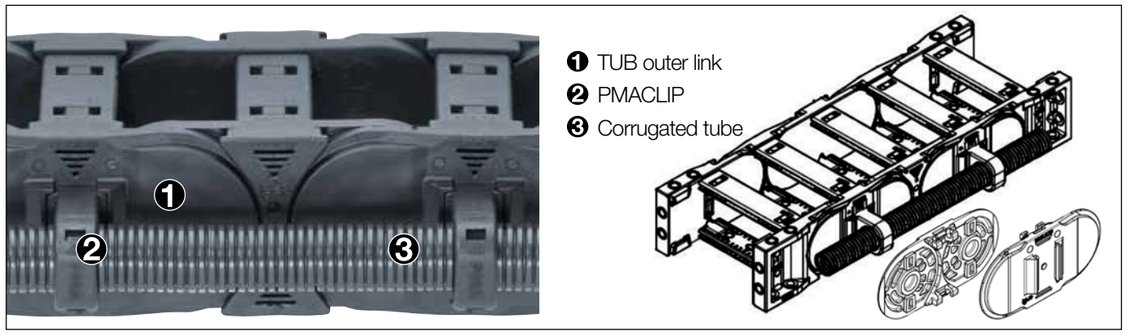
Notch locking separator* for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

*Only suitable for e-chains®

E4.1 | Series E4.42·H4.42·R4.42 | Further accessories

TUB



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

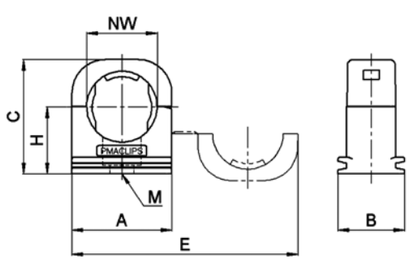
- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP allows corrugated tubes with nominal widths 07, 10 ,12, 17mm to be easily clipped on
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.42.XXXTUBR.*R*.0	E4.42.XXXTUBL.*R*.0	E4.42.XXXTUB.*R*.0	07 / 10 / 12 / 17

*As viewed from the fixed end

Part number appended with width index XXX of *Bi and radius (R)* e.g.
E4.42.10TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip



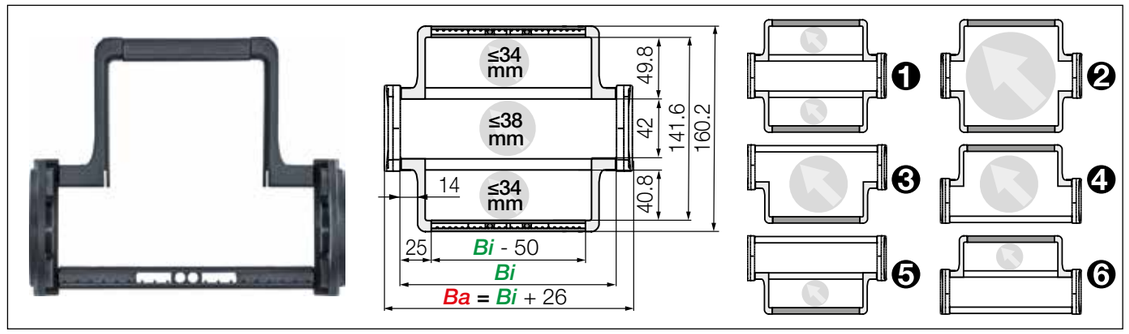


PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part number PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-07-0	07	17.0	20.0	21.5	13.5	40.5	M4
I-BFH-10-0	10	20.5	20.0	24.5	15.5	47.5	M5
I-BFH-12-0	12	24.0	20.0	27.0	16.5	54.5	M5
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6

E4.1 | Series E4.42·H4.42·R4.42 | Further accessories

e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part number crossbars every link	Part number crossbars every 2nd link
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	E4.42.XXXHB50.*R*.0	–
❷ Extender crossbar on both sides along the inner and outer radius [2]	130	E4.42.XXXB50.*R*.0	H4.42.XXXB50.*R*.0 [2]
❸ Extender crossbar along the outer radius [3]	85	E4.42.XXXBE50.*R*.0	H4.42.XXXBE50.*R*.0 [2]
❹ Extender crossbar along the inner radius [2]	85	E4.42.XXXBZ50.*R*.0	H4.42.XXXBZ50.*R*.0 [2]
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	E4.42.XXXHBE50.*R*.0	–
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	E4.42.XXXHBZ50.*R*.0	–

1) Minimum bend radius: *R* 125 2) Minimum bend radius: *R* 150 3) Minimum bend radius: *R* 075

Bi [mm] **Available inner widths**
| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 |
| 262 | 275 | 287 | 300 | 312 | 325 | 337 | 350 | 362 | 375 | 387 | 400 |

Part number with the width index XXX of the *Bi* and the radius (*R*) supplement e.g. **E4.42.10B50.150.0 = *Bi* 100 / e-chain® with crossbars every link / Extender crossbars from both sides along the inner and outer radius / Bend radius (*R*) 150**



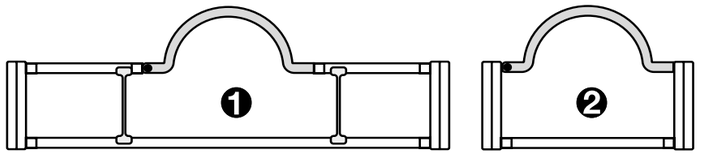
The E4.1 can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

E4.1 | Series E4.42·H4.42·R4.42 | Further accessories

Extender crossbar with fixed width



Round extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 105mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
385.15RHD115	105	○ round	no	yes
385.18RD115	105	○ round	yes	no

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.42.10/15RHDE115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.42.10/15RHDZ115/10.*R*.0**

Order example: ❷ fitted to side link

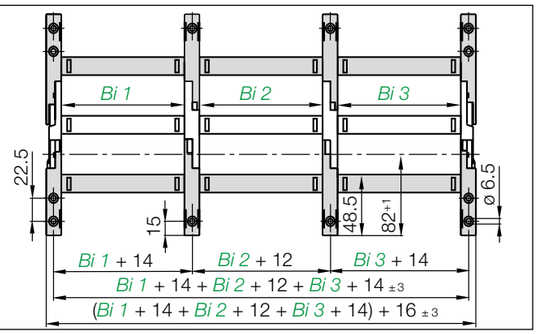
To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.42.18RDE115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.42.18RDZ115.*R*.0**

E4.1 | Series E4.42·H4.42·R4.42 | Further accessories

Extension links | Hinged crossbars | Swivel clip



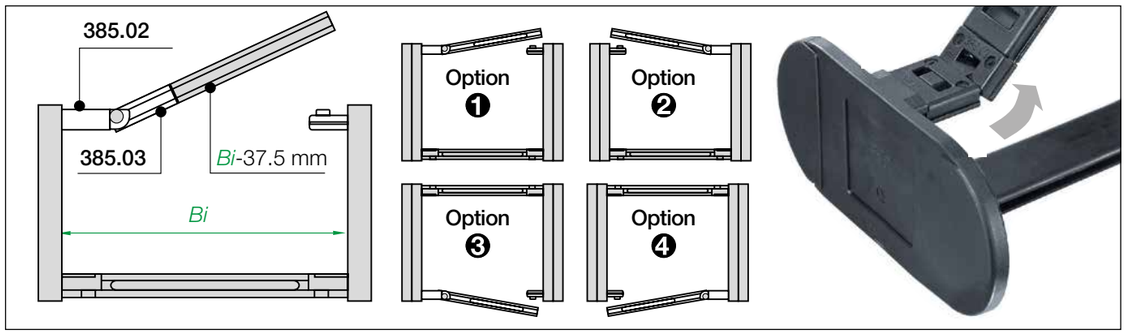


Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part number Extension link e-chain®	Part number Extension link e-tube	Part number Extension link as an individual part
E4.42.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R4.42.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**384.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **E4.42.10/20/10.200.0**



Hinged crossbars | Swivel clip | Openable crossbar remains attached to the e-chain®

- When opening crossbars must remain attached to the e-chain®
- Hinged crossbars consist of a swivel clip and a shortened crossbar
- Openable crossbar (shortened): ***Bi***-37.5mm (smallest inner width ***Bi*** = 87.5)
- Please consult igus® for assistance with this product

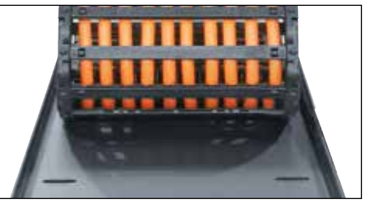
Part number e-chain® with hinged crossbar	Part number swivel clip as an individual part	Part No. openable crossbar as an individual part
E4.42.*Bi*.Z.*R*.0	**385.02**	**385.03**

Complete Part No. with the width index ***Bi***, the index **Z** for the required option and the radius (***R***). Example: **E4.42.137.1.200.0**

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

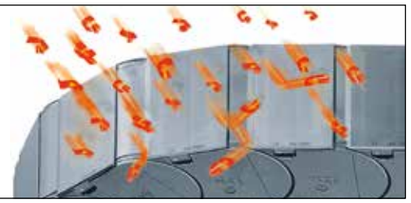
More information ▶ From page 1356



Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



CFU strain relief with innovative honeycomb design

- Fast filling, openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Universal use, compact, space-saving design

More information ▶ Page 1426

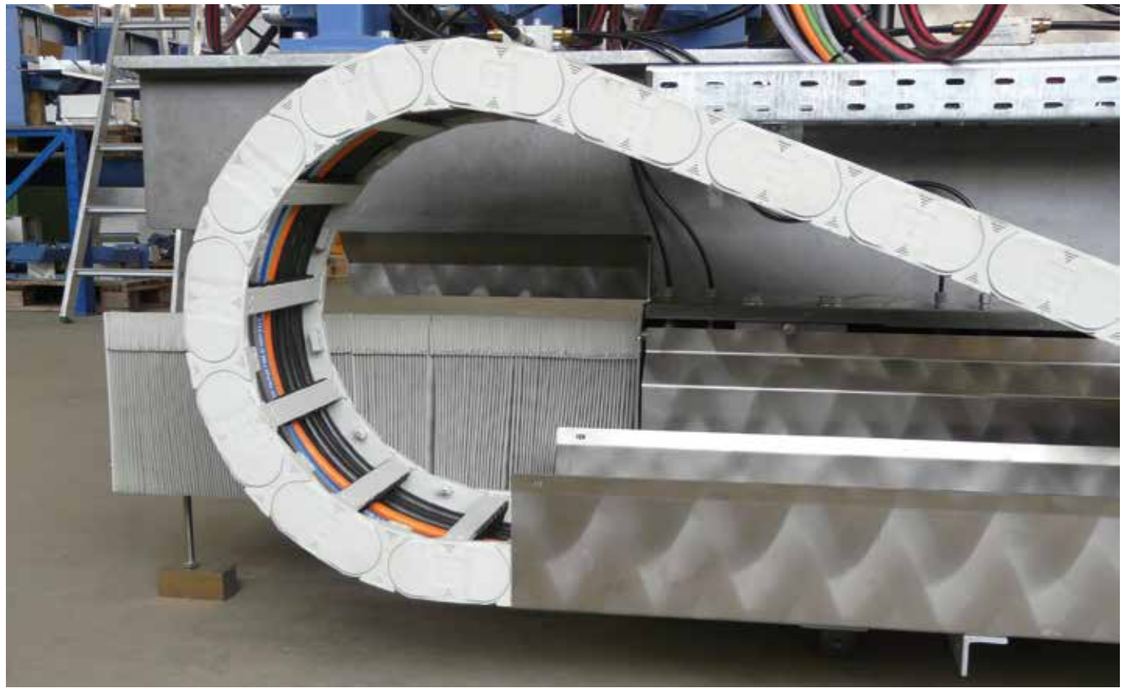


GSC glide pads - longer service life in abrasive environment

- Low-friction and low-wear gliding elements increase the service life of igus® e-chains® in gliding applications
- Easy to retrofit

More information ▶ www.igus.eu/glide-pad





igus® e-chains® can even withstand the difficult conditions in stone processing facilities. The task of this e-chain® is to supply the tool carriage with energy (up to 100A), signals, compressed air and water. It can travel a distance of up to twelve metres and, when being retracted, achieves speeds of up to 32m/min.

Option: E4Q - the next generation of easy-to-assemble igus® e-chains®

The latest E4Q e-chains® generation combines proven design features of the 12-year old, robust E4.1 e-chains® standard with new bionic design elements and a novel opening mechanism. This gives the E4Q an even longer service life and significantly improved ease of installation.

- Opening and closing without tools
- Greater strength and longer unsupported lengths
- Lighter e-chain® links due to material saving
- Optional noise dampening - new system for noise reduction

More information ▶ From page 580



E4.1 | Series E4.56·H4.56·R4.56 | Product range

56 56

Stable due to undercut design, large inner height



e-chains®| Series E4.56 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains®| Series H4.32 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)
e-tubes | Series R4.56 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.56 [kg/m]	H4.56 [kg/m]	R4.56 [kg/m]
E4. H4. – 56.05. R.0	50	84	≈ 3.60	≈ 3.59	–
E4. H4. – 56.055. R.0	55	89	≈ 3.65	≈ 3.62	–
E4. H4. – 56.06. R.0	65	99	≈ 3.69	≈ 3.63	–
E4.▲ H4. R4.1) 56.07. R.0	75	109	≈ 3.76	≈ 3.67	≈ 4.31
E4. H4. – 56.08. R.0	87	121	≈ 3.85	≈ 3.71	–
E4. H4. R4. 56.10. R.0	100	134	≈ 3.93	≈ 3.75	≈ 4.65
E4. H4. – 56.11. R.0	112	147	≈ 4.05	≈ 3.81	–
E4.▲ H4. R4. 56.12. R.0	125	159	≈ 4.13	≈ 3.85	≈ 5.01
E4. H4. – 56.13. R.0	137	172	≈ 4.26	≈ 3.92	–
E4.▲ H4. R4. 56.15. R.0	150	184	≈ 4.28	≈ 3.93	≈ 5.36
E4. H4. – 56.16. R.0	162	197	≈ 4.41	≈ 3.99	–
E4. H4. – 56.169. R.0	169	204	≈ 4.49	≈ 4.03	–
E4. H4. R4. 56.17. R.0	175	209	≈ 4.55	≈ 4.06	≈ 5.73
E4. H4. – 56.182. R.0	182	217	≈ 4.59	≈ 4.08	–
E4. H4. – 56.18. R.0	187	222	≈ 4.66	≈ 4.12	–
E4.▲ H4. R4. 56.20. R.0	200	234	≈ 4.71	≈ 4.14	≈ 5.96
E4. H4. – 56.207. R.0	207	242	≈ 4.77	≈ 4.17	–
E4. H4. – 56.21. R.0	212	247	≈ 4.78	≈ 4.18	–
E4. H4. – 56.22. R.0	225	259	≈ 4.85	≈ 4.21	–
E4. H4. – 56.23. R.0	237	272	≈ 4.96	≈ 4.27	–
E4.▲ H4. R4. 56.25. R.0	250	284	≈ 5.07	≈ 4.32	≈ 6.64
E4. H4. – 56.26. R.0	262	297	≈ 5.16	≈ 4.37	–
E4. H4. R4. 56.27. R.0	275	309	≈ 5.27	≈ 4.42	≈ 6.97
E4. H4. – 56.28. R.0	287	322	≈ 5.32	≈ 4.45	–
E4.▲ H4. R4. 56.30. R.0	300	334	≈ 5.48	≈ 4.53	≈ 7.31
E4. H4. – 56.31. R.0	312	347	≈ 5.51	≈ 4.54	–
E4. H4. – 56.32. R.0	325	359	≈ 5.62	≈ 4.60	–
E4. H4. – 56.33. R.0	337	372	≈ 5.74	≈ 4.66	–
E4. H4. R4. 56.35. R.0	350	384	≈ 5.88	≈ 4.73	≈ 8.00
E4. H4. – 56.36. R.0	362	397	≈ 5.90	≈ 4.74	–
E4. H4. – 56.37. R.0	375	409	≈ 6.02	≈ 4.79	–
E4. H4. – 56.38. R.0	387	422	≈ 6.06	≈ 4.82	–
E4. H4. R4. 56.40. R.0	400	434	≈ 6.01	≈ 4.79	≈ 8.68
E4. H4. – 56.41. R.0	412	447	≈ 6.25	≈ 4.91	–
E4. H4. – 56.42. R.0	425	459	≈ 6.37	≈ 4.97	–
E4. H4. – 56.43. R.0	437	472	≈ 6.46	≈ 5.01	–
E4. H4. – 56.45. R.0	450	484	≈ 6.65	≈ 5.11	–
E4. H4. R4. 56.46. R.0	462	497	≈ 6.70	≈ 5.14	≈ 9.52
E4. H4. – 56.47. R.0	475	509	≈ 6.73	≈ 5.15	–
E4. H4. – 56.48. R.0	487	522	≈ 6.80	≈ 5.19	–
E4. H4. – 56.50. R.0	500	534	≈ 6.96	≈ 5.26	–
E4. H4. – 56.51. R.0	512	547	≈ 7.01	≈ 5.29	–
E4. H4. – 56.52. R.0	525	559	≈ 7.14	≈ 5.36	–
E4. H4. – 56.53. R.0	537	572	≈ 7.23	≈ 5.40	–
E4. H4. – 56.55. R.0	550	584	≈ 7.65	≈ 5.61	–
E4. H4. – 56.60. R.0	600	634	≈ 7.38	≈ 5.48	–

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

1) Lid removable, non-openable *Radius not available for e-tubes

Available bend radii

R [mm] | 135* | 150 | 175 | 200 | 240 | 250 | 300 | 350 | 400 | 450 | 500 |

Complete Part No. with required radius (*R*). Example:

E4.56.30.300.0 = crossbars every link / H4.56.30.300.0 = crossbars every 2nd link / R4.56.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

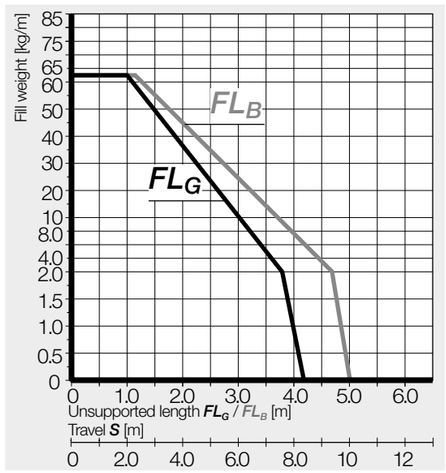
More information and the complete product range ▶ From page 142

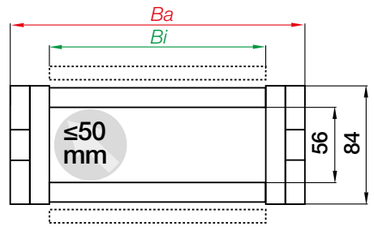


E4.1 | E4.56·H4.56·R4.56 | Installation dimensions

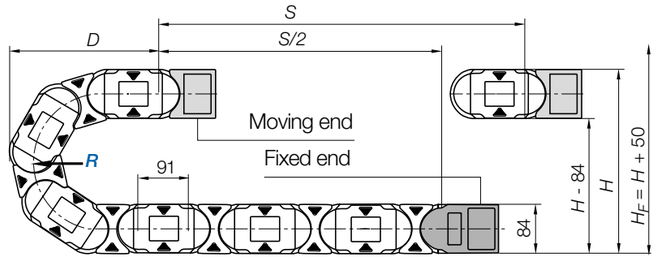
▶ 1392 ▶ 1322

Unsupported applications | Short travels





Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$

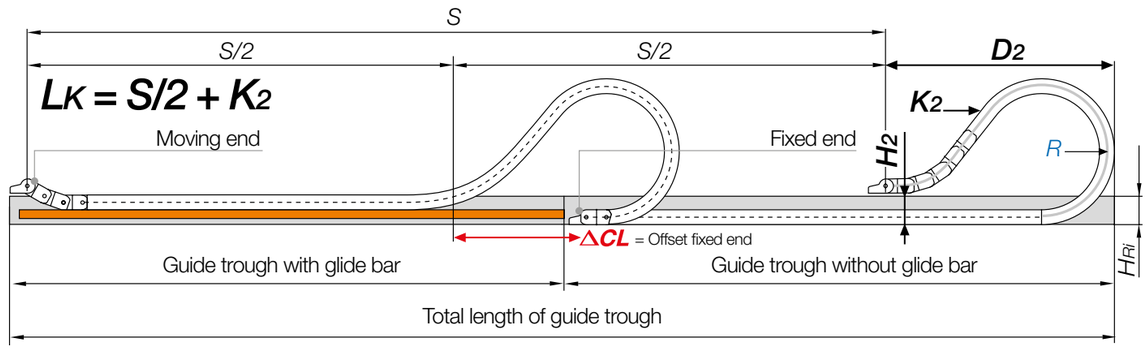


R	135*	150	175	200	240	250	300	350	400	450	500
H $^{-0}_{+25}$	354	384	434	484	564	584	684	784	884	984	1,084
D	314	329	354	379	419	429	479	529	579	629	679
K	610	655	735	815	940	970	1,125	1,285	1,440	1,600	1.755

The required clearance height: $H_F = H + 50$mm (with 3.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For travel lengths from 12m to max. 400m



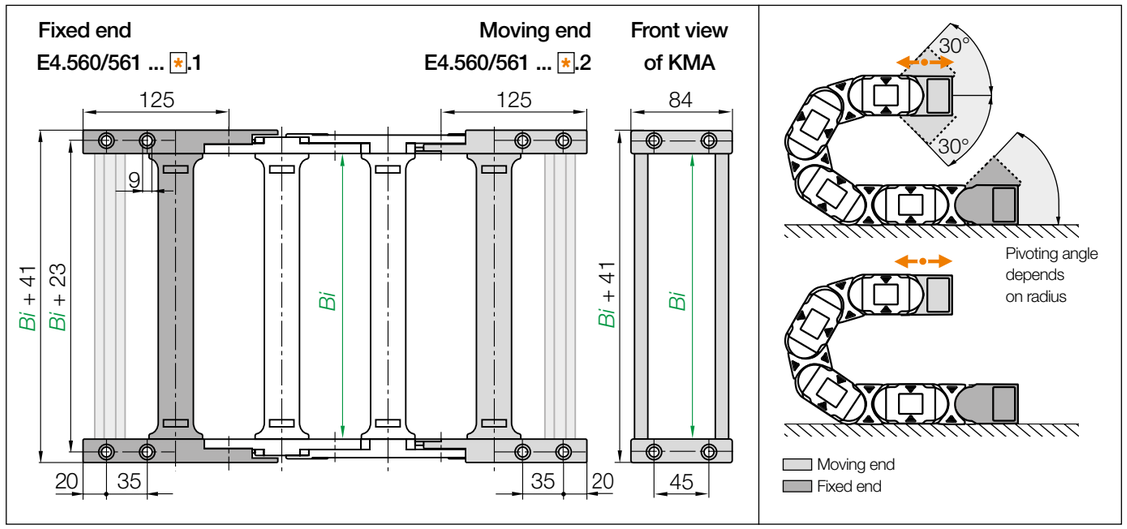
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 10 and 12m we recommend an e-chain® with a longer unsupported length.

R	135*	150	175	200	240	250	300	350	400	450	500
H_2	270	266	266	266	266	266	266	266	266	266	266
D_2^{+25}	268	450	580	710	900	980	1,180	1,440	1,530	1,700	1,850
K_2	610	819	1,092	1,274	1,547	1,638	2,002	2,275	2,548	2,912	3,276
ΔCL	–	159	259	359	509	559	709	909	959	1,059	1,159

*Radius not available for e-tubes

E4.1 | e-chains® E4.56·H4.56 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

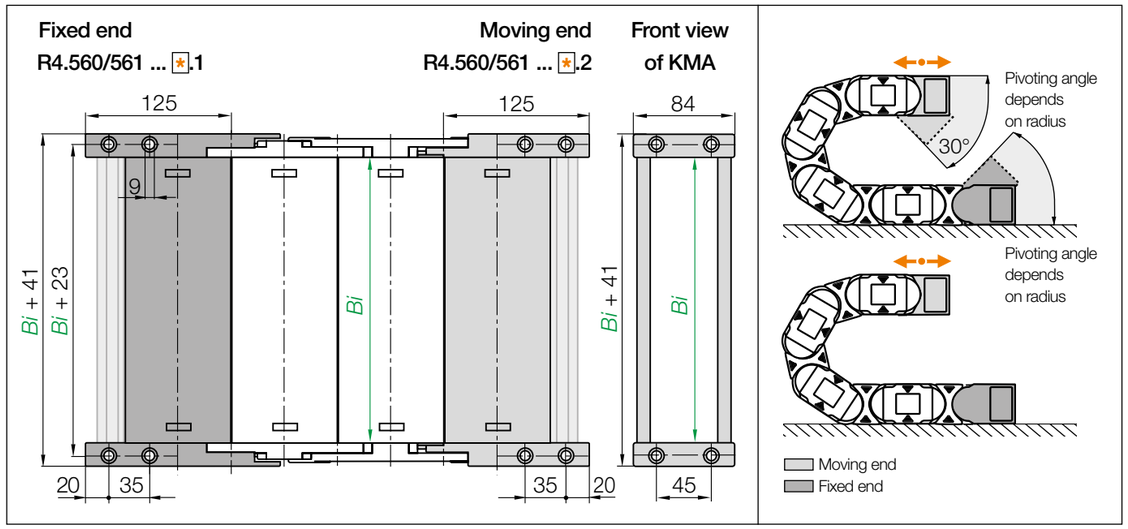
Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
05. ▶	E4.560.05 .*.12.C	E4.561.05 .*.12.C	50
055. ▶	E4.560.055.*.12.C	E4.561.055.*.12.C	55
06. ▶	E4.560.06 .*.12.C	E4.561.06 .*.12.C	65
07. ▶	E4.560.07 .*.12.C	E4.561.07 .*.12.C	75
08. ▶	E4.560.08 .*.12.C	E4.561.08 .*.12.C	87
10. ▶	E4.560.10 .*.12.C	E4.561.10 .*.12.C	100
11. ▶	E4.560.11 .*.12.C	E4.561.11 .*.12.C	112
12. ▶	E4.560.12 .*.12.C	E4.561.12 .*.12.C	125
13. ▶	E4.560.13 .*.12.C	E4.561.13 .*.12.C	137
15. ▶	E4.560.15 .*.12.C	E4.561.15 .*.12.C	150
16. ▶	E4.560.16 .*.12.C	E4.561.16 .*.12.C	162
169. ▶	E4.560.169.*.12.C	E4.561.169.*.12.C	169
17. ▶	E4.560.17 .*.12.C	E4.561.17 .*.12.C	175
182. ▶	E4.560.182.*.12.C	E4.561.182.*.12.C	182
18. ▶	E4.560.18 .*.12.C	E4.561.18 .*.12.C	187
20. ▶	E4.560.20 .*.12.C	E4.561.20 .*.12.C	200
207. ▶	E4.560.207.*.12.C	E4.561.207.*.12.C	207
21. ▶	E4.560.21 .*.12.C	E4.561.21 .*.12.C	212
22. ▶	E4.560.22 .*.12.C	E4.561.22 .*.12.C	225
23. ▶	E4.560.23 .*.12.C	E4.561.23 .*.12.C	237
25. ▶	E4.560.25 .*.12.C	E4.561.25 .*.12.C	250
26. ▶	E4.560.26 .*.12.C	E4.561.26 .*.12.C	262
27. ▶	E4.560.27 .*.12.C	E4.561.27 .*.12.C	275

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
28. ▶	E4.560.28 .*.12.C	E4.561.28 .*.12.C	287
30. ▶	E4.560.30 .*.12.C	E4.561.30 .*.12.C	300
31. ▶	E4.560.31 .*.12.C	E4.561.31 .*.12.C	312
32. ▶	E4.560.32 .*.12.C	E4.561.32 .*.12.C	325
33. ▶	E4.560.33 .*.12.C	E4.561.33 .*.12.C	337
35. ▶	E4.560.35 .*.12.C	E4.561.35 .*.12.C	350
36. ▶	E4.560.36 .*.12.C	E4.561.36 .*.12.C	362
37. ▶	E4.560.37 .*.12.C	E4.561.37 .*.12.C	375
38. ▶	E4.560.38 .*.12.C	E4.561.38 .*.12.C	387
40. ▶	E4.560.40 .*.12.C	E4.561.40 .*.12.C	400
41. ▶	E4.560.41 .*.12.C	E4.561.41 .*.12.C	412
42. ▶	E4.560.42 .*.12.C	E4.561.42 .*.12.C	425
43. ▶	E4.560.43 .*.12.C	E4.561.43 .*.12.C	437
45. ▶	E4.560.45 .*.12.C	E4.561.45 .*.12.C	450
46. ▶	E4.560.46 .*.12.C	E4.561.46 .*.12.C	462
47. ▶	E4.560.47 .*.12.C	E4.561.47 .*.12.C	475
48. ▶	E4.560.48 .*.12.C	E4.561.48 .*.12.C	487
50. ▶	E4.560.50 .*.12.C	E4.561.50 .*.12.C	500
51. ▶	E4.560.51 .*.12.C	E4.561.51 .*.12.C	512
52. ▶	E4.560.52 .*.12.C	E4.561.52 .*.12.C	525
53. ▶	E4.560.53 .*.12.C	E4.561.53 .*.12.C	537
55. ▶	E4.560.55 .*.12.C	E4.561.55 .*.12.C	550
60. ▶	E4.560.60 .*.12.C	E4.561.60 .*.12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4.1 | e-tubes R4.56 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



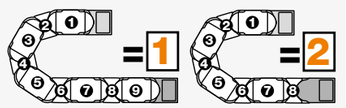
Standard KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
07. ▶	R4.560.07 .*.12.C	R4.561.07 .*.12.C	75
10. ▶	R4.560.10 .*.12.C	R4.561.10 .*.12.C	100
12. ▶	R4.560.12 .*.12.C	R4.561.12 .*.12.C	112
15. ▶	R4.560.15 .*.12.C	R4.561.15 .*.12.C	150
17. ▶	R4.560.17 .*.12.C	R4.561.17 .*.12.C	175
20. ▶	R4.560.20 .*.12.C	R4.561.20 .*.12.C	200

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
25. ▶	R4.560.25 .*.12.C	R4.561.25 .*.12.C	250
27. ▶	R4.560.27 .*.12.C	R4.561.27 .*.12.C	275
30. ▶	R4.560.30 .*.12.C	R4.561.30 .*.12.C	300
35. ▶	R4.560.35 .*.12.C	R4.561.35 .*.12.C	350
40. ▶	R4.560.40 .*.12.C	R4.561.40 .*.12.C	400
46. ▶	R4.560.46 .*.12.C	R4.561.46 .*.12.C	462

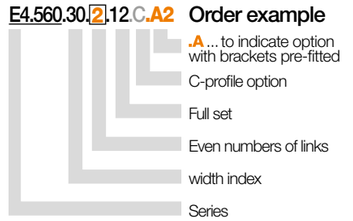
(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

Note *: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

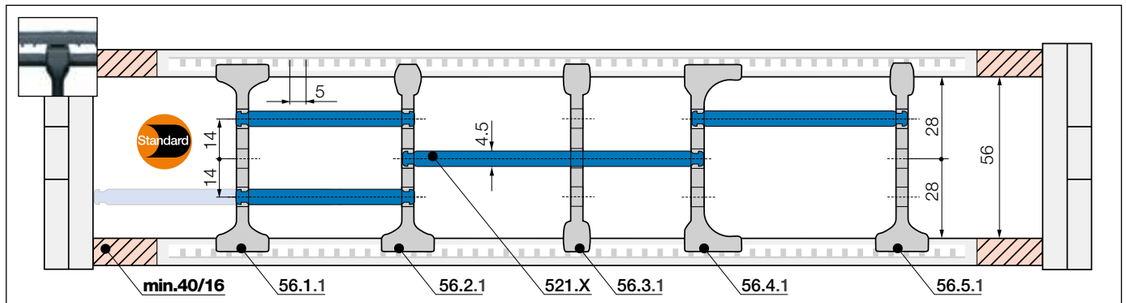


Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E4.1 | Series E4.56·H4.56·R4.56 | Accessories

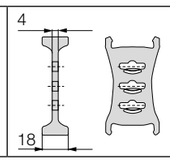
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E4.56**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube:**40mm|**e-chain®:16mm**
As standard separators are fitted every 2nd e-chain® link!



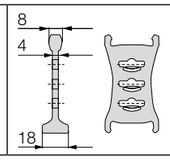


Standard separator, wide base	
unassembled	**56.1**
assembled	**56.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



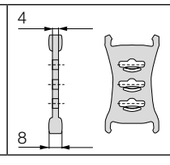


Separator, narrow top	
unassembled	**56.2**
assembled	**56.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



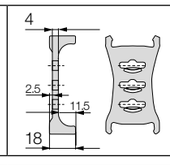


Separator, narrow	
unassembled	**56.3**
assembled	**56.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



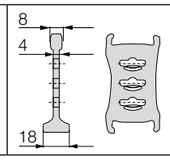


Separator, asymmetrical	
unassembled	**56.4**
assembled	**56.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

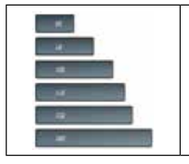


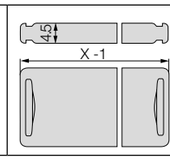


Notch separator for notched crossbar	
unassembled	**56.5**
assembled	**56.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





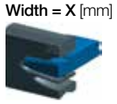
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

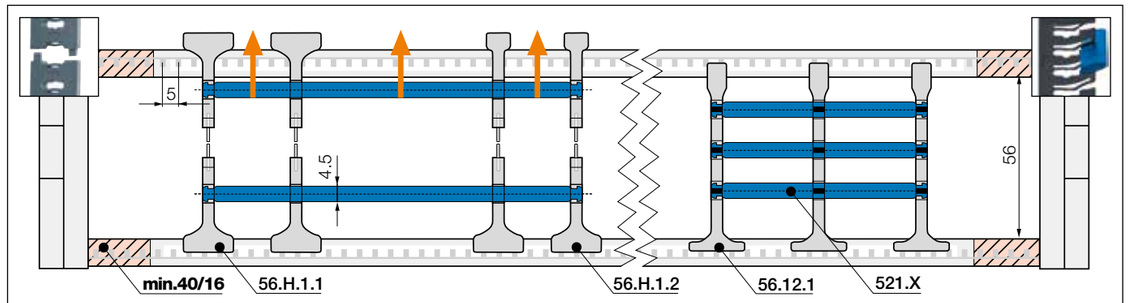


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**521.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**521.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

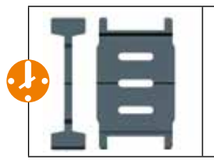
E4.56
H4.56
R4.56

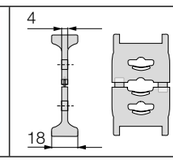
E4.1 | Series E4.56·H4.56·R4.56 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm**| **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

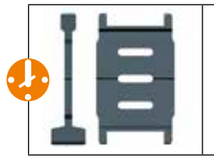


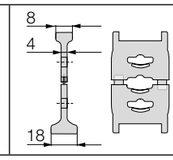


Split separator, wide base/top	
unassembled	**56.H.1**
assembled	**56.H.1.1**

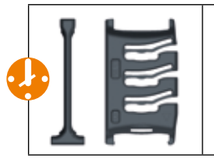
Split separators

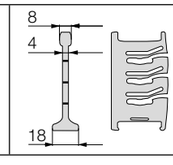
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**56.H.2**
assembled	**56.H.2.1**





Lean separator[1)]	
unassembled	**56.12**
assembled	**56.12.1**

Lean separators[1)]

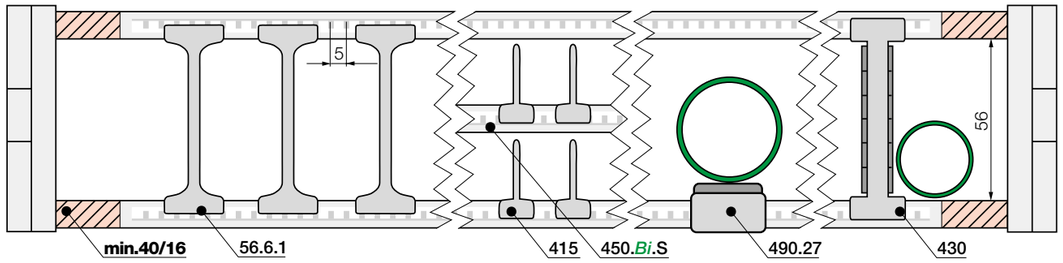
For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab

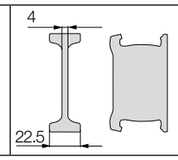


E4.1 | Series E4.56·H4.56·R4.56 | Accessories

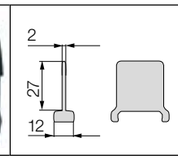
More interior separation options | Only for e-chains®



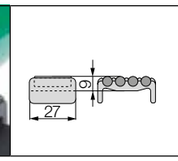
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm**| **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

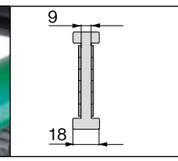
Notch locking separator*, lockable for e-chains®	
unassembled	56.6
assembled	56.6.1

Partial height separator*, for e-chains®	
unassembled	405
assembled	415

Rollclip*, for e-chains®	
unassembled	489.27
assembled	490.27

Roller separator*, for e-chains®	
unassembled	429
assembled	430

Notch locking separator* for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Partial height separator*

In conjunction with an additional opening crossbar, **part no. 450.*Bi*.S**, it provides the option to separate the upper and lower halves of the e-chain® independently of each other.

Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

Roller separator*

The roller separator is used in a similar way to the rollclip. It is used like a separator. For rigid cables and hoses.

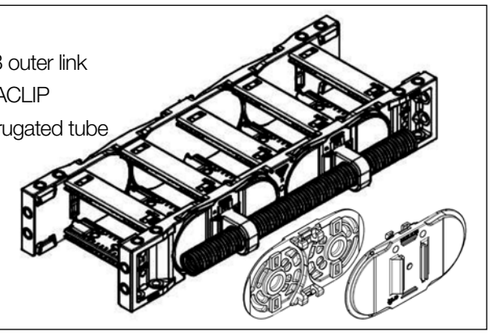
*Only suitable for e-chains®

E4.1 | Series E4.56·H4.56·R4.56 | Further accessories

TUB



❶ TUB outer link
❷ PMACLIP
❸ Corrugated tube



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

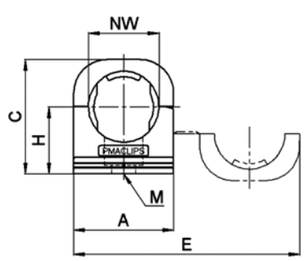
- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP support to be easily clipped on corrugated tubes with nominal widths 17, 23, 29, 36, 48mm
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.56.XXXTUBR.R.0	E4.56.XXXTUBL.R.0	E4.56.XXXTUB.R.0	17 / 23 / 29 / 36 / 48

*As viewed from the fixed end

Complete Part No. with the width index **XXX** of ***Bi*** and the minimum bend radius (***R***). Example:
E4.56.10TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip



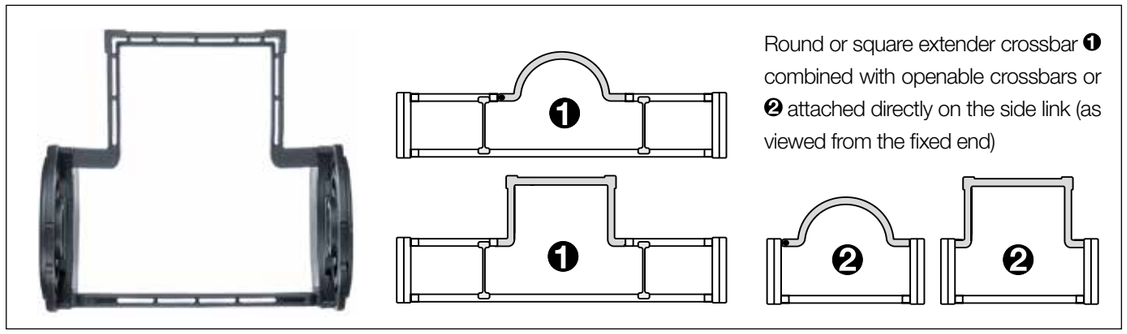


PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part number PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6
I-BFH-23-0	23	38.5	20.0	42.0	24.0	85.0	M6
I-BFH-29-0	29	45.5	20.0	48.0	27.0	99.0	M6
I-BFH-36-0	36	55.5	20.0	56.0	31.0	119.0	M6
I-BFH-48-0	48	67.5	20.0	68.0	37.0	143.0	M6

E4.1 | Series E4.56·H4.56·R4.56 | Further accessories

Extender crossbar with fixed width



Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)

Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 245mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	no	yes
450.17RD115	115	○ round	yes	no
450.25D150	150	□ square	yes	no
450.30D200	180	□ square	yes	no
450.35D250	195	□ square	yes	no
450.40D300	245	□ square	yes	no
450.20HD150	150	□ square	no	yes
450.25HD200	180	□ square	no	yes
450.30HD250	195	□ square	no	yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.56.10/15RHDE115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.56.10/15RHDZ115/10.*R*.0**

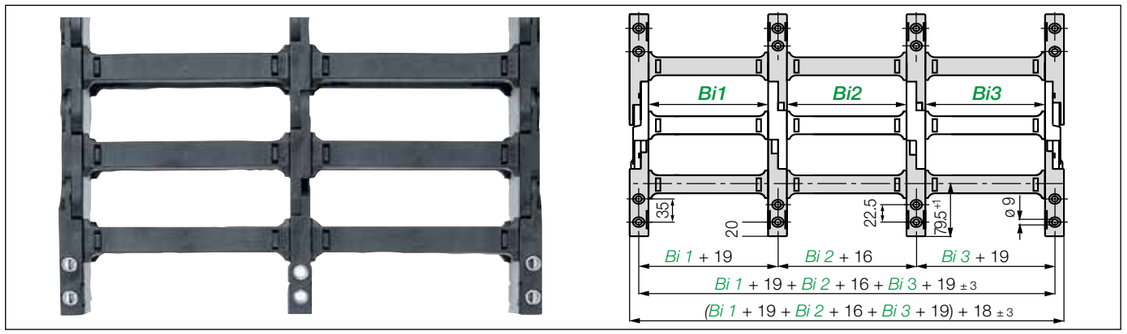
Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.56.17RDE115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.56.17RDZ115.*R*.0**

E4.1 | Series E4.56·H4.56·R4.56 | Further accessories

Extension links



Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part number Extension link e-chain®	Part number Extension link e-tube	Part number Extension link as an individual part
E4.56.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R4.56.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**422.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **E4.56.10/20/10.200.0**



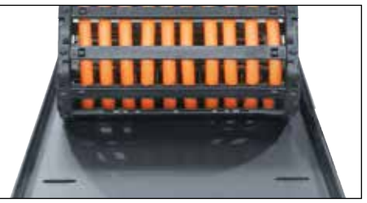
With the E4.1 TUB, corrugated tubes can be reliably guided in parallel, saving space

E4.1 | Series E4.56·H4.56·R4.56 | Further accessories

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

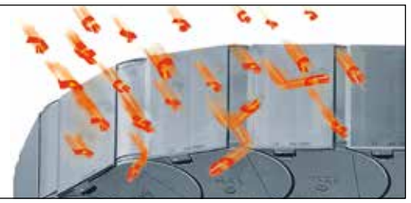
More information ▶ From page 1356



Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



GSC glide pads - longer service life in abrasive environment

- Low-friction and low-wear gliding elements increase the service life of igus® e-chains® in gliding applications
- Easy to retrofit

More information ▶ www.igus.eu/glide-pad



Also available for heavy-duty applications | Series 4040HD·R8840HD

Heavy-duty version - for very long travels or heavy fill weights

- High torsional rigidity and tensile strength
- Tough steel mounting brackets
- For long-term operation in very humid environments

Series 4040HD·R8840HD - more information ▶ www.igus.eu/4040HD



E4.1 | Application example



E4.1 as a noise-optimised version with extension links. Unsupported application with high fill weight. Harnessed with rigid hydraulic hoses. The max. noise level can be reduced up to 9dB(A) using the optional rubber dampers

Option: E4Q - the next generation of easy-to-assemble igus® e-chains®

The latest E4Q e-chains® generation combines proven design features of the 12-year old, robust E4.1 e-chains® standard with new bionic design elements and a novel opening mechanism. This gives the E4Q an even longer service life and significantly improved ease of installation.

- Opening and closing without tools
- Greater strength and longer unsupported lengths
- Lighter e-chain® links due to material saving
- Optional noise dampening - new system for noise reduction

More information ▶ From page 580



E4.1 | Series E4.80·H4.80·R4.80 | Product range

80 80

Strong due to undercut design, new very large inner height



e-chains® | Series E4.80 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains® | Series H4.80 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)
e-tubes | Series R4.80 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.80 [kg/m]	H4.80 [kg/m]	R4.80 [kg/m]
E4. H4. – 80.05. R.0	50	100	≈ 5.73	≈ 5.72	–
E4. H4. – 80.055. R.0	55	105	≈ 5.77	≈ 5.74	–
E4. H4. – 80.06. R.0	65	115	≈ 5.80	≈ 5.76	–
E4.▲ H4. – 80.07. R.0	75	125	≈ 5.86	≈ 5.78	–
E4. H4. – 80.08. R.0	87	137	≈ 5.93	≈ 5.82	–
E4. H4. R4. 80.10. R.0	100	150	≈ 6.00	≈ 5.85	≈ 6.70
E4. H4. – 80.11. R.0	112	163	≈ 6.10	≈ 5.90	–
E4.▲ H4. – 80.12. R.0	125	175	≈ 6.16	≈ 5.93	–
E4. H4. – 80.13. R.0	137	188	≈ 6.27	≈ 5.99	–
E4.▲ H4. R4. 80.15. R.0	150	200	≈ 6.30	≈ 6.01	≈ 7.34
E4. H4. – 80.16. R.0	162	213	≈ 6.39	≈ 6.05	–
E4. H4. – 80.169. R.0	169	220	≈ 6.46	≈ 6.08	–
E4. H4. – 80.17. R.0	175	225	≈ 6.50	≈ 6.11	–
E4. H4. – 80.182. R.0	182	233	≈ 6.54	≈ 6.12	–
E4. H4. – 80.18. R.0	187	238	≈ 6.59	≈ 6.15	–
E4.▲ H4. R4. 80.20. R.0	200	250	≈ 6.64	≈ 6.17	≈ 8.09
E4. H4. – 80.207. R.0	207	258	≈ 6.68	≈ 6.20	–
E4. H4. – 80.21. R.0	212	263	≈ 6.70	≈ 6.20	–
E4. H4. – 80.22. R.0	225	275	≈ 6.76	≈ 6.23	–
E4. H4. – 80.23. R.0	237	288	≈ 6.84	≈ 6.28	–
E4.▲ H4. R4. 80.25. R.0	250	300	≈ 6.94	≈ 6.32	≈ 8.47
E4. H4. – 80.26. R.0	262	313	≈ 7.01	≈ 6.36	–
E4. H4. – 80.27. R.0	275	325	≈ 7.09	≈ 6.40	–
E4. H4. – 80.28. R.0	287	338	≈ 7.14	≈ 6.42	–
E4.▲ H4. R4. 80.30. R.0	300	350	≈ 7.27	≈ 6.49	≈ 9.22
E4. H4. – 80.31. R.0	312	363	≈ 7.30	≈ 6.50	–
E4. H4. – 80.32. R.0	325	375	≈ 7.38	≈ 6.54	–
E4. H4. – 80.33. R.0	337	388	≈ 7.48	≈ 6.59	–
E4. H4. R4. 80.35. R.0	350	400	≈ 7.59	≈ 6.65	≈ 9.90
E4. H4. – 80.36. R.0	362	413	≈ 7.61	≈ 6.66	–
E4. H4. – 80.37. R.0	375	425	≈ 7.71	≈ 6.71	–
E4. H4. – 80.38. R.0	387	438	≈ 7.74	≈ 6.73	–
E4. H4. R4. 80.40. R.0	400	450	≈ 7.84	≈ 6.77	≈ 10.52
E4. H4. – 80.41. R.0	412	463	≈ 7.90	≈ 6.80	–
E4. H4. – 80.42. R.0	425	475	≈ 8.00	≈ 6.85	–
E4. H4. – 80.43. R.0	437	488	≈ 8.07	≈ 6.89	–
E4. H4. – 80.45. R.0	450	500	≈ 8.23	≈ 6.97	–
E4. H4. R4. 80.46. R.0	462	513	≈ 8.26	≈ 6.99	≈ 11.33
E4. H4. – 80.47. R.0	475	525	≈ 8.29	≈ 7.00	–
E4. H4. – 80.48. R.0	487	538	≈ 8.35	≈ 7.03	–
E4. H4. – 80.50. R.0	500	550	≈ 8.48	≈ 7.09	–
E4. H4. – 80.51. R.0	512	563	≈ 8.52	≈ 7.11	–
E4. H4. – 80.52. R.0	525	575	≈ 8.63	≈ 7.17	–
E4. H4. – 80.53. R.0	537	588	≈ 8.70	≈ 7.21	–
E4. H4. – 80.55. R.0	550	600	≈ 9.05	≈ 7.38	–
E4. H4. – 80.60. R.0	600	650	≈ 9.23	≈ 7.47	–

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ From page 142

*Radius not available for e-tubes

Available bend radii

R [mm] | 150* | 200 | 250 | 300 | 350 | 400 | 500 | 550 | 600 | 1.000 |

Complete Part No. with required radius (*R*). Example:

E4.80.30.300.0 = crossbars every link / H4.80.30.300.0 = crossbars every 2nd link / R4.80.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

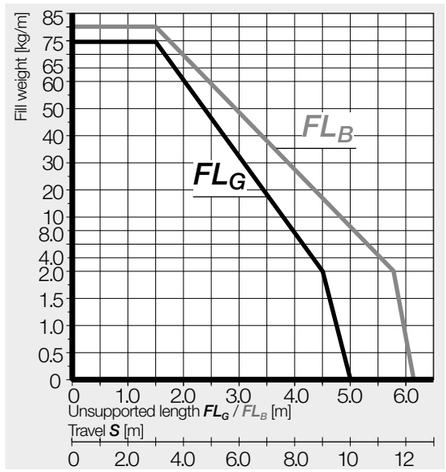
More information and the complete product range ▶ From page 142

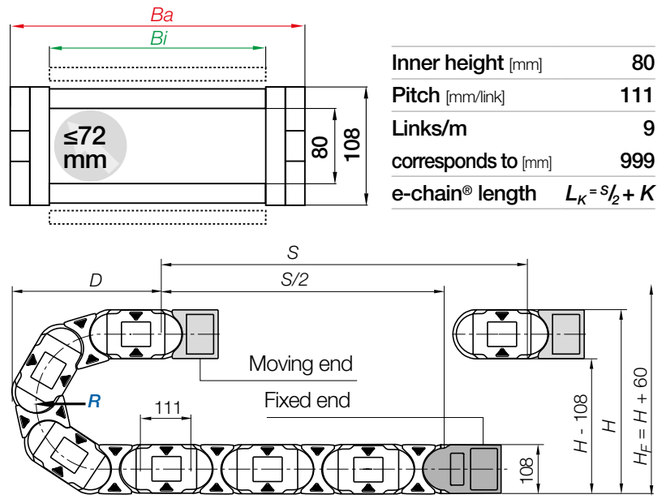


E4.1 | E4.80·H4.80·R4.80 | Installation dimensions

▶ 1392 ▶ 1324

Unsupported applications | Short travels





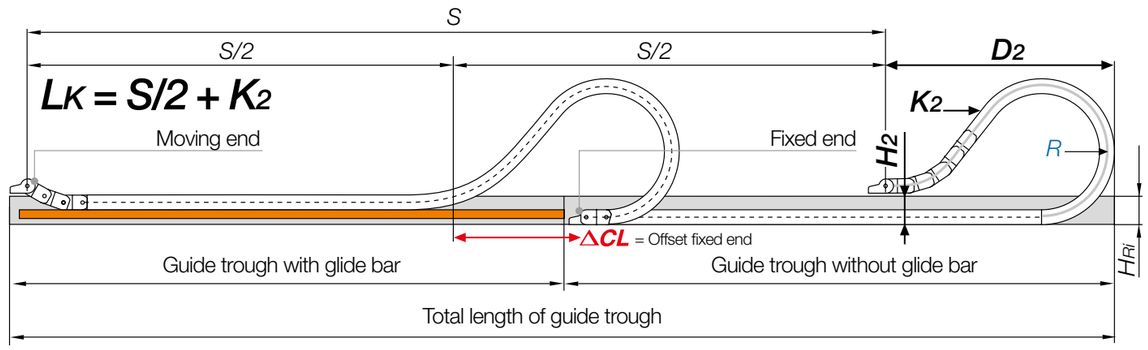
Inner height [mm]	80
Pitch [mm/link]	111
Links/m	9
corresponds to [mm]	999
e-chain® length	$L_K = S/2 + K$

R	150*	200	250	300	350	400	500	550	600	1,000
H^{-0}_{+25}	408	508	608	708	808	908	1,108	1,208	1.308	2,108
D	371	421	471	521	571	621	721	771	821	1,221
K	695	855	1,010	1,165	1,325	1,480	1,795	1,950	2,110	3,365

The required clearance height: $H_F = H + 60$mm (with 3.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For travel lengths from 12m to max. 400m



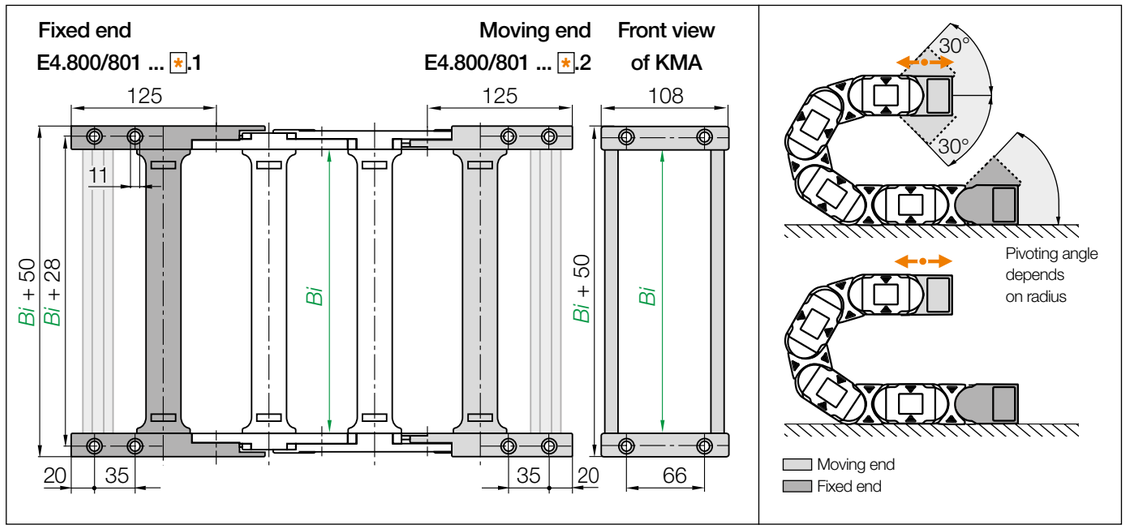
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 10 and 12m we recommend an e-chain® with a longer unsupported length.

R	150*	200	250	300	350	400	500	550	600	1,000
H_2	242	242	242	242	242	242	242	–	–	–
D_2^{+25}	550	800	1,000	1,200	1,450	1,600	2,100	–	–	–
K_2	890	1,330	1,665	2,000	2,330	2,660	3,440	–	–	–
ΔCL	189	389	539	689	889	989	1,389	–	–	–

*Radius not available for e-tubes

E4.1 | e-chains® E4.80·H4.80 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

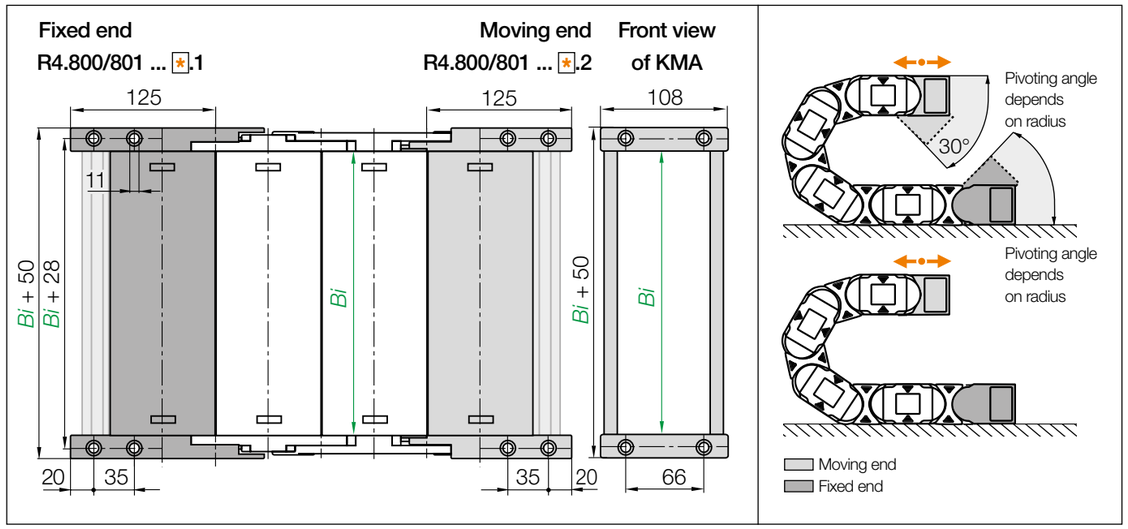
Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
05. ▶	E4.800.05 .✱.12.C	E4.801.05 .✱.12.C	50
055. ▶	E4.800.055.✱.12.C	E4.801.055.✱.12.C	55
06. ▶	E4.800.06 .✱.12.C	E4.801.06 .✱.12.C	65
07. ▶	E4.800.07 .✱.12.C	E4.801.07 .✱.12.C	75
08. ▶	E4.800.08 .✱.12.C	E4.801.08 .✱.12.C	87
10. ▶	E4.800.10 .✱.12.C	E4.801.10 .✱.12.C	100
11. ▶	E4.800.11 .✱.12.C	E4.801.11 .✱.12.C	112
12. ▶	E4.800.12 .✱.12.C	E4.801.12 .✱.12.C	125
13. ▶	E4.800.13 .✱.12.C	E4.801.13 .✱.12.C	137
15. ▶	E4.800.15 .✱.12.C	E4.801.15 .✱.12.C	150
16. ▶	E4.800.16 .✱.12.C	E4.801.16 .✱.12.C	162
169. ▶	E4.800.169.✱.12.C	E4.801.169.✱.12.C	169
17. ▶	E4.800.17 .✱.12.C	E4.801.17 .✱.12.C	175
182. ▶	E4.800.182.✱.12.C	E4.801.182.✱.12.C	182
18. ▶	E4.800.18 .✱.12.C	E4.801.18 .✱.12.C	187
20. ▶	E4.800.20 .✱.12.C	E4.801.20 .✱.12.C	200
207. ▶	E4.800.207.✱.12.C	E4.801.207.✱.12.C	207
21. ▶	E4.800.21 .✱.12.C	E4.801.21 .✱.12.C	212
22. ▶	E4.800.22 .✱.12.C	E4.801.22 .✱.12.C	225
23. ▶	E4.800.23 .✱.12.C	E4.801.23 .✱.12.C	237
25. ▶	E4.800.25 .✱.12.C	E4.801.25 .✱.12.C	250
26. ▶	E4.800.26 .✱.12.C	E4.801.26 .✱.12.C	262
27. ▶	E4.800.27 .✱.12.C	E4.801.27 .✱.12.C	275

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
28. ▶	E4.800.28 .✱.12.C	E4.801.28 .✱.12.C	287
30. ▶	E4.800.30 .✱.12.C	E4.801.30 .✱.12.C	300
31. ▶	E4.800.31 .✱.12.C	E4.801.31 .✱.12.C	312
32. ▶	E4.800.32 .✱.12.C	E4.801.32 .✱.12.C	325
33. ▶	E4.800.33 .✱.12.C	E4.801.33 .✱.12.C	337
35. ▶	E4.800.35 .✱.12.C	E4.801.35 .✱.12.C	350
36. ▶	E4.800.36 .✱.12.C	E4.801.36 .✱.12.C	362
37. ▶	E4.800.37 .✱.12.C	E4.801.37 .✱.12.C	375
38. ▶	E4.800.38 .✱.12.C	E4.801.38 .✱.12.C	387
40. ▶	E4.800.40 .✱.12.C	E4.801.40 .✱.12.C	400
41. ▶	E4.800.41 .✱.12.C	E4.801.41 .✱.12.C	412
42. ▶	E4.800.42 .✱.12.C	E4.801.42 .✱.12.C	425
43. ▶	E4.800.43 .✱.12.C	E4.801.43 .✱.12.C	437
45. ▶	E4.800.45 .✱.12.C	E4.801.45 .✱.12.C	450
46. ▶	E4.800.46 .✱.12.C	E4.801.46 .✱.12.C	462
47. ▶	E4.800.47 .✱.12.C	E4.801.47 .✱.12.C	475
48. ▶	E4.800.48 .✱.12.C	E4.801.48 .✱.12.C	487
50. ▶	E4.800.50 .✱.12.C	E4.801.50 .✱.12.C	500
51. ▶	E4.800.51 .✱.12.C	E4.801.51 .✱.12.C	512
52. ▶	E4.800.52 .✱.12.C	E4.801.52 .✱.12.C	525
53. ▶	E4.800.53 .✱.12.C	E4.801.53 .✱.12.C	537
55. ▶	E4.800.55 .✱.12.C	E4.801.55 .✱.12.C	550
60. ▶	E4.800.60 .✱.12.C	E4.801.60 .✱.12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4.1 | e-tubes R4.80 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



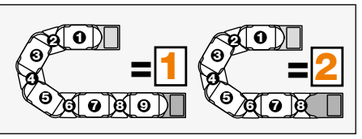
KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
10. ▶	R4.800.10 .✱.12.C	R4.801.10 .✱.12.C	100
15. ▶	R4.800.15 .✱.12.C	R4.801.15 .✱.12.C	150
20. ▶	R4.800.20 .✱.12.C	R4.801.20 .✱.12.C	200
25. ▶	R4.800.25 .✱.12.C	R4.801.25 .✱.12.C	250

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	Bi [mm]
30. ▶	R4.800.30 .✱.12.C	R4.801.30 .✱.12.C	300
35. ▶	R4.800.35 .✱.12.C	R4.801.35 .✱.12.C	350
40. ▶	R4.800.40 .✱.12.C	R4.801.40 .✱.12.C	400
46. ▶	R4.800.46 .✱.12.C	R4.801.46 .✱.12.C	462

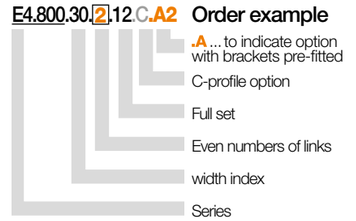
(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

Note ✱: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required.





Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

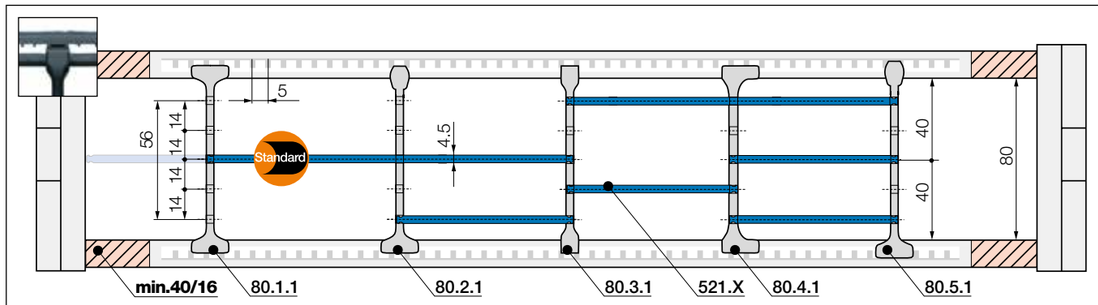


Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E4.1 | Series E4.80·H4.80·R4.80 | Accessories

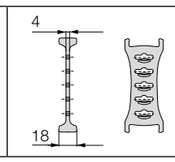
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E4.80**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm**| **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



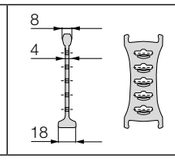


Standard separator, wide base	
unassembled	**80.1**
assembled	**80.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



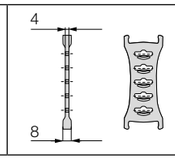


Separator, narrow top	
unassembled	**80.2**
assembled	**80.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



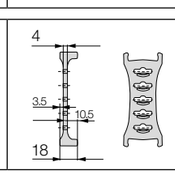


Separator, narrow	
unassembled	**80.3**
assembled	**80.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



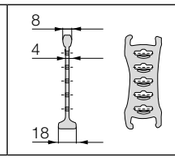


Separator, asymmetrical	
unassembled	**80.4**
assembled	**80.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

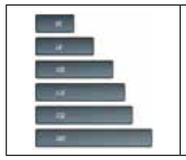


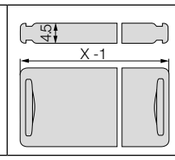


Notch separator for notched crossbar	
unassembled	**80.5**
assembled	**80.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





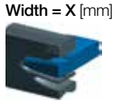
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

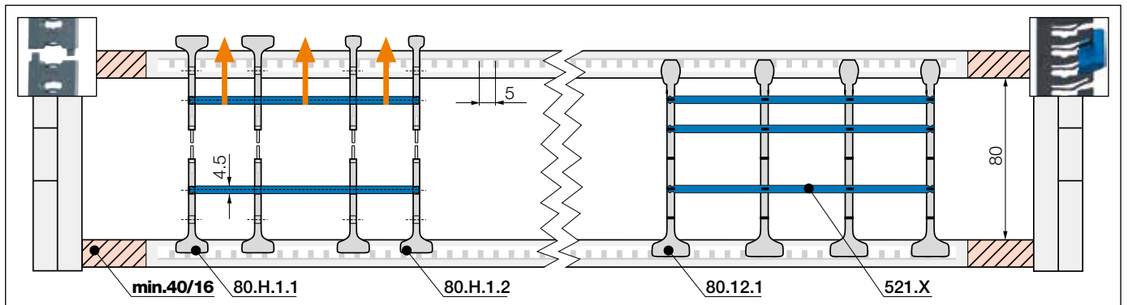
Width = X [mm]



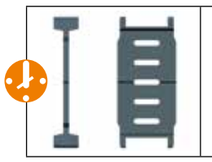
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**521.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**521.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

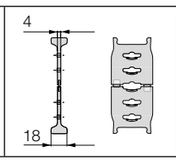
E4.1 | Series E4.80·H4.80·R4.80 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm**| **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

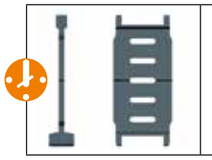


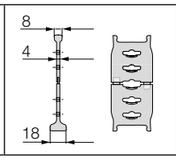


Split separator, wide base/top	
unassembled	**80.H.1**
assembled	**80.H.1.1**

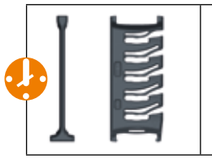
Split separators

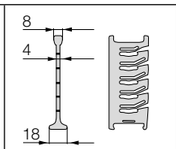
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**80.H.2**
assembled	**80.H.2.1**





Lean separator[1)]	
unassembled	**80.12**
assembled	**80.12.1**

Lean separators[1)]

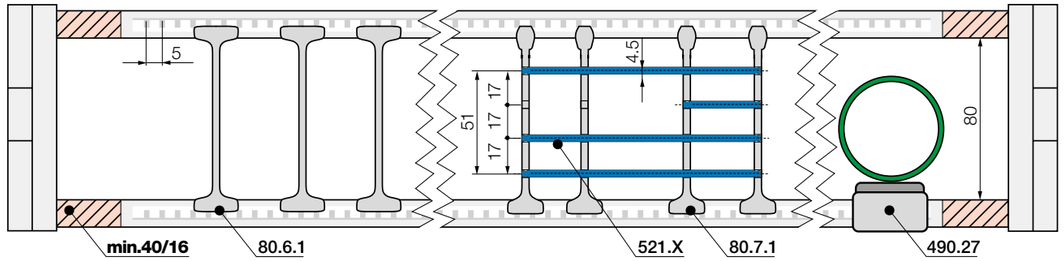
For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



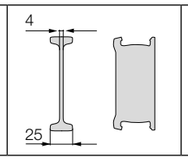
E4.1 | Series E4.80·H4.80·R4.80 | Accessories

More interior separation options



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm**| **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



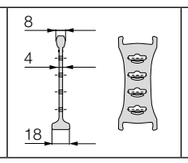


Notch locking separator*, lockable for e-chains®	
unassembled	80.6
assembled	80.6.1

Notch locking separator* for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.



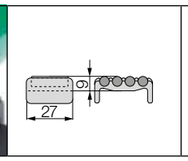


Separator, one end locking	
unassembled	80.7
assembled	80.7.1

Separator, one end locking

Offset slots for more variability in horizontal subdivisions.





Rollclip*, for e-chains®	
unassembled	489.27
assembled	490.27

Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

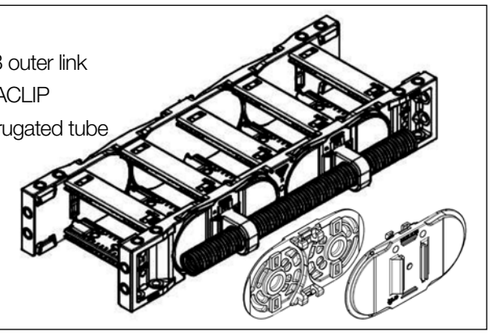
*Only suitable for e-chains®

E4.1 | Series E4.80·H4.80·R4.80 | Further accessories

TUB



❶ TUB outer link
❷ PMACLIP
❸ Corrugated tube



TUB | Safe guidance for corrugated tubes parallel to the e-chain®

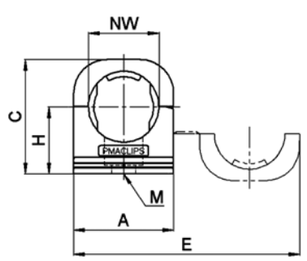
- Additional, simple guidance for corrugated tubes on the outside of the e-chain®
- PMACLIP support to be easily clipped on corrugated tubes with nominal widths 17, 23, 29, 36, 48mm
- Easy access to the corrugated tubes, fast replacement of the hoses
- Reduce assembly time and cost - easy to assemble, without any additional screws or tools
- The part number includes the e-chain® with TUB side sections; the PMACLIP support and the hose are ordered separately

Part No. TUB Outer link right*	Part No. TUB Outer link left*	Part No. TUB Outer link at both ends*	For corrugated tube nominal diameter Ø [mm]
E4.80.XXXTUBR.R.0	E4.80.XXXTUBL.R.0	E4.80.XXXTUB.R.0	17 / 23 / 29 / 36 / 48

*As viewed from the fixed end

Part number appended with width index XXX *Bi* and radius (*R*) e.g.
E4.80.10TUBR.150.0 = with TUB outer sections every 2nd right hand link

Product range | PMACLIP | Support, one-piece, with safety clip



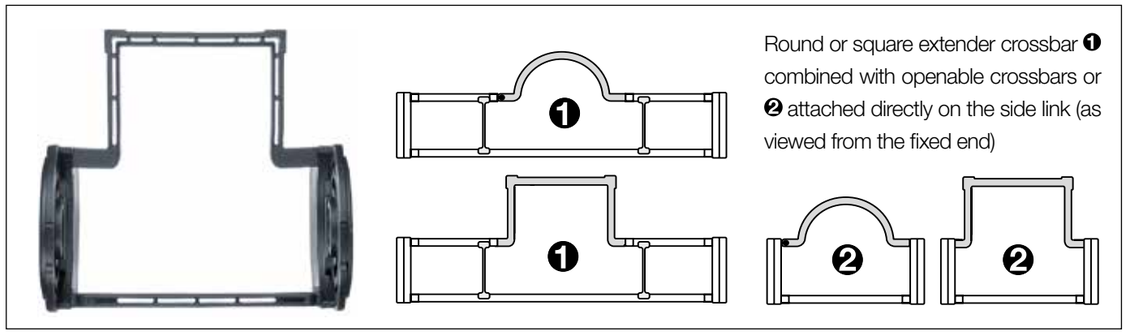


PMACLIP support - one-piece construction with safety clip, suitable for corrugated tubes

Part number PMACLIP	NW Ø [mm]	A mm	B mm	C mm	H mm	E mm	M mm
I-BFH-17-0	17	30.0	20.0	34.0	20.0	68.0	M6
I-BFH-23-0	23	38.5	20.0	42.0	24.0	85.0	M6
I-BFH-29-0	29	45.5	20.0	48.0	27.0	99.0	M6
I-BFH-36-0	36	55.5	20.0	56.0	31.0	119.0	M6
I-BFH-48-0	48	67.5	20.0	68.0	37.0	143.0	M6

E4.1 | Series E4.80·H4.80·R4.80 | Further accessories

Extender crossbar with fixed width



Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)

Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 270mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	no	yes
450.17RD115	115	○ round	yes	no
450.25D150	150	□ square	yes	no
450.30D200	200	□ square	yes	no
450.35D250	220	□ square	yes	no
450.40D300	270	□ square	yes	no
450.20HD150	150	□ square	no	yes
450.25HD200	200	□ square	no	yes
450.30HD250	220	□ square	no	yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.80.10/15RHDE115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.80.10/15RHDZ115/10.*R*.0**

Order example: ❷ fitted to side link

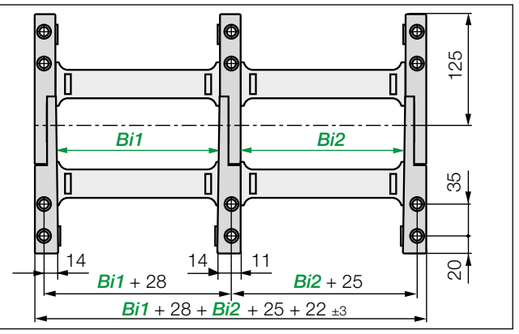
To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.80.17RDE115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.80.17RDZ115.*R*.0**

E4.1 | Series E4.80·H4.80·R4.80 | Further accessories

Extension links



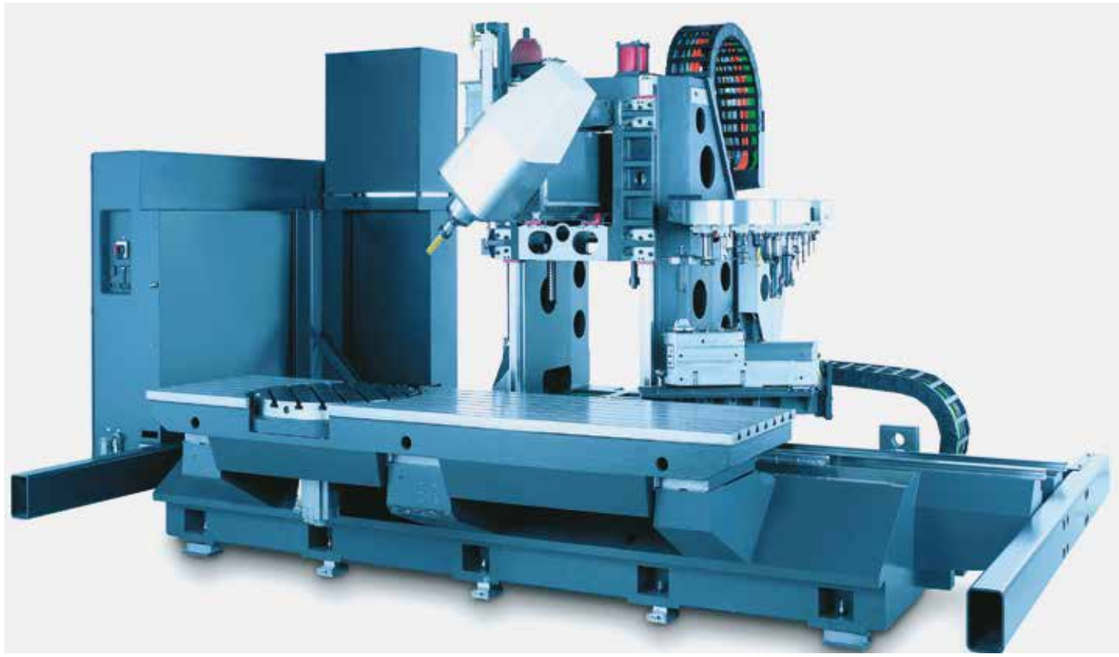


Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part number Extension link e-chain®	Part number Extension link e-tube	Part No Extension link as an individual part Outer link	Inner link
E4.80.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R4.80.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**E4.80M.01**	**E4.80M.02.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **E4.80.10/20/10.200.0**



Due to the undercut design igus® E4.1 series feature high lateral stability. High lateral accelerations of up to 8m/s² can be managed on this milling machine for bicycles

E4 snapclip - clip-on tiewrap



- For side-mounted applications, compatible with many E4 e-chains®
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required

More information ▶ www.igus.eu/E4.80

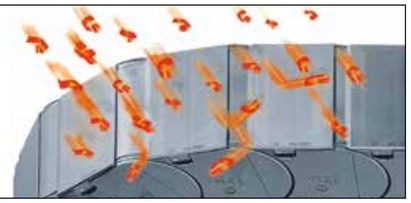
Steel support tray for support of the lower run



- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356

Hot swarf up to +850°C for e-tubes



- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT

Reduce assembly time - E4 e-chain® opener



- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime

Roller crossbars - increase the service life of cables and hoses



- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar

Also available for heavy-duty applications | Series 5050HD·R9850HD

Heavy-duty version - for very long travels or heavy fill weights



- High torsional rigidity and tensile strength
- Tough steel mounting brackets
- For long-term operation in very humid environments

Series 5050HD·R9850HD - more information ▶ www.igus.eu/5050HD



igus® E4.1 in an earth drilling machine. Standing installation, it defies strong vibrations. Thanks to plastic, no loose parts such as rivets or screws

Option: E4Q - the next generation of easy-to-assemble igus® e-chains®

The latest E4Q e-chains® generation combines proven design features of the 12-year old, robust E4.1 e-chains® standard with new bionic design elements and a novel opening mechanism. This gives the E4Q an even longer service life and significantly improved ease of installation.



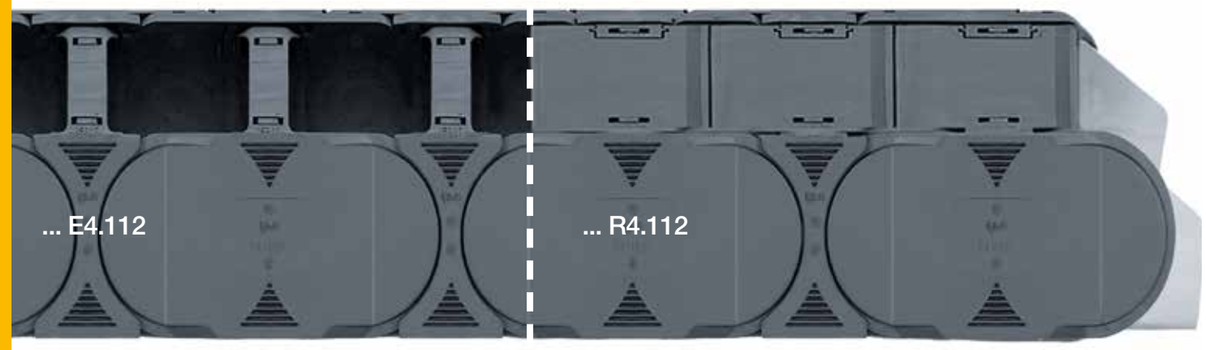
- Opening and closing without tools
- Greater strength and longer unsupported lengths
- Lighter e-chain® links due to material saving
- Optional noise dampening - new system for noise reduction

More information ▶ From page 580

E4.1 | Series E4.112·R4.112 | Product range

Strong due to undercut design, new very large inner height

112 e-chain® 108 e-tube



e-chains®| Series E4.112 | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series R4.112 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	E4.112 [kg/m]	R4.112 [kg/m]
E4. – 112.05. R.0	50	102	≈ 7.78	–
E4. – 112.055. R.0	55	107	≈ 7.81	–
E4. – 112.06. R.0	65	117	≈ 7.84	–
E4. – 112.07. R.0	75	127	≈ 7.88	–
E4. – 112.08. R.0	87	139	≈ 7.94	–
E4. – 112.10. R.0	100	152	≈ 7.99	–
E4. – 112.11. R.0	112	164	≈ 8.07	–
E4. – 112.12. R.0	125	177	≈ 8.12	–
E4. – 112.13. R.0	137	189	≈ 8.20	–
E4. – 112.15. R.0	150	202	≈ 8.23	–
E4. – 112.16. R.0	162	214	≈ 8.30	–
E4. – 112.169. R.0	169	222	≈ 8.35	–
E4. – 112.17. R.0	175	227	≈ 8.38	–
E4. – 112.182. R.0	182	235	≈ 8.41	–
E4. – 112.18. R.0	187	239	≈ 8.45	–
E4. R4. 112.20. R.0	200	252	≈ 8.49	≈ 10.15
E4. – 112.207. R.0	207	260	≈ 8.52	–
E4. – 112.21. R.0	212	264	≈ 8.53	–
E4. – 112.22. R.0	225	277	≈ 8.58	–
E4. – 112.23. R.0	237	289	≈ 8.65	–
E4. R4. 112.25. R.0	250	302	≈ 8.72	≈ 10.79
E4. – 112.26. R.0	262	314	≈ 8.78	–
E4. – 112.27. R.0	275	327	≈ 8.84	–
E4. – 112.28. R.0	287	339	≈ 8.88	–
E4. R4. 112.30. R.0	300	352	≈ 8.97	≈ 11.42
E4. – 112.31. R.0	312	364	≈ 9.00	–
E4. – 112.32. R.0	325	377	≈ 9.06	–
E4. – 112.33. R.0	337	389	≈ 9.14	–
E4. R4. 112.35. R.0	350	402	≈ 9.27	≈ 12.07
E4. – 112.36. R.0	362	414	≈ 9.21	–
E4. – 112.37. R.0	375	427	≈ 9.27	–
E4. – 112.38. R.0	387	439	≈ 9.35	–
E4. R4. 112.40. R.0	400	452	≈ 9.52	≈ 12.71
E4. – 112.41. R.0	412	464	≈ 9.47	–
E4. – 112.42. R.0	425	477	≈ 9.66	
E4. – 112.43. R.0	437	489	≈ 9.56	–
E4. – 112.45. R.0	450	502	≈ 9.77	–
E4. – 112.46. R.0	462	514	≈ 9.74	–
E4. – 112.47. R.0	475	527	≈ 9.76	–
E4. – 112.48. R.0	487	539	≈ 9.92	–
E4. R4. 112.50. R.0	500	552	≈ 9.98	≈ 13.99
E4. – 112.51. R.0	512	564	≈ 9.92	–
E4. – 112.52. R.0	525	577	≈ 10.03	–
E4. – 112.53. R.0	537	589	≈ 10.09	–
E4. – 112.55. R.0	550	602	≈ 10.36	–
E4. – 112.60. R.0	600	652	≈ 10.51	–

*Radius not available for e-tubes **Radius available for e-tubes with technical limitations, upon request

Available bend radii

R [mm] | 200* | 250**| 300**| 350 | 400 | 450 | 500 | 550 | 600 | 750 | 1.000 |

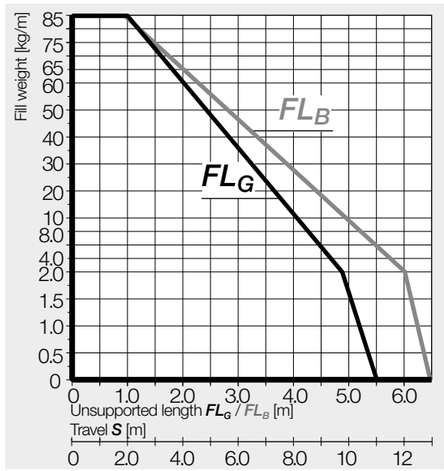
Complete Part No. with required radius (R). Example:

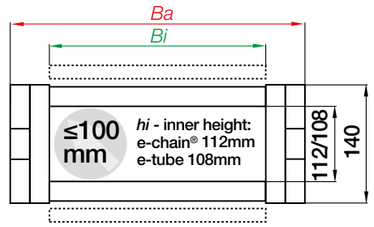
E4.112.30.300.0 = crossbars every link / R4.112.30.300.0 = fully enclosed

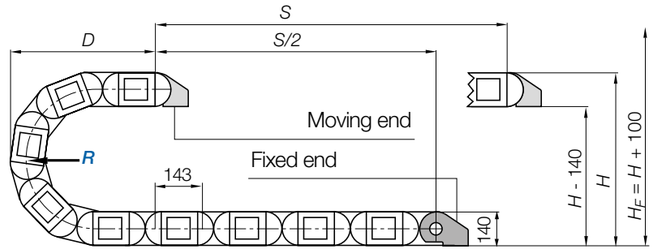
E4.1 | E4.112·R4.112 | Installation dimensions

Unsupported applications | Short travels

▶ 1392 ▶ 1350







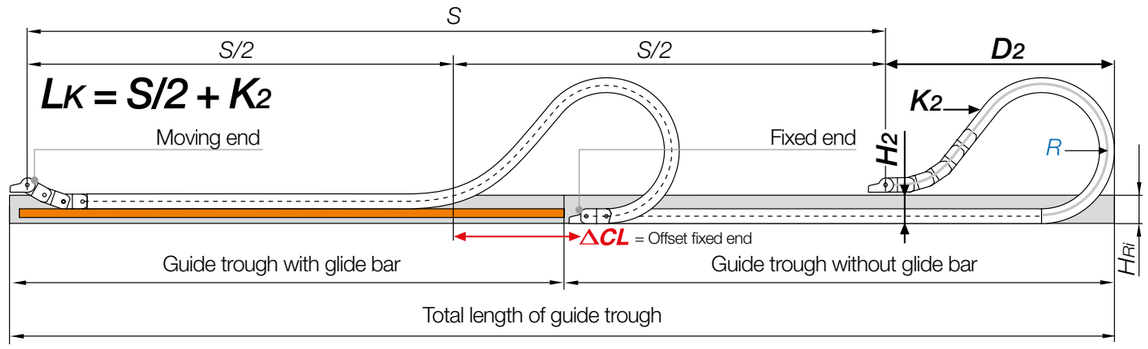
E4.112 Inner height [mm]	112
R4.112 Inner height [mm]	108
Pitch [mm/link]	143
Links/m	7
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$

R	200*	250**	300**	350	400	450	500	550	600	750	1,000
H	545	645	745	845	945	1,045	1,145	1,245	1,345	1,645	2,145
D	415	465	515	565	615	665	715	765	815	965	1,215
K	915	1,075	1,230	1,390	1,545	1,700	1,860	2,015	2,175	2,645	3,430

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

*Radius not available for e-tubes **Radius available for e-tubes with technical limitations, upon request

Gliding applications | For travel lengths from 14m to max. 450m



Note: We recommend the project planning of such a system to be carried out by igus®.

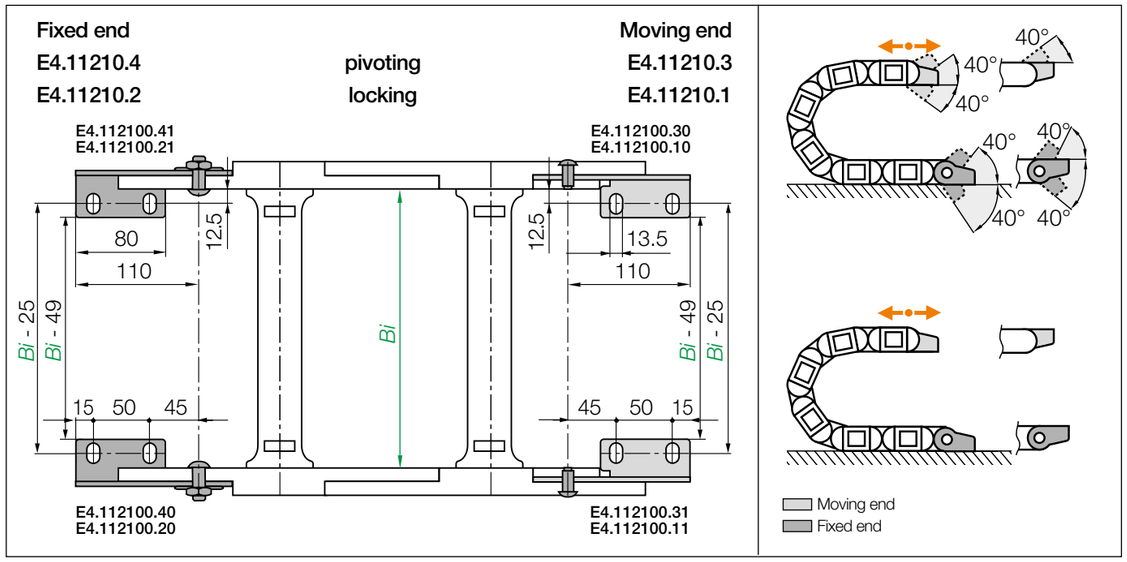
In case of travels between 11 and 14m we recommend an e-chain® with a longer unsupported length.

R	200*	250**	300**	350	400	450	500	550	600	750	1,000
H_2	325	325	325	325	325	325	325	325	325	–	–
D_2	900	1,000	1,100	1,250	1,450	1,600	1,700	1,900	2,050	–	–
K_2	1,573	1,716	1,859	2,288	2,574	2,860	3,146	3,432	3,861	–	–
ΔCL	450	500	550	650	800	900	950	1,100	1,200	–	–

*Radius not available for e-tubes **Radius available for e-tubes with technical limitations, upon request

E4.1 | Series E4.112·R4.112 | Accessories

Steel mounting brackets | Pivoting | Locking

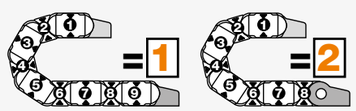


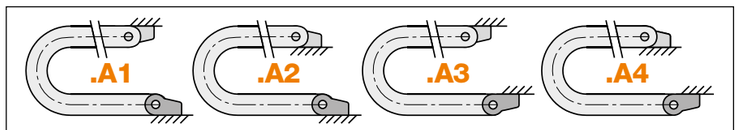
KMA pivoting | Recommended for unsupported and gliding applications
Steel locking | Recommended for vertical hanging and standing applications

Part No. full set **steel pivoting**	Part No. full set **steel locking**	Description Mounting bracket
E4.11210.1.34.VS.E45	E4.11210.1.12.VS.E45	**Full set (both ends)** ending with outer side link, screwed - standard
E4.11210.2.34.VS.E45	E4.11210.2.12.VS.E45	**Full set (both ends)** beginning with outer side link (moving end) - ending with inner side link (fixed end), screwed - standard

Stainless steel version available. Please add index **.E45** (material: AISI 316Ti)

Note: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. For the best appearance, make sure the e-chain® ends with outer side links 1 whenever possible. (with odd number of links)





Possible variations for assembled mounting brackets. To receive steel mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

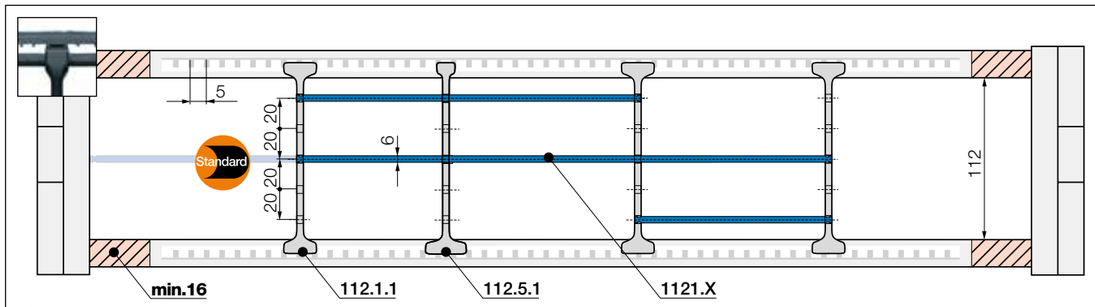
E4.11210.1.34.VS.A2 **Order example**
- .A ... links whenever possible
- Pre-assembled
- Full set, pivoting
- Odd numbers of links
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

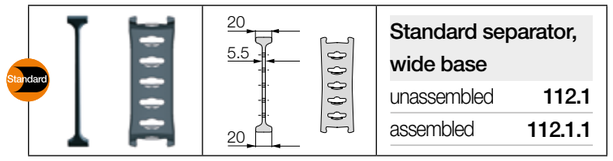
E4.1 | e-chains® E4.112 | Accessories (e-tubes ▸ next page)

Interior separation | Increase cable service life | Only for e-chains®

Previous generation of interior separation with other options ▶ **www.igus.eu/E4.112**



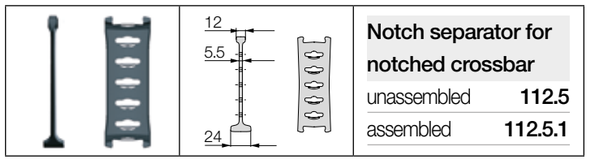
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **112.1**
assembled **112.1.1**

Standard - for any application

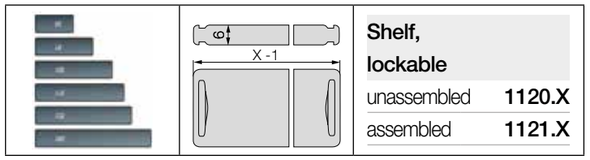
Separator with a wide base for maximum holding force.



Notch separator for notched crossbar
unassembled **112.5**
assembled **112.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



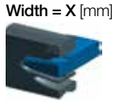
Shelf, lockable
unassembled **1120.X**
assembled **1121.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

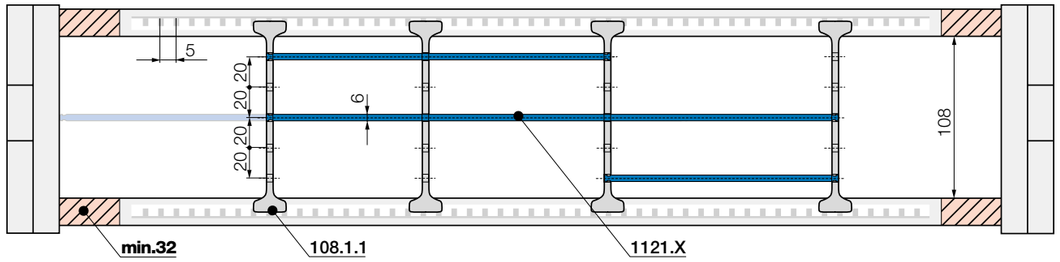


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**

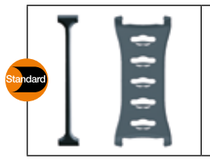
E4.1 | **e-tubes R4.112** | Accessories (e-chains® ▶ previous page)

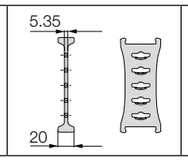
Interior separation | Increase cable service life | Only for e-tubes

Previous generation of interior separation with other options ▶ **www.igus.eu/R4.112**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 32mm**
As standard separators are fitted every 2nd e-chain® link!

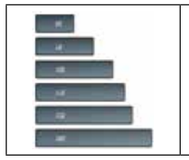


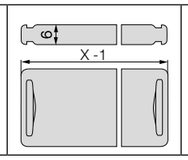


Standard separator, wide base	
unassembled	**108.1**
assembled	**108.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.





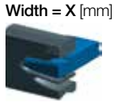
Shelf, lockable	
unassembled	**1120.X**
assembled	**1121.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



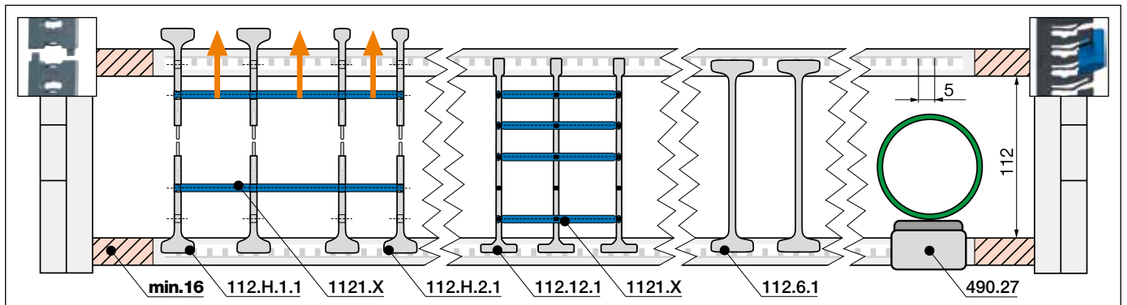
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**



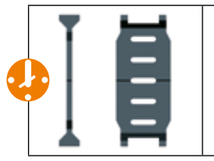
Compact design, custom configuration: two nested E4.112 e-chains® each around 12m long carry very heavy fill weights

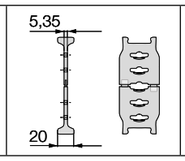
E4.1 | **e-chains® E4.112** | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**
As standard separators are fitted every 2nd e-chain® link!

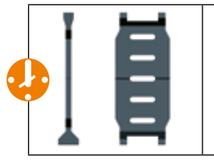


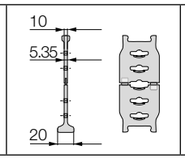


Split separator, wide base/top*	
unassembled	**112.H.1**
assembled	**112.H.1.1**

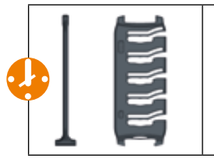
Split separators*

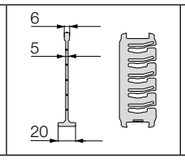
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top*	
unassembled	**112.H.2**
assembled	**112.H.2.1**





Lean separator*1)3)	
unassembled	112.12
assembled	112.12.1

Lean separators*1)3)

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

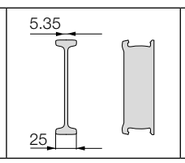
*Suitable for e-chains® only 3) Available upon request. Delivery time upon request.

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%2). 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



More interior separation options | Only for e-chains®



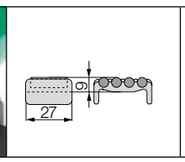


Notch locking separator*, lockable for e-chains®	
unassembled	**112.6**
assembled	**112.6.1**

Notch locking separator* for increased holding force

Notch locking separators* offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.





Rollclip*, for e-chains®	
unassembled	**489.27**
assembled	**490.27**

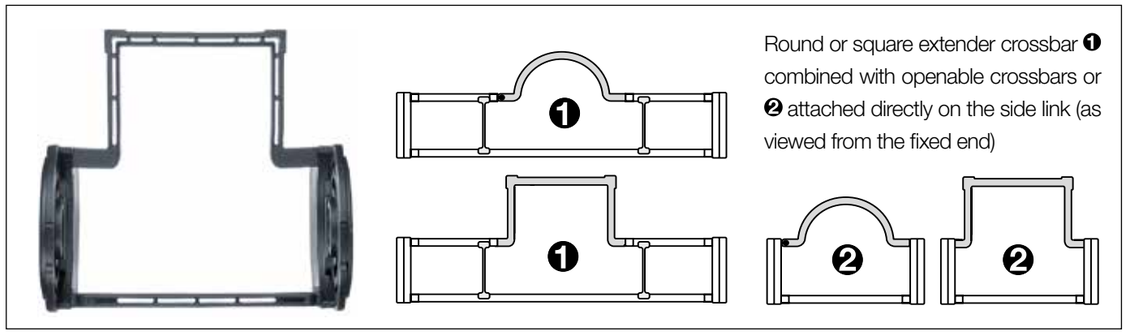
Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

*Only suitable for e-chains®

E4.1 | Series E4.112·R4.112 | Further accessories

Extender crossbar with fixed width



Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)

Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 270mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	no	yes
450.17RD115	115	○ round	yes	no
450.25D150	150	□ square	yes	no
450.30D200	200	□ square	yes	no
450.35D250	250	□ square	yes	no
450.40D300	300	□ square	yes	no
450.20HD150	150	□ square	no	yes
450.25HD200	200	□ square	no	yes
450.30HD250	250	□ square	no	yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.112.10/15RHD*E*115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.112.10/15RHD*Z*115/10.*R*.0**

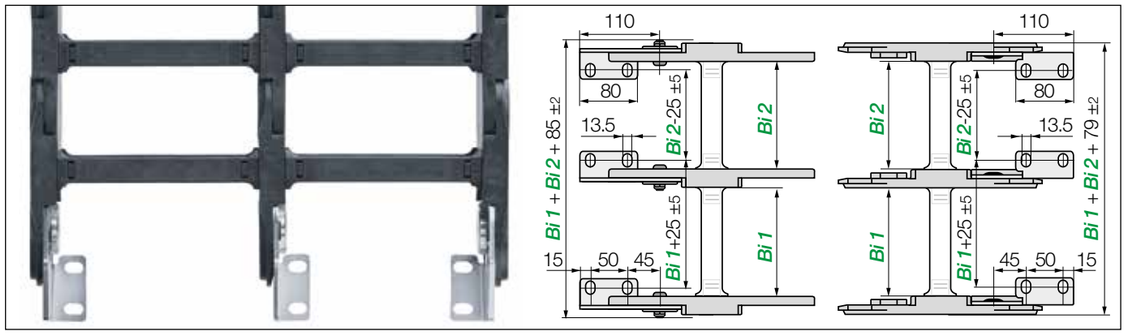
Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **E4.112.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **E4.112.17RD*Z*115.*R*.0**

E4.1 | Series E4.112·R4.112 | Further accessories

Extension links



Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

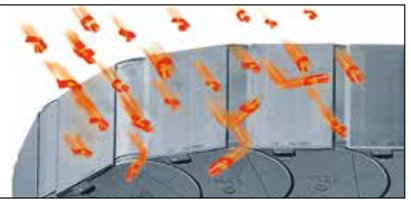
Part number Extension link e-chain®	Part number Extension link e-tube	Part number Extension link as an individual part
E4.112.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R4.112.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**6022.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **E4.112.10/20/10.200.0**

Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4.1 | Series E4.162 | Product range

Heavy fill weights, new large inner height

162



e-chains® | Series E4.162 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.162 [kg/m]
E4.162.20.R.0	200	256	≈ 10.45
E4.162.25.R.0	250	306	≈ 10.74
E4.162.30.R.0	300	356	≈ 10.99
E4.162.32.R.0	325	381	≈ 11.02
E4.162.35.R.0	350	406	≈ 11.21

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.162 [kg/m]
E4.162.40.R.0	400	456	≈ 11.51
E4.162.45.R.0	450	506	≈ 11.65
E4.162.50.R.0	500	556	≈ 11.83
E4.162.55.R.0	550	606	≈ 12.11
E4.162.60.R.0	600	656	≈ 12.45

Available bend radii

R [mm] | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 750 | 1.000 |

Complete Part No. with required radius (R). Example: **E4.162.40.350.0 = crossbars every link**

Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime

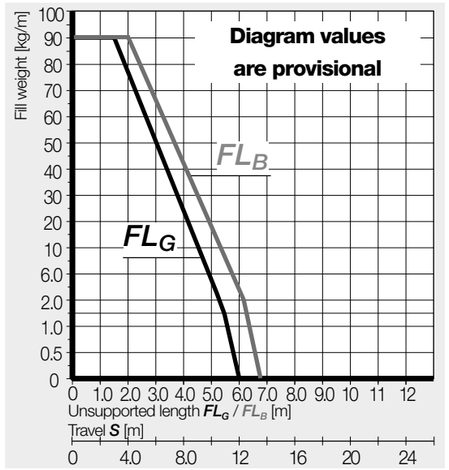


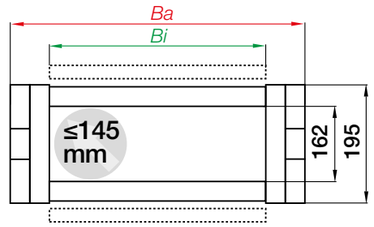
E4.1 | Series E4.162 | Installation dimensions

Unsupported applications | Short travels

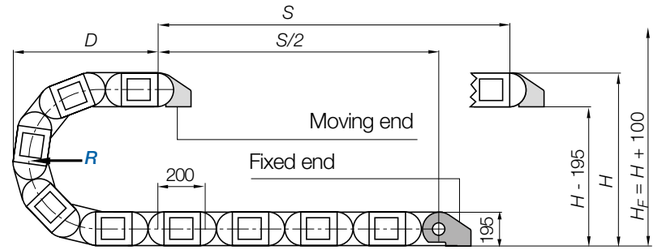
▶ 1392

Steel ▶ upon request





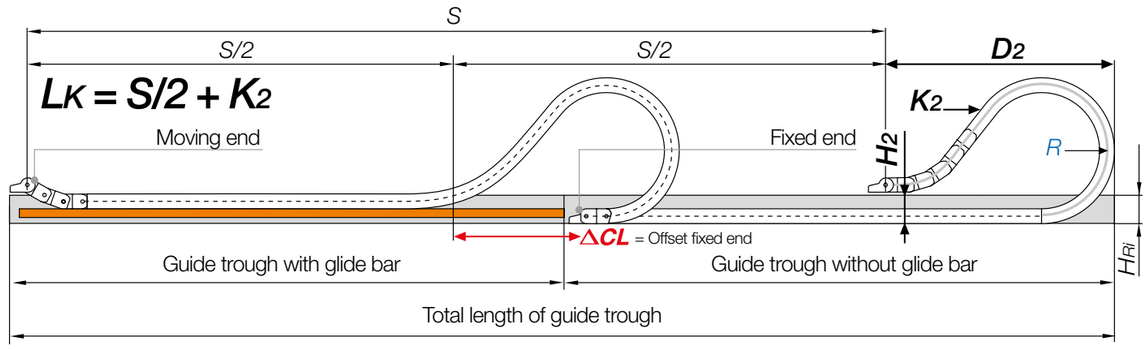
Inner height [mm]	162
Pitch [mm/link]	200
Links/m	5
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	250	300	350	400	450	500	550	600	750	1,000
H	700	800	900	1,000	1,100	1,200	1,300	1,400	1,700	2,200
D	648	698	748	798	848	898	948	998	1,148	1,398
K	1,190	1,345	1,500	1,660	1,815	1,975	2,130	2,285	2,760	3,545

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

Gliding applications | For travel lengths from 14m to max. 450m



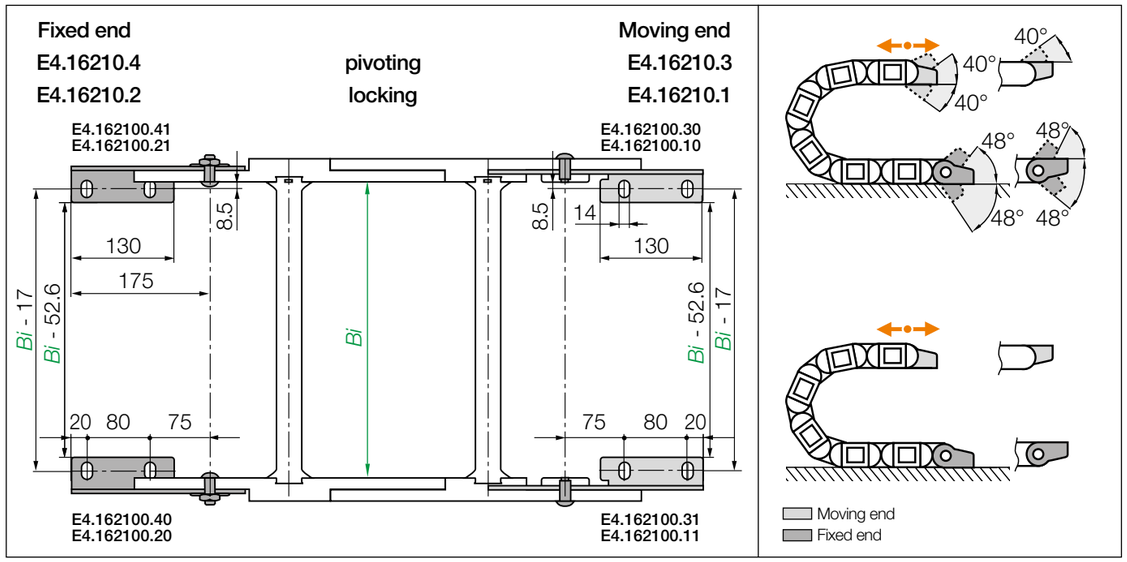
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 12 and 14m we recommend an e-chain® with a longer unsupported length.

R	250	300	350	400	450	500	550	600	750	1,000
H_2	*	580	580	580	580	580	580	580	**	**
D_2	*	950	1,050	1,350	1,600	1,950	2,050	2,400	**	**
K_2	*	1,600	1,800	2,400	2,800	3,200	3,400	3,800	**	**
ΔCL	*	300	350	600	800	1,100	1,150	1,450	**	**

*Values such as unsupported applications **Values upon request

E4.1 | Series E4.162 | Accessories

Steel mounting brackets | Pivoting | Locking

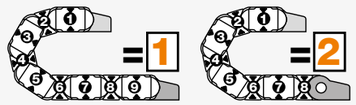


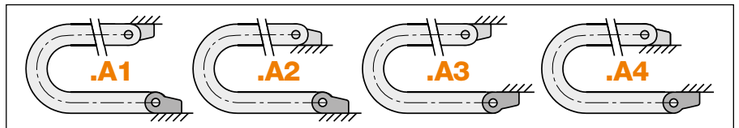
KMA pivoting | **Recommended for unsupported and gliding applications**
Steel locking | **Recommended for vertical hanging and standing applications**

Part No. full set **steel pivoting**	Part No. full set **steel locking**	Description Mounting bracket
E4.16210.1.34.VS.E45	E4.16210.1.12.VS.E45	**Full set (both ends)** ending with outer side link, screwed - standard
E4.16210.2.34.VS.E45	E4.16210.2.12.VS.E45	**Full set (both ends)** beginning with outer side link (moving end) - ending with inner side link (fixed end), screwed - standard

Stainless steel version available. Please add index **.E45** (material: AISI 316Ti)

Note: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 2 (for even) depending on an even or odd number of links required. For the best appearance, make sure the e-chain® ends with outer side links 1 whenever possible. (with odd number of links)





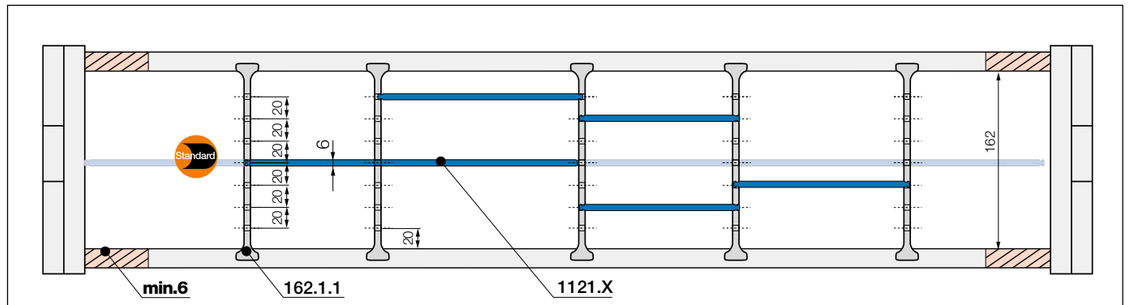
Possible variations for assembled mounting brackets. To receive steel mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.



Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E4.1 | Series E4.162 | Accessories

Interior separation | Increase cable service life



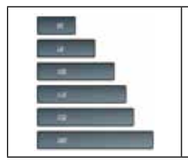
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**162.1**
assembled	**162.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



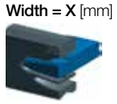
Shelf, lockable	
unassembled	**1120.X**
assembled	**1121.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**

E4.1 | Series 800 | Product range

For tough applications, very large inner height

200



e-chains® | Series E4.800 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	800 [kg/m]
800.20.R.0	200	260	≈ 15.09
800.25.R.0	250	310	≈ 15.50
800.30.R.0	300	360	≈ 15.89
800.32.R.0	325	385	≈ 16.05
800.35.R.0	350	410	≈ 16.22
800.40.R.0	400	460	≈ 16.74
800.45.R.0	450	510	≈ 16.88
800.50.R.0	500	560	≈ 17.23
800.55.R.0	550	610	≈ 17.63
800.60.R.0	600	660	≈ 18.19

Available bend radii

R [mm] | 325 | 350 | 400 | 450 | 500 | 600 | 750 | 1.000 |

Complete Part No. with required radius (R). Example: **800.40.400.0 = crossbars every link**

Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

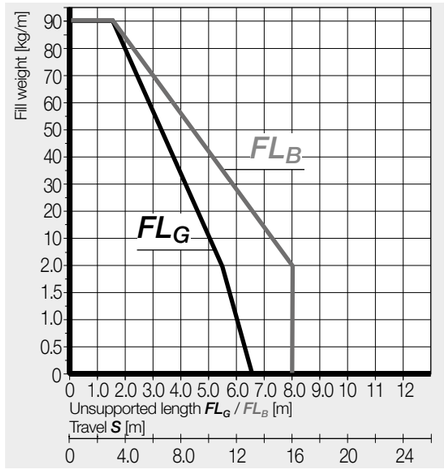
More information ▶ www.igus.eu/E4savetime

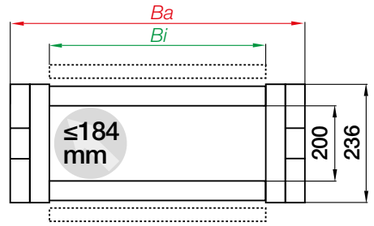


E4.1 | Series 800 | Installation dimensions

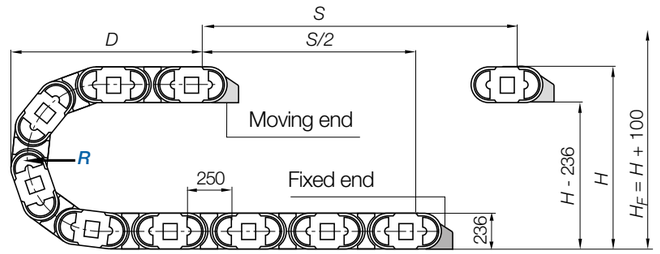
Unsupported applications | Short travels

▶ 1392 ▶ 1352





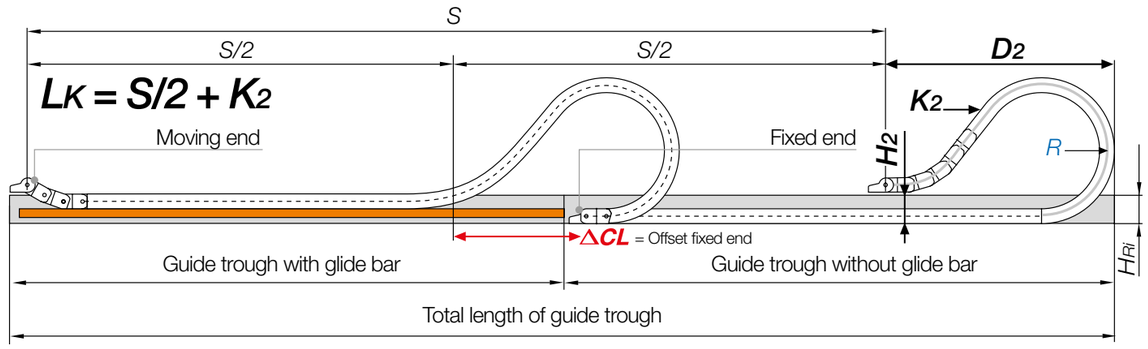
Inner height [mm]	200
Pitch [mm/link]	250
Links/m	4
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	325	350	400	450	500	600	750	1,000
H	886	936	1,036	1,136	1,236	1,436	1,736	2,236
D	818	843	893	943	993	1,093	1,243	1,493
K	1,525	1,600	1,760	1,915	2,075	2,385	2,860	3,645

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

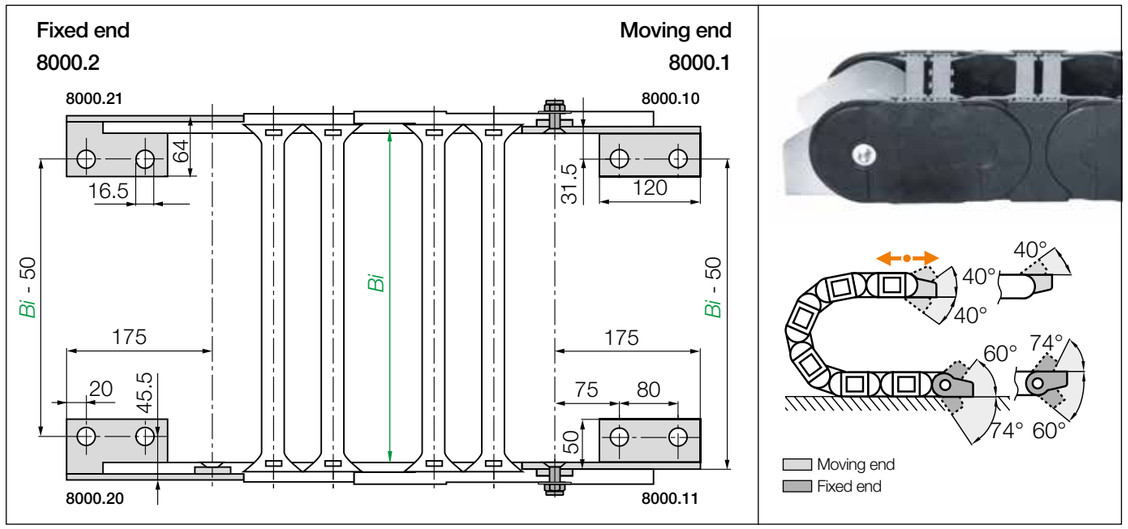
Gliding applications | For travel lengths from 15m to max. 450m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 12 and 15m we recommend an e-chain® with a longer unsupported length.

R	325	350	400	450	500	600	750	1,000
H_2	580	580	580	580	580	580	580	580
D_2^{+25}	1,030	1,080	1.380	1.610	2,000	2,480	*	*
K_2	2,000	2,000	2,500	3,000	3,250	4,000	*	*
CL	250	300	550	750	1,050	1,400	*	*

*Values upon request

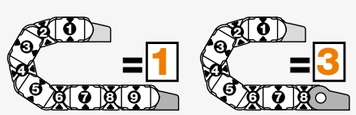


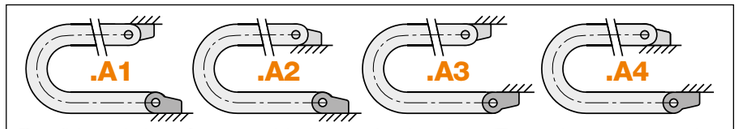
Steel pivoting | For unsupported, gliding,vertical standing and vertical hanging applications

Part No. full set	Description
steel pivoting	**Mounting bracket**
8000.1.12.VS.E45	**Full set (both ends)** ending with outer side link, screwed - standard
8000.3.12.VS.E45	**Full set (both ends)** beginning with outer side link (moving end) - ending with inner side link (fixed end), screwed - standard

Stainless steel version available. Please add index **.E45** (material: AISI 316Ti)

Note: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 3 (for even) depending on an even or odd number of links required. For the best appearance, make sure the e-chain® ends with outer side links 1 whenever possible. (with odd number of links)



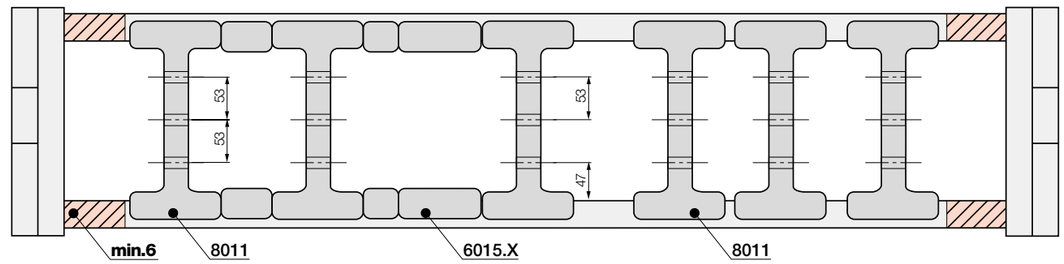


Possible variations for assembled mounting brackets. To receive steel mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

8000.1.12.VS.A2 **Order example**

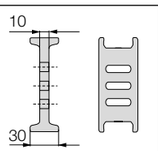
- .A ... links whenever possible
- Pre-assembled
- Full set, pivoting
- Odd numbers of links
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 6mm**
As standard separators are fitted every 2nd e-chain® link!





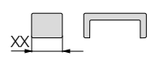
Slotted separator	
unassembled	**8001**
assembled	**8011**

Slotted separator

For a vertical subdivision. The slot allows basic vertical/ horizontal shelving arrangements.



XX [mm] = 10, 15, 20

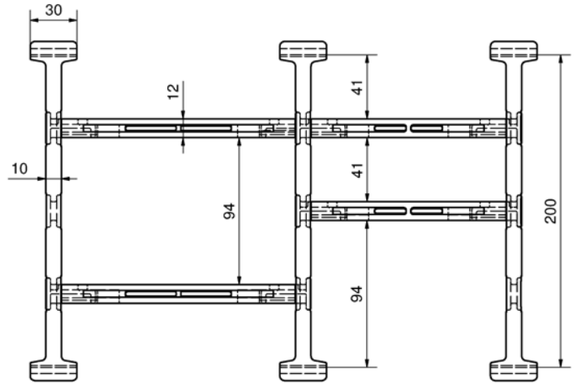


Spacer for e-chains®	
unassembled	**6005.XX**
assembled	**6015.XX**

Spacer

Separators can be fixed in position using spacers. To avoid reducing the internal height by 2mm, they can also be mounted on the opening crossbar from the outside (not for long travels).

Modular shelving system | Series 800





● Secure separation even for large cables ● Easy assembly
● Robust, even for large cable diameters ● Modular ● Widths from 50 to 600mm

Part number unassembled	Part number assembled	Design Snap in tab	Part number Separator	Part number Crossbar	Width [mm]
8001H1	8011H1	❶ one side	❸ 8001	❹ 450.XX.A	50-600
8001H2	8011H2	❷ both sides	❸ 8001	❹ 450.XX.A	50-600

E4.1 | Series 840 | Product range

For tough applications, very large inner height

204



e-chains® | Series 840 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	840 [kg/m]
840.13.R.0	100	160	≈ 13.84
840.15.R.0	113	173	≈ 13.87
840.16.R.0	125	185	≈ 13.95
840.17.R.0	138	198	≈ 14.04
840.18.R.0	150	210	≈ 14.13
840.20.R.0	163	223	≈ 14.17
840.21.R.0	175	235	≈ 14.22
840.22.R.0	188	248	≈ 14.27
840.23.R.0	200	260	≈ 14.35
840.25.R.0	213	273	≈ 14.43
840.26.R.0	225	285	≈ 14.49
840.27.R.0	238	298	≈ 14.57
840.28.R.0	250	310	≈ 14.61
840.30.R.0	263	323	≈ 14.72
840.31.R.0	275	335	≈ 14.75
840.32.R.0	288	348	≈ 14.82
840.33.R.0	300	360	≈ 14.91
840.35.R.0	313	373	≈ 15.06

Part No. e-chains®	Bi [mm]	Ba [mm]	840 [kg/m]
840.36.R.0	325	385	≈ 15.09
840.37.R.0	338	398	≈ 15.11
840.38.R.0	350	410	≈ 15.15
840.40.R.0	363	423	≈ 15.34
840.41.R.0	375	435	≈ 15.39
840.42.R.0	388	448	≈ 15.50
840.43.R.0	400	460	≈ 15.57
840.45.R.0	413	473	≈ 15.63
840.46.R.0	425	485	≈ 15.69
840.47.R.0	438	498	≈ 15.72
840.48.R.0	450	510	≈ 15.80
840.50.R.0	463	523	≈ 15.87
840.51.R.0	475	535	≈ 15.91
840.52.R.0	488	548	≈ 15.93
840.53.R.0	500	560	≈ 16.00
840.55.R.0	513	573	≈ 16.31
840.60.R.0	563	623	≈ 16.47

Available bend radii

R [mm] | 325 | 350 | 400 | 450 | 500 | 600 | 750 | 1.000 |

Complete Part No. with required radius (R). Example: **840.40.400.0 = crossbars every link**

Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

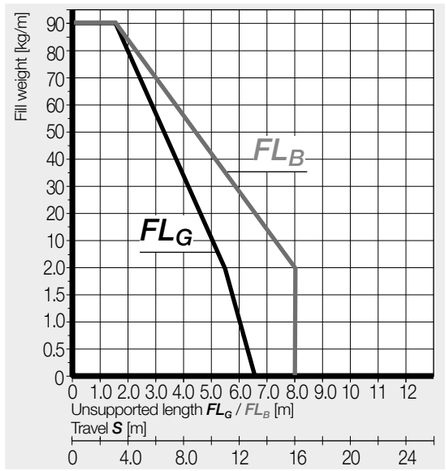
More information ▶ www.igus.eu/E4savetime

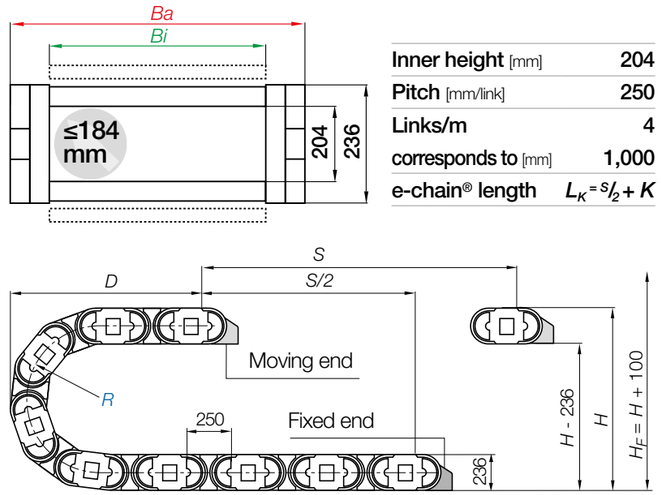


E4.1 | Series 840 | Installation dimensions

Unsupported applications | Short travels

▶ 1392 ▶ 1352





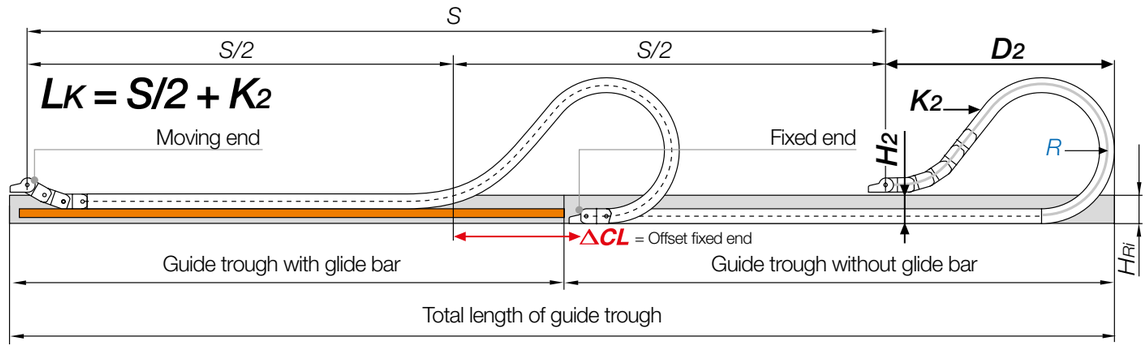
Inner height [mm]	204
Pitch [mm/link]	250
Links/m	4
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

R	325	350	400	450	500	600	750	1,000
$H\ ^{-0}_{+25}$	886	936	1,036	1,136	1,236	1,436	1,736	2,236
D	818	843	893	943	993	1,093	1,243	1,493
K	1,525	1,600	1,760	1,915	2,075	2,385	2,860	3,645

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

*Radius not available for e-tubes

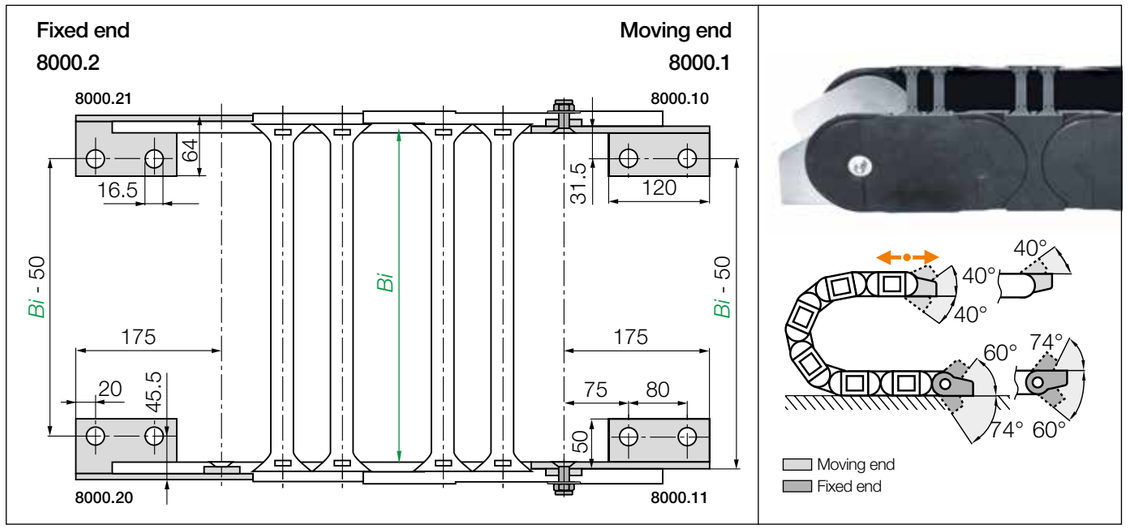
Gliding applications | For travel lengths from 15m to max. 450m



Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 12 and 15m we recommend an e-chain® with a longer unsupported length.

R	325	350	400	450	500	600	750	1,000
H_2	580	580	580	580	580	580	580	580
D_2^{+25}	1,030	1,080	1.380	1.610	2,000	2,480	*	*
K_2	2,000	2,000	2,500	3,000	3,250	4,000	*	*
CL	250	300	550	750	1,050	1,400	*	*

*Values upon request

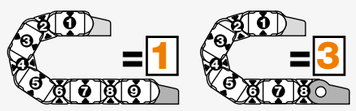


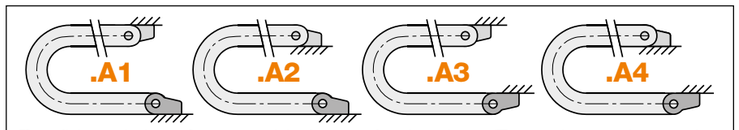
Steel pivoting | For unsupported, gliding,vertical standing and vertical hanging applications

Part No. full set	Description
steel pivoting	Mounting bracket
8000.1.12.VS.E45	**Full set (both ends)** ending with outer side link, screwed - standard
8000.3.12.VS.E45	**Full set (both ends)** beginning with outer side link (moving end) - ending with inner side link (fixed end), screwed - standard

Stainless steel version available. Please add index **.E45** (material: AISI 316Ti)

Note: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 3 (for even) depending on an even or odd number of links required. For the best appearance, make sure the e-chain® ends with outer side links 1 whenever possible. (with odd number of links)



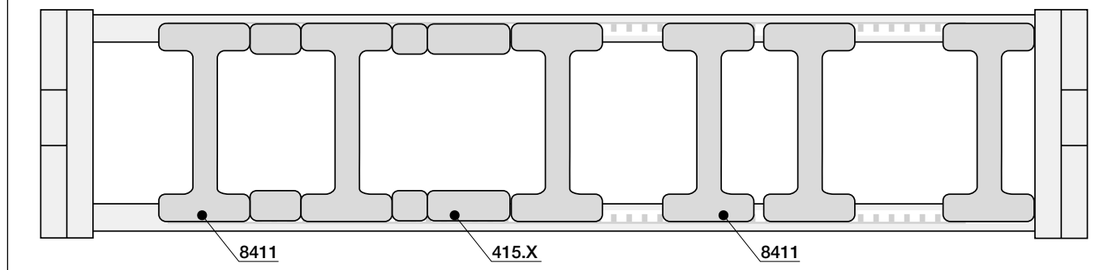


Possible variations for assembled mounting brackets. To receive steel mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

8000.1.12.VS.A2 Order example

- **.A** ... links whenever possible
- Pre-assembled
- Full set, pivoting
- Odd numbers of links
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Separator, for e-chains®	
unassembled	**8401**
assembled	**8411**



XX [mm] = 10, 15, 20, 30, 40

Spacer for e-chains®	
unassembled	**405.XX**
assembled	**415.XX**

Separator

For a vertical subdivision. Offers security due to its wide base design, also when used with large cables or hoses.

Spacer

Separators can be fixed in position using spacers. To avoid reducing the internal height by 2mm, they can also be mounted on the opening crossbar from the outside (not for long travels).

E4.1 | Series E4.350 | Product range

The largest plastic e-chain® - inner height 350mm

350



e-chains® | Series E4.350 | Crossbars every link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	E4.350 [kg/m]
E4.350.400.R.0	400	540	≈ 61.9
E4.350.500.R.0	500	640	≈ 65.7
E4.350.600.R.0	600	740	≈ 69.6
E4.350.700.R.0	700	840	≈ 73.4
E4.350.800.R.0	800	940	≈ 77.2

Available bend radii

R [mm] | 500 | 750 | 1.000 |

Complete Part No. with required radius (R). Example: **E4.350.500.500.0 = crossbars every link**

Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Series E4.350 available as ESD version

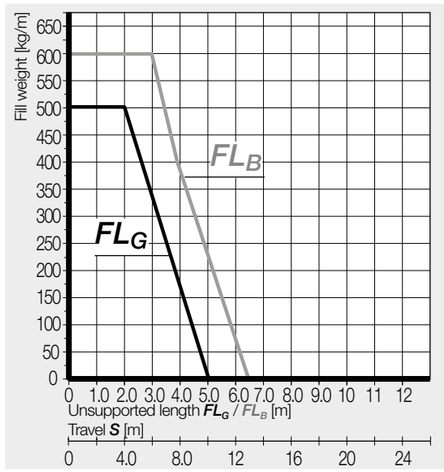
- Safe electrostatic discharge through material and design
- Permanently constant discharge due to a positive connection of the e-chain® links to one another

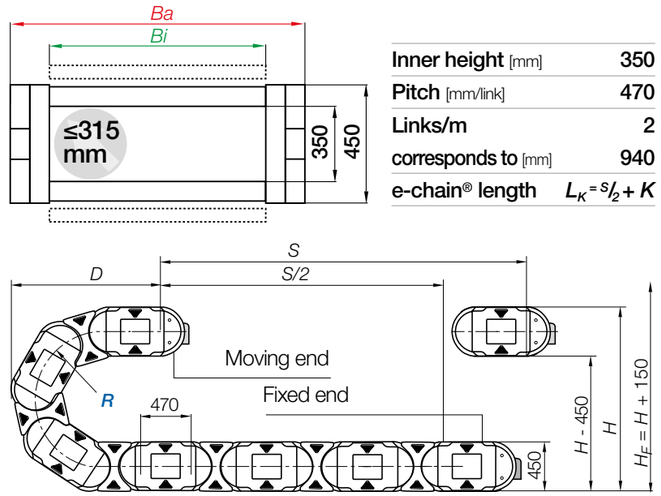
More information ▶ www.igus.eu/ESD



E4.1 | Series E4.350 | Installation dimensions

Unsupported applications | Short travels





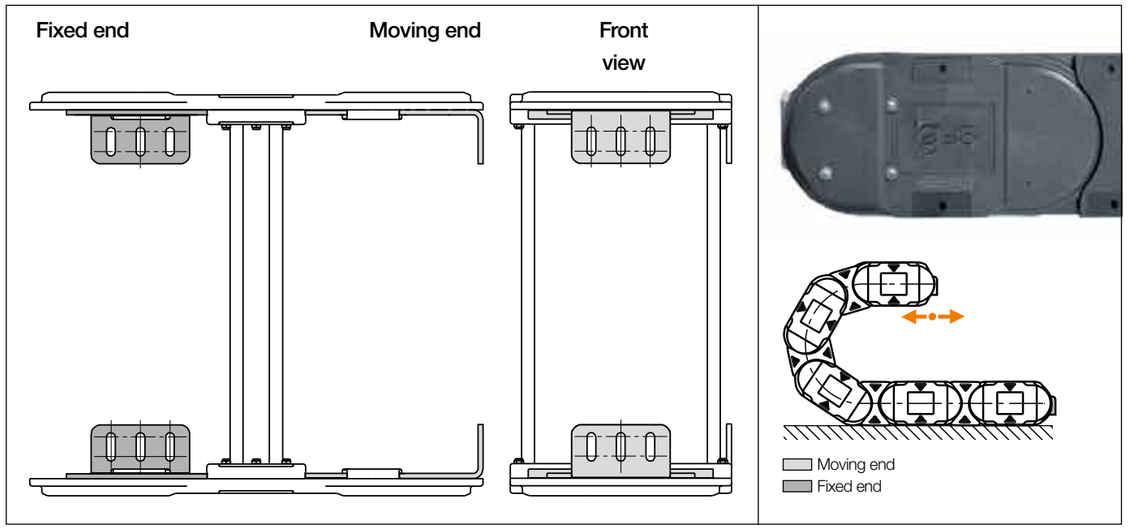
Inner height [mm]	350
Pitch [mm/link]	470
Links/m	2
corresponds to [mm]	940
e-chain® length	$L_K = S/2 + K$

R	500	750	1,000
H^{-0}_{+25}	1,450	1,950	2,450
D	1,430	1,680	1,930
K	2,515	3.300	4,085

The required clearance height: $H_F = H + 150$mm



The world's largest polymer e-chain® with 350mm inner height: lighter than comparable steel chains, it effortlessly carries more than 100kg of fill weight per metre on a 138m travel



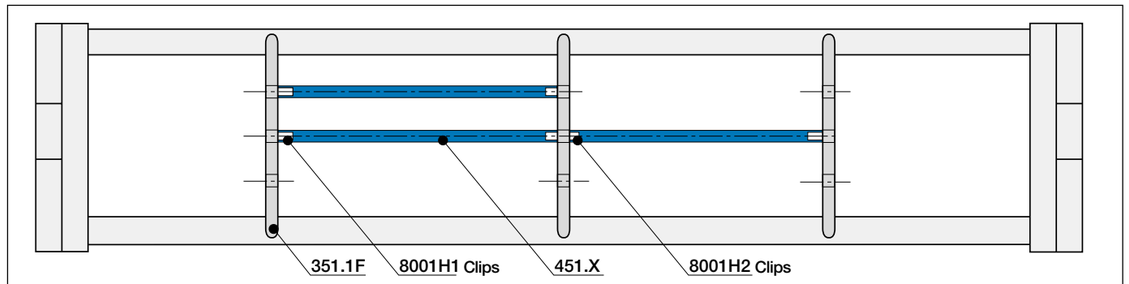
Steel mounting brackets

Mounting brackets for series E4.350 according to your requirements.Steel or stainless steel available. (Material: AISI 304 stainless steel)

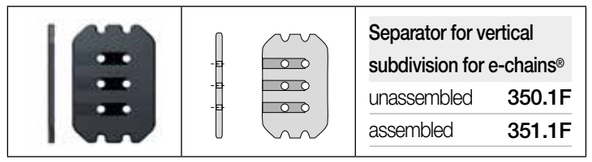




Robust steel mounting bracket for secure fixation and connection



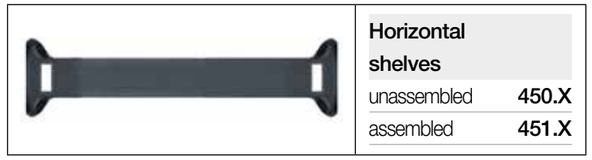
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Separator for vertical subdivision for e-chains®	
unassembled	**350.1F**
assembled	**351.1F**

Separator for vertical subdivision

For a vertical separation with 450.X.



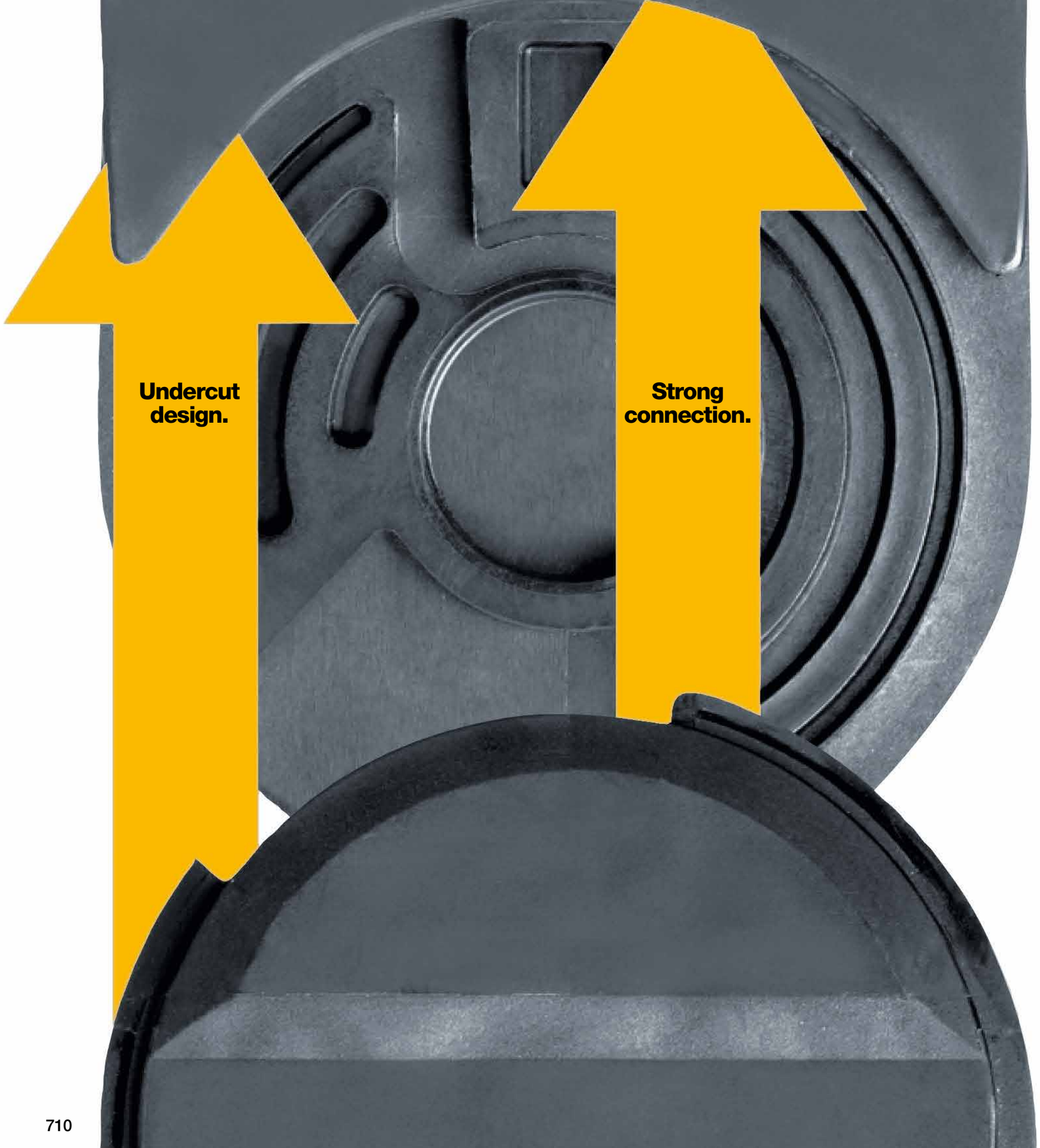
Horizontal shelves	
unassembled	**450.X**
assembled	**451.X**

Horizontal shelves

For horizontal separation with clips separators for vertical subdivision. Horizontal shelves of various widths can be fitted at 3 different heights.

Horizontal shelves
Width = X [mm]

X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
50	**450.050**	**451.050**	225	**450.220**	**451.220**	412	**450.410**	**451.410**
55	**450.055**	**451.055**	237	**450.230**	**451.230**	425	**450.420**	**451.420**
65	**450.060**	**451.060**	250	**450.250**	**451.250**	437	**450.430**	**451.430**
75	**450.070**	**451.070**	262	**450.260**	**451.260**	450	**450.450**	**451.450**
87	**450.080**	**451.080**	275	**450.270**	**451.270**	462	**450.460**	**451.460**
100	**450.100**	**451.100**	287	**450.280**	**451.280**	475	**450.470**	**451.470**
112	**450.110**	**451.110**	300	**450.300**	**451.300**	487	**450.480**	**451.480**
125	**450.120**	**451.120**	312	**450.310**	**451.310**	500	**450.500**	**451.500**
137	**450.130**	**451.130**	325	**450.320**	**451.320**	512	**450.510**	**451.510**
150	**450.150**	**451.150**	337	**450.330**	**451.330**	525	**450.520**	**451.520**
162	**450.160**	**451.160**	350	**450.350**	**451.350**	537	**450.530**	**451.530**
175	**450.170**	**451.170**	362	**450.360**	**451.360**	550	**450.550**	**451.550**
187	**450.180**	**451.180**	375	**450.370**	**451.370**	600	**450.600**	**451.600**
200	**450.200**	**451.200**	387	**450.380**	**451.380**			
212	**450.210**	**451.210**	400	**450.400**	**451.400**			



E4/light

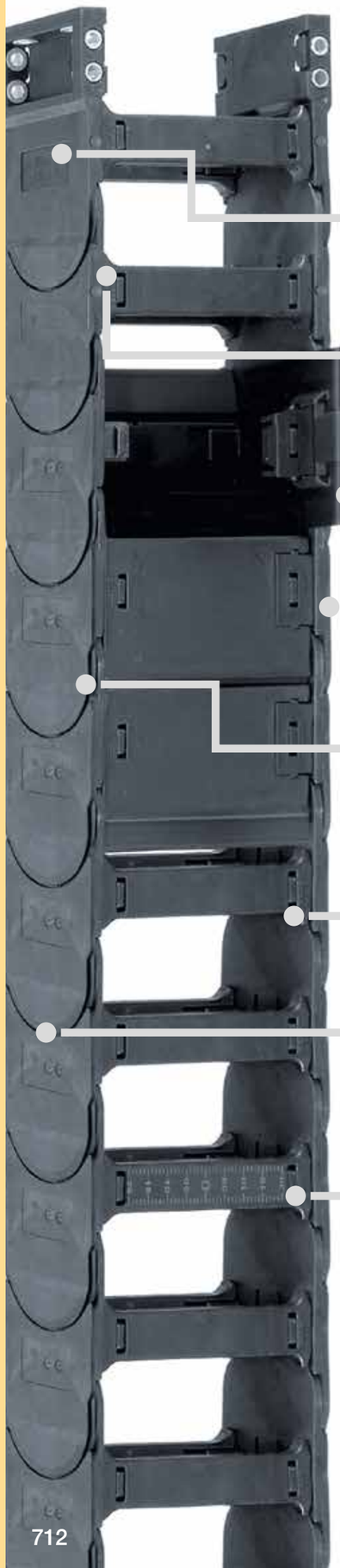
Large, light and strong

Advantages of the E4/light system:

- Large inner heights combined with low weight
- E4/light e-chains® offer optimum price and performance solutions for many applications
- Especially suitable for short travel distances, hanging and standing designs

When to use another e-chain® series:

- For easy, tool-free opening and closing - the next generation of easy-to-assemble e-chains®
  ► **E4Q, page 580**
- When the e-chain® needs to be extremely quiet with very low vibration
  ► **E6.1, page 832**
- When the e-chain® is to be used in cleanrooms
  ► **E6.1, page 832**
- If large unsupported lengths are required for side-mounted applications
  ► **E4.1, page 616**
- When longer unsupported lengths and longer travels are required
  ► **E4.1, page 616**
- When the current standard up to 64mm is preferred
  ► **E4.1L, page 538**



Attachment from any side with KMA mounting brackets

Quiet operation: optional noise dampers

Swarf protection: openable lids

Long service life: lateral gliding surfaces

High strength: due to undercut design

Strong: crossbars with double locking

Low-noise operation: due to integrated brake

Precise partitions: notch crossbar with visual scale

Large, light and strong - E4/light system

Weight reduction, a larger interior space and a reduced price. The characteristics of the E4/light system: thinner side links (for all series) and a thinner crossbar (for some series: 14240, 14340). E4/light e-chains® offer an optimum price/performance ratio for many applications. Especially for short travels, hanging and small standing applications. E4/light types are often first choice.

Typical industries and applications

● Machine tools ● Material handling equipment ● Stone-cutting machines ● Woodworking machines ● Vehicles ● Construction machinery ● Limited application for long travel distances ● General mechanical engineering etc.

Electrically conductive ESD e-chains® - several series available from stock

Side-mounted - unsupported

High strength

More information ▶ www.igus.eu/E4light

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **e-chains® with crossbars every link** the all-rounder - also for particularly demanding applications **Please observe the guidelines for the e-chains® selection, further information ▶ From page 114**							
14040	56	50 - 600	76 - 626	84	135 - 500	4.0	**718**
14240	62	50 - 400	76 - 426	84	135 - 500	4.0	**728**
14550	70	50 - 600	77 - 627	98	150 - 600	4.2	**736**
15050	80	50 - 600	80 - 630	108	150 - 600	4.6	**744**
15250	86	50 - 400	80 - 430	108	150 - 600	4.6	**754**
1640	112	50 - 600	84 - 634	140	200 - 600	4.5	**762**
 **e-chains® with crossbars every 2nd link** the cost-effective, easy-to-install alternative for almost all applications **Please observe the guidelines for the e-chains® selection, further information ▶ From page 114**							
14140	56	50 - 600	76 - 626	84	135 - 500	4.0	**718**
14340	62	50 - 400	76 - 426	84	135 - 500	4.0	**728**
14650	70	50 - 600	77 - 627	98	150 - 600	4.2	**736**
15150	80	50 - 600	80 - 630	108	150 - 600	4.6	**744**
15350	86	50 - 400	80 430	108	150 - 600	4.6	**754**
 **e-tubes** fully enclosed, excellent cable protection **Please observe the guidelines for the e-chains® selection, further information ▶ From page 114**							
R18840	56	75 - 462	101 - 489	84	150 - 500	4.0	**718**
R19050	70	75 - 462	102 - 489	98	200 - 600	4.2	**736**
R19850	80	75 - 462	105 - 493	108	200 - 500	4.6	**744**
R1608	108	200 - 500	234 - 534	140	250 - 600	4.5	**762**

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

igus 3D CAD, service life calculation, configurators and more ▶ www.igus.eu/E4light



E4/light undercut design, for high stability and strength



E4/light - high strength even for side-mounted applications



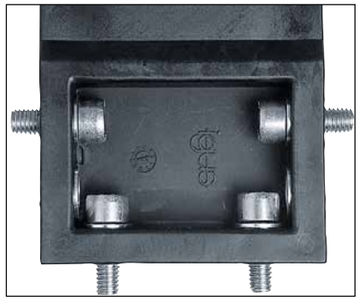
Crossbars openable on both sides



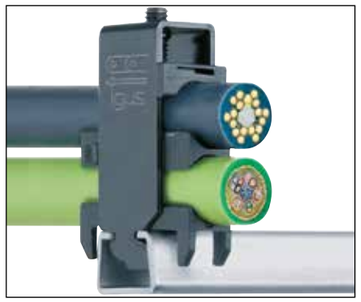
Flexible extender crossbar range - e-chain® extender for enlarging the interior, large range of widths possible



The extension link design allows virtually unlimited side-by-side extension



KMA mounting brackets with attachment options from any side



Strain relief elements include clamps, tiewrap plates, nuggets, etc. ► **From page 1392**

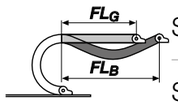


Aluminium "SuperTrough" - the standard igus® guide trough ► **From page 1298**



Steel support tray for support of the lower run ► **From page 1356**

Technical data



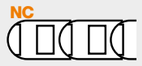
Speed gliding / acceleration gliding	**≤ 5 [m/s] / ≤ 50 [m/s²]**
Speed ***FL$_G$*** / acceleration ***FL$_G$***	**≤ 20 [m/s] / ≤ 200 [m/s²]**
Speed ***FL$_B$*** / acceleration ***FL$_B$***	**≤ 3 [m/s] / ≤ 6 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C/+120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

FL$_G$ = unsupported with straight upper run ***FL$_B$*** = unsupported with permitted sag

Installation types, maximum travels

Series	Unsupported	Gliding	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag	Unsupported length lower run
14040/14140/ R18840	≤ 8.0m	≤ 150m	≤ 80m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
14240/14340	≤ 8.0m	≤ 150m	≤ 80m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
14550/14650/ R19050	≤ 8.4m	≤ 250m	≤ 90m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
15050/15150/ R19850	≤ 9.2m	≤ 250m	≤ 100m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
15250/15350	≤ 9.2m	≤ 250m	≤ 100m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
1640/R1608	≤ 9.0m	≤ 400m	≤ 100m	≤ 5.0m	≤ 2.0m	with rework	upon request	upon request

Options with order keys | Examples based on series 14040/14140/18840

	Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*	*Unsupported lengths +25% possible*
	Part No. Standard 	**Part No. NC version** 	**Part No. *RBR*** 	**Part No. XXL material** 
	14040.30.*R*.0 e-chain® with crossbars every link	**14040.30.*R*.0.NC** e-chain® with crossbars every link	**14040.30.*R1/R*2.0** e-chain® with crossbars every link	**14040.30.*R*.0.XXL** e-chain® with crossbars every link [1]
	14140.30.*R*.0 e-chain® with crossbars every 2nd link	**14140.30.*R*.0.NC** e-chain® with crossbars every 2nd link	**14140.30.*R1/R2*.0** e-chain® with crossbars every 2nd link	**14140.30.*R*.0.XXL** e-chain® with crossbars every 2nd link [1]
	18840.30.*R*.0 e-tube, closed	**18840.30.*R*.0.NC** e-tube, closed	***RBR*** for e-tubes - please consult igus®	**18840.30.*R*.0.XXL** e-tube, closed [1]
	Ready to ship in 24 - 48hrs.*	Ready to ship in 3-5 business days*	Ready to ship in 12 business days*	Ready to ship in 12 business days*

	e-tube - no burning-in of hot swarf up to 850°C	*ESD - electrically conductive material*
	Part No. igumid HT 	**Part No. igumid ESD** 
	18840.30.*R*.0.HT Complete e-tube made of HT material [2]	**14040.30.*R*.0.ESD** e-chain® with crossbars every link
	18840.30HT.*R*.0 Lid and shelves made of HT material (side plates of standard material)	**14140.30.*R*.0.ESD** e-chain® with crossbars every 2nd link
		18840.30.*R*.0.ESD e-tube, closed
	Ready to ship in 6 weeks*	Ready to ship in 12 business days* ⚠

⚠ ESD version - some series available from stock - further information and the complete product range ▶ From page 142

*Average time before the ordered goods are dispatched.

1) Side-bands made from XXL material 2) Available upon request. Delivery time upon request

Order example | Examples based on series 14040

Order example for complete e-chain® (3.0m), colour black, with mounting brackets and interior separation:

e-chain® (3.0m)	Please indicate e-chain® length or number of links: 3.0m or 33 links	**14040.30.300.0**
+ Mounting brackets	1 set (with integrated C-profiles)	**140400.30.12.C**
Interior separation	with 2 separators assembled every 2nd link	**2 x 56.1.1**
Order text:	**3m 140400.30.300.0 + 141400.30.12.C + 2 x 56.1.1**	

Order key and colour examples | Examples based on series 14040/14140/18840

Order key

e-chain® with crossbars every link **14040.30.300.0**
e-chain® with crossbars every 2nd link **14140.30.300.0**
e-tube fully enclosed **18840.30.300.0**

Series / Type
Width index (depends on *Bi*)
Bend radius *R*
Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

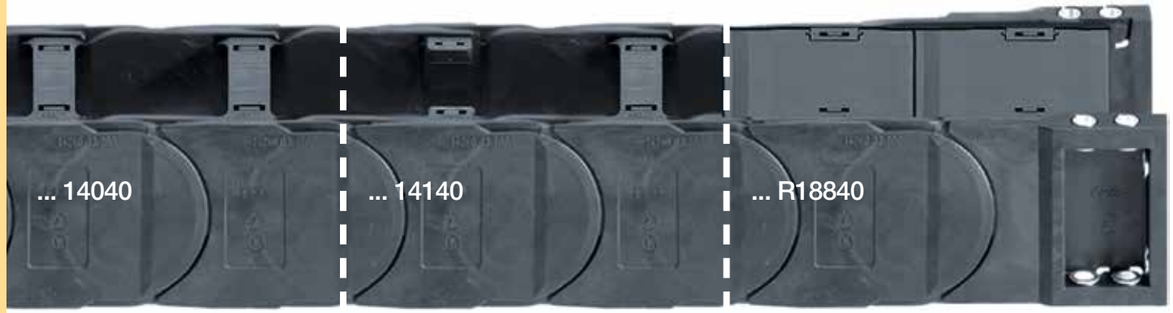
Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

E4/light | 14040·14140·R18840 | Product range

56 56

"Light" design, large inner height



e-chains®| Series 14040 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains®| Series 14140 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)
e-tubes | Series R18840| Fully enclosed (lids openable along the outer radius, from one side)

Part No.				Bi	Ba	14040	14140	18840
e-chains® / e-tubes				[mm]	[mm]	[kg/m]	[kg/m]	[kg/m]
14040.	14140.	–	05. R.0	50	76	≈ 2.47	≈ 2.48	–
14040.	14140.	–	055.R.0	55	81	≈ 2.57	≈ 2.50	–
14040.	14140.	–	06. R.0	65	91	≈ 2.66	≈ 2.51	–
14040.	14140.	18840.[1]	07. R.0	75	101	≈ 2.75	≈ 2.25	≈ 3.20
14040.	14140.	–	08. R.0	87	113	≈ 2.84	≈ 2.44	–
14040.	14140.	18840.	10. R.0	100	126	≈ 2.93	≈ 2.61	≈ 3.49
14040.	14140.	–	11. R.0	112	139	≈ 3.06	≈ 2.67	–
14040.	14140.	18840.	12. R.0	125	151	≈ 3.12	≈ 2.71	≈ 3.85
14040.	14140.	–	13. R.0	137	164	≈ 3.26	≈ 2.77	–
14040.	14140.	18840.	15. R.0	150	176	≈ 3.32	≈ 2.81	≈ 4.28
14040.	14140.	–	16. R.0	162	189	≈ 3.43	≈ 2.86	–
14040.	14140.	–	169.R.0	196	196	≈ 3.51	≈ 2.90	–
14040.	14140.	18840.	17. R.0	175	201	≈ 3.54	≈ 2.92	≈ 4.54
14040.	14140.	–	182.R.0	182	209	≈ 3.58	≈ 2.94	–
14040.	14140.	–	18. R.0	187	214	≈ 3.65	≈ 2.97	–
14040.	14140.	18840.	20. R.0	200	226	≈ 3.67	≈ 2.98	≈ 4.85
14040.	14140.	–	207.R.0	207	234	≈ 3.73	≈ 3.01	–
14040.	14140.	–	21. R.0	212	239	≈ 3.78	≈ 3.04	–
14040.	14140.	–	22. R.0	225	251	≈ 3.85	≈ 3.07	–
14040.	14140.	–	23. R.0	237	264	≈ 3.98	≈ 3.14	–
14040.	14140.	18840.	25. R.0	250	276	≈ 4.07	≈ 3.18	≈ 5.58
14040.	14140.	–	26. R.0	262	289	≈ 4.16	≈ 3.22	–
14040.	14140.	18840.	27. R.0	275	301	≈ 4.27	≈ 3.28	≈ 5.85
14040.	14140.	–	28. R.0	287	314	≈ 4.29	≈ 3.29	–
14040.	14140.	18840.	30. R.0	300	326	≈ 4.51	≈ 3.40	≈ 6.24
14040.	14140.	–	31. R.0	312	339	≈ 4.57	≈ 3.42	–
14040.	14140.	–	32. R.0	325	351	≈ 4.60	≈ 3.44	–
14040.	14140.	–	33. R.0	337	364	≈ 4.77	≈ 3.53	–
14040.	14140.	18840.	35. R.0	350	376	≈ 4.93	≈ 3.61	≈ 6.99
14040.	14140.	–	36. R.0	362	389	≈ 4.94	≈ 3.61	–
14040.	14140.	–	37. R.0	375	401	≈ 4.95	≈ 3.62	–
14040.	14140.	–	38. R.0	387	414	≈ 5.04	≈ 3.66	–
14040.	14140.	18840.	40. R.0	400	426	≈ 5.24	≈ 3.76	≈ 7.94
14040.	14140.	–	41. R.0	412	439	≈ 5.39	≈ 3.84	–
14040.	14140.	–	42. R.0	425	451	≈ 5.54	≈ 3.92	–
14040.	14140.	–	43. R.0	437	464	≈ 5.61	≈ 3.95	–
14040.	14140.	–	45. R.0	450	476	≈ 5.68	≈ 3.98	–
14040.	14140.	18840.	46. R.0	462	489	≈ 5.70	≈ 3.99	≈ 8.40
14040.	14140.	–	47. R.0	475	501	≈ 5.83	≈ 4.06	–
14040.	14140.	–	48. R.0	487	514	≈ 5.86	≈ 4.08	–
14040.	14140.	–	50. R.0	500	526	≈ 5.96	≈ 4.13	–
14040.	14140.	–	51. R.0	512	539	≈ 5.98	≈ 4.14	–
14040.	14140.	–	52. R.0	525	551	≈ 6.03	≈ 4.16	–
14040.	14140.	–	53. R.0	537	564	≈ 6.18	≈ 4.24	–
14040.	14140.	–	55. R.0	550	576	≈ 6.67	≈ 4.48	–
14040.	14140.	–	60. R.0	600	626	≈ 6.98	≈ 4.58	–

1) Lid removable, non-openable *Radius not available for e-tubes

Available bend radii

R [mm] | 135* | 150 | 175 | 200 | 250 | 300 | 400 | 500 |

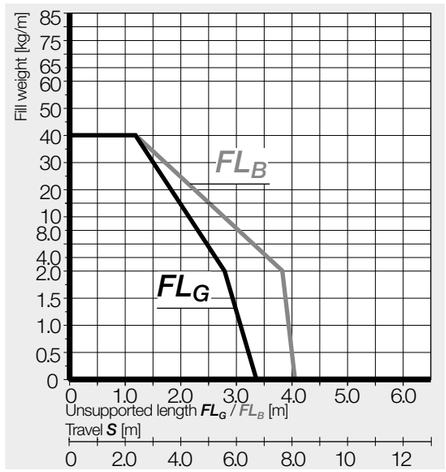
Complete Part No. with required radius (R). Example:

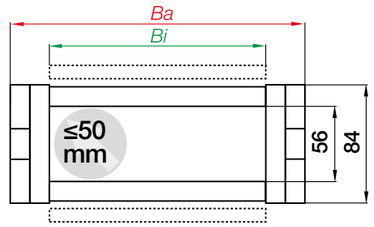
14040.30.300.0 = crossbars every link / 14140.30.300.0 = crossbars every 2nd link / 18840.30.300.0 = fully enclosed

14040·14140·R18840 | Installation dimensions

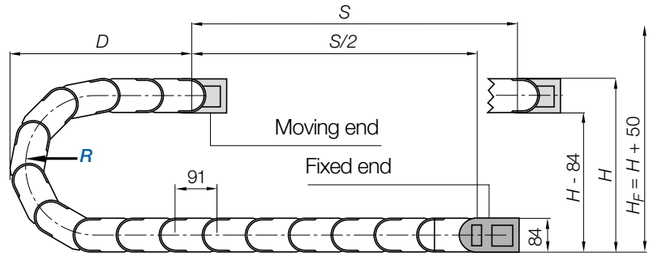
▶ 1392 ▶ 1322

Unsupported applications | Short travels





Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

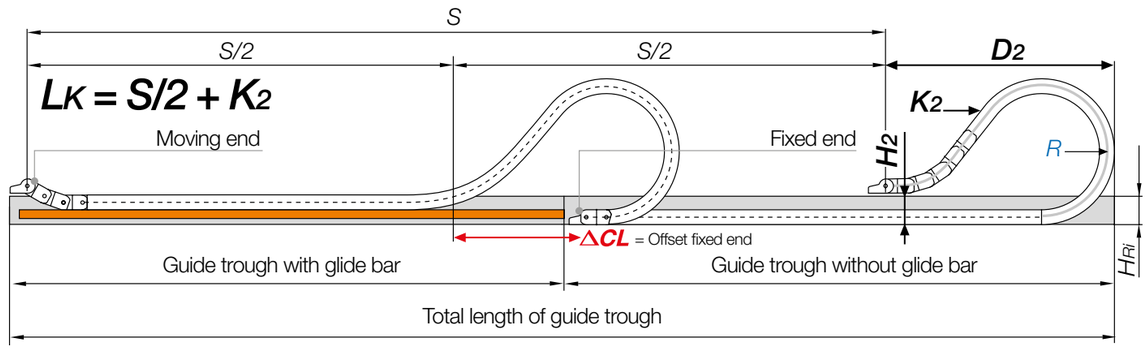


R	135*	150	175	200	250	300	400	500
H -0 +25	354	384	434	484	584	684	884	1,084
D	314	329	354	379	429	479	579	679
K	610	655	735	815	970	1,125	1,440	1,755

The required clearance height: $H_F = H + 50$mm (with 2.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For travel lengths from 12m to max. 150m



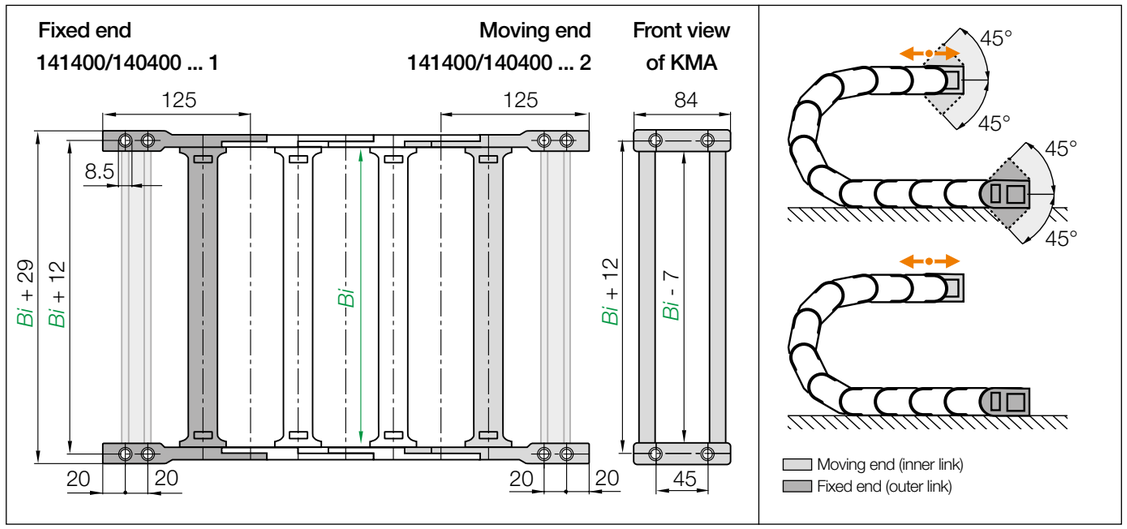
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 8 and 12m we recommend an e-chain® with a longer unsupported length.

R	135*	150	175	200	250	300	400	500
H_2	266	266	266	266	266	266	266	266
D_2 +25	390	450	530	710	920	1,120	1,530	1,830
K_2	728	819	1,001	1,274	1,638	1,911	2,548	3,185
ΔCL	124	159	209	359	509	659	959	1,159

*Radius not available for e-tubes

E4/light | **e-chains®** 14040·14140 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



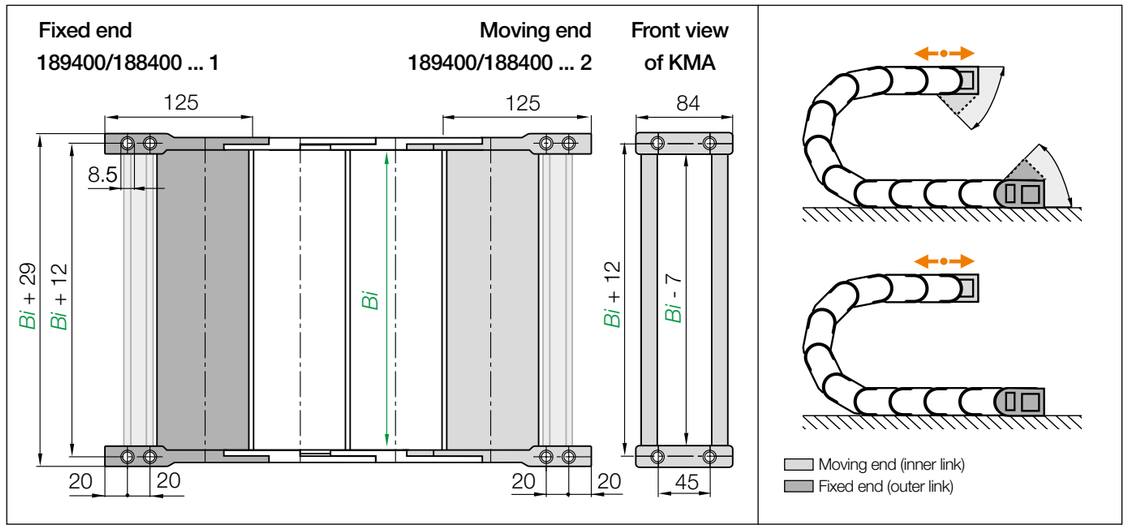
KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]	Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
05. ▶	141400. 05 .12.C	140400. 05 .12.C	50	28. ▶	141400. 28 .12.C	140400. 28 .12.C	287
055. ▶	141400. 055 .12.C	140400. 055 .12.C	55	30. ▶	141400. 30 .12.C	140400. 30 .12.C	300
06. ▶	141400. 06 .12.C	140400. 06 .12.C	65	31. ▶	141400. 31 .12.C	140400. 31 .12.C	312
07. ▶	141400. 07 .12.C	140400. 07 .12.C	75	32. ▶	141400. 32 .12.C	140400. 32 .12.C	325
08. ▶	141400. 08 .12.C	140400. 08 .12.C	87	33. ▶	141400. 33 .12.C	140400. 33 .12.C	337
10. ▶	141400. 10 .12.C	140400. 10 .12.C	100	35. ▶	141400. 35 .12.C	140400. 35 .12.C	350
11. ▶	141400. 11 .12.C	140400. 11 .12.C	112	36. ▶	141400. 36 .12.C	140400. 36 .12.C	362
12. ▶	141400. 12 .12.C	140400. 12 .12.C	125	37. ▶	141400. 37 .12.C	140400. 37 .12.C	375
13. ▶	141400. 13 .12.C	140400. 13 .12.C	137	38. ▶	141400. 38 .12.C	140400. 38 .12.C	387
15. ▶	141400. 15 .12.C	140400. 15 .12.C	150	40. ▶	141400. 40 .12.C	140400. 40 .12.C	400
16. ▶	141400. 16 .12.C	140400. 16 .12.C	162	41. ▶	141400. 41 .12.C	140400. 41 .12.C	412
169. ▶	141400. 169 .12.C	140400. 169 .12.C	169	42. ▶	141400. 42 .12.C	140400. 42 .12.C	425
17. ▶	141400. 17 .12.C	140400. 17 .12.C	175	43. ▶	141400. 43 .12.C	140400. 43 .12.C	437
182. ▶	141400. 182 .12.C	140400. 182 .12.C	182	45. ▶	141400. 45 .12.C	140400. 45 .12.C	450
18. ▶	141400. 18 .12.C	140400. 18 .12.C	187	46. ▶	141400. 46 .12.C	140400. 46 .12.C	462
20. ▶	141400. 20 .12.C	140400. 20 .12.C	200	47. ▶	141400. 47 .12.C	140400. 47 .12.C	475
207. ▶	141400. 207 .12.C	140400. 207 .12.C	207	48. ▶	141400. 48 .12.C	140400. 48 .12.C	487
21. ▶	141400. 21 .12.C	140400. 21 .12.C	212	50. ▶	141400. 50 .12.C	140400. 50 .12.C	500
22. ▶	141400. 22 .12.C	140400. 22 .12.C	225	51. ▶	141400. 51 .12.C	140400. 51 .12.C	512
23. ▶	141400. 23 .12.C	140400. 23 .12.C	237	52. ▶	141400. 52 .12.C	140400. 52 .12.C	525
25. ▶	141400. 25 .12.C	140400. 25 .12.C	250	53. ▶	141400. 53 .12.C	140400. 53 .12.C	537
26. ▶	141400. 26 .12.C	140400. 26 .12.C	262	55. ▶	141400. 55 .12.C	140400. 55 .12.C	550
27. ▶	141400. 27 .12.C	140400. 27 .12.C	275	60. ▶	141400. 60 .12.C	140400. 60 .12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4/light | **e-tube** R18840 | Accessories

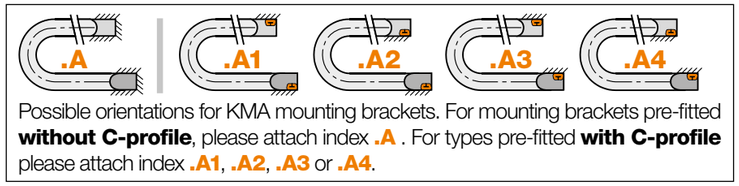
KMA mounting brackets | Attachment from any side | Pivoting | Locking



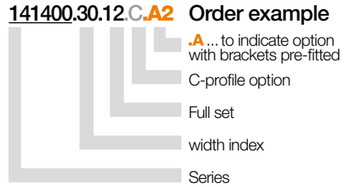
KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]	Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
07. ▶	189400. 07 .12.C	188400. 07 .12.C	75	25. ▶	189400. 25 .12.C	188400. 25 .12.C	250
10. ▶	189400. 10 .12.C	188400. 10 .12.C	100	27. ▶	189400. 27 .12.C	188400. 27 .12.C	275
12. ▶	189400. 12 .12.C	188400. 12 .12.C	125	30. ▶	189400. 30 .12.C	188400. 30 .12.C	300
15. ▶	189400. 15 .12.C	188400. 15 .12.C	150	35. ▶	189400. 35 .12.C	188400. 35 .12.C	350
17. ▶	189400. 17 .12.C	188400. 17 .12.C	175	40. ▶	189400. 40 .12.C	188400. 40 .12.C	400
20. ▶	189400. 20 .12.C	188400. 20 .12.C	200	46. ▶	189400. 46 .12.C	188400. 46 .12.C	462

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.



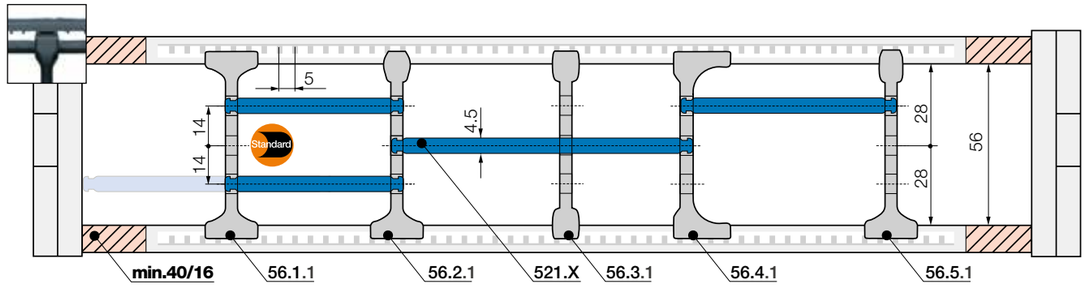
Order example

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E4/light | Series 14040·14140·R18840 | Accessories

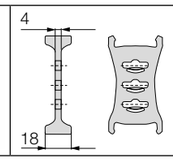
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/14040**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



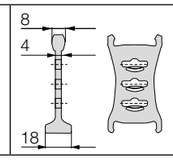


Standard separator, wide base	
unassembled	**56.1**
assembled	**56.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



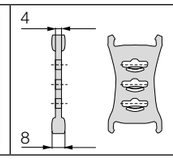


Separator, narrow top	
unassembled	**56.2**
assembled	**56.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



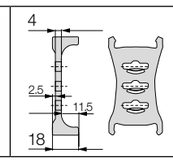


Separator, narrow	
unassembled	**56.3**
assembled	**56.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



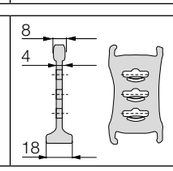


Separator, asymmetrical	
unassembled	**56.4**
assembled	**56.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.



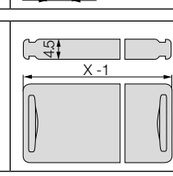


Notch separator for notched crossbar	
unassembled	**56.5**
assembled	**56.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





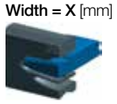
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

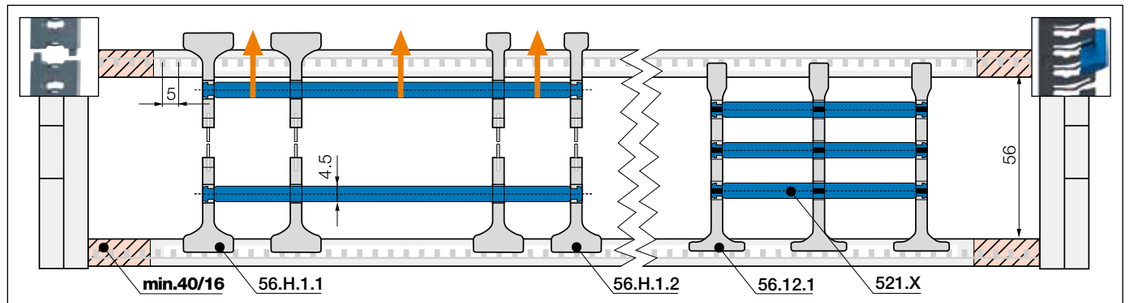


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**521.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**521.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

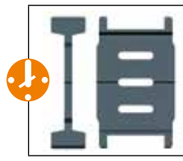
14040
14140
R18840

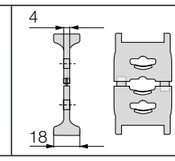
E4/light | Series 14040·14140·R18840 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

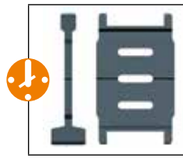


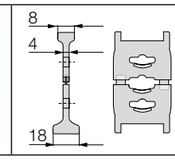


Split separator, wide base/top	
unassembled	**56.H.1**
assembled	**56.H.1.1**

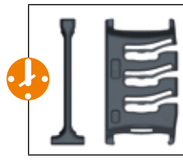
Split separators

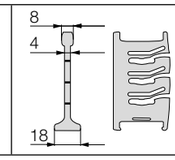
In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Split separator, narrow top	
unassembled	**56.H.2**
assembled	**56.H.2.1**





Lean separator[1)]	
unassembled	**56.12**
assembled	**56.12.1**

Lean separators[1)]

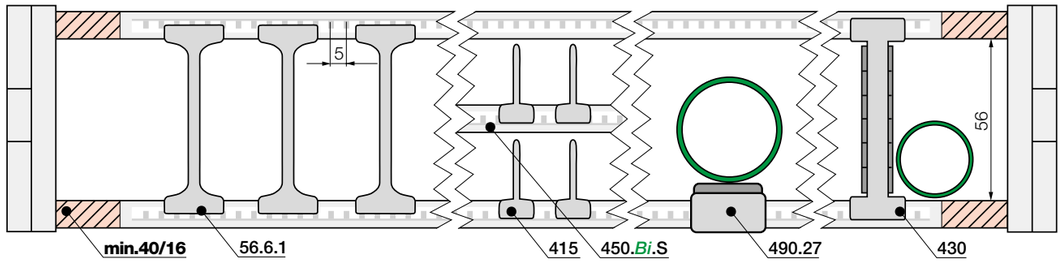
For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2).] 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



E4/light | Series 14040·14140·R18840 | Accessories

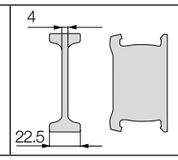
More interior separation options | Only for e-chains®



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**

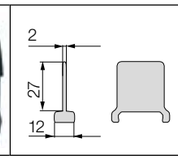
As standard separators are fitted every 2nd e-chain® link!





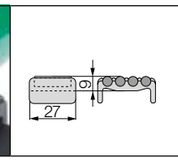
Notch locking separator*, lockable for e-chains®	
unassembled	**56.6**
assembled	**56.6.1**





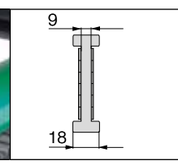
Partial height separator*, for e-chains®	
unassembled	**405**
assembled	**415**





Rollclip*, for e-chains®	
unassembled	**489.27**
assembled	**490.27**





Roller separator*, for e-chains®	
unassembled	**429**
assembled	**430**

Notch locking separator* for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Partial height separator*

In conjunction with an additional opening crossbar, **part no. 450.*Bi*.S**, it provides the option to separate the upper and lower halves of the e-chain® independently of each other.

Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

Roller separator*

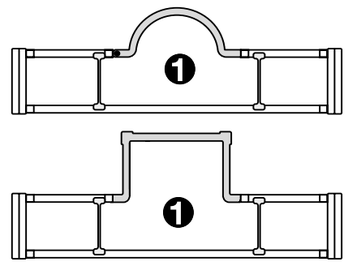
The roller separator is used in a similar way to the rollclip. It is used like a separator. For rigid cables and hoses.

*Only suitable for e-chains®

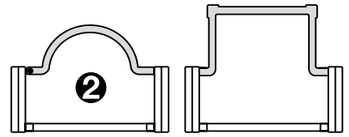
E4/light | Series 14040·14140·R18840 | Further accessories

Extender crossbar with fixed width





Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 245mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	no	yes
450.17RD115	115	○ round	yes	no
450.25D150	150	□ square	yes	no
450.30D200	180	□ square	yes	no
450.35D250	195	□ square	yes	no
450.40D300	245	□ square	yes	no
450.20HD150	150	□ square	no	yes
450.25HD200	180	□ square	no	yes
450.30HD250	195	□ square	no	yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **14040.10/15RHD*E*115/10.*R*.0**

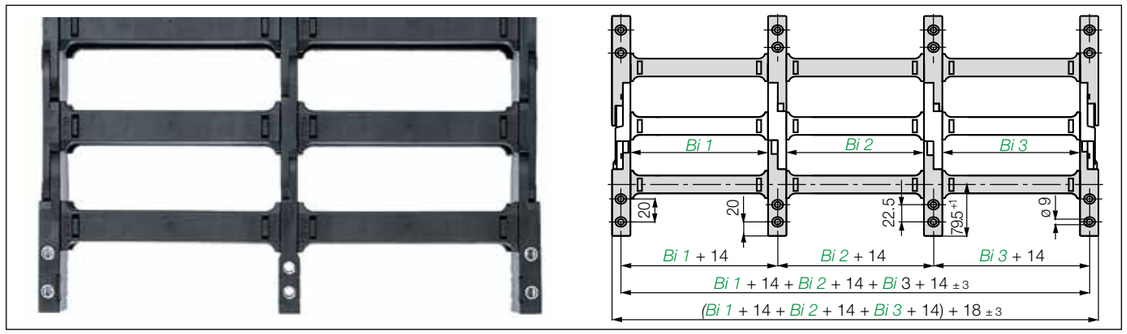
To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **14040.10/15RHD*Z*115/10.*R*.0**

Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **14040.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **14040.17RD*Z*115.*R*.0**

Extension links



Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part number Extension link e-chain®	Part number Extension link e-tube	Part number Extension link as an individual part
14040.*Bi1*/*Bi2*/*Bi3*.*R*.0	R18840.*Bi1*/*Bi2*/*Bi3*.*R*.0	422.*R*.

Complete Part No.with the width index *Bi1*/*Bi2*/*Bi3*/*etc.* and the radius (*R*). Example: **14040.10/20/10.200.0**



Paint spraying robot with system E4 e-chains® in ESD version. High rates of acceleration of up to 6m/s² and high braking rates for a robot weight of approx. one ton

E4/light | Series 14040·14140·R18840 | Further accessories

14040
14140
R18840

E4 snapclip - clip-on tiewrap

- For side-mounted applications, compatible with many E4 e-chains®
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required

More information ▶ www.igus.eu/14040



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

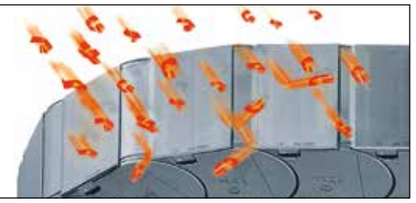
More information ▶ From page 1356



Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4/light | Series 14240·14340 | Product range

62

Stable due to undercut design, large inner height



e-chains® | Series 14240 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains® | Series 14340 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	14240 [kg/m]	14340 [kg/m]
14240.▲14340. 05. R.0	50	76	≈ 2.37	≈ 2.32
14240. 14340. 06. R.0	68	94	≈ 2.40	≈ 2.33
14240. 14340. 07. R.0	75	101	≈ 2.42	≈ 2.34
14240. 14340. 087.R.0	87	114	≈ 2.47	≈ 2.36
14240. 14340. 097.R.0	97	123	≈ 2.51	≈ 2.38
14240.▲14340. 10. R.0	100	126	≈ 2.52	≈ 2.39
14240. 14340. 11. R.0	108	134	≈ 2.55	≈ 2.40
14240. 14340. 112.R.0	112	139	≈ 2.55	≈ 2.41
14240. 14340. 12. R.0	125	151	≈ 2.62	≈ 2.44
14240. 14340. 137.R.0	137	164	≈ 2.66	≈ 2.46
14240.▲14340. 15. R.0	150	176	≈ 2.72	≈ 2.49
14240. 14340. 162.R.0	162	189	≈ 2.73	≈ 2.49
14240. 14340. 17. R.0	168	194	≈ 2.79	≈ 2.52
14240.▲14340. 18. R.0	175	201	≈ 2.82	≈ 2.53
14240. 14340. 187.R.0	187	214	≈ 2.84	≈ 2.55
14240.▲14340. 20. R.0	200	226	≈ 2.89	≈ 2.58
14240. 14340. 212.R.0	212	239	≈ 2.95	≈ 2.60
14240. 14340. 23. R.0	225	251	≈ 3.01	≈ 2.63
14240. 14340. 237.R.0	237	264	≈ 3.04	≈ 2.65
14240. 14340. 25. R.0	250	276	≈ 3.10	≈ 2.68
14240. 14340. 262.R.0	262	289	≈ 3.11	≈ 2.69
14240. 14340. 28. R.0	275	301	≈ 3.19	≈ 2.72
14240. 14340. 29. R.0	287	314	≈ 3.20	≈ 2.73
14240. 14340. 30. R.0	300	326	≈ 3.30	≈ 2.78
14240. 14340. 312 R.0	312	339	≈ 3.31	≈ 2.79
14240. 14340. 325.R.0	325	351	≈ 3.37	≈ 2.81
14240. 14340. 337.R.0	337	364	≈ 3.40	≈ 2.83
14240. 14340. 350.R.0	350	376	≈ 3.56	≈ 2.91
14240. 14340. 362 R.0	362	389	≈ 3.61	≈ 2.93
14240. 14340. 375.R.0	375	401	≈ 3.64	≈ 2.95
14240. 14340. 387.R.0	387	414	≈ 3.69	≈ 2.97
14240. 14340. 400.R.0	400	426	≈ 3.73	≈ 2.99

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

Available bend radii

R [mm] | 135 | 150 | 175 | 200 | 250 | 300 | 400 | 500 |

Complete Part No. with required radius (R). Example:

14240.20.300.0 = crossbars every link / 14340.20.300.0 = crossbars every 2nd link

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

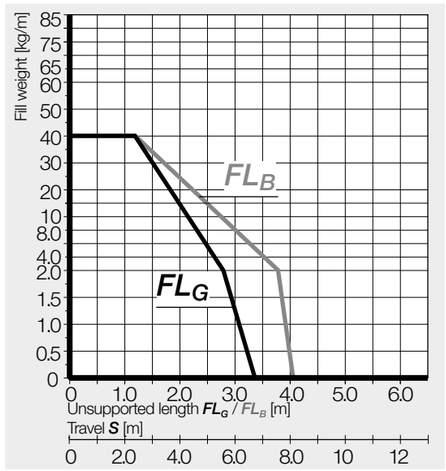
More information and the complete product range ▶ From page 142

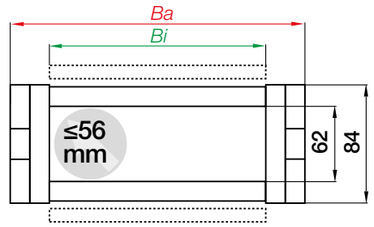


E4/light | 14240·14340 | Installation dimensions

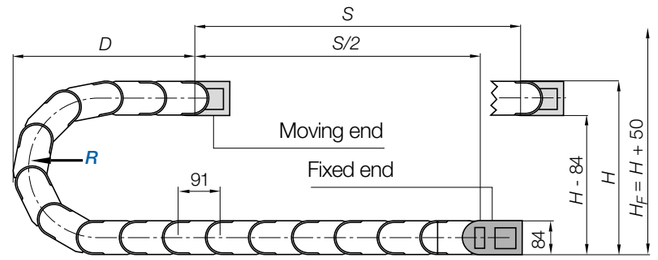
▶ 1392 ▶ 1322

Unsupported applications | Short travels





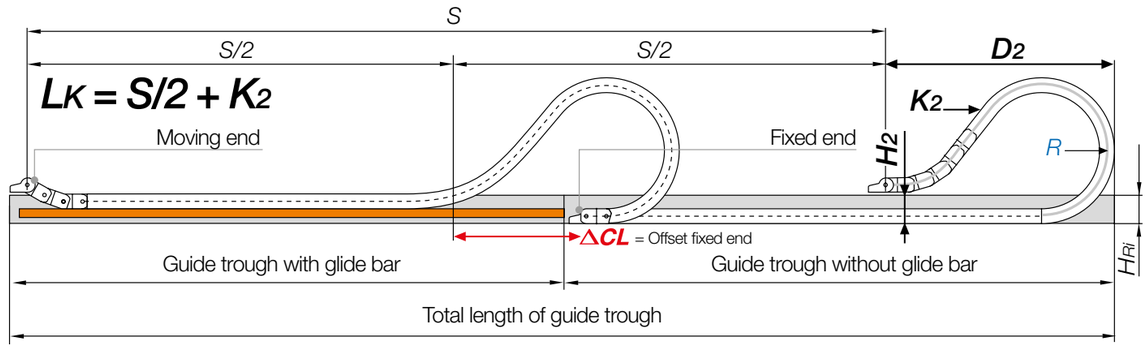
Inner height [mm]	62
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$



R	135	150	175	200	250	300	400	500
H -0 +25	354	384	434	484	584	684	884	1,084
D	314	329	354	379	429	479	579	679
K	610	655	735	815	970	1,125	1,440	1,755

The required clearance height: $H_F = H + 50$mm (with 2.0kg/m fill weight)

Gliding applications | For travel lengths from 12m to max. 250m

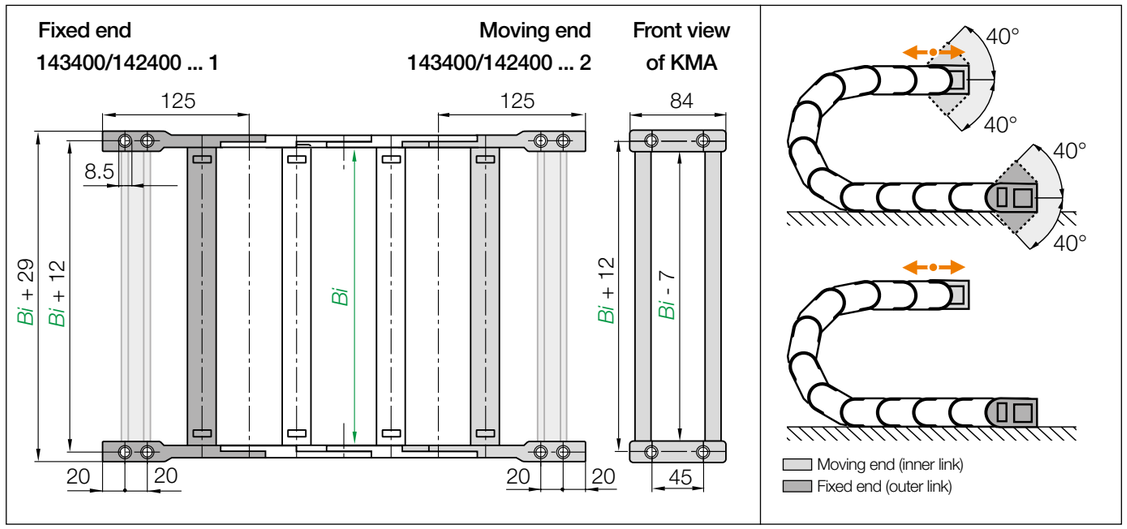


Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 9 and 12m we recommend an e-chain® with a longer unsupported length.

R	135	150	175	200	250	300	400	500
H2	266	266	266	266	266	266	266	266
D2 +25	390	450	550	710	920	1,120	1,530	1,850
K2	728	819	1,001	1,274	1,638	1,911	2,548	3,185
ΔCL	124	159	209	359	509	659	959	1,159

E4/light | e-chains® 14240·14340 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	*Bi* [mm]	Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	*Bi* [mm]
05. ▶	143400. 05 .12.C	142400. 05 .12.C	50	212. ▶	143400. 212.12.C	142400. 212.12.C	212
06. ▶	143400. 06 .12.C	142400. 06 .12.C	68	23. ▶	143400. 23 .12.C	142400. 23 .12.C	225
07. ▶	143400. 07 .12.C	142400. 07 .12.C	75	237. ▶	143400. 237.12.C	142400. 237.12.C	237
087. ▶	143400. 087.12.C	142400. 087.12.C	87	25. ▶	143400. 25 .12.C	142400. 25 .12.C	250
097. ▶	143400. 097.12.C	142400. 097.12.C	97	262. ▶	143400. 262.12.C	142400. 262.12.C	262
10. ▶	143400. 10 .12.C	142400. 10 .12.C	100	28. ▶	143400. 28 .12.C	142400. 28 .12.C	275
11. ▶	143400. 11 .12.C	142400. 11 .12.C	108	29. ▶	143400. 29 .12.C	142400. 29 .12.C	287
112. ▶	143400. 112.12.C	142400. 112.12.C	112	30. ▶	143400. 30 .12.C	142400. 30 .12.C	300
12. ▶	143400. 12 .12.C	142400. 12 .12.C	125	312 ▶	143400. 312.12.C	142400. 312.12.C	312
137. ▶	143400. 137.12.C	142400. 137.12.C	137	325. ▶	143400. 325.12.C	142400. 325.12.C	325
15. ▶	143400. 15 .12.C	142400. 15 .12.C	150	337. ▶	143400. 337.12.C	142400. 337.12.C	337
162. ▶	143400. 162.12.C	142400. 162.12.C	162	350. ▶	143400. 350.12.C	142400. 350.12.C	350
17. ▶	143400. 17 .12.C	142400. 17 .12.C	168	362 ▶	143400. 362.12.C	142400. 362.12.C	362
18. ▶	143400. 18 .12.C	142400. 18 .12.C	175	375. ▶	143400. 375.12.C	142400. 375.12.C	375
187. ▶	143400. 187.12.C	142400. 187.12.C	187	387. ▶	143400. 387.12.C	142400. 387.12.C	387
20. ▶	143400. 20 .12.C	142400. 20 .12.C	200	400. ▶	143400. 400.12.C	142400. 400.12.C	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

143400.20.12.C.A2 **Order example**

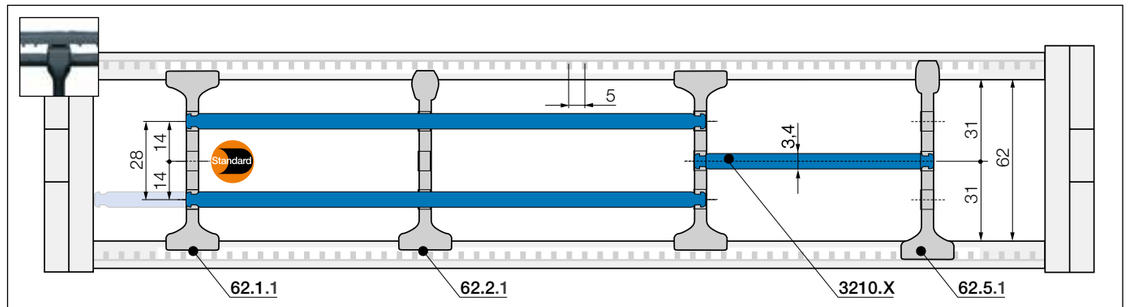
- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E4/light | Series 14240·14340 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/14240**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**62.1**
assembled	**62.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	**62.2**
assembled	**62.2.1**

For even faster installation

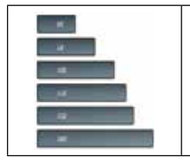
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator* for notched crossbar	
unassembled	**62.5**
assembled	**62.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.
(*Suitable from *Bi* 75)



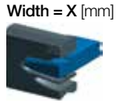
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

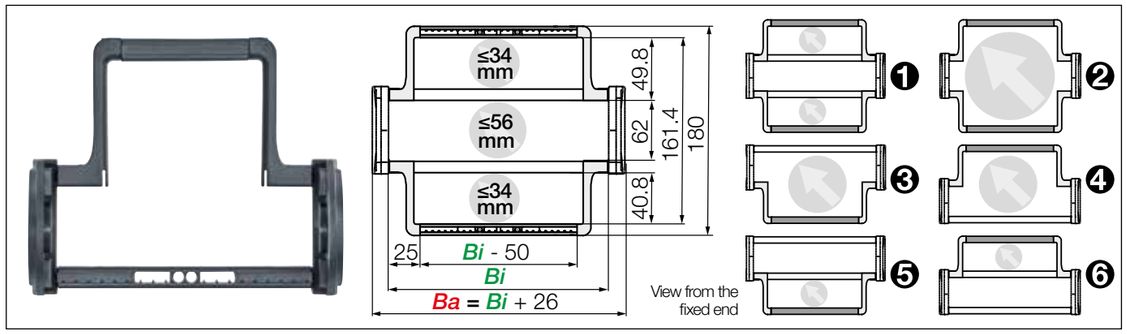
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4/light | Series 14240·14340 | Further accessories

e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part number crossbars every link	Part number crossbars every 2nd link
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1]	34	14240.XXXHB50.R.0	–
❷ Extender crossbar on both sides along the inner and outer radius [2]	140	14240.XXXB50.R.0	14340.XXXB50.R.0 [2]
❸ Extender crossbar along the outer radius [3]	100	14240.XXXBE50.R.0	14340.XXXBE50.R.0 [2]
❹ Extender crossbar along the inner radius [2]	100	14240.XXXBZ50.R.0	14340.XXXBZ50.R.0 [2]
❺ Extender crossbar and standard crossbar alternating along the outer radius [3]	34	14240.XXXHBE50.R.0	–
❻ Extender crossbar and standard crossbar alternating along inner radius [1]	34	14240.XXXHBZ50.R.0	–

1) Minimal bend radius: R 135 2) Minimal bend radius: R 150 3) Minimal bend radius: R 135

Bi [mm] **Available inner widths**

| 100 | 125 | 137 | 150 | 162 | 175 | 187 | 200 | 212 | 225 | 237 | 250 |
| 262 | 275 | 287 | 300 | 312 | 325 | 337 | 350 | 362 | 375 | 387 | 400 |

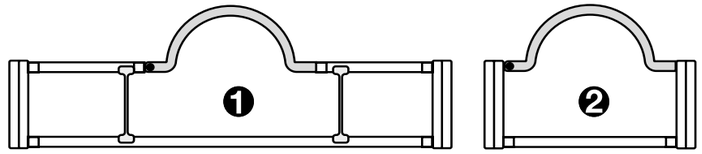
Part number with the width index XXX of the Bi and the radius (R) supplement e.g. **14240.10B50.150.0 = Bi 100 / e-chain® with crossbars every link / Extender crossbars from both sides along the inner and outer radius / Bend radius (R) 150**



The E4/light can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination



Round extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 115mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "Z" or the outer radius "E"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
385.15RHD115	115	O round	no	yes
385.18RD115	115	O round	yes	no

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E: 14240.10/15RHDE115/10.R.0**

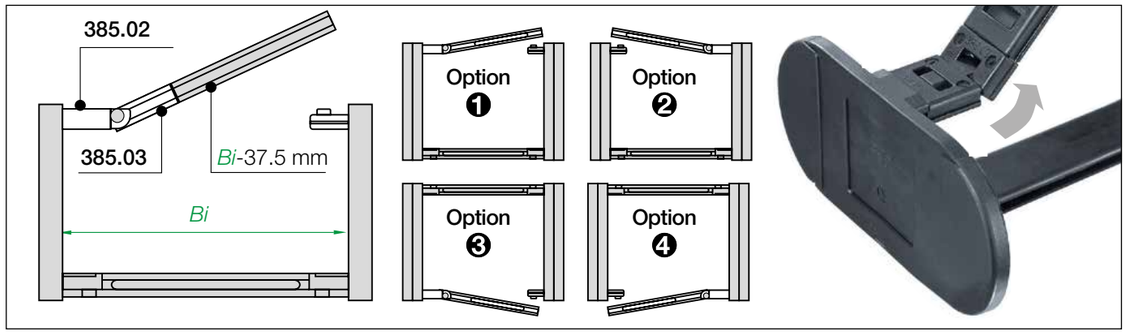
To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z: 14240.10/15RHDZ115/10.R.0**

Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E: 14240.18RDE115.R.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z: 14240.18RDZ115.R.0**

Hinged crossbar | Swivel clips



Hinged crossbars | Swivel clip | Openable crossbar remains attached to the e-chain®

- When opening crossbars must remain attached to the e-chain®
- Hinged crossbars consist of a swivel clip and a shortened crossbar
- Openable crossbar (shortened): ***Bi***-37.5mm (smallest inner width ***Bi*** = 87.5)
- Please consult igus® for assistance with this product

Part number e-chain® with hinged crossbar	Part number swivel clip as an individual part	Part No. openable crossbar as an individual part
14240.***Bi***.**Z**.***R***.0	385.02	385.03

Complete Part No. with the width index ***Bi,*** the index **Z** for the required option and the radius (***R***). Example: **14240.137.1.200.0**



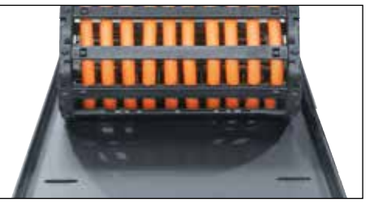
E4/light e-tubes protect cables and hoses against dirt and swarf

E4/light | Series 14240·14340 | Further accessories

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

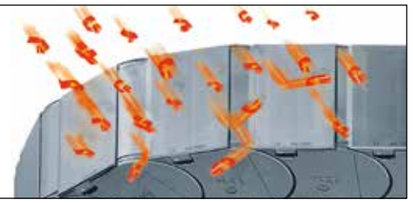
More information ▶ From page 1356



Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4/light | 14550·14650·R19050 | Product range

70 70

"Light" design, large inner height



e-chains®| Series 14550 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains®| Series 14650 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)
e-tubes | Series R19050| Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	14550 [kg/m]	14650 [kg/m]	19050 [kg/m]
14550. 14650. – 05. R.0	50	77	≈ 3.28	≈ 3.27	–
14550. 14650. – 055.R.0	55	82	≈ 3.33	≈ 3.29	–
14550. 14650. – 06. R.0	65	92	≈ 3.37	≈ 3.31	–
14550. 14650. 19050. 07. R.0	75	102	≈ 3.44	≈ 3.35	≈ 4.00
14550. 14650. – 08. R.0	87	114	≈ 3.52	≈ 3.38	–
14550. 14650. 19050. 10. R.0	100	127	≈ 3.61	≈ 3.43	≈ 4.33
14550. 14650. – 11. R.0	112	139	≈ 3.73	≈ 3.49	–
14550. 14650. 19050. 12. R.0	125	152	≈ 3.81	≈ 3.53	≈ 4.70
14550. 14650. – 13. R.0	137	164	≈ 3.94	≈ 3.60	–
14550. 14650. 19050. 15. R.0	150	177	≈ 3.98	≈ 3.62	≈ 5.04
14550. 14650. – 16. R.0	162	189	≈ 4.09	≈ 3.67	–
14550. 14650. – 169.R.0	169	197	≈ 4.18	≈ 3.71	–
14550. 14650. 19050. 17. R.0	175	202	≈ 4.23	≈ 3.74	≈ 5.41
14550. 14650. – 182.R.0	182	210	≈ 4.27	≈ 3.76	–
14550. 14650. – 18. R.0	187	214	≈ 4.34	≈ 3.80	–
14550. 14650. 19050. 20. R.0	200	227	≈ 4.39	≈ 3.82	≈ 5.64
14550. 14650. – 207.R.0	207	235	≈ 4.44	≈ 3.84	–
14550. 14650. – 21. R.0	212	239	≈ 4.46	≈ 3.86	–
14550. 14650. – 22. R.0	225	252	≈ 4.53	≈ 3.89	–
14550. 14650. – 23. R.0	237	264	≈ 4.64	≈ 3.95	–
14550. 14650. 19050. 25. R.0	250	277	≈ 4.76	≈ 4.00	≈ 6.32
14550. 14650. – 26. R.0	262	289	≈ 4.85	≈ 4.05	–
14550. 14650. 19050. 27. R.0	275	302	≈ 4.95	≈ 4.10	≈ 6.65
14550. 14650. – 28. R.0	287	314	≈ 5.01	≈ 4.13	–
14550. 14650. 19050. 30. R.0	300	327	≈ 5.16	≈ 4.21	≈ 6.99
14550. 14650. – 31. R.0	312	339	≈ 5.20	≈ 4.23	–
14550. 14650. – 32. R.0	325	352	≈ 5.30	≈ 4.28	–
14550. 14650. – 33. R.0	337	364	≈ 5.42	≈ 4.34	–
14550. 14650. 19050. 35. R.0	350	377	≈ 5.62	≈ 4.44	≈ 7.68
14550. 14650. – 36. R.0	362	389	≈ 5.53	≈ 4.39	–
14550. 14650. – 37. R.0	375	402	≈ 5.63	≈ 4.44	–
14550. 14650. – 38. R.0	387	414	≈ 5.74	≈ 4.50	–
14550. 14650. 19050. 40. R.0	400	427	≈ 6.01	≈ 4.63	≈ 8.36
14550. 14650. – 41. R.0	412	439	≈ 5.94	≈ 4.60	–
14550. 14650. – 42. R.0	425	452	≈ 6.23	≈ 4.74	–
14550. 14650. – 43. R.0	437	464	≈ 6.07	≈ 4.66	–
14550. 14650. – 45. R.0	450	477	≈ 6.40	≈ 4.83	–
14550. 14650. 19050. 46. R.0	462	489	≈ 6.35	≈ 4.80	≈ 9.21
14550. 14650. – 47. R.0	475	502	≈ 6.39	≈ 4.82	–
14550. 14650. – 48. R.0	487	514	≈ 6.64	≈ 4.95	–
14550. 14650. – 50. R.0	500	527	≈ 6.74	≈ 5.00	–
14550. 14650. – 51. R.0	512	539	≈ 6.65	≈ 4.95	–
14550. 14650. – 52. R.0	525	552	≈ 6.82	≈ 5.04	–
14550. 14650. – 53. R.0	537	564	≈ 6.92	≈ 5.09	–
14550. 14650. – 55. R.0	550	577	≈ 7.34	≈ 5.30	–
14550. 14650. – 60. R.0	600	627	≈ 7.57	≈ 5.41	–

*Radius not available for e-tubes

Available bend radii

R [mm] | 150* | 175* | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |

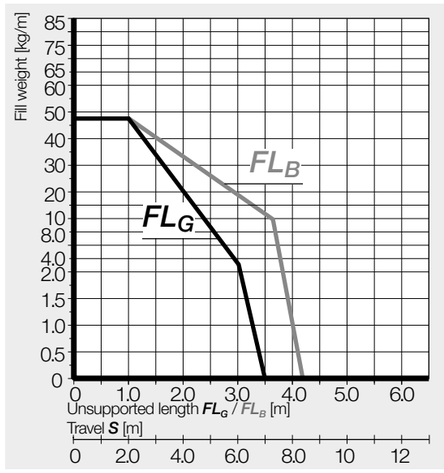
Complete Part No. with required radius (R). Example:

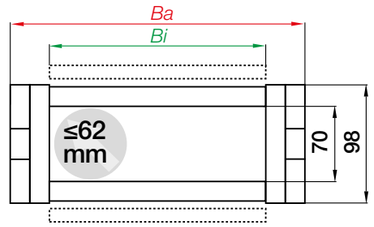
14550.30.300.0 = crossbars every link / 14650.30.300.0 = crossbars every 2nd link / 19050.30.300.0 = fully enclosed

14550·14650·R19050 | Installation dimensions

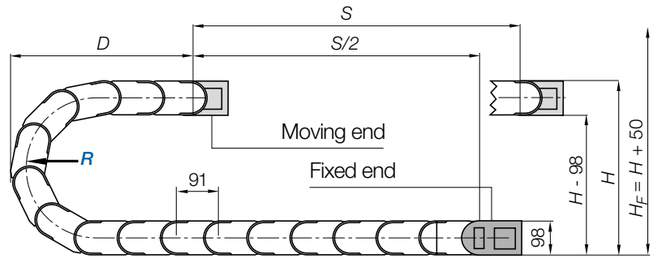
Unsupported applications | Short travels

▶ 1392 ▶ 1346





Inner height [mm]	70
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

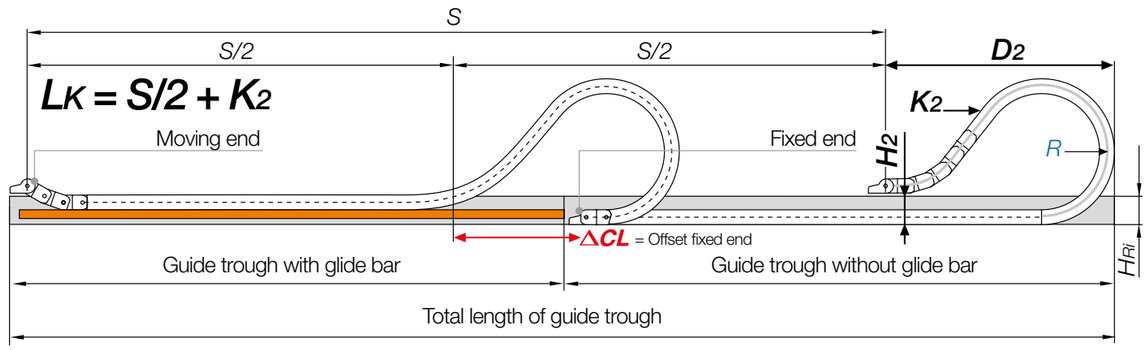


R	150*	175*	200	250	300	350	400	450	500	600
H	398	448	498	598	698	798	898	998	1,098	1,298
D	336	361	386	436	486	536	586	636	686	786
K	655	735	815	970	1,125	1,285	1,440	1,600	1,755	2,070

The required clearance height: $H_F = H + 50$mm (with 2.5kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For travel lengths from 12m to max. 250m



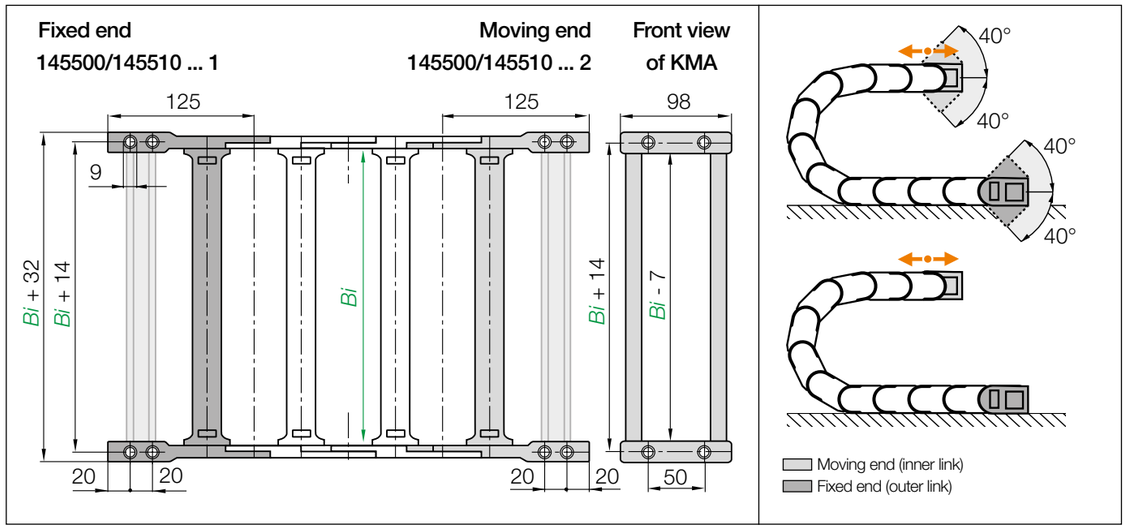
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 8 and 12m we recommend an e-chain® with a longer unsupported length.

R	150*	175*	200	250	300	350	400	450	500	600 2)
H_2	266	266	266	266	266	266	266	266	266	–
D_2^{+25}	450	530	710	920	1,120	1,340	1,530	1,048	1,830	–
K_2	819	1,001	1,274	1,638	1,911	2,184	2,548	2,821	3,185	–
ΔCL	124	159	209	359	509	659	829	959	1,159	–

*Radius not available for e-tubes 2) R 600 not suitable for long travel applications. Please consult igus®.

E4/light | **e-chains®** 14550·14650 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

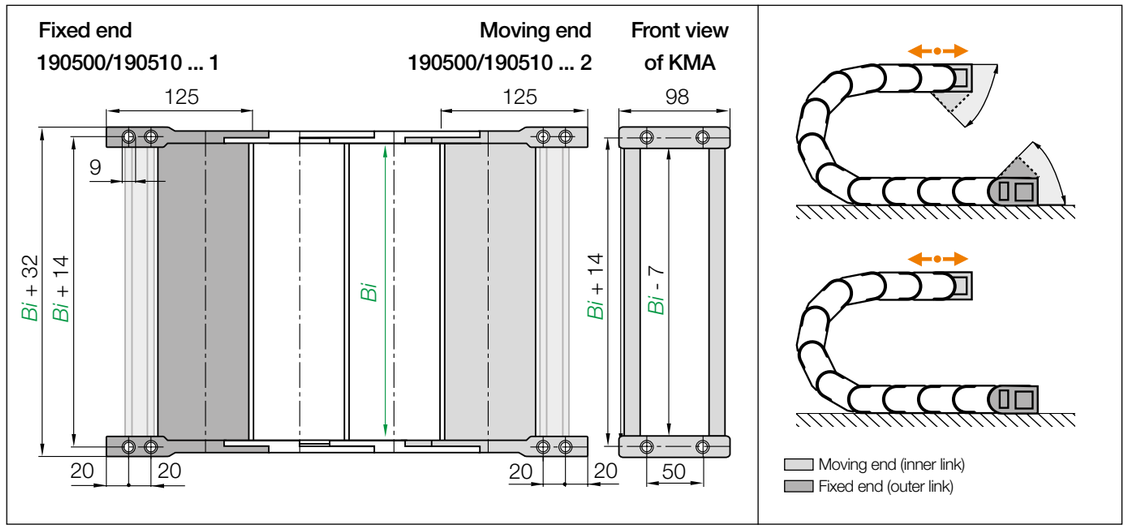
Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
05. ▶	145500. 05 .12.C	145510. 05 .12.C	50
055. ▶	145500. 055 .12.C	145510. 055 .12.C	55
06. ▶	145500. 06 .12.C	145510. 06 .12.C	65
07. ▶	145500. 07 .12.C	145510. 07 .12.C	75
08. ▶	145500. 08 .12.C	145510. 08 .12.C	87
10. ▶	145500. 10 .12.C	145510. 10 .12.C	100
11. ▶	145500. 11 .12.C	145510. 11 .12.C	112
12. ▶	145500. 12 .12.C	145510. 12 .12.C	125
13. ▶	145500. 13 .12.C	145510. 13 .12.C	137
15. ▶	145500. 15 .12.C	145510. 15 .12.C	150
16. ▶	145500. 16 .12.C	145510. 16 .12.C	162
169. ▶	145500. 169 .12.C	145510. 169 .12.C	169
17. ▶	145500. 17 .12.C	145510. 17 .12.C	175
182. ▶	145500. 182 .12.C	145510. 182 .12.C	182
18. ▶	145500. 18 .12.C	145510. 18 .12.C	187
20. ▶	145500. 20 .12.C	145510. 20 .12.C	200
207. ▶	145500. 207 .12.C	145510. 207 .12.C	207
21. ▶	145500. 21 .12.C	145510. 21 .12.C	212
22. ▶	145500. 22 .12.C	145510. 22 .12.C	225
23. ▶	145500. 23 .12.C	145510. 23 .12.C	237
25. ▶	145500. 25 .12.C	145510. 25 .12.C	250
26. ▶	145500. 26 .12.C	145510. 26 .12.C	262
27. ▶	145500. 27 .12.C	145510. 27 .12.C	275

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
28. ▶	145500. 28 .12.C	145510. 28 .12.C	287
30. ▶	145500. 30 .12.C	145510. 30 .12.C	300
31. ▶	145500. 31 .12.C	145510. 31 .12.C	312
32. ▶	145500. 32 .12.C	145510. 32 .12.C	325
33. ▶	145500. 33 .12.C	145510. 33 .12.C	337
35. ▶	145500. 35 .12.C	145510. 35 .12.C	350
36. ▶	145500. 36 .12.C	145510. 36 .12.C	362
37. ▶	145500. 37 .12.C	145510. 37 .12.C	375
38. ▶	145500. 38 .12.C	145510. 38 .12.C	387
40. ▶	145500. 40 .12.C	145510. 40 .12.C	400
41. ▶	145500. 41 .12.C	145510. 41 .12.C	412
42. ▶	145500. 42 .12.C	145510. 42 .12.C	425
43. ▶	145500. 43 .12.C	145510. 43 .12.C	437
45. ▶	145500. 45 .12.C	145510. 45 .12.C	450
46. ▶	145500. 46 .12.C	145510. 46 .12.C	462
47. ▶	145500. 47 .12.C	145510. 47 .12.C	475
48. ▶	145500. 48 .12.C	145510. 48 .12.C	487
50. ▶	145500. 50 .12.C	145510. 50 .12.C	500
51. ▶	145500. 51 .12.C	145510. 51 .12.C	512
52. ▶	145500. 52 .12.C	145510. 52 .12.C	525
53. ▶	145500. 53 .12.C	145510. 53 .12.C	537
55. ▶	145500. 55 .12.C	145510. 55 .12.C	550
60. ▶	145500. 60 .12.C	145510. 60 .12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4/light | **e-tubes** R19050 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

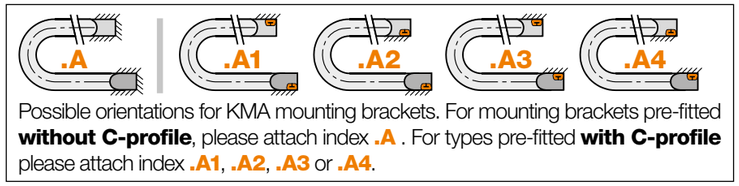


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
07. ▶	190500. 07 .12.C	190510. 07 .12.C	75
10. ▶	190500. 10 .12.C	190510. 10 .12.C	100
12. ▶	190500. 12 .12.C	190510. 12 .12.C	125
15. ▶	190500. 15 .12.C	190510. 15 .12.C	150
17. ▶	190500. 17 .12.C	190510. 17 .12.C	175
20. ▶	190500. 20 .12.C	190510. 20 .12.C	200

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
25. ▶	190500. 25 .12.C	190510. 25 .12.C	250
27. ▶	190500. 27 .12.C	190510. 27 .12.C	275
30. ▶	190500. 30 .12.C	190510. 30 .12.C	300
35. ▶	190500. 35 .12.C	190510. 35 .12.C	350
40. ▶	190500. 40 .12.C	190510. 40 .12.C	400
46. ▶	190500. 46 .12.C	190510. 46 .12.C	462

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

145500.30.12.C.A2 Order example

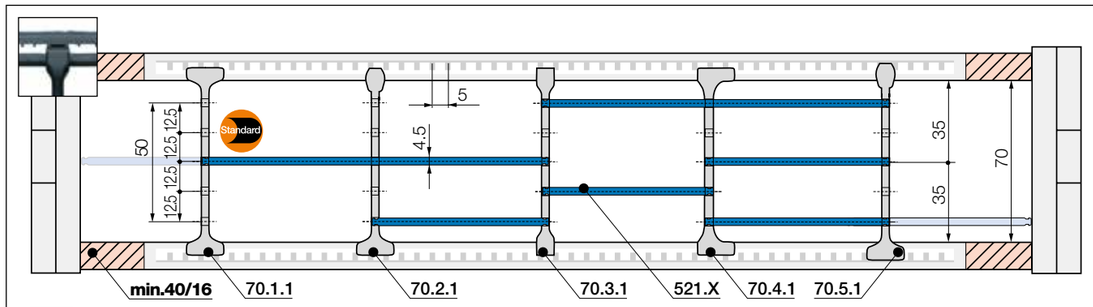
- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

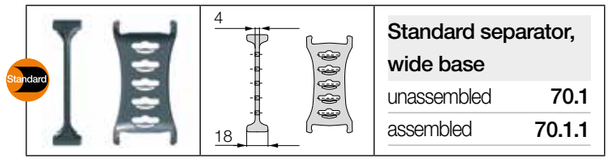
E4/light | Series 14550·14650·R19050 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/14550**



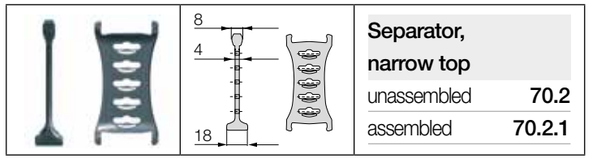
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**70.1**
assembled	**70.1.1**

Standard - for any application

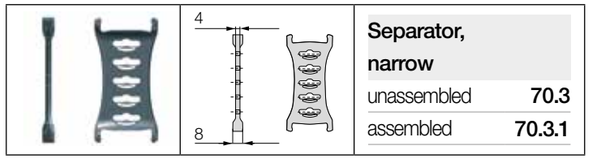
Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	**70.2**
assembled	**70.2.1**

For even faster installation

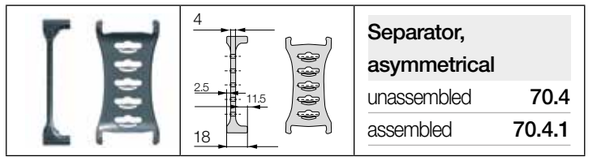
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	**70.3**
assembled	**70.3.1**

For a large number of thin cables

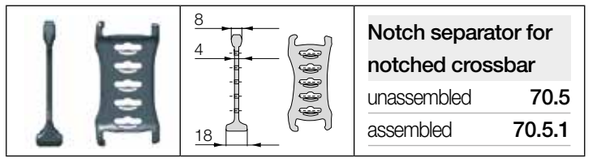
Separator with a narrow base for a large number of thin cables side by side. Saves space.



Separator, asymmetrical	
unassembled	**70.4**
assembled	**70.4.1**

For side-mounted applications

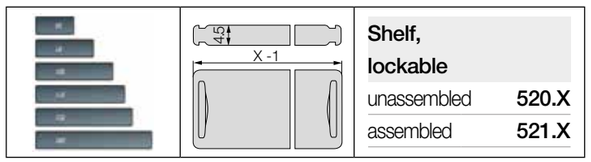
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar	
unassembled	**70.5**
assembled	**70.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



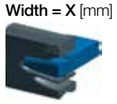
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

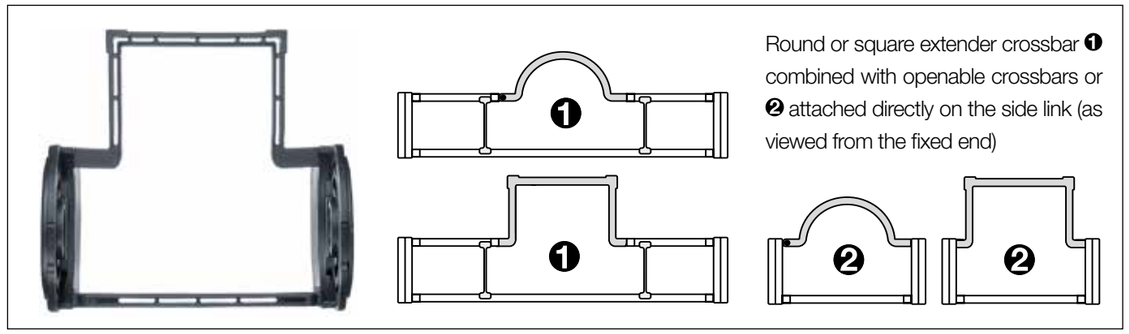


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**521.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**521.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

14550
14650
R19050

E4/light | Series 14550·14650·R19050 | Accessories

Extender crossbar with fixed width



Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)

Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 270mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	no	yes
450.17RD115	115	○ round	yes	no
450.25D150	150	□ square	yes	no
450.30D200	200	□ square	yes	no
450.35D250	220	□ square	yes	no
450.40D300	270	□ square	yes	no
450.20HD150	150	□ square	no	yes
450.25HD200	200	□ square	no	yes
450.30HD250	220	□ square	no	yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **14550.10/15RHD*E*115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **14550.10/15RHD*Z*115/10.*R*.0**

Order example: ❷ fitted to side link

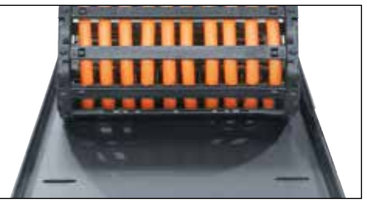
To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **14550.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **14550.17RD*Z*115.*R*.0**

Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

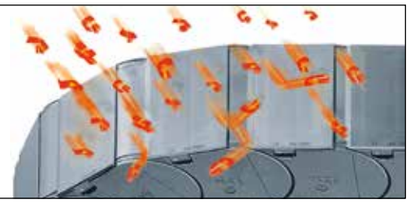
More information ▶ From page 1356



Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime

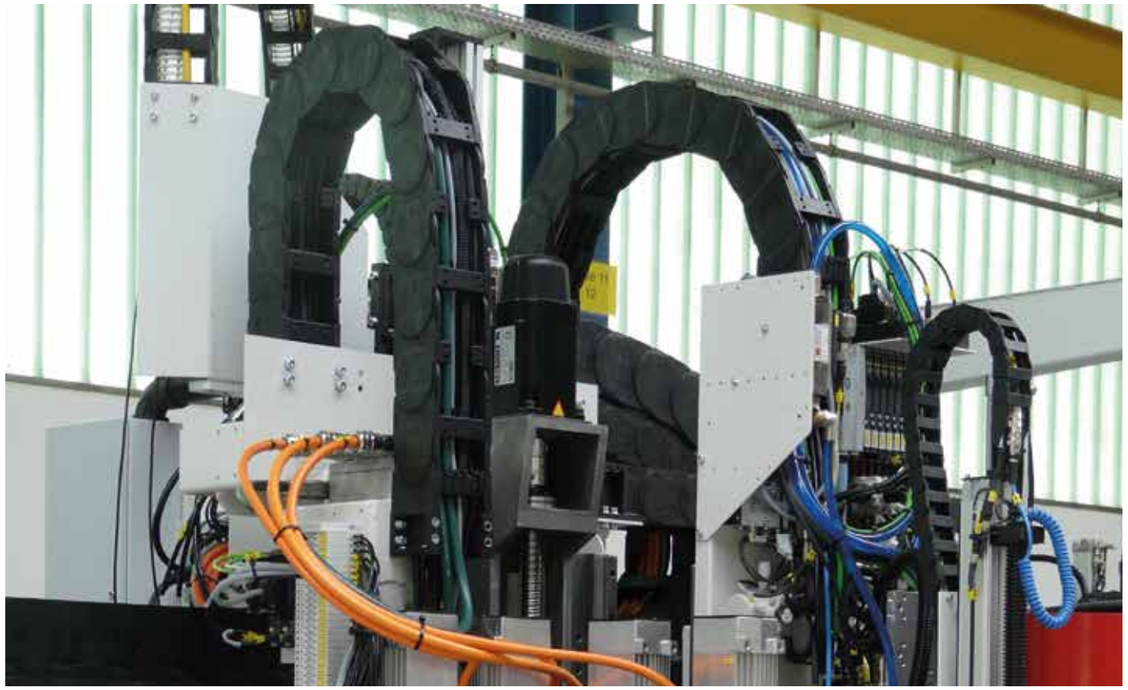


Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar





Various igus® e-chains® installed vertically including light-weight E4/light e-chains®

E4/light | 15050·15150·R19850 | Product range

80 80

"Light" design, large inner height



e-chains® | Series 15050 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains® | Series 15150 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)
e-tubes | Series R19850 | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	15050 [kg/m]	15150 [kg/m]	19850 [kg/m]
15050. 15150. – 05. R.0	50	80	≈ 3.85	≈ 3.84	–
15050. 15150. – 055.R.0	55	85	≈ 3.90	≈ 3.86	–
15050. 15150. – 06. R.0	65	95	≈ 3.95	≈ 3.88	–
15050.▲15150. 19850. 07. R.0	75	105	≈ 4.00	≈ 3.92	≈ 4.46
15050. 15150. – 08. R.0	87	117	≈ 4.05	≈ 3.96	–
15050. 15150. 19850. 10. R.0	100	130	≈ 4.18	≈ 4.00	≈ 4.74
15050. 15150. – 11. R.0	112	143	≈ 4.31	≈ 4.07	–
15050.▲15150. 19850. 12. R.0	125	155	≈ 4.38	≈ 4.10	≈ 5.10
15050. 15150. – 13. R.0	137	168	≈ 4.51	≈ 4.17	–
15050.▲15150. 19850. 15. R.0	150	180	≈ 4.58	≈ 4.20	≈ 5.53
15050. 15150. – 16. R.0	162	193	≈ 4.69	≈ 4.26	–
15050. 15150. – 169.R.0	169	200	≈ 4.77	≈ 4.30	–
15050. 15150. 19850. 17. R.0	175	205	≈ 4.80	≈ 4.31	≈ 5.88
15050. 15150. – 182.R.0	182	213	≈ 4.85	≈ 4.33	–
15050. 15150. – 18. R.0	187	218	≈ 4.91	≈ 4.37	–
15050.▲15150. 19850. 20. R.0	200	230	≈ 4.93	≈ 4.38	≈ 6.11
15050. 15150. – 207.R.0	207	238	≈ 4.99	≈ 4.41	–
15050. 15150. – 21. R.0	212	243	≈ 5.04	≈ 4.43	–
15050. 15150. – 22. R.0	225	255	≈ 5.10	≈ 4.47	–
15050. 15150. – 23. R.0	237	268	≈ 5.24	≈ 4.53	–
15050.▲15150. 19850. 25. R.0	250	280	≈ 5.32	≈ 4.58	≈ 6.83
15050. 15150. – 26. R.0	262	293	≈ 5.41	≈ 4.62	–
15050. 15150. 19850. 27. R.0	275	305	≈ 5.52	≈ 4.68	≈ 7.26
15050. 15150. – 28. R.0	287	318	≈ 5.54	≈ 4.69	–
15050.▲15150. 19850. 30. R.0	300	330	≈ 5.76	≈ 4.80	≈ 7.49
15050. 15150. – 31. R.0	312	343	≈ 5.80	≈ 4.82	–
15050. 15150. – 32. R.0	325	355	≈ 5.85	≈ 4.84	–
15050. 15150. – 33. R.0	337	368	≈ 6.03	≈ 4.93	–
15050. 15150. 19850. 35. R.0	350	380	≈ 6.18	≈ 5.01	≈ 8.24
15050. 15150. – 36. R.0	362	393	≈ 6.19	≈ 5.02	–
15050. 15150. – 37. R.0	375	405	≈ 6.20	≈ 5.02	–
15050. 15150. – 38. R.0	387	418	≈ 6.29	≈ 5.06	–
15050. 15150. 19850. 40. R.0	400	430	≈ 6.49	≈ 5.16	≈ 9.20
15050. 15150. – 41. R.0	412	443	≈ 6.64	≈ 5.24	–
15050. 15150. – 42. R.0	425	455	≈ 6.80	≈ 5.31	–
15050. 15150. – 43. R.0	437	468	≈ 6.86	≈ 5.35	–
15050. 15150. – 45. R.0	450	480	≈ 6.93	≈ 5.38	–
15050. 15150. 19850. 46. R.0	462	493	≈ 6.95	≈ 5.39	≈ 9.66
15050. 15150. – 47. R.0	475	505	≈ 7.08	≈ 5.46	–
15050. 15150. – 48. R.0	487	518	≈ 7.16	≈ 5.49	–
15050. 15150. – 50. R.0	500	530	≈ 7.22	≈ 5.52	–
15050. 15150. – 51. R.0	512	543	≈ 7.24	≈ 5.53	–
15050. 15150. – 52. R.0	525	555	≈ 7.28	≈ 5.56	–
15050. 15150. – 53. R.0	537	568	≈ 7.44	≈ 5.63	–
15050. 15150. – 55. R.0	550	580	≈ 7.92	≈ 5.87	–
15050. 15150. – 60. R.0	600	630	≈ 8.12	≈ 5.97	–

▲ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

Available bend radii

R [mm] | 150* | 200 | 250 | 300 | 350 | 400 | 500 | 600 |

Complete Part No. with required radius (R). Example:

15050.30.300.0 = crossbars every link / 15150.30.300.0 = crossbars every 2nd link / 19850.30.300.0 = fully enclosed

ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

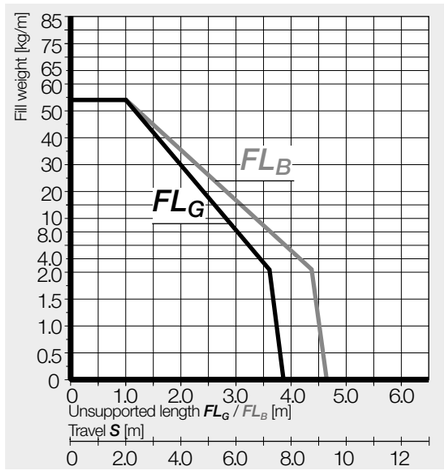
More information and the complete product range ▶ From page 142

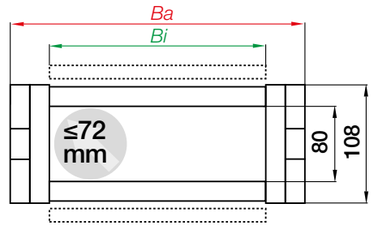


15050·15150·R19850 | Installation dimensions

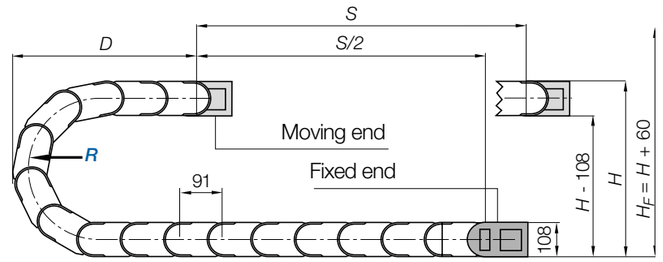
Unsupported applications | Short travels

▶ 1392 ▶ 1324





Inner height [mm]	80
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

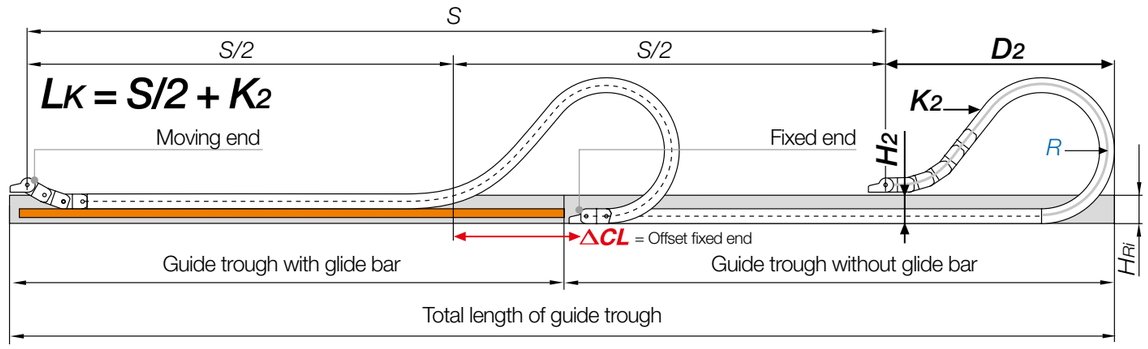


R	150*	200	250	300	350	400	500	600
H -0 +25	408	508	608	708	808	908	1,108	1.308
D	341	391	441	491	541	591	691	791
K	655	815	970	1,125	1,285	1,440	1,755	2,070

The required clearance height: $H_F = H + 60$mm (with 3.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For travel lengths from 12m to max. 250m



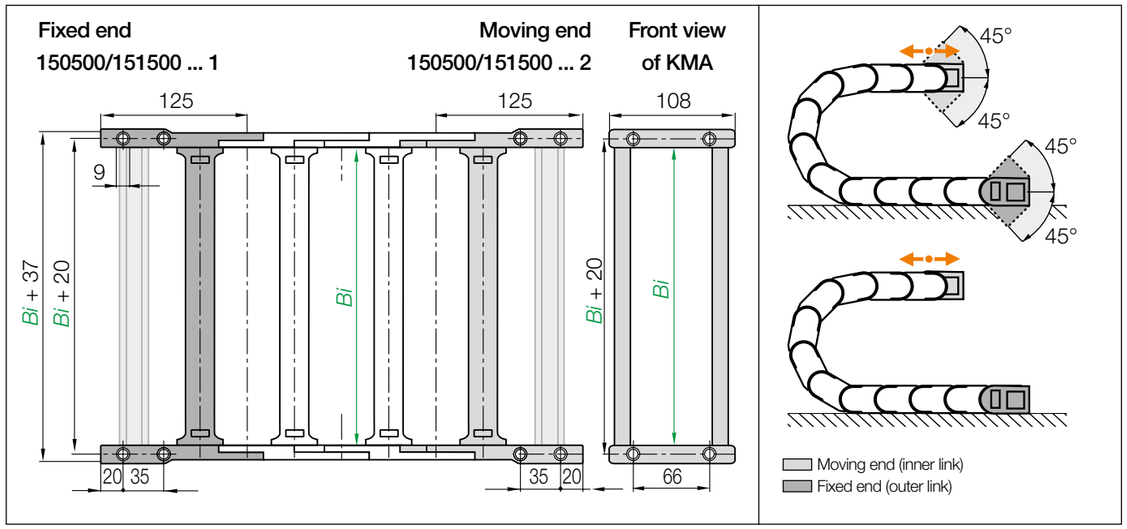
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 9 and 12m we recommend an e-chain® with a longer unsupported length.

R	150*	200	250	300	350	400	500	600 1)
H_2	242	242	242	242	242	242	242	–
D_2 +25	550	800	950	1,200	1,550	1,700	2,175	–
K_2	910	1,274	1,638	2,002	2,457	2,730	3,458	–
ΔCL	209	409	509	709	1,009	1,109	1,484	–

*Radius not available for e-tubes 2) R 600 not suitable for long travel applications. Please consult igus®.

E4/light | **e-chains®** 15050·15150 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking



KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

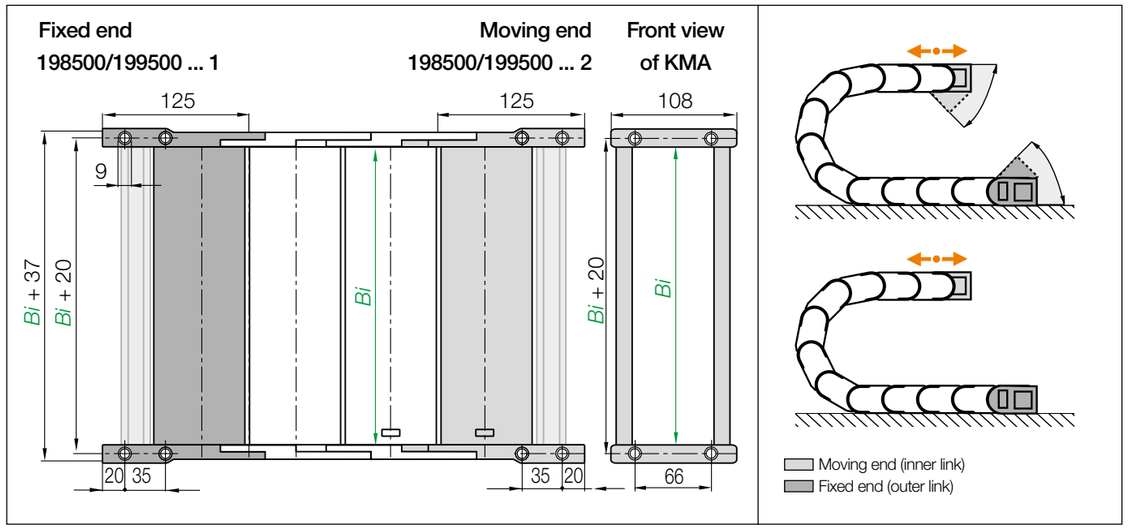
Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
05. ▶	150500. 05 .12.C	151500. 05 .12.C	50
055. ▶	150500. 055 .12.C	151500. 055 .12.C	55
06. ▶	150500. 06 .12.C	151500. 06 .12.C	65
07. ▶	150500. 07 .12.C	151500. 07 .12.C	75
08. ▶	150500. 08 .12.C	151500. 08 .12.C	87
10. ▶	150500. 10 .12.C	151500. 10 .12.C	100
11. ▶	150500. 11 .12.C	151500. 11 .12.C	112
12. ▶	150500. 12 .12.C	151500. 12 .12.C	125
13. ▶	150500. 13 .12.C	151500. 13 .12.C	137
15. ▶	150500. 15 .12.C	151500. 15 .12.C	150
16. ▶	150500. 16 .12.C	151500. 16 .12.C	162
169. ▶	150500. 169 .12.C	151500. 169 .12.C	169
17. ▶	150500. 17 .12.C	151500. 17 .12.C	175
182. ▶	150500. 182 .12.C	151500. 182 .12.C	182
18. ▶	150500. 18 .12.C	151500. 18 .12.C	187
20. ▶	150500. 20 .12.C	151500. 20 .12.C	200
207. ▶	150500. 207 .12.C	151500. 207 .12.C	207
21. ▶	150500. 21 .12.C	151500. 21 .12.C	212
22. ▶	150500. 22 .12.C	151500. 22 .12.C	225
23. ▶	150500. 23 .12.C	151500. 23 .12.C	237
25. ▶	150500. 25 .12.C	151500. 25 .12.C	250
26. ▶	150500. 26 .12.C	151500. 26 .12.C	262
27. ▶	150500. 27 .12.C	151500. 27 .12.C	275

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
28. ▶	150500. 28 .12.C	151500. 28 .12.C	287
30. ▶	150500. 30 .12.C	151500. 30 .12.C	300
31. ▶	150500. 31 .12.C	151500. 31 .12.C	312
32. ▶	150500. 32 .12.C	151500. 32 .12.C	325
33. ▶	150500. 33 .12.C	151500. 33 .12.C	337
35. ▶	150500. 35 .12.C	151500. 35 .12.C	350
36. ▶	150500. 36 .12.C	151500. 36 .12.C	362
37. ▶	150500. 37 .12.C	151500. 37 .12.C	375
38. ▶	150500. 38 .12.C	151500. 38 .12.C	387
40. ▶	150500. 40 .12.C	151500. 40 .12.C	400
41. ▶	150500. 41 .12.C	151500. 41 .12.C	412
42. ▶	150500. 42 .12.C	151500. 42 .12.C	425
43. ▶	150500. 43 .12.C	151500. 43 .12.C	437
45. ▶	150500. 45 .12.C	151500. 45 .12.C	450
46. ▶	150500. 46 .12.C	151500. 46 .12.C	462
47. ▶	150500. 47 .12.C	151500. 47 .12.C	475
48. ▶	150500. 48 .12.C	151500. 48 .12.C	487
50. ▶	150500. 50 .12.C	151500. 50 .12.C	500
51. ▶	150500. 51 .12.C	151500. 51 .12.C	512
52. ▶	150500. 52 .12.C	151500. 52 .12.C	525
53. ▶	150500. 53 .12.C	151500. 53 .12.C	537
55. ▶	150500. 55 .12.C	151500. 55 .12.C	550
60. ▶	150500. 60 .12.C	151500. 60 .12.C	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**

E4/light | **e-tubes** R19850 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting | Locking

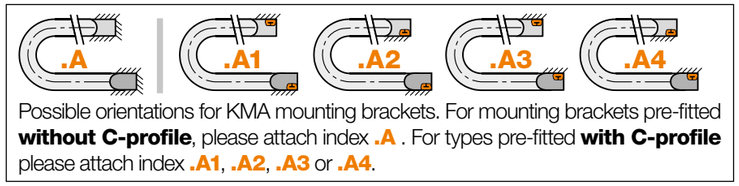


KMA pivoting | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

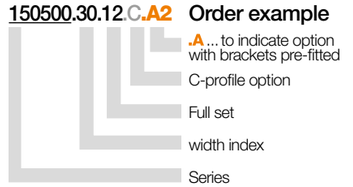
Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
07. ▶	198500. 07 .12.C	199500. 07 .12.C	75
10. ▶	198500. 10 .12.C	199500. 10 .12.C	100
12. ▶	198500. 12 .12.C	199500. 12 .12.C	125
15. ▶	198500. 15 .12.C	199500. 15 .12.C	150
17. ▶	198500. 17 .12.C	199500. 17 .12.C	175
20. ▶	198500. 20 .12.C	199500. 20 .12.C	200

Width index	Part No. Full set **KMA pivoting**	Part No. Full set **KMA locking**	*Bi* [mm]
25. ▶	198500. 25 .12.C	199500. 25 .12.C	250
27. ▶	198500. 27 .12.C	199500. 27 .12.C	275
30. ▶	198500. 30 .12.C	199500. 30 .12.C	300
35. ▶	198500. 35 .12.C	199500. 35 .12.C	350
40. ▶	198500. 40 .12.C	199500. 40 .12.C	400
46. ▶	198500. 46 .12.C	199500. 46 .12.C	462

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

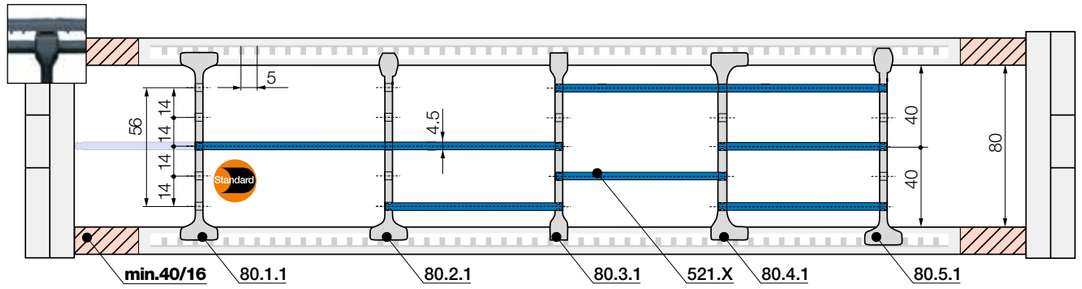


Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E4/light | Series 15050·15150·R19850 | Accessories

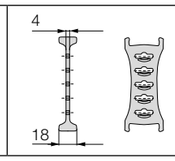
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/15050**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



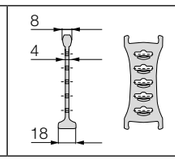


Standard separator, wide base	
unassembled	**80.1**
assembled	**80.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



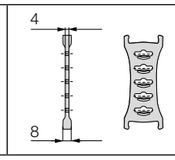


Separator, narrow top	
unassembled	**80.2**
assembled	**80.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



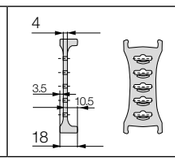


Separator, narrow	
unassembled	**80.3**
assembled	**80.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



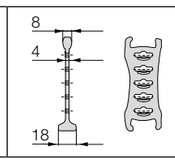


Separator, asymmetrical	
unassembled	**80.4**
assembled	**80.4.1**

For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.

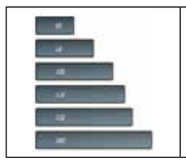


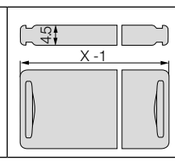


Notch separator for notched crossbar	
unassembled	**80.5**
assembled	**80.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.





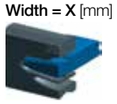
Shelf, lockable	
unassembled	**520.X**
assembled	**521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

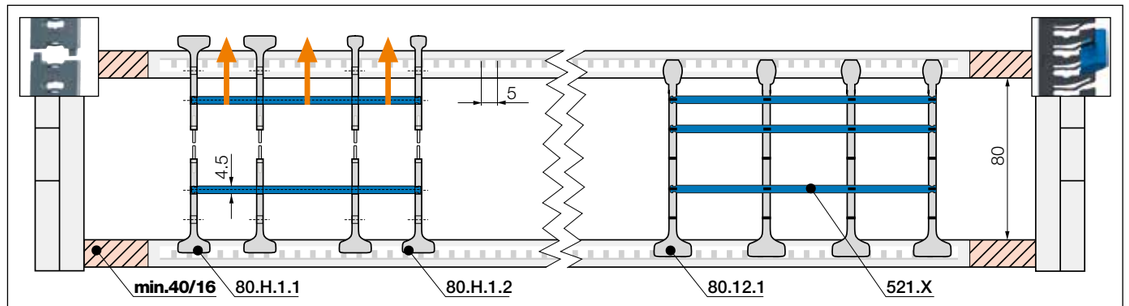
Width = X [mm]



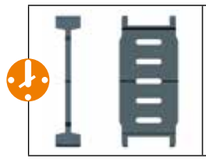
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**521.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**521.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

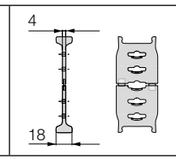
E4/light | Series 15050·15150·R19850 | Accessories

Interior separation | To allow faster filling

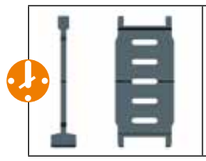


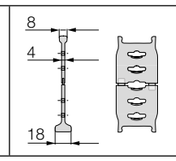
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!





Split separator, wide base/top	
unassembled	**80.H.1**
assembled	**80.H.1.1**

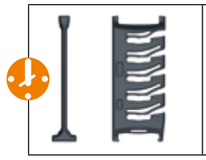


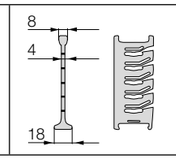


Split separator, narrow top	
unassembled	**80.H.2**
assembled	**80.H.2.1**

Split separators

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Lean separator[1)]	
unassembled	**80.12**
assembled	**80.12.1**

Lean separators[1)]

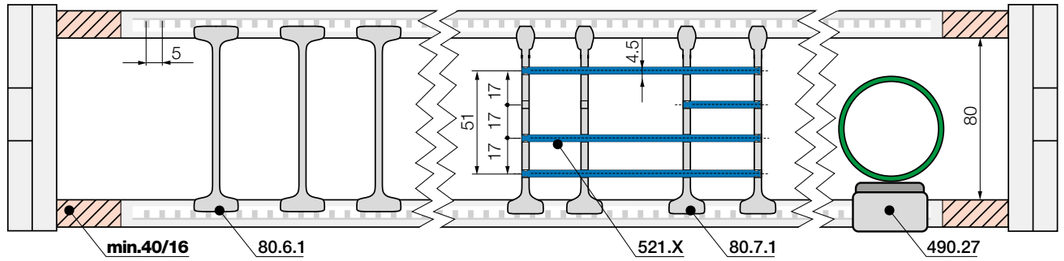
For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



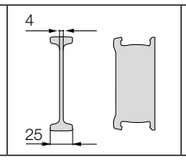
E4/light | Series 15050·15150·R19850 | Accessories

More interior separation options



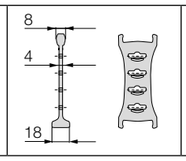
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!





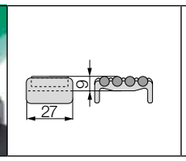
Notch locking separator*, lockable for e-chains®	
unassembled	**80.6**
assembled	**80.6.1**





Separator, one end locking	
unassembled	**80.7**
assembled	**80.7.1**





Rollclip*, for e-chains®	
unassembled	**489.27**
assembled	**490.27**

Notch locking separator* for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Separator, one end locking

Offset slots for more variability.

Rollclip*

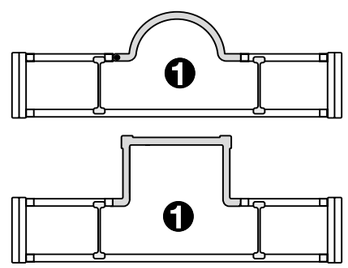
Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

*Only suitable for e-chains®

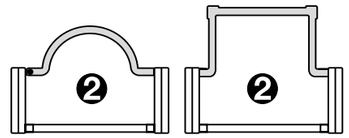
E4/light | Series 15050·15150·R19850 | Further accessories

Extender crossbar with fixed width





Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 270mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	no	yes
450.17RD115	115	○ round	yes	no
450.25D150	150	□ square	yes	no
450.30D200	200	□ square	yes	no
450.35D250	220	□ square	yes	no
450.40D300	270	□ square	yes	no
450.20HD150	150	□ square	no	yes
450.25HD200	200	□ square	no	yes
450.30HD250	220	□ square	no	yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **15050.10/15RHD*E*115/10.*R*.0**

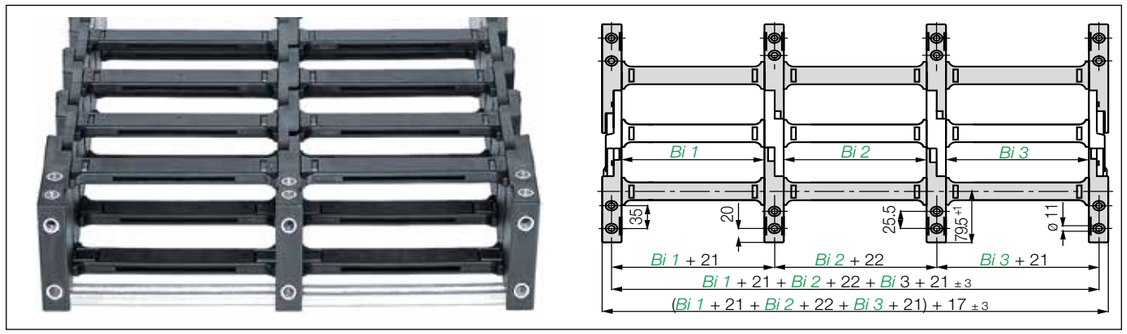
To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **15050.10/15RHD*Z*115/10.*R*.0**

Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **15050.17RD*E*115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **15050.17RD*Z*115.*R*.0**

Extension links



Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part number Extension link e-chain®	Part number Extension link e-tube	Part number Extension link as an individual part
15050.*Bi1*/*Bi2*/*Bi3*.*R*.0	R19850.*Bi1*/*Bi2*/*Bi3*.*R*.0	522.*R*.

Complete Part No.with the width index *Bi1*/*Bi2*/*Bi3*/*etc.* and the radius (*R*). Example: **14040.10/20/10.200.0**



Handling unit indoor crane - long unsupported span with an igus® E4 series

E4/light | Series 15050·15150·R19850 | Further accessories

15050
15150
R19850

E4 snapclip - clip-on tiewrap

- For side-mounted applications, compatible with many E4 e-chains®
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required

More information ▶ www.igus.eu/15050



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

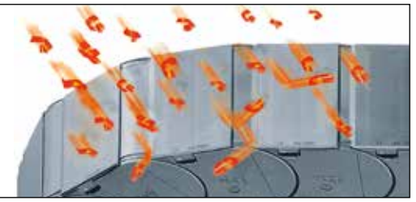
More information ▶ From page 1356



Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4/light | Series 15250·15350 | Product range

86

Stable due to undercut design, large inner height



e-chains®| Series 15250 | Crossbars every link (crossbars removable along the inner and outer radius)
e-chains®| Series 15350 | Crossbars every 2nd link (crossbars removable along the inner and outer radius)

Part No. e-chains®	Bi [mm]	Ba [mm]	15250 [kg/m]	15350 [kg/m]
15250. 15350. 05. R.0	50	80	≈ 3.64	≈ 3.56
15250. 15350. 06. R.0	68	98	≈ 3.72	≈ 3.60
15250. 15350. 07. R.0	75	105	≈ 3.74	≈ 3.61
15250. 15350. 087.R.0	87	117	≈ 3.79	≈ 3.63
15250. 15350. 097.R.0	97	127	≈ 3.83	≈ 3.65
15250. 15350. 10. R.0	100	130	≈ 3.85	≈ 3.66
15250. 15350. 11. R.0	108	138	≈ 3.87	≈ 3.67
15250. 15350. 112.R.0	112	143	≈ 3.88	≈ 3.68
15250. 15350. 12. R.0	125	155	≈ 3.95	≈ 3.71
15250. 15350. 137.R.0	137	167	≈ 3.98	≈ 3.73
15250. 15350. 15. R.0	150	180	≈ 4.04	≈ 3.75
15250. 15350. 162.R.0	162	193	≈ 4.06	≈ 3.76
15250. 15350. 17. R.0	168	198	≈ 4.11	≈ 3.79
15250. 15350. 18. R.0	175	205	≈ 4.12	≈ 3.80
15250. 15350. 187.R.0	187	218	≈ 4.15	≈ 3.81
15250. 15350. 20. R.0	200	230	≈ 4.23	≈ 3.85

Part No. e-chains®	Bi [mm]	Ba [mm]	15250 [kg/m]	15350 [kg/m]
15250. 15350. 212.R.0	212	243	≈ 4.26	≈ 3.86
15250. 15350. 23. R.0	225	255	≈ 4.32	≈ 3.89
15250. 15350. 237.R.0	237	268	≈ 4.34	≈ 3.90
15250. 15350. 25. R.0	250	280	≈ 4.42	≈ 3.94
15250. 15350. 262.R.0	262	293	≈ 4.47	≈ 3.97
15250. 15350. 28. R.0	275	305	≈ 4.51	≈ 3.99
15250. 15350. 29. R.0	287	318	≈ 4.53	≈ 4.00
15250. 15350. 30. R.0	300	330	≈ 4.61	≈ 4.04
15250. 15350. 312.R.0	312	343	≈ 4.63	≈ 4.05
15250. 15350. 325.R.0	325	355	≈ 4.69	≈ 4.08
15250. 15350. 337.R.0	337	368	≈ 4.73	≈ 4.10
15250. 15350. 350.R.0	350	380	≈ 4.87	≈ 4.17
15250. 15350. 362.R.0	362	393	≈ 4.92	≈ 4.20
15250. 15350. 375.R.0	375	405	≈ 4.97	≈ 4.22
15250. 15350. 387.R.0	387	418	≈ 5.01	≈ 4.24
15250. 15350. 400.R.0	400	430	≈ 5.05	≈ 4.26

Available bend radii

R [mm] | 150 | 200 | 250 | 300 | 350 | 400 | 500 | 600 |

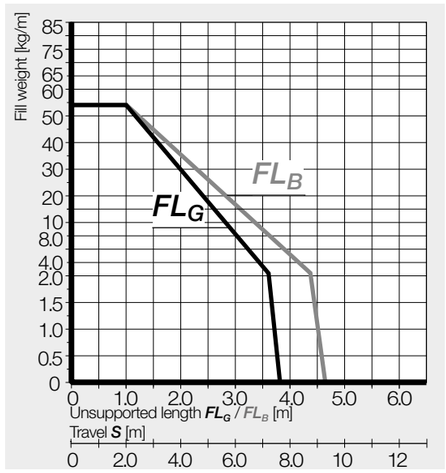
Complete Part No. with required radius (R). Example:

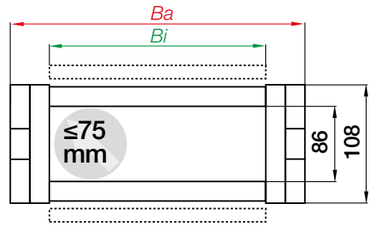
15250.20.300.0 = crossbars every link / 15350.20.300.0 = crossbars every 2nd link

E4/light | 15250·15350 | Installation dimensions

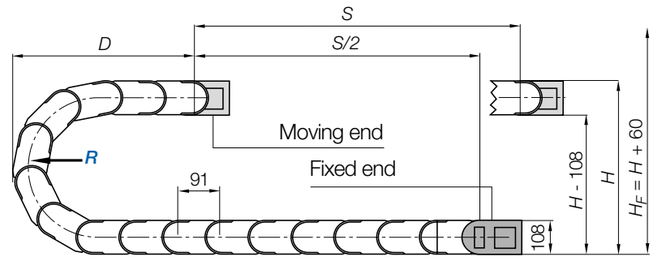
▶ 1392 ▶ 1324

Unsupported applications | Short travels





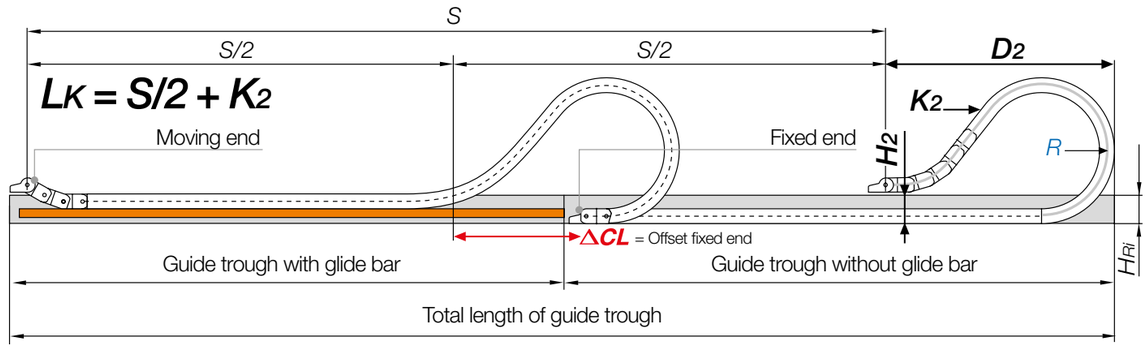
Inner height [mm]	86
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$



R	150	200	250	300	350	400	500	600
H -0 +25	408	508	608	708	808	908	1,108	1.308
D	341	391	441	491	541	591	691	791
K	655	815	970	1,125	1,285	1,440	1,755	2,070

The required clearance height: $H_F = H + 60$mm (with 3.0kg/m fill weight)

Gliding applications | For travel lengths from 12m to max. 250m



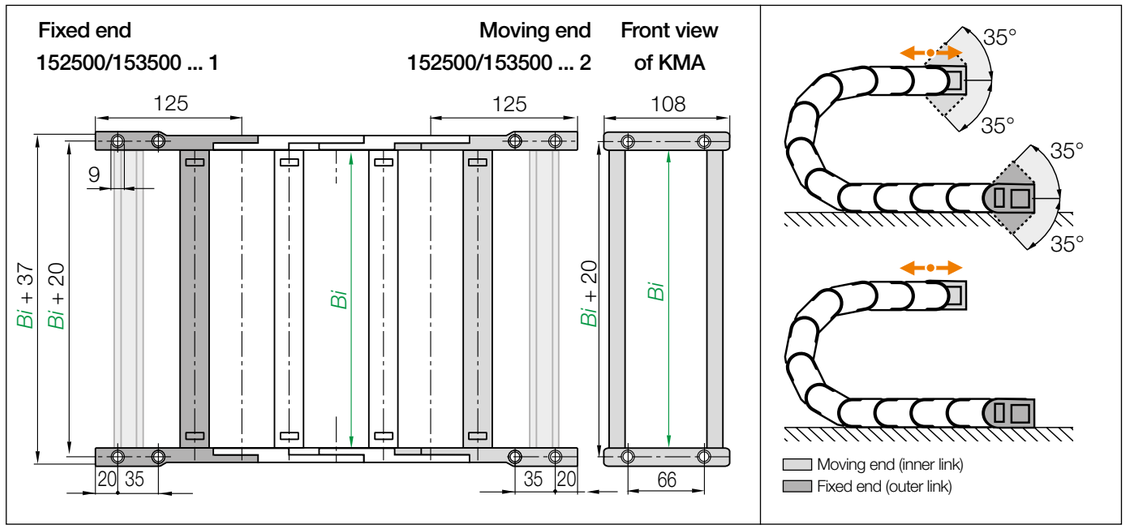
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 9 and 12m we recommend an e-chain® with a longer unsupported length.

R	150	200	250	300	350	400	500	600[1)]
H_2	242	242	242	242	242	242	242	–
D_2^{+25}	550	800	950	1,200	1,550	1,700	2,175	–
K_2	910	1,274	1,638	2,002	2,457	2,730	3,458	–
ΔCL	209	409	509	709	1,009	1,109	1,339	–

1) R 600 not suitable for long travel applications. Please consult igus®.

E4/light | e-chains® 15250·15350 | Accessories

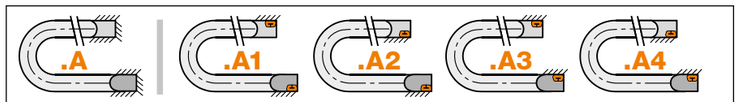
KMA mounting brackets | Attachment from any side | Pivoting | Locking



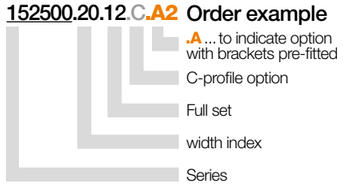
Standard **KMA pivoting** | Recommended for unsupported and gliding applications
KMA locking | Recommended for vertical hanging and standing applications

Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	*Bi* [mm]	Width index	Part No. Full set KMA pivoting	Part No. Full set KMA locking	*Bi* [mm]
05. ▶	152500. 05 .12.C	153500. 05 .12.C	50	212. ▶	152500. 212 .12.C	153500. 212 .12.C	212
06. ▶	152500. 06 .12.C	153500. 06 .12.C	68	23. ▶	152500. 23 .12.C	153500. 23 .12.C	225
07. ▶	152500. 07 .12.C	153500. 07 .12.C	75	237. ▶	152500. 237 .12.C	153500. 237 .12.C	237
087. ▶	152500. 087 .12.C	153500. 087 .12.C	87	25. ▶	152500. 25 .12.C	153500. 25 .12.C	250
097. ▶	152500. 097 .12.C	153500. 09 .12.C	97	262. ▶	152500. 262 .12.C	153500. 262 .12.C	262
10. ▶	152500. 10 .12.C	153500. 10 .12.C	100	28. ▶	152500. 28 .12.C	153500. 28 .12.C	275
11. ▶	152500. 11 .12.C	153500. 11 .12.C	108	29. ▶	152500. 29 .12.C	153500. 29 .12.C	287
112. ▶	152500. 112 .12.C	153500. 112 .12.C	112	30. ▶	152500. 30 .12.C	153500. 30 .12.C	300
12. ▶	152500. 12 .12.C	153500. 12 .12.C	125	312. ▶	152500. 312 .12.C	153500. 312 .12.C	312
137. ▶	152500. 137 .12.C	153500. 137 .12.C	137	325. ▶	152500. 325 .12.C	153500. 325 .12.C	325
15. ▶	152500. 15 .12.C	153500. 15 .12.C	150	337. ▶	152500. 337 .12.C	153500. 337 .12.C	337
162. ▶	152500. 162 .12.C	153500. 162 .12.C	162	350. ▶	152500. 350 .12.C	153500. 350 .12.C	350
17. ▶	152500. 17 .12.C	153500. 17 .12.C	168	362. ▶	152500. 362 .12.C	153500. 362 .12.C	362
18. ▶	152500. 18 .12.C	153500. 18 .12.C	175	375. ▶	152500. 375 .12.C	153500. 375 .12.C	375
187. ▶	152500. 187 .12.C	153500. 187 .12.C	187	387. ▶	152500. 387 .12.C	153500. 387 .12.C	387
20. ▶	152500. 20 .12.C	153500. 20 .12.C	200	400. ▶	152500. 400 .12.C	153500. 400 .12.C	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

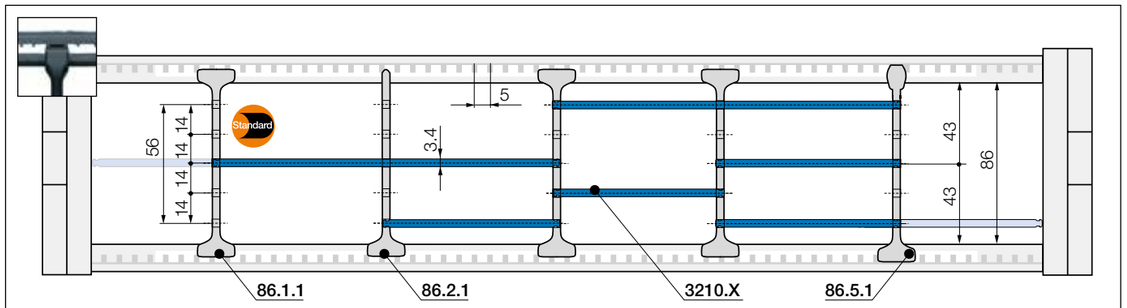


Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E4/light | Series 15250·15350 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/15250**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**86.1**
assembled	**86.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	**86.2**
assembled	**86.2.1**

For even faster installation

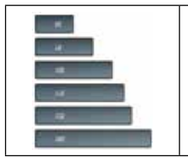
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator* for notched crossbar	
unassembled	**86.5**
assembled	**86.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.
(*Suitable from *Bi* 75)



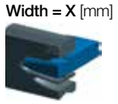
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

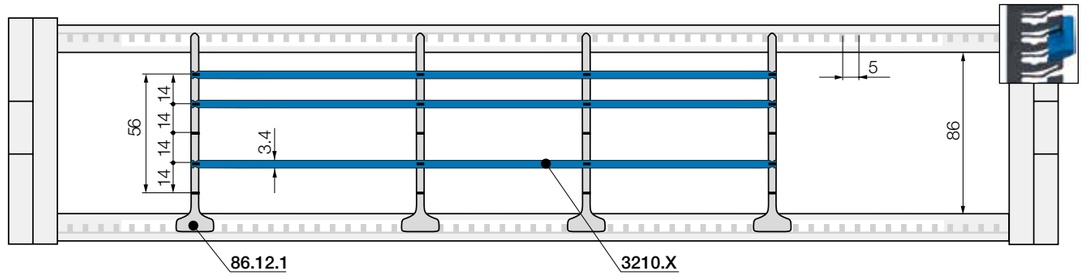
Width = X [mm]



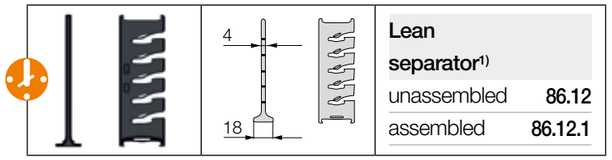
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E4/light | Series 15250·15350 | Accessories

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Lean separator[1)]	
unassembled	86.12
assembled	86.12.1

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab

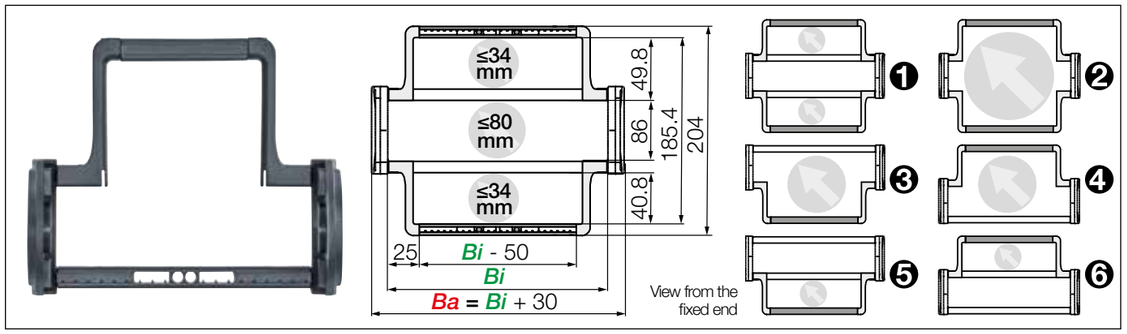




System E4/light e-chains® - can be filled with cables of diameters up to 100mm

E4/light | Series 15250·15350 | Further accessories

e-chain® with openable extender crossbars



Extender crossbars with flexible width | Safe guiding for large hoses

- For guiding and protecting large hoses
- With mounting for noise dampers
- Cable-friendly design, high crossbar holding force
- The openable extender crossbars can be fitted in different ways and combinations
- Optionally openable along the inner or outer radius

Versions e-chain® with extender crossbar	Hose Ø ≤ [mm]	Part number crossbars every link	Part number crossbars every 2nd link
❶ Extender crossbar and standard crossbar alternating along the inner and outer radius [1)]	34	15250.XXXHB50.R.0	–
❷ Extender crossbar on both sides along the inner and outer radius [2)]	150	15250.XXXB50.R.0	15350.XXXB50.R.0 [2)]
❸ Extender crossbar along the outer radius [3)]	120	15250.XXXBE50.R.0	15350.XXXBE50.R.0[2)]
❹ Extender crossbar along the inner radius [2)]	120	15250.XXXBZ50.R.0	15350.XXXBZ50.R.0[2)]
❺ Extender crossbar and standard crossbar alternating along the outer radius [3)]	34	15250.XXXHBE50.R.0	–
❻ Extender crossbar and standard crossbar alternating along inner radius [1)]	34	15250.XXXHBZ50.R.0	–

1) Minimum bend radius: R 125 2) Minimum bend radius: R 150 3) Minimum bend radius: R 150

Bi [mm] **Available inner widths**

100	125	137	150	162	175	187	200	212	225	237	250
262	275	287	300	312	325	337	350	362	375	387	400

Part number with the width index XXX of the *Bi* and the radius (*R*) supplement e.g. **15250.10B50.150.0 = *Bi* 100 / e-chain® with crossbars every link / Extender crossbars from both sides along the inner and outer radius / Bend radius (*R*) 150**



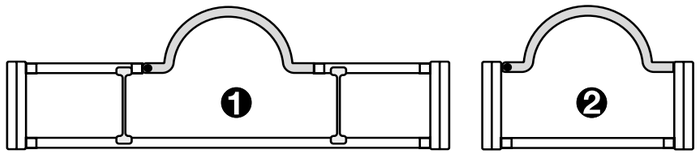
The E4/light can be fitted with openable extender crossbars, which increase the size of the interior of the e-chain®. Crossbars can be fitted in various ways: from one or both sides, alternating with standard crossbars and or any combination

E4/light | Series 15250·15350 | Further accessories

Extender crossbar with fixed width



Round extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)



Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 115mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
385.15RHD115	115	O round	no	yes
385.18RD115	115	O round	yes	no

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **15250.10/15RHDE115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **15250.10/15RHDZ115/10.*R*.0**

Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **15250.18RDE115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **15250.18RDZ115.*R*.0**

Steel support tray for support of the lower run
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



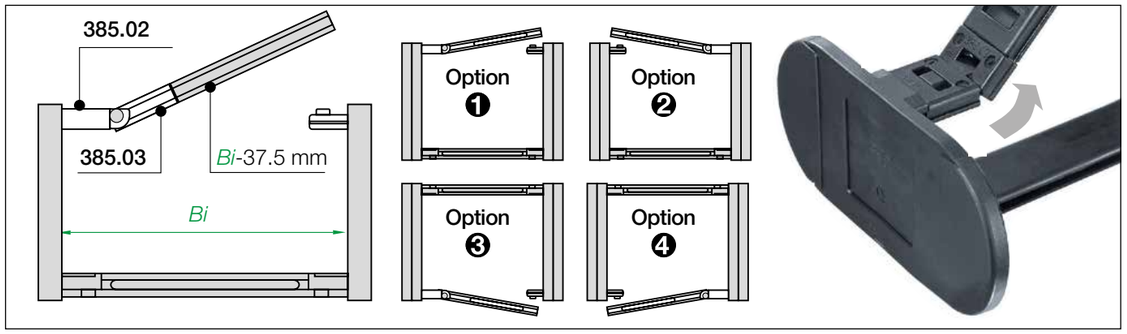
Hot swarf up to +850°C for e-tubes
- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



E4/light | Series 15250·15350 | Further accessories

Hinged crossbar | Swivel clips



Hinged crossbars | Swivel clip | Openable crossbar remains attached to the e-chain®

- When opening crossbars must remain attached to the e-chain®
- Hinged crossbars consist of a swivel clip and a shortened crossbar
- Openable crossbar (shortened): ***Bi***-37.5mm (smallest inner width ***Bi*** = 87.5)
- Please consult igus® for assistance with this product

Part number e-chain® with hinged crossbar	Part number swivel clip as an individual part	Part No. openable crossbar as an individual part
15250.***Bi***.**Z**.***R***.0	385.02	385.03

Complete Part No. with the width index ***Bi***, the index **Z** for the required option and the radius (***R***). Example: **15250.137.1.200.0**

Reduce assembly time - E4 e-chain® opener
- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses
- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar



E4/light | Series 1640·R1608 | Product range

Strong due to undercut design, new very large inner height

112 e-chain® 108 e-tube



e-chains® | **Series 1640** | **Crossbars every link** (crossbars removable along the inner and outer radius)
e-tubes | **Series R1608** | **Fully enclosed** (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes	Bi [mm]	Ba [mm]	1640 [kg/m]	1608 [kg/m]
1640. – 05. R.0	50	84	≈ 5.10	–
1640. – 055.R.0	55	89	≈ 5.14	–
1640. – 06. R.0	65	99	≈ 5.18	–
1640. – 07. R.0	75	109	≈ 5.27	–
1640. – 08. R.0	87	121	≈ 5.31	–
1640. – 10. R.0	100	134	≈ 5.36	–
1640. – 11. R.0	112	146	≈ 5.45	–
1640. – 12. R.0	125	159	≈ 5.54	–
1640. – 13. R.0	137	171	≈ 5.63	–
1640. – 15. R.0	150	184	≈ 5.67	–
1640. – 16. R.0	162	196	≈ 5.74	–
1640. – 169.R.0	169	204	≈ 5.82	–
1640. – 17. R.0	175	209	≈ 5.81	–
1640. – 182.R.0	182	217	≈ 5.85	–
1640. – 18. R.0	187	221	≈ 5.88	
1640. 1608. 20. R.0	200	234	≈ 5.89	≈ 7.69
1640. – 207.R.0	207	242	≈ 5.95	–
1640. – 21. R.0	212	246	≈ 5.96	–
1640. – 22. R.0	225	259	≈ 6.01	–
1640. – 23. R.0	237	271	≈ 6.09	
1640. 1608. 25. R.0	250	284	≈ 6.15	≈ 8.39
1640. – 26. R.0	262	296	≈ 6.20	–
1640. – 27. R.0	275	309	≈ 6.27	–
1640. – 28. R.0	287	321	≈ 6.29	–
1640. 1608. 30. R.0	300	334	≈ 6.34	≈ 9.09
1640. – 31. R.0	312	346	≈ 6.41	–
1640. – 32. R.0	325	359	≈ 6.48	–
1640. – 33. R.0	337	371	≈ 6.59	–
1640. 1608. 35. R.0	350	384	≈ 6.61	≈ 9.79
1640. – 36. R.0	362	396	≈ 6.67	–
1640. – 37. R.0	375	409	≈ 6.71	–
1640. – 38. R.0	387	421	≈ 6.76	–
1640. 1608. 40. R.0	400	434	≈ 6.89	≈ 10.49
1640. – 41. R.0	412	446	≈ 6.99	–
1640. – 42. R.0	425	459	≈ 7.08	–
1640. – 43. R.0	437	471	≈ 7.13	–
1640. – 45. R.0	450	484	≈ 7.17	–
1640. – 46. R.0	462	496	≈ 7.18	–
1640. – 47. R.0	475	509	≈ 7.22	–
1640. – 48. R.0	487	521	≈ 7.27	–
1640. 1608. 50. R.0	500	534	≈ 7.35	≈ 11.78
1640. – 51. R.0	512	546	≈ 7.36	–
1640. – 52. R.0	525	559	≈ 7.39	–
1640. – 53. R.0	537	571	≈ 7.49	–
1640. – 55. R.0	550	584	≈ 7.80	–
1640. – 60. R.0	600	634	≈ 7.92	–

*Radius not available for e-tubes

Available bend radii

R [mm] | 200* | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |

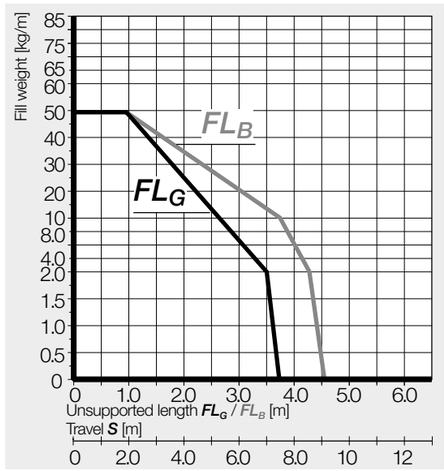
Complete Part No. with required radius (R). Example:

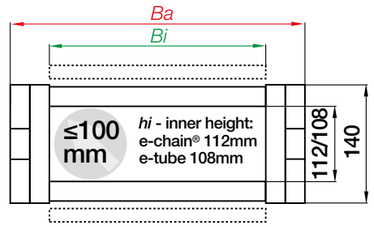
1640.30.300.0 = crossbars every link / 1608.30.300.0 = crossbars every 2nd link

E4/light | 1640·R1608 | Installation dimensions

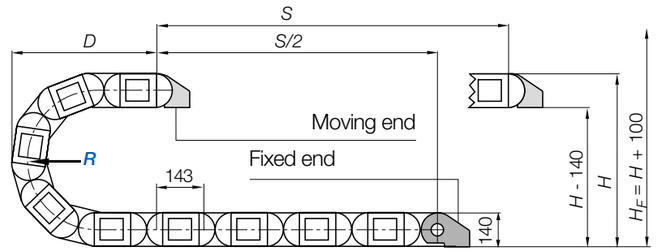
Unsupported applications | Short travels

▶ 1392 ▶ 1350





1640 Inner height [mm]	112
R1608 Inner height [mm]	108
Pitch [mm/link]	143
Links/m	7
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$

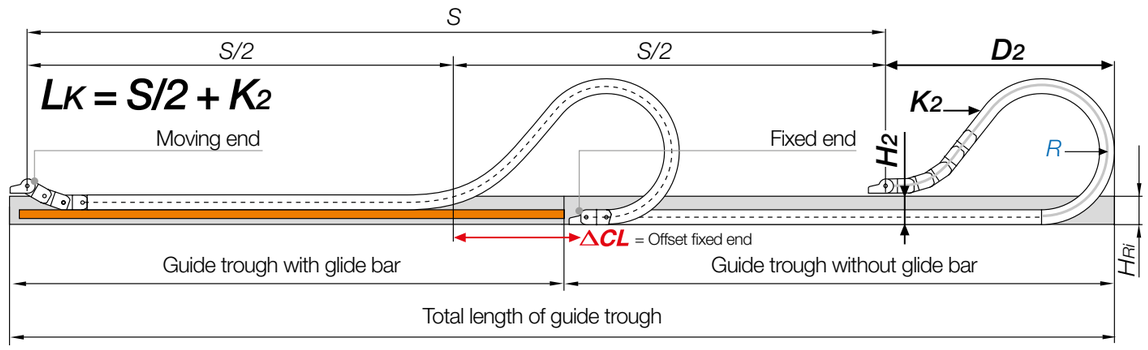


R	200*	250	300	350	400	450	500	550	600
H	540	640	740	840	940	1,040	1,140	1,240	1,340
D	485	535	585	635	685	735	785	835	885
K	915	1,075	1,230	1,390	1,545	1,700	1,860	2,015	2,175

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | For travel lengths from 14m to max. 400m



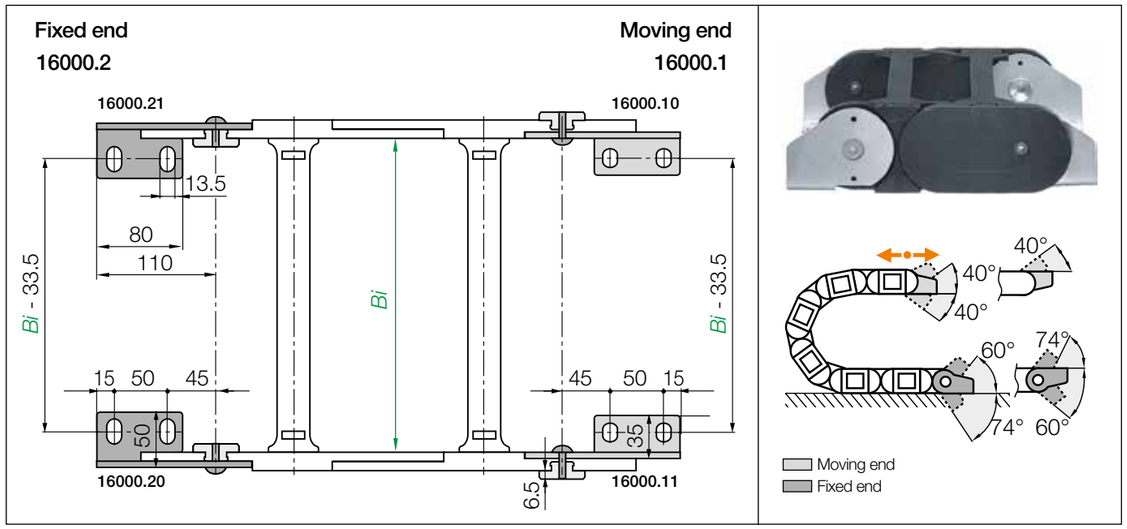
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels between 9 and 14m we recommend an e-chain® with a longer unsupported length.

R	200*	250	300	350	400	450	500	550	600
H_2	325	325	325	325	325	325	325	325	325
D_2^{+25}	900	1,000	1,100	1,250	1,450	1,600	1,700	1,900	2,050
K_2	1,573	1,716	1,859	2,288	2,574	2,860	3,146	3,432	3,861
ΔCL	450	500	550	650	800	900	950	1,100	1,200

*Radius not available for e-tubes

E4/light | Series 1640·R1608 | Accessories

Steel mounting brackets | Pivoting

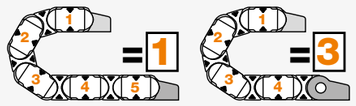


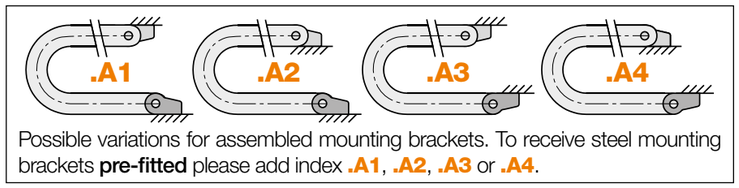
Steel pivoting | For unsupported, gliding,vertical standing and vertical hanging applications

Part No. full set	Description
steel pivoting	Mounting bracket
16000.1.12.VS.E45	Full set (both ends) ending with outer side link, screwed - standard
16000.3.12.VS.E45	**Full set (both ends)** beginning with outer side link (moving end) - ending with inner side link (fixed end), screwed - standard

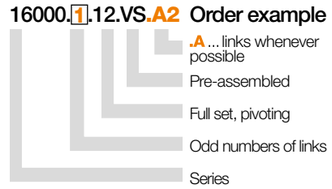
Stainless steel version available. Please add index **.E45** (material: AISI 304)

Note: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index 1 (for odd) or 3 (for even) depending on an even or odd number of links required. For the best appearance, make sure the e-chain® ends with outer side links 1 whenever possible. (with odd number of links)





Possible variations for assembled mounting brackets. To receive steel mounting brackets **pre-fitted** please add index **.A1**, **.A2**, **.A3** or **.A4**.

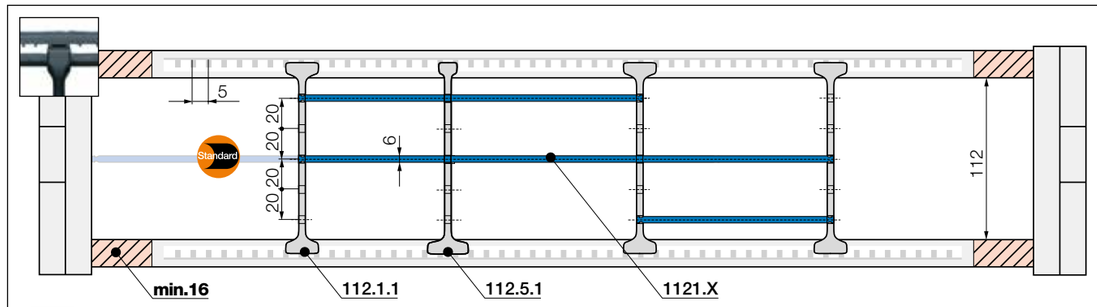


Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

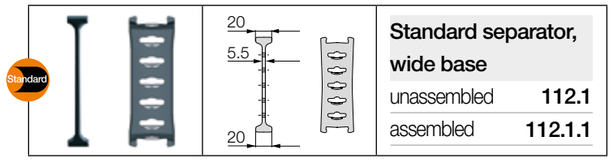
E4/light | e-chains® 1640·R1608 | Accessories (e-tubes ▶ next page)

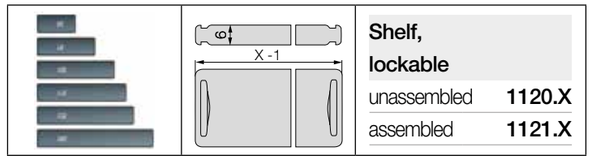
Interior separation | Increase cable service life | Only for e-chains®

Previous generation of interior separation with other options ▶ **www.igus.eu/1640**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!





Standard - for any application

Separator with a wide base for maximum holding force.

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

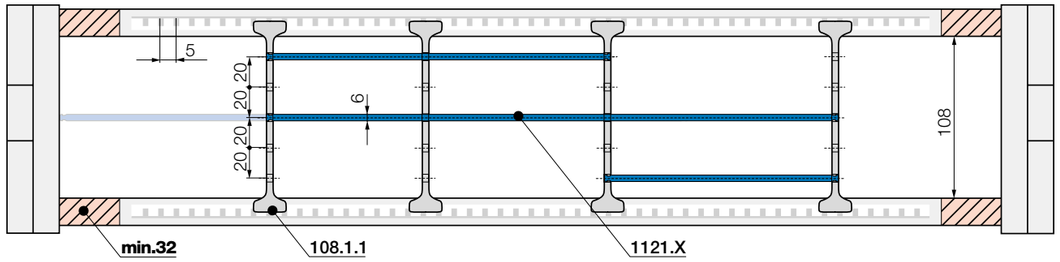


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**

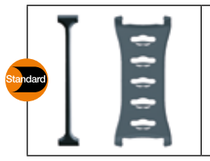
E4/light | **e-tubes R1608** | Accessories (e-chains® ▶ previous page)

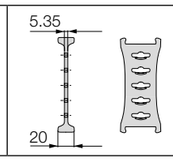
Interior separation | Increase cable service life | Only for e-tubes

Previous interior layout program with optional elements ▶ **www.igus.eu/R1608**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 32mm**
As standard separators are fitted every 2nd e-chain® link!

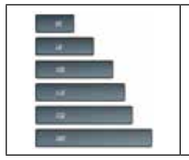


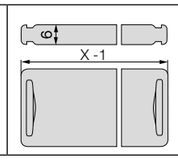


Standard separator, wide base	
unassembled	**108.1**
assembled	**108.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.





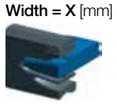
Shelf, lockable	
unassembled	**1120.X**
assembled	**1121.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

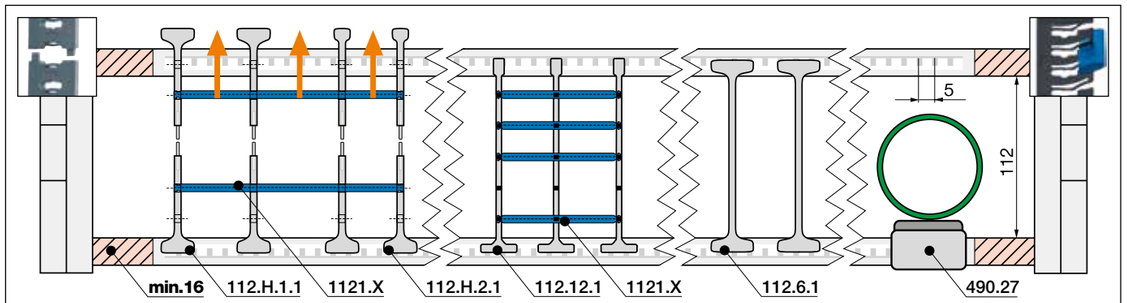
Width = X [mm]



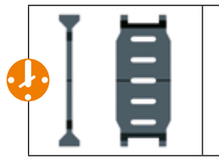
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**1120.050**	**1121.050**	150	**1120.150**	**1121.150**	300	**1120.300**	**1121.300**
065	**1120.065**	**1121.065**	175	**1120.175**	**1121.175**	350	**1120.350**	**1121.350**
075	**1120.075**	**1121.075**	200	**1120.200**	**1121.200**	375	**1120.375**	**1121.375**
100	**1120.100**	**1121.100**	225	**1120.225**	**1121.225**	387	**1120.387**	**1121.387**
125	**1120.125**	**1121.125**	250	**1120.250**	**1121.250**	450	**1120.450**	**1121.450**

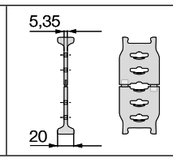
E4/light | **e-chains® 1640** | Accessories

Interior separation | To allow faster filling | Only for e-chains®

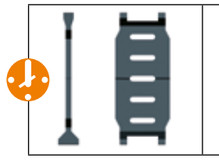


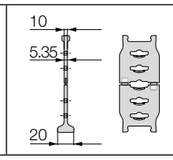
Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!





Split separator, wide base/top*	
unassembled	**112.H.1**
assembled	**112.H.1.1**



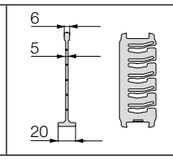


Split separator, narrow top*	
unassembled	**112.H.2**
assembled	**112.H.2.1**

Split separators*

In order to fill e-chains® more easily and effectively, these separators can be split in the middle. This allows easier access to middle shelf partitions. Fast assembly and easy retrofit. 2 types available: with wide or narrow top.





Lean separator*1)3)	
unassembled	**112.12**
assembled	**112.12.1**

Lean separators*1)3)

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

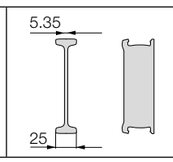
*Suitable for e-chains® only 3) Available upon request. Delivery time upon request.

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%2). 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



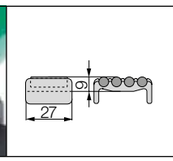
More interior separation options | Only for e-chains®





Notch locking separator*, lockable for e-chains®	
unassembled	**112.6**
assembled	**112.6.1**





Rollclip*, for e-chains®	
unassembled	**489.27**
assembled	**490.27**

Notch locking separator* for increased holding force

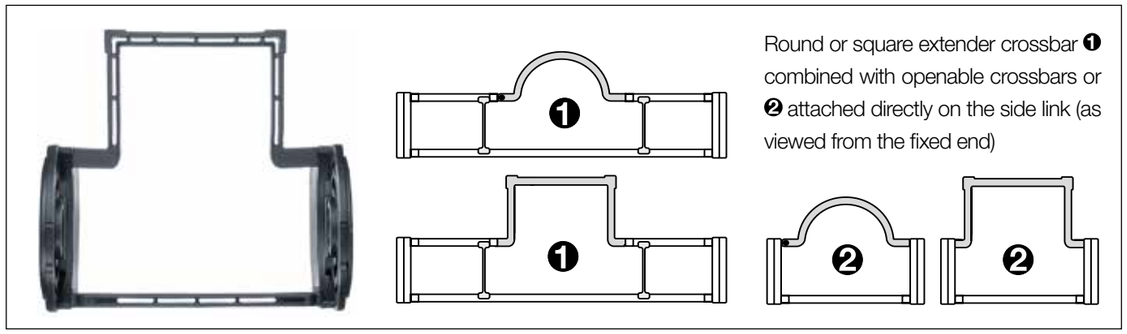
Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose. *Only suitable for e-chains®

E4/light | Series 1640·R1608 | Further accessories

Extender crossbar with fixed width



Round or square extender crossbar ❶ combined with openable crossbars or ❷ attached directly on the side link (as viewed from the fixed end)

Extender crossbars with fixed width | Safe guiding for large hoses

- Suitable for hoses with a maximum outer diameter of 300mm
- Option ❶ extender crossbars with fixed width to combine with openable crossbars
- Option ❷ extender crossbars with fixed width attached directly on the side link
- Optionally openable along the inner "**Z**" or the outer radius "**E**"
- Gliding with crossbars assembled along the outer radius and a special guide trough

Part No. extender crossbar with fixed width, as individual parts	Hose Ø ≤ [mm]	Extender crossbar shape	❷ Fitted to side link	❶ Combine with openable crossbars
450.15RHD115	115	○ round	no	yes
450.17RD115	115	○ round	yes	no
450.25D150	150	□ square	yes	no
450.30D200	200	□ square	yes	no
450.35D250	250	□ square	yes	no
450.40D300	300	□ square	yes	no
450.20HD150	150	□ square	no	yes
450.25HD200	200	□ square	no	yes
450.30HD250	250	□ square	no	yes

Order example: ❶ combined with openable crossbars

To receive extender crossbar RHD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **1640.10/15RHDE115/10.*R*.0**

To receive extender crossbar RHD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **1640.10/15RHDZ115/10.*R*.0**

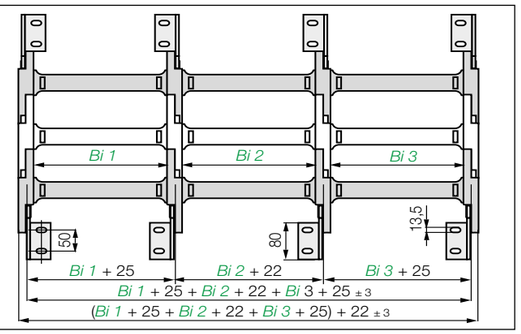
Order example: ❷ fitted to side link

To receive extender crossbar RD115 pre-fitted along the outer radius of the e-chain®, please add index **E**: **1640.17RDE115.*R*.0**

To receive extender crossbar RD115 pre-fitted along the inner radius of the e-chain®, please add index **Z**: **1640.17RDZ115.*R*.0**

Extension links



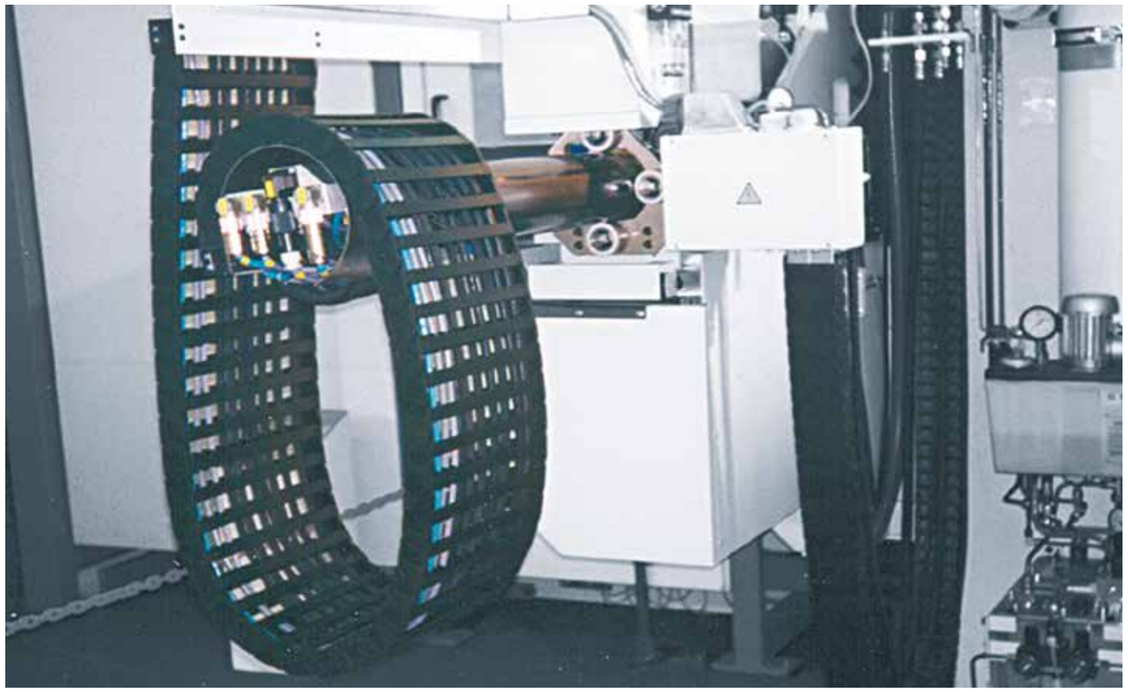


Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension
- For extremely wide e-chains® up to 3,000mm
- Unsupported length FL_G max. can be increased when heavy fill weights are required
- e-chains® and e-tubes can be combined
- Attached with KMA or steel mounting brackets

Part number Extension link e-chain®	Part number Extension link e-tube	Part number Extension link as an individual part
1640.*Bi1*/*Bi2*/*Bi3*.*R*.0	**R1608.*Bi1*/*Bi2*/*Bi3*.*R*.0**	**6022.*R*.**

Complete Part No.with the width index ***Bi1*/*Bi2*/*Bi3*/*etc.*** and the radius (***R***). Example: **1640.10/20/10.200.0**



Circular movements (also with Reverse Bend Radius "***RBR***") are possible

E4 snapclip - clip-on tiewrap

- For side-mounted applications, compatible with many E4 e-chains®
- Serves as a clip-on, lateral guide for hoses and cables on e-chains®
- The loops can be adjusted as required

More information ▶ www.igus.eu/1640



Steel support tray for support of the lower run

- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

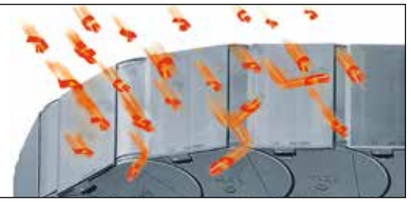
More information ▶ From page 1356



Hot swarf up to +850°C for e-tubes

- Lids and shelves can repel swarf up to +850°C. Special production option with the igus® material igumid HT
- No hot swarf melting or embedding into the chain

More information ▶ www.igus.eu/HT



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



Roller crossbars - increase the service life of cables and hoses

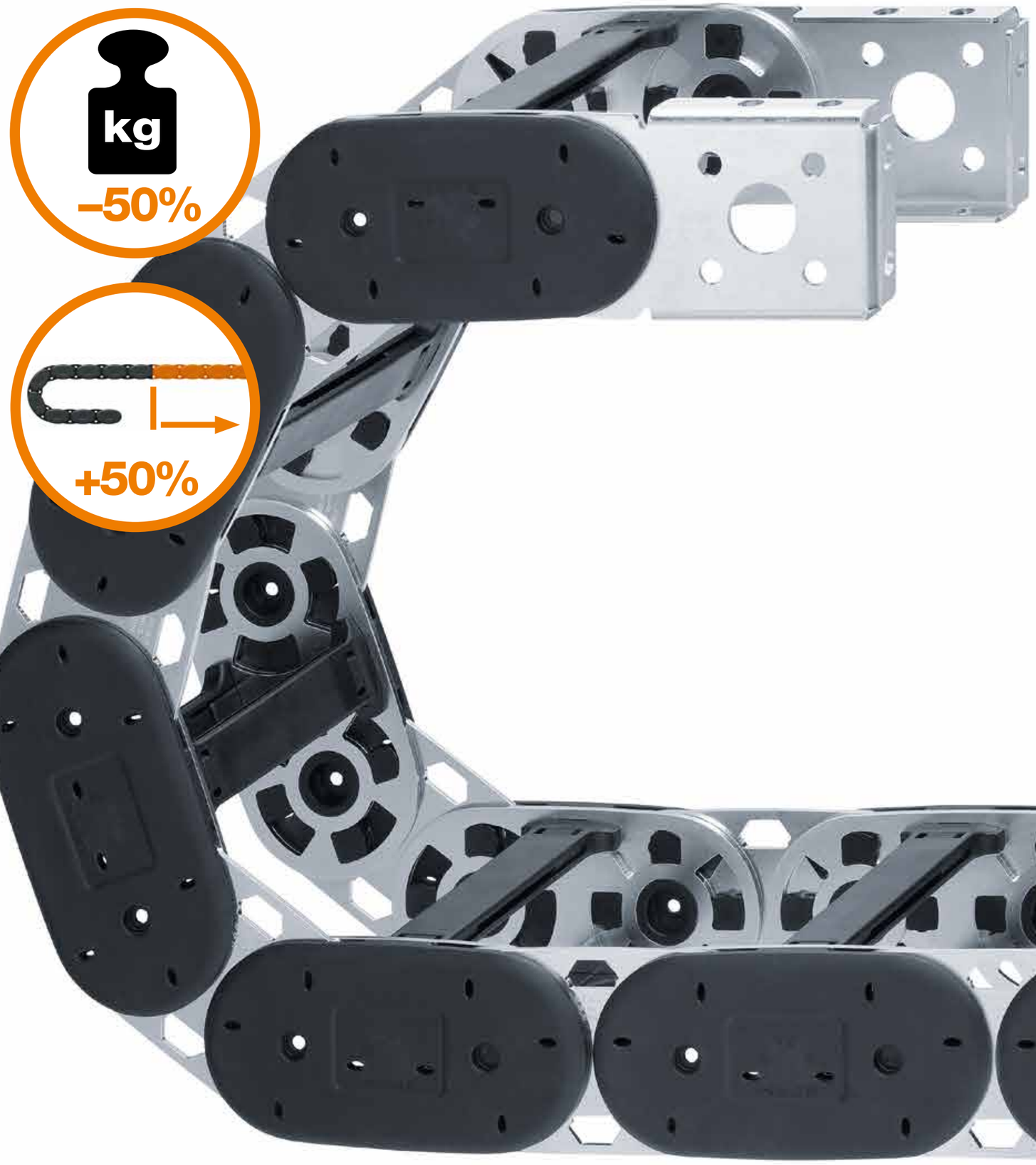
- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ▶ www.igus.eu/roller-crossbar





Side-mounted E4/light e-tubes - machine tool fitted with a swarf-repellent e-tube from the E4 modular system



YE

Plastic-steel hybrid e-chain®

Combine the best properties of steel and plastic

Advantages of the YE system:

- Almost 50% lighter than a pure steel chain of comparable size
- 50% longer unsupported length than a comparable plastic e-chain®
- Easy installation
- No screws, rivets or bolts which can become loose under vibration
- High ease of movement due to plastic pin connections, high tensile force absorption
- Tough steel mounting brackets with all-round fastening options
- Wide range of cable- and hose-friendly interior separation
- Available as ready-to-install readychain® system with cables, hoses and hydraulic components

When to use another e-chain® series:

- When pure plastic e-chains® are required
  ► **E4.1, page 616**
- For travel lengths gliding
  ► **P4 / P4.1, page 1232** ► **rol e-chain®, page 1242**



Tough:
steel mounting brackets with attachment options from any side

50% less weight:
than a pure steel chain of comparable size, thanks to plastic outer links

Maximum strength:
steel inner plates absorb the force of the fixed plastic outer link stop-dogs

50% longer unsupported length with more compact dimensions than a comparable plastic e-chain®

Fast assembly:
plastic outer links with flange for easy assembly of e-chain® links

Smooth running:
very smooth operation due to plastic pin connections

Fast filling:
plastic crossbars removable along the inner and outer radius

Combine the best properties of steel and plastic - YE hybrid e-chain®

50% stronger than pure plastic energy chains* and 50% lighter than pure steel energy chains*. No rivets, no screws. Energy chain links openable quickly, for easy cable replacement. Steel or plastic does not have to be an either-or decision. In order to reach the highest possible unsupported length with the lowest possible weight, so-called hybrid e-chains® are ideal, combining the best properties of steel and plastic.

- High tensile strength
- No screws, rivets or bolts which can become loose under vibration
- Easy installation of plastic outer links with flange for easy e-chain® link assembly
- Available as ready-to-install readychain® system with cables, hoses and hydraulic components
- Smooth operation due to plastic pin connection
- Wide range of interior separation elements
- 30% less energy consumption in production compared to steel chain

*Compared to plastic or steel energy chains of comparable sizes

Typical industries and applications

● Cherry pickers ● Construction equipment ● Breakdown vehicles ● Lifting platforms ● Telescopic loaders ● Vertical lifts ● Articulated telescopic platforms ● Horizontal drilling rigs ● Articulated arm systems ● Drilling and diaphragm wall rigs ● Work platforms

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **Plastic-steel hybrid e-chains®** crossbars removable along the inner and outer radius							
YE.42	42	100* - 400	118 - 418	76	100	**	782
YE.56	56	100* - 600	124 - 624	90	100 - 500	**	788

* Widths under *Bi* 100 available upon request. Here, an inspection and dimensioning via the igus® design is required in advance.

Unsupported lengths depending on the angle of inclination ▶ **see corresponding graphs on the series pages

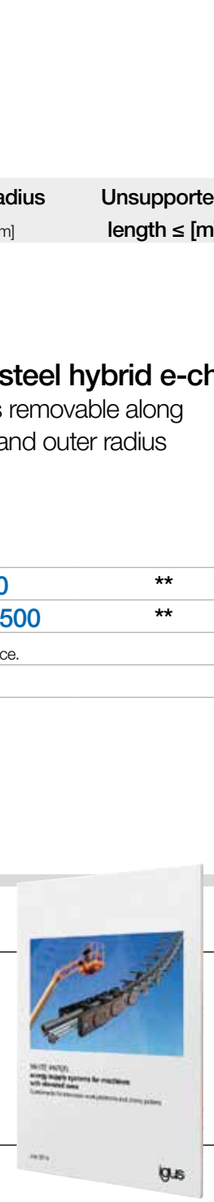
Available from stock. Ready to ship in 48 - 72hrs.*

*Average time before the ordered goods are dispatched.

Free YE white paper: energy supply systems for machines with inclined axes

- Read this white paper to learn about the benefits of the YE hybrid chain for aerial work platforms and other machinery and applications
- Describes requirements for telescopic work platforms and cherry pickers

Download whitepaper ▶ www.igus.eu/YE



YEHD.108 series - new size with 108mm inner height

- YE plastic-steel hybrid e-chains®: tough, vibration-proof, compact and easy to assemble
- The YE hybrid energy chain is the best mix of lightweight plastic and tough steel with large inner heights

Upon request - more information ▶ www.igus.eu/YE





Plastic outer links

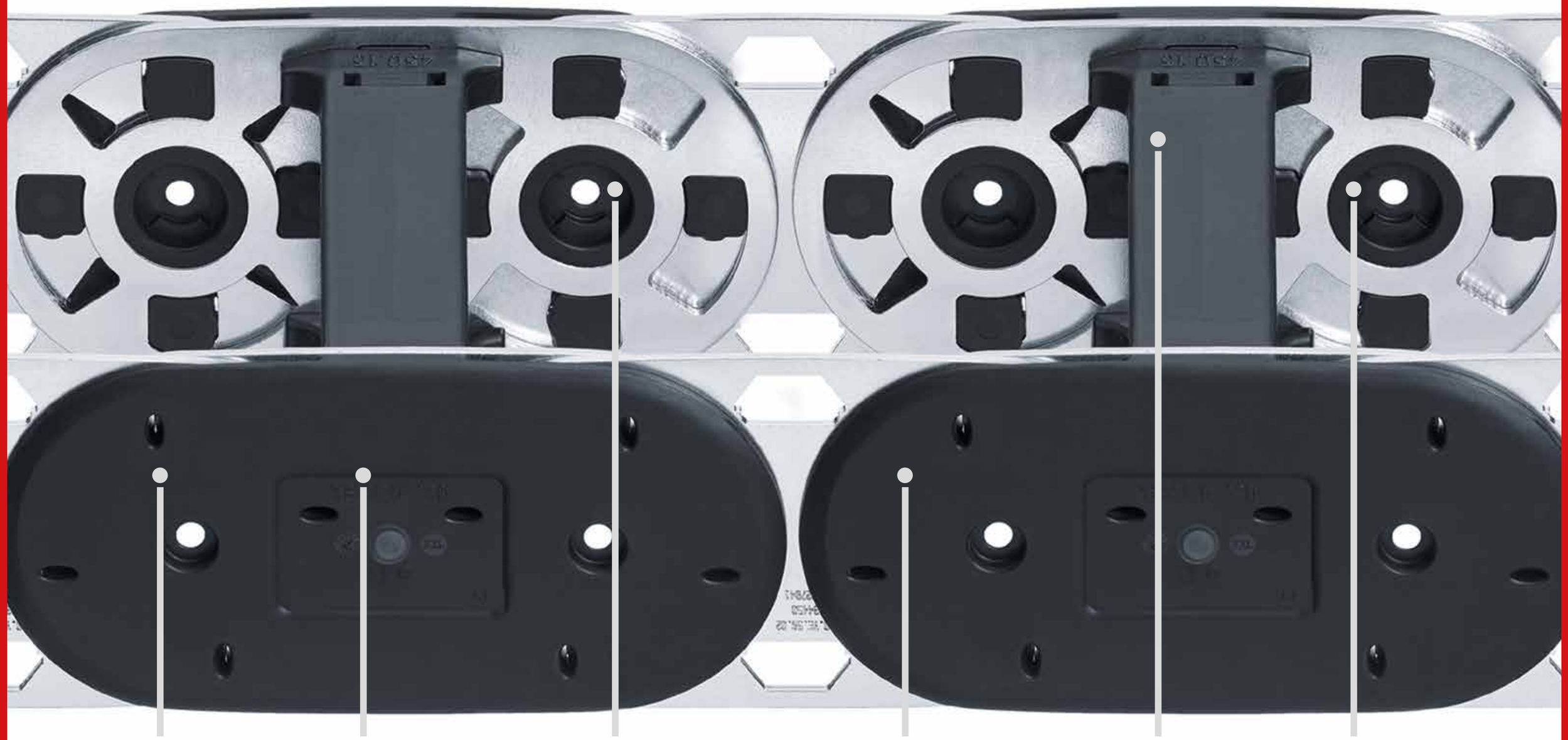
The plastic outer links of the YE system are made of glass fibre reinforced igumid G. Large pins result in a high tensile force. Due to rotation around the plastic pins, the e-chain® is very smooth in operation. A single outer link is necessary for the entire product range. This increases the flexibility and quick availability of various bending radii. The undercut design of the stop-dogs lock the steel links under load.

YE | Plastic-steel hybrid e-chains® | Design principle



Steel inner links

The min. 2.5mm thick steel inner plates have recesses for the stop-dogs of the igumid G outer links. The YE system is designed in such a way that when loaded, force is exerted on the fixed stops from both sides through the steel links. This allows a higher load on the stop-dogs.



Almost 50% less weight than a pure steel chain of comparable size, thanks to plastic outer links

Significantly lower assembly costs - e-chain® links can be assembled individually

High ease of movement due to plastic pin connections, high tensile force absorption

50% longer unsupported length than a comparable plastic e-chain®

Strong notched crossbars with visible scale and double locking mechanism

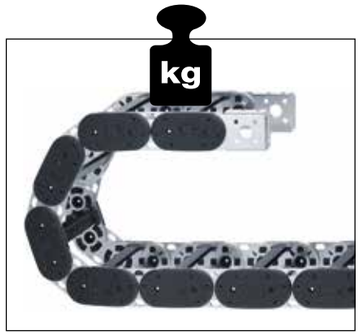
No screws, rivets or bolts which can become loose under vibration



Plastic outer links - high tensile force absorption using plastic pins. Plastic outer links provide 50% less weight, quick installation and smooth running



Steel inner plates absorb the force of the stop-dogs of the plastic outer links and increase the stability by 50%



Strong and vibration-resistant - for heavy loads with compact dimensions and low weight. The advantage for access platforms is that each saved gram increases the payload



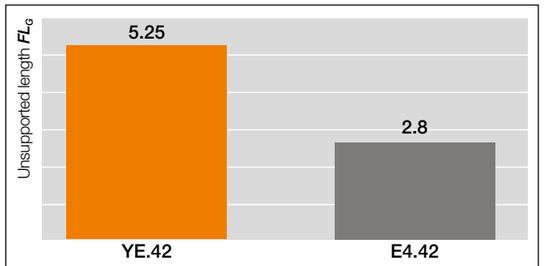
Variable widths - 50mm to 400mm inner width available. Crossbars openable and removable along the inner and outer radius



Standard interior separation from the proven E4 modular system available from stock



Tough steel mounting brackets with attachment options from any side



Tested in the igus® laboratory: 87.5% more unsupported length ***FL*$_G$** with 2kg/m fill weight than a comparable plastic e-chain®

Test - unsupported length of the igus® YE.42 series

In a comparison test in its test laboratory, which is the largest in the industry, igus® compared the YE.42 and E4.42 series with each other. The two series were evaluated with regard to their unsupported length (with straight upper run) with a 2kg/m fill weight.

Result: With a fill weight of 2kg/m, the YE.42 series can travel unsupported for a distance of up to 5.25m but the E4.42 can only achieve 2.8m. This corresponds to an 87.5% longer unsupported length ***(with straight upper run)*** with a 2kg/m fill weight for the YE.42 series compared to the E4.42 series.

Why plastic-steel hybrid e-chains® ...

Standard steel energy chains in access platforms vs. igus® YE hybrid e-chains®

Standard steel energy chains	igus® YE plastic-steel hybrid e-chains®
Frequently observed problems with pure steel energy supply systems:	**The problem solution:**
● Screws, bolts and circlips can be lost over time and make the whole system unstable	● No screws or rivets connecting the e-chains®
● e-chain® links of steel chains are non-openable and cannot be partially replaced	● e-chains® links are openable. If required, cables can be added or removed.
● Corrosion at the joints, resulting in stiffness of the entire energy supply	● Plastic-metal joints prevent seizure of the e-chain® links through corrosion
● Deformation of the crossbars leading to seizure/ twisting of the energy chain. Sharp edges can also damage the cables and hoses	● Plastic crossbars do not permanently deform. In addition, they can be replaced individually in the event of a defect. Rounded crossbars protect the cables and hoses
● Heavy, because of the metal energy supply system	● Up to 50% lighter hybrid energy chain



Standard steel energy chains with their associated problems are a thing of the past with igus® YE plastic-steel hybrid e-chain®

Technical data

Speed FL_G / acceleration FL_G	≤ 1 [m/s] / ≤ 1 [m/s²]
Speed FL_B / acceleration FL_B	≤ 1 [m/s] / ≤ 1 [m/s²]
Material - permitted temperature °C*	-40°C/+120°C
Flammability class*	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

*Temperature data and flammability class refer to the plastic outer links made of igumid G

Order example | Examples based on series YE.42

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 15 links	**YE.42.10.100.0**
+ Mounting bracket	1 full set (odd number of links), pre-assembled moving end pivoting, fixed end locking	**YE.422.*R*100.1.12.A**
Interior separation	With 2 separators assembled every 2nd link	**2 x 42.1.1**
Order text:	**1m YE.42.10.100.0 + YE.422.*R*100.1.12.A + 2 x 42.1.1**	

Order key and colour examples | Examples based on series YE.42

Order key

Plastic-steel hybrid e-chains® **YE.42.10.100.0**

- Series / Type
- Inner height
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)



Cherry pickers, construction machinery and lifting platforms have an identical challenge to face: a safe and compact guidance of the cables and hoses. For those applications that require special high unsupported lengths at different angles of elevation, igus® has developed the plastic-steel hybrid e-chain® YE



The igus® YE system is ideal for construction machinery and lifting platforms - no screws, rivets or bolts that can come loose under vibration. In addition, the YE system is easy to open and close





Conversion of a lift platform with igus® YE.42 hybrid e-chain®. **Find a video online ▶ www.igus.eu/YE**

The first modular plastic-steel hybrid e-chain® made of steel and plastic from igus® easily manages long, unsupported travels, quick and easy to open and close. Safe guidance of cables and hoses - the YE system is 50% lighter than conventional steel chains due to its high-performance polymers and provides 50% longer unsupported length than plastic e-chains®

YE | Series YE.42 | Product range

Plastic-steel hybrid e-chains®

42



Series YE.42 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	YE.42 [kg/m]
YE.42.05. R.0*	50	68	≈ 4.020
YE.42.06. R.0*	68	86	≈ 4.067
YE.42.07. R.0*	75	93	≈ 4.085
YE.42.087.R.0*	87	105	≈ 4.116
YE.42.10. R.0	100	118	≈ 4.150
YE.42.11. R.0	108	126	≈ 4.171
YE.42.112.R.0	112	130	≈ 4.181
YE.42.12. R.0	125	143	≈ 4.215
YE.42.137.R.0	137	155	≈ 4.246
YE.42.15. R.0	150	168	≈ 4.280
YE.42.162.R.0	162	180	≈ 4.311
YE.42.17. R.0	168	186	≈ 4.327
YE.42.18. R.0	175	193	≈ 4.345
YE.42.187.R.0	187	205	≈ 4.376
YE.42.20. R.0	200	218	≈ 4.410
YE.42.212.R.0	212	230	≈ 4.441

Part No. e-chains®	Bi [mm]	Ba [mm]	YE.42 [kg/m]
YE.42.23. R.0	225	243	≈ 4.475
YE.42.237.R.0	237	255	≈ 4.506
YE.42.25. R.0	250	268	≈ 4.540
YE.42.262.R.0	262	280	≈ 4.571
YE.42.28. R.0	275	293	≈ 4.605
YE.42.29. R.0	287	305	≈ 4.636
YE.42.30. R.0	300	318	≈ 4.670
YE.42.312.R.0	312	330	≈ 4.701
YE.42.325.R.0	325	343	≈ 4.735
YE.42.337.R.0	337	355	≈ 4.766
YE.42.350.R.0	350	368	≈ 4.800
YE.42.362.R.0	362	380	≈ 4.831
YE.42.375.R.0	375	393	≈ 4.865
YE.42.387.R.0	387	405	≈ 4.896
YE.42.400.R.0	400	418	≈ 4.930

* Widths under *Bi* 100 available upon request. Here, an inspection and dimensioning via the igus® design is required in advance.

More radii available upon request.

Available bend radii

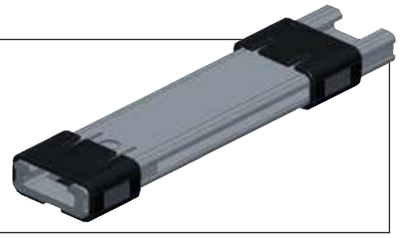
R [mm] | 100 |

Complete Part No. with required radius (*R*). Example: **YE.42.10.100.0**

Lock the crossbars in place with 385.LOCK

- The 385.LOCK latches the crossbar and locks it securely
- It is simply placed on the crossbar and pushed over the flange

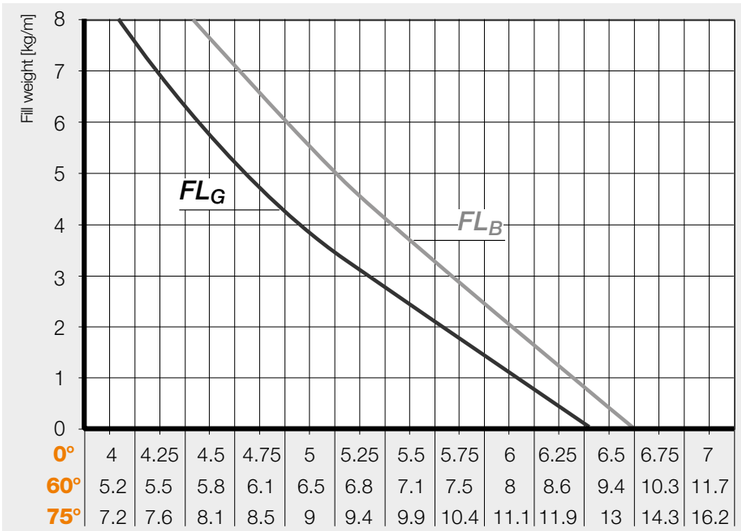
More information ▶ upon request



YE | Series YE.42 | Installation dimensions

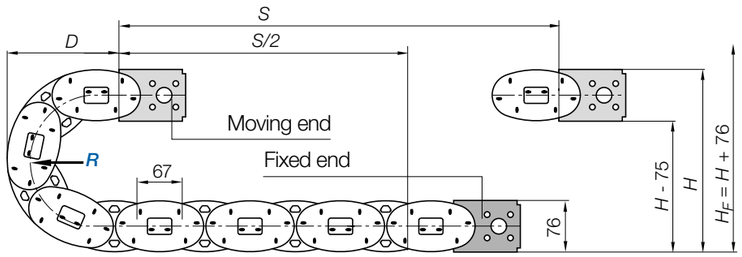
High unsupported lengths, ideal for elevated axes

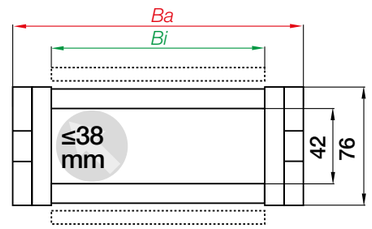
▶ 1392



0°	4	4.25	4.5	4.75	5	5.25	5.5	5.75	6	6.25	6.5	6.75	7
60°	5.2	5.5	5.8	6.1	6.5	6.8	7.1	7.5	8	8.6	9.4	10.3	11.7
75°	7.2	7.6	8.1	8.5	9	9.4	9.9	10.4	11.1	11.9	13	14.3	16.2

Unsupported length FL_G / FL_B [m] with 0° / 60° / 75° elevation





R	100
H	352
D	238.5
K	448

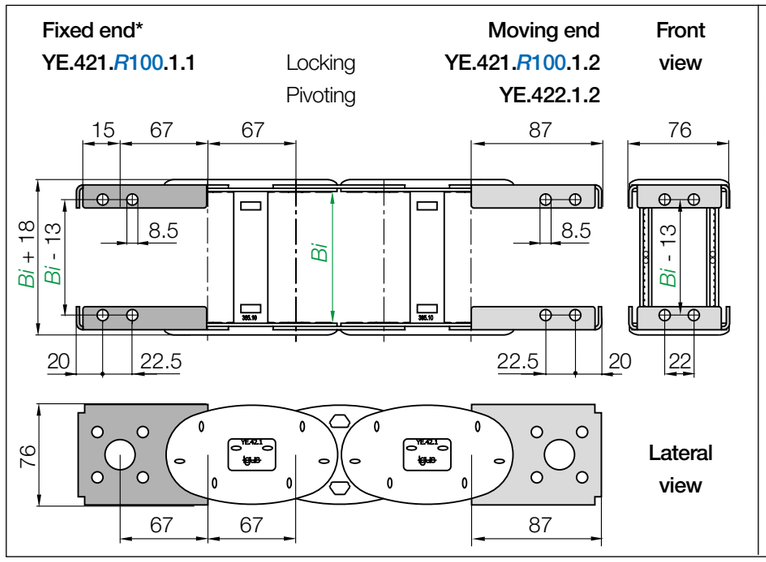
The required clearance height: $H_F = H + 76$mm (with 2.5kg/m fill weight)

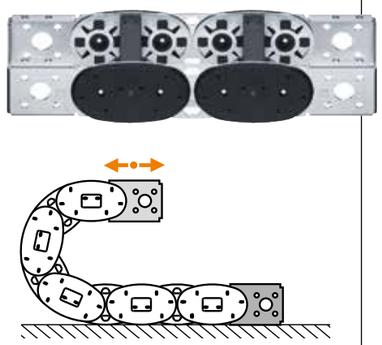
More radii available upon request.

Inner height [mm]	42
Pitch [mm/link]	67
Links/m	15
corresponds to[mm]	1,005
e-chain® length	$L_K = S/2 + K$

YE | Series YE.42 | Accessories

Steel mounting brackets | Locking | Pivoting





*The mounting bracket at the fixed point is **always a locking bracket**.The mounting bracket on the moving end can be either pivoting or locking, depending on the application.

Moving end
Fixed end

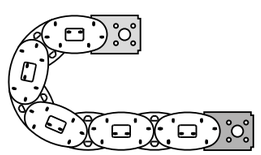
Pivoting | Recommended for unsupported applications
Locking | Recommended for standing/vertical hanging applications

Part No. full set for **moving end pivoting, fixed end* locking**	Part No. full set for **moving end locking, fixed end* locking**	Description Full set (both ends)
YE.422.*R100*.1.12.**A**	YE.421.*R100*.1.12.**A**	e-chains® always start and end with outer links, pre-assembled

Steel mounting brackets as individual parts

Part number mounting bracket **only fixed end*, steel fixed version**	Part number mounting bracket **only moving end, steel fixed version**	Part number mounting bracket **only moving end, steel pivoting**
YE.421.*R100*.1.1.**A**	YE.421.*R100*.1.2.**A**	YE.422.1.2.**A**

Note: The YE plastic-steel hybrid e-chains® always end with outer links (odd number of links). The mounting brackets at the moving end and fixed end always form the end of the e-chain® and are inner links.



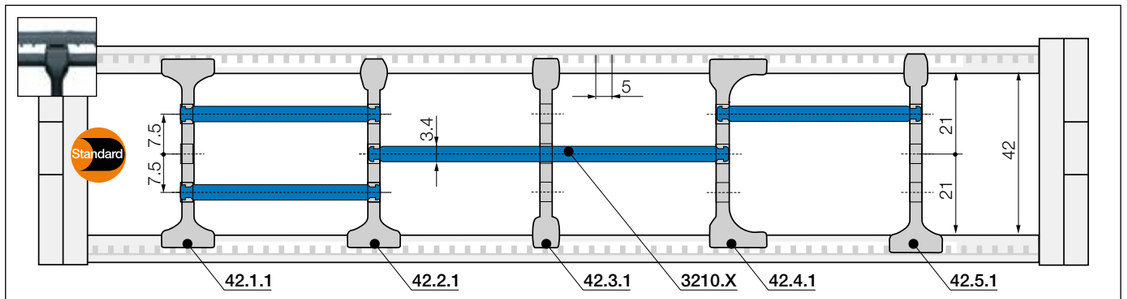
YE.422.*R100*.1.12.**A** Order example

- Pre-assembled
- Full set
- Odd numbers of links
- Index radius
- Moving end pivoting, fixed end* locking
- Series

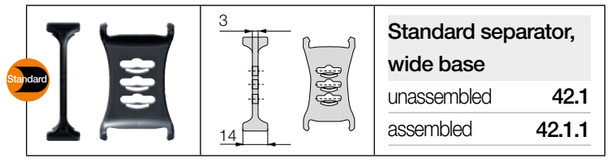
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

YE | Series YE.42 | Accessories

Interior separation | Increase cable service life



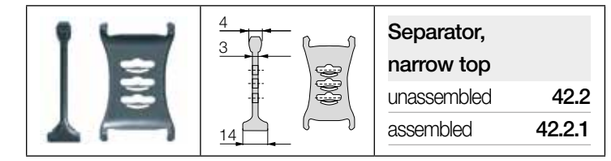
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**42.1**
assembled	**42.1.1**

Standard - for any application

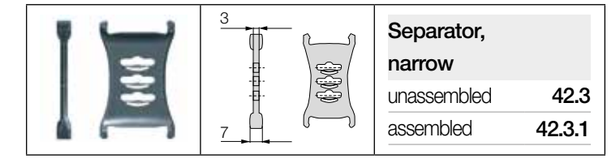
Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	**42.2**
assembled	**42.2.1**

For even faster installation

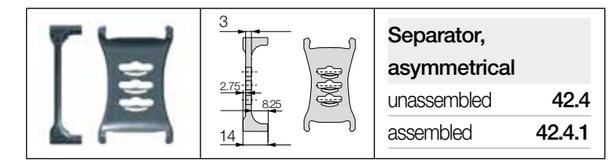
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	**42.3**
assembled	**42.3.1**

For a large number of thin cables

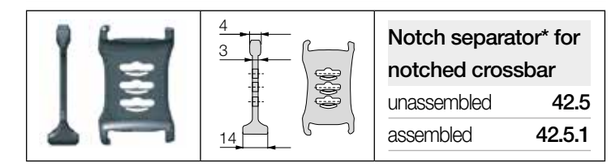
Separator with a narrow base for a large number of thin cables side by side. Saves space.



Separator, asymmetrical	
unassembled	**42.4**
assembled	**42.4.1**

For side-mounted applications

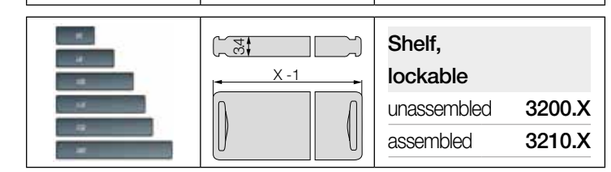
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator* for notched crossbar	
unassembled	**42.5**
assembled	**42.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.
(*Suitable from *Bi* 75)



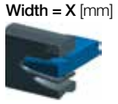
Shelf, lockable	
unassembled	**3200.X**
assembled	**3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

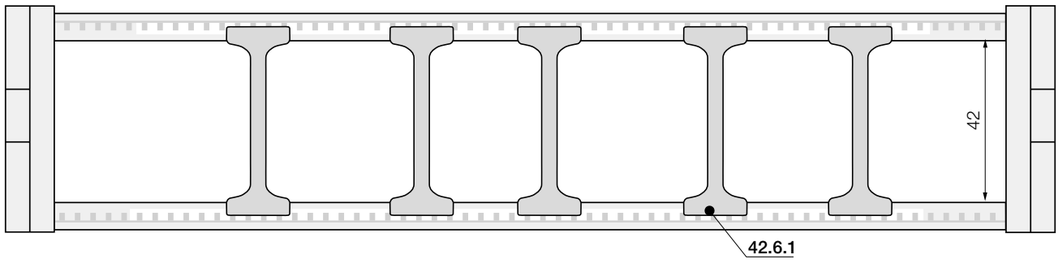
Shelves

Width = X [mm]



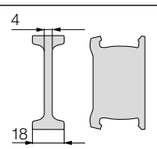
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

Interior separation | To allow higher holding force



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Notch locking separator, lockable for e-chains®	
unassembled	**42.6**
assembled	**42.6.1**

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Here is a tip from the chainflex® cable world: fail-safe cables

- 1,354 cable types - all tested
- With up to 36 months guarantee
- Calculate service life easily online

More information ▶ www.igus.eu/chainflex



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime





Narrow installation spaces, large unsupported lengths and lightweight: e-chains® and chainflex® cables are the ideal "cast" for the demanding part of energy supply for diagonal and telescopic applications

YE | Series YE.56 | Product range

Plastic-steel hybrid e-chains®



Series YE.556 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	YE.56 [kg/m]
YE.56.05. R.0*	50	74	≈ 6.405
YE.56.06. R.0*	65	89	≈ 6.455
YE.56.07. R.0*	75	99	≈ 6.489
YE.56.08. R.0*	87	111	≈ 6.530
YE.56.10. R.0	100	124	≈ 6.574
YE.56.11. R.0	112	136	≈ 6.614
YE.56.12. R.0	125	149	≈ 6.658
YE.56.13. R.0	137	161	≈ 6.698
YE.56.15. R.0	150	174	≈ 6.742
YE.56.16. R.0	162	186	≈ 6.824
YE.56.169. R.0	170	194	≈ 6.853
YE.56.17. R.0	175	199	≈ 6.871
YE.56.182. R.0	183	207	≈ 6.901
YE.56.18. R.0	187	211	≈ 6.915
YE.56.20. R.0	200	224	≈ 6.962
YE.56.207. R.0	208	232	≈ 7.004
YE.56.21. R.0	212	236	≈ 7.019
YE.56.22. R.0	225	249	≈ 7.067
YE.56.23. R.0	237	261	≈ 7.111
YE.56.25. R.0	250	274	≈ 7.159
YE.56.26. R.0	262	286	≈ 7.203
YE.56.27. R.0	275	299	≈ 7.251
YE.56.28. R.0	287	311	≈ 7.296

Part No. e-chains®	Bi [mm]	Ba [mm]	YE.56 [kg/m]
YE.56.30. R.0	300	324	≈ 7.344
YE.56.31. R.0	312	336	≈ 7.388
YE.56.32. R.0	325	349	≈ 7.436
YE.56.33. R.0	337	361	≈ 7.480
YE.56.35. R.0	350	374	≈ 7.528
YE.56.36. R.0	362	386	≈ 7.614
YE.56.37. R.0	375	399	≈ 7.663
YE.56.38. R.0	387	411	≈ 7.709
YE.56.40. R.0	400	424	≈ 7.759
YE.56.41. R.0	412	436	≈ 7.804
YE.56.42. R.0	425	449	≈ 7.854
YE.56.43. R.0	437	461	≈ 7.899
YE.56.45. R.0	450	474	≈ 7.949
YE.56.46. R.0	462	486	≈ 7.995
YE.56.47. R.0	475	499	≈ 8.044
YE.56.48. R.0	487	511	≈ 8.090
YE.56.50. R.0	500	524	≈ 8.139
YE.56.51. R.0	512	536	≈ 8.198
YE.56.52. R.0	525	549	≈ 8.248
YE.56.53. R.0	537	561	≈ 8.294
YE.56.55. R.0	550	574	≈ 8.344
YE.56.60. R.0	600	624	≈ 8.535

* Widths under *Bi* 100 available upon request. Here, an inspection and dimensioning via the igus® design is required in advance.

Available bend radii

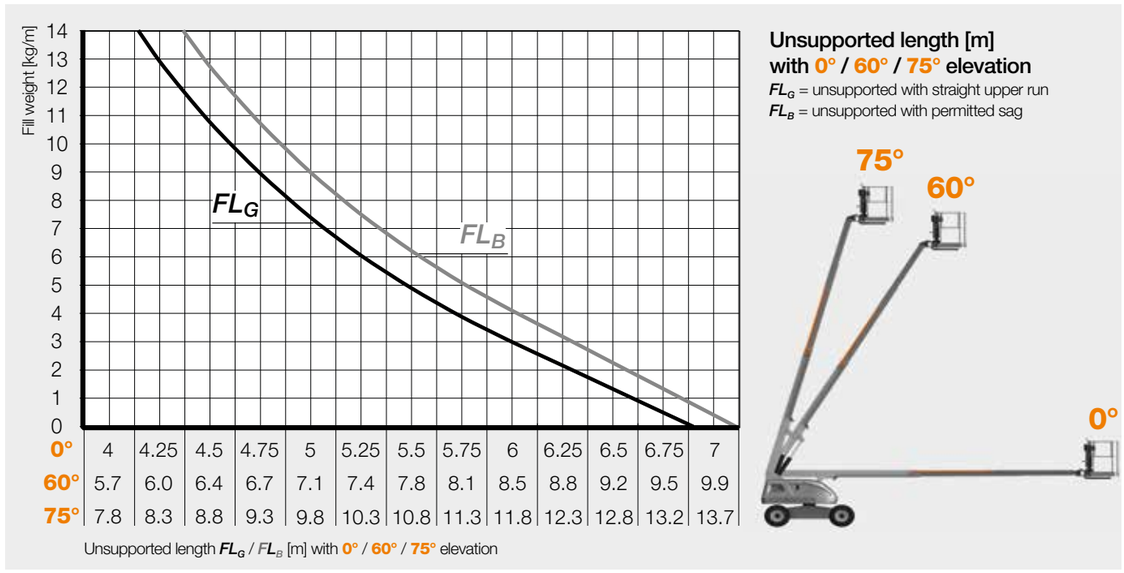
R [mm] | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 500 |

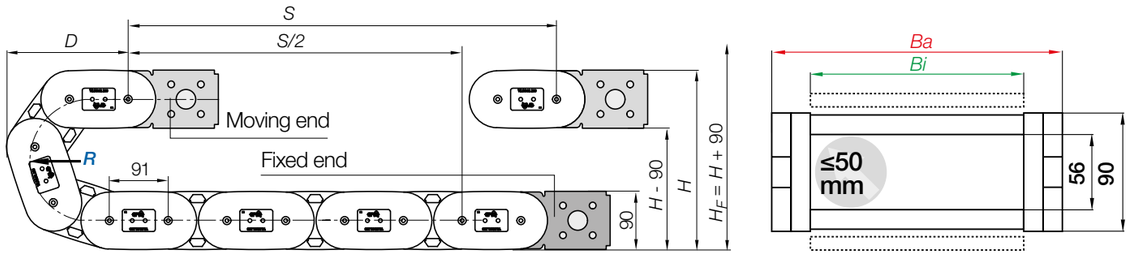
Complete Part No. with required radius (*R*). Example: **YE.56.10.100.0**

YE | Series YE.56 | Installation dimensions

High unsupported lengths, ideal for elevated axes

▶ 1392





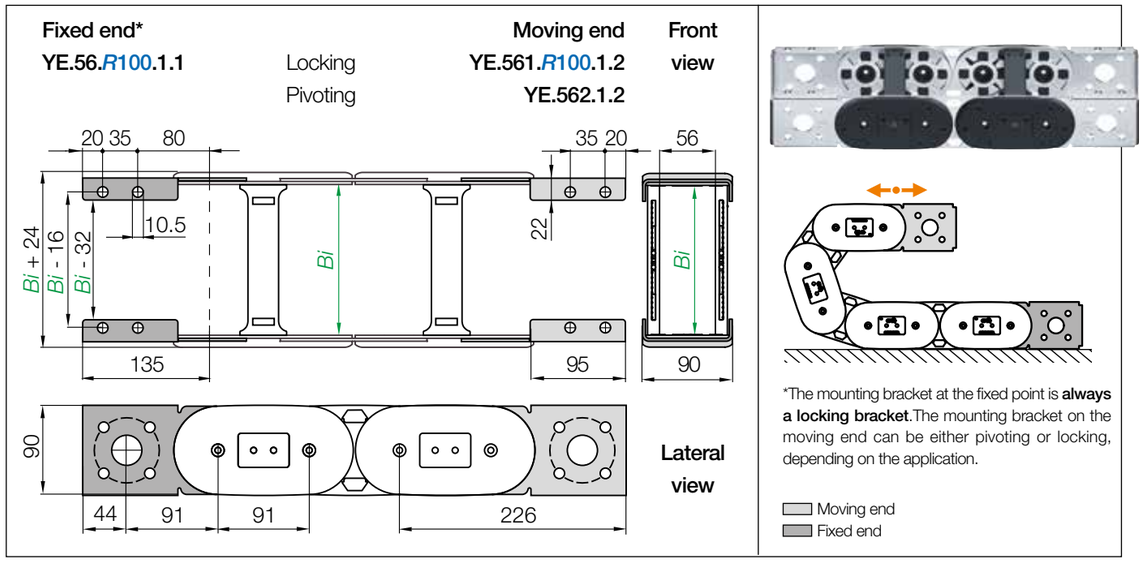
R	100	125	150	200	250	300	350	400	500
H	380	430	480	580	680	780	880	980	1,180
D	281.5	306.5	331.5	381.5	431.5	481.5	531.5	581.5	681.5
K	500	575	655	815	970	1,125	1,285	1,440	1,755

The required clearance height: $H_F = H + 90$mm (with 3.0kg/m fill weight)

Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to[mm]	1,001
e-chain® length	$L_K = S/2 + K$

YE | Series YE.56 | Accessories

Steel mounting brackets | Locking | Pivoting



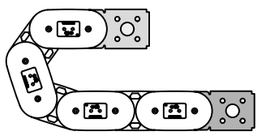
Pivoting | Recommended for unsupported applications
Locking | Recommended for standing/vertical hanging applications

Part No. full set for **moving end pivoting, fixed end* locking**	Part No. full set for **moving end locking, fixed end* locking**	Description Full set (both ends)
YE.562.R100.1.12.A	YE.561.R100.1.12.A	e-chains® always start and end with outer links, pre-assembled

Steel mounting brackets as individual parts

Part number mounting bracket **only fixed end*, steel fixed version**	Part number mounting bracket **only moving end, steel fixed version**	Part number mounting bracket **only moving end, steel pivoting**
YE.561.R100.1.1.A	YE.561.R100.1.2.A	YE.562.1.2.A

Note: The YE plastic-steel hybrid e-chains® always end with outer links (odd number of links). The mounting brackets at the moving end and fixed end always form the end of the e-chain® and are inner links.



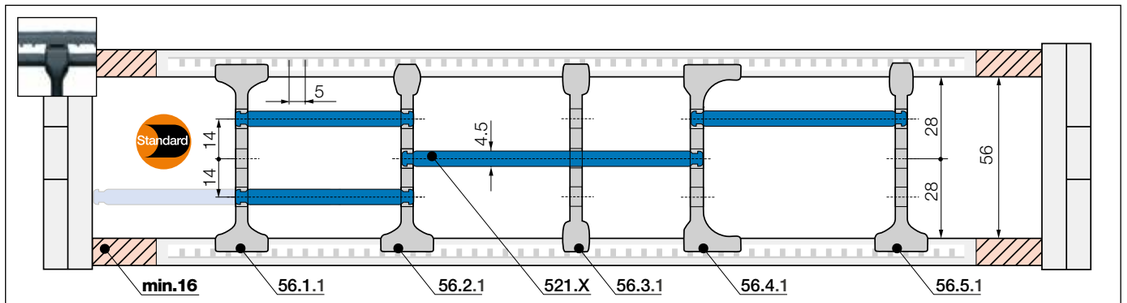
YE.562.R100.1.12.A **Order example**
- Pre-assembled
- Full set
- Odd numbers of links
- Index radius
- Moving end pivoting, fixed end* locking
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

YE | Series YE.56 | Accessories

Interior separation | Increase cable service life

Interior separation - to allow higher holding force ▶ **next page**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **56.1**
assembled **56.1.1**

Standard - for any application
Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **56.2**
assembled **56.2.1**

For even faster installation
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow
unassembled **56.3**
assembled **56.3.1**

For a large number of thin cables
Separator with a narrow base for a large number of thin cables side by side. Saves space.



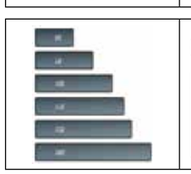
Separator, asymmetrical
unassembled **56.4**
assembled **56.4.1**

For side-mounted applications
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar
unassembled **56.5**
assembled **56.5.1**

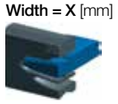
Locks securely in preset increments
Notch separator for exact positioning. Recommended for side-mounted applications.



Shelf, lockable
unassembled **520.X**
assembled **521.X**

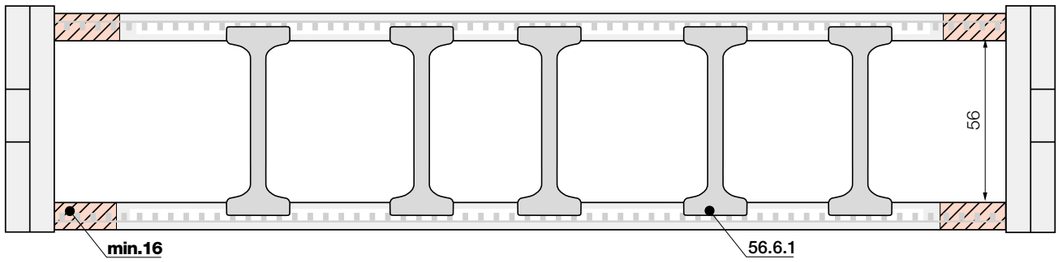
Horizontal separation
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]

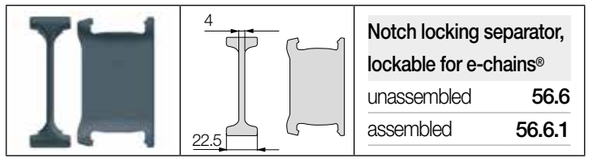


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**520.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**520.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

Interior separation | To allow higher holding force



Note: Please be aware of the minimum lateral gap to the side links! **e-chain® = 16mm**
As standard separators are fitted every 2nd e-chain® link!



Notch locking separator, lockable for e-chains®	
unassembled	**56.6**
assembled	**56.6.1**

Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Here is a tip from the chainflex® cable world: fail-safe cables

- 1,354 cable types - all tested
- With up to 36 months guarantee
- Calculate service life easily online

More information ▶ www.igus.eu/chainflex



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime



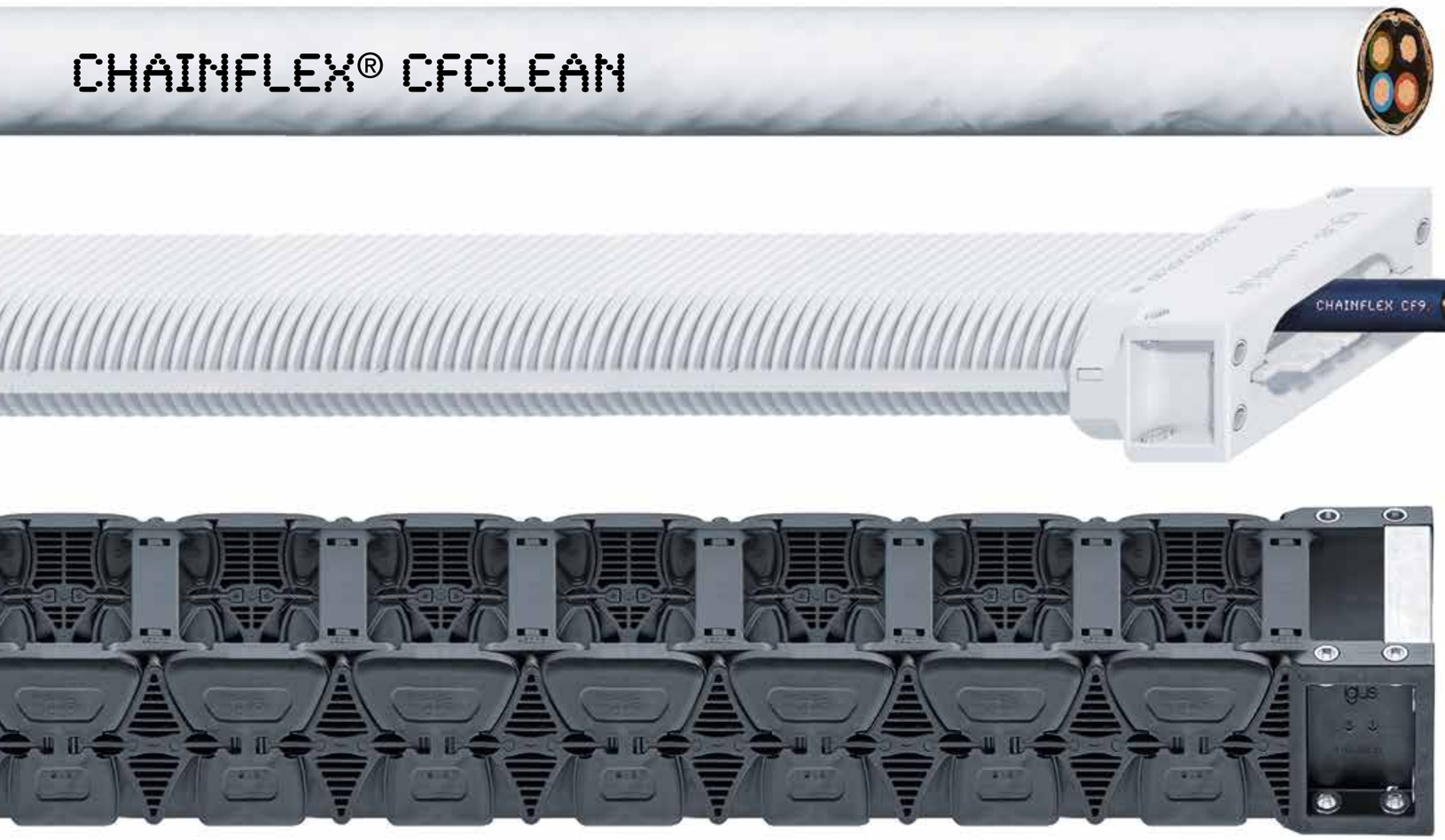


The igus® YE system is ideal for construction machines and lifting platforms - no screws, rivets or bolts that can come loose under vibration

REINER! 2021
Fraunhofer Reinheitstechnik-Preis



CHAINFLEX® CFCLEAN



The igus® energy chain systems for cleanrooms

clean-room

Moving energy for cleanrooms made easy:
Cleanroom products up to ISO Class 1. In robots or pick-and-place applications, in semiconductor manufacturing and microelectronics, igus® offers Tech Up, Cost Down components for any cleanroom.

- Save installation space and weight
- Quiet, smooth operation
- Fast delivery and easy assembly
- Easily openable e-chains® for quick cable replacement
- Tested service life
- e-chains®, cables and connectors available individually from batch size 1 - or as a complete system from one source
- Available from stock, with a guarantee of up to 36 months

igus® clean plastics | Overview







Modular e-skin® flat		Corrugated tube cleanroom energy supply systems		
Cleanroom energy supply - products				
e-skin® flat SKF profiles - fully enclosed	**e-skin® flat SKF profiles - openable**	**e-skin® SK - for longer unsupported lengths**	**e-skin® soft SKS - with more elastic material and lower clearance height**	**e-skin® hybrid SKY - combines the advantages of e-skin® SK and e-skin® soft SKS**
Advantages of the cleanroom energy supply system				
● Prevent particle ingress with closed cable chambers ● Support e-chain® for unsupported length and an optionally available, defined bend radius ● Space requirement: from 80mm ● Unsupported length: depending on the guided cables ● Modular, expandable, low-profile cable guidance system ● Fast, short applications ● Extremely quiet 29dB(A)	● Openable - with a special locking mechanism ● Space requirement: from 80mm ● Unsupported length: depending on the guided cables ● Modular, expandable, low-profile cable guidance system ● Fast, short applications ● Extremely quiet 29dB(A) ● Closed and openable e-skin® flat can be combined	● Two-piece corrugated tube, can be opened and closed like a zipper ● Space requirement: from 250mm ● Bend radii 55 - 100mm ● Unsupported length up to 2.0m ● IPA cleanroom Class 1 ● Openable corrugated tube with upper/ lower shell ● Fast, short, unsupported applications ● Quiet 33dB(A)	● Flexible, two-piece corrugated tube, can be opened and closed like a zipper ● Space requirement: from 150mm ● Bend radii 55 - 100mm ● Unsupported length up to 1.3m ● IPA cleanroom Class 1 ● Openable corrugated tube with upper/ lower shell ● Fast, short, unsupported applications ● Quiet 32dB(A)	● Two-piece corrugated tube, can be opened and closed like a zipper ● Space requirement: from 200mm ● Bend radii 55 - 100mm ● Unsupported length up to 1.4m ● IPA cleanroom Class 1 ● Openable corrugated tube with upper/ lower shell ● Fast, short, unsupported applications ● Quiet 33dB(A)
IPA cleanroom Class				
Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE
Energy supply system material				
igumer SKF	igumer SKF	igumer SK	igumer SKS	Combination of igumer SK (upper shell) and igumer SKS (lower shell)
Product range				
From page ▶ 800	From page ▶ 798	From page ▶ 812	From page ▶ 812	From page ▶ 812

igus® e-chains® for cleanroom | Overview







E6.1 e-chain®	E6 e-chain®	R6 e-tube	E3 e-chain®	T3 e-chain®
Cleanroom e-chain® - products				
Crossbars removable along the inner and outer radius	**Crossbars removable along the inner and outer radius**	**Fully enclosed, lids removable along the inner and outer radius**	**E3 system - three-piece band e-chain®, crossbars zip-open along the outer radius**	**T3 system - t-shaped band e-chain®, crossbars removable**
Advantages of the cleanroom e-chain®				
● Extremely quiet 32dB(A) ● Low vibration ● For very high speeds and accelerations ● Optimised crossbar geometry ● High push/pull forces ● Small bend radii ● IPA cleanroom Class 1, virtually no wear or abrasion	● For very high speeds and accelerations ● For small bend radii ● High strength ● Extremely quiet 37dB(A) ● Low vibration ● Cleanroom Class 1 proven in the igus® laboratory and Class 3 certified IG0704-400 IPA	● Available as fully closed e-tube for some sizes ● For very high speeds and accelerations ● For small bend radii ● High strength ● Extremely quiet 37dB(A) ● Low vibration ● IPA cleanroom Class 1, virtually no wear or abrasion	● For high speeds and accelerations ● For extremely fast opening and closing ● Quiet 38dB(A) ● extremely low noise and low vibration due small pitch ● IPA cleanroom Class 1, virtually no wear or abrasion	● Very lightweight e-chain® ● For high speeds and accelerations ● Virtually no polygon effect ● Small bend radii and installation space ● Fast, easy filling and assembly ● Quiet 33dB(A) ● extremely low noise and low vibration due small pitch ● IPA cleanroom Class 2, virtually no wear or abrasion
IPA cleanroom Class				
Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE
Energy supply system material				
igumid G	igumid GE	igumid GE	igumid G	igumid TE
Product range				
From page ▶ 832	From page ▶ 870	From page ▶ 832	From page ▶ 916	From page ▶ 934



e-skin® flat

clean-room

SKF profiles - for cleanrooms; openable, modular, compact and quiet

Advantages of the e-skin® flat SKF series:

- Revolutionises your overall effectiveness
- Generates higher production yields
- Suitable for cleanrooms according to IPA cleanroom Class 1
- Openable or enclosed
- Is modular, expandable and compact
- Closed and openable e-skin® flat types can be combined
- Is resource and service-friendly
- e-skin® flat with SKF.S support chain can be added - enables unsupported travel lengths of up to 3m
- chainflex® **CFCLEAN** cable offers high reliability thanks to its balanced braided structure

When to use another energy supply system:

- For longer unsupported lengths up to 4m
  ▶ **e-skin® SK, page 812**
- For a combination of greater unsupported length and smaller installation space
  ▶ **e-skin® hybrid SKY, page 812**
- For significantly higher fill weights and/or longer unsupported lengths
  ▶ **E6.1, page 832**



Fraunhofer IPA TESTED® DEVICE igus GmbH e-skin flat system Report No. IG 2102-1212

REINER! 2021



SKF.O openable:
replace cables quickly with a special locking mechanism

IPA cleanroom Class 1:
virtually no wear or abrasion

Modular structure:
extendable by connecting additional profiles

Optional support e-chain®:
SKF12C series for unsupported length and a defined bend radius

Mounting brackets:
stackable and variable width with integrated strain relief

SKF.C fully enclosed:
prevent particle ingress with closed cable chambers version

Flexible:
can be shortened or widened

Revolutionise efficiency of the entire plant:
specially matched chainflex® CFCLEAN stranded structure
More information
► Page 808

Connectable profiles - e-skin® flat profiles SKF

The cable guides for automation systems and robots in the manufacture of displays, semiconductors, and microelectronic components have to meet special particle-free requirements. In contrast to commercially available solutions using fixed flat ribbon cables with cables permanently welded inside, the e-skin® flat energy supply system offers an openable chamber design. Flexible braided cable elements (with or without connectors), e-skin® flat with support chains, hoses and so on, can now be changed or added in a few minutes.

- Available in 2 versions: closed and openable with a special closure system
- Modular and compact design
- Optional with support e-chain® for longer unsupported lengths
- Multi-layer model possible
- Flexible, standard modular system, no special production, short delivery times
- chainflex® CFCLEAN cable offers high reliability thanks to its balanced braided structure
- Saving resources, as only individual elements are replaced in case of damage
- Replaces customer-specific flat ribbon cable

Typical industries and applications

● Cleanroom applications with compact installation spaces ● Short travels ● Display and semiconductor production ● LCD/LED panel production

More information ► www.igus.eu/e-skin-flat

Series SKF	Inner height [mm]	Outer height [mm]	Quantity chambers	Cable ≤ ø [mm]	Page
 **e-skin® flat SKF.C - fully enclosed** prevent particle ingress with closed cable chambers					
SKF12C*	**12**	**13**	2 - 6	10	**804**
SKF15C	**15**	**16**	2 - 6	13	**804**
 **e-skin® flat SKF.O - openable** easy to fill due to a special locking mechanism					
SKF12O	**12**	**13**	2 - 6	10	**805**

*Support e-chain® for unsupported length and an optionally available, defined bend radius (please see below)

Series SKF.S e-chain®	Outer width [mm]	Outer height [mm]	Bend radius R [mm]	Page
 **e-skin® flat SKF.S - support e-chain®** can be combined with SKF12C series for unsupported length and a defined bend radius				
SKF.S	**8**	**8**	040 - 100	**806**

Support e-chain® visibly displayed for better explanation

Cleanroom solutions of this type should be designed in conjunction with igus® engineering team.
Please contact us at ► www.igus.eu/contact

Available from stock. Ready to ship in 3-5 business days.*
*Average time before the ordered goods are dispatched.

Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ► From page 145

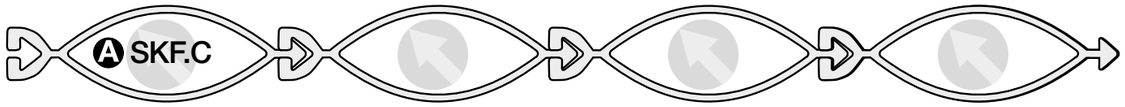
IPA Qualification Certificate - Report IG2102-1212:
Tested was e-skin® flat system at v_1 = 0.5m/s, v_2 = 1m/s and v_3 = 2m/s or a_1 = 1m/s², a_2 = 2m/s², a_3 = 4m/s²

Winner of the Purity Technology Prize **REINER!** from the IPA Fraunhofer Institute.

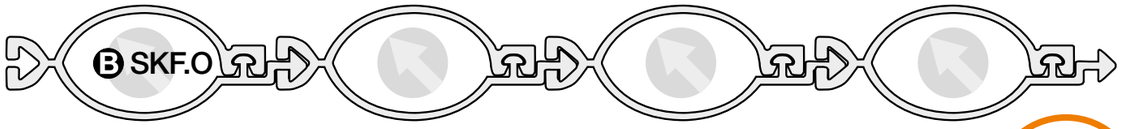
3D CAD, configurators, service life calculation and more ► www.igus.eu/eskin-SKF

e-skin® flat profile versions | Openable and closable

The e-skin® flat profiles consist of individually connectable cable chambers. One or more cables can be put into these chambers. Here at least 2 chambers must be connected with each other. One chamber is closed or opened at a time and extended with further chambers until the required width is reached. For the closed single profile SKF12C, a support chain is available, which equips the e-skin® flat with an unsupported length and the defined radius of 70mm. This support e-chain® must only be used in connection with this single profile.



Ⓐ SKF.C, fully enclosed:
prevent particle ingress with closed cable chambers



Ⓑ SKF.O, openable: easy to fill due to a special locking mechanism



Technical data

Energy supply system, igumer SKF material - permitted temperature °C	**+10°C up to +50°C**
Mounting bracket, aluminium - permitted temperature °C	**+10°C up to +50°C**
Flammability class	**UL-HB94**

e-skin® flat profile configurator -
in just a few clicks to your individual e-skin® flat

- Plan an e-skin® flat profile system for your application via drag & drop
- Select CFCLEAN cable bundle - specially developed for the e-skin® flat
- Receive an individual offer for your e-skin® flat profile system

More information ▶ igus.eu/e-skin-flat



1



In the case of the openable e-skin® flat SKF.O version, the sections can be opened individually.

2



The cables can be fitted according to your requirements. Please note that only cables with the same diameter can be placed in a chamber.

3



After being filled, the e-skin® flat can easily be closed by hand or with the **MT.SK.914.868** tool.

4



If several chambers are needed, additional sections can simply be added.

5



The e-skin® flat is clamped in place by the mounting brackets preventing any strain on the cables.

e-skin® flat profiles | SKF.C | Product range



Prevent particle ingress with closed cable chambers



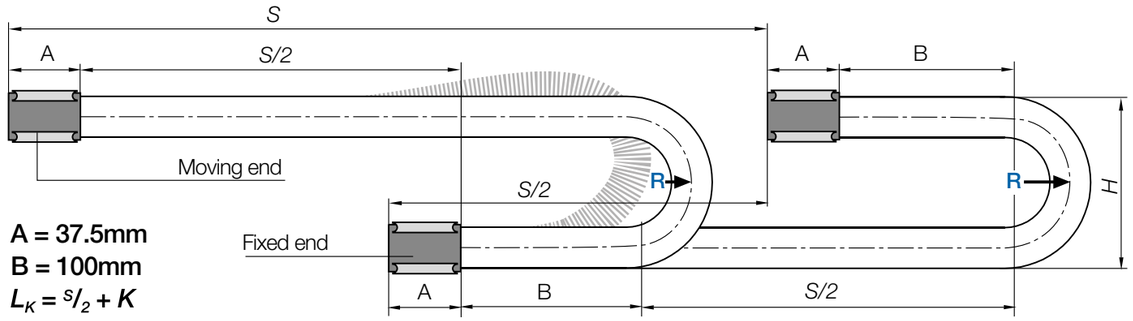
e-skin® flat profile SKF.C | Fully enclosed, can be combined with support e-chain®

Part No. SKF	Inner height A [mm]	Outer height B [mm]	Quantity chambers	Cable ≤ ø [mm]	Weight [kg/m]
SKF12C.1.1.10*	12	13	2 - 6	10	≈ 0.036
SKF15C.1.1.10	15	16	2 - 6	13	≈ 0.042

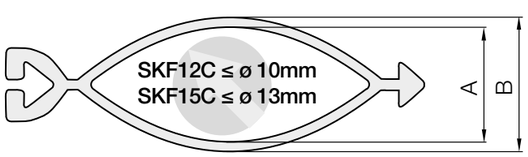
*Optional support e-chain® for unsupported length and defined bend radius (only in combination with SKF12C)

This type of system should be designed in conjunction with our engineering team.

Installation dimensions | Features



A = 37.5mm
B = 100mm
$L_K = S/2 + K$





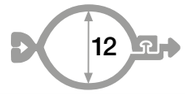
The support e-chain® **SKF.S** can be easily added to the **SKF12C.** and enables unsupported travels. **More information ▶ Page 806**

Note:
The nominal clearance height = ***H*** and the allowance for the bend radius = ***K*** in the calculation of the energy supply length depend on the largest bend radius of the routed cables and their stiffness.

Generally speaking:
H* = 2 x *R (largest bend radius of fitted cables) and or the used support chain
K* = π x *R (largest bend radius of fitted cables)
+ 2 x 100mm + 2 x 37.5mm

All information on this page is for guidance only ...
Cleanroom solutions of this type should be designed in conjunction with igus® engineering team.
Please contact us at ▶ www.igus.eu/contact

e-skin® flat profiles | SKF.O | Product range



Prevent particle ingress, openable cable chamber

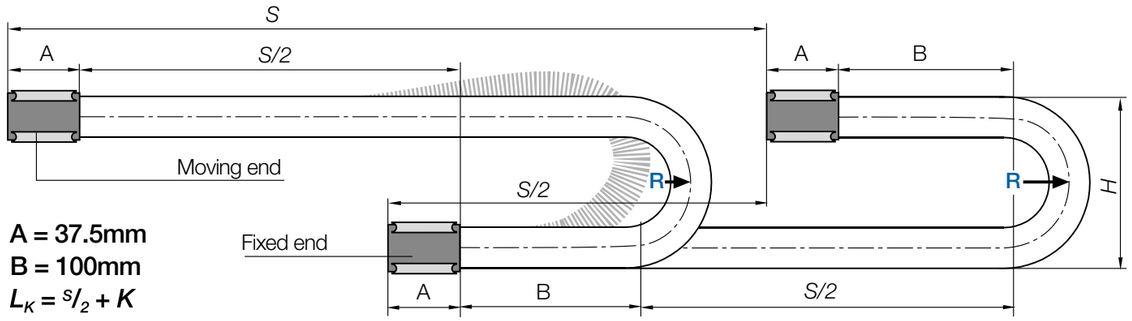


e-skin® flat profile SKF.O | Openable with a special locking mechanism

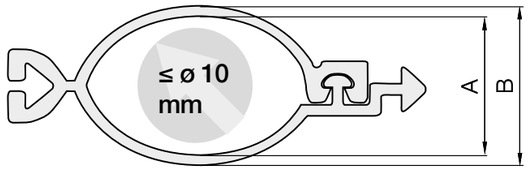
Part No. SKF	Inner height A [mm]	Outer height B [mm]	Quantity chambers	Cable ≤ ø [mm]	Weight [kg/m]
SKF12O.1.1.10	12	13	2 - 6	10	≈ 0.046

This type of system should be designed in conjunction with our engineering team.

Installation dimensions | Features



A = 37.5mm
B = 100mm
$L_K = S/2 + K$





Quickly close the openable version with the e-skin® flat tool **part number MT.SK.914.868.**
More information ▶ upon request

Note:
The nominal clearance height = ***H*** and the allowance for the bend radius = ***K*** in the calculation of the energy supply length depend on the largest bend radius of the routed cables and their stiffness.

Generally speaking:
H* = 2 x *R (largest bend radius of fitted cables) and or the used support chain
K* = π x *R (largest bend radius of fitted cables)
+ 2 x 100mm + 2 x 37.5mm

All information on this page is for guidance only ...
Cleanroom solutions of this type should be designed in conjunction with igus® engineering team.
Please contact us at ▶ www.igus.eu/contact

Support e-chain® | SKF.S| Product range

Enclosed support e-chain® for unsupported length of the SKF12C



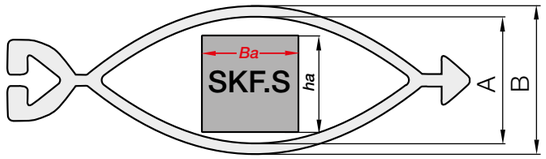
e-skin® flat with support e-chain® SKF.S | Only in combination with SKF12C

Part No.	Ba	ha	R	Inner height	Outer height	Pitch	Weight
SKF.S	[mm]	[mm]	[mm]	e-skin® A [mm]	e-skin® B [mm]	[mm]	[kg/m]
SKF.S.08.040.01.0*	8	8	040	12	13	18	≈ 0.073
SKF.S.08.070.01.0*	8	8	070	12	13	25	≈ 0.073
SKF.S.08.100.01.0*	8	8	100	12	13	25	≈ 0.073

*Optional support e-chain® for unsupported length and defined bend radius (**only in combination with SKF12C**)

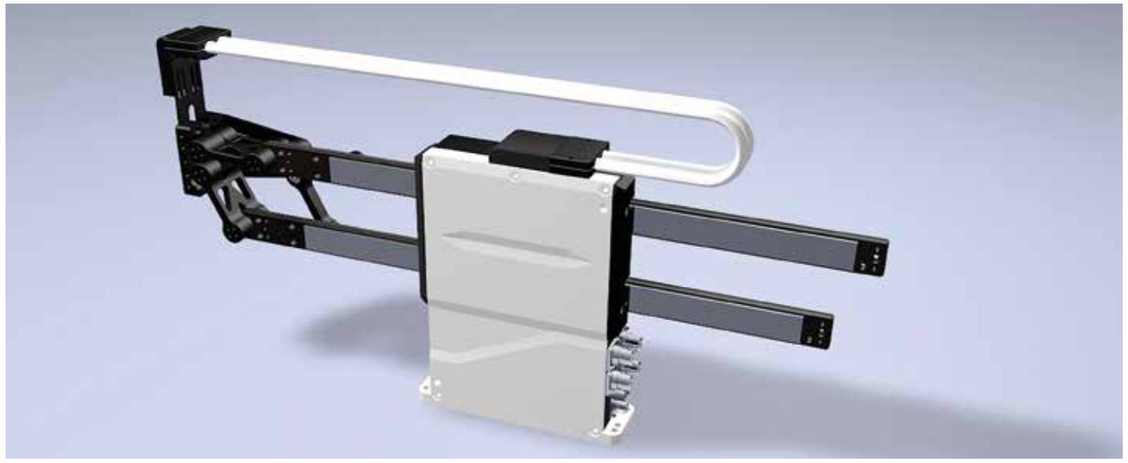
This type of system should be designed in conjunction with our engineering team.

Installation dimensions | Features



SKF with support chain as enclosed solution to prevent abrasion. Individual modules with 1 cable chamber each can be connected to form wider systems

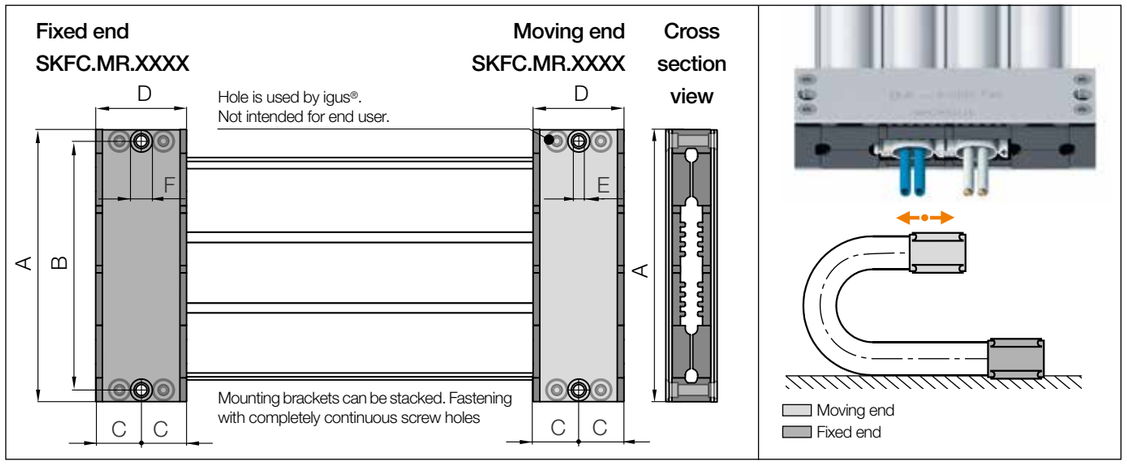
All information on this page is for guidance only ...
Cleanroom solutions of this type should be designed in conjunction with igus® engineering team.
Please contact us at ▶ www.igus.eu/contact



Pick and place module for battery production with e-skin® flat completed almost 57 million double strokes (as of 02/2021)

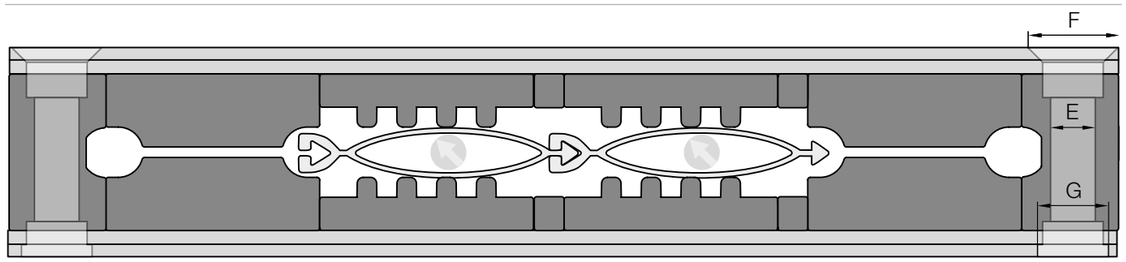
e-skin® flat profiles | SKF | Mounting brackets

Aluminium mounting brackets



SKFC.MR aluminium mounting brackets | Variable in width, stackable

Part No.		A	B	C	D	E ø	F ø	G ø
aluminium plate		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
SKFC.MR.0625	▶	62.5	53	18.75	37.5	4.5	9	7
SKFC.MR.0685	▶	68.5	59	18.75	37.5	4.5	9	7
SKFC.MR.0840	▶	84	74.5	18.75	37.5	4.5	9	7
SKFC.MR.0870	▶	87	77.5	18.75	37.5	4.5	9	7
SKFC.MR.0930	▶	93	83.5	18.75	37.5	4.5	9	7
SKFC.MR.1055	▶	105.5	96	18.75	37.5	4.5	9	7
SKFC.MR.1115	▶	111.5	102	18.75	37.5	4.5	9	7
SKFC.MR.1175	▶	117.5	108	18.75	37.5	4.5	9	7
SKFC.MR.1270	▶	127	117.5	18.75	37.5	4.5	9	7
SKFC.MR.1360	▶	136	126.5	18.75	37.5	4.5	9	7
SKFC.MR.1420	▶	142	132.5	18.75	37.5	4.5	9	7
SKFC.MR.1485	▶	148.5	139	18.75	37.5	4.5	9	7
SKFC.MR.1605	▶	160.5	151	18.75	37.5	4.5	9	7
SKFC.MR.1665	▶	166.5	157	18.75	37.5	4.5	9	7



Representation of a complete mounting bracket incl. diameter-specific strain relief. The plastic parts and screws shown in dark grey are not part of the above article numbers and must be ordered separately!

All information on this page is for guidance only ...
Cleanroom solutions of this type should be designed in conjunction with igus® engineering team.
Please contact us at ▶ www.igus.eu/contact

e-skin® flat with CFCLEAN | Advantages

Revolutionise effectiveness of the entire plant



Almost no wear and abrasion:
IPA cleanroom Class 1

Low restoring forces: due to highly flexible stranded structures

Thinner:
approx. 16% smaller diameter [1)]
by dispensing with outer jacket

Lighter:
up to 21% weight reduction [1)]

Easy and time-saving maintenance:
change a cable in a few seconds, even with readily harnessed connectors

Cost-effective:
no new ribbon cable required, if a new cable is to be added

Sustainable:
no waste in case of replacement, as the entire system does not need to be replaced

No bending of the system due to stiff jacket cables

1) Compared to commercially available jacketed cables

Powerful combination for your cleanroom - e-skin® flat with chainflex® CFCLEAN

The CFCLEAN product family has been specially developed and tested for use in e-skin® flat. The following goals were pursued during development: Very high flexibility with low restoring forces of maximum weight and diameter reduction. The high degree of flexibility was achieved by particularly fine stranded special conductors in a particularly soft and bend-resistant design. The low restoring forces with weight reduction were realised by dispensing with an outer jacket, the shielded stranded structures being guided by low-adhesion, particularly abrasion-resistant and highly banding based on PTFE with very high flexural strength.
From stock, available from 1m

- Guarantee: 20 million double strokes, up to 36 months
- Certified for use in cleanrooms
- With UL AWM certification
- All standard core/cross section combinations available

Typical industries and applications

- Flat Panel Display (FPD) industry
- Semiconductor production
- Production of OLEDs
- Medical technology
- Microelectronics industry

CFCLEAN | Overview

Developed and tested for use in e-skin® flat

chainflex® Cable	Bend radius [factor x d]	Temperature from/to [°C]	Approvals and standards	v max. [m/s] unsupported	a max.
Control elements					
CFCLEAN1	70	-10/+80		2	40
Coax elements					
CFCLEAN2	70	-10/+80		2	40
Data elements					
CFCLEAN3	70	-10/+80		2	40
Measuring system elements					
CFCLEAN4	70	-10/+80		2	40
Motor elements					
CFCLEAN7	70	-10/+80		2	40
Bus elements					
CFCLEAN8	70	-10/+80		2	40

chainflex® CFCLEAN are not cables in the sense of the standards for wires and cables. Due to the absence of the outer jacket in CFCLEAN, which provides mechanical protection for cables, the use of chainflex® CFCLEAN is only permitted in e-skin® flat.

chainflex® CFCLEAN more information and order at ▶ www.igus.eu/CFCLEAN

Guarantee igus chainflex 36 up to 36 months guarantee

igus 36-month chainflex cable guarantee and service life calculator based on 2 billion test cycles per year

chainflex® guarantee - as these types are solutions for special applications, please contact us directly for information on the guaranteed service life ▶ **info@igus.de**

IPA cleanroom Class 1: material/stranded structure* tested by IPA according to ISO 14644-14, report IG 2107-1242

*The following cables are listed in the certificate: CFCLEAN3.01.05.02 and CAPU.A.06.0 – further tests are at present not scheduled

CFCLEAN | Comparison

CFCLEAN - THE alternative to PTFE trackless cables

Stranded structure CFCLEAN cables with e-skin® flat vs. classic PTFE flat cable guide



Advantages of igus® stranded structure CFCLEAN cables with e-skin®	Disadvantages of commercially available PTFE flat cable guides
● Highly abrasion-resistant and bend-resistant banding based on PTFE, to protect the stranded elements and minimise abrasion	● Multi-layer jacket that holds individual cores together: thin PTFE outer film, PUR inner layer
● No outer jacket in order to reduce weight and outer diameter	● An enclosed, non-separable system
● Extremely flexible braiding made of tinned copper wires, optical coverage 90%	● Cores are inseparable from each other
● Special TPE insulation for highly dynamic applications	● Individual elements not interchangeable, but entire systems
● Special core structure for maximum service life	● High prototype costs
● Flexible to application changes through simple replacement of CFCLEAN or e-skin® flat profiles	● No longer flexibly changeable after completion
● Length and width can be changed as required	● In case of service, the complete ePTFE flat cable guides must be replaced
● Resources-friendly and service-friendly due to easy interchangeability of each individual element	● Ecologically and economically unsound due to waste of resources in case of damage

Free white paper - Energy supply systems for the cleanroom

- Can increase plant effectiveness
- Generate higher yields from the production lines
- Use cleanroom energy supply systems more sustainably
- and much more ...

Download whitepaper ▶ www.igus.eu/cleanroom



CFCLEAN | revolutionise efficiency of the entire plant

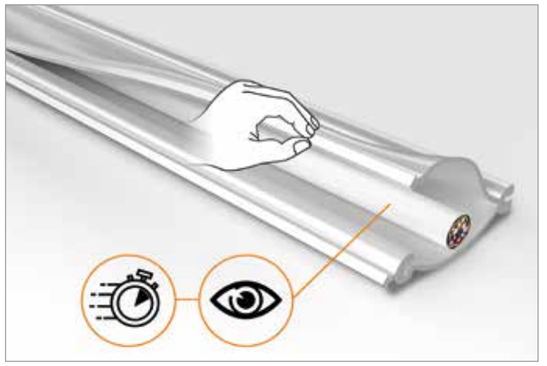
Generates higher production yields



Cable replacement in minutes - no welded cables



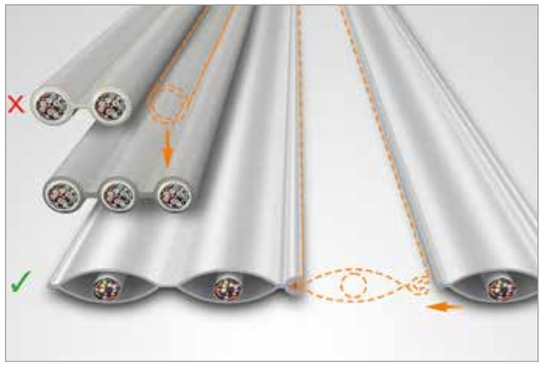
No minimum order quantity or surcharge for small quantities



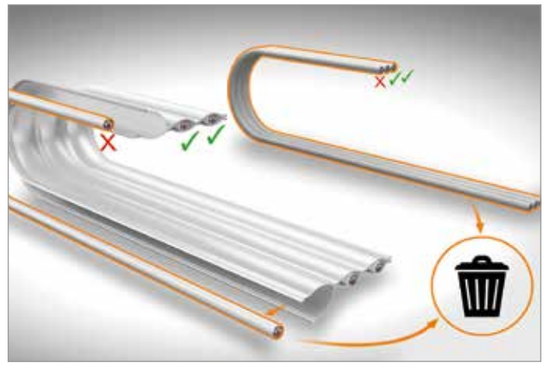
Quick and easy maintenance, simple handling



Easy installation and removal of cables with readily harnessed connectors



No new ribbon cable required, if a new cable is to be added



Less waste in case of replacement, as the entire system does not need to be replaced



e-skin® clean-room

SK | SKS | SKY - cleanroom corrugated tube energy supply systems

Advantages of the e-skin® series:

- Reclosable corrugated tube
- Easy to maintain
- For small installation spaces
- Available in three versions
- e-skin® SK - for unsupported lengths up to 4m
- e-skin® soft SKS - made of elastic material, for lower clearance heights than SK
- e-skin® hybrid SKY combines the advantages of e-skin® SK and SKY
- Easy filling with "zipper" function
- Special design allows unsupported lengths
- Cable-friendly with defined minimum bend radius
- Available with interior separation
- Prevents unintentional sideways movement
- Simple maintenance and inspection of the cables inside
- Protection against dust and water ingress
- Suitable for cleanrooms according to IPA cleanroom Class 1
- Available from stock, with a guarantee of up to 36 months

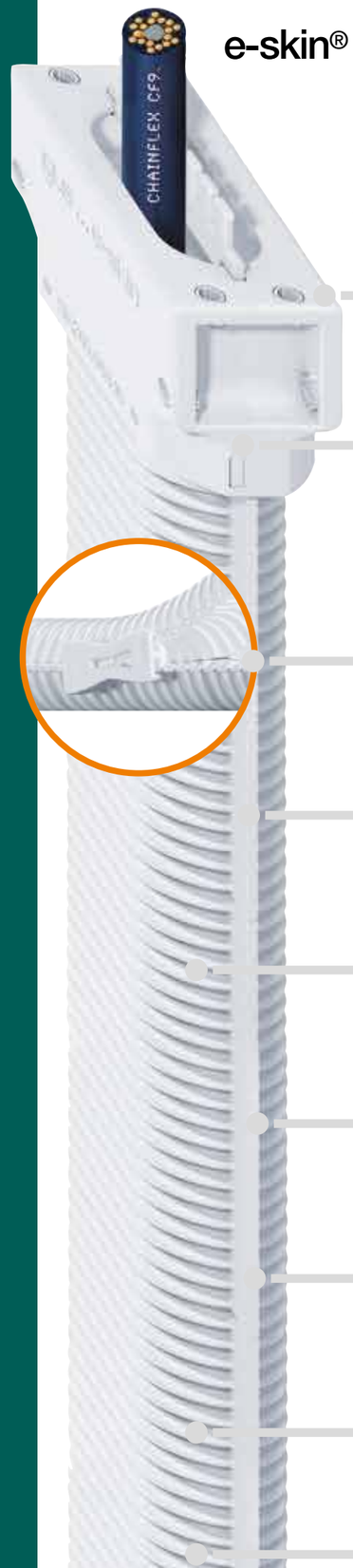
When to use another energy supply system:

- For longer unsupported lengths
  ▶ **E6.1 system, page 832**
  When installation space is limited
- ▶ **e-skin® flat SKF, page 798**
- For high exposure to dirt
  ▶ **RX e-tubes, page 516**

Fraunhofer IPA TESTED® DEVICE igus GmbH e-skin RBR (prototype) Report No. IG 1504-755

Fraunhofer IPA TESTED® DEVICE igus GmbH SKS28.068.02.1 e-skin soft + cable Report No. IG 1907-1125

Fraunhofer IPA TESTED® DEVICE igus GmbH SKY28.068.02.1 e-skin hybrid Report No. IG 1907-1125



Attachment from any side: KMA mounting brackets with strain relief

Two-piece corrugated tube: upper and lower shell

Reclosable opening mechanism: easy opening and closing with "zipper" function

IPA cleanroom Class 1: virtually no wear or abrasion

Fully enclosed: protection against dust and water ingress

Space-saving: less installation space required

Cable-friendly: with defined minimum bend radius

Strong: prevents unintentional sideways movement

3 versions available: e-skin® SK, SKS and SKY

SK, SKS and SKY corrugated tube energy supply systems for cleanrooms

The e-skin® is a hose consisting of an upper and lower shell that form a sealed tube when connected to each other. It consists of polymer material (igumid SK) developed specifically for this. The simple reclosable mechanism enables easy maintenance and inspection of the installed cables. Operating temperature +10°C / +50°C. e-skin® has many advantages over conventional corrugated tubes and it is available in 3 different versions:

- e-skin® SK for longer unsupported lengths
- e-skin® soft SKS with more elastic material and lower installation height
- e-skin® hybrid SKY combines the advantages of e-skin® SK and e-skin® soft SKF
- 15% higher fill weight (based on the latest test results for e-skin® SK40 series done in the igus® laboratory)
- 50% more unsupported length (based on the latest test results for the e-skin® SK40 series done in the igus® laboratory)
- Bend radii from 55mm up to 100mm
- IPA cleanroom Class 1
- 5dB(A) quieter than usual "clean cable"
- Interior separation system consisting of "tribo-optimised" iglidur material - to further minimise abrasion between the cables

Typical industries and applications

● Cleanroom ● Fast, short, unsupported applications ● Hanging and standing applications ● Display and semiconductor production ● Pick & place applications ● Printers ● Medical technology ● All machines that use corrugated tubes

More information ▶ www.igus.eu/eskin

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R min.** [mm]	Unsupported length ≤ [m]	Page
							
						e-skin® SK - two-piece corrugated tube for longer unsupported lengths	
SK28	28	68	95	40	055	1.1	**822**
SK40	38	85	118	57	100	2.0	**822**
							
						e-skin® soft SKS - two-piece corrugated tube with more elastic material and lower clearance height	
SKS20	20	33	50	25	055	0.6	**823**
SKS28	28	68	95	40	055	0.7	**823**
SKS40	38	85	118	57	100	1.3	**823**
							
						e-skin® hybrid SKY - two-piece corrugated tube combines the advantages of e-skin® SK and e-skin® soft SKS	
SKY28	28	68	95	40	055	0.9	**824**
SKY40	38	85	118	57	100	1.4	**824**

*__Note__: the minimum bend radius is determined by the inner side corrugated tube!

Available from stock. Ready to ship in 72hrs.*

*Average time before the ordered goods are dispatched.

Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ▶ From page 145

IPA Qualification Certificate - Report IG1907-1125:
Tested was e-skin® 0.SK28.068.02.1 (prototype) at v_1 = 0.5m/s, v_2 = 1m/s and v_3 = 2m/s or a_1 = 1m/s², a_2 = 2m/s², a_3 = 4m/s²

IPA Qualification Certificate - Report IG 1907-1125:
Tested was e-skin® SKS28.068.02.1 including cables at v_1 = 0.5m/s, v_2 = 1m/s and v_3 = 2m/s or a_1 = 1m/s², a_2 = 2m/s², a_3 = 4m/s²

IPA Qualification Certificate - Report IG 1907-1125:
Tested was e-skin® SKY28.068.02.1 at v_1 = 0.5m/s, v_2 = 1m/s and v_3 = 2m/s or a_1 = 1m/s², a_2 = 2m/s², a_3 = 4m/s²

3D CAD, configurators, service life calculation and more ▶ www.igus.eu/eskin

e-skin® | SK | SKS | SKY | System comparison

The modularity of e-skin® enables flexible adjustment to your requirements

System comparison of cleanroom e-skin® energy supply systems from igus® with relative specifications of the distinguishing parameters

Parameters	e-skin® SK	e-skin® soft SKS	e-skin® hybrid SKY
Diagrams of e-skin® coloured here for demonstration purposes			
Required clearance height	100%	67%	87%
Fill weight	100%	70%	85%
Unsupported length	100%	60%	81%
Price	88%	100%	95%
Price compared to commercially available "Clean Cable"	65%	65%	65%
DIN EN ISO Class 1	Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE	Fraunhofer IPA TESTED DEVICE
Openable version	yes	yes	yes
Enclosed version	yes	yes	yes
Operating noise	33dB(A)	32dB(A)	33dB(A)
Quieter than usual "clean cables"	5dB(A)	6dB(A)	5dB(A)
Page number	▶ Page 822	▶ Page 823	▶ Page 824

clean-room **Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ▶ From page 145**



In the igus® laboratory, e-skin® withstood more than 10 million double strokes at 3m/s (issue 12/2020)



The standard bending tests show how flexible the e-skin® soft is. It only bends, even under loads that would break other energy chains

e-skin® | SK | SKS | SKY | Tests in the technical centre, Cologne

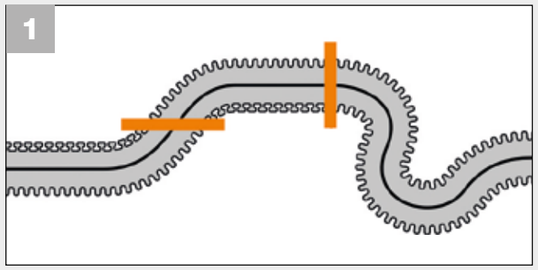
In the new igus® cleanroom laboratory according to IPA certification



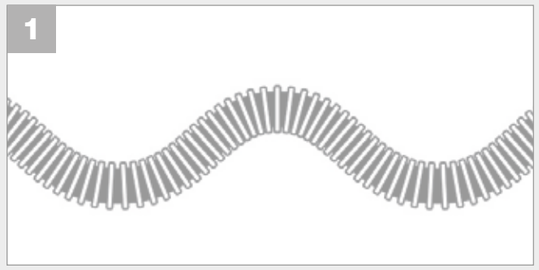
igus® cleanroom laboratory according to IPA certification ISO Class 1 in accordance with EN ISO 14644-1 in the igus® technical centre, Cologne. Cleanroom compatibility of chain applications can be tested quickly to your requirements.



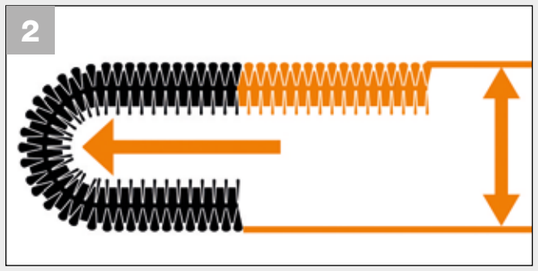
Service life test in the 3,800m² igus® laboratory in Cologne (Germany)



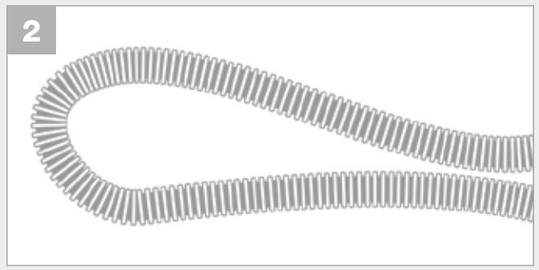
e-skin® consists of two shells (upper and lower). The shells can be configured in order to define specific movements



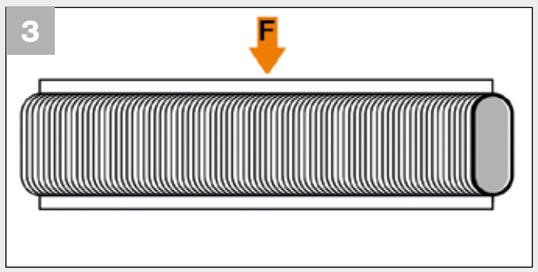
Conventional corrugated tubes have the same bend radius along their entire length



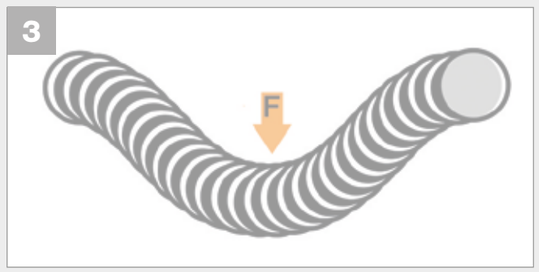
e-skin® is suitable for short unsupported lengths



Conventional corrugated tubes cannot be used for unsupported applications

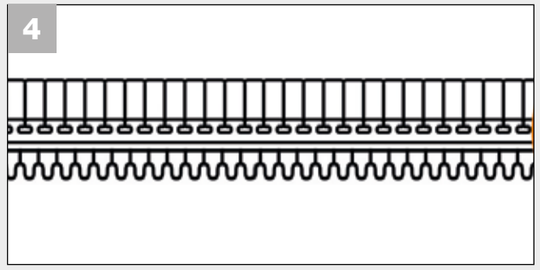


Lateral stability thanks to an oval geometry of the e-skin®

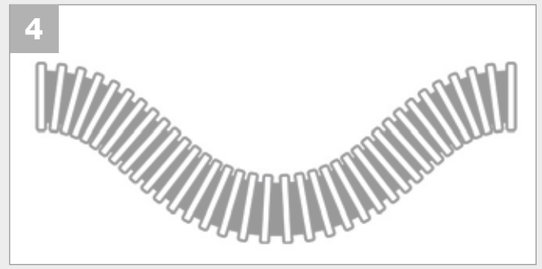


Very little if any stability in respect of forces acting on the sides

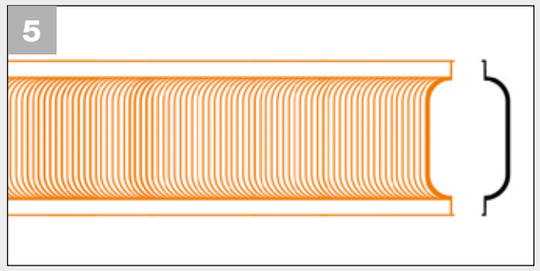
e-skin® | **SK** | **SKS** | **SKY** | Comparison with conventional products



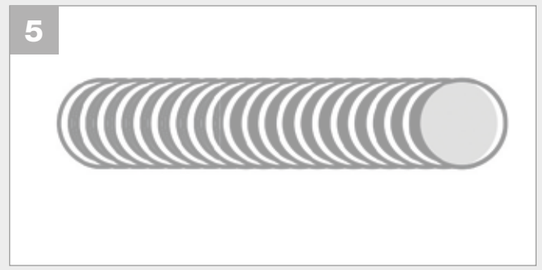
e-skin® supports itself



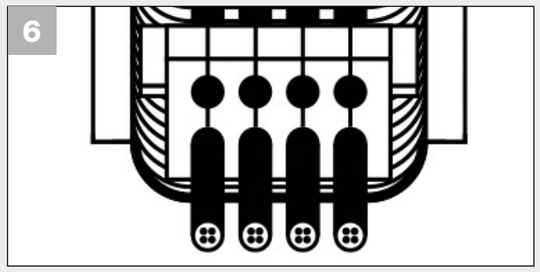
Conventional corrugated tubes have very little or any inherent rigidity. e-rib solves this ► **www.igus.eu/e-rib**



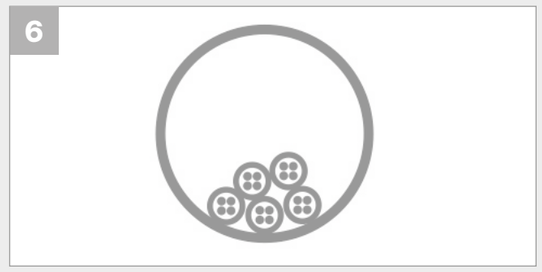
e-skin® is openable, easy to fill



Conventional corrugated tubes (for dynamic applications) cannot be opened



e-skin® can be fitted with interior separation and strain relief



No interior separation possible

Technical data

Speed FL_G / acceleration FL_G	≤ 10 [m/s] / ≤ 75 [m/s²]
SK energy supply system, igumer S material - permitted temperature °C	+10°C up to +50°
SKS energy supply system, igumer SKS material - permitted temperature °C	+10°C up to +50°
SKY energy supply system, the material is a combination of igumer SK (upper shell) and igumer SKS (lower shell) - permitted temperature °C	+10°C up to +50°
Mounting bracket, igumid NB material - permitted temperature °C	+10°C up to +50°
Flammability class	UL94-HB

FL_G = unsupported with straight upper run

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported
SK28	≤ 2.20m	upon request	upon request	upon request
SK40	≤ 4.00m	upon request	upon request	upon request
SKS20	≤ 1.20m	upon request	upon request	upon request
SKS28	≤ 1.40m	upon request	upon request	upon request
SKS40	≤ 2.60m	upon request	upon request	upon request
SKY28	≤ 1.80m	upon request	upon request	upon request
SKY40	≤ 2.80m	upon request	upon request	upon request

Options with order keys | Examples based on series SK28

	Standard	*Reverse Bend Radius*
	Part No. **Standard** Standard	**Part No.** ***RBR*** A version with Reverse Bend Radius (RBR) can be easily made by using the lower shell for the complete e-skin®. Thus very defined movements can be implemented with the two parts. Note: the minimum bend radius is determined by the inner side corrugated tube!
	SK28.068.02.1	SK28.068.02.*RBR*.1
	Ready to ship in 72hrs.*	Ready to ship in 72hrs.*

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series SK28

Order example for complete energy supply system (1m), colour white, with mounting brackets and interior separation:

Energy supply system (1,000mm)	Please order the required length in mm	SKS28.068.02.1
+ Mounting brackets	KMA 1 set (with tiewrap plates)	SK280.068.12ZB.1
Interior separation	Fitted every 112mm	SKS28.1.1.01
Order text:	**1,000mm SKS28.068.02.1 + SK280.068.12ZB.1 + 16 x SKS28.1.1.01**	

Order key

Oval design — SK28.068.02.1
- Series / Type
- Inner height
- width index
- Version
- Colour index (standard white)

Order index

Colour		Order index
White	Standard	**.1**

White e-skin® ready to ship in 72hrs.*

e-skin® | Series SK | Product range

28-38

15% higher fill weight and 50% longer unsupported length [1)]



Series SK | Two-piece corrugated tube | With "zipper" opening principle

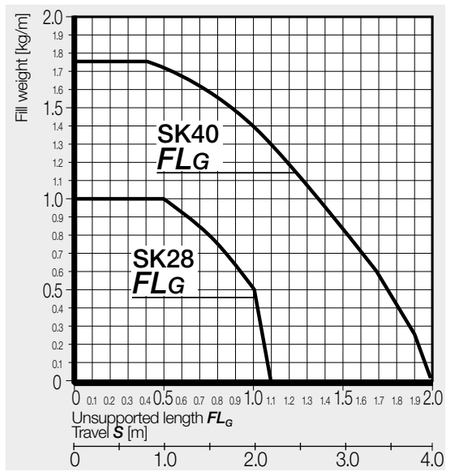
Part No.	Bi	Ba	hi	ha	R min.*	Cable ⌀	H_F	Weight
SK	[mm]	[mm]	[mm]	[mm]	[mm]	≤ Ø [mm]	[mm]	[kg/m]
SK28.068.02.1	68	95	28	40	055	20	265 [2)]	≈ 0.54
SK40.085.02.1	85	118	38	57	100	30	450 [2)]	≈ 1.15

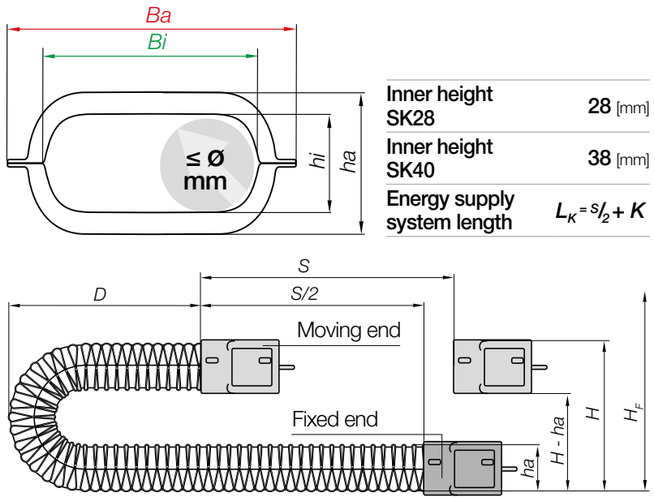
1) Based on the latest test results for e-skin® SK40 series done in the igus® laboratory

2) Required clearance height H_F with 0.75kg/m fill weight

*__Note__: the minimum bend radius is determined by the inner side corrugated tube!

Installation dimensions





Inner height SK28	28 [mm]
Inner height SK40	38 [mm]
Energy supply system length	$L_K = S/2 + K$

R min.*	SK28 R 055	SK40 R 100
H	250	350
D	160	300
K	399	693

__*Note__: the minimum bend radius is determined by the inner side corrugated tube!
No bend radius is specified in the part number, since it depends on travel and fill weight. The smallest specified radius below is the minimum to guarantee the service life of the cables. In most applications, however, the radius remains larger because the shape of the tube defines this.

e-skin® soft | Series SKS | Product range

20-38

33% less clearance height than e-skin® SK28[1)]



Series SKS | Two-piece corrugated tube | With "zipper" opening principle

Part No.	Bi	Ba	hi	ha	R min.*	Cable ⌀	H_F	Weight
SKS	[mm]	[mm]	[mm]	[mm]	[mm]	≤ Ø [mm]	[mm]	[kg/m]
SKS20.033.02.1	33	50	20	25	055	13	160 [2)**] / 200 [2)**]	≈ 0.20
SKS28.068.02.1	68	95	28	40	055	20	200 [4)]	≈ 0.54
SKS40.085.02.1	85	118	38	57	100	30	350 [4)]	≈ 1.15

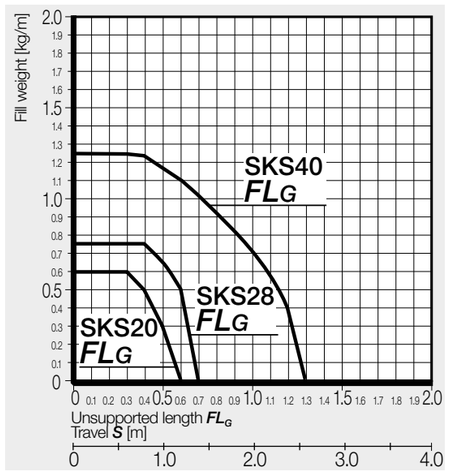
1) 33% lower clearance height than e-skin® SK28 (based on the latest test results done in the igus® laboratory)

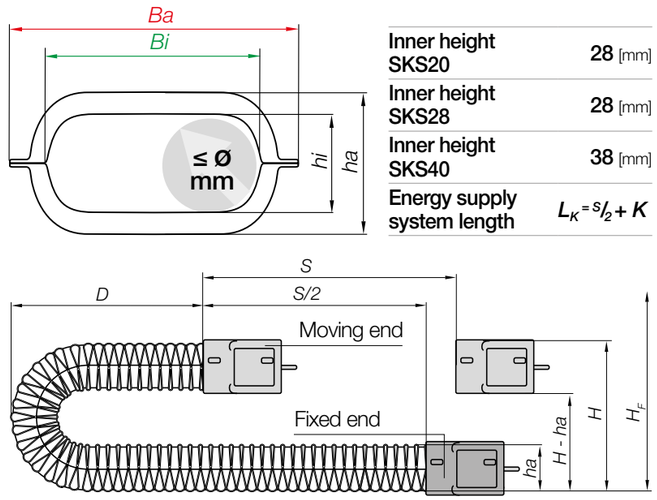
4) Required clearance height H_F with 0.75kg/m fill weight / 2) Required clearance height H_F with 0.50kg/m fill weight

**H_F: 160mm at S < 200m / H_F: 200mm at S > 200m

*__Note__: the minimum bend radius is determined by the inner side corrugated tube!

Installation dimensions





Inner height SKS20	28 [mm]
Inner height SKS28	28 [mm]
Inner height SKS40	38 [mm]
Energy supply system length	$L_K = S/2 + K$

R min.*	SKS20 R 055	SKS28 R 055	SKS40 R 100
H	150	150	300
D	125	130	300
K	300	266	693

__*Note__: the minimum bend radius is determined by the inner side corrugated tube!
No bend radius is specified in the part number, since it depends on travel and fill weight. The smallest specified radius below is the minimum to guarantee the service life of the cables. In most applications, however, the radius remains larger because the shape of the tube defines this.

e-skin® hybrid | Series SKY | Product range

28-38

13% lower clearance height and 28% longer unsupported length [1]



Series SKY | Two-piece corrugated tube | With "zipper" opening principle

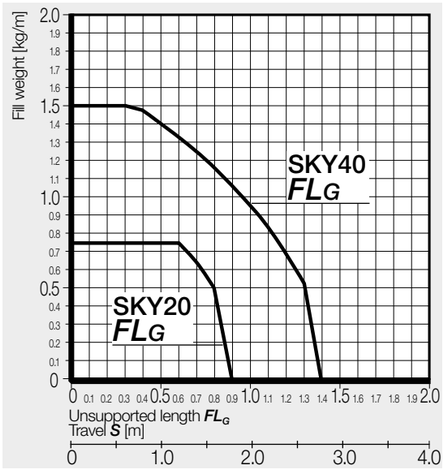
Part No.	*Bi*	*Ba*	*hi*	*ha*	*R min.**	Cable ⌀	H_F	Weight
SKY	[mm]	[mm]	[mm]	[mm]	[mm]	≤ Ø [mm]	[mm]	[kg/m]
SKY28.068.02.1	68	95	28	40	055	20	230 [2]	≈ 0.54
SKY40.085.02.1	85	118	38	57	100	30	400 [2]	≈ 1.15

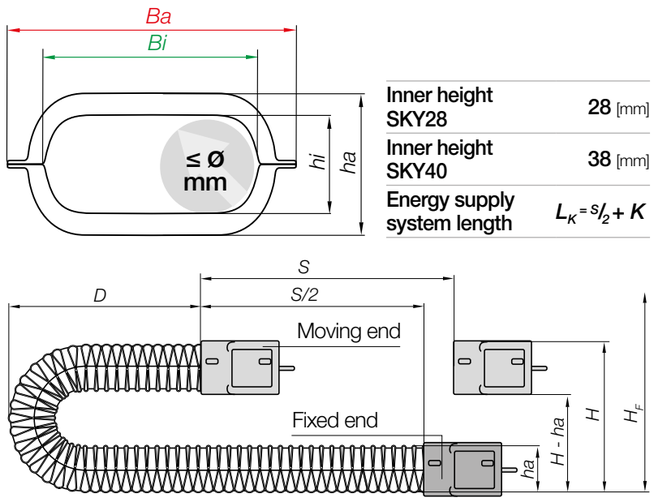
1) 13% lower clearance height than e-skin® SK28 und 28% longer unsupported length than SKS28 (based on the latest test results one in the igus® laboratory)

2) Required clearance height H_F with 0.75kg/m fill weight

*__Note__: the minimum bend radius is determined by the inner side corrugated tube!

Installation dimensions





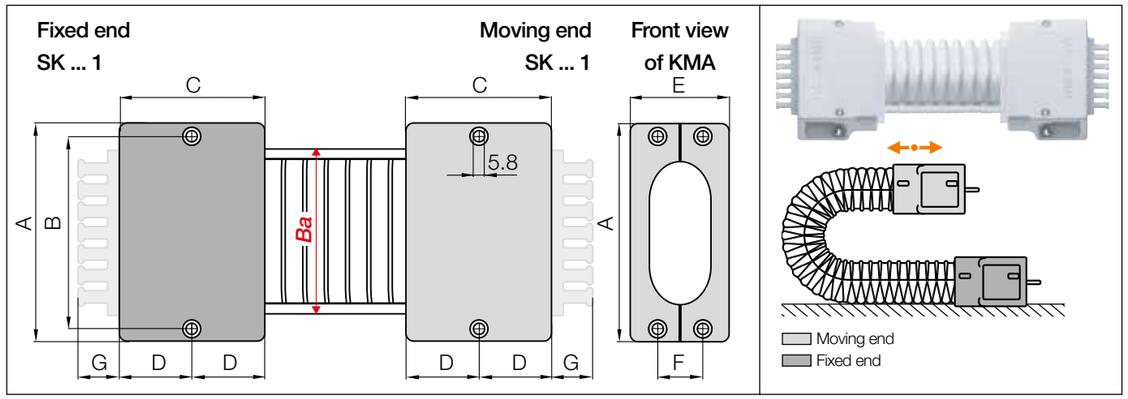
Inner height SKY28	28 [mm]
Inner height SKY40	38 [mm]
Energy supply system length	$L_K = S/2 + K$

*R min.**	SKY28 *R* 055	SKY40 *R* 100
H	200	325
D	160	300
K	322	693

***Note**: the minimum bend radius is determined by the inner side corrugated tube!**
No bend radius is specified in the part number, since it depends on travel and fill weight. The smallest specified radius below is the minimum to guarantee the service life of the cables. In most applications, however, the radius remains larger because the shape of the tube defines this.

e-skin® | SK | SKS | SKY | Accessories

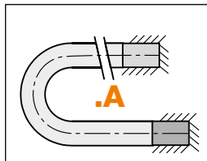
KMA mounting brackets | Attachment from any side



KMA | Recommended for unsupported, vertical hanging, standing applications

Width index	Part No. full set without tiewrap plates	Part No. full set with tiewrap plates	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Number of teeth
033.	SK200.033.12.1	SK200.033.12ZB.1	53	44	32	7	28	–	5	3
068.	SK280.068.12.1	SK280.068.12ZB.1	104	92	68	35	46	21	18	7
085.	SK400.085.12.1	SK400.085.12ZB.1	125	113	68	35	66	41	18	10

(KMA = polymer metal mounting bracket)

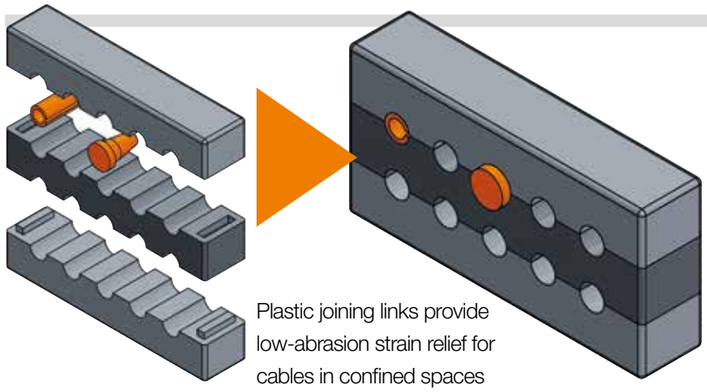


The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side. To receive a KMA mounting bracket pre-fitted please add index **.A** .

SK280.068.12ZB.1.A Order example

- Pre-assembled
- Colour index
- With integrated strain relief tiewrap plates
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392



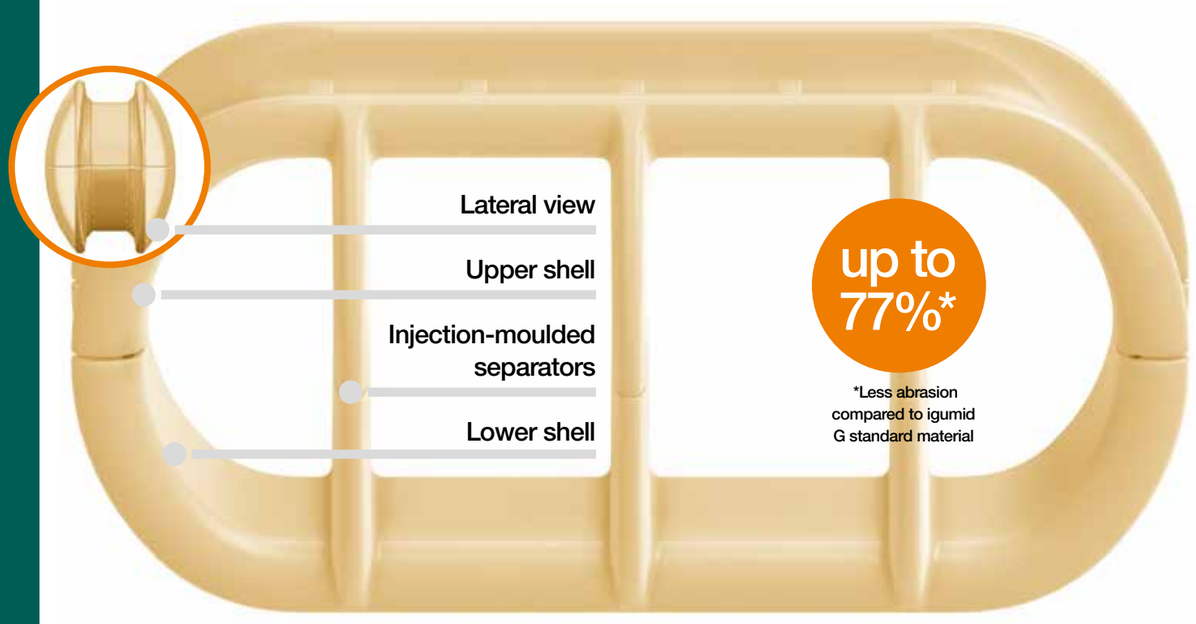
Plastic joining links provide low-abrasion strain relief for cables in confined spaces



Closed clamping block strain relief available upon request

e-skin® | SK | SKS | SKY | Accessories

Interior separation | Smooth, round interior separation, iglidur® J material



Minimum particle emission, maximum service life; ring-shaped interior separation

Ring-shaped, wear-resistant interior separation system made of tribo-plastic for a long cable service life. Sprayed-on separators on two half-shells that are placed into the e-skin® cleanroom corrugated tube. iglidur® J, a material known from the iglidur® range of materials, is extremely wear-resistant and drastically minimises abrasion between cables.

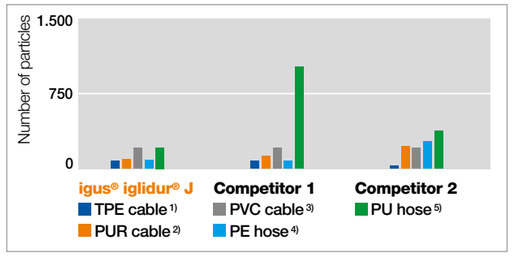
- Reduces the abrasion of cables in the e-skin® energy supply system by up to 77%*
- Consists of upper and lower shells onto which separators have already been sprayed
- Can be combined with shelves
- Highly wear-resistant thanks to tribo-plastic material iglidur® J from the iglidur® range of materials
- For cleanroom-compatible corrugated tubes e-skin® SK, SKS, and SKY
- Maintenance-friendly and easy to retrofit for greater cleanroom suitability

*compared to the standard material igumid G

Proof: abrasion/cable tests in the igus® laboratory.

The iglidur® J material produces 90% less abrasion compared to igumid G standard material.

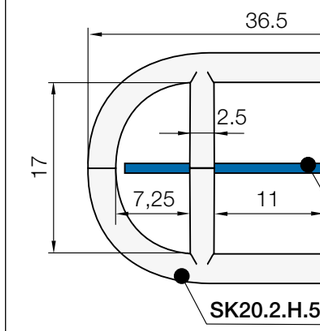
More information about iglidur® J material data ▶ www.igus.eu/iglidur-j-material-data



*Measured and averaged on 5 different friction partners:
1) CF340.250.01 2) CF270.UL.350.01.D 3) CF886.350.01
4) CAPE.A.10.0 5) CAPU.A10.0

e-skin® | SKS20 | Accessories

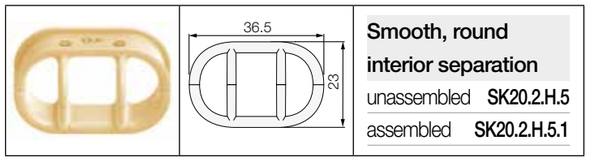
Interior separation | Ring-shaped



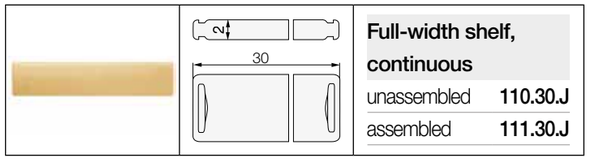




For inner height *hi* 17mm. The wear-optimised, ring-shaped interior separation is installed every 115mm at the connecting points!



Smooth, round interior separation	
unassembled	SK20.2.H.5
assembled	SK20.2.H.5.1



Full-width shelf, continuous	
unassembled	110.30.J
assembled	111.30.J

Ring-shaped, wear-optimised

Upper an lower shells on which separators are already injection moulded can be combined with full-width shelves.

Full-width shelves

This option is for applications with many small cables with similar diameters. The full-width shelves are simply clamped between them.

Fast opening and closing of the e-skin®

- The tool for closing the e-skin® energy supply system **part number MT.SK.914.868**
- Cost-effective, handy and fits in every pocket: the proven tool for opening and closing the e-skin® energy supply system **part number MT.SK.02.1**

More information ▶ upon request



Tool part number MT.SK.914.868 shown here

e-skin® corrugated tubes - designed in seconds

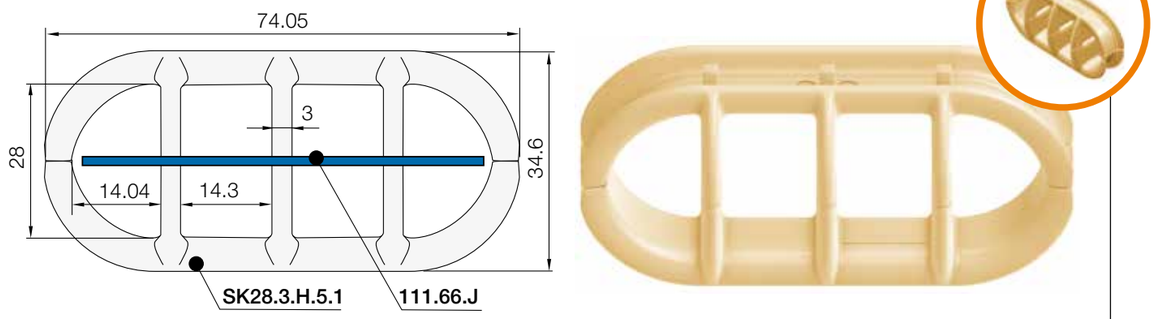
- Create filling options and configure them completely with interior separation, mounting brackets and chainflex® cables
- Automatic creation of a parts list and drawing with dimensioning
- Easy inquiry and order of the complete corrugated tube

More information ▶ www.igus.eu/eskin-quickfill

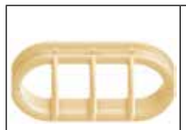


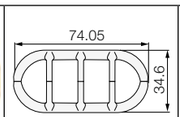
e-skin® | SK28 | SKS28 | SKY28 | Accessories

Interior separation | Smooth, round interior separation, iglidur® J material



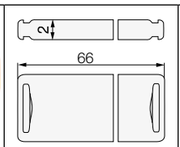
For inner height *hi* 28mm. The wear-optimised, ring-shaped interior separation is installed every 112mm at the connecting points!





Smooth, round interior separation	
unassembled	SK28.3.H.5
assembled	SK28.3.H.5.1





Full-width shelf, continuous	
unassembled	110.66.J
assembled	111.66.J

Ring-shaped, wear-optimised

Upper an lower shells on which separators are already injection moulded can be combined with full-width shelves.

Full-width shelves

This option is for applications with many small cables with similar diameters. The full-width shelves are simply clamped between them.

Fast opening and closing of the e-skin®

- The tool for closing the e-skin® energy supply system **part number MT.SK.914.868**
- Cost-effective, handy and fits in every pocket: the proven tool for opening and closing the e-skin® energy supply system **part number MT.SK.02.1**

More information ▶ upon request

Tool part number MT.SK.914.868 shown here

e-skin® corrugated tubes - designed in seconds

- Create filling options and configure them completely with interior separation, mounting brackets and chainflex® cables
- Automatic creation of a parts list and drawing with dimensioning
- Easy enquiry and order of the complete corrugated tube

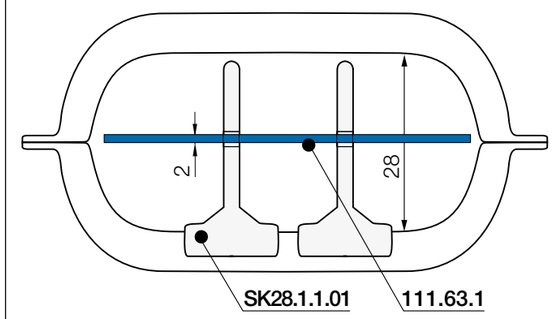
More information ▶ www.igus.eu/eskin-quickfill

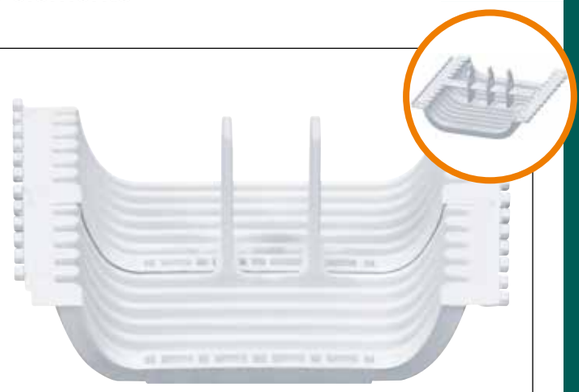


SK28
SKS28
SKY28

e-skin® | SK28 | SKS28 | SKY28 | Accessories

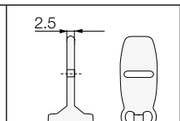
Interior separation | Conventional with single elements





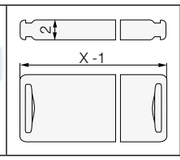
With conventional interior separation with individual elements, the separators are fitted every 112 mm at the connection points!





Slotted separator	
unassembled	SK28.1.01
assembled	SK28.1.1.01





Full-width shelf, continuous	
unassembled	110.63.1
assembled	111.63.1

Vertical separation - slotted separators

The interior separation* system for the igus® e-skin® consists of individual separators and full-width shelves, which can be fitted in a variety of ways.

Full-width shelves

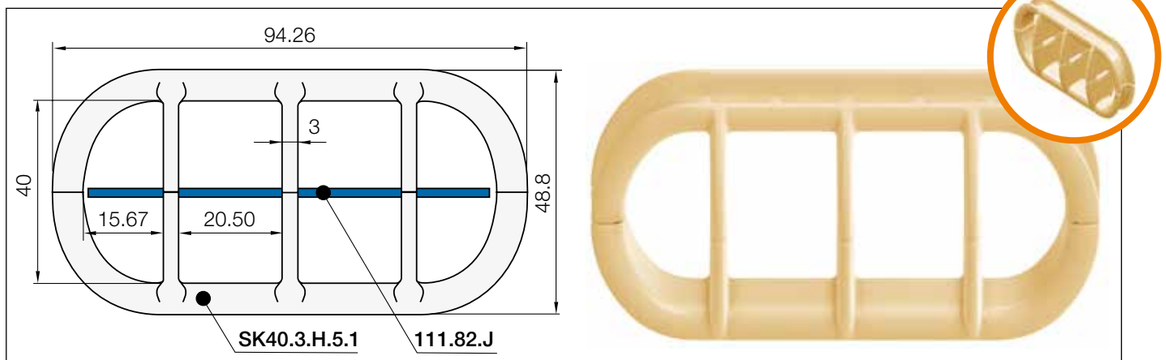
This option is for applications with many small cables with similar diameters. For full-width separation.



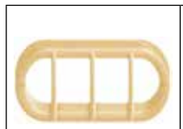
Absolutely dust-free environment for printed circuit board production using the abrasion-resistant e-skin® from igus®

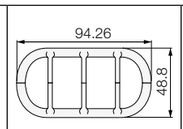
e-skin® | SK40 | SKS40 | SKY40 | Accessories

Interior separation | Smooth, round interior separation, iglidur® J material

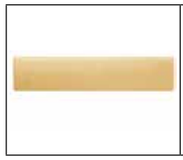


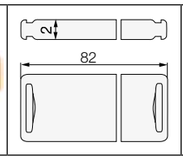
For inner height *hi* 40mm. The wear-optimised, ring-shaped interior separation is installed every 112mm at the connecting points!





Smooth, round interior separation	
unassembled	SK40.3.H.5
assembled	SK40.3.H.5.1





Full-width shelf, continuous	
unassembled	110.82.J
assembled	111.82.J

Ring-shaped, wear-optimised

Upper an lower shells on which separators are already injection moulded can be combined with full-width shelves.

Full-width shelves

This option is for applications with many small cables with similar diameters. The full-width shelves are simply clamped between them.

Fast opening and closing of the e-skin®

- The tool for closing the e-skin® energy supply system **part number MT.SK.914.868**
- Cost-effective, handy and fits in every pocket: the proven tool for opening and closing the e-skin® energy supply system **part number MT.SK.02.1**

More information ▶ upon request

Tool part number MT.SK.914.868 shown here

e-skin® corrugated tubes - designed in seconds

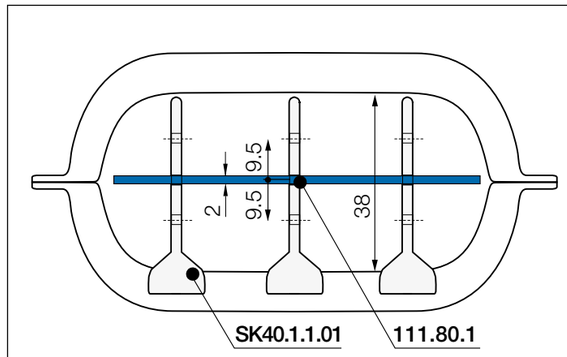
- Create filling options and configure them completely with interior separation, mounting brackets and chainflex® cables
- Automatic creation of a parts list and drawing with dimensioning
- Easy inquiry and order of the complete corrugated tube

More information ▶ www.igus.eu/eskin-quickfill



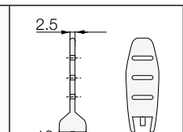
e-skin® | SK40 | SKS40 | SKY40 | Accessories

Interior separation | Conventional with single elements

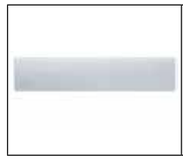


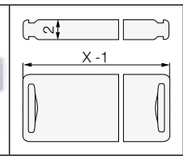
With conventional interior separation with individual elements, the separators are fitted every 112 mm at the connection points!





Slotted separator	
unassembled	SK40.1.01
assembled	SK40.1.1.01





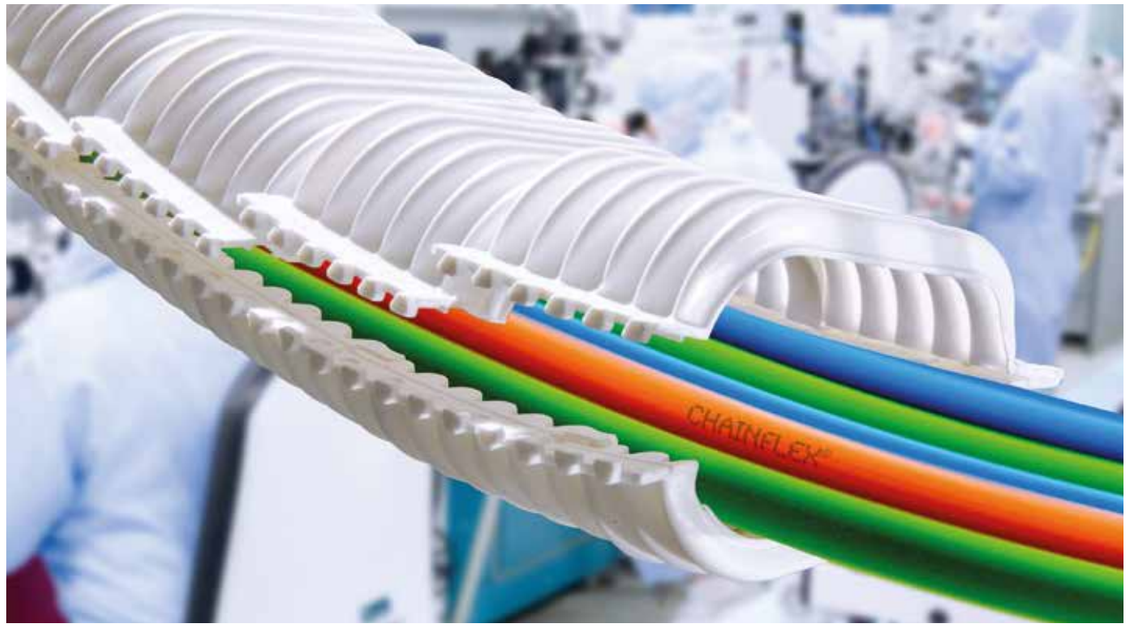
Full-width shelf, continuous	
unassembled	110.80.1
assembled	111.80.1

Vertical separation - slotted separators

The interior separation* system for the igus® e-skin® consists of individual separators and full-width shelves, which can be fitted in a variety of ways.

Full-width shelves

This option is for applications with many small cables with similar diameters. For full-width separation.



The igus® e-skin® energy supply system can be used for short unsupported lengths in cleanrooms



E6.1 clean-room

Dynamic, quiet, light and cleanroom suitable

Advantages of the E6.1 system:

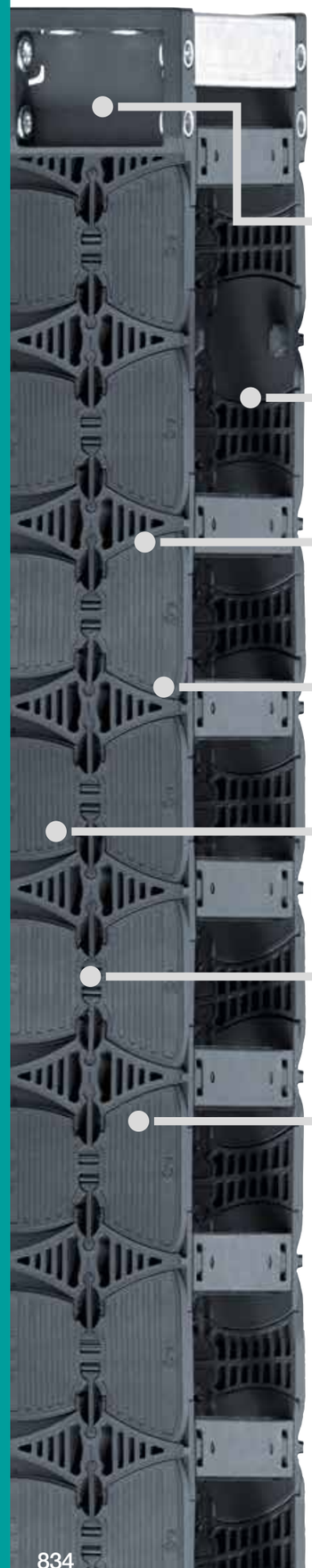
- Extremely quiet, low-vibration e-chain®
- For very high speeds and accelerations
- Ideal ratio of internal and external dimensions with thinner outer links and optimised crossbar geometry
- High push/pull forces
- Small bend radii
- Low noise 32dB(A)[1] - extremely low noise and vibration
- Suitable for cleanrooms according to IPA cleanroom Class 1[2]

1) Extremely low-noise - tested at the igus® lab Series E61.29.070.055.0

2) Cleanroom - E61.29.50.075.0 series

When to use another e-chain® series:

- For side-mounted applications
  ► **E6, page 870** ► **E2/000, page 374**
- When a Reverse Bend Radius ***RBR*** is required
  ► **E2/000, page 374**
- For longer unsupported lengths
  ► **E2/000, page 374**
- For long travels
  ► **E2/000, page 374**
- When an enclosed e-chain® for smooth running is required
  ► **R6, page 870**
  ► **e-skin® corrugated tube SK / SKS / SKY, page 812**



Attachment from any side with KMA mounting brackets

Fast assembly: crossbars removable along the inner and outer radius

Low noise from 32dB(A)[1]: small pitch for low noise, smooth running

Dynamic: high speeds and accelerations

Long service life: low vibration, high strength

IPA cleanroom Class 1[2]: virtually no wear or abrasion

Modular design: can be easily lengthened and shortened



Series E61.29 special feature: crossbar openable along inner and outer radius, from both sides

Dynamic, quiet, light and cleanroom suitable - E6.1

The E6.1 series is a development of the E6 series. It incorporates all the advantages of the E6 such as strength, cleanroom-compatibility and low weight in addition to even quieter operation at higher maximum speeds. In addition, its accessibility to the interior and the assembly and handling have been improved.

- Quiet - from a noise level of 32dB(A)[1]
- Weight savings approx. 30% compared to the E6 system
- Highly dynamic
- Extremly low vibration
- Cleanroom-compatible due to principle of low-abrasion for connectors, without pin and bore connection
- Virtually no polygon effect, smooth rolling operation
- Smooth interior design for a long lifetime for cables and hoses
- Crossbars removable along the inner and outer radius
- Option without camber (NC) simply by turning the inner link

1) Extremely low-noise - tested at the igus® lab Series E61.29.070.055.0

2) Cleanroom - E61.29.50.075.0 series

Typical industries and applications

● Semiconductor industry ● Studio equipment and camera tracking systems ● Printer/plotter industry ● In applications with extremely high accelerations ● When noise reduction and a low level of abrasion are important

32dB(A)[1] - level determined at the igus® test-lab, v = 1.0m/s unsupported, series E61.29.070.055.0

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **E6.1 e-chains®** openable along inner and outer radius, from both sides							
E61.29	29	30 - 140	44 - 154	35	055 - 150	≈ 1.75	**840**
 **E6.1 e-chains®** crossbars removable along the inner and outer radius							
EF61.29*	29	30 - 140	44 - 154	35	055 - 150	≈ 1.75	**840**
E61.35	35	30 - 140	46 - 156	42	055 - 150	≈ 1.90	**846**
E61.40	40	40 - 300	56 - 316	54	063 - 200	≈ 2.50	**850**
E61.52	52	40 - 300	64 - 324	65	075 - 200	≈ 3.00	**856**
E61.62	62	50 - 400	82 - 432	84	115	≈ 4.00	**860**
E61.80	80	50 - 600	78 - 628	108	150	≈ 5.25	**864**

*EF61.29 series - available at an even lower price without the pivoting function of the crossbars

Available from stock. Ready to ship in 72hrs.*

*Average time before the ordered goods are dispatched.

Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ▶ From page 145

Next e-chain® generation for highest cleanroom suitability ISO cleanroom Class 1; C6

● Optimised design without any measurable abrasion
● Parts that contact the cables are made of tribo-optimised igulen CR1

Samples available upon request ▶ Please consult igus®.

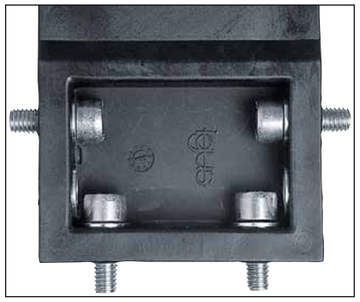




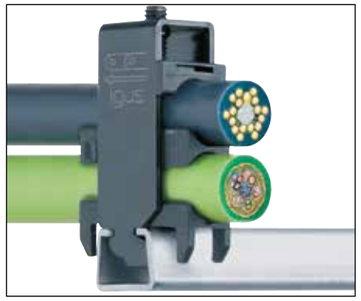
Lean separators enable extremely fast cable filling in several layers



Series E61.29 with openable mechanism, openable on left or right



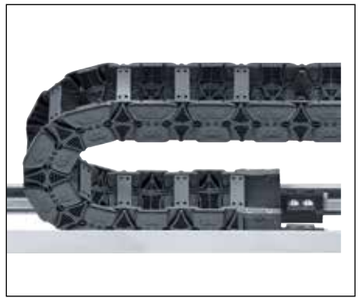
KMA mounting brackets with attachment options from any side



Strain relief e.g. clamps, tiewrap plates, nuggets, etc. ▶ **From page 1392**



Pivoting KMA mounting brackets - pivot angle corresponds to the bend radius



Aluminium and steel support trays for support of the lower run ▶ **From page 1354**



The interior of the E6.1 has been designed to be extremely cable-friendly to increase the service life of cables and hoses even more. The crossbars are very smooth and rounded as is the transition from e-chain® link to crossbar, and all markings have been moved outside of the e-chain® cross section.

Cleanroom qualification of igus® system E6.1 e-chains®

By using a special material, the already low abrasion behaviour of the e-chain® can be reduced even further. In many applications where cumbersome special solutions are required, a simple standard e-chain® can be used instead. IPA tests confirm that the standard e-chains® from igus® meet the requirements in cleanrooms and have been "Tested and certified as very good!". Cleanroom applications demand very high wear resistance of moving parts. e-chains®, for example, must be very wear-resistant, in order to meet the normal requirements for such a sensitive environment.



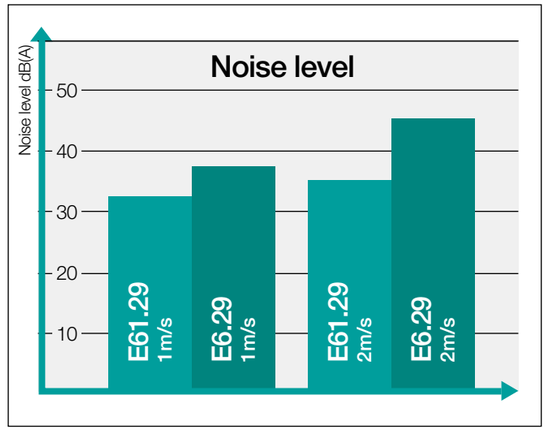
IPA Qualification Certificate[2] - Report IG 1303-640-1:
ISO Class 1, according to DIN EN ISO 14644-1 for system E6.1, series E61.29.50.075.0 at *v* = 0.5m/s, 1m/s, 2m/s

Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ▶ From page 145

System E6.1 tests in the igus® lab



The E6.1 generation can take up higher accelerations, due to a weight reduction, making it a highly dynamic yet still extremely quiet e-chain®



The results of the E61.29 series noise-measurement tests in the igus® test laboratory showed noise levels below the already very low values for the E6.29 series. 32dB(A) - level determined at the igus® test-lab, *v* = 1.0m/s unsupported, series E61.29.070.055.0

Technical data

Speed gliding[1] / acceleration gliding[1]	upon request
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
e-chain® link material, igumid G - permitted temperature °C	upon request
Scalable crossbar material, igumid TE - permitted temperature °C	upon request
Flammability class, igumid G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

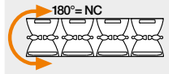
1) If a gliding application is required for a long travel, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported
EF61.29/E61.29	≤ 3.50m	upon request	≤ 25m	≤ 2.0m	upon request
E61.35	≤ 3.80m	upon request	≤ 30m	≤ 2.0m	upon request
E61.40	≤ 5.00m	upon request	≤ 30m	≤ 2.0m	upon request
E61.52	≤ 6.00m	upon request	≤ 50m	≤ 2.0m	upon request
E61.62	≤ 8.00m	upon request	≤ 60m	≤ 3.0m	upon request
E61.80	≤ 10.0m	upon request	≤ 60m	≤ 4.0m	upon request

1) If a gliding application is required for a long travel, please consult igus®.

Options with order keys | Examples based on series E61.52

	Standard	*Simply turn outer side link, no additional rework*
	Part No. Standard	Part No. NC version
		
	E61.52.100.*R*.0	E61.52.100.*R*.0.NC
	Ready to ship in 72hrs.*	Ready to ship in 72hrs.*

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E61.52

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 34 links	E61.52.100.075.0
+ Mounting brackets	KMA pivoting - 1 set	E61.520.100.12
Interior separation	with 2 separators assembled every 2nd link	2 x E6.52.1.1
Order text:	1m E61.52.100.075.0 + E61.520.100.12 + 2 x E6.52.1.1	

Order key

Crossbars removable **E61.52.100.075.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

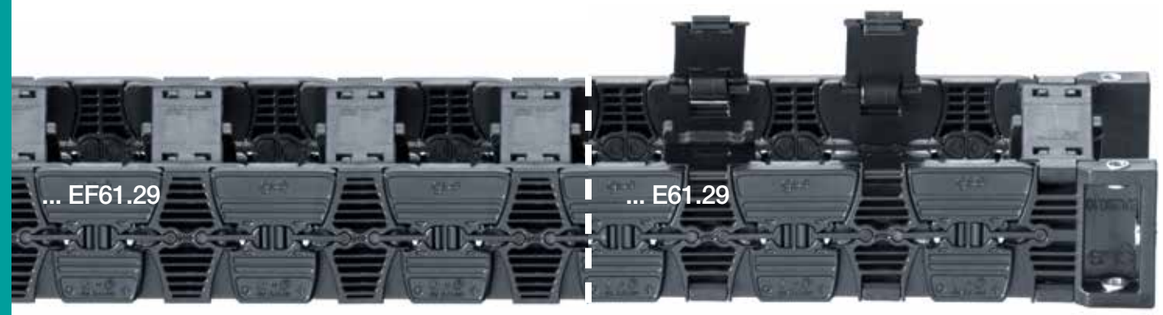
Black e-chains® ready to ship in 72hrs.*

Above special colours upon request.

E6.1 | Series EF61.29 · E61.29 | Product range

29 | 29

Dynamic, quiet, light, cleanroom suitable and easy to open



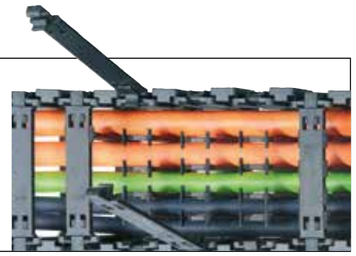
EF61.29 | Crossbars removable along the inner and outer radius
E61.29 | Crossbars openable along the inner and outer radius, from both sides

Part No. Crossbars removable	Part No. Openable from both sides	Bi [mm]	Ba [mm]	EF61.29 [kg/m]	E61.29 [kg/m]
EF61.29. 030.R.0	E61.29. 030.R.0	30	44	≈ 0.558	≈ 0.558
EF61.29. 040.R.0	E61.29. 040.R.0	40	54	≈ 0.583	≈ 0.583
EF61.29. 050.R.0	E61.29. 050.R.0	50	64	≈ 0.608	≈ 0.608
EF61.29. 060.R.0	E61.29. 060.R.0	60	74	≈ 0.633	≈ 0.633
EF61.29. 070.R.0	E61.29. 070.R.0	70	84	≈ 0.657	≈ 0.657
EF61.29. 080.R.0	E61.29. 080.R.0	80	94	≈ 0.682	≈ 0.682
EF61.29. 090.R.0	E61.29. 090.R.0	90	104	≈ 0.707	≈ 0.707
EF61.29. 100.R.0	E61.29. 100.R.0	100	114	≈ 0.732	≈ 0.732
EF61.29. 110.R.0	E61.29. 110.R.0	110	124	≈ 0.757	≈ 0.757
EF61.29. 120.R.0	E61.29. 120.R.0	120	134	≈ 0.782	≈ 0.782
EF61.29. 140.R.0	E61.29. 140.R.0	140	154	≈ 0.807	≈ 0.807

Available bend radii
R [mm] | 055 | 075 | 100 | 125 | 150 |
Complete Part No. with required radius (*R*). Example: **EF61.29.050.100.0 / E61.29.050.100.0**

Series E61.29 special feature: openable crossbars

Crossbar openable along inner and outer radius, from both sides
An assembly video is available online at ▶ www.igus.eu/E61_assembly



Cost-effective - Series EF61.29

- Series EF61.29 - 29mm inner height
- Available at an even lower price without the pivoting function of the crossbars
- Crossbars removable from both sides
- Otherwise, technically the same as the E61.29 series.

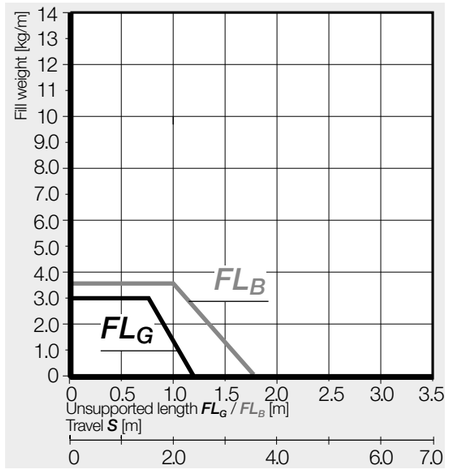
More information ▶ www.igus.eu/EF61.29

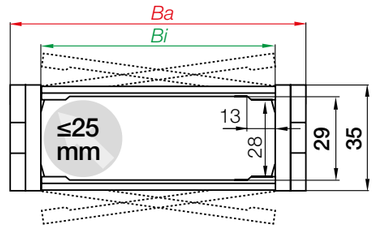


E6.1 | Series EF61.29·E61.29 | Installation dimensions

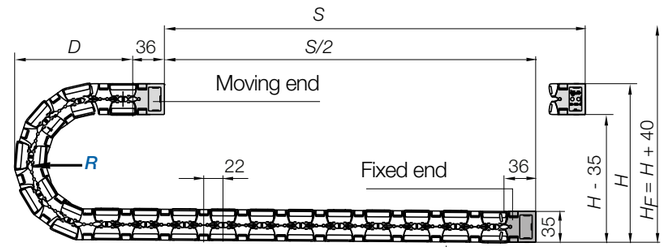
▶ 1392

Unsupported applications | Short travels





Inner height [mm]	29
Pitch [mm/link]	22
Links/m	46
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$



R	055	075	100	125	150
H	175	215	265	315	365
D	105.5	125.5	150.5	175.5	200.5
K	220	280	360	440	520

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362



Steel support tray for support of the lower run

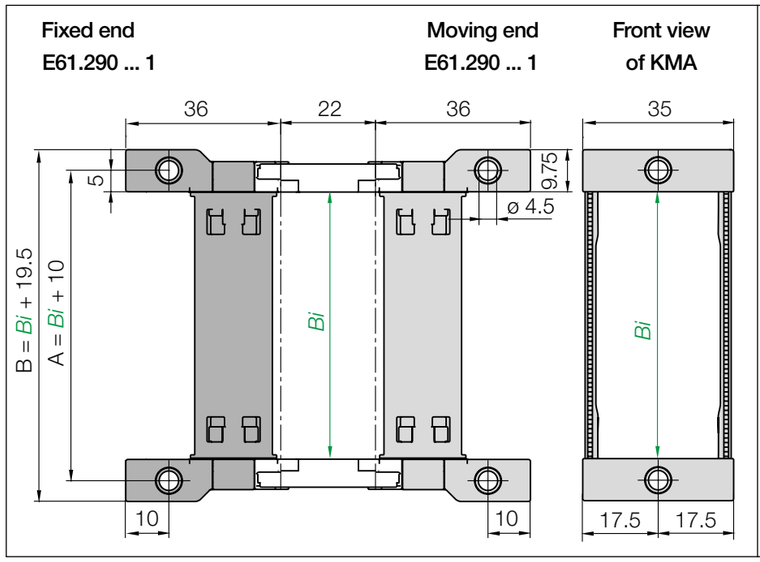
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

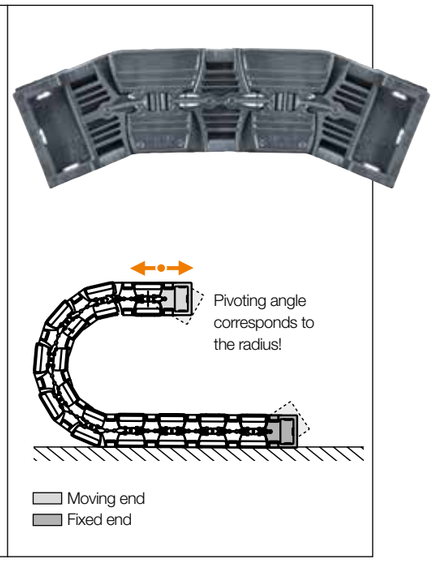
More information ▶ From page 1356



E6.1 | EF61.29·E61.29 series | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

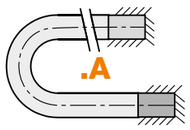




KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set **KMA pivoting**	A [mm]	B [mm]	*Bi* [mm]
030. ▶	**E61.290.030.12**	40	49.5	30
040. ▶	**E61.290.040.12**	50	59.5	40
050. ▶	**E61.290.050.12**	60	69.5	50
060. ▶	**E61.290.060.12**	70	79.5	60
070. ▶	**E61.290.070.12**	80	89.5	70
080. ▶	**E61.290.080.12**	90	99.5	80
090. ▶	**E61.290.090.12**	100	109.5	90
100. ▶	**E61.290.100.12**	110	119.5	100
110. ▶	**E61.290.110.12**	120	129.5	110
120. ▶	**E61.290.120.12**	130	139.5	120
140 . ▶	**E61.290.140.12**	140	149.5	140

(KMA = polymer metal mounting bracket) **KMA mounting brackets are only available for an odd number of links.**

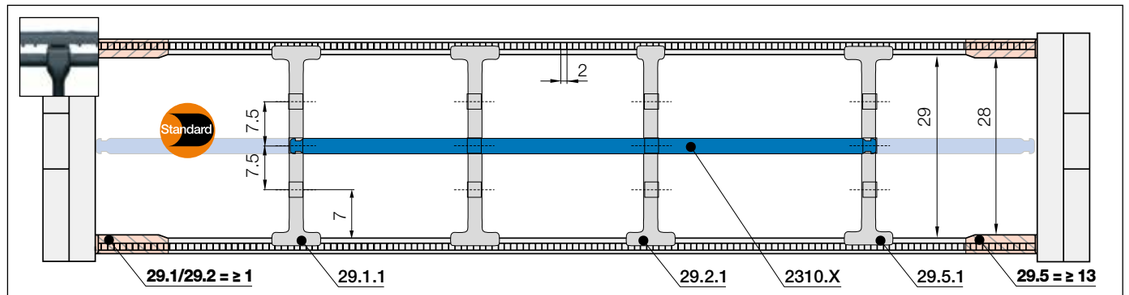


The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket pre-fitted please add index **.A** .

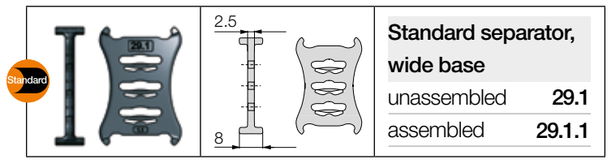
E61.290.050.12.A Order example
- Pre-assembled
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

Interior separation | Increase cable service life

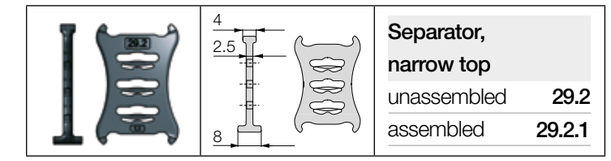


Note: Please be aware of the minimum lateral gap to the side links! **29.1/29.2 = 1mm** | **29.5 = 13mm**
As standard separators are fitted every 2nd e-chain® link!



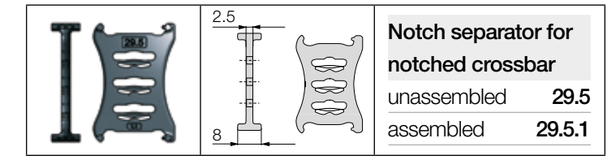
Standard separator, wide base
unassembled **29.1**
assembled **29.1.1**

Standard - for any application
Separator with a wide base for maximum holding force.



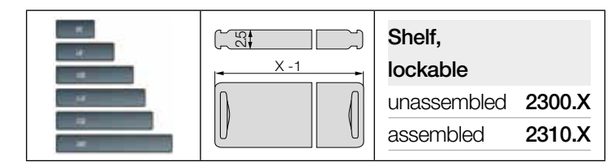
Separator, narrow top
unassembled **29.2**
assembled **29.2.1**

For even faster installation
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar
unassembled **29.5**
assembled **29.5.1**

Locks securely in preset increments
Notch separator for exact positioning. Recommended for side-mounted applications.



Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

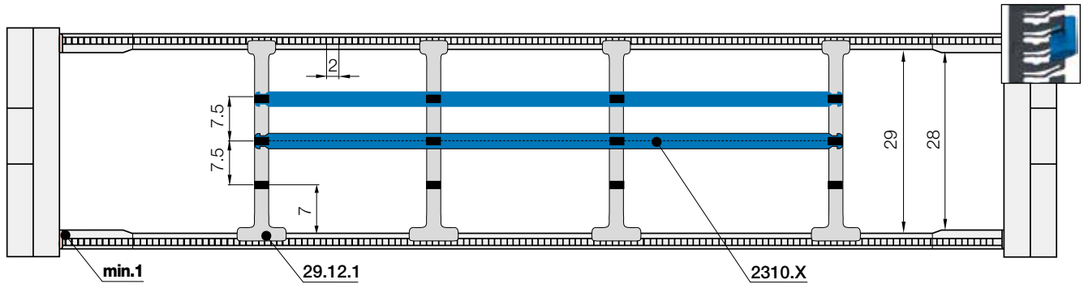
Separator with integrated strain relief teeth
- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.35.02.Z - more information ▶ From page 1428

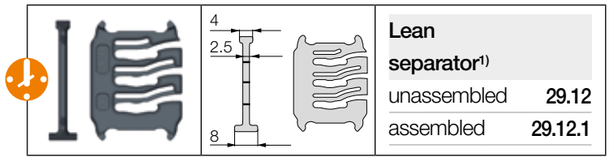


E6.1 | EF61.29·E61.29 series | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =1mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator[1)]	
unassembled	29.12
assembled	29.12.1

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



E6.1 | Application example



Cleanroom suitable E6.1 series as a harnessed readychain® system for the semiconductor industry

E6.1 | Series E61.35 | Product range

Dynamic, quiet, light and cleanroom suitable



e-chains® | Series E61.35 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.35 [kg/m]
E61.35.030.R.0	30	46	≈ 0.653
E61.35.040.R.0	40	56	≈ 0.675
E61.35.050.R.0	50	66	≈ 0.696
E61.35.060.R.0	60	76	≈ 0.718
E61.35.070.R.0	70	86	≈ 0.739
E61.35.080.R.0	80	96	≈ 0.761

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.35 [kg/m]
E61.35.090.R.0	90	106	≈ 0.783
E61.35.100.R.0	100	116	≈ 0.804
E61.35.110.R.0	110	126	≈ 0.826
E61.35.120.R.0	120	136	≈ 0.848
E61.35.140.R.0	140	156	≈ 0.891

Available bend radii

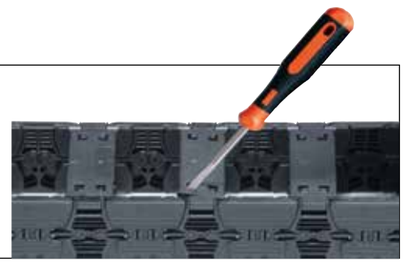
R [mm] | 055 | 075 | 100 | 125 | 150 |

Complete Part No. with required radius (*R*). Example: **E61.35.100.100.0**

Installation note - system E6.1

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

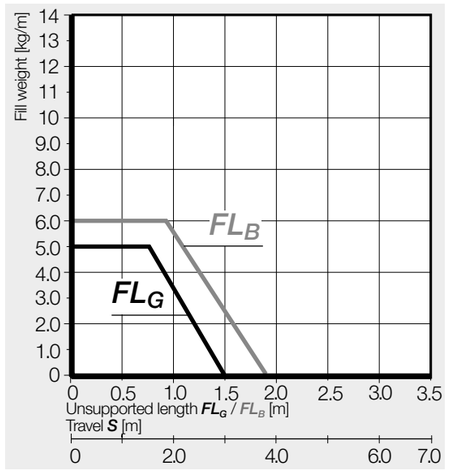
An assembly video is available online at ▶ www.igus.eu/E61_assembly

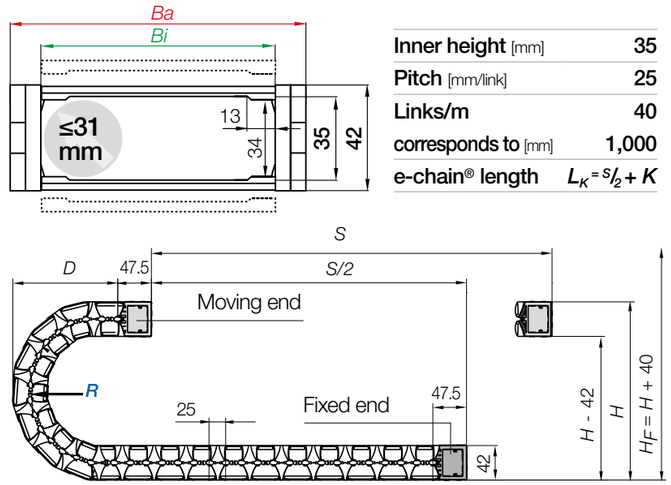


E6.1 | Series E61.35 | Installation dimensions

Unsupported applications | Short travels

▶ 1392





Inner height [mm]	35				
Pitch [mm/link]	25				
Links/m	40				
corresponds to [mm]	1,000				
e-chain® length	$L_K = S/2 + K$				

R	055	075	100	125	150
H	192	232	282	332	382
D	113.5	133.5	158.5	183.5	208.5
K	225	290	365	445	525

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362



Steel support tray for support of the lower run

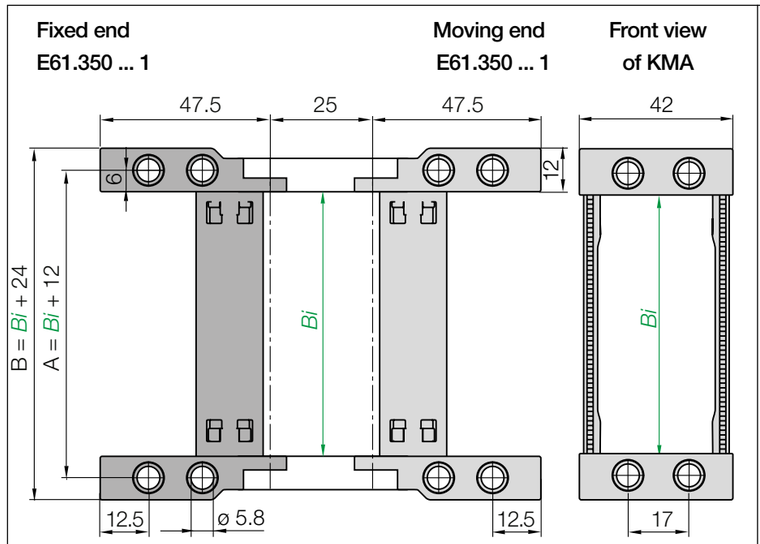
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

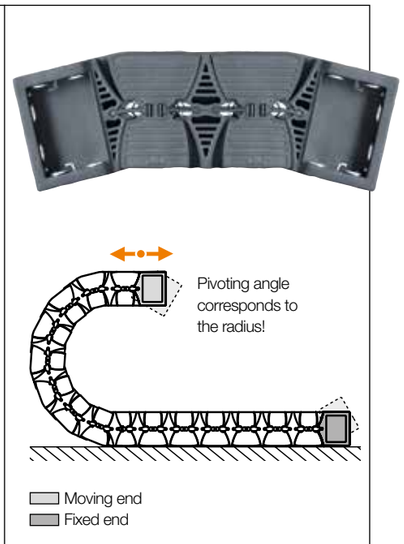
More information ▶ From page 1356



E6.1 | Series E61.35 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



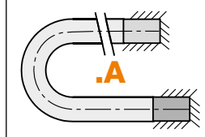


KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set **KMA pivoting**	A [mm]	B [mm]	*Bi* [mm]
030. ▶	**E61.350.030.12**	42	54	30
040. ▶	**E61.350.040.12**	52	64	40
050. ▶	**E61.350.050.12**	62	74	50
060. ▶	**E61.350.060.12**	72	84	60
070. ▶	**E61.350.070.12**	82	94	70
080. ▶	**E61.350.080.12**	92	104	80

Width index	Part No. Full set **KMA pivoting**	A [mm]	B [mm]	*Bi* [mm]
090. ▶	**E61.350.090.12**	102	114	90
100. ▶	**E61.350.100.12**	112	124	100
110. ▶	**E61.350.110.12**	122	134	110
120. ▶	**E61.350.120.12**	132	144	120
140. ▶	**E61.350.140.12**	152	164	140

(KMA = polymer metal mounting bracket) **KMA mounting brackets are only available for an odd number of links.**



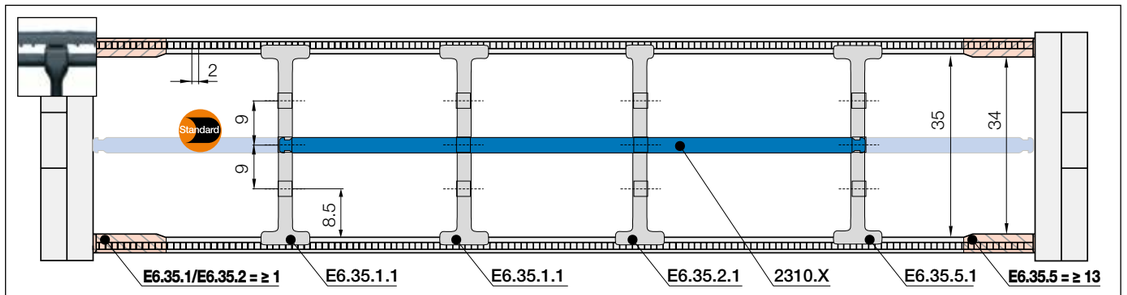
The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket pre-fitted please add index **.A** .

E61.350.100.12.A Order example

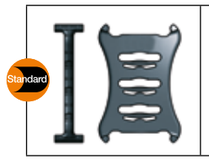
- Pre-assembled
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

Interior separation | Increase cable service life



Note: Please be aware of the minimum lateral gap to the side links! **E6.35.1/E6.35.2 = 1mm** | **E6.35.5 = 13mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.35.1**
assembled **E6.35.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **E6.35.2**
assembled **E6.35.2.1**

For even faster installation

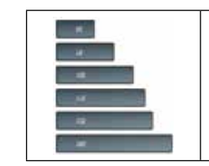
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar
unassembled **E6.35.5**
assembled **E6.35.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.35.02.Z - more information ▶ From page 1428



E6.1 | Series E61.40 | Product range

Dynamic, quiet, light and cleanroom suitable

40



e-chains® | Series E61.40 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.40 [kg/m]
E61.40. 040 R.0	40	56	≈ 0.913
E61.40. 050 R.0	50	66	≈ 0.950
E61.40. 052 R.0	52	68	≈ 0.957
E61.40. 062 R.0	62	78	≈ 0.994
E61.40. 070 R.0	70	86	≈ 1.023
E61.40. 075 R.0	75	91	≈ 1.042
E61.40. 087 R.0	87	103	≈1.086
E61.40. 100 R.0	100	116	≈ 1.134

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.40 [kg/m]
E61.40. 125 R.0	125	141	≈ 1.226
E61.40. 150 R.0	150	166	≈ 1.318
E61.40. 175 R.0	175	191	≈ 1.410
E61.40. 200 R.0	200	216	≈ 1.502
E61.40. 225 R.0	225	241	≈ 1.595
E61.40. 250 R.0	250	266	≈ 1.687
E61.40. 275 R.0	275	291	≈ 1.779
E61.40. 300 R.0	300	316	≈ 1.871

Available bend radii

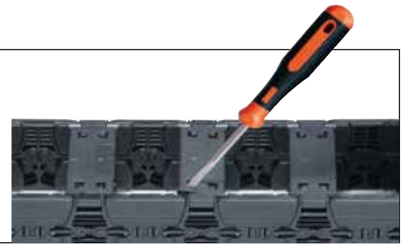
R [mm] | 063 | 075 | 100 | 125 | 150 | 200 |

Complete Part No. with required radius (R). Example **E61.40.100.100.0**

Installation note - system E6.1

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

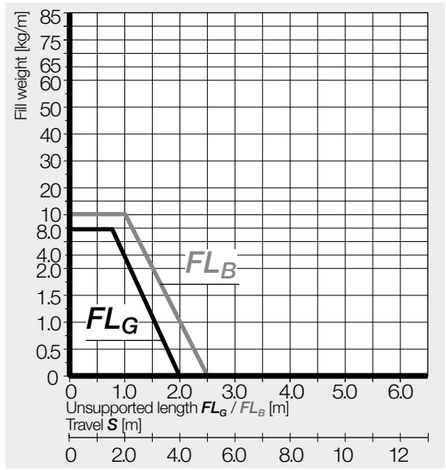
An assembly video is available online at ▶ www.igus.eu/E61_assembly

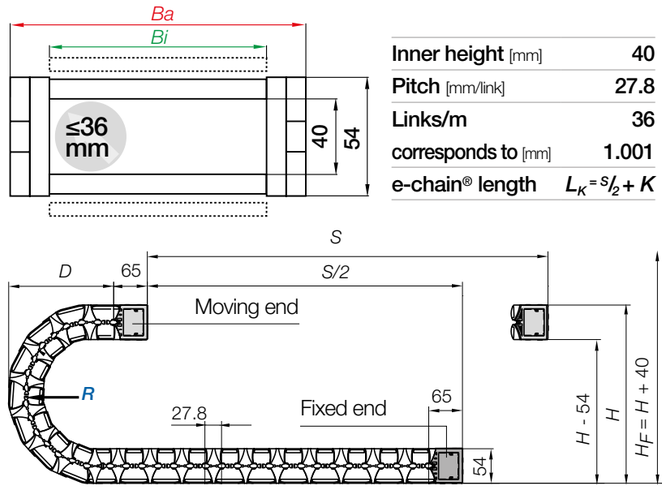


E6.1 | Series E61.40 | Installation dimensions

Unsupported applications | Short travels

▶ 1392





Inner height [mm]	40
Pitch [mm/link]	27.8
Links/m	36
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$

R	063	075	100	125	150	200
H	220	244	294	344	394	494
D	132	144	169	194	219	269
K	255	295	370	450	530	685

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

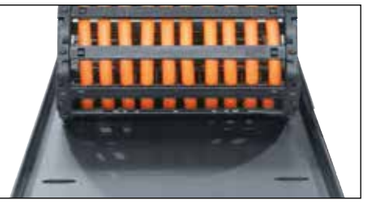
More information ▶ From page 1362



Steel support tray for support of the lower run

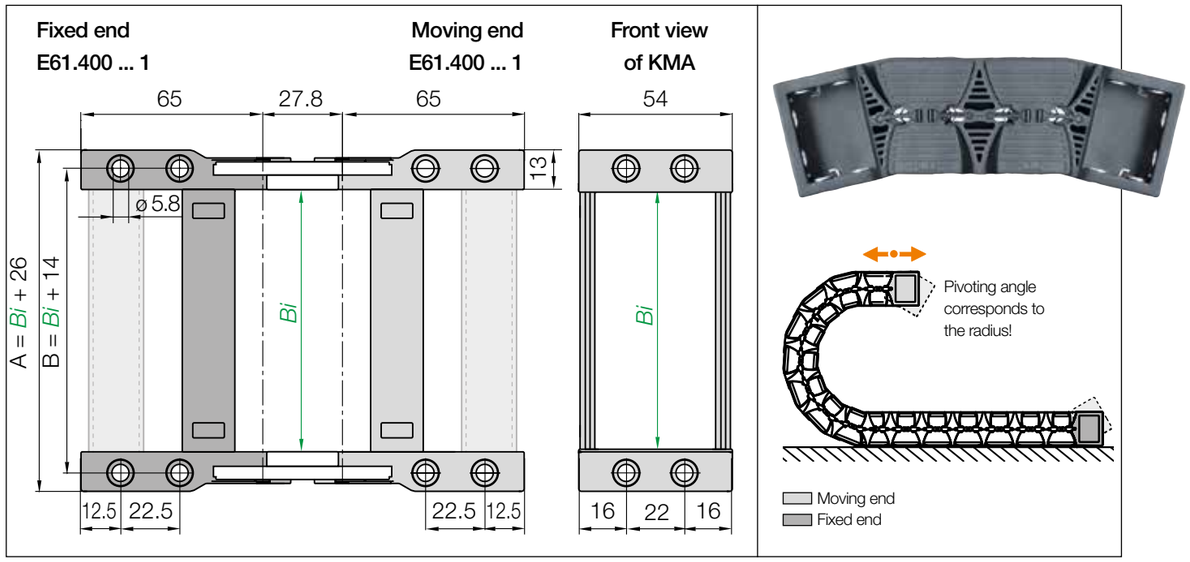
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6.1 | Series E61.40 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

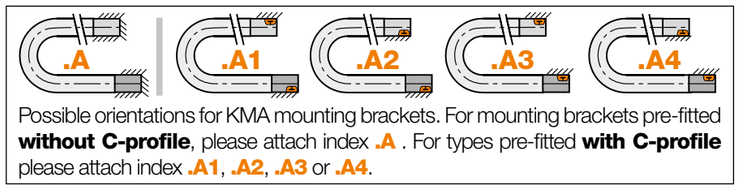


KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
040. ▶	E61.400.040.12.C	54	66	40
050. ▶	E61.400.050.12.C	64	76	50
052. ▶	E61.400.052.12.C	66	78	52
062. ▶	E61.400.062.12.C	76	88	62
070. ▶	E61.400.070.12.C	84	96	70
075. ▶	E61.400.075.12.C	89	101	75
087. ▶	E61.400.087.12.C	101	113	87
100. ▶	E61.400.100.12.C	114	126	100

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
125. ▶	E61.400.125.12.C	139	151	125
150. ▶	E61.400.150.12.C	164	176	150
175. ▶	E61.400.175.12.C	189	201	175
200. ▶	E61.400.200.12.C	214	226	200
225. ▶	E61.400.225.12.C	239	251	225
250. ▶	E61.400.250.12.C	264	276	250
275. ▶	E61.400.275.12.C	289	301	275
300. ▶	E61.400.300.12.C	314	326	300

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**. **KMA mounting brackets are only available for an odd number of links.**

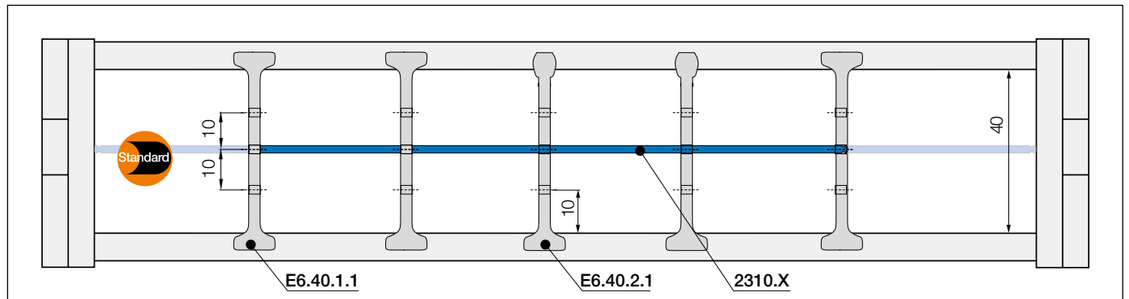


Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

E61.400.100.12.C.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.40.1**
assembled **E6.40.1.1**

Standard - for any application

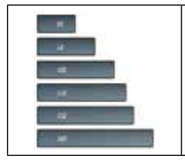
Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **E6.40.2**
assembled **E6.40.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



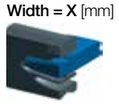
Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

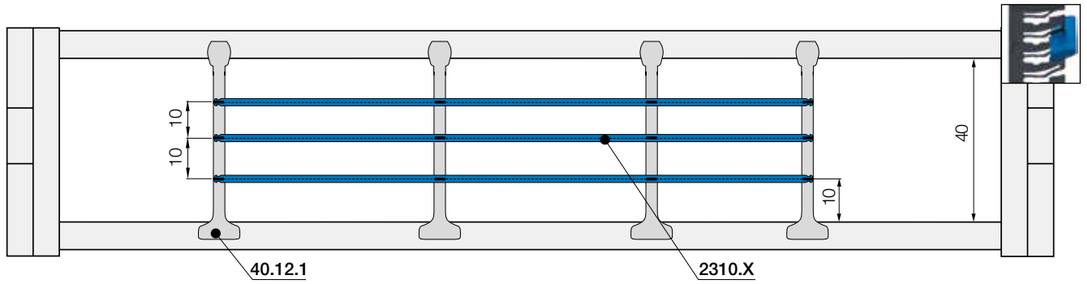
- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.40.02.Z - more information ▶ From page 1428

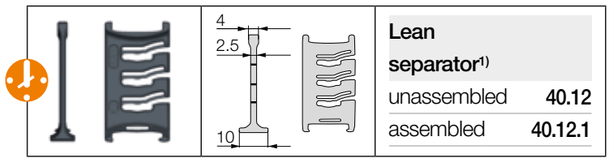


E6.1 | Series E61.40 | Accessories

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Lean separator[1]	
unassembled	40.12
assembled	40.12.1

Lean separators[1]

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab





Very small bend radii are possible with chainflex® CF98 control cable in this E6.1 readychain® system. It offers smooth operation and is suitable for cleanrooms

E6.1 | Series E61.52 | Product range

Dynamic, quiet, light and cleanroom suitable

52



e-chains® | Series E61.52 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.52 [kg/m]
E61.52. 040 R.0	40	64	≈ 1.679
E61.52. 050 R.0	50	74	≈ 1.724
E61.52. 052 R.0	52	76	≈ 1.733
E61.52. 062 R.0	62.5	86.5	≈ 1.780
E61.52. 070 R.0	70	94	≈ 1.814
E61.52. 075 R.0	75	99	≈ 1.836
E61.52. 087 R.0	87.5	111.5	≈ 1.892
E61.52. 100 R.0	100	124	≈ 1.948

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.52 [kg/m]
E61.52. 125 R.0	125	149	≈ 2.060
E61.52. 150 R.0	150	174	≈ 2.172
E61.52. 175 R.0	175	199	≈ 2.283
E61.52. 200 R.0	200	224	≈ 2.395
E61.52. 225 R.0	225	249	≈ 2.507
E61.52. 250 R.0	250	274	≈ 2.619
E61.52. 275 R.0	275	299	≈ 2.731
E61.52. 300 R.0	300	324	≈ 2.843

Available bend radii

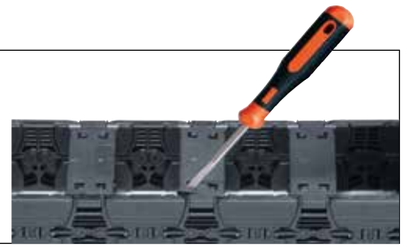
R [mm] | 075 | 100 | 125 | 150 | 175 | 200 |

Complete Part No. with required radius (R). Example: **E61.52.100.100.0**

Installation note - system E6.1

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

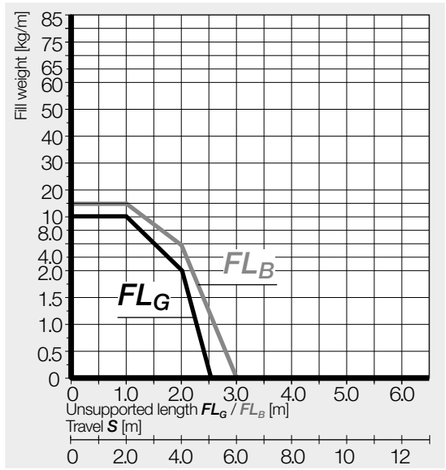
An assembly video is available online at ▶ www.igus.eu/E61_assembly

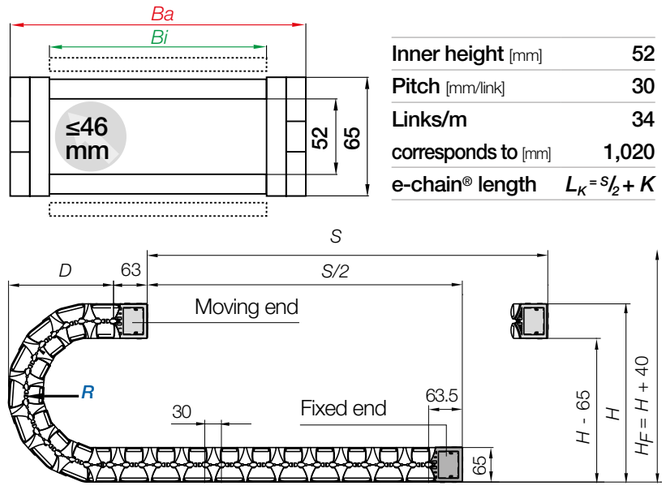


E6.1 | Series E61.52 | Installation dimensions

Unsupported applications | Short travels

▶ 1392





Inner height [mm]	52
Pitch [mm/link]	30
Links/m	34
corresponds to [mm]	1,020
e-chain® length	$L_K = S/2 + K$

R	075	100	125	150	175	200
H	265	315	365	415	465	515
D	153	178	203	228	253	278
K	300	375	455	535	610	690

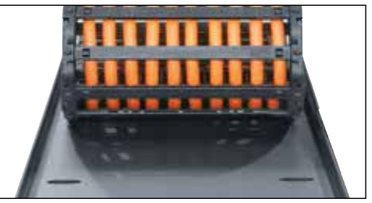
The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

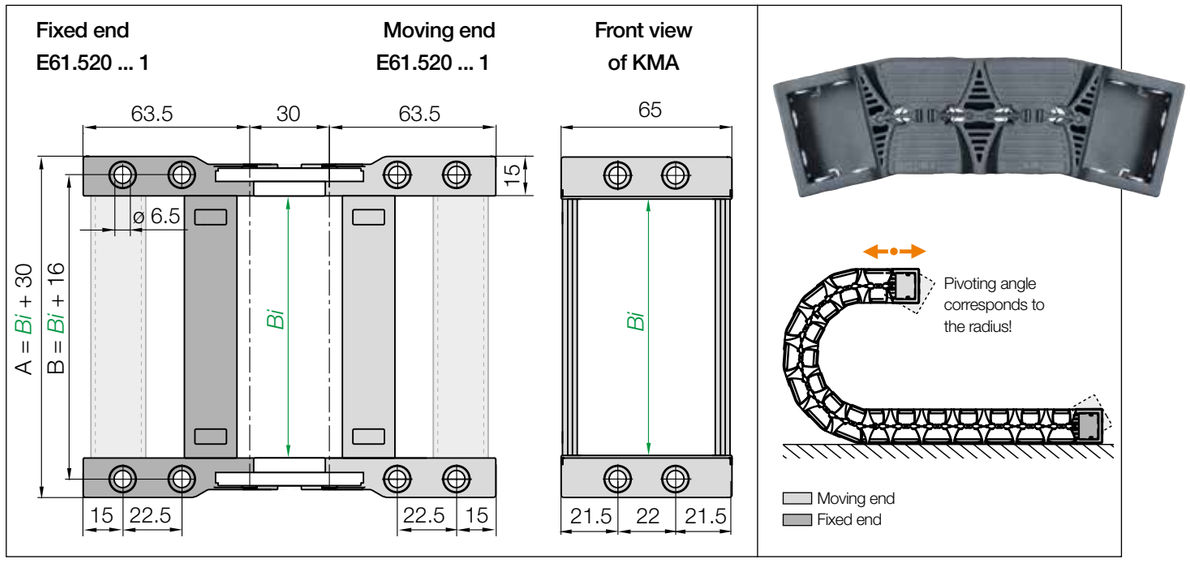
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6.1 | Series E61.52 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

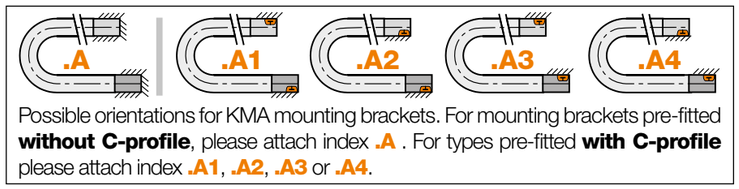


KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set **KMA pivoting**	A [mm]	B [mm]	*Bi* [mm]
040. ▶	**E61.520.040.12**.C	70	56	40
050. ▶	**E61.520.050.12**.C	80	66	50
052. ▶	**E61.520.052.12**.C	82	68	52
062. ▶	**E61.520.062.12**.C	92.5	78.5	62.5
070. ▶	**E61.520.070.12**.C	100	86	70
075. ▶	**E61.520.075.12**.C	105	91	75
087. ▶	**E61.520.087.12**.C	117.5	103.5	87.5
100. ▶	**E61.520.100.12**.C	130	116	100

Width index	Part No. Full set **KMA pivoting**	A [mm]	B [mm]	*Bi* [mm]
125. ▶	**E61.520.125.12**.C	155	141	125
150. ▶	**E61.520.150.12**.C	180	166	150
175. ▶	**E61.520.175.12**.C	205	191	175
200. ▶	**E61.520.200.12**.C	230	216	200
225. ▶	**E61.520.225.12**.C	255	241	225
250. ▶	**E61.520.250.12**.C	280	266	250
275. ▶	**E61.520.275.12**.C	300	291	275
300. ▶	**E61.520.300.12**.C	330	316	300

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**. **KMA mounting brackets are only available for an odd number of links.**



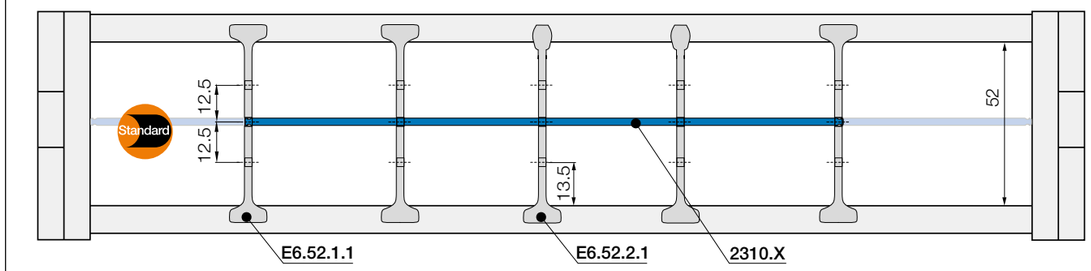
Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

E61.520.100.12.C.A2 Order example

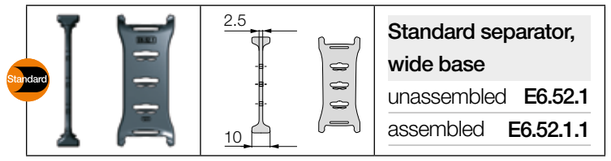
- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

Interior separation | Increase cable service life



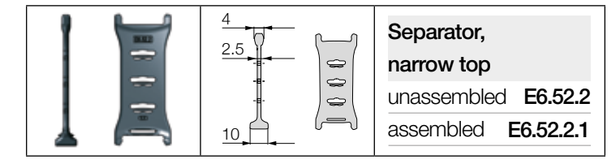
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.52.1**
assembled **E6.52.1.1**

Standard - for any application

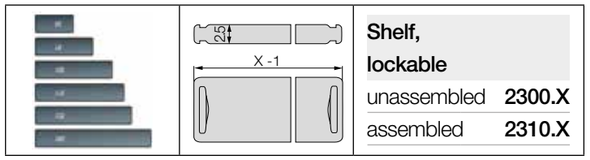
Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **E6.52.2**
assembled **E6.52.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



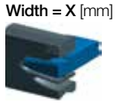
Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**
025	**2300.025**	**2310.025**
030	**2300.030**	**2310.030**
038	**2300.038**	**2310.038**
040	**2300.040**	**2310.040**
050	**2300.050**	**2310.050**
057	**2300.057**	**2310.057**

X [mm]	unassembled	assembled
060	**2300.060**	**2310.060**
062	**2300.062**	**2310.062**
065	**2300.065**	**2310.065**
070	**2300.070**	**2310.070**
075	**2300.075**	**2310.075**
077	**2300.077**	**2310.077**
080	**2300.080**	**2310.080**

X [mm]	unassembled	assembled
087	**2300.87**	**2310.087**
090	**2300.90**	**2310.090**
100	**2300.100**	**2310.100**
103	**2300.103**	**2310.103**
110	**2300.110**	**2310.110**
120	**2300.120**	**2310.120**
125	**2300.125**	**2310.125**

E6.1 | Series E61.62 | Product range

Dynamic, quiet, light and cleanroom suitable

62



e-chains® | Series E61.62 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.62 [kg/m]
E61.62. 05. R.0	50	82	≈ 2.514
E61.62. 06. R.0	68	100	≈ 2.577
E61.62. 07. R.0	75	107	≈ 2.601
E61.62. 087.R.0	87	119	≈ 2.642
E61.62. 097.R.0	97	129	≈ 2.673
E61.62. 10. R.0	100	132	≈ 2.687
E61.62. 11. R.0	108	140	≈ 2.715
E61.62. 112.R.0	112	144	≈ 2.729
E61.62. 12. R.0	125	157	≈ 2.774
E61.62. 137.R.0	137	169	≈ 2.816
E61.62. 15. R.0	150	182	≈ 2.861
E61.62. 162.R.0	162	194	≈ 2.902
E61.62. 17. R.0	168	200	≈ 2.923
E61.62. 18. R.0	175	207	≈ 2.947
E61.62. 187.R.0	187	219	≈ 2.989
E61.62. 20. R.0	200	232	≈ 3.034

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.62 [kg/m]
E61.62. 212.R.0	212	244	≈ 3.076
E61.62. 23. R.0	225	257	≈ 3.121
E61.62. 237.R.0	237	269	≈ 3.162
E61.62. 25. R.0	250	282	≈ 3.207
E61.62. 262.R.0	262	294	≈ 3.249
E61.62. 28. R.0	275	307	≈ 3.294
E61.62. 29. R.0	287	319	≈ 3.336
E61.62. 30. R.0	300	332	≈ 3.381
E61.62. 312.R.0	312	344	≈ 3.422
E61.62. 325.R.0	325	357	≈ 3.467
E61.62. 337.R.0	337	369	≈ 3.509
E61.62. 350.R.0	350	382	≈ 3.554
E61.62. 362.R.0	362	394	≈ 3.596
E61.62. 375.R.0	375	407	≈ 3.641
E61.62. 387.R.0	387	419	≈ 3.682
E61.62. 400.R.0	400	432	≈ 3.782

Available bend radii

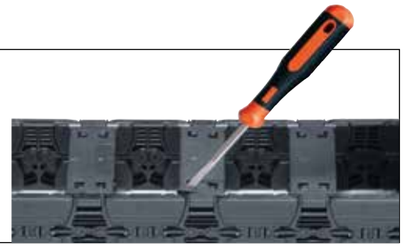
R [mm] | 115 |

Complete Part No. with required radius (*R*). Example: **E61.62.100.115.0**

Installation note - system E6.1

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

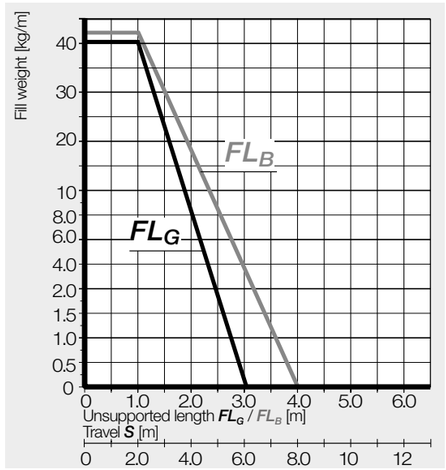
An assembly video is available online at ▶ www.igus.eu/E61_assembly

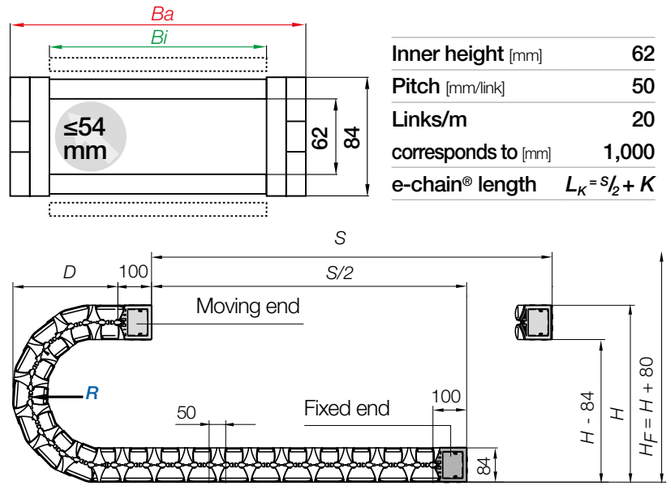


E6.1 | Series E61.62 | Installation dimensions

Unsupported applications | Short travels

▶ 1392





Inner height [mm]	62
Pitch [mm/link]	50
Links/m	20
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$

R	**115**
H	384
D	232
K	465

The required clearance height: $H_F = H + 80$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

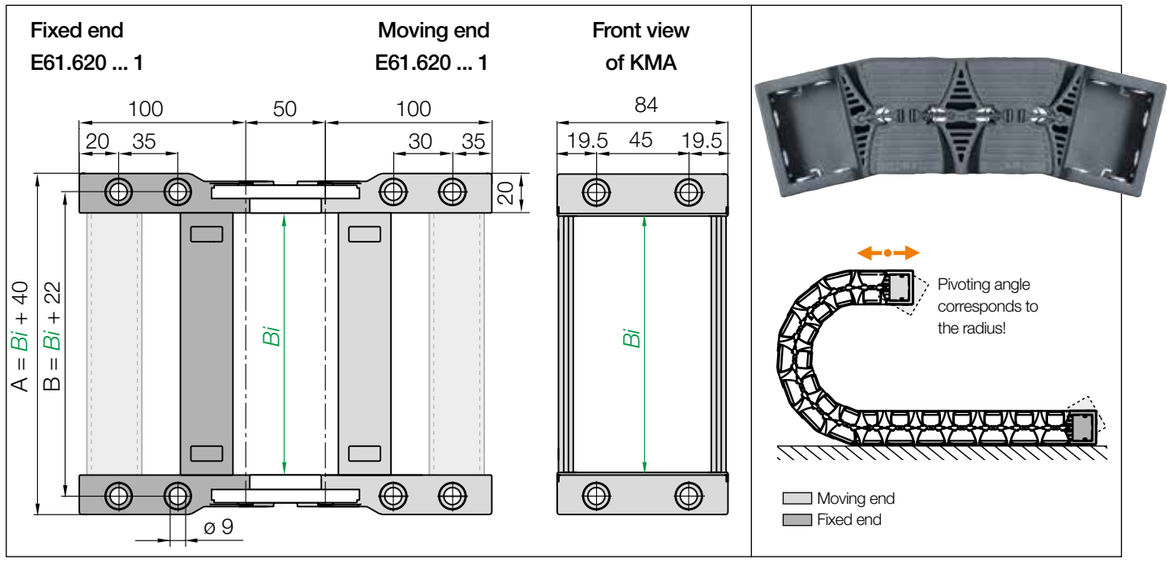
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6.1 | Series E61.62 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

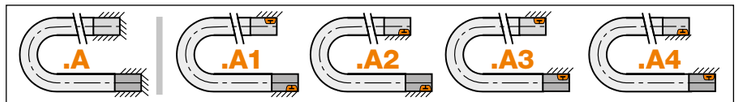


KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
05. ▶	E61.620.05. 12.C	90	72	50
06. ▶	E61.620.06. 12.C	108	90	68
07. ▶	E61.620.07. 12.C	115	97	75
087. ▶	E61.620.087.12.C	127	109	87
097. ▶	E61.620.097.12.C	137	119	97
10. ▶	E61.620.10. 12.C	140	122	100
11. ▶	E61.620.11. 12.C	148	130	108
112. ▶	E61.620.112.12.C	152	134	112
12. ▶	E61.620.12. 12.C	165	147	125
137. ▶	E61.620.137.12.C	177	159	137
15. ▶	E61.620.15. 12.C	190	172	150
162. ▶	E61.620.162.12.C	202	184	162
17. ▶	E61.620.17. 12.C	208	190	168
18. ▶	E61.620.18. 12.C	215	197	175
187. ▶	E61.620.187.12.C	227	209	187
20. ▶	E61.620.20. 12.C	240	222	200

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
212. ▶	E61.620.212.12.C	252	234	212
23. ▶	E61.620.23. 12.C	265	247	225
237. ▶	E61.620.237.12.C	277	259	237
25. ▶	E61.620.25. 12.C	290	272	250
262. ▶	E61.620.262.12.C	302	284	262
28. ▶	E61.620.28. 12.C	315	297	275
29. ▶	E61.620.29. 12.C	327	309	287
30. ▶	E61.620.30. 12.C	340	322	300
312 ▶	E61.620.312.12.C	352	334	312
325. ▶	E61.620.325.12.C	365	347	325
337. ▶	E61.620.337.12.C	377	359	337
350. ▶	E61.620.350.12.C	390	372	350
362 ▶	E61.620.362.12.C	402	384	362
375. ▶	E61.620.375.12.C	415	397	375
387. ▶	E61.620.387.12.C	427	409	387
400. ▶	E61.620.400.12.C	440	442	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**. **KMA mounting brackets are only available for an odd number of links.**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

E61.620.100.12.C.A2 **Order example**

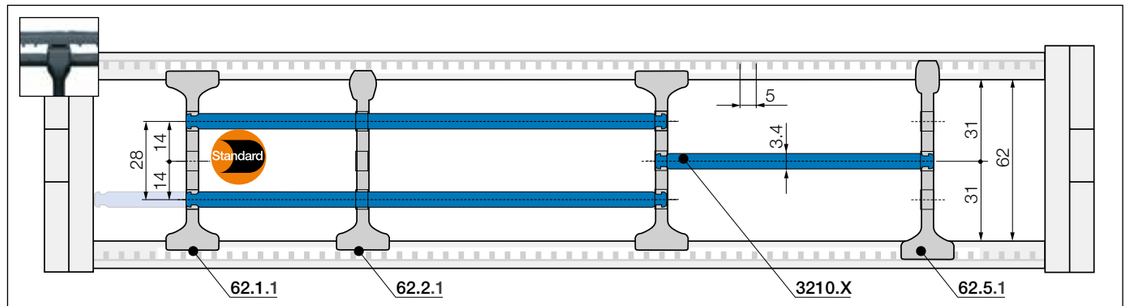
- .A ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E6.1 | Series E61.62 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E61.62**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **62.1**
assembled **62.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **62.2**
assembled **62.2.1**

For even faster installation

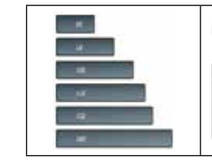
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator* for notched crossbar
unassembled **62.5**
assembled **62.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.
(*Suitable from *Bi* 75)



Shelf, lockable
unassembled **3200.X**
assembled **3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E6.1 | Series E61.80 | Product range

Dynamic, quiet, light and cleanroom suitable

80



e-chains® | Series E61.80 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.80 [kg/m]
E61.80. 05. R.0	50	100	≈ 2.906
E61.80. 06. R.0	65	115	≈ 2.979
E61.80. 07. R.0	75	125	≈ 3.028
E61.80. 08. R.0	87	137	≈ 3.089
E61.80. 10. R.0	100	150	≈ 3.150
E61.80. 11. R.0	112	162	≈ 3.209
E61.80. 12. R.0	125	175	≈ 3.272
E61.80. 13. R.0	137	187	≈ 3.331
E61.80. 15. R.0	150	200	≈ 3.394
E61.80. 16. R.0	162	212	≈ 3.453
E61.80. 17. R.0	175	225	≈ 3.516
E61.80. 18. R.0	187	237	≈ 3.575
E61.80. 20. R.0	200	250	≈ 3.638
E61.80. 21. R.0	212	262	≈ 3.697
E61.80. 22. R.0	225	275	≈ 3.760
E61.80. 23. R.0	237	287	≈ 3.819
E61.80. 25. R.0	250	300	≈ 3.882
E61.80. 26. R.0	262	312	≈ 3.941
E61.80. 27. R.0	275	325	≈ 4.004
E61.80. 28. R.0	287	337	≈ 4.063
E61.80. 30. R.0	300	350	≈ 4.127

Part No. e-chains®	Bi [mm]	Ba [mm]	E61.80 [kg/m]
E61.80. 31. R.0	312	362	≈ 4.185
E61.80. 32. R.0	325	375	≈ 4,249
E61.80. 33. R.0	337	387	≈ 4.307
E61.80. 35. R.0	350	400	≈ 4.371
E61.80. 36. R.0	362	412	≈ 4.429
E61.80. 37. R.0	375	425	≈ 4.493
E61.80. 38. R.0	387	437	≈ 4.551
E61.80. 40. R.0	400	450	≈ 4.615
E61.80. 41. R.0	412	462	≈ 4.673
E61.80. 42. R.0	425	475	≈ 4.737
E61.80. 43. R.0	437	487	≈ 4.787
E61.80. 45. R.0	450	500	≈ 4.847
E61.80. 46. R.0	462	512	≈ 4.907
E61.80. 47. R.0	475	525	≈ 4.967
E61.80. 48. R.0	487	537	≈ 5.027
E61.80. 50. R.0	500	550	≈ 5.087
E61.80. 51. R.0	512	562	≈ 5.147
E61.80. 52. R.0	525	575	≈ 5.207
E61.80. 53. R.0	537	587	≈ 5.267
E61.80. 55. R.0	550	600	≈ 5.327
E61.80. 60. R.0	600	650	≈ 5.557

Available bend radii

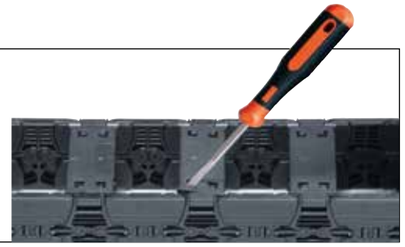
R [mm] | 150 |

Complete Part No. with required radius (R). Example: **E61.80.100.150.0**

Installation note - system E6.1

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

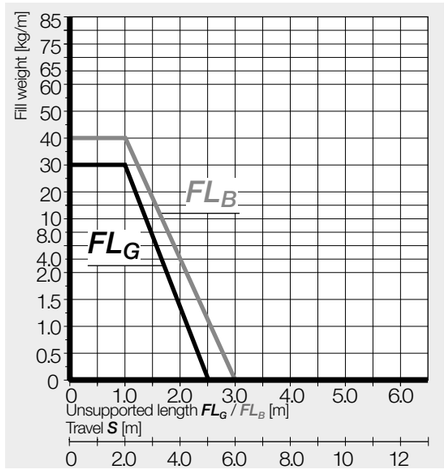
An assembly video is available online at ▶ www.igus.eu/E61_assembly

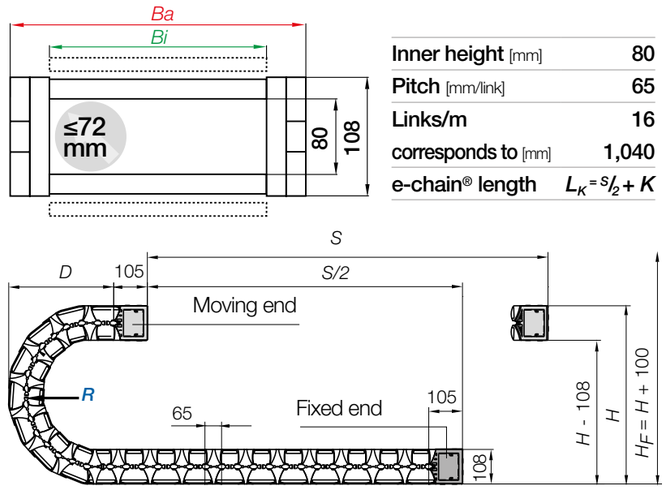


E6.1 | Series E61.80 | Installation dimensions

Unsupported applications | Short travels

▶ 1392





Inner height [mm]	80
Pitch [mm/link]	65
Links/m	16
corresponds to [mm]	1,040
e-chain® length	$L_K = S/2 + K$

R	150
H	508
D	301.5
K	605

The required clearance height: $H_F = H + 80mm$ (with 5.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

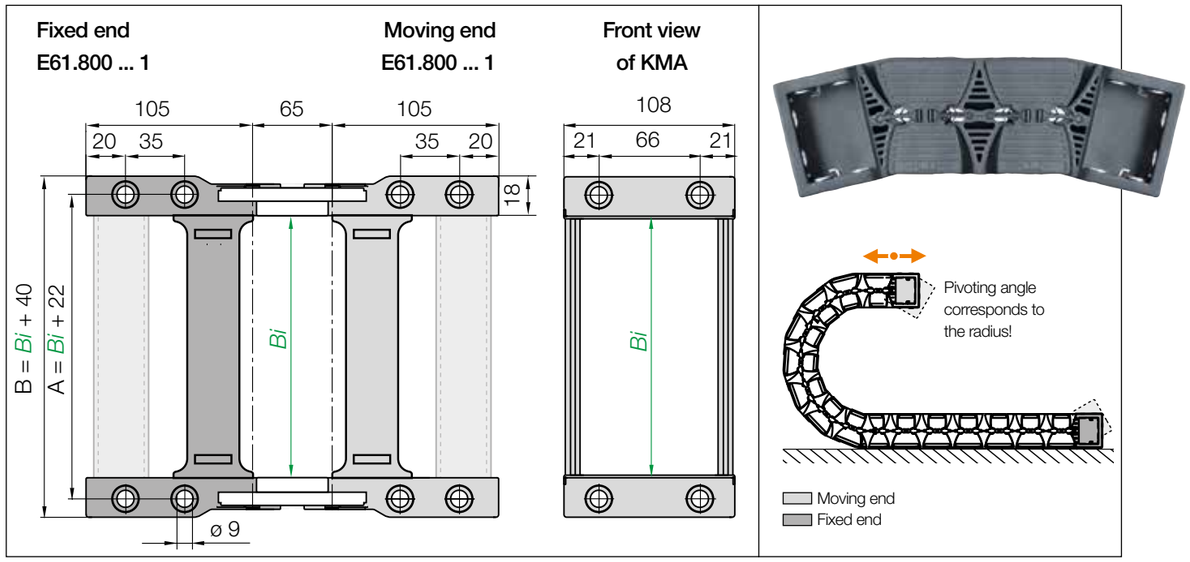
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6.1 | Series E61.80 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
05.	E61.800.05.12.C	72	90	50
06.	E61.800.06.12.C	87	105	65
07.	E61.800.07.12.C	97	115	75
08.	E61.800.08.12.C	109	127	87
10.	E61.800.10.12.C	122	140	100
11.	E61.800.11.12.C	134	152	112
12.	E61.800.12.12.C	147	165	125
13.	E61.800.13.12.C	159	177	137
15.	E61.800.15.12.C	172	190	150
16.	E61.800.16.12.C	184	202	162
17.	E61.800.17.12.C	197	215	175
18.	E61.800.18.12.C	209	227	187
20.	E61.800.20.12.C	222	240	200
21.	E61.800.21.12.C	234	252	212
22.	E61.800.22.12.C	247	265	225
23.	E61.800.23.12.C	259	277	237
25.	E61.800.25.12.C	272	290	250
26.	E61.800.26.12.C	284	302	262
27.	E61.800.27.12.C	297	315	275
28.	E61.800.28.12.C	309	327	287
30.	E61.800.30.12.C	322	340	300

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
31.	E61.800.31.12.C	334	352	312
32.	E61.800.32.12.C	347	365	325
33.	E61.800.33.12.C	359	377	337
35.	E61.800.35.12.C	372	390	350
36.	E61.800.36.12.C	384	402	362
37.	E61.800.37.12.C	397	415	375
38.	E61.800.38.12.C	409	427	387
40.	E61.800.40.12.C	422	440	400
41.	E61.800.41.12.C	434	452	412
42.	E61.800.42.12.C	447	465	425
43.	E61.800.43.12.C	459	477	437
45.	E61.800.45.12.C	472	490	450
46.	E61.800.46.12.C	484	502	462
47.	E61.800.47.12.C	497	515	475
48.	E61.800.48.12.C	509	527	487
50.	E61.800.50.12.C	522	540	500
51.	E61.800.51.12.C	534	552	512
52.	E61.800.52.12.C	547	565	525
53.	E61.800.53.12.C	559	577	537
55.	E61.800.55.12.C	572	590	550
60.	E61.800.60.12.C	622	640	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**. **KMA mounting brackets are only available for an odd number of links.**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

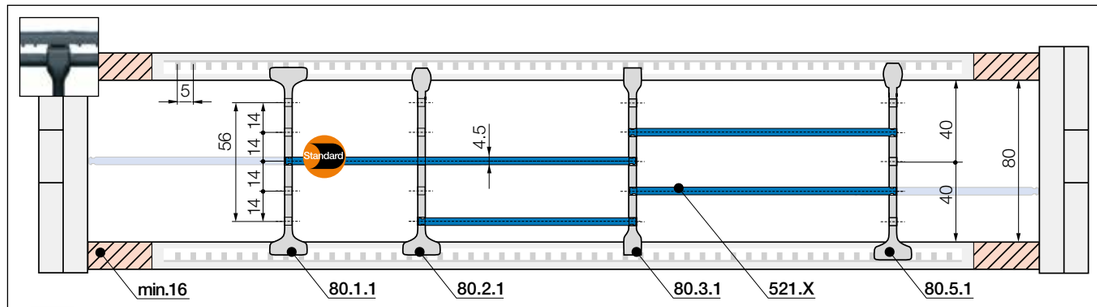
E61.800.100.12.C.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- width index
- Series

E6.1 | Series E61.80 | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E61.80**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **80.1**
assembled **80.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **80.2**
assembled **80.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow
unassembled **80.3**
assembled **80.3.1**

For a large number of thin cables

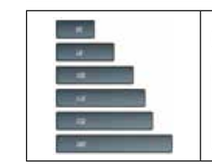
Separator with a narrow base for a large number of thin cables side by side. Saves space.



Notch separator for notched crossbar
unassembled **80.5**
assembled **80.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



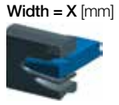
Shelf, lockable
unassembled **520.X**
assembled **521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

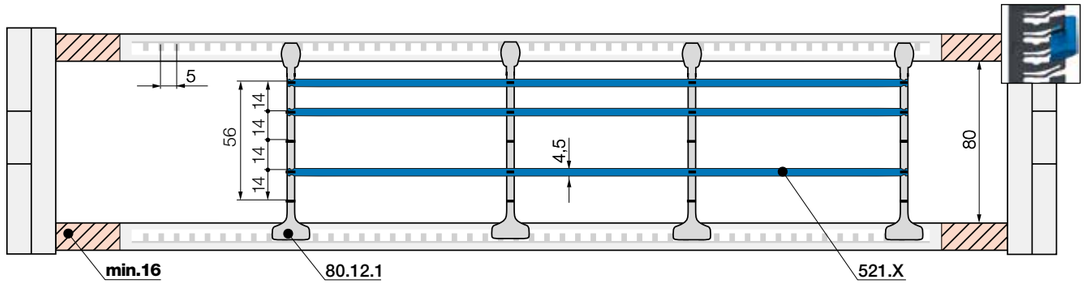


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**521.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**521.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

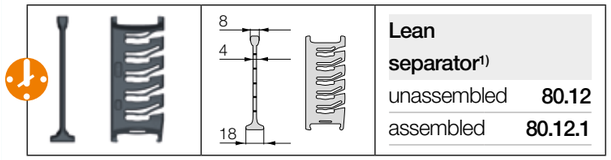
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

E6.1 | Series E61.80 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator[1)]	
unassembled	80.12
assembled	80.12.1

Lean separators[1)]

For quick fitting of shelves in several layers. **1) Note:** Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%[2)]. 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



E6.1 | Application example



Fully harnessed e-chain systems® to your requirements. E6.1 e-chain® system and chainflex® cables both cleanroom suitable in the semiconductor industry



E6 clean-room

Extremely low noise, vibration and abrasion, cleanroom suitable

Advantages of the E6 system:

- For very high speeds and accelerations
- For small bend radii
- High strength
- Available as closed e-tube for some sizes
- Low-noise 37dB(A)[1] - extremely low noise and vibration
- Suitable for cleanroom according to IPA ISO Class 3[2]
- Tested for ISO class 1 cleanroom use

1) Extremely low-noise - tested at the igus® lab

2) Cleanroom IG0704-400 ISO Class 3 for E6.29.060.150.0 series

When to use another e-chain® series:

- With only limited suitability for side-mounted applications
  ► E4.1L, page 538 ► E2/000, page 374
- For longer unsupported lengths
  ► E4.1L, page 538 ► E2/000, page 374
- For long travels
  ► E4.1, page 616 ► E2/000, page 374
- For even less vibration and noise or even greater dynamics
  ► E6.1, page 832



Attachment from any side with KMA mounting brackets

Low noise from 37dB(A)[1]: small pitch for low noise, smooth running

Long service life: low vibration, high strength

Dynamic: high speeds and accelerations

Quick assembly: openable along the inner and outer radius

Modular design: can be easily lengthened and shortened

High strength: for unsupported applications

No wear: polymer spring - no pin and bore connection

Variant: available as closed e-tube for some sizes

Cleanroom Class 1[2]: virtually no wear or abrasion

Extremely low noise, vibration and abrasion, cleanroom suitable - system E6

The E6 series offers numerous advantages in addition to long life. It provides extremely quiet, low vibration operation, complimenting low vibration linear drives. It minimises the polygon effect which can occur during the rolling motion of an e-chain®. The ultra-low noise levels have been confirmed in a recent report by the Rheinland Technical Inspection Agency. Our extensive product range offers the right e-chain® size for any application; a wide range of interior separation is also available.

1) Extremely low-noise - tested at the igus® lab

2) Cleanroom Class 1 proven in the igus® laboratory and Class 3 certified IG0704-400 IPA

Typical industries and applications

● Cleanroom ● Stage and theatre technology ● Printing machines ● Automation ● Machine tools ● Measuring machines ● Semiconductor industry ● Medical industry ● Electronic industry ● General machinery

Fraunhofer IPA TESTED® DEVICE

IPA cleanroom Class 3[2], according to DIN EN ISO 14644-1 for series E6.29.060.150.0 at *v* = 0.5m/s, 2.0m/s

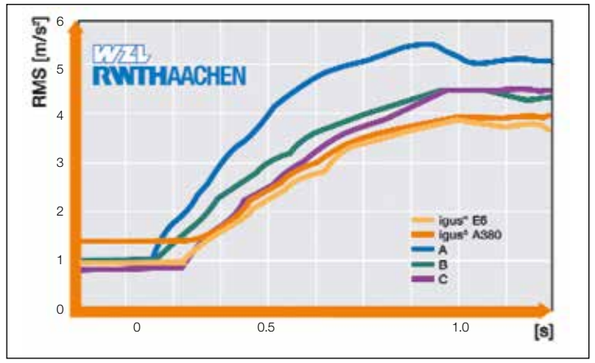
37dB(A)[1] - value determined at the igus® test lab, *v* = 1.0m/s unsupported, series E6.29.080.075.0

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
E6 e-chains® crossbars removable along the inner and outer radius - standard							
E6.29	29	30 - 140	46 - 156	35	055 - 150	≈ 1.75	**878**
E6.35	35	30 - 140	50 - 160	42	055 - 150	≈ 1.90	**884**
E6.40	40	40 - 300	60 - 320	54	063 - 200	≈ 2.50	**888**
E6.52	52	40 - 300	64 - 324	65	075 - 250	≈ 3.00	**894**
E6.62	62	50 - 400	86 - 436	84	115 - 350	≈ 4.00	**900**
E6.80L	80	87 - 550	115 - 578	108	150 - 300	≈ 2.50	**904**
E6.80	80	50 - 600	100 - 650	108	150 - 450	≈ 5.25	**910**
							
R6 e-tubes fully enclosed - lids removable along the inner and outer radius							
R6.29	28	30 - 120	46 - 136	35	055 - 150	≈ 1.75	**878**
R6.40	40	62	82	54	063 - 200	≈ 2.50	**888**
R6.52	52	50 - 200	74 - 224	65	075 - 250	≈ 3.00	**894**

Available from stock. Ready to ship in 72hrs.*

*Average time before the ordered goods are dispatched.

clean-room **Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ▶ From page 144**



E6 system – extremely quiet operation

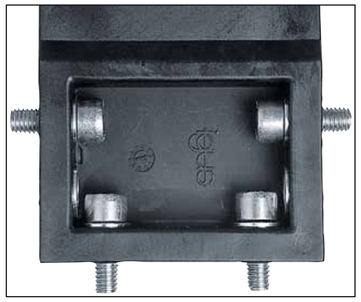
Study by the Machine Tools Laboratory and Business Operations (WZL) at RWTH Aachen on "Vibration Tests in Energy Supply Chains". Results: the "E6" energy supply system made by igus® GmbH, Cologne, is characterised by extremely low vibration and smooth operation.



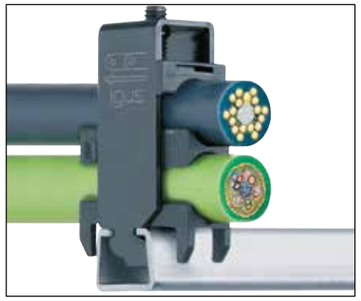
Lean separators enable extremely fast cable filling in several layers



Pivoting KMA mounting brackets - pivot angle corresponds to the bend radius



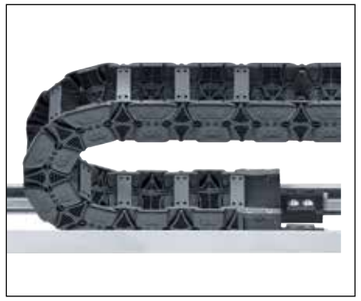
KMA mounting brackets with attachment options from any side



Strain relief elements include clamps, tiewrap plates, nuggets, etc. ▶ **From page 1392**



Aluminium "SuperTrough" - the standard igus® guide trough ▶ **From page 1298**



Aluminium and steel support trays for support of the lower run ▶ **From page 1358**



A linear drive provides the highly dynamic feed for PCBs. This system is twice as fast as handling units with a toothed-belt drive; designed to withstand high dynamic loads, E6 e-chains® ensure a supply of power, coolant and control data with ultra-low noise and vibration

Cleanroom qualification of E6 e-chains®

By using a special material, the already low abrasion behaviour of the e-chain® can be reduced even further. In many applications where cumbersome special solutions are required, a simple standard e-chain® can be used instead. IPA tests confirm that the standard e-chains® from igus® meet the requirements in cleanrooms and have been "Tested and certified as very good!". Cleanroom applications demand very high wear resistance of moving parts. e-chains®, for example, must be very wear-resistant, in order to meet the normal requirements for such a sensitive environment.



IPA classification - report 0704-400:

- **Standard material - IPA cleanroom Class 3, according to DIN EN ISO 14644-1**
  for series E6.29.060.150.0 at *v* = 0.5m/s, 2.0m/s and series E6.29.050.055.0 with fitted cables CF34.15.04, CF9.05.12, CF11.02.01.02.PBA.LC.D

Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ▶ **From page 144**

E6 e-chains® in low-noise areas - from 37dB(A)

Selected noise tests - external noise corrected measurement values

e-kette® series	Test speed and test method		Averaging of the corrected sound pressure levels
igus® series E6.29*	*v* = 1.0m/s	unsupported	**≈ 37 dB(A)**
igus® series E6.52*	*v* = 0.5m/s	side mounted unsupported	**≈ 41 dB(A)**
igus® series E6.52	*v* = 2.0m/s	unsupported	**≈ 46 dB(A)**
Chain 1 third-party product	*v* = 2.0m/s	unsupported	**≈ 77 dB(A)**
Chain 2 third-party product	*v* = 2.0m/s	unsupported	**≈ 68 dB(A)**
Chain 3 third-party product	*v* = 2.0m/s	unsupported	**≈ 73 dB(A)**

Source: TÜV Rheinland *Source: igus® investigations



Noise level ≤ 37dB(A) - a measurement conducted by the Rhineland Technical Inspection Authority (TÜV Rheinland) in May 2002 indicates a value of ≤ 46dB(A) at 2m/s and with an unsupported length of 1.5m with series E6.52.100.100.0, and all this with at least 10dB(A) sound pressure level generated by external noise. We have received an official noise certificate from the Rhineland Technical Inspection Authority (TÜV Rheinland Berlin Brandenburg) and we are happy to provide you with a copy upon request. A measurement carried out in the igus® laboratory resulted in a value of 37dB(A) at *v* = 1m/s for the series E6.29.080.075.0 (unsupported length).

Technical data

Speed gliding[1] / acceleration gliding[1]	upon request
Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
igumid GE side part material - permitted temperature °C	upon request
igumid G crossbar material, permitted temperature °C	upon request
Scalable crossbar material, igumid TE - permitted temperature °C	upon request
Flammability class	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

1) If a gliding application is required for a long travel, please consult igus®.

Installation types, maximum travels

Series	Unsupported	Gliding[1]	Vertical hanging	Vertical standing	Side mounted unsupported
E6.29 / R6.29	≤ 3.50m	upon request	≤ 30m	≤ 2.0m	upon request
E6.35	≤ 3.80m	upon request	≤ 30m	≤ 2.0m	upon request
E6.40 / R6.40	≤ 5.00m	upon request	≤ 30m	≤ 2.0m	upon request
E6.52 / R6.52	≤ 6.00m	upon request	≤ 50m	≤ 2.0m	upon request
E6.62	≤ 8.00m	upon request	≤ 60m	≤ 3.0m	upon request
E6.80L	≤ 5.00m	upon request	≤ 60m	≤ 4.0m	upon request
E6.80	≤ 10.5m	upon request	≤ 60m	≤ 4.0m	upon request

1) If a gliding application is required for a long travel, please consult igus®.

Options with order keys | Examples based on series E6.52

	Standard	*NC version - (No Camber) without pretension*
	Part No. Standard	Part No. NC version
	Standard	NC
	E6.52.100.*R*.0	E6.52.100.*R*.0.NC
	Ready to ship in 72hrs.*	Ready to ship in 12 business days*

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E6.52

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 34 links	E6.52.100.075.0
+ Mounting brackets	KMA pivoting - 1 set	E6.520.100.12
Interior separation	with 2 separators assembled every 2nd link	2 x 38222
Order text:	1m E6.52.100.075.0 + E6.520.100.12 + 2 x 38222	

Order key

e-chain® E6.52.100.075.0
e-tube R6.52.100.075.0

Series / Type
Width index (depends on *Bi*)
Bend radius *R*
Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 72hrs.*

Above special colours upon request.

E6 | Series E6.29·R6.29 | Product range

Extremely low noise and vibration

29 e-chain® | 28 e-tube



e-chains® | Series E6.29 | Crossbars removable along the inner and outer radius
e-tubes | Series R6.29 | Lids removable along the inner and outer radius

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E6.29 [kg/m]	R6.29 [kg/m]
E6.29.030.*R*.0	R6.29.030.*R*.0	30	46	0.73	0.80
E6.29.040.*R*.0	R6.29.040.*R*.0	40	56	0.75	0.85
E6.29.050.*R*.0	R6.29.050.*R*.0	50	66	0.78	0.89
E6.29.060.*R*.0	R6.29.060.*R*.0	60	76	0.80	0.94
E6.29.070.*R*.0	R6.29.070.*R*.0*	70	86	0.83	0.97
E6.29.080.*R*.0	R6.29.080.*R*.0	80	96	0.85	1.03
E6.29.090.*R*.0	R6.29.090.*R*.0*	90	106	0.88	1.08
E6.29.100.*R*.0	R6.29.100.*R*.0*	100	116	0.90	1.13
E6.29.110.*R*.0	R6.29.110.*R*.0	110	126	0.93	1.18
E6.29.120.*R*.0	R6.29.120.*R*.0	120	136	0.95	1.22
E6.29.140.*R*.0	– 140.*R*.0	140	156	1.00	–

*Width available upon request. Delivery time upon request.

Available bend radii

R [mm] | 055 | 075 | 100 | 150 |

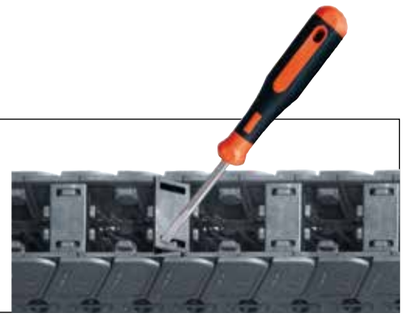
Complete Part No. with required radius (*R*). Example:

E6.29.080.100.0 = e-chain® / R6.29.080.100.0 = e-tube

Installation note - system E6

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

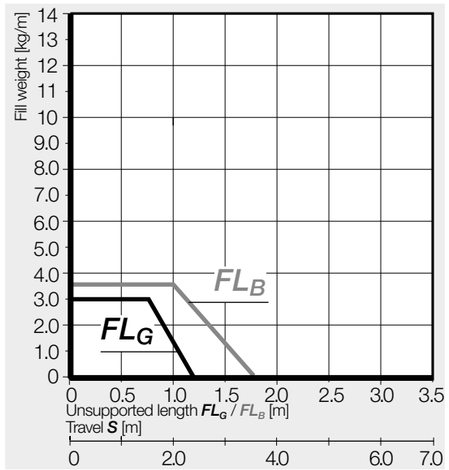
An assembly video is available online at ▶ www.igus.eu/E6_assembly

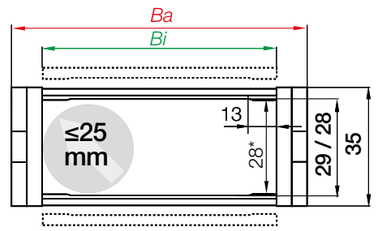


E6 | Series 6.29·R6.29 | Installation dimensions

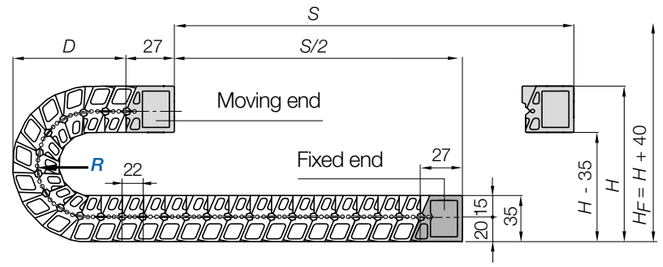
Unsupported applications | Short travels

▶ 1392 ▶ 1312





E6.29 Inner height [mm]	29
R6.29 Inner height [mm]	28
Pitch [mm/link]	22
Links/m	46
corresponds to [mm]	1,012
e-chain® length	$L_K = S/2 + K$



R	055	075	100	150
H	180	220	270	370
D	108	128	153	203
K	220	280	360	520

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362



Steel support tray for support of the lower run

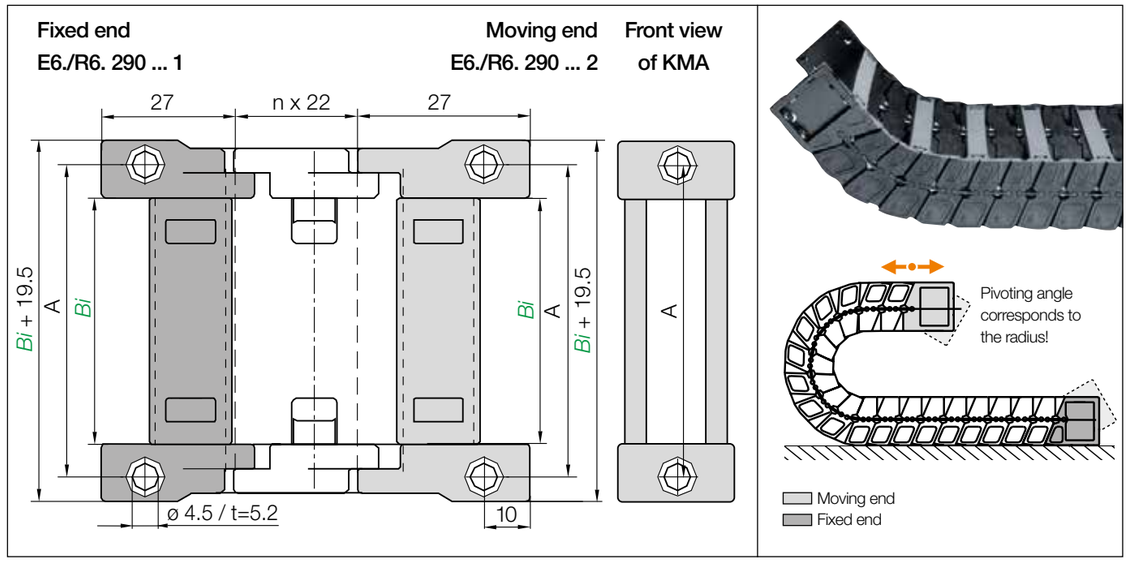
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6 | Series E6.29·R6.29 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting

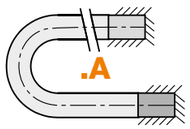


KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set KMA pivoting			A [mm]	Bi [mm]
030. ▶	E6.290.	R6.290.	030.12	40	30
040. ▶	E6.290.	R6.290.	040.12	50	40
050. ▶	E6.290.	R6.290.	050.12	60	50
060. ▶	E6.290.	R6.290.	060.12	70	60
070. ▶	E6.290.	R6.290.*	070.12	80	70
080. ▶	E6.290.	R6.290.	080.12	90	80
090. ▶	E6.290.	R6.290.*	090.12	100	90
100. ▶	E6.290.	R6.290.*	100.12	110	100
110. ▶	E6.290.	R6.290.	110.12	120	110
120. ▶	E6.290.	R6.290.	120.12	130	120
140. ▶	E6.290	–	140.12	150	140

*Width available upon request. Delivery time upon request.

(KMA = polymer metal mounting bracket)



The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket pre-fitted please add index **.A** .

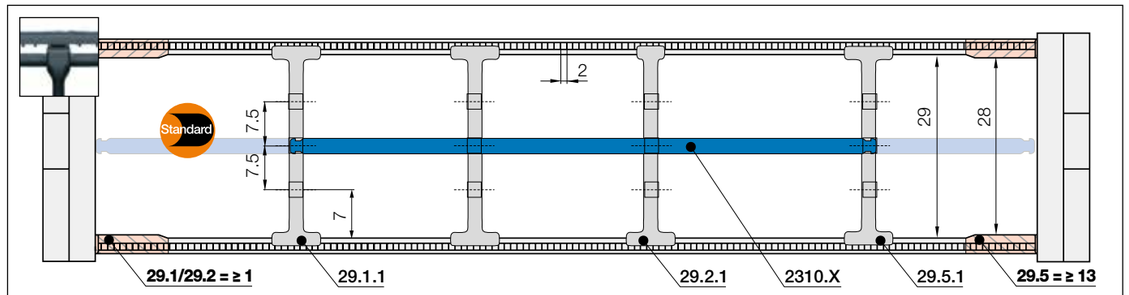
E6.290.080.12.A **Order example**
- Pre-assembled
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

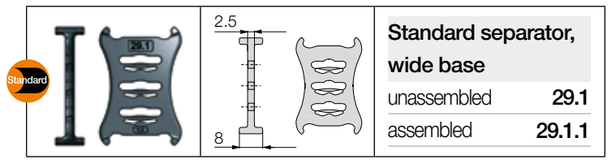
E6 | e-chains® E6.29 | Accessories

Interior separation | Increase cable service life (only for e-chains®, for e-tubes ▶ next page)

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.2**



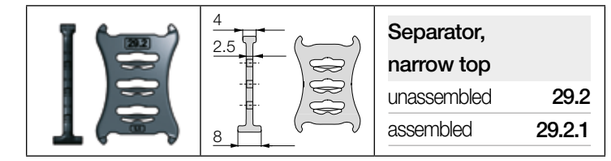
Note: Please be aware of the minimum lateral gap to the side links! **29.1/29.2 = 1mm** | **29.5 = 13mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	29.1
assembled	29.1.1

Standard - for any application

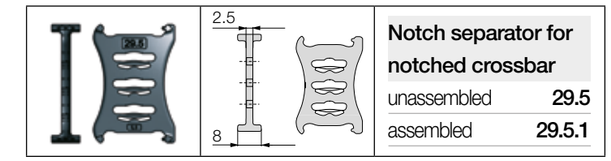
Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	29.2
assembled	29.2.1

For even faster installation

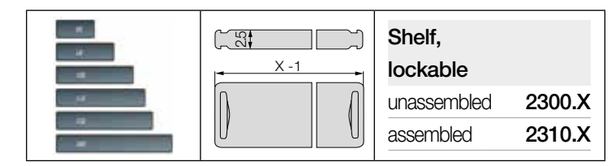
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar	
unassembled	29.5
assembled	29.5.1

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



Shelf, lockable	
unassembled	2300.X
assembled	2310.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	2300.015	2310.015	060	2300.060	2310.060	087	2300.87	2310.087
025	2300.025	2310.025	062	2300.062	2310.062	090	2300.90	2310.090
030	2300.030	2310.030	065	2300.065	2310.065	100	2300.100	2310.100
038	2300.038	2310.038	070	2300.070	2310.070	103	2300.103	2310.103
040	2300.040	2310.040	075	2300.075	2310.075	110	2300.110	2310.110
050	2300.050	2310.050	077	2300.077	2310.077	120	2300.120	2310.120
057	2300.057	2310.057	080	2300.080	2310.080	125	2300.125	2310.125

Separator with integrated strain relief teeth

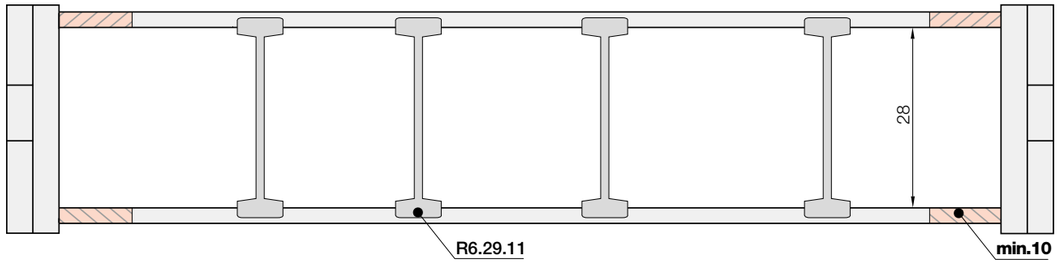
- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.35.02.Z - more information ▶ From page 1428

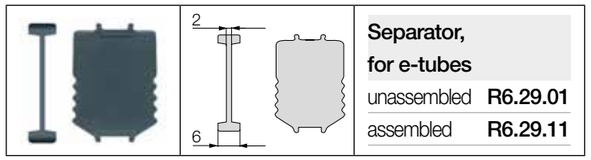


E6 | e-tubes R6.29 | Accessories

Interior separation (only for e-tubes, for e-chains® ▶ previous page)



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 10mm**
As standard separators are fitted every 2nd e-chain® link!



Separator, for e-tubes	
unassembled	R6.29.01
assembled	R6.29.11

Separator for e-tubes

Notches on the separator indicate the clamping side of the separator. The notches on this separator mark the side that fixes to the lid.

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. R6.35.02.Z - more information▶ From page 1428

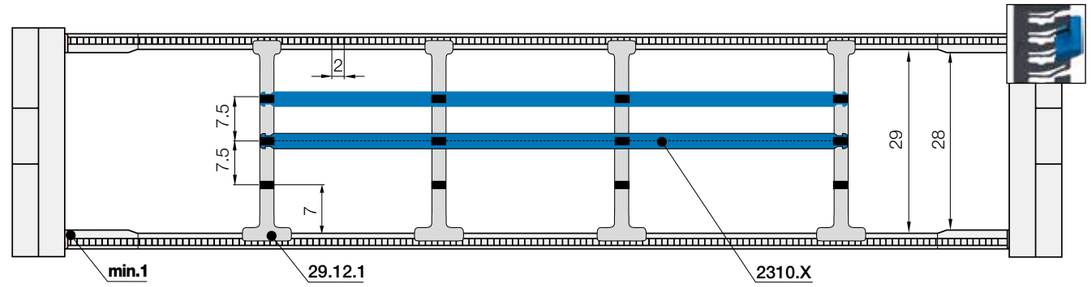




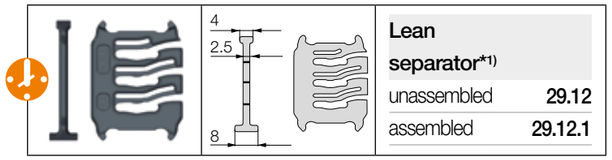
e-chain® from the E6 range accelerates work processes in the wafer-handling application in chip production

E6 | e-chains® E6.29 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =1mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator*1)	
unassembled	29.12
assembled	29.12.1

Lean separators*1)

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

*Only suitable for e-chains®

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%2). 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab



E6 | Series E6.35 | Product range

Extremely low noise and vibration

35



e-chains® | Series E6.35 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.35 [kg/m]
E6.35. 030. R.0	30	50	0.88
E6.35. 040. R.0	40	60	0.90
E6.35. 050. R.0	50	70	0.92
E6.35. 060. R.0	60	80	0.94
E6.35. 070. R.0	70	90	0.96
E6.35. 080. R.0	80	100	0.99
E6.35. 090. R.0	90	110	1.01
E6.35. 100. R.0	100	120	1.03
E6.35. 110. R.0	110	130	1.05
E6.35. 120. R.0	120	140	1.07
E6.35. 140. R.0	140	160	1.11

Available bend radii

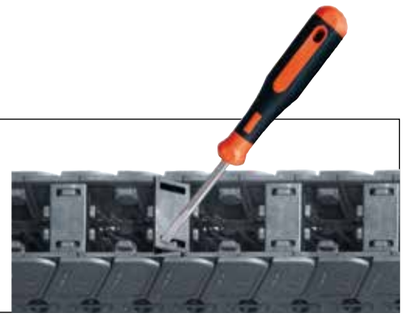
R [mm] | 055 | 075 | 100 | 150 |

Complete Part No. with required radius (R). Example: **E6.35.100.100.0**

Installation note - system E6

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

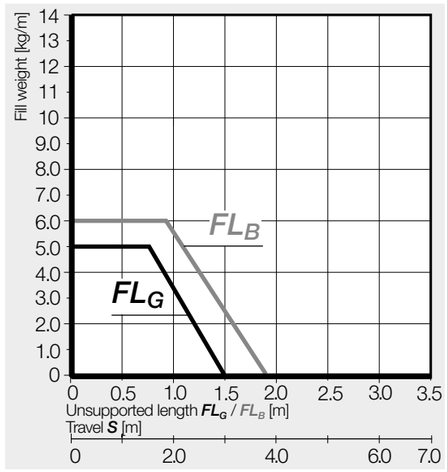
An assembly video is available online at ▶ www.igus.eu/E6_assembly

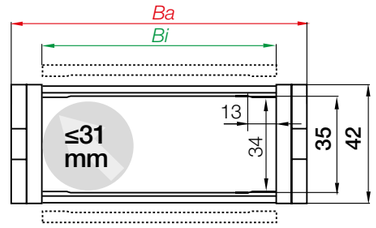


E6 | Series E6.35 | Installation dimensions

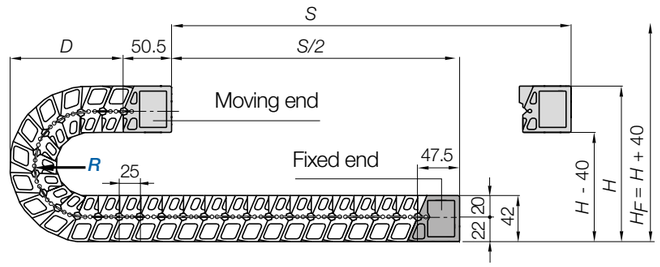
Unsupported applications | Short travels

▶ 1392 ▶ 1314





Inner height [mm]	35
Pitch [mm/link]	25
Links/m	40
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	055	075	100	150
H	189	229	279	379
D	115	135	160	210
K	225	290	365	525

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

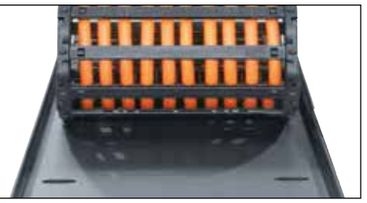
More information ▶ From page 1362



Steel support tray for support of the lower run

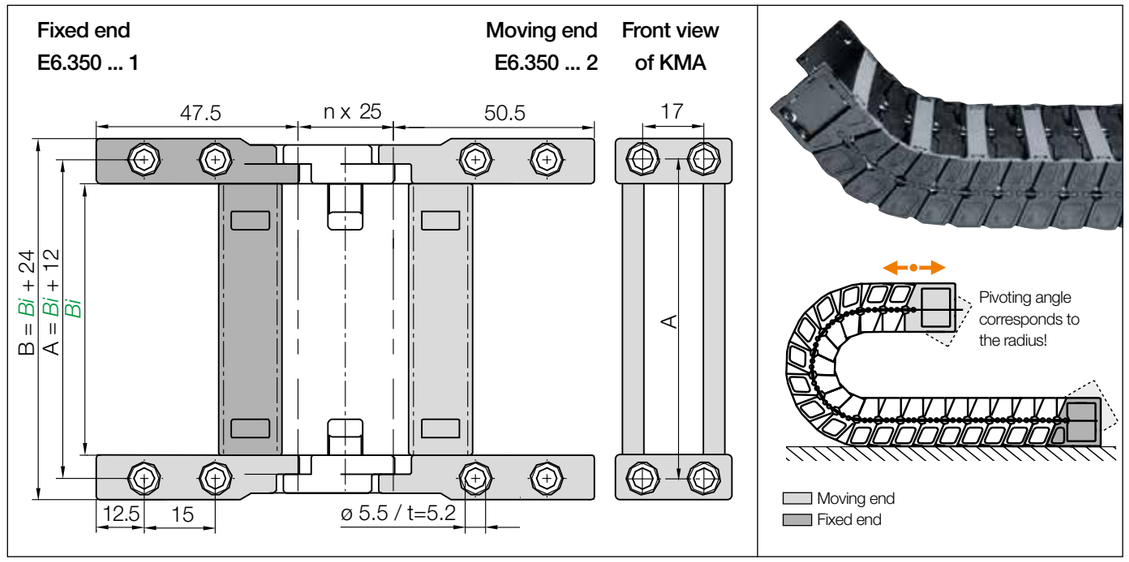
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6 | Series E6.35 | Accessories

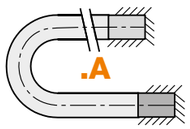
KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
030. ▶	E6.350. 030.12	42	54	30
040. ▶	E6.350. 040.12	52	64	40
050. ▶	E6.350. 050.12	62	74	50
060. ▶	E6.350. 060.12	72	84	60
070. ▶	E6.350. 070.12	82	94	70
080. ▶	E6.350. 080.12	92	104	80
090. ▶	E6.350. 090.12	102	114	90
100. ▶	E6.350. 100.12	112	124	100
110. ▶	E6.350. 110.12	122	134	110
120. ▶	E6.350. 120.12	132	144	120
140. ▶	E6.350. 140.12	152	164	140

(KMA = polymer metal mounting bracket)



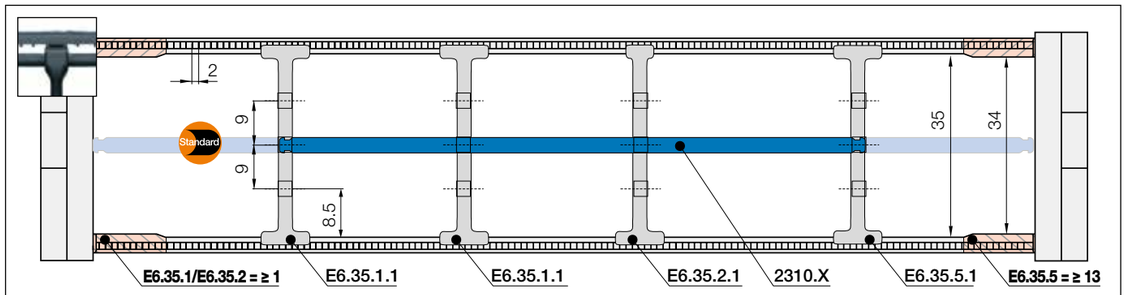
The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket pre-fitted please add index **.A** .

E6.350.100.12.A **Order example**
- Pre-assembled
- Full set
- width index
- Series

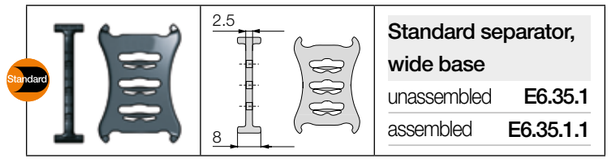
Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.35**



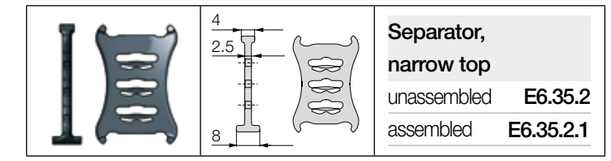
Note: Please be aware of the minimum lateral gap to the side links! **E6.35.1/E6.35.2 = 1mm** | **E6.35.5 = 13mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.35.1**
assembled **E6.35.1.1**

Standard - for any application

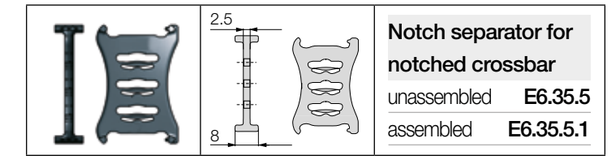
Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **E6.35.2**
assembled **E6.35.2.1**

For even faster installation

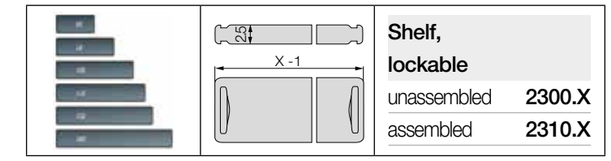
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar
unassembled **E6.35.5**
assembled **E6.35.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.35.02.Z - more information ▶ From page 1428



E6 | Series E6.40·R6.40 | Product range

Extremely low noise and vibration

40



e-chains® | Series E6.40 | Crossbars removable along the inner and outer radius
e-tubes | Series R6.40 | Lids removable along the inner and outer radius

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E6.40 [kg/m]	R6.40 [kg/m]
E6.40. 040.R.0	R6.40. 040.R.0*	40	60	≈ 1.29	–
E6.40. 050.R.0	R6.40. 050.R.0*	50	70	≈ 1.33	–
E6.40. 052.R.0	R6.40. 052.R.0*	52	72	≈ 1.34	–
E6.40. 062.R.0	R6.40. 062.R.0	62	82	≈ 1.38	≈ 1.59
E6.40. 070.R.0	R6.40. 070.R.0*	70	90	≈ 1.41	–
E6.40. 075.R.0	R6.40. 075.R.0*	75	95	≈ 1.43	–
E6.40. 087.R.0	R6.40. 087.R.0*	87	107	≈ 1.48	–
E6.40. 100.R.0	R6.40. 100.R.0*	100	120	≈ 1.53	–
E6.40. 125.R.0	R6.40. 125.R.0*	125	145	≈ 1.63	–
E6.40. 150.R.0	R6.40. 150.R.0*	150	170	≈ 1.73	–
E6.40. 175.R.0	R6.40. 175.R.0*	175	195	≈ 1.83	–
E6.40. 200.R.0	R6.40. 200.R.0*	200	220	≈ 1.93	–
E6.40. 225.R.0	R6.40. 225.R.0*	225	245	≈ 2.02	–
E6.40. 250.R.0	R6.40. 250.R.0*	250	270	≈ 2.12	–
E6.40. 275.R.0	R6.40. 275.R.0*	275	295	≈ 2.22	–
E6.40. 300.R.0	R6.40. 300.R.0*	300	320	≈ 2.32	–

*Width available upon request. Delivery time upon request.

Available bend radii

R [mm] | 063 | 075 | 100 | 125 | 150 | 200 |

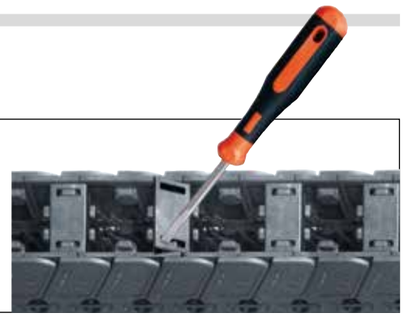
Complete Part No. with required radius (*R*). Example:

E6.40.62.100.0 = e-chain® / R6.40.62.100.0 = e-tube

Installation note - system E6

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

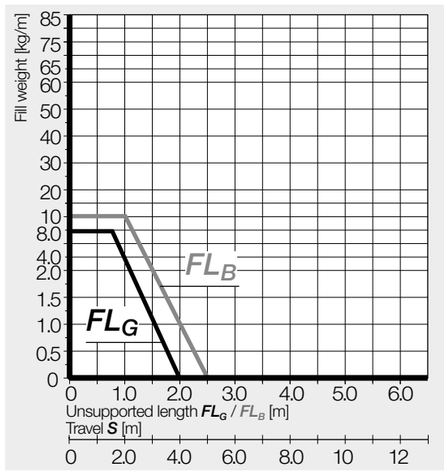
An assembly video is available online at ▶ www.igus.eu/E6_assembly

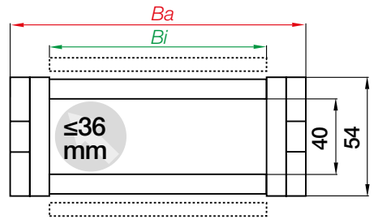


E6 | E6.40·R6.40 | Installation dimensions

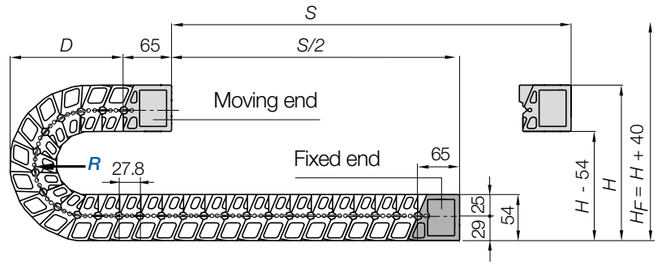
Unsupported applications | Short travels

▶ 1392 ▶ 1316





Inner height [mm]	40
Pitch [mm/link]	27.8
Links/m	36
corresponds to [mm]	1,001
e-chain® length	$L_K = S/2 + K$



R	063	075	100	125	150	200
H	224	248	298	348	398	498
D	134	146	171	196	221	271
K	255	295	370	450	530	685

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width
- Noise-reducing glide strip integrated as standard
- Easy installation and connection of the e-chain®
- Open design - dirt and debris fall through

More information ▶ From page 1362



Steel support tray for support of the lower run

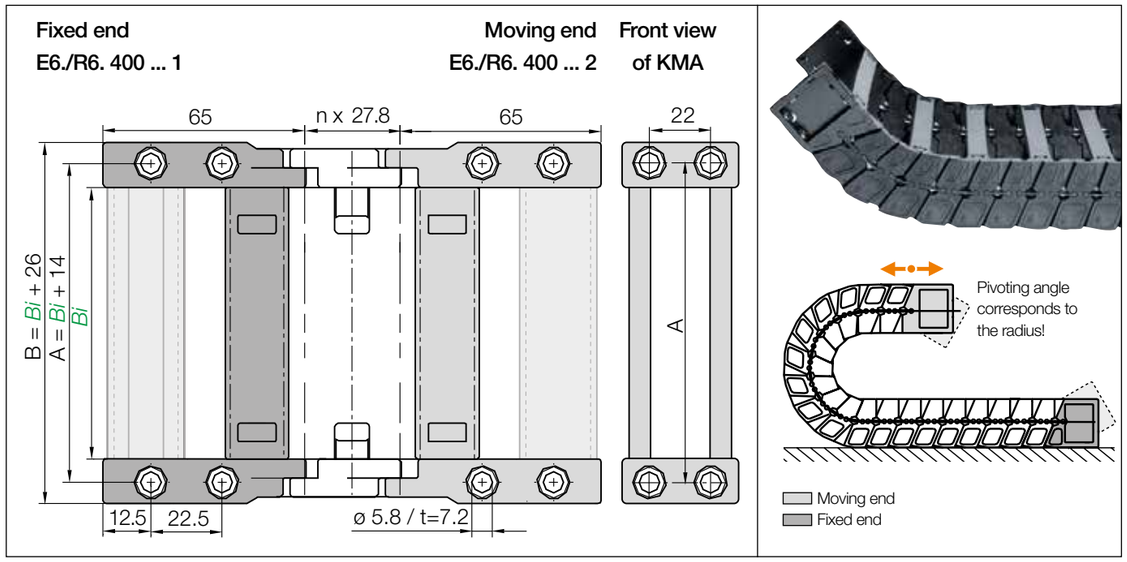
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6 | Series E6.40·R6.40 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set KMA pivoting			A [mm]	B [mm]	Bi [mm]
040. ▶	E6.400.	R6.400.*	040.12.C	54	66	40
050. ▶	E6.400.	R6.400.*	050.12.C	64	76	50
052. ▶	E6.400.	R6.400.*	052.12.C	66	78	52
062. ▶	E6.400.	R6.400.	062.12.C	76	88	62
070. ▶	E6.400.	R6.400.*	070.12.C	84	96	70
075. ▶	E6.400.	R6.400.*	075.12.C	89	101	75
087. ▶	E6.400.	R6.400.*	087.12.C	101	113	87
100. ▶	E6.400.	R6.400.*	100.12.C	114	126	100
125. ▶	E6.400.	R6.400.*	125.12.C	139	151	125
150. ▶	E6.400.	R6.400.*	150.12.C	154	176	150
175. ▶	E6.400.	R6.400.*	175.12.C	189	201	175
200. ▶	E6.400.	R6.400.*	200.12.C	214	226	200
225. ▶	E6.400.	R6.400.*	225.12.C	239	251	225
250. ▶	E6.400.	R6.400.*	250.12.C	264	276	250
275. ▶	E6.400.	R6.400.*	275.12.C	289	301	275
300. ▶	E6.400.	R6.400.*	300.12.C	314	326	300

*Width available upon request. Delivery time upon request.

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

E6.400.100.12.C.A2 **Order example**

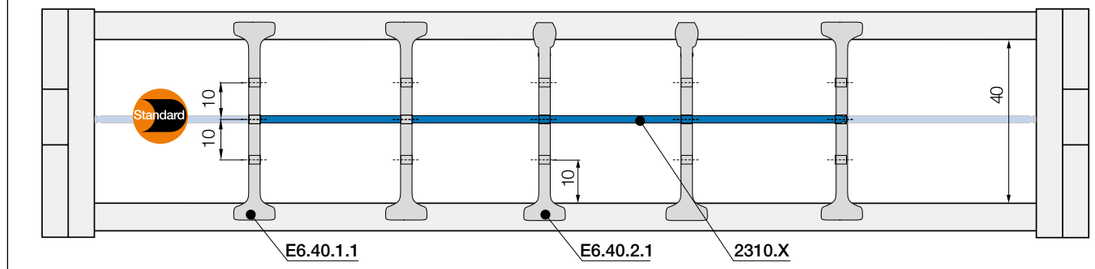
- .A ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E6 | e-chains® E6.40 | Accessories

Interior separation | Increase cable service life (only for e-chains®, for e-tubes ▶ next page)

Previous generation of interior separation with other options ▶**www.igus.eu/E6.40**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	**E6.40.1**
assembled	**E6.40.1.1**

Standard - for any application

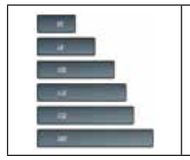
Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	**E6.40.2**
assembled	**E6.40.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



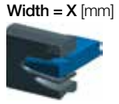
Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

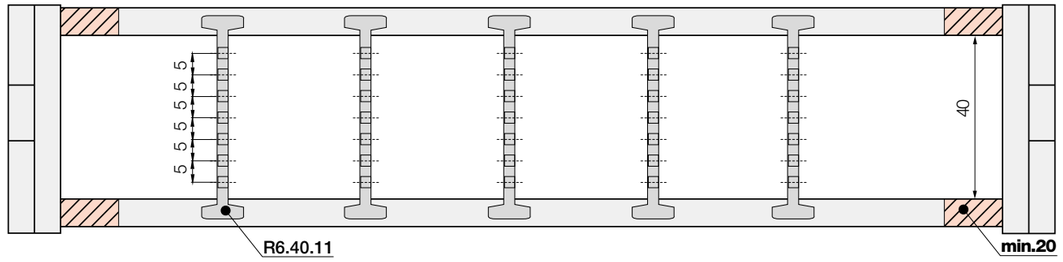
E6.40.02.Z - more information ▶ From page 1428



E6 | **e-tubes R6.40** | Accessories

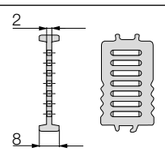
Interior separation | Only for e-tubes (e-chains® ▶ previous page)

Previous generation of interior separation with other options ▶ **www.igus.eu/R6.40**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 20mm**
As standard separators are fitted every 2nd e-chain® link!



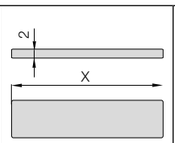


Separator, for e-tubes	
unassembled	**R6.40.01**
assembled	**R6.40.11**

Separator for e-tubes

Notches on the separator indicate the clamping side of the separator. The notches on this separator mark the side that fixes to the lid.





Full-width shelf for e-tubes	
unassembled	**110.X**
assembled	**111.X**

Full-width shelf for e-tubes

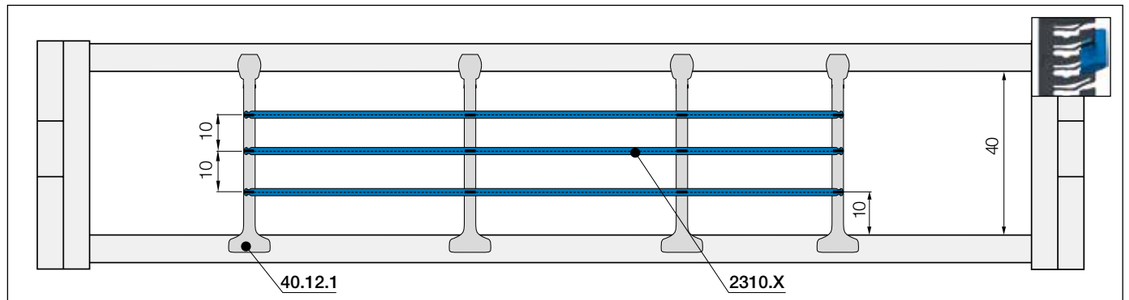
This option is for applications with many small cables with similar diameters for full-width separation.

Full-width shelves
Width = X [mm]

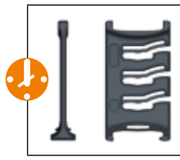
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
030	**110.30**	**111.30**	070	**110.70**	**111.70**	110	**110.110**	**111.110**
040	**110.40**	**111.40**	080	**110.80**	**111.80**	120	**110.120**	**111.120**
050	**110.50**	**111.50**	090	**110.90**	**111.90**			
060	**110.60**	**111.60**	100	**110.100**	**111.100**			

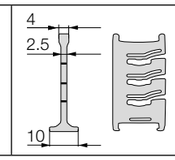
E6 | **e-chains® E6.40** | Accessories

Interior separation | To allow faster filling



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!





Lean separator*1)	
unassembled	**40.12**
assembled	**40.12.1**

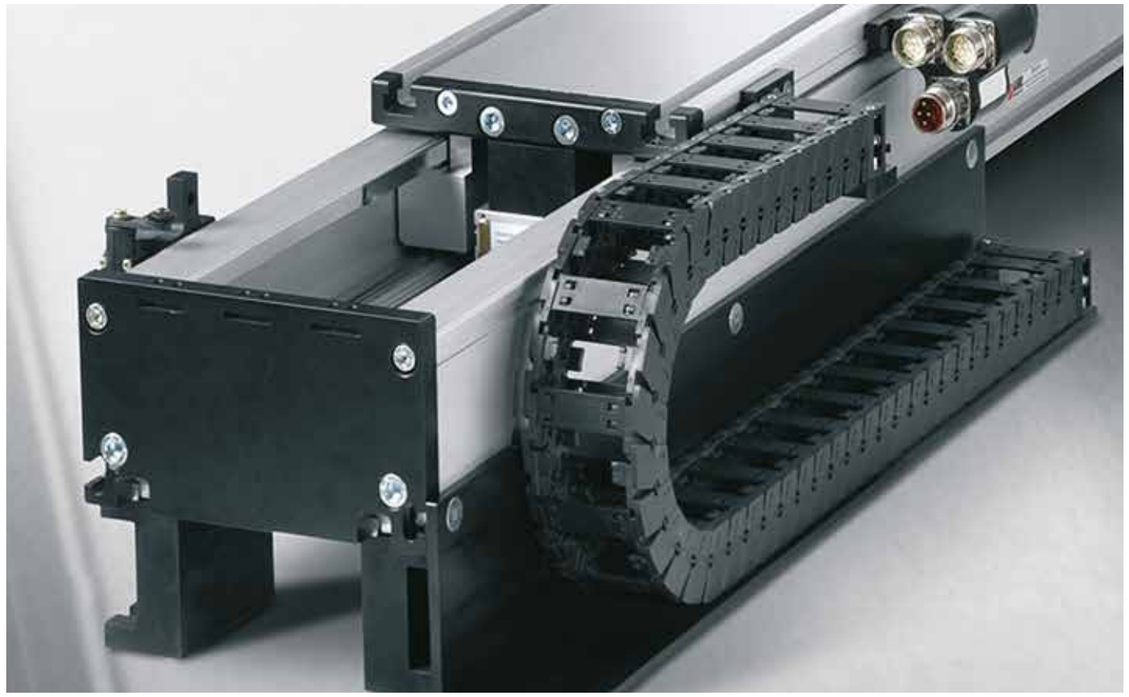
Lean separators*1)

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

*Only suitable for e-chains®

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%2). 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab





igus® system E6 on a linear drive for extremely high accelerations (over 10m/s²)

E6 | Series E6.52·R6.52 | Product range

52

Extremely low noise and vibration



e-chains® | Series E6.52 | Crossbars removable along the inner and outer radius
e-tubes | Series R6.52 | Lids removable along the inner and outer radius

Part No. e-chains®	Part No. e-tubes	Bi [mm]	Ba [mm]	E6.52 [kg/m]	R6.52 [kg/m]
E6.52. 040. R.0	R6.52. 040. R.0*	40	64	≈ 1.76	≈ 1.78
E6.52. 050. R.0	R6.52. 050. R.0	50	74	≈ 1.80	≈ 1.89
E6.52. 052. R.0	R6.52. 052. R.0*	52	66	≈ 1.81	≈ 1.92
E6.52. 062. R.0	R6.52. 062. R.0*	62	86	≈ 1.84	≈ 1.97
E6.52. 070. R.0	R6.52. 070. R.0*	70	94	≈ 1.87	≈ 2.07
E6.52. 075. R.0	R6.52. 075. R.0	75	99	≈ 1.89	≈ 2.12
E6.52. 087. R.0	R6.52. 087. R.0*	87	111	≈ 1.94	≈ 2.21
E6.52. 100. R.0	R6.52. 100. R.0	100	124	≈ 1.98	≈ 2.35
E6.52. 125. R.0	R6.52. 125. R.0	125	149	≈ 2.07	≈ 2.57
E6.52. 150. R.0	R6.52. 150. R.0	150	174	≈ 2.17	≈ 2.80
E6.52. 175. R.0	R6.52. 175. R.0	175	199	≈ 2.26	≈ 3.03
E6.52. 200. R.0	R6.52 200. R.0	200	224	≈ 2.36	≈ 3.25
E6.52. 225. R.0	R6.52. 225. R.0*	225	249	≈ 2.45	≈ 3.46
E6.52. 250. R.0	R6.52. 250. R.0*	250	274	≈ 2.54	≈ 3.68
E6.52. 275. R.0	R6.52. 275. R.0*	275	299	≈ 2.64	≈ 3.92
E6.52. 300. R.0	R6.52. 300. R.0*	300	324	≈ 2.73	≈ 4.15

*Width available upon request. Delivery time upon request.

Available bend radii

R [mm] | 075 | 100 | 125 | 150 | 200 | 250 |

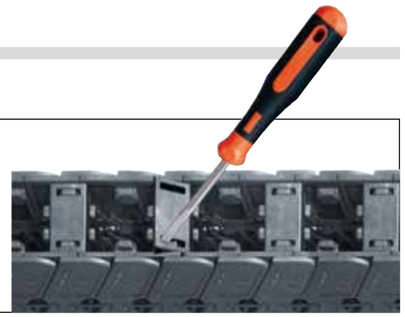
Complete Part No. with required radius (*R*). Example:

E6.52.100.100.0 = e-chain® / R6.52.100.100.0 = e-tube

Installation note - system E6

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

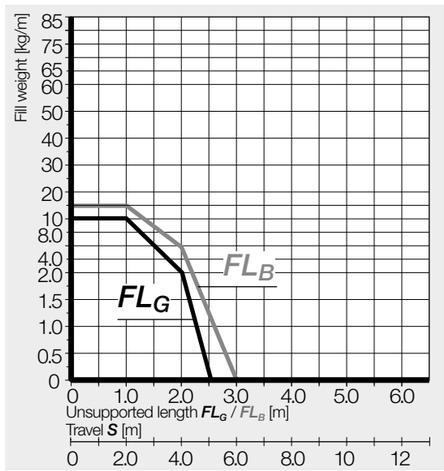
An assembly video is available online at ▶ www.igus.eu/E6_assembly

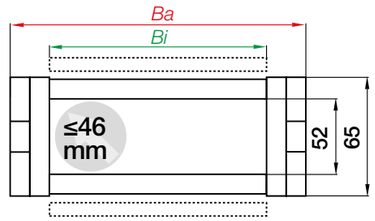


E6 | E6.52·R6.52 | Installation dimensions

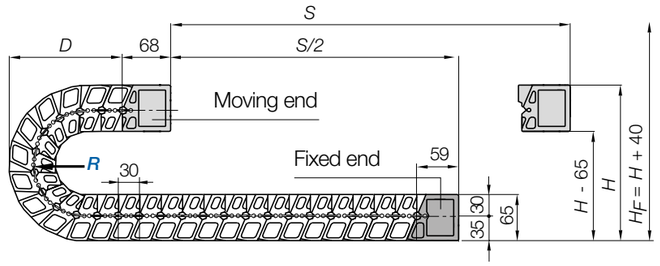
Unsupported applications | Short travels

▶ 1392 ▶ 1320





Inner height [mm]	52
Pitch [mm/link]	30
Links/m	34
corresponds to [mm]	1,020
e-chain® length	$L_K = S/2 + K$



R	063	075	100	125	150	200
H	224	248	298	348	398	498
D	134	146	171	196	221	271
K	255	295	370	450	530	685

The required clearance height: $H_F = H + 40$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

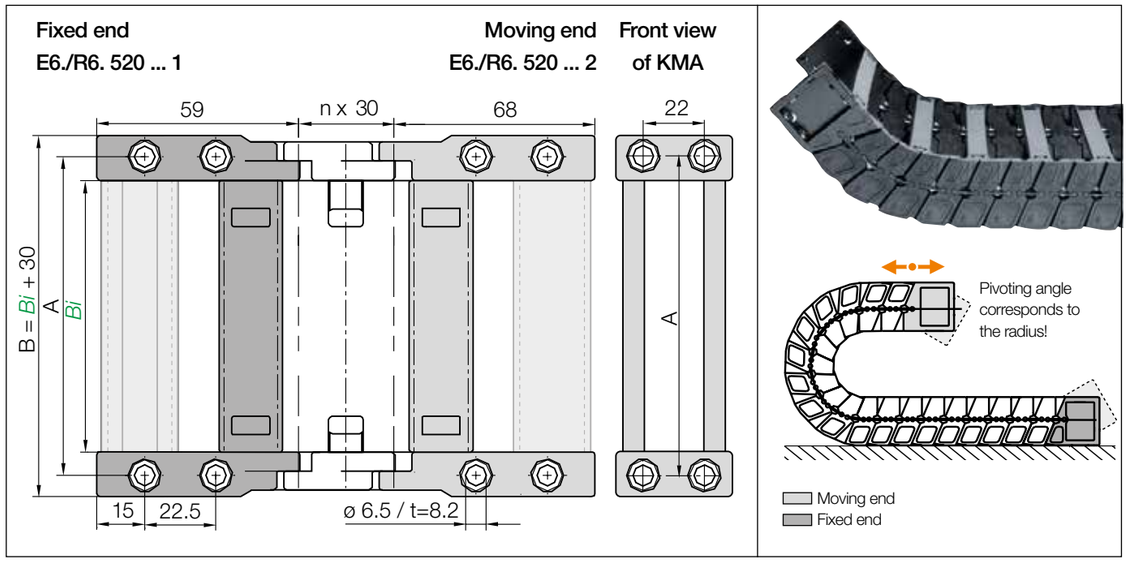
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6 | Series E6.52·R6.52 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

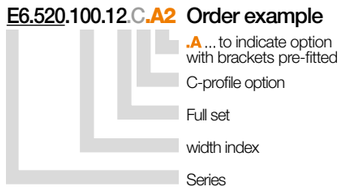
Width index	Part No. Full set KMA pivoting			A [mm]	B [mm]	Bi [mm]
040. ▶	E6.520.	R6.520.*	040.12.C	56	70	40
050. ▶	E6.520.	R6.520.	050.12.C	66	80	50
052. ▶	E6.520.	R6.520.*	052.12.C	68	82	52
062. ▶	E6.520.	R6.520.*	062.12.C	78	92	62
070. ▶	E6.520.	R6.520.*	070.12.C	86	100	70
075. ▶	E6.520.	R6.520.	075.12.C	91	105	75
087. ▶	E6.520.	R6.520.*	087.12.C	103	117	87
100. ▶	E6.520.	R6.520.	100.12.C	116	130	100
125. ▶	E6.520.	R6.520.	125.12.C	141	155	125
150. ▶	E6.520.	R6.520.	150.12.C	166	180	150
175. ▶	E6.520.	R6.520.	175.12.C	191	205	175
200. ▶	E6.520.	R6.520.	200.12.C	216	230	200
225. ▶	E6.520.	R6.520.*	225.12.C	241	255	225
250. ▶	E6.520.	R6.520.*	250.12.C	266	280	250
275. ▶	E6.520.	R6.520.*	275.12.C	291	300	275
300. ▶	E6.520.	R6.400.*	300.12.C	316	330	300

*Width available upon request. Delivery time upon request.

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

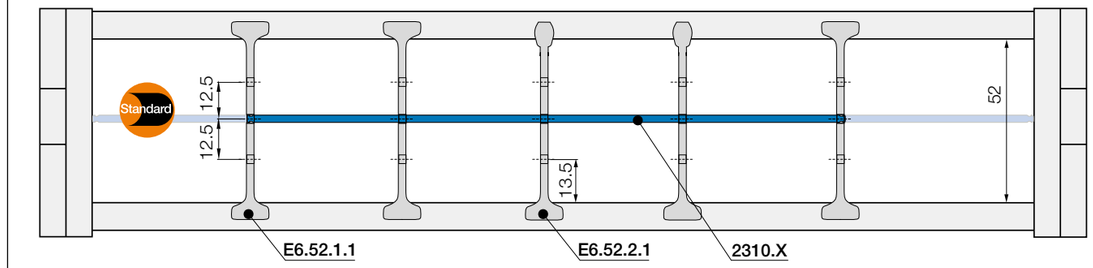


Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

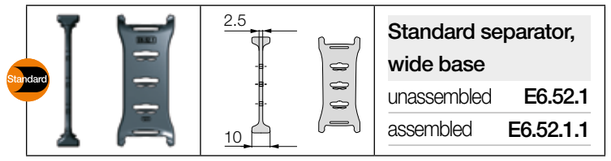
E6 | e-chains® E6.52 | Accessories

Interior separation | Increase cable service life (only for e-chains®, for e-tubes ▶ next page)

Previous generation of interior separation with other options ▶**www.igus.eu/E6.52**



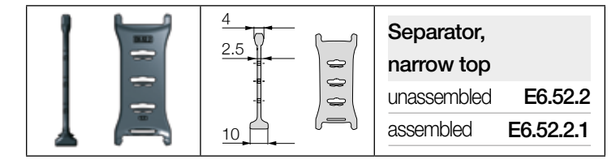
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **E6.52.1**
assembled **E6.52.1.1**

Standard - for any application

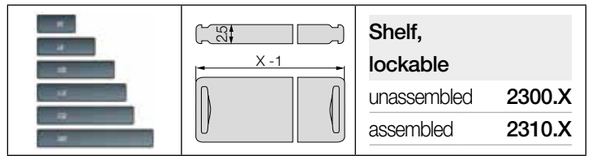
Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **E6.52.2**
assembled **E6.52.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



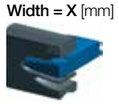
Shelf, lockable
unassembled **2300.X**
assembled **2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

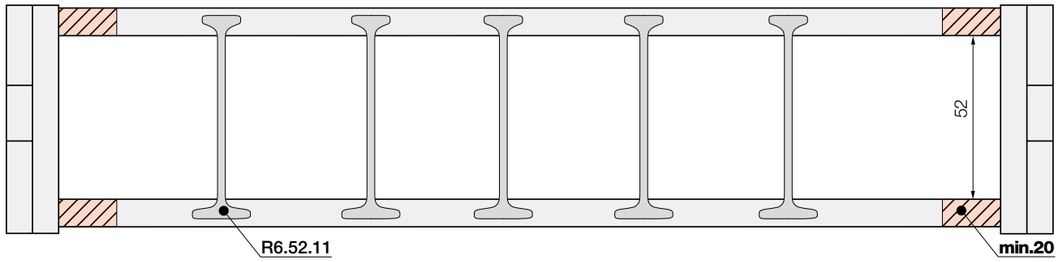


X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

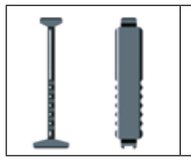
E6 | e-tubes R6.52 | Accessories

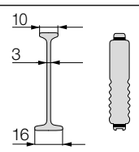
Interior separation | Only for e-tubes (e-chains® ▶ previous page)

Previous generation of interior separation with other options ▶ **www.igus.eu/R6.29**



Note: Please be aware of the minimum lateral gap to the side links! **e-tubes: 20mm**
As standard separators are fitted every 2nd e-chain® link!





Separator, for e-tubes	
unassembled	**R6.52.01**
assembled	**R6.52.11**

Separator for e-tubes

Notches on the separator indicate the clamping side of the separator. The notches on this separator mark the side that fixes to the lid.



Pre-assembled energy supply systems significantly reduce assembly times. As cleanroom compatibility is required in this positioning system, a cleaning protocol is provided with each pre-harnessed e-chain system®

E6 | Series E6.62 | Product range

Extremely low noise and vibration

62



e-chains® | Series E6.62 | Crossbars removable along the inner and outer radius

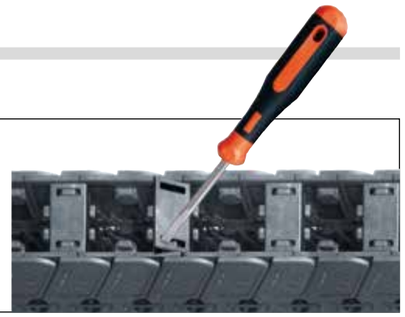
Part No. e-chains®	Bi [mm]	Ba [mm]	E6.62 [kg/m]
E6.62. 05. R.0	50	86	3.22
E6.62. 06. R.0	68	104	3.28
E6.62. 07. R.0	75	111	3.31
E6.62. 087. R.0	87	123	3.35
E6.62. 097. R.0	97	133	3.38
E6.62. 10. R.0	100	136	3.39
E6.62. 11. R.0	108	144	3.42
E6.62. 112. R.0	112	148	3.43
E6.62. 12. R.0	125	161	3.48
E6.62. 137. R.0	137	173	3.52
E6.62. 15. R.0	150	186	3.57
E6.62. 162. R.0	162	198	3.61
E6.62. 17. R.0	168	204	3.63
E6.62. 18. R.0	175	211	3.65
E6.62. 187. R.0	187	223	3.69
E6.62. 20. R.0	200	236	3.74

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.62 [kg/m]
E6.62. 212. R.0	212	248	3.78
E6.62. 23. R.0	225	261	3.83
E6.62. 237. R.0	237	273	3.87
E6.62. 25. R.0	250	286	3.91
E6.62. 262. R.0	262	298	3.95
E6.62. 28. R.0	275	311	4.00
E6.62. 29. R.0	287	323	4.04
E6.62. 30. R.0	300	336	4.09
E6.62. 312. R.0	312	348	4.13
E6.62. 325. R.0	325	361	4.17
E6.62. 337. R.0	337	373	4.21
E6.62. 350. R.0	350	386	4.26
E6.62. 362. R.0	362	398	4.30
E6.62. 375. R.0	375	411	4.35
E6.62. 387. R.0	387	423	4.39
E6.62. 400. R.0	400	436	4.43

Available bend radii

R [mm] | 115 | 150 | 200 | 250 | 300 | 350 |

Complete Part No. with required radius (R). Example: **E6.62.10.250.0**



Installation note - system E6

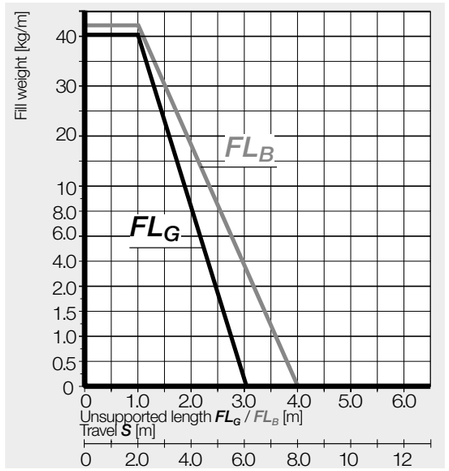
To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

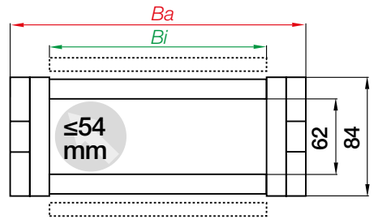
An assembly video is available online at ▶ www.igus.eu/E6_assembly

E6 | Series E6.62 | Installation dimensions

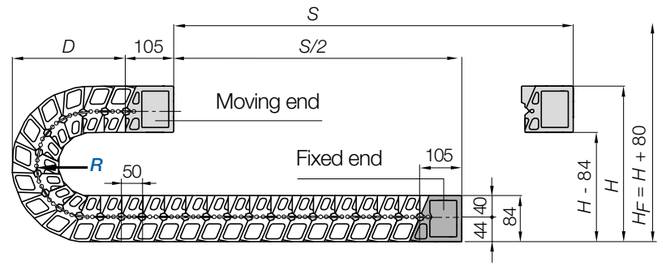
Unsupported applications | Short travels

▶ 1392 ▶ 1322





Inner height [mm]	62
Pitch [mm/link]	50
Links/m	20
corresponds to [mm]	1,000
e-chain® length	$L_K = S/2 + K$



R	115	150	200	250	300	350
H	388	458	558	658	758	858
D	234	269	319	369	419	469
K	465	575	730	890	1,045	1,200

The required clearance height: $H_F = H + 80$mm (with 2.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

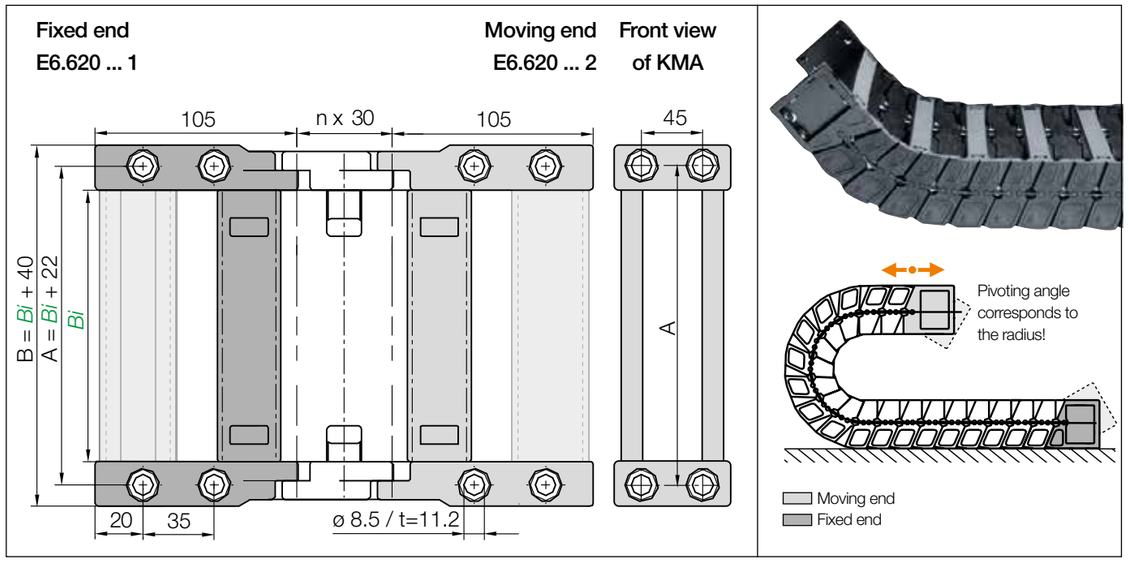
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6 | Series E6.62 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
05. ▶	E6.620. 05. 12.C	72	90	50
06. ▶	E6.620. 06. 12.C	90	108	68
07. ▶	E6.620. 07. 12.C	97	115	75
087. ▶	E6.620. 087.12.C	109	127	87
097. ▶	E6.620. 097.12.C	119	137	97
10. ▶	E6.620. 10. 12.C	122	140	100
11. ▶	E6.620. 11. 12.C	130	148	108
112. ▶	E6.620. 112.12.C	134	152	112
12. ▶	E6.620. 12. 12.C	147	165	125
137. ▶	E6.620. 137.12.C	159	177	137
15. ▶	E6.620. 15. 12.C	172	190	150
162. ▶	E6.620. 162.12.C	184	202	162
17. ▶	E6.620. 17. 12.C	190	208	168
18. ▶	E6.620. 18. 12.C	197	215	175
187. ▶	E6.620. 187.12.C	209	227	187
20. ▶	E6.620. 20. 12.C	222	240	200

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
212. ▶	E6.620. 212.12.C	234	252	212
23. ▶	E6.620. 23. 12.C	247	265	225
237. ▶	E6.620. 237.12.C	259	277	237
25. ▶	E6.620. 25. 12.C	272	290	250
262. ▶	E6.620. 262.12.C	284	302	262
28. ▶	E6.620. 28. 12.C	297	315	275
29. ▶	E6.620. 29. 12.C	309	327	287
30. ▶	E6.620. 30. 12.C	322	340	300
312 ▶	E6.620. 312.12.C	334	352	312
325. ▶	E6.620. 325.12.C	347	365	325
337. ▶	E6.620. 337.12.C	359	377	337
350. ▶	E6.620. 350.12.C	372	390	350
362 ▶	E6.620. 362.12.C	384	402	362
375. ▶	E6.620. 375.12.C	397	415	375
387. ▶	E6.620. 387.12.C	409	427	387
400. ▶	E6.620. 400.12.C	422	440	400

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

E6.620.10.12.C.A2 **Order example**

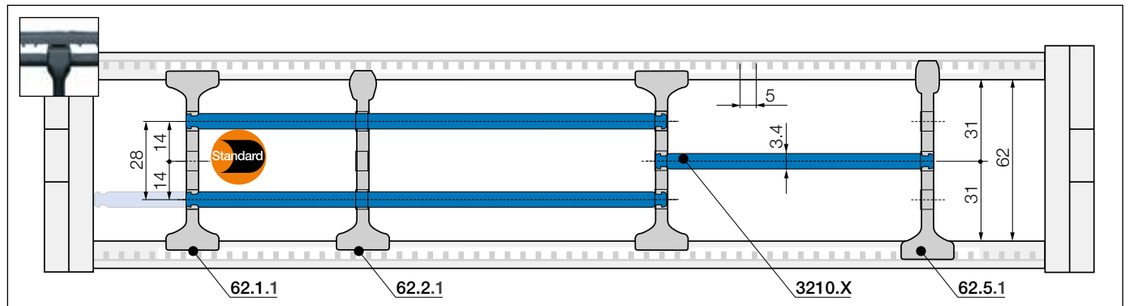
- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- width index
- Series

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E6 | Series E6.62 | Accessories

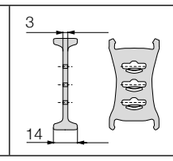
Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.62**



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



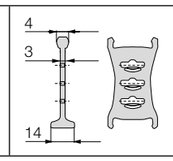


Standard separator, wide base
unassembled **62.1**
assembled **62.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



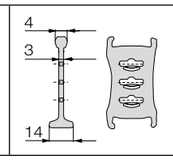


Separator, narrow top
unassembled **62.2**
assembled **62.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

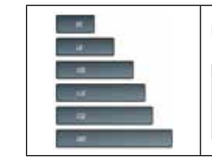


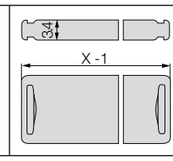


Notch separator* for notched crossbar
unassembled **62.5**
assembled **62.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.
(*Suitable from *Bi* 75)





Shelf, lockable
unassembled **3200.X**
assembled **3210.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**3200.050**	**3210.050**	125	**3200.125**	**3210.125**	225	**3200.225**	**3210.225**
075	**3200.075**	**3210.075**	150	**3200.150**	**3210.150**	250	**3200.250**	**3210.250**
100	**3200.100**	**3210.100**	175	**3200.175**	**3210.175**			
115	**3200.115**	**3210.115**	200	**3200.200**	**3210.200**			

E6 | Series E6.80L | Product range

Extremely low noise and vibration

80



e-chains® | Series E6.80L | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.80L [kg/m]
E6.80L. 08. R.0	87	115	3.28
E6.80L. 10. R.0	100	128	3.33
E6.80L. 11. R.0	112	140	3.38
E6.80L. 12. R.0	125	153	3.43
E6.80L. 13. R.0	137	165	3.49
E6.80L. 15. R.0	150	178	3.55
E6.80L. 16. R.0	162	190	3.61
E6.80L. 17. R.0	175	203	3.67
E6.80L. 18. R.0	187	215	3.73
E6.80L. 20. R.0	200	228	3.79
E6.80L. 21. R.0	212	240	3.85
E6.80L. 22. R.0	225	253	3.91
E6.80L. 23. R.0	237	265	3.97
E6.80L. 25. R.0	250	278	4.02
E6.80L. 26. R.0	262	290	4.09
E6.80L. 27. R.0	275	303	4.14
E6.80L. 28. R.0	287	315	4.20
E6.80L. 30. R.0	300	328	4.26
E6.80L. 31. R.0	312	340	4.32

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.80L [kg/m]
E6.80L. 32. R.0	325	353	4.38
E6.80L. 33. R.0	337	365	4.44
E6.80L. 35. R.0	350	378	4.50
E6.80L. 36. R.0	362	390	4.56
E6.80L. 37. R.0	375	403	4.62
E6.80L. 38. R.0	387	415	4.68
E6.80L. 40. R.0	400	428	4.74
E6.80L. 41. R.0	412	440	4.80
E6.80L. 42. R.0	425	453	4.85
E6.80L. 43. R.0	437	465	4.92
E6.80L. 45. R.0	450	478	5.03
E6.80L. 46. R.0	462	490	5.09
E6.80L. 47. R.0	475	503	5.15
E6.80L. 48. R.0	487	515	5.21
E6.80L. 50. R.0	500	528	5.27
E6.80L. 51. R.0	512	540	5.33
E6.80L. 52. R.0	525	553	5.39
E6.80L. 53. R.0	537	565	5.45
E6.80L. 55. R.0	550	578	5.51

Available bend radii

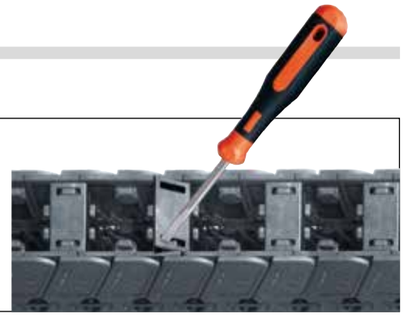
R [mm] | 150 | 175 | 200 | 250 | 300 |

Complete Part No. with required radius (*R*). Example: **E6.80L.10.175.0**

Installation note - system E6

To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

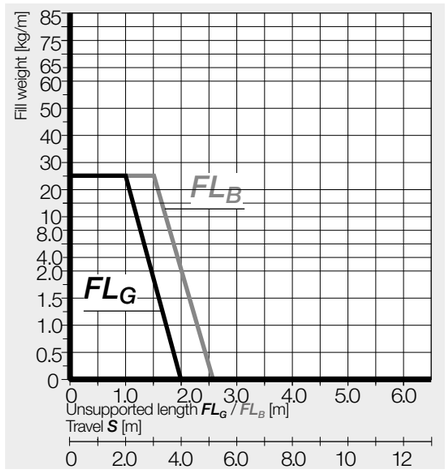
An assembly video is available online at ▶ www.igus.eu/E6_assembly

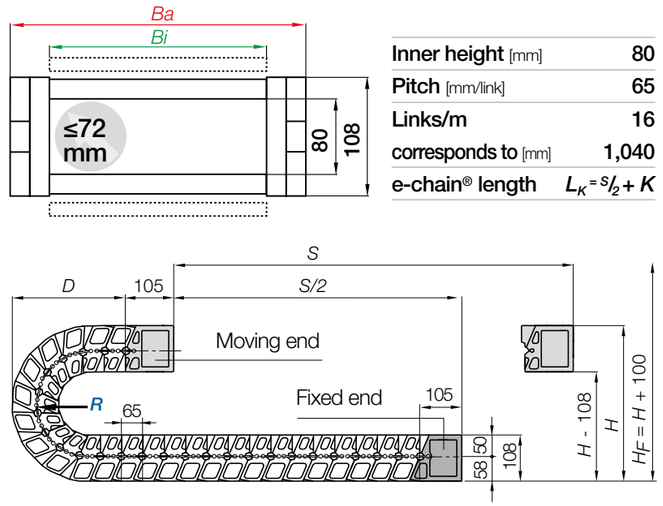


E6 | Series E6.80L | Installation dimensions

Unsupported applications | Short travels

▶ 1392 ▶ 1324





R	150	175	200	250	300
H	516	566	616	716	816
D	306	331	356	406	456
K	605	680	760	915	1,075

Inner height [mm]	80
Pitch [mm/link]	65
Links/m	16
corresponds to [mm]	1,040
e-chain® length	$L_K = S/2 + K$

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

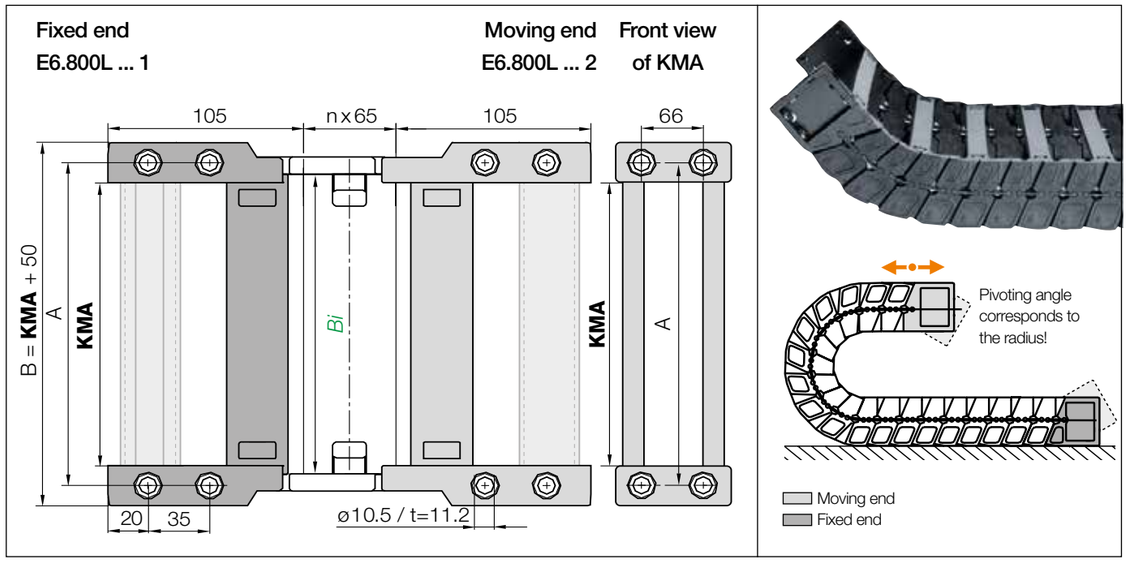
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6 | Series E6.80L | Accessories

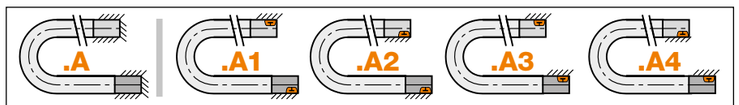
KMA mounting brackets | Attachment from any side | Pivoting



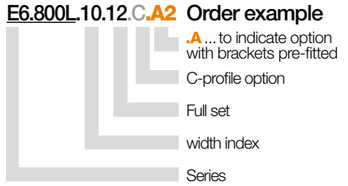
KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set KMA pivoting	A [mm]	KMA [mm]
08. ▶	E6.800L.08. 12.C	103	75
10. ▶	E6.800L.10. 12.C	115	87
11. ▶	E6.800L.11. 12.C	128	100
12. ▶	E6.800L.12. 12.C	140	112
13. ▶	E6.800L.13. 12.C	153	125
15. ▶	E6.800L.15. 12.C	165	137
16. ▶	E6.800L.16. 12.C	178	150
17. ▶	E6.800L.17. 12.C	190	162
18. ▶	E6.800L.18. 12.C	203	175
20. ▶	E6.800L.20. 12.C	215	187
21. ▶	E6.800L.21. 12.C	228	200
22. ▶	E6.800L.22. 12.C	240	212
23. ▶	E6.800L.23. 12.C	253	225
25. ▶	E6.800L.25. 12.C	265	237
26. ▶	E6.800L.26. 12.C	278	250
27. ▶	E6.800L.27. 12.C	290	262
28. ▶	E6.800L.28. 12.C	303	275
30. ▶	E6.800L.30. 12.C	315	287
31. ▶	E6.800L.31. 12.C	328	300
32. ▶	E6.800L.32. 12.C	340	312
33. ▶	E6.800L.33. 12.C	353	325
35. ▶	E6.800L.35. 12.C	365	337
36. ▶	E6.800L.36. 12.C	378	350
37. ▶	E6.800L.37. 12.C	390	362
38. ▶	E6.800L.38. 12.C	403	375
40. ▶	E6.800L.40. 12.C	415	387
41. ▶	E6.800L.41. 12.C	428	400
42. ▶	E6.800L.42. 12.C	440	412
43. ▶	E6.800L.43. 12.C	453	425
45. ▶	E6.800L.45. 12.C	465	437
46. ▶	E6.800L.46. 12.C	478	450
47. ▶	E6.800L.47. 12.C	490	462
48. ▶	E6.800L.48. 12.C	503	475
50. ▶	E6.800L.50. 12.C	515	487
51. ▶	E6.800L.51. 12.C	528	500
52. ▶	E6.800L.52. 12.C	540	512
53. ▶	E6.800L.53. 12.C	553	525
55. ▶	E6.800L.55. 12.C	565	537

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach index **.A** . For types pre-fitted **with C-profile** please attach index **.A1**, **.A2**, **.A3** or **.A4**.

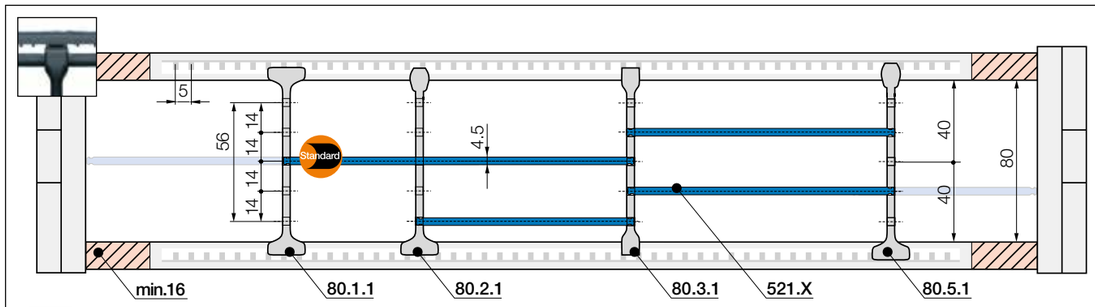


Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E6 | Series E6.80L | Accessories

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.80L**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	80.1
assembled	80.1.1

Standard - for any application

Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	80.2
assembled	80.2.1

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	80.3
assembled	80.3.1

For a large number of thin cables

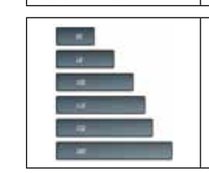
Separator with a narrow base for a large number of thin cables side by side. Saves space.



Notch separator for notched crossbar	
unassembled	80.5
assembled	80.5.1

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



Shelf, lockable	
unassembled	520.X
assembled	521.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

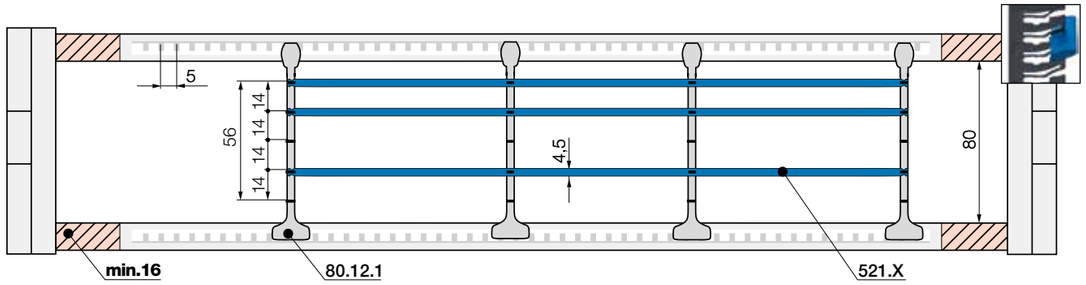
Width = X [mm]



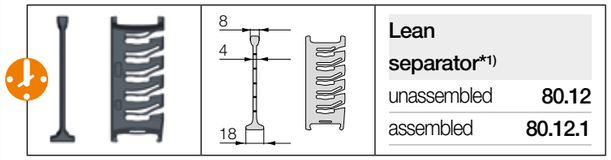
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	520.050	521.050	150	520.150	521.150	300	520.300	521.300
065	520.065	521.065	175	520.175	521.175	350	520.350	521.350
075	520.075	521.075	200	520.200	521.200	375	520.375	521.375
100	520.100	521.100	225	520.225	521.225	387	520.387	521.387
125	520.125	521.125	250	520.250	521.250	450	520.450	521.450

E6 | Series E6.80L | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator*1)	
unassembled	80.12
assembled	80.12.1

Lean separators*1)

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

*Only suitable for e-chains®

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%2). 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab





The E6 system is one of the best ways to guide energy, data and media safely and with very low vibration on printers and plotters

E6 | Series E6.80 | Product range

Extremely low noise and vibration

80



e-chains® | Series E6.80 | Crossbars removable along the inner and outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.80 [kg/m]
E6.80. 05. R.0	50	100	5.21
E6.80. 06. R.0	65	115	5.28
E6.80. 07. R.0	75	125	5.33
E6.80. 08. R.0	87	137	5.38
E6.80. 10. R.0	100	150	5.45
E6.80. 11. R.0	112	162	5.50
E6.80. 12. R.0	125	175	5.57
E6.80. 13. R.0	137	187	5.62
E6.80. 15. R.0	150	200	5.68
E6.80. 16. R.0	162	212	5.74
E6.80. 17. R.0	175	225	5.80
E6.80. 18. R.0	187	237	5.86
E6.80. 20. R.0	200	250	5.92
E6.80. 21. R.0	212	262	5.98
E6.80. 22. R.0	225	275	6.04
E6.80. 23. R.0	237	287	6.10
E6.80. 25. R.0	250	300	6.16
E6.80. 26. R.0	262	312	6.21
E6.80. 27. R.0	275	325	6.28
E6.80. 28. R.0	287	337	6.33
E6.80. 30. R.0	300	350	6.39

Part No. e-chains®	Bi [mm]	Ba [mm]	E6.80 [kg/m]
E6.80. 31. R.0	312	362	6.45
E6.80. 32. R.0	325	375	6.51
E6.80. 33. R.0	337	387	6.57
E6.80. 35. R.0	350	400	6.63
E6.80. 36. R.0	362	412	6.69
E6.80. 37. R.0	375	425	6.75
E6.80. 38. R.0	387	437	6.80
E6.80. 40. R.0	400	450	6.88
E6.80. 41. R.0	412	462	6.92
E6.80. 42. R.0	425	475	6.99
E6.80. 43. R.0	437	487	7.04
E6.80. 45. R.0	450	500	7.10
E6.80. 46. R.0	462	512	7.16
E6.80. 47. R.0	475	525	7.22
E6.80. 48. R.0	487	537	7.28
E6.80. 50. R.0	500	550	7.34
E6.80. 51. R.0	512	562	7.40
E6.80. 52. R.0	525	575	7.46
E6.80. 53. R.0	537	587	7.52
E6.80. 55. R.0	550	600	7.58
E6.80. 60. R.0	600	650	7.81

Available bend radii

R [mm] | 150 | 200 | 250 | 300 | 350 | 400 | 450 |

Complete Part No. with required radius (R). Example: **E6.80.10.300.0**



Installation note - system E6

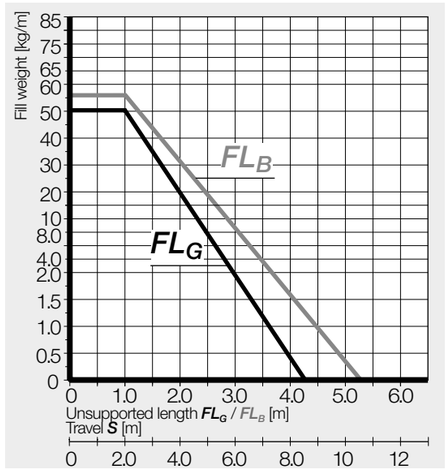
To open, insert the screwdriver into the locking mechanism and prise it open. Repeat the procedure on the other side.

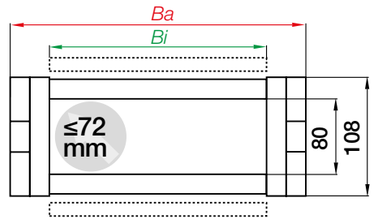
An assembly video is available online at ▶ www.igus.eu/E6_assembly

E6 | Series E6.80 | Installation dimensions

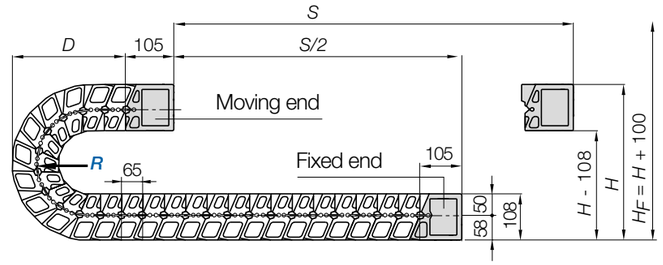
Unsupported applications | Short travels

▶ 1392 ▶ 1324





Inner height [mm]	80
Pitch [mm/link]	65
Links/m	16
corresponds to [mm]	1,040
e-chain® length	$L_K = S/2 + K$



R	150	200	250	300	350	400	450
H	516	616	716	816	916	1,016	1,116
D	306	356	406	456	506	556	606
K	605	760	920	1,075	1,230	1,390	1,545

The required clearance height: $H_F = H + 100$mm (with 5.0kg/m fill weight)

If a gliding application is required for a long travel, please consult igus®.

Steel support tray for support of the lower run

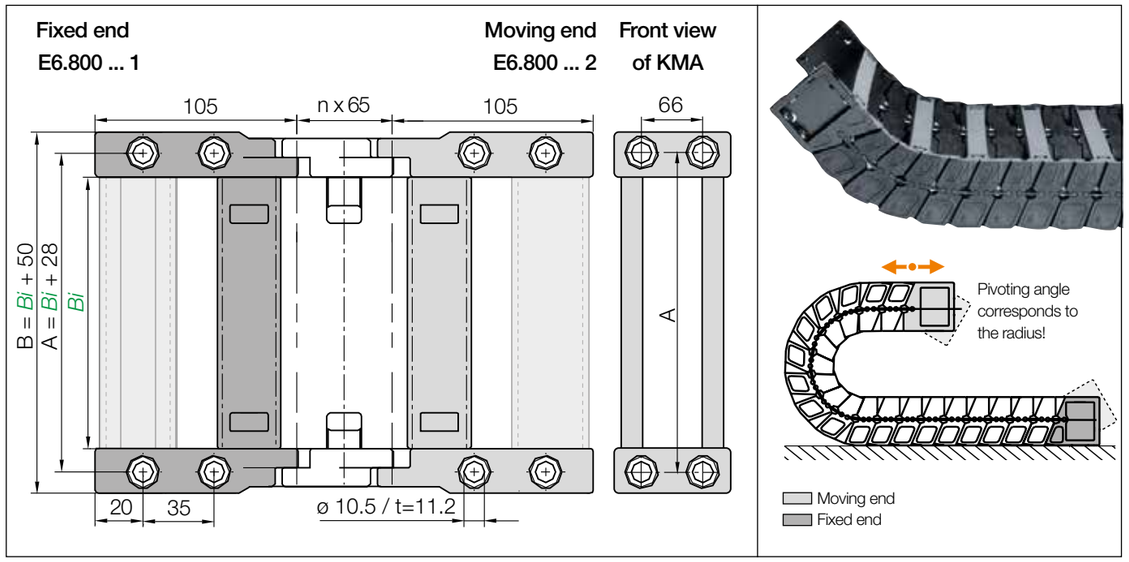
- Simple one-piece support trays for the lower run
- To your requirements and specification
- 4 options available

More information ▶ From page 1356



E6 | Series E6.80 | Accessories

KMA mounting brackets | Attachment from any side | Pivoting



KMA pivoting | Recommended for unsupported applications

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
05. ▶	E6.800. 05. 12.C	78	100	50
06. ▶	E6.800. 06. 12.C	93	115	65
07. ▶	E6.800. 07. 12.C	103	125	75
08. ▶	E6.800. 08. 12.C	115	137	87
10. ▶	E6.800. 10. 12.C	128	150	100
11. ▶	E6.800. 11. 12.C	140	162	112
12. ▶	E6.800. 12. 12.C	153	175	125
13. ▶	E6.800. 13. 12.C	165	187	137
15. ▶	E6.800. 15. 12.C	178	200	150
16. ▶	E6.800. 16. 12.C	190	212	162
17. ▶	E6.800. 17. 12.C	203	225	175
18. ▶	E6.800. 18. 12.C	215	237	187
20. ▶	E6.800. 20. 12.C	228	250	200
21. ▶	E6.800. 21. 12.C	240	262	212
22. ▶	E6.800. 22. 12.C	253	275	225
23. ▶	E6.800. 23. 12.C	265	287	237
25. ▶	E6.800. 25. 12.C	278	300	250
26. ▶	E6.800. 26. 12.C	290	412	262
27. ▶	E6.800. 27. 12.C	303	325	275
28. ▶	E6.800. 28. 12.C	315	337	287
30. ▶	E6.800. 30. 12.C	328	350	300

Width index	Part No. Full set KMA pivoting	A [mm]	B [mm]	Bi [mm]
31. ▶	E6.800. 31. 12.C	340	362	312
32. ▶	E6.800. 32. 12.C	353	375	325
33. ▶	E6.800. 33. 12.C	365	387	337
35. ▶	E6.800. 35. 12.C	378	400	350
36. ▶	E6.800. 36. 12.C	390	412	362
37. ▶	E6.800. 37. 12.C	403	425	375
38. ▶	E6.800. 38. 12.C	415	437	387
40. ▶	E6.800. 40. 12.C	428	450	400
41. ▶	E6.800. 41. 12.C	440	462	412
42. ▶	E6.800. 42. 12.C	453	475	425
43. ▶	E6.800. 43. 12.C	465	487	437
45. ▶	E6.800. 45. 12.C	478	500	450
46. ▶	E6.800. 46. 12.C	490	512	462
47. ▶	E6.800. 47. 12.C	503	525	475
48. ▶	E6.800. 48. 12.C	515	537	487
50. ▶	E6.800. 50. 12.C	528	550	500
51. ▶	E6.800. 51. 12.C	540	562	512
52. ▶	E6.800. 52. 12.C	553	575	525
53. ▶	E6.800. 53. 12.C	565	587	537
55. ▶	E6.800. 55. 12.C	578	600	550
60. ▶	E6.800. 60. 12.C	628	650	600

(KMA = polymer metal mounting bracket) For the C-profile option please add index **.C**



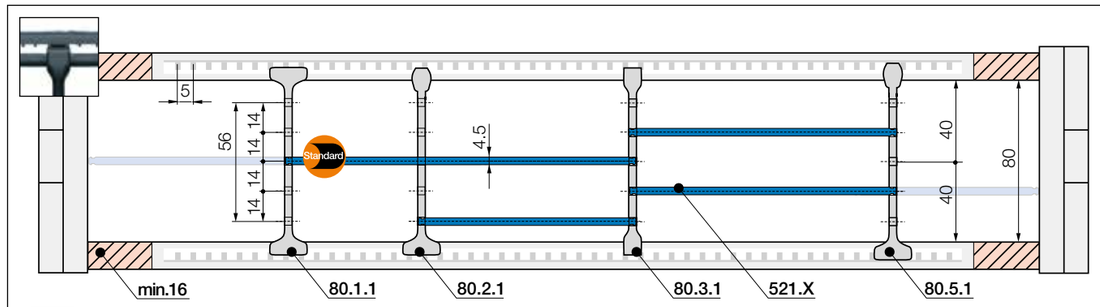
Orientations for KMA mounting brackets. To receive KMA pre-fitted **without C-profile** please add index **.A**. Please add index **.A2 for the standard version with C-profile**, in the inner radius at the moving end and in the outer radius at the fixed end.

E6.800.10.12.C.A2 Order example

- **.A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- width index
- Series

Interior separation | Increase cable service life

Previous generation of interior separation with other options ▶ **www.igus.eu/E6.80**



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**

As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base	
unassembled	80.1
assembled	80.1.1

Standard - for any application

Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	80.2
assembled	80.2.1

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow	
unassembled	80.3
assembled	80.3.1

For a large number of thin cables

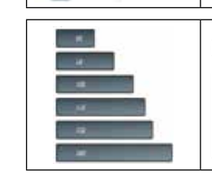
Separator with a narrow base for a large number of thin cables side by side. Saves space.



Notch separator for notched crossbar	
unassembled	80.5
assembled	80.5.1

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



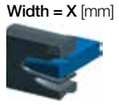
Shelf, lockable	
unassembled	520.X
assembled	521.X

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]

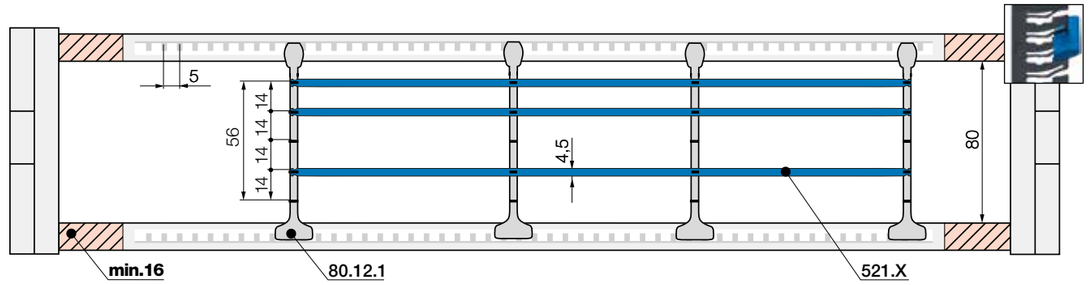


X [mm]	unassembled	assembled
050	520.050	521.050
065	520.065	521.065
075	520.075	521.075
100	520.100	521.100
125	520.125	521.125
150	520.150	521.150
175	520.175	521.175
200	520.200	521.200
225	520.225	521.225
250	520.250	521.250
300	520.300	521.300
350	520.350	521.350
375	520.375	521.375
387	520.387	521.387
450	520.450	521.450

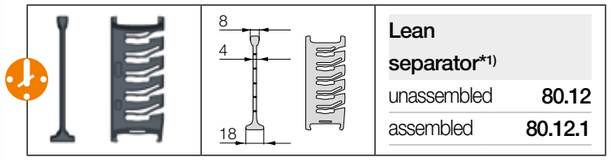
Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

E6 | Series E6.80 | Accessories

Interior separation | To allow faster filling



Note: Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**
As standard separators are fitted every 2nd e-chain® link!



Lean separator*1)	
unassembled	80.12
assembled	80.12.1

Lean separators*1)

For quick fitting of shelves in several layers. **1) Note: Please combine maximum 4 lean separators with one shelf. Not suitable for side-mounted e-chains®!**

*Only suitable for e-chains®

With the lean separator you can quickly insert several layers of cables into the e-chain® and reduce the installation time by up to 50%2). 2) Lean interior separation vs. standard interior separation - measured on a 4m long e-chain® fitted with 12 cables in the igus® lab

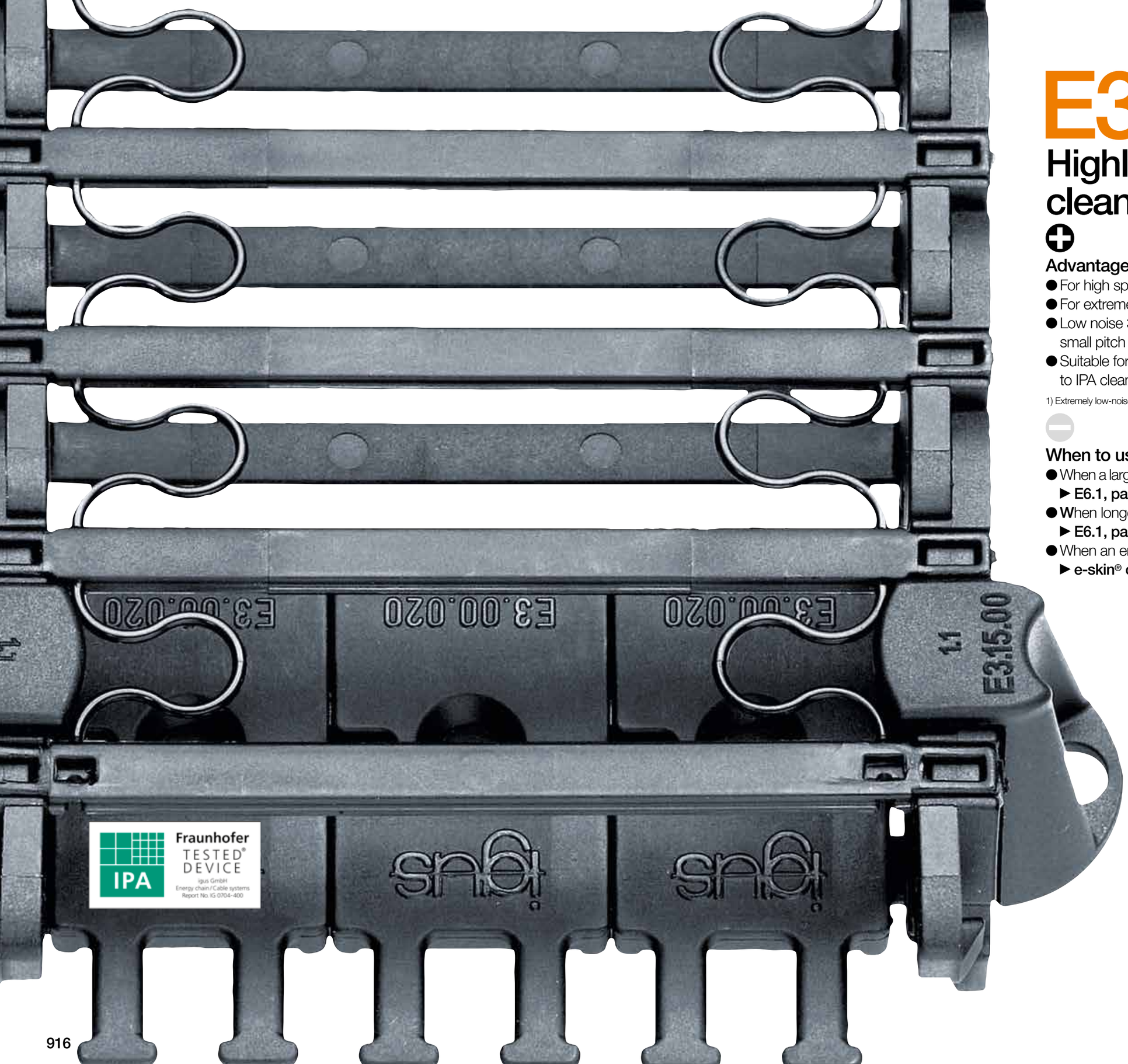




igus® system E6 guiding an extraction hose - speed 8m/s, acceleration 78.5m/s²



An igus® e-chain® from the E6 range accelerates work processes in the wafer-handling application in chip production. The E6 easily supplies energy for wafer handling in chip production requiring acceleration rates of up to 4m/s² and speeds of up to 6m/s. Its low abrasion is especially important because a high degree of purity is critical in chip production. The E6 is cleanroom-compatible and has Fraunhofer IPA certification



E3 clean-room

Highly dynamic and cleanroom compatible

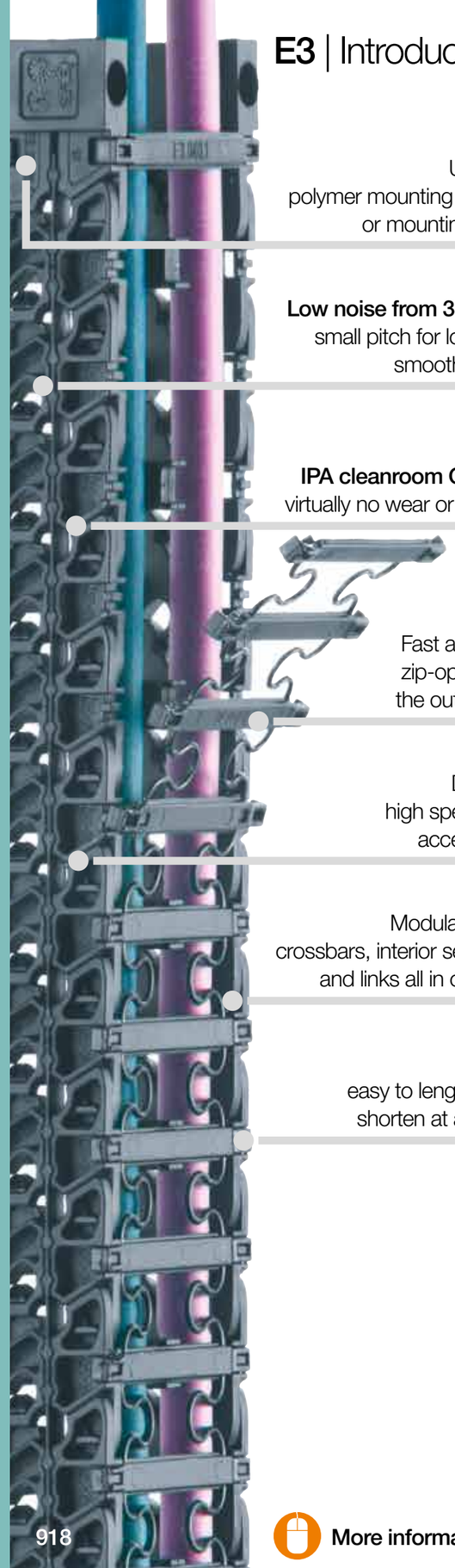
Advantages of the E3 system:

- For high speeds and accelerations
- For extremely fast opening and closing
- Low noise 38dB(A)[1] - small pitch for low noise, smooth running
- Suitable for cleanrooms according to IPA cleanroom Class 1[2]

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series E3.15.040.075.0

When to use another e-chain® series:

- When a larger e-chain® with IPA cleanroom Class 1 is required
  ► **E6.1, page 832**
- When longer unsupported lengths are required
  ► **E6.1, page 832**
- When an enclosed e-chain® is required
  ► **e-skin® corrugated tube SKS20, page 812**



Universal:
polymer mounting brackets
or mounting angles

Low noise from 38dB(A)[1]:
small pitch for low noise,
smooth running

IPA cleanroom Class 1[2]:
virtually no wear or abrasion

Fast assembly:
zip-open along
the outer radius

Dynamic:
high speeds and
accelerations

Modular design:
crossbars, interior separation
and links all in one band

Modular:
easy to lengthen and
shorten at any point

High dynamics and cleanroom compatible - System E3

E3 combines small pitch, smooth running, low noise, stability, easy assembly and low cost. The spring connector element replaces the pin and bore and avoids relative movement between the joints. This means virtually no wear or abrasion (cleanroom). To reduce production and assembly costs, the spring connector is on a segment of ten e-chain® links.

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series E3.15.040.075.0

Typical industries and applications

● Semi-conductor manufacturing and handling ● Pick and place robots ● Optics ● Material handling technology ● Measuring technology ● Printers and plotters ● Cleanroom environments ● General mechanical engineering

Fraunhofer TESTED DEVICE IPA igus GmbH Energy chain / Cable systems Report No. IG 0704-400

IPA Qualification Certificate[2] - Report IG 0704-400:
ISO Class 1, according to DIN EN ISO 14644-1 for system E3, series E3.15.040.075 at *v* = 0.5m/s, 1.0m/s, 2.0m/s

38dB(A)[1] - level determined at the igus® test-lab acc. to DIN 45635, with consideration of background noises, E3.22.060.044.0 at *v* = 1.8m/s

iF product design award 2005

iF product design award
2005 igus® series E3.15

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
							
System E3 - 3-piece e-chains® crossbars on a strip - zip-open along the outer radius							
E3.10	10	20 - 60	32 - 72	15	15 - 48	≈ 0.70	**922**
E3.15	15	20 - 60	32 - 72	20	32 - 75	≈ 0.90	**926**
E3.22	22	20 - 60	32 - 72	27	44 - 75	≈ 1.20	**930**

Available from stock. Ready to ship in 72hrs.*

*Average time before the ordered goods are dispatched.

Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ▶ From page 144

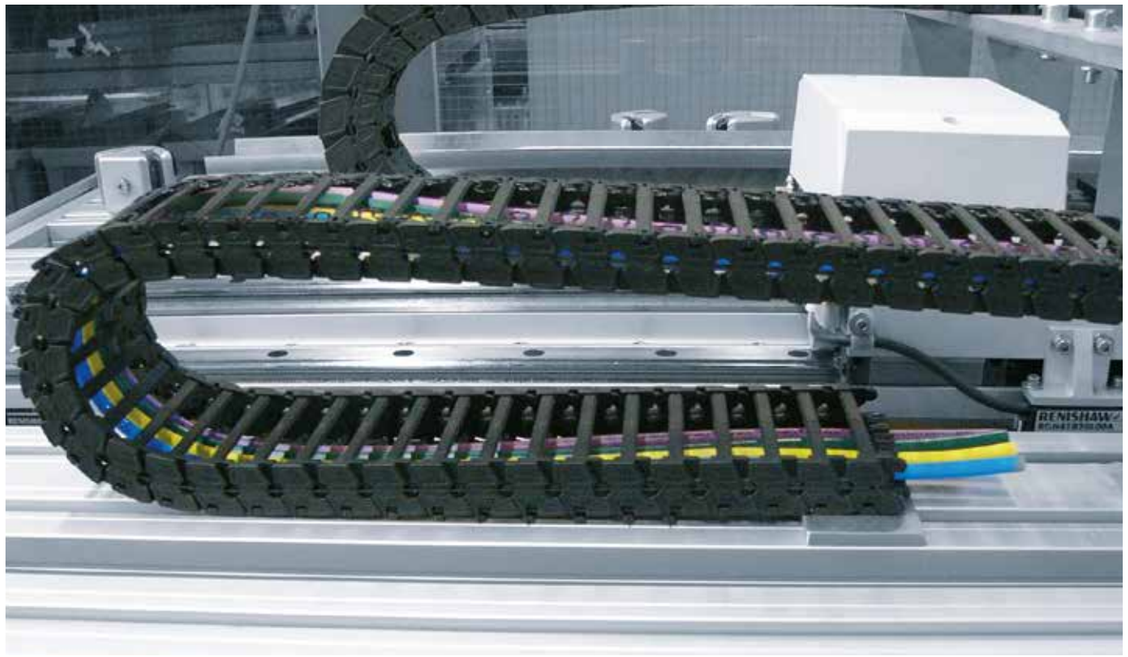


Long-term tests in our acoustics laboratory at a speed of 1.8m/s and an acceleration of 3m/s² showed reductions of 19-20dB(A) compared to conventional e-chains®

Technical data

Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
e-chain® link material, igumid G - permitted temperature °C	upon request
Scalable crossbar material, igumid TE - permitted temperature °C	upon request
Flammability class	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag



1,125 chainflex® cables are certified according to IPA ISO Class 1 or Class 2. chainflex® cables with tested outer jacket material are available from stock

Options with order keys | Examples based on series E3.10

	Standard	*NC version - (No Camber) without pretension*
	Part No. Standard	**Part No. NC version**
	Standard	NC
	E3.10.060.*R*.0	E3.10.060.*R*.0.NC
	Ready to ship in 72hrs.*	Ready to ship in 12 business days*

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series E3.10

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 60 links	E3.10.060.015.0
+ Mounting angle	1 set (with tiewrap plates)	E3.100.060.12
Interior separation	with 2 separators assembled every 2nd link	2 x E3.10.11
Order text:	1m E3.10.060.015.0 + E3.100.060.12 + 2 x E3.10.11	

Order key

e-chain® zip-open along the outer radius **E3.10.060.015.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 72hrs.*

Above special colours upon request.

E3 | Series E3.10 | Product range

Fast opening, for high accelerations

10



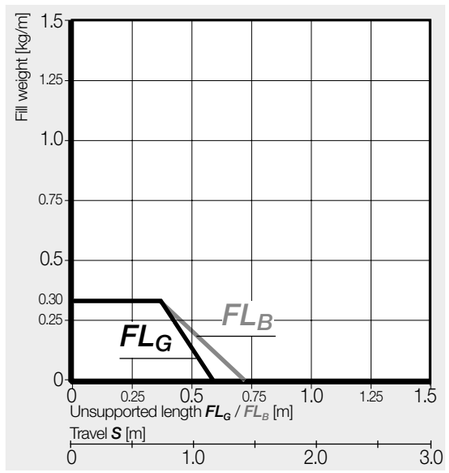
Image with plastic mounting bracket

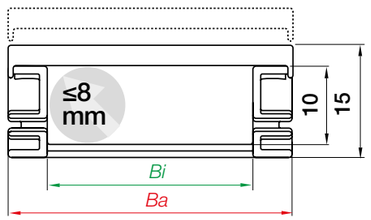
e-chains®| Series E3.10 | Crossbars on a strip - zip-open along the outer radius

Part No.	*Bi*	*Ba*	*R* Available bend radii	E3.10
e-chains®	[mm]	[mm]	[mm]	[kg/m]
E3.10.020 .*R*.0	20	32	| 015 | 028 | – | – |	≈ 0.12
E3.10.040 .*R*.0	40	52	| 015 | – | 038 | 048 |	≈ 0.15
E3.10.060 .*R*.0	60	72	| 015 | – | 038 | – |	≈ 0.20

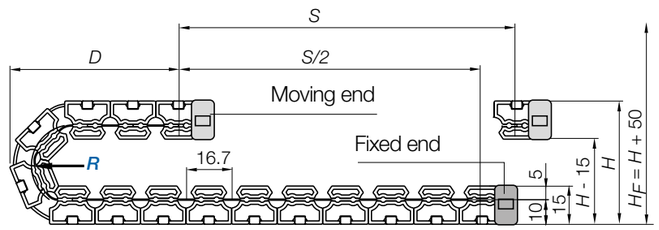
Complete Part No. with required radius (*R*). Example: **E3.10.060.015.0Mounting angle, polymer**

Installation dimensions





Inner height [mm]	**10**
Pitch [mm/link]	**16.7**
Links/m	**60**
corresponds to [mm]	**1,002**
e-chain® length	$L_K = S/2 + K$

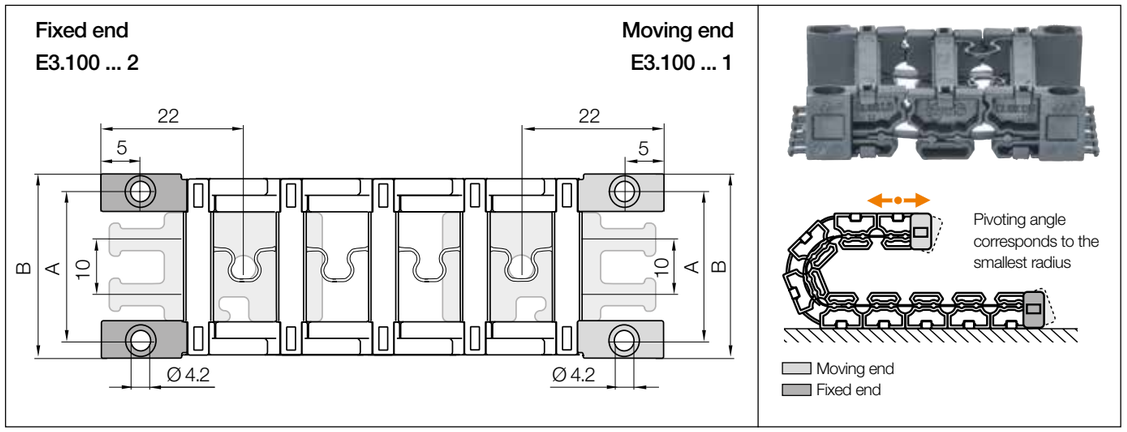


R	015	028	038	048
H	60	86	106	126
D	50	63	73	83
K	85	125	155	185

The required clearance height: $H_F = H + 50$mm (with 0.1kg/m fill weight)

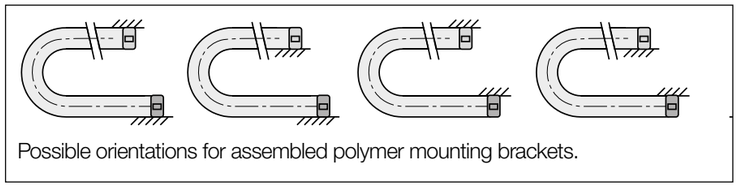
E3 | Series E3.10 | Accessories

Mounting brackets, polymer | Pivoting



Width index		Part No. full set without tiewrap plates	A [mm]	B [mm]	Part No. strain relief at both ends*
020.	▶	E3.100.020.12	28	36	E3.020.12
040.	▶	E3.100.040.12	48	56	E3.040.12
060.	▶	E3.100.060.12	68	76	E3.060.12

*Tiewrap plates must be ordered separately.

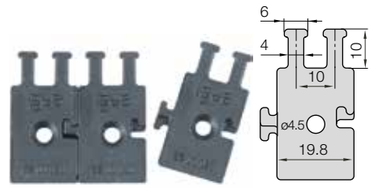


Possible orientations for assembled polymer mounting brackets.

E3.100.060.12 **Order example**
- Full set
- width index
- Series



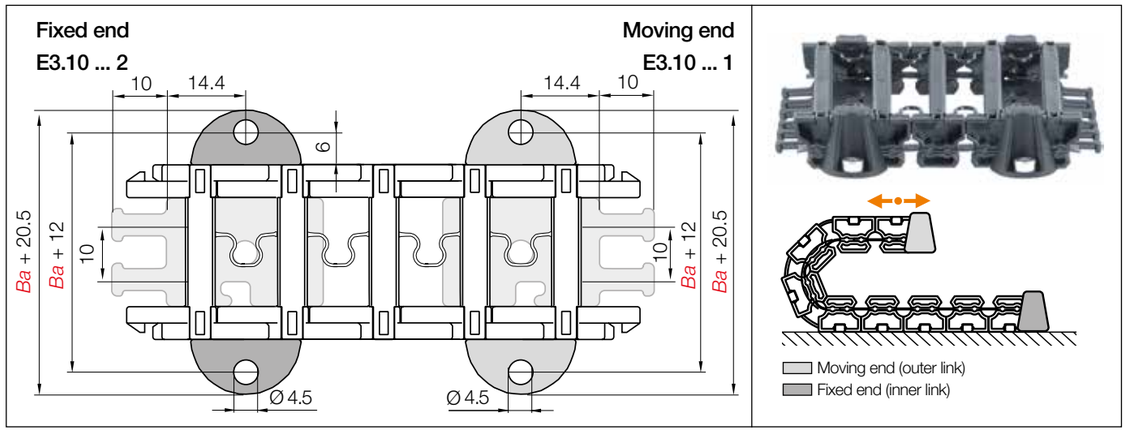
Part No. E3.100.XXX.12
Full set without strain relief. Tiewrap plates must be ordered separately.



Part No. E3.00.020
Tiewrap plate as a single part

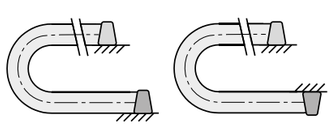
E3 | Series E3.10 | Accessories

Mounting angle, polymer | Locking



Width index	Part No. full set Strain relief at both ends + 4 mounting angles*	Part No. Mounting angle* (single part)	Part No. strain relief at both ends	*Ba* [mm]
020.	E3.10.020.12	E3.10.00	E3.020.12	32
040.	E3.10.040.12	E3.10.00	E3.040.12	52
060.	E3.10.060.12	E3.10.00	E3.060.12	72

***Note**: If the mounting brackets are used, two links each end must be added to the calculated e-chain® length, because the first two links are fixed by the mounting brackets.



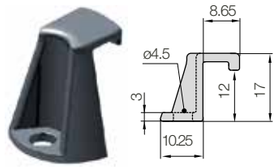
Possible attachments options for assembled polymer mounting angles.

E3.10.060.12 **Order example**

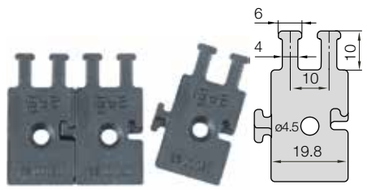
- Full set
- width index
- Series



Part No. E3.10.XXX.12
Full set with strain relief at both ends.
2 tiewrap plates + 4 mounting angles



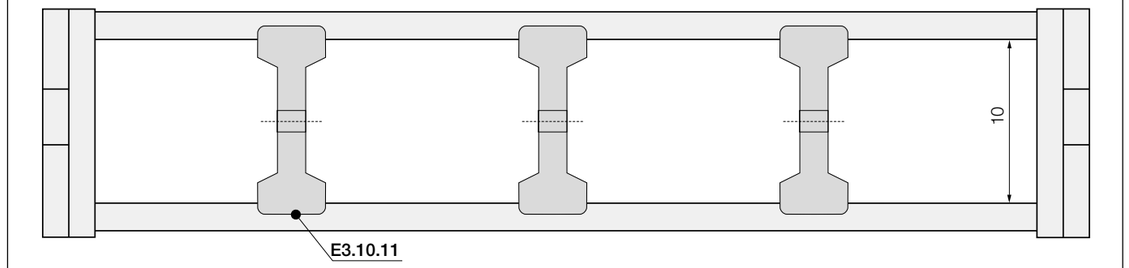
Part No. E3.10.00
Mounting angle as an individual part



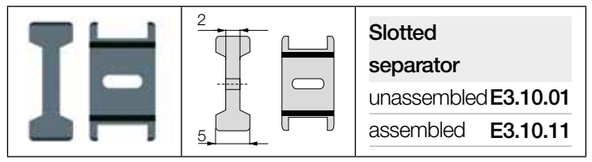
Part No. E3.00.020
Tiewrap plate as a single part

E3 | Series E3.10 | Accessories

Interior separation



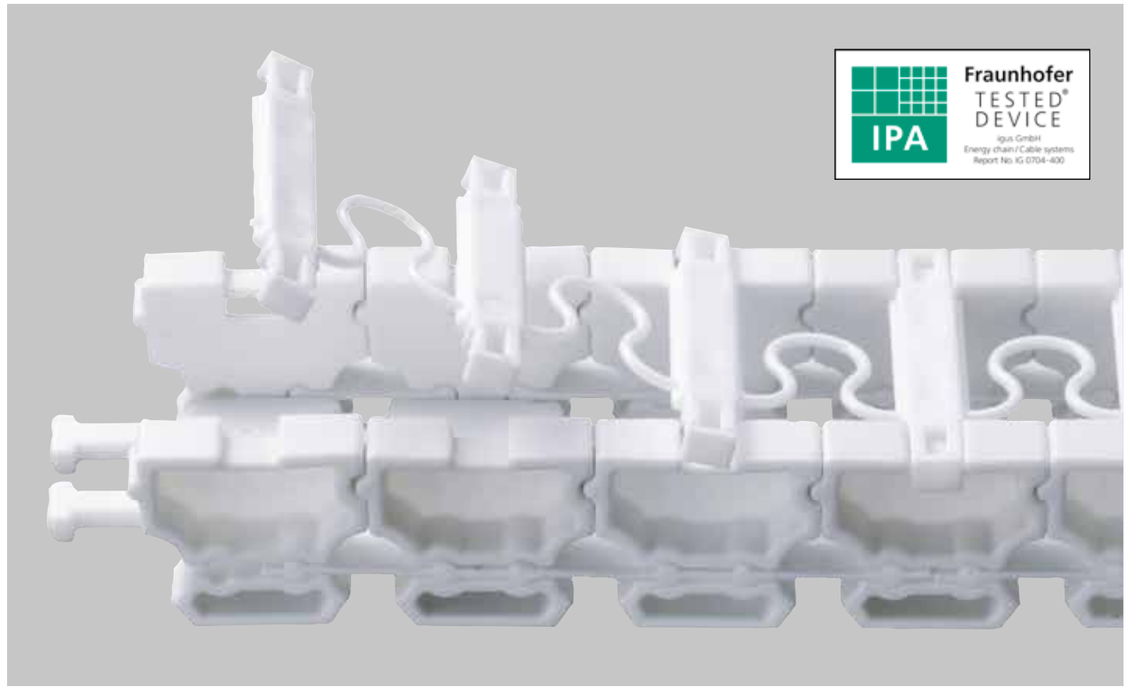
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	E3.10.01
assembled	E3.10.11

Slotted separator

Separators can be arranged at any position in the chain cross section to divide the interior of the e-chain®.



E3 e-chains® in optional white colour; ideal for cleanroom and medical applications, available upon request

E3 | Series E3.15 | Product range

15

Fast opening, for high accelerations



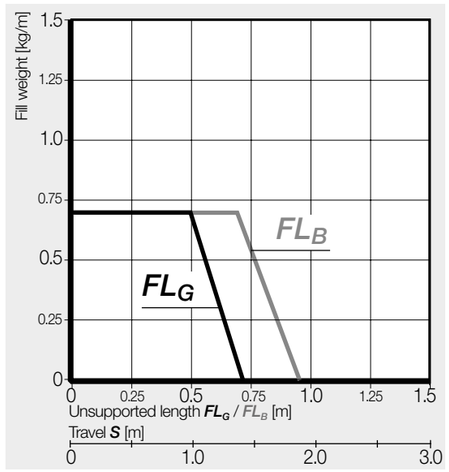
Image with plastic mounting bracket

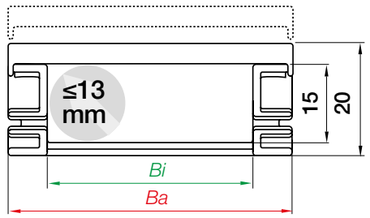
e-chains®| Series E3.15 | Crossbars on a strip - zip-open along the outer radius

Part No.	*Bi*	*Ba*	*R* Available bend radii	E3.15
e-chains®	[mm]	[mm]	[mm]	[kg/m]
E3.15.020 .*R*.0	20	32	| 032 | – | – | – |	≈ 0.22
E3.15.040 .*R*.0	40	52	| 032 | 038 | 048 | 075 |	≈ 0.25
E3.15.060 .*R*.0	60	72	| 032 | 038 | 048 | 075 |	≈ 0.32

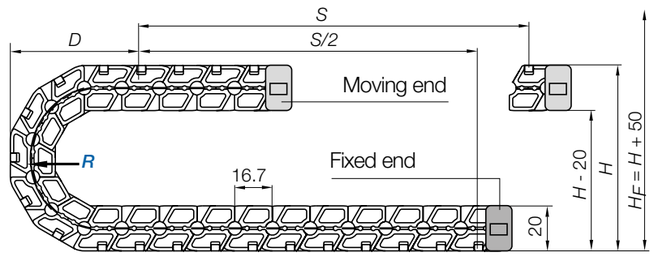
Complete Part No. with required radius (*R*). Example: **E3.15.060.032.0**

Installation dimensions





Inner height [mm]	**15**
Pitch [mm/link]	**16.7**
Links/m	**60**
corresponds to [mm]	**1,002**
e-chain® length	$L_K = S/2 + K$

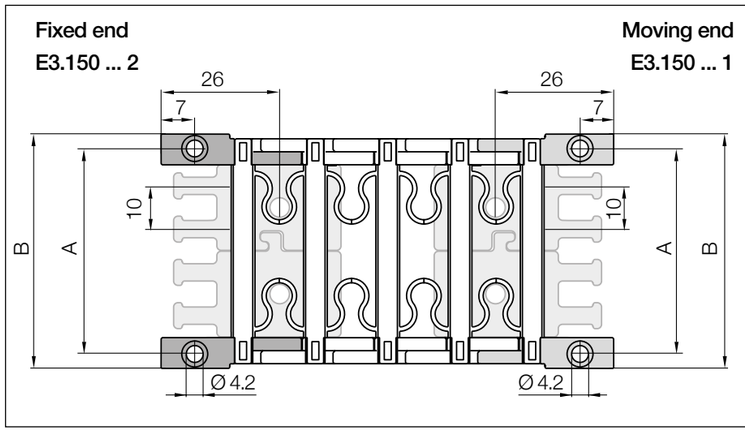


R	032	038	048	075
H	99	111	131	185
D	67	73	83	110
K	135	155	185	270

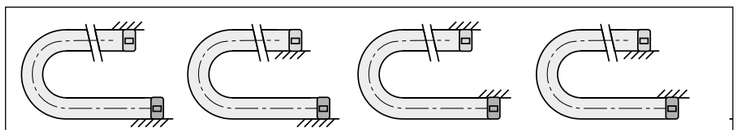
The required clearance height: $H_F = H + 50$mm (with 0.2kg/m fill weight)

E3 | Series E3.15 | Accessories

Mounting brackets, polymer | Pivoting



Width index		Part No. full set without tiewrap plates	A [mm]	B [mm]	Part No. strain relief at both ends
020.	▶	**E3.150.020.12**	28	36	**E3.020.12**
040.	▶	**E3.150.040.12**	48	56	**E3.040.12**
060.	▶	**E3.150.060.12**	68	76	**E3.060.12**



Possible orientations for assembled polymer mounting brackets.

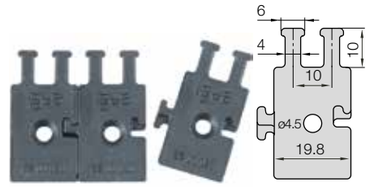
E3.150.060.12 **Order example**

- Full set
- width index
- Series



Part No. E3.150.XXX.12

Full set without strain relief. Tiewrap plates must be ordered separately.

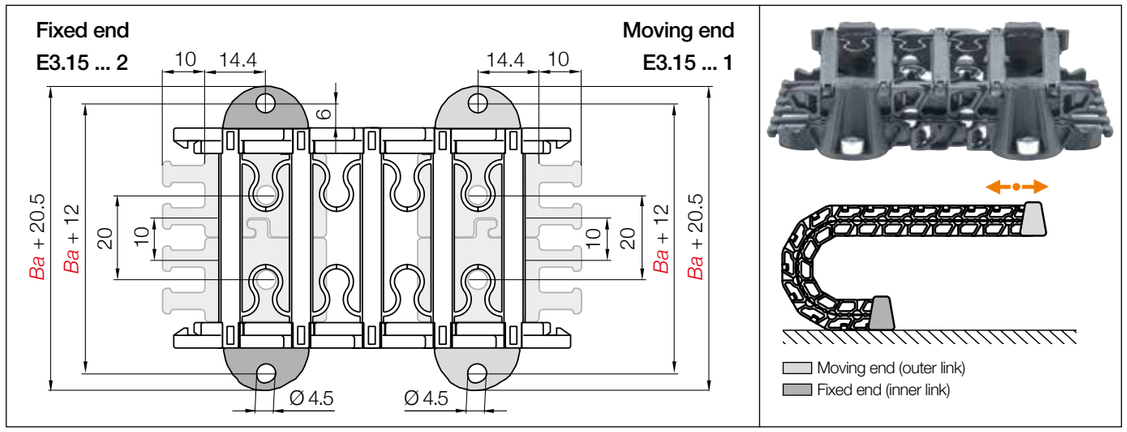


Part No. E3.00.020

Tiewrap plate as a single part

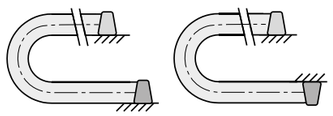
E3 | Series E3.15 | Accessories

Mounting angle, polymer | Locking



Width index	Part No. full set Strain relief at both ends + 4 mounting angles*	Part No. Mounting angle* (single part)	Part No. strain relief at both ends	*Ba* [mm]
020.	E3.15.020.12	E3.15.00	E3.020.12	32
040.	E3.15.040.12	E3.15.00	E3.040.12	52
060.	E3.15.060.12	E3.15.00	E3.060.12	72

***Note**: If the mounting brackets are used, two links each end must be added to the calculated e-chain® length, because the first two links are fixed by the mounting brackets.



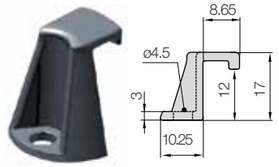
Possible attachments options for assembled polymer mounting angles.

E3.15.060.12 **Order example**

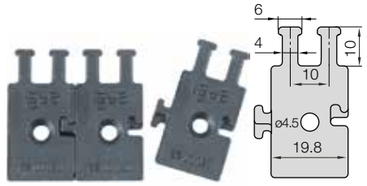
- Full set
- width index
- Series



Part No. E3.15.XXX.12
Full set with strain relief at both ends.
2 tiewrap plates + 4 mounting angles



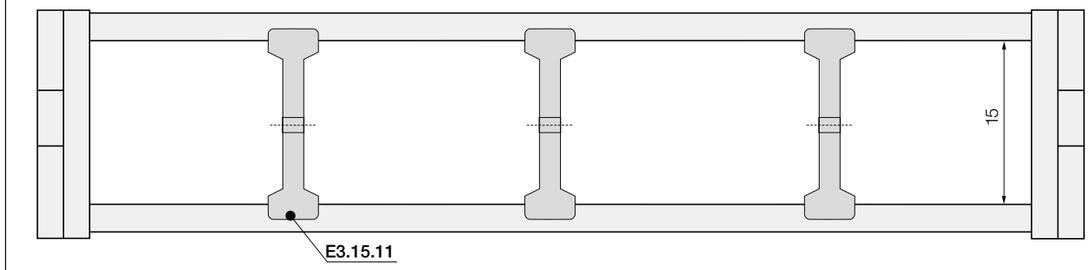
Part No. E3.15.00
Mounting angle as an individual part



Part No. E3.00.020
Tiewrap plate as a single part

E3 | Series E3.15 | Accessories

Interior separation



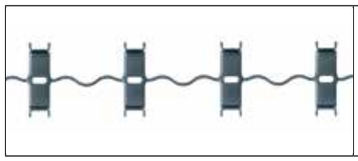
No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	E3.15.01
assembled	E3.15.11

Slotted separator

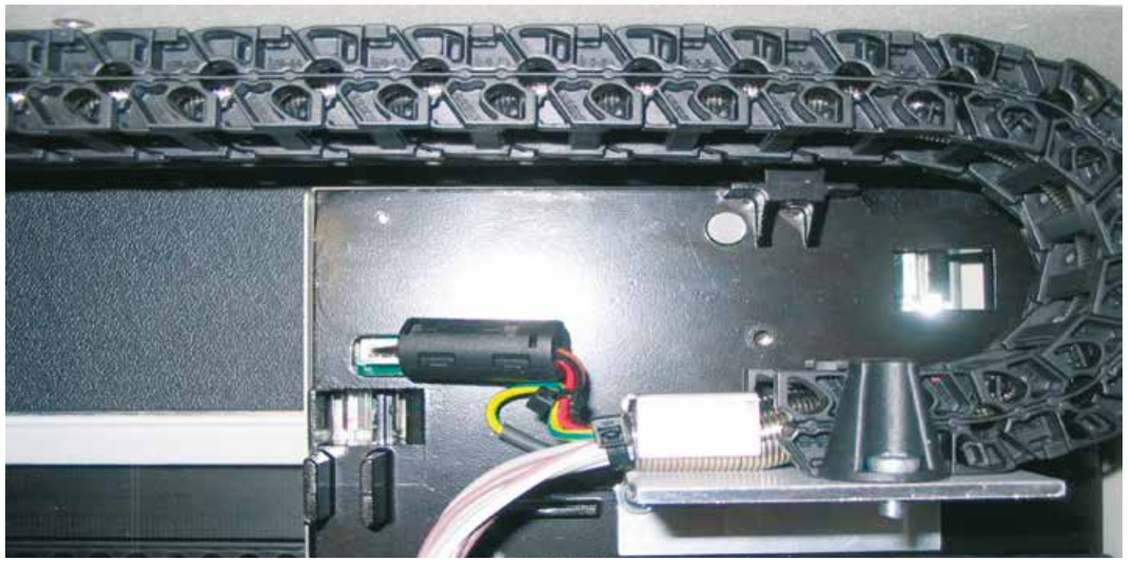
Separators can be arranged at any position in the chain cross section to divide the interior of the e-chain®.



Slotted separator on a strip	
unassembled	E3.15.01.10
assembled	E3.15.11.10

Slotted separator on a strip

Five vertical separators altogether on one strip over ten e-chain® links are mounted on the openable crossbars. In this way separate chambers are formed, protecting the cables. Dimensions same as E3.15.01.



igus® E3 system, ideal for very small installation spaces as well as very low-noise operation

E3 | Series E3.22 | Product range

Fast opening, for high accelerations

22



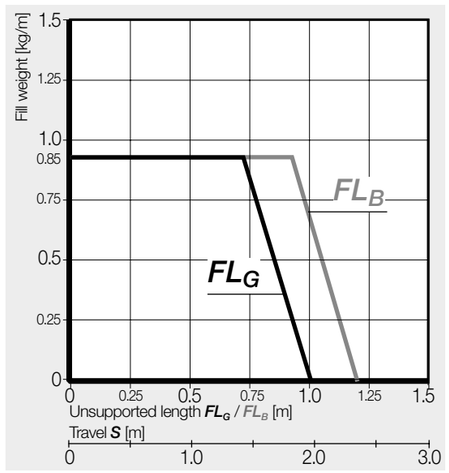
Image with plastic mounting bracket

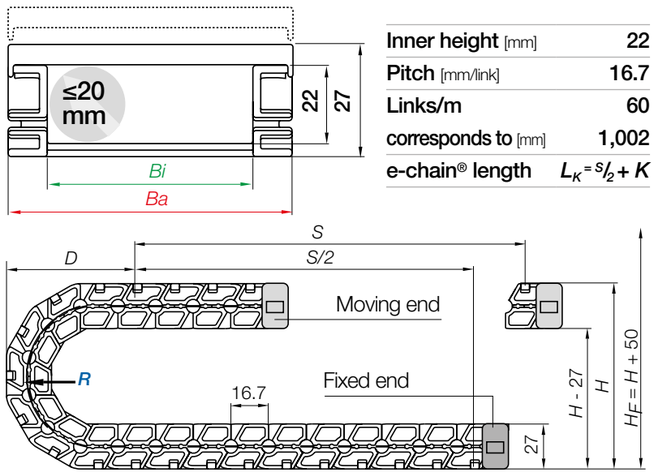
e-chains® | Series E3.22 | Crossbars on a strip - zip-open along the outer radius

Part No. e-chains®	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E3.22 [kg/m]
E3.22.020 .R.0	20	32	| 044 | 050 | 075 |	≈ 0.30
E3.22.040 .R.0	40	52	| 044 | 050 | 075 |	≈ 0.32
E3.22.060 .R.0	60	72	| 044 | – | 075 |	≈ 0.41

Complete Part No. with required radius (*R*). Example: **E3.22.060.044.0**

Installation dimensions





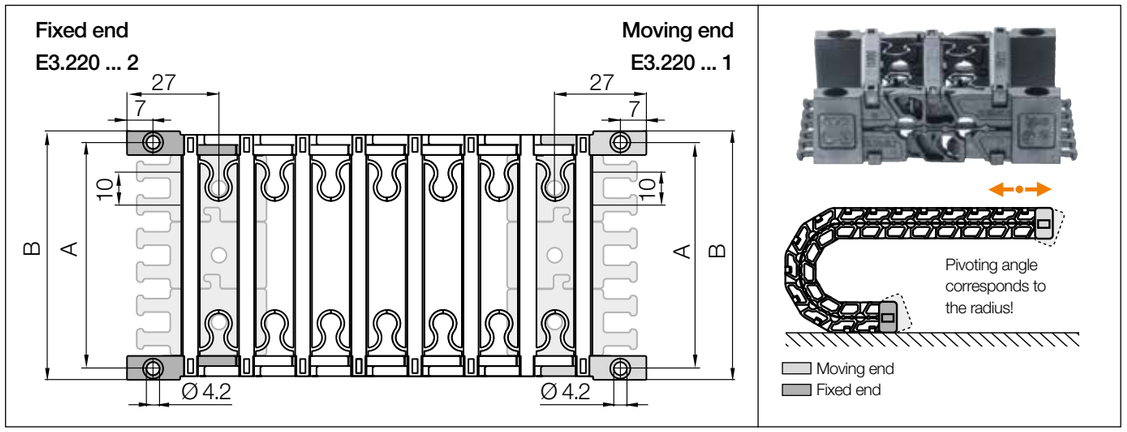
Inner height [mm]	22
Pitch [mm/link]	16.7
Links/m	60
corresponds to [mm]	1,002
e-chain® length	$L_K = S/2 + K$

R	044	050	075
H	134	146	196
D	82	88	113
K	175	195	270

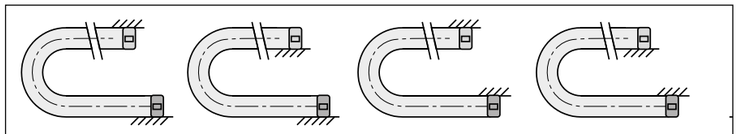
The required clearance height: $H_F = H + 50$mm (with 0.3kg/m fill weight)

E3 | Series E3.22 | Accessories

Mounting brackets, polymer | Pivoting



Width index		Part No. full set without tiewrap plates	A [mm]	B [mm]	Part No. strain relief at both ends
020.	▶	**E3.220.020.12**	28	36	**E3.020.12**
040.	▶	**E3.220.040.12**	48	56	**E3.040.12**
060.	▶	**E3.220.060.12**	68	76	**E3.060.12**

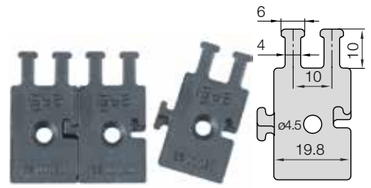


Possible orientations for assembled polymer mounting brackets.

E3.220.060.12 **Order example**
- Full set
- width index
- Series



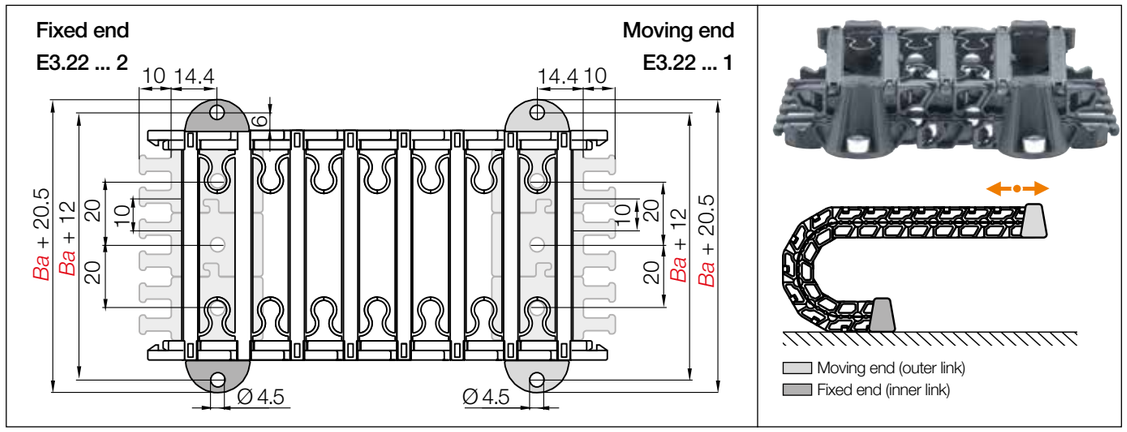
Part No. E3.220.XXX.12
Full set without strain relief. Tiewrap plates must be ordered separately.



Part No. E3.00.020
Tiewrap plate as a single part

E3 | Series E3.22 | Accessories

Mounting angle, polymer | Locking



Width index	Part No. full set Strain relief at both ends + 4 mounting angles*	Part No. Mounting angle* (single part)	Part No. strain relief at both ends	*Ba* [mm]
020.	E3.22.020.12	E3.22.00	E3.020.12	32
040.	E3.22.040.12	E3.22.00	E3.040.12	52
060.	E3.22.060.12	E3.22.00	E3.060.12	72

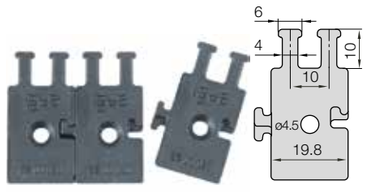
***Note**: If the mounting brackets are used, two links each end must be added to the calculated e-chain® length, because the first two links are fixed by the mounting brackets.



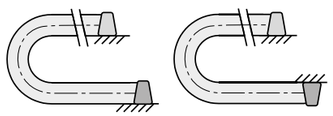
Part No. E3.22.XXX.12
Full set with strain relief at both ends.
2 tiewrap plates + 4 mounting angles



Part No. E3.22.00
Mounting angle as an individual part



Part No. E3.00.020
Tiewrap plate as a single part

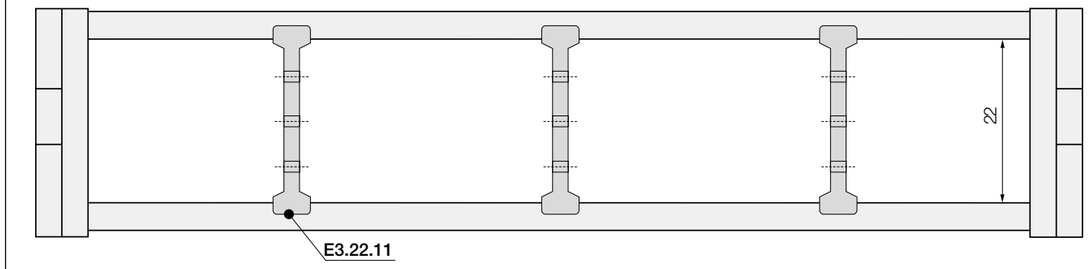


Possible attachments options for assembled polymer mounting angles.

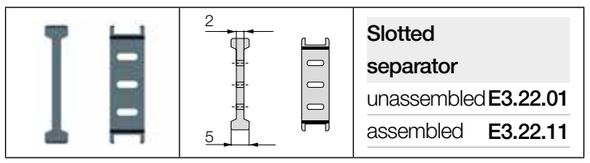
E3.22.060.12 **Order example**
- Full set
- width index
- Series

E3 | Series E3.22 | Accessories

Interior separation



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Slotted separator	
unassembled	E3.22.01
assembled	E3.22.11

Slotted separator

Separators can be arranged at any position in the chain cross section to divide the interior of the e-chain®.



igus® series E3.15 side mounted as a low-abrasion guide for cables in a scanner system

T3 Light, highly flexible and low-vibration

clean-room

Advantages of the T3 system:

- Very low weight e-chain®
- For high speeds and accelerations
- Virtually no polygon effect
- Small bend radii and installation space
- Fast, easy filling and assembly
- Low noise 33dB(A)[1] - small pitch for low noise, smooth running
- Suitable for cleanrooms according to IPA cleanroom Class 1[2]

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series T3.29.050.038.0

When to use another igus® e-chain® series:

- When an e-chain® for more fill weight is required
  ► **E6.1, page 832**
- When larger interior heights are required
  ► **E6.1, page 832**
- When IPA cleanroom Class 1 is required
  ► **E6.1, page 832**
- When an enclosed e-chain® for smooth running is required
  ► **R6, page 870** ► **e-skin® corrugated tube SK / SKS / SKY, page 812**

Fraunhofer IPA TESTED® DEVICE igus GmbH Energy chain T3.29.050.038.0 Report No. IG 1303-640



Universal:
mounting plates and strain relief option

Low noise 33dB(A)[1]:
small pitch for low noise, smooth running

Modular design:
t-band in one segment of 8 links

Modular:
easy to lengthen and shorten at any point

Easy to use:
clip-on interior separation clips

IPA cleanroom Class 1[2]:
virtually no wear or abrasion

Dynamic:
high speeds and accelerations

Efficient:
lightweight

Smooth running "T-band", quiet, cost-effective T3 system

The T3 system combines low noise operation, simple assembly and economy. The side bands, which snap together, replace a conventional pin and bore connection and prevent relative movements between the joints giving extremely low wear. This means virtually no wear or abrasion (cleanroom). The novel geometrical shape of the t-band, means that hardly any polygon effect is generated in operation. The t-band therefore rolls in a very smooth arc, giving extremely low vibration and noise. In order to reduce the manufacturing and installation costs, the t-band is made in a segment of 8 links. Due to its low mass, the igus® t-band, is suitable for applications with low fill weights and short strokes, combined with high speeds and accelerations.

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series T3.29.050.038.0

Typical industries and applications

● Printer and plotter ● Cleanroom applications ● Production and processing of semiconductors ● Optics ● Pick and place machines ● Measuring technology

IPA Qualification Certificate[2] - Report IG 1303-640-1:
ISO Class 2, according to DIN EN ISO 14644-1 for system T3, series T3.29.050.038 at *v* = 0.5m/s, 1.0m/s, 2.0m/s

igus® tests at 1m measuring distance: = 33dB(A)[1] for T3.29.050.038.0 at *v* = 1m/s and 26.5dB(A) basic sound level

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
 **System T3 - t-shaped band e-chains®** crossbars removable along the inner and outer radius							
T3.29.	29	30 - 140	55 - 165	35	038	≈ 1.45	**940**

Available from stock. Ready to ship in 72hrs.*
*Average time before the ordered goods are dispatched.

Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ▶ From page 144



T3 system on the Z-axis of a positioning system. It has very low noise and vibration

Technical data

Speed FL_G / acceleration FL_G	≤ 20 [m/s] / ≤ 200 [m/s²]
Speed FL_B / acceleration FL_B	≤ 3 [m/s] / ≤ 6 [m/s²]
Side band material, igumid TE - permitted temperature °C	upon request
e-chain® link material, igumid G - permitted temperature °C	upon request
Flammability class	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run FL_B = unsupported with permitted sag

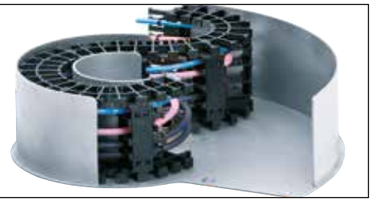
T3 e-chains® and modules for circular movement

● T3 e-chains® with Reverse Bend Radii ***RBR*** ● Several radii available: 55, 75, 100, 150mm ● Various installation options ● Wide range of interior separation layouts ● Quiet operation ● Low wear.
Delivery time upon request - more information
▶ www.igus.eu/circularmovement



T3 *RBR* module for Reverse Bend Radii

● Consists of 4 elements: T3 ***RBR*** e-chain®, guiding system, chainflex® cables, iglidur® PRT slewing ring bearing ● Compact guide trough ● Inner or outer radius rotation ● For high speeds ● Quiet ● Several mounting options. **Delivery time upon request - more information ▶ www.igus.eu/circularmovement**



Options with order keys | Examples based on series T3.29

Standard	*NC version - (No Camber) without pretension*	*Reverse Bend Radius (RBR) for circular movements*
Part No. Standard	**Part No. NC version**	**Part No. *RBR***
Standard	NC	Reverse Bend Radius possible with igus® T3 ***RBR*** e-chains® or T3 ***RBR*** module ▶ **www.igus.eu/circularmovement**
T3.29.050.*R*.0	T3.29.050.*R*.0.NC	T3.29.050.038/*R2*.0
Ready to ship in 72hrs.*	Ready to ship in 12 business days*	Ready to ship in 12 business days*

*Average time before the ordered goods are dispatched.

Order example | Order key and colour examples | Examples based on series T3.29

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 67 links	T3.29.050.038.0
+ Mounting brackets	1 set (with tiewrap plates)	T3.29.050.12PZ
Interior separation	with 2 separators assembled every 2nd link	2 x .29.1.1
Order text:	**1m T3.29.050.038.0 + T3.050.12 + 2 x 29.1.1**	

Order key

t-shaped band e-chains® **T3.29.050.038.0**

- Series / Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

Colour	Order index		Colour	Order index	
Black	Standard	.0	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

Black e-chains® ready to ship in 72hrs.*
Above special colours upon request.

T3 | Series T3.29 | Product range

e-chain® t-band for highly dynamic applications

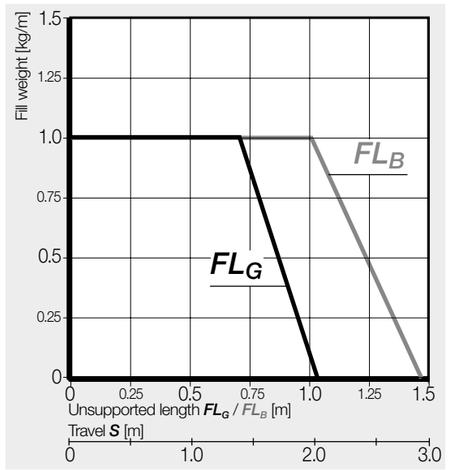


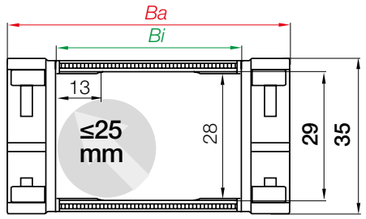
e-chains® | Series T3.29 | Crossbars removable along the inner and outer radius

Part No.	*Bi*	*Ba*	*R* Available bend radii	T3.29
e-chains®	[mm]	[mm]	[mm]	[kg/m]
T3.29.030.*R*.0	30	55	| 038 |	≈ 0.40
T3.29.040.*R*.0	40	65	| 038 |	≈ 0.42
T3.29.050.*R*.0	50	75	| 038 |	≈ 0.44
T3.29.060.*R*.0	60	85	| 038 |	≈ 0.46
T3.29.070.*R*.0	70	95	| 038 |	≈ 0.48
T3.29.080.*R*.0	80	105	| 038 |	≈ 0.50
T3.29.090.*R*.0	90	115	| 038 |	≈ 0.51
T3.29.100.*R*.0	100	125	| 038 |	≈ 0.53
T3.29.110.*R*.0	110	135	| 038 |	≈ 0.55
T3.29.120.*R*.0	120	145	| 038 |	≈ 0.57
T3.29.140.*R*.0	140	165	| 038 |	≈ 0.59

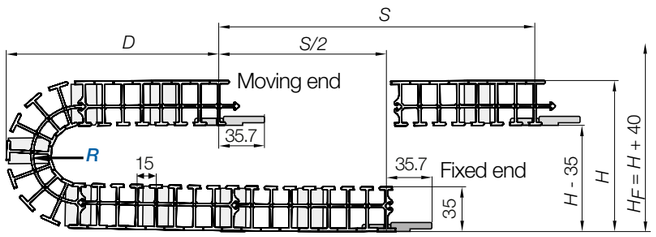
Complete Part No. with required radius (*R*). Example: **T3.29.100.038.0**

Installation dimensions





Inner height [mm]	29
Pitch [mm/link]	15
Links/m	67
corresponds to [mm]	1,005
e-chain® length	$L_K = S/2 + K$



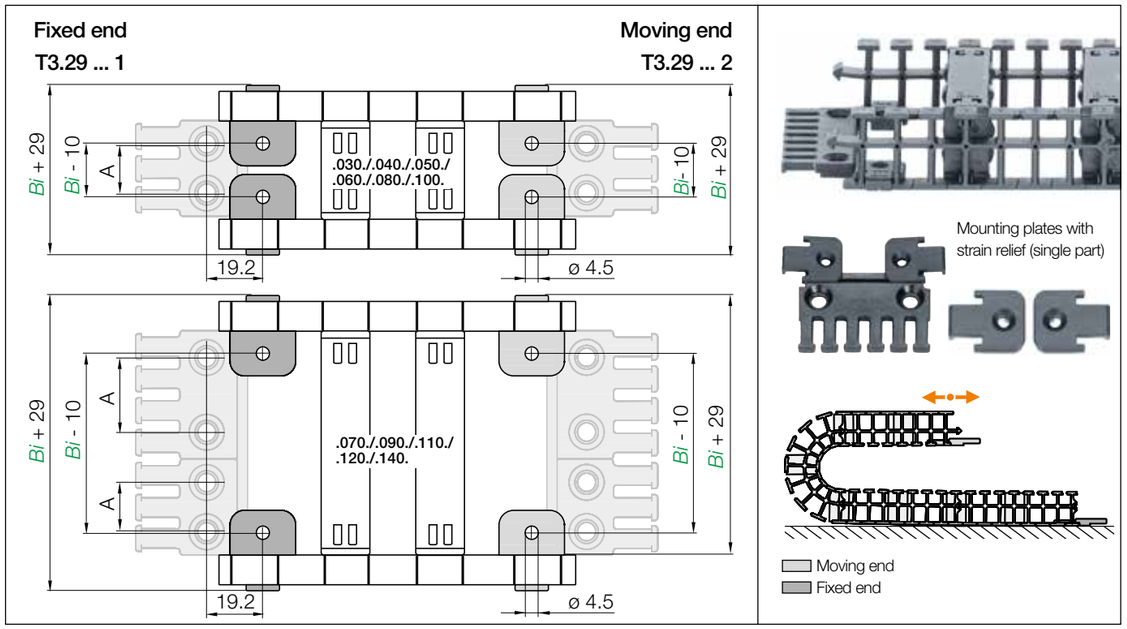
R ≥	038
H ≥	216
D	111
K	210

The required clearance height: $H_F = H + 40$mm (with 1.0kg/m fill weight)

T3 | Series T3.29 | Accessories

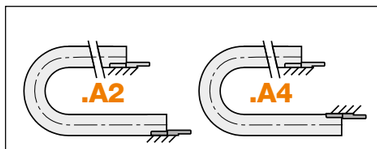
Mounting brackets | Mounting plates

▶ 1392



Width index	Standard	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	*Bi* [mm]	Number of teeth
030. ▶		**T3.29.030.12PZ**	**T3.29.030.12**	15	30	3
040. ▶		**T3.29.040.12PZ**	**T3.29.040.12**	20	40	4
050. ▶		**T3.29.050.12PZ**	**T3.29.050.12**	30	50	5
060. ▶		**T3.29.060.12PZ**	**T3.29.060.12**	40	60	6
070. ▶		**T3.29.070.12PZ**	**T3.29.070.12**	15 + 20*	70	7
080. ▶		**T3.29.080.12PZ**	**T3.29.080.12**	60	80	8
090. ▶		**T3.29.090.12PZ**	**T3.29.090.12**	20 + 30*	90	9
100. ▶		**T3.29.100.12PZ**	**T3.29.100.12**	80	100	10
110. ▶		**T3.29.110.12PZ**	**T3.29.110.12**	30 + 40*	110	11
120. ▶		**T3.29.120.12PZ**	**T3.29.120.12**	40 + 40*	120	12
140. ▶		**T3.29.140.12PZ**	**T3.29.140.12**	60 + 40*	140	14

*Strain relief consisting of 2 tiewrap plates



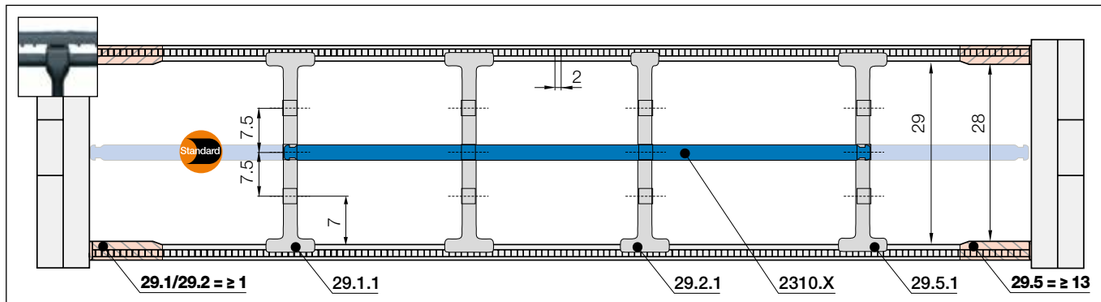
Possible attachments options for assembled T3 mounting plates with strain relief.

T3.29.100.12PZ Order example
- With integrated strain relief tiewrap plates
- Full set
- width index
- Series

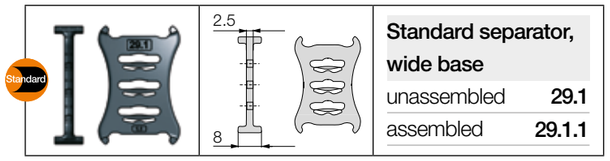
Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

T3 | Series T3.29 | Accessories

Interior separation | Increase cable service life



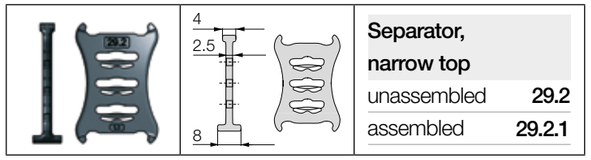
Note: Please be aware of the minimum lateral gap to the side links! **29.1/29.2 = 1mm** | **29.5 = 13mm**
As standard separators are fitted every 4th e-chain® link!



Standard separator, wide base	
unassembled	**29.1**
assembled	**29.1.1**

Standard - for any application

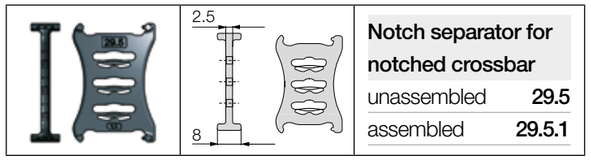
Separator with a wide base for maximum holding force.



Separator, narrow top	
unassembled	**29.2**
assembled	**29.2.1**

For even faster installation

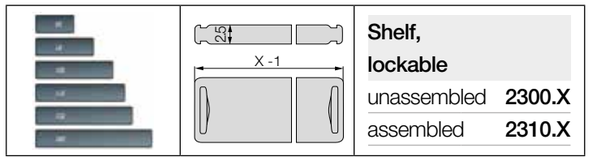
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Notch separator for notched crossbar	
unassembled	**29.5**
assembled	**29.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



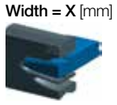
Shelf, lockable	
unassembled	**2300.X**
assembled	**2310.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



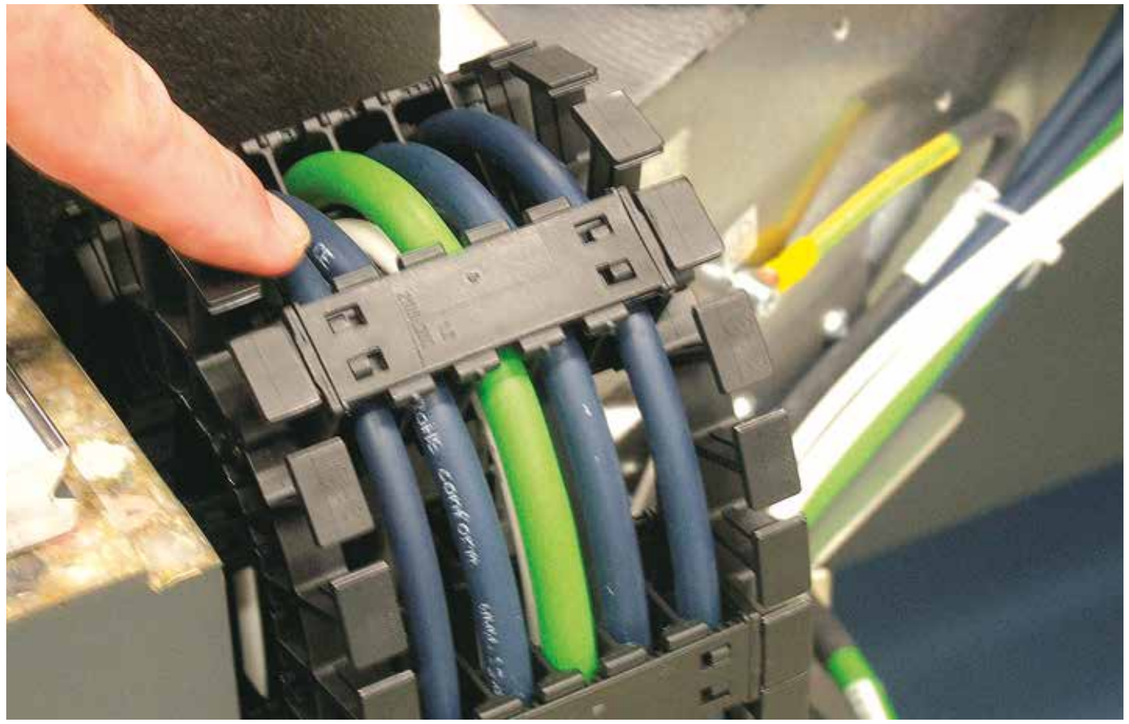
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
015	**2300.015**	**2310.015**	060	**2300.060**	**2310.060**	087	**2300.87**	**2310.087**
025	**2300.025**	**2310.025**	062	**2300.062**	**2310.062**	090	**2300.90**	**2310.090**
030	**2300.030**	**2310.030**	065	**2300.065**	**2310.065**	100	**2300.100**	**2310.100**
038	**2300.038**	**2310.038**	070	**2300.070**	**2310.070**	103	**2300.103**	**2310.103**
040	**2300.040**	**2310.040**	075	**2300.075**	**2310.075**	110	**2300.110**	**2310.110**
050	**2300.050**	**2310.050**	077	**2300.077**	**2310.077**	120	**2300.120**	**2310.120**
057	**2300.057**	**2310.057**	080	**2300.080**	**2310.080**	125	**2300.125**	**2310.125**

Separator with integrated strain relief teeth

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.35.02.Z - more information ▶ From page 1428





Cleanroom-suitable igus® chainflex® cables are safely guided in a T3 e-chain®. 1,125 IPA certified chainflex® cables according to ISO Class 1 or Class 2 are available from stock



TH3 FDA

The first e-chain® designed according to hygienic principles

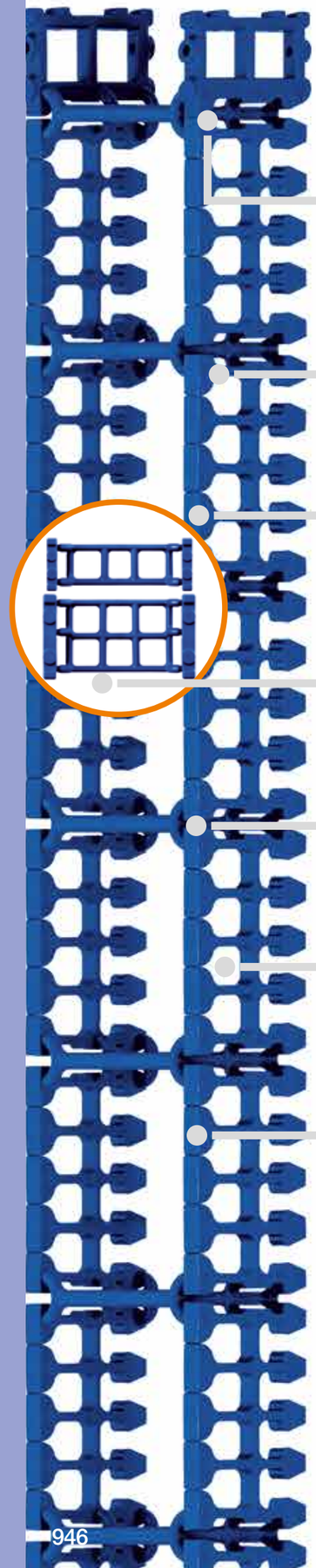
Advantages of the TH3 system:

- The first e-chain® designed according to hygienic principles
- Easy to clean due to open design
- FDA- and EU-compliant materials - blue material typical for plastic parts in the food industry (consists of igumid TH NB for the side parts and igumid TH G for the frames and mounting brackets)
- Good resistance to aggressive cleaning agents and chemicals
- Rounded edges mean that there are no dead spaces or resulting germ formation
- No material on material rubbing
- No bolted connections
- Operating temperature -40°C / +70°C
- reddot award winner 2017

When to use another igus® e-chain® series:

- When hygienic design does not matter but cleanroom capability is required
  ► **T3, page 934**
- When IPA cleanroom Class 1 is required
  ► **E6.1, page 832**

reddot award 2017
winner



Attachment from any side: polymer mounting brackets

Easy to clean: open design for effective and easy cleaning

Hygienic design principle: FDA-compliant materials

Modular design: 4 different widths for interior separation, available in 2 inner heights

Cable-friendly: due to smooth, rounded contours

No dead spaces: large gaps - no material overlaps

Food industry material: resistant to detergents and chemicals

The first e-chain® designed according to hygienic principles - TH3

igus® TH3 is the world's first plastic e-chain® developed according to Hygienic Design Guidelines. The open design of the e-chain® is very easy to clean and, thanks to rounded corners and the absence of bolted connections, dead spaces and the resulting germ formation are avoided. The blue material, which is typical of plastic parts in the food industry, is also highly resistant to aggressive cleaning agents and chemicals. The e-chain® is suitable for applications with the highest hygienic requirements for safe cable and hose guidance.

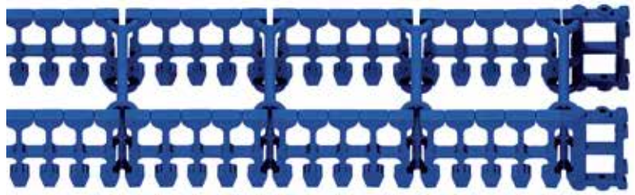
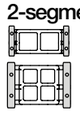
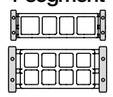
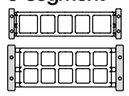
- Choice of 2 inner heights and 4 inner widths
- Interior separation segments separate the cables and hoses from each other to provide enough clearance for easy cleaning
- For plastic parts in the food industry; the blue material is FDA-compliant
- reddot award winner 2017

Typical industries and applications

● Packaging machines ● Food and beverage/ filling machines ● Wherever hygiene requirements are very high and cables and hoses have to be guided safely and securely

reddot award 2017
winner

The material of the igus® hygienic design e-chain® is FDA and EU regulation-compliant

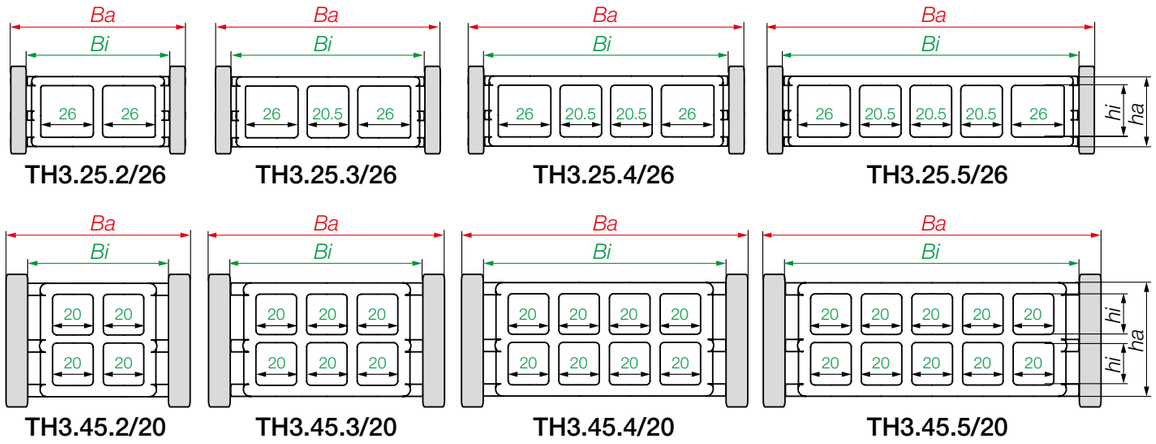
Segment design	Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Unsupported length ≤ [m]	Page
	**System TH3 - hygienic design e-chain®** 3-piece, hygienic design consisting of two side parts and an interior separation segment							
2-segment 	**TH3.25.2/26**	25.5	70	86	35	070	1.2	950
	TH3.45.2/20	2 x 20	70	90	57	090	1.4	954
3-segment 	**TH3.25.3/26**	25.5	95	111	35	070	1.2	950
	TH3.45.3/20	2 x 20	95	115	57	090	1.4	954
4-segment 	TH3.25.4/26*	25.5	120	136	35	070	1.2	950
	TH3.45.4/20*	2 x 20	120	140	57	090	1.4	954
5-segment 	TH3.25.5/26*	25.5	145	161	35	070	1.2	950
	TH3.45.5/20	2 x 20	145	165	57	090	1.4	954

*Width available upon request. Delivery time upon request.

Available from stock. Ready to ship in 72hrs.*

*Average time before the ordered goods are dispatched.

Size overview - Interior separation segments



Technical data

Speed FL_G / acceleration FL_G	2m/s / 10m/s²
Side part material igumid TH NB - permitted temperature °C	-40°C / +70°C
Interior separation segment material igumid TH G - permitted temperature °C	-40°C / +70°C
Flammability class, igumid TH NB	VDE 0304 IIC UL94-HB
Flammability class, igumid TH G	VDE 0304 IIC UL94-HB

FL_G = unsupported with straight upper run

Installation types, maximum travels

Series	Unsupported	Vertical hanging
TH3.25	≤ 2.4m	≤ 6.0m
TH3.45	≤ 2.8m	≤ 6.0m



High-tech slicer complete line from Schiwa equipped with igus® RH3 e-chains® and four lead screws for slicing cheese

Order example | Order key and colour examples | Examples based on series TH3.45

Order example for complete e-chain® (1.0m), colour blue, with mounting brackets and interior separation:

e-chain® (1.0m)	Indicate e-chain® length or number of side parts	TH3.45.3/20.090.8
+ Mounting brackets	1 set	TH3.450.3/20.12.8.A
Interior separation	The interior separation segments connect the side parts of the e-chain®. The interior separation is already included in the part number of the e-chain®.	
Order text:	1m TH3.45.3/20.090.8 + 1 set TH3.450.3/20.12.8.A	

Order key

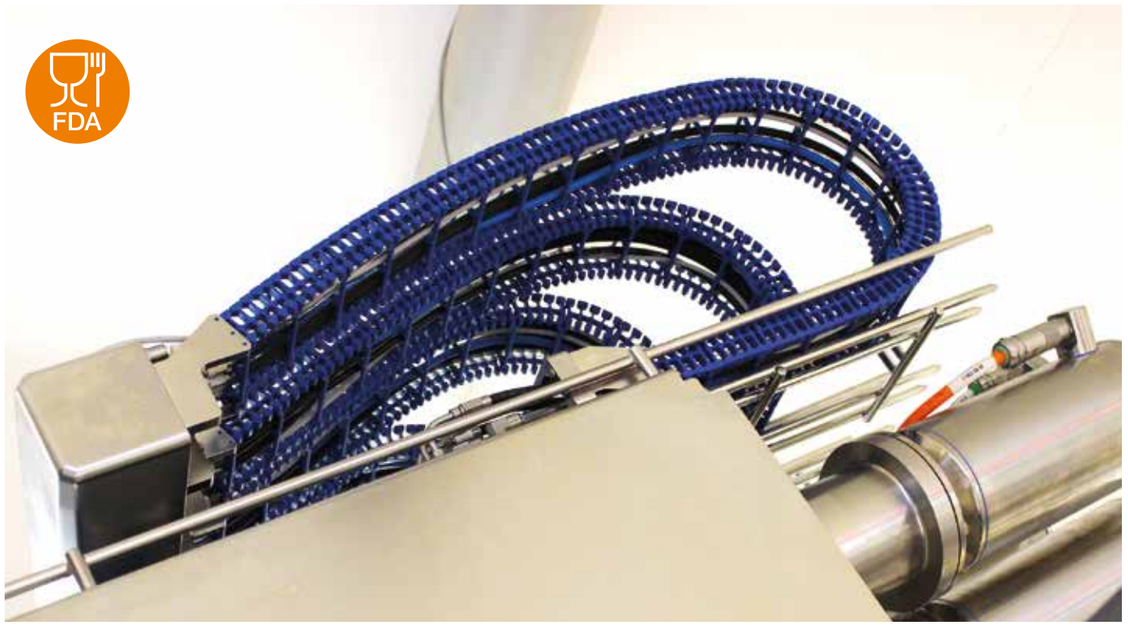
Hygienic design e-chains® **TH3.45.3/20.090.8**

- Series / Type
- Inner height
- Interior separation segment
- Bend radius *R*
- Colour index (standard blue)

Order index

Colour		Order index
Blue	Standard	**.8**

For plastic parts in the food industry, the blue material is FDA-compliant.

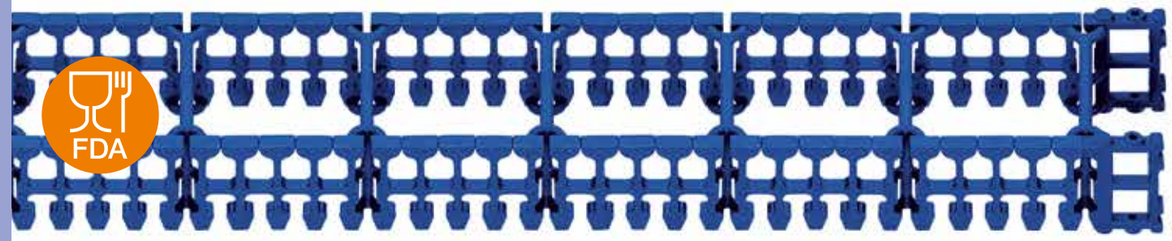


The TH3 e-chain® is the world's first plastic e-chain® developed according to "Hygienic Design Guidelines" (04/2018)

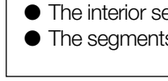
TH3 | Series TH3.25 | Product range

World's first hygienic design e-chain®

25.5



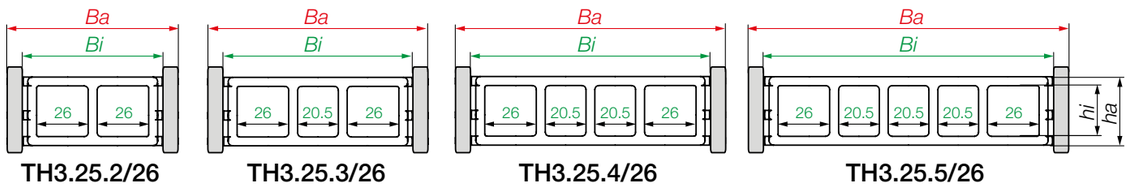
e-chains® | Series TH3.25 | 3-piece, hygienic design

Segment design	Part No. e-chains®	Chamber width [mm]	Bi [mm]	Ba [mm]	R Available bend radii [mm]	TH3.25 [kg/m]
2-segment	TH3.25.2/26.R.8	26/26	70	86	| 070 |	≈ 0.45
3-segment 	TH3.25.3/26.R.8	26/20.5/26	95	111	| 070 |	≈ 0.47
4-segment 	TH3.25.4/26.R.8*	26/20.5/20.5/26	120	136	| 070 |	≈ 0.50
5-segment 	TH3.25.5/26.R.8*	26/20.5/20.5/20.5/26	145	161	| 070 |	≈ 0.54

*Width available upon request. Delivery time upon request.

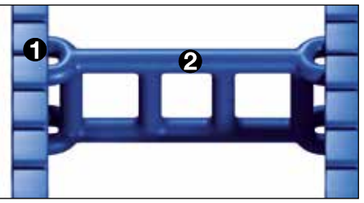
Complete Part No. with required radius (*R*). Example: **TH3.25.3/26.070.8**

Interior separation segments series TH3.25 | Size overview



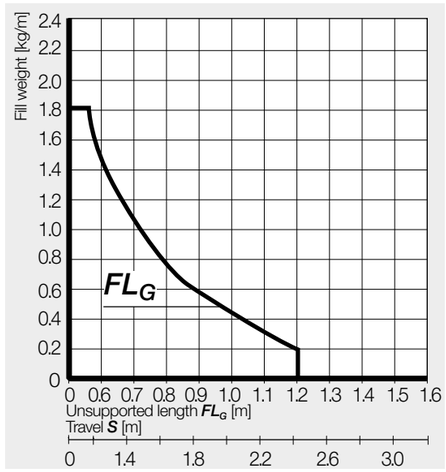
TH3 - 3-piece hygienic design e-chain®

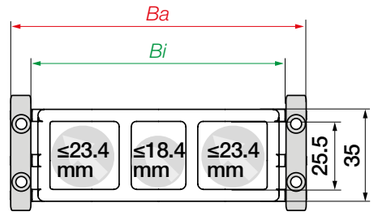
- The TH3 e-chain® consists of 3 parts, the two side parts ❶ and one interior separation segment each ❷
- The interior separation segments connect the side parts of the e-chain®
- The segments are available in 4 different widths



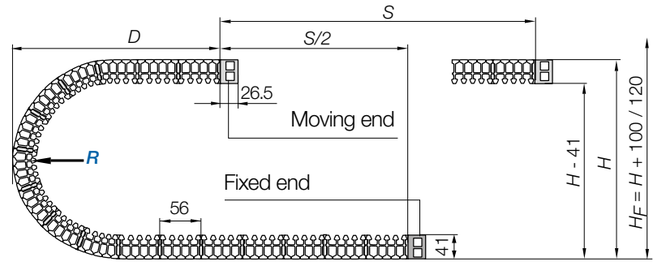
TH3 | Series TH3.25 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	25.5
Pitch [mm/side link]	56
Side links/m	18
corresponds to [mm]	1,008
Links/side link	5
e-chain® length	$L_K = S/2 + K$

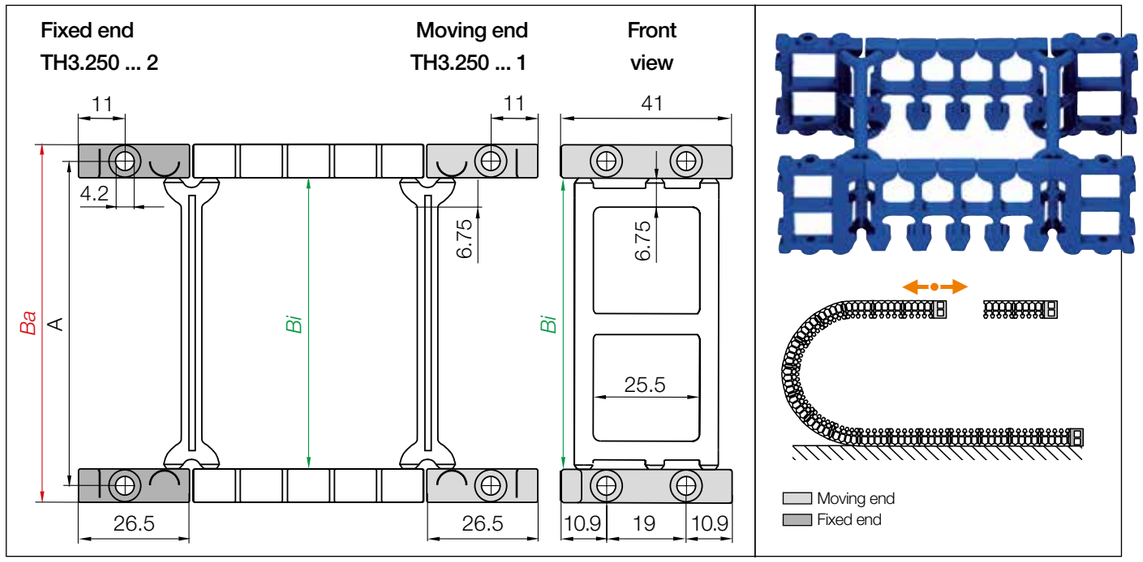


R min.*	070	***Note:** The bend radius depends on the length of the e-chain®. Smallest possible radius = 70mm
H	180	Required clearance height H_F amounts to:
D	110	Travel distance up to 300m = **280mm**
K	240	Travel distance from 300 up to 1,000mm = **300mm**

The required clearance height H_F **= *H* + 100 and accordingly *H* + 120** (with 0.4kg/m fill weight)

TH3 | Series TH3.25 | Accessories

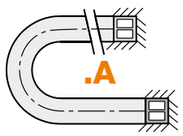
FDA-compliant mounting brackets | Attachment from any side | Locking



FDA-compliant mounting brackets, locking | For unsupported applications

Width index		Part No. full set, **locking**	A [mm]	*Bi* [mm]	*Ba* [mm]
2/26	▶	**TH3.250.2/26.12.8.A**	77.5	70	86
3/26	▶	**TH3.250.3/26.12.8.A**	102.5	95	111
4/26	▶	TH3.250.4/26.12.8.A*	127.5	120	136
5/26	▶	TH3.250.5/26.12.8.A*	152.5	145	161

*Width available upon request. Delivery time upon request.



The bracket orientations are set automatically when using igus® mounting brackets.
Note: the TH3 series are always delivered with pre-fitted mounting brackets.

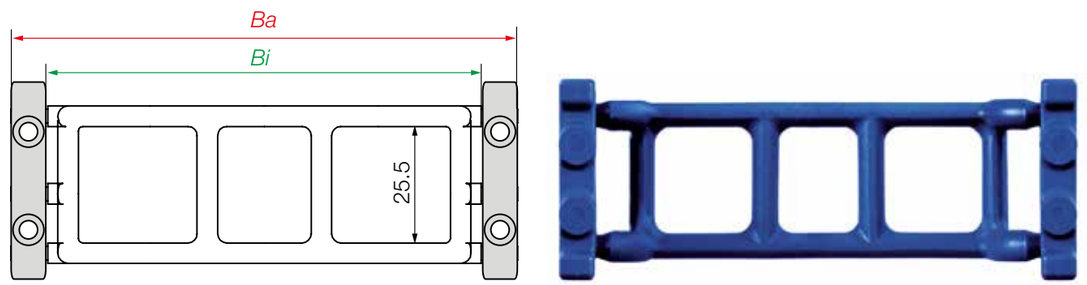
TH3.250.3/26.12.8.A Order example

- Pre-assembled
- Colour, standard blue
- Full set
- Interior separation segment
- Series

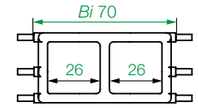
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

TH3 | Series TH3.25 | Overview

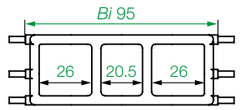
Interior separation segments



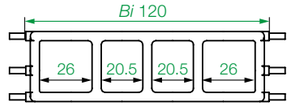
The TH3 interior separation segments are mounted on every 5th link of the e-chain®!
The diagrams show a TH3.25 interior separation segment with 3 chambers and fitted mounting bracket



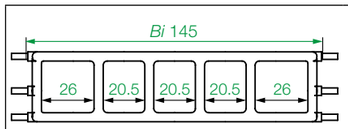
Interior separation segment with 2 chambers



Interior separation segment with 3 chambers



Interior separation segment with 4 chambers



Interior separation segment with 5 chambers

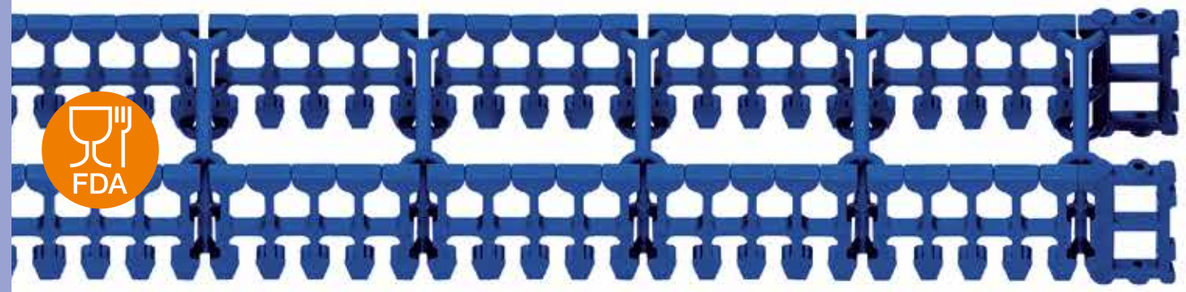
*Width available upon request. Delivery time upon request.



System TH3 - the open design allows effective and easy cleaning

TH3 | Series TH3.45 | Product range

World's first hygienic design e-chain®



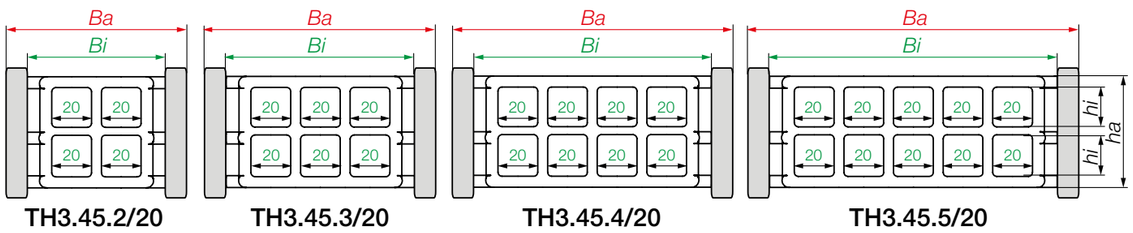
e-chains® | Series TH3.45 | 3-piece, hygienic design

Segment design	Part No. e-chains®	Chamber width [mm]	Bi [mm]	Ba [mm]	R Available bend radii [mm]	TH3.45 [kg/m]
2-segment	TH3.45.2/20.*R*.8	20/20	70	90	| 090 |	≈ 0.82
3-segment	TH3.45.3/20.*R*.8	20/20/20	95	115	| 090 |	≈ 0.87
4-segment	TH3.45.4/20.*R*.8*	20/20/20/20	120	140	| 090 |	≈ 0.92
5-segment	TH3.45.5/20.*R*.8	20/20/20/20/20	145	165	| 090 |	≈ 0.98

*Width available upon request. Delivery time upon request.

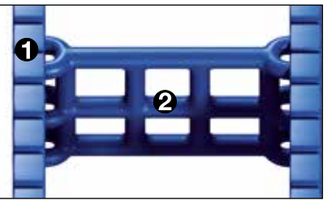
Complete Part No. with required radius (*R*). Example: **TH3.45.3/20.090.8**

Interior separation segments series TH3.45 | Size overview



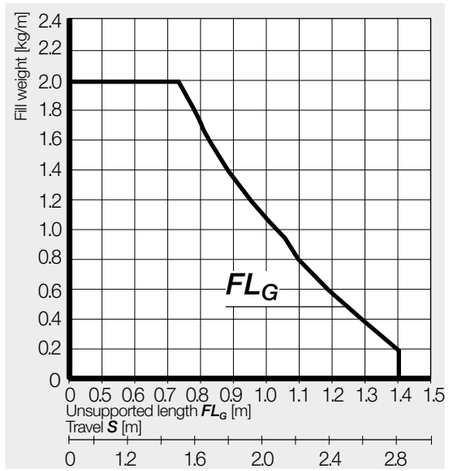
TH3 - 3-piece hygienic design e-chain®

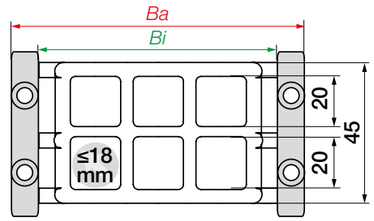
- The TH3 e-chain® consists of 3 parts, the two side parts ❶ and one interior separation segment each ❷
- The interior separation segments connect the side parts of the e-chain®
- The segments are available in 4 different widths



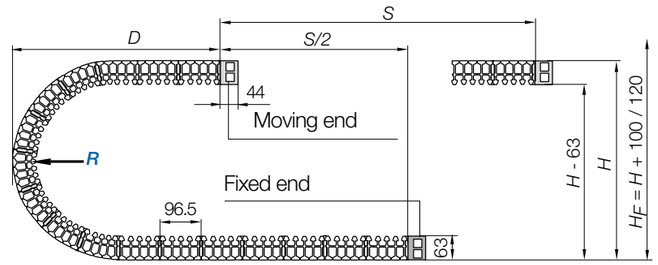
TH3 | Series TH3.45 | Installation dimensions

Unsupported applications | Short travels





Inner height [mm]	45
Pitch [mm/side link]	96.5
Side links/m	11
corresponds to [mm]	1,061
Links/side link	5
e-chain® length	$L_K = S/2 + K$



*R min.**	090	***Note:** The bend radius depends on the length of the e-chain®. Smallest possible radius = 90mm
H	250	Required clearance height H_F amounts to:
D	120	Travel distance up to 300m = **350mm**
K	338	Travel distance from 300 up to 1,000mm = **370mm**

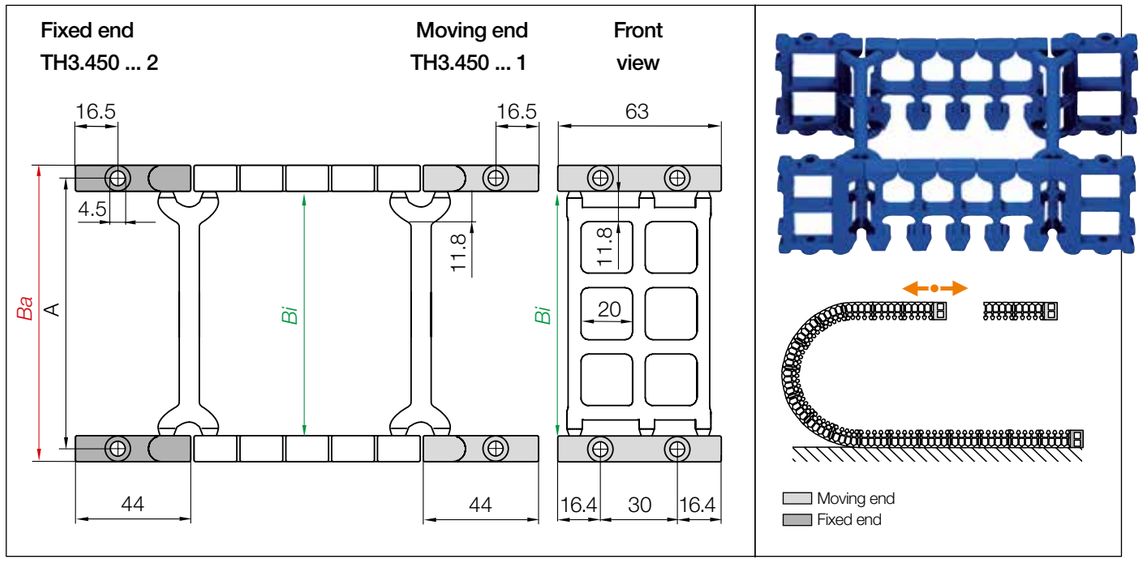
The required clearance height $H_F = H + 100$ **and accordingly** $H + 120$ (with 1.0kg/m fill weight)



The TH3 series is suitable for applications with the highest hygienic requirements for safe cable and hose guidance

TH3 | Series TH3.45 | Accessories

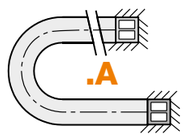
FDA-compliant mounting brackets | Attachment from any side | Locking



FDA-compliant mounting brackets, locking | For unsupported applications

Width index		Part No. full set, **locking**	A [mm]	*Bi* [mm]	*Ba* [mm]
2/20	▶	**TH3.450.2/20.12.8.A**	80	70	90
3/20	▶	**TH3.450.3/20.12.8.A**	105	95	115
4/20	▶	TH3.450.4/20.12.8.A*	130	120	140
5/20	▶	**TH3.450.5/20.12.8.A**	155	145	165

*Width available upon request. Delivery time upon request.



The bracket orientations are set automatically when using igus® mounting brackets.
Note: the TH3 series are always delivered with pre-fitted mounting brackets.

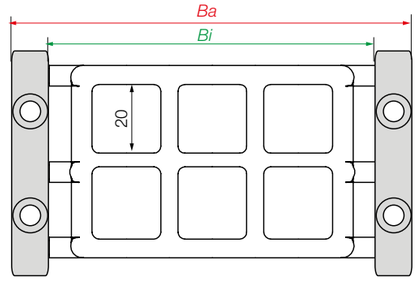
TH3.450.3/20.12.8.A Order example

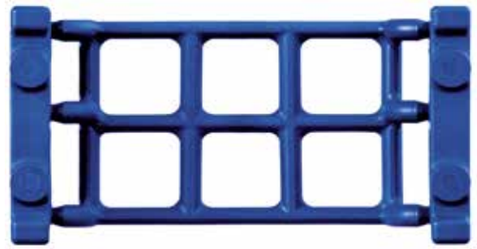
- TH3.450 Series
- .3 Interior separation segment
- /20 Full set
- .12 Colour, standard blue
- .8 Pre-assembled
- .A

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

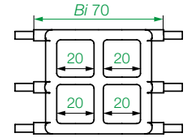
TH3 | Series TH3.45 | Overview

Interior separation segments

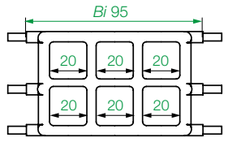




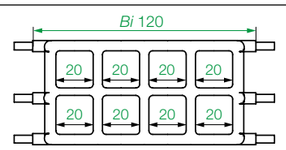
The TH3 interior separation segments are mounted on every 5th link of the e-chain®!
The diagrams show a TH3.45 interior separation segment with 3 chambers and fitted mounting bracket



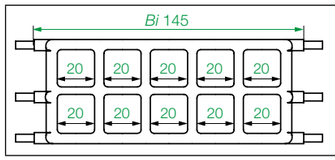
Interior separation segment with 2 x 2 chambers



Interior separation segment with 2 x 3 chambers



Interior separation segment with 2 x 4 chambers*

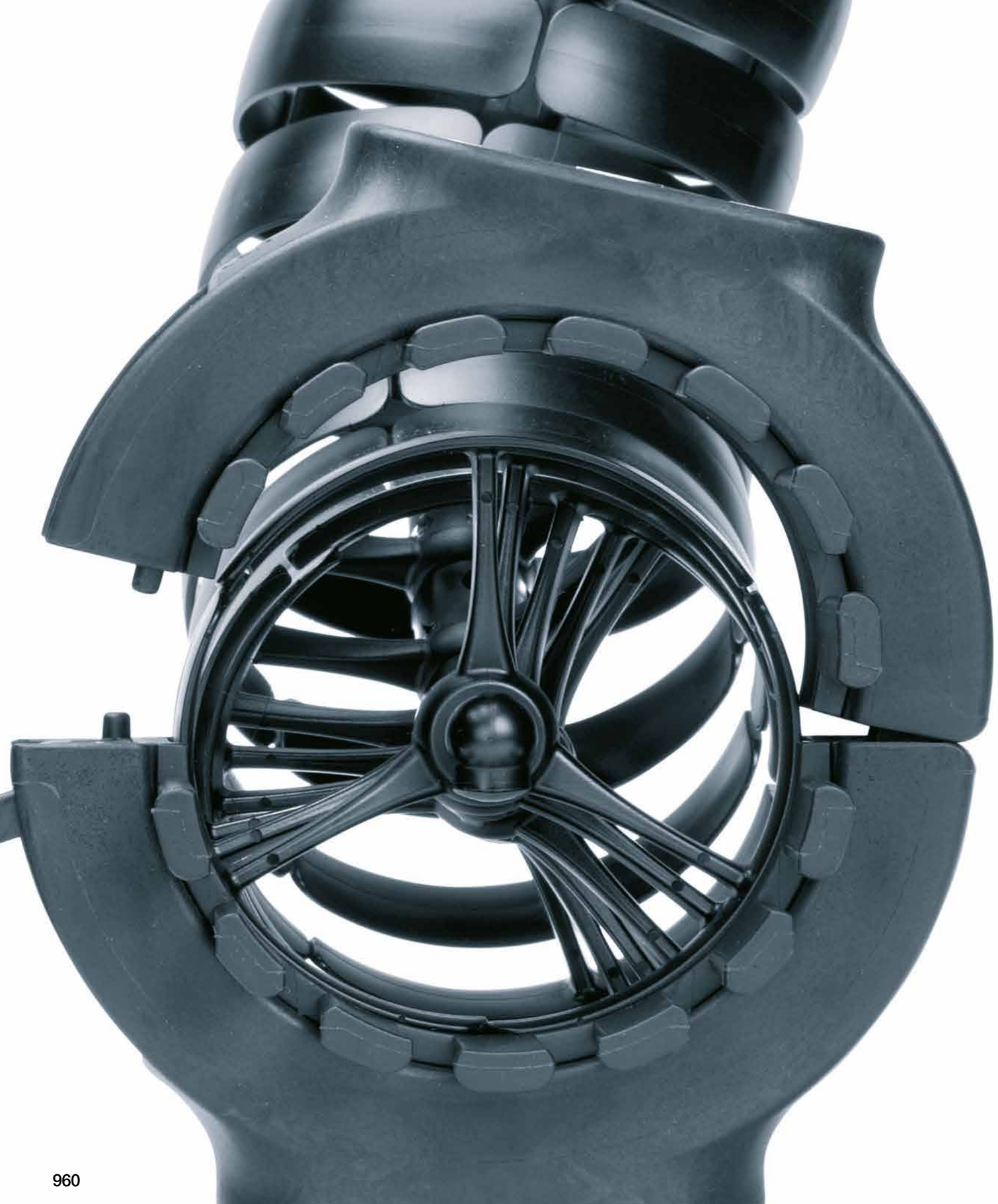


Interior separation segment with 2 x 5 chambers

*Width available upon request. Delivery time upon request.

igus® 3D e-chains®

Robotic, 3D and circular movements: triflex® | twisterchain | twisterband |



triflex® R

For multi-axis movements and robots

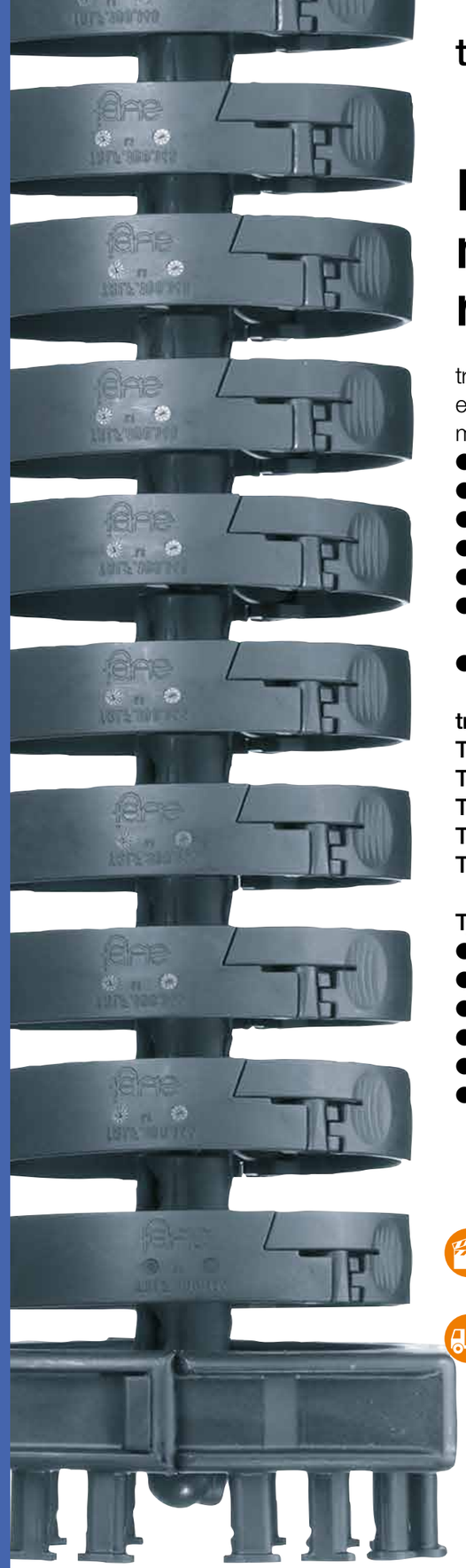
triflex® R advantages:

- For the most demanding multi-axis applications on industrial robots
- Defined torsion stop-dog
- Defined minimum bend radius
- Easy to lengthen and shorten
- Small bend radii and short pitch
- Fillable from the outside

When to use another 3D e-chain® series:

- For circular movements with high loads

► **twisterchain system, page 1086**



For multi-axis movements and robots - triflex® R

triflex® R (R for "round") is the third generation of multi-axis igus® e-chains®. The key design characteristics of igus® triflex® R have made this product very successful in the robot industry.

- Defined torsion stop-dog on each e-chain® link
- Defined minimum bend radius
- High tensile strength due to ball and socket joint
- Compact retraction system options to prevent loop formation
- Fibre-rod option for partial directional control and reinforcement
- No extra support elements required, e.g. steel cables, spring suspensions
- Wide range of accessories

triflex® R available in 5 versions from stock

TRC closed design with smooth and robust exterior
TRE "easy" design, easy to fill from outside
TRCF closed design with snap-lock mechanism
TRL very lightweight, with "easy" design
TRLF light version with snap-lock mechanism

Typical industries and applications

- The first choice for multi-axis robots
- Machine tools
- Handling machines - 6-axis
- Conveyor systems
- Packaging machines
- General mechanical engineering, etc.

Assembly video available online at
► www.igus.eu/triflexR_assembly

Available from stock. Ready to ship in 24 - 48hrs.*
*Average time before the ordered goods are dispatched.



The defined torsion stop ensures an even distribution of the torsional load across the entire length



A tough, bend radius stop-dog actively prevents cables and hoses from kinking



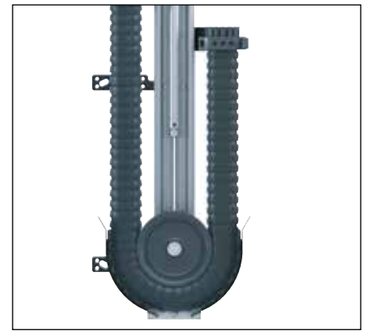
Interior separation: two or three chamber design for reliable cable guidance



Openable - series TRCF and TRLF have snap-lock mechanism for easy filling



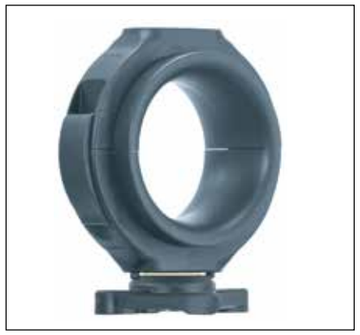
Tensile strength is absorbed directly by the e-chain® - no additional supports are necessary



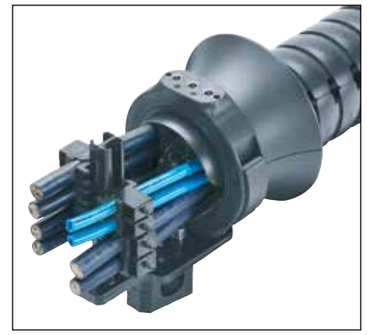
4 retraction system options available to prevent formation of loops in the robot's working area



Standard and light mounting brackets available with or without integrated strain relief. Some versions available in ESD material, from stock



Mounting brackets options with gliding feed-through and swivel bearing. Bearing with a maintenance-free igubal® ball and socket joint

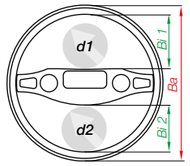
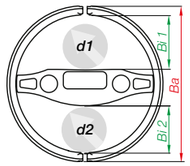
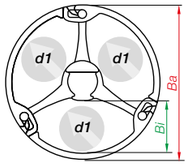


Various heavy duty and compact connections and quick-change units are available

Serie TRC - electrically conductive ESD e-chains® - several series available from stock

UL94-V2 classification

iF product design award
2004 for igus® series TRC
2007 for igus® series TRL
2013 for igus® series TRLF

Series	Inner width Bi1 [mm]	Inner width Bi2 [mm]	Outer width Ba [mm]	Bend radius R [mm]	Max. cable ø d1 [mm]	Max. cable ø d2 [mm]	Pitch [mm]	Links per m	Page
									
Series TRC - enclosed design chip protection, smooth outer contour									
									
TRC.30	12	10	34.5	050	10	8	11.3	89	**968**
TRC.40	15	13	43	058	13	11	13.9	72	**968**
TRC.50	18.8	16.2	54	080	16.5	14	17.4	58	**968**
TRC.60	22.5	19.5	65	087	20.5	17.5	20.4	49	**968**
TRC.70	28	24	81	110	26	22	25.6	39	**968**
TRC.85	33	28	94.5	135	31	26	30.6	33	**968**
TRC.100	37.5	32.5	108	145	35.5	30.5	34.5	29	**968**
TRC.125 [1]	433.	433.	135	182	41	41	44.1	23	**968**
									
Series TRE "easy" design very easy to fill, cables are simply pushed in									
									
TRE.30	12	10	34.5	050	10	8	11.3	89	**970**
TRE.40	15	13	43	058	13	11	13.9	72	**970**
TRE.50	18.8	16.2	54	080	16.5	14	17.4	58	**970**
TRE.60	22.5	19.5	65	087	20.5	17.5	20.4	49	**970**
TRE.70	28	24	81	110	26	22	25.6	39	**970**
TRE.85	33	28	94.5	135	31	26	30.6	33	**970**
TRE.100	37.5	32.5	108	145	35.5	30.5	34.5	29	**970**
TRE.125 [1]	433.	433.	135	182	41	41	44.1	23	**970**
									
Series TRCF - closed design with snap lock mechanism chip protection, smooth outer contour									
									
TRCF.65	22.3	–	70.2	100	20	–	23.1	44	**972**
TRCF.65 [3]	22.3	–	70.2	200	20	–	23.1	44	**972**
TRCF.85	30	–	94.5	135	28	–	30.6	33	**972**
TRCF.85 [3]	30	–	94.5	240	28	–	30.6	33	**972**
TRCF.100	34.3	–	108	145	32	–	34.5	29	**972**

1) Max. cable diameter 41mm. Max. cable diameter changes to Ø 36mm, if lengthening or shortening an already populated triflex® R

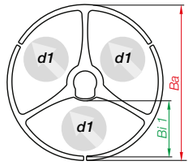
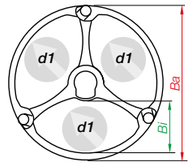
2) TRL 30 with 2-chamber design

3) Special size with larger bend radius and a special range of accessories

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

triflex® R | Selection table

Series	Inner width Bi1 [mm]	Inner width Bi2 [mm]	Outer width Ba [mm]	Bend radius R [mm]	Max. cable ø d1 [mm]	Max. cable ø d2 [mm]	Pitch [mm]	Links per m	Page
									
Series TRL - light version of the "easy"-design easy to fill and cost-effective									
									
TRL.30 [2]	12.5	11	34.5	050	10	8	11.3	89	**974**
TRL.40	15	–	45	058	13	–	13.9	72	**974**
TRL.60	23	–	65	087	20.5	–	20.4	49	**974**
TRL.70	28	–	81	110	26	–	25.6	39	**974**
TRL.100	38	–	108	145	35.5	–	34.5	29	**974**
									
Series TRLF - light version with snap-lock mechanism lightweight and cost-effective									
									
TRLF.65	24.4	–	70.2	100	22	–	23.1	44	**976**
TRLF.85	32.8	–	94.5	135	30	–	30.6	33	**976**
TRLF.100	37.5	–	108	145	35.5	–	34.4	29	**976**
TRLF.125	46.8	–	135	182	44.5	–	44.1	23	**976**

triflex® R retraction system | Overview

Series triflex® R	System triflex® R	For triflex® R e-chains®	For ø Index [mm]	Page
	**RS** modular retraction system	TRC·TRE	40 - 100	**1010**
	**RSP** pneumatic retraction system	TRC·TRE·TRCF	60 - 125	**1018**
	**RSE** cost-effective retraction system with deflection	TRC·TRE	40 - 50	**1026**
	**RSE·RSEC linear** compact retraction system	TRC·TRE·TRCF	40 - 100	**1034**
	**RSEL*·RSSL** cost-effective linear retraction system	TRC·TRE·TRCF	60 - 100	**1044**

Technical data

Speed / acceleration	upon request
Material - permitted temperature °C, igumid G (TRLF/TRCF)	**-40°C/+120°C**
Material - permitted temperature °C, igumid NB (TRC/TRE/TRL)	**-40°C / +80°C**
Flammability class, igumid G (TRLF/TRCF)	**VDE 0304 IIC UL94-HB**
Flammability class, igumid NB (TRC/TRE/TRL)	**VDE 0304 IIC UL94-V2**

Reduce installation times with easy-to-use disassembly tools



Easy-to-use disassembly tools for triflex® TRE (B version) and TRCF. Easy disassembly at any point along the e-chain®, even when full.

More information

▶ www.igus.eu/triflex_B_disassemblytool

Assembly video available online at
▶ www.igus.eu/triflexR_assembly

For series TRE.B	Part No. Disassembly tool
TRE.40.B	MAT0050175
TRE.50.B	MAT0051190
TRE.60.B / TRE.70.B	MAT0051135
TRE.85.B	MAT0050170
TRE.100.B	MAT0050172

For series TRE.B	Part No. Disassembly tool
TRCF.65	MAT0051135
TRCF.85	MAT0050170
TRCF.100	MAT0050172



igus® triflex® R TRLF - light version, easily openable by hand or with a screwdriver



igus® triflex® R TRCF - closed version, openable with a screwdriver



triflex® RS for a low profile retraction system. Integrated fibre rods generate the directed pretension so that loops do not form in the working area



Pneumatic retraction system triflex® RSP - prevents loop forming on the robot



triflex® TR.RSE.40.L or R, cost-effective and lightweight retraction system with deflection roller, for small robots



TR.RSE linear retraction system for triflex® R, sizes 40-125



TRC - enclosed, chip-repellent design

High tensile strength thanks to special ball and socket design

Defined torsion stop, allows free movement in any direction but still protects the cables

Impact-resistant, abrasion resistant and dirt-resistant

Easy assembly and disassembly

High strength - thanks to external stop-dogs

Small bend radii and short pitch

Easy attachment and special accessories for the robot or machine

Closed and chip-repellent - TRC

- Secure, closed and chip-repellent energy supply for multi-axis movements
- Smooth, robust exterior avoids snagging
- High torsion resistance
- Easy to lengthen and shorten

Typical industries and applications

- Robotics and automation
- Multi-axis machine tools
- Wet and cold cells
- Painting applications and ESD
- Sand and dust exposure

Electrically conductive ESD e-chains® - several series available from stock

iF product design award
2004 igus® series TRC

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

More information ▶ www.igus.eu/TRC



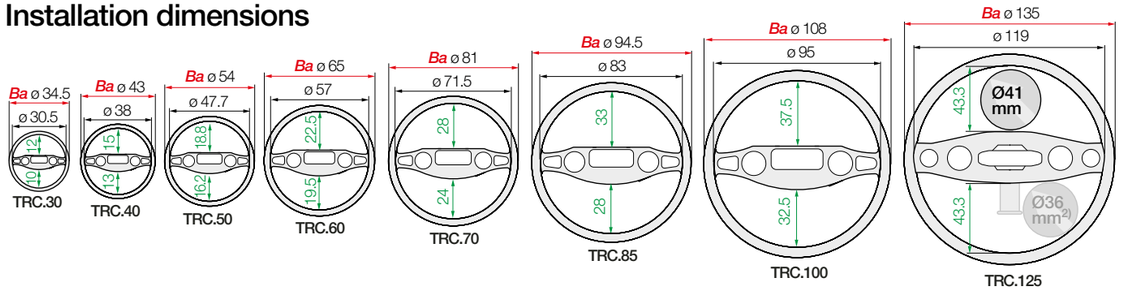
e-tubes | Series TRC | Totally enclosed, non-openable

Part No. e-tubes	Bi1 [mm]	Bi2 [mm]	Ba [mm]	R [mm]	d1 [mm]	d2 [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRC.30.050.0	12	10	34.5	050	10	8	11.3	89	≈ 0.27
TRC.40.058.0⚠	15	13	43	058	13	11	13.9	72	≈ 0.37
TRC.50.080.0	18.8	16.2	54	080	16.5	14	17.4	58	≈ 0.59
TRC.60.087.0⚠	22.5	19.5	65	087	20.5	17.5	20.4	49	≈ 0.85
TRC.70.110.0⚠	28	24	81	110	26	22	25.6	39	≈ 1.32
TRC.85.135.0	33	28	94.5	135	31	26	30.6	33	≈ 1.75
TRC.100.145.0	37.5	32.5	108	145	35.5	30.5	34.5	29	≈ 2.38
TRC.125.182.0	433.	433.	135	182	41	41 1)	44.1	23	≈ 4.70

⚠ ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

1) TRE.125 max. cable diameter Ø 41mm. Max. cable diameter changes to Ø 36mm when an already populated e-chain needs to be shortened or lengthened

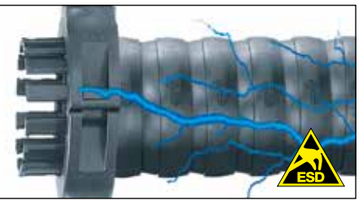
Installation dimensions



ESD - many sizes from stock

- Standardised product made from igumid ESD
- ESD material tested with over 10 million cycles for highest requirements
- Short delivery times including mounting brackets and interior separation; 24hrs, from stock

More information and the complete product range
▶ From page 142 or at ▶ www.igus.eu/esd





TRE - "easy" design - simply press cables in

High tensile strength thanks to special ball and socket design

Defined torsion stop, allows free movement in any direction but still protects the cables

"Easy" design for fast filling with cables and hoses

Simple tool for fast disassembly of the triflex® B versions

High strength - thanks to external stop-dogs

Small bend radii and short pitch

Easy attachment and special accessories for the robot or machine

Easy to fill - simply press cables in - TRE

- Easy to fill energy supply for multi-axis movements
- High torsion resistance
- Easy to lengthen and shorten
- **B version** - 4x increase in radial stability, allows larger torsion forces
- **C version and TRE.125** - fast assembly due to pin connection and spherical igubal® joint allowing 50% higher tensile forces

Typical industries and applications

- Robotics and automation
- Spot welding and pick and place applications
- When fast cable replacement is required

Electrically conductive ESD e-chains® upon request

Save time - easy disassembly tool available for triflex® R



TRE - very easy to fill, cables are simply pushed in

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

More information ▶ www.igus.eu/TRE



e-chains® | Series TRE | "easy" design - simply press cables in

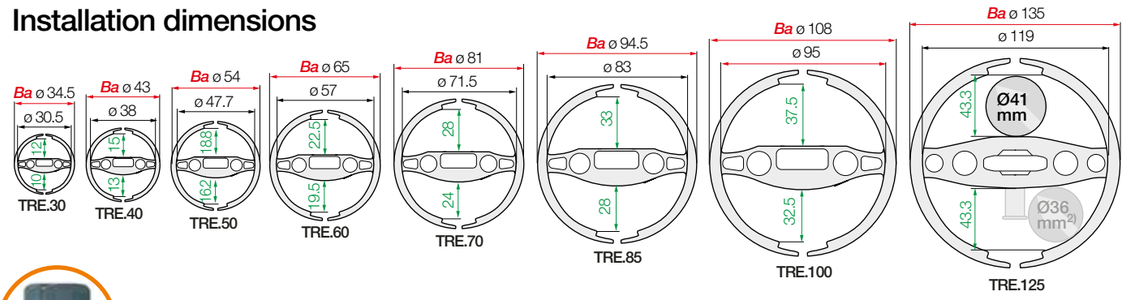
Part No. e-chains®	Bi1 [mm]	Bi2 [mm]	Ba [mm]	R [mm]	d1 [mm]	d2 [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRE.30. 050.0.B	12	10	34.5	050	10	8	11.3	89	≈ 0.26
TRE.40. 058.0.B	15	13	43	058	13	11	13.9	72	≈ 0.36
TRE.50. 080.0.B	18.8	16.2	54	080	16.5	14	17.4	58	≈ 0.56
TRE.60. 087.0.B	22.5	19.5	65	087	20.5	17.5	20.4	49	≈ 0.83
TRE.70. 110.0.B	28	24	81	110	26	22	25.6	39	≈ 1.30
TRE.85. 135.0.B	33	28	94.5	135	31	26	30.6	33	≈ 1.67
TRE.100.145.0.B / C 1)	37.5	32.5	108	145	35.5	30.5	34.5	29	≈ 2.35
TRE.125.182.0	433.	433.	135	182	41	41 2)	44.1	23	≈ 4.40

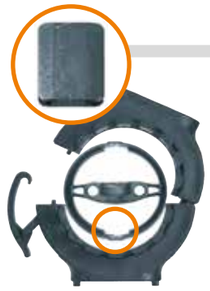
B-Series = 4-x higher torsion forces C-Series = quick assembly, 50% higher forces

1) Available as C-Version Part No. TRE.100.145.0.C

2) TRE.125: max. cable diameter Ø 41mm. Max. cable diameter changes to Ø 36mm when an already populated e-chain needs to be shortened or lengthened TRE.LOCK

Installation dimensions



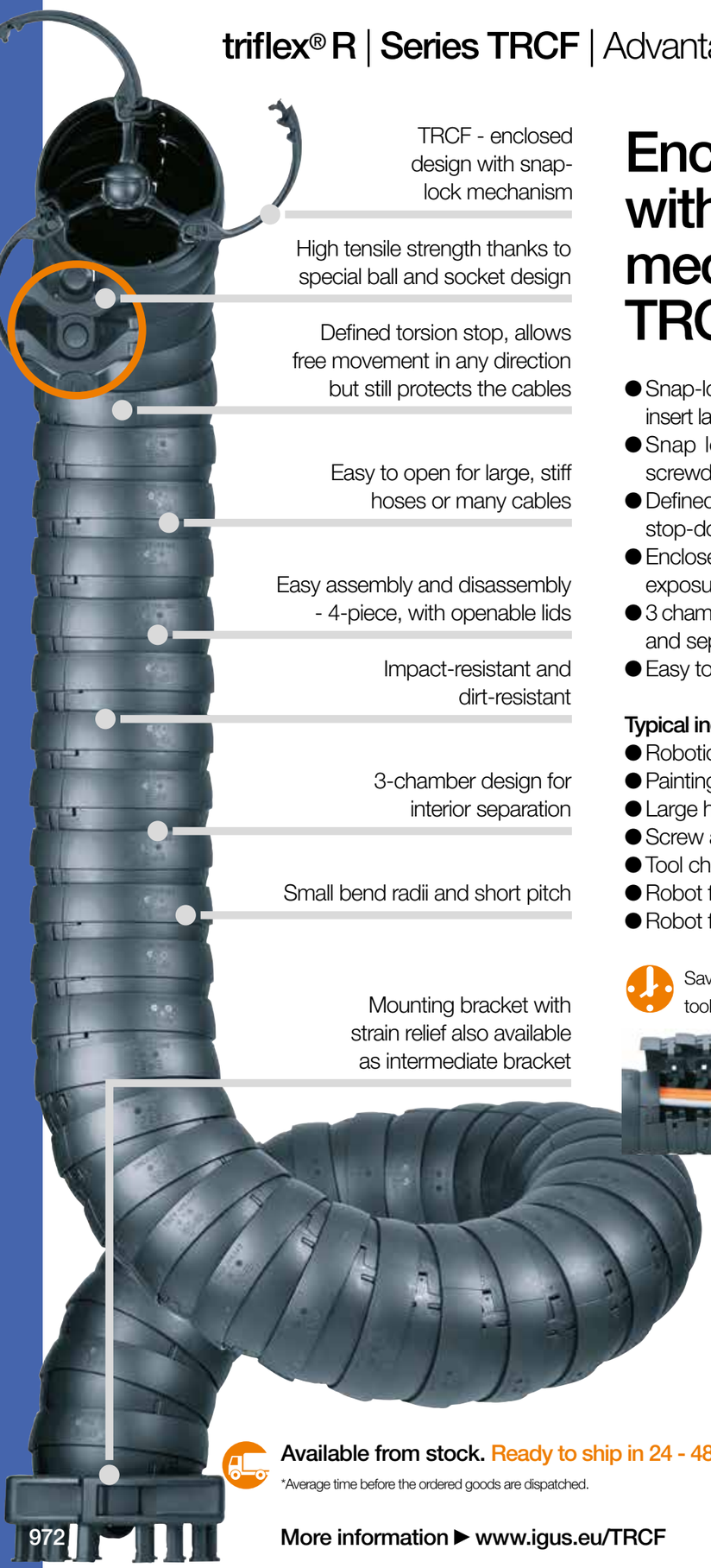


TRE.LOCK clips

Clips for a secure fit in the mounting bracket. Supplied with every mounting bracket. Please use the Part No. on the right for reordering individual parts.

Part No. as an individual part	Size [mm]
MAT0072125	30/40
MAT0074101	50/60
MAT0072126	70/85

Part No. as an individual part	Size [mm]
MAT0072127	100
MAT0072128	125



Enclosed design with snap-lock mechanism - TRCF

- Snap-lock mechanism for fast opening to insert large cables or hoses
- Snap lock mechanism openable with a screwdriver
- Defined minimum bend radius and torsion stop-dog for optimum cable protection
- Enclosed version, for use with dirt and chip exposure
- 3 chamber design for ideal cable distribution and separation
- Easy to lengthen and shorten

Typical industries and applications

- Robotics and automation
- Painting applications
- Large hydraulic hoses
- Screw and rivet feeds
- Tool changer applications
- Robot for laser welding
- Robot for screw and rivet applications

Save time - easy disassembly tool available for triflex® R

Flip open, insert cable, and close snap lock mechanism - then ready to run!

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

More information ▶ www.igus.eu/TRCF



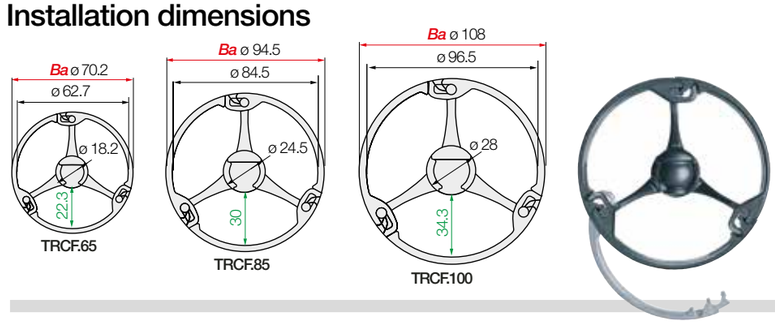
e-tubes | Series TRCF | Fully enclosed design, with snap-lock mechanism

Part No. e-tubes	Bi1 [mm]	Ba [mm]	R [mm]	d1 [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRCF.65.100.0	22.3	70.2	100	20	23.1	44	≈ 1.10
TRCF.65.200.0 1)	22.3	70.2	200	20	23.1	44	≈ 1.10
TRCF.85.135.0	30	94.5	135	28	30.6	33	≈ 2.10
TRCF.85.240.0 2)	30	94.5	240	28	30.6	33	≈ 2.10
TRCF.100.145.0	34.3	108	145	32	34.5	29	≈ 2.70

1) Special size Part No. **TRCF.65.200.0** with 200mm bend radius and a range of accessories

2) Special size Part No. **TRCF.85.240.0** with 240mm bend radius and a range of accessories

Installation dimensions



Snap-lock mechanism for fast opening, video online
▶ www.igus.eu/TRLFlip

Special sizes with larger bend radius

- The large bend radii 200/240mm increase the service life of laser light cables by preventing kinks
- Special range of accessories available
- Special sizes Part No. **TRCF.65.200.0** and **TRCF.85.240.0**

More information ▶ www.igus.eu/TRCF





TRL - light and cost-effective with "easy" design

High tensile strength thanks to special ball and socket design

Defined torsion stop, allows free movement in any direction but still protects the cables

"Easy" design for fast filling with cables and hoses

Easy assembly and disassembly

Extremely lightweight due to one-piece design

Small bend radii and short pitch

Mounting bracket with strain relief also available as intermediate bracket

Lightweight and cost-effective - TRL

- Very easy to fill
- Multi-axis e-chain® for simple applications
- Easy to lengthen and shorten

Typical industries and applications

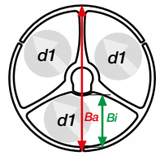
- Robot axes 1-3
- Non-robotic applications
- Bundling cables for operator controls
- Filament feeds on 3D printers
- Office applications

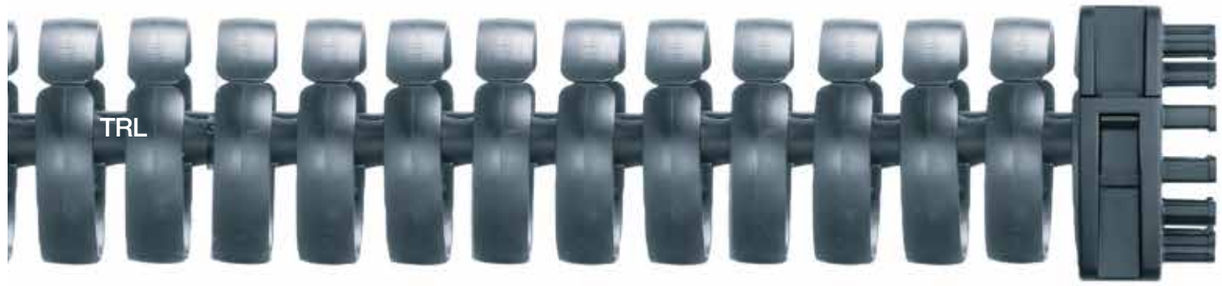
iF product design award
2007 igus® Series TRL



Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.



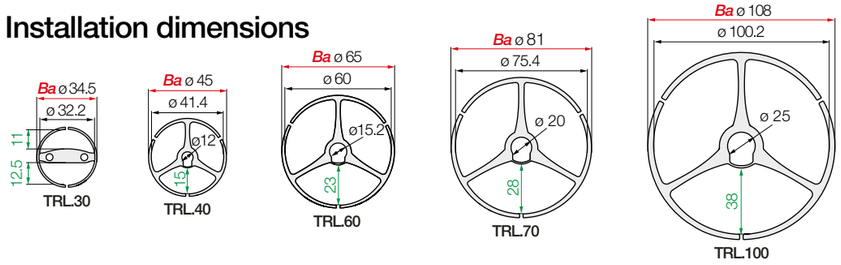


e-chains® | Series TRL | Light version with "easy" design - simply press cables in

Part No. e-chains®	Bi1 [mm]	Bi2 [mm]	Ba [mm]	R [mm]	d1 [mm]	d2 [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRL.30. 050.0 1)	12.5	11	34.5	050	10	8	11.3	89	≈ 0.26
TRL.40. 058.0	15	–	45	058	13	–	13.9	72	≈ 0.29
TRL.60. 087.0	23	–	65	087	20.5	–	20.4	49	≈ 0.49
TRL.70. 110.0	28	–	81	110	26	–	25.6	39	≈ 0.82
TRL.100.145.0	38	–	108	145	35.5	–	34.5	29	≈ 1.42

1) Only available with 2-chamber design

Installation dimensions





TRLF - light and cost-effective with snap-lock mechanism

High tensile strength thanks to special ball and socket design

Defined torsion stop, allows free movement in any direction but still protects the cables

Easy to open for large, stiff hoses or many cables

Easy assembly and disassembly

3-chamber design for interior separation

Small bend radii and short pitch

Lightweight mounting bracket available with strain relief or as intermediate bracket

Lightweight, with snap-lock mechanism - TRLF

- Snap-lock mechanism for fast opening
- Openable by hand or with a screwdriver
- For large, stiff hoses or many cables
- Economical multi-axis e-chain® for less demanding applications
- Easy to lengthen and shorten

Typical industries and applications

- Painting hoses
- Rivet feeds
- Robot axes 1-3
- Non-robotic applications
- Special machine construction
- High-tech design

iF product design award
2013 igus® series TRLF



Flip open, insert cable, and close snap lock mechanism - then ready to run!

Available from stock. Ready to ship in 24 - 48hrs.*

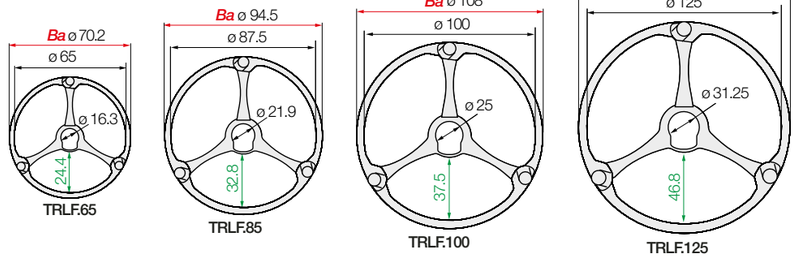
*Average time before the ordered goods are dispatched.



e-chains® | Series TRLF | Light version with snap lock mechanism

Part No. e-chains®	Bi1 [mm]	Ba [mm]	R [mm]	d1 [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRLF. 65. 100.0	24.4	70.2	100	22	23.1	44	≈ 0.79
TRLF. 85. 135.0	32.8	94.5	135	30	30.6	33	≈ 1.45
TRLF. 100.145.0	37.5	108	145	35.5	34.5	29	≈ 1.90
TRLF. 125.182.0	46.8	135	182	44.5	44.1	23	≈ 4.13

Installation dimensions



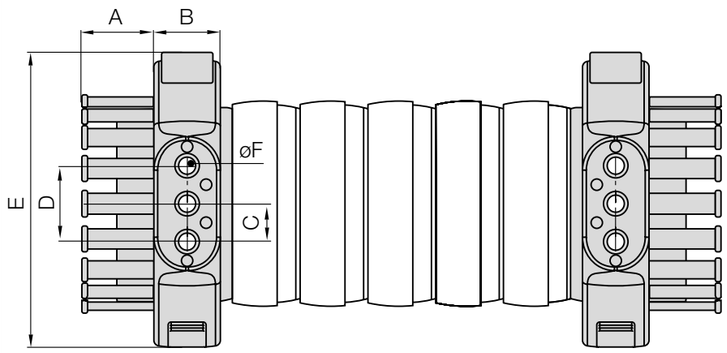


Snap-lock mechanism for fast opening, video online
▶ www.igus.eu/TRLF

triflex® R | TRC·TRE·TRCF·TRL·TRLF | Accessories

Standard mounting brackets | **With** strain relief

With integrated strain relief tiewrap plates
TR.40.01 - TR.100.01





- Recommended for TRC/TRE/TRCF, also compatible with TRL/TRLF
- Standard fixation onto the robot or machine, with strain relief

Standard mounting brackets | With strain relief



TR.40.01 - TR.100.01

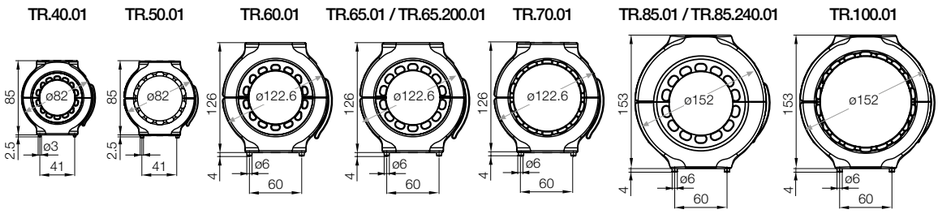
Ø Index		Part No. **with** strain relief	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
30.	▶	Alternative: light mounting bracket	–	–	–	–	–	–
40.	▶	**TR.40.01**.M6 1) 2)	17.8	21	13.5	27	84.5	6.5
50.	▶	**TR.50.01**.M6 1)	21	21	13.5	27	84.5	6.5
60.	▶	**TR.60.01**.M8 1) 2)	25	32	20	40	126	9
65.	▶	**TR.65.01**.M8 1)	25	32	20	40	126	9
65. (*R 200*)	▶	**TR.65.200.01**.M8 1) 4)	25	32	20	40	126	9
70.	▶	**TR.70.01**.M8 1) 2)	25	32	20	40	126	9
85.	▶	**TR.85.01**.M8 1)	38	35	20	40	155	9
85. (*R 240*)	▶	**TR.85.240.01**.M8 1) 4)	38	35	20	40	155	9
100.	▶	**TR.100.01**.M8 1)	38	35	20	40	155	9
125.	▶	Alternative: standard mounting bracket without strain relief						

Strain reliefs are for use on the fixed end and/or moving end.

Standard: through holes in Ø F - 1) option: with threaded bushings, steel, M6/M8

2) ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

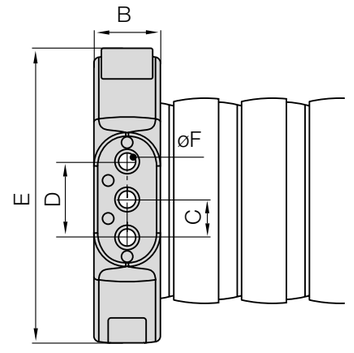
4) Only for special size with larger bend radius



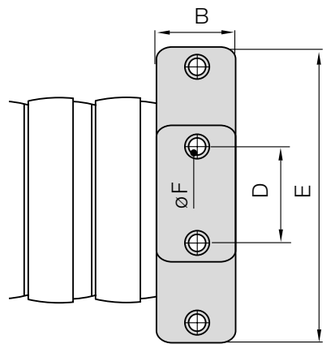
triflex® R | TRC·TRE·TRCF·TRL·TRLF | Accessories

Standard mounting brackets | **Without** strain relief

Without strain relief, only for
TR.40.02 - TR.100.02



Without strain relief, only for
TR.125.02





- Recommended for TRC/TRE/TRCF, also compatible with TRL/TRLF
- Standard fixation onto the machine/ robot, without strain relief
- Can also serve as intermediate bracket

Standard mounting brackets | Without strain relief



TR.40.02 - TR.100.02



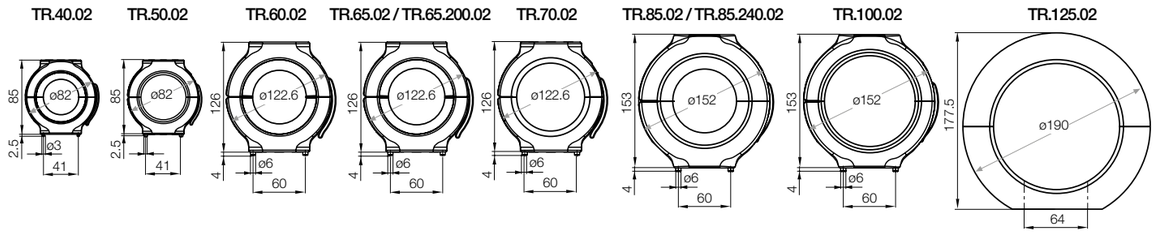
TR.125.02

Ø Index		Part No. **without** strain relief or as intermediate bracket	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
30.	▶	Alternative: light mounting bracket	–	–	–	–	–	–
40.	▶	**TR.40.02**.M6 1)	–	21	13.5	27	84.5	6.5
50.	▶	**TR.50.02**.M6 1)	–	21	13.5	27	84.5	6.5
60.	▶	**TR.60.02**.M8 1)	–	32	20	40	126	9
65.	▶	**TR.65.02**.M8 1)	–	32	20	40	126	9
65. (*R 200*)	▶	**TR.65.200.02**.M8 1) 4)	–	32	20	40	126	9
70.	▶	**TR.70.02**.M8 1)	–	32	20	40	126	9
85.	▶	**TR.85.02**.M8 1)	–	35	20	40	155	9
85. (*R 240*)	▶	**TR.85.240.02**.M8 1) 4)	–	35	20	40	155	9
100.	▶	**TR.100.02**.M8 1)	–	35	20	40	155	9
125.	▶	**TR.125.02**.M8 1)	–	40	–	64	190	9

Standard: through holes in Ø F - 1) option: with threaded bushings, steel, M6/M8

2) ESD version (Electro Static Discharge) available from stock. More information ▶ **From page 142**

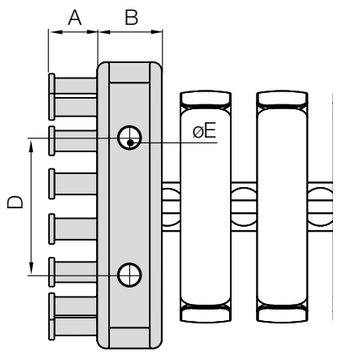
4) Only for special size with larger bend radius



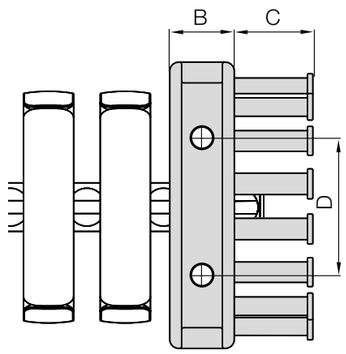
triflex® R | TRC·TRE·TRCF·TRL·TRLF | Accessories

Light mounting brackets | **With** strain relief

Short strain relief
TL.30.01.Z1 - TL.100.01.Z1



Long strain relief
TL.40.01.Z2 - TL.100.01.Z2





- Recommended for TRL/TRLF, also compatible with TRC/TRE/TRCF
- Light fixation onto the machine/ robot, with strain relief
- Options with long or short strain relief

Light mounting brackets | With strain relief



TL.30.01.Z1 - TL.100.01.Z1

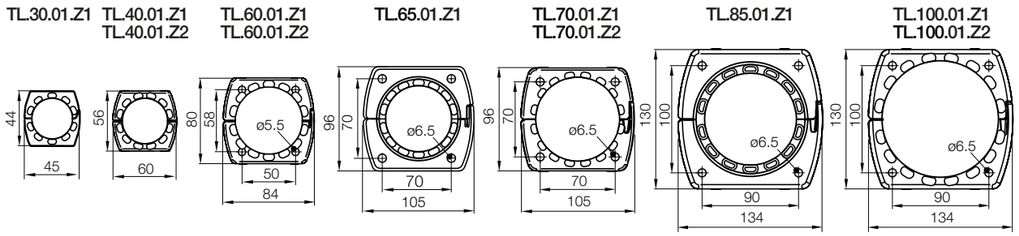


TL.40.01.Z2 - TL.100.01.Z2

Ø Index		Part No. with **short** strain relief	Part No. with **long** strain relief	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
30.	▶	**TL.30.01.Z1**	–	12.5	13	–	24	4.5
40.	▶	**TL.40.01.Z1** 1)	**TL.40.01.Z2**	12.5	14	20	36	5.8
50.	▶	Alternative: standard mounting bracket		–	–	–	–	–
60.	▶	**TL.60.01.Z1** 1)	**TL.60.01.Z2**	17	20	27	48	5.8
65.	▶	**TL.65.01.Z1** 1)	–	13.5	27	–	64	6.5
65. (*R 200*)	▶	Alternative: standard mounting bracket		–	–	–	–	–
70.	▶	**TL.70.01.Z1** 1)	**TL.70.01.Z2**	17.5	27	27.5	64	6.5
85.	▶	**TL.85.01.Z1**	–	26.5	30	–	64	6.5
85. (*R 240*)	▶	Alternative: standard mounting bracket		–	–	–	–	–
100.	▶	**TL.100.01.Z1** 1)	**TL.100.01.Z2**	22.5	30	42.5	64	6.5
125.	▶	Alternative: standard mounting bracket		–	–	–	–	–

1) For moving end (ball) suitable only for series TRL/TRLF

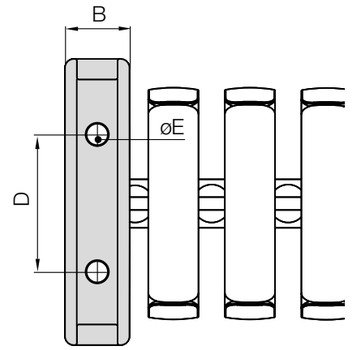
TL.30.01.Z1 TL.40.01.Z1 TL.40.01.Z2 TL.60.01.Z1 TL.60.01.Z2 TL.65.01.Z1 TL.70.01.Z1 TL.70.01.Z2 TL.85.01.Z1 TL.100.01.Z1 TL.100.01.Z2



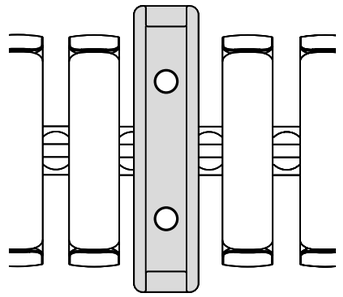
triflex® R | TRC·TRE·TRCF·TRL·TRLF | Accessories

Light mounting brackets | **Without** strain relief

Without strain relief
TL.30.01.Z0 - TL.100.01.Z0



Can also serve as intermediate bracket
TL.30.01.Z0 - TL.100.01.Z0





- Recommended for TRL/TRLF, also compatible with TRC/TRE/TRCF
- Light fixation onto the machine/ robot, without strain relief
- Can also serve as intermediate bracket

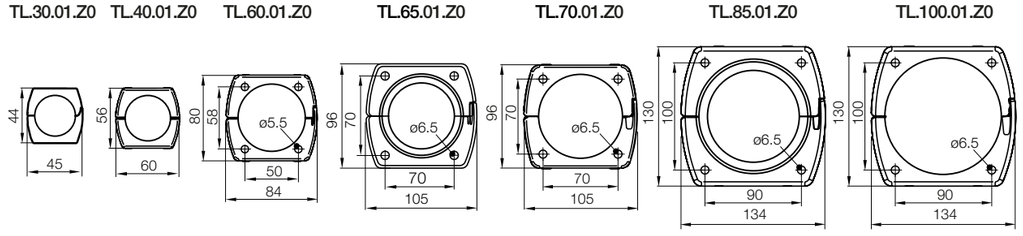
Light mounting brackets | Without strain relief



TL.30.01.Z0 - TL.100.01.Z0

Ø Index		Part No. **without** strain relief or as intermediate bracket	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
30.	▶	**TL.30.01.Z0**	–	13	–	24	4.5
40.	▶	**TL.40.01.Z0**	–	14	–	36	5.8
50.	▶	Alternative: standard mounting bracket	–	–	–	–	–
60.	▶	**TL.60.01.Z0**	–	20	–	48	5.8
65.	▶	**TL.65.01.Z0**	–	27	–	64	6.5
65. (*R 200*)	▶	Alternative: standard mounting bracket	–	–	–	–	–
70.	▶	**TL.70.01.Z0**	–	27	–	64	6.5
85.	▶	**TL.85.01.Z0**	–	30	–	64	6.5
85. (*R 240*)	▶	Alternative: standard mounting bracket	–	–	–	–	–
100.	▶	**TL.100.01.Z0**	–	30	–	64	6.5
125.	▶	Alternative: standard mounting bracket	–	–	–	–	–

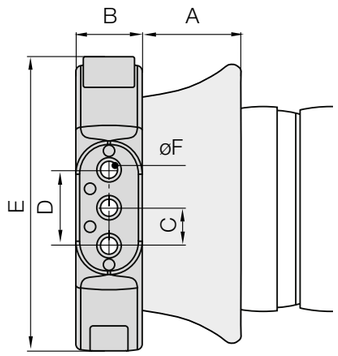
TL.30.01.Z0 TL.40.01.Z0 TL.60.01.Z0 TL.65.01.Z0 TL.70.01.Z0 TL.85.01.Z0 TL.100.01.Z0



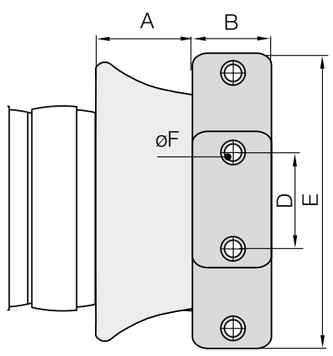
triflex® R | Series TRC·TRE·TRCF·TRL·TRLF | Accessories

Mounting brackets | With radius support

Mounting bracket with radius support, only for TR.40.09 - TR.100.09



Mounting bracket with radius support, only for TR.125.09





- The triflex® R radius support for triflex® R energy supply at the most highly stressed points (axis 6)
- Provides higher operational reliability for robotic applications

Mounting brackets | With radius support | For TRC·TRE·TRCF·TRL·TRLF



TR.40.09 - TR.100.09



TR.125.09

Ø Index		Part No. with radius support	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
30.	▶	–	–	–	–	–	–	–
40.	▶	**TR.40.09**.M6 1)	28	21	13.5	27	84.5	6.5
50.	▶	**TR.50.09**.M6 1)	38	21	13.5	27	84.5	6.5
60.	▶	**TR.60.09**.M8 1)	38	32	20	40	126	9
65.	▶	**TR.65.09**.M8 1)	45	32	20	40	126	9
65. (*R 200*)	▶	–	–	–	–	–	–	–
70.	▶	**TR.70.09**.M8 1)	43	32	20	40	126	9
85.	▶	**TR.85.09**.M8 1)	49	35	20	40	155	9
85. (*R 240*)	▶	–	–	–	–	–	–	–
100.	▶	**TR.100.09**.M8 1)	67	35	20	40	155	9
125.	▶	**TR.125.09**.M8 1)	72	40	–	64	190	9

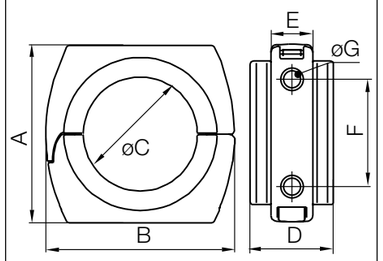
Standard: through holes in Ø F

1) Option: with threaded bushings, steel, M6/M8

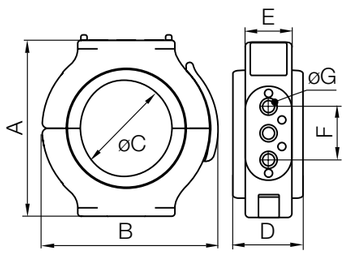
triflex® R | Series TRC·TRE·TRCF | Accessories

Gliding feed-throughs

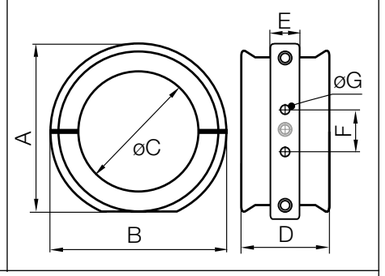
Gliding feed-through, only for TL.30.05



Gliding feed-through, only for TR.40.05 + TR.60-85.05



Gliding feed-through, only for TR.50.05 + TR.100.05-TR.125.05



- The gliding feed-through enables easy guidance of the e-chain® and can also be used as an additional guide
- Gliding feed-through with swivel bearing ▶ **Page 986**



Gliding feed-through | For TRC·TRE·TRCF



TL.30.05



TR.40.05 + TR.60-85.05



TR.50.05 + TR.100.05 - TR.125.05

Ø Index		Part No. Gliding feed-through	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
30.	▶	**TL.30.05**	56	60	36	28	14	36	5.8
40.	▶	**TR.40.05**.M6 1)	85	84.5	46	32	21	27	6.5
50.	▶	**TR.50.05**.M6 1)	96	102	58	67	21	27	6.5
60.	▶	**TR.60.05**.M8 1)	126	126	70	50	32	40	9
65.	▶	**TR.65.05.**M8 1)	126	126	75	75	32	40	9
65. (*R 200*)	▶	**TR.65.05.**M8 1)	126	126	75	75	32	40	9
70.	▶	**TR.70.05**.M8 1)	153	155	86	70	35	40	9
85.	▶	**TR.85.05**.M8 1)	153	155	100	84	35	40	9
85. (*R 240*)	▶	**TR.85.05**.M8 1)	153	155	100	84	35	40	9
100.	▶	**TR.100.05**.M8 1) *	162.5	169.5	115	85	28	40	9
125.	▶	**TR.125.05**.M8 1)	179	190	142	84	40	64	9

*TR.100.05 with 3 holes

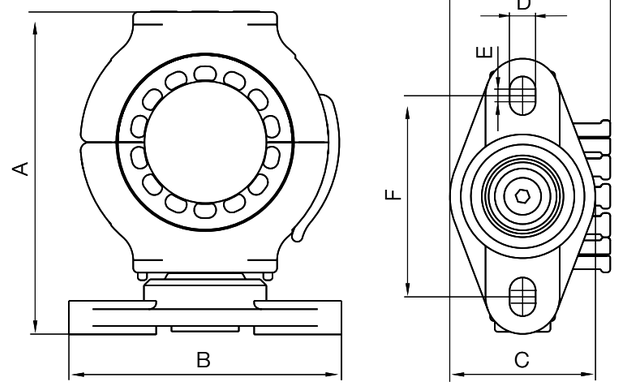
Standard: through holes in Ø G

1) Option: with threaded bushings, steel, M6/M8

triflex® R | Series TRC·TRE·TRCF·TRL·TRLF | Accessories

Swivel bearing mounting brackets | **With** strain relief

With integrated strain relief tiewrap plates
TR.40.03 - TR.100.03





- Standard mounting bracket with strain relief and maintenance-free igubal® spherical bearing
- Pivoting mounting for extreme rotating and reverse bending movements
- For TRC·TRE·TRCF·TRL·TRLF

Swivel bearing-mounting brackets | With strain relief | For TRC·TRE·TRCF·TRL·TRLF



TR.40.03 - TR.100.03

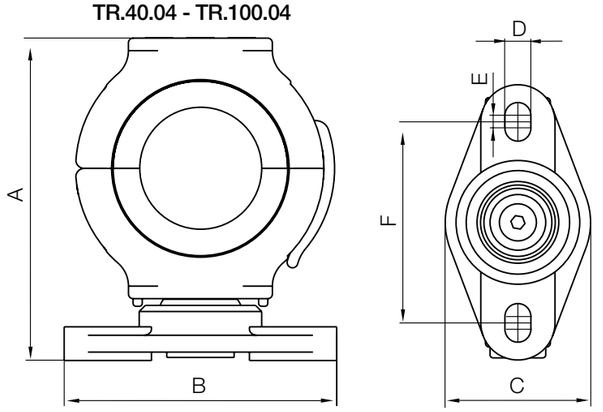
Ø Index	Part No. **with** strain relief	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
30.	–	–	–	–	–	–	–	–
40.	**TR.40.03**	105	89	47	8.4	4.1	65	51.8
50.	**TR.50.03**	105	89	47	8.4	4.1	65	55
60.	**TR.60.03**	152	118	65	10.5	5.5	87.5	73.5
65.	**TR.65.03**	152	118	65	10.5	5.5	87.5	73.5
65. (*R 200*)	**TR.65.200.03** 4)	152	118	65	10.5	5.5	87.5	73.5
70.	**TR.70.03**	152	118	65	10.5	5.5	87.5	73.5
85.	**TR.85.03**	179	118	65	10.5	5.5	87.5	88
85. (*R 240*)	**TR.85.240.03** 4)	179	118	65	10.5	5.5	87.5	88
100.	**TR.100.03**	179	118	65	10.5	5.5	87.5	88
125.	–	–	–	–	–	–	–	–

4) Only for special size with larger bend radius

triflex® R | Series TRC·TRE·TRCF | Accessories

Swivel bearing mounting brackets | **Without** strain relief

Without strain relief
TR.40.04 - TR.100.04





- Standard mounting bracket without strain relief and maintenance-free igubal® spherical bearing
- Pivoting mounting for extreme rotating and reverse bending movements
- For TRC·TRE·TRCF·TRL·TRLF

Swivel bearing mounting brackets | Without strain relief | For TRC·TRE·TRCF·TRL·TRLF



TR.40.04 - TR.100.04

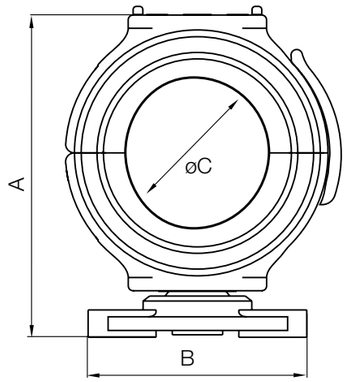
Ø Index	Part No. **without** strain relief	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
30.	–	–	–	–	–	–	–	–
40.	**TR.40.04**	105	89	47	8.4	4.1	65	–
50.	**TR.50.04**	105	89	47	8.4	4.1	65	–
60.	**TR.60.04**	152	118	65	10.5	5.5	87.5	–
65.	**TR.65.04**	152	118	65	10.5	5.5	87.5	–
65. (*R 200*)	**TR.65.200.04** 4)	152	118	65	10.5	5.5	87.5	–
70.	**TR.70.04**	179	118	65	10.5	5.5	87.5	–
85.	**TR.85.04**	179	118	65	10.5	5.5	87.5	–
85. (*R 240*)	**TR.85.240.04** 4)	179	118	65	10.5	5.5	87.5	–
100.	**TR.100.04**	–	–	–	–	–	–	–
125.	–							

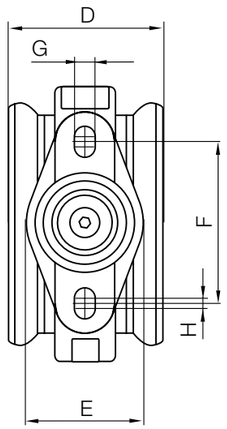
4) Only for special size with larger bend radius

triflex® R | Series TRC·TRE·TRCF | Accessories

Swivel bearing gliding feed-throughs

Swivel bearing gliding feed-throughs
TR.40.07 - TR.100.07

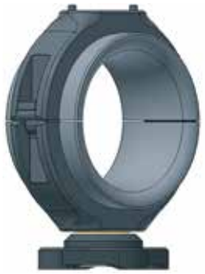






- Gliding feed-through with swivel bearing
- For TRC·TRE·TRCF e-chains®
- Pivoted mounting with maintenance-free igubal® spherical bearings

Swivel bearing gliding feed-throughs | For TRC·TRE·TRCF



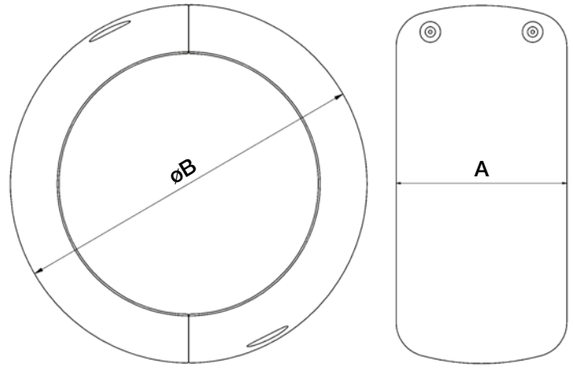
TR.40.07 - TR.100.07

Ø Index	Part No with swivel bearing	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
30.	–	–	–	–	–	–	–	–
40.	**TR.40.07**	108	89	46	32	47	65	8.4
50.	**TR.50.07**	119	89	58	67	47	65	8.4
60.	**TR.60.07**	156	118	70	50	65	87.5	10.5
65.	**TR.65.07**	156	118	75	75	65	87.5	10.5
65. (*R 200*)	**TR.65.07**	156	118	75	75	65	87.5	10.5
70.	**TR.70.07**	183	118	86	70	65	87.5	10.5
85.	**TR.85.07**	183	118	100	84	65	87.5	10.5
85. (*R 240*)	**TR.85.07**	183	118	100	84	65	87.5	10.5
100.	**TR.100.07**	189	118	115	85	79	87.5	10.5
125.	–	–	–	–	–	–	–	–

triflex® R | Series TRC·TRE·TRCF | Accessories

Protectors

Protectors
TR.XX.10 / TR.XX.30





- Optional protectors can be fitted at contact points
- For extreme operations and long service life
- Easy gliding over edges
- Damping, light, freely positionable
- Easy to fit and quick replacement
- Protector with quick-release fastener also available

Protectors | For TRC·TRE·TRCF



TR.40.10 - TR.125.10



TR.40.30 - TR.100.30

Ø Index	Part No. with screw connection	Part No. with quick release	A [mm]	B [mm]
30.	**TR.30.10**	–	22	47
40.	**TR.40.10**	**TR.40.30** 2)	27	55
50.	**TR.50.10**	**TR.50.30** 2)	34	69
60.	**TR.60.10**	**TR.60.30** 2)	40	80
65.	**TR.65.10**	**TR.65.30** 2)	44	88
65. (*R 200*)	TR.65.200.10 5)	–	44	88
70.	**TR.70.10**	**TR.70.30**	50	102
85.	**TR.85.10**	**TR.85.30**	59	118
85. (*R 240*)	**TR.85.240.10** 4)	–	63	120
100.	**TR.100.10**	**TR.100.30**	67	133
125.	**TR.125.10**	–	82	170

2) Without additional securing clip - a safety clip is used from size 70

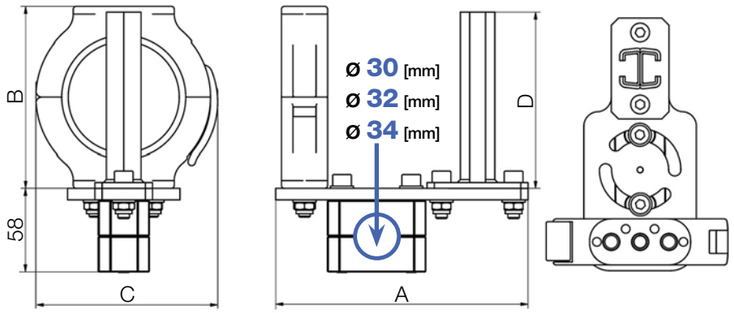
4) Only for special size with larger bend radius

5) Available upon request Delivery time upon request.

triflex® R | Series TRC·TRE·TRCF | Accessories

Heavy duty connections, for axis 6

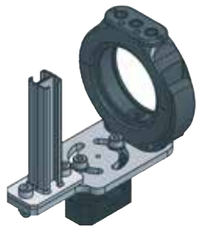
Heavy duty connection Standard
TR.60.20.XX - TR.125.20.XX





- Heavy-duty connection - standard
- For cables with large cross section
- For heavy hydraulic hoses
- Double C-profile for CFX clamps
- igus® chainfix clamps must be ordered separately

Heavy duty connections | For TRC·TRE·TRCF



TR.60.20.XX - TR.125.20.XX

Ø Index		Part No. Standard	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
30.	▶	–	–	–	–	–	–	–
40.	▶	–	–	–	–	–	–	–
50.	▶	–	–	–	–	–	–	–
60.	▶	**TR.60.20.**	| **30** | **32** | **34** |	175	126	126	122	–
65.	▶	**TR.65.20.**	| **30** | **32** | **34** |	175	126	126	122	–
65. (*R 200*)	▶	**TR.65.200.20.** [4]	| **30** | **32** | **34** |	175	126	126	122	–
70.	▶	**TR.70.20.**	| **30** | **32** | **34** |	175	126	126	122	–
85.	▶	**TR.85.20.**	| **30** | **32** | **34** |	175	153	155	149	–
85. (*R 240*)	▶	**TR.85.240.20.** [4]	| **30** | **32** | **34** |	175	153	155	149	–
100.	▶	**TR.100.20.**	| **30** | **32** | **34** |	175	153	155	149	–
125.	▶	**TR.125.20.**	| **30** | **32** | **34** |	180	190	190	175	–

Standard clamp for axis 6: ø 30mm

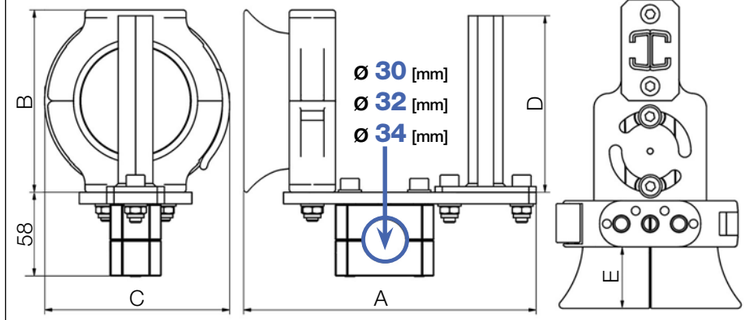
4) Only for special size with larger bend radius

Part No. with desired diameter for the axis 6 clamp | **30** | **32** | **34** | e.g. **TR.100.20.30**

triflex® R | Series TRC·TRE·TRCF | Accessories

Heavy-duty connections for axis 6 | With radius support

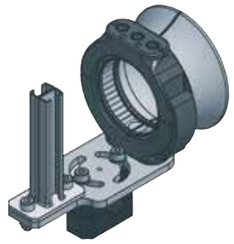
Heavy duty connection - with radius support
TR.60.23.XX - TR.125.23.XX





- With radius support
- For cables with large cross section
- For heavy hydraulic hoses
- Double C-profile for CFX clamps
- igus® chainfix clamps must be ordered separately

Heavy duty connections | With radius support | For TRC·TRE·TRCF



TR.60.23.XX - TR.125.23.XX

Ø Index		Part No. with radius support	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
30.	▶	–	–	–	–	–	–	–
40.	▶	–	–	–	–	–	–	–
50.	▶	–	–	–	–	–	–	–
60.	▶	**TR.60.23.**	| **30** | **32** | **34** |	209	126	130	122	38
65.	▶	**TR.65.23.**	| **30** | **32** | **34** |	214	126	130	122	45
65. (*R 200*)		–	–	–	–	–	–	–
70.	▶	**TR.70.23.**	| **30** | **32** | **34** |	214	126	130	122	43
85.	▶	**TR.85.23.**	| **30** | **32** | **34** |	222	155	155	149	49
85. (*R 240*)	▶	–	–	–	155	–	149	–
100.	▶	**TR.100.23.**	| **30** | **32** | **34** |	240	155	155	149	67
125.	▶	**TR.125.23.**	| **30** | **32** | **34** |	252	190	190	175	72

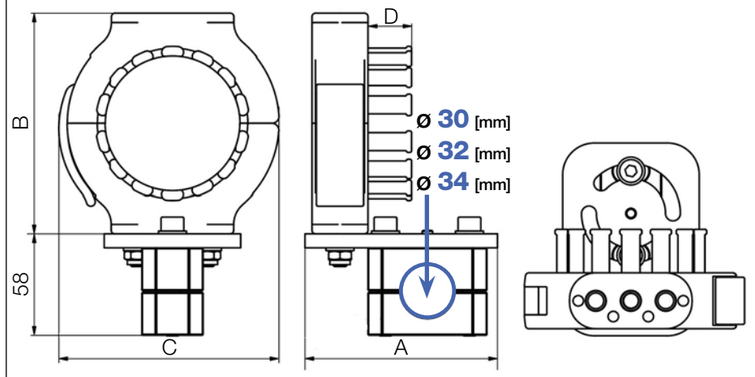
Standard clamp for axis 6: ø 30mm

Part No. with desired diameter for the axis 6 clamp | **30** | **32** | **34** | e.g. **TR.100.23.30**

triflex® R | Series TRC·TRE·TRCF | Accessories

Compact connections for clamp axis 6 | **With** strain relief

Compact connection **with** strain relief
TR.40.21.01.XX - TR.100.21.01.XX





- With integrated strain relief tiewrap plates
- Safe and simple securing of the cables with cable ties
- Various adjustment options

Compact connections | **With** strain relief | For TRC·TRE·TRCF



TR.40.21.01.XX - TR.100.21.01.XX

Ø Index	Part No. with strain relief	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]
30.	–	–	–	–	–	–
40.	**TR.40.21.01.**	| **30** | **32** | **34** |	110	85	84.5	17.8
50.	**TR.50.21.01.**	| **30** | **32** | **34** |	110	85	84.5	21
60.	**TR.60.21.01.**	| **30** | **32** | **34** |	110	126	126	25
65.	**TR.65.21.01.**	| **30** | **32** | **34** |	110	126	126	25
65. (*R 200*)	**TR.65.200.21.01.** [4]	| **30** | **32** | **34** |	110	126	126	25
70.	**TR.70.21.01.**	| **30** | **32** | **34** |	110	126	126	25
85.	**TR.85.21.01.**	| **30** | **32** | **34** |	110	153	155	38
85. (*R 240*)	**TR.85.240.21.01.** [4]	| **30** | **32** | **34** |	110	153	155	38
100.	**TR.100.21.01.**	| **30** | **32** | **34** |	110	153	155	38
125.	–	–	–	–	–	–

Standard clamp for axis 6: ø 30mm

4) Only for special size with larger bend radius

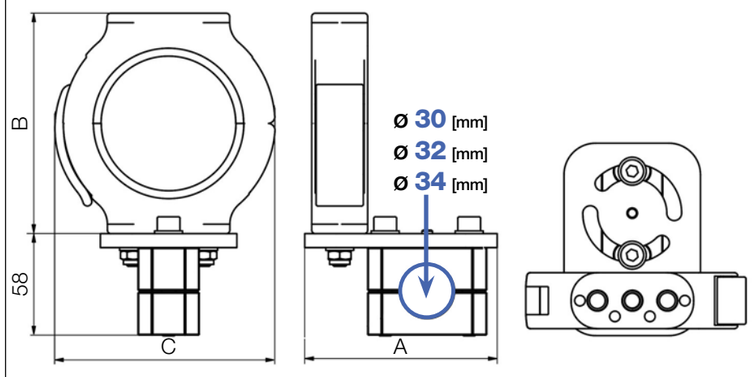
Part No. with desired diameter for the axis 6 clamp | **30** | **32** | **34** | e.g. **TR.100.21.01.30**

triflex® R

triflex® R | Series TRC·TRE·TRCF | Accessories

Compact connections for clamp axis 6 | **Without** strain relief

Compact connection **without** strain relief
TR.40.21.02.XX - TR.100.21.02.XX





- Without strain relief
- Space-saving
- Various adjustment options

Compact connections | **Without** strain relief | For TRC·TRE·TRCF



TR.40.21.02.XX - TR.100.21.02.XX

Ø Index	Part No. without strain relief	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]
30.	–	–	–	–	–	–
40.	**TR.40.21.02.**	| **30** | **32** | **34** |	110	85	84.5	–
50.	**TR.50.21.02.**	| **30** | **32** | **34** |	110	85	84.5	–
60.	**TR.60.21.02.**	| **30** | **32** | **34** |	110	126	126	–
65.	**TR.65.21.02.**	| **30** | **32** | **34** |	110	126	126	–
65. (*R 200*)	**TR.65.200.21.02.** [4]	| **30** | **32** | **34** |	110	126	126	–
70.	**TR.70.21.02.**	| **30** | **32** | **34** |	110	126	126	–
85.	**TR.85.21.02.**	| **30** | **32** | **34** |	110	153	155	–
85. (*R 240*)	**TR.85.240.21.02.** [4]	| **30** | **32** | **34** |	110	153	155	–
100.	**TR.100.21.02.**	| **30** | **32** | **34** |	110	153	155	–
125.	–	–	–	–	–	–

Standard clamp for axis 6: ø 30mm

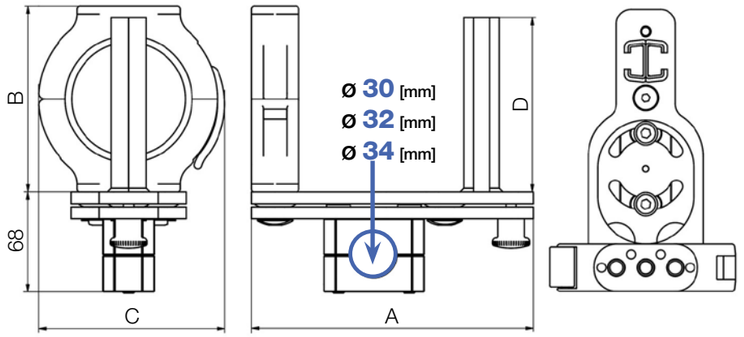
4) Only for special size with larger bend radius

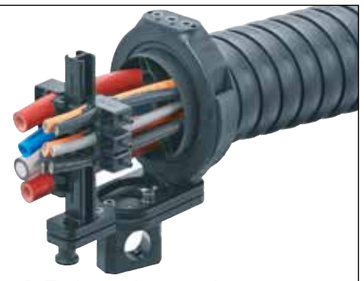
Part No. with desired diameter for the axis 6 clamp | **30** | **32** | **34** | e.g. **TR.100.21.02.30**

triflex® R | Series TRC·TRE·TRCF | Accessories

Quick exchange kit for clamp axis 6

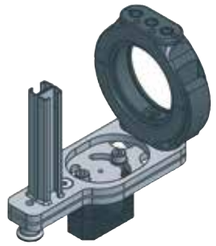
Quick exchange kit
TR.60.22.XX - TR.100.22.XX





- Exchange in seconds
- No repeat alignment required
- Exchange the triflex® R unit incl. cables without tools
- Option available with strain relief

Quick exchange kit | For TRC·TRE·TRCF



TR.60.22.XX -
TR.100.22.XX

Ø Index	Part No. Quick exchange kit	Clamp ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]
30.	–	–	–	–	–	–
40.	–	–	–	–	–	–
50.	–	–	–	–	–	–
60.	TR.60.22.	| 30 | 32 | 34 |	191	126	126	126
65.	TR.65.22.	| 30 | 32 | 34 |	191	126	126	126
65. (R 200)	TR.65.200.22. 4)	| 30 | 32 | 34 |	191	126	126	126
70.	TR.70.22.	| 30 | 32 | 34 |	191	126	126	126
85.	TR.85.22.	| 30 | 32 | 34 |	191	153	155	153
85. (R 240)	TR.85.240.22. 4)	| 30 | 32 | 34 |	191	153	155	153
100.	TR.100.22.	| 30 | 32 | 34 |	191	153	155	153
125.	–	–	–	–	–	–

Standard clamp for axis 6: ø 30mm

4) Only for special size with larger bend radius

Part No. with desired diameter for the axis 6 clamp | 30 | 32 | 34 | e.g. TR.100.22.30

triflex® R | Clamps | Accessories

chainfix clamps

chainfix | Single clamp incl. bottom saddles

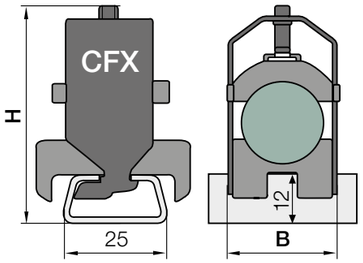


- For use with heavy-duty connection **TR.XX.20** / **TR.XX.23** and quick release unit **TR.XX.22**
- Reliably absorbs tensile forces even for larger cable diameters
- Specifically recommended for solid welding cables and rigid hydraulic hoses
- Space- and time-saving assembly onto the C-profile
- Simple assembly with threaded pins screwed with an Allen wrench
- Durability for dynamic applications with improved stacker elements
- Integrated ribs on the stacker elements prevent the cables from coming loose from the strain relief
- Steel (material galvanised steel) or stainless steel (material 1.4301/AISI 304) available

Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.1	CFX12.1.E	06 - 12	16	54
CFX14.1	CFX14.1.E	12 - 14	18	50
CFX16.1	CFX16.1.E	14 - 16	20	52
CFX18.1	CFX18.1.E	16 - 18	22	54
CFX20.1	CFX20.1.E	18 - 20	24	56

Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX22.1	CFX22.1.E	20 - 22	26	58
CFX26.1	CFX26.1.E	22 - 26	30	67
CFX30.1	CFX30.1.E	26 - 30	34	71
CFX34.1	CFX34.1.E	30 - 34	38	75

*Stainless steel material: 1.4301/AISI 304

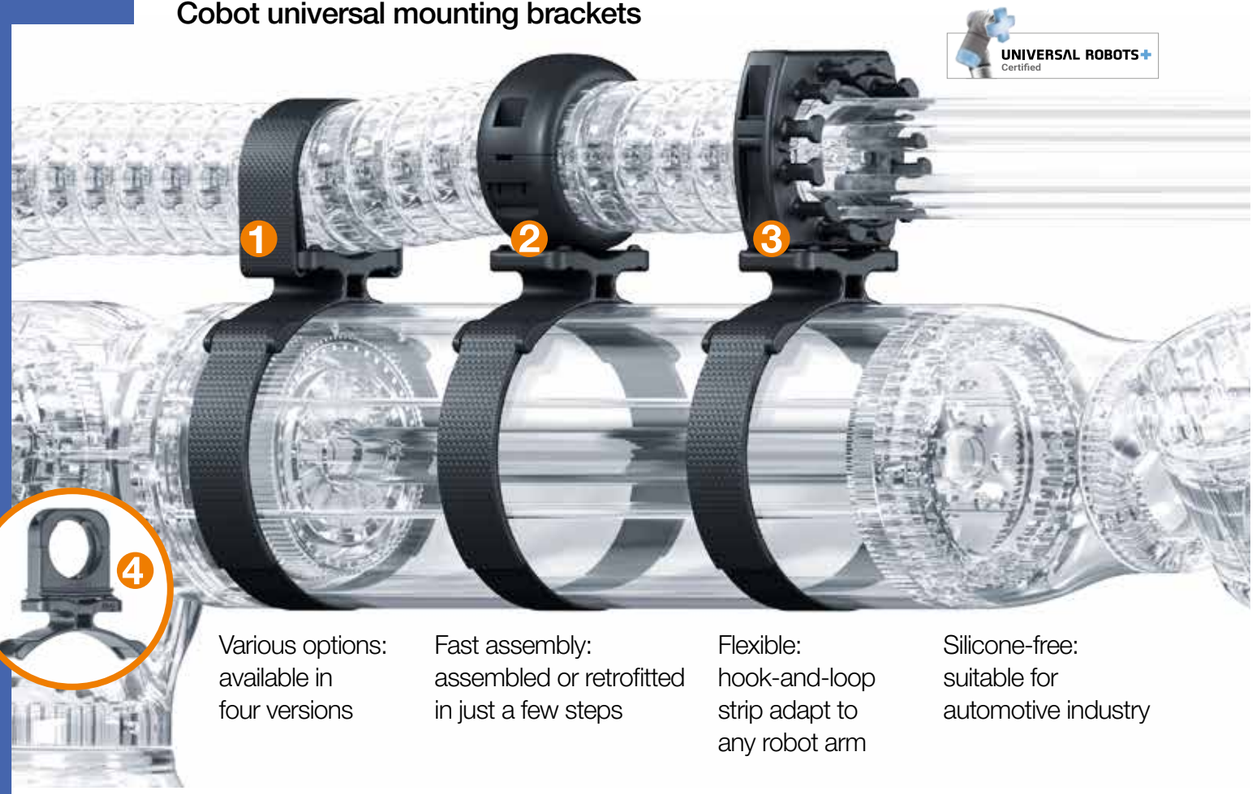




Individual strain relief for every cable offers security and easy replacement

triflex® R | Series TRC·TRE·TRL | Accessories

Cobot universal mounting brackets



Various options: available in four versions

Fast assembly: assembled or retrofitted in just a few steps

Flexible: hook-and-loop strip adapt to any robot arm

Silicone-free: suitable for automotive industry

Cost-effective, flexible and fast assembly - triflex® COB universal mounting brackets

For secure attachment of e-chains® or protective hoses to robots, users can now rely on the new Lean Robotics brackets from igus®. The universal mounting brackets with hook-and-loop strips are flexible and adapt to any robot arm. A slim design with rounded edges reduces the risk of injury if there is contact with the robot. The new Lean Robotics brackets are available in various designs and are suitable for use with the triflex® R TRC/TRE/TRL 30 and 40 series and for all commercially available protective hoses in various diameters.

- Compact, lightweight and smooth design
- For different robots arm diameters, universal applications
- Assembled and retrofitted in just a few steps
- Silicone-free, suitable for automotive industry
- Virtually no edges, so the risk of injury is minimised
- The standard universal mounting brackets ❶ are suitable for all sizes of the triflex® R e-chain® series TRC/TRE/TRL
- The standard universal mounting brackets with hook-and-loop strips and protector ❷ or mounting bracket ❸ are suitable for triflex® R e-chain® series TRC/TRE/TRL 30 and 40
- The standard universal mounting brackets with PMA Clip ❹ are suitable for nominal widths 17, 23, 29, 36 and 48mm
- Low-cost addition to the igus® cobot accessories range

triflex® R | Series TRC·TRE·TRL | Accessories

Cobot universal mounting brackets overview

❶ Standard for maximum adaptability	❷ With triflex® R protector	❸ With triflex® R mounting bracket and optional strain relief	❹ With PMA clip
			
Benefits: ● 1 x polymer bracket ● 1m hook-and-loop strip ● Most cost-effective clamp in the range ● Silicone-free ● Maximum freedom for cable management	**Benefits:** ● 1 x polymer bracket ● 1m hook-and-loop strip ● 1 x round protector size 40 ● Silicone-free	**Benefits:** ● 1 x polymer bracket ● 1m hook-and-loop strip ● 1 x lightweight mounting bracket size 30 or 40*, available with and without strain relief ● *Size 40, option with long or short strain relief teeth ● Silicone-free	**Benefits:** ● 1 x polymer bracket ● 1m hook-and-loop strip ● 1 x PMA clip ● Available in 5 sizes for corrugated hoses ● Silicone-free
Suitable for: triflex® R e-chain® series TRC/TRE/TRL	**Suitable for:** triflex® R e-chain® series TRC/TRE/TRL, size 40	**Suitable for:** triflex® R e-chain® series TRC/TRE/TRL, size 30 and 40	**Suitable for:** Corrugated tube systems with nominal width 17, 23, 29, 36 and 48mm
▶ Page 996	▶ Page 996	▶ Page 996	▶ Page 997

UNIVERSAL ROBOTS+ Certified

Bracket for fibre-rod system ø 40 for UR10 and UR10e

Virtually contact-free management of cables on UR10 and UR10e

Easy retrofitting of cables and hoses

- Strong, defined cable management up to the tool
- Can be combined with our universal mounting brackets with hook-and-loop
- Individually adjustable plug-and-play for UR10 and UR10e

More information ▶ www.igus.eu/info/n20-newspage-ur-fibre-rod



triflex® R | Series TRC·TRE·TRL | Product range

Cobot universal mounting brackets

Product range | ❶ Standard for maximum adaptability
Universal for diameters from 15 to 55mm

Product	Part No. mounting brackets	Size ø [mm]	Description
	TR.COB.01.00.0	15 - 55	Support + 1m hook-and-loop strip

Product range | ❷ With triflex® R protector
For triflex® R e-chain® series TRC/TRE/TRL, size 40

Product	Part No. mounting brackets	Index ø [mm]	Description
	TR.COB.01.40.30.0	40	Protector size 40 + support + 1m hook-and-loop strip + plastic screw + protector

Product range | ❸ With triflex® R mounting bracket and optional strain relief
For triflex® R e-chain® series TRC/TRE/TRL, size 30 and 40

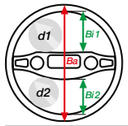
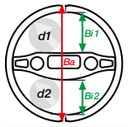
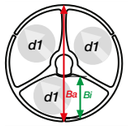
Product	Part No. mounting brackets	Index ø [mm]	Description
	TR.COB.01.30.Z1.0	30	Lightweight mounting bracket, size 30 with short strain relief + support + 1m hook-and-loop strip
	TR.COB.01.40.Z1.0	40	Lightweight mounting bracket, size 40, with strain relief + support + 1m hook-and-loop strip + plastic screw TR AE
	TR.COB.01.40.Z2.0	40	Lightweight mounting bracket, size 40, with long strain relief + support + 1m hook-and-loop strip + plastic screw TR AE
	TR.COB.01.30.Z0.0	30	Lightweight mounting bracket, size 30, without strain relief + support + 1m hook-and-loop strip
	TR.COB.01.40.Z0.0	40	Lightweight mounting bracket, size 40, without strain relief + support + 1m hook-and-loop strip + plastic screw TR AE

triflex® R

triflex® R | Series TRC·TRE·TRL | Product range

Cobot universal mounting brackets

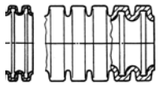
Overview triflex® R e-chains® | For TRC·TRE·TRL

Principle sketch	Part No. Series	Bi1 [mm]	Bi2 [mm]	Ba [mm]	R [mm]	d1 [mm]	d2 [mm]	Pitch [mm]	Links per m
	Series TRC - enclosed design								
	TRC.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRC.40.058.0	15	13	43	058	13	11	13.9	72
	Series TRE - "easy" design								
	TRE.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRE.40.058.0.B	15	13	43	058	13	11	13.9	72
	Series TRL - light version of the "easy"-design								
	TRL.30.050.0	12.5	11	34.5	050	10	8	11.3	89
	TRL.40.058.0	15	–	45	058	13	–	13.9	72

Product range | ❹ With PMA clip
Corrugated tube systems with nominal width 17, 23, 29, 36 and 48mm

Product	Part No. mounting brackets	NW [mm]	Description
	TR.COB.01.PMA.17.0	17	PMA clip, nominal width 17 + support + 1m hook-and-loop strip + plastic screw + protector
	TR.COB.01.PMA.23.0	23	PMA clip, nominal width 23 + support + 1m hook-and-loop strip + plastic screw + protector
	TR.COB.01.PMA.29.0	29	PMA clip, nominal width 29 + support + 1m hook-and-loop strip + plastic screw + protector
	TR.COB.01.PMA.36.0	36	PMA clip, nominal width 36 + support + 1m hook-and-loop strip + plastic screw + protector
	TR.COB.01.PMA.48.0	48	PMA clip, nominal width 48 + support + 1m hook-and-loop strip + plastic screw + protector

PMA hoses overview | For PMAFLEX corrugated tubes

Principle sketch	Part No. Series	Corrugated tube nominal width	Metric size [mm]	Inner Ø d1 [mm]	Outer Ø d2 [mm]	Static R [mm]*	Dynamic R [mm]**	VE [m]
	I-PIST-17B	17	20	16.4	21.1	30	65	50
	I-PIST-23B	23	25	22.6	28.4	35	90	50
	I-PIST-29B	29	32	29.0	34.3	45	110	50
	I-PIST-36B	36	40	36.5	42.5	60	180	50
	I-PIST-48B	48	50	46.7	54.2	70	200	50

*Static *R* = minimum recommended bend radius for static (fixed) installation

**Dynamic *R* = minimum recommended bend radius for dynamic (flexible) laying



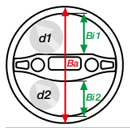
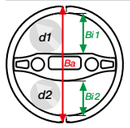
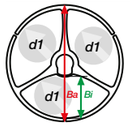
Video available online at
▶ www.igus.eu/UR_video

Mounting brackets for "Universal Robots" - UR brackets

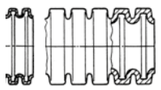
The "Universal Robots" company makes easy-to-use, lightweight robot systems. The triflex® R 30 and 40 sizes are a perfect fit for UR3, UR5, UR10, UR3e, UR5e, UR10e and UR16e robot systems, both technically and aesthetically. Connecting the system is quick and easy when using the UR brackets.

- Safe cable management with triflex® R for "universal robots"
- Easy connection with screw clips
- For TRC,TRE, TRL: Ø 30 and 40mm
- Suitable for PMA corrugated tube I-PIST-29B (optional)

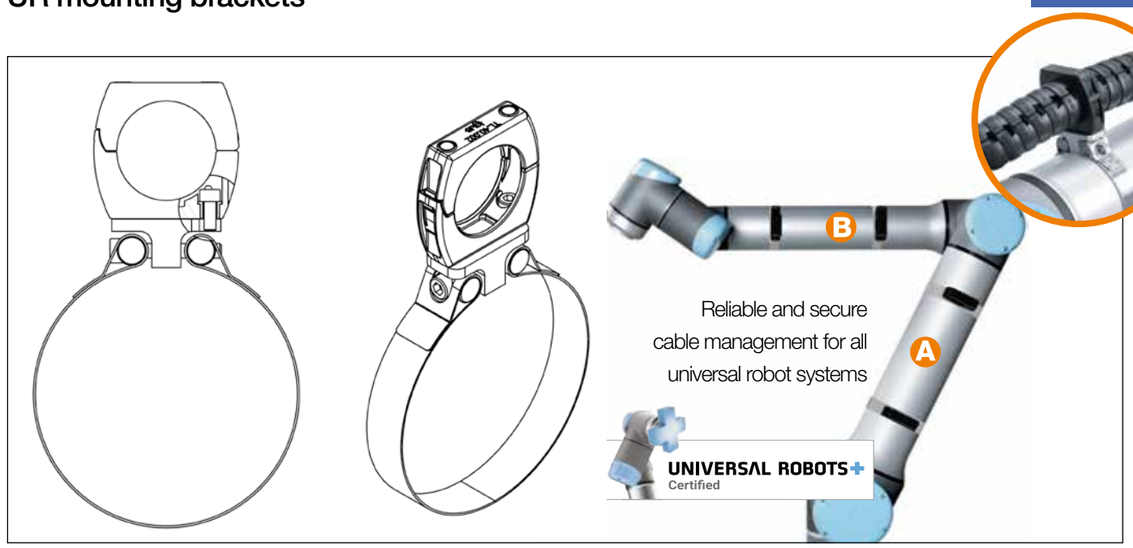
Overview triflex® R e-chains® | For TRC·TRE·TRL

Principle sketch	Part No. / Series	*Bi1* [mm]	*Bi2* [mm]	*Ba* [mm]	*R* [mm]	*d1* [mm]	*d2* [mm]	Pitch [mm]	Links per m
	Series TRC - enclosed design								
	TRC.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRC.40.058.0	15	13	43	058	13	11	13.9	72
	Series TRE - "easy" design								
	TRE.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRE.40.058.0.B	15	13	43	058	13	11	13.9	72
	Series TRL - light version of the "easy"-design								
	TRL.30.050.0	12.5	11	34.5	050	10	8	11.3	89
	TRL.40.058.0	15	–	45	058	13	–	13.9	72

PMA hoses overview | For PMAFLEX corrugated tubes

Principle sketch	Part No. / Series	Corrugated tube nominal width	Metric size [mm]	Inner Ø *d1* [mm]	Outer Ø *d2* [mm]	Static *R* [mm]*	Dynamic *R* [mm]**	VE [m]
	I-PIST-29B	29	32	29.0	34.3	45	110	50

*Static *R* = minimum recommended bend radius for static (fixed) installation **Dynamic *R* = minimum recommended bend radius for dynamic (flexible) laying



Product range | Suitable for TRC.30 · TRE.30 · TRL.30 e-chains®

Part No. **without** strain relief	Part No. **with** strain relief	For UR-robot system	Ø [mm]	Position
TR.911.965.054.Z0	TR.911.965.054.Z1	UR3 / UR3e	054	B
TR.911.965.066.Z0	TR.911.965.066.Z1	UR3 / UR3e	066	A
TR.911.965.075.Z0	TR.911.965.075.Z1	UR5 / UR5e	075	B
TR.911.965.086.Z0	TR.911.965.086.Z1	UR5 / UR5e	086	A
TR.911.965.086.Z0	TR.911.965.086.Z1	UR10 / UR10e	086	B
TR.911.965.086.Z0	TR.911.965.086.Z1	UR5 / UR5e	086	A
TR.911.965.086.Z0	TR.911.965.086.Z1	UR10 / UR10e	086	B
TR.911.965.108.Z0	TR.911.965.108.Z1	UR10 / UR10e	108	A

Product range | Suitable for TRC.40 · TRE.40 · TRL.40 e-chains®

Part No. **without** strain relief	Part No. **with** strain relief	For UR-robot system	Ø [mm]	Position
TR.911.966.054.Z0	TR.911.966.054.Z1	UR3 / UR3e	054	B
TR.911.966.066.Z0	TR.911.966.066.Z1	UR3 / UR3e	066	A
TR.911.966.075.Z0	TR.911.966.075.Z1	UR5 / UR5e	075	B
TR.911.966.086.Z0	TR.911.966.086.Z1	UR5 / UR5e	086	A
TR.911.966.086.Z0	TR.911.966.086.Z1	UR10 / UR10e	086	B
TR.911.966.108.Z0	TR.911.966.108.Z1	UR10 / UR10e / UR16e	108	A

Product range | Suitable for PMA hose I-PIST-29B (optional)

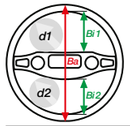
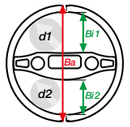
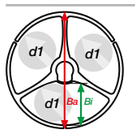
For PMA hose I-PIST-29B	Part No. **without** strain relief	For UR-robot system	Ø [mm]	Position
	TR.914.836.054.Z0	UR3 / UR3e	054	B
	TR.914.836.066.Z0	UR3 / UR3e	066	A
	TR.914.836.075.Z0	UR5 / UR5e	075	B
	TR.914.836.086.Z0	UR5 / UR5e	086	A
	TR.914.836.086.Z0	UR10 / UR10e	086	B
	TR.914.836.108.Z0	UR10 / UR10e / UR16e	108	A

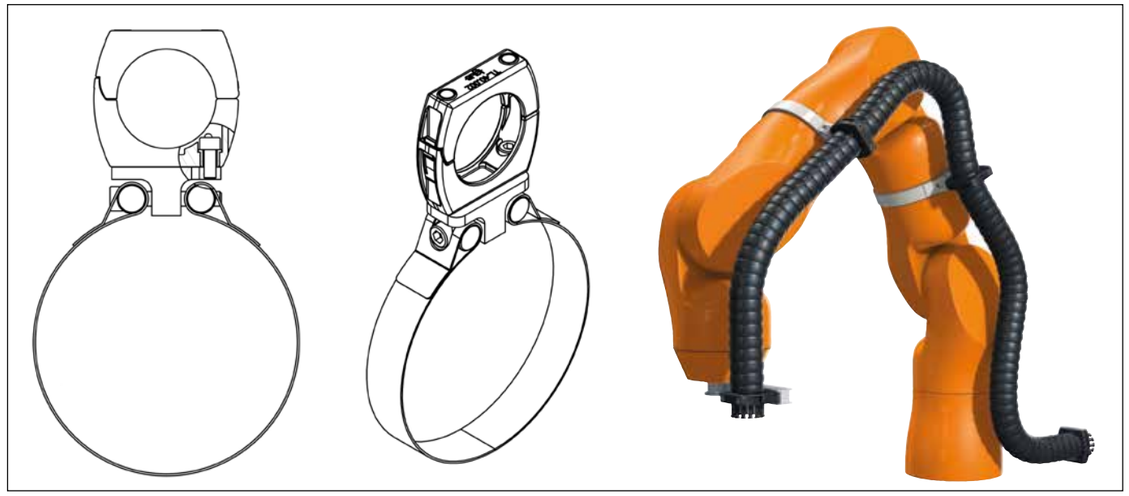


Mounting bracket for KUKA LBR iiwa

- Safe cable guidance with triflex® R for KUKA LBR iiwa robots
- For KUKA LBR iiwa 14 R820 and KUKA LBR iiwa 7 R800
- Easy connection with screw clips
- For 2 triflex® R sizes: Ø 30 and 40
- For TRC, TRE and TRL e-chains®

Overview triflex® R e-chains® | For TRC·TRE·TRL

Principle sketch	Part No. Series	*Bi1* [mm]	*Bi2* [mm]	*Ba* [mm]	*R* [mm]	*d1* [mm]	*d2* [mm]	Pitch [mm]	Links per m
	Series TRC - enclosed design								
	TRC.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRC.40.058.0	15	13	43	058	13	11	13.9	72
	Series TRE - "easy" design								
	TRE.30.050.0	12	10	34.5	050	10	8	11.3	89
	TRE.40.058.0.B	15	13	43	058	13	11	13.9	72
	Series TRL - light version of the "easy"-design								
	TRL.30.050.0	12.5	11	34.5	050	10	8	11.3	89
	TRL.40.058.0	15	–	45	058	13	–	13.9	72



Product range | Suitable for TRC.30 · TRE.30 · TRL.30 e-chains®

Part No. **without** strain relief	Part No. **with** strain relief	For KUKA LBR iiwa	Ø [mm]
TR.914.951.Z0	TR.914.951.Z1	LBR iiwa 14 R820 LBR iiwa 7 R800	136

Product range | Suitable for TRC.40 · TRE.40 · TRL.40 e-chains®

Part No. **without** strain relief	Part No. **with** strain relief	For KUKA LBR iiwa	Ø [mm]
TR.914.952.Z0	TR.914.952.Z1	LBR iiwa 14 R820 LBR iiwa 7 R800	136

triflex® R | Series TRC·TRE·TRL | Accessories

Cobot mounting brackets

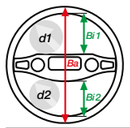
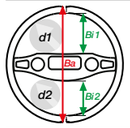
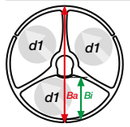


For robot arms with human-robot collaboration - HRC clamps

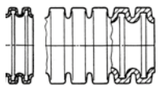
Moving energy for cobots made easy. Energy can be supplied safely along all axes thanks to clamping ring for the triflex® R e-chains® of our robots, also for collaborative robots.

- Plastic bracket
- Simple screw connection for attachment to the robot arm
- Bracket for triflex® R Ø 40 with quick release
- Rounded MRK design
- For TRC, TRE and TRL e-chains®
- For UR and URe robot arms

Overview triflex® R e-chains® | For TRC·TRE·TRL

Principle sketch	Part No. / Series	Bi1 [mm]	Bi2 [mm]	Ba [mm]	R [mm]	d1 [mm]	d2 [mm]	Pitch [mm]	Links per m
	Series TRC - enclosed design								
	TRC.40.058.0	15	13	43	058	13	11	13.9	72
	Series TRE - "easy" design								
	TRE.40.058.0.B	15	13	43	058	13	11	13.9	72
	Series TRL - light version of the "easy"-design								
	TRL.40.058.0	15	–	45	058	13	–	13.9	72

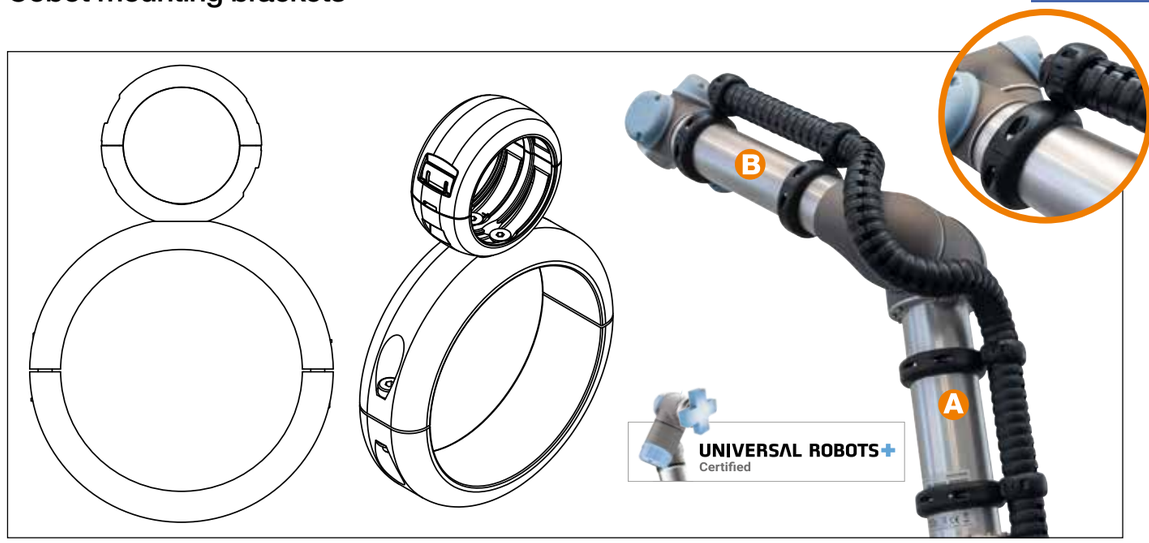
PMA hoses overview | For PMAFLEX corrugated tubes

Principle sketch	Part No. / Series	Corrugated tube nominal width	Metric size [mm]	Inner Ø d1 [mm]	Outer Ø d2 [mm]	Static R [mm]*	Dynamic R [mm]**	VE [m]
	I-PIST-29B	29	32	29.0	34.3	45	110	50

*Static *R* = minimum recommended bend radius for static (fixed) installation **Dynamic *R* = minimum recommended bend radius for dynamic (flexible) laying

triflex® R | Series TRC·TRE·TRL | Product range

Cobot mounting brackets



Product range | Suitable for TRC.40 · TRE.40 · TRL.40 e-chains®

Part No. cobot mounting brackets	For UR-robot system	UR Ø [mm]	URe Ø [mm]	Position
TR.916.810.54	UR3 / UR3e	054	054	B
TR.916.810.66	UR3 / UR3e	066	066	A
TR.916.810.75	UR5 / UR5e	075	075	B
TR.916.810.86	UR5 / UR5e	086	086	A
TR.916.810.86	UR10 / UR10e	086	086	B
TR.916.810.108	UR10	108	–	A
TR.916.810.110	UR10e	–	110	A

Product range | Suitable for PMA hose I-PIST-29B (optional)

For PMA hose I-PIST-29B	Part No. cobot mounting brackets	For UR-robot system	UR Ø [mm]	URe Ø [mm]	Position
	TR.916.810.54	UR3 / UR3e	054	054	B
	TR.916.810.66	UR3 / UR3e	066	066	A
	TR.916.810.75	UR5 / UR5e	075	075	B
	TR.916.810.86	UR5 / UR5e	086	086	A
	TR.916.810.86	UR10 / UR10e	086	086	B
	TR.916.810.108	UR10	108	–	A
	TR.916.810.110	UR10e	–	110	A

triflex® R | Series TRC·TRE·TRCF·TRL·TRLF | Accessories

Protective jackets

Standard protective jacket



● Plastic coated fabric ● Easy to replace with hook-and-loop fastenings ● Elastic sealing strips ● Standard lengths available from stock ● For paint or sealing applications ● Material: PVC

Ø Index	Part No. Jacket	Standard lengths* XXXX [mm]
30. ▶	–	–
40. ▶	TR.40.14.	| 500 | 1000 | 1500 | 2000 |
50. ▶	TR.50.14.	| 500 | 1000 | 1500 | 2000 |
60. ▶	TR.60.14.	| 500 | 1000 | 1500 | 2000 |
65. ▶	TR.65.14.	| 500 | 1000 | 1500 | 2000 |
70. ▶	TR.70.14.	| 500 | 1000 | 1500 | 2000 |
85. ▶	TR.85.14.	| 500 | 1000 | 1500 | 2000 |
100. ▶	TR.100.14.	| 500 | 1000 | 1500 | 2000 |
125. ▶	TR.125.14.	| 500 | 1000 | 1500 | 2000 |

* Special lengths upon request

Part No. with the desired standard value for the length **XXXX**
Example: **TR.60.14.500**

Heat shield protective jacket



● Made from heat-resistant, wear-resistant Kevlar ● Short-term protection against welding and metal spatter, temperatures up to +540°C ● High abrasion resistance ● Sealed design ● For tough environments ● Easy to replace or retrofit with zipper closure ● Hook-and-loop at each end ● Tough design ● Silicone-free ● Asbestos-free ● Standard lengths from stock

Ø Index	Part No. Jacket	Standard lengths* XXXX [mm]
30. ▶	–	–
40. ▶	TR.40.18.	| 500 | 1000 | 1500 | 2000 |
50. ▶	TR.50.18.	| 500 | 1000 | 1500 | 2000 |
60. ▶	TR.60.18.	| 500 | 1000 | 1500 | 2000 |
65. ▶	TR.65.18.	| 500 | 1000 | 1500 | 2000 |
70. ▶	TR.70.18.	| 500 | 1000 | 1500 | 2000 |
85. ▶	TR.85.18.	| 500 | 1000 | 1500 | 2000 |
100. ▶	TR.100.18.	| 500 | 1000 | 1500 | 2000 |
125. ▶	TR.125.18.	| 500 | 1000 | 1500 | 2000 |

* Special lengths upon request

Part No. with the desired standard value for the length **XXXX**.
Example: **TR.60.18.500**

Wear resistant protective jacket



● Extremely high abrasion resistance ● Black leather ● For use in temperatures from -40°C to +100°C ● Very flexible ● Easy to exchange or retrofit ● Silicone-free ● Asbestos-free ● Standard lengths from stock

Ø Index	Part No. Jacket	Standard lengths* XXXX [mm]
30. ▶	–	–
40. ▶	TR.40.19.	| 500 | 1000 | 1500 | 2000 |
50. ▶	TR.50.19.	| 500 | 1000 | 1500 | 2000 |
60. ▶	TR.60.19.	| 500 | 1000 | 1500 | 2000 |
65. ▶	TR.65.19.	| 500 | 1000 | 1500 | 2000 |
70. ▶	TR.70.19.	| 500 | 1000 | 1500 | 2000 |
85. ▶	TR.85.19.	| 500 | 1000 | 1500 | 2000 |
100. ▶	TR.100.19.	| 500 | 1000 | 1500 | 2000 |
125. ▶	TR.125.19.	| 500 | 1000 | 1500 | 2000 |

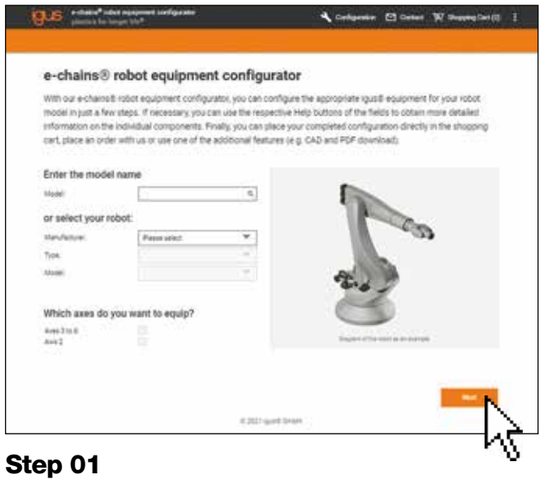
* Special lengths upon request

Part No. with the desired standard value for the length **XXXX**
Example: **TR.60.19.500**

triflex® R | QuickRobot

The online robot equipment configurator

Energy supply for robots made configurable online: around 10,000 different options for component selection for the energy supply on a robot - configure online in just 5 steps with QuickRobot



Step 01
The start page ▶ **www.igus.eu/quickrobot ...**

The QuickRobot robot equipment configurator from igus® contains around 10,000 different options for around 400 robot models. Find the right parts in seconds by entering just the robot manufacturer and model. The required e-chain® size can be selected by diameter.

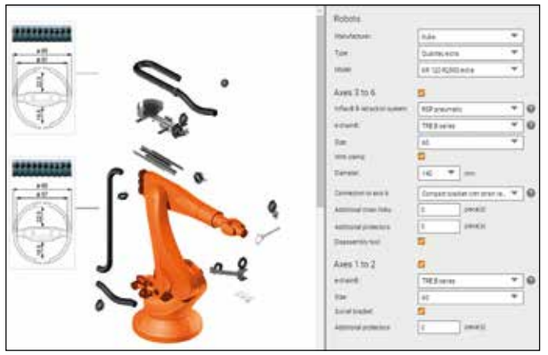
- Choose your robot from a multitude of models supplied by well-known manufacturers
- Provides a full parts list, total price and expected delivery time for your configuration
- Easy transfer to shopping cart, complete configuration or individual parts, no minimum order quantity
- Save, download or reset your individual configuration
- Creation of PDF report for your configuration



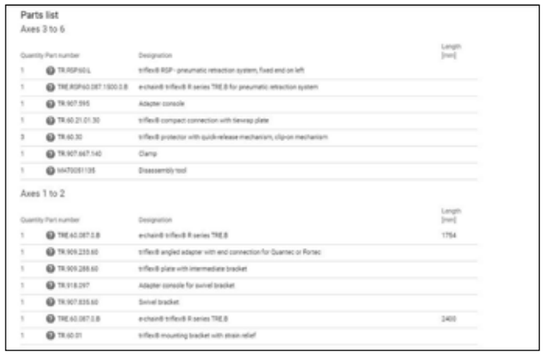
Step 02
select robot manufacturer and model ...



Step 03
select retraction system ...



Step 04
chose parts and options ...



Step 05
parts list displayed

For supplying energy to articulated robots



The picture above shows the cost-effective RSEL retraction system

Prevent loop formation on robots - triflex® R retraction systems

The global growth in automation for industrial production is leading to more and more complex robotic applications. Target cycle times are getting shorter and downtime must also be reduced. To provide reliable protection against premature system failure and downtime, we recommend the use of a triflex® R e-chain® especially to bridge the last three axes on robots. The length change that results from the robot's movement is compensated by our triflex® R retraction systems. This constantly guides the igus® e-chain® in a controlled way to prevent the formation of loops in the robot's working area.

5 triflex® R retraction system types available from stock:

- **RS** Modular retraction system
- **RSP** Pneumatic retraction system
- **RSE** Cost-effective retraction system with deflection
- **RSE·RSEC linear** Compact retraction system, linear
- **RSEL·RSSL** Cost-effective retraction system, linear

Typical industries and applications

- Machine tools
- Handling machines - 6-axis
- Conveyor systems
- Packaging machines
- General mechanical engineering, etc.

Available from stock. Ready to ship in 24 - 48hrs.*

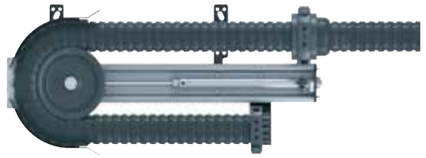
*Average time before the ordered goods are dispatched.

System overview and advantages



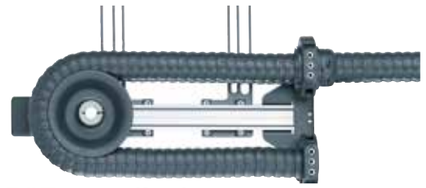
RS modular retraction system
▶ From page 1010

Benefits:
- For use with adverse environmental influences
- Retraction force provided by integrated fibre-rods
- For robots with a load capacity from approx. 10kg
- Up to 670mm retraction length
- If a linear guide system is not needed
- For series TRC·TRE with ø index 40-100mm



RSP pneumatic retraction system
▶ From page 1018

Benefits:
- Standard pneumatic components
- For a sensor-based monitoring
- For applications with a high fill weight
- Constant force over the complete travel
- For robots with a load capacity of approx. 50kg
- Up to 780mm retraction length
- For series TRC·TRE·TRCF with a ø index of 60-125mm



RSE cost-effective retraction system with deflection
▶ From page 1026

Benefits:
- For small robots, very light
- Up to 500mm retraction length
- For highly dynamic movements
- Cost-effective
- Maintenance-free igus® drylin® W linear unit
- For series TRC·TRE with ø index 40-50mm



RSE·RSEC linear compact retraction system
▶ From page 1034

Benefits:
- Special linear guide with no small bend radii
- Simple, linear retraction without sags, fibre rods, or guide rollers
- Up to 490mm retraction length
- Space-saving
- Maintenance-free igus® drylin® W linear unit
- For series TRC·TRE·TRCF with ø index 40-100mm



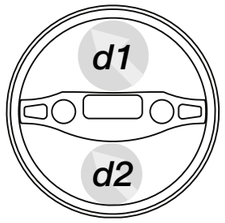
RSEL·RSSL cost-effective retraction system, linear
▶ From page 1044

Benefits:
- Linear guidance even for highly dynamic applications
- For robots with high and medium payloads
- Up to 380mm retraction length possible
- Cost-effective
- For series TRC·TRE·TRCF with a ø index of 60-100mm

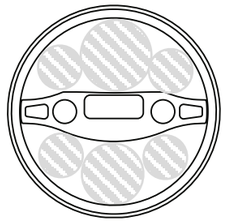
triflex® R | Retraction systems | Accessories

Choosing the right e-chain® size ...

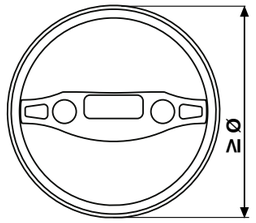
1 Largest single cable diameter ø ...



2 ... and max. usable e-chain® cross section area ...



3 ... determine the necessary Ø index of the triflex® R ...



4 ... select from 5 retraction systems options:











Max. cable Ø 1. chamber *d1* [mm]	Max. cable Ø 2. chamber *d2* [mm]	Coverage of the entire area [mm²]	Minimum Ø index triflex® R e-chain®	RS modular	RSP pneumatic	RSE with deflection	RSE·RSEC linear space-saving	RSEL·RSSL cost-effective
–	–	–	30.	–	–	–	–	–
< 15	< 13	< 500	40.	●	–	●	●	–
< 18.8	< 16.2	< 750	50.	–	–	●	●	–
< 22.5	< 19.5	< 1,000	60.	●	●	–	●	●
–	–	–	65.	–	–	–	–	–
< 28	< 24	< 1,750	70.	●	●	–	●	●
< 33	< 28	< 2,500	85.	●	●	–	●	●
< 37.5	< 32.5	< 3,000	100.	●	●	–	●	●
< 43	< 43	< 4,500	125.	–	●	–	–	–
				▶ Page 1010	▶ Page 1018	▶ Page 1026	▶ Page 1034	▶ Page 1044

● = yes, it is possible – = it is not possible

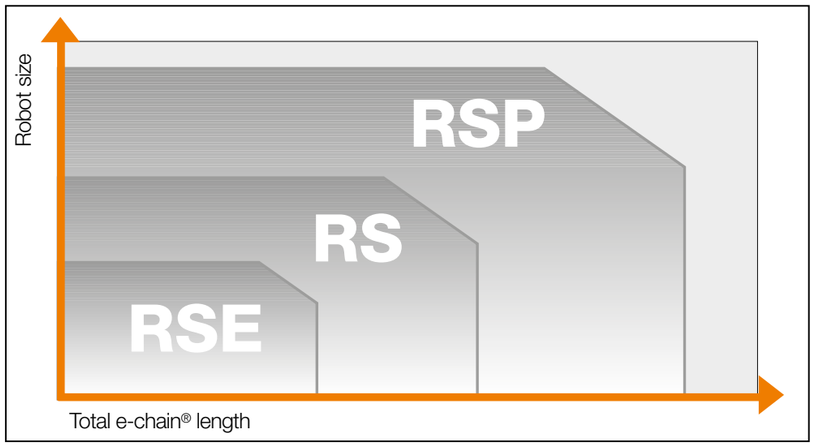
If you want to select a suitable retraction system yourself, please ensure that you observe the maximum cable diameter and usage data.

Possible Ø index for triflex® R retraction systems

For series	RS ø index	RSP ø index	RSE ø index	RSE·RSEC linear ø index	RSEL·RSSL ø index
TRC	40 - 100	60 - 125	40 - 50	40 - 100	60 - 100
TRE	40 - 100	60 - 125	40 - 50	40 - 100	60 - 100
TRCF	–	65 - 100	–	65 - 100	65 - 100
TRL*	–	–	–	–	–
TRLF*	–	–	–	–	–

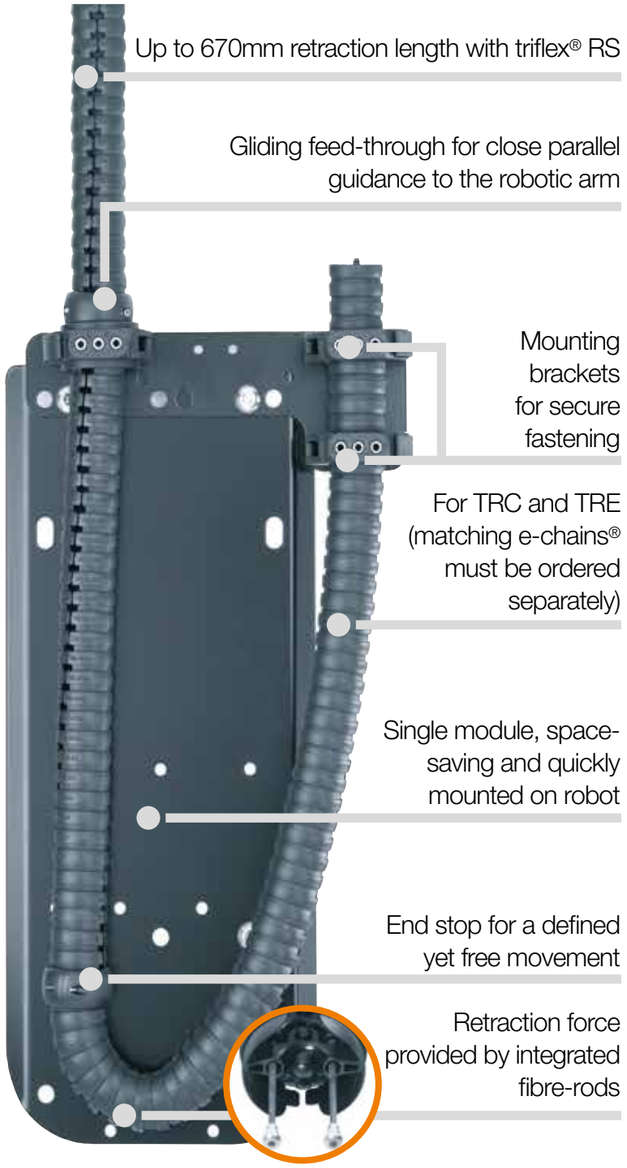
*Retraction systems not available for this series

Selection tool for triflex® R retraction systems with deflection



triflex® R | RS retraction system | Advantages

Modular retraction system



Modular retraction system - triflex® RS

triflex® RS is a retraction system for robots with medium to high payloads. With triflex® RS, the multi-axis triflex® R e-chain® is routed parallel to the robot arm. Integrated fibre rods produce a directed pretension, avoiding the formation of loops in the working area of the robot head. This also allows applications to be implemented in very limited space. triflex® RS offers safe energy supply for tools without stressing the cables, thus minimising downtimes.

- Space-saving, closely routed on the robot arm
- A system solution proven and tested in thousands of applications
- Universal installation
- Integrated fibre-rods - no external mechanical components such as springs or steel cables required.

Video online
► www.igus.eu/RS_movie

triflex® R | RS retraction system | Application examples

RS - R(etraction) S(ystem)



triflex® RS for a low profile retraction system. With triflex® RS, the multi-axis triflex® R e-chain® is routed parallel to the robot arm



Option: triflex® RS with cover for more mounting space

triflex® R | RS retraction system

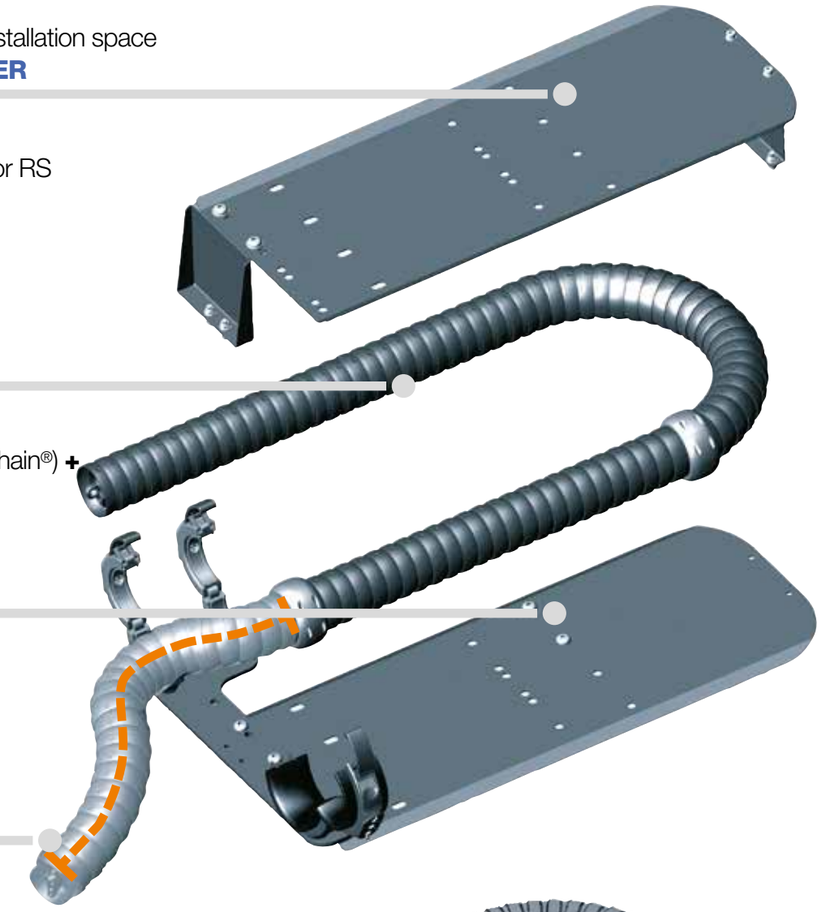
System design with matching e-chains®

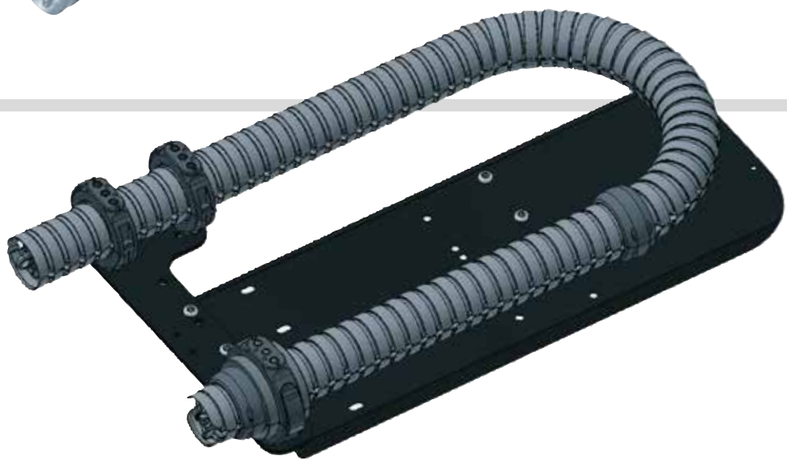
Optional cover for additional installation space on the robot: **TR.RS.XX.COVER**

Matching triflex® R e-chains® for RS with integrated fibre-rods
TRC.RS.XX.*R*.LLLL.0
TRE.RS.XX.*R*.LLLL.0.B

RSE linear system (without e-chain®) **+**
Support plate **+**
Mounting bracket **+**
Gliding feed-through **=**
TR.RS.XX.L or **TR.RS.XX.R**

e-chain® overall length =
additional length from the gliding feed-through **LLLL +**
the e-chain® length within the system





Complete RS modular retraction system with fixed end on the left and TRE triflex® R series. Mounting bracket and gliding feed-through are included. Please order matching triflex® R e-chain® and optional cover separately.

triflex® R
RS

triflex® R | RS retraction system

Sample order of a retraction system including e-chain®

Sample order of a complete TR.RS system, ø index 60, fixed end on the left, including cover and e-chain® (standard length: 500mm)

System	Insert Ø index / select fixed end **.L / .R**	**TR.RS.60.L**
+ Cover	Insert Ø index (cover optional)	**TR.RS.60.COVER**
+ e-chain®	Insert ø index / Insert bend radius ***R*** / Insert standard length **LLLL**	**TRC.RS.60.087.0500.0**
Order text:	**TR.RS.60.L + TR.RS.60.COVER + TRC.RS.60.087.0500.0**	

Retraction system order key

TR.RS.60.L
TR.RS.60.R

- **L** = Fixed end right or
- **R** = Fixed end left
- ø index
- Retraction system
- Series

e-chains® order key

TRC.RS.60.087.0500.0
TRE.RS.60.087.0500.0.B

- Default colour black
- **LLLL** = Additional length
- ***R*** Bend radius
- ø index
- Retraction system
- e-chains® series

Optional accessories | RS modular retraction system



Cover
for additional installation space and complex movements
▶ **Page 1014**



Adjustment unit
for accurate adjustment of the system position
▶ **Page 1054**



Adapter consoles
for custom mounting options
▶ **Page 1055**



Axis 6 clamp
for triflex® R mounting bracket
▶ **Page 1058**

triflex® R | RS retraction system

Product range



Optional cover
for additional
installation space

Product range | RS modular retraction system

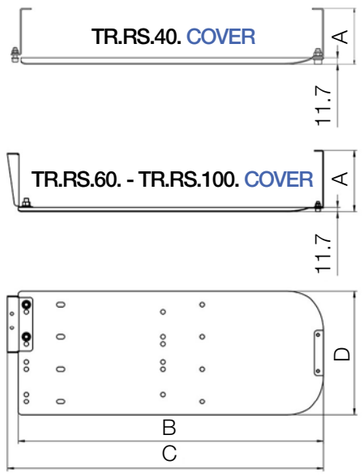
Ø Index		Part No. fixed end **left**	Part No. fixed end **right**	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	Weight [kg]
30.	▶	–	–	–	–	–	–	–	–
40.	▶	**TR.RS.40.L**	**TR.RS.40.R**	460	576	301	95	51	3.5
50.	▶	–	–	–	–	–	–	–	–
60.	▶	**TR.RS.60.L**	**TR.RS.60.R**	550	900	528	150	65	8.7
65.	▶	–	–	–	–	–	–	–	–
65. (*R 200*)	▶	–	–	–	–	–	–	–	–
70.	▶	**TR.RS.70.L**	**TR.RS.70.R**	620	900	545	167	65	9.2
85.	▶	**TR.RS.85.L**	**TR.RS.85.R**	670	900	565	167	65	9.5
85. (*R 240*)	▶	–	–	–	–	–	–	–	–
100.	▶	**TR.RS.100.L**	**TR.RS.100.R**	580	938	614	167	108	11.5
125.	▶	–	–	–	–	–	–	–	–

Please order matching triflex® R e-chain® separately. 1) Max. retraction length.

Product range | Cover, optional

Ø Index		Optional coverretrofit kit	A [mm]	B [mm]	C [mm]	D [mm]	Load* ≤ [kg]	Weight [kg]
30.	▶	–	–	–	–	–	–	–
40.	▶	**TR.RS.40.**COVER	101.7	550	567.5	244.6	1.5	2.6
50.	▶	–	–	–	–	–	–	–
60.	▶	**TR.RS.60.**COVER	170.7	850	880	344.6	3.5	7.2
65.	▶	–	–	–	–	–	–	–
65. (*R 200*)	▶	–	–	–	–	–	–	–
70.	▶	**TR.RS.70.**COVER	170.7	850	880	344.6	3.5	7.2
85.	▶	**TR.RS.85.**COVER	170.7	850	880	344.6	3.5	7.2
85. (*R 240*)	▶	–	–	–	–	–	–	–
100.	▶	**TR.RS.100.**COVER	172	853	910.5	397.6	3.5	7.1
125.	▶	–	–	–	–	–	–	–

*Maximum fill weight to be used with the cover



triflex® R | RS retraction system

Installation dimensions

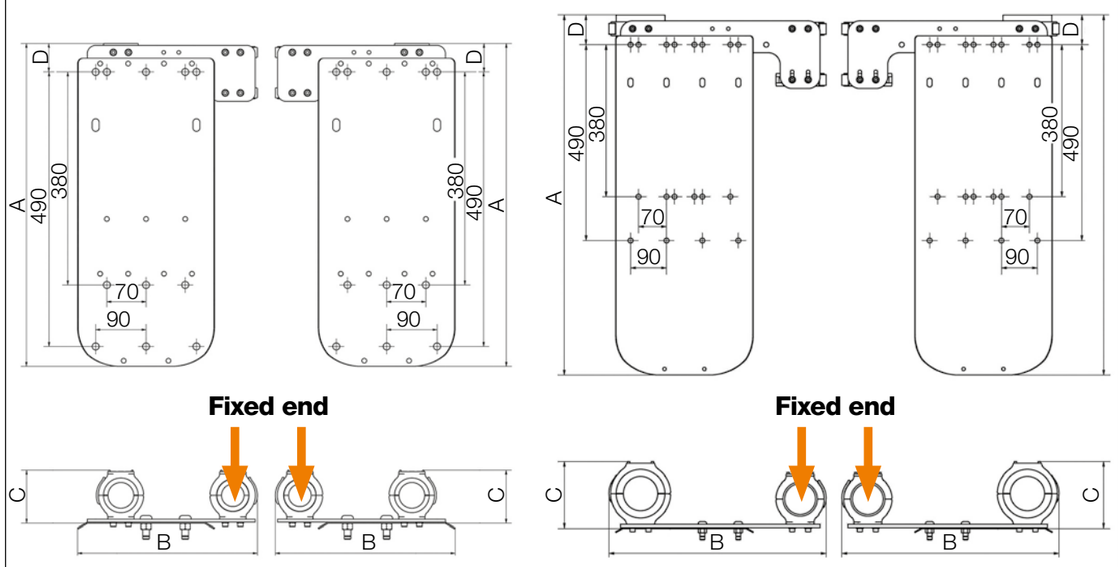


Diagram shows triflex® RS ø index: 40

Diagram shows triflex® RS ø index: 60 - 100

RS modular retraction system
(diagram shows the fixed end on the left)

Mounting bracket and gliding feed-through are included.

Please order matching triflex® R e-chain® separately.



triflex® R | RS e-chain®

Product range



Product range | Matching e-chains® for RS

Ø Index	Part No. **TRC** enclosed	Part No. **TRE** "easy" design
30.	–	–
40.	TRC.RS.40.058. LLLL.0	TRE.RS.40.058. LLLL.0.B
50.	–	–
60.	TRC.RS.60.087. LLLL.0	TRE.RS.60.087. LLLL.0.B
65.	–	–
65. (*R 200*)	–	–
70.	TRC.RS.70.110. LLLL.0	TRE.RS.70.110. LLLL.0.B
85.	TRC.RS.85.135. LLLL.0	TRE.RS.85.135. LLLL.0.B
85. (*R 240*)	–	–
100.	TRC.RS.100.145.LLLL.0	TRE.RS.100.145.LLLL.0.B/C
125.	–	–

1) Available for B- and C-versions

*Standard lengths from the gliding feed-through outside the system - special lengths upon request.

e-chains® standard lengths*

LLLL [mm] | **0500** | **1000** | **1500** | **2000** |

Part No. with **LLLL** standard length value (measured from the gliding feed-through) corresponds to the robot arm length from axis 3. For example: **TRC.RS.60.087.0500.0**

triflex® R | RS e-chain®

Cable length calculation

Calculation of the e-chain® total length | RS e-chain®

Ø Index	Bend radius *R* [mm]	e-chain® length* [mm]	Number of e-chains® links	e-chains® total length [mm]
30.	–	–	–	–
40.	058	1,251	90	LLLL + 1,251
50.	–	–	–	–
60.	087	1,734	85	LLLL + 1,734
65.	–	–	–	–
65. (*R 200*)	–	–	–	–
70.	110	1,895	74	LLLL + 1,895
85.	135	2,080	68	LLLL + 2,080
85. (*R 240*)	–	–	–	–
100.	145	2,105	61	LLLL + 2,105
125.	–	–	–	–

*Values are related to the e-chain® length within the system

To calculate the total e-chain® length: please add the e-chain® length* within the system to the **LLLL** standard additional length (measured from the gliding feed-through)



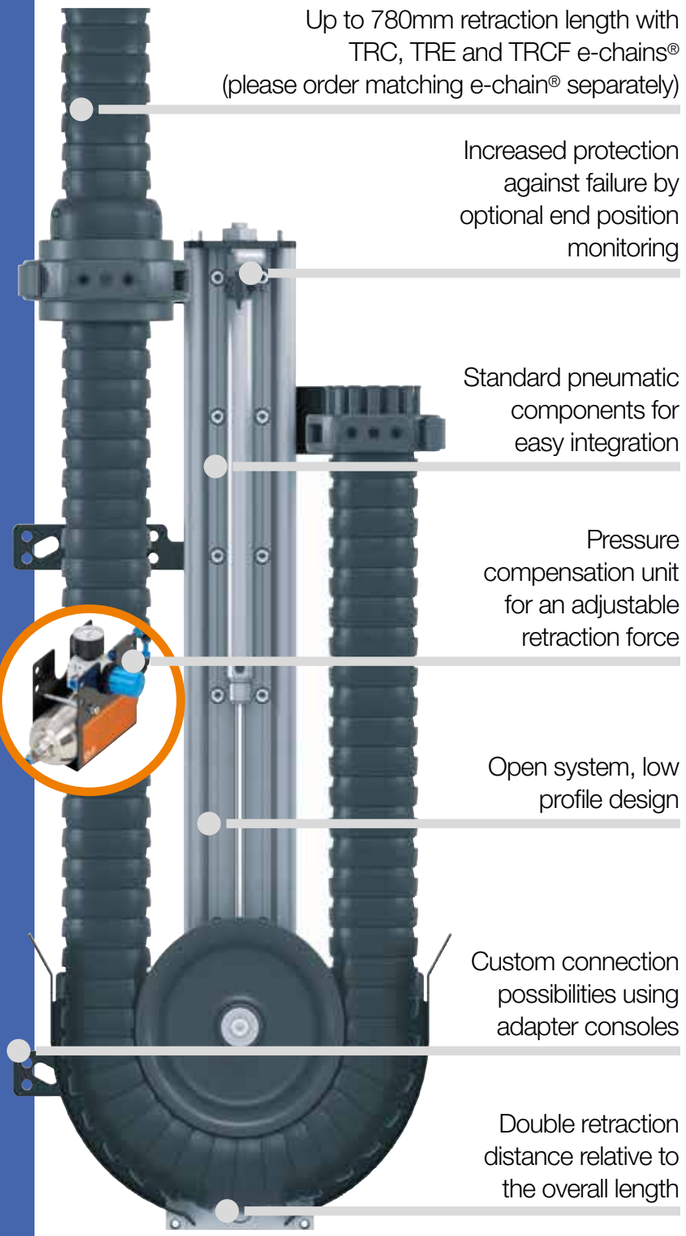
e-chain® overall length =
additional length from the gliding feed-through **LLLL** +
the e-chain® length within the system

More information and installation dimensions | RS e-chains®

- **TRC series** - closed design, chip protection, smooth outer contour ▶ **From page 968**
- **TRE series** - "easy" design, very easy to fill, simply press cables in ▶ **From page 970**

triflex® R | RSP retraction system | Advantages

Pneumatic retraction system



Pneumatic retraction system - triflex® RSP

triflex® RSP prevents loops on the robot head, with a continuously adjustable retraction force. Extension lengths of up to 780mm enable a secure guidance of the cables and hoses, even with large arm diameters and very complex movements. The retraction forces can be adjusted using a pneumatic cylinder. Whether light or heavy fill weights, long or short robot arms - with the igus® RSP retraction system the retraction force can be adjusted to the individual application.

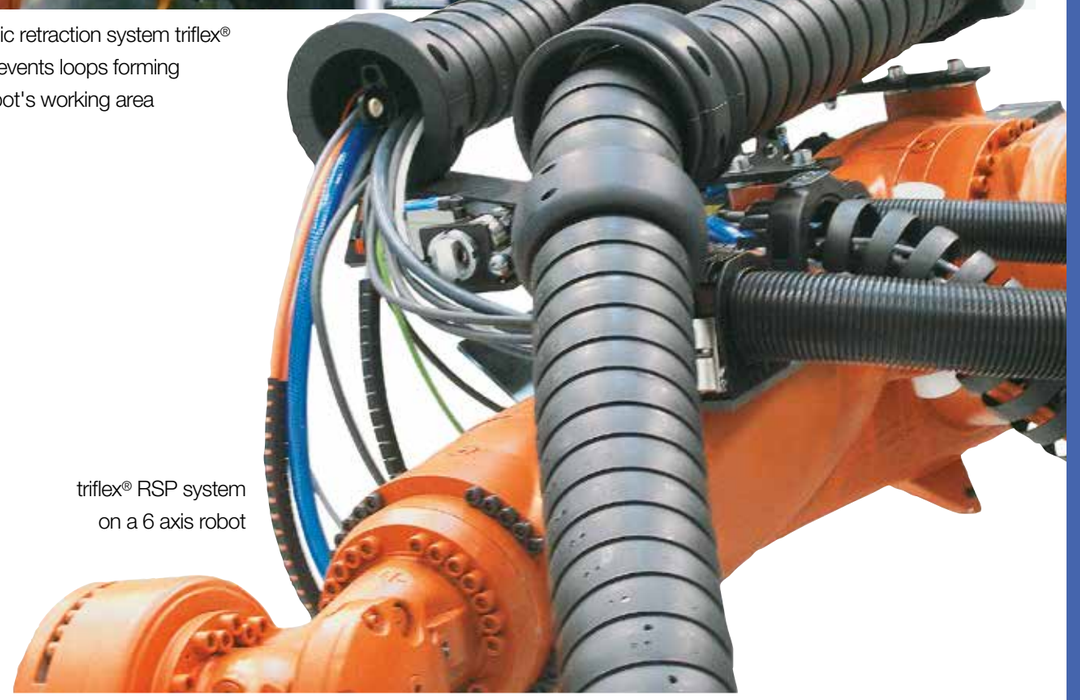
- For axis 3-6 on industrial robots
- Larger retraction forces than RS system
- Even larger e-chains® up to Ø 125mm can be guided safely
- Almost constant force over the complete travel, even with heavy fill weights
- The end position can be monitored so damage can be prevented
- Mounting options for numerous robot models and manufacturers with adapter consoles
- Very low energy consumption with integrated air reservoir

triflex® R | RSP retraction system | Application examples

RSP - R(etraction) S(ystem) P(neumatic)



Pneumatic retraction system triflex® RSP - prevents loops forming in the robot's working area

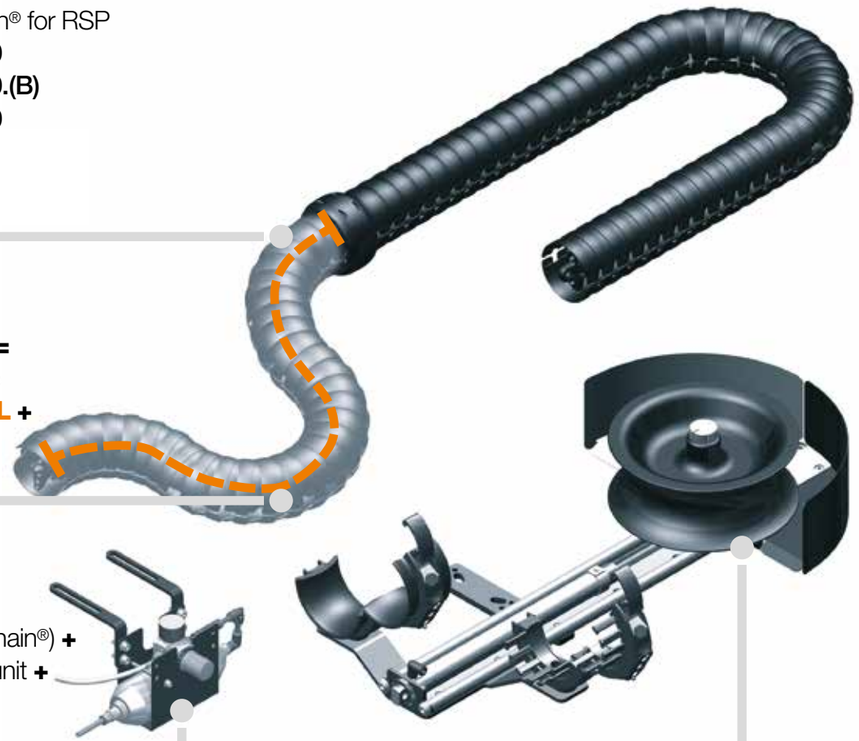


triflex® RSP system on a 6 axis robot

triflex® R | RSP retraction system

System design with matching e-chains®

Matching triflex® R e-chain® for RSP
TRC .RSP.XX.*R*.LLLL.0
TRE .RSP.XX.*R*.LLLL.0.(B)
TRCF.RSP.XX.*R*.LLLL.0



e-chain® overall length =
additional length from the gliding feed-through **LLLL** +
the e-chain® length
within the system

RSP system (without e-chain®) +
Pressure compensation unit +
Mounting bracket +
Gliding feed-through =
TR.RSP.XX.L or
TR.RSP.XX.R



Complete RSP pneumatic retraction system with fixed end on the left and TRE triflex® R series. Pressure compensation unit, mounting bracket and gliding feed-through are included in the delivery. Please order matching triflex® R e-chain® separately.

triflex® R
RSP

triflex® R | RSP retraction system

Sample order of a retraction system including e-chain®

Sample order of a complete TR.RSP system, ø index 85, fixed end on the left, and e-chain® (standard length: 500mm)

System	Insert Ø index / select fixed end **.L / .R**	**TR.RSP.85.L**
+ e-chain®	Insert ø index / Insert bend radius ***R*** / Insert standard length **LLLL**	**TRC.RSP.85.135.1000.0**
Order text:	**TR.RSP.85.L + TRC.RSP.85.135.1000.0**	

Retraction system order key

TR.RSP.85.L
TR.RSP.85.R

- **L** = Fixed end right or
- **R** = Fixed end left
- ø index
- Retraction system
- Series

e-chains® order key

TRC .RSP.85.135.1000.0
TRE .RSP.85.135.1000.0.B
TRCF.RSP.85.135.1000.0

- Default colour black
- **LLLL** = Additional length
- ***R*** Bend radius
- ø index
- Retraction system
- e-chains® series

Optional accessories | RSP pneumatic retraction system



Adjustment unit
for accurate adjustment of the system position
▶ **Page 1054**



Adapter consoles
for custom mounting options
▶ **Page 1055**



Axis 6 clamp
for triflex® R mounting bracket
▶ **Page 1058**

triflex® R | RSP retraction system

Product range



Product range | RSP pneumatic retraction system

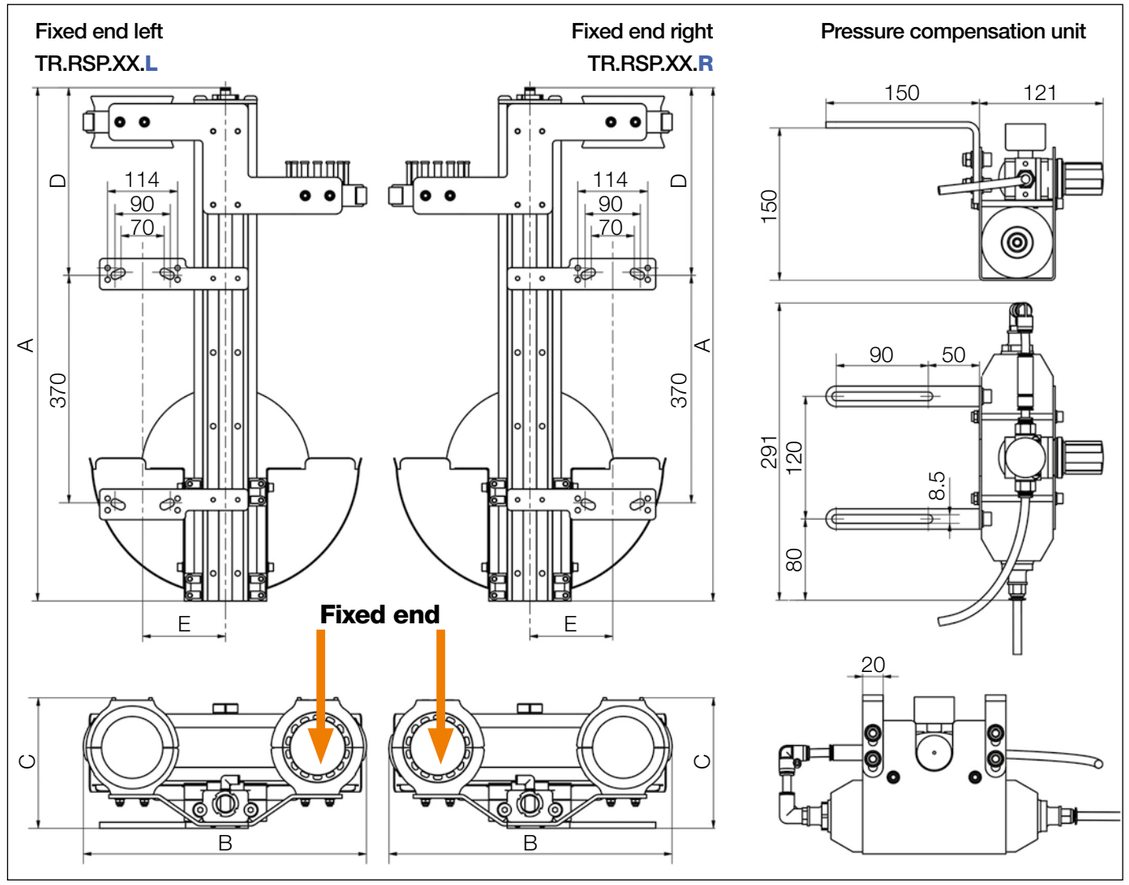
Ø Index		Part No. fixed end **left**	Part No. fixed end **right**	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Weight[2] [kg]
30.	▶	–	–	–	–	–	–	–	–	–
40.	▶	–	–	–	–	–	–	–	–	–
50.	▶	–	–	–	–	–	–	–	–	–
60.	▶	**TR.RSP.60.L**	**TR.RSP.60.R**	580	792	396	177	277	135	16.1
65.	▶	**TR.RSP.65.L**	**TR.RSP.65.R**	580	792	396	177	277	135	16.1
65. (*R 200*)	▶	–	–	–	–	–	–	–	–	–
70.	▶	**TR.RSP.70.L**	**TR.RSP.70.R**	580	792	396	177	277	135	16.2
85.	▶	**TR.RSP.85.L**	**TR.RSP.85.R**	620	836	461	213	306	135	19.4
85. (*R 240*)	▶	–	–	–	–	–	–	–	–	–
100.	▶	**TR.RSP.100.L**	**TR.RSP.100.R**	620	845	467	213	306	135	19.5
125.	▶	**TR.RSP.125.L**	**TR.RSP.125.R**	780	1,043	570	245	405	135	24.1

Pressure compensation unit, mounting bracket and gliding feed-through are included. Please order matching triflex® R e-chain® separately.

1) Max. retraction length 2) Plus 2.3kg for pressure compensation unit

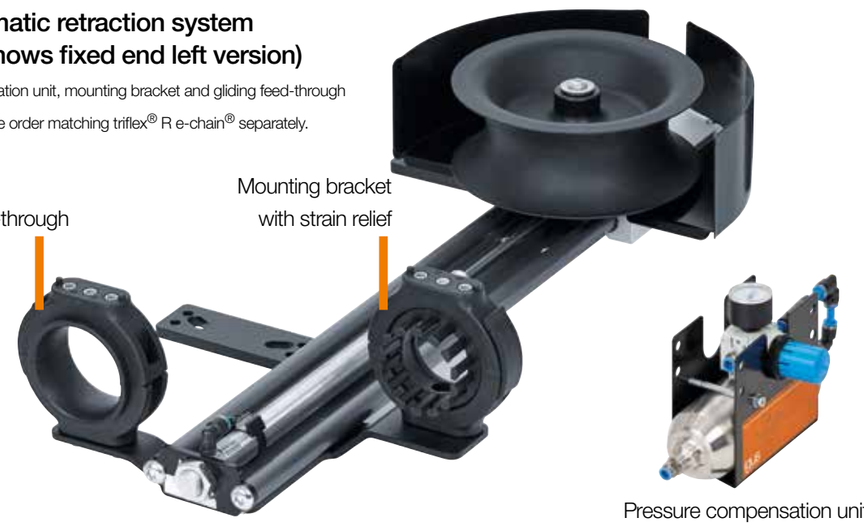
triflex® R | RSP retraction system

Installation dimensions



RSP pneumatic retraction system (diagram shows fixed end left version)

Pressure compensation unit, mounting bracket and gliding feed-through are included. Please order matching triflex® R e-chain® separately.



triflex® R | RSP e-chain®

Product range



Product range | Matching e-chains® for RSP

Ø Index	Part No. **TRC** enclosed	Part No. **TRE** "easy" design	Part No. **TRCF** with snap-lock mechanism
30.	–	–	–
40.	–	–	–
50.	–	–	–
60.	TRC.RSP.60.087.LLLL.0	TRE.RSP.60.087.LLLL.0.B	–
65.	–	–	TRCF.RSP.65.100.LLLL.0
65. (*R 200*)	–	–	–
70.	TRC.RSP.70.110.LLLL.0	TRE.RSP.70.110.LLLL.0.B	–
85.	TRC.RSP.85.135.LLLL.0	TRE.RSP.85.135.LLLL.0.B	TRCF.RSP.85.135.LLLL.0
85. (*R 240*)	–	–	–
100.	TRC.RSP.100.145.LLLL.0	TRE.RSP.100.145.LLLL.0.B/C [1)]	TRCF.RSP.100.145.LLLL.0
125.	TRC.RSP.125.182.LLLL.0	TRE.RSP.125.182.LLLL.0	–

1) Available for B- and C-versions

*Standard lengths from the gliding feed-through outside the system - special lengths upon request.

e-chains® standard lengths*

LLLL [mm] | **0500** | **1000** | **1500** | **2000** |

Part No. with **LLLL** standard length value (measured from the gliding feed-through) corresponds to the robot arm length from axis 3. For example: **TRC.RSP.60.087.0500.0**

triflex® R | RSP e-chain®

Cable length calculation

Calculation of the e-chain® total length | RSP e-chain®

Ø Index	Bend radius *R* [mm]	e-chain® length* [mm]	Number of e-chains® links	e-chains® total length [mm]
30.	–	–	–	–
40.	–	–	–	–
50.	–	–	–	–
60.	087	1,489	73	LLLL + 1,489
65.	100	1432	62	LLLL + 1,432
65. (*R 200*)	–	–	–	–
70.	110	1,484	58	LLLL + 1,484
85.	135	1,622	53	LLLL + 1,622
85. (*R 240*)	–	–	–	–
100.	145	1,656	48	LLLL + 1,656
125.	182	1,962	44	LLLL + 1,962

*Values are related to the e-chain® length within the system

To calculate the total e-chain® length: please add the e-chain® length* within the system to the **LLLL** standard length (measured from the gliding feed-through)

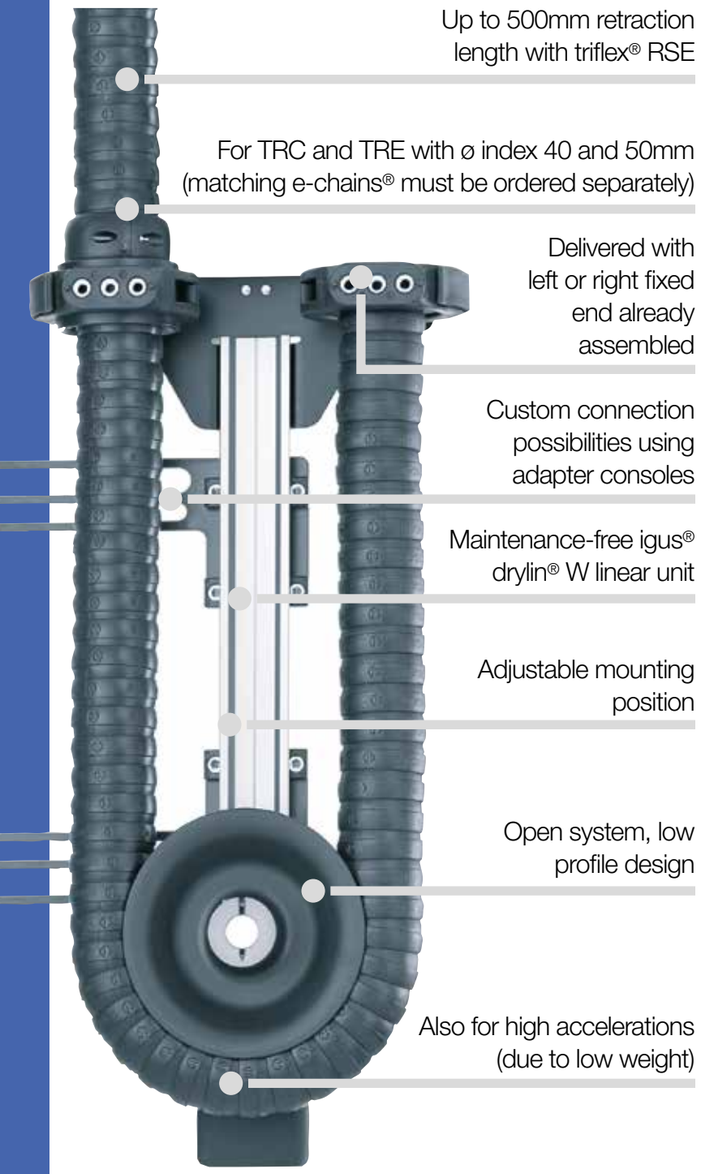
e-chain® overall length =
additional length from the gliding feed-through **LLLL** +
the e-chain® length within the system

More information and installation dimensions | RSP e-chains®

- **TRC series** - closed design, chip protection, smooth outer contour ▶ **From page 968**
- **TRE series** - "easy" design, very easy to fill, simply press cables in ▶ **From page 970**
- **TRCF series** - closed design with snap-lock mechanism, chip protection, smooth outer contour ▶ **Page 972**

triflex® R | RSE retraction system | Advantages

Cost-effective retraction system with deflection



Cost-effective retraction system with deflection for small robots - triflex® RSE

Specially developed for robots with small to medium cable and hose filling, the igus® triflex® RSE retraction system offers a way to prevent loop formation in the workspace of the robot, even in highly dynamic applications.

- For series TRC·TRE with ø index 40 and 50mm
- Extremely fast response, even in highly dynamic robot programs
- Low weight, very little reduction in robot handling capacity
- Universal adjustable installation brackets
- Maintenance and lubrication-free igus® drylin® W linear unit
- For maximum degrees of freedom
- For cable diameters up to 18.8mm

triflex® R | RSE retraction system | Application examples

RSE - R(etraction) S(ystem) E(lastic)



Reliable and controlled energy supply, even in confined space with the igus® triflex® RSE retraction system



e-chain® is guided closely to the arm with a low profile

triflex® R | RSE retraction system

System design with matching e-chains®

Optional cover for additional installation space on the robot: **TR.RSE.XX.COVER**

Matching triflex® R e-chains® for RSE with integrated fibre-rods
TRC.RSE.XX.*R*.LLLL.0
TRE.RSE.XX.*R*.LLLL.0.B

e-chain® overall length =
additional length from the gliding feed-through **LLLL** **+**
the e-chain® length within the system

RSE system (e-chain® not included) **+**
Mounting bracket **+**
Gliding feed-through **=**
TR.RSE.(02).XX.L or
TR.RSE.(02).XX.R



Complete RSE retraction system with deflection, with fixed end on the right and TRC triflex® R series. Mounting bracket and gliding feed-through are included. Please order matching triflex® R e-chain® and optional cover separately.



triflex® R
RSE

triflex® R | RSE retraction system

Sample order of a retraction system including e-chain®

Sample order of a complete TR.RSE system, ø index 50, fixed end on the left, including cover and e-chain® (standard length: 500mm)

System	Insert Ø index / select fixed end **.L / .R**	**TR.RSE.50.L**
+ Cover	Insert Ø index (cover optional)	**TR.RSE.50.COVER**
+ e-chain®	Insert ø index / Insert bend radius ***R*** / Insert standard length **LLLL**	**TRC.RSE.50.080.0500.0**
Order text:	**TR.RSE.50.L + TR.RSE.50.COVER + TRC.RSE.50.080.0500.0**	

Retraction system order key

TR.RSE.50.L
TR.RSE.50.R

L = Fixed end right or
R = Fixed end left
ø index
Retraction system
Series

e-chains® order key

TRC.RSE.50.080.0500.0
TRE.RSE.50.080.0500.0.B

Default colour black
LLLL = Additional length
R Bend radius
ø index
Retraction system
e-chains® series

Optional accessories | RS modular retraction system



Cover
for additional installation space and complex movements
▶ **Page 1030**



Adapter consoles
for custom mounting options
▶ **Page 1055**



Axis 6 clamp
for triflex® R mounting bracket
▶ **Page 1058**

triflex® R | RSE retraction system

Product range



Optional cover
for additional
installation space

Product range | RSE cost-effective retraction system with deflection

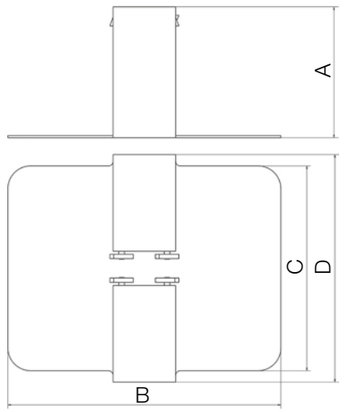
Ø Index		Part No. fixed end **left**	Part No. fixed end **right**	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	Weight [kg]
30.	▶	–	–	–	–	–	–	–	–
40.	▶	**TR.RSE.02.40.L**	**TR.RSE.02.40.R**	500	440	220	110	64.7	1.6
50.	▶	**TR.RSE.50.L**	**TR.RSE.50.R**	500	497	275	132	79	2.1
60.	▶	–	–	–	–	–	–	–	–
65.	▶	–	–	–	–	–	–	–	–
65. (*R 200*)	▶	–	–	–	–	–	–	–	–
70.	▶	–	–	–	–	–	–	–	–
85.	▶	–	–	–	–	–	–	–	–
85. (*R 240*)	▶	–	–	–	–	–	–	–	–
100.	▶	–	–	–	–	–	–	–	–
125.	▶	–	–	–	–	–	–	–	–

Please order matching triflex® R e-chain® separately. 1) Max. retraction length.

Product range | RSE cover, optional

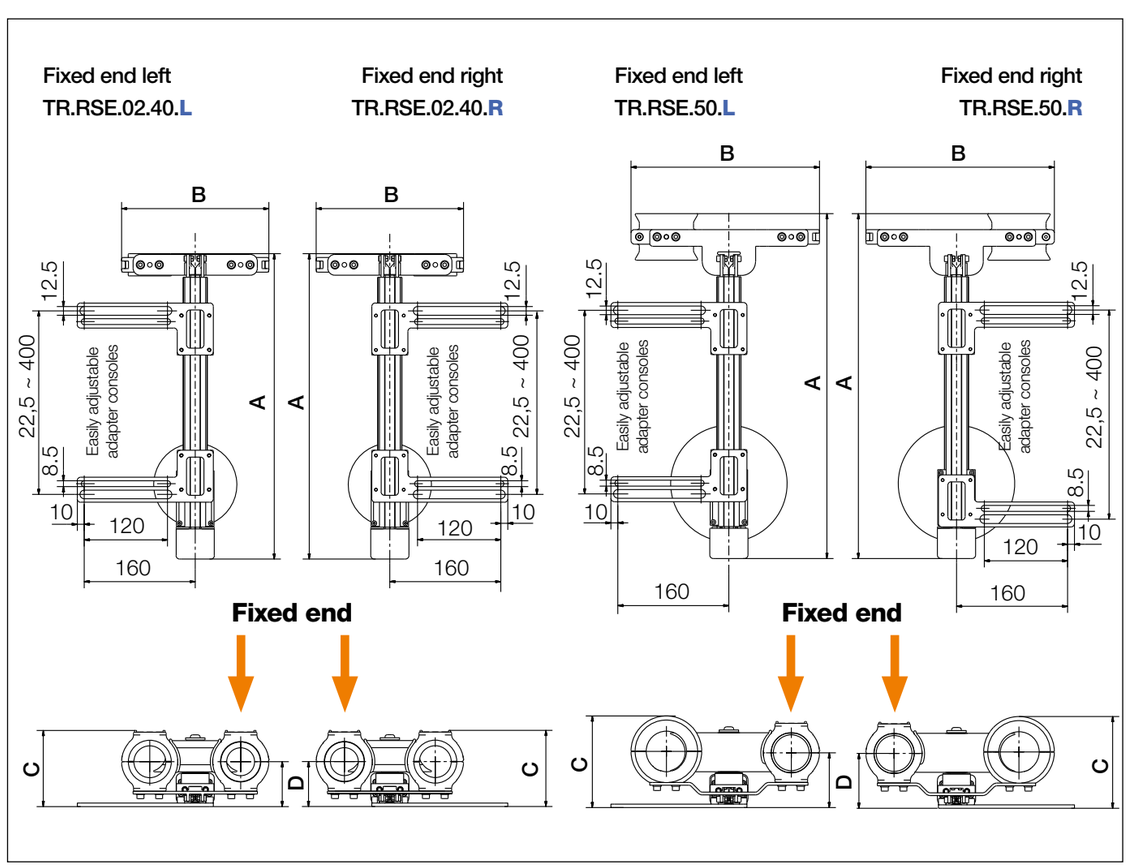
Ø Index		Optional coverretrofit kit	A [mm]	B [mm]	C [mm]	D [mm]	Load* ≤ [kg]	Weight [kg]
30.	▶		–	–	–	–	–	–
40.	▶	**TR.RSE.40.COVER**	115	240	180	200	1.5	1.1
50.	▶	**TR.RSE.50.COVER**	126	300	248	248	1.5	1.7
60.	▶		–	–	–	–	–	–
65.	▶		–	–	–	–	–	–
65. (*R 200*)	▶		–	–	–	–	–	–
70.	▶		–	–	–	–	–	–
85.	▶		–	–	–	–	–	–
85. (*R 240*)	▶		–	–	–	–	–	–
100.	▶		–	–	–	–	–	–
125.	▶		–	–	–	–	–	–

*Maximum fill weight to be used with the cover



triflex® R | RSE retraction system

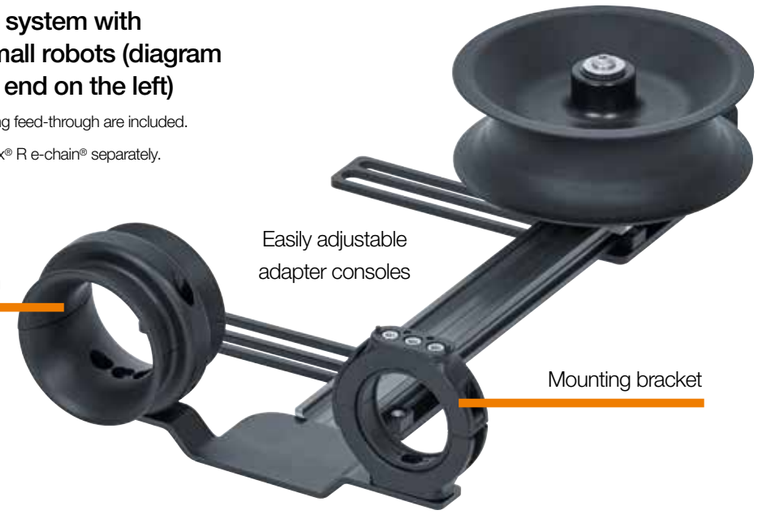
Installation dimensions



RSE - retraction system with deflection for small robots (diagram shows the fixed end on the left)

Mounting bracket and gliding feed-through are included.

Please order matching triflex® R e-chain® separately.



triflex® R | RSE e-chains®

Product range



Product range | Matching e-chains® for RSE

Ø Index		Part No. **TRC** enclosed	Part No. **TRE** "easy" design
30.	▶	–	–
40.	▶	TRC.RSE.40.058. **LLLL**.0	TRE.RSE.40.058. **LLLL**.0.B
50.	▶	TRC.RSE.50.080. **LLLL**.0	TRE.RSE.50.080. **LLLL**.0.B
60.	▶	–	–
65.	▶	–	–
65. (*R 200*)	▶	–	–
70.	▶	–	–
85.	▶	–	–
85. (*R 240*)	▶	–	–
100.	▶	–	–
125.	▶	–	–

*Standard lengths from the gliding feed-through outside the system - special lengths upon request.

e-chains® standard lengths*

LLLL [mm] | **0500** | **0750** | **1000** | **1250** |

Part No. with **LLLL** standard length value (measured from the gliding feed-through) corresponds to the robot arm length from axis 3. For example: **TRC.RSE.40.058.0500.0**

triflex® R | RSE e-chains®

Cable length calculation

Calculation of the e-chain® total length | RSE e-chain®

Ø Index		Bend radius *R* [mm]	e-chain® length* [mm]	Number of e-chains® links	e-chains® total length [mm]
30.	▶	–	–	–	–
40.	▶	058	904	65	**LLLL** + 904
50.	▶	080	1,044	60	**LLLL** + 1,044
60.	▶	–	–	–	–
65.	▶	–	–	–	–
65. (*R 200*)	▶	–	–	–	–
70.	▶	–	–	–	–
85.	▶	–	–	–	–
85. (*R 240*)	▶	–	–	–	–
100.	▶	–	–	–	–
125.	▶	–	–	–	–

*Values are related to the e-chain® length within the system

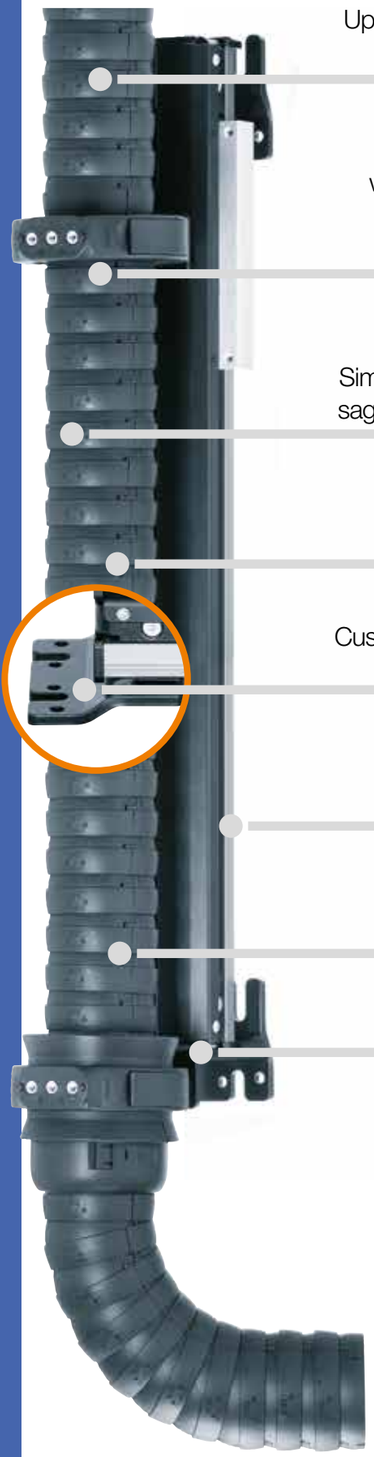
To calculate the total e-chain® length: please add the e-chain® length* within the system to the **LLLL** standard additional length (measured from the gliding feed-through)

e-chain® overall length =
additional length from the gliding feed-through **LLLL** +
the e-chain® length within the system

More information and installation dimensions | RSE e-chains®

- **TRC series** - closed design, chip protection, smooth outer contour ▶ **From page 968**
- **TRE series** - "easy" design, very easy to fill, simply press cables in ▶ **From page 970**

Compact retraction system, linear



Compact retraction system - triflex® RSE and RSEC linear

It is increasingly the case that not only electric power and fluids have to be supplied to production robots; but also laser cables and supply hoses for rivets, pins and screws. As these often cannot function with small bend radii, the new triflex® RSE and RSEC relies on very easy linear retraction without loops and spring rods or deflection rollers. The purpose of the triflex® RSE and RSEC retraction system is to hold the e-chain® as closely as possible to the robot arm in order to prevent the e-chain® from intruding upon or blocking the robot's movements.

- Simple, linear retraction without sags, fibre rods, or guide rollers
- For series TRC·TRE·TRCF with ø-index 40-100mm
- Special linear guide with no small bend radii
- Up to 490mm retraction length
- Space-saving and cost-effective
- Maintenance-free drylin® W linear unit

triflex® R
RSE
linear

RSE linear - R(etraction) S(ystem) E(lastic) linear
RSEC - R(etraction) S(ystem) E(lastic) C(ompact)



igus® TR.RSE system on test robot



Lightweight, linear retraction system for small robots. RSE·RSEC linear for sizes TR.RSE.40, TR.RSE.50 and TR.RSEC.60

▶ **From page 1038**



Linear retraction system for sizes 60-100 with attachment brackets for a wide variety of robot models. RSE linear sizes TR.RSE.60 up to TR.RSE.100

▶ **From page 1040**

triflex® R | RSE linear retraction system

System design with matching e-chains®

Matching triflex® R e-chain® for RSE linear
TRC .XX.*R*.0
TRE .XX.*R*.0.B
TRCF.XX.*R*.0



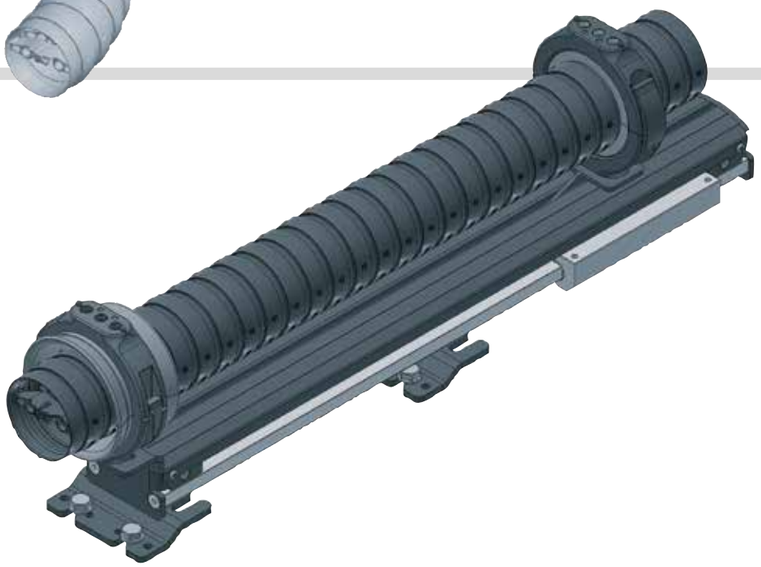
e-chain® total length* =
Additional length **A1** +
Dimension **A** +
Additional length **A6**

Limit protector

RSE linear system
(without e-chain®) +
Mounting bracket +
Gliding feed-through =
TR.RSE.XX



*To calculate the e-chain® total length: please add the additional length in direction **A1**, the additional length in direction **A6** and the dimension **A**.



Complete RSE linear retraction system with TRE triflex® R series. Mounting bracket and gliding feed-through are included. Please order matching triflex® R e-chain®, optional limit protector and RSE linear supports separately.

triflex® R
RSE
linear

triflex® R | RSE linear retraction system

Sample order of a retraction system including e-chain®

Sample order of a complete TR.RSE linear system, ø index 85, and e-chain® (length: 2m)

System	Insert ø index	**TR.RSE.85**
+ e-chain®	Insert ø index / Insert bend radius *R* / Insert length in metres	**2m TRC.85.135.0**
+ Protector	Insert protector variant / Insert ø index	**TR.85.30**
Order text:	**TR.RSE.85. + 2m TRC.85.135.0 + TR.85.30**	

Retraction system order key

TR.RSE.85

- ø index
- Retraction system
- Series

e-chains® order key

TRC .85.135.0
TRE .85.135.0.B
TRCF.85.135.0

- Default colour black
- *R* Bend radius
- ø index
- e-chains® series

Optional accessories | RSE linear pneumatic retraction system



RSE linear support
for lateral deflection of the triflex® R, optional
▶ **Page 1040**



Protectors
with screw connections or quick release
▶ **Page 987**



Adapter consoles
for custom mounting options
▶ **Page 1055**



Axis 6 clamp
for triflex® R mounting bracket
▶ **Page 1058**

triflex® R | RSE·RSEC linear retraction system

TR.RSE.40, TR.RSE.50, TR.RSEC.60 product range



Product range | RSE·RSEC linear TR.RSE.40, TR.RSE.50, TR.RSEC.60

Ø Index		Part No. RSE linear	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	Weight [kg]	Part No. RSE support	Principle sketch
30.	▶	–	–	–	–	–	–	–	
40.	▶	**TR.RSE.40**	290	457	140	143	1.4	**TR.919.540.40.02**	
50.	▶	**TR.RSE.50**	290	475	140	151	1.7	**TR.919.540.50.02**	
60.	▶	**TR.RSEC.60**	250	476	140	179	2.2	**TR.919.540.60.02**	



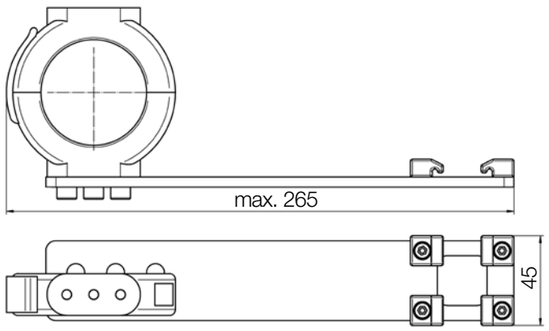
For lateral deflection of energy supply

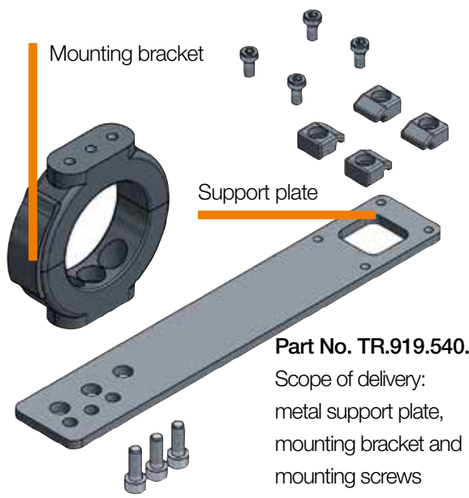
Please order matching triflex® R e-chain® separately. 1) Max. retraction length. Optional RSE support must be ordered separately.

RSE linear sizes TR.RSE.60 up to TR.RSE.100 ▶ From page 1040

Product range | RSE linear support, optional

RSE linear support to support and anchor a fixed end loop



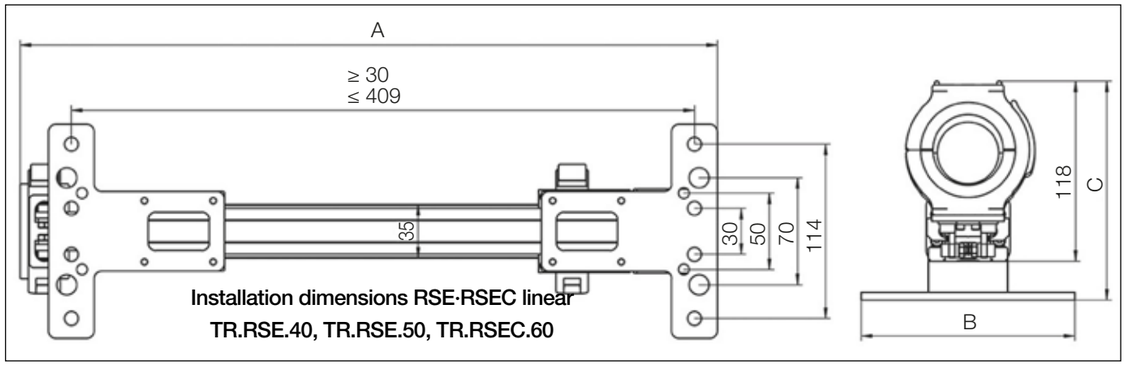


Part No. TR.919.540.XX.02
Scope of delivery:
metal support plate,
mounting bracket and
mounting screws

triflex® R
RSE
linear

triflex® R | RSE·RSEC linear retraction system

Installation dimensions TR.RSE.40, TR.RSE.50, TR.RSEC.60



Installation dimensions RSE·RSEC linear TR.RSE.40, TR.RSE.50, TR.RSEC.60

RSE·RSEC linear retraction system

Mounting bracket and gliding feed-through are included.

Please order matching triflex® R e-chain® separately.



triflex® R | RSE linear retraction system

Product range TR.RSE.60 - TR.RSE.100



Product range | RSE linear TR.RSE.60 - TR.RSE.100

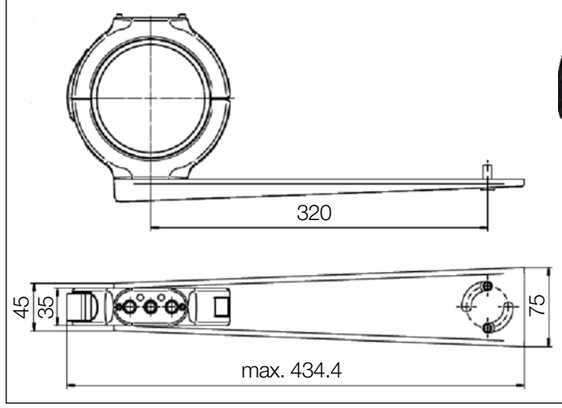
Ø Index		Part No. RSE linear	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	Weight [kg]	Part No. RSE support	Principle sketch
60.	▶	TR.RSE.60	490	868	134	231	9.9	TR.914.973.60	
65.	▶	TR.RSE.65	490	880	134	231	10.0	TR.914.973.65	
65. (R 200)	▶	TR.RSE.65.200	490	880	134	231	10.0	TR.919.991	
70.	▶	TR.RSE.70	490	878	155	258	10.0	TR.914.973.70	
85.	▶	TR.RSE.85	490	885	155	258	10.0	TR.914.973.85	For lateral
85. (R 240)	▶	TR.RSE.85.240	490	885	155	258	10.0	TR.919.220	deflection of
100.	▶	TR.RSE.100	490	886	170	264	10.2	TR.914.973.100	energy supply
125.	▶	–	–	–	–	–	–	–	

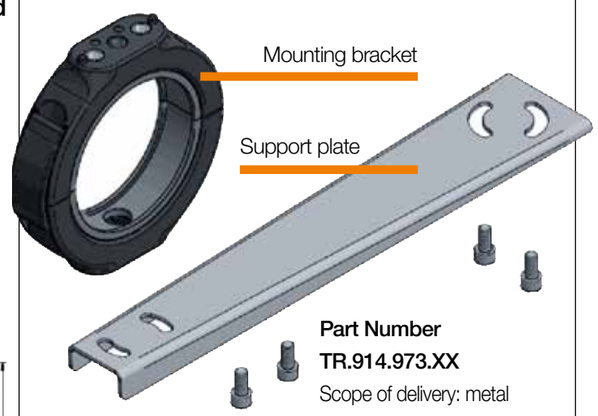
Please order matching triflex® R e-chain® separately. 1) Max. retraction length. Optional RSE support must be ordered separately.

RSE linear sizes TR.RSE.40, TR.RSE.50, TR.RSEC.60 ▶ From page 1038

Product range | RSE linear support, optional

RSE linear support to support and anchor a fixed end loop



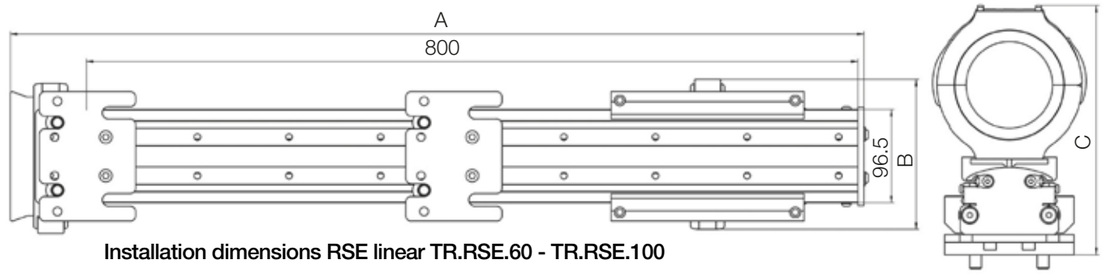


Part Number
TR.914.973.XX
Scope of delivery: metal support plate, mounting bracket and mounting screws

triflex® R
RSE
linear

triflex® R | RSE linear retraction system

Installation dimensions TR.RSE.60 - TR.RSE.100



Installation dimensions RSE linear TR.RSE.60 - TR.RSE.100

RSE linear retraction system

Mounting bracket and gliding feed-through are included.

Please order matching triflex® R e-chain® separately.



triflex® R | RSE·RSEC linear retraction system

Product range



Product range | Matching e-chains® for RSE·RSEC linear

Ø Index	Part No. **TRC** enclosed	Part No. **TRE** "easy" design	Part No. **TRCF** with snap-lock mechanism
30.	–	–	–
40.	TRC.40.058.0	TRE.40.058.0.B	–
50.	TRC.50.080.0	TRE.50.080.0.B	–
60.	TRC.60.087.0	TRE.60.087.0.B	–
65.	–	–	TRCF.65.100.0
65. (*R 200*)	–	–	TRCF.65.200.0
70.	TRC.70.110.0	TRE.70.110.0.B	–
85.	TRC.85.135.0	TRE.85.135.0.B	TRCF.85.135.0
85. (*R 240*)	–	–	TRCF.85.240.0
100.	TRC.100.145.0	TRE.100.145.0.B/C[1)]	TRCF.100.145.0
125.	–	–	–

1) Available for B- and C-versions

Please note that all triflex® R e-chains® can be lengthened and shortened individually and can be customised to meet the needs of your application.

Please order e-chains® as piece parts and purchase a protector for each one.

Product range | Matching protectors for RSE·RSEC linear

Ø Index	❶ Part No. Protector with screw fastener	❷ Part No. Protector with quick-lock fastener	Principle sketch protectors variants
30.	–	–	
40.	TR.40.10	TR.40.30	
50.	TR.50.10	TR.50.30	
60.	TR.60.10	TR.60.30	
65.	TR.65.10	TR.65.30	
65. (*R 200*)	TR.65.200.10*	–	
70.	TR.70.10	TR.70.30	
85.	TR.85.10	TR.85.30	
85. (*R 240*)	TR.85.240.10	–	
100.	TR.100.10	TR.100.30	More information about
125.	–	–	protectors ▶ Page 987

* Available upon request Delivery time upon request.

Please order protectors with screw connections or quick release as limit protectors.

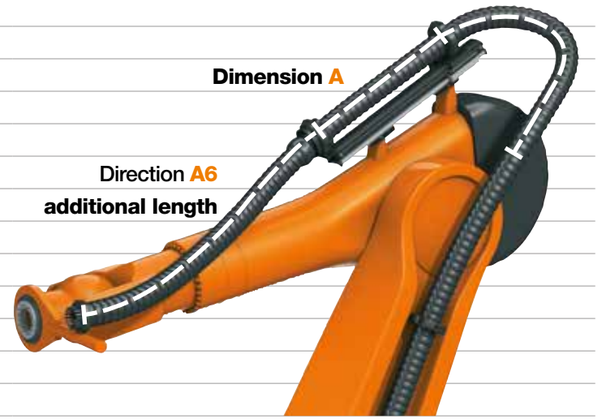
triflex® R | RSE·RSEC linear retraction system

Cable length calculation

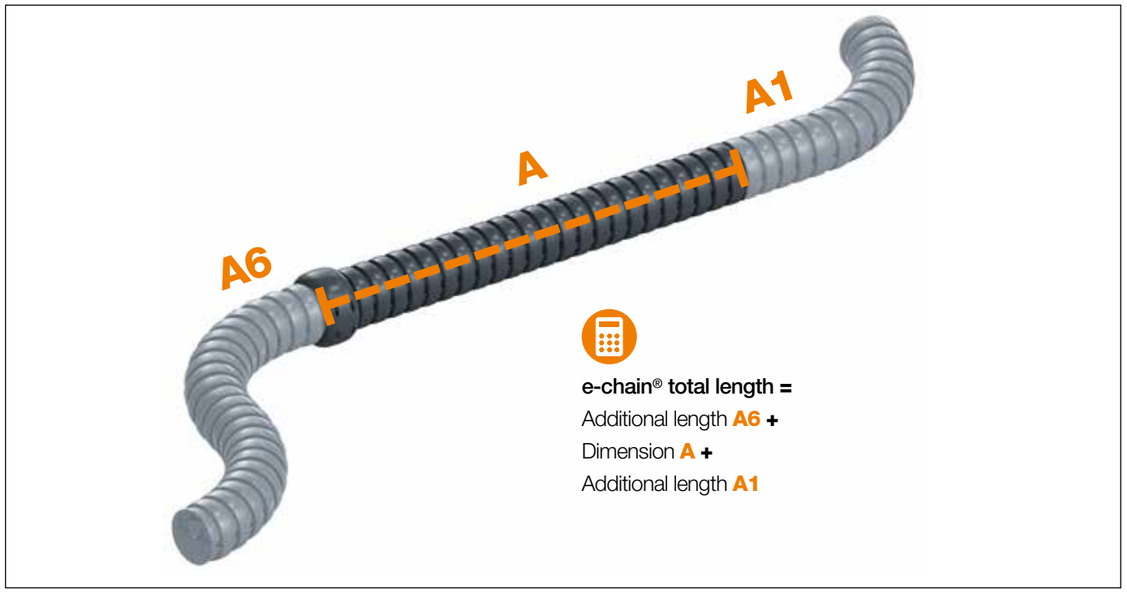
Calculation of the e-chain® total length | RSE·RSEC linear e-chain®

Series	Ø Index	Bend radius *R* [mm]	**Dimension A** [mm]	Principle sketch e-chains® total length / Direction **A1** excess length
RSE	30.	–	–	
RSE	40.	058	390	
RSE	50.	080	390	
RSEC	60.	080	390	
RSE	60.	087	750	
RSE	65.	100	750	
RSE	65. (*R 200*)	200	750	
RSE	70.	110	750	
RSE	85.	135	750	
RSE	85. (*R 240*)	240	750	
RSE	100.	145	750	
RSE	125.	–	–	

Dimension A
Direction **A6**
additional length



To calculate the e-chain® total length: please add the additional length **A1**, the additional length **A6** and the dimension **A**. Additionally, at least 1 limit protector must be ordered



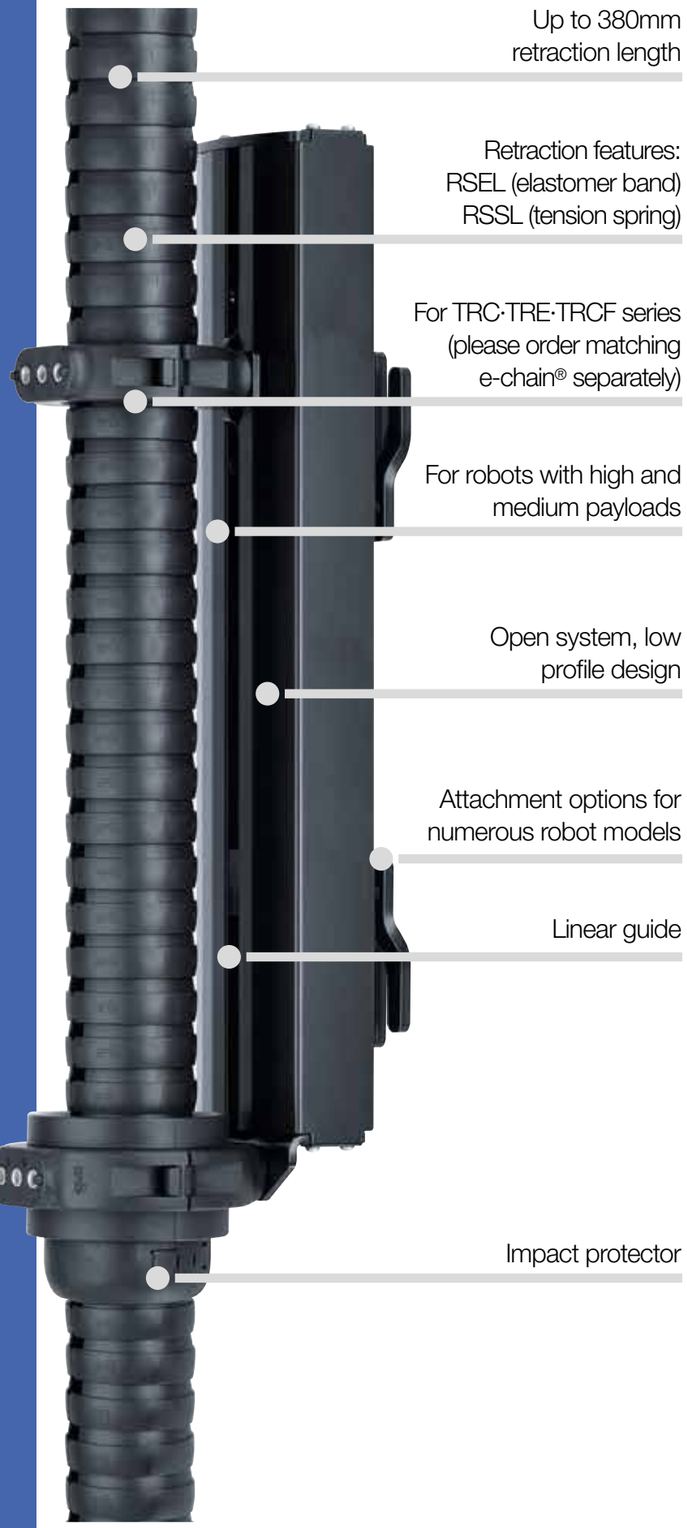
e-chain® total length =
Additional length **A6** +
Dimension **A** +
Additional length **A1**

More information and installation height | RSE linear e-chains®

- **TRC series** - closed design, chip protection, smooth outer contour ▶ **From page 968**
- **TRE series** - "easy" design, very easy to fill, simply press cables in ▶ **From page 970**
- **TRCF series** - closed design with snap-lock mechanism, chip protection, smooth outer contour ▶ **Page 972**

triflex® R | RSEL·RSSL retraction system | Advantages

Cost-effective linear retraction system



Cost-effective, linear retraction system - triflex® RSEL and triflex® RSSL

Avoid loops forming on the robot head - more cost-effective - with the RSEL or RSSL retraction system. Especially designed for robots with medium to high payload, the igus® triflex® RSEL and triflex® RSSL retraction systems offer an option to actively avoid loops forming in the working area of the robot by keeping the e-chain® as close as possible to the robot arm.

- Cost-optimised retraction system, easy to retrofit
- Due to standard dimensions and the very compact design, the RSEL and RSSL retraction systems can be mounted directly on the 3rd axis of all common types of robots
- Retraction element with elastomer band - triflex® RSEL
- Retraction element with tension spring - triflex® RSSL
- Prevents hanging e-chain® from hindering or blocking movement, even in highly dynamic applications
- Short design
- Attachment options for numerous robot models
- For robots with high and medium payloads
- The fixed end of the e-chain® can be placed freely due to the linear design of the RSE and RSSL retraction systems

RSEL·RSSL retraction system | Application examples

RSEL - R(etraction) S(ystem) E(lastic) L(inear)
RSSL - R(etraction) S(ystem) S(pring) L(inear)



triflex® RSEL - cost-effective and space-saving guidance of the e-chain®

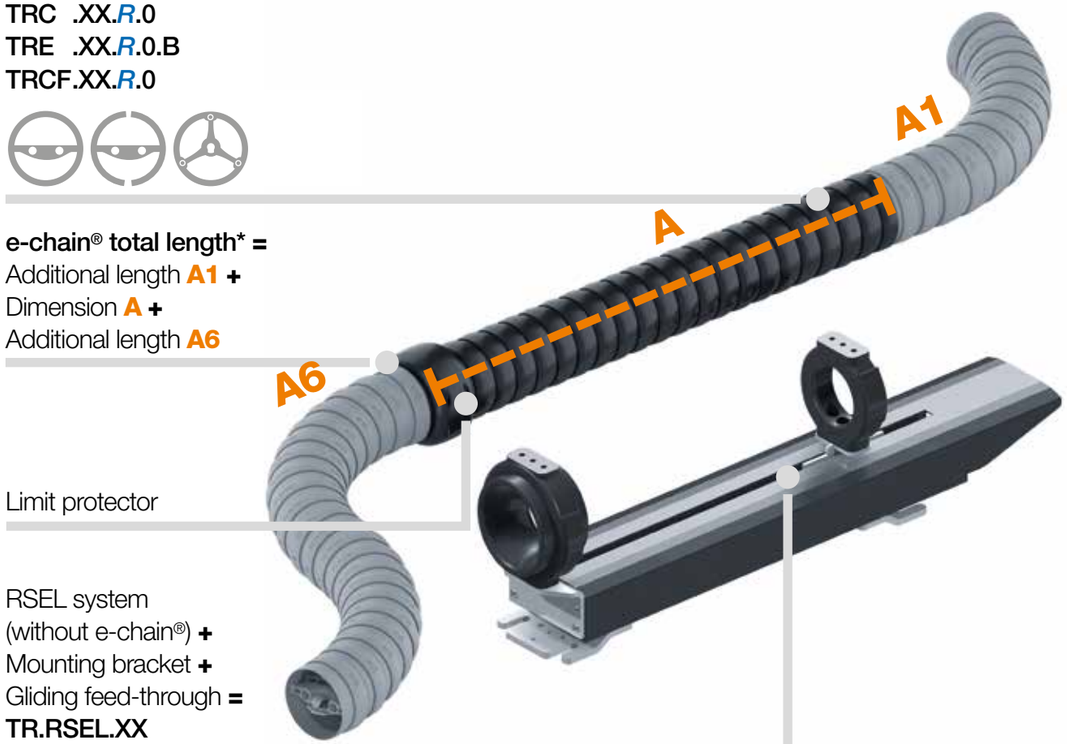


Cable routing from axis 2 to axis 6 on a 6-axis robot

triflex® R | RSEL·RSSL retraction system

System design with matching e-chains®

Matching triflex® R e-chain® for RSEL·RSSL
TRC .XX.*R*.0
TRE .XX.*R*.0.B
TRCF.XX.*R*.0



e-chain® total length* =
Additional length **A1** +
Dimension **A** +
Additional length **A6**

Limit protector

RSEL system
(without e-chain®) +
Mounting bracket +
Gliding feed-through =
TR.RSEL.XX

*To calculate the e-chain® total length: please add the additional length in direction **A1**, the additional length in direction **A6** and the dimension **A**.



Complete RSEL·RSSL linear retraction system with TRC triflex® R series. Mounting bracket and gliding feed-through are included. Please order matching triflex® R e-chains® and limiting protectors separately.

triflex® R
RSEL
RSSL

triflex® R | RSEL·RSSL retraction system

Sample order of a retraction system including e-chain®

Sample order of a complete TR.RSEL system, ø index 85, and e-chain® (length: 2m)

System	Insert ø index	**TR.RSEL.85**
+ e-chain®	Insert ø index / Insert bend radius *R* / Insert length in metres	**2m TRCF.85.135.0**
+ Protector	Insert protector variant / Insert ø index	**TR.85.30**
Order text:	**TR.RSEL.85. + 2m TRCF.85.135.0 + TR.85.30**	

Retraction system order key

TR.RSEL.85
- ø index
- Retraction system
- Series

e-chains® order key

TRC .85.135.0
TRE .85.135.0.B
TRCF.85.135.0
- Default colour black
- *R* Bend radius
- ø index
- e-chains® series

Optional accessories | RSEL RSSL modular retraction system



Protectors
with screw connections or quick release
▶ **Page 987**



Adapter consoles
for custom mounting options
▶ **Page 1055**



Axis 6 clamp
for triflex® R mounting bracket
▶ **Page 1058**

triflex® R | RSEL·RSSL retraction system

Product range



Product range | RSEL retraction system

Ø Index		Part No. RSEL	Retraction length[1)] ≤ [mm]	A [mm]	B [mm]	C [mm]	Weight [kg]
30.	▶	–	–	–	–	–	–
40.	▶	–	–	–	–	–	–
50.	▶	–	–	–	–	–	–
60.	▶	**TR.RSEL.60**	380	631	126	228	10.6
65.	▶	**TR.RSEL.65**	380	631	126	228	10.6
65. (*R 200*)	▶	TR.RSEL.65.200*	380	631	155	248	10.6
70.	▶	**TR.RSEL.70**	380	631	155	248	10.7
85.	▶	**TR.RSEL.85**	380	638	155	255	10.8
85. (*R 240*)	▶	**TR.RSEL.85.240**	380	638	155	255	10.8
100.	▶	**TR.RSEL.100**	380	638	170	255	11.0
125.	▶	–	–	–	–	–	–

Please order matching triflex® R e-chain® separately. 1) Max. retraction length. * Available upon request Delivery time upon request.

Product range | RSSL retraction system

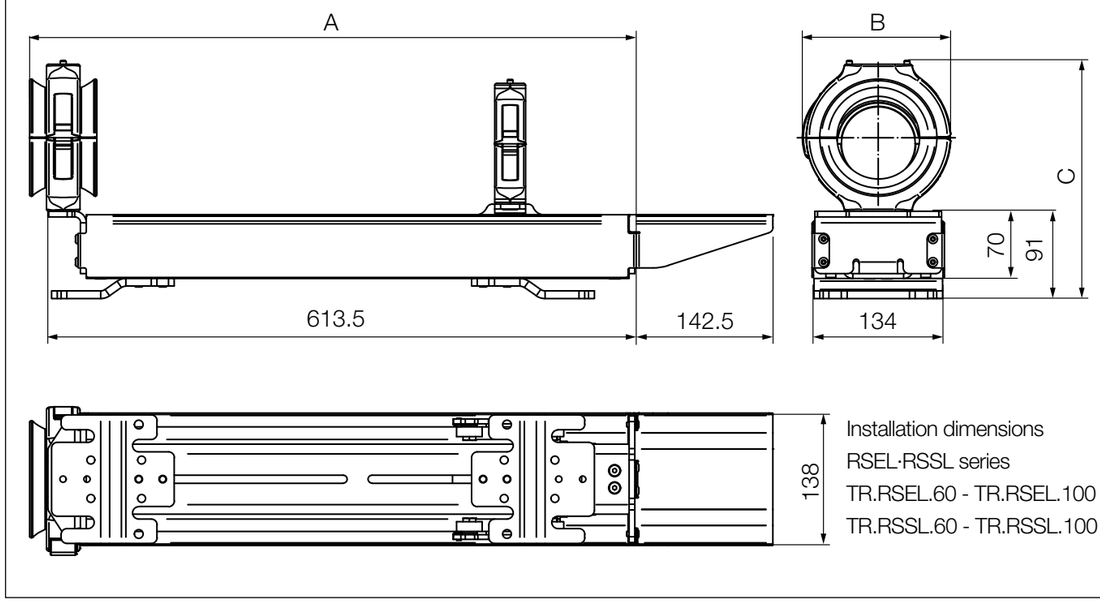
Ø Index		Part No. RSEL	Retraction length[1)] ≤ [mm]	A [mm]	B [mm]	C [mm]	Weight [kg]
30.	▶	–	–	–	–	–	–
40.	▶	–	–	–	–	–	–
50.	▶	–	–	–	–	–	–
60.	▶	**TR.RSSL.60**	350	631	126	228	10.6
65.	▶	**TR.RSSL.65**	350	631	126	228	10.6
65. (*R 200*)	▶	TR.RSSL.65.200*	350	631	155	248	10.6
70.	▶	**TR.RSSL.70**	350	631	155	248	10.7
85.	▶	**TR.RSSL.85**	350	638	155	255	10.8
85. (*R 240*)	▶	**TR.RSSL.85.240**	350	638	155	255	10.8
100.	▶	**TR.RSSL.100**	350	638	170	255	11.0
125.	▶	–	–	–	–	–	–

Please order matching triflex® R e-chain® separately. 1) Max. retraction length. * Available upon request Delivery time upon request.

triflex® R
RSEL
RSSL

triflex® R | RSEL·RSSL retraction system

Installation dimensions



Installation dimensions
RSEL·RSSL series
TR.RSEL.60 - TR.RSEL.100
TR.RSSL.60 - TR.RSSL.100

RSEL retraction system

Mounting bracket and gliding feed-through are included.

Please order matching triflex® R e-chain® separately.



triflex® R | RSEL·RSSL e-chains®

Product range



Product range | Matching e-chains® for RSEL and RSSL

Ø Index	Part No. **TRC** enclosed	Part No. **TRE** "easy" design	Part No. **TRCF** with snap-lock mechanism
30.	–	–	–
40.	–	–	–
50.	–	–	–
60.	TRC.60.087.0	TRE.60.087.0.B	–
65.	–	–	TRCF.65.100.0
65. (*R 200*)	–	–	TRCF.65.200.0
70.	TRC.70.110.0	TRE.70.110.0.B	–
85.	TRC.85.135.0	TRE.85.135.0.B	TRCF.85.135.0
85. (*R 240*)	–	–	TRCF.85.240.0
100.	TRC.100.145.0	TRE.100.145.0.B	TRCF.100.145.0
125.	–	–	–

1) Available for B- and C-versions

Please note that all triflex® R e-chains® can be lengthened and shortened individually and can be customised to meet the needs of your application.

Please order e-chains® as piece parts and purchase a protector for each one.

Product range | Matching protectors for RSEL and RSSL

Ø Index	❶ Part No. Protector with screw fastener	❷ Part No. Protector with quick-lock fastener	Principle sketch protectors variants
30.	–	–	
40.	–	–	
50.	–	–	
60.	TR.60.10	TR.60.30	
65.	TR.65.10	TR.65.30	
65. (*R 200*)	–	–	
70.	TR.70.10	TR.70.30	
85.	TR.85.10	TR.85.30	
85. (*R 240*)	TR.85.240.10	–	
100.	TR.100.10	TR.100.30	More information about
125.	–	–	protectors ▶ Page 987



* Available upon request Delivery time upon request.

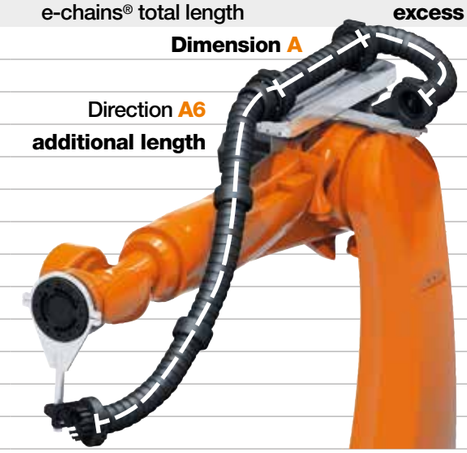
Please order protectors with screw connections or quick release as limit protectors.

triflex® R | RSEL·RSSL e-chains®

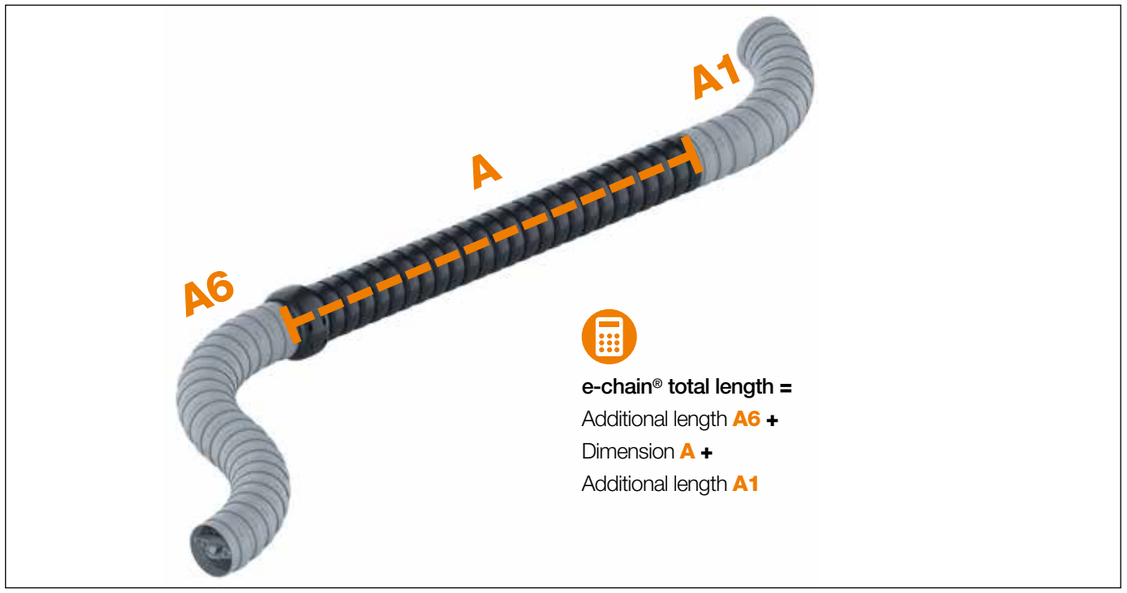
Cable length calculation

Calculation of the e-chain® total length | RSEL and RSSL e-chain®

Ø Index	Bend radius *R* [mm]	**Dimension A** [mm]	Principle sketch e-chains® total length	Direction **A1** **excess length**
30.	–	–	**Dimension A**	
40.	–	–		
50.	–	–	Direction **A6**	
60.	087	530	**additional length**	
65.	100	530		
65. (*R 200*)	200	530		
70.	110	530		
85.	135	530		
85. (*R 240*)	240	530		
100.	145	530		
125.	–	–		



To calculate the e-chain® total length: please add the additional length **A1**, the additional length **A6** and the dimension **A**. Additionally, at least 1 limit protector must be ordered

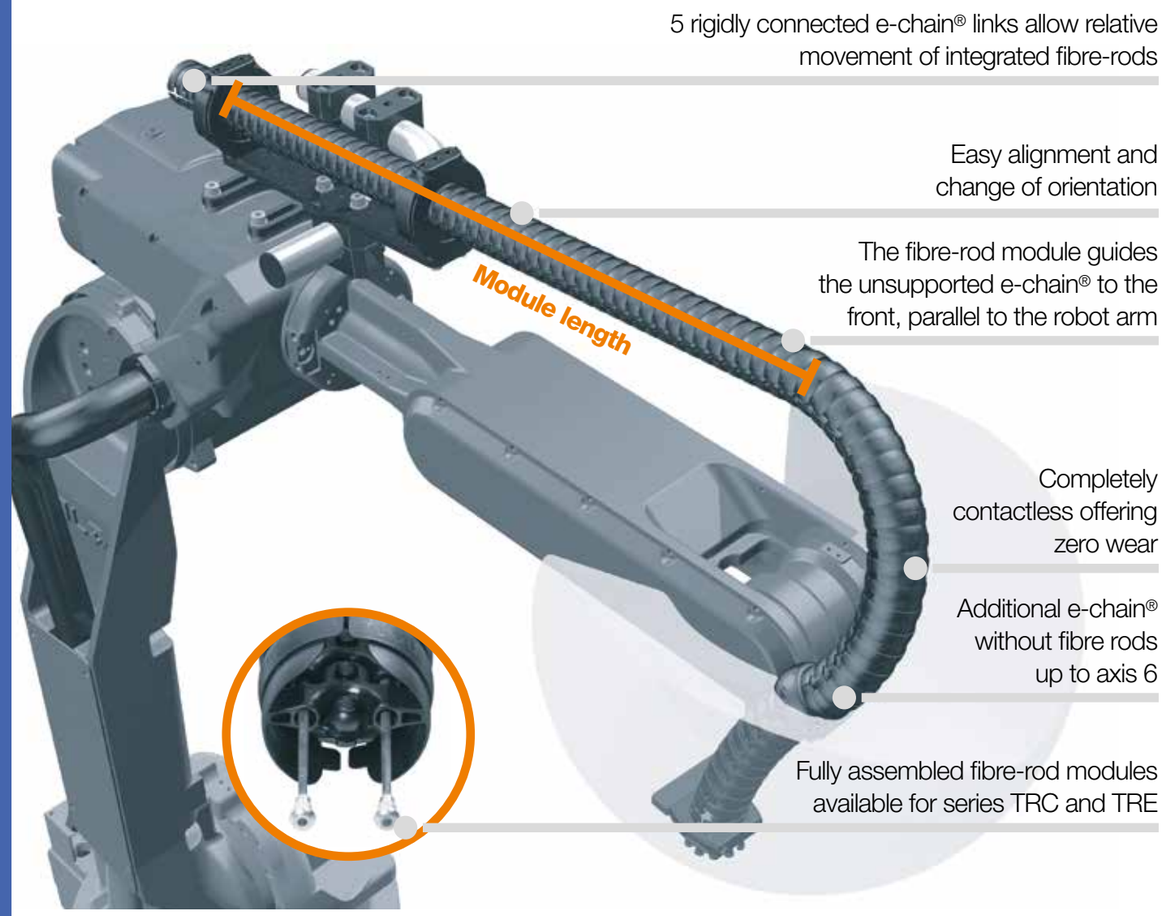


More information and installation dimensions | RSEL·RSSL e-chains®

- **TRC series** - closed design, chip protection, smooth outer contour ▶ **From page 968**
- **TRE series** - "easy" design, very easy to fill, simply press cables in ▶ **From page 970**
- **TRCF series** - closed design with snap-lock mechanism, chip protection, smooth outer contour ▶ **Page 972**

triflex® R | Series TRC·TRE | Accessories

Fibre-rod module | Universal mounting kits



Fibre-rod modules for a directional pretension of the e-chain®

We supply fully assembled fibre-rod modules for triflex® R e-chain® Series TRC and TRE. The integrated fibre-rods generate a directional pretension for the e-chain®. This system creates a unique choice of movements for the energy supply system to the final axis of industrial robots. The fibre-rod module guides the unsupported e-chain® to the front, parallel to the robot arm. The bending properties of the modules depends on the installation orientation: only the front end allows flexible movement. The five rear e-chain® links are rigidly connected to allow relative movement of the integrated fibre-rods. This results in a fully contactless and therefore zero-wear energy supply system, designed for moderate movements with limited rotational motion of the axes. Additional e-chain® without fibre-rods for the final axis area needs to be ordered separately.



Product range

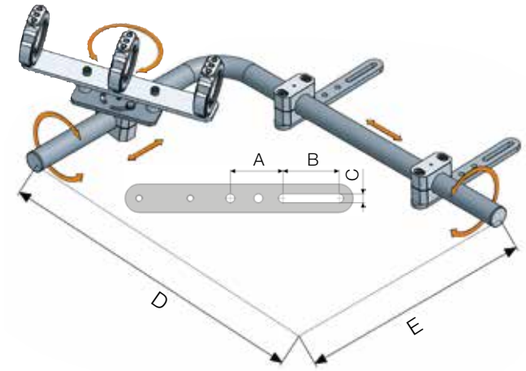
Part No. fibre-rod modules for TRC / TRE		Length [m]
TRC.30	**TRE.30**	
TRC.F.**30**.0800.1.0	TRE.F.**30**.0800.1.0.B	≈ 0.8
TRC.F.**30**.0700.1.0	TRE.F.**30**.0700.1.0.B	≈ 0.7
TRC.F.**30**.0600.1.0*	TRE.F.**30**.0600.1.0.B*	≈ 0.6
TRC.F.**30**.0500.1.0	TRE.F.**30**.0500.1.0.B	≈ 0.5
TRC.F.**30**.0400.1.0	TRE.F.**30**.0400.1.0.B	≈ 0.4
TRC.F.**30**.0300.1.0	TRE.F.**30**.0300.1.0.B	≈ 0.3
TRC.40	**TRE.40**	
TRC.F.**40**.1000.1.0	TRE.F.**40**.1000.1.0.B	≈ 1.0
TRC.F.**40**.0900.1.0	TRE.F.**40**.0900.1.0.B	≈ 0.9
TRC.F.**40**.0800.1.0*	TRE.F.**40**.0800.1.0.B*	≈ 0.8
TRC.F.**40**.0700.1.0	TRE.F.**40**.0700.1.0.B	≈ 0.7
TRC.F.**40**.0600.1.0	TRE.F.**40**.0600.1.0.B	≈ 0.6
TRC.F.**40**.0500.1.0	TRE.F.**40**.0500.1.0.B	≈ 0.5
TRC.F.**40**.0400.1.0	TRE.F.**40**.0400.1.0.B	≈ 0.4
TRC.50	**TRE.50**	
TRC.F.**50**.1400.1.0	TRE.F.**50**.1400.1.0.B	≈ 1.4
TRC.F.**50**.1200.1.0	TRE.F.**50**.1200.1.0.B	≈ 1.2
TRC.F.**50**.1000.1.0*	TRE.F.**50**.1000.1.0.B*	≈ 1.0
TRC.F.**50**.0800.1.0	TRE.F.**50**.0800.1.0.B	≈ 0.8
TRC.F.**50**.0600.1.0	TRE.F.**50**.0600.1.0.B	≈ 0.6
TRC.F.**50**.0400.1.0	TRE.F.**50**.0400.1.0.B	≈ 0.4
TRC.60	**TRE.60**	
TRC.F.**60**.1400.1.0	TRE.F.**60**.1400.1.0.B	≈ 1.4
TRC.F.**60**.1200.1.0	TRE.F.**60**.1200.1.0.B	≈ 1.2
TRC.F.**60**.1000.1.0*	TRE.F.**60**.1000.1.0.B*	≈ 1.0
TRC.F.**60**.0800.1.0	TRE.F.**60**.0800.1.0.B	≈ 0.8
TRC.F.**60**.0600.1.0	TRE.F.**60**.0600.1.0.B	≈ 0.6
TRC.F.**60**.0400.1.0	TRE.F.**60**.0400.1.0.B	≈ 0.4

Part No. fibre-rod modules for TRC / TRE		Length [m]
TRC.70	**TRE.70**	
TRC.F.**70**.1800.1.0	TRE.F.**70**.1800.1.0.B	≈ 1.8
TRC.F.**70**.1600.1.0	TRE.F.**70**.1600.1.0.B	≈ 1.6
TRC.F.**70**.1400.1.0	TRE.F.**70**.1400.1.0.B	≈ 1.4
TRC.F.**70**.1200.1.0*	TRE.F.**70**.1200.1.0.B*	≈ 1.2
TRC.F.**70**.1000.1.0	TRE.F.**70**.1000.1.0.B	≈ 1.0
TRC.F.**70**.0800.1.0	TRE.F.**70**.0800.1.0.B	≈ 0.8
TRC.85	**TRE.85**	
TRC.F.**85**.2000.1.0	TRE.F.**85**.2000.1.0.B	≈ 2.0
TRC.F.**85**.1800.1.0	TRE.F.**85**.1800.1.0.B	≈ 1.8
TRC.F.**85**.1600.1.0	TRE.F.**85**.1600.1.0.B	≈ 1.6
TRC.F.**85**.1400.1.0*	TRE.F.**85**.1400.1.0.B*	≈ 1.4
TRC.F.**85**.1200.1.0	TRE.F.**85**.1200.1.0.B	≈ 1.2
TRC.F.**85**.1000.1.0	TRE.F.**85**.1000.1.0.B	≈ 1.0
TRC.F.**85**.0800.1.0	TRE.F.**85**.0800.1.0.B	≈ 0.8
TRC.100	**TRE.100**	
TRC.F.**100**.2000.1.0	TRE.F.**100**.2000.1.0.B/**.C** [1]	≈ 2.0
TRC.F.**100**.1800.1.0	TRE.F.**100**.1800.1.0.B/**.C** [1]	≈ 1.8
TRC.F.**100**.1600.1.0	TRE.F.**100**.1600.1.0.B/**.C** [1]	≈ 1.6
TRC.F.**100**.1400.1.0*	TRE.F.**100**.1400.1.0.B/**.C** [1]*	≈ 1.4
TRC.F.**100**.1200.1.0	TRE.F.**100**.1200.1.0.B/**.C** [1]	≈ 1.2
TRC.F.**100**.1000.1.0	TRE.F.**100**.1000.1.0.B/**.C** [1]	≈ 1.0
TRC.125	**TRE.125**	
TRC.F.**125**.2000.1.0	TRE.F.**125**.2000.1.0	≈ 2.0
TRC.F.**125**.1800.1.0*	TRE.F.**125**.1800.1.0*	≈ 1.8
TRC.F.**125**.1600.1.0	TRE.F.**125**.1600.1.0	≈ 1.6
TRC.F.**125**.1400.1.0	TRE.F.**125**.1400.1.0	≈ 1.4
TRC.F.**125**.1200.1.0	TRE.F.**125**.1200.1.0	≈ 1.2
TRC.F.**125**.1000.1.0	TRE.F.**125**.1000.1.0	≈ 1.0

*Maximum recommended length for fibre-rod modules 1) For die C version, add the **.C** index

Universal mounting kit | For TRC·TRE

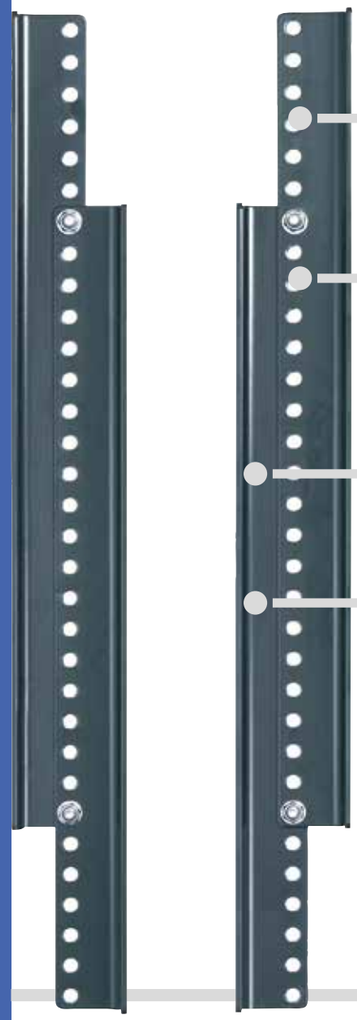
● Stainless steel angle tube with attachment brackets ● Freely positionable ● The energy supply system can be quickly and easily adapted to new programming sequences of the robot ● With 2 mounting brackets for sizes 40 and 60 - with 3 mounting brackets starting at size 70



Ø Index	Part No.	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Weight [kg]
40.	**TR.40.80**	74	40	8.4	475	325	3.9
50.	**TR.50.80**	74	40	8.4	475	325	3.9
60.	**TR.60.80**	74	40	8.4	625	325	5.1
70.	**TR.70.80**	75	80	12.6	875	575	13.2
85.	**TR.85.80**	75	80	12.6	875	575	13.5
100.	**TR.100.80**	75	80	12.6	875	575	13.5
125.	**TR.125.80**	75	80	12.6	875	575	14.4

triflex® R | Adjustment units | Accessories

Adjustment unit for retraction systems



Wide adjustment range of ± 250mm

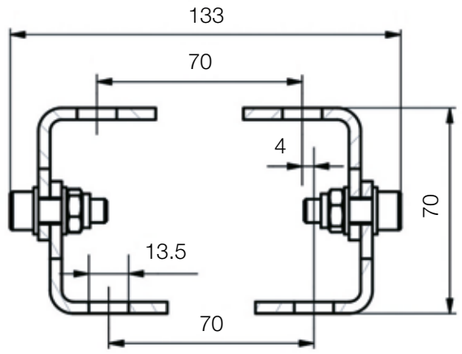
Can be combined with igus® adapter consoles

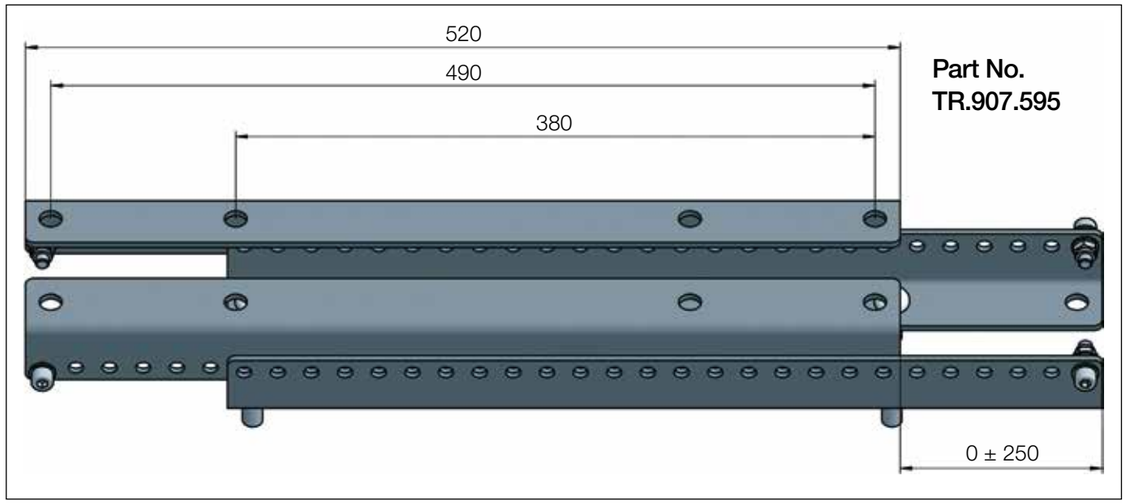
Simplifies alignment for robot cells with restricted space

Part No. TR.907.595
weight: 5.0kg

Adjustment unit for RSP and RS retraction systems

The optional adjustment unit is installed between the robot arm and the retraction system, and allows accurate adjustments of the position of the igus® retraction system on the robot arm. Particularly useful for multiple working programs using the same cable package.





Adjustment unit to easily change the position of the retraction system

triflex® R | Adapter consoles | Accessories

Adapter consoles for retraction systems



Adapter consoles for many robot models, from stock

For all triflex® R retraction systems and fibre-rod modules

3D CAD data available online for download
▶ **www.igus.eu/consoles**

Also for robots needing side-mounted installation

Adapter consoles for all igus® retraction systems

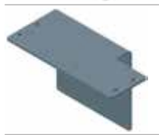
The retraction systems provide all widely used drill patterns for attachment: 380 x 70mm and 490 x 90mm (in Ø 12.5mm). We also supply a wide range of manufacturer and model-dependent adapter brackets from stock, in order to adapt to other robot variations. For example, many robot models are equipped from the factory with only side-mounted mounting options - in these cases, our adapter product range also supports simple installation of the retraction systems without additional engineering.
Adapter consoles for many robot models, from stock. Product range ▶ next page



Application example with RS system on ABB Series 6600

triflex® R | Adapter consoles | Accessories

Adapter consoles for retraction systems, from stock

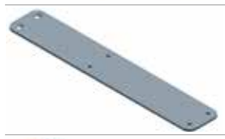
Adapter consoles	Part No.	Manufacturer	Robot model	Weight [kg]
	TR.907.347	**ABB**	IRB 6600 IRB 6640 IRB 6650	4.0
	TR.907.468	**ABB**	IRB 6400	9.8
	TR.907.448	**ABB**	IRB 4400	5.0
	TR.907.381	**ABB**	IRB 2400/10 IRB 2400/16	5.2
	TR.907.905	**ABB**	IRB 6620	2.8
	TR.908.494	**ABB**	IRB 4600 IRB 2600	2.9
	TR.907.374	**Comau**	NH1 130-2.6 NJ 110-3.0 NH3 165-2.7 NJ 110-2.6 NH3 220-2.7 SMART5 NJ 165 3.0	4.7
	TR.907.447	**Comau**	NM 45-2.0 NM 16-3.1	3.4
	TR.908.493	**Comau**	Smart six	2.2
	TR.907.327	**Yaskawa**	UP 20 UP 165 ES 280 MH6 UP 50 ES 165 HP 20 HP 165 UP 130 ES 200 HP 50	3.6
	TR.909.641	**Yaskawa**	MH50	2.0

More adapter consoles upon request. CAD data online.

triflex® R

triflex® R | Adapter consoles | Accessories

Excerpt from the product range

Adapter consoles	Part No.	Manufacturer	Robot model	Weight [kg]
	TR.911.220	**Fanuc**	M-710iC 50 M-710iC 70	2.0
	TR.908.973	**Fanuc**	M-710iB 45	1.1
	TR.907.270	**Fanuc**	IR-2000iB S 430 R-2000iA S 420 R-1000iA	4.5
	TR.907.470.12	**Fanuc**	M-900iA 260L M-900iA 350	6.8
	TR.907.902.12	**Fanuc**	M-900iA 600	8.9
	TR.910.876	**Fanuc**	M900-IB700	4.6
	TR.907.599	**Kuka**	KR5 KR6 KR5arc KR16	2.5
	TR.908.113	**Kuka**	KR-1000	5.2
	TR.908.014	**Kuka**	KR 60 (HA) KR 30 (HA)	4.3
	TR.907.706	**Reis**	RV30-26 RV60-26 RV10-16 RV60-40 RV20-16 RV60-60 RV60-16 RV130	4.3
	TR.911.223 Spacer bolt	**Kuka**	Series Quantec (4 piece kit)	0.6

More adapter consoles upon request. CAD data online.

triflex® R | Clamps | Accessories

Attachment to axis 6



For use with a heavy duty connection, compact connection, and quick release units

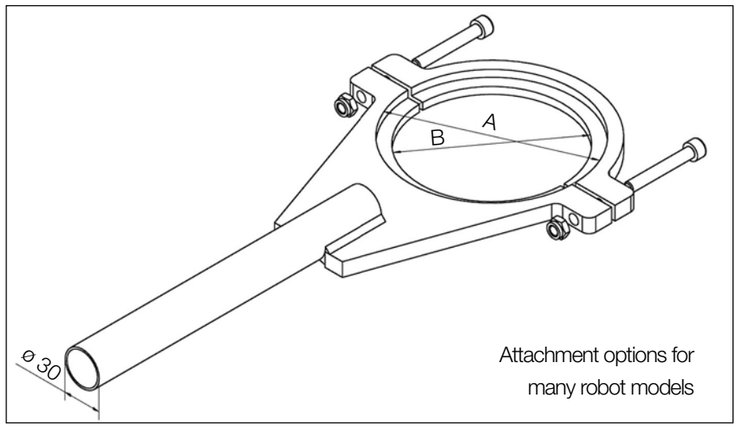
Easy and fast alignment of the fixed end relative to the tool position

Depending on robot design, with or without recess

Clamps for attachment to axis 6

The clamp is used to attach a mounting bracket to axis 6, with a bar (Ø 30mm) for all robots. They are easy and quick to assemble.

- For use with heavy duty connection **TR.XX.20.30** / **TR.XX.23.30**
- For use with compact connection **TR.XX.21.01.30** / **TR.XX.21.02.30**
- For use with quick exchange unit **TR.XX.22.30**



Attachment options for many robot models



triflex® R | Clamps | Accessories

Excerpt from the product range

Part No. Clamp	Robot model	With recess	A [mm]	B [mm]	Weight [kg]
TR.907.857	KUKA KR 30-3 (HA)	yes	130	115	1.90
	KUKA KR 60-3 (HA)	yes	130	115	1.90
	KUKA KR 60 L45-3 (HA)	yes	130	115	1.90
	KUKA KR 60 L30-3 (HA)	yes	130	115	1.90
TR.907.901	KUKA Quantec, large flange	yes	205	190	2.50
	KUKA Quantec-2, large flange	yes	205	190	2.50
	KUKA KR 125/3	yes	205	190	2.50
	KUKA KR 150/3	yes	205	190	2.50
	KUKA KR 200/3	yes	205	190	2.50
	KUKA KR 150/2 Serie 2000	yes	205	190	2.50
	KUKA KR 180/2 Serie 2000	yes	205	190	2.50
	KUKA KR 210/2 Serie 2000	yes	205	190	2.50
TR.907.992	Fanuc R-2000iA	yes	165	160	2.40
	Fanuc R-2000iB	yes	165	160	2.40
	Fanuc R-2000iC	yes	165	160	2.40
TR.908.065	Fanuc M-710iC 50	yes	130	124	2.20
	Fanuc M-710iC 70	yes	130	124	2.20
TR.908.115	KUKA KR 1000 Titan	yes	250	242	3.05
TR.908.347	Stäubli TX 200	yes	145	125	1.90
TR.909.387	Yaskawa UP 50	yes	125	100	1.90
	Yaskawa HP 50	yes	125	100	1.90
	Yaskawa MH 50	yes	125	100	1.90
TR.912.328	KUKA Fortec	yes	235	220	2.70
TR.917.378	KUKA KR 16-3	yes	90	63	1.20
	KUKA KR 20-3	yes	90	63	1.20
TR.919.171	KUKA Iontec	yes	122	145	1.80
TR.907.667.140	KUKA Quantec, small flange	no	140	similar to A	2.20
	KUKA Quantec-2, small flange	no	140	similar to A	2.20
TR.907.667.142	Hyundai HX 165	no	142	similar to A	2.25
TR.907.667.150	Comau NJ 130	no	150	similar to A	2.40
TR.907.667.160	ABB IRB 6400	no	160	similar to A	2.45
	Yaskawa GP180	no	160	similar to A	2.45
TR.907.667.180	Yaskawa GP250	no	180	similar to A	2.55
TR.907.667.190	Comau NH3	no	190	similar to A	2.60
TR.907.667.200	ABB IRB 6640	no	200	similar to A	2.70
	ABB IRB 6620	no	200	similar to A	2.70
	ABB IRB 6650	no	200	similar to A	2.70
	ABB IRB 6700	no	200	similar to A	2.70
TR.907.667.220	KUKA KR 360-2	no	220	similar to A	2.82
	KUKA KR 500-2	no	220	similar to A	2.82
	KUKA KR 360-3	no	220	similar to A	2.82
	KUKA KR 500-3	no	220	similar to A	2.82
TR.907.667.250	ABB IRB 7600	no	250	similar to A	3.50
	Fanuc M900iA 350	no	250	similar to A	3.20
	Fanuc M900iA 260L	no	250	similar to A	3.20
TR.907.667.275	Fanuc M900iA 200P	no	275	similar to A	3.40
TR.907.667.315	Fanuc M900iA 600	no	315	similar to A	3.60
	Fanuc M900iA 400L	no	315	similar to A	3.60
TR.918.002	Universal Robot UR10(e)	no	90	similar to A	0.25
TR.918.012	Universal Robot UR5(e)	no	75	similar to A	0.23
TR.918.027	Universal Robot UR3(e)	no	63	similar to A	0.20

Other dimensions available upon request



easy triflex®

For simple multi-axis applications, easy filling from both sides

easy triflex® advantages:

- Easy filling with "easy" design
- Easy filling from both sides
- Easy to replace or combine with existing triflex® systems
- If square space is required

When to use another 3D e-chain® series:

- For complex robot applications
  ▶ **triflex® R - TRE, page 970**
- For circular movements with high loads
  ▶ **twisterchain system, page 1086**



KMA mounting brackets:
split mounting bracket with integrated strain relief

Modular:
easy lengthening and
shortening at any point

Robust:
"push-button" joint

Simple:
easy filling from both sides
with "easy" design

Fast:
simply press cable in along
the inner or outer radius

Customisable:
different bend radii and
types can be combined

Flexible:
multi-axis movement for
all kinds of machinery

For simple 3D applications, easy filling from both sides - easy triflex®

The easy triflex® series was developed to offer safe energy supply for multi-axis movements. In doing so the flexibility of a hose was combined with the stability and defined bend radius of an e-chain®. With easy triflex® the installation of cables and hoses is simple. With flexible crossbars the cables are simply pushed into the e-chain® from either side. The unique modular range allows very complex movements. For example it is possible to combine 1- 2- and 3-axis links in one e-chain®.

Typical industries and applications

● Machine tools ● Robots ● Handling Equipment ● Material handling ● Plastics industry ● Construction machinery ● Vehicles production ● General mechanical engineering ● Medical equipment ● Office furniture

UL94-V2
classification

iF product design award
2000 Series easy triflex®

Series	Inner height *Bi1* / *Bi1* [mm]	Inner width *Bi3* [mm]	Outer width *Ba* [mm]	Bend radius *R* [mm]	Pitch [mm]	Page
Single-axis movement - "easy" design easy filling from both sides						
E332.25	13	25	34	048 - 200	14.5	1066
E332.32	17	32	50	075 - 250	25	1066
E332.50	26	50	68	100 - 250	30	1066
E332.75	38.5	75	96	140 - 300	36	1066
Double-axis movement - "easy" design with *RBR* (Reverse Bend Radius) easy filling from both sides						
E332.25	13	25	34	048 - 200	14.5	1067
E332.32	17	32	50	075 - 250	25	1067
E332.50	26	50	68	100 - 250	30	1067
E332.75	38.5	75	96	140 - 300	36	1067
Triple-axis movement - "easy" design with *RBR* (Reverse Bend Radius) easy filling from both sides						
E333.25	13	25	34	048 - 200	14.5	1068
E333.32	17	32	50	075 - 250	25	1068
E333.50	26	50	68	100 - 250	30	1068
E333.75	38.5	75	96	140 - 300	36	1068

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.



Technical data

Speed / acceleration	upon request
Material - permitted temperature °C, igumid NB	**-40°C/+120°C**
Flammability class, igumid NB	**VDE 0304 IIC UL94-V2**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 28 links	**E333.75.200/200.0**
+ Mounting brackets	1 set mounting bracket with strain relief	**333.75.12PZ**
Order text:	**1m E333.75.200/200.0 + 333.75.12PZ**	

Order key Single-axis movement

E332.75.2.200.0

- Series
- Width index
- Bend radius *R*
- Standard colour black

Order key Double-axis movement

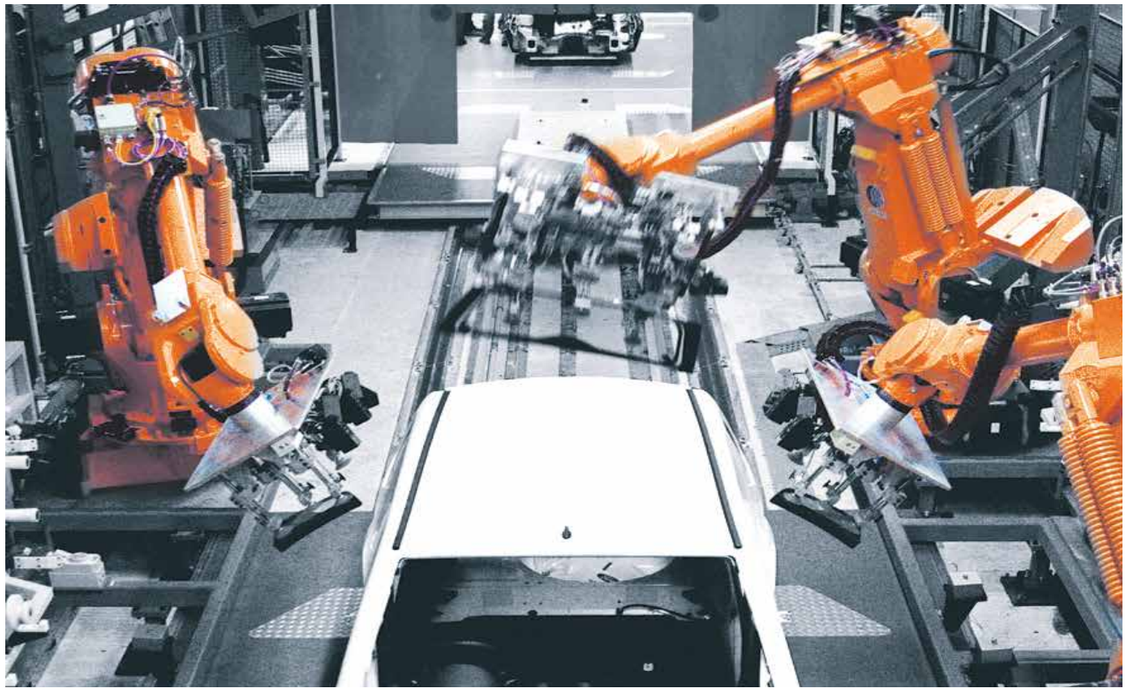
E332.75.2.200/200.0

- Series
- Width index
- Bend radius *R*
- Bend radius ***RBR***
- Standard colour black

Order key Triple-axis movement

E333.75.200/200.0

- Series
- Width index
- Bend radius *R*
- Bend radius ***RBR***
- Standard colour black



Robots with igus® easy triflex® e-chains® on an assembly line



igus® easy triflex® and E2 medium e-chain® in a production line



easy triflex® e-chains® can also be used for simple applications needing an aesthetic solution

easy triflex® | Series E332 | Product range

Single-axis movement

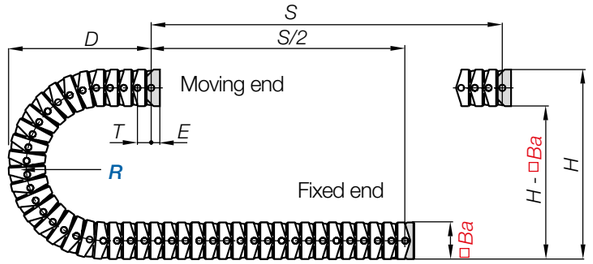


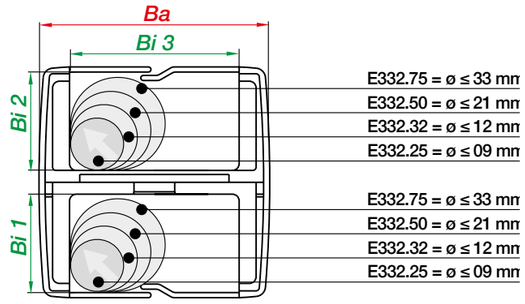
e-chains® | Series E332 "easy" design | Single-axis movement

Part No.	Bi1/Bi2	Bi3	Ba	R Available bend radii	Pitch	E332
e-chains®	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/m]
E332.25.2 .R.0	13	25	34	| 048 | 075 | 100 | 125 | 150 | 175 | 200 |	14.5	≈ 0.70
E332.32.2 .R.0	17	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	≈ 0.90
E332.50.2 .R.0	26	50	68	| 100 | 125 | 150 | 200 | 250 |	30	≈ 1.40
E332.75.2 .R.0	38.5	75	96	| 140 | 175 | 200 | 250 | 300 |	36	≈ 2.35

Complete Part No. with required radius (R). Example: **E332.75.2.200.0**

Installation dimensions





	R	048	075	100	125	150	175	200
E332.25.2	H	130	185	235	285	335	385	435
	D	095	125	150	175	200	225	250
	K	195	280	360	440	515	595	675
E332.32.2	R	075	100	125	150	200	250	
	H	200	250	300	350	450	550	
	D	130	155	180	205	255	305	
	K	305	385	465	545	700	865	
E332.50.2	R	100	125	150	200	250		
	H	270	320	375	470	570		
	D	195	220	245	295	345		
	K	435	520	590	750	910		
E332.75.2	R	140	175	200	250	300		
	H	380	450	500	600	700		
	D	240	275	300	350	400		
	K	550	660	740	900	1.060		

E332.25.2.		E332.32.2.	
Ba [mm]	34	Ba [mm]	50
Pitch T [mm/link]	14.5	Pitch T [mm/link]	25
Dim. E [mm]	10	Dim. E [mm]	20
Links/m	69	Links/m	40
corresponds to[mm]	1,000.5	corresponds to[mm]	1,000
e-chain® length	$L_K = S/2 + K$	e-chain® length	$L_K = S/2 + K$

E332.50.2.		E332.75.2.	
Ba [mm]	68	Ba [mm]	96
Pitch T [mm/link]	30	Pitch T [mm/link]	36
Dim. E [mm]	25	Dim. E [mm]	25
Links/m	34	Links/m	28
corresponds to[mm]	1,020	corresponds to[mm]	1,008
e-chain® length	$L_K = S/2 + K$	e-chain® length	$L_K = S/2 + K$

easy triflex® | Series E332 | Product range

Double-axis movement



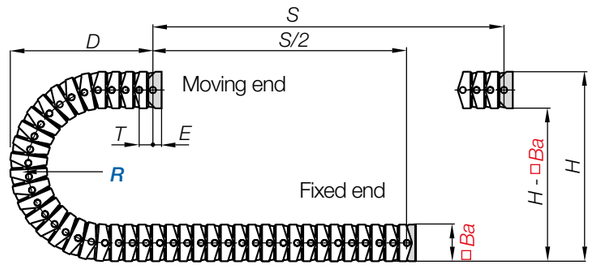
e-chains® | Series E332 "easy" design | Double-axis movement with *RBR**

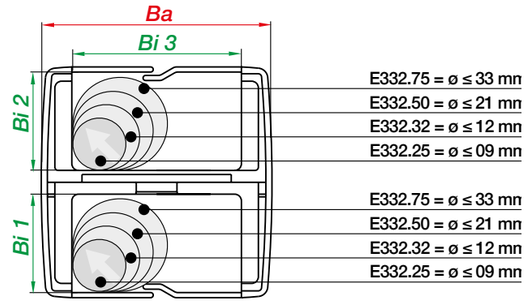
Part No.	Bi1/Bi2	Bi3	Ba	R Available bend radii	Pitch	E332
e-chains®	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/m]
E332.25.2 .R/R.0	13	25	34	| 048 | 075 | 100 | 125 | 150 | 175 | 200 |	14.5	≈ 0.70
E332.32.2 .R/R.0	17	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	≈ 0.90
E332.50.2 .R/R.0	26	50	68	| 100 | 125 | 150 | 200 | 250 |	30	≈ 1.40
E332.75.2 .R/R.0	38.5	75	96	| 140 | 175 | 200 | 250 | 300 |	36	≈ 2.35

***RBR** = Reverse Bend Radius

Complete Part No. with required radius (R). Example: **E332.75.2.200/200.0**

Installation dimensions





	R	048	075	100	125	150	175	200
E332.25.2	H	130	185	235	285	335	385	435
	D	095	125	150	175	200	225	250
	K	195	280	360	440	515	595	675
E332.32.2	R	075	100	125	150	200	250	
	H	200	250	300	350	450	550	
	D	130	155	180	205	255	305	
	K	305	385	465	545	700	865	
E332.50.2	R	100	125	150	200	250		
	H	270	320	375	470	570		
	D	195	220	245	295	345		
	K	435	520	590	750	910		
E332.75.2	R	140	175	200	250	300		
	H	380	450	500	600	700		
	D	240	275	300	350	400		
	K	550	660	740	900	1,060		

E332.25.2.		E332.32.2.	
Ba [mm]	34	Ba [mm]	50
Pitch T [mm/link]	14.5	Pitch T [mm/link]	25
Dim. E [mm]	10	Dim. E [mm]	20
Links/m	69	Links/m	40
corresponds to[mm]	1,000.5	corresponds to[mm]	1,000
e-chain® length	$L_K = S/2 + K$	e-chain® length	$L_K = S/2 + K$

E332.50.2.		E332.75.2.	
Ba [mm]	68	Ba [mm]	96
Pitch T [mm/link]	30	Pitch T [mm/link]	36
Dim. E [mm]	25	Dim. E [mm]	25
Links/m	34	Links/m	28
corresponds to[mm]	1,020	corresponds to[mm]	1,008
e-chain® length	$L_K = S/2 + K$	e-chain® length	$L_K = S/2 + K$

easy triflex® | Series E333 | Product range

34-96

Three moving directions



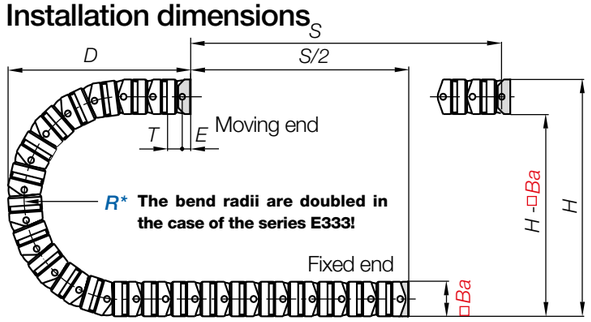
e-chains® | Series E333 "easy" design | Triple-axis movement with *RBR**

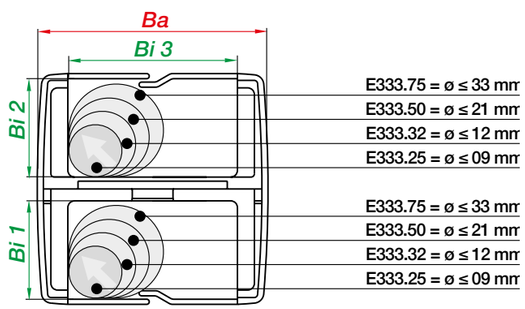
Part No.	*Bi1*/*Bi2*	*Bi3*	*Ba*	*R* Available bend radii	Pitch	E332
e-chains®	[mm]	[mm]	[mm]	[mm]	[mm]	[kg/m]
E333.25.*R*/*R*.0	13	25	34	| 048 | 075 | 100 | 125 | 150 | 175 | 200 |	14.5	≈ 0.70
E333.32.*R*/*R*.0	17	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	≈ 0.90
E333.50.*R*/*R*.0	26	50	68	| 100 | 125 | 150 | 200 | 250 |	30	≈ 1.40
E333.75.*R*/*R*.0	38.5	75	96	| 140 | 175 | 200 | 250 | 300 |	36	≈ 2.35

***RBR** = Reverse Bend Radius The bend radii are doubled in the case of the series E333

Complete Part No. with required radius (*R*). Example: **E333.75.200/200.0**

Installation dimensions





	R	048	075	100	125	150	175	200
E333.25	*H*	230	335	435	535	635	735	835
	D	145	200	250	300	350	400	450
	K	350	515	675	830	990	1,150	1,300
	R	075	100	125	150	200	250	
E333.32	*H*	350	450	550	650	850	1,050	
	D	205	255	305	355	455	555	
	K	545	700	860	1,020	1,300	1,605	
	R	100	125	150	200	250		
E333.50	*H*	470	570	670	870	1,070		
	D	295	345	395	495	595		
	K	750	910	1,070	1.380	1,690		
	R	140	175	200	250	300		
E333.75	*H*	660	800	900	1,100	1,300		
	D	380	450	500	600	700		
	K	990	1,210	1,400	1,700	2,000		

E333.25	
Ba [mm]	34
Pitch *T* [mm/link]	14.5
Dim. *E* [mm]	10
Links/m	69
corresponds to[mm]	1,000.5
e-chain® length	$L_K = s/2 + K$

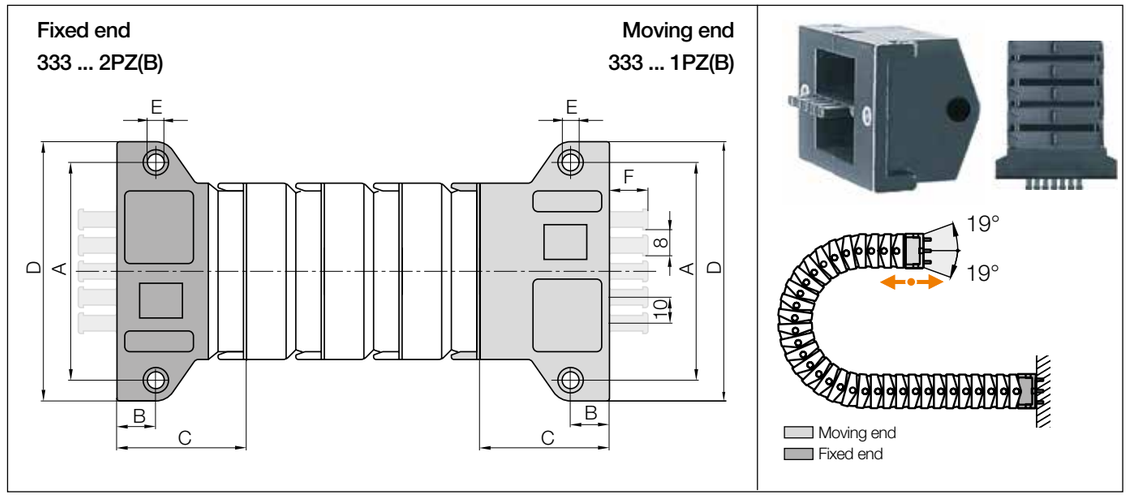
E333.32	
Ba [mm]	50
Pitch *T* [mm/link]	25
Dim. *E* [mm]	20
Links/m	40
corresponds to[mm]	1,000
e-chain® length	$L_K = s/2 + K$

E333.50	
Ba [mm]	68
Pitch *T* [mm/link]	30
Dim. *E* [mm]	25
Links/m	34
corresponds to[mm]	1,020
e-chain® length	$L_K = s/2 + K$

E333.75	
Ba [mm]	96
Pitch *T* [mm/link]	36
Dim. *E* [mm]	25
Links/m	28
corresponds to[mm]	1,008
e-chain® length	$L_K = s/2 + K$

easy triflex® | Series E332·E333 | Accessories

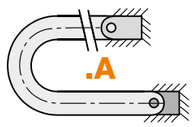
KMA mounting brackets | Attachment from any side | One end pivoting



KMA mounting brackets | One end pivoting

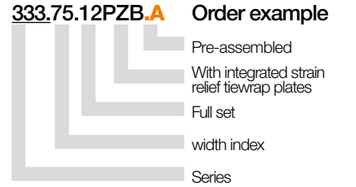
Width index	Part No. full set including tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	Number of teeth
25.2 / 25. ▶	–	**333.25.12PZ**	43	7	22	52	4.5	–	–
32.2 / 32. ▶	**333.32.12PZB**	**333.32.12PZ**	66	15	46	82	6.5	15	3
50.2 / 50. ▶	**333.50.12PZB**	**333.50.12PZ**	84	15	50	100	6.5	15	5
75.2 / 75. ▶	**333.75.12PZB**	**333.75.12PZ**	109	15	55	125	6.5	15	7

Note series E333: the mounting brackets are only available for e-chains® with **even number** of chain links!



The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket pre-fitted please add index **.A**.

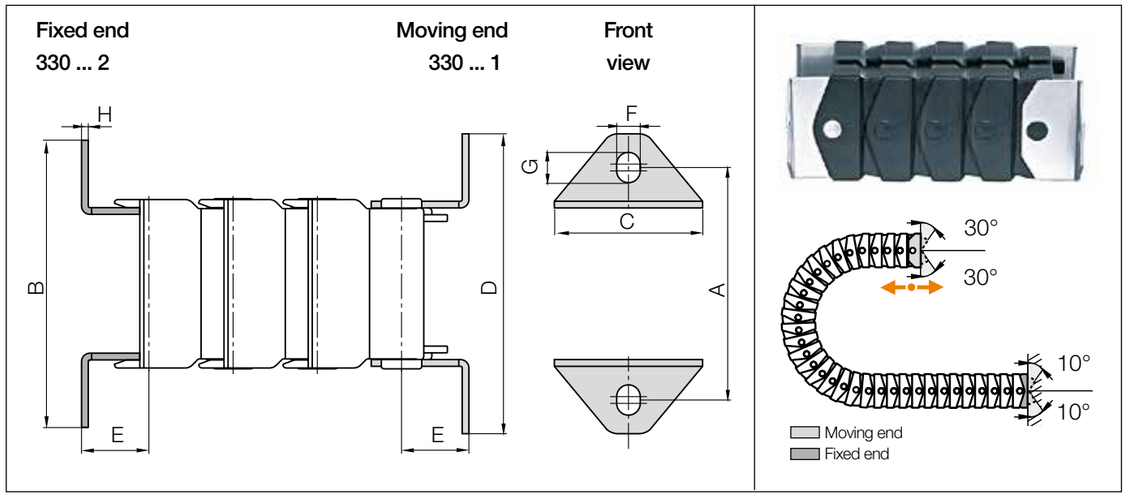
333.75.12PZB.A Order example



Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

easy triflex® | Series E332·E333 | Accessories

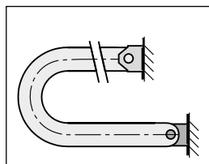
Mounting brackets, flange, steel | Pivoting



Mounting brackets, flange, steel | Pivoting

Width index	Part No. Full set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]
25.2 / 25. ▶	**330.25.12**	44	55	29	55	10.5	4.5	6.5	1.5
32.2 / 32. ▶	**330.32.12**	66	84	44	88	20	7	9	2
50.2 / 50. ▶	**330.50.12**	84	102	62	106	25	7	9	2
75.2 / 75. ▶	**330.75.12**	109	127	90	131	25	7	9	2

Note series E333: the mounting brackets are only available for e-chains® with **even number** of chain links!



Flush attachment option using steel flange mounting brackets.

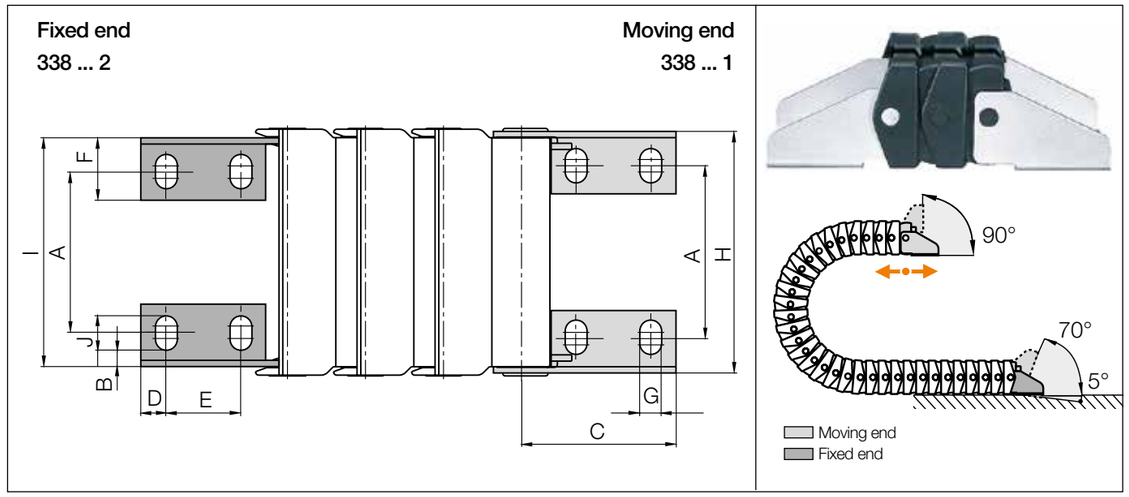
330.75.12 **Order example**

- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

easy triflex® | Series E332·E333 | Accessories

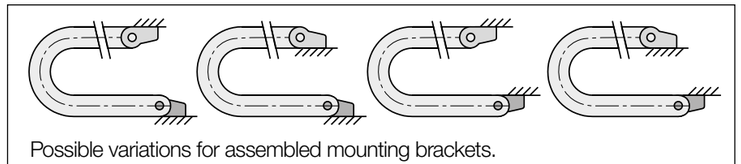
Mounting brackets, angled, steel | Pivoting



Mounting brackets, angled, steel | Pivoting

Width index	Part No. Full set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]
25.2 / 25. ▶	**338.25.12**	17	6.25	33	6	16	14	5.5	33.8	31	8.5
32.2 / 32. ▶	**338.32.12**	24	5.5	47	8	24	20	7	49	45	11
50.2 / 50. ▶	**338.50.12**	42	5.5	77	12	35	24	9	67	62	15
75.2 / 75. ▶	**338.75.12**	65	5.5	77	12	35	24	9	95	90	15

Note series E333: the mounting brackets are only available for e-chains® with **even number** of chain links!



Possible variations for assembled mounting brackets.

338.75.12 **Order example**

- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392



triflex®

Enclosed for simple multi-axis applications

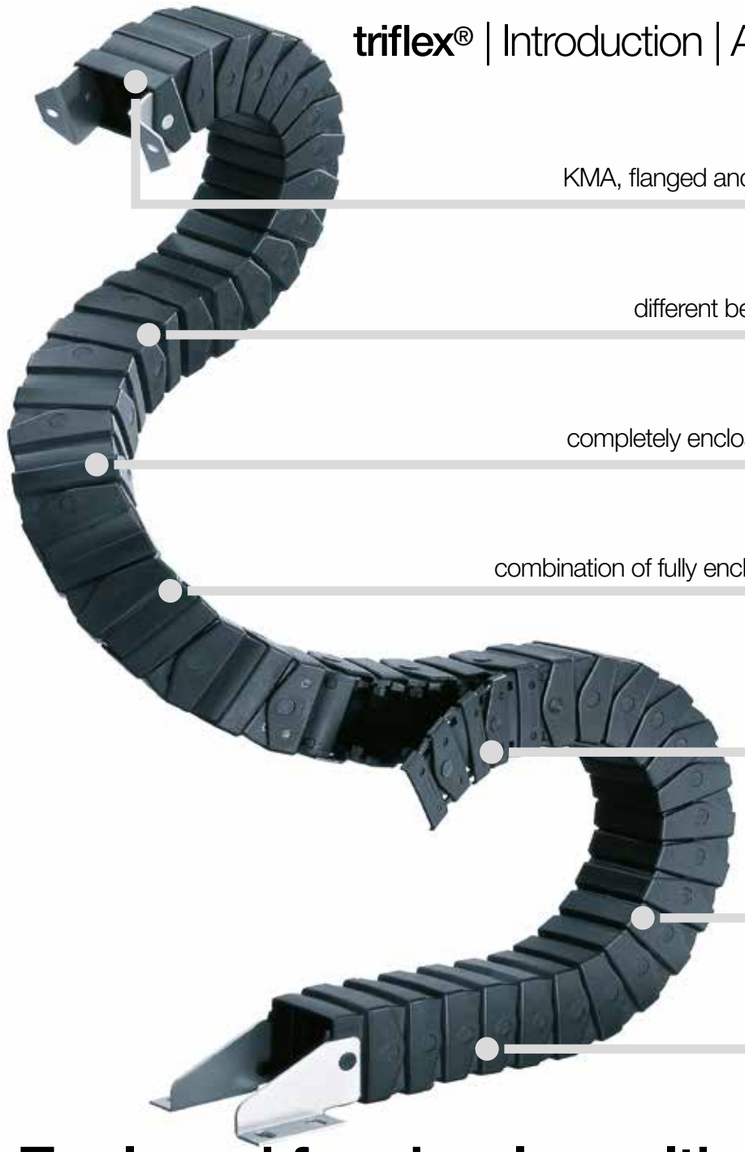
triflex® advantages:

- For single, double and triple-axis applications (combines circular and linear movements)
- If chip protection is required
- If square space is required
- For simple 3D applications
- High strength

When to use another multi-axis e-chain® series:

- For complex robot applications
  ▶ **triflex® R - TRE, page 970**
- For circular movements with high loads
  ▶ **twisterchain system, page 1086**





Universal:
KMA, flanged and angled mounting brackets available

Customisable:
different bend radii and types can be combined

Protection:
completely enclosed - protection against dirt and chip

Modular:
combination of fully enclosed and openable types is possible

Variation:
openable series 352 and 353, 50mm cross section

Effective:
cost-effective for complex movements

Modular:
easy lengthening and shortening at any point

Enclosed for simple multi-axis applications - triflex®

The triflex® series was developed to allow safe energy supply for multi-axis movements. In doing so the flexibility of a hose was combined with the stability and defined bend radius of an e-chain®. The unique, modular product range allows very complex motions. For example it is possible to combine 1- 2- and 3-axis links in one e-chain®.

Typical industries and applications
● Machine tools ● Robots ● Material handling ● Plastics industry ● Construction machinery ● Vehicles production ● Medical equipment ● General mechanical engineering, etc.

iF product design award
1992 igus® Series triflex®

Series	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Bend radius *R* [mm]	Pitch [mm]	Page
			**Single-axis movement - enclosed** protection against dirt and swarf		
332.16	16	26	038 - 100	13.3	**1078**
332.32	32	50	075 - 250	25	**1078**
332.50	50	68	100 - 250	30	**1078**
332.75	75	96	140 - 300	36	**1078**
352.50*	50	68	100 - 250	30	**1078**
			**Double-axis movement - enclosed, with *RBR* (Reverse Bend Radius)** protection against dirt and swarf		
332.16	16	26	038 - 100	13.3	**1080**
332.32	32	50	075 - 250	25	**1080**
332.50	50	68	100 - 250	30	**1080**
332.75	75	96	140 - 300	36	**1080**
352.50*	50	68	100 - 250	30	**1080**
			**Triple-axis movement - enclosed, with *RBR* (Reverse Bend Radius)** protection against dirt and swarf		
333.16	16	26	038 - 100	13.3	**1081**
333.32	32	50	075 - 250	25	**1081**
333.50	50	68	100 - 250	30	**1081**
333.75	75	96	140 - 300	36	**1081**
353.50*	50	68	100 - 250	30	**1081**

*Series 352/353 openable

Available from stock. Ready to ship in 24 - 48hrs.*
*Average time before the ordered goods are dispatched.

Technical data

Speed / acceleration	upon request
Material - permitted temperature °C, igumid G	**-40°C/+120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 28 links	**333.75.200/200.0**
+ Mounting brackets	1 set mounting bracket with strain relief	**333.75.12PZ**
+ interior separation	with 2 separators assembled every 2nd link	**376**
Order text:	**1m 333.75.200/200.0 + 333.75.12PZ + 376**	

Order key Single-axis movement

332.75.200.0
352.50.200.0

- Series
- Width index
- Bend radius *R*
- Standard colour black

Order key Double-axis movement

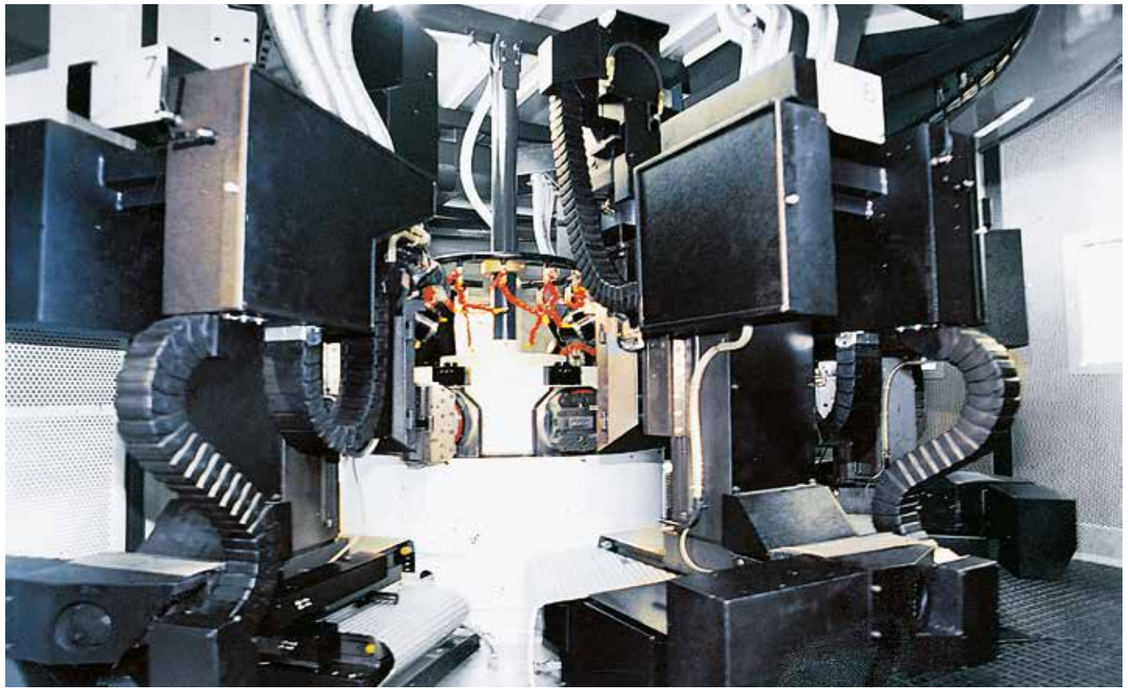
332.75.200/200.0
352.75.200/200.0

- Series
- Width index
- Bend radius *R*
- Bend radius ***RBR***
- Standard colour black

Order key Triple-axis movement

333.75.200/200.0
353.75.200/200.0

- Series
- Width index
- Bend radius *R*
- Bend radius ***RBR***
- Standard colour black



Various triflex® e-chains® on a machining centre



triflex® allows combination of links for triple-axis and single-axis movement



triflex® 332 as unsupported link from machines to control panel

triflex® | Series 332·352 | Product range

Single-axis movement

16-75

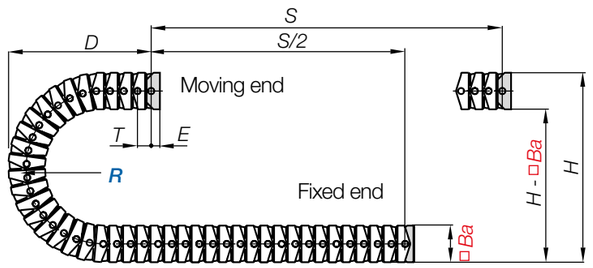


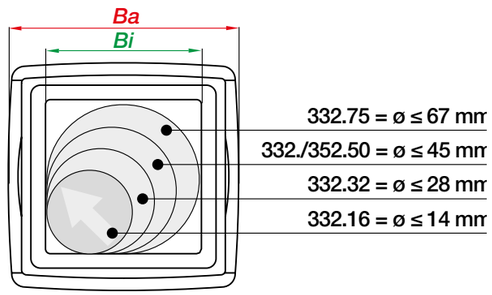
e-tubes | 332 enclosed | 352 openable | Single-axis movement

Part No. Enclosed version	Part No. Openable version	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Pitch [mm]	Weight [kg/m]
332. 16 .*R*.0	–	16	26	| 038 | 048 | 075 | 100 |	13.3	0.33
332. 32 .*R*.0	–	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	0.90
332. 50 .*R*.0	352. 50 .*R*.0	50	68	| 100 | 125 | 150 | 200 | 250 |	30	1.40
332. 75 .*R*.0	–	75	96	| 140 | 175 | 200 | 250 | 300 |	36	2.35

Complete Part No. with required radius (*R*). Example: **332.75.200.0**

Installation dimensions





	R						
332.16	*R*	038	048	075	100		
	H	105	125	180	230		
	D	070	080	105	130		
	K	200	230	315	400		
332.32	*R*	075	100	125	150	200	250
	H	200	250	300	350	450	550
	D	130	155	180	205	255	305
	K	305	385	465	545	700	865
332.50 352.50	*R*	100	125	150	200	250	
	H	270	320	375	470	570	
	D	195	220	245	295	345	
	K	435	520	590	750	910	
332.75	*R*	140	175	200	250	300	
	H	380	450	500	600	700	
	D	240	275	300	350	400	
	K	550	660	740	900	1,060	

332.16	
Ba [mm]	26
Pitch *T* [mm/link]	13.3
Dim. *E* [mm]	10
Links/m	76
corresponds to[mm]	1,011
e-chain® length	$L_K = S/2 + K$

332.32	
Ba [mm]	50
Pitch *T* [mm/link]	25
Dim. *E* [mm]	20
Links/m	40
corresponds to[mm]	1,000
e-chain® length	$L_K = S/2 + K$

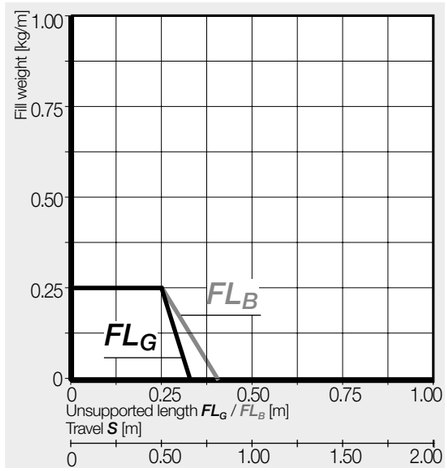
332.50/352.50	
Ba [mm]	68
Pitch *T* [mm/link]	30
Dim. *E* [mm]	25
Links/m	34
corresponds to[mm]	1,020
e-chain® length	$L_K = S/2 + K$

332.75	
Ba [mm]	96
Pitch *T* [mm/link]	36
Dim. *E* [mm]	25
Links/m	28
corresponds to[mm]	1,008
e-chain® length	$L_K = S/2 + K$

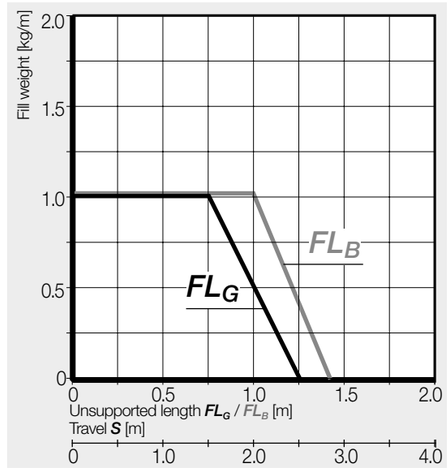
triflex® | Seriess 332·352 | Installation dimensions

Unsupported applications | Short travels | Single-axis movement

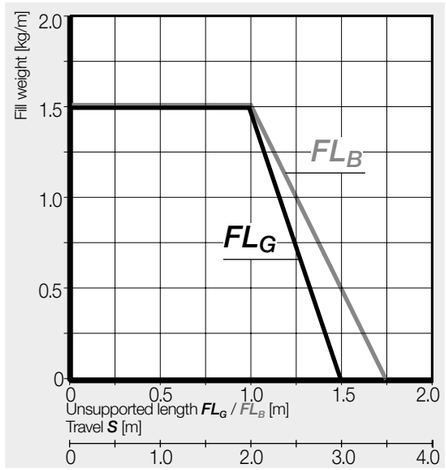
Unsupported length 332.16



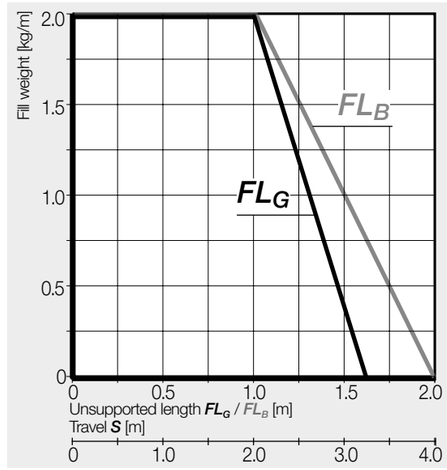
Unsupported length 332.32



Unsupported length 332.50/352.50



Unsupported length 332.75



triflex® | Series 332·352 | Product range

Double-axis movement

16-75



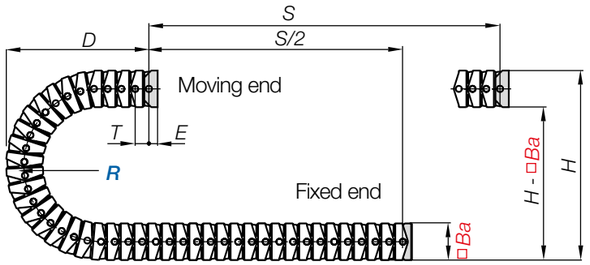
e-tubes | 332 enclosed | 352 openable | Double-axis movement with *RBR**

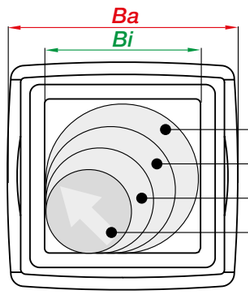
Part No. Enclosed version	Part No. Openable version	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Pitch [mm]	Weight [kg/m]
332.16.*R*/*R*.0	–	16	26	| 038 | 048 | 075 | 100 |	13.3	0.33
332.32.*R*/*R*.0	–	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	0.90
332.50.*R*/*R*.0	352.50.*R*/*R*.0	50	68	| 100 | 125 | 150 | 200 | 250 |	30	1.40
332.75.*R*/*R*.0	–	75	96	| 140 | 175 | 200 | 250 | 300 |	36	2.35

***RBR** = Reverse Bend Radius

Art. Complete Part No. with required radius (*R*). Example: **332.75.200/200.0**

Installation dimensions





332.75 = ø ≤ 67 mm
332./352.50 = ø ≤ 45 mm
332.32 = ø ≤ 28 mm
332.16 = ø ≤ 14 mm

332.16	*R*	038	048	075	100		
	H	105	125	180	230		
	D	070	080	105	130		
	K	200	230	315	400		
332.32	*R*	075	100	125	150	200	250
	H	200	250	300	350	450	550
	D	130	155	180	205	255	305
	K	305	385	465	545	700	865
332.50 352.50	*R*	100	125	150	200	250	
	H	270	320	375	470	570	
	D	195	220	245	295	345	
	K	435	520	590	750	910	
332.75	*R*	140	175	200	250	300	
	H	380	450	500	600	700	
	D	240	275	300	350	400	
	K	550	660	740	900	1,060	

332.16	
Ba [mm]	26
Pitch *T* [mm/link]	13.3
Dim. *E* [mm]	10
Links/m	76
corresponds to[mm]	1,011
e-chain® length	$L_K = s/_2 + K$

332.32	
Ba [mm]	50
Pitch *T* [mm/link]	25
Dim. *E* [mm]	20
Links/m	40
corresponds to[mm]	1,000
e-chain® length	$L_K = s/_2 + K$

332.50/352.50	
Ba [mm]	68
Pitch *T* [mm/link]	30
Dim. *E* [mm]	25
Links/m	34
corresponds to[mm]	1,020
e-chain® length	$L_K = s/_2 + K$

332.75	
Ba [mm]	96
Pitch *T* [mm/link]	36
Dim. *E* [mm]	25
Links/m	28
corresponds to[mm]	1,008
e-chain® length	$L_K = s/_2 + K$

triflex® | Series 333·353 | Product range

Three moving directions

16-75



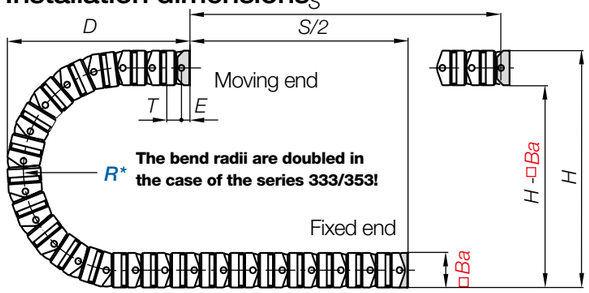
e-tubes | 333 enclosed | 353 openable | Triple-axis movement with *RBR**

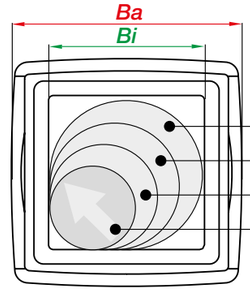
Part No. Enclosed version	Part No. Openable version	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	Pitch [mm]	Weight [kg/m]
333.16.*R*/*R*.0	–	16	26	| 038 | 048 | 075 | 100 |	13.3	0.33
333.32.*R*/*R*.0	–	32	50	| 075 | 100 | 125 | 150 | 200 | 250 |	25	0.90
333.50.*R*/*R*.0	353.50.*R*/*R*.0	50	68	| 100 | 125 | 150 | 200 | 250 |	30	1.40
333.75.*R*/*R*.0	–	75	96	| 140 | 175 | 200 | 250 | 300 |	36	2.35

***RBR** = Reverse Bend Radius The bend radii are doubled in the case of the series 333/353

Complete Part No. with required radius (*R*). Example: **333.75.200/200.0**

Installation dimensions





333.75 = ø ≤ 67 mm
333./353.50 = ø ≤ 45 mm
333.32 = ø ≤ 28 mm
333.16 = ø ≤ 14 mm

333.16	*R*	038	048	075	100		
	H	180	220	330	430		
	D	105	125	180	230		
	K	320	380	550	710		
333.32	*R*	075	100	125	150	200	250
	H	350	450	550	650	850	1,050
	D	205	255	305	355	455	555
	K	545	700	860	1,020	1,300	16
333.50 353.50	*R*	100	125	150	200	250	
	H	470	570	670	870	1,070	
	D	295	345	395	495	595	
	K	750	910	1,070	1.380	1,690	
333.75	*R*	140	175	200	250	300	
	H	660	800	900	1,100	1,300	
	D	380	450	500	600	700	
	K	990	1,210	1,400	1,700	2,000	

333.16	
Ba [mm]	26
Pitch *T* [mm/link]	13.3
Dim. *E* [mm]	10
Links/m	76
corresponds to[mm]	1,011
e-chain® length	$L_K = s/_2 + K$

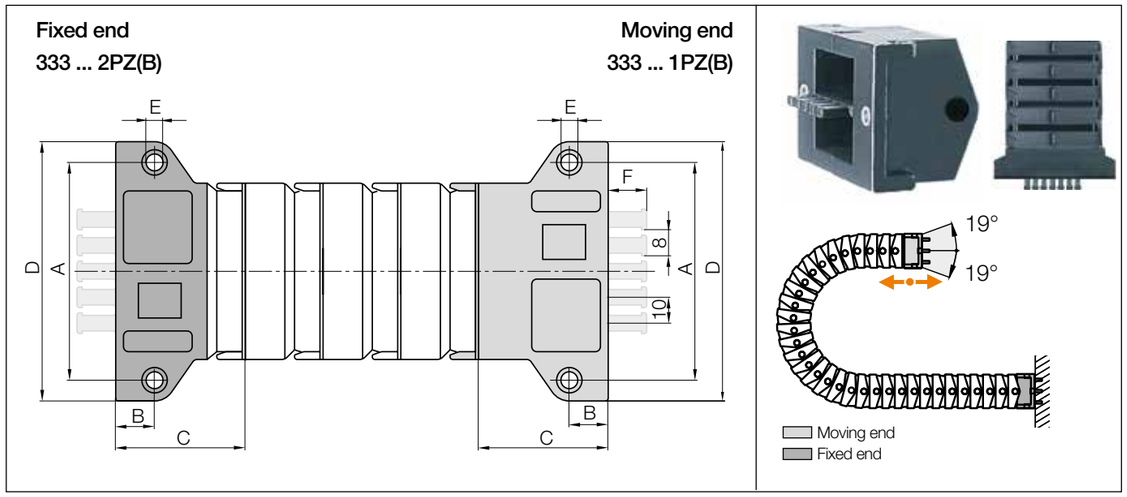
333.32	
Ba [mm]	50
Pitch *T* [mm/link]	25
Dim. *E* [mm]	20
Links/m	40
corresponds to[mm]	1,000
e-chain® length	$L_K = s/_2 + K$

333.50/353.50	
Ba [mm]	68
Pitch *T* [mm/link]	30
Dim. *E* [mm]	25
Links/m	34
corresponds to[mm]	1,020
e-chain® length	$L_K = s/_2 + K$

333.75	
Ba [mm]	96
Pitch *T* [mm/link]	36
Dim. *E* [mm]	25
Links/m	28
corresponds to[mm]	1,008
e-chain® length	$L_K = s/_2 + K$

triflex® | Series 332·333·352·353 | Accessories

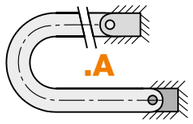
KMA mounting brackets | Attachment from any side | One end pivoting



KMA mounting brackets | One end pivoting

Width index		Part No. full set including tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	Number of teeth
32.	▶	**333.32.12PZB**	**333.32.12PZ**	66	15	46	82	6.5	15	3
50.	▶	**333.50.12PZB**	**333.50.12PZ**	84	15	50	100	6.5	15	5
75.	▶	**333.75.12PZB**	**333.75.12PZ**	109	15	55	125	6.5	15	7

Note series 333: the mounting brackets are only available for e-chains® with **even number** of chain links!



The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side.To receive a KMA mounting bracket pre-fitted please add index **.A**.

333.75.12PZB.A Order example

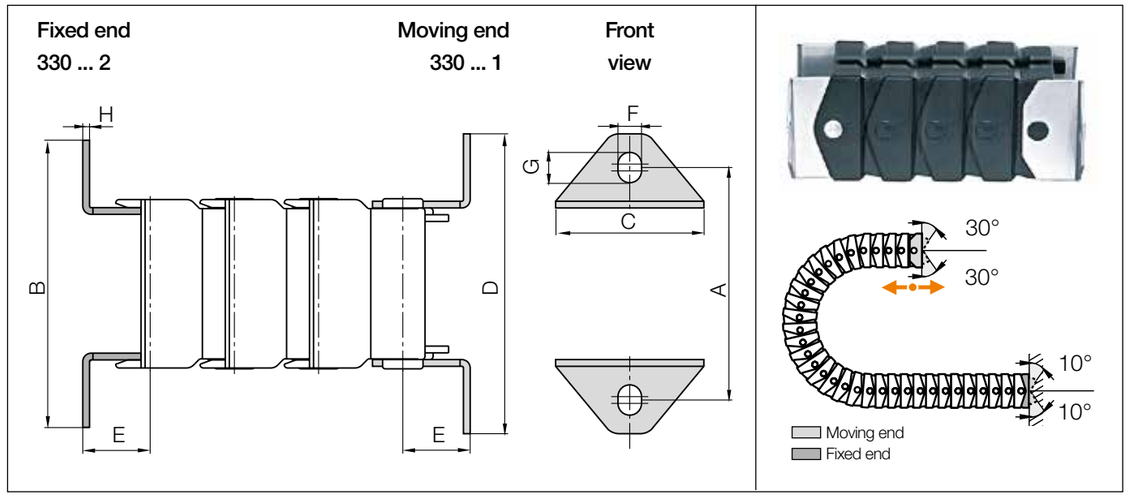
- Pre-assembled
- With integrated strain relief tiewrap plates
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

332
333
352
353

triflex® | Series 332·333·352·353 | Accessories

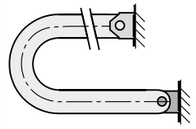
Mounting brackets, flange, steel | Pivoting



Mounting brackets, flange, steel | Pivoting

Width index		Part No. Full set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]
16.	▶	**330.16.12**	35	53	21	57	10	4.5	6	1
32.	▶	**330.32.12**	66	84	44	88	20	7	9	2
50.	▶	**330.50.12**	84	102	62	106	25	7	9	2
75.	▶	**330.75.12**	109	127	90	131	25	7	9	2

Note series 333: the mounting brackets are only available for e-chains® with **even number** of chain links!



Flush attachment option using steel flange mounting brackets.

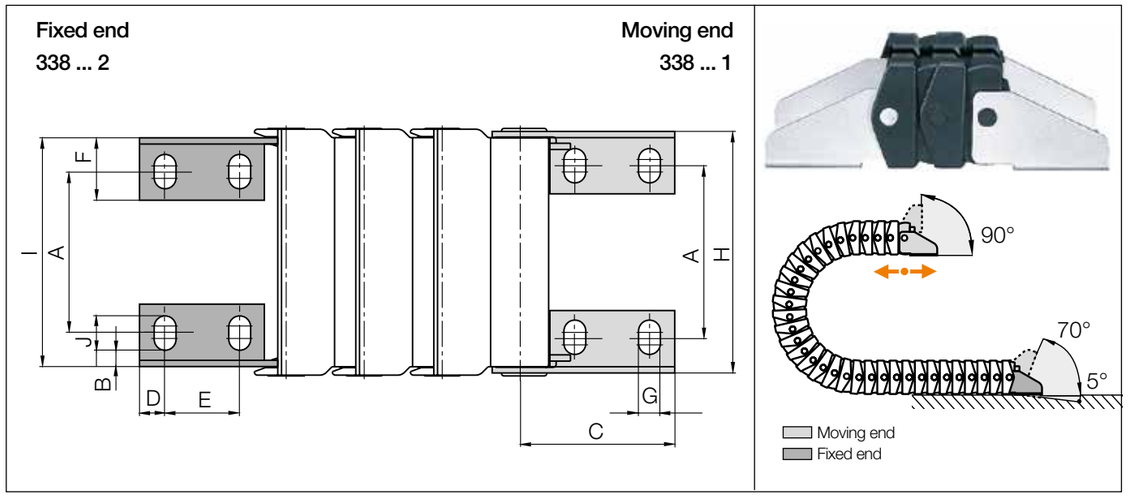
330.75.12 Order example

- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

triflex® | Series 332·333·352·353 | Accessories

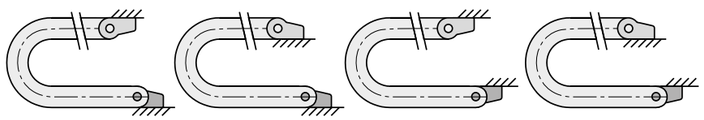
Mounting brackets, angled, steel | Pivoting



Mounting brackets, angled, steel | Pivoting

Width index	Part No. Full set	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]
16.	**338.16.12**	12	3	25	5	10	11	4.5	25	23	6
32.	**338.32.12**	24	5.5	47	8	24	20	7	49	45	11
50.	**338.50.12**	42	5.5	77	12	35	24	9	67	62	15
75.	**338.75.12**	65	5.5	77	12	35	24	9	95	90	15

Note series 333: the mounting brackets are only available for e-chains® with **even number** of chain links!

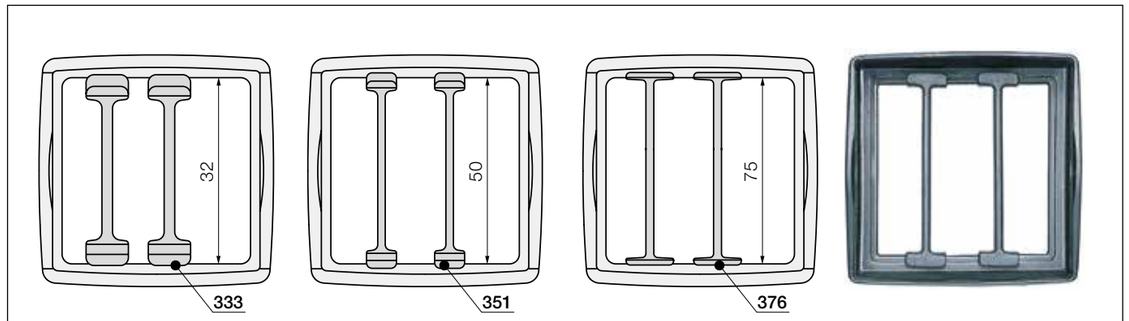


Possible variations for assembled mounting brackets.

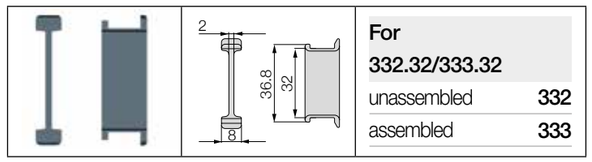
338.75.12 **Order example**
- Full set
- width index
- Series

Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392

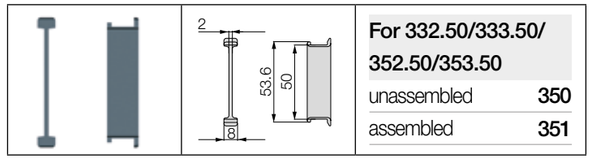
Interior separation



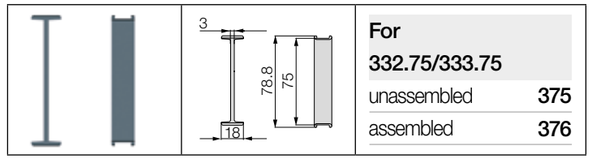
As standard separators are fitted every 2nd e-chain® link!



For 332.32/333.32	
unassembled	**332**
assembled	**333**



For 332.50/333.50/ 352.50/353.50	
unassembled	**350**
assembled	**351**



For 332.75/333.75	
unassembled	**375**
assembled	**376**

Separators

Modular separators are available as interior separation for the igus® triflex® system. They can be used for both vertical and horizontal subdivision. If the separators are assembled every other link and turned 90°, the e-tube can be subdivided into four segments. We recommend ordering the separators pre-fitted, as fitting of separators is only possible after dismantling the e-tube.

twisterchain

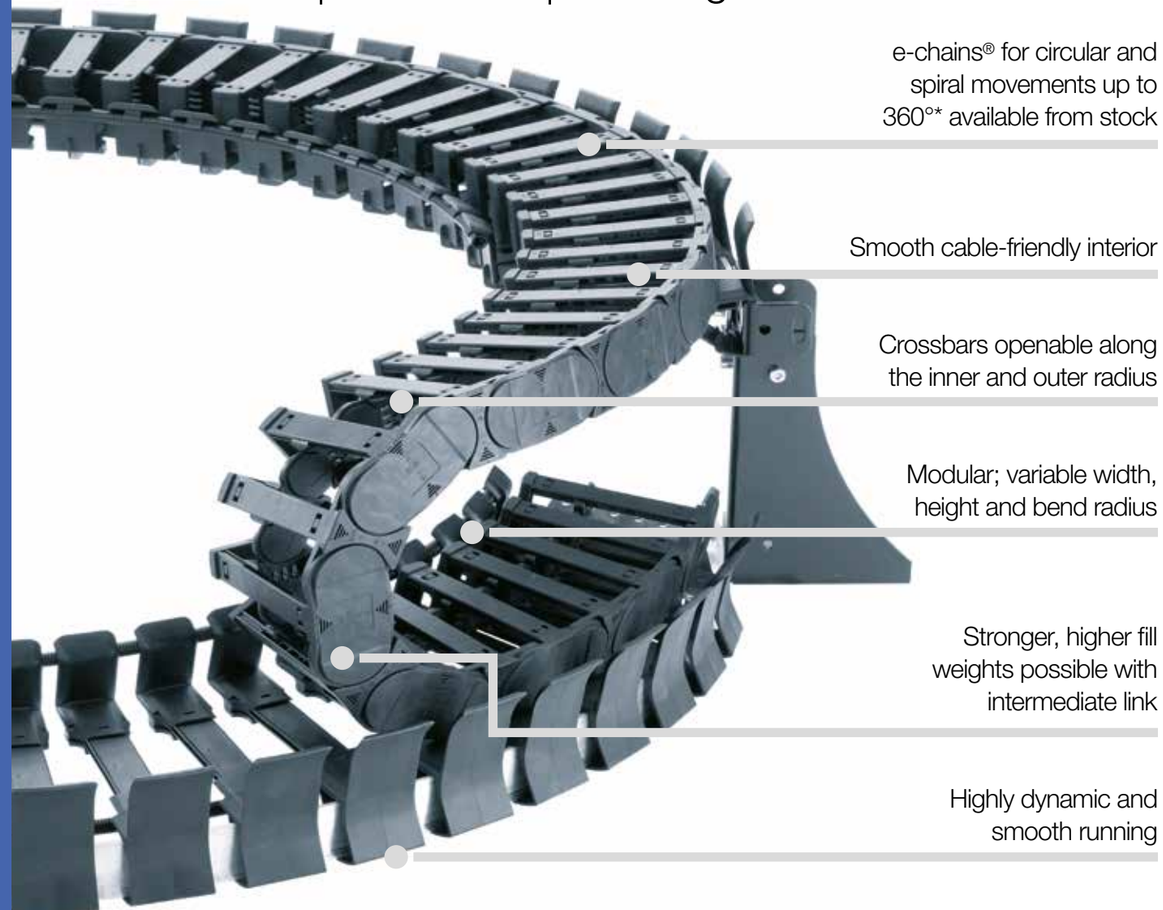
Circular and spiral movements

twisterchain advantages:

- Circular/spiral movements up to 360° from stock (up to 400° upon request)
- Tough, quiet and high dynamics, suitable for high fill weights
- Rotary speeds up to 1m/s and more
- Modular interior separation
- Smooth cable-friendly interior
- Openable from both sides - crossbars removable along the inner and outer radius

When to use another igus® solution:

- For large rotary movements, igus®***RBR*** solutions
  ► **Designing, page 130**
- In case of rotary movements in the most confined spaces up to 7,000°
  ► **twisterband, page 1108**
- For angle of rotation >360° please contact us.



Strong, quiet and up to 360° - circular and spiral movements - twisterchain

The igus® twisterchain product line offers an extensive range of products for circular movement and is available in four sizes. Its modular width and radius design ensures it can be used flexibly in applications with rotary and spiral movements up to 360° and more, with high fill weights and where smooth operation is required. twisterchain applications are available with modular guide troughs which offer: e-chain® guidance, reduced e-chain® wear, optimal levels of smooth operation, angle of rotations up to 360° from stock.

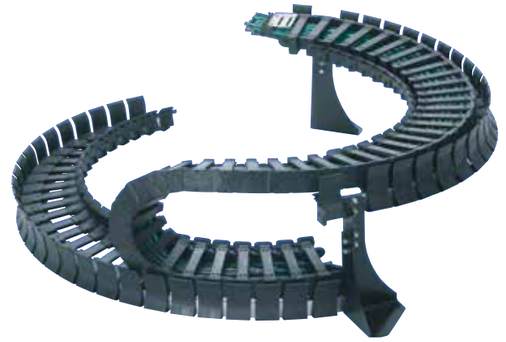
- Strong, high fill weights, smooth operation, weight-optimised
- Rotary speeds up to 1m/s and more
- Circular/spiral movements up to 360° from stock (up to 400° upon request)
- Cable-friendly, smooth interior ● Crossbars openable along the inner and outer radius
- Successfully tested for over 1 million cycles in the igus® laboratory

Typical industries and applications

● Robots, Handling machines ● Packaging machines ● Glass machines ● General machinery, etc.

e-chains® for circular movements up to 360° available from stock (up to 400° upon request)

UL94-V0 classification upon request

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Circular radii *AR* [mm]	Page
 **twisterchain** for rotary movements up to 360° available from stock; for angle of rotation >360° please contact us. Crossbars removable along the inner and outer radius							
2208.*	28	52.5 - 112.5	80 - 140	42	055 - 150	300	1092
TC32	32	87.5 - 150	108.5 - 171	54	100 - 250	400 - 600	1094
TC42	42	87.5 - 200	110.5 - 223	64	100 - 250	400 - 850	1096
TC56	56	125 - 200	155 - 230	84	150 - 400	650 - 850	1098

*twisterchain classic (1st generation), openable from both sides

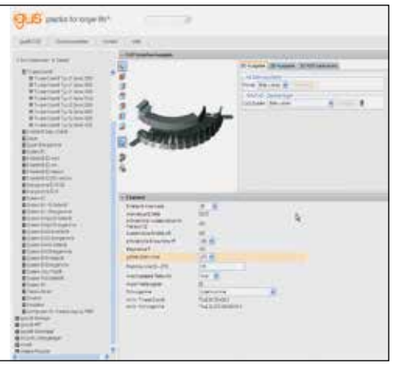
Available from stock. Ready to ship in 3 - 5 business days*

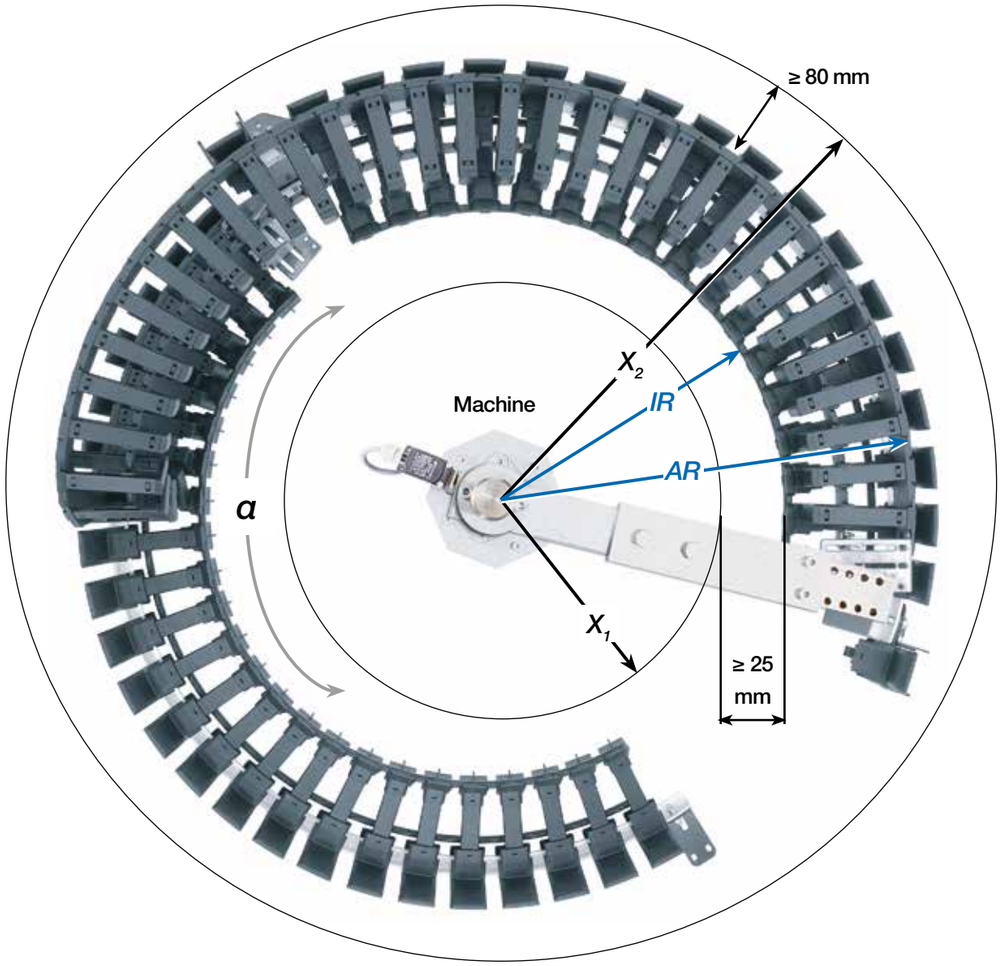
*Average time before the ordered goods are dispatched.

Quickly generate complete twisterchain 3D CAD models

- Get complete 3D models just by inputting the angle of rotation and basic dimensions
- Free positioning of the e-chain® moving end along the travel length
- Optional generation of twisterchain as a single part or complete with guide trough and base support
- Fast download of the CAD data without registration
- 11 different 3D and 8 different 2D CAD formats are available

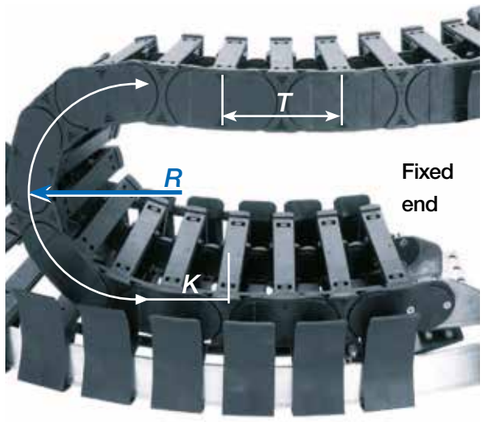
More information ▶ www.igus.eu/twister-configurator

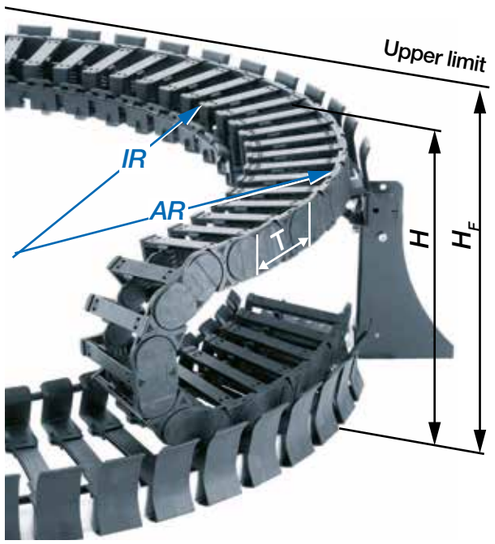




twisterchain general information

In the case of machines that travel in a circular movement both to the left and to the light, the total angle of rotation is calculated by adding the two angles.





AR = Outer radius e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
T = Pitch
H_F = e-chain® height incl. 50mm clearance
H = e-chain® height
K = Add-on for bend radius
hi = Inner height e-chain®
ha = Outer height e-chain®
α = Angle of rotation

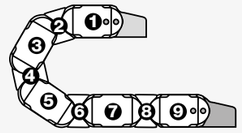
Technical data

Speed / acceleration	upon request
Material - permitted temperature °C, igumid G	**-40°C/+120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets:

e-chain® (1.0m)	Please indicate e-chain® length or odd* number of links: 1.0m or 11 links	**TC56.12.250/650.0**
+ Mounting brackets	1 set	**TC5600.34.VS.E**
Order text:	**1m TC56.12.250/650.0 + TC5600.34.VS.E**	



***Important note:**
twisterchain e-chains® must always start and end on an outer side link (odd number of links). An outer side link should always be the first link at the moving end.

Order key

TC56.12.250/650.0

- Series
- Inner height
- Width index (depends on *Bi*)
- Bend radius *R*
- Outer radius *AR*
- Standard colour black

TC56.12.250/650.0 =
e-chain® openable along the inner radius, from both sides
Bi 12mm inner width, *R* 250mm bend radius /
AR 650mm outer radius, colour black

twisterchain classic* | Series 2208 | Product range

28

Circular and spiral movements up to 360°

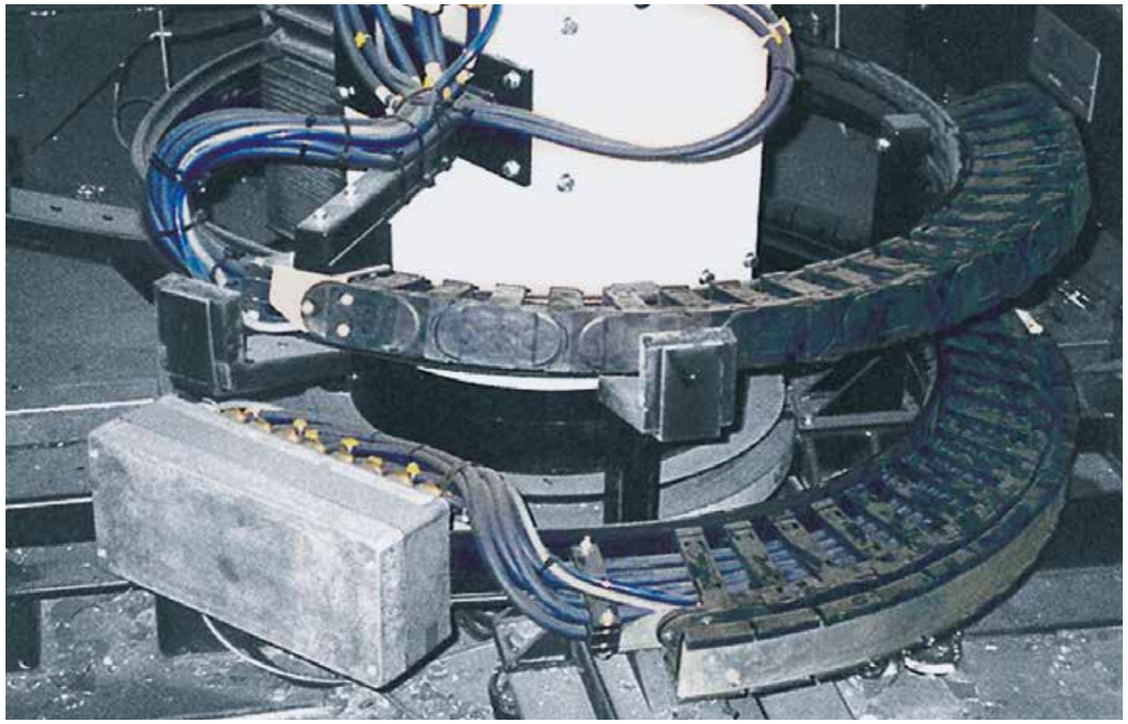
Series 2208 | Crossbars removable along the inner and outer radius

AR	IR	Bi	Ba	R 055 [mm]	R 063 [mm]	R 075 [mm]	R 100 [mm]	R 125 [mm]	R 150 [mm]	2208
[mm]	[mm]	[mm]	[mm]	2208 ...	2208 ...	2208 ...	2208 ...	2208 ...	2208 ...	[kg/m]
300	227	52.5	80	.052.063/300	.052.063/300	.052.075/300	.052.100/300	.052.125/300	.052.150/300	≈ 1.20
300	217	62.5	90	–	–	.062.075/300	.062.100/300	.062.125/300	.062.150/300	≈ 1.24
300	205	74.5	102	–	–	–	.074.100/300	.074.125/300	.074.150/300	≈ 1.29
300	192	87.5	115	–	–	–	.087.100/300	.087.125/300	.087.150/300	≈ 1.35
300	167	112.5	140	–	–	–	–	.112.125/300	.112.150/300	≈ 1.46

*twisterchain classic (1st generation),

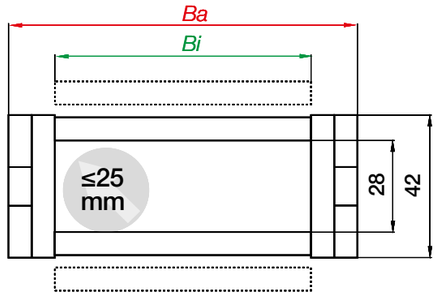
R	055	063	075	100	125	150
K	265	290	330	410	485	565

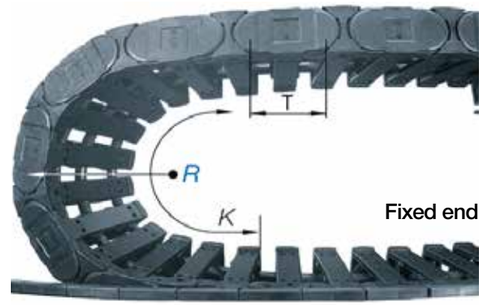
Pitch [mm/link]	44
Links/m	23
corresponds to[mm]	1,012



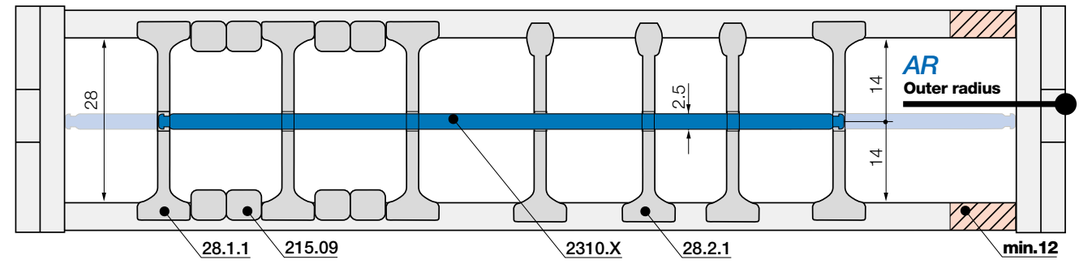
Combined spiral and rotary movement - igus® twisterchain classic (1st generation)

Dimensions





Series 2208 | Interior separation



Note: Please be aware of the **12mm** minimum lateral gap to the side links on the outer radius!
For this series the interior separation products for series E4.28 may be used ▶ From page 616

AR = Outer radius e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
A1 = Intermediate link position
H = Nominal clearance height
K = Add-on for bend radius
T = Pitch

twisterchain | Series TC32 | Product range

Circular and spiral movements up to 360°

32

Series TC32 | Crossbars removable along the inner and outer radius

AR	Bi	Ba	X_2	X_1	R 100 [mm]	R 125 [mm]	R 150 [mm]	R 175 [mm]	R 200 [mm]	R 250 [mm]	TC32
[mm]	[mm]	[mm]	[mm]	[mm]	TC32 ...	TC32 ...	TC32 ...	TC32 ...	TC32 ...	TC32 ...	[kg/m]
400	87.5	108.5	480	270	087.100/400	087.125/400	087.150/400	087.175/400	087.200/400	087.250/400	≈ 1.82
400	100	121	480	250	–	–	10.150/400	10.175/400	10.200/400	10.250/400	≈ 1.90
400	108	129	480	250	–	–	–	11.175/400	11.200/400	11.250/400	≈ 1.95
400	125	146	480	220	–	–	–	12.175/400	12.200/400	12.250/400	≈ 2.05
400	137.5	158.5	480	210	–	–	–	–	–	137.250/400	≈ 2.13
400	150	171	480	200	–	–	–	–	–	15.250/400	≈ 2.21
500	100	121	580	350	10.100/500	10.125/500	10.150/500	10.175/500	10.200/500	10.250/500	≈ 1.90
500	108	129	580	350	–	11.125/500	11.150/500	11.175/500	11.200/500	11.250/500	≈ 1.95
500	125	146	580	320	–	12.125/500	12.150/500	12.175/500	12.200/500	12.250/500	≈ 2.05
500	137.5	158.5	580	310	–	–	137.150/500	137.175/500	137.200/500	137.250/500	≈ 2.13
500	150	171	580	300	–	–	15.150/500	15.175/500	15.200/500	15.250/500	≈ 2.21
600	108	129	680	450	11.100/600	11.125/600	11.150/600	–	–	–	≈ 1.95
600	125	146	680	420	–	12.125/600	12.150/600	12.175/600	12.200/600	12.250/600	≈ 2.05
600	137.5	158.5	680	410	–	137.125/600	137.150/600	137.175/600	137.200/600	137.250/600	≈ 2.13
600	150	171	680	400	–	–	15.150/600	15.175/600	15.200/600	15.250/600	≈ 2.21

R	100	125	150	175	200	250
H^{+20}_{0}	254	304	354	404	454	554
K	465	550	620	700	780	940

Pitch [mm/link]	56
Links/m	18
corresponds to[mm]	1,008

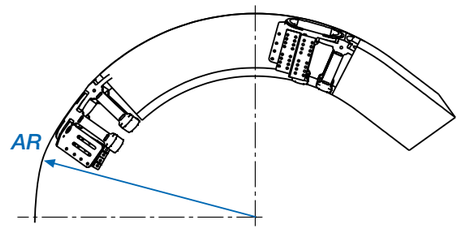


twisterchain 2nd generation from igus® - successfully tested for over 1 million cycles in the igus® laboratory

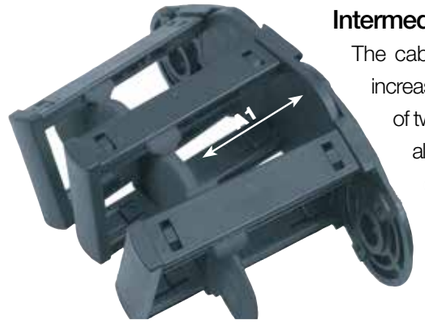
Dimension A1 dependent on outer radius *AR*

AR	R 100	R 125	R 150	R 175	R 200	R 250
[mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]
400	51	51	52	53	53	58
500	65	65	66	67	69	71
600	79	80	81	81	82	85

Dimension A1 always with tolerance of ± 2.5mm



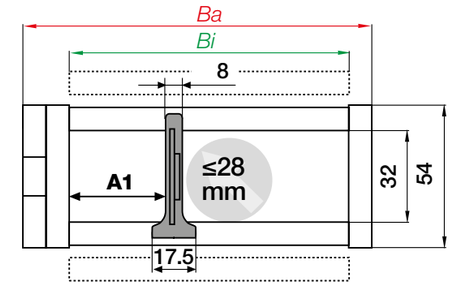
Note: Outer radius *AR* (see drawing) determines dimension **A1**!



Intermediate link

The cable-friendly intermediate link increases the strength and stability of twisterchain many times over. It also serves as interior separation, dividing the filling space into two chambers. **Outer radius *AR* determines dimension A1.**

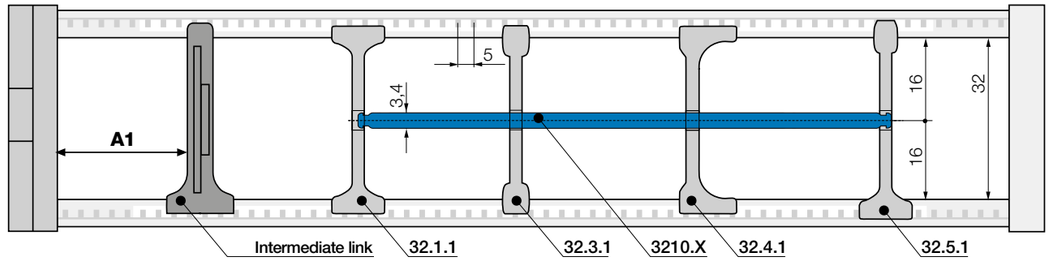
Dimensions



Serie TC32 | Additional parameters dependent on outer radius *AR*

AR	Max. fill weight	Max. fill weight	Max. V	Max. a
[mm]	α 0° - 180° [kg]	α 180° - 360° [kg]	[m/s]	[m/s²]
400	4.0	2.0	1.0	2.0
500	4.0	2.0	1.0	2.0
600	4.0	2.0	1.0	2.0

Series TC32 | Interior separation



For this series the interior separation products for series E4.32 may be used ▶ From page 616

AR = Outer radius e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
A1 = Intermediate link position
H = Nominal clearance height
K = Add-on for bend radius
T = Pitch

twisterchain | Series TC42 | Product range

Circular and spiral movements up to 360°

42

Series TC42 | Crossbars removable along the inner and outer radius

AR	Bi	Ba	X_2	X_1	R 100 [mm]	R 125 [mm]	R 150 [mm]	R 175 [mm]	R 200 [mm]	R 250 [mm]	TC42
[mm]	[mm]	[mm]	[mm]	[mm]	TC42 ...	TC42 ...	TC42 ...	TC42 ...	TC42 ...	TC42 ...	[kg/m]
400	87.5	110.5	480	270	087.100/400	087.125/400	087.150/400	087.175/400	087.200/400	087.250/400	≈ 1.97
400	100	123	480	250	10.100/400	10.125/400	10.150/400	10.175/400	10.200/400	10.250/400	≈ 2.03
400	108	131	480	250	–	11.125/400	11.150/400	11.175/400	11.200/400	11.250/400	≈ 2.07
400	125	148	480	220	–	12.125/400	12.150/400	12.175/400	12.200/400	12.250/400	≈ 2.16
400	137.5	160.5	480	210	–	137.125/400	137.150/400	137.175/400	137.200/400	137.250/400	≈ 2.22
400	150	173	480	200	–	–	–	15.175/400	15.200/400	15.250/400	≈ 2.29
400	162.5	185.5	480	190	–	–	–	–	162.200/400	162.250/400	≈ 2.35
400	168	191	480	190	–	–	–	–	–	17.250/400	≈ 2.38
400	175	198	480	180	–	–	–	–	–	18.250/400	≈ 2.41
500	100	123	580	350	10.100/500	10.125/500	10.150/500	10.175/500	10.200/500	10.250/500	≈ 2.03
500	108	131	580	350	–	11.125/500	11.150/500	11.175/500	11.200/500	11.250/500	≈ 2.07
500	125	148	580	320	–	12.125/500	12.150/500	12.175/500	12.200/500	12.250/500	≈ 2.16
500	137.5	160.5	580	310	–	–	137.150/500	137.175/500	137.200/500	137.250/500	≈ 2.22
500	150	173	580	300	–	–	15.150/500	15.175/500	15.200/500	15.250/500	≈ 2.29
500	162.5	185.5	580	290	–	–	162.150/500	162.175/500	162.200/500	162.250/500	≈ 2.35
500	168	191	580	290	–	–	–	17.175/500	17.200/500	17.250/500	≈ 2.38
500	175	198	580	280	–	–	–	–	18.200/500	18.250/500	≈ 2.41
500	187.5	210.5	580	280	–	–	–	–	187.200/500	187.250/500	≈ 2.48
500	200	223	580	250	–	–	–	–	20.200/500	20.250/500	≈ 2.54
600	108	131	680	450	11.100/600	11.125/600	11.150/600	11.175/600	11.200/600	–	≈ 2.07
600	125	148	680	420	12.100/600	12.125/600	12.150/600	12.175/600	12.200/600	12.250/600	≈ 2.16
600	137.5	160.5	680	410	137.100/600	137.125/600	137.150/600	137.175/600	137.200/600	137.250/600	≈ 2.22
600	150	173	680	400	15.100/600	15.125/600	15.150/600	15.175/600	15.200/600	15.250/600	≈ 2.29
600	162.5	185.5	680	390	–	162.125/600	162.150/600	162.175/600	162.200/600	162.250/600	≈ 2.35
600	168	191	680	390	–	–	17.150/600	17.175/600	17.200/600	17.250/600	≈ 2.38
600	175	198	680	380	–	–	18.150/600	18.175/600	18.200/600	18.250/600	≈ 2.41
600	187.5	210.5	680	380	–	–	187.150/600	187.175/600	187.200/600	187.250/600	≈ 2.48
600	200	223	680	350	–	–	20.150/600	20.175/600	20.200/600	20.250/600	≈ 2.54
650	125	148	730	470	12.100/650	12.125/650	12.150/650	12.175/650	12.200/650	12.250/650	≈ 2.16
650	137.5	160.5	730	460	137.100/650	137.125/650	137.150/650	137.175/650	137.200/650	137.250/650	≈ 2.22
650	150	173	730	450	15.100/650	15.125/650	15.150/650	15.175/650	15.200/650	15.250/650	≈ 2.29
650	162.5	185.5	730	440	–	162.125/650	162.150/650	162.175/650	162.200/650	162.250/650	≈ 2.35
650	168	191	730	430	–	17.125/650	17.150/650	17.175/650	17.200/650	17.250/650	≈ 2.38
650	175	198	730	430	–	–	18.150/650	18.175/650	18.200/650	18.250/650	≈ 2.41
650	187.5	210.5	730	420	–	–	187.150/650	187.175/650	187.200/650	187.250/650	≈ 2.48
650	200	223	730	400	–	–	20.150/650	20.175/650	20.200/650	20.250/650	≈ 2.54
750	137.5	160.5	830	560	137.100/750	137.125/750	137.150/750	137.175/750	137.200/750	137.250/750	≈ 2.22
750	150	173	830	550	15.100/750	15.125/750	15.150/750	15.175/750	15.200/750	15.250/750	≈ 2.29
750	162.5	185.5	830	540	–	162.125/750	162.150/750	162.175/750	162.200/750	162.250/750	≈ 2.35
750	168	191	830	540	–	17.125/750	17.150/750	17.175/750	17.200/750	17.250/750	≈ 2.38
750	175	198	830	530	–	18.125/750	18.150/750	18.175/750	18.200/750	18.250/750	≈ 2.41
750	187.5	210.5	830	520	–	187.125/750	187.150/750	187.175/750	187.200/750	187.250/750	≈ 2.48
750	200	223	830	500	–	20.125/750	20.150/750	20.175/750	20.200/750	20.250/750	≈ 2.54
850	150	173	930	650	15.100/850	15.125/850	15.150/850	15.175/850	15.200/850	15.250/850	≈ 2.29
850	162.5	185.5	930	640	162.100/850	162.125/850	162.150/850	162.175/850	162.200/850	162.250/850	≈ 2.35
850	168	191	930	630	17.100/850	17.125/850	17.150/850	17.175/850	17.200/850	17.250/850	≈ 2.38
850	175	198	930	630	–	18.125/850	18.150/850	18.175/850	18.200/850	18.250/850	≈ 2.41
850	187.5	210.5	930	620	–	187.125/850	187.150/850	187.175/850	187.200/850	187.250/850	≈ 2.48
850	200	223	930	600	–	20.125/850	20.150/850	20.175/850	20.200/850	20.250/850	≈ 2.54

R	100	125	150	175	200	250
H^{-0}_{+25}	267	317	367	417	467	567
K	500	650	725	800	875	1,050

Pitch [mm/link]	67
Links/m	15
corresponds to[mm]	1,005

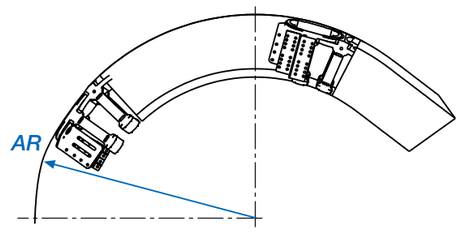
twisterchain | Series TC42 | Installation dimensions

01 ▶ 1102

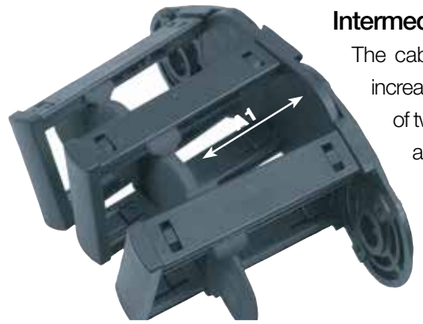
Dimension A1 dependent on outer radius AR

AR	R 100	R 125	R 150	R 175	R 200	R 250
[mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]
400	49	50	51	53	54	58
500	64	65	66	67	68	71
600	79	79	80	81	82	85
650	86	87	87	88	89	92
750	101	101	102	103	104	106
850	116	116	117	118	118	120

Dimension A1 always with tolerance of ± 2.5mm



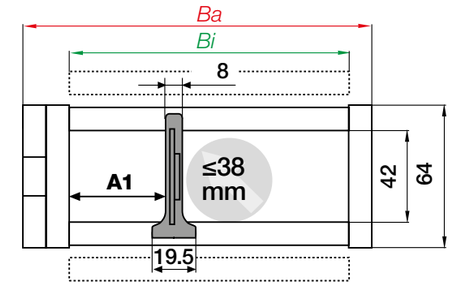
Note: Outer radius *AR* (see drawing) determines dimension **A1**!



Intermediate link

The cable-friendly intermediate link increases the strength and stability of twisterchain many times over. It also serves as interior separation, dividing the filling space into two chambers. **Outer radius *AR* determines dimension A1.**

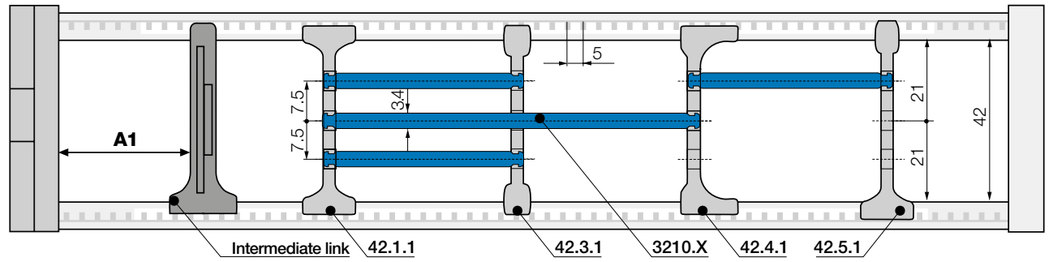
Dimensions



Serie TC42 | Additional parameters dependent on outer radius AR

AR	Max. fill weight	Max. fill weight	Max. V	Max. a
[mm]	α 0° - 180° [kg]	α 180° - 360° [kg]	[m/s]	[m/s²]
400 - 600	6.0	3.6	1.0	2.0
650	5.0	2.7	1.0	1.5
750 - 850	4.0	1.8	1.0	1.0

Series TC42 | Interior separation



For this series the interior separation products for series E4.42 may be used ▶ From page 616

AR = Outer radius e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
A1 = Intermediate link position
H = Nominal clearance height
K = Add-on for bend radius
T = Pitch

twisterchain | Series TC56 | Product range

Circular and spiral movements up to 360°

56

Series TC56 | Crossbars removable along the inner and outer radius

AR	Bi	Ba	X_2	X_1	R 150 [mm]	R 200 [mm]	R 250 [mm]	R 300 [mm]	R 400 [mm]	TC56
[mm]	[mm]	[mm]	[mm]	[mm]	TC56 ...	TC56 ...	TC56 ...	TC56 ...	TC56 ...	[kg/m]
650	125	155	730	470	12.150/650	12.200/650	12.250/650	12.300/650	–	≈ 3.45
650	137.5	168	730	460	–	13.200/650	13.250/650	13.300/650	13.400/650	≈ 3.54
650	150	180	730	450	–	–	15.250/650	15.300/650	15.400/650	≈ 3.62
650	162.5	193	730	440	–	–	16.250/650	16.300/650	16.400/650	≈ 3.70
650	175	205	730	430	–	–	–	17.300/650	17.400/650	≈ 3.78
650	187.5	218	730	420	–	–	–	18.300/650	18.400/650	≈ 3.87
650	200	230	730	400	–	–	–	–	20.400/650	≈ 3.95
750	137.5	168	830	560	.13.150/750	.13.200/750	.13.250/750	.13.300/750	–	≈ 3.54
750	150	180	830	550	–	.15.200/750	.15.250/750	.15.300/750	.15.400/750	≈ 3.62
750	162.5	193	830	540	–	.16.200/750	.16.250/750	.16.300/750	.16.400/750	≈ 3.70
750	175	205	830	530	–	–	.17.250/750	.17.300/750	.17.400/750	≈ 3.78
750	187.5	218	830	520	–	–	.18.250/750	.18.300/750	.18.400/750	≈ 3.87
750	200	230	830	500	–	–	.20.250/750	.20.300/750	.20.400/750	≈ 3.95
850	150	180	930	650	15.150/850	15.200/850	15.250/850	15.300/850	15.400/850	≈ 3.62
850	162.5	193	930	640	16.150/850	16.200/850	16.250/850	16.300/850	16.400/850	≈ 3.70
850	175	205	930	630	17.150/850	17.200/850	17.250/850	17.300/850	17.400/850	≈ 3.78
850	187.5	218	930	620	–	18.200/850	18.250/850	18.300/850	18.400/850	≈ 3.87
850	200	230	930	600	–	–	20.250/850	20.300/850	20.400/850	≈ 3.95

R	150	200	250	300	400
H^{-0}_{+25}	384	484	584	684	884
K	750	900	1,050	1,225	1,450

Pitch [mm/link]	91
Links/m	11
corresponds to[mm]	1,001



twisterchain in a guide trough type 01 for rotary movement on an articulated robot - long service life and robust: tested successfully for more than 1,000,000 cycles

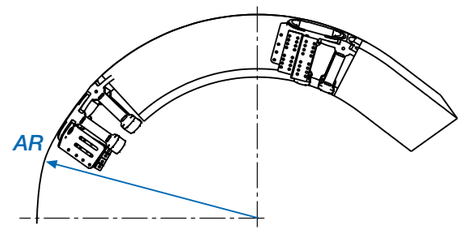
twisterchain | Series TC56 | Installation dimensions

01
▶ 1102

Dimension A1 dependent on outer radius AR

AR	R 150	R 200	R 250	R 300	R 400
[mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]	A1 [mm]
650	83	85	88	90	97
750	98	101	102	103	110
850	113	116	117	118	124

Dimension A1 always with tolerance of ± 2.5mm



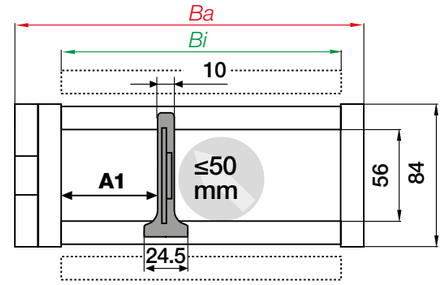
Note: Outer radius *AR* (see drawing) determines dimension **A1**!



Intermediate link

The cable-friendly intermediate link increases the strength and stability of twisterchain many times over. It also serves as interior separation, dividing the filling space into two chambers. **Outer radius *AR* determines dimension A1.**

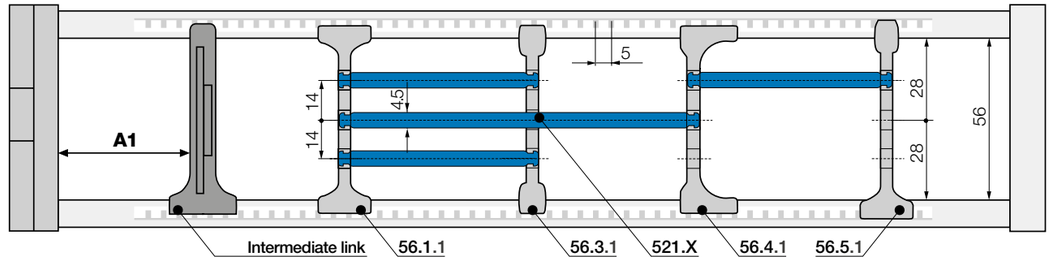
Dimensions



Serie TC56 | Additional parameters dependent on outer radius AR

AR	Max. fill weight	Max. fill weight	Max. V	Max. a
[mm]	α 0° - 180° [kg]	α 180° - 360° [kg]	[m/s]	[m/s²]
650	8.0	5.0	1.0	2.0
750	8.0	5.0	1.0	2.0
850	8.0	5.0	1.0	2.0

Series TC56 | Interior separation

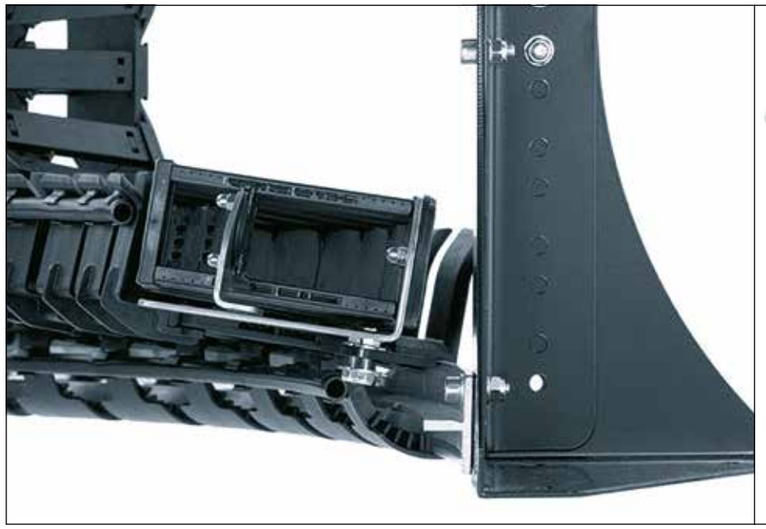


For this series the interior separation products for series E4.56 may be used ▶ From page 616

AR = Outer radius e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
A1 = Intermediate link position
H = Nominal clearance height
K = Add-on for bend radius
T = Pitch

twisterchain | Series TC32·TC42·TC56 | Accessories

Steel mounting bracket for twisterchain (2nd generation)





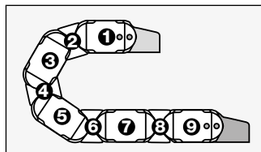
Position 1 Position 2

Important note: twisterchain e-chains® must always start and end on an outer side link (odd number of links).

- One part for all e-chain® widths
- Electrically conductive
- Universal installation
- Material: AISI 304 stainless steel

Steel, one-piece for twisterchain (2nd generation) | Recommended for unsupported and rotary applications

For series	Part No. Full set	Part No. position 1	Part No. position 2
TC32 ▶	TC3200.34.VS.E	TC3200.30.VS.E	TC3200.40.VS.E
TC42 ▶	TC4200.34.VS.E	TC4200.30.VS.E	TC4200.40.VS.E
TC56 ▶	TC5600.34.VS.E	TC5600.30.VS.E	TC5600.40.VS.E



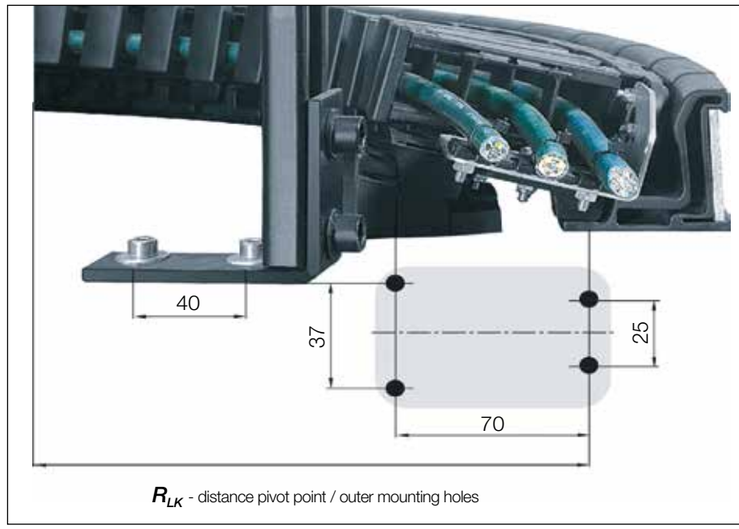
Important note: twisterchain e-chains® must always start and end on an outer side link (odd number of links). An outer side link should always be the first link at the moving end.

TC3200.34.VS.E Order example

- Stainless steel (standard)
- Standard: bolted
- Full set
- Series

twisterchain classic | Series 2208 | Accessories

Steel mounting bracket for twisterchain (1st generation)



R_{LK} - distance pivot point / outer mounting holes



Position 1 Position 2

Important note: twisterchain e-chains® must always start and end on an outer side link (odd number of links).

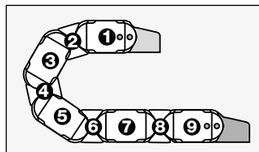
- One part for all e-chain® widths
- Electrically conductive
- Universal installation
- Material: AISI 304 stainless steel

Steel, one-piece for twisterchain (1st generation) | Recommended for unsupported and rotary applications

For series	Part No. Full set	Part No. position 1	Part No. position 2
2208 ▶	22080.34.VS.E	22080.30.VS.E	22080.40.VS.E

The guide trough is attached to the fixed end of the twisterchain classic based on the drill pattern shown in the diagram.

The following bolted connections are permitted: ● Plain holes: 4 x Ø 6.6 - 7mm ● Mounting only with bolts: 4 x bolts M6



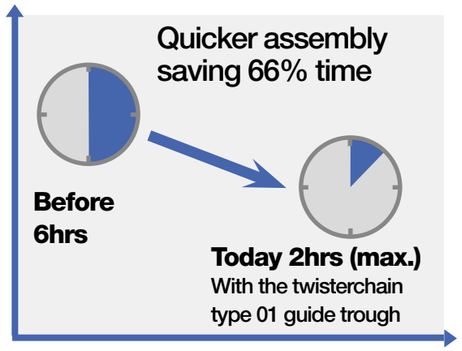
Important note: twisterchain e-chains® must always start and end on an outer side link (odd number of links). An outer side link should always be the first link at the moving end.

22080. 34.VS.E Order example

- Stainless steel (standard)
- Standard: bolted
- Full set
- Series

Save installation time and cost - better guidance for circular movement - increase service life!





Guide trough type 02 for series 2208 ▶ From page 1106

With the twisterchain trough type 01, complex adjustment work is reduced and so assembly time is reduced from 6 hours to 2 hours. It also reduces noise, whilst travel speed and service life can be increased, thanks to its nearly all-plastic design. Available for all twisterchains from the new and original product range.

- Suitable for high dynamics thanks to full guidance of the upper run
- Much smoother and quieter motion of the twisterchain in the trough due to continuous guidance of upper run
- Upper run guided in the plastic trough and supported over the full length
- Fully harnessed delivery possible
- Easy adjustment, alignment and handling
- Assembly time reduced from 6 hours to 2 hours

twisterchain type 01 guide trough options



9XXX.31
Complete trough
(**with** base support, height adjustment and attachment angle brackets)

9XXX.32
Upper and lower run trough
(**without** floor support and height adjustment)
Special option: customer supplies base supports

9XXX.30
Lower run trough
(**with** mounting angle brackets)
Special option: customer builds upper run trough

Product range | twisterchain guide trough type 01

Part No. Series	Outer radius AR [mm]	Angle of rotation min.-max. α	Part No. complete trough	Part No. upper/lower run trough	Part No. lower run trough
TC32 / TC42	400	0 - 90°	9XXX.31.90 .400/Bi.R	9XXX.32.90 .400/Bi.R	9XXX.30.90 .400/Bi.R
		90° - 180°	9XXX.31.180.400/Bi.R	9XXX.32.180.400/Bi.R	9XXX.30.180.400/Bi.R
		180° - 270°	9XXX.31.270.400/Bi.R	9XXX.32.270.400/Bi.R	9XXX.30.270.400/Bi.R
		270° - 360°	9XXX.31.360.400/Bi.R	9XXX.32.360.400/Bi.R	9XXX.30.360.400/Bi.R
	500	0 - 90°	9XXX.31.90 .500/Bi.R	9XXX.32.90 .500/Bi.R	9XXX.30.90 .500/Bi.R
		90° - 180°	9XXX.31.180.500/Bi.R	9XXX.32.180.500/Bi.R	9XXX.30.180.500/Bi.R
		180° - 270°	9XXX.31.270.500/Bi.R	9XXX.32.270.500/Bi.R	9XXX.30.270.500/Bi.R
		270° - 360°	9XXX.31.360.500/Bi.R	9XXX.32.360.500/Bi.R	9XXX.30.360.500/Bi.R
	600	0 - 90°	9XXX.31.90 .600/Bi.R	9XXX.32.90 .600/Bi.R	9XXX.30.90 .600/Bi.R
		90° - 180°	9XXX.31.180.600/Bi.R	9XXX.32.180.600/Bi.R	9XXX.30.180.600/Bi.R
		180° - 270°	9XXX.31.270.600/Bi.R	9XXX.32.270.600/Bi.R	9XXX.30.270.600/Bi.R
		270° - 360°	9XXX.31.360.600/Bi.R	9XXX.32.360.600/Bi.R	9XXX.30.360.600/Bi.R
TC42 / TC56	650	0 - 90°	9XXX.31.90 .650/Bi.R	9XXX.32.90 .650/Bi.R	9XXX.30.90 .650/Bi.R
		90° - 180°	9XXX.31.180.650/Bi.R	9XXX.32.180.650/Bi.R	9XXX.30.180.650/Bi.R
		180° - 270°	9XXX.31.270.650/Bi.R	9XXX.32.270.650/Bi.R	9XXX.30.270.650/Bi.R
		270° - 360°	9XXX.31.360.650/Bi.R	9XXX.32.360.650/Bi.R	9XXX.30.360.650/Bi.R
	750	0 - 90°	9XXX.31.90 .750/Bi.R	9XXX.32.90 .750/Bi.R	9XXX.30.90 .750/Bi.R
		90° - 180°	9XXX.31.180.750/Bi.R	9XXX.32.180.750/Bi.R	9XXX.30.180.750/Bi.R
		180° - 270°	9XXX.31.270.750/Bi.R	9XXX.32.270.750/Bi.R	9XXX.30.270.750/Bi.R
		270° - 360°	9XXX.31.360.750/Bi.R	9XXX.32.360.750/Bi.R	9XXX.30.360.750/Bi.R
	850	0 - 90°	9XXX.31.90 .850/Bi.R	9XXX.32.90 .850/Bi.R	9XXX.30.90 .850/Bi.R
		90° - 180°	9XXX.31.180.850/Bi.R	9XXX.32.180.850/Bi.R	9XXX.30.180.850/Bi.R
		180° - 270°	9XXX.31.270.850/Bi.R	9XXX.32.270.850/Bi.R	9XXX.30.270.850/Bi.R
		270° - 360°	9XXX.31.360.850/Bi.R	9XXX.32.360.850/Bi.R	9XXX.30.360.850/Bi.R

Complete Part No. **9XXX** with required series (TC32, TC42, TC56),
value *Bi* and required **bend radius** *R* ▶ **9TC32.31.180.600/06.250**
For series 2208 please use guide troughs type 02 ▶ **Page 1106**

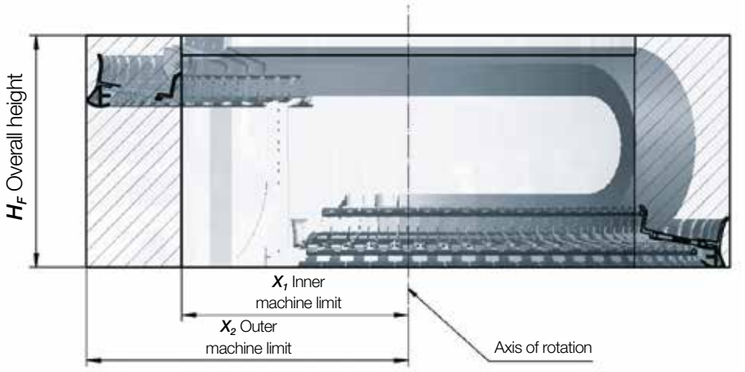
9TC32.31.180.600/12.250
9XXXX.31.180.600/Bi. R

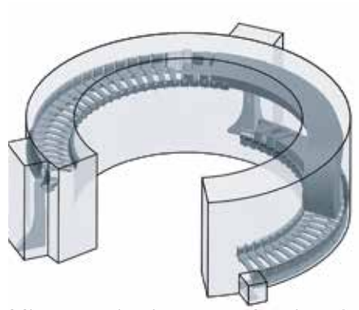
Order key
Guide trough type 01

- ***R*** - Bend radius, please add required value
- ***Bi*** - width index, please add required value
- Outer radius e-chain®
- Angle of rotation of application (90°, 180°, 270°, 360°)
- Trough version
- Guide trough of selected series

More order examples

Complete trough	Part No.	9TC32.31.180.600/12.250
Lower run trough only	Part No.	9TC32.30.180.600/12.250
Upper and lower run trough without base support	Part No.	9TC32.32.180.600/12.250





Min. required space for igus® twisterchain guide trough system

Installation dimensions | X_1 inner machine limit and X_2 outer machine limit

AR	X_2	X_1 depending on *Bi*										
[mm]	[mm]	[mm]										
TC32		87.5	100	108	125	137.5	150					
400	**480**	270	250	250	220	210	200					
500	**580**	–	350	350	320	310	300					
600	**680**	–	–	450	420	410	400					
TC42		87.5	100	108	125	137.5	150	162.5	168	175	187.5	200
400	**480**	270	250	250	220	210	200	190	190	180	–	–
500	**580**	–	350	350	320	310	300	290	290	280	280	250
600	**680**	–	–	450	420	410	400	390	390	380	380	350
650	**730**	–	–	–	470	460	450	440	440	430	420	400
750	**830**	–	–	–	–	560	550	540	540	530	520	500
850	**930**	–	–	–	–	–	650	640	640	630	620	600
TC56			–	–	125	137.5	150	162.5	–	175	187	200
650	**730**	–	–	–	470	460	450	440	–	430	420	400
750	**830**	–	–	–	–	560	550	540	–	530	520	500
850	**930**	–	–	–	–	–	650	640	–	630	620	600

For series 2208 please use guide troughs type 02 ▶ **Page 1106**

Construction height | H_F depending on bend radius of twisterchain guide trough

Part No.	*R* [mm]	100	125	150	175	200	250	300	400
Series		H_F Installation height [mm]							
TC32		370	420	470	520	570	670	–	–
TC42		380	430	480	530	580	680	–	–
TC56		–	–	500	–	600	700	800	1,000

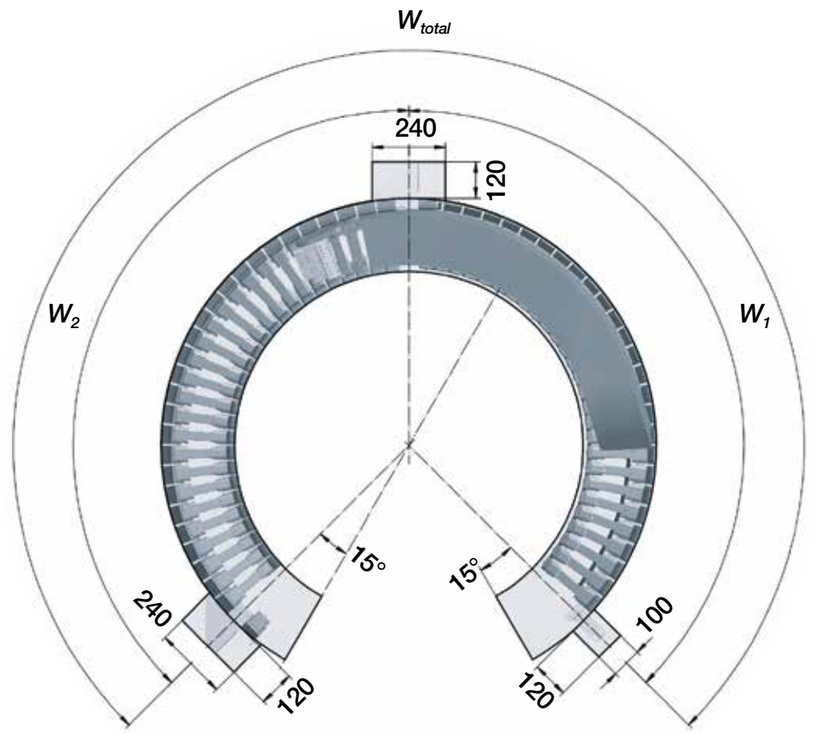
Angle of rotation for 360° | W_2 angle of upper run twisterchain guide trough

Part No.	*AR*	*R* [mm]	100	125	150	175	200	250	300	400
Series	[mm]		W_2 angle of rotation							
TC32/TC42	400		90°	90°	90°	90°	90°	90°	90°	90°
TC32/TC42	500		90°	90°	90°	90°	90°	90°	90°	90°
TC32/TC42	600		135°	135°	135°	135°	90°	90°	90°	90°
TC42/TC56	650		135°	135°	135°	135°	90°	90°	90°	90°
TC42/TC56	750		135°	135°	135°	135°	135°	135°	90°	90°
TC42/TC56	850		135°	135°	135°	135°	135°	135°	135°	135°

Support for the upper run as of 180° rotation angle

Angle of rotation | W_1 | W_{total}

Angle of rotation of system	Angle of lower run
W_{total}	W_1
90°	45°
180°	90°
270°	135°
360°	180°



AR = Outer radius e-chain®
IR = Inner radius e-chain®
R = Bend radius e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
H_F = Total trough height
H_F = e-chain® height incl. 50mm clearance
H = e-chain® height
K = Add-on for bend radius
W1 = Angle of upper run
W2 = Angle of lower run
W_{total} = Angle of rotation of system

Guide trough type 02 for twisterchain classic (1st generation) series 2208

- Support for the upper run and guidance of twisterchain classic series 2208
- Angle of rotation up to 360° possible, 400° upon request
- The modular design of the guide trough makes it possible to connect a large number of e-chains® radii, circle and bend radii by using the same trough sections
- If the e-chain® radius changes, the trough can simply be adapted without purchasing a completely new trough
- The specified part number shown below includes the complete trough system



Product range | Guide trough type 02 for twisterchain classic (1st generation)

Part No. Series	Outer radius *AR* [mm]	Angle of rotation min.-max. α	Part No. Guide trough type 02	Part No. Guide trough with bottom support	Number of supports
2208	300	45° - 100°	**92208.4.45.300/ *Bi*.*R***	not necessary	–
	300	>100° - 180°	**92208.4.90.300/ *Bi*.*R***	not necessary	–
	300	>180° - 270°	**92208.4.135.300/*Bi*.*R****	**92208.5.135.300/*Bi*.*R***	1
	300	>270° - 360°	**92208.4.180.300/*Bi*.*R****	**92208.5.180.300/*Bi*.*R***	2

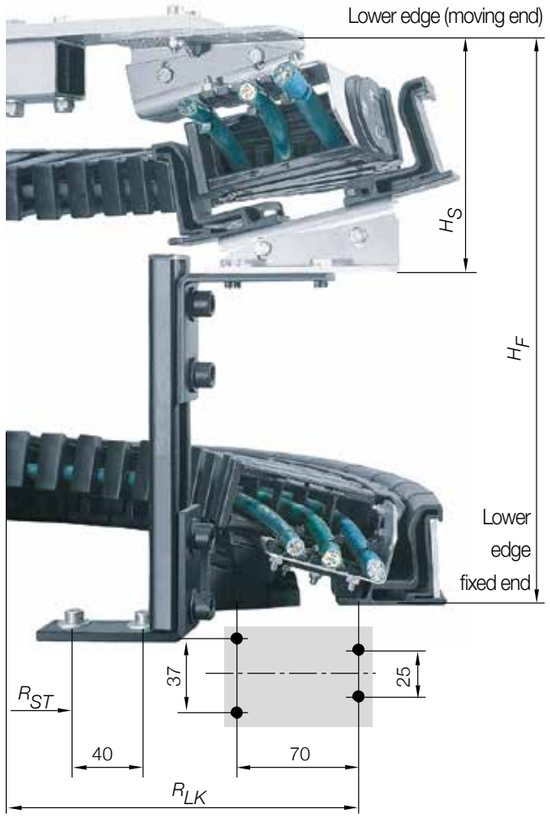
* These troughs feature one support for the upper run / ** These troughs feature two supports for the upper run

Complete Part No. with the required *Bi* and bend radius *R* e.g. **92208.5.180.600/112.150**

92208.5.180.600/112.150

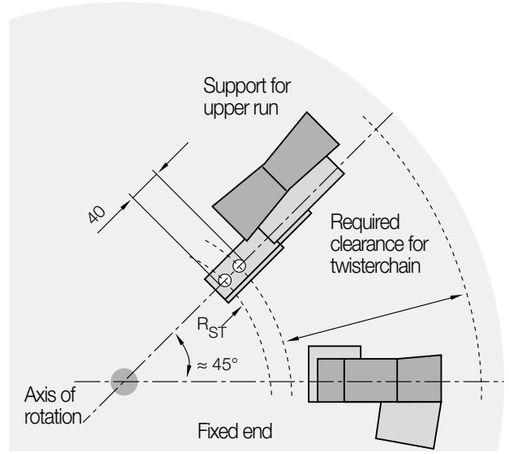
Order key
Guide trough type 02

- *R* - Bend radius, please add required value
- *Bi* - width index, please add required value
- Outer radius e-chain®
- Trough angle (Standard 180°, 135°, 90°, 45°)
- Trough version (.5. with and .4. without bottom support)
- Guide trough - series 2208

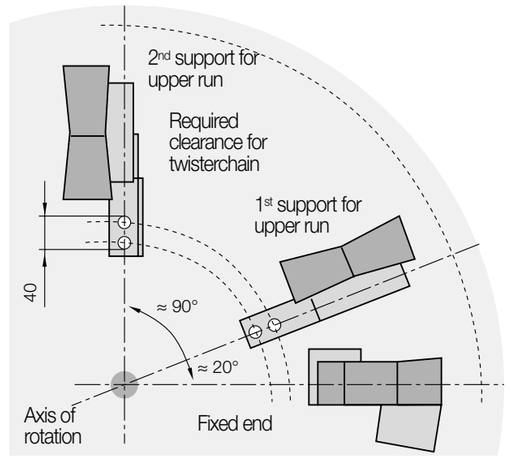


The guide trough must be mounted at the fixed end of the twisterchain using the drilling template shown. The following screw connections are allowed:

- Bore hole: 4 x Ø 6.6 - 7mm
- Mounting only with bolts: 4 x bolt M6



Mounting position for one support



Mounting position for two supports

Installation dimensions | Guide troughs type 02 (1st generation)

Part No. Series	R_{LK} [mm]	H_S [mm]	Part No. Trough	R_{ST} [mm]	*R* [mm]	055	063	075	100	125	150
						H_F Installation height [mm]					
2208 ...	265	130	**92208 ...**	145		195	211	235	285	335	385



twisterband

Up to 7,000°* rotary movement in the smallest spaces

twisterband advantages:

- Up to 7,000° rotation horizontally and 3,000° rotation vertically
- Rotary speeds of up to 180°/s possible
- Openable with film hinge or openable "easy" design
- HD version with strong pin and hook connection for an even longer service life
- Compact, modular and light
- Strips can be shortened as required
- Minimum installation spaces, fits tightly around the rotary axis
- Cost-effective and easy to fill

When to use another igus® solution:

- For applications with a high fill weight
  ▶ **twisterchain system, page 1086**
- For applications with multi-axis movements
  ▶ **triflex® R, page 960**
- ***RBR*** versions with a high fill weight
  ▶ **Designing, page 130**
- If a lubrication and maintenance-free slewing ring bearing for "endless" rotation is required
  ▶ **iglidur® slewing ring bearings, www.igus.eu/PRT**
- If shielded cables are necessary
  ▶ **Please contact us**

*Rotary movements up to 3,600° can be ordered from stock.
Above 3,600°, please contact igus®.



Up to 7,000°* rotary movements in small spaces - twisterband

With the compact igus® twisterband, rotations of up to 7,000°* can be achieved cost-effectively, even in confined spaces. Energy, data and media are securely guided.

- Up to 7,000° rotation horizontally and 3,000° rotation vertically
- Rotary speeds of up to 180°/s possible
- Openable with film hinge or openable "easy" design
- HD version with strong pin and hook connection for an even longer service life
- Compact, modular and light
- Strips can be shortened as required
- Minimum installation spaces, fits tightly around the rotary axis
- Cost-effective and easy to fill

Typical industries and applications

● Cable reels ● Robots (robot arms, axis1/6, SCARA robots) ● Machine tools ● Medical equipment ● Radar and telescope equipment ● Aerospace, test, measurement, handling, lifting and installation equipment ● Wind turbines (e.g. blade adjustment) ● Wherever rotary unions are used

*Rotary movements up to 3,600° can be ordered from stock.
Above 3,600°, please contact igus®.

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Ø X_1 [mm]	Ø X_2 [mm]	≥ *R* [mm]	≤ *R* [mm]	≤ *d1* [mm]	Interior separation	Opening principle	Page
										
twisterband e-chain® links on a strip. Openable with film hinge or openable "easy" design										
TB12.23.9	9	23	40	140	024	035	7	–	"easy" design	**1114**
TB20.44.12	12	44	50	220	034	057	9	–	"easy" design	**1114**
TB20.44.18	18	44	50	220	034	057	14	yes	lock	**1114**
TB29.27.22	22	27	200	320	069	082	17	yes	lock	**1114**
TB30.75.22	22	75	90	330	044	077	17	yes	lock	**1114**
										
twisterband HD e-chain® links with strong pin and hook connection. Openable with film-hinge										
TBHD12.24.11	11	24	40	140	024	035	10	yes	lock	**1118**
TBHD20.44.18	18	44	50	220	037	063	14	yes	lock	**1118**
TBHD30.75.22	22	75	90	330	044	077	17	yes	lock	**1118**
TBHD42.135.30	30	135	90	500	056	119	24	yes	lock	**1118**

Other sizes available upon request. X_1 = inner machine limit X_2 = outer machine limit

*Rotary movements up to 3,600° can be ordered from stock. Above 3,600°, please contact igus®.

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

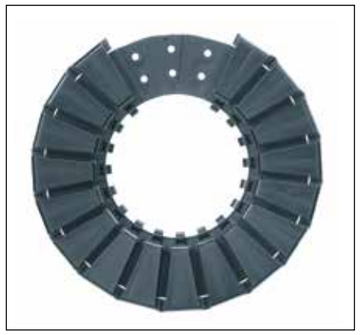
Bi = Inner width e-chain®
hi = Inner height e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
≥ *R* = Minimum bend radius e-chain®
≤ *R* = Max. bend radius e-chain®
d1 = Max. cable diameter
XX = Number of strips



A central shaft must be installed for horizontal orientation angles of rotation above 1,500°



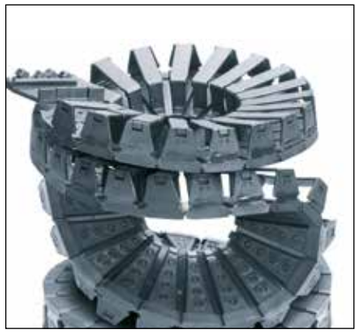
Max. angle of rotation: as a rule of thumb: each segment gives 180° = 360° more rotation



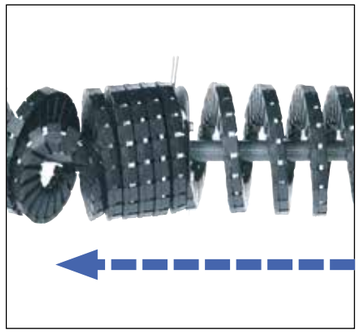
igus® twisterband: minimum installation space, fits tightly around the rotary axis



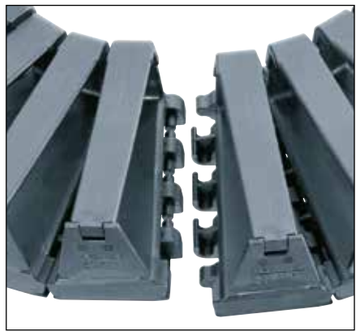
Film hinge: easy access and quick filling with cables and hoses



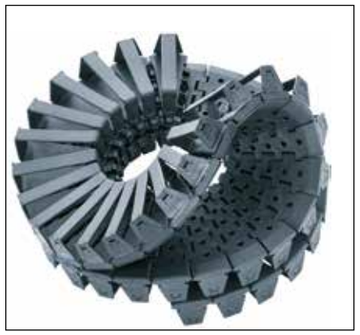
Compact, modular, cost-effective - up to 7,000° rotary movement* in the most confined spaces



Can be reliably used in various installation positions (horizontal: 7,000° and more). Limited length compensation possible



The twisterband HD is an advanced version of the standard twisterband ...



... instead of bands with integral hinges, the twisterband HD version is composed of separate e-chain® links with the pin/ hook connecting system ...



... the advantage is a defined radius with higher strength.

iF product design award
2011 igus® twisterband

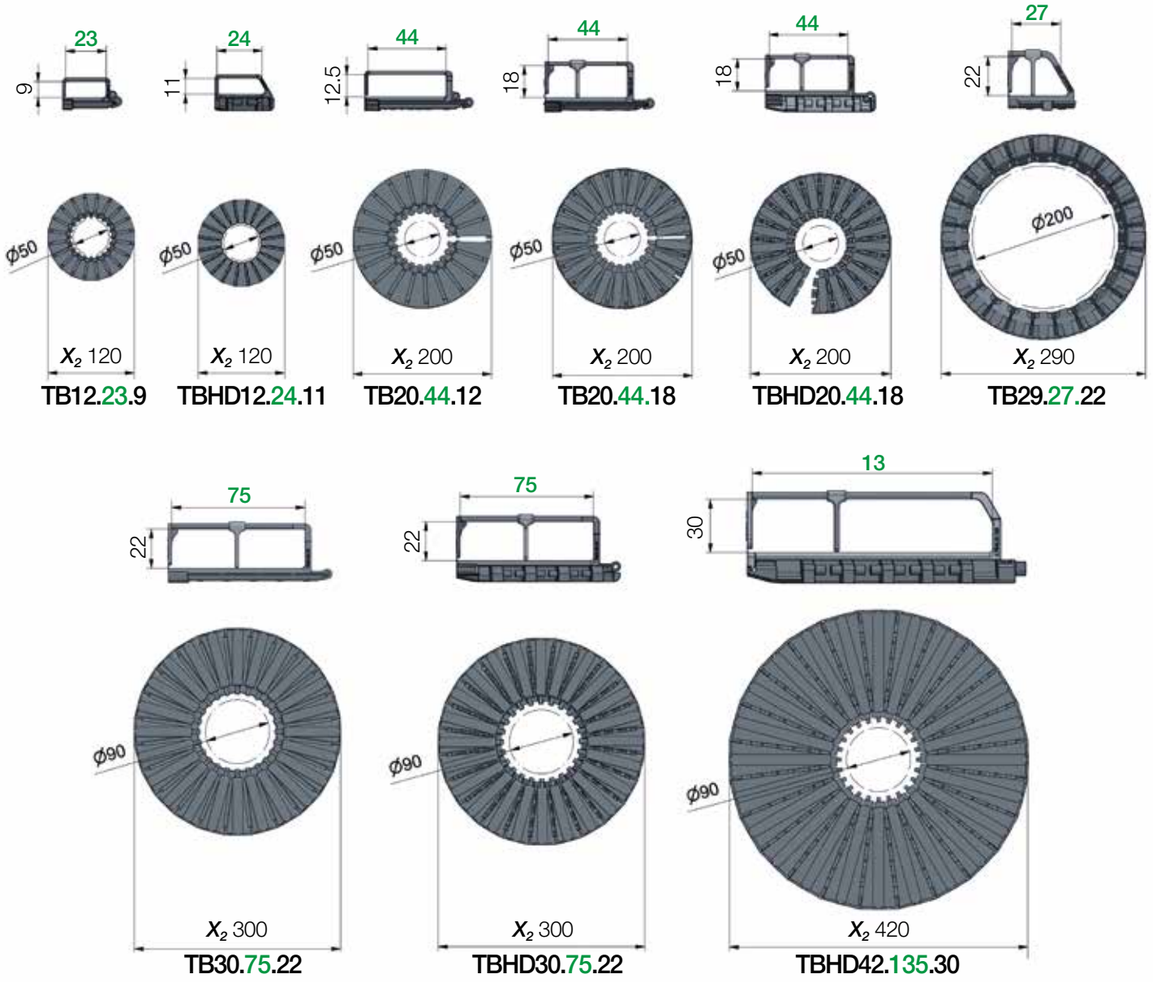
reddot design award
winner 2011

Technical data

Speed / acceleration*	**180°/s**
twisterband - material - permitted temperature °C, igumid TE	**0°C / +70°C**
twisterband HD - material - permitted temperature °C, igumid G	**0°C / +80°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**
Flammability class, igumid TE	**VDE 0304 IIC UL94-HB**

*Speed / acceleration for TB29.27. upon request

Size overview



Bi = Inner width e-chain®
hi = Inner height e-chain®
X_1 = Inner machine limit
X_2 = Outer machine limit
≥ *R* = Minimum bend radius e-chain®
≤ *R* = Max. bend radius e-chain®
d1 = Max. cable diameter
XX = Number of strips





**Base plates are delivered as standard as part of the twisterband module!

Up to 7,000°* rotary movements in small spaces - twisterband

With the compact igus® twisterband rotations can be achieved cost-effectively and with low wear and low maintenance, even in confined spaces. Energy, data and media are securely guided. Available in 5 sizes.

- Up to 7,000° rotation horizontally and 3,000° rotation vertically
- Rotary speeds of up to 180°/s possible
- Compact, modular and light
- Strips can be shortened as required
- Minimum installation spaces, fits tightly around the rotary axis
- Can be used reliably in various installation positions (horizontal, vertical, upside down)
- Cost-effective
- Easy filling
- Ideal in combination with igus® chainflex® cables for rotary movements in very limited installation spaces

Typical industries and applications

● Cable reels ● Robots (robot arms, axis1/6, SCARA robots) ● Machine tools ● Medical equipment ● Radar and telescope equipment ● Aerospace, test, measurement, handling, lifting and installation equipment ● Wind turbines (e.g. blade adjustment) ● Wherever rotary unions are used

*Rotary movements up to 3,600° can be ordered from stock. Above 3,600°, please contact igus®.

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

e-chain® links on a strip



twisterband | Openable with film hinge or with "easy" design

Part No. twisterband	*Bi1* [mm]	*hi* [mm]	X_1 ø [mm]	X_2 ø [mm]	≥ *R* [mm]	≤ *R* [mm]	≤ *d1* [mm]	Opening principle
TB12. 23 .9. XX .01.0	23	9	40	140	24	35	7	"easy" design
TB20. 44 .12. XX .01.0	44	12	50	220	34	57	9	"easy" design
TB20. 44 .18. XX .01.0	44	18	50	220	34	57	14	lock
TB29. 27 .22. XX .02.0*	27	22	200	320	69	82	17	lock
TB30. 75 .22. XX .01.0	75	22	90	330	44	77	17	lock

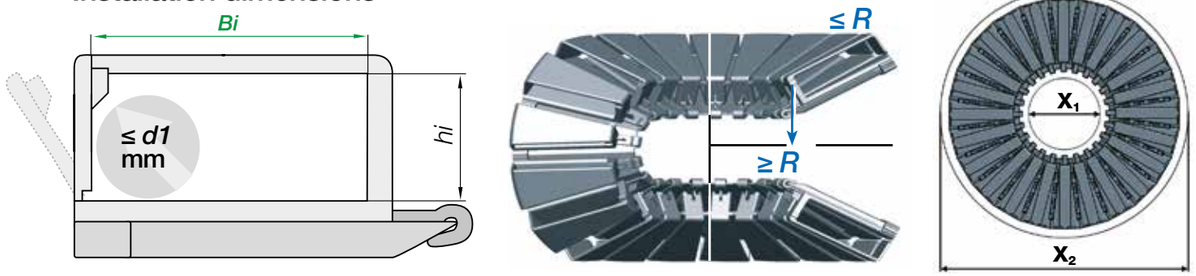
More twisterband sizes upon request! ***Note:* Series TB29.27.22. rotary movement up to max. 720°**

Base plates are delivered as standard and are part of the twisterband module!

X_1 = ø inner machine installation space X_2 = ø outer machine installation space

Complete Part No. with required number of strips **XX**. Example: **TB20.44.12.6.01.0**

Installation dimensions



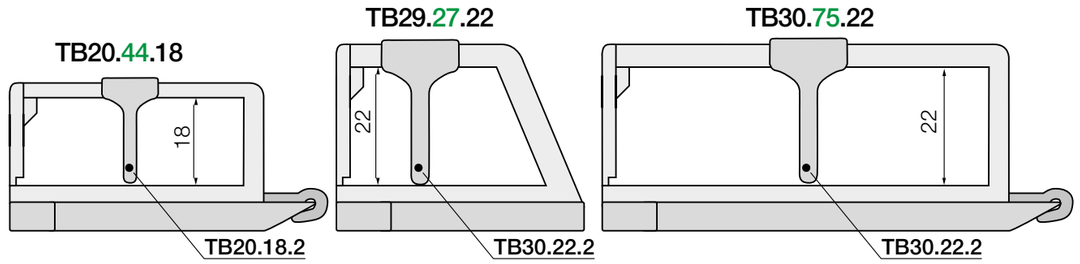
Calculation: number of strips depends on angle of rotation (please always round up number of strips)

TB12: XX ≈	$\frac{\text{XXXX°}}{360}$ **+ 2 =**	**Example: XX ≈**	$\frac{1200°}{360}$ **+ 2 =** **Result: XX ≈ 6 strips**
TB20: XX ≈	$\frac{\text{XXXX°}}{340}$ **+ 2 =**	**Example: XX ≈**	$\frac{1200°}{340}$ **+ 2 =** **Result: XX ≈ 6 strips**
TB29: XX ≈	$\frac{\text{XXXX°}}{180}$ **+ 2 =**	**Example: XX ≈**	$\frac{720°}{180}$ **+ 2 =** **Result: XX ≈ 6 strips**
TB30: XX ≈	$\frac{\text{XXXX°}}{180}$ **+ 6 =**	**Example: XX ≈**	$\frac{1200°}{180}$ **+ 6 =** **Result: XX ≈ 13 strips**

XXXX° = Angle of rotation

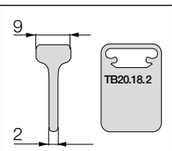
twisterband | Accessories

Interior separation for twisterband



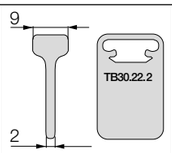
Separators are delivered unassembled.
Simply push onto the openable crossbar.





Separator, for TB20.44.18
unassembled **TB20.18.2**





Separator, for TB29.27.22+TB30.75.22
unassembled **TB30.22.2**

Separators

To fit, simply open the e-chain®, insert a cable and press the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.



Easy opening and filling of the twisterband with a click or with the "easy" design. Simply press separators on and add more cables. The separators provide clear, cable-friendly interior separation.



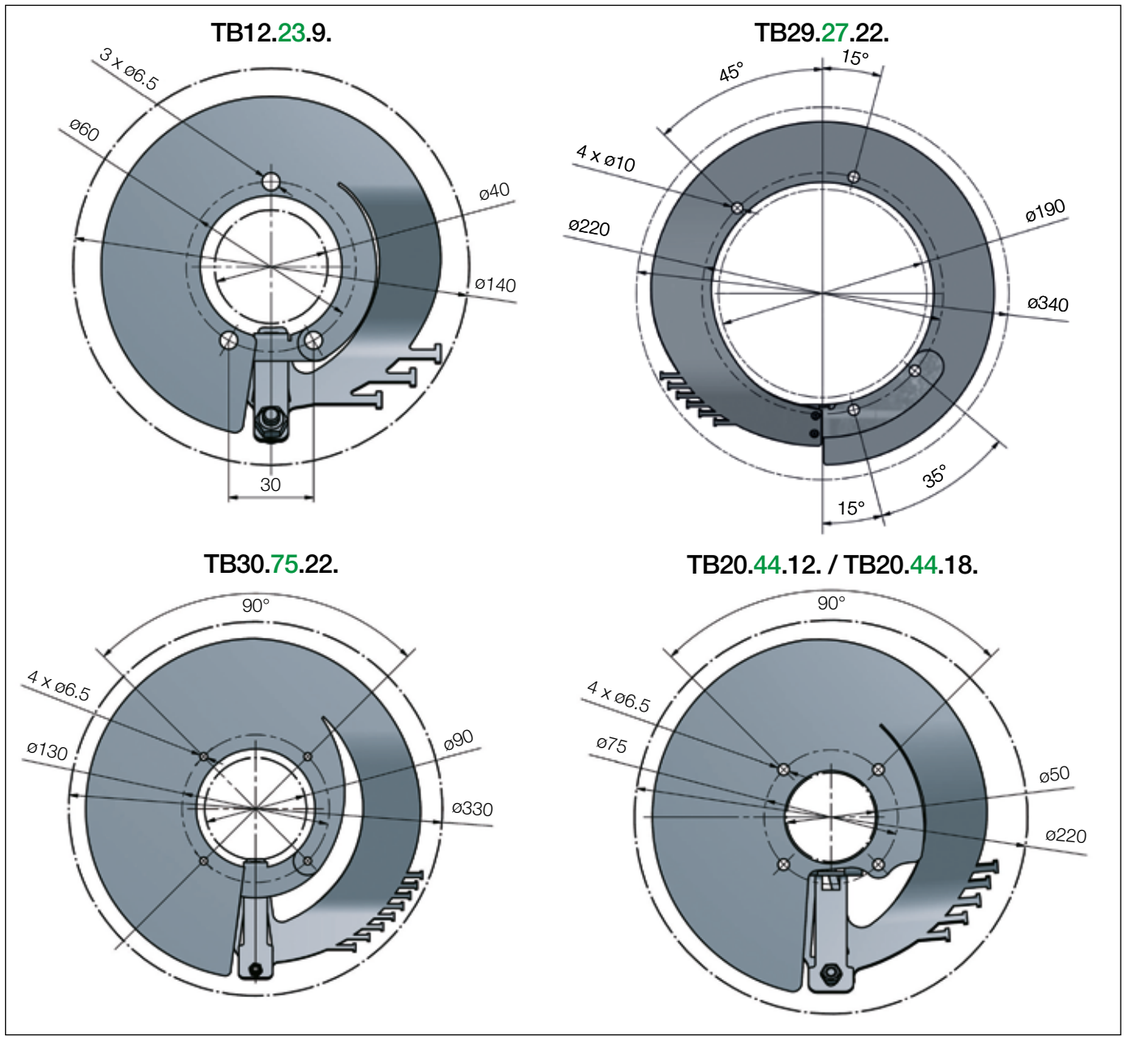
igus® twisterband TB30 for circular movements up to 360°, E2 mini and E2/000 e-chains® are used in this loading and unloading unit



Two systems stacked above one another - this space-saving solution allows double filling space with a constant outer diameter of the system

twisterband | Accessories

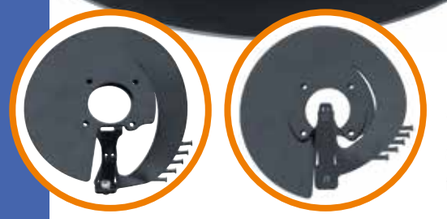
Steel base plate dimensions





Base plates are delivered as standard and are part of the twisterband module!





**Base plates are delivered as standard as part of the twisterband module!

Rotary movement in the most confined spaces, now even stronger - twisterband HD

Instead of strips, the twisterband HD has a strong pin/hook connection between the e-chain® links. Longer service life and higher filling are possible.

- Continuous cable guidance in rotational movements
- Strong pin/hook connection for high load and long service life
- For routing electrical and fibre optic cables and pneumatic lines in one system
- Stop-dogs for defined bend radius
- Cable-friendly thanks to defined radius stops
- Max. rotating speed: 180°/s

Typical industries and applications

● Machining heads on machine tools ● Rotary tables ● Sixth axis robots ● Generally all applications that currently work with slip rings

*Rotary movements up to 3,600° can be ordered from stock. Above 3,600°, please contact igus®.

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

e-chain® links with strong pin and hook connection



twisterband | Openable with film hinge

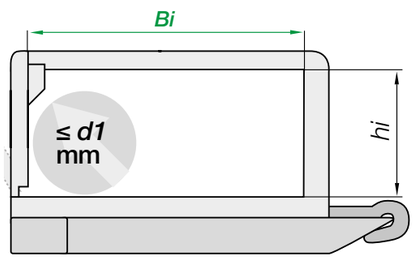
Part No. twisterband	*Bi1* [mm]	*hi* [mm]	X_1 ø [mm]	X_2 ø [mm]	≥ *R* [mm]	≤ *R* [mm]	≤ *d1* [mm]	Opening principle
TBHD12.24 .11. XXX .01.0	24	11	40	140	024	035	10	lock
TBHD20.44 .18. XXX .01.0	44	18	50	220	037	063	14	lock
TBHD30.75 .22. XXX .01.0	75	22	90	330	044	077	17	lock
TBHD42.135 .30. XXX .01.0	135	30	90	500	056	119	24	lock

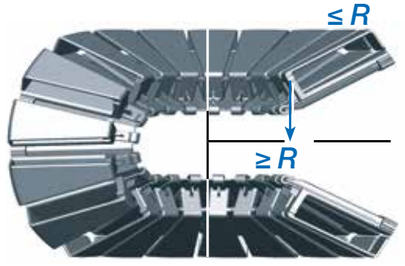
Base plates are delivered as standard and are part of the twisterband module!

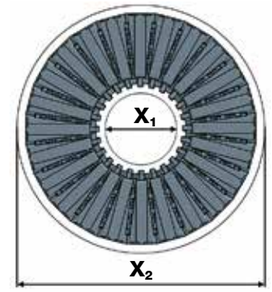
X_1 = ø inner machine installation space X_2 = ø outer machine installation space

Complete Part No. with required number of strips **XXX**. Example: **TBHD30.75.22.180.01.0**

Installation dimensions

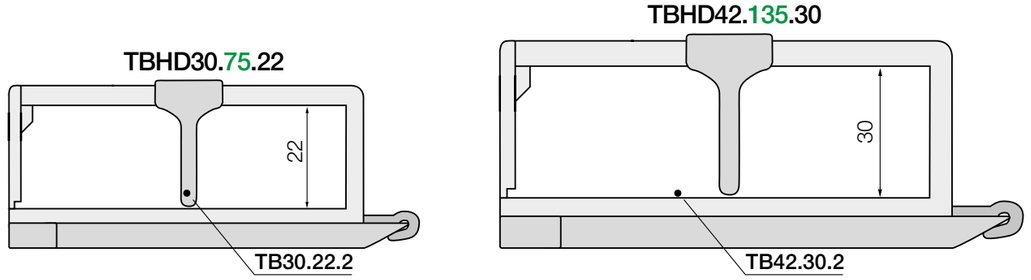




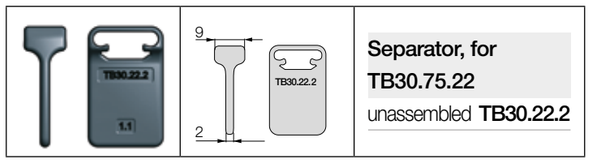


twisterband HD | Accessories

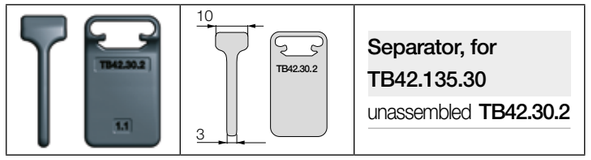
Interior separation for twisterband HD



Separators are delivered unassembled.
Simply push onto the openable crossbar.



Separator, for TB30.75.22
unassembled **TB30.22.2**



Separator, for TB42.135.30
unassembled **TB42.30.2**

Separators

To fit, simply open the e-chain®, insert a cable and press the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.



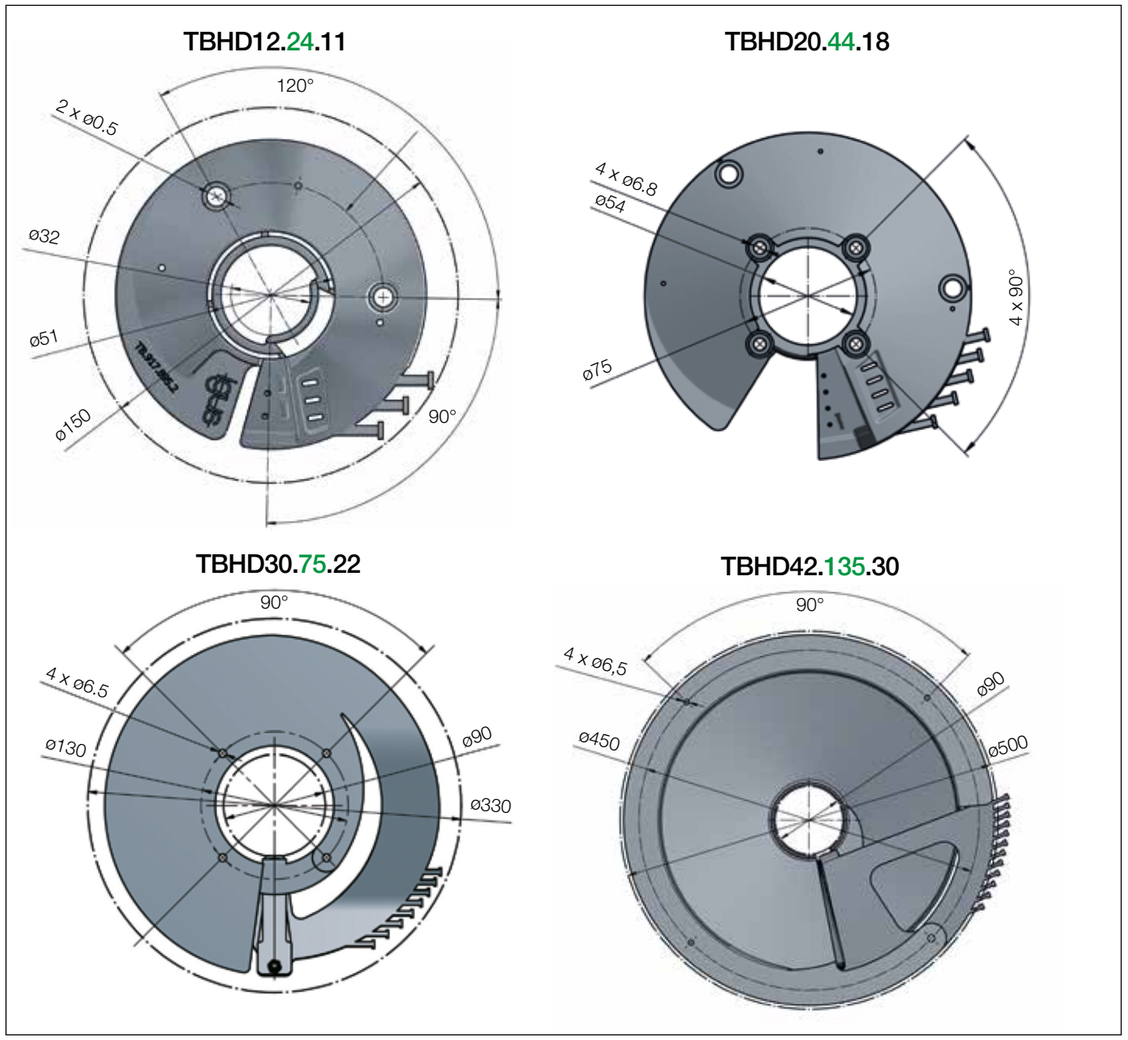
Easy opening and filling of the twisterband with a click or with the "easy" design. Simply press separators on and add more cables. The separators provide clear, cable-friendly interior separation.

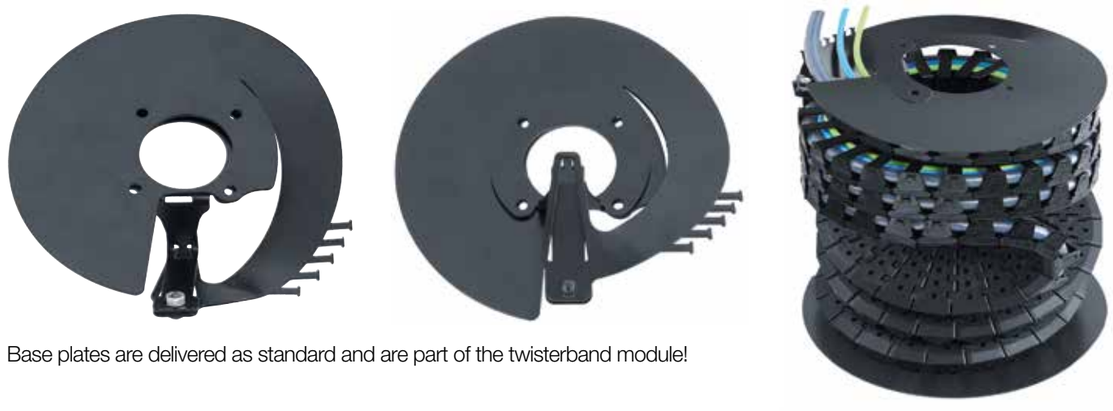


igus® twisterband and other e-chains® in a wood working machine

twisterband HD | Accessories

Steel HD base plate dimensions

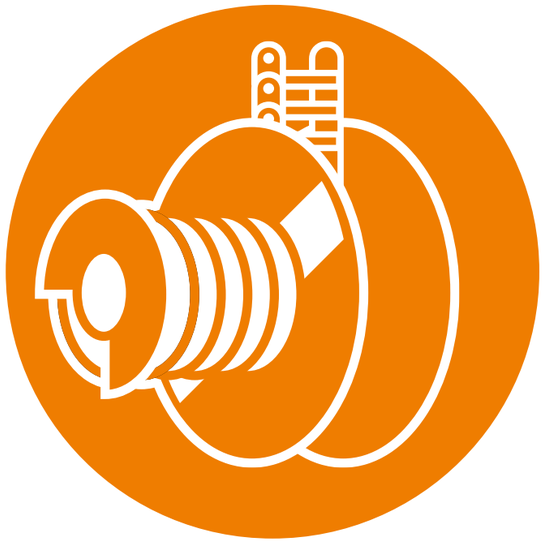




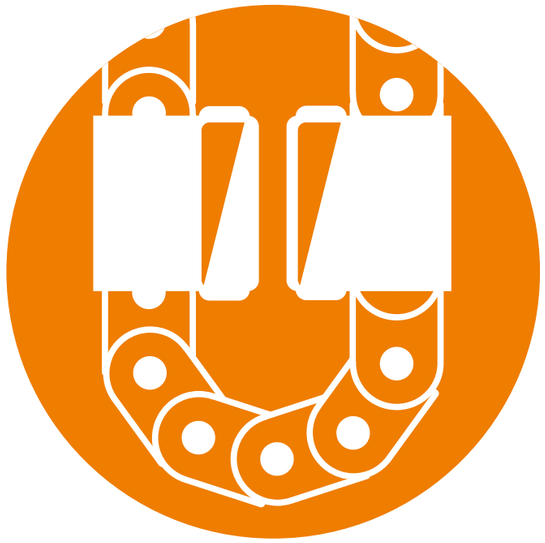
Base plates are delivered as standard and are part of the twisterband module!

igus®
solutions for:

- Multi-axis motion
- Vertical movements
- Horizontal motion
- Solutions for predictive maintenance and condition monitoring



Solutions for
multi-axis motion
► From page 1126



Solutions for
vertical motion
► From page 1146



Solutions for
horizontal motion
► From page 1168



Solutions for predictive maintenance
and condition monitoring
► From page 1194

Multi-axis motion ▶ From page 1126



e-spool® flex 2.0 - continuous panel feed

- Can be used wherever a cable must move freely during use and must be stowed away safely after use

▶ Page 1132



e-spool® compact - space-saving, spring-driven

- Manual workplaces
- Workstations
- Assembly lines
- Small telescopic/ retractable applications

▶ Page 1136



e-spool® for manual operation - reliable and space-saving

- Robot teach pendants
- Workstations
- Assembly lines

▶ Page 1138



e-spool® standard and HD - flexible use

- Telescopic applications
- Theatre, stage and lighting technology
- Space-saving alternative to zig-zag solutions

▶ Page 1140



e-spool® power - motor-driven for long extension lengths

- Theatre, stage and lighting technology
- Indoor and outdoors cranes

▶ Page 1144

Vertical movements ▶ From page 1146



liftband - cable guidance up to 13m height with limited installation space

- Theatre and stage technology
- Indoor cranes
- Mobile telescopic antennas

▶ Page 1146



guidelok slimline P - safe vertical guidance

- Storage and retrieval units
- Lifts
- Elevators
- Construction and crane lifts
- Hoists
- Automatic mini-load system

▶ Page 1152



e-loop® - safe cable guidance for hanging applications

- Offshore
- Oil and gas industry
- Shore power connections
- Construction machinery
- Wind turbines

▶ Page 1158

More information online ...



guidelok slimline P.S - lightweight plastic construction, cost-effective

- Storage and retrieval units
- Lifts
- Construction and crane lifts
- Automated car parks
- Ship lifts

Online ▶ www.igus.eu/glsl-ps



guidelite GLV - lighter, lower noise, simpler and less cost

- Shuttle systems
- High bay warehouse
- Lifts
- Hoists

Online ▶ www.igus.eu/GLV

igus® solutions for special applications | Overview

Horizontal motion ▶ From page 1168



guidelok horizontal - upper run guide for long travels

- Machine tools
- Heavy swarf environments
- Wherever a gliding application is not recommended

▶ Page 1168



basic flizz® - enclosed solution for long travels

- Wastewater and sewage treatment works (longitudinal scrapers, sand/grease traps)
- Electroplating facilities
- Cranes
- River locks

▶ Page 1174



micro flizz® - guide energy, data, air and fluids safely in ONE system

- Storage and retrieval units
- Indoor cranes
- Industrial gates
- Workplace equipment
- Wastewater and sewage treatment plants
- Camera systems
- Sliding doors

▶ Page 1182

Solutions for predictive maintenance and condition monitoring ▶ From page 1194



smart plastics enable Industry 4.0 energy supply

- Cranes
- Automotive production
- Bulk handling
- Logistics
- Semiconductor industry

▶ Page 1196



i.Sense - condition monitoring

- Detects machine status regularly or continuously
- Uses fast switch-off to avoid crashes

▶ Page 1198



i.Cee - predictive maintenance

- Precisely predicts maintenance
- Prevents downtime or loss of quality

▶ Page 1202



Modular projects - special solutions from stock

- Cranes
- Offshore
- And many other industries

▶ Page 1208

ENERGY
DATA
AIR
LIQUIDS
GUIDANCE
IN ONE SYSTEM



Solutions for multi-axis motion

e-spool®

The alternative to cable reeling drums - reduce cable wear and reliably guide different media together in one system

e-spool® advantages:

- Energy supply is possible in all directions (horizontal, vertical, diagonal)
- More versatile and flexible to use than cable reeling drums
- Different media (power, data, and fluids) can be routed together in one system
- If travels must be kept free
- If the technical system is to be hidden behind false ceilings/floors
- Very well suited for use in theatre and stage technology

When to use another system:

- With very high loads that have to be guided vertically
  ► **zig-zag applications, page 127**
- For high dynamics with lateral accelerations
  ► **guidelok slimline P, page 1152**



ENERGY DATA AIR LIQUIDS GUIDANCE IN ONE SYSTEM

iF product design award 2013

The cable reel without a slip ring - igus® e-spool®

Routing many different cables in a small space: e-spool® uniquely combines two different energy supply systems. The one standard e-chain® is guided by a roller and always provides the correct length and tension of the energy supply system through an integrated retaining spring. In the starting position, the e-chain® is rolled up completely to save space. The twisterband connects the roller with the shaft end block, serving as an interface to the supply side cables. With twisterband no slip ring is needed. This makes data transmission highly reliable, while enabling a high degree of flexibility at the same time. Different media and cable/hose diameters can be carried side by side in one drum (diameters up to 17mm)

- No tensile strain on the cables
- Energy supply is possible in all directions (horizontal, vertical, diagonal)
- Space-saving when e-chain® is rolled into the home position, paths remain free
- Cables can be retrospectively added or changed
- Alternative to zig-zag solutions
- Maximum extension and retraction speed 1m/s
- Large standard product range and special projects available

Typical industries and applications

● Telescopic/retracting applications ● Theatre, stage and lighting technology ● Space-saving alternative to zig-zag solutions

Available from stock. Ready to ship in 5 - 10 business days*

*Average time before the ordered goods are dispatched.

e-spool® Version	Part No. Series	Extension length ≤ [m]			Page
	**e-spool® flex 2.0** continuous panel feed				
	SPF.250.08.	15			**1132**
	SPF.250.11.	10			**1132**
	SPF.250.15.	5			**1132**

e-spool® Version	Part No. Series	Travel length ≤ [m]	Drum ø [mm]	Cable length [m]	Page
	**e-spool® compact** compact, space-saving				
	SP1.240.	2	240	4.0	**1136**
	SP1.400.	4	400	6.6	**1136**
	SPHD1.400.	4	400	6.6	**1136**
	**e-spool® for manual operation** for applications where only one cable or hose is pulled out manually				
	SPC1.300.	5	300	3.3 - 8.3	**1138**

e-spool® options	Part No. with 1 twisterband	Part No. with 2 twisterbands	Travel length ≤ [m]	Drum ø [mm]	Cable length [m]	Page
	**e-spool® standard** flexible use (Illustration shows e-spool® with 1 twisterband)					
	SP1.600.	**SP2.600.**	4	600	8.6	**1141**
	SP1.700.	**SP2.700.**	7	700	11.7	**1141**
	SP1.850.	**SP2.850.**	14	850	19.9	**1141**
	**e-spool® HD** flexible use, with increased retraction force (Illustration shows e-spool® with 1 twisterband HD)					
	SPHD1.600.	**SPHD2.600.**	4	600	8.6	**1142**
	SPHD1.700.	**SPHD2.700.**	7	700	11.7	**1142**
	SPHD1.850.	**SPHD2.850.**	14	850	19.9	**1142**
	**e-spool® power** motor-driven, for long extension lengths					
	e-spool® power		25	upon request	upon request	**1144**

igus® project upon request

Systems of this type should be designed in conjunction with our engineering team.

Please contact us at ▶ www.igus.eu/contact

Technical data

Max. speed	≤ 1m/s
Maximum acceleration	≤ 1m/s²
Permitted temperature °C - e-spool® standard	0°C / +70°C
Permitted temperature °C - e-spool® HD	0°C / +80°C
Maximum fill weight, vertical	≤ 1kg/m

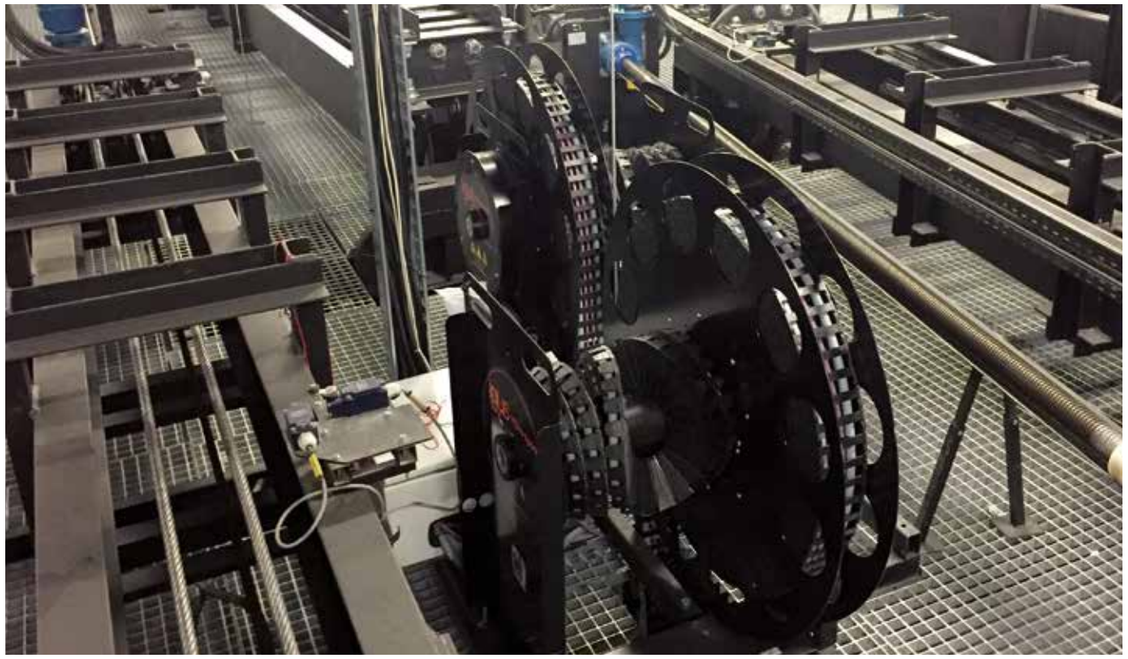
Guidelines for e-spool®

In view of the special mechanical stress inside an e-spool®, we recommend using igus® chainflex® cables. We also recommend that the following guidelines are observed:

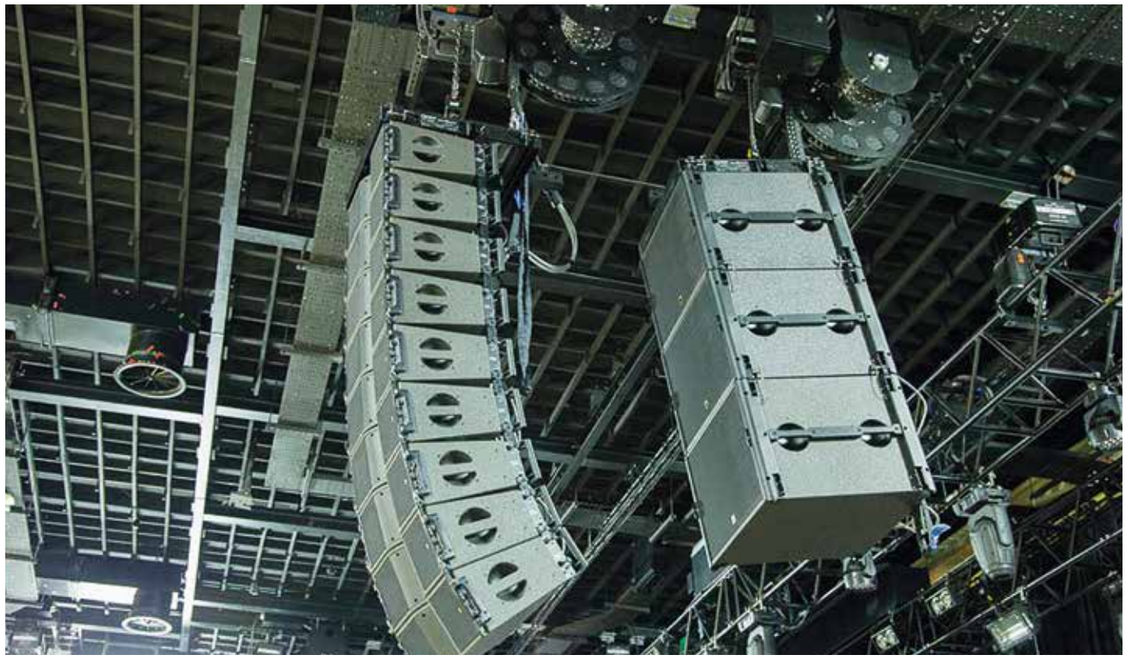
1. Only put cables side by side in the linear chain - never stack them!
2. Where possible, chainflex® cables with a TPE outer jacket should be used for unshielded cables
3. Shielded cables should be chosen from the chainflex® CFROBOT range
4. The maximum bend radius of the twisterband must be accounted for
5. Where possible, use separators to protect cables against cross-over and abrasion against each other. To make the best possible use of the interior space, install the separator in alternate links
6. Insert cables sorted by diameter and/or bend radius - insert small ones in the centre then increasingly larger ones towards the outside
7. Apply strain relief to both ends of the cable - when using a cable tie for strain relief, please ensure the head of the cable tie is underneath to avoid cable damage
8. The cables should be installed in the twisterband with clearance space both outwards and inwards from the rotary axis

Installation instructions

For applications that move horizontally, a smooth surface is required for the e-chain® to travel over.

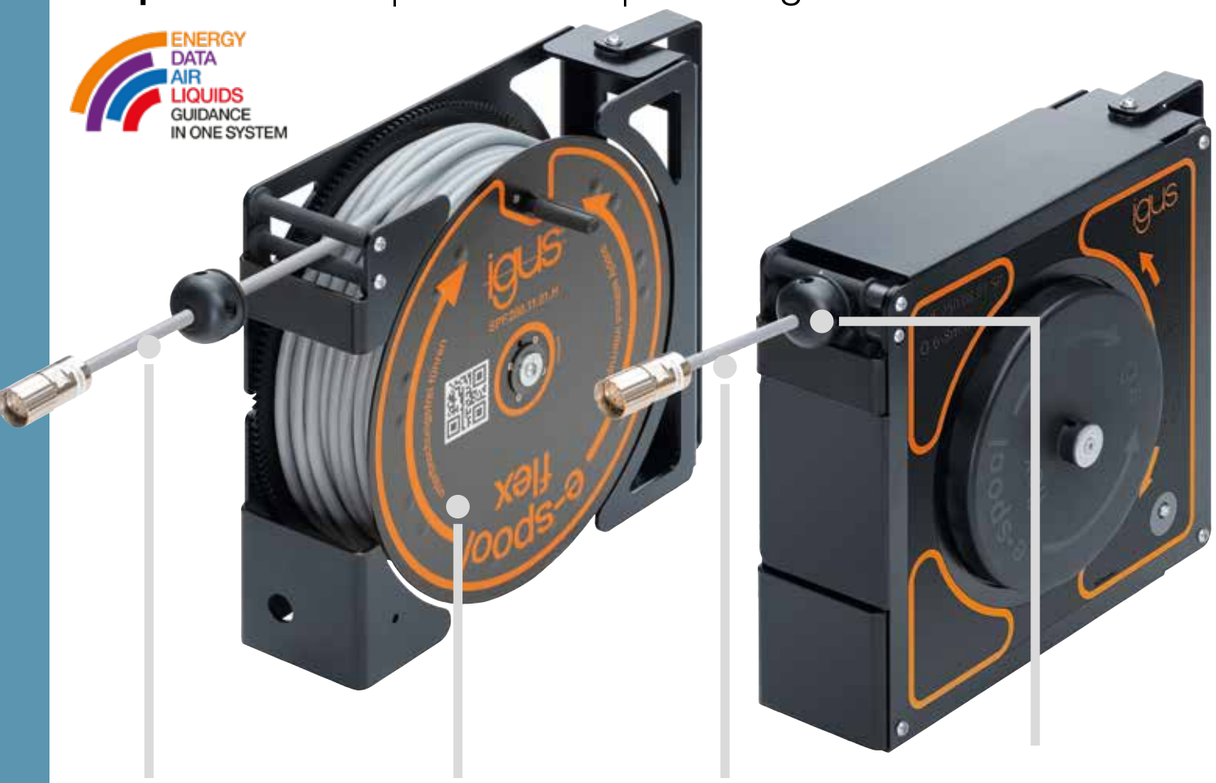


e-spool® - the solution for stage and theatre technology. Supplying energy, data and fluids without interruption. As shown here, at the Cultural and Congress Centre in Toruń (Poland). A total of ten igus® HD e-spool® systems have been installed



At Liverpool University (UK), e-spools® supply power and data to arrays of height-adjustable speakers. End to end cables ensure the best possible transmission reliability and sound quality

e-spool® flex 2.0 | Series SPF | Advantages



Easy handling: pull-out force is almost constant and secure locking

Without interruption: for energy, data, fluids and air

Assembly-friendly: easy replacement of the cable, even with connectors fitted

Space-saving: cable retracts into a compact unit

Continuous panel feed - e-spool® flex 2.0

The e-spool® flex 2.0 is the igus® cable drum without a slip ring. Cables diameters from 5mm to 15mm can be used. The cable is always safely routed through a feed-through to ensure that it is properly wound up at all times.

- Without interruption (no slip ring), for energy, data, fluids and air
- Space-saving
- Universal assembly
- Constant tensile strain on the cable
- Locking mechanism of the cable
- Cost-effective
- Easy in case of repair
- Simple replacement of the fitted cable, therefore adaptable
- Four configurations, adaptable to the respective requirements

Typical industries and applications

● Wherever a cable needs to move freely in use and be stowed away safely after use ● Panel pull-out on robots ● Cable retraction system for workshop, measuring and production areas ● In medical technology ● Machine tools ● Indoor cranes, ● etc.

e-spool® flex 2.0 | Series SPF | Product range

For cable diameters from 5mm to 15mm

Part No. e-spool® flex 2.0	Cable diameter from - to ≤ [mm]	Extension length ≤ [m]	Required cable length inside the chain [m]	Weight [kg]
SPF.250.08.01.*	5 - 8	15	4.5	≈ 8.0
SPF.250.11.01.*	8 - 11	10	3.3	≈ 8.0
SPF.250.15.01.*	11 - 15	5	2.4	≈ 8.0

***Note:** Part can be combined with four different drives (**H/T/SP/SB**).

Complete Part No. with index of required drive (**H/T/SP/SB**). Example: SPF.250.11.01.**H**

Note: Please consider VDE 0298 part 5 (current carrying capacity and conversion factors for wound cables) when selecting your cables and using e-spool® flex.

4 models with the corresponding order index | Overview

Drive options	Index	Meaning
A hand crank	**H**	**H**and
For cordless screwdriver*	**T**	**T**ool
With retaining spring and locking mechanism	**SP**	**S**pring with **P**osition Hold
With retaining spring, locking mechanism and retraction brake	**SB**	**S**pring with Position Hold and **B**reak

* Available upon request Delivery time upon request.

Order key and calculation example | e-spool® flex 2.0

Order key SPF.250.11.01.**H**

Series / Type
Drum diameter: 250mm
For cable diameters from 8mm to 11mm
Standard colour black
A hand crank

Order key SPF.250.11.01.**T**

Series / Type
Drum diameter: 250mm
For cable diameters from 8mm to 11mm
Standard colour black
Reeling possible by means of a battery-powered screwdriver

Order key SPF.250.11.01.**SP**

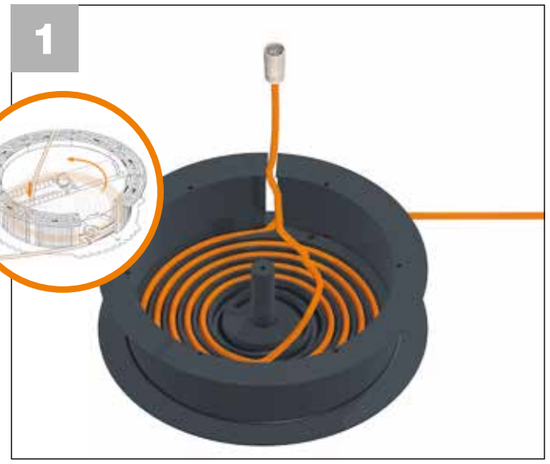
Series / Type
Drum diameter: 250mm
For cable diameters from 8mm to 11mm
Standard colour black
With retaining spring and locking mechanism

Order key SPF.250.11.01.**SB**

Series / Type
Drum diameter: 250mm
For cable diameters from 8mm to 11mm
Standard colour black
Retaining spring locking mechanism and retraction brake

Calculation: total cable length **=** extension length **+** cable length e-spool® flex **+** protrusion FP (connection source)
Example SPF.250.11.01.H: total cable length **=** 10m **+** 3.3m **+** 5m (protrusion FP) = 18.3 metres

1



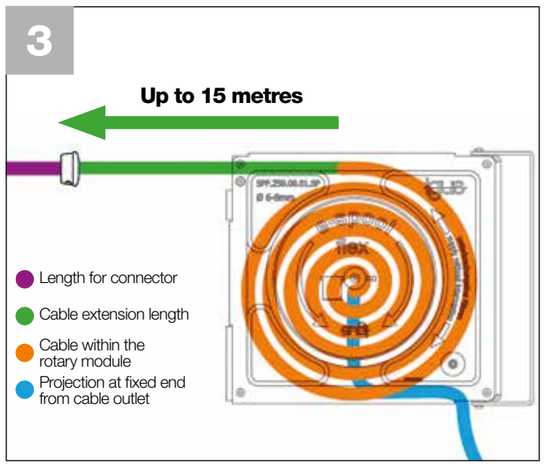
Cables or hoses are inserted into the e-spool® in a spiral pattern

2



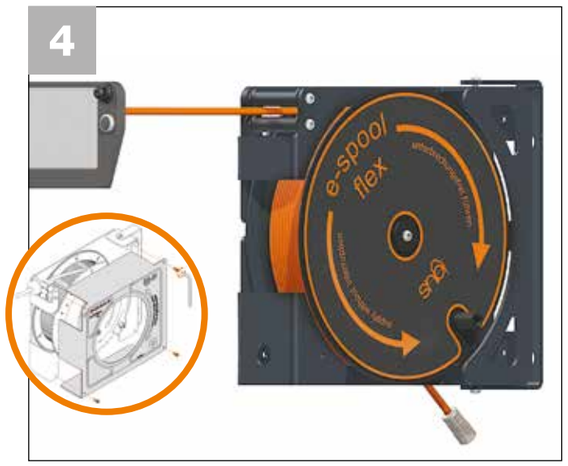
The e-spool® flex in detail from the inside (from left): housing, spiral guide, cables/hoses, winding housing

3



Cable/hoses inserted in the spiral guide - extension length up to 15m possible

4



The e-spool® flex 2.0 system is simple to set up, making it easy and quick to replace the cable if necessary

Assembly instructions - the illustrated assembly aid enables you to assemble the e-spool® flex 2.0 quickly and professionally ▶ www.igus.eu/e-spool-flex



e-spool® flex mini 2.0 - uninterrupted cable guidance (without slip ring)

- Can be equipped with any type of cable, with constant tensile strain on the cable
- Locking mechanism
- Lightweight and space-saving due to small dimensions

Upon request - more information online ▶ igus.eu/e-spool-flex



Application areas for e-spool® flex ...



... at e-bike charging stations ...



... medical technology ...



... robots ...



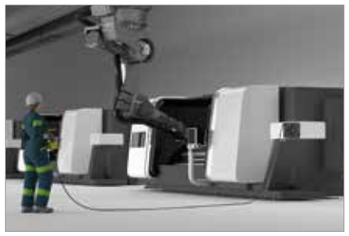
... workshops ...



... theatre ...



... cleanroom ...



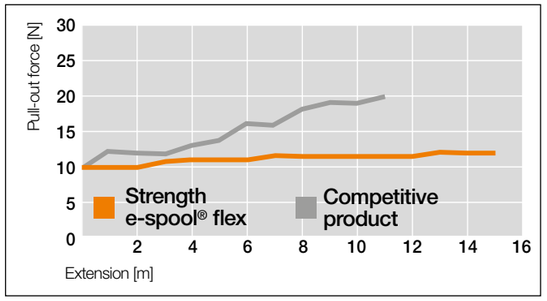
... machine tools ...



... material handling ...



... office furniture...



Comparison test: Pull-out forces e-spool® flex vs. competitive product

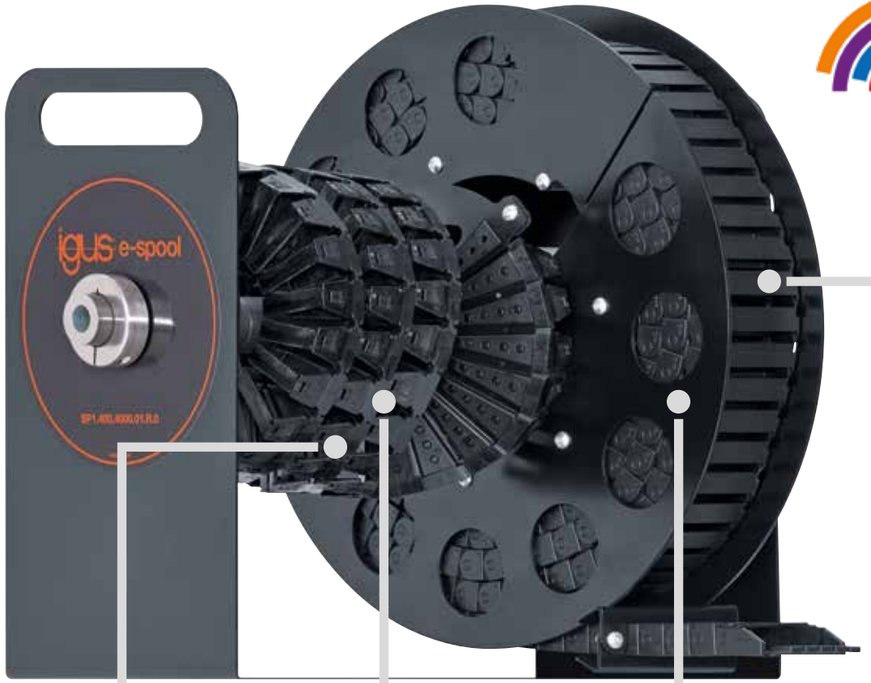
In its test laboratory, the largest in the industry, igus® compared the e-spool® flex with a competing product. The test evaluated the two products' pull-out forces. **The results** showed that the e-spool® pull-out forces were about 10 newtons, while those of the competing product were almost twice that.

Cable drum without slip ring - advantages of the interruption-free panel feed e-spool® flex 2.0

Avoid it with the newly developed cable drum for control panels. Since the new solution does not use slip rings, media, data and the power and signal supply of the emergency stop button can also be integrated into the system.

Download whitepaper ▶ www.igus.eu/e-spool-flex





ENERGY
DATA
AIR
LIQUIDS
GUIDANCE
IN ONE SYSTEM

Flexible use:
energy supply in any direction is possible

Cost-effective:
twisterband enables rotary movement

Flexible energy supply:
guidance of different media in one system

Space-saving:
e-chain® retracts into a compact unit

Compact, space-saving cable reel without slip ring - e-spool® compact

The compact e-spools® for 2m and 4m extension are optimised for small installation spaces with smaller linear chains and twisterbands for a wide range of applications. As with the larger standard and HD systems, the compact e-spool® systems enable trouble-free guidance and flexible filling.

- Compact, space-saving cable drum without slip ring
- Different media (power, air data and fluids) can be routed together in one system
- Energy supply in all directions
- Space-saving and virtually "invisible"
- Very lightweight design (SP1.240 series made from aluminium)
- Extension lengths up to 2m and 4m
- Cables can be retrospectively added or changed

Typical industries and applications

- Manual workplaces
- Workstations
- Assembly lines
- Small telescopic applications

Route various media in a space-saving and flexible way

e-spool® compact | With e-chain® and 1 twisterband

Part No. e-spool® with **1 twisterband, extension right**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	Weight [kg]
SP1.240.2000.01.**R**.0 1)	23	9	2	≈ 3.30
SP1.400.4000.01.**R**.0 2)	44	15	4	≈ 13.5
SPHD1.400.4000.01.**R**.0 2)	44	15	4	≈ 17.2

Maximum cable and hose diameters: for SP1.240 = 7mm and for SP1.400 = 12mm

1) The max. bend radii of 24mm in the inner radius and 35mm in the outer radius should be observed

2) The max. bend radii of 34mm in the inner radius and 57mm in the outer radius should be observed.

Theatre, stage and lighting technology: the standard e-spool® does not meet the DIN EN 17206 guidelines for stage and theatre operations. If you have questions about this, please contact igus®.

Note: The compact e-spools® for 2m and 4m extension are optimised for small installation spaces with smaller linear chains and twisterbands for a wide range of applications. As with the larger standard and HD systems, the compact e-spool® systems enable trouble-free guidance and flexible filling.

SP1.240.2000.01.**R**.0

- 1 twisterband
- Drum diameter ø
- Max. extension length
- Version number
- Extension R / L
- Standard colour black

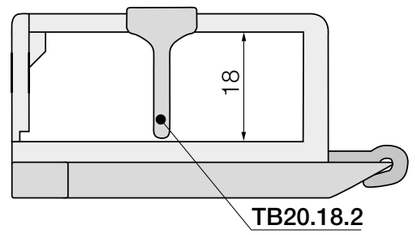
Order key - e-spool® compact

Compact system with a single twisterband with 240mm drum diameter, and 2,000mm maximum extension length, extension right

e-spool® compact | Interior separation



TB20.44.18



twisterband interior separation - separators are delivered unassembled.
Simply pushed onto the openable crossbar. Separators are assembled every 4th e-chain® link.



Separator, for TB20.44.18
unassembled **TB20.18.2**

Interior separation for twisterband

Separators - for installation simply open the e-chain®, insert a cable and press the separator onto the crossbar.



ENERGY
DATA
AIR
LIQUIDS
GUIDANCE
IN ONE SYSTEM

Flexible use:
energy supply in any direction is possible

Locking:
inertia locking function

Flexible energy supply:
for routing of a single cable or hose

Space-saving:
cable retracts neatly when not in use, paths remain free

For applications where only one cable or hose is pulled out manually - e-spool® for manual operation

The manually operated e-spool® is designed for applications where only one cable or hose is pulled out by hand. The operator pulls out the cable to the required length for a control pendant or tool and can be retracted again after use. To prevent the cable from being under tension all the time, an inertia reel is fitted. In this way, the extension length can be locked. An extension length of up to 5m can be insert achieved.

- For applications where one cable or hose is pulled out manually
- Compact, space-saving cable drum without slip ring
- Integrated ratchet to lock/release the retraction (very similar to a vacuum cleaner cable)
- Also suitable for media or air hoses
- Handle with mounting option and strain relief

Typical industries and applications

- Robot teach pendants
- Workstations
- Assembly lines

Retract a single cable or hose compactly

e-spool® with manual operation | With 1 twisterband

Part No. e-spool® with **1 twisterband, extension right**	*hi* [mm]	Travel length ≤ [m]	Weight [kg]
SPC1.300.5000.01.**R**.0	18	5	≈ 12.5

Maximum cable or hose diameters: 12mm

The max. bend radii of 57mm should be observed.

Theatre, stage and lighting technology: the standard e-spool® is not in accordance with the DIN EN 17206 guidelines for stage and theatre operations. If you have questions, please contact your sales representative.

SPC1.300.5000.01.**R**.0

- 1 twisterband
- Drum diameter ø
- Max. extension length
- Version number
- Extension R / L
- Standard colour black

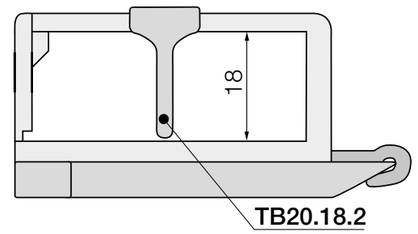
Order key - e-spool® for manual operation

System for manual operation with a single twisterband with 300mm drum diameter and 5,000mm maximum extension length, extension right

e-spool® for manual operation | Interior separation



TB20.44.18



twisterband interior separation - separators are delivered unassembled.
Simply pushed onto the openable crossbar. Separators are assembled every 4th e-chain® link.



Separator, for TB20.44.18
unassembled **TB20.18.2**

Interior separation for twisterband

Separators - for installation simply open the e-chain®, insert a cable and press the separator onto the crossbar.

e-spool® Standard and e-spool® HD | Advantages



Flexible use:
energy supply in any direction is possible

Cost-effective:
HD twisterband enables rotary movement

Flexible energy supply:
guidance of different media in one system

Space-saving:
e-chain® retracts into a compact unit

Flexible use - igus® e-spool® standard and HD

With igus® e-spools®, cables are wound up in an e-chain® to save space. Various media can be supplied without interruption by the use of the twisterband. Adjustments and extensions of the filling are also possible at any time afterwards.

- Flexible energy supply - guidance of different media in one system
- Flexible use - energy supply in any direction is possible
- Cost-effective - twisterband enables rotary movement
- Space-saving - e-chain® retracts into a compact unit
- No tensile strain on the cables
- Cables can be retrospectively added or changed

Typical industries and applications

● Telescopic/retracting applications ● Theatre, stage and lighting technology ● Space-saving alternative to zig-zag solutions

iF product design award
2013 for igus® e-spool®

e-spool® standard | Series SP1·SP2 | Product range

Reduce cable wear and reliably guide different media together in one system

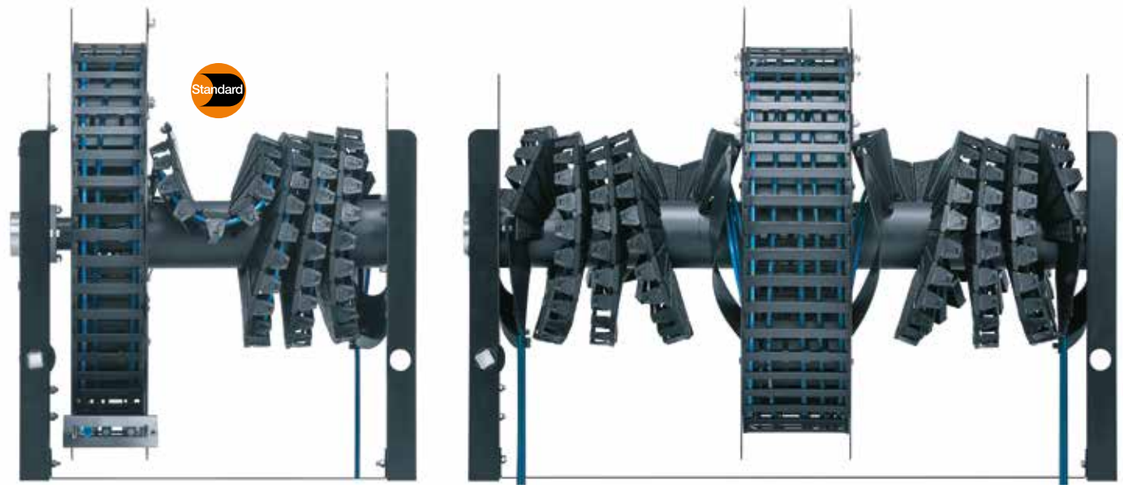


Illustration shows e-spool® standard with 1 and 2 twisterbands

e-spool® standard | With e-chain® and 1 or 2 twisterbands

Part No. e-spool® with **1 twisterband, extension right**	Part No. e-spool® with **1 twisterband, extension left**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	SP1 [kg]
SP1.600.4000.03.**R**.0	SP1.600.4000.03.**L**.0	75	21	4	≈ 33.0
SP1.700.7000.03.**R**.0	SP1.700.7000.03.**L**.0	75	21	7	≈ 38.0
SP1.850.14000.03.**R**.0	SP1.850.14000.03.**L**.0	75	21	14	≈ 48.0

Maximum cable or hose diameters: 17mm

The max. bend radii of 44mm in the inner radius and 77mm in the outer radius should be observed.

Part No. e-spool® with **2 twisterbands, extension right**	Part No. e-spool® with **2 twisterbands, extension left**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	SP2 [kg]
SP2.600.4000.03.**R**.0	SP2.600.4000.03.**L**.0	125	21	4	≈ 40.0
SP2.700.7000.03.**R**.0	SP2.700.7000.03.**L**.0	125	21	7	≈ 45.0
SP2.850.14000.03.**R**.0	SP2.850.14000.03.**L**.0	125	21	14	≈ 55.0

Maximum cable or hose diameters: 17mm

The max. bend radii of 44mm in the inner radius and 77mm in the outer radius should be observed.

Theatre, stage and lighting technology: the standard e-spool® is not in accordance with the DIN EN 17206 guidelines for stage and theatre operations. If you have questions, please get in touch with igus®.

Note: If the e-chain® extension is vertically upwards, igus® recommends the standard e-spool®. For vertical downwards, please use the HD version. For horizontal pull-out direction, the choice of system depends on the application.
To select the right system, please get in touch with igus®.

SP1.600.4000.03.**R**.0

- 1 twisterband
- Drum diameter ø
- Max. extension length
- Version number
- Extension R / L
- Standard colour black

Order key - e-spool® standard

Standard system with a single twisterband with 600mm drum diameter, and 4,000mm maximum extension length, extension right

e-spool® HD | Series SPHD1·SPHD2 | Product range

Reduce cable wear and reliably guide different media together in one system

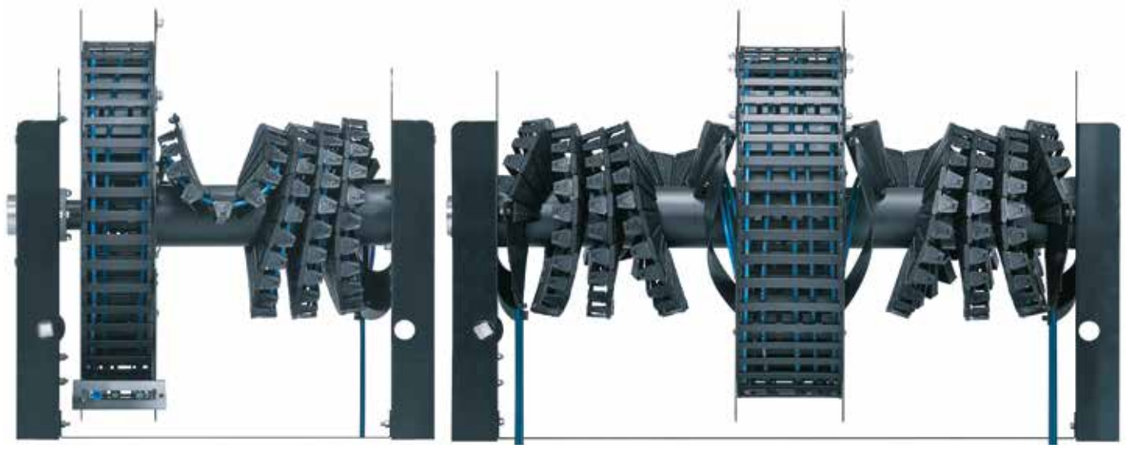


Illustration shows e-spool® HD with 1 and 2 twisterbands

e-spool® HD | With e-chain® and 1 or 2 twisterbands

Part No. e-spool® HD with **1 twisterband, extension right**	Part No. e-spool® HD with **1 twisterband, extension left**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	SP1 [kg]
SPHD1.600.4000.03.**R**.0	SPHD1.600.4000.03.**L**.0	75	21	4	≈ 52.0
SPHD1.700.7000.03.**R**.0	SPHD1.700.7000.03.**L**.0	75	21	7	≈ 56.5
SPHD1.850.14000.03.**R**.0	SPHD1.850.14000.03.**L**.0	75	21	14	≈ 67.0

Maximum cable or hose diameters: 17mm

The max. bend radii of 44mm in the inner radius and 77mm in the outer radius should be observed.

Part No. e-spool® HD with **2 twisterbands, extension right**	Part No. e-spool® HD with **2 twisterbands, extension left**	*Bi* [mm]	*hi* [mm]	Travel length ≤ [m]	SP2 [kg]
SPHD2.600.4000.03.**R**.0	SPHD2.600.4000.03.**L**.0	125	21	4	≈ 59.0
SPHD2.700.7000.03.**R**.0	SPHD2.700.7000.03.**L**.0	125	21	7	≈ 64.0
SPHD2.850.14000.03.**R**.0	SPHD2.850.14000.03.**L**.0	125	21	14	≈ 74.0

Maximum cable or hose diameters: 17mm

The max. bend radii of 44mm in the inner radius and 77mm in the outer radius should be observed.

Theatre, stage and lighting technology: the standard e-spool® is not in accordance with the DIN EN 17206 guidelines for stage and theatre operations. If you have questions, please contact your sales representative.

Note: If the e-chain® extension is vertically upwards, igus® recommends the standard e-spool®. For vertical downwards, please use the HD version. For horizontal pull-out direction, the choice of system depends on the application. To select the right system, please get in touch with igus®.

SPHD2.850.14000.03.**R**.0

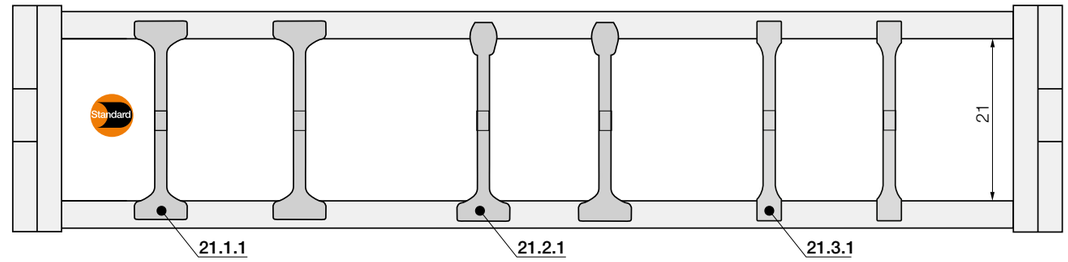
- 2 HD twisterbands
- Drum diameter ø
- Max. extension length
- Version number
- Extension R / L
- Standard colour black

Order key - e-spool® HD

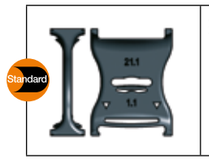
HD system with two twisterbands with 850mm drum diameter, and 14,000mm maximum extension length, extension right

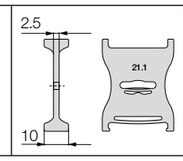
e-spool® standard and e-spool® HD | Accessories

Interior separation



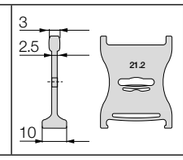
E2/000 interior separation - no lateral gap to side links necessary.
Separators are assembled every 5th e-chain® link.





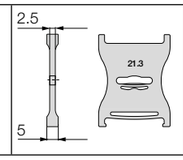
Standard separator, wide base	
unassembled	**21.1**
assembled	**21.1.1**





Separator, narrow top	
unassembled	**21.2**
assembled	**21.2.1**





Separator, narrow	
unassembled	**21.3**
assembled	**21.3.1**

Interior separation for E2/000 e-chains®

Standard - for any application

Separator with a wide base for maximum holding force.

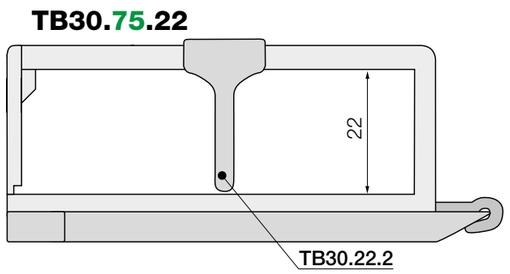
For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

For a large number of thin cables

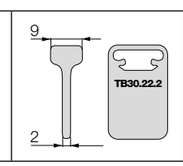
Separator with a narrow base for a large number of thin cables side by side. Saves space.





twisterband interior separation - separators are delivered unassembled.
Simply pushed onto the openable crossbar. Separators are assembled every 4th e-chain® link.



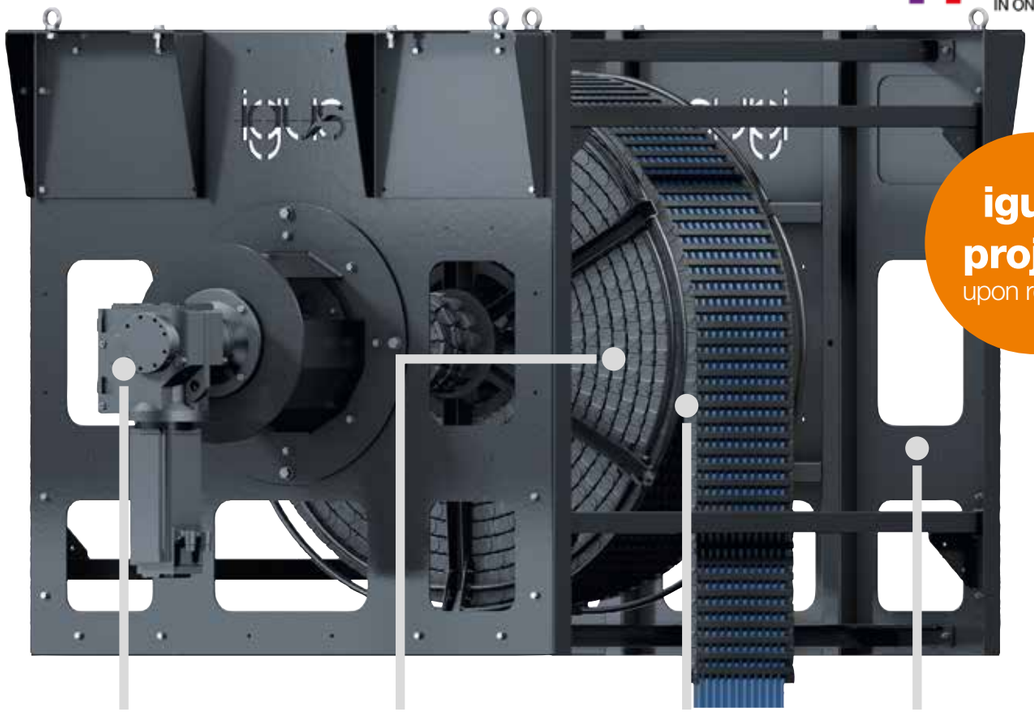


Separator, for TB30.75.22	
unassembled	**TB30.22.2**

Interior separation for twisterband

Separators - for installation simply open the e-chain®, insert a cable and press the separator onto the crossbar. The separators provide a clear, cable-friendly interior separation.

ENERGY
DATA
AIR
LIQUIDS
GUIDANCE
IN ONE SYSTEM



igus® project
upon request

Motor-driven: for extension lengths up to 25m

Flexible energy supply: guidance of different media in one system

Space-saving: e-chain® retracts into a compact unit

Optional control system: plug & play controller, developed by igus®

Motor-driven for long extension lengths - e-spool® power

The e-spool® power is a motor-driven e-spool® for travels of up to 25m. Like all e-spool® systems, it can be filled with various cables and hoses and ensures reliable transmission with no breaks or slip rings. An igus® controller, which adapts dynamically to the travel speed, was specially developed for vertically hanging applications in theatres and opera houses and can be ordered as an option.

- Travel distances up to 25m (longer distances upon request)
- Solid tubular steel construction
- Flexible filling with electrical and fibre optic cables, and pneumatic hoses
- Future-proof, additions and upgrades possible
- No tensile strain on the cables

Typical industries and applications

- Theatre, stage and lighting technology
- Indoor and outdoor cranes

Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact





Solutions for vertical motion

liftband

Cable guidance up to 13m height with limited installation space

Advantages of liftband:

- For high vertical applications that need a compact solution
- Modular, quiet, space-saving; vertical guidance for media, energy and data
- Max. extension length 13m
- Available in 2 sizes
- Alternative to zig-zag solutions, but lighter and requires less installation space
- Vertical applications implemented with ease

When to use another system:

- With very high loads that have to be guided vertically
  ▶ **zig-zag applications, page 127**
- For high dynamics with lateral accelerations
  ▶ **guidelok slimline P, page 1152**



Extended:
secure cable supply up to 13m

Robust drive plate:
for easy attachment to your application

Safe and strong:
nylon straps for secure guidance and high fill weight

Tough:
even with lateral system movements
through "push-button" joint

Light:
lightweight, compact design

Available in 2 sizes:
easy triflex® for easy fitting of cables

Chamfered basket:
for safe operation

Retracted:
safe storage in a solid steel basket

Optimised for space:
compact steel basket for best use of space

Cable guidance up to 13m height with limited installation space - liftband

liftband - modular, quiet, space-saving - vertical guidance of energy, data and media. With the liftband, high vertical applications can be implemented, which have a lot of space available horizontally but only allow for low system heights.

- 2 sizes: inner width 25mm and 32mm
- 2 bend radii: 175mm and 250mm
- Alternative to zig-zag solutions
- Lighter and with reduced installation space
- Vertical applications implemented with ease
- Max. extension length: 13m

Typical industries and applications

- Theatre and stage technology
- Indoor cranes
- Mobile telescopic antennas

Series	Extension height [m]	Inner height *hi* [mm]	Inner width *Bi* [mm]	Bend radius ≤ *R* [mm]	Cable ≤ ø [mm]	Page
						
LB.E332.25 [1]	1 - 13	2 x 13	25	175	ø 9	**1150**
LB.E332.32 [2]	1 - 13	2 x 17	32	250	ø 12	**1150**

liftband -
cable guidance up to 13m height
with limited installation space

1) Simply press cables up to a diameter of 9mm into the e-chain®/pull cables up to a diameter of 11mm into the e-chain®

2) Simply press cables up to a diameter of 12mm into the e-chain®/pull cables up to a diameter of 15mm into the e-chain®

Available from stock. Ready to ship in 3-5 business days

*Average time before the ordered goods are dispatched.

Technical data

Speed	**≤ 1m/s**
Acceleration	**≤ 2m/s²**
Lateral speed	**≤ 1m/s**
Lateral acceleration	**≤ 2m/s²**

Theatre, stage and lighting technology: (the standard e-spool® is not in accordance with the DIN EN 17206 guidelines for stage and theatre operations. If you have questions, please get in touch with igus®.)

liftband | LB.E332.25· LB.E332.32 | Product range

liftband Series LB.E332.25 | e-chain® with "easy" design | Inner width 25mm

Part No. liftband	Extension height [m]	*Bi* [mm]	*hi* [mm]	≤ *R* [mm]	Cable ≤ ø [mm]*
LB.E332.25.2.175.1.01.0	1	25	2 x 13	175	ø 9
LB.E332.25.2.175.2.01.0	2	25	2 x 13	175	ø 9
LB.E332.25.2.175.3.01.0	3	25	2 x 13	175	ø 9
LB.E332.25.2.175.4.01.0	4	25	2 x 13	175	ø 9
LB.E332.25.2.175.5.01.0	5	25	2 x 13	175	ø 9
LB.E332.25.2.175.6.01.0	6	25	2 x 13	175	ø 9
LB.E332.25.2.175.7.01.0	7	25	2 x 13	175	ø 9
LB.E332.25.2.175.8.01.0	8	25	2 x 13	175	ø 9
LB.E332.25.2.175.9.01.0	9	25	2 x 13	175	ø 9
LB.E332.25.2.175.10.01.0	10	25	2 x 13	175	ø 9
LB.E332.25.2.175.11.01.0	11	25	2 x 13	175	ø 9
LB.E332.25.2.175.12.01.0	12	25	2 x 13	175	ø 9
LB.E332.25.2.175.13.01.0	13	25	2 x1 3	175	ø 9

*Simply press cables up to a diameter of 9mm into the e-chain®/pull cables up to a diameter of 11mm into the e-chain®

liftband Series LB.E332.32 | e-chain® with "easy" design | Inner width 32mm

Part No. liftband	Extension height [m]	*Bi* [mm]	*hi* [mm]	≤ *R* [mm]	Cable ≤ ø [mm]*
LB.E332.32.2.250.1.01.0	1	32	2 x 17	250	ø 12
LB.E332.32.2.250.2.01.0	2	32	2 x 17	250	ø 12
LB.E332.32.2.250.3.01.0	3	32	2 x 17	250	ø 12
LB.E332.32.2.250.4.01.0	4	32	2 x 17	250	ø 12
LB.E332.32.2.250.5.01.0	5	32	2 x 17	250	ø 12
LB.E332.32.2.250.6.01.0	6	32	2 x 17	250	ø 12
LB.E332.32.2.250.7.01.0	7	32	2 x 17	250	ø 12
LB.E332.32.2.250.8.01.0	8	32	2 x 17	250	ø 12
LB.E332.32.2.250.9.01.0	9	32	2 x 17	250	ø 12
LB.E332.32.2.250.10.01.0	10	32	2 x 17	250	ø 12
LB.E332.32.2.250.11.01.0	11	32	2 x 17	250	ø 12
LB.E332.32.2.250.12.01.0	12	32	2 x 17	250	ø 12
LB.E332.32.2.250.13.01.0	13	32	2 x 17	250	ø 12

*Simply press cables up to a diameter of 12mm into the e-chain®/pull cables up to a diameter of 15mm into the e-chain®

liftband | Application example



liftband test setup in the igus® test lab



Solutions for vertical motion

guidelok slimline P

Safe vertical guidance

Advantages of guidelok slimline P:

- Up to 7m/s and 10m/s²
- Up to 80% less trough required, saving costs and weight
- For hanging systems up to 50m
- No swinging of the e-chain®, high reliability due to the lock mechanism and guiding rails
- Fast and easy installation
- Reduced noise
- Easy access for servicing
- Energy, data and all kinds of media can be safely guided

When to use another system:

- With very high loads that have to be guided vertically
  ► **zig-zag applications, page 127**
- For high vertical applications with limited space
  ► **liftband, page 1146**



Safe guidance:
even for high travel speeds

Quick assembly:
lightweight glass-fibre reinforced plastic profiles ensure easy and quick installation

Long travels:
travel lengths up to 50m in 1.5m or 2m channel section length possible

No swinging of the e-chain®:
guidelok safety catches the e-chain® even under high lateral accelerations

Safe vertical guidance - guidelok slimline P

In highly dynamic storage and retrieval systems a horizontal movement speed exceeding 7m/s is not uncommon. The advanced igus® guidelok slimline guides e-chains® even at the fastest speeds. Note: Systems of this type should be designed with our engineering team. We can provide a quotation quickly - please contact us.

- Up to 7m/s and 10m/s²
- Up to 80% less trough required, saving costs and weight
- For hanging systems up to 50m
- No swinging of the e-chain®, high reliability due to the lock mechanism and guiding rails
- Fast and easy installation
- Reduced noise
- Easy access for servicing
- Low weight due to plastic construction
- Energy and data and all kinds of media can be safely guided

Typical industries and applications

● Storage and retrieval units ● Lifts ● Elevators ● Construction and crane lifts ● Hoists ● Automatic miniload warehouses

Series	For e-chains® series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Bend radius *R* [mm]	Page
					
GLSL.P.2700.10	2700	35	100	150 - 250	1154

guidelok slimline P -
safe vertical guidance

Special versions with different widths, radii and channel section lengths possible. Delivery time upon request.

Available from stock. Ready to ship in 3-5 business days
*Average time before the ordered goods are dispatched.

Find a video online
▶ www.igus.eu/glslp-movie

Made completely from plastic, cost-effective, light and easy to assemble - guidelok slimline P.S

- Significant savings in cost and weight
- Fast, safe and easy assembly with clip-on guide rails
- Easy access for servicing
- Energy, data and all kinds of media can be safely guided
- Guide hanging applications up to 50m in height

More Information online ▶ www.igus.eu/glsl-ps



guidelok slimline P | Series GLSL.P | Product range

Part No. guidelok P	For series	*Bi* [mm]	*R* [mm]
GLSL.P.2700.10.*R*.LLLL/FFFF	2700	100	| 150 | 175 | 200 | 250 |

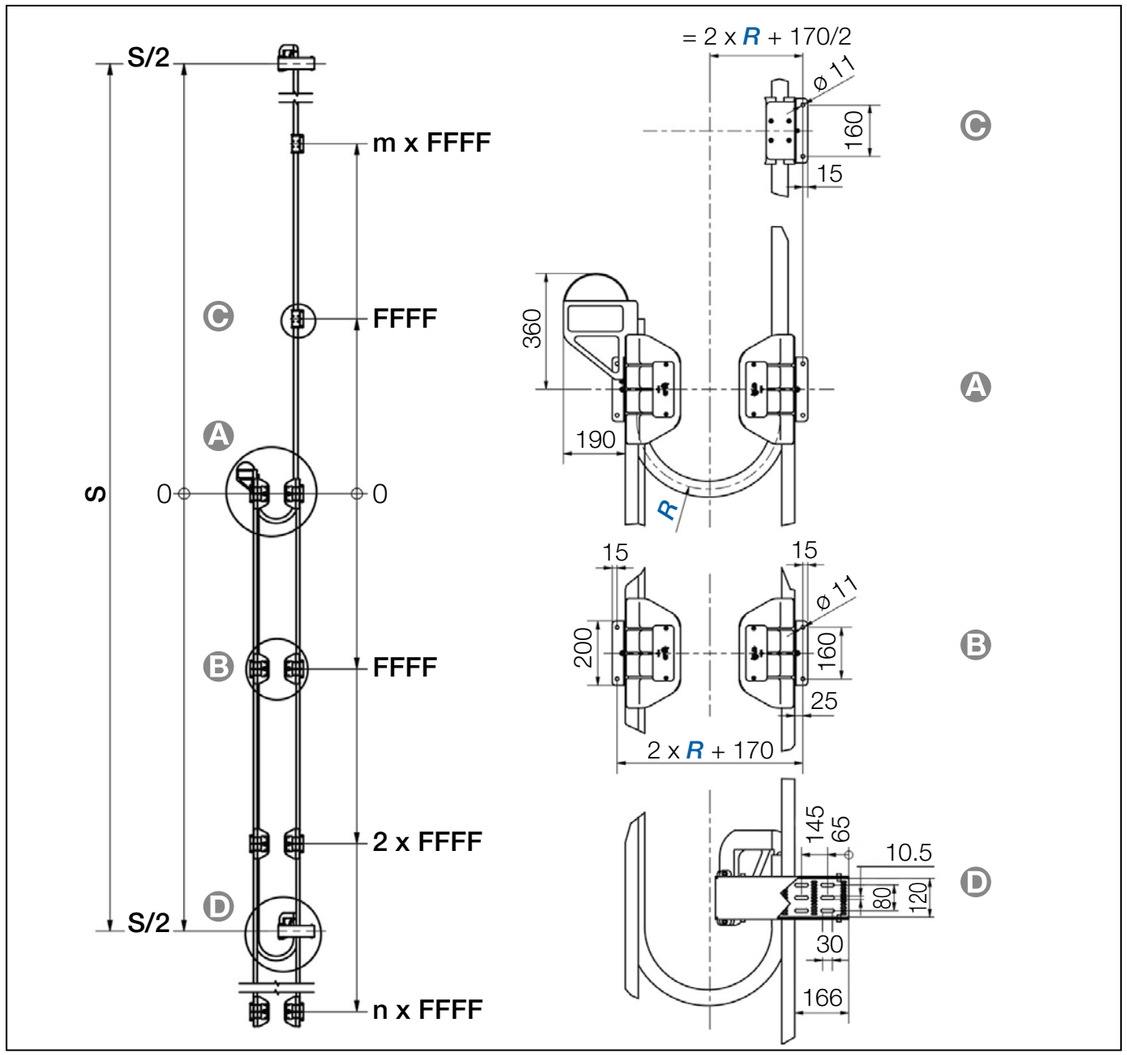
LLLL = Total length **FFFF** = Channel section length

Special versions with different widths, radii and channel section lengths possible. Delivery time upon request.

Complete Part No. with required radius (*R*) and required value for total length and channel section length

Example: **GLSL.P.2700.10.150.9000/1500**

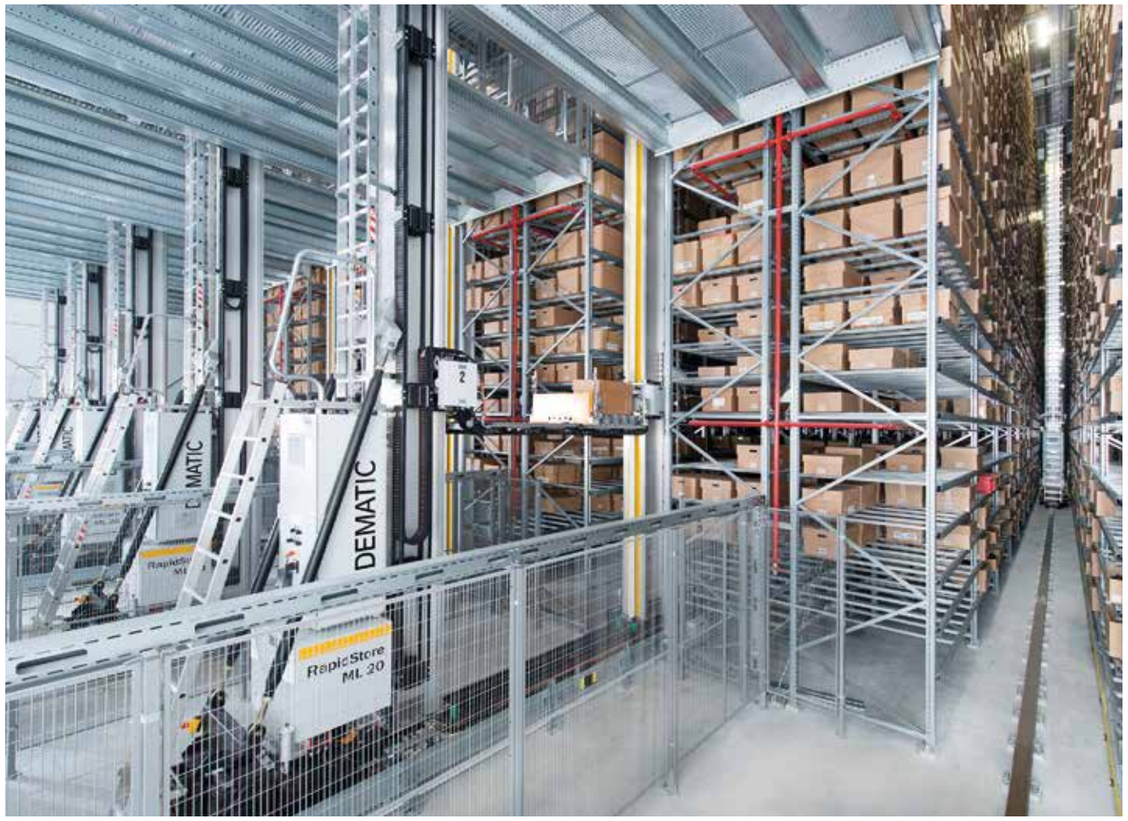
Installation dimensions



guidelok slimline P | Series GLSL.P | Technical data

Technical data

Speed vertical	≤ 7m/s
Acceleration	≤ 10m/s²

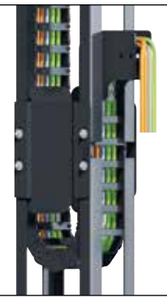


guidelok slimline P in a high-bay warehouse

Cable guidance for vertical applications: lighter, low-noise, easier - lower costs - guidelite GLV

- The "guidelite vertical" (GLV) guide trough guides e-chains® and cables for vertical applications such as high bay warehouse safely in one system
- Segmental design and lightweight components reduce weight and noise
- Open design and self-locking screws facilitate easy assembly
- Significant savings in costs and weight when compared with a complete housing
- Easy access for servicing

More Information online ▶ www.igus.eu/GLV





Solutions for vertical motion

e-loop®

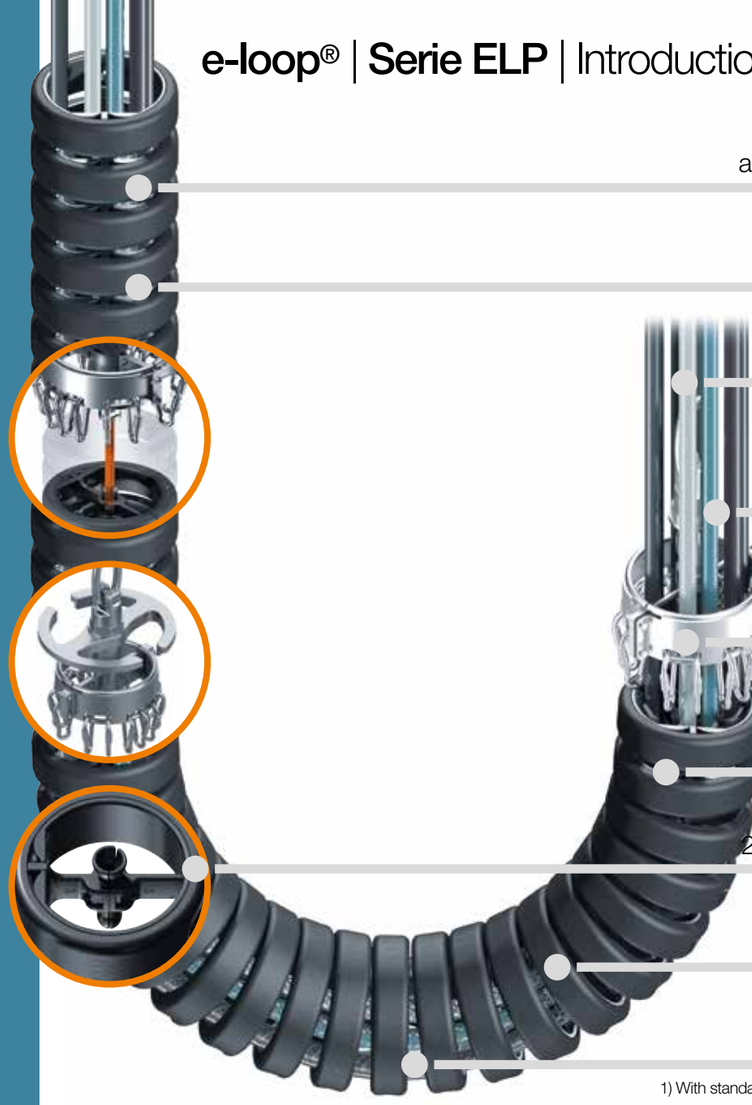
Safe cable guidance for hanging applications- e-loop®

Advantages of e-loop®:

- The e-loop® as an alternative to the service loop - available as a dynamic version with crossbars every link and as a static version with crossbars every 2nd link
- Dynamic e-loop®: for all moving applications, e.g. top drive systems
- Static e-loop®: for purely static cable guidance. Offers the opportunity to combine large cable packages as a single unit, e.g. on oil rigs
- Modular system, easy to open
- Offers operational reliability due to locking tension of all bolted connections
- An optional "drop safe" version is also available, with additional screw locking
- Maximum cable or hose diameters: 108mm
- Protects against impact due to robust PU outer body
- Dirt and weather-resistant
- Easy maintenance
- Robust mounting brackets hook or flange solution for quick and easy installation
- All components are individually replaceable
- Cable-friendly 2- or 4-chamber design interior separation

When to use another system:

- The offshore e-chain® (OSC) is also suitable for extremely high loads that have to be guided vertically
  ► **www.igus.eu/industries-offshore-e-chain**



Modular system:
all components are individually replaceable

Weather- and dirt-proof:
optimal for the offshore industry

Maximum permissible mass [1]:
up to 11 tonnes for ELP.430.01

High operational safety:
screw connection of all elements
and optional screw lock

Tough hook-type mounting brackets:
simple and quick assembly, optionally
available with flange type

Simple and time-saving maintenance:
openable e-loop®, allows cables and
elements can be quickly replaced

Cable-friendly:
2- or 4-chamber design interior separation

Robust PU outer body:
protects against impacts

Defined bend radius:
prevents excessive bending of the cables

1) With standard mounting brackets; higher loads possible with special solutions

Safe cable guidance for hanging applications - e-loop®

To guide cables safely in hanging applications, igus® has developed the e-loop® as an alternative to the service loop - ideally suited for three-dimensional applications. The e-loop® combines the advantages of a plastic energy chain with those of a high-strength pull rope. Inside the e-chain®, the pull rope transfers the tensile force to the hook-type mounting brackets and the structure. The cable package inside the e-loop® thus only carries its own weight. The modular e-chain® made of high-performance polymer always enforces a defined bend radius and easily copes with vibration and impacts.

- The e-loop® as an alternative to the service loop - available as a dynamic version with crossbars every link and as a static version with crossbars every 2nd link, e.g. on the cable routing from the drilling rig down to the drill floor
- Maximum cable or hose diameters: 108mm
- An optional "drop safe" version is also available, with additional screw locking
- Hook-type mounting brackets also optionally available in stainless steel

Typical industries and applications

● Offshore ● Oil and gas industry ● Shore power supply ● Construction machinery ● Wind turbine

Series e-loop®	Inner width *Bi* ø [mm]	Outer width *Ba* ø [mm]	Bend radius *R* [mm]	Max. cable ø [mm]	Total mass max. [1] [t]	Page
 **e-loop®, dynamic, crossbars every link** for all moving applications						
ELP.220.01.D	150	220	380	38	4 [1]	**1164**
ELP.300.01.D	230	300	500	75	7 [1]	**1165**
ELP.430.01.D	360	430	680	108	11 [1]	**1166**
 **e-loop®, static, with crossbars every 2nd link** for purely static cable guidance						
ELP.220.01.S	150	220	175	38	4 [1]	**1164**
ELP.300.01.S	230	300	210	75	7 [1]	**1165**

*1) With standard mounting brackets; higher loads possible with special solutions.

Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Delivery time upon request*
*Average time before the ordered goods are dispatched.

Speed	**≤ 3.0 [m/s]**
Acceleration FL_B	**≤ 2.5 [m/s²]**
Material - permitted temperature °C	**-30°C up to +50°C**

White paper: cable guiding in vertical drilling rigs
A newly developed alternative to the service loops on vertical drilling rigs offers significantly longer service life under extremely tough environmental conditions. In this white paper, you can find among other topics:
● Application areas of the e-loop® ● State of the art for service loops
Download whitepaper ▶ www.igus.eu/e-loop





For ELP.220.01 and ELP.300.01 series, the interior consists of four injection moulded parts. Two of them form the crossbar in the e-chain® link and are screwed on (captively). Due to being screwed connections, they are clamped onto the pull rope



External protectors made of impact absorbing PU protector material ensure that the e-chain® and the cables are protected when hard impacts occur



The individual e-chain® links are clamped onto the high-strength pull rope. The plastic-fibre rope absorbs the entire tensile force of e-loop®



Tough hook-type mounting brackets, optionally with flange design. The plastic-fibre rope, which absorbs the entire tensile force of the e-loop®, is an integral part of the brackets

e-loop® with rollers and handles

To facilitate the movement of cable packages across the floor, the e-loop® can be additionally equipped with rollers. In addition, handles can be installed on the e-chain® links, in combination with the rollers. This additionally facilitates movement of the e-loop®, e.g. over quays in ports.

Upon request - more information online ▶ www.igus.eu/e-loop



Strongest e-chain® - double-protected - flexible - offshore e-chain® OSC

- For the toughest conditions - when safety, long life and harsh environmental influences are decisive criteria for the function of the system
- The OSC series combines the advantages of a plastic e-chain® with those of a high-strength pull rope, which is guided in both e-chain® links
- Modular system, easy to open if required
- All components are individually replaceable
- Interior separation can be individually adapted to project and cable package

More Information online ▶ www.igus.eu/offshore-chain-osc





The e-loop® is used for cable guidance on the top drive of a drilling rig. Compared to conventional service loops, the igus® e-loop® is a compact system that bundles all cables and hydraulic hoses, but also enables the simple replacement of individual cables and elements. This minimises maintenance costs and maximises the operating time of the system



The e-loop® is used in a bucket wheel excavator made by Holcim (Germany) GmbH. The modular system made of high-performance plastic always enables a defined bend radius and can handle vibration and impacts. Instead of the planned eight hours of installation time, work with the e-loop® was completed after just four hours

e-loop® | Series ELP.200 | Product range

For a maximum permissible mass of up to 4 tonnes [1)]

150



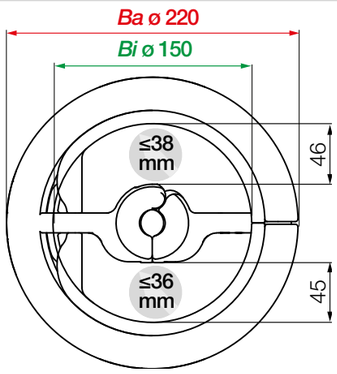
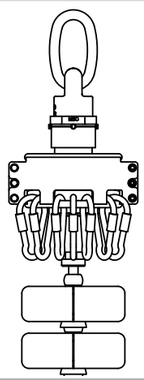
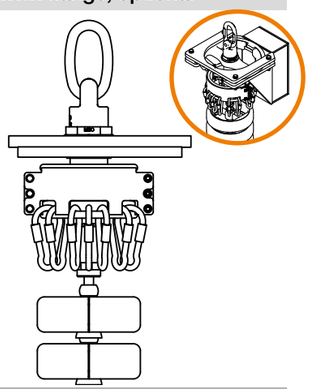
ELP.220.01.D | Crossbars every link, dynamic - for all moving applications
ELP.220.01.S | With crossbars every 2nd link, static - for purely static cable guidance

Part No.	*Bi*	*Ba*	*R*	≤ *d*	Weight
e-loop®	ø [mm]	ø [mm]	[mm]	[mm]	[kg/m]
ELP. 220. 01.**D**	150	220	380	38	≈ 18.0
ELP. 220. 01.**S**	150	220	380	38	≈ 11.0

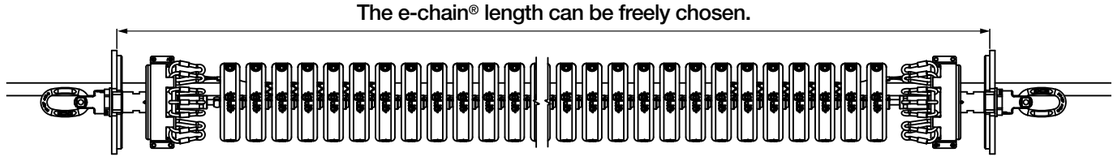
1) With standard mounting brackets; higher loads possible with special solutions

This type of system should be designed in conjunction with our engineering team.

Installation dimensions | Overview

2-chamber design interior separation	Standard fastening: hook-type mounting bracket **without** flange	Special solution: hook-type mounting bracket **with** flange, optional
		

The e-chain® length can be freely chosen.



All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

e-loop® | Series ELP.300 | Product range

For a maximum permissible mass of up to 7 tonnes [1)]

230



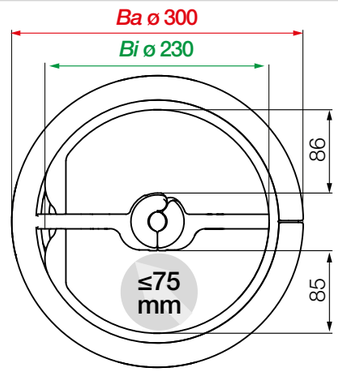
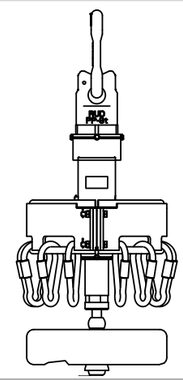
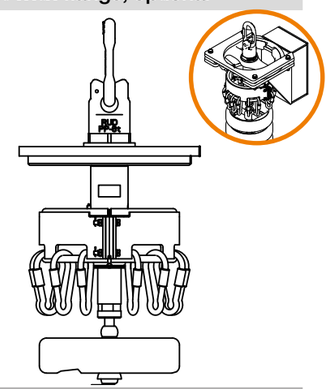
ELP.300.01.D | Crossbars every link, dynamic - for all moving applications
ELP.300.01.S | With crossbars every 2nd link, static - for purely static cable guidance

Part No.	*Bi*	*Ba*	*R*	≤ *d*	Weight
e-loop®	ø [mm]	ø [mm]	[mm]	[mm]	[kg/m]
ELP. 300. 01.**D**	230	300	500	75	≈ 22.0
ELP. 300. 01.**S**	230	300	500	75	≈ 13.0

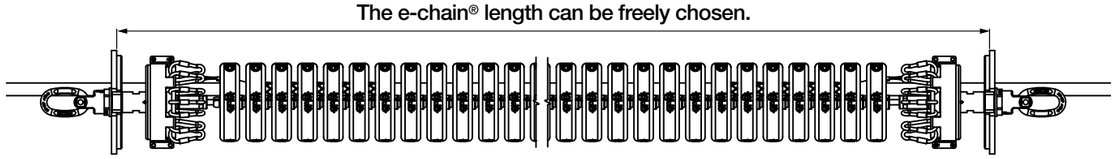
1) With standard mounting brackets; higher loads possible with special solutions

This type of system should be designed in conjunction with our engineering team.

Installation dimensions | Overview

2-chamber design interior separation	Standard fastening: hook-type mounting bracket **without** flange	Special solution: hook-type mounting bracket **with** flange, optional
		

The e-chain® length can be freely chosen.



All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

e-loop® | Series ELP.430 | Product range

For a maximum permissible mass of up to 11 tonnes [1)]

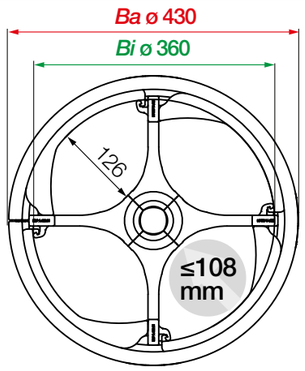
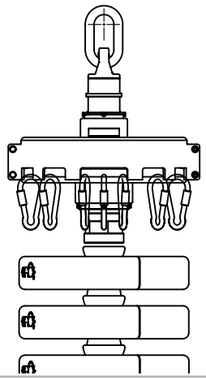
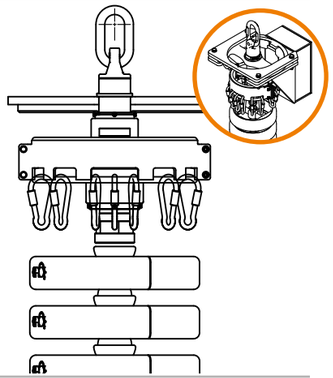


ELP.430.01.D | Crossbars every link, dynamic - for all moving applications

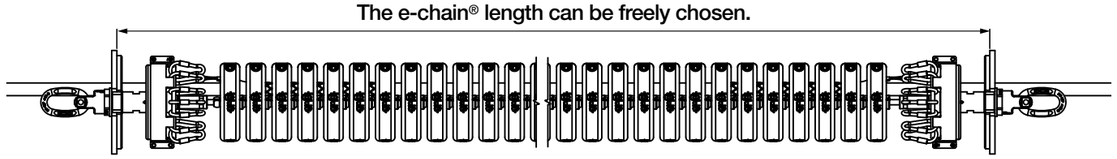
Part No.	Bi	Ba	R	≤ d	Weight
e-loop®	ø [mm]	ø [mm]	[mm]	[mm]	[kg/m]
ELP. 430. 01.D	360	430	XXX	108	≈ 30.0

This type of system should be designed in conjunction with our engineering team.

Installation dimensions | Overview

4-chamber design interior separation	Standard fastening: hook-type mounting bracket **without** flange	Special solution: hook-type mounting bracket **with** flange, optional
		

The e-chain® length can be freely chosen.



All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

e-loop® | ELP | Load and break test

igus® performs application-specific tests in the in-house laboratory



igus® offers the e-loop® as a fully harnessed readychain® solution with cables and connectors. Everything from one source including system guarantee



Load test of e-loop®

Continuous test of a completely harnessed e-loop® with cable filling for 500t top drive. The test is carried out in the open air with all environmental influences as well as simulation of wind and vibration. **Result**: The test has run 150,000 double strokes. All influences due to weather do not affect the functionality of the e-loop®. Side impacts, bumps or vibration do not bother the e-loop®.



Break test of the e-loop®

Test setup: the e-loop® is dropped from a height of 10 metres onto a safe and hits with full force. **Result**: The test proves that the e-loop® withstands the impact without problems; its design is resistant to shocks and is shatterproof.

Both videos online
▶ www.igus.eu/e-loop



e-loop® assembly instructions - find out how to assemble the e-loop® with and without cables ▶ www.igus.eu/e-loop

igus 3D CAD, configurators, service life calculators and more ▶ www.igus.eu/e-loop



Solutions for horizontal motion

guidelok horizontal

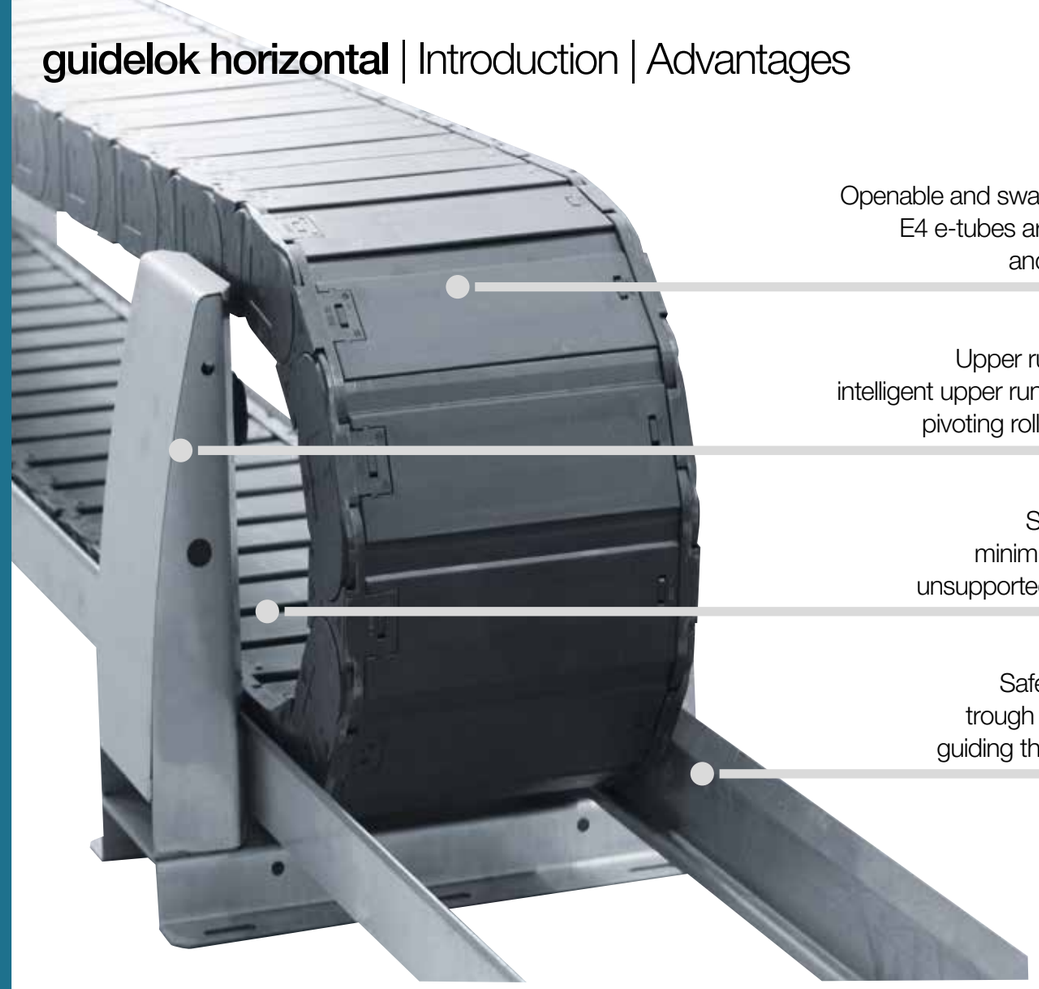
Upper run guide for long travels, unsupported in swarf areas

Advantages of guidelok horizontal:

- Swarf cannot get stuck between upper and lower run
- Modular system with few parts (also possible without lateral trough)
- Lower cost than most steel chains or gliding systems
- Open guide trough design, swarf can fall through

When to use another system:

- For a cost-effective and fully enclosed complete solution
  ► **basic flizz®, page 1174**
- For a compact, quiet and cost-effective complete system as a maintenance-free alternative to a busbar
  ► **micro flizz®, page 1182**



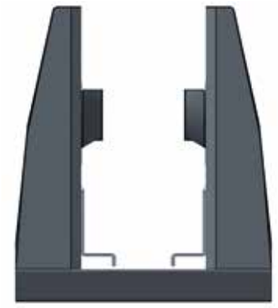
Upper run guide for long travels, unsupported in swarf areas - guidelok horizontal

Especially for long travels on machine tools, when the e-chain® would normally need to glide but metallic swarf is a problem. guidelok horizontal is a cost-effective solution.

- Unsupported travel lengths up to 50m are possible
- Swarf cannot get stuck between upper and lower run
- Modular system with few parts (also possible without lateral trough)
- Enormous increase of unsupported lengths for e-chains®
- Lower push/pull forces (smaller e-chains®, unsupported and rollers = energy-efficient)
- Lower cost than most steel chains or gliding systems
- Open guide trough design, swarf can fall through

Typical industries and applications

● Machine tools ● Heavy swarf environments ● Wherever a gliding application is not advisable

Series Part No.	For e-chain® series	For bend radii from - up to *R* [mm]	Page
	**guidelok horizontal -** upper run guide for long travels, 2 options (depending on the bend radius)		
907.645.	● E4.56/R4.56 ● E4.80/R4.80 ● E4.120/R4.120	150 - 300	**1172**
907.837.	● E4.56/R4.56 ● E4.80/R4.80 ● E4.120/R4.120	350 - 500	**1172**

Material: galvanised steel

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Technical data

Speed horizontal	**≤ 1m/s**
Acceleration	**≤ 5m/s²**



guidelok - swarf-proof and unsupported over long travels, more cost-effective than most steel chains or complex gliding systems

guidelok horizontal | Product range | Installation dimensions

Product range | Series 907.645 | For bend radii up to 300mm

Part No. guidelok	For E4.1 series	*Bi* [mm]	*R* Available bend radii [mm]
907.645.*Bi*.*R*.LLLL/FFFF	E4.56	50 - 600	| 150 | 175 | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	E4.80	50 - 600	| 150 | 175 | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	E4.112	50 - 600	| – | – | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	R4.56	75 - 462	| 150 | 175 | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	R4.80	150 - 462	| – | 175 | 200 | 250 | 300 |
907.645.*Bi*.*R*.LLLL/FFFF	R4.112	200 - 500	| – | – | – | 250 | 300 |

More series and radii upon request. Delivery time upon request.

LLLL = Total length **FFFF** = Channel section length

Complete Part No. with required value for total length and channel section length. Example: **907.645.200.300.20000/2000.0**

Product range | Series 907.837 | For bend radii from 350 up to 500mm

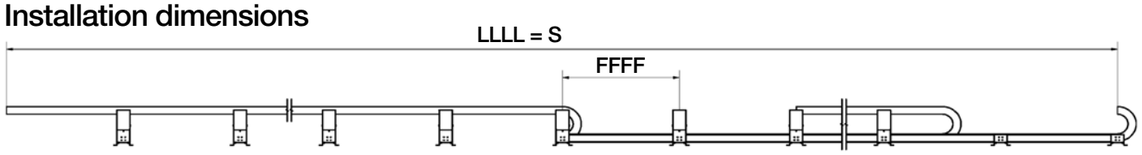
Part No. guidelok	For E4.1 series	*Bi* [mm]	*R* Available bend radii [mm]
907.837.*Bi*.*R*.LLLL/FFFF	E4.56	200 - 600	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	E4.80	200 - 600	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	E4.112	200 - 600	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	R4.56	200 - 462	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	R4.80	200 - 462	| 350 | 400 | 450 | 500 |
907.837.*Bi*.*R*.LLLL/FFFF	R4.112	200 - 500	| 350 | 400 | 450 | 500 |

More series and radii upon request. Delivery time upon request.

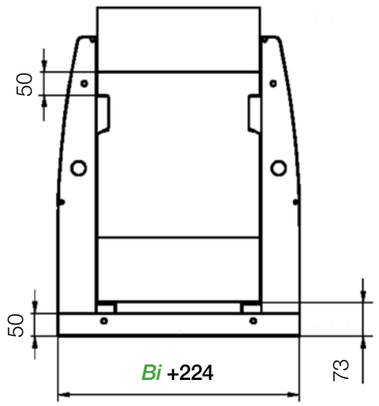
LLLL = Total length **FFFF** = Channel section length

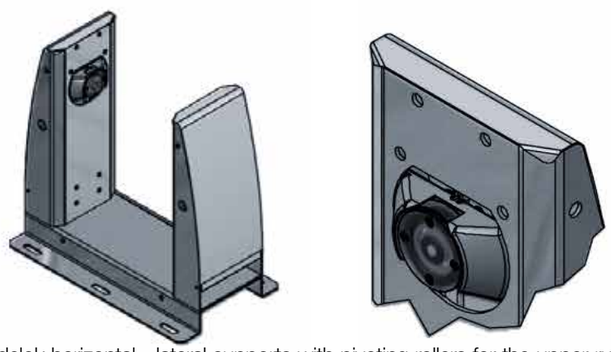
Complete Part No. with required value for total length and channel section length. Example: **907.645.200.300.20000/2000.0**

Installation dimensions



guidelok horizontal, principle sketch: **LLLL** = Total length / **FFFF** = Channel section length





guidelok horizontal - lateral supports with pivoting rollers for the upper run support of the e-chain®

guidelok horizontal | Design principle

Design principle - horizontal guidelok guides the e-chain® on special spring loaded roller supports, that are pushed back by the e-chains® radius



The e-chain® is guided in the trough channel, pushing back the spring loaded roller supports with its radius ...

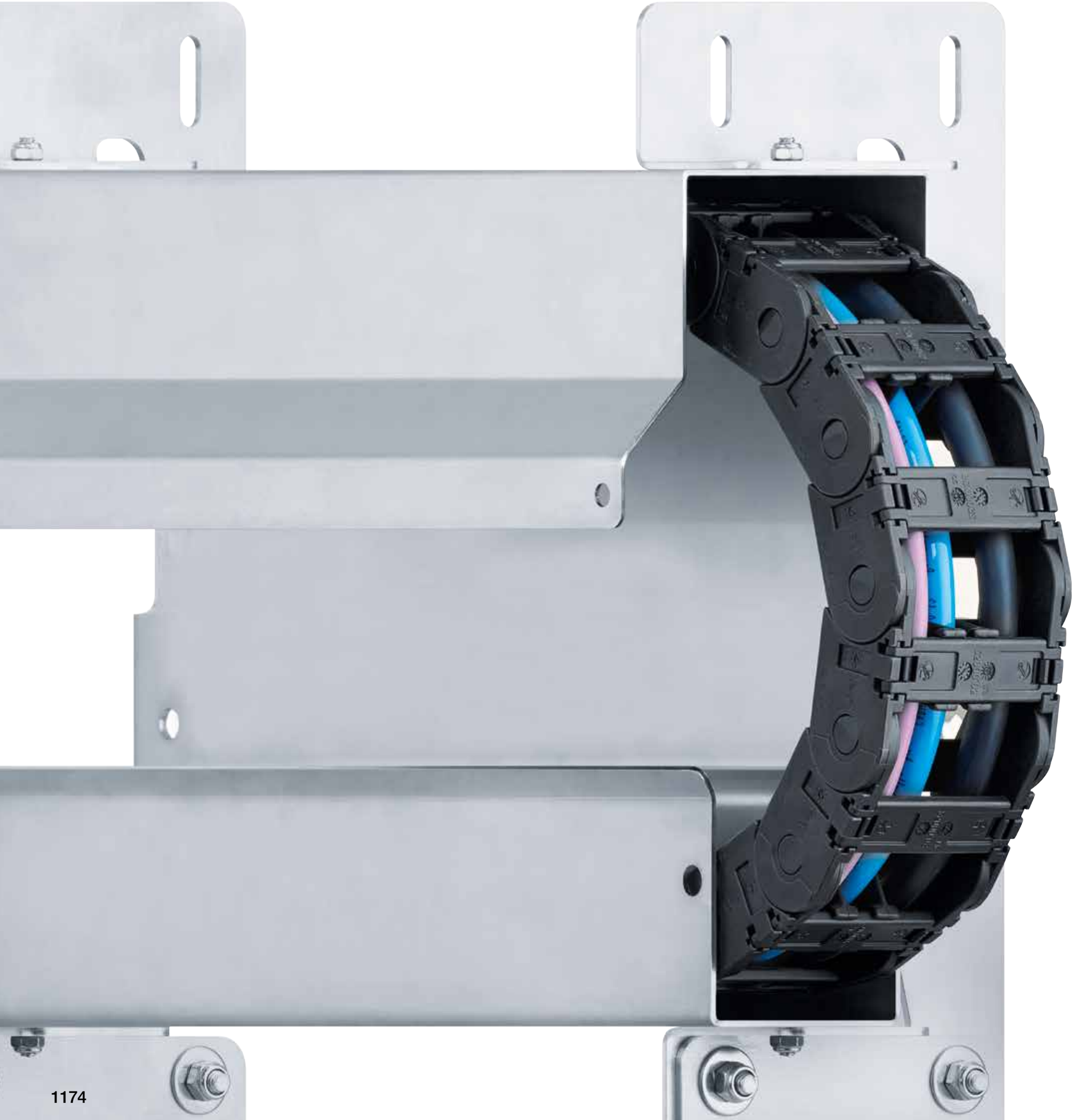


... roller supports pivot in and out again after the radius ...



... the upper run then lays on the roller support

Find a video online
▶ www.igus.eu/glhr-movie



Solutions for horizontal motion

basic flizz®

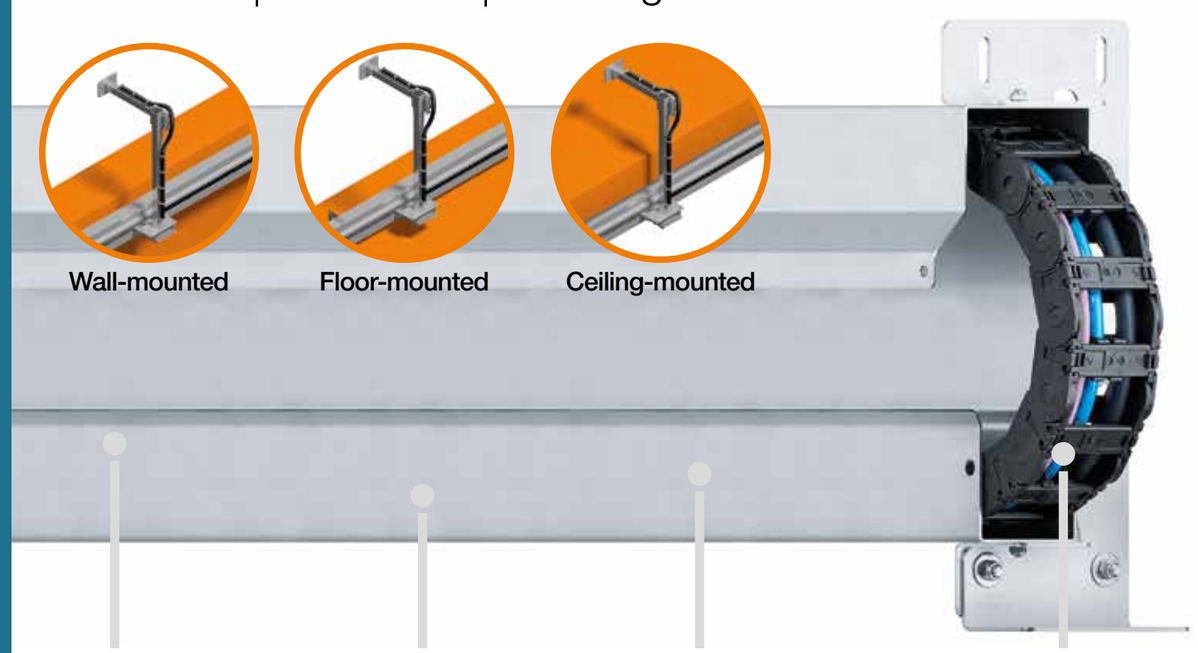
Cost-effective, enclosed solution for long travels, e.g. waste-water treatment plants

Advantages of basic flizz®:

- Protection against weather and dirt exposure
- Low-maintenance system
- Cost-effective, fully enclosed complete system
- Standardised and modular design
- Easy wall, floor or ceiling mounting options
- Cables or hoses can be easily retrofitted as required
- Reduce power costs - directly driven by the scraper
- No additional drives needed (as is the case on cable reels)

When to use another system:

- For an upper run guide for long travels, unsupported in swarf areas
  ► **guidelok horizontal, page 1168**
- For a compact, quiet and cost-effective complete system as a maintenance-free alternative to a busbar
  ► **micro flizz®, page 1182**



Safe guidance: guide rail integrated into the profile

Modular design: easy assembly, compact construction

Protected: weather-resistant stainless steel enclosure

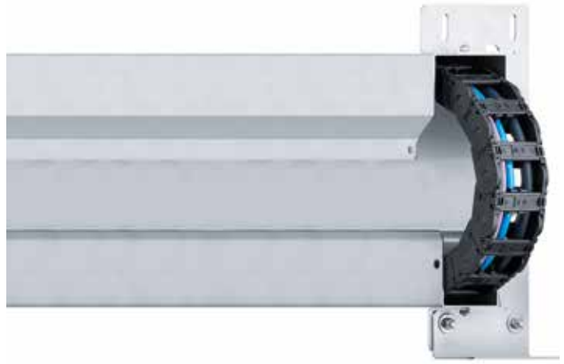
Save time: openable e-chain®

Cost-effective, enclosed solution for long travels, e.g. waste water treatment plants - basic flizz®

- Low-maintenance system for travel lengths up to 100m
- Protection against weather and dirt exposure
- Cost-effective, fully enclosed complete system
- Standardised and modular design
- Easy installation using a bracket with different mounting options
- Cable lengths up to 50% shorter than festoons, low-profile installation
- Cables are guided with a defined bend radius so tensile forces are absorbed by the e-chain®
- Cables cannot tangle or get damaged
- No slip ring contact (as with cable reels)
- Cables or hoses can be easily retrofitted as required
- Reduce power costs - directly driven by the scraper. No additional drives needed (as is the case on cable reels)
- Optionally available moving end arm (e.g. as mechanical connection for scraper trolley)
- Available in 2 sizes, each also available in HD version for even higher push/pull forces
- 3500 v2 and 3500 HD optionally available as rol e-chain® for travel lengths up to 200m and more

Typical industries and applications

● Wastewater and sewage treatment works (longitudinal scrapers, sand/grease traps) ● Electroplating facilities ● Cranes ● Plant construction ● River locks

Series Part No.	For e-chains® series	Outer height [mm]	Support gap [m]	Travel length ≤ [m]	Page
		**basic flizz® 2500 v2 and 2500 HD** weather-resistant, fully enclosed complete solution			
2500 v2	2500.05.100.0	408	3	100	**1178**
2500 HD	E4.28.052.100.0	408	3	100	**1178**
HD version for even higher push/pull forces					
Appropriate e-chain® must be ordered separately.					
		**basic flizz® 3500 v2 and 3500 HD** weather-resistant, fully enclosed complete solution for higher push/pull forces and fill weight			
3500 v2	3500.115.125.0 / 3500R.115.125.S10.0.E	618	3	150	**1179**
3500 HD	E4.42.11.150.0 / 3838CR.11.150.S10.0.E	618	3	150	**1179**
HD version for even higher push/pull forces					
Appropriate e-chain® must be ordered separately.					
Standard material: AISI 304 stainless steel, material 1.4301 (AISI 304). Option: galvanised steel or AISI 316L stainless steel, material 1.4404 (AISI 316L)					

2500 v2 / 2500 HD - available from stock. Ready to ship in 3-5 business days.*
3500 v2 / 3500 HD - ready to ship in 3 weeks*

*Average time before the ordered goods are dispatched.

QuickCad - 3D CAD configurator for basic flizz®

- Generate basic flizz® as a 3D model quickly and easily
- Fast download of the CAD data without registration
- Select installation version, infeed and operating direction
- Parts list generation and PDF data sheet of the application

More information ▶ www.igus.eu/basic-flizz

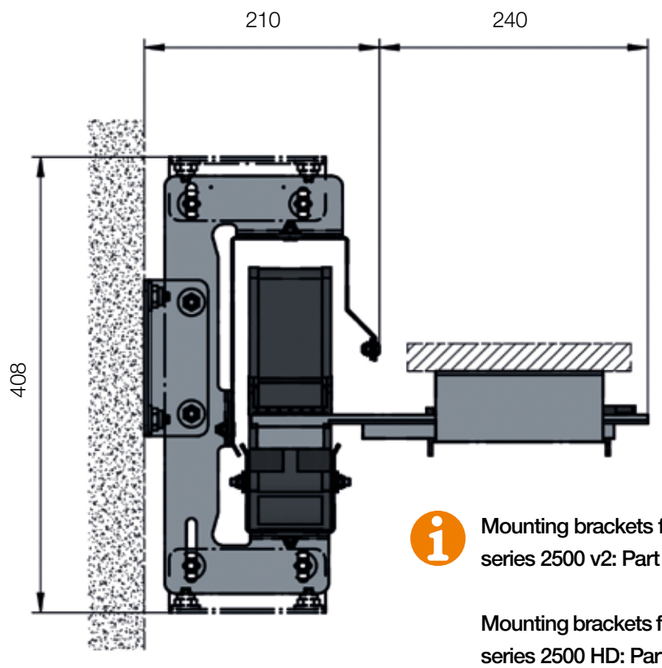


basic flizz® product range | Series 2500 v2 | Series 2500 HD

Description	Part No. basic flizz® 2500 v2	Part No. basic flizz® 2500 HD
Trough module without glide bar	**IE31.3134.E**	**IE31.3134.E**
Trough module fixed end at the joint	**IE31.3135.E**	**IE31.3220.E**
Trough module fixed end at the centre	**IE31.3136.E**	**IE31.3222.E**
Trough module with glide bar	**IE31.3137.E**	**IE31.3137.E**
Trough module with glide bar and tie wrap plate	**IE31.3217.E**	**IE31.3217.E**
Installation set v2	**IE31.3138.E**	**IE31.3138.E**
Floating moving end	**IE20.2500.05.ST.05.E**	**IE20.2500.05.ST.05.E**
Moving arm ► **please also see page 1180**	**IE31.2316.E**	**IE31.2316.E**

Standard material: 304 stainless steel, material 1.4301 (AISI 304). Option: galvanised steel or 316L stainless steel, material 1.4404 (AISI 316L)

basic flizz® installation dimensions | Series 2500 v2 | Series 2500 HD



Mounting brackets for e-chain® 2500 basic flizz® series 2500 v2: Part No. 2500.34PZB.A2

Mounting brackets for e-chain® E4.28 basic flizz® series 2500 HD: Part No. 916.809.1.052.VS.E.A2

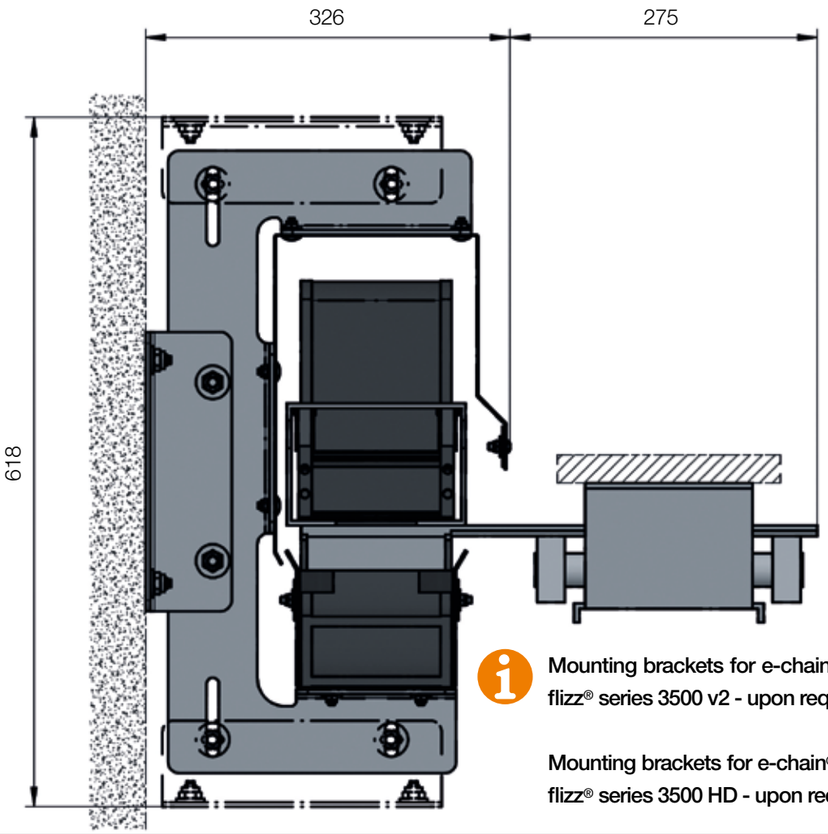
basic flizz® product range | Series 3500 v2 | Series 3500 HD

Description	Part No. basic flizz® 3500 v2*	Part No. basic flizz® 3500 HD*
Trough module without glide bar	**IE31.3946.E**	**IE31.3946.E**
Trough module fixed end at the joint	**IE31.3947.E**	**IE31.3947.E**
Trough module fixed end at the centre	**IE31.3948.E**	**IE31.3948.E**
Trough module with glide bar	**IE31.3949.E**	**IE31.3949.E**
Trough module with glide bar and tie wrap plate	**IE31.3951.E**	**IE31.3951.E**
Installation set v2	**IE31.3950.E**	**IE31.3950.E**
Floating moving end	**IE20.3500.115.ST.01.E**	**IE20.3500.115.ST.01.E**

*3500 v2 / 3500 HD - ready to ship in 3 weeks.

Standard material: 304 stainless steel, material 1.4301 (AISI 304). Option: galvanised steel or 316L stainless steel, material 1.4404 (AISI 316L)

basic flizz® installation dimensions | Series 3500 v2 | Series 3500 HD



Mounting brackets for e-chain® 3500 basic flizz® series 3500 v2 - upon request

Mounting brackets for e-chain® E4.42 basic flizz® series 3500 HD - upon request

Series 2500 v2·2500 HD | Adjustable moving arm



In addition to the floating moving end of the basic flizz® 2500 v2 and 2500 HD, igus® offers a modular and adjustable moving end arm for easy installation onto the existing structure

basic flizz® | Application examples



basic flizz® fully enclosed complete solution



Sand trap with telescopic igus® moving end arm - travel 19m



Longitudinal scraper, mounted in the basin, sewage treatment plant in Plauen, Germany - travel 53m



Sewage treatment plant in Volmetal, Germany - travel 26m



Sand traps, sewage plant in Bamberg (Germany) - travel 26m



Solutions for horizontal motion

micro flizz®

Guide energy, data, air and liquids together in ONE compact system

Advantages of micro flizz®:

- Compact, quiet, cost-effective complete system as a maintenance-free alternative to a busbar
- e-chain® is guided in special slots, no gliding
- Smooth running due to ball bearings in the guide carriages
- Fast assembly due to pre-configured, modular system
- Low space requirement
- Also available as pre-assembled system
- Easy to clean, hardly any abrasion

When to use another system:

- For an upper run guide for long travels, unsupported in swarf areas
  ▶ **guidelok horizontal, page 1168**
- For a cost-effective and fully enclosed complete solution
  ▶ **basic flizz®, page 1174**



Easy connection:
easy and versatile mounting options due to T-grooves

Unsupported:
winglets hold the e-chain® securely in the guide channel

Secure:
integrated strain relief within the guide carriage

Maintenance-free:
aluminium channel and lubrication-free plastic e-chain®

Supplying energy, data and fluids in ONE compact system - micro flizz®

Maintenance-free, compact, quiet and cost-saving complete system - the alternative to the busbar system.
For the safe guidance of energy, data, air and liquids in ONE system.

- Easy to clean
- No particle pollution due to abrasion
- Quiet, lubrication-free, and easy to install
- Operating speeds of up to 6m/s in high accelerations
- Data rates of up to 10Gbit/s. Safely guides FOC and bus cables
- Travel lengths of up to 100m
- Can be installed horizontally and vertically
- Low space requirement
- 3 sizes available

Typical industries and applications

● Storage and retrieval equipment ● Indoor cranes ● Industrial gates ● Workstations ● Wastewater and sewage treatment plants ● Camera systems ● Sliding doors ● Operator panels ● Measure systems ● Studio equipment ● Material handling equipment

Find a video online
▶ **www.igus.eu/MF-movie**

iF product design award
2006 for igus® micro flizz®

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
							
micro flizz® MF.06 unsupported e-chain® in an aluminium profile							
MF.06.10.018	11	10	19	17	018	30	**1188**
							
micro flizz® MF.08 unsupported e-chain® in an aluminium profile							
MF.08.18.035	13	18	29	21	035	50	**1189**
							
micro flizz® MF.10 unsupported e-chain® in an aluminium profile							
MF.10.50.075	20	50	63	27.5	075	100	**1190**

Available from stock. Ready to ship in 48 - 72hrs.*
*Average time before the ordered goods are dispatched.

Technical data, dynamic values

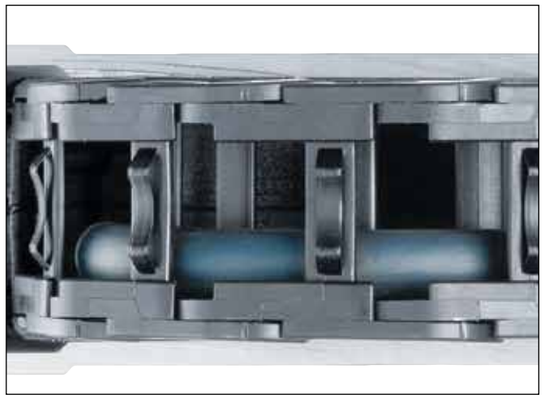
Series	Speed ≤ [m/s]	Acceleration ≤ [m/s²]
MF.06.10.018	6	20
MF.08.18.035	6	30
MF.10.50.075	6	50



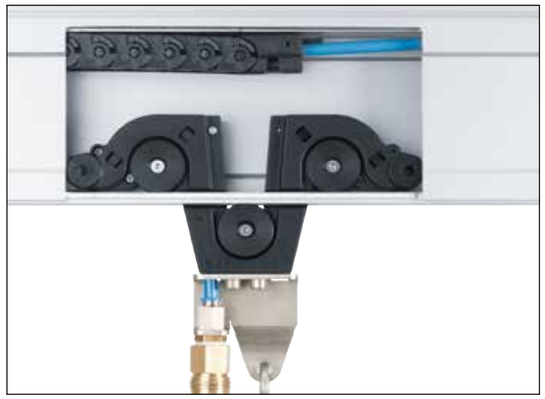
Separated upper and lower run. Running through the radius, integrated winglets fold in. The e-chain® glides freely



Folding out after coming out of the radius, the e-chain® is held securely in the micro flizz® guide channel

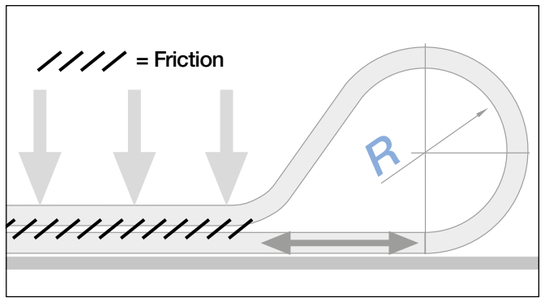


Plastic spring dampens the rolling noise of the e-chain® in the flizz® channel

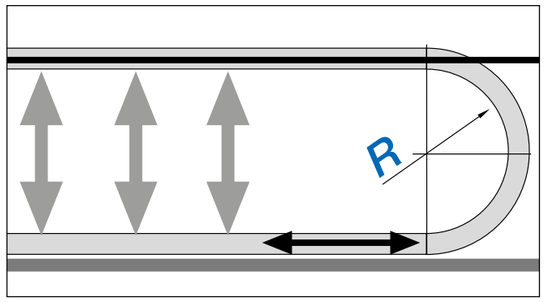


igus® micro flizz® accessory - moving-end connection for compressed air coupling

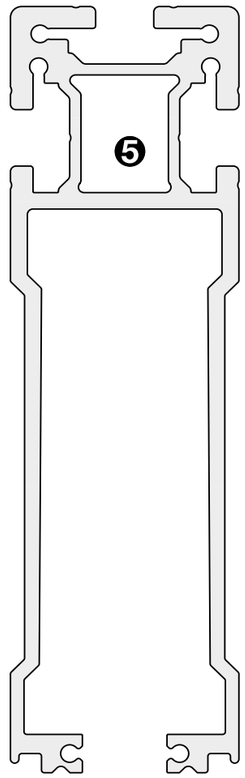
Special feature of the micro flizz® design



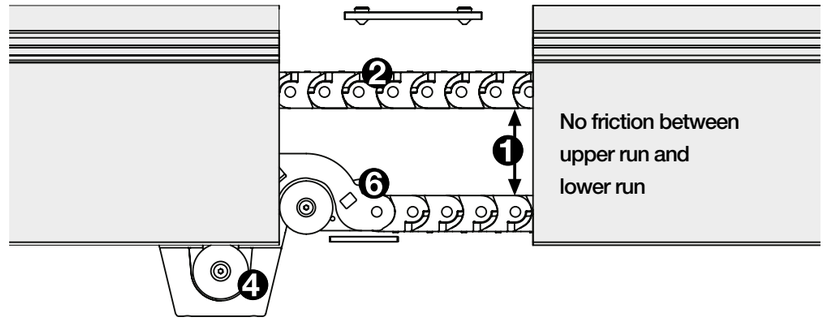
Before: Moving lower run, gliding mode. Long travels need larger, stronger e-chains®

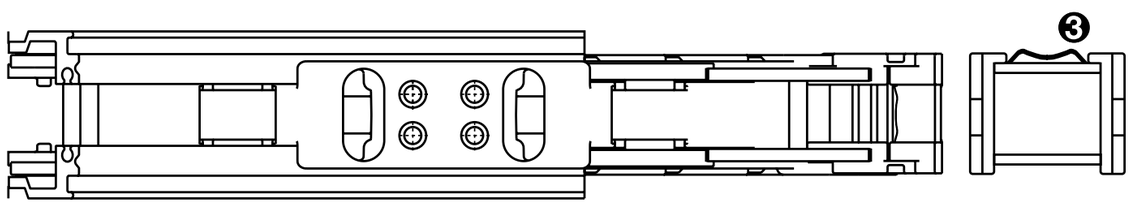


Today micro flizz®: Small e-chains® self-guiding in the guide channel. Compared to the conventional system, friction has been reduced by a factor of 3



❶ The upper run and lower run of the flizz® e-chain® are separated from each other, which means less friction and less energy used when the e-chain® moves
❷ Winglets hold the e-chain® securely in the guidance channel
❸ Plastic springs cause the e-chain® to roll along gently in the flizz® channel, as a result noise is significantly reduced
❹ Integrated strain relief in the guide carriage for secure fixation of the cables
❺ Universal connection possible due to three T-slots
❻ Attachment of the e-chain® by roller carriage on the moving end
❼ Reverse travel: double filling or two independent travels possible





chainflex® special cables for micro flizz®

For the micro flizz® system, igus® has many suitable, highly-flexible special chainflex® cables for dynamic applications, available from stock! **More information ▶ www.igus.eu/chainflex**



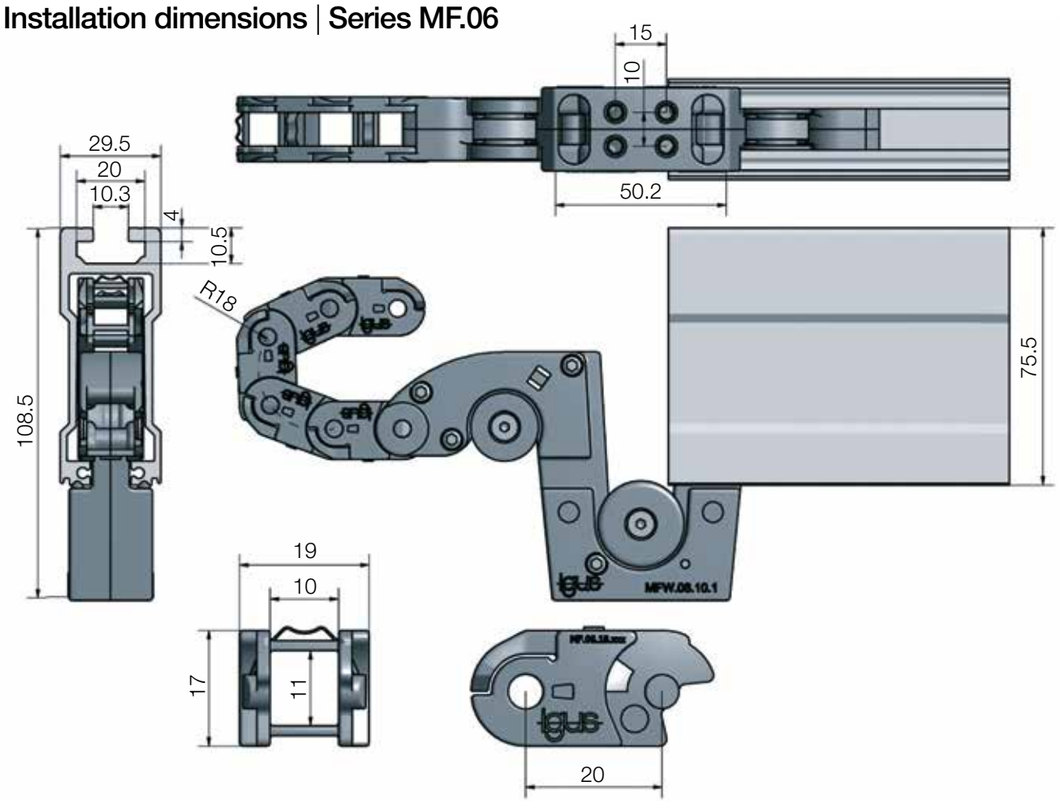


e-chain® visible for illustration only

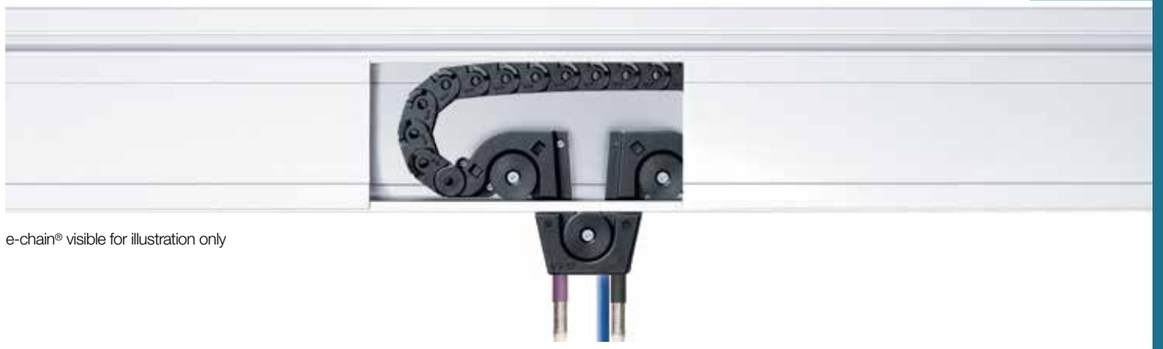
micro flizz® | Series MF.06 | Product range

Part No.	*Bi*	*Ba*	*hi*	*ha*	*R* Bend radius
Series	[mm]	[mm]	[mm]	[mm]	[mm]
MF.06.10.018	10	19	11	17	| 018 |

Installation dimensions | Series MF.06



Installation height complete system	**108.5mm**
Installation width complete system	**29.5mm**
Recommended length channel pieces (die-cast aluminium material)	**2.0m / 3.0m / 6.0m**
Cable diameter	**Max. ø 8mm**

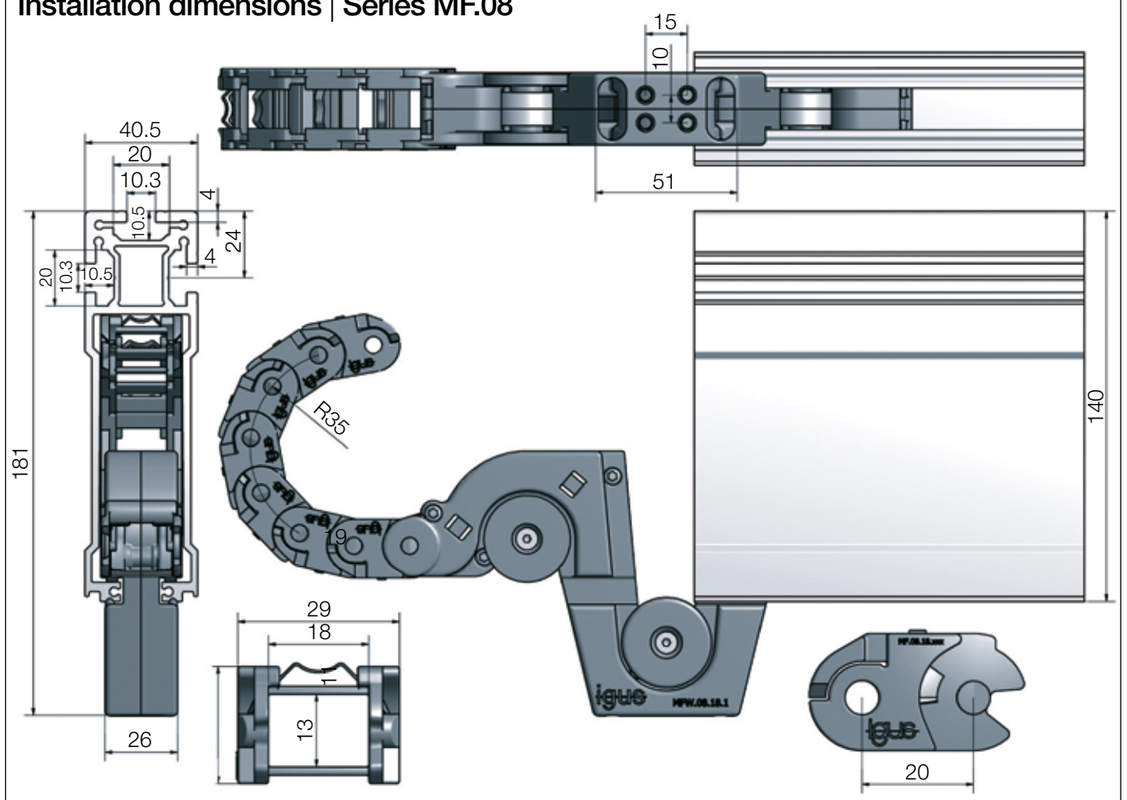


e-chain® visible for illustration only

micro flizz® | Series MF.08 | Product range

Part No.	*Bi*	*Ba*	*hi*	*ha*	*R* Bend radius
Series	[mm]	[mm]	[mm]	[mm]	[mm]
MF.08.18.035	18	29	13	21	| 035 |

Installation dimensions | Series MF.08



Installation height complete system	**181mm**
Installation width complete system	**40.5mm**
Recommended length channel pieces (die-cast aluminium material)	**2.0m / 3.0m / 6.0m**
Cable diameter	**Max. ø 9.5mm**

micro flizz® | MF.10 | Product range | Installation dimensions

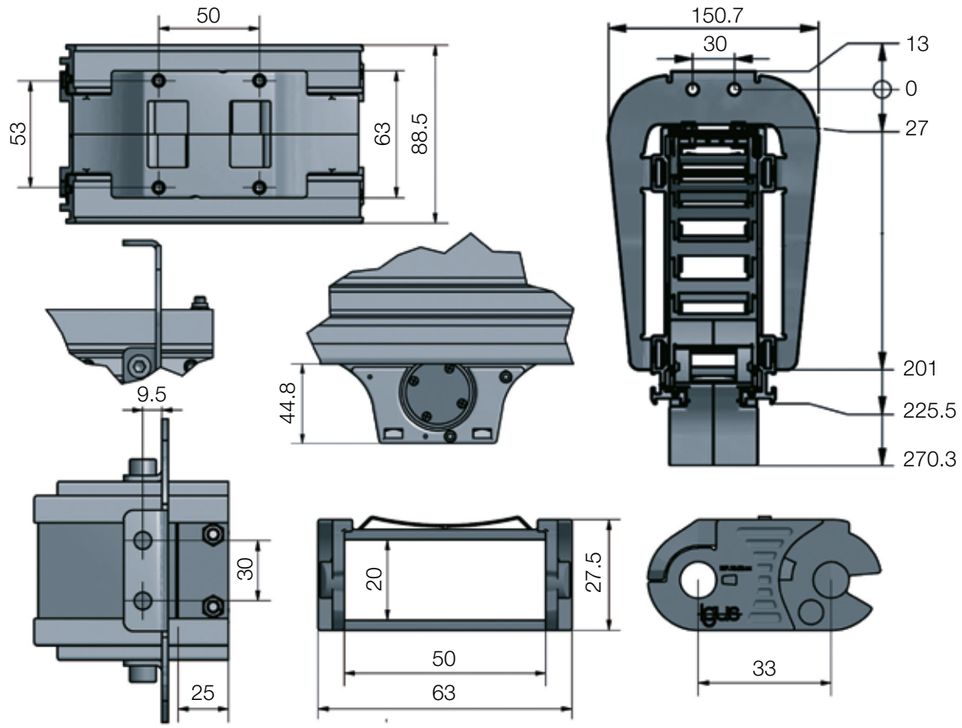


e-chain® visible for illustration only

micro flizz® | Series MF.10 | Product range

Part No.	*Bi*	*Ba*	*hi*	*ha*	*R* Bend radius
Series	[mm]	[mm]	[mm]	[mm]	[mm]
MF.10.50.075	50	63	20	27.5	| 075 |

Installation dimensions | Series MF.10



Installation height complete system	**283.3mm**
Installation width complete system	**150.7mm**
Recommended length channel pieces (die-cast aluminium material)	**2.0m / 3.0m / 6.0m**
Cable diameter	**Max. ø 16mm**

micro flizz® | Application examples



Up to 10GBit/s at a speed of 6m/s - together with the power supply in the micro flizz® MF.10



micro flizz® in the food sector



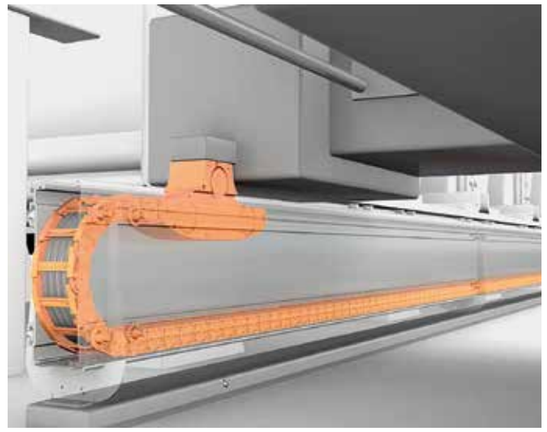
micro flizz® connecting a set of movable scales



igus® micro flizz® in a sewage plant



Aisle movements over distances of up to 100m at speeds up to 6m/s



Guidance of 4 single cores up to 35mm² and FOC cables with data rates of more than 10Gbit/s ▶ **www.igus.eu/MF10**

micro flizz® | Order example | End infeed

Order example - end infeed

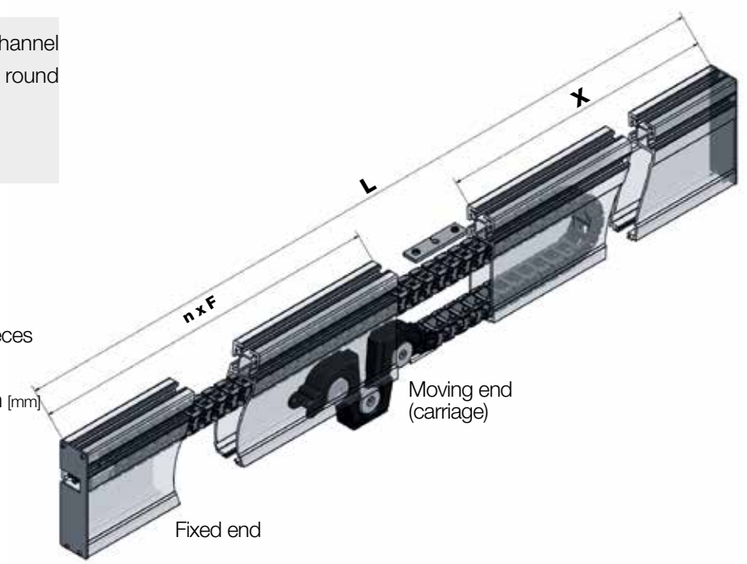
MF	06.	10.	018.	L / F	**MF.06.10.018.5000/2000**
MF	08.	18.	035.	L / F	**MF.08.18.035.5000/2000**
MF	10.	50.	075.	L / F	**MF.10.50.075.5000/2000**

F = Channel section length [mm]
L = Total length [mm]
R = Bend radius [mm]
Bi = Inner e-chain® width
Version (series)
End infeed

micro flizz® as an end infeed version with a total length of 5,000mm, consisting of two 2,000mm channels and 1 channel with a residual length of 1,000mm

Calculate the number of channel sections needed (**n**). Then round off the result.

$$n = \frac{L}{F}$$



Bi = Inner e-chain® width
R = Bend radius [mm]
n = Number of channel pieces
S = Travel (**L** - 300 [mm])
F = Channel section length [mm]
L = Total length [mm]
X = Residual length [mm]

F = Recommended channel lengths: 2,000, 3,000, 6,000mm
Bi = Series 06: 10mm / Series 08: 18mm / Series 10: 50mm
hi = Series 06: 11mm / Series 08: 13mm / Series 10: 20mm

micro flizz® | Order example | Centre infeed

Order example - 2 carriages, opposing travel

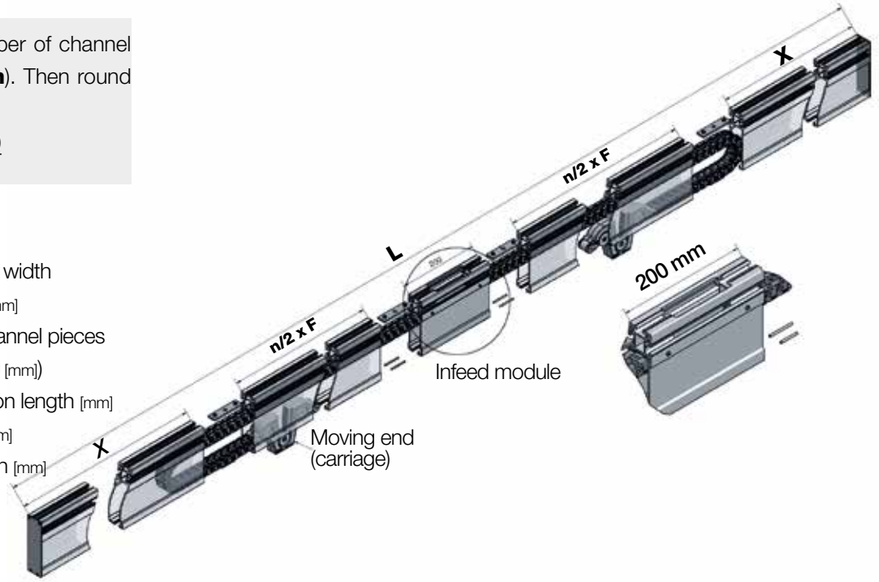
MFG2	06.	10.	018.	L / F	**MFG2.06.10.018.10000/3000**
MFG2	08.	18.	035.	L / F	**MFG2.08.18.035.10000/3000**
MFG2	10.	50.	075.	L / F	**MFG2.10.50.075.10000/3000**

F = Channel section length [mm]
L = Total length [mm]
R = Bend radius [mm]
Bi = Inner e-chain® width
Version (series)
2 carriages in opposite directions

micro flizz® mounted with 2 opposing carriages. Total length 10,000mm, distributed over two 3,000mm channels, the infeed module (200mm) and two channels each with a residual length of 1,900mm

Calculate the number of channel sections needed (**n**). Then round off the result.

$$n = 2 \times \frac{L - 200}{2 \times F}$$



Bi = Inner e-chain® width
R = Bend radius [mm]
n = Number of channel pieces
S = Travel (**L** - 300 [mm])
F = Channel section length [mm]
L = Total length [mm]
X = Residual length [mm]

F = Recommended channel lengths: 2,000, 3,000, 6,000mm
Bi = Series 06: 10mm / Series 08: 18mm / Series 10: 50mm
hi = Series 06: 11mm / Series 08: 13mm / Series 10: 20mm

Solutions for predictive maintenance and condition monitoring

smart plastics

enable Industry 4.0 energy supply

- **smart plastics** components are equipped with connectivity and sensors to make complex automation solutions capable of "Industry 4.0"
- **smart plastics** offer two options:
  i.Sense - condition monitoring and
  i.Cee - predictive maintenance
- Make maintenance and repair of your machines more efficient and cost-effective with **smart plastics**
- **smart plastics** reduce failures





smart plastics components are equipped with connectivity and sensors to make complex automation solutions suitable for "**Industry 4.0**"

smart plastics enable Industry 4.0 energy supply

In the future, automation solutions across different industries will all have digitalisation. If you want to entirely network the machines in your manufacturing plant with the internet of things (**IoT**) in order to be **Industry 4.0**-compatible and optimise such items as maintenance, you will need time and money. A digitalisation strategy that begins by connecting and networking individual assemblies and components is faster and costs much less. Plant operators benefit immediately from the connectivity of smart components: status monitoring for automated plant can be implemented in real time without additional personnel, and maintenance can be organised predictively. smart plastics offer two options: the simple and rather analogue condition monitoring **i.Sense** (sense = perception), for integration with maximum safety. For the complete networking of the machines with the internet (**IoT**), the predictive maintenance **i.Cee** (Cee, derived from "see") is just right.

i.Sense - condition monitoring

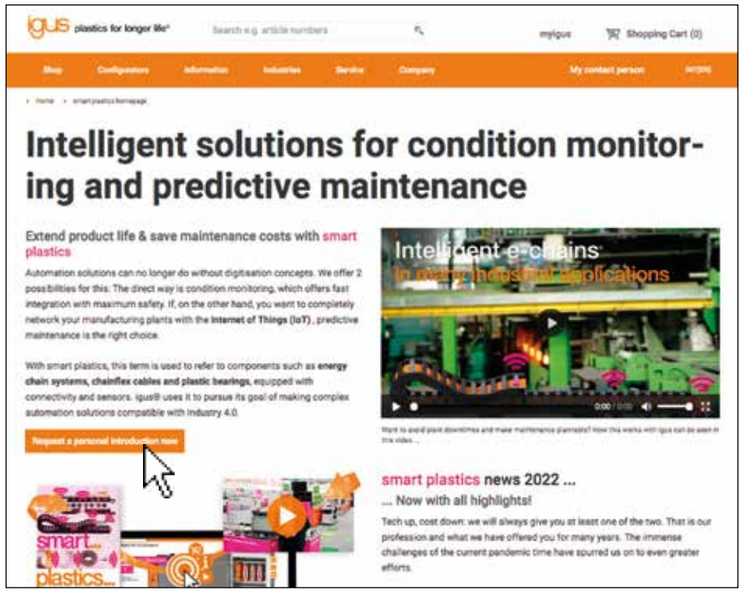
- Simplest, fastest way for a self-monitoring smart plastics product, by attachment of sensors
- Alarm or message when a previously defined limit value is exceeded
- Values outside defined limits can directly trigger a system shut-down

i.Cee - predictive maintenance

- Sensors and software help to create a system for dynamic service life calculation and optimal maintenance times
- Wide variety of designs, offering a high degree of individuality
- Maximum system and user safety and product service life

Typical industries and applications

● Harbour installations ● Cranes ● Automotive production ● Bulk Handling ● Logistics ● Semi conductor industry



smart plastics Website

Always stay up to date. New products, new techniques, new applications

► **www.igus.eu/smartplastics**

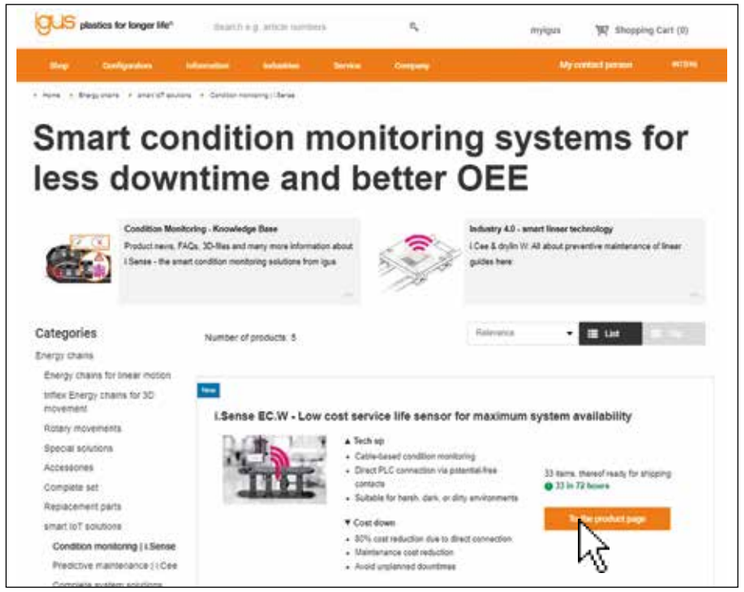


smart plastics brochure

Overview with the following topics:

- Condition monitoring (**i.Sense**)
- Condition monitoring products
- Condition monitoring application examples
- Predictive maintenance (**i.Cee**)
- Application examples for predictive maintenance
- Predictive maintenance data flows

► **www.igus.eu/smartplastics**



smart plastics online shop

Order systems with push/pull force monitoring and breakage detection online as a complete package ► **www.igus.eu/smart-plastics-shop**



The igus® white paper on predictive maintenance

Clarifies the distinction between condition monitoring and predictive maintenance

- What igus® condition monitoring (**i.Sense**) means
- What igus® predictive maintenance (**i.Cee**) means
- What technology is behind both systems
- What the two systems offer industrial energy supply

► **www.igus.eu/smartplastics**

Condition monitoring - i.Sense

- igus® products for condition monitoring
- Detects machine status regularly or continuously
- Uses fast switch-off to avoid crashes

If smart plastics are used for condition monitoring, they immediately report any unexpected operating state, switch off the system, or sound an alarm. Industrial manufacturers use this function to minimise system failures and downtime. ► www.igus.eu/condition-monitoring

Control cabinet

- Simple module installation on top-hat (DIN) rail
- Integration into the existing plant control system via NC contacts
- 24V DC voltage supply

i.Sense:modul

- Evaluate all sensor data based on igus® algorithms
- Inform the plant controls in real time of any mechanical faults that occur

Sensor units

- **IS.EC.P** push/pull force detection for energy chains
- **IS.EC.B** energy chain breakage detection
- **IS.CF.P** tensile force monitoring for cables

i.Sense
Condition monitoring

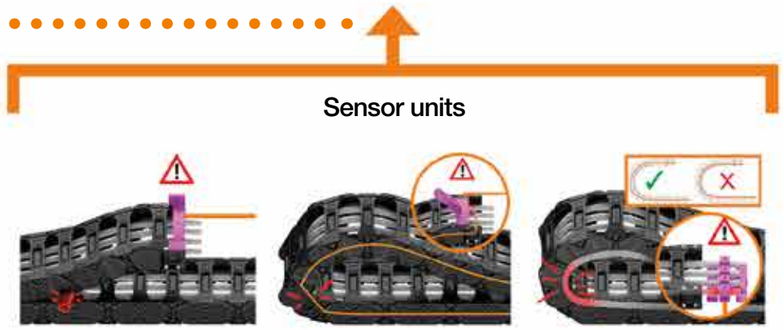




Condition Monitoring
The concept of condition monitoring is based on a regular or constant recording of the machine condition by measuring and analysing physical parameters, e.g. vibration, temperature, position/ proximity. Condition monitoring pursues two goals: safety and machine efficiency. (Source: Wikipedia)



i.Sense:modul



i.Sense masters a sewage treatment plant ...



Challenge

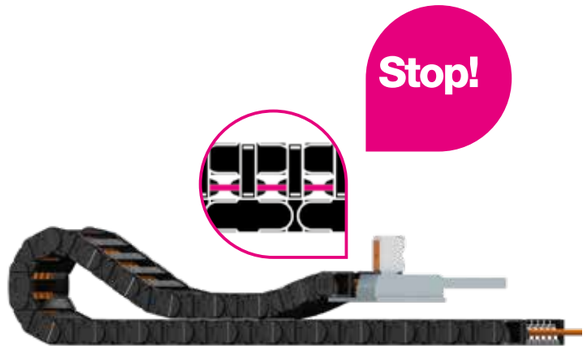
As the plant runs around the clock, and some of the time without any human presence, faults sometimes remain undetected for hours. Although the plant runs at a very slow speed, in the event of a failure it can lead to a total breakdown. This total breakdown of the energy supply system leads to significantly higher costs than a standstill for several hours, where the system can be put back into operation after a short maintenance period.



The solution with smart plastics

In this case the solution is the push/pull force monitoring system EC.P. This sensor continuously measures the force which the plant requires to move the energy supply system. If these forces change due to external influences such as ice, an animal or a tool forgotten during maintenance, the sensor detects this change and switches the system off immediately. This prevents expensive total damage to the sewage treatment plant.





EC.P - push/pull force detection for e-chains®

- Measures the push/pull forces acting on the e-chain®
- Recommends shutdown of the equipment if a force limit is exceeded
- Prevents failure

... and other exciting challenges



"A high price can be avoided."

To avoid unplanned breakdowns and plant shutdown, smart plastics from igus® are used on indoor gantry cranes for the automated handling of engine blocks at an Austrian automotive supplier. EC.B modules monitor the status of the e-chain®. In the event of a chain breakage, the machine is stopped automatically to prevent subsequent damage. Additional EC.W modules signal advanced wear of the e-chain®. The measurement of wear data means that a chain's remaining service life can be predicted and replacement can be planned at an early stage.

Read more about this application at

▶ www.igus.eu/smartplastics



"How do you put sliced bread intelligently into a bag?"

The GBK 440 packaging machine operates with high stroke rates in a compact installation space. This is why the developers used e-chains® and highly flexible chainflex® cables for reliable cable guidance. The GBK 440 ensures the safe packaging and sealing of product bags for sliced bread. The processing speed is individually adjustable. Even incredibly fast 80 cycles per minute are possible, which means considerably more than one packaged unit per second. GHD Georg Hartmann Maschinenbau was looking for a reliable energy supply system for its automatic packaging machines, including preventive monitoring to avoid machine failures.

Read more about this application at

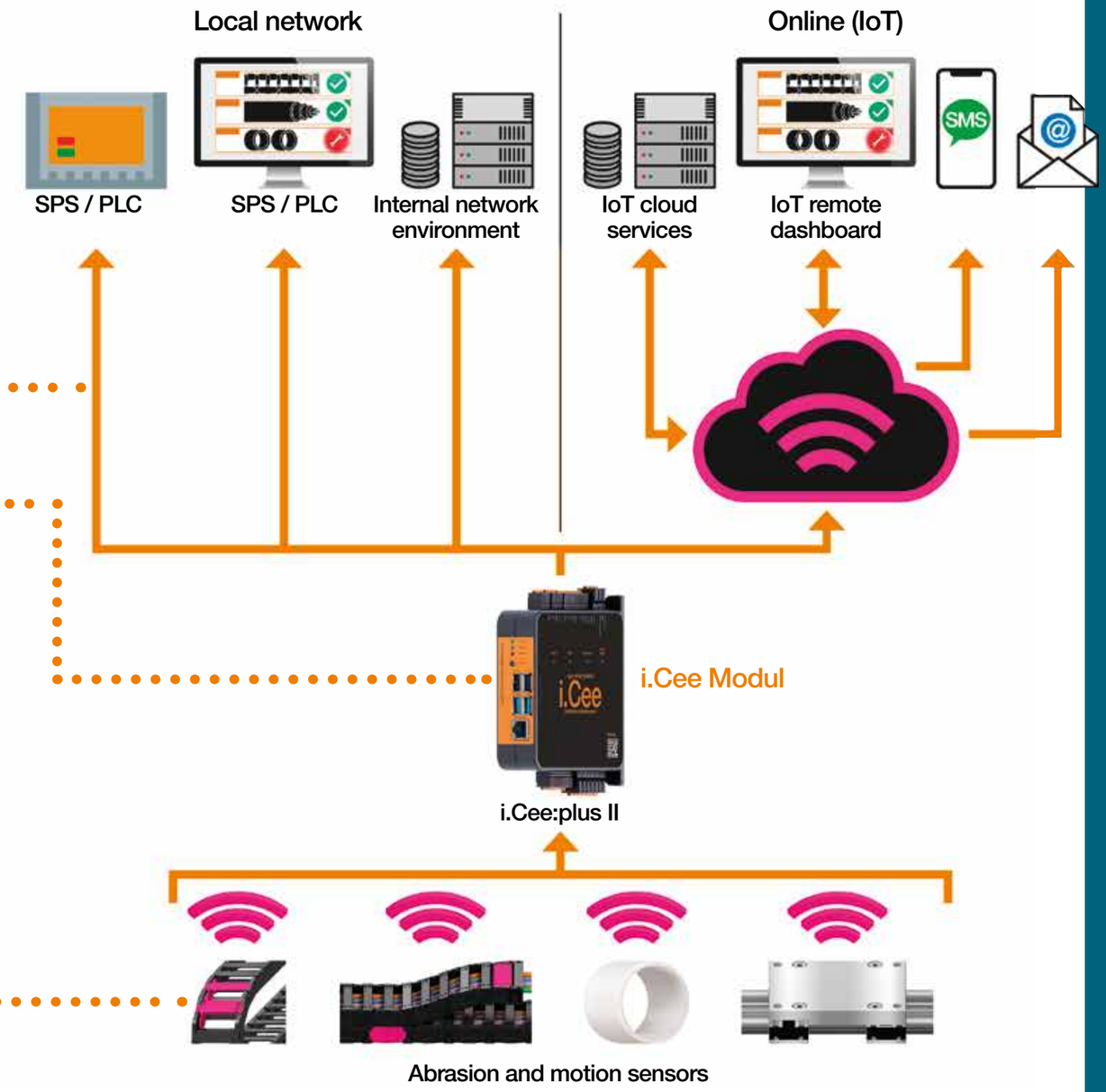
▶ www.igus.eu/smartplastics

The EC.P system has been the standard in container cranes for many years.

Predictive maintenance - i.Cee

- Precisely predicts maintenance
- Prevents downtime or loss of quality
- Two options for data transmission: i.Cee:local / i.Cee:cloud

Both the above-mentioned sensors for service life calculation and the **i.Sense** sensor units for condition information provide data from which indicators for premature wear of the product or the risk of product failure can be determined at a very early stage. Based on the experience gained in the 3,800m² test laboratory for plain bearings and energy transmission solutions, in combination with self-developed algorithms, the system alerts and informs the user at an early stage about possible failure risks and/or the next maintenance date.



Offline: i.Cee:local / Online: i.Cee:cloud

i.Cee hardware

Standard: i.Cee:plus II module
- Installation on top-hat (DIN) rail in control cabinet
- Storage and processing of sensor data
- Constant calculation of the product's service life
- Additional connection of i.Sense modules via USB possible
- Upgrade to Cloud possible

Optional: i.Cee:box
- Installation outside the control cabinet for wireless communication with the sensor modules via LoRa technology
- Additional connection of i.Sense modules via USB possible

i.Cee:custom
- igus® supplies the i.Cee software and uses the customer hardware
- Individual solution development with the customer

i.Cee:net
- Connection to the igus® cloud is possible

Sensors

- Provide abrasion and movement data

i.Cee ... ... in use at train washing station in Luxembourg ...



Challenge

The previous energy chain systems of a competitor caused disruptions in the operation of the plant, as they were often failing. This was particularly problematic because the washing plant is operated autonomously and a failure of an energy chain system could bring the entire washing process to a halt. The necessary repair measures were therefore time-consuming and partly necessary at night and on weekends. Failure would mean the confinement of a rail vehicle in the wash hall, which could result in the cancellation of several train runs.

The solution with smart plastics

The aim was to find a product that not only safely supplies the washing trolleys with data, voltage, compressed air, water and cleaning agents, but also fulfils CFL's requirement to operate Europe's most modern train washing plant. For this purpose, a system was required that allows the operator to monitor each individual energy chain and to avoid a breakdown of the plant. Besides an igus® energy chain designed for long travels, igus® smart plastics components were installed. Sensors monitor the status of every igus® energy chain during operation with regard to the application of force but also with regard to wear and tear, and inform in good time as soon as a repair or replacement is required. In the course of the modernisation of the energy chain systems, the entire cleaning system was also renewed, so that in addition to particularly environmentally friendly cleaning agents, the used washing water was also reused again and again through reprocessing.



EC.P/EC.W/EC.M

- EC.P sensor measures the tensile forces acting on the e-chain®
- EC.W Sensor measures the e-chain® wear
- EC.M sensor measures all dynamic parameters of the energy supply

... and many other exciting projects



"If the containers stop ..."

A big German crane manufacturer relies on the **i.Sense** online system to ensure optimum production. Here, using "machine learning" and AI algorithms, a calculation of the service life is performed and displayed in a Web dashboard on any Internet-enabled device as a statement of "days until the next recommended maintenance".

Read more about this application at
▶ www.igus.eu/smartplastics





I would be happy to answer your questions.
Richard Habering

... Input options

Motion profile

- ... Siemens PLC connection
- ... integrated acceleration sensors EC.W/EC.IM
- ... OPC UA customer application server
- ... GPS position data
- ... igus® positioning system EC.PP
- ... Standard positioning systems, e.g. 4-20mA



i.Sense Module

... Output options

i.Cee:output

- ... Siemens S7
- ... OPC-UA-Server
- ... IoT-Cloud-Dashboard
- ... HTTP Dashboard via private IP address
- ... MES/SCADA
- ... JSON-File via MQTT Broker
- ... REST via HTTP
- ... Text or .CSV file
- ... Text messages via SMS
- ... Sensor raw data management via SMB protocol
- ... Sensor raw data management via FTP
- ... FANUC Field System Integration

Anyone who can make reliable and useful predictions about maintenance work is one step ahead of the competition. In the age of digitisation, more than Big Data is required for such predictions. In order to be able to use the sensor data to derive the correct recommendations for maintenance to be accurately scheduled, long term empirical values from the igus® test database are used.

- 3,800m² test area
- 4,100 energy chain system tests annually at 180 test stations: climate chamber, outdoor tests, noise chamber, travel lengths up to 130m, robot systems, etc.
- 2 billion test cycles a year for highly flexible cables
- 1 million electrical measurements recorded annually
- 15,000 tribological tests (friction and wear) in 300 test set-ups
- 140 trillion test movements in the bearings business unit
- Sensors on the test machines provide permanent measurement data, processing in the central database



P4.1 e-chain® with EC.PP in the igus® outdoor test

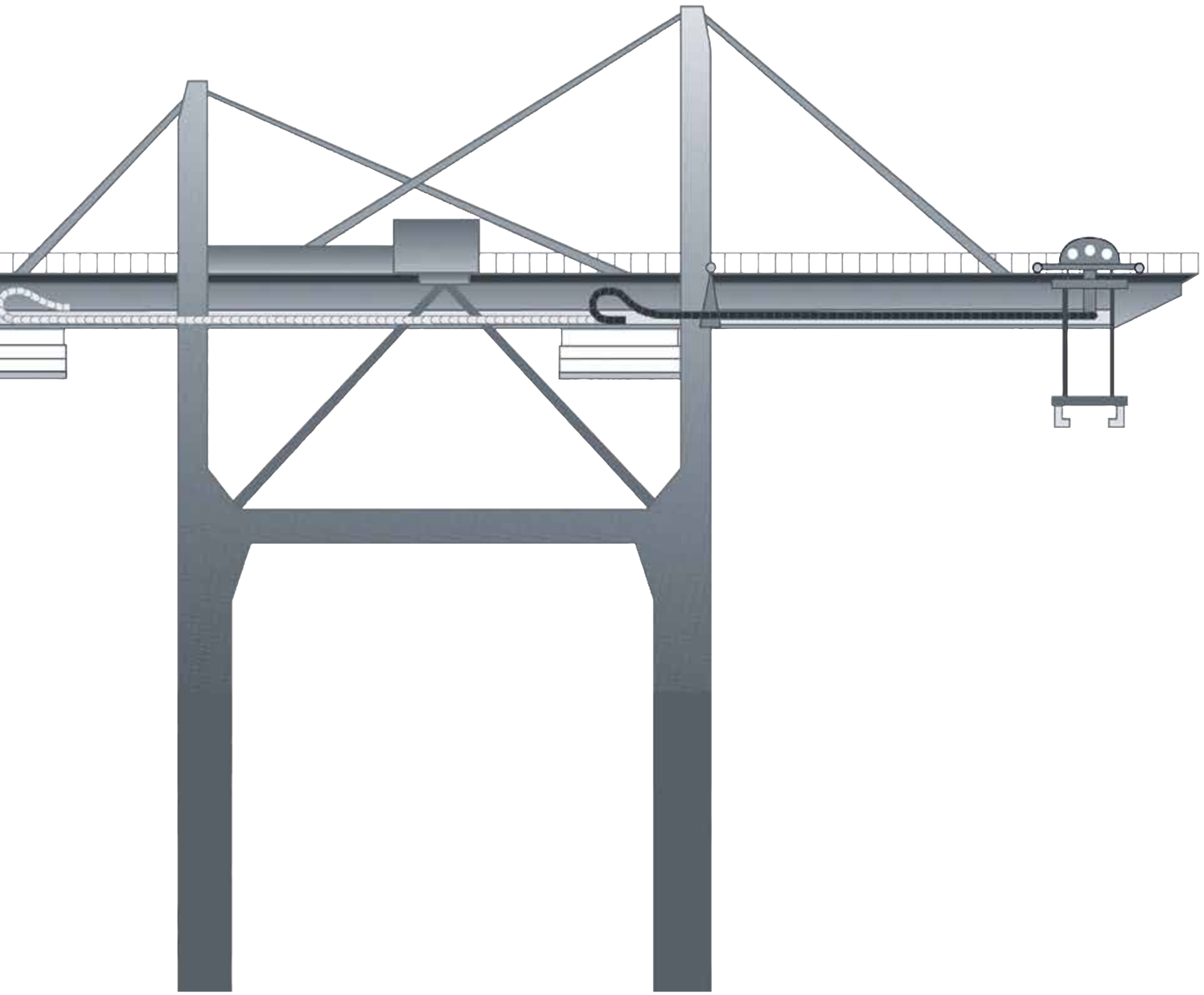


Switch cabinet with smart plastics modules

Calculate service life online and get a 36-month guarantee!



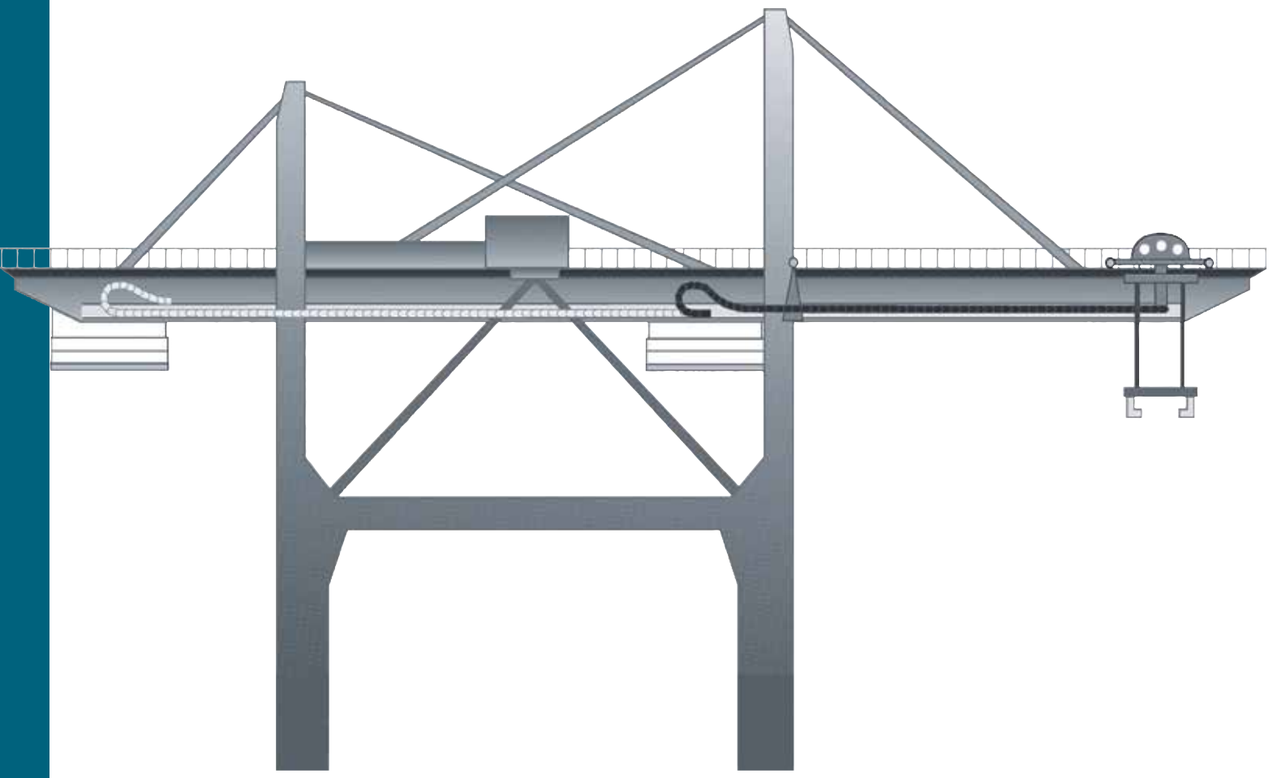
igus® lab, Cologne. A section of the motion plastics® test laboratory spread over 3,800m²



Modular projects

Special solutions from stock

- Faster quotations, faster project planning
- Detailed service manuals and documentation
- Time and cost savings
- Absolute functional reliability
- System guarantee available upon request and depending on the application
- Electronic Push/Pull Detection System - **i.Sense** EC.P
- Fixed end modules for easy attachment of the e-chain® inside the guide trough, with no drilling required
- Extreme gliding - gliding elements for even longer service life of e-chains® where long travels are involved
- HD trough systems with different installation set designs, matching the respective application and duty levels



Special solutions from stock - modular projects

The igus® project kit system - tested project solutions proven in numerous applications are now available as standard modular kits.

- Faster quotations, faster project planning
- Detailed service manuals and documentation
- Time and cost savings
- Absolute functional reliability
- System guarantee available upon request and depending on the application
- **i.Sense** EC.P - electronic Push/Pull Detection System
- Fixed end modules for easy attachment of the e-chain® inside the guide trough, with no drilling required
- Extreme gliding - gliding elements for even longer service life of e-chains® where long travels are involved
- HD trough systems with different installation set designs, matching the respective application and duty levels

Typical industries and applications

● Cranes ● Offshore ● and many other industries

Find a video online
► www.igus.eu/System-Project



Long travels with electronic push/pull force monitoring with igus® **i.Sense** EC.P



Engineering - customer-specific developments with many solutions from the modular kit ► **www.igus.eu/projects**



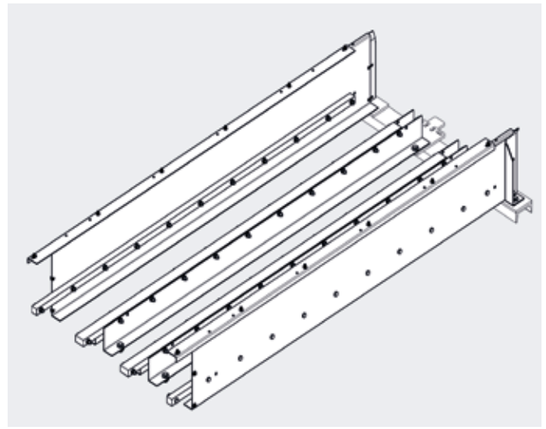
Series 4040R on a coal unloading system. Travel 190m, speed 0.5m/s, fill weight 8.05kg/m



Series 4040HD on 180m travel lengths with housing. Temperature range from -40°C/+40°C and in very dirty environments



Crane system designed by igus®



igus® project planning example, here: trough modules



E4/4HD
► From page 1214



P4 and P4.1
► From page 1232



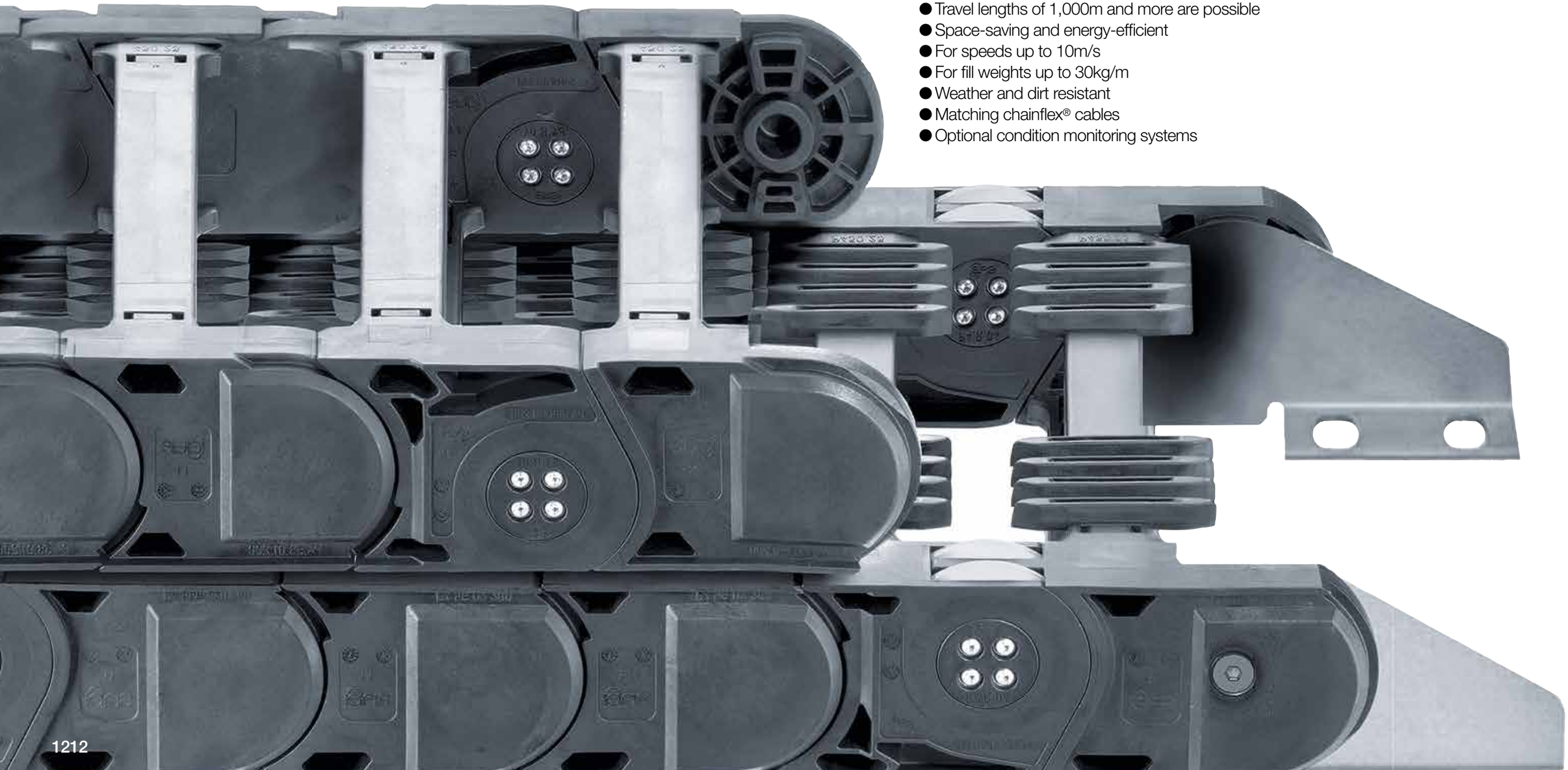
RoI e-chains®
► From page 1242

e-chains® for long travel applications

E4/4HD | P4 / P4.1 | RoI e-chains®

Advantages of igus® e-chains® for long travels

- Travel lengths of 1,000m and more are possible
- Space-saving and energy-efficient
- For speeds up to 10m/s
- For fill weights up to 30kg/m
- Weather and dirt resistant
- Matching chainflex® cables
- Optional condition monitoring systems



E4/4HD

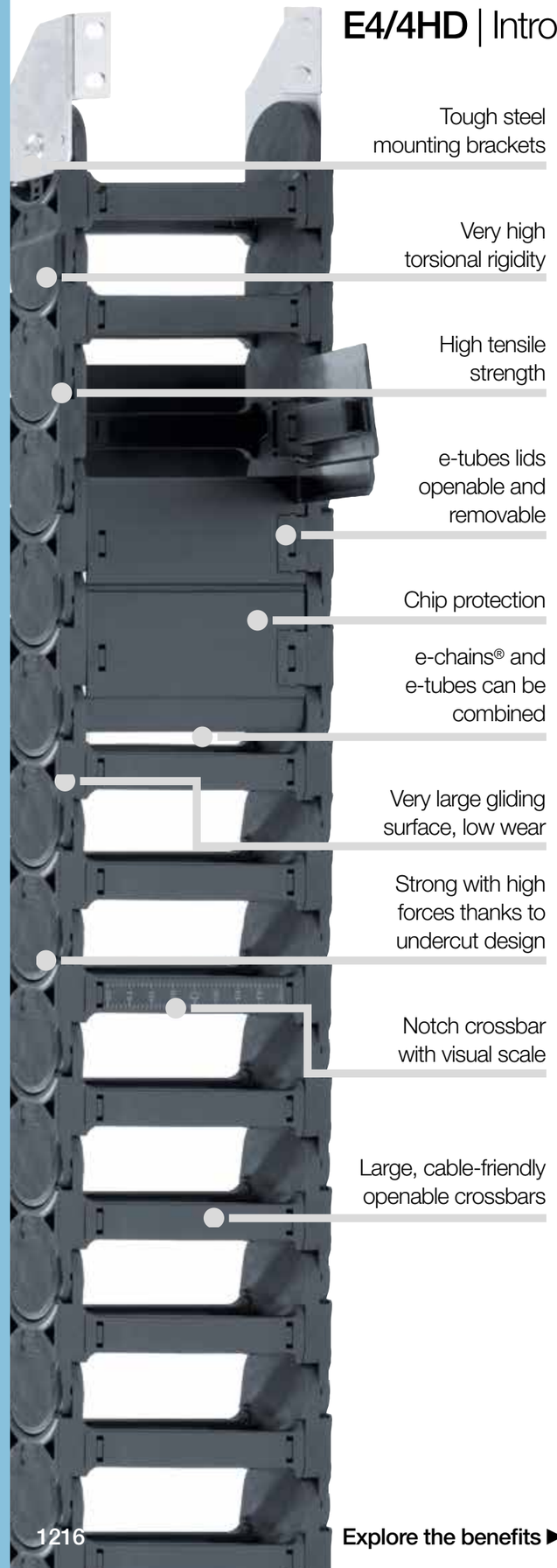
Very high fill weights for long travels

E4/4HD advantages:

- For especially demanding applications
- For very heavy fill weights and long travels
- The E4/4HD offers the required stability in dirty environments or with high humidity
- The strong undercut design provides extremely high torsional rigidity
- Extended service life thanks to large gliding surfaces
- Recommended for heavy duty applications

When to use another e-chain® series:

- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57%
  ▶ **P4/P4.1 systems, page 1232**
- When you want a strong E4/4 rol e-chain® requiring 75% less drive power
  ▶ **E4/4 rol e-chain®, page 1242**
- When you want a self-guiding e-chain system® without any guide troughs
  ▶ **autoglide, page 1264**



Very high fill weights for long travels - E4/4HD

The E4/4HD system was designed for the most demanding tasks. The E4/4HD provides the required strength for long travels, with high fill weights, dirty environments or with high humidity.

- Strong side links for very high fill weights and long travels
- The strong undercut design provides extremely high torsional rigidity
- Extended service life thanks to large gliding surfaces
- Ideal for heavy duty applications

Typical industries and applications

● RTGs, quayside cranes, and many other types of crane ● Heavy machinery ● Steelworks ● Shipyards ● Composting plants ● Construction machines ● Plaster, concrete, chemical and mineral factories ● Farms ● General mechanical engineering etc.

E4/4HD - high torsional rigidity

Electrically conductive ESD e-chains® upon request

E4/4HD system, tried and tested for very long travels

e-tubes available as special design with HT material for 850°C swarf

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
 **e-chains® with crossbars every link** the all-rounder - also for particularly demanding applications							
4040HD	56	50 - 600	104 - 654	84	135 - 400	350	**1220**
5050HD	80	50 - 600	110 - 660	108	150 - 500	500	**1226**
 **e-tubes** fully enclosed, excellent cable protection							
8840HD	56	75 - 462	129 - 516	84	150 - 400	350	**1220**
9850HD	80	75 - 462	135 - 522	108	150 - 500	500	**1226**

Available from stock. Ready to ship in 3 - 5 business days*

*Average time before the ordered goods are dispatched.

Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ▶ www.igus.eu/E4savetime

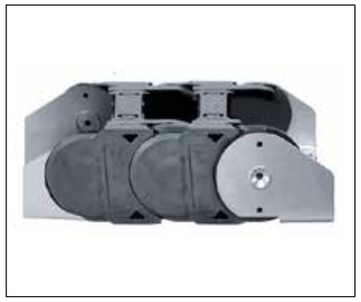


AX - special e-chains® - especially for fine dust applications

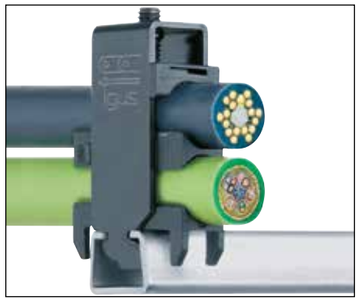
- For long travels in fine-particulate applications
- Exterior stop-dogs prevent the build-up of dust, dirt, chips, flour, etc.
- Mounting brackets and accessories available

More information ▶ www.igus.eu/4040AX





Tough steel mounting brackets for secure connection to your application



Strain relief elements include clamps, tiewrap plates, nuggets, etc. ▶ **From page 1392**



Optimised interior separation products, cables last up to 4 times longer



Notch locking separator for increased holding force



Aluminium "SuperTrough" - the standard igus® guide trough ▶ **From page 1392**



The extension link design allows virtually unlimited side-by-side extension



The maintenance-free series 4040HD protects the igus® chainflex® motor and signal cables during the lifting and lowering movements of this tidal turbine and protects them against the aggressive ambient conditions. 20m vertical movement above and below water

Technical data

Speed gliding	**≤ 10 [m/s]**
Acceleration gliding	**≤ 50 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C/+120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

Order example | Order key

Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:

e-chain® (1.0m)	Please indicate e-chain® length or number of links: 1.0m or 11 links	**4040HD.10.300.0**
+ Mounting brackets	1 full set, steel (option: Index **.E** = AISI 304 stainless steel)	**40400HD.12.VS.E**
Interior separation	with 2 separators assembled every 2nd link	**2 x 56.1.1**
Order text:	**1m 4040HD.10.300.0 + 40400HD.12.VS.E + 2 x 56.1.1**	

Order key and colour options

Order key

e-chain® with crossbars every link **4040HD.10.300.0**
e-tube fully enclosed **8840HD.10.300.0**

- Series
- Type
- Width index (depends on *Bi*)
- Bend radius *R*
- Colour index (standard black)

Order index for colour options

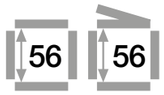
Colour	Order index		Colour	Order index	
Black	Standard	**.0**	Orange	Special colour	.2
Silver-grey	Special colour	.31	Yellow	Special colour	.4
White	Special colour	.1	Light grey	Special colour	.14
Grey-white	Special colour	.1S			

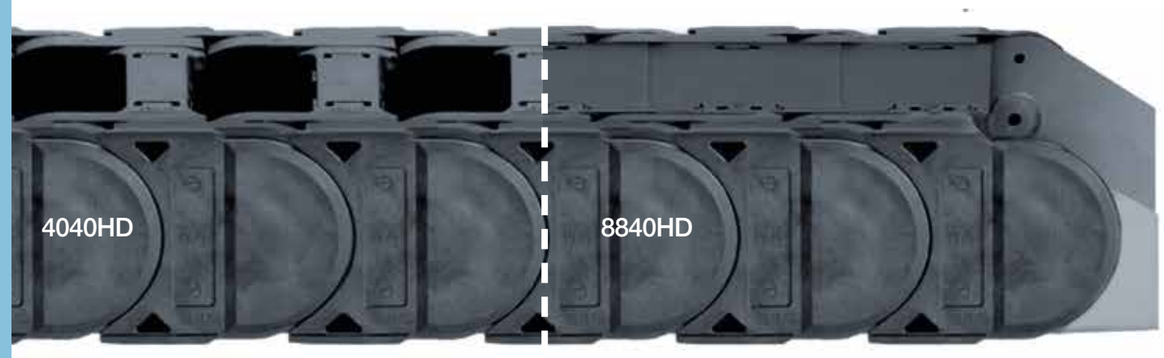
Black e-chains® ready to ship in 24 - 48hrs.*

Above special colours upon request.

E4/4HD | 4040HD·8840HD | Product range

Heavy-duty, high fill weights for long travels





e-chains® | Series 4040HD | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 8840HD | Fully enclosed (lids openable along the outer radius, from one side)

Part No.		Bi	Ba	4040HD	8840HD
e-chains® / e-tubes		[mm]	[mm]	[kg/m]	[kg/m]
4040HD. –	05. R.0	50	104	≈ 5.03	–
4040HD. –	06. R.0	65	119	≈ 5.12	–
4040HD. 8840HD.	07. R.0[1)]	75	129	≈ 5.19	≈ 5.64
4040HD. –	08. R.0	87	141	≈ 5.27	–
4040HD. 8840HD.	10. R.0	100	154	≈ 5.36	≈ 5.93
4040HD. –	11. R.0	112	166	≈ 5.48	–
4040HD. 8840HD.	12. R.0	125	179	≈ 5.56	≈ 6.29
4040HD. –	13. R.0	137	191	≈ 5.69	–
4040HD. 8840HD.	15. R.0	150	204	≈ 5.73	≈ 6.67
4040HD. –	16. R.0	162	216	≈ 5.84	–
4040HD. 8840HD.	17. R.0	175	229	≈ 5.97	≈ 6.98
4040HD. –	18. R.0	187	241	≈ 6.09	–
4040HD. 8840HD.	20. R.0	200	254	≈ 6.14	≈ 7.29
4040HD. –	21. R.0	212	266	≈ 6.21	–
4040HD. –	22. R.0	225	279	≈ 6.28	–
4040HD. –	23. R.0	237	291	≈ 6.39	–
4040HD. 8840HD.	25. R.0	250	304	≈ 6.50	≈ 8.02
4040HD. –	26. R.0	262	316	≈ 6.59	–
4040HD. 8840HD.	27. R.0	275	329	≈ 6.70	≈ 8.38
4040HD. –	28. R.0	287	341	≈ 6.75	–
4040HD. 8840HD.	30. R.0	300	354	≈ 6.91	≈ 8.68
4040HD. –	31. R.0	312	366	≈ 6.94	–
4040HD. –	32. R.0	325	379	≈ 7.05	–
4040HD. –	33. R.0	337	391	≈ 7.17	–
4040HD. 8840HD.	35. R.0	350	404	≈ 7.37	≈ 9.38
4040HD. –	36. R.0	362	416	≈ 7.28	–
4040HD. –	37. R.0	375	429	≈ 7.38	–
4040HD. –	38. R.0	387	441	≈ 7.49	–
4040HD. 8840HD.	40. R.0	400	454	≈ 7.76	≈ 10.38
4040HD. –	41. R.0	412	466	≈ 7.68	–
4040HD. –	42. R.0	425	479	≈ 7.98	–
4040HD. –	43. R.0	437	491	≈ 7.82	–
4040HD. –	45. R.0	450	504	≈ 8.15	–
4040HD. 8840HD.	46. R.0	462	516	≈ 8.10	≈ 10.85
4040HD. –	47. R.0	475	529	≈ 8.14	–
4040HD. –	48. R.0	487	541	≈ 8.39	–
4040HD. –	50. R.0	500	554	≈ 8.39	–
4040HD. –	51. R.0	512	566	≈ 8.44	–
4040HD. –	52. R.0	525	579	≈ 8.57	–
4040HD. –	53. R.0	537	591	≈ 8.66	–
4040HD. –	55. R.0	550	604	≈ 9.08	–
4040HD. –	60. R.0	600	654	≈ 9.31	–

*Radius not available for e-tubes. 1) Lid removable only, no hinged option

Available bend radii

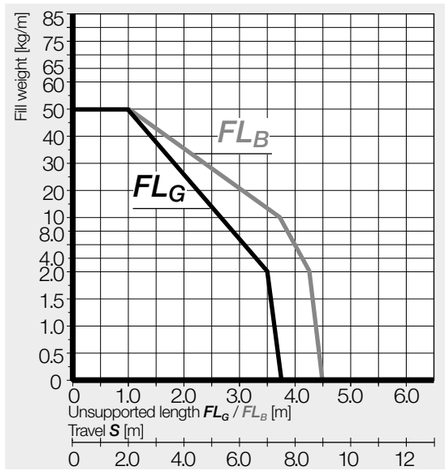
R [mm] | 135* | 150 | 200 | 250 | 300 | 350 | 400 |

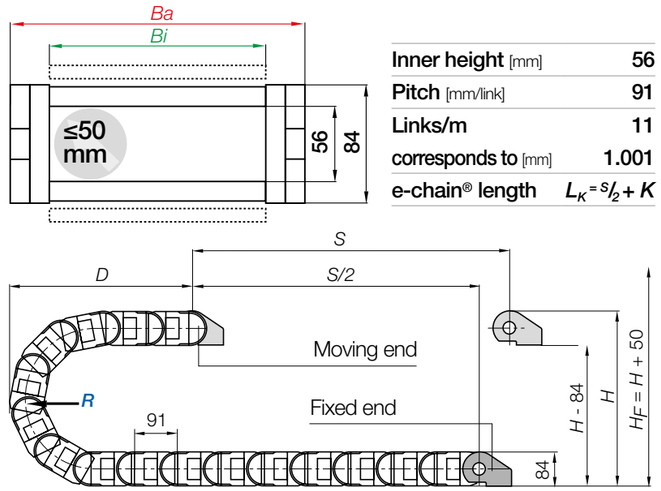
Complete Part No. with required radius (R). Example: **4040HD.30.300.0**

4040HD·8840HD | Installation dimensions

Unsupported applications | Short travels

▶ 1392 ▶ 1323





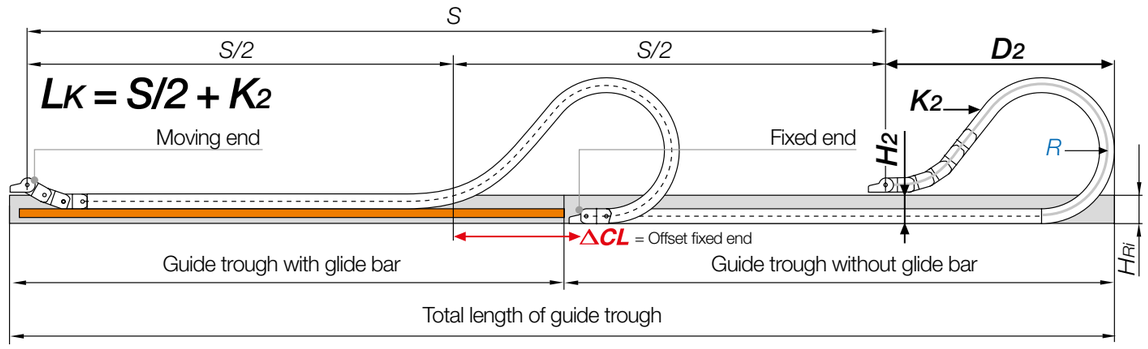
Inner height [mm]	56
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$

R	135*	150	200	250	300	350	400
H	354	384	484	584	684	784	884
D	314	329	379	429	479	529	579
K	610	655	815	970	1,125	1,285	1,440

The required clearance height: $H_F = H + 50mm$ (with 3.0kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | Travel lengths up to max. 350m



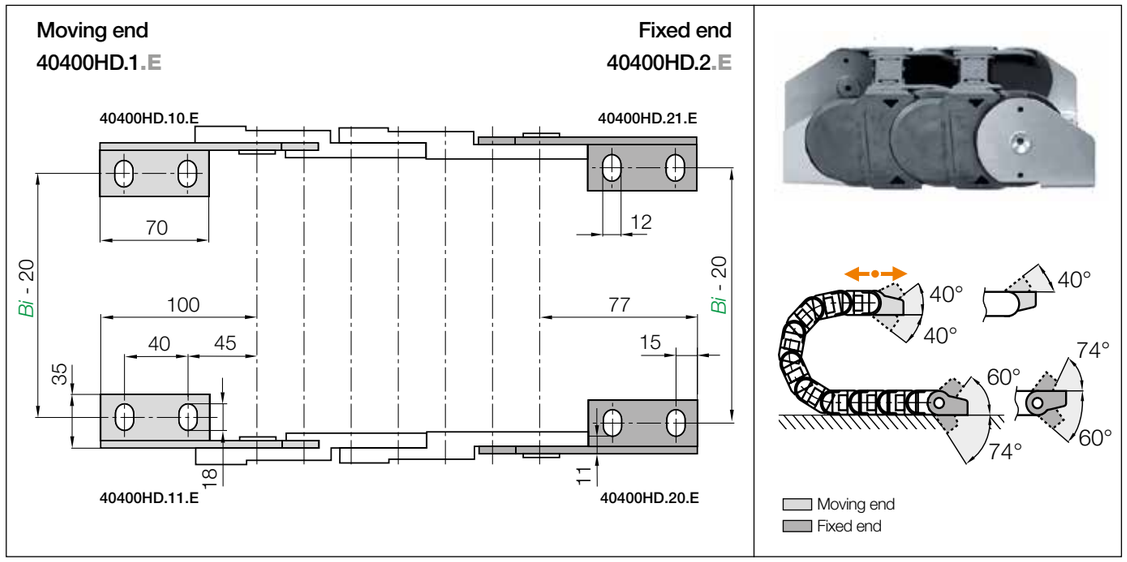
Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	135*	150	200	250	300	350	400
H_2	266	266	266	266	266	266	266
D_2	390	450	710	920	1,180	1,440	1,530
K_2	728	819	1,274	1,638	2,002	2,366	2,548
ΔCL	124	159	359	509	709	909	959

* Radius not available for e-tubes.

E4/4HD | Series 4040HD·8840HD | Accessories

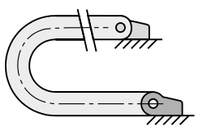
Steel mounting brackets | Pivoting



Steel, pivoting | For gliding applications and long travels

Part No. full set	Description
steel pivoting	Mounting bracket
40400HD.12.2.VS.E	Set of stainless steel mounting brackets, assembled
40400HD.1.2.VS.E	Mounting brackets moving end, assembled
40400HD.2.2.VS.E	Mounting brackets fixed end, assembled

Stainless steel version available. Please add index .E (material: AISI 304)

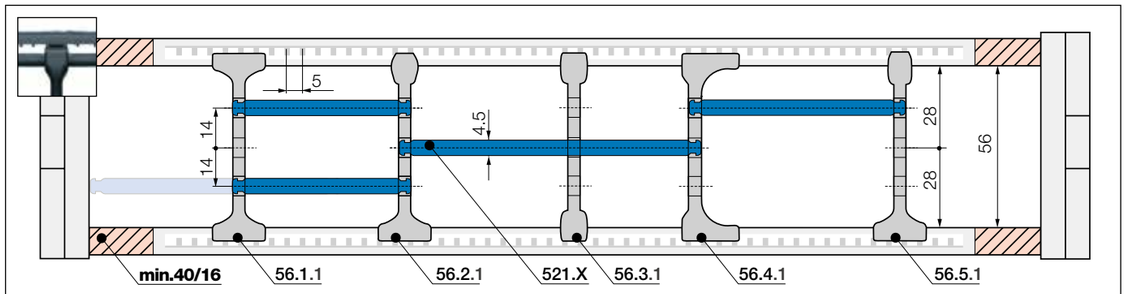


Attachment options for these steel mounting brackets. **Note:** By ordering steel mounting brackets in combination with an e-chain® / e-tube, they will be delivered assembled (screwed on)!

Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

Interior separation | Increase cable service life

More interior separation options ▶ **next page**



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **56.1**
assembled **56.1.1**

Standard - for any application

Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **56.2**
assembled **56.2.1**

For even faster installation

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow
unassembled **56.3**
assembled **56.3.1**

For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



Separator, asymmetrical
unassembled **56.4**
assembled **56.4.1**

For side-mounted applications

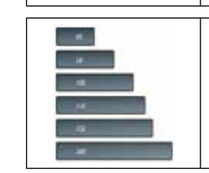
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar
unassembled **56.5**
assembled **56.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



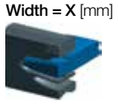
Shelf, lockable
unassembled **520.X**
assembled **521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

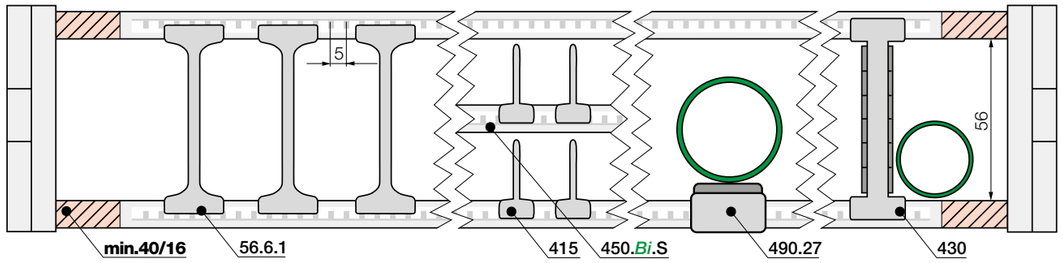
Width = X [mm]



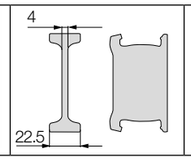
X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**521.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**521.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

E4/4HD | Series 4040HD | Accessories

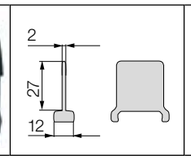
More interior separation options | Only for e-chains®



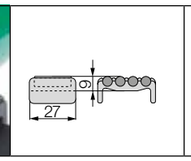
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!

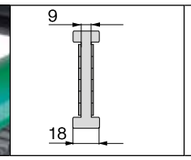
Notch locking separator*, lockable for e-chains®	
unassembled	**56.6**
assembled	**56.6.1**

Partial height separator*, for e-chains®	
unassembled	**405**
assembled	**415**

Rollclip*, for e-chains®	
unassembled	**489.27**
assembled	**490.27**

Roller separator*, for e-chains®	
unassembled	**429**
assembled	**430**

Notch locking separator* for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Partial height separator*

In conjunction with an additional opening crossbar, **part no. 450.*Bi*.S**, it provides the option to separate the upper and lower halves of the e-chain® independently of each other.

Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

Roller separator*

The roller separator is used in a similar way to the rollclip. It is used like a separator. For rigid cables and hoses.

*Only suitable for e-chains®

Roller crossbars - increase the service life of cables and hoses

- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ► www.igus.eu/roller-crossbar

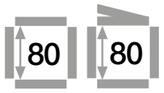




World record application - 615m travel in operation since 2008 without failure. In addition to the motor, control and data cables, a water hose is routed in the e-chain® of the E4/4HD system (shown right in the e-chain®)

E4/4HD | 5050HD·9850HD | Product range

Heavy-duty, high fill weights for long travels





e-chains® | Series 5050HD | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 9850HD | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes		Bi [mm]	Ba [mm]	5050HD [kg/m]	9850HD [kg/m]
5050HD. –	05. R.0	50	110	≈ 6.65	–
5050HD. –	06. R.0	65	125	≈ 6.74	–
5050HD. 9850HD.	07 R.0[1)]	75	135	≈ 6.81	≈ 7.25
5050HD. –	08. R.0	87	147	≈ 6.89	–
5050HD. 9850HD.	10. R.0	100	160	≈ 6.99	≈ 7.55
5050HD. –	11. R.0	112	172	≈ 7.10	–
5050HD. 9850HD.	12. R.0	125	185	≈ 7.18	≈ 7.91
5050HD. –	13. R.0	137	197	≈ 7.32	–
5050HD. 9850HD.	15. R.0	150	210	≈ 7.35	≈ 8.29
5050HD. –	16. R.0	162	222	≈ 7.47	–
5050HD. 9850HD.	17. R.0	175	235	≈ 7.60	≈ 8.60
5050HD. –	18. R.0	187	247	≈ 7.71	–
5050HD. 9850HD.	20. R.0	200	260	≈ 7.77	≈ 8.91
5050HD. –	21. R.0	212	272	≈ 7.84	–
5050HD. –	22. R.0	225	285	≈ 7.91	–
5050HD. –	23. R.0	237	297	≈ 8.02	–
5050HD. 9850HD.	25. R.0	250	310	≈ 8.13	≈ 9.64
5050HD. –	26. R.0	262	322	≈ 8.22	–
5050HD. 9850HD.	27 R.0	275	335	≈ 8.32	≈ 10.00
5050HD. –	28. R.0	287	347	≈ 8.38	–
5050HD. 9850HD.	30. R.0	300	360	≈ 8.53	≈ 10.30
5050HD. –	31. R.0	312	372	≈ 8.57	–
5050HD. –	32. R.0	325	385	≈ 8.67	–
5050HD. –	33. R.0	337	397	≈ 8.79	–
5050HD. 9850HD.	35. R.0	350	410	≈ 8.99	≈ 11.00
5050HD. –	36. R.0	362	422	≈ 8.90	–
5050HD. –	37. R.0	375	435	≈ 9.00	–
5050HD. –	38. R.0	387	447	≈ 9.11	–
5050HD. 9850HD.	40. R.0	400	460	≈ 9.38	≈ 12.00
5050HD. –	41. R.0	412	472	≈ 9.31	–
5050HD. –	42. R.0	425	485	≈ 9.60	–
5050HD. –	43. R.0	437	497	≈ 9.44	–
5050HD. –	45. R.0	450	510	≈ 9.55	–
5050HD. 9850HD.	46. R.0	462	522	≈ 9.72	≈ 12.47
5050HD. –	47. R.0	475	535	≈ 9.76	–
5050HD. –	48. R.0	487	547	≈ 10.01	–
5050HD. –	50. R.0	500	560	≈ 10.11	–
5050HD. –	51. R.0	512	572	≈ 10.02	–
5050HD. –	52. R.0	525	585	≈ 10.19	–
5050HD. –	53. R.0	537	597	≈ 10.29	–
5050HD. –	55. R.0	550	610	≈ 10.71	–
5050HD. –	60. R.0	600	660	≈ 10.94	–

1) Lid removable only, no hinged option

Available bend radii

R [mm] | 150 | 200 | 250 | 300 | 350 | 400 | 500 |

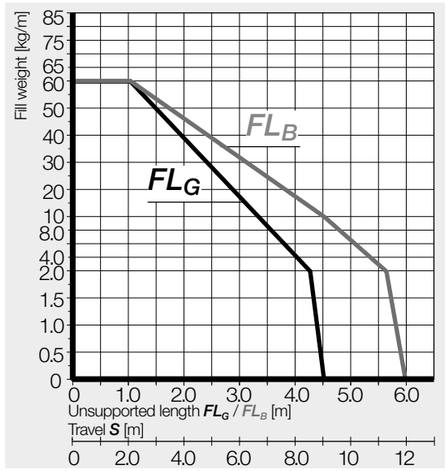
Complete Part No. with required radius (R). Example:

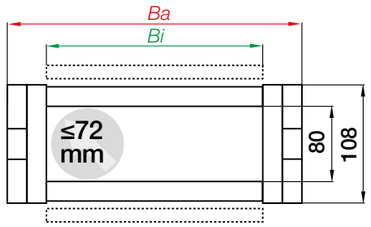
5050HD.30.300.0 = crossbars every link / 9850HD.30.300.0 = fully enclosed

5050HD·9850HD | Installation dimensions

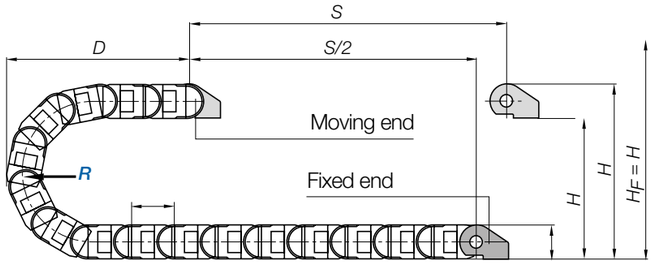
Unsupported applications | Short travels

▶ 1392 ▶ 1325





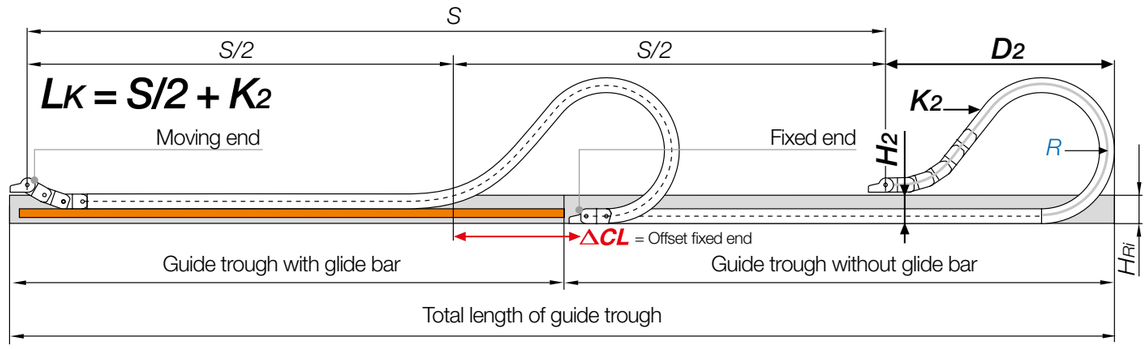
Inner height [mm]	80
Pitch [mm/link]	91
Links/m	11
corresponds to [mm]	1.001
e-chain® length	$L_K = S/2 + K$



R	150	200	250	300	350	400	500
H	408	508	608	708	808	908	1,108
D	341	391	441	491	541	591	691
K	655	815	970	1,125	1,285	1,440	1.755

The required clearance height: $H_F = H$ + **60mm** (with 3.0kg/m fill weight)

Gliding applications | Travel lengths up to max. 500m

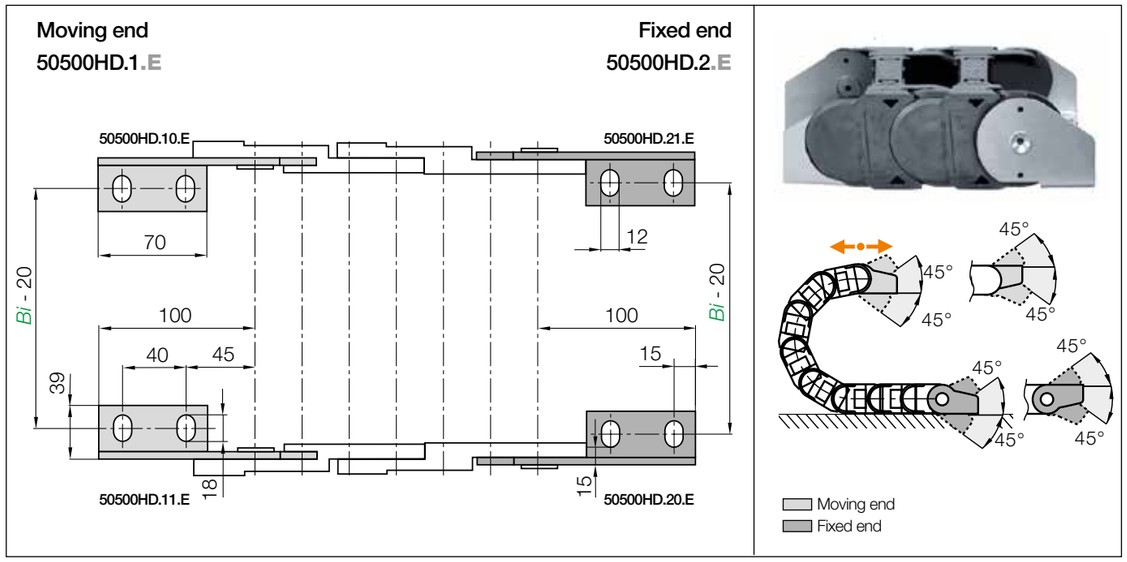


Note: We recommend the project planning of such a system to be carried out by igus®.
In case of travels under 10m we recommend an unsupported e-chain®.

R	150	200	250	300	350	400	500
H_2	242	242	242	242	242	242	242
D_2	550	800	950	1,200	1,550	1,700	2,175
K_2	910	127	1,638	2,002	2,457	2,730	3,458
ΔCL	209	409	509	709	1,009	1,109	1,484

E4/4HD | Series 5050HD·9850HD | Accessories

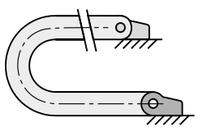
Steel mounting brackets | Pivoting



Steel, pivoting | For gliding applications and long travels

Part No. full set	Description
steel pivoting	Mounting bracket
50500HD.12.2.VS.E	Set of stainless steel mounting brackets, assembled
50500HD.1.2.VS.E	Mounting brackets moving end, assembled
50500HD.2.2.VS.E	Mounting brackets fixed end, assembled

Stainless steel version available. Please add index .E (material: AISI 304)

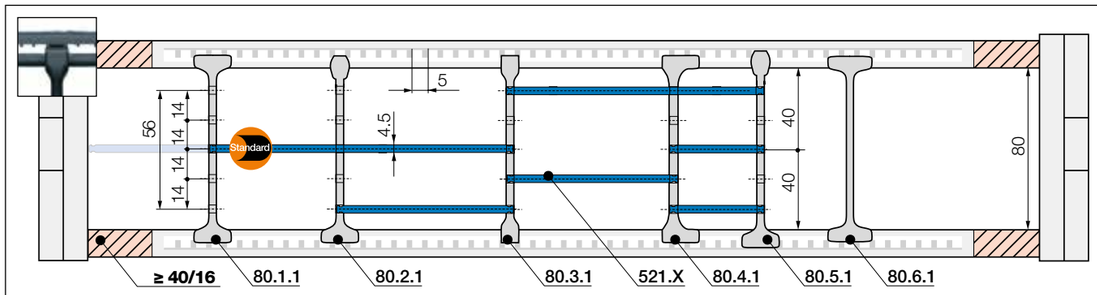


Attachment options for these steel mounting brackets. **Note:** By ordering steel mounting brackets in combination with an e-chain® / e-tube, they will be delivered assembled (screwed on)!

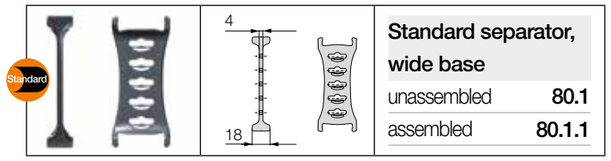
Strain relief **e.g. clamps, tiewrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1392**

Interior separation | Increase cable service life

More interior separation options ▶ **next page**



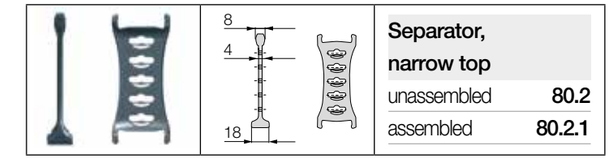
Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm**| **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



Standard separator, wide base
unassembled **80.1**
assembled **80.1.1**

Standard - for any application

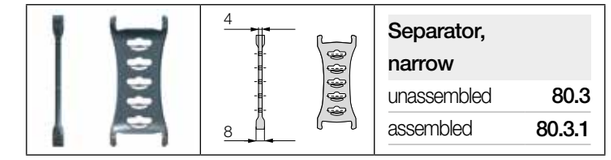
Separator with a wide base for maximum holding force.



Separator, narrow top
unassembled **80.2**
assembled **80.2.1**

For even faster installation

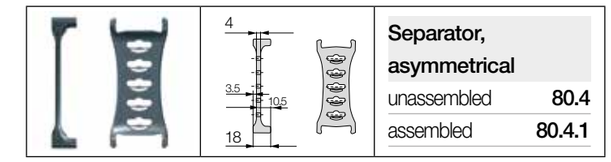
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.



Separator, narrow
unassembled **80.3**
assembled **80.3.1**

For a large number of thin cables

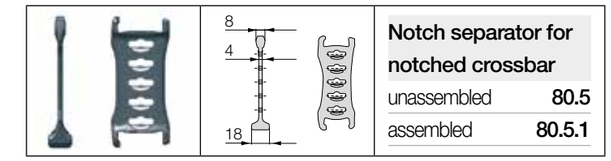
Separator with a narrow base for a large number of thin cables side by side. Saves space.



Separator, asymmetrical
unassembled **80.4**
assembled **80.4.1**

For side-mounted applications

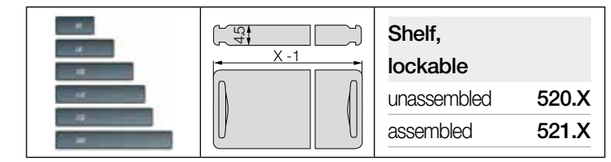
Asymmetrical separator, for defined gap distance. No additional spacers required.



Notch separator for notched crossbar
unassembled **80.5**
assembled **80.5.1**

Locks securely in preset increments

Notch separator for exact positioning. Recommended for side-mounted applications.



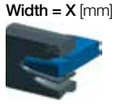
Shelf, lockable
unassembled **520.X**
assembled **521.X**

Horizontal separation

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

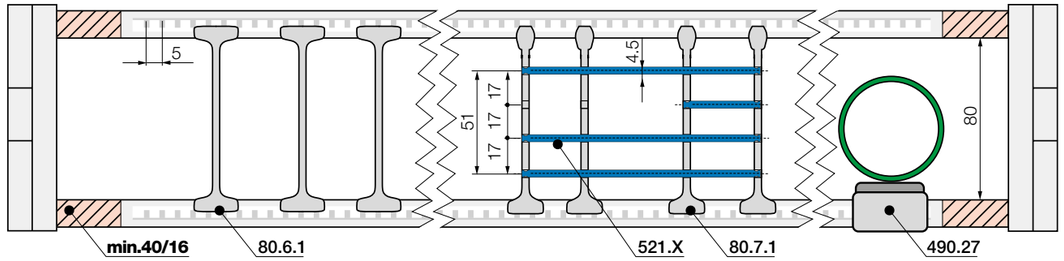
Width = X [mm]



X [mm]	unassembled	assembled	X [mm]	unassembled	assembled	X [mm]	unassembled	assembled
050	**520.050**	**521.050**	150	**520.150**	**521.150**	300	**520.300**	**521.300**
065	**520.065**	**521.065**	175	**520.175**	**521.175**	350	**520.350**	**521.350**
075	**520.075**	**521.075**	200	**520.200**	**521.200**	375	**520.375**	**521.375**
100	**520.100**	**521.100**	225	**520.225**	**521.225**	387	**520.387**	**521.387**
125	**520.125**	**521.125**	250	**520.250**	**521.250**	450	**520.450**	**521.450**

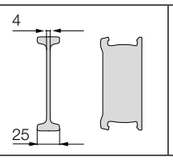
E4/4HD | Series 5050HD·9850HD | Accessories

More interior separation options



Note: Please be aware of the minimum lateral gap to the side links! **e-tube: 40mm** | **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!



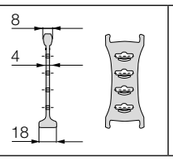


Notch locking separator*, lockable for e-chains®	
unassembled	**80.6**
assembled	**80.6.1**

Notch locking separator* for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.



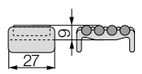


Separator, one end locking	
unassembled	**80.7**
assembled	**80.7.1**

Separator, one end locking

Offset slots for more variability in horizontal subdivisions.





Rollclip*, for e-chains®	
unassembled	**489.27**
assembled	**490.27**

Rollclip*

Minimises abrasion of sensitive hoses. Simply clamps onto the opening crossbar. The movable rollers compensate for relative movement between the e-chain® and hose.

*Only suitable for e-chains®

Roller crossbars - increase the service life of cables and hoses

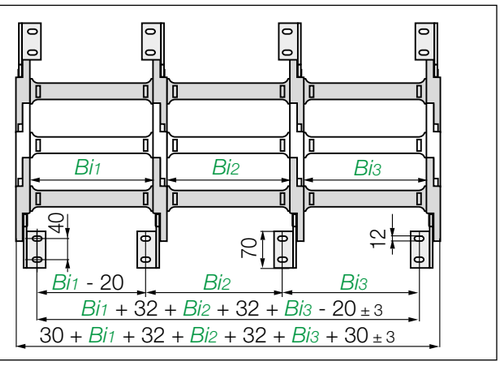
- Significantly reduce jacket abrasion of very stiff cables and hoses with rolling contact surfaces equipped with tribo-optimised bearings
- For sensitive hoses in restricted space
- Usable along the inner and/or outer radius, retrofit possible

More information ► www.igus.eu/roller-crossbar



Extension links





Extension links | For extremely wide e-chains® up to 3.0m

- Virtually unlimited side-by-side extension when high fill weights necessitate extremely wide e-chains® (up to 3000mm)
- The unsupported length FL_G max. can be increased when high fill weights are required



igus® E4/4HD e-chain system® on a container-crane. High loads and high speeds in difficult weather conditions

P4 / P4.1

Longest travel distances, fast and quiet

General advantages P4/P4.1:

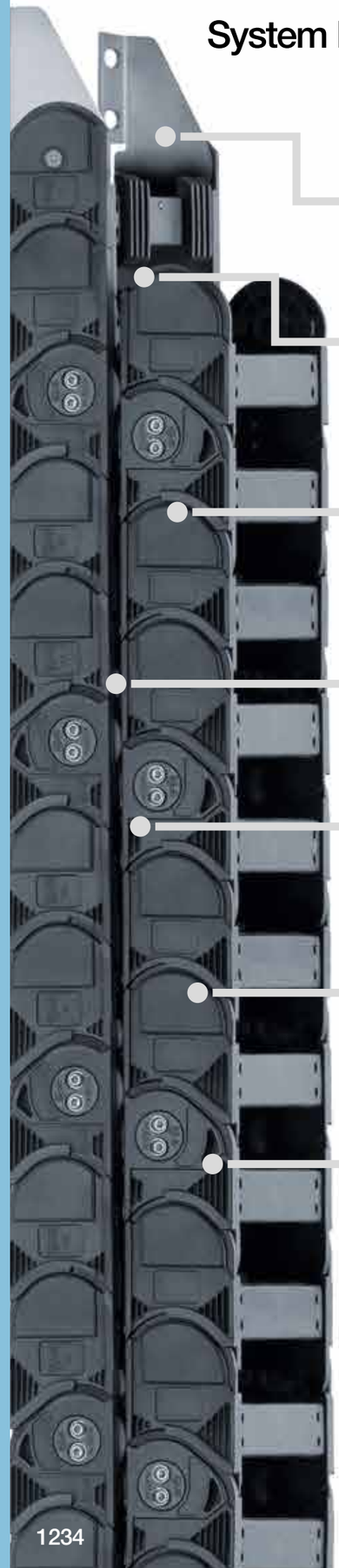
- Rolling instead of gliding: compared to sliding friction, the rolling friction is 75% lower which means up to 57% less drive power
- Safe, low noise, abrasion-resistant energy supply system for long travels
- Travel lengths up to 1,000m and more and high travel speeds up to 10m/s
- Identical pitch of the e-chain® link with or without roller
- Comb style auto glide crossbars for secure guidance

Further features of the new generation P4.1 (series P41.56/ P41.80):

- Less friction, twice the service life compared to P4
- Longer service life due to maintenance-free tribo-polymer plain bearings in conjunction with the e-chain® links
- As an option equipped with smart sensors, e.g. wear sensor: for condition monitoring with igus® i.Sense



Picture shows a P41.56 series



Long travels, fast and quiet - P4

System P4 - safe, low noise, abrasion-resistant energy supply system for long travels. With the low-maintenance igus® system P4, a secure energy supply system can be implemented on travel lengths up to 600m for cranes or conveyor systems. The upper run and lower run roll staggered on each other. In this way the tribo-optimised plastic rollers don't impact on each other, but roll on a continuous, wide rolling surface. The P4 profile-rol e-chain® is safely guided by the comb style autoglide crossbars and the special trough system.

- Travel lengths of 600m and more are possible
- For travels at speeds up to 6m/s
- Identical pitch of the e-chain® link with or without roller
- Extremely quiet - significant reduction of operating noise
- Comb style autoglide crossbars for secure guidance
- Inner height: 32mm and 42mm

Typical industries and applications

● Crane equipment ● Automated storage and retrieval systems ● Plant construction ● Gantry robots ● Material handling

Find a video online
▶ www.igus.eu/P4_Film

iF product design award
2007 for igus® System P4

Technical data

Speed gliding	**≤ 6 [m/s]**
Acceleration gliding	**≤ 50 [m/s²]**
igumid G material, permitted temperature °C	**-40°C/+120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

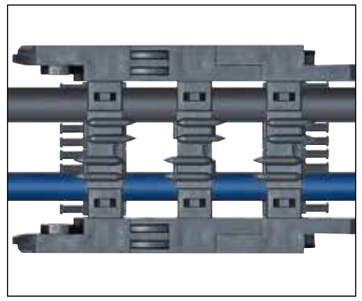
Explore the benefits ▶ www.igus.eu/best/P4

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
 **P4 profile rol e-chain®** low noise, abrasion-resistant for travel lengths up to 600m							
P4.32	32	100 - 250	132 - 282	54	150 - 250	500	**1236**
P4.42	42	100 - 200	154 - 254	64	100 - 250	600	**1237**

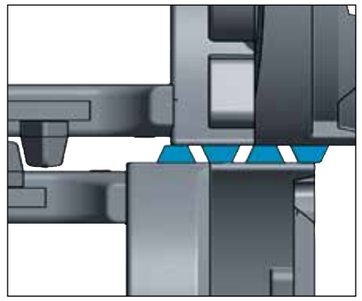
Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Available from stock. Ready to ship in 5 - 7 business days*
*Average time before the ordered goods are dispatched.

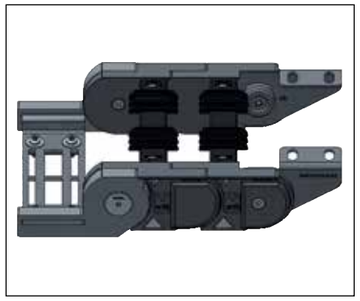
System P4 | Features | Accessories

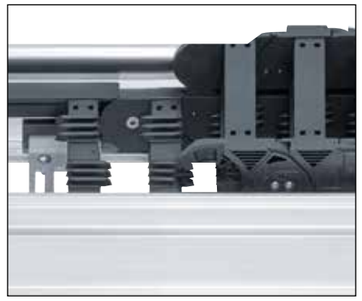

Secure guidance thanks to comb-style autoglide crossbars, even at high speeds and fill weights


Tribo-optimised long-life plastic rollers for wear and abrasion-optimised running


Due to the offset between upper run and lower run, the plastic rollers glide past each other


Equal pitch of the e-chain® links with and without roller for smooth rolling of the e-chain®


Tough pivoting steel mounting brackets available


Aluminium guide trough system with special geometry available

System P4 | Series P4.32 | Product range

Low noise, abrasion-resistant for travel lengths up to 500m

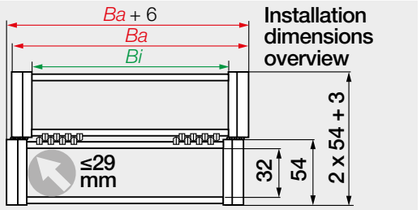
32



Series P4.32 | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	P4.32 [kg/m]
P4.32.10	100	132	| 150 | 175 | 200 | 250 |	≈ 2.71
P4.32.15	150	182	| 150 | 175 | 200 | 250 |	≈ 3.04
P4.32.20	200	232	| 150 | 175 | 200 | 250 |	≈ 3.34
P4.32.25	250	282	| 150 | 175 | 200 | 250 |	≈ 3.66

This type of system should be designed in conjunction with our engineering team.



Inner height e-chain®: 32mm

Outer height e-chain®: 54mm

Pitch per e-chain® link: 56mm

Max. cable diameter: Max. ø 29mm

Links per metre: 18 pieces

18 links correspond to: 1,008mm

Mounting brackets	Interior separation	Guide troughs
		
Tough, pivoting steel mounting brackets for strong connection	Cable-friendly interior separations available	Special P4 aluminium guide trough system available

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

System P4 | Series P4.42 | Product range

Low noise, abrasion-resistant for travel lengths up to 600m

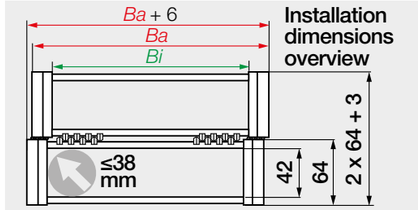
42



Series P4.42 | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	P4.42 [kg/m]
P4.42.10	100	154	| 100 | 125 | 150 | 200 | 250 |	≈ 3.95
P4.42.15	150	202	| 100 | 125 | 150 | 200 | 250 |	≈ 4.22
P4.42.20	200	254	| 100 | 125 | 150 | 200 | 250 |	≈ 4.47

This type of system should be designed in conjunction with our engineering team.



Inner height e-chain®: 42mm

Outer height e-chain®: 64mm

Pitch per e-chain® link: 67mm

Max. cable diameter: Max. ø 38mm

Links per metre: 15 pieces

15 links correspond to: 1,005mm

Mounting brackets	Interior separation	Guide troughs
		
Tough, pivoting steel mounting brackets for strong connection	Cable-friendly interior separations available	Special P4 aluminium guide trough system available

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact



Tough: pivoting steel mounting brackets available

Low vibration: offset operation of upper and lower run

i.Sense condition monitoring: with optional smart sensors

Longer service life: maintenance-free tribo-polymer plain bearings

Low maintenance: tribo-optimised plastic rollers

Secure guidance: comb style autoglide crossbars

Smooth rolling: same size of roller and standard e-chain® links

Longest travels, even faster and quieter - new generation P4.1

P4.1 - merging two core products for more service life. By developing new plastic compounds, igus® was able to further optimise the P4 system and significantly increase reliability and system availability with the P4.1 rol e-chain®. There is a bearing point in every connection of the e-chain® links. This has now been equipped with maintenance-free plain bearings, which more than doubles the service life. Optionally an intelligent wear sensor ensures a longer service life of the P4.1 for crane and linear robot systems. Due to the offset between upper run and lower run, the plastic rollers are not rolled over, but roll past each other to allow very smooth running. As a result, the coefficient of friction decreases and the drive power is reduced by 57%.

- less friction, twice the service life
- Travel lengths of 1,000m and more are possible
- For travels at speeds up to 10m/s
- Inner height: 56mm and 80mm

Typical industries and applications

● Crane equipment ● Automated storage and retrieval systems ● Plant construction ● Gantry robots ● Material handling

Find a video online
► www.igus.eu/P4.1_Film

Technical data

Speed gliding	≤ 10 [m/s]
Acceleration gliding	≤ 50 [m/s²]
igumid G material, permitted temperature °C	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

More information ► www.igus.eu/P4.1

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
P41.56	56	187 - 400	257 - 470	84	200 - 350	1,000	**1240**
P41.80	80	187 - 400	263 - 476	108	200 - 350	1,000	**1241**

Note: The P41.56/P41.80 replaces the previous P4.56/P4.80 series and are compatible for spare parts requirements!



P4.1 profile rol e-chain®
less friction, twice the service life

Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ► www.igus.eu/contact

Available from stock. Ready to ship in 5 - 7 business days*
*Average time before the ordered goods are dispatched.

System P4 | Features | Accessories



Less friction, twice the service life compared to P4



Longer service life due to maintenance-free tribo-polymer plain bearings in the pin/bore connection of the e-chain® links



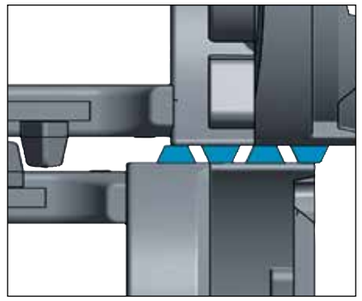
Intelligent networking and condition monitoring with **i.Sense** - P4.1 with optional smart sensors



For higher fill weights +50% and maximum torsional stiffness, roller extension links are available



Tribo-optimised long-life plastic rollers for wear and abrasion-optimised running



Due to the offset between upper run and lower run, the plastic rollers glide past each other

3D CAD, configurators, service life calculation and more ► www.igus.eu/P4.1

P4.1 | Series P41.56 | Product range

Travel lengths up to 1,000m

56

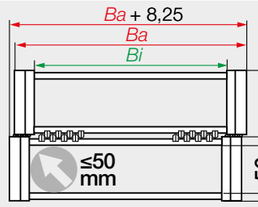


Series P41.56 | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	P4.56 [kg/m]
P41.56. 18	187	257	| 200 | 250 | 300 | 350 |	≈ 6.72
P41.56. 20	200	270	| 200 | 250 | 300 | 350 |	≈ 7.03
P41.56. 25	250	320	| 200 | 250 | 300 | 350 |	≈ 7.39
P41.56. 30	300	370	| 200 | 250 | 300 | 350 |	≈ 7.79
P41.56. 35	350	420	| 200 | 250 | 300 | 350 |	≈ 8.19
P41.56. 40	400	470	| 200 | 250 | 300 | 350 |	≈ 8.49

Note: The P41.56/P41.80 replaces the previous P4.56/P4.80 series and are compatible for spare parts requirements!

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®: 56mm

Pitch per e-chain® link: 91mm

Links per metre: 11 pieces

Outer height e-chain®: 84mm

Max. cable diameter: Max. ø 50mm

11 links correspond to: 1,001mm

Mounting brackets	Interior separation	Extension links	Guide troughs
			
Tough, pivoting steel mounting brackets for strong connection	Cable-friendly interior separations available	Centre link solution for higher fill weights - plus 50% possible	Special P4 aluminium guide trough system available

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

P4.1 | Series P41.80 | Product range

Travel lengths up to 1,000m

80

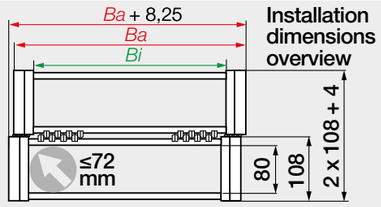


Series P41.80 | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	P4.80 [kg/m]
P41.80. 18	187	263	| 200 | 250 | 300 | 350 |	≈ 8.85
P41.80. 20	200	276	| 200 | 250 | 300 | 350 |	≈ 9.13
P41.80. 25	250	326	| 200 | 250 | 300 | 350 |	≈ 9.46
P41.80. 30	300	376	| 200 | 250 | 300 | 350 |	≈ 9.83
P41.80. 35	350	426	| 200 | 250 | 300 | 350 |	≈ 10.19
P41.80. 40	400	476	| 200 | 250 | 300 | 350 |	≈ 10.46

Note: The P41.56/P41.80 replaces the previous P4.56/P4.80 series and are compatible for spare parts requirements!

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®: 80mm

Pitch per e-chain® link: 100mm

Links per metre: 10 pieces

Outer height e-chain®: 108mm

Max. cable diameter: Max. ø 72mm

10 links correspond to: 1,000mm

Mounting brackets	Interior separation	Extension links	Guide troughs
			
Tough, pivoting steel mounting brackets for strong connection	Cable-friendly interior separations available	Centre link solution for higher fill weights - plus 50% possible	Special P4 aluminium guide trough system available

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

E4/4
rol e-chain®
Travel lengths up to 800m, rolling instead of gliding

Advantages E4/4 rol e-chain®
- Special solution for long travels
- 75% less drive power to move the e-chain®
- Travel lengths up to 800m possible with E4/4 rol e-chain®
- Speeds up to 6m/s possible
- Various roller types for optimum application adaption
- Uniform roller resistance in dirty environments

When to use another e-chain® series:
- If a cost-effective rol e-chain with a travel of up to 150m is required, for medium load requirements
  ► **E2/000 rol e-chain®, page 1258**
- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57%
  ► **P4/P4.1 systems, page 1232**
- When you want a self-guiding e-chain system® without any guide troughs
  ► **autoglide, page 1264**





Travel lengths up to 800m, rolling instead of gliding - E4/4 rol e-chain®

Conventional design e-chains® are used gliding for long travels. The technical limits of this operating mode were the reason for development of the igus® E4/4 rol e-chain®. The demands have increased steadily in recent years. Travel lengths of 800 metres now pose new challenges in cranes along with high travel speeds and low noise with high cable loads.

- Reduction of drive power needed to move the e-chain®
- Travel lengths up to 800m possible
- Speeds up to 6m/s possible
- Various roller types for optimum application adaption
- Uniform roller resistance in dirty environments
- Available as ready-to-fit harnessed system with guarantee

Typical industries and applications

● Crane facilities ● Bulk handling/material handling ● Mining/construction machinery ● Displacement systems

Technical data

Speed rolling	≤ 10 [m/s]
Acceleration rolling	≤ 50 [m/s²]
igumid G material, permitted temperature °C	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
							
e-chains® with crossbars every link the all-rounder - also for particularly demanding applications							
2828R	32	50 - 400	74 - 424	54	125 - 300	250	**1246**
3838R	42	50 - 400	77 - 427	64	150 - 350	330	**1248**
4040R	56	50 - 600	86 - 636	84	200 - 400	500	**1250**
5050R	80	50 - 600	100 - 650	108	250 - 500	600	**1254**
							
e-tubes fully enclosed, excellent cable protection							
7728R	32	50 - 300	74 - 324	54	150 - 300	250	**1246**
7838R	42	50 - 300	77 - 327	64	200 - 350	330	**1248**
8840R	56	75 - 462	111 - 499	84	300 - 400	500	**1250**
9850R	80	75 - 462	125 - 513	108	300 - 500	600	**1254**
							
Heavy duty e-chain® with crossbars every link for very long travels with very heavy fill weights							
4040RHD	56	87 - 550	141 - 604	84	200 - 400	600	**1252**
5050RHD	80	50 - 600	110 - 660	108	250 - 500	800	**1256**

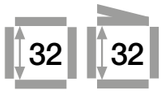
Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Available from stock. Ready to ship in 5 - 7 business days*

*Average time before the ordered goods are dispatched.

RolE e-chains® | 2828R·7728R | Product range

Rolling instead of gliding, travel lengths up to 250m





e-chains® | Series 2828R | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 7728R | Fully enclosed (lids openable along the outer radius, from one side)

Part No.			Bi	Ba	2828R	7728R
e-chains® / e-tubes			[mm]	[mm]	[kg/m]	[kg/m]
2828R.	7728R.[1]	05.	50	74	≈ 1.73	≈ 2.63
2828R.	–	06.	68	92	≈ 1.79	–
2828R.	7728R.	07.	75	99	≈ 1.84	≈ 2.75
2828R.	–	087.	87	111	≈ 1.93	–
2828R.	–	097.	97	120	≈ 1.99	–
2828R.	7728R.	10.	100	124	≈ 2.02	≈ 2.83
2828R.	7728R.	11.	108	132	≈ 2.08	≈ 2.94
2828R.	–	112.	112	137	≈ 2.15	–
2828R.	7728R.	12.	125	149	≈ 2.20	≈ 3.03
2828R.	–	137.	137	162	≈ 2.29	–
2828R.	7728R.	15.	150	174	≈ 2.38	≈ 3.19
2828R.	–	162.	162	187	≈ 2.44	–
2828R.	7728R.	17.	168	192	≈ 2.51	≈ 3.39
2828R.	–	18.	175	199	≈ 2.56	–
2828R.	–	187.	187	212	≈ 2.65	–
2828R.	7728R.	20.	200	224	≈ 2.74	≈ 3.59

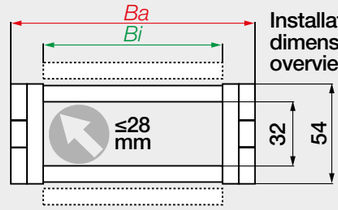
Part No.			Bi	Ba	2828R	7728R
e-chains® / e-tubes			[mm]	[mm]	[kg/m]	[kg/m]
2828R.	–	212.	212	237	≈ 2.87	–
2828R.	–	23.	225	249	≈ 2.92	–
2828R.	–	237.	237	262	≈ 3.05	–
2828R.	7728R.	25.	250	274	≈ 3.10	≈ 4.04
2828R.	–	262.	262	286	≈ 3.19	–
2828R.	–	28.	275	299	≈ 3.28	–
2828R.	–	29.	287	312	≈ 3.37	–
2828R.	7728R.	30.	300	324	≈ 3.46	≈ 4.43
2828R.	–	312.	312	337	≈ 3.59	–
2828R.	–	325.	325	349	≈ 3.68	–
2828R.	–	337.	337	362	≈ 3.77	–
2828R.	–	350.	350	374	≈ 3.86	–
2828R.	–	362.	362	387	≈ 3.95	–
2828R.	–	375.	375	399	≈ 4.04	–
2828R.	–	387.	387	412	≈ 4.11	–
2828R.	–	400.	400	424	≈ 4.18	–

*Radius not available for e-tubes. 1) Lid removable only, no hinged option

Available bend radii *R* [mm] | 125* | 150 | 175 | 200 | 220 | 250 | 300 |

This type of system should be designed in conjunction with our engineering team.

RolE e-chains® | Series 2828R·7728R | Installation dimensions



Installation dimensions overview

Inner height e-chain®
32mm

Outer height e-chain®
54mm

Pitch per e-chain® link
56mm

Max. cable diameter
Max. ø 28mm

Links per metre
18 pieces

15 links correspond to
1,008mm

Mounting brackets	Interior separation	Guide troughs	
			
Tough KMA mounting brackets for strong connection	Cable-friendly interior separations available	Heavy duty aluminium SuperTrough for high load applications	Steel guide trough, very tough for heavy-duty applications

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Rol e-chains® | 3838R·7838R | Product range



Rolling instead of gliding, travel lengths up to 330m



e-chains® | Series 3838R | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 7838R | Fully enclosed (lids openable along the outer radius, from one side)

Part No.			Bi	Ba	3838R	7838R
e-chains® / e-tubes			[mm]	[mm]	[kg/m]	[kg/m]
3838R.	7838R.[1]	05.	50	77	≈ 2.06	≈ 2.25
3838R.	–	06.	68	95	≈ 2.09	–
3838R.	7838R.	07.	75	102	≈ 2.12	≈ 2.38
3838R.	–	087.	87	115	≈ 2.18	–
3838R.	–	097.	97	123	≈ 2.23	–
3838R.	7838R.	10.	100	127	≈ 2.25	≈ 2.60
3838R.	7838R.	11.	108	135	≈ 2.30	≈ 2.65
3838R.	–	112.	112	140	≈ 2.30	–
3838R.	7838R.	12.	125	152	≈ 2.40	≈ 2.81
3838R.	–	137.	137	165	≈ 2.44	–
3838R.	7838R.	15.	150	177	≈ 2.53	≈ 3.07
3838R.	–	162.	162	190	≈ 2.55	–
3838R.	7838R.	17.	168	195	≈ 2.62	≈ 3.24
3838R.	–	18.	175	202	≈ 2.62	–
3838R.	–	187.	187	215	≈ 2.69	–
3838R.	7838R.	20.	200	227	≈ 2.77	≈ 3.53

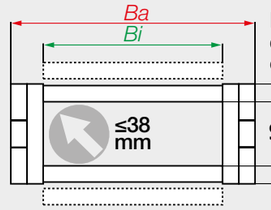
Part No.			Bi	Ba	3838R	7838R
e-chains® / e-tubes			[mm]	[mm]	[kg/m]	[kg/m]
3838R.	–	212.	212	240	≈ 2.84	–
3838R.	–	23.	225	252	≈ 2.92	–
3838R.	–	237.	237	265	≈ 2.96	–
3838R.	7838R.	25.	250	277	≈ 3.05	≈ 4.33
3838R.	–	262.	262	290	≈ 3.06	–
3838R.	–	28.	275	302	≈ 3.17	–
3838R.	–	29.	287	315	≈ 3.19	–
3838R.	7838R.	30.	300	327	≈ 3.32	≈ 4.89
3838R.	–	312.	312	340	≈ 3.34	–
3838R.	–	325.	325	352	≈ 3.41	–
3838R.	–	337.	337	365	≈ 3.46	–
3838R.	–	350.	350	377	≈ 3.68	–
3838R.	–	362.	362	390	≈ 3.74	–
3838R.	–	375.	375	402	≈ 3.79	–
3838R.	–	387.	387	415	≈ 3.85	–
3838R.	–	400.	400	427	≈ 3.90	–

*Radius not available for e-tubes. 1) Lid removable only, no hinged option

Available bend radii *R* [mm] | 150* | 170* | 200 | 215 | 250 | 300 | 350 |

This type of system should be designed in conjunction with our engineering team.

Rol e-chains® | Series 3838R·7838R | Installation dimensions



Installation dimensions overview

Inner height e-chain®
42mm

Outer height e-chain®
64mm

Pitch per e-chain® link
67mm

Max. cable diameter
Max. ø 38mm

Links per metre
15 pieces

15 links correspond to
1,005mm

Mounting brackets



Pivoting KMA mounting bracket with attachment from any side

Interior separation



Cable-friendly interior separations available

Guide troughs



Heavy duty aluminium SuperTrough for high load applications



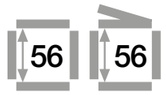
Steel guide trough, very tough for heavy-duty applications

All information on this page is for guidance only ...
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Please contact us at ▶ www.igus.eu/contact



A heavily dust-filled, warm and humid climate pose a great challenge to the components used in this waste bunker

Rol e-chains® | 4040R·8840R | Product range



Rolling instead of gliding, travel lengths up to 500m



e-chains® | Series 4040R | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 8840R | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	4040R [kg/m]	8840R [kg/m]
4040R.	–	05.	50	86	≈ 3.65	–
4040R.	–	06.	65	101	≈ 3.67	–
4040R.	8840R.[1]	07.	75	111	≈ 3.78	≈ 4.24
4040R.	–	08.	87	123	≈ 3.83	–
4040R.	8840R.	10.	100	136	≈ 3.96	≈ 4.52
4040R.	–	11.	112	149	≈ 4.09	–
4040R.	8840R.	12.	125	161	≈ 4.16	≈ 4.88
4040R.	–	13.	137	174	≈ 4.29	–
4040R.	8840R.	15.	150	186	≈ 4.36	≈ 5.31
4040R.	–	16.	162	199	≈ 4.47	–
4040R.	8840R.	17.	175	211	≈ 4.58	≈ 5.56
4040R.	–	18.	187	224	≈ 4.69	–
4040R.	8840R.	20.	200	236	≈ 4.71	≈ 5.89
4040R.	–	21.	212	249	≈ 4.82	–
4040R.	–	22.	225	261	≈ 4.88	–
4040R.	–	23.	237	274	≈ 5.02	–
4040R.	8840R.	25.	250	286	≈ 5.10	≈ 6.61
4040R.	–	26.	262	299	≈ 5.19	–
4040R.	8840R.	27.	275	311	≈ 5.30	≈ 6.89
4040R.	–	28.	287	324	≈ 5.32	–
4040R.	8840R.	30.	300	336	≈ 5.54	≈ 7.27

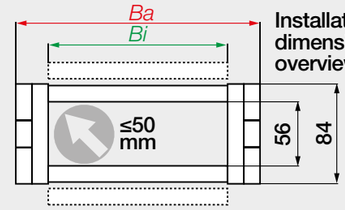
Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	4040R [kg/m]	8840R [kg/m]
4040R.	–	31.	312	349	≈ 5.58	–
4040R.	–	32.	325	361	≈ 5.63	–
4040R.	–	33.	337	374	≈ 5.81	–
4040R.	8840R.	35.	350	386	≈ 5.96	≈ 8.02
4040R.	–	36.	362	399	≈ 5.96	–
4040R.	–	37.	375	411	≈ 5.98	–
4040R.	–	38.	387	424	≈ 6.07	–
4040R.	8840R.	40.	400	436	≈ 6.27	≈ 8.98
4040R.	–	41.	412	449	≈ 6.42	–
4040R.	–	42.	425	461	≈ 6.58	–
4040R.	–	43.	437	474	≈ 6.64	–
4040R.	–	45.	450	486	≈ 6.71	–
4040R.	8840R.	46.	462	499	≈ 6.73	≈ 9.44
4040R.	–	47.	475	511	≈ 6.86	–
4040R.	–	48.	487	524	≈ 6.88	–
4040R.	–	50.	500	536	≈ 7.00	–
4040R.	–	51.	512	549	≈ 7.02	–
4040R.	–	52.	525	561	≈ 7.06	–
4040R.	–	53.	537	574	≈ 7.22	–
4040R.	–	55.	550	586	≈ 7.70	–
4040R.	–	60.	600	636	≈ 7.90	–

*Radius not available for e-tubes. 1) Lid removable only, no hinged option

Available bend radii *R* [mm] | 200* | 250* | 300 | 350 | 400 |

This type of system should be designed in conjunction with our engineering team.

Rol e-chains® | Series 4040R·8840R | Installation dimensions



Installation dimensions overview

Inner height e-chain®
56mm

Outer height e-chain®
84mm

Pitch per e-chain® link
91mm

Max. cable diameter
Max. ø 50mm

Links per metre
11 pieces

11 links correspond to
1,001mm

Mounting brackets	Interior separation	Extension links	Guide troughs	
				
Pivoting KMA mounting bracket with attachment from any side	Cable-friendly interior separations available	Cable-friendly interior separations available	Heavy duty aluminium SuperTrough for high load applications	Steel guide trough, very tough for heavy-duty applications

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igus® E4/4 rol e-chain® saves drive power on long travels. Safely guided in igus® guide troughs

Rol e-chains® | 4040RHD | Product range

Heavy-duty - rolling instead of gliding, travel lengths up to max. 600m

56



e-chains® | Series 4040RHD | Crossbars every link (crossbars removable along the inner and outer radius)

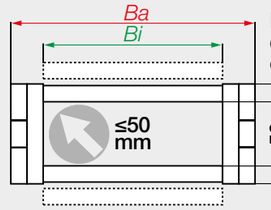
Part No. e-chains®	Bi [mm]	Ba [mm]	4040RHD [kg/m]
4040RHD. 08.	87	141	≈ 5.27
4040RHD. 10.	100	154	≈ 5.36
4040RHD. 11.	112	166	≈ 5.48
4040RHD. 12.	125	179	≈ 5.56
4040RHD. 13.	137	191	≈ 5.69
4040RHD. 15.	150	204	≈ 5.73
4040RHD. 16.	162	216	≈ 5.84
4040RHD. 17.	175	229	≈ 5.97
4040RHD. 18.	187	241	≈ 6.09
4040RHD. 20.	200	254	≈ 6.14
4040RHD. 21.	212	266	≈ 6.21
4040RHD. 22.	225	279	≈ 6.28
4040RHD. 23.	237	291	≈ 6.39
4040RHD. 25.	250	304	≈ 6.50
4040RHD. 26.	262	316	≈ 6.59
4040RHD. 27.	275	329	≈ 6.70
4040RHD. 28.	287	341	≈ 6.75
4040RHD. 30.	300	354	≈ 6.91
4040RHD. 31.	312	366	≈ 6.94

Part No. e-chains®	Bi [mm]	Ba [mm]	4040RHD [kg/m]
4040RHD. 32.	325	379	≈ 7.05
4040RHD. 33.	337	391	≈ 7.17
4040RHD. 35.	350	404	≈ 7.37
4040RHD. 36.	362	416	≈ 7.28
4040RHD. 37.	375	429	≈ 7.38
4040RHD. 38.	387	441	≈ 7.49
4040RHD. 40.	400	454	≈ 7.76
4040RHD. 41.	412	466	≈ 7.68
4040RHD. 42.	425	479	≈ 7.98
4040RHD. 43.	437	491	≈ 7.82
4040RHD. 45.	450	504	≈ 8.15
4040RHD. 46.	462	516	≈ 8.10
4040RHD. 47.	475	529	≈ 8.14
4040RHD. 48.	487	541	≈ 8.39
4040RHD. 50.	500	554	≈ 8.48
4040RHD. 51.	512	566	≈ 8.40
4040RHD. 52.	525	579	≈ 8.57
4040RHD. 53.	537	591	≈ 8.66
4040RHD. 55.	550	604	≈ 9.08

Available bend radii *R* [mm] | 200 | 250 | 300 | 350 | 400 |

This type of system should be designed in conjunction with our engineering team.

Rol e-chains® | Series 4040RHD | Installation dimensions



Installation dimensions overview

Inner height e-chain®: 56mm

Outer height e-chain®: 84mm

Pitch per e-chain® link: 91mm

Max. cable diameter: Max. ø 50mm

Links per metre: 11 pieces

11 links correspond to: 1,001mm

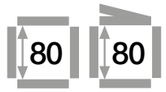
Mounting brackets	Interior separation	Guide troughs	
			
Tough steel mounting brackets for strong connection	Cable-friendly interior separations available	Heavy duty aluminium SuperTrough for high load applications	Steel guide trough, very tough for heavy-duty applications

All information on this page is for guidance only ...
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Please contact us at ▶ www.igus.eu/contact



Shipyard crane - travel 180m, weight 30kg/m: since installation in 2001, this igus® E4/4 rol e-chain® has run trouble-free in spite of severe weather conditions. Even a typhoon did not cause any operating problems

Rol e-chains® | 5050R·9850R | Product range



Rolling instead of gliding, travel lengths up to 600m



e-chains® | Series 5050R | Crossbars every link (crossbars removable along the inner and outer radius)
e-tubes | Series 9850R | Fully enclosed (lids openable along the outer radius, from one side)

Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	5050R [kg/m]	9850R [kg/m]
5050R.	–	05.	50	100	≈ 5.62	–
5050R.	–	06.	65	115	≈ 5.68	–
5050R.	9850R.[1)]	07.	75	125	≈ 5.70	≈ 6.24
5050R.	–	08.	87	137	≈ 5.76	–
5050R.	9850R.	10.	100	150	≈ 5.79	≈ 6.52
5050R.	–	11.	112	163	≈ 5.85	–
5050R.	9850R.	12.	125	175	≈ 5.89	≈ 6.89
5050R.	–	13.	137	188	≈ 5.95	–
5050R.	9850R.	15.	150	200	≈ 5.98	≈ 7.32
5050R.	–	16.	162	213	≈ 6.04	–
5050R.	9850R.	17.	175	225	≈ 6.09	≈ 7.58
5050R.	–	18.	187	238	≈ 6.15	–
5050R.	9850R.	20.	200	250	≈ 6.16	≈ 7.89
5050R.	–	21.	212	263	≈ 6.22	–
5050R.	–	22.	225	275	≈ 6.25	–
5050R.	–	23.	237	288	≈ 6.31	–
5050R.	9850R.	25.	250	300	≈ 6.36	≈ 8.61
5050R.	–	26.	262	313	≈ 6.40	–
5050R.	9850R.	27.	275	325	≈ 6.46	≈ 8.82
5050R.	–	28.	287	338	≈ 6.47	–
5050R.	9850R.	30.	300	350	≈ 6.58	≈ 9.27

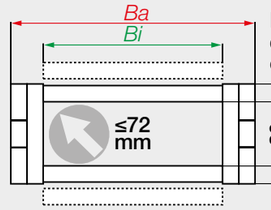
Part No. e-chains® / e-tubes			Bi [mm]	Ba [mm]	5050R [kg/m]	9850R [kg/m]
5050R.	–	31.	312	363	≈ 6.60	–
5050R.	–	32.	325	375	≈ 6.62	–
5050R.	–	33.	337	388	≈ 6.71	–
5050R.	9850R.	35.	350	400	≈ 6.79	≈ 10.02
5050R.	–	36.	362	413	≈ 6.80	–
5050R.	–	37.	375	425	≈ 6.80	–
5050R.	–	38.	387	438	≈ 6.84	–
5050R.	9850R.	40.	400	450	≈ 6.94	≈ 10.98
5050R.	–	41.	412	463	≈ 7.02	–
5050R.	–	42.	425	475	≈ 7.10	–
5050R.	–	43.	437	488	≈ 7.13	–
5050R.	–	45.	450	500	≈ 7.16	–
5050R.	9850R.	46.	462	513	≈ 7.17	≈ 11.44
5050R.	–	47.	475	525	≈ 7.24	–
5050R.	–	48.	487	538	≈ 7.26	–
5050R.	–	50.	500	550	≈ 7.30	–
5050R.	–	51.	512	563	≈ 7.32	–
5050R.	–	52.	525	575	≈ 7.34	–
5050R.	–	53.	537	588	≈ 7.41	–
5050R.	–	55.	550	600	≈ 7.66	–
5050R.	–	60.	600	650	≈ 7.76	–

*Radius not available for e-tubes.1) Lid removable only, no hinged option

Available bend radii *R* [mm] | 250* | 300 | 350 | 400 | 500 |

This type of system should be designed in conjunction with our engineering team.

Rol e-chains® | Series 5050R·9850R | Installation dimensions



Installation dimensions overview

Inner height e-chain®
80mm

Outer height e-chain®
108mm

Pitch per e-chain® link
91mm

Max. cable diameter
Max. ø 72mm

Links per metre
11 pieces

11 links correspond to
1,001mm

Mounting brackets	Interior separation	Extension links	Guide troughs	
				
Pivoting KMA mounting bracket with attachment from any side	Cable-friendly interior separations available	Cable-friendly interior separations available	Heavy duty aluminium SuperTrough for high load applications	Steel guide trough, very tough for heavy-duty applications

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Cross travel of 441.3m, implemented with igus® E4/4 rol e-chain® series 5050R

Rol e-chains® | 5050RHD | Product range

80

Heavy-duty - rolling instead of gliding, travel lengths up to 800m



e-chains® | Series 5050RHD | Crossbars every link (crossbars removable along the inner and outer radius)

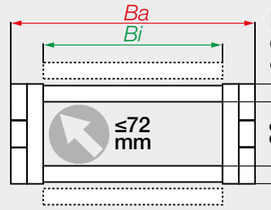
Part No. e-chains®	Bi [mm]	Ba [mm]	5050RHD [kg/m]
5050RHD.05.	50	110	≈ 6.65
5050RHD.06.	65	125	≈ 6.74
5050RHD.07.	75	135	≈ 6.81
5050RHD.08.	87	147	≈ 6.89
5050RHD.10.	100	160	≈ 6.99
5050RHD.11.	112	172	≈ 7.10
5050RHD.12.	125	185	≈ 7.18
5050RHD.13.	137	197	≈ 7.32
5050RHD.15.	150	210	≈ 7.35
5050RHD.16.	162	222	≈ 7.47
5050RHD.17.	175	235	≈ 7.60
5050RHD.18.	187	247	≈ 7.71
5050RHD.20.	200	260	≈ 7.77
5050RHD.21.	212	272	≈ 7.84
5050RHD.22.	225	285	≈ 7.91
5050RHD.23.	237	297	≈ 8.02
5050RHD.25.	250	310	≈ 8.13
5050RHD.26.	262	322	≈ 8.22
5050RHD.27	275	335	≈ 8.32
5050RHD.28.	287	347	≈ 8.38
5050RHD.30.	300	360	≈ 8.53

Part No. e-chains®	Bi [mm]	Ba [mm]	5050RHD [kg/m]
5050RHD.31.	312	372	≈ 8.57
5050RHD.32.	325	385	≈ 8.67
5050RHD.33.	337	397	≈ 8.79
5050RHD.35.	350	410	≈ 8.99
5050RHD.36.	362	422	≈ 8.90
5050RHD.37.	375	435	≈ 9.00
5050RHD.38.	387	447	≈ 9.11
5050RHD.40.	400	460	≈ 9.38
5050RHD.41.	412	472	≈ 9.31
5050RHD.42.	425	485	≈ 9.60
5050RHD.43.	437	497	≈ 9.44
5050RHD.45.	450	510	≈ 9.55
5050RHD.46.	462	522	≈ 9.72
5050RHD.47.	475	535	≈ 9.76
5050RHD.48.	487	547	≈ 10.01
5050RHD.50.	500	560	≈ 10.11
5050RHD.51.	512	572	≈ 10.02
5050RHD.52.	525	585	≈ 10.19
5050RHD.53.	537	597	≈ 10.29
5050RHD.55.	550	610	≈ 10.71
5050RHD.60.	600	660	≈ 10.94

Available bend radii *R* [mm] | 250* | 300 | 350 | 400 | 500 |

This type of system should be designed in conjunction with our engineering team.

Rol e-chains® | Series 5050RHD | Installation dimensions



Installation dimensions overview

Inner height e-chain®: 80mm

Outer height e-chain®: 108mm

Pitch per e-chain® link: 91mm

Max. cable diameter: Max. ø 72mm

Links per metre: 11 pieces

11 links correspond to: 1,001mm

Mounting brackets



Tough steel mounting brackets for strong connection

Interior separation



Cable-friendly interior separations available

Guide troughs



Heavy duty aluminium SuperTrough for high load applications



Steel guide trough, very tough for heavy-duty applications

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact



A heavy-duty rol e-chain® supplies energy and signals. The principle of the rol e-chain® ensures low rolling resistance even in the case of long travel distances in a dirty environment

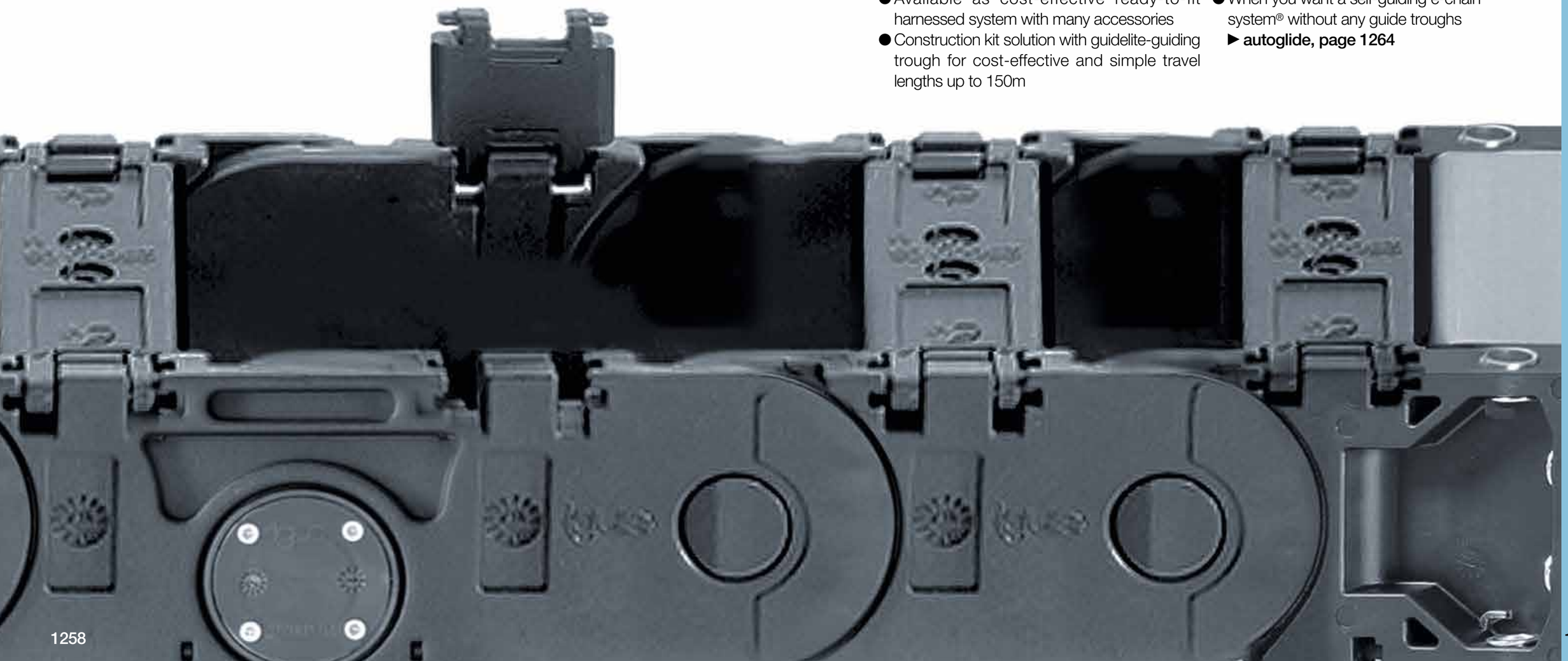
E2/000
rol e-chain®
For travel lengths up to 150m, energy efficient and cost-effective

Advantages E2/000 rol e-chain®:

- Required drive power is reduced up to 75% while increasing the service life of the e-chain®
- Low-noise operation as the rol e-chain® link has the same pitch as the standard e-chain® link
- Max. rolling speed up to 4m/s
- Available in 2 sizes
- Available as cost-effective ready-to-fit harnessed system with many accessories
- Construction kit solution with guidelite-guiding trough for cost-effective and simple travel lengths up to 150m

When to use another e-chain® series:

- Very high fill weights for long travels
  ▶ **E4/4HD heavy-duty, page 1214**
- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57%
  ▶ **P4/P4.1 systems, page 1232**
- When you want a self-guiding e-chain system® without any guide troughs
  ▶ **autoglide, page 1264**





Universal connection: many mounting options with or without strain relief

Fast filling: openable along the outer radius, from both sides

Rolling instead of gliding: the upper run rolls on the lower run of the e-chain®

Long service life: high-strength rollers, quiet design, stainless steel ball bearings

High strength: large pin/bore and crossbar with high locking force

Easy to assemble: fast opening and closing by hand

Cost-effective, long travels - E2/000 rol e-chain®

The igus® rol e-chain® of the E2/000 series enables very cost-effective travel lengths up to 150m. As a result, the drive power needed is reduced by up to 75% and the service life of the e-chain® is increased. The rol e-chain® of the E2/000 series is the perfect solution for long travels in simple environments, e.g. in greenhouses, etc.

- Economic, travel length up to 150m
- Low-noise operation as the rol e-chain® link has the same pitch as the standard e-chain® link
- Max. rolling speed up to 4m/s
- Available in 2 sizes
- Available as cost-effective ready-to-fit harnessed system
- Construction kit solution with guidelite-guiding trough for cost-effective and simple travel lengths up to 150m

Typical industries and applications

● Greenhouses ● Crane equipment ● Bulk-handling/material handling equipment ● Traversing systems ● Travel distances up to 150m ● Applications with low cycle numbers

Technical data

Speed rolling	≤ 4 [m/s]
Acceleration rolling	≤ 50 [m/s²]
igumid G material, permitted temperature °C	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

More information ▶ www.igus.eu/E2000R

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
 **E2/000 rol e-chains®** - crossbars openable along the outer radius, from both sides							
2700R	35	50 - 175	66 - 194	50	150	150	**1262**
3500R	45	75 - 225	95 - 245	64	125 - 200	150	**1263**

Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Available from stock. Ready to ship in 5 - 7 business days*
*Average time before the ordered goods are dispatched.

Even more cost-effective: E2/000 rol e-chain® with guidelite guide trough as a construction kit solution

- Cost-effective travel lengths up to 150m
- Construction kit system for long travels with low cycle duty
- Lightweight, cost-effective and corrosion-resistant

More information ▶ www.igus.eu/guidelite





E2/000 rol e-chain® in a guidelite guide trough on an irrigation plant

E2/000 Rol e-chains® | 2700R | Product range

35

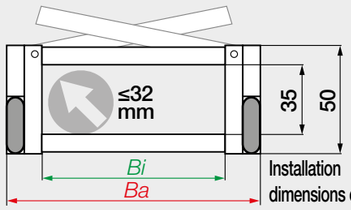
Travel lengths up to 150m - energy-efficient and cost-effective



e-chains® | Series 2700R | Crossbars openable along the outer radius, from both sides

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	2700R [kg/m]
2700R.05	50	66	| 150 |	≈ 1.17
2700R.06	65	81	| 150 |	≈ 1.24
2700R.07	75	91	| 150 |	≈ 1.30
2700R.09	90	106	| 150 |	≈ 1.37
2700R.10	100	116	| 150 |	≈ 1.39
2700R.12	125	141	| 150 |	≈ 1.48
2700R.15	150	166	| 150 |	≈ 1.62
2700R.17	175	194	| 150 |	≈ 1.85

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®
35mm

Pitch per e-chain® link
56mm

Links per metre
18 pieces

Outer height e-chain®
50mm

Max. cable diameter
Max. ø 32mm

18 links correspond to
1,008mm

Mounting brackets



Pivoting KMA mounting bracket with attachment from any side



Plastic mounting brackets with strain relief options



Steel mounting brackets, pivoting, tough and electrically conductive

Interior separation



Cable-friendly interior separations available

Guide troughs



Aluminium SuperTrough, basic version

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

E2/000 Rol e-chains® | 3500R | Product range

45

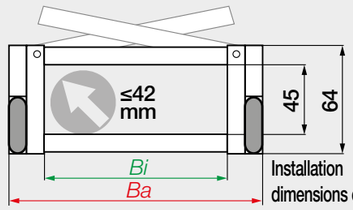
Travel lengths up to 150m - energy-efficient and cost-effective



e-chains® | Series 3500R | Crossbars openable along the outer radius, from both sides

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	3500R [kg/m]
3500R.050	50	70	| 125 | 150 | 200 |	≈ 1.60
3500R.075	75	95	| 125 | 150 | 200 |	≈ 1.78
3500R.100	100	120	| 125 | 150 | 200 |	≈ 1.93
3500R.115	115	135	| 125 | 150 | 200 |	≈ 1.99
3500R.125	125	145	| 125 | 150 | 200 |	≈ 2.03
3500R.150	150	170	| 125 | 150 | 200* |	≈ 2.17
3500R.175	175	195	| 125 | 150 | 200 |	≈ 2.28
3500R.200	200	220	| 125 | 150 | 200 |	≈ 2.45
3500R.225	225	245	| 125 | 150 | 200 |	≈ 2.59
3500R.250	250	270	| 125 | 150 | 200 |	≈ 2.73

This type of system should be designed in conjunction with our engineering team. *Radius available upon request.



Installation dimensions overview

Inner height e-chain®
45mm

Pitch per e-chain® link
67mm

Links per metre
15 pieces

Outer height e-chain®
64mm

Max. cable diameter
Max. ø 42mm

15 links correspond to
1,005mm

Mounting brackets



Pivoting KMA mounting bracket with attachment from any side



Plastic mounting brackets with strain relief options



Steel mounting brackets, pivoting, tough and electrically conductive

Interior separation



Cable-friendly interior separations available

Guide troughs



Aluminium SuperTrough, basic version

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

autoglide

Make savings on long travel distances with self-guiding e-chains® - autoglide

Advantages autoglide:

- Self-guiding e-chain systems®, without the need for any guide troughs
- Safe, low noise, abrasion-resistant and energy efficient
- Available in three versions
- Travels up to 80m possible
- For travels at speeds up to 4m/s
- Cost-effective solution, guide troughs not required
- Very fast installation times for long travel distances, no guide troughs needed!

AG5
▶ From page 1266



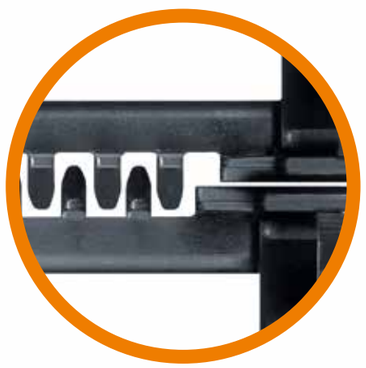
E2/000AG
▶ From page 1276



E4.1AG
▶ From page 1282











autoglide 5

Energy and data transmission installed in just 1 hour

Advantages autoglide 5:

- Can easily be installed in an aisle on a steel rope or profile
- Cost-effective
- 88% less assembly time compared to aluminium guide troughs
- Long-lasting, maintenance-free and easy to clean
- Energy, data, air and liquids in ONE system
- 4m/s speed
- Travel distance up to 80m
- Quiet operation: 63db(A) at 2m/s
- Floor remains free, no guide trough needed
- Available as a harnessed system with cables, hoses and connectors

When to use another system:

- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57%
  ► **P4/P4.1 systems, page 1232**
- When you want a strong E4/4 rol e-chain® requiring 75% less drive power
  ► **E4/4 rol e-chain®, page 1242**

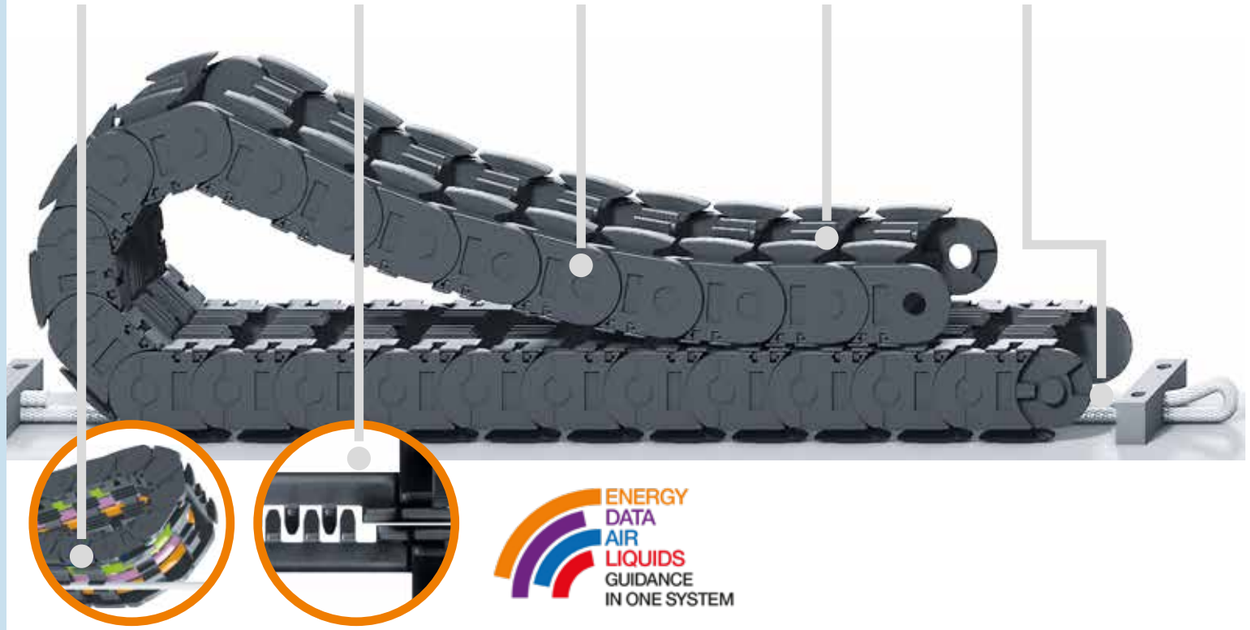
New design: guide element for steel rope

Smooth running: offset operation of upper and lower run

High strength: large pin/bore and crossbar with high locking force

Secure guidance: comb style autoglide crossbars

Stays on track: PVC-jacketed steel rope



ENERGY DATA AIR LIQUIDS GUIDANCE IN ONE SYSTEM

Energy and data transmission installed in 1 hour - autoglide 5

autoglide 5 is the alternative to the busbar system - power and data transmission in small spaces. The igus® system autoglide 5 transfers energy, data, fluids and air safely in a single system, is almost maintenance-free and is very cost-effective.

- Can easily be installed in an aisle on a steel rope or profile
- Cost-effective
- 88% less assembly time compared to aluminium guide troughs
- Long-lasting, maintenance-free and easy to clean
- Energy, data, air and liquids in ONE system
- 4m/s speed
- Travel distance up to 80m
- Quiet operation: 63db(A) at 2m/s
- Floor remains free, no guide trough needed
- Available as a harnessed system with cables, hoses and connectors

Typical industries and applications

● Material handling ● Crane systems ● Alternative to busbar system ● Storage and retrieval unit ● Mini-loads ● Material handling

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
2400AG5	25	57 - 77	73 - 93	35	075 - 150*	≤ 80m	**1274**
2600AG5	35	70 - 100	91 - 116	50	075 - 150*	≤ 80m	**1275**



autoglide 5 - self-guiding e-chain® travels safely on a PVC-jacketed steel cable, travel lengths up to 80m possible

*Larger bend radii upon request. Please consult igus® for delivery time.

Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Available from stock. Ready to ship in 3 - 5 business days*

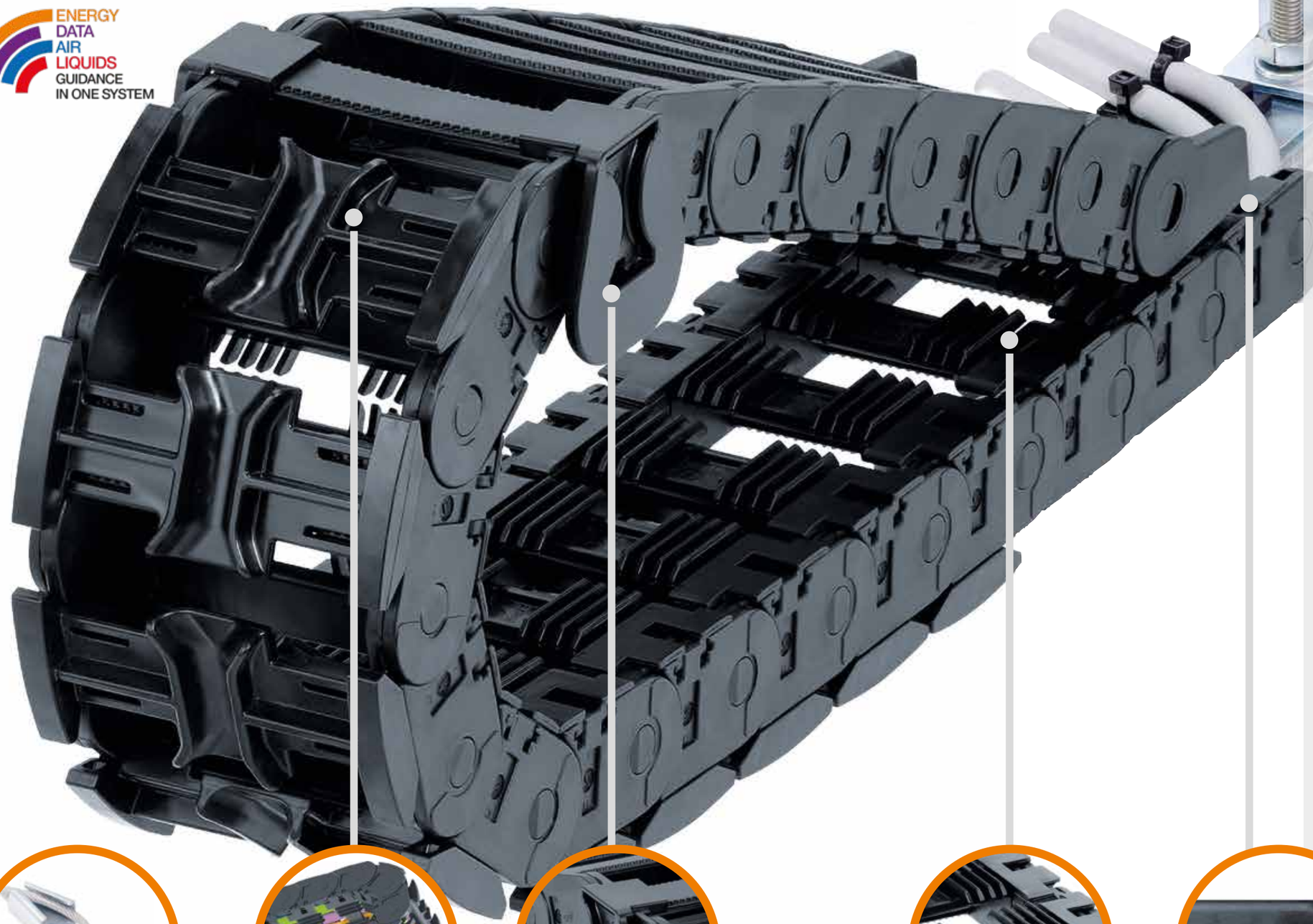
*Average time before the ordered goods are dispatched.



autoglide 5 - tested in the igus® laboratory and assembled by our customer, Beewen GmbH

Energy and data transmission installed in just 1 hour

ENERGY
DATA
AIR
LIQUIDS
GUIDANCE
IN ONE SYSTEM





Rope tensioning unit for precise tensioning of the PVC-jacketed steel rope



Central guide element, enables safe guidance of autoglide 5



A clip-on glide wing ensures safe e-chain® alignment over the first few metres of travel

Often saves two or more other systems needed for transmitting data

How does autoglide 5 work?

The steel rope included is stretched across the floor. Alternatively, guidance via a plastic rope or a profile is also possible. The e-chain® can travel safely on the PVC-jacketed steel rope. The underside of the e-chain® links have a guide element in the middle, so that the energy chain can rest safely on the steel rope. autoglide elements ensure wear-resistant and precise alignment of the upper run of the e-chain®.



Installed in 1 hour ...

88% less assembly time compared to aluminium trough[1)] with new cost-effective autoglide 5 energy supply system for material handling, crane systems and other applications with long travels. 1) Compared to conventional standard solutions with guide trough, tested installation of approx. 40m travel



Comb style injection moulded autoglide crossbars prevent the e-chain® from breakage



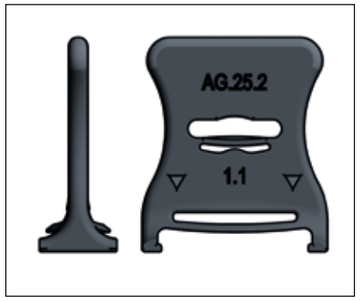
Very smooth running due to the staggered run of upper and lower run due to the interlocking of the tiewrap plates



Fixed-end module for secure assembly



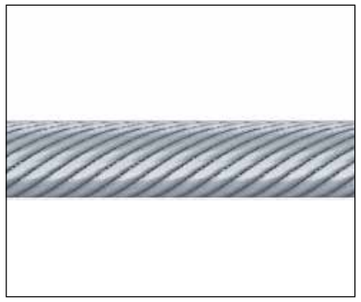
Comb style autoglide elements for precise alignment of the upper run



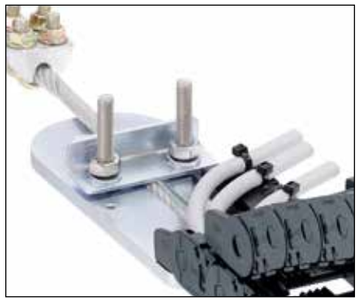
Special autoglide 5 separator available for 2400AG5 series



Plastic mounting brackets with many strain relief options available



PVC-jacketed steel rope ø 10mm available



Fixed-end module for secure and easy assembly

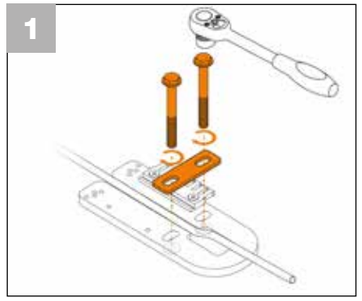


Rope tensioning unit available for exact tensioning

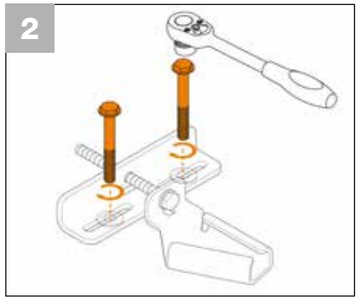
Technical data

Speed gliding*	≤ 4.0 [m/s]
Acceleration gliding*	≤ 5.0 [m/s²]
Material - permitted temperature °C, igumid G	-40°C/+120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

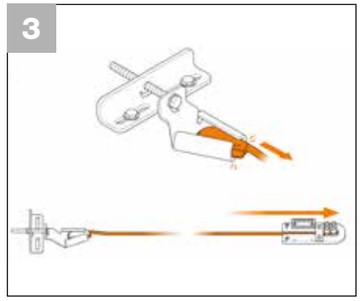
*The values given are maximum values and depend on the travel and fill weight



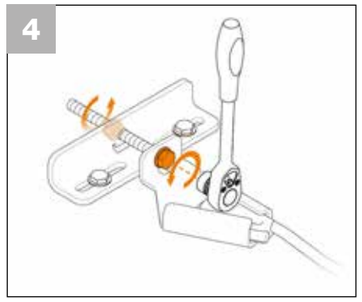
The fixed end module is installed at the fixed end of the travel ...



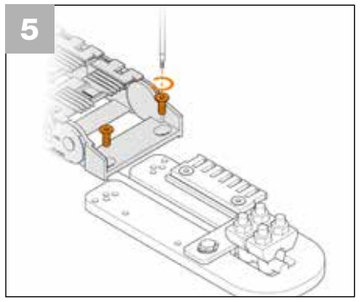
the rope tensioning unit is installed at the other end of the travel ...



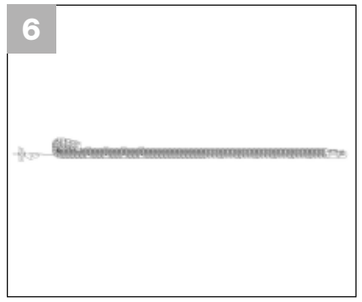
insert PVC-jacketed steel rope ...



tighten by means of a screw ...

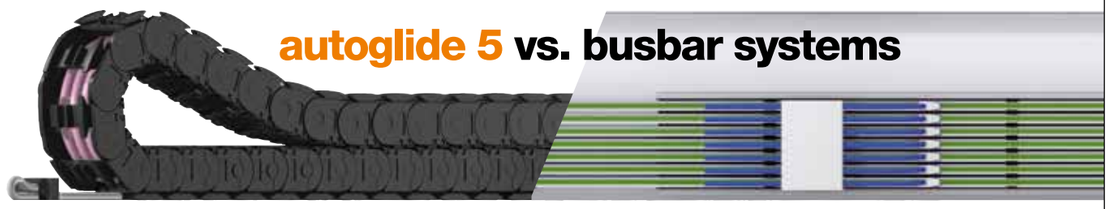


assemble the e-chain® ...



Done!

Various autoglide 5 videos can be found online
▶ www.igus.eu/autoglide5



igus® autoglide 5 - the alternative to busbars. For power and data transmission in compact spaces and for fast lane movements

White paper: is autoglide 5 the alternative to busbar systems?

Up to now, many users have been relying on busbars to supply power to indoor and outdoor cranes, electric trains and storage and retrieval units. Price similar to that of a busbar but with advantages in installation, modularity and maintenance: the autoglide 5 combines the best of both worlds. Read more in the white paper "e-chain® with steel-rope guide as an alternative to a busbar?" **Download the whitepaper ▶ www.igus.eu/autoglide5**



autoglide 5 | Series 2400AG5 | Product range

25

Travel securely a steel rope - travel lengths up to 80m

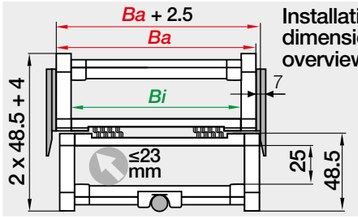


2400AG5 | Crossbars openable along the inner radius, from both sides

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	2400AG5 [kg/m]	Steel rope AG5.SEIL.10 [kg/m]
2400.05AG5	57	73	| 075 | 100 | 125 | 150 | 175* | 200* | 225* | 250* |	≈ 1.02	≈ 0.25
2400.07AG5	77	93	| 075 | 100 | 125 | 150 | 175* | 200* | 225* | 250* |	≈ 1.12	≈ 0.25

*Radius available upon request. Delivery time upon request.

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®
25mm

Pitch per e-chain® link
46mm

Links per metre
22 pieces

Outer height e-chain®
48.5mm

Max. cable diameter
Max. ø 23mm

22 links correspond to
1,012mm

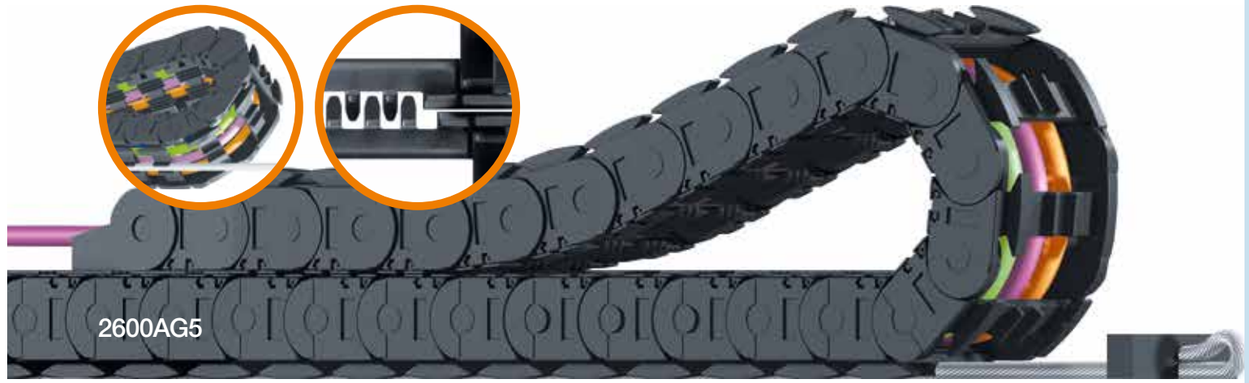
Mounting brackets	Interior separation	Steel cable	Fixed end module	Rope tensioning unit
				
Plastic mounting brackets with strain relief options	Special autoglide 5 separator AG.25.2 available	PVC-jacketed steel rope ø 10mm available	Fixed-end module for secure assembly available	Rope tensioning unit for exact tensioning

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

autoglide 5 | Series 2600AG5 | Product range

35

Travel securely a steel rope - travel lengths up to 80m

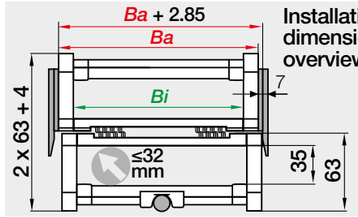


2600AG5 | Crossbars openable along the inner radius, from both sides

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	2400AG5 [kg/m]	Steel rope AG5.SEIL.10 [kg/m]
2600.07AG5	75	91	| 075 | 100 | 125 | 150 | 175* | 200* | 250* |	≈ 1.42	AG5.SEIL.10 ≈ 0.25
2600.10AG5	100	116	| 075 | 100 | 125 | 150 | 175* | 200* | 250* |	≈ 1.49	AG5.SEIL.10 ≈ 0.25

*Radius available upon request. Delivery time upon request.

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®
35mm

Pitch per e-chain® link
56mm

Links per metre
18 pieces

Outer height e-chain®
63mm

Max. cable diameter
Max. ø 32mm

18 links correspond to
1,008mm

Mounting brackets	Interior separation	Steel cable	Fixed end module	Rope tensioning unit
				
Plastic mounting brackets with strain relief options	Cable-friendly interior separations available	PVC-jacketed steel rope ø 10mm available	Fixed-end module for secure assembly available	Rope tensioning unit for exact tensioning

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact



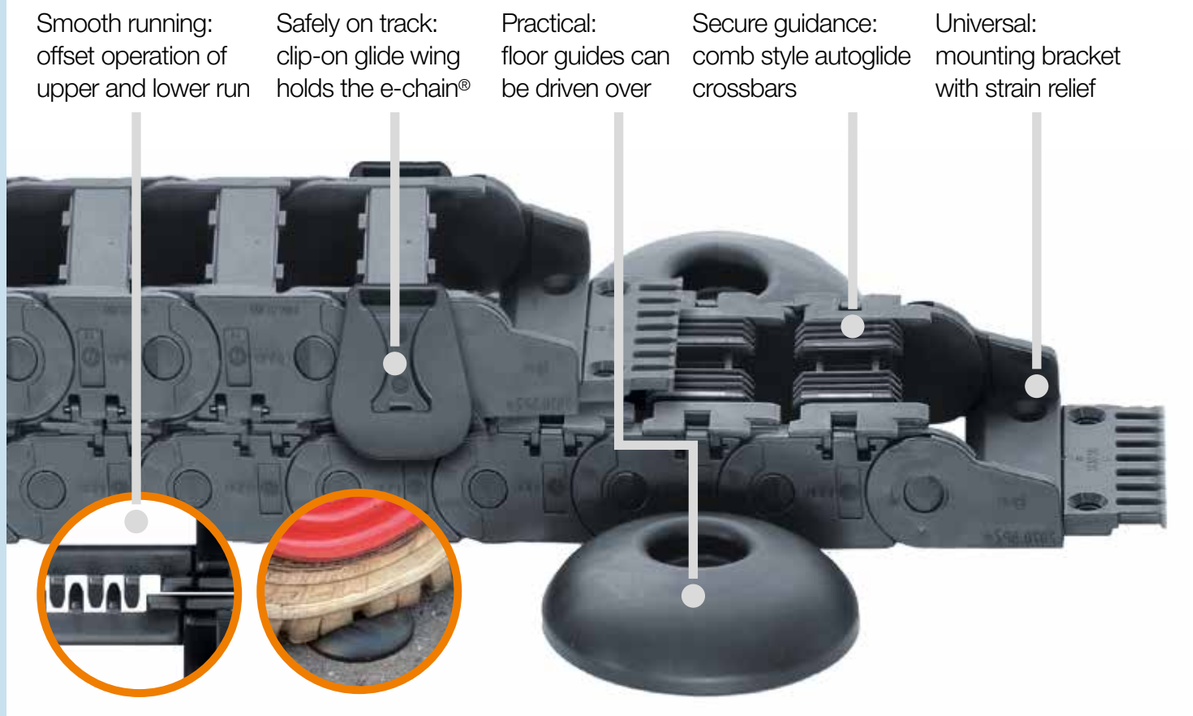
autoglide
E2/000AG
Self-guiding e-chains®

Advantage E2/000AG:

- Travels up to 60m and travel speeds higher than 2.0m/s
- Very compact, avoids troughs forming an obstacle in the working area
- Can be opened along the inner radius
- Also for "half tube" fully enclosed in the outer radius
- Clip-on glide wings, secure movement of the e-chain®
- Floor guides can be driven over

When to use another system:

- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57% ► **P4/P4.1 systems, page 1232**
- When you want a strong E4/4 rol e-chain® requiring 75% less drive power ► **E4/4 rol e-chain®, page 1242**



Self-guiding e-chains® - autoglide E2/000AG

Guide troughs for long travels can be dispensed with when using the autoglide system. Self-guiding e-chains® can glide safely on top of themselves for up to 70 metres. The system has now been extended to the igus® E2/000 and further improved. The autoglide crossbars ensure even longer life. A clip-on glide wing ensures safe e-chain® alignment over the first few metres of travel. The eccentric guides are fastened to the floor every 2 metres.

- Travels up to 60m and travel speeds higher than 2.0m/s
- Very compact, avoids troughs forming an obstacle in the working area
- Quick installation for long travels
- Can be opened along the inner radius
- Also for "half tube" fully enclosed in the outer radius
- Clip-on glide wings, secure movement of the e-chain®
- Floor guides can be driven over

Typical industries and applications

- Greenhouses
- Storage and retrieval equipments
- Conveyor belts
- Indoor cranes
- Handlings
- And many other long travel applications

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
 **autoglide E2/000AG - autoglide self-guiding e-chain®** crossbars along the inner radius fitted with moulded autoglide grooves							
2400AG	25	57 - 77	73 - 93	35	075 - 150*	40	**1280**
2600AG	35	75 - 100	91 - 116	50	075 - 150*	60	**1281**

*Larger bend radii upon request. Please consult igus® for delivery time.

Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Available from stock. Ready to ship in 3 business days*
*Average time before the ordered goods are dispatched.

Technical data

Speed gliding*	**≤ 2.0 [m/s]**
Acceleration gliding*	**≤ 1.0 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C/+120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

*The values given are maximum values and depend on the travel and fill weight

autoglide E2/000AG | 2400AG | Product range

25

Crossbars along the inner radius fitted with moulded autoglide grooves



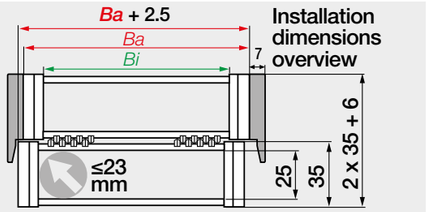
2400AG | Crossbars openable along the inner radius, from both sides

Available widths	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	2400AG [kg/m]	Glide wing**	Floor guide**
2400.05AG	57	73	| 075 | 100 | 125 | 150 | 175* | 200* | 225* | 250* |	≈ 1.00	AG.2400.OF	AG.380.BF
2400.07AG	77	93	| 075 | 100 | 125 | 150 | 175* | 200* | 225* | 250* |	≈ 1.10	AG.2400.OF	AG.380.BF

*Radius available upon request. Delivery time upon request.

**Part No. as an individual part

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®
25mm

Pitch per e-chain® link
46mm

Links per metre
22 pieces

Outer height e-chain®
35mm

Max. cable diameter
Max. ø 23mm

22 links correspond to
1,012mm

Mounting brackets



Pivoting KMA mounting bracket with attachment from any side



Plastic mounting brackets with strain relief options



Steel mounting brackets, pivoting, tough and electrically conductive

Interior separation



Cable-friendly interior separations available

Glide wing



Glide wing for secure e-chain® alignment

Floor guide



Drive-over plastic floor guides available

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

autoglide E2/000AG | 2600AG | Product range

35

Crossbars along the inner radius fitted with moulded autoglide grooves



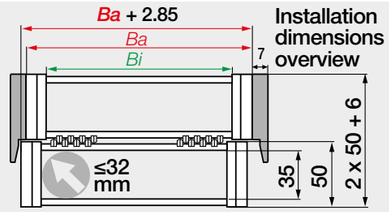
2600AG | Crossbars openable along the inner radius, from both sides

Available widths	*Bi* [mm]	*Ba* [mm]	*R* Available bend radii [mm]	2600AG [kg/m]	Glide wing**	Floor guide**
2600.07AG	75	91	| 075 | 100 | 125 | 150 | 175* | 200* | 225* | 250* |	≈ 1.27	AG.2600.OF	AG.380.BF
2600.10AG	100	116	| 075 | 100 | 125 | 150 | 175* | 200* | 225* | 250* |	≈ 1.40	AG.2600.OF	AG.380.BF

*Radius available upon request. Delivery time upon request.

**Part No. as an individual part

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®
35mm

Pitch per e-chain® link
56mm

Links per metre
18 pieces

Outer height e-chain®
50mm

Max. cable diameter
Max. ø 32mm

18 links correspond to
1,008mm

Mounting brackets



Pivoting KMA mounting bracket with attachment from any side



Plastic mounting brackets with strain relief options



Steel mounting brackets, pivoting, tough and electrically conductive

Interior separation



Cable-friendly interior separations available

Glide wing



Glide wing for secure e-chain® alignment

Floor guide



Drive-over plastic floor guides available

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact



autoglide
E4.1AG
Self-guiding e-chains®

Advantage E4.1AG:
- For the larger e-chains® of the E4.1 system
- Simple guide elements for quick installation
- The autoglide crossbars safely guide the e-chain® replacing the need for a guide trough
- For travel lengths over 10m
- Floor guides can be driven over

When to use another system:
- When you want a profile-rol e-chain® with which you can reduce energy consumption by up to 57% ► **P4/P4.1 systems, page 1232**
- When you want a strong E4/4 rol e-chain® requiring 75% less drive power ► **E4/4 rol e-chain®, page 1242**

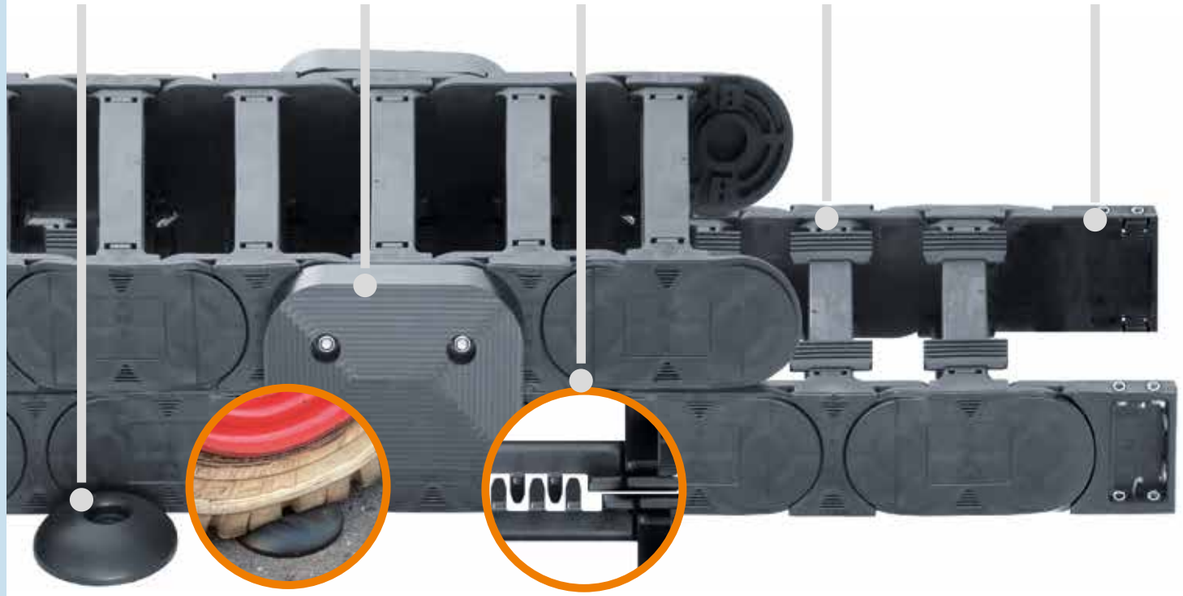
Practical: floor guides can be driven over

Safely on track: glide wing holds the e-chain®

Smooth running: offset operation of upper and lower run

Secure guidance: comb style autoglide crossbars

Universal: KMA attachment from any side



Self-guiding e-chains® - autoglide E4.1AG

For the larger e-chains® of the E4.1 system. Glide wings and floor guides - simple guide elements for quick installation on the floor are available for the autoglide system E4.1AG. The eccentric guides are fastened to the floor every 2 metres. The glide wing fastened on the moving end keeps the e-chain® securely on track. The autoglide crossbars safely guide the e-chain® and replace the guide trough.

- For the larger e-chains® of the E4.1 system
- Simple guide elements for quick installation
- The autoglide crossbars safely guide the e-chain® replacing the need for a guide trough
- For travel lengths over 10m
- Floor guides can be driven over
- For secure guidance of the e-chain® , 2 sliding wings are required on the outer links of the upper run

Typical industries and applications

● Industrial vehicles ● Long travels with easier filling ● Simple outdoor applications

Series	Inner height *hi* [mm]	Inner width *Bi* [mm]	Outer width *Ba* [mm]	Outer height *ha* [mm]	Bend radius *R* [mm]	Travel ≤ [m]	Page
E4.32AG	32	112 - 262	136 - 286	54	100 - 250	60	**1286**
E4.42AG	42	112 - 262	139 - 289	64	125 - 250	70	**1287**
E4.56AG	56	150 - 250	184 - 284	84	150 - 250	80	**1288**

*Larger bend radii upon request. Please consult igus® for delivery time.

autoglide E4.1AG - autoglide self-guiding e-chains®
crossbars along the inner radius fitted with moulded autoglide grooves

Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

Available from stock. Ready to ship in 3 business days*
*Average time before the ordered goods are dispatched.

Technical data

Speed gliding*	**≤ 2.5 [m/s]**
Acceleration gliding*	**≤ 2.5 [m/s²]**
Material - permitted temperature °C, igumid G	**-40°C/+120°C**
Flammability class, igumid G	**VDE 0304 IIC UL94-HB**

*The values given are maximum values and depend on the travel and fill weight

autoglide E4.1AG | E4.32AG | Product range

32

Crossbars along the inner radius fitted with moulded autoglide grooves

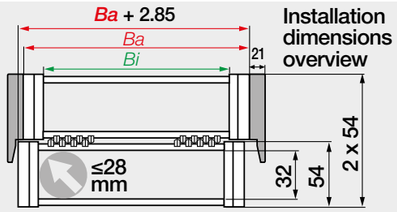


E4.32AG | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E4.32AG [kg/m]	Glide wing**	Floor guide*
E4.32.112.AG.NC	112	136	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300* |	≈ 2.106	AG.280.OF	AG.380.BF
E4.32.12 .AG.NC	125	148	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300* |	≈ 2.176	AG.280.OF	AG.380.BF
E4.32.15 .AG.NC	150	173	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300* |	≈ 2.343	AG.280.OF	AG.380.BF
E4.32.17 .AG.NC	168	191	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300* |	≈ 2.444	AG.280.OF	AG.380.BF
E4.32.20 .AG.NC	200	223	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300* |	≈ 2.657	AG.280.OF	AG.380.BF
E4.32.262.AG.NC	262	286	| 100 | 125 | 150 | 175 | 200 | 220 | 250 | 300* |	≈ 3.050	AG.280.OF	AG.380.BF

*Radius available upon request. Please consult igus® for delivery time.**Part No. as an individual part

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®
32mm

Pitch per e-chain® link
56mm

Links per metre
18 pieces

Outer height e-chain®
54mm

Max. cable diameter
Max. ø 28mm

18 links correspond to
1,008mm

Mounting brackets	Interior separation	Glide wing	Floor guide
			
Pivoting KMA mounting bracket with attachment from any side	Cable-friendly interior separations available	Glide wing for secure e-chain® alignment	Drive-over plastic floor guides available

All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.eu/contact

autoglide E4.1AG | E4.42AG | Product range

42

Crossbars along the inner radius fitted with moulded autoglide grooves

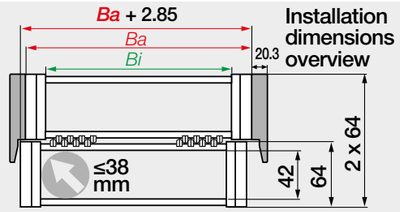


E4.42AG | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	E4.42AG [kg/m]	Glide wing**	Floor guide**
E4.42.112.AG.NC	112	139	| 125 | 150 | 160 | 175 | 200 | 250 | 300* | 350* |	≈ 2.372	AG.380.OF	AG.380.BF
E4.42.12 .AG.NC	125	151	| 125 | 150 | 160 | 175 | 200 | 250 | 300* | 350* |	≈ 2.430	AG.380.OF	AG.380.BF
E4.42.15 .AG.NC	150	176	| 125 | 150 | 160 | 175 | 200 | 250 | 300* | 350* |	≈ 2.569	AG.380.OF	AG.380.BF
E4.42.17 .AG.NC	168	194	| 125 | 150 | 160 | 175 | 200 | 250 | 300* | 350* |	≈ 2.654	AG.380.OF	AG.380.BF
E4.42.20 .AG.NC	200	226	| 125 | 150 | 160 | 175 | 200 | 250 | 300* | 350* |	≈ 2.831	AG.380.OF	AG.380.BF
E4.42.262.AG.NC	262	289	| 125 | 150 | 160 | 175 | 200 | 250 | 300* | 350* |	≈ 3.159	AG.380.OF	AG.380.BF

*Radius available upon request. Please consult igus® for delivery time.**Part No. as an individual part

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®
42mm

Pitch per e-chain® link
67mm

Links per metre
15 pieces

Outer height e-chain®
64mm

Max. cable diameter
Max. ø 38mm

15 links correspond to
1,005mm

Mounting brackets	Interior separation	Glide wing	Floor guide
			
Pivoting KMA mounting bracket with attachment from any side	Cable-friendly interior separations available	Glide wing for secure e-chain® alignment	Drive-over plastic floor guides available

All information on this page is for guidance only ...
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Please contact us at ▶ www.igus.eu/contact

autoglide E4.1AG | E4.56AG | Product range

56

Crossbars along the inner radius fitted with moulded autoglide grooves

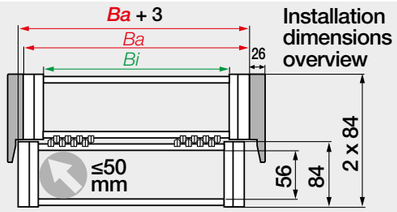


E4.56AG | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths		Bi [mm]	Ba [mm]	R Available bend radii [mm]	E4.56AG [kg/m]	Glide wing**	Floor guide*
E4.56. 15	.AG.NC	150	184	| 150 | 175 | 200 | 240 | 250 | 300* | 350* | 400* | 450* | 500* |	≈ 4.109	AG.400.OF	AG.380.BF
E4.56. 21	.AG.NC	212	247	| 150 | 175 | 200 | 240 | 250 | 300* | 350* | 400* | 450* | 500* |	≈ 4.567	AG.400.OF	AG.380.BF
E4.56. 25	.AG.NC	250	284	| 150 | 175 | 200 | 240 | 250 | 300* | 350* | 400* | 450* | 500* |	≈ 4.896	AG.400.OF	AG.380.BF

*Radius available upon request. Please consult igus® for delivery time.**Part No. as an individual part

This type of system should be designed in conjunction with our engineering team.



Installation dimensions overview

Inner height e-chain®
56mm

Pitch per e-chain® link
91mm

Links per metre
11 pieces

Outer height e-chain®
84mm

Max. cable diameter
Max. ø 50mm

11 links correspond to
1,001mm

Mounting brackets	Interior separation	Glide wing	Floor guide
			
Pivoting KMA mounting bracket with attachment from any side	Cable-friendly interior separations available	Glide wing for secure e-chain® alignment	Drive-over plastic floor guides available

All information on this page is for guidance only ...
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Please contact us at ▶ www.igus.eu/contact

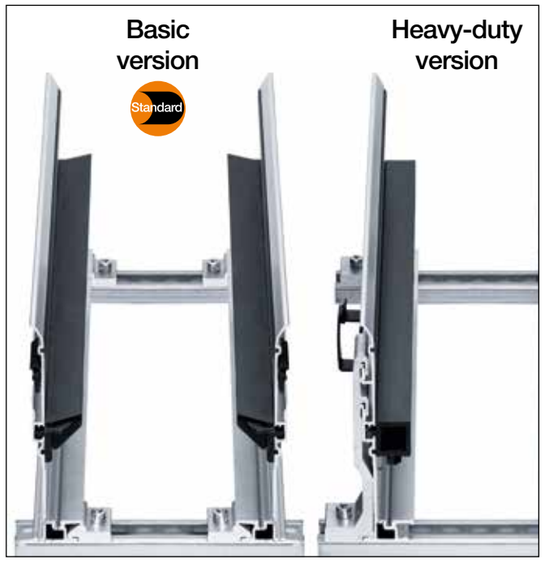


Safely on track: glide wing holds the e-chain®

Guide trough systems

Aluminium SuperTrough | Steel guide trough | Steel support tray | Aluminium support tray | guidefast | guidelite | Tubular trough | Snap-in trough |

Image of an aluminium SuperTrough:
front trough side part with conventional glide bar, rear trough side part with high-speed glide bar



For general applications - aluminium SuperTrough, basic version, standard

- Huge range available for almost all igus® e-chains®
- Very lightweight, modular assembly
- Corrosion-resistant, seawater-resistant aluminium profile
- Assembly- and abrasion-optimised glide bars for higher speeds with tribologically optimised material (new standard for trough series 973/974/975)
- Glide strips protect from lateral wear
- Bottom clamp attached either inwards or outwards - directly on the surface or on the C-profile
- Heavy-duty bracket option for high load applications: you can configure the heavy-duty version at our online-catalogue ▶ **www.igus.eu/alu-guide**
- Conductivity according to DIN EN 61537 - standard

Aluminium SuperTroughs ▶ From page 1298



For heavy-duty applications - steel guide trough

- Very strong and tough steel guide trough for applications in tough environments
- Easy assembly due to installation set for joint and attachment surface connection
- Easy mounting directly to the base of the C-profile
- Large range, 2-piece design, adjustable to e-chain® width
- Available in galvanised steel and stainless steel
- Low friction: Glide bar made of PE
- Fixed end module option available, for fast and easy mounting - without any drilling
- Conductivity according to DIN EN 61537 - standard

Steel guide troughs ▶ From page 1326



For easy support of the lower run - steel support tray

- Simple one-piece steel support trays as a modular construction kit
- Complete system, ready to install
- Easy installation onto your machine, on profiles or wall brackets

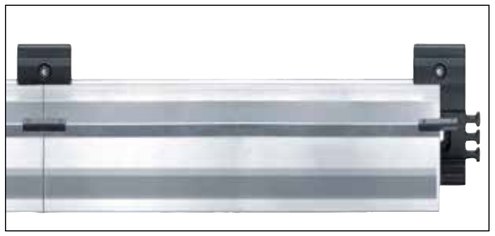
Steel support trays ▶ From page 1356



The flexible construction kit to support the lower run - aluminium support tray

- Corrosion-resistant and seawater-resistant aluminium rails with adjustable width and open principle
- Wear-reducing slide bar integrated as standard
- Easy installation and connection of the e-chain®

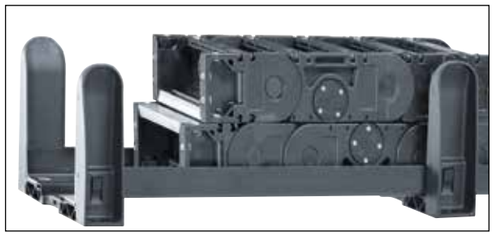
Aluminium support trays ▶ From page 1362



Energy supply for crane girders and indoor cranes - guidefast

- Save up to 80% installation time
- Fits virtually any standard crane girder
- Permanently installed cable can be fixed to the trough brackets
- Wear-reducing: with polymer glide bars (optional)

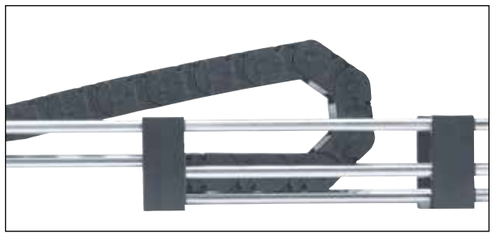
guidefast ▶ From page 1368



Travel lengths up to 150m, quick and cost-effective - igus® guidelite

- Quick assembly saves time
- Very lightweight polymer components
- Corrosion-resistant
- Construction kit solution, from stock

guidelite ▶ From page 1374



Lets light and dirt through - tubular trough system RS

- Resistant to dirt - wear debris falls through
- More open than sheet metal constructions
- Easy and fast assembly and cost-effective
- Easy and space-saving delivery

Tubular trough system RS ▶ From page 1380



Simple and cost-effective - snap-in trough system SP

- Quick and easy assembly
- Fixed inner width due to spacer
- No complex width setting required
- Cost-effective because of easy assembly

Snap-in trough system SP ▶ From page 1386



Various igus® guide trough systems are available



Hundreds of igus® guide troughs available from stock

igus® guide troughs

Guide trough is used in long travels where the e-chain® glides (according to chain type from 5m-12m). They support the smooth low friction operation of the igus® energy chains and energy tubes. If the fixed end is installed at the centre of the travel ("centre-fixed"), the energy chains glide on themselves for half the travel. For the other half, we recommend glide bars installed in the trough, on which the energy chains glide. Guide troughs have glide bars made of highly abrasion-resistant plastic igulen.

Trough type

igus® offers guide troughs made of corrosion-resistant aluminium, steel or stainless steel. The trough type to be used depends on the application conditions and the requirements of the customer. We recommend the igus® standard aluminium SuperTrough.

Glide bars

Glide bars made from igulen are optimised for use with the e-chain® material and offer the lowest gliding friction, noise and wear. With the new high-speed glide bars for the aluminium SuperTrough series 973/974/975, we can achieve a 5x higher abrasion resistance thanks to tribologically optimised material. Developed for particularly fast, gliding applications. Glide bars must be used, if the fixed end is in the centre of the travel. - It means: half of the guide trough has glide bars and the other half is without.

Delivery details

The troughs are delivered in 2m sections. Special lengths up to 6m are possible. The left and right side parts are then installed on site with the appropriate separation distance - depending on the width of the igus® e-chain®. The necessary width is shown by the dimension B_{Ri} on the guide trough pages. The trough side parts can be linked with the base by screwing, welding or a special igus® installation set. The fixed end module for the igus® aluminium SuperTrough is a quick fix for mounting the stationary end of an e-chain® with a KMA-mounting bracket. With this module, easy attachment of the e-chain® with plastic-metal mounting bracket (KMA) to the super aluminium trough is possible, without drilling.



Trough without glide bars -e-chain® glides on e-chain®



Trough with glide bars - e-chain® glides on glide bars



Fixed end centred = 1/2 travel with glide bars - 1/2 travel without glide bars

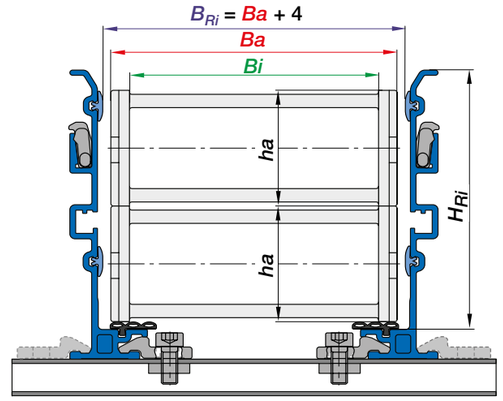
For long travels, the upper run of the igus® e-chains® rests on the lower run. The upper run of the chain glides partly on the lower run and partly on a glide bar. The diagram below shows this. For lateral guidance, an igus® guide trough is necessary. If the fixed end of the system can be placed in the centre, the e-chain® length is calculated as follows: $L_K = {}^{S}/_{2} + K_2$. Placing the fixed end in the centre of the travel offers the shortest e-chain® length. The length of the e-chain® then corresponds to slightly more than half of the travel length. Depending on the technical data for the selected e-chain®, the mounting height of the moving end of the e-chain® must be lowered on some applications. In these cases please contact igus® and we'd be glad to advise.

Selection criteria

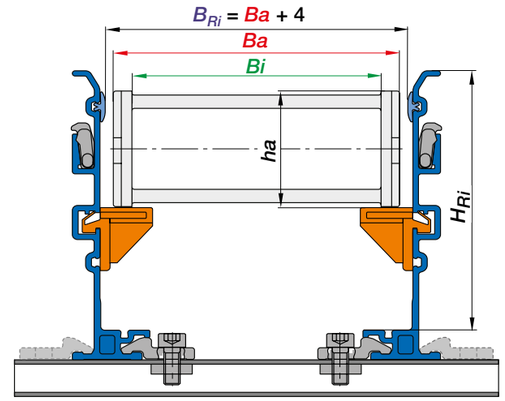
Following parameters are required for design of a trough system: ● e-chain® type (Series, width *Bi*, radius *R*) ● Travel and travel speed ● Fill weight ● Acceleration ● Lateral acceleration ● Environmental conditions

Design and installation of the guide trough

The height of the trough must be at least twice that of the e-chain® height: $H_{Ri} \geq 2 \times ha$. The sides must provide a chamfered opening. The trough inner width is the same as the e-chain® outer width, plus 4mm for an aluminium SuperTrough ($B_{Ri} = Ba + 4$) and plus 5mm for a steel guide trough ($B_{Ri} = Ba + 5$). Along the side of the trough, where the upper run cannot glide on the lower run, glide bars must be installed. Guide troughs with and without glide bars can be obtained from stock for almost all igus® e-chains®. **When assembling the trough parts, the following points must be given particular attention:** ● Properly align all trough parts upon installation ● All screw heads should be flush with the trough ● Smooth level transition between the end of the e-chain® and the glide bars ● Solid connection with the glide surface. **These points must be observed when using assembly-friendly igus® guide troughs.**

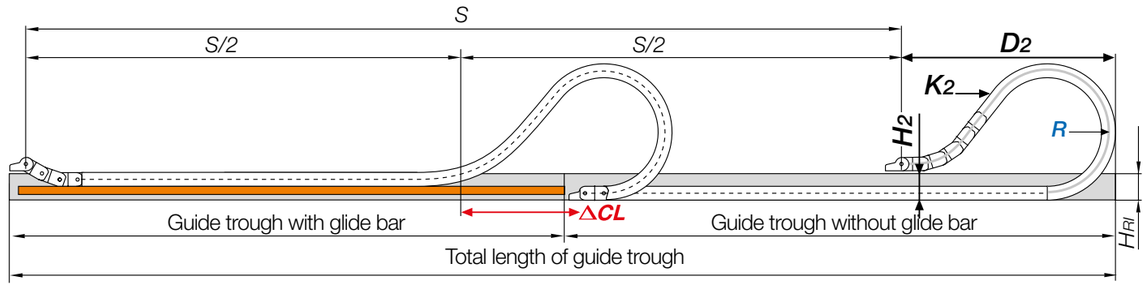


Aluminium SuperTrough without glide bars - upper run glides on the lower run



Aluminium SuperTrough with glide bars. The upper run glides on the glide bars from the middle of the travel (image with the high-speed glide bar)

e-chain® length	$L_K = {}^{S}/_{2} + K_2$
Trough inner height	$H_{Ri} \geq 2 \times ha$
Inner width, Aluminium SuperTroughs	$B_{Ri} = Ba + 4$
Inner width, Steel guide trough	$B_{Ri} = Ba + 5$



● Trough set ● Installation set ● glide bar ● C-profile

Ba = Outer e-chain® width; *Bi* = Inner e-chain® width; *R* = Bend radius; *ΔCL* = Offset fixed end

S = Travel; ${}^{S}/_{2}$ = Half length of travel; B_{Ri} = Trough inner width; B_{Ra} = Trough outer width

H_{Ri} = Trough inner height; H_{Ra} = Trough outer height; *ha* = e-chain® outer height; L_K = e-chain® length

H_2 = Installation height (with lowered moving end); D_2 = Over length for long travels gliding; K_2 = Add-on (with lowered moving end); H_F = Required clearance height

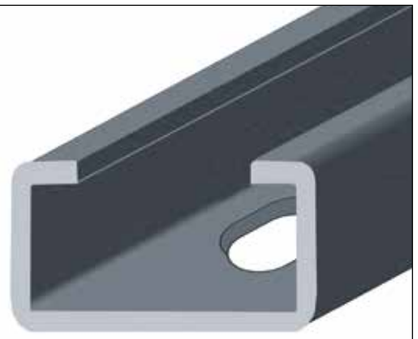
Alu ▶ 1298
Steel ▶ 1326

C-profile Part No. 92.52.XXX

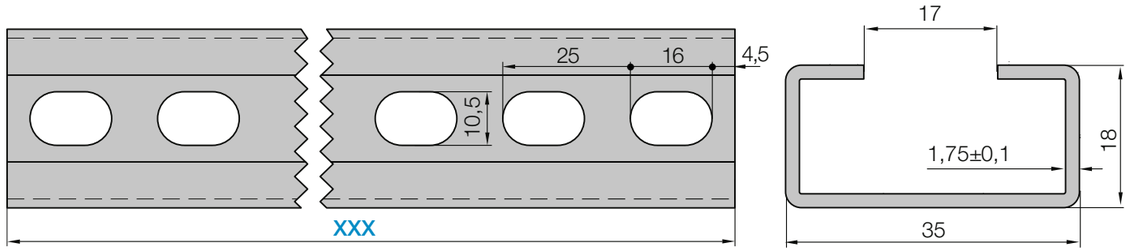
- For all igus® aluminium SuperTrough and steel guide troughs
- Easy attachment of the installation sets to the machine
- Standard material galvanised steel
- Also available as stainless steel* version
- Length tolerances for C-profiles of ±5mm possible!

Please add the C-profile length XXX as shown on the C-profile tables. Example: **92.52.125**

*For stainless steel material AISI 304, please add index E to the Part No. Example **92.52.125.E**



C-profile | Easy attachment of the installation set to the machine





C-profiles Part for all igus® aluminium SuperTrough and steel guide troughs

Tightening torques | Recommendations for metric threads

Recommendations for screw connections on igus® trough systems		
Thread size	Screw material	Tightening torque
M6	8.8 / A2 / A4-70	10Nm
M8	8.8 / A2 / A4-70	Nm
M10	8.8 / A2 / A4-70	35Nm
M12	8.8 / A2 / A4-70	75Nm

Recommendations for screw connections for plastic glide bars on igus® steel guide troughs		
Thread size	Screw material	Tightening torque
M10	8.8 / A2 / A4-70	7Nm

Assembly video available at
▶ www.igus.eu/guide

Installation instructions aluminium SuperTrough
▶ www.igus.eu/guide



Note: All screws must be tightened with a torque wrench!











igus® has experience with all kinds of installations and travels. Travel lengths up to 615m or "green systems", they help save energy cost and are made with igus® e-chains®, chainflex® cables and guide troughs. Together with the igus® accessories, they have long lifetimes even in tough weather conditions, under environmental pollution or in areas of dust and dirt

Aluminium Super-Troughs

For general use

Advantages Aluminium SuperTroughs

- Huge range available for almost all igus® e-chains®
- Very lightweight, modular assembly
- Corrosion-resistant, seawater-resistant aluminium profile
- Flexible assembly
- Conductivity according to DIN EN 61537 - standard
- Energy supply is even more flexible with the easy to assemble, low-abrasion high-speed glide bar for higher speeds, for some series
- Glide strips for more wear protection at high-speed
- Heavy-duty bracket option for high load applications: you can configure the heavy-duty version online ▶ **www.igus.eu/alu-guide**

When to use another guide trough:

- When a very strong and tough guide trough made from steel is required for heavy-duty applications
  ▶ **Steel guide troughs, page 1326**

Image of an aluminium SuperTrough:
left trough side part with heavy-duty mounting brackets and conventional glide bar,
right trough side part with basic mounting brackets and high-speed glide bar



Huge range:
aluminium profile (standard: 2m section) available for almost all igus® e-chains®, seawater and corrosion-resistant

Wear-reducing: glide strips protect from wear on the sides

Fast connection:
interface connector, basic, made of plastic, easy to mount without tools

Energy supply is even more durable:
easy to assemble, low-abrasion glide bar for higher speeds, the new standard for series 973/974/975

Wear reduction:
proven extruded polymer glide bar

Easy installation:
bottom clamp basic, attached either inwards or outwards

Simple fastening:
C-profile, for bottom clamps

For heavy-duty applications:
heavy-duty bottom clamp. **You can configure the heavy-duty version at our online-catalogue ▶ www.igus.eu/alu-guide**

Simple connection:
optimised polymer fixed end module option, for fast and easy mounting, without any drilling

For general applications - aluminium SuperTrough, basic version, standard

- Simple and cost-effective basic design as well as version for complex engineering applications
- Very lightweight, modular assembly
- Corrosion-resistant, seawater-resistant aluminium profile
- Flexible assembly
- Misalignment-free installation - no screwing or welding of the profiles required
- Conductivity according to DIN EN 61537 - standard

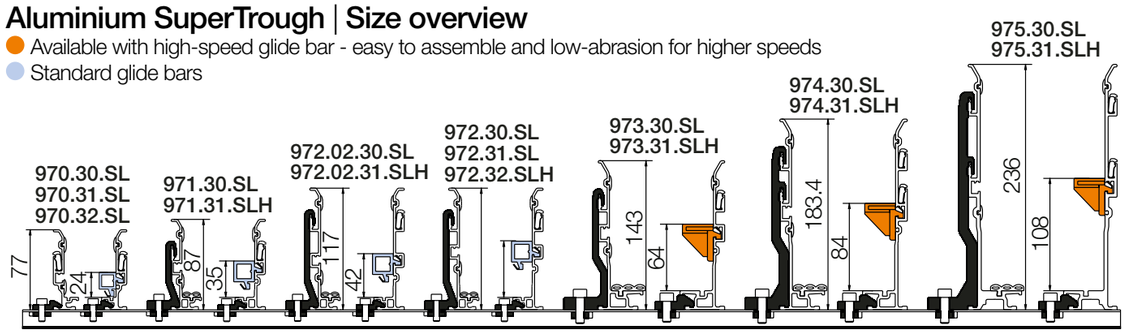
Part No. **without** glide bars	Part No. **with** glide bars	Outer height H_{Ra} [mm]	Part No. Installation set 2)	Side part material	Page Link
					
			Standard	**Basic version, standard -** for general use Left image with high-speed glide bar	
970.30.SL	**970.31.SL**	77	960.30	Aluminium	**1308**
970.30.SL	**970.32.SL**	77	960.30	Aluminium	**1310**
971.30.SL	**971.31.SL**	87	960.30	Aluminium	**1312**
972.02.30.SL	**972.02.31.SL**	117	960.30	Aluminium	**1314**
972.30.SL	**972.31.SL**	117	960.30	Aluminium	**1316**
972.30.SL	**972.32.SL**	117	960.30	Aluminium	**1318**
973.30.SL	**973.31.SLH** 1)	144	960.40	Aluminium	**1320**
974.30.SL	**974.31.SLH** 1)	184	960.50	Aluminium	**1322**
975.30.SL	**975.31.SLH** 1)	236	960.50	Aluminium	**1324**
					
				Heavy-duty version - for tough plant construction **You can configure the heavy-duty version according to the respective e-chain® you've chosen or ▶ www.igus.eu/alu-guide** Left image with high-speed glide bar	
971.30.SL	**971.31.SL**	87	971.50	Aluminium	**▶ www.igus.eu/alu-guide**
972.02.30.SL	**972.02.31.SL**	117	972.50	Aluminium	**▶ www.igus.eu/alu-guide**
972.30.SL	**972.31.SL**	117	972.50	Aluminium	**▶ www.igus.eu/alu-guide**
972.30.SL	**972.32.SL**	117	972.50	Aluminium	**▶ www.igus.eu/alu-guide**
973.30.SL	**973.31.SLH** 1)	144	973.50	Aluminium	**▶ www.igus.eu/alu-guide**
974.30.SL	**974.31.SLH** 1)	184	974.50	Aluminium	**▶ www.igus.eu/alu-guide**
975.30.SL	**975.31.SLH** 1)	236	975.50	Aluminium	**▶ www.igus.eu/alu-guide**

1) With abrasion-optimised high-speed glide bar
2) The basic Installation sets are the standard for the aluminium SuperTroughs. They can be fastened inside or outside and are recommended for most application areas. The basic clamping shoes are made of aluminium. The heavy-duty version is differentiated only by the type of the installation set. The part numbers of the channel side plates, glide strips, etc., are the same as the basic model. The heavy-duty installation set consists of a larger aluminium bracket, fastened outside on the guide trough.

Available from stock. Ready to ship in 24 - 48hrs.*
*Average time before the ordered goods are dispatched.

Aluminium SuperTrough | Size overview

● Available with high-speed glide bar - easy to assemble and low-abrasion for higher speeds
● Standard glide bars



Aluminium SuperTrough | Basic version | Individual parts

Components, guide troughs and components, mounting kits

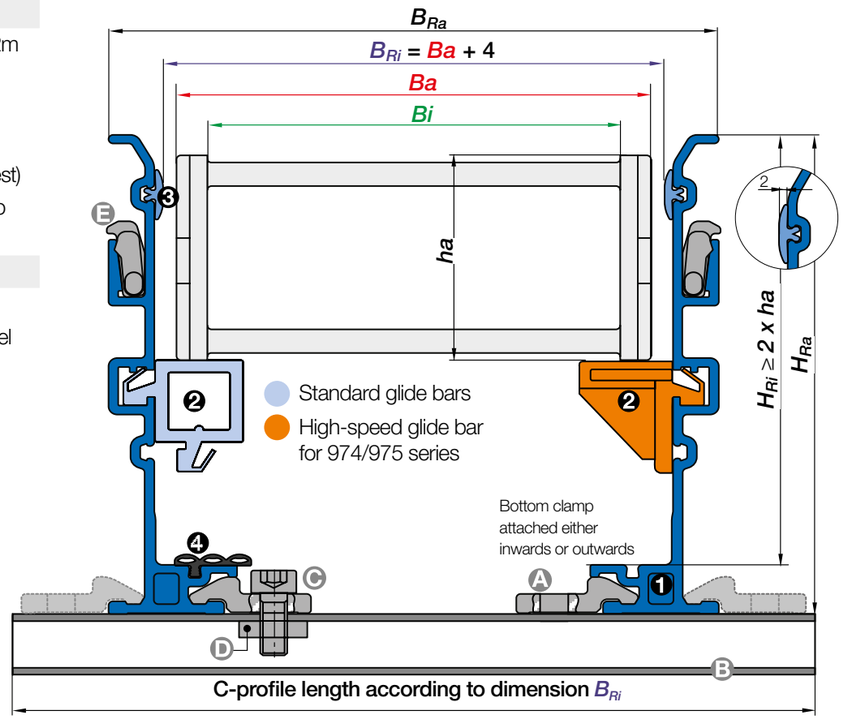
Components

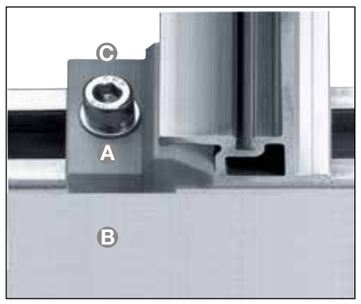
1. Trough side parts, aluminium, 2m
2. Standard glide bars, 2m
   High-speed glide bar, 0.5m
3. Glide strips, plastic, 2m
   (without glide strips upon request)
4. Optional: noise dampening strip

Components, installation set

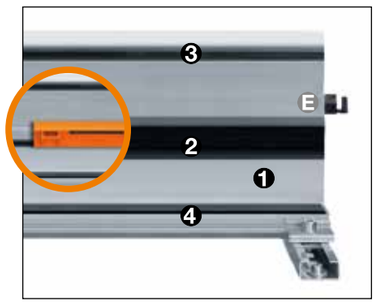
- A Bottom clamp, aluminium
- B C-profile, steel or stainless steel
- C Allen wrench
- D Sliding nut
- E Scalable crossbar, plastic

Ba = Outer e-chain® width
Bi = Inner e-chain® width
ha = e-chain® outer height
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width





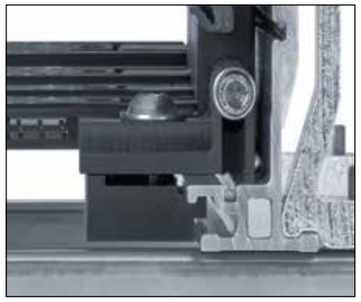
Simple fastening with basic bottom clamp and C-profile



Wear-reducing due to glide bars and glide strips



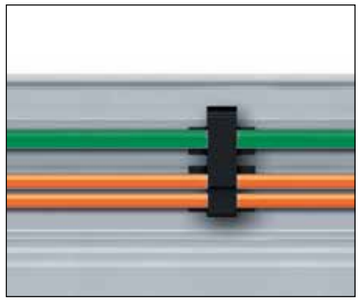
Optional noise dampening strip for additional noise reduction



Simple connection to the e-chain® with the fixed end module ▶ **page 1304**



High-speed glide bars available for 973/974/975 series ▶ **Page 1306**



Trough clip for fixed cable installation on the outside of the trough ▶ **Page 1307**

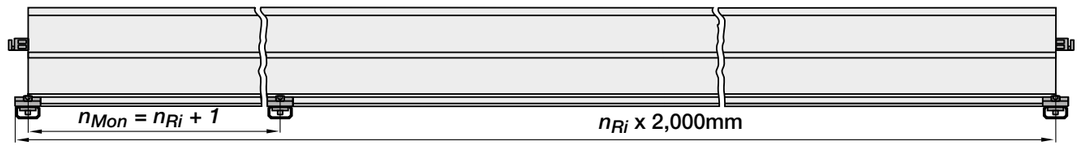
Aluminium SuperTrough | Basic version

Configured according to your requirements

Quickly and easily assemble the right aluminium SuperTrough for your application

- Selection of the suitable guide trough according to the e-chain® series and e-chain® width ***Bi***
- Determine the feed-in point of the cables
- Determine travel distance and thus the length of the required guide trough and the number of trough sections. (standard length of a trough side part: 2,000mm). For centre infeed, the length of the guide trough is calculated from half the travel length with and half the travel length without the glide bar
- Option: "Sound dampening" with noise dampening strip
- Number and type of the installation set - There are two installation set options: basic, standard and heavy-duty

The quantity of the installation set is calculated from the number of the trough sections + 1 set:



- The installation set matches the igus® C-profile option
- If you have opted for an e-chain® with KMA mounting brackets, we offer a fixed end module for the quick and simple fastening of the e-chain® in the trough without drilling

Installation Guide-PDF with detailed assembly information
▶ www.igus.eu/installation-guide-pdf

Order example | Examples based on Part No. 973.30.SL | 973.31.SL

Order example: length of travel 30m - centre fixed for series 3500.100.200.0 with B_{Ri} = 124

1 set of 2 trough side parts, incl. glide strips, **without** glide bars **Order text: 16m guide trough without glide bars (8 sets of 2 off 2m sections)**	973.30.SL
1 set of 2 trough side parts, incl. glide strips, **with** glide bars **Order text: 16m guide trough with glide bars (8 sets of 2 off 2m sections)**	973.31.SLH
Installation set basic complete **(quantity: guide trough sets + 1)** **Order text: 17 installation sets, basic**	960.40.175
Option: For additional noise dampening strip **Please add index A**	973.30.SLA
Option: Fixed end module for a quick and easy mounting **Order text: 1 set**	973.80.5
Option: Trough clip for fixed cable installation on the outside of the trough **Order text: 30 pieces**	SLC.40.17

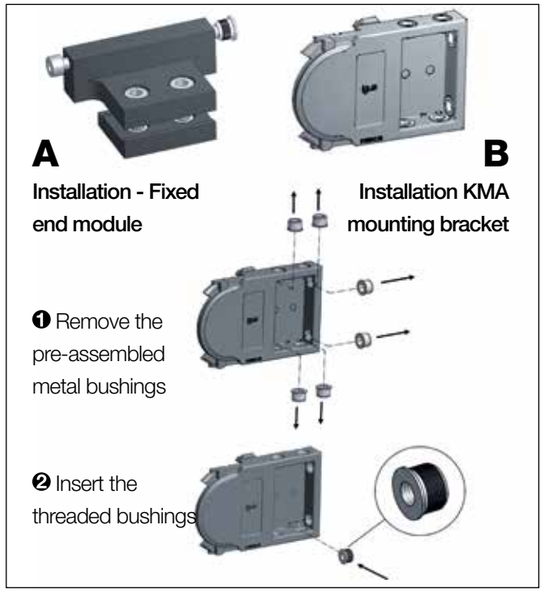
Calculation - travel centre fixed: half travel length, rounded to full 2m sections = X m.
Guide trough length **without** glide bars + X m guide trough length **with** glide bars + installation set, basic (number of trough sets + 1)

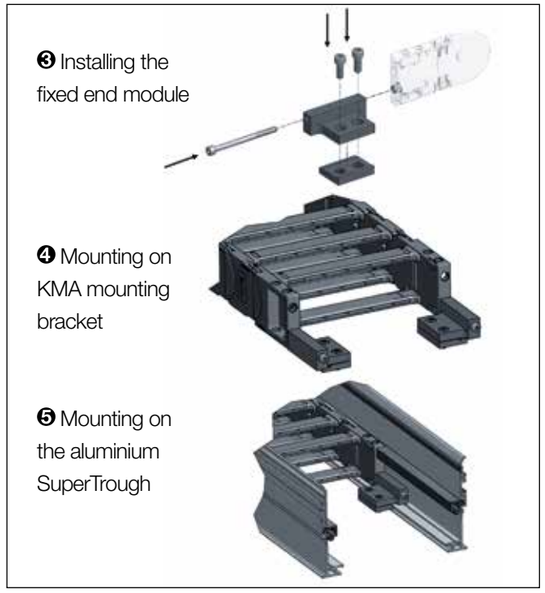
Quick and simple fastening onto the aluminium SuperTrough

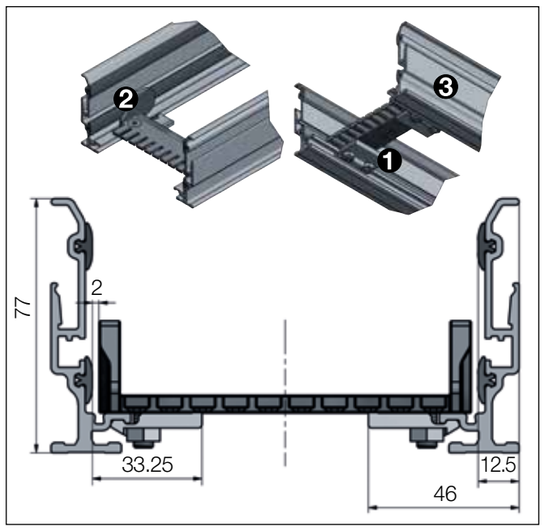


Optimised fixed end module - lightweight, low-cost, for connection of the e-chain® in aluminium SuperTrough

- Mounting bracket attachment on the aluminium SuperTrough without drilling
- Fixed end module is clamped to the trough
- Save installation time
- Minimise errors from drilling your own holes
- Stainless and cost-effective







Fixed end clamp to attach the e-chain® into the smallest aluminium SuperTrough 970.30.SL

For mounting brackets from series: 10, 15/R15, B15, 1500. The fixed end clamp enables quick and simple attachment by clamping onto the aluminium SuperTrough without drilling.

- Quick attachment of the e-chain® to the aluminium SuperTrough
- The mounting point of the e-chain® can be changed quickly

Fixed end clamp principle:

❶ Fixed end clamp 970.80
❷ Mounting bracket
❸ Aluminium SuperTrough 970.30.SL

Aluminium SuperTrough | Basic version | Fixed end module

Alu

Fixed end module | Fixed end clamp | Product range

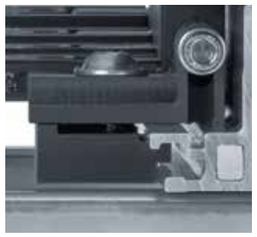
Series Part No.	For aluminium SuperTroughs	For e-chain® series	From inner width *Bi* [mm]	Mounting bracket
970.80 [1]	**970.30.SL** | **970.31.SL**	10, B15, 15/R15 [3]	050	one-piece
970.80 [1]	**970.30.SL** | **970.32.SL**	1500 [3]	050	one-piece
971.80.4 [1]	**971.30.SL** | **971.31.SL**	E2.26, 2500, 255, E6.29	07	KMA
971.80.4 [1]	**972.02.30.SL** | **972.02.31.SL**	E4.31L/R4.31	06	KMA
972.80.4 [1]	**972.02.30.SL** | **972.02.31.SL**	E4.28/R4.28, E6.35	06	KMA
972.80.4 [1]	**972.30.SL** | **972.31.SL**	E4.38L/R4.38L, E4Q.34/H4Q.34, E4.32/H4.32/R4.32, E6.40/R6.40	06	KMA
972.80.4 [1]	**972.30.SL** | **972.32.SL**	E2.38, 2700, R58	06	KMA
973.81.5 [1]	**973.30.SL** | **973.31.SLH**	E4.48L/R4.48L, E4Q.44/H4Q.44, E4.42/H4.42/R4.42, E6.52/R6.52	10	KMA
973.80.5 [1]	**973.30.SL** | **973.31.SLH**	E2.48 , 3500, R68	100	KMA
974.81.5 [1]	**974.30.SL** | **974.31.SLH**	E4.64L, 14040/14140/R18840, 14240/14340	10	KMA
974.80.5 [1]	**974.30.SL** | **974.31.SLH**	E4Q.58/H4Q.58, E4.56/H4.56/R4.56, E6.62	10	KMA
975.80 [2]	**975.30.SL** | **975.31.SLH**	E4Q.82/H4Q.82, E4.80/H4.80/R4.80, E6.80	10	KMA
975.81 [2]	**975.30.SL** | **975.31.SLH**	15050/15150/R19850, 15250/15350	10	KMA

1) Material: polymer 2) Material: Aluminium AlMg3, seawater resistant 3) Fixed end clamp

Material screw kits: Standard steel, galvanised. Optional: 316 stainless steel, material 1.4571 (AISI 316Ti). Standard: galvanised steel

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.







Fixed end module - simple fastening of the e-chain® without drilling

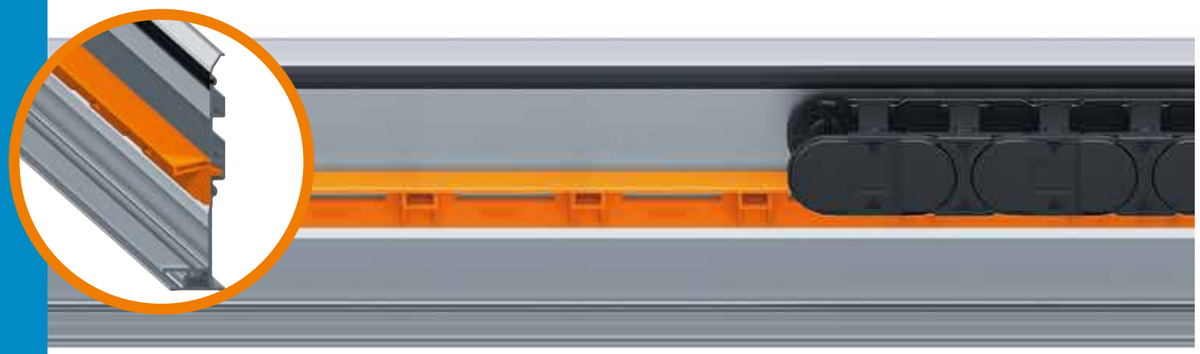




Tested - the igus® aluminium SuperTrough has been used in test setups since 2005. Test setup axis 1: speed 1.5m/s, travel: 18m, travel so far: about 50,000km (test running since 2005)

Aluminium SuperTrough | Accessories | High-speed glide bar

Easy to assemble and low-abrasion for higher speeds



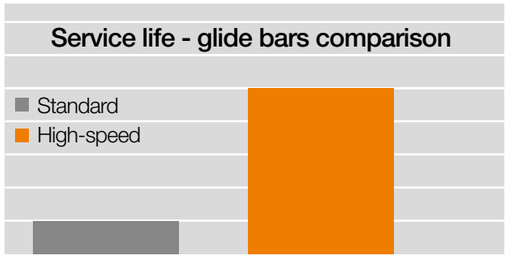
High-speed glide bar - the new standard for aluminium SuperTrough

5x the abrasion resistance thanks to tribologically optimised material - compared to standard glide bars

- For particularly fast, gliding applications
- Short individual parts 500mm, easier handling
- More durable at the same price compared to conventional glide rails
- Significantly lower maintenance requirements compared to standard glide bars
- 50% weight reduction by switching from extrusion to injection moulding
- Reduce construction effort with freely accessible configurator for CAD troughs

High-speed glide bar | Product range | Proof

Aluminium SuperTrough Part No.	High-speed glide bar Part No.
973.31.SLH	GB.31.500
974.31.SLH	GB.31.500
975.31.SLH	GB.31.500



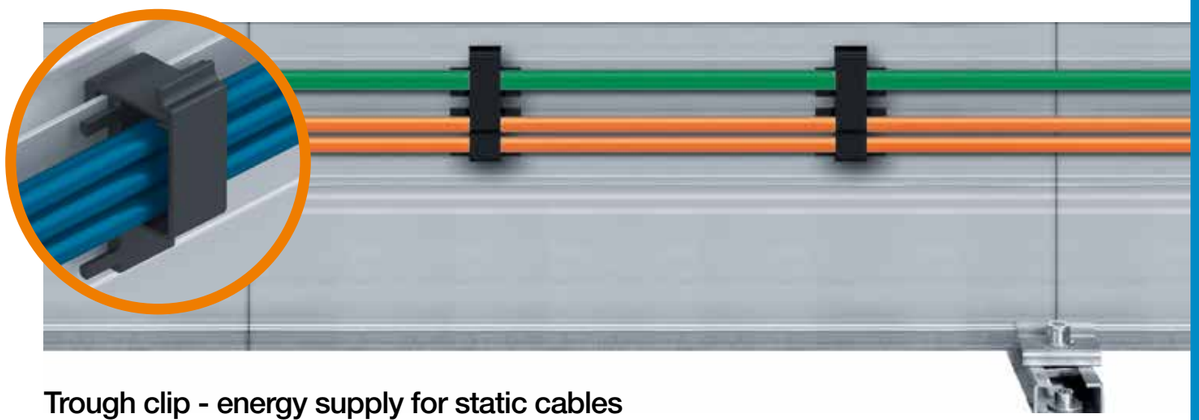
Abrasion tests, high-speed glide bar vs. conventional glide bar were carried out in the igus® lab

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Aluminium SuperTrough | Accessories | Trough clip

Cable guide for the static cable run on the outside of an aluminium SuperTrough



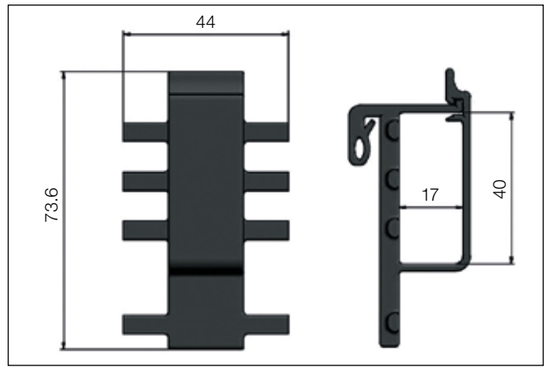
Trough clip - energy supply for static cables

- The trough clip is a cable guide for the static cable run on the outside of an aluminium SuperTrough.
- For centre fixed e-chains®, the cables can simply be guided to the fixed end outside the trough
- Save costs - the trough clip can replace an additional cable duct for a maximum of 3 fixed cables
- The trough clip is simply clipped into the groove of the trough.
- Simple snap-on hook locking mechanism
- Easy installation
- Strain relief with cable tiewraps is possible

Guide trough | Product range

Aluminium SuperTrough Part No.		Trough clip Part No.
971.30.SL	971.31.SL	SLC.40.17
972.02.30.SL	972.02.31.SL	SLC.40.17
972.30.SL	972.31.SL	SLC.40.17
972.30.SL	972.32.SL	SLC.40.17
973.30.SL	973.31.SLH	SLC.40.17
974.30.SL	974.31.SLH	SLC.40.17
975.30.SL	975.31.SLH	SLC.40.17

Other trough clips ▶ **upon request**



Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

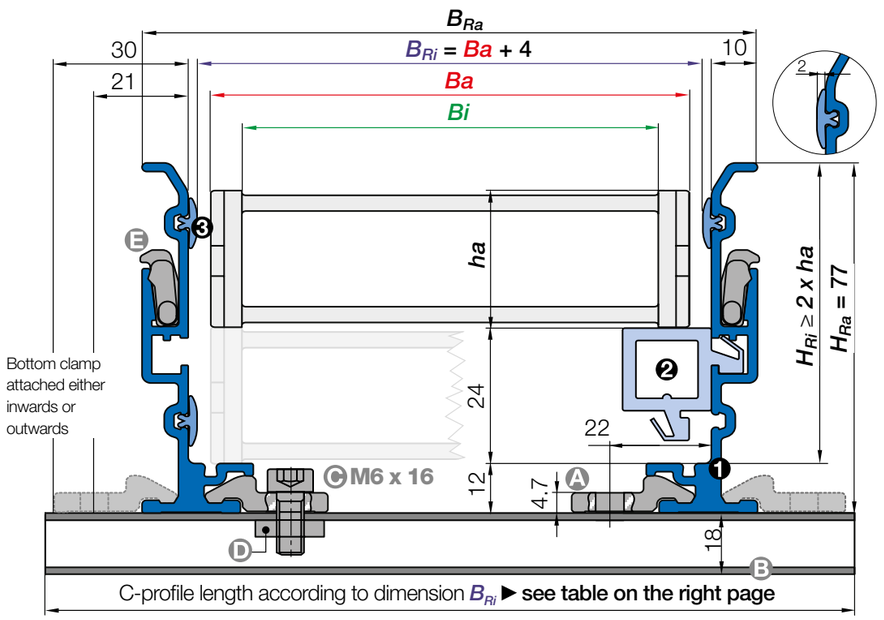
Aluminium SuperTrough | 970.30.SL | 970.31.SL

Trough height: 77mm | Product range

For the following igus® series

E2 mini
- 10
- B15

zipper
- 15/R15



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets ❶ | ❷ | ❸ | ❹ (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars	970.30.SL	≈ 4.20kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars	970.31.SL 2)	≈ 4.90kg

2) 1 set of 2 trough side parts, incl. glide strips, with high-speed glide bars, upon request

Full installation set Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX 3)	upon request

3) Please add the C-profile length XXX as shown on the tables (right side). Example: **960.30.125**

Individual parts

Components as individual parts, trough	Part No.	Weight
❶ 1 trough side part, 2m section	70.11	≈ 2.04kg
❷ 1 glide bar, 2m section	81.79 4)	≈ 0.42kg
❸ 1 glide strip, plastic, 2m section	75.01	≈ 0.06kg

4) High-speed glide bars, upon request

Components as individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E 5)	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	

5) Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.125.E**. For stainless steel AISI 304, please add index E.

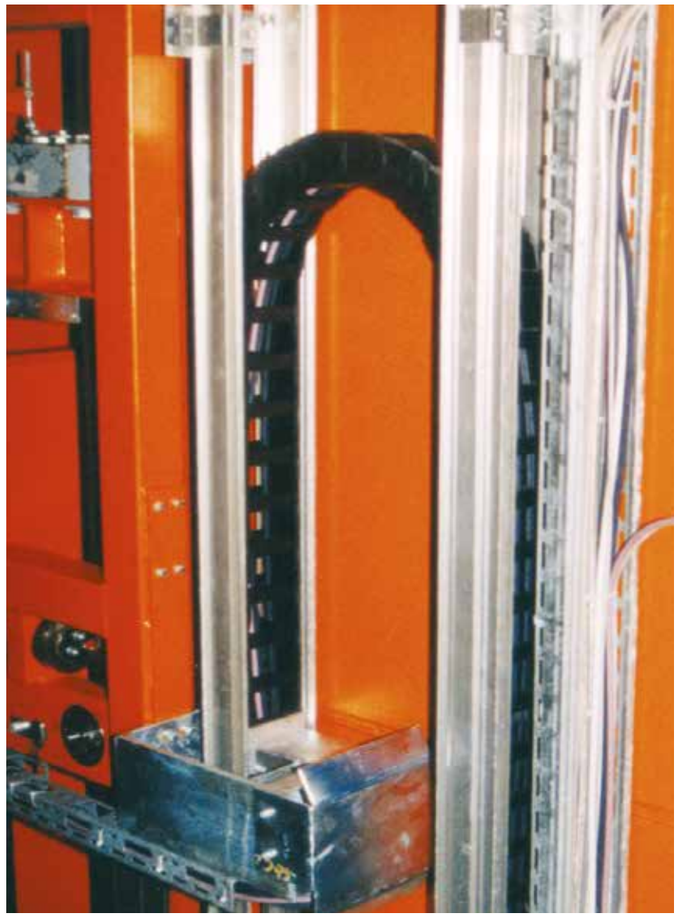
Options

Additional options for simple fastening without drilling	Part No.
1 fixed end module set to attach the e-chain® into the aluminium SuperTrough. **More information ▶ page 1304**	970.80

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

10				B15				15				R15			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.015	30	upon request	960.30.125	.015	30	upon request	960.30.125	.015	30	upon request	960.30.125	.025	40	upon request	960.30.150
.025	40	upon request	960.30.150	.025	40	upon request	960.30.150	.025	40	upon request	960.30.150	.038	80	upon request	960.30.150
.038	53	upon request	960.30.150	.038	53	upon request	960.30.150	.038	53	upon request	960.30.150	.063	80	upon request	960.30.175
.050	65	960.30.125	960.30.175	.050	65	960.30.125	960.30.175	.050	65	960.30.125	960.30.175	.080	98	960.30.150	960.30.200
.5	80	960.30.125	960.30.175	.5	80	960.30.125	960.30.175	.5	80	960.30.125	960.30.175				
.6	98	960.30.150	960.30.200	.6	98	960.30.150	960.30.200	.6	98	960.30.150	960.30.200				
.7	117	960.30.175	960.30.225	.7	117	960.30.175	960.30.225	.7	117	960.30.175	960.30.225				



e-chain® on the tower of a storage and retrieval unit for high-bay warehouses rolls off from one aluminium guide trough to the opposite one

Aluminium SuperTrough | 970.30.SL | 970.32.SL

Trough height: 77mm | Product range

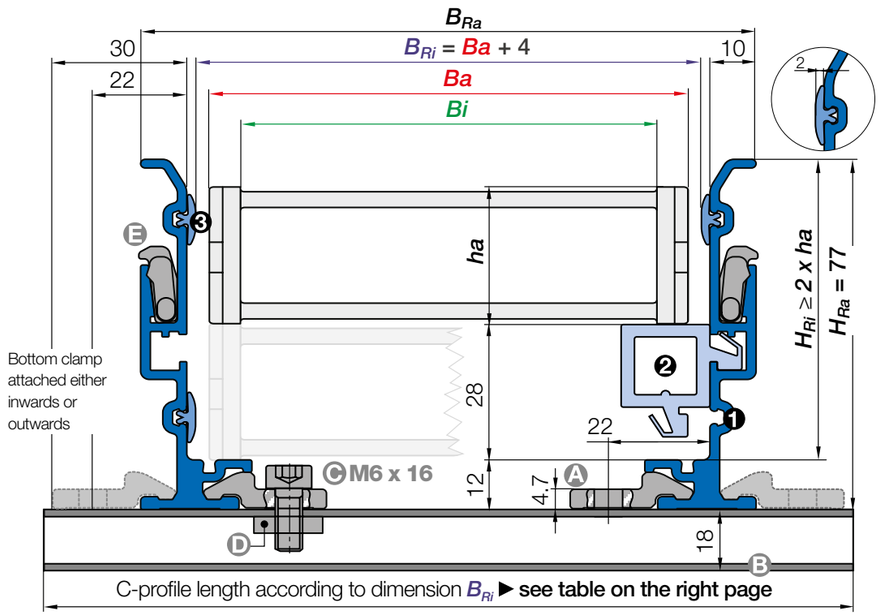
For the following igus® series

E2/000

● 1500

E4.1

● E4.21



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets ❶ | ❷ | ❸ | ❹ (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars	970.30.SL	≈ 4.20kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars	970.32.SL [2]	≈ 5.00kg

2) 1 set of 2 trough side parts, incl. glide strips, with high-speed glide bars, upon request

Full installation set Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX [3]	upon request

3) Please add the C-profile length XXX as shown on the tables (right side). Example: **960.30.**125

Individual parts

Components as individual parts, trough	Part No.	Weight
❶ 1 trough side part, 2m section	70.11	≈ 2.04kg
❷ 1 glide bar, 2m section	81.79 [4]	≈ 0.42kg
❸ 1 glide strip, plastic, 2m section	75.01	≈ 0.06kg

4) High-speed glide bars, upon request

Components as individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E [5]	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	

5) Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.**125**.E**. For stainless steel AISI 304, please add index **E**.

Options

Additional options for simple fastening without drilling	Part No.
1 fixed end module set to attach the e-chain® into the aluminium SuperTrough. **More information ▶ page 1304**	970.80

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

1500				E4.21			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.015	33	upon request	960.30.125	.030	48	upon request	960.30.150
.020	38	upon request	960.30.125	.040	58	960.30.125	960.30.150
.025	43	upon request	960.30.150	.050	68	960.30.125	960.30.175
.038	56	upon request	960.30.150	.060	78	960.30.125	960.30.175
.050	68	960.30.125	960.30.175	.070	88	960.30.150	960.30.175
.068	86	960.30.150	960.30.175	.080	98	960.30.150	960.30.200
.080	98	960.30.150	960.30.200	.090	108	960.30.175	960.30.200
.100	118	960.30.175	960.30.225	.100	118	960.30.175	960.30.225
.125	143	960.30.200	960.30.250	.110	128	960.30.175	960.30.225
				.120	138	960.30.200	960.30.225
				.140	158	960.30.225	960.30.250



Seawater resistant aluminium SuperTrough in a RTG-crane. Long travel with igus® E4 system

Aluminium SuperTrough | 971.30.SL | 971.31.SL

Trough height: 87mm | Product range

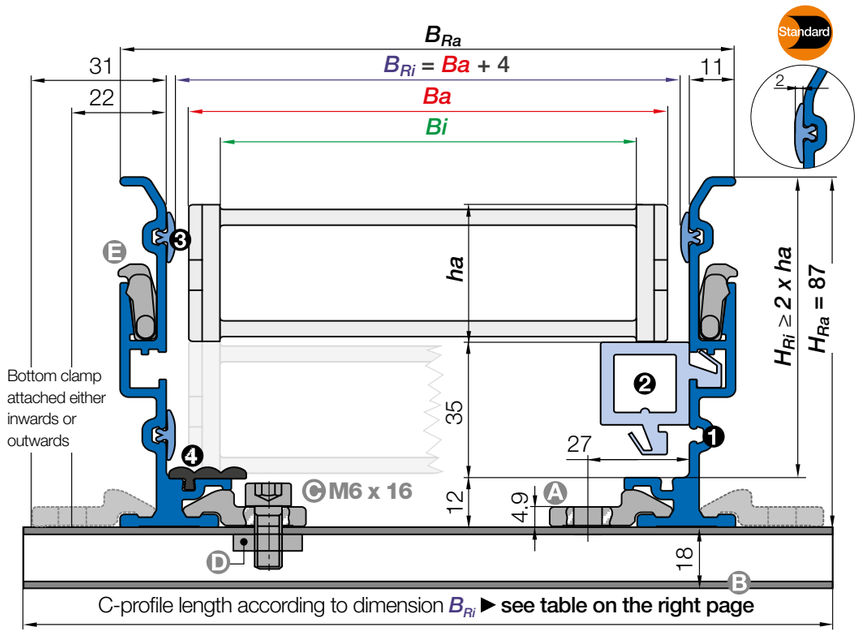
For the following igus® series

E2.1
- E2.26

E2/000
- 2500
- 255

E2 R
- R48

E6
- E6.29/R6.29



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets ❶ | ❷ | ❸ | ❹ (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars	971.30.SLA [1)]	≈ 5.00kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars	971.31.SL [2)]	≈ 6.40kg

1) For additional noise dampening strip, please add index A to the Part No. Example: **971.30.SLA**

2) 1 set of 2 trough side parts, incl. glide strips, with high-speed glide bars, upon request

Full installation set Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX [3)]	upon request

3) Please add the C-profile length XXX as shown on the tables (right side). Example: **960.30.150**

Individual parts

Components as individual parts, trough	Part No.	Weight
❶ 1 trough side part, 2m section	71.11	≈ 2.44kg
❷ 1 glide bar, 2m section	82.79 [4)]	≈ 0.60kg
❸ 1 glide strip, plastic, 2m section	75.01	≈ 0.06kg
❹ 1 noise dampening strip, 2m section	75.67.H.2000	≈ 0.16kg

4) High-speed glide bars, upon request

Components as individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E [5)]	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	

5) Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.150.E**. For stainless steel AISI 304, please add index E.

Options

Additional options for simple fastening without drilling	Part No.
1 fixed end module set to attach the e-chain® into the aluminium SuperTrough. More information ▶ page 1304	971.80.4
Trough clip for guiding cables on the outside of a aluminium SuperTrough. More information ▶ page 1307	SLC.40.17

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E2.26				2500				255				R48				E6.29/R6.29			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.025	46	upon request	960.30.150	.02	45	upon request	960.30.150	.03	58	upon request	960.30.150	.025	40	upon request	960.30.150	.030	50	upon request	960.30.150
.038	59	upon request	960.30.150	.03	58	upon request	960.30.150	.05	77	960.30.125	960.30.175	.050	65	upon request	960.30.175	.040	60	upon request	960.30.175
.057	78	960.30.125	960.30.175	.05	77	960.30.125	960.30.175	.07	97	960.30.150	960.30.200	.075	90	960.30.150	960.30.200	.050	70	upon request	960.30.175
.077	98	960.30.150	960.30.200	.07	97	960.30.150	960.30.200	.10	123	960.30.175	960.30.225	.100	115	960.30.175	960.30.225	.060	80	960.30.150	960.30.175
.089	110	960.30.175	960.30.225	.09	109	960.30.175	960.30.225					.130	145	960.30.200	960.30.250	.070	90	960.30.150	960.30.200
.103	124	960.30.175	960.30.225	.10	123	960.30.175	960.30.225									.080	100	960.30.150	960.30.200
.125	146	960.30.200	960.30.250	.12	145	960.30.200	960.30.250									.090	110	960.30.175	960.30.225
																.100	120	960.30.175	960.30.225
																.110	130	960.30.200	960.30.225
																.120	140	960.30.200	960.30.250
																.140	160	960.30.225	960.30.250



Series E4 in a seawater resistant igus® aluminium guide trough

Heavy-duty version for high load applications
- This aluminium SuperTrough is also available for plant manufacturing with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version at our online-catalogue
- **Installation set Part No. 971.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 972.02.30.SL | 972.02.31.SL

Trough height: 117mm | Product range

For the following igus® series

E4.1L

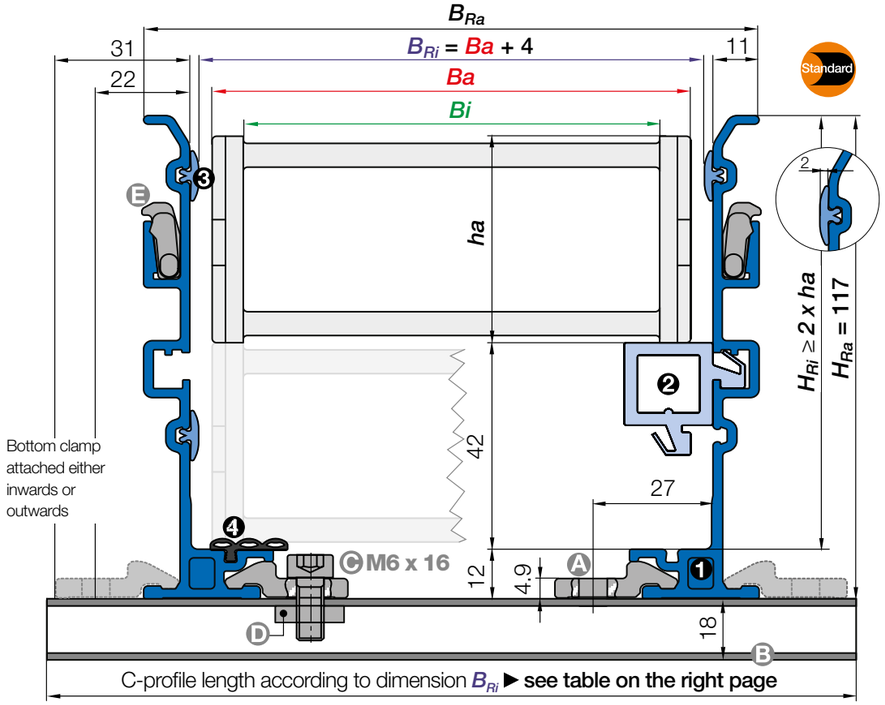
E4.31L/R4.31L

E4.1

● E4.28/R4.28

E6

● E6.35



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets ❶ | ❷ | ❸ | ❹ (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars	972.02.30.SLA [1)]	≈ 6.00kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars	972.02.31.SL [2)]	≈ 7.40kg

1) For additional noise dampening strip, please add index A to the Part No. Example: **972.02.30.SLA**

2) 1 set of 2 trough side parts, incl. glide strips, with high-speed glide bars, upon request

Full installation set Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX [3)]	upon request

3) Please add the C-profile length XXX as shown on the tables (right side). Example: **960.30.175**

Individual parts

Components as individual parts, trough	Part No.	Weight
❶ 1 trough side part, 2m section	72.11.02	≈ 2.94kg
❷ 1 glide bar, 2m section	82.79 [4)]	≈ 1.30kg
❸ 1 glide strip, plastic, 2m section	75.01	≈ 0.06kg
❹ 1 noise dampening strip, 2m section	75.67.H.2000	≈ 0.16kg

4) High-speed glide bars, upon request

Components as individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E [5)]	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	

5) Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.175.E**. For stainless steel AISI 304, please add index E.

Options

Additional options for simple fastening without drilling	Part No.
1 fixed end module set to attach the e-chain® into the aluminium SuperTrough. **More information ▶ page 1304**	971.80.4*/ 972.80.4**
Trough clip for guiding cables on the outside of a aluminium SuperTrough. **More information ▶ page 1307**	SLC.40.17

*Fixed end module **971.80.4** for series E4.31L/R4.31L / **Fixed end module **972.80.4** for series E4.28/R4.28 and E6.35

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E4.31L/R4.31L

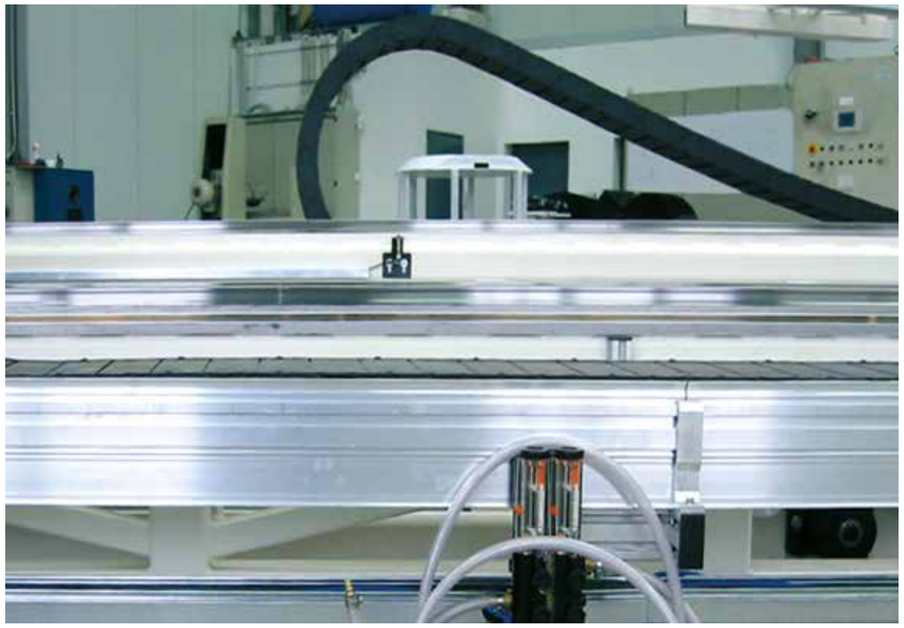
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.040	58	upon request	960.30.150
.050	68	upon request	960.30.175
.062	80	960.30.150	960.30.175
.075	93	960.30.150	960.30.200
.087	105	960.30.175	960.30.200
.100	118	960.30.175	960.30.225
.112	130	960.30.200	960.30.225
.125	143	960.30.200	960.30.250
.137	155	960.30.225	960.30.250
.150	168	960.30.225	960.30.275
.162	180	960.30.250	960.30.275
.175	193	960.30.250	960.30.300
.187	205	960.30.275	960.30.300
.200	218	960.30.275	960.30.325

E4.28/R4.28

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.040	64	upon request	960.30.175
.050	74	960.30.125	960.30.175
.062	86	960.30.150	960.30.200
.070	94	960.30.150	960.30.200
.075	99	960.30.150	960.30.200
.087	111	960.30.175	960.30.225
.100	124	960.30.175	960.30.225
.125	149	960.30.200	960.30.250
.150	174	960.30.225	960.30.275
.175	199	960.30.250	960.30.300
.200	224	960.30.275	960.30.325
.225	249	960.30.300	960.30.350
.250	274	960.30.325	960.30.375
.275	299	960.30.350	960.30.400
.300	324	960.30.375	960.30.425

E6.35

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.030	54	upon request	960.30.150
.040	64	upon request	960.30.175
.050	74	960.30.125	960.30.175
.060	84	960.30.150	960.30.200
.070	94	960.30.150	960.30.200
.080	104	960.30.150	960.30.200
.090	114	960.30.175	960.30.225
.100	124	960.30.175	960.30.225
.110	134	960.30.200	960.30.250
.120	144	960.30.200	960.30.250



Safely guide an e-chain® on a longer travel. Aluminium SuperTrough is increasingly popular because of corrosion resistance, weight saving and faster assembly

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available for plant manufacturing with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version at our online-catalogue
- **Installation set Part No. 972.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 972.30.SL | 972.31.SL

Trough height: 117mm | Product range

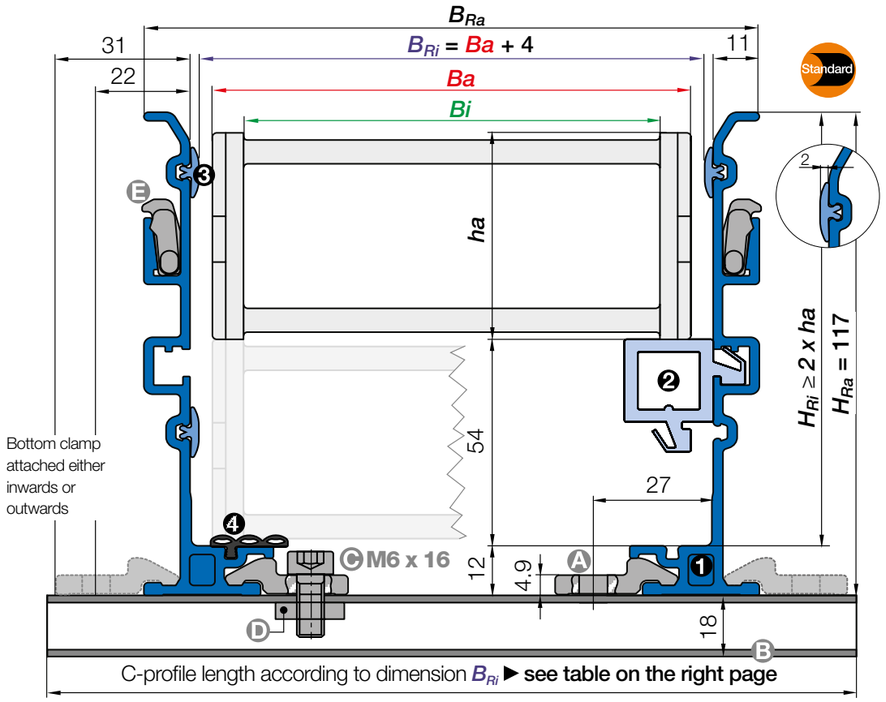
For the following igus® series

E4.1L
- E4.38L/R4.38L

E4Q
- E4Q.34/H4Q.34

E4.1
- E4.32/H4.32/R4.32

E6
- E6.40/R6.40



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets ❶ | ❷ | ❸ | ❹ (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars	972.30.SLA [1]	≈ 6.00kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars	972.31.SL [2]	≈ 7.40kg

1) For additional noise dampening strip, please add index A to the Part No. Example: **972.30.SLA**

2) 1 set of 2 trough side parts, incl. glide strips, with high-speed glide bars, upon request

Full installation set Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX [3]	upon request

3) Please add the C-profile length XXX as shown on the tables (right side). Example: **960.30.150**

Individual parts

Components as individual parts, trough	Part No.	Weight
❶ 1 trough side part, 2m section	72.11	≈ 2.94kg
❷ 1 glide bar, 2m section	82.79 [4]	≈ 0.60kg
❸ 1 glide strip, plastic, 2m section	75.01	≈ 0.06kg
❹ 1 noise dampening strip, 2m section	75.67.H.2000	≈ 0.16kg

4) High-speed glide bars, upon request

Components as individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E [5]	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	

5) Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.175.E**. For stainless steel AISI 304, please add index E.

Options

Additional options for simple fastening without drilling	Part No.
1 fixed end module set to attach the e-chain® into the aluminium SuperTrough. **More information ▶ page 1304**	972.80.4
Trough clip for guiding cables on the outside of a aluminium SuperTrough. **More information ▶ page 1307**	SLC.40.17

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E4.38L/R4.38L				E4Q.34/H4Q.34				E4.32/H4.32/R4.32				E6.40/R6.40			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	70	upon request	960.30.200	.075	102	960.30.150	960.30.200	.05	77	960.30.125	960.30.175	.040	64	upon request	960.30.175
.062	82	upon request	960.30.200	.087	114	960.30.175	960.30.225	.06	95	960.30.150	960.30.200	.050	74	960.30.125	960.30.175
.075	95	upon request	960.30.225	.100	127	960.30.175	960.30.225	.07	102	960.30.150	960.30.200	.062	86	960.30.150	960.30.200
.087	107	upon request	960.30.225	.108	135	960.30.200	960.30.250	.087	114	960.30.175	960.30.225	.070	94	960.30.150	960.30.200
.100	120	960.30.175	960.30.250	.112	140	960.30.200	960.30.250	.10	127	960.30.175	960.30.225	.075	99	960.30.150	960.30.200
.105	125	960.30.175	960.30.250	.125	152	960.30.200	960.30.250	.11	135	960.30.200	960.30.250	.087	111	960.30.175	960.30.225
.112	132	960.30.200	960.30.250	.137	165	960.30.225	960.30.275	.112	140	960.30.200	960.30.250	.100	124	960.30.175	960.30.225
.125	145	960.30.200	960.30.275	.150	177	960.30.225	960.30.275	.12	152	960.30.200	960.30.250	.125	149	960.30.200	960.30.250
.137	157	960.30.225	960.30.275	.162	190	960.30.250	960.30.300	.137	165	960.30.225	960.30.275	.150	174	960.30.225	960.30.275
.150	170	960.30.225	960.30.300	.168	195	960.30.250	960.30.300	.15	177	960.30.225	960.30.275	.175	199	960.30.250	960.30.300
.162	182	960.30.250	960.30.300	.175	202	960.30.250	960.30.300	.162	190	960.30.250	960.30.300	.200	224	960.30.275	960.30.325
.175	195	960.30.250	960.30.325	.187	215	960.30.275	960.30.325	.17	195	960.30.250	960.30.300	.225	249	960.30.300	960.30.350
.187	207	960.30.275	960.30.325	.200	227	960.30.275	960.30.325	.18	202	960.30.250	960.30.300	.250	274	960.30.325	960.30.375
.200	220	960.30.275	960.30.350	.212	240	960.30.300	960.30.350	.187	215	960.30.275	960.30.325	.275	299	960.30.350	960.30.400
.212	232	960.30.300	960.30.350	.225	252	960.30.300	960.30.350	.20	227	960.30.275	960.30.325	.300	324	960.30.375	960.30.425
.225	245	960.30.300	960.30.375	.237	265	960.30.325	960.30.375	.212	240	960.30.300	960.30.350				
.237	257	960.30.325	960.30.375	.250	277	960.30.325	960.30.375	.23	252	960.30.300	960.30.350				
.250	270	960.30.325	960.30.375	.262	290	960.30.350	960.30.400	.237	265	960.30.325	960.30.375				
.262	282	960.30.325	960.30.375	.275	302	960.30.350	960.30.400	.25	277	960.30.325	960.30.375				
.275	295	960.30.350	960.30.400	.287	315	960.30.375	960.30.425	.262	290	960.30.350	960.30.400				
.287	307	960.30.350	960.30.400	.300	327	960.30.375	960.30.425	.28	302	960.30.350	960.30.400				
.300	320	960.30.375	960.30.425	.312	340	960.30.400	960.30.450	.29	315	960.30.375	960.30.425				
.312	332	960.30.375	960.30.425	.325	352	960.30.400	960.30.450	.30	327	960.30.375	960.30.425				
.325	345	960.30.400	960.30.450	.337	365	960.30.425	960.30.475	.312	340	960.30.400	960.30.450				
.337	357	960.30.400	960.30.450	.350	377	960.30.425	960.30.475	.325	352	960.30.400	960.30.450				
.350	370	960.30.425	960.30.475	.362	390	960.30.450	960.30.500	.337	365	960.30.425	960.30.475				
.362	382	960.30.450	960.30.475	.375	402	960.30.450	960.30.500	.350	377	960.30.425	960.30.475				
.375	395	960.30.450	960.30.500	.387	415	960.30.475	960.30.525	.362	390	960.30.450	960.30.500				
.387	407	960.30.450	960.30.500	.400	427	960.30.475	960.30.525	.375	402	960.30.450	960.30.500				
.400	420	960.30.475	960.30.500					.387	415	960.30.475	960.30.525				
								.400	427	960.30.475	960.30.525				

Heavy-duty version for high load applications
- This aluminium SuperTrough is also available for plant manufacturing with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version at our online-catalogue
- **Installation set Part No. 972.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 972.30.SL | 972.32.SL

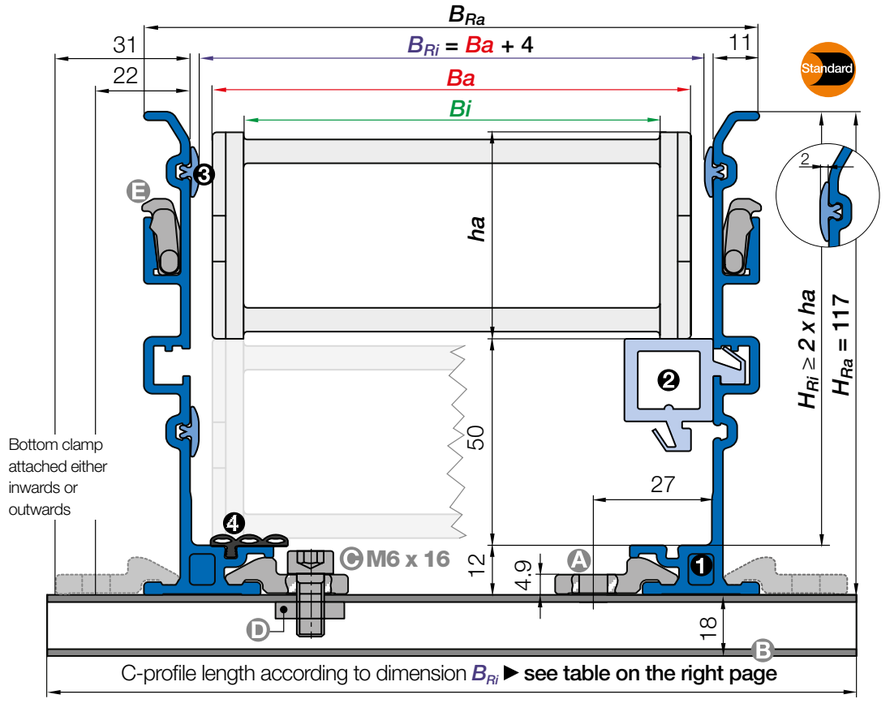
Trough height: 117mm | Product range

For the following igus® series

E2.1
- E2.38

E2/000
- 2700

E2 R
- R58



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets ❶ | ❷ | ❸ | ❹ (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars	972.30.SLA [1]	≈ 6.00kg
1 set of 2 trough side parts, incl. glide strips, **with** glide bars	972.32.SL [2]	≈ 7.40kg

1) For additional noise dampening strip, please add index A to the Part No. Example: **972.30.SLA**

2) 1 set of 2 trough side parts, incl. glide strips, with high-speed glide bars, upon request

Full installation set Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.30	≈ 0.06kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.30.XXX [3]	upon request

3) Please add the C-profile length XXX as shown on the tables (right side). Example: **960.30.200**

Individual parts

Components as individual parts, trough	Part No.	Weight
❶ 1 trough side part, 2m section	72.11	≈ 2.94kg
❷ 1 glide bar, 2m section	82.79 [4]	≈ 0.60kg
❸ 1 glide strip, plastic, 2m section	75.01	≈ 0.06kg
❹ 1 noise dampening strip, 2m section	75.67.H.2000	≈ 0.16kg

4) High-speed glide bars, upon request

Components as individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E [5]	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Ⓔ 1 interface connector, individual	75.60	

5) Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.200.E**. For stainless steel AISI 304, please add index E.

Options

Additional options for simple fastening without drilling	Part No.
1 fixed end module set to attach the e-chain® into the aluminium SuperTrough. **More information ▶ page 1304**	972.80.4
Trough clip for guiding cables on the outside of a aluminium SuperTrough. **More information ▶ page 1307**	SLC.40.17

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E2.38

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.50	71	upon request	960.30.175
.65	86	960.30.150	960.30.200
.75	96	960.30.150	960.30.200
.90	111	960.30.175	960.30.225
.100	121	960.30.175	960.30.225
.125	146	960.30.200	960.30.250
.150*	171	960.30.225	960.30.275
.175	199	960.30.250	960.30.300

2700

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	70	upon request	960.30.175
.06	85	960.30.150	960.30.200
.07	95	960.30.150	960.30.200
.09	110	960.30.175	960.30.225
.10	120	960.30.175	960.30.225
.12	145	960.30.200	960.30.250
.15	170	960.30.225	960.30.275
.17	198	960.30.250	960.30.300

R58

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	70	upon request	960.30.175
.075	95	960.30.150	960.30.200
.100	120	960.30.175	960.30.225
.125	145	960.30.200	960.30.250
.150	170	960.30.225	960.30.275
.175	195	960.30.250	960.30.300
.200	220	960.30.275	960.30.325



Secure guidance without vibrations: due to the compact design of the aluminium SuperTrough, less space is required along the travel distance. Long travel crane; 32m travel, operating speed 80m/min.

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available for plant manufacturing with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version at our online-catalogue
- **Installation set Part No. 972.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 973.30.SL | 973.31.SLH

Trough height: 144mm | Product range

Easy to assemble and low-abrasion high-speed glide bar

For the following igus® series

E2.1
- E2.48

E2/000
- 3500

E2 R
- R68

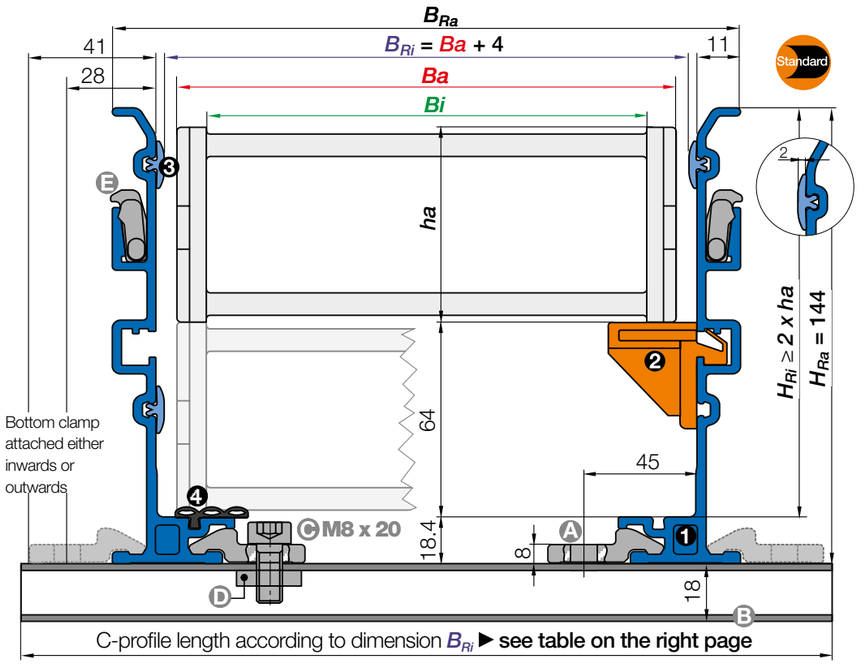
E4.1L
- E4.48L/R4.48L

E4Q
- E4Q.44/H4Q.44

E4.1
- E4.42/H4.42/R4.42

E6
- E6.52/R6.52

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.



C-profile length according to dimension B_{Ri} ▶ see table on the right page

Full sets

Full trough side part sets ❶ | ❷ | ❸ | ❹ (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars	973.30.SLA [1)]	≈ 8.00kg
1 set of 2 trough side parts, incl. glide strips, **with** high-speed glide bars	973.31.SLH [2)]	≈ 9.60kg

1) For additional noise dampening strip, please add index A to the Part No. Example: **973.30.SLA**

2) 1 set of 2 trough side parts, incl. glide strips and with standard glide bars is still available: **Part No. 973.31.SL**

Full installation set Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.40	≈ 0.08kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.40.XXX [3)]	upon request

3) Please add the C-profile length XXX as shown on the tables (right side). Example: **960.40.200**

Individual parts

Components as individual parts, trough	Part number	Weight
❶ 1 trough side part, 2m section	73.11	≈ 3.94kg
❷ 1 high-speed glide bar, 0.5m. **More information ▶ page 1306**	GB.31.500 [4)]	≈ 0.18kg
❸ 1 glide strip, plastic, 2m section	75.01	≈ 0.06kg
❹ 1 noise dampening strip, 2m section	75.68.H.2000	≈ 0.38kg

4) Conventional glide bar as individual part, 2m piece still available, **Part No. 83.79**

Components as individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.50	≈ 0.04kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E [5)]	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040445 / M8 x 20	
Ⓓ 1 glide nut, individual	MAT 0040413 / M8	
Ⓔ 1 interface connector, individual	75.60	

5) Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.200.E**. For stainless steel AISI 304, please add index E.

Options

Additional options for simple fastening without drilling	Part No.
1 fixed end module set to attach the e-chain® into the aluminium SuperTrough. **More information ▶ page 1304**	973.80.5 [A)] / 973.81.5 [B]
Trough clip for guiding cables on the outside of a aluminium SuperTrough. **More information ▶ page 1307**	SLC.40.17

A) - for series 3500, R68 B) - for series E4.42/H4.42/R4.42, E4.48L/R4.48L, E6.52/R6.52

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E2.48

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	76	upon request	960.40.200
.075	101	upon request	960.40.225
.100	126	960.40.175	960.40.250
.115	141	960.40.200	960.40.275
.125	151	960.40.200	960.40.275
.150	176	960.40.225	960.40.300
.175	201	960.40.250	960.40.325
.200	226	960.40.275	960.40.350
.225	251	960.40.300	960.40.375
.250	276	960.40.325	960.40.400

3500

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	74	upon request	960.40.200
.075	99	upon request	960.40.225
.100	124	960.40.175	960.40.250
.115	139	960.40.200	960.40.275
.125	149	960.40.200	960.40.275
.150	174	960.40.225	960.40.300
.175	199	960.40.250	960.40.325
.200	224	960.40.275	960.40.350
.225	249	960.40.300	960.40.375
.250	274	960.40.325	960.40.400

E4.48L/R4.48L

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.050	74	upon request	960.40.200
.062	86	upon request	960.40.200
.075	99	upon request	960.40.225
.087	111	960.40.175	960.40.225
.100	124	960.40.175	960.40.250
.105	125	960.40.200	960.40.250
.112	136	960.40.200	960.40.250
.125	149	960.40.225	960.40.275
.137	161	960.40.225	960.40.275
.150	174	960.40.250	960.40.300
.162	186	960.40.250	960.40.300
.175	199	960.40.275	960.40.325
.187	211	960.40.275	960.40.325
.200	224	960.40.300	960.40.350
.212	236	960.40.300	960.40.350
.225	249	960.40.325	960.40.375
.237	261	960.40.325	960.40.375
.250	274	960.40.325	960.40.375
.262	282	960.40.325	960.40.375
.275	295	960.40.350	960.40.400
.287	307	960.40.350	960.40.400
.300	320	960.40.375	960.40.425
.312	332	960.40.375	960.40.425
.325	345	960.40.400	960.40.450
.337	357	960.40.400	960.40.450
.350	370	960.40.425	960.40.475
.362	382	960.40.450	960.40.475
.375	395	960.40.450	960.40.500
.387	407	960.40.450	960.40.500
.400	420	960.40.475	960.40.500

E4Q.44/H4Q.44

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.075	105	upon request	960.40.225
.087	118	960.40.175	960.40.250
.100	130	960.40.200	960.40.250
.108	138	960.40.200	960.40.275
.112	143	960.40.200	960.40.275
.125	155	960.40.225	960.40.275
.137	168	960.40.225	960.40.300
.150	180	960.40.250	960.40.300
.162	193	960.40.250	960.40.325
.175	205	960.40.275	960.40.325
.187	218	960.40.275	960.40.350
.200	230	960.40.300	960.40.350
.212	243	960.40.300	960.40.375
.225	255	960.40.325	960.40.375
.237	268	960.40.325	960.40.400
.250	280	960.40.350	960.40.400
.262	293	960.40.350	960.40.425
.275	305	960.40.375	960.40.425
.287	318	960.40.375	960.40.450
.300	330	960.40.400	960.40.450
.312	343	960.40.400	960.40.475
.325	355	960.40.425	960.40.475
.337	368	960.40.425	960.40.500
.350	380	960.40.450	960.40.500
.362	393	960.40.450	960.40.525
.375	406	960.40.475	960.40.525
.387	418	960.40.475	960.40.550
.400	430	960.40.500	960.40.550

E4.42/H4.42/R4.42

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	80	upon request	960.40.200
.06	98	upon request	960.40.225
.07	105	upon request	960.40.225
.087	118	960.40.175	960.40.250
.10	130	960.40.200	960.40.250
.11	138	960.40.200	960.40.275
.112	143	960.40.200	960.40.275
.12	155	960.40.225	960.40.275
.137	168	960.40.225	960.40.300
.15	180	960.40.250	960.40.300
.162	193	960.40.250	960.40.325
.17	198	960.40.250	960.40.325
.18	205	960.40.275	960.40.325
.187	218	960.40.275	960.40.350
.20	230	960.40.300	960.40.350
.212	243	960.40.300	960.40.375
.23	255	960.40.325	960.40.375
.237	268	960.40.325	960.40.400
.25	280	960.40.350	960.40.400
.262	293	960.40.350	960.40.425
.28	305	960.40.375	960.40.425
.29	318	960.40.375	960.40.450
.30	330	960.40.400	960.40.450
.312	343	960.40.400	960.40.475
.325	355	960.40.425	960.40.475
.337	368	960.40.425	960.40.500
.350	380	960.40.450	960.40.500
.362	393	960.40.450	960.40.525
.375	406	960.40.475	960.40.525
.387	418	960.40.475	960.40.550
.400	430	960.40.500	960.40.550

Heavy-duty version for high load applications
- This aluminium SuperTrough is also available for plant manufacturing with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version at our online-catalogue
- **Installation set Part No. 973.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 974.30.SL | 974.31.SLH

Trough height: 184mm | Product range

Easy to assemble and low-abrasion high-speed glide bar

For the following igus® series

E4.1L
- E4.64L

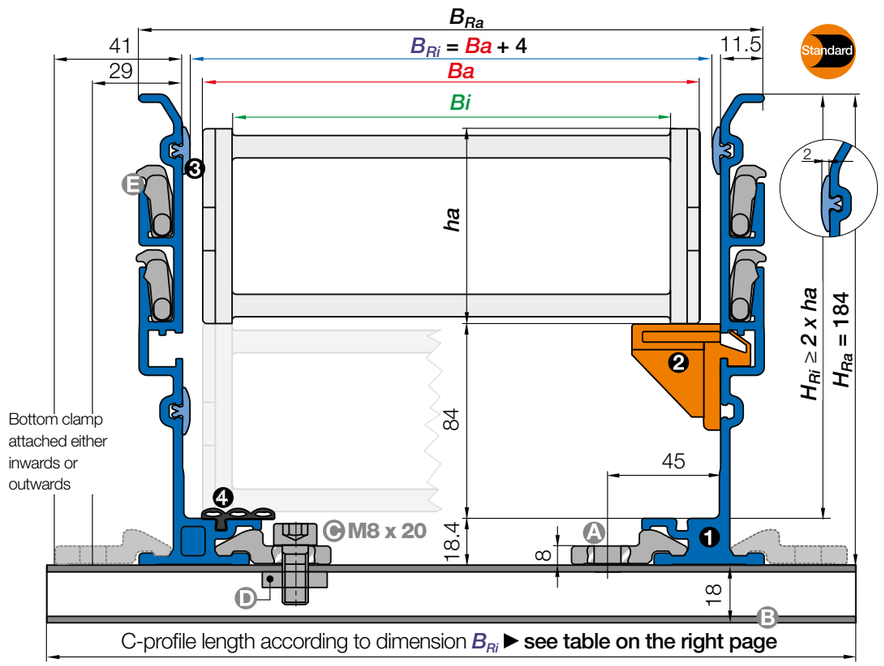
E4Q
- E4Q.58/H4Q.58

E4.1
- E4.56/H4.56/R4.56

E4/light
- 14040/14140/R18840
- 14240/14340

E6
- E6.62

E4/4HD**
- 4040HD/8840HD



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets ❶ | ❷ | ❸ | ❹ (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars	974.30.SLA [1]	≈ 10.0kg
1 set of 2 trough side parts, incl. glide strips, **with** high-speed glide bars	974.31.SLH [2]	≈ 11.6kg

1) For additional noise dampening strip, please add index A to the Part No. Example: **974.30.SLA**

2) 1 set of 2 trough side parts, incl. glide strips and with standard glide bars is still available: **Part No. 974.31.SL**

Full installation set Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.50	≈ 0.08kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.50.XXX [3]	upon request

3) Please add the C-profile length XXX as shown on the tables (right side). Example: **960.50.200**

Individual parts

Components as individual parts, trough	Part No.	Weight
❶ 1 trough side part, 2m section	74.11	≈ 4.94kg
❷ 1 high-speed glide bar, 0.5m. **More information ▶ page 1306**	GB.31.500 [4]	≈ 0.18kg
❸ 1 glide strip, plastic, 2m section	75.01	≈ 0.06kg
❹ 1 noise dampening strip, 2m section	75.68.H.2000	≈ 0.38kg

4) Conventional glide bar as individual part, 2m piece still available, **Part No. 83.79**

Components as individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.50	≈ 0.04kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E [5]	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040445 / M8 x 20	
Ⓓ 1 glide nut, individual	MAT 0040413 / M8	
Ⓔ 1 interface connector, individual	75.60	

5) Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.125.E**. For stainless steel AISI 304, please add index E.

Options

Additional options for simple fastening without drilling	Part No.
1 fixed end module set to attach the e-chain® into the aluminium SuperTrough. **More information ▶ page 1304**	974.80.5 A) / 974.81.5 B)
Trough clip for guiding cables on the outside of a aluminium SuperTrough. **More information ▶ page 1307**	SLC.40.17

A) - for series E4.56/H4.56/R4.56, E6.62 B) - for series 14040/14140/R18840, 14240/14340

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

E4Q.58/H4Q.58

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.100	138	960.50.200	960.50.275
.112	151	960.50.200	960.50.275
.125	163	960.50.225	960.50.300
.137	176	960.50.225	960.50.300
.150	188	960.50.250	960.50.325
.162	201	960.50.250	960.50.325
.175	213	960.50.275	960.50.350
.187	226	960.50.275	960.50.350
.200	238	960.50.300	960.50.375
.212	251	960.50.300	960.50.375
.225	263	960.50.325	960.50.400
.237	276	960.50.325	960.50.400
.250	288	960.50.350	960.50.425
.262	301	960.50.350	960.50.425
.275	313	960.50.375	960.50.450
.287	326	960.50.375	960.50.450
.300	338	960.50.400	960.50.475
.312	351	960.50.400	960.50.475
.325	363	960.50.425	960.50.500
.337	376	960.50.425	960.50.500
.350	388	960.50.450	960.50.525
.362	401	960.50.450	960.50.525
.375	413	960.50.475	960.50.550
.387	426	960.50.475	960.50.550
.400	438	960.50.500	960.50.575
.412	451	960.50.500	960.50.575
.425	463	960.50.525	960.50.600
.437	476	960.50.525	960.50.600
.450	488	960.50.550	960.50.625
.462	501	960.50.550	960.50.625
.475	513	960.50.575	960.50.650
.487	526	960.50.575	960.50.650
.500	538	960.50.600	960.50.675
.512	551	960.50.600	960.50.675
.525	563	960.50.625	960.50.700
.537	576	960.50.625	960.50.700
.550	588	960.50.650	960.50.725
.562	600	960.50.650	960.50.725
.575	613	960.50.675	960.50.725
.587	625	960.50.675	960.50.750
.60	638	960.50.700	960.50.775

E4.56/H4.56/R4.56

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	88	upon request	960.50.225
.06	103	upon request	960.50.225
.07	113	upon request	960.50.250
.08	125	960.50.175	960.50.250
.10	138	960.50.200	960.50.275
.11	151	960.50.200	960.50.275
.12	163	960.50.225	960.50.300
.13	176	960.50.225	960.50.300
.15	188	960.50.250	960.50.325
.16	201	960.50.250	960.50.325
.17	213	960.50.275	960.50.350
.18	226	960.50.275	960.50.350
.20	238	960.50.300	960.50.375
.21	251	960.50.300	960.50.375
.22	263	960.50.325	960.50.400
.23	276	960.50.325	960.50.400
.25	288	960.50.350	960.50.425
.26	301	960.50.350	960.50.425
.27	313	960.50.375	960.50.450
.28	326	960.50.375	960.50.450
.30	338	960.50.400	960.50.475
.31	351	960.50.400	960.50.475
.32	363	960.50.425	960.50.500
.33	376	960.50.425	960.50.500
.35	388	960.50.450	960.50.525
.36	401	960.50.450	960.50.525
.37	413	960.50.475	960.50.550
.38	426	960.50.475	960.50.550
.40	438	960.50.500	960.50.575
.41	451	960.50.500	960.50.575
.42	463	960.50.525	960.50.600
.43	476	960.50.525	960.50.600
.45	488	960.50.550	960.50.625
.46	501	960.50.550	960.50.625
.47	513	960.50.575	960.50.650
.48	526	960.50.575	960.50.650
.50	538	960.50.600	960.50.675
.51	551	960.50.600	960.50.675
.52	563	960.50.625	960.50.700
.53	576	960.50.625	960.50.700
.55	588	960.50.650	960.50.725
.60	638	960.50.700	960.50.775

14040/14140/R18840

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	80	upon request	960.50.200
.06	95	upon request	960.50.225
.07	105	upon request	960.50.225
.08	117	960.50.175	960.50.225
.10	130	960.50.200	960.50.250
.11	143	960.50.200	960.50.275
.12	155	960.50.225	960.50.275
.13	168	960.50.225	960.50.300
.15	180	960.50.250	960.50.300
.16	193	960.50.250	960.50.325
.17	205	960.50.275	960.50.325
.18	218	960.50.275	960.50.350
.20	230	960.50.300	960.50.350
.21	243	960.50.300	960.50.375
.22	255	960.50.325	960.50.375
.23	268	960.50.325	960.50.400
.25	280	960.50.350	960.50.400
.26	293	960.50.350	960.50.425
.27	305	960.50.375	960.50.425
.28	318	960.50.375	960.50.450
.30	330	960.50.400	960.50.450
.31	343	960.50.400	960.50.475
.32	355	960.50.425	960.50.475
.33	368	960.50.425	960.50.500
.35	380	960.50.450	960.50.500
.36	393	960.50.450	960.50.525
.37	405	960.50.475	960.50.525
.38	418	960.50.475	960.50.550
.40	430	960.50.500	960.50.550
.41	443	960.50.500	960.50.575
.42	455	960.50.525	960.50.575
.43	468	960.50.525	960.50.600
.45	480	960.50.550	960.50.600
.46	493	960.50.550	960.50.625
.47	505	960.50.575	960.50.625
.48	518	960.50.575	960.50.650
.50	530	960.50.600	960.50.650
.51	543	960.50.600	960.50.675
.52	555	960.50.625	960.50.675
.53	568	960.50.625	960.50.700
.55	580	960.50.650	960.50.700
.60	630	960.50.700	960.50.750

14240/14340

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	80	upon request	960.50.200
.06	98	upon request	960.50.225
.07	105	upon request	960.50.225
.087	118	960.50.175	960.50.250
.10	130	960.50.200	960.50.250
.11	138	960.50.200	960.50.275
.112	143	960.50.200	960.50.275
.12	155	960.50.225	960.50.275
.137	168	960.50.225	960.50.300
.15	180	960.50.250	960.50.300
.162	193	960.50.250	960.50.325
.17	198	960.50.250	960.50.325
.18	205	960.50.275	960.50.325
.187	218	960.50.275	960.50.350
.20	230	960.50.300	960.50.350
.212	243	960.50.300	960.50.375
.23	255	960.50.325	960.50.375
.237	268	960.50.325	960.50.400
.25	280	960.50.350	960.50.400
.262	293	960.50.350	960.50.425
.28	305	960.50.375	960.50.425
.29	318	960.50.375	960.50.450
.30	330	960.50.400	960.50.450
.312	343	960.50.400	960.50.475
.325	355	960.50.425	960.50.475
.337	368	960.50.425	960.50.500
.350	380	960.50.450	960.50.500
.362	393	960.50.450	960.50.525
.375	405	960.50.475	960.50.525
.387	418	960.50.475	960.50.550
.400	430	960.50.500	960.50.550

E6.62

Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.05	90	upon request	960.50.225
.06	108	upon request	960.50.225
.07	115	upon request	960.50.250
.087	127	960.50.175	960.50.250
.10	140	960.50.200	960.50.275
.11	148	960.50.200	960.50.275
.112	152	960.50.200	960.50.275
.12	165	960.50.225	960.50.300
.137	177	960.50.225	960.50.300
.15	190	960.50.250	960.50.325
.162	202	960.50.250	960.50.325
.17	208	960.50.275	960.50.325
.18	215	960.50.275	960.50.350
.187	227	960.50.275	960.50.350
.20	240	960.50.300	960.50.375
.212	252	960.50.300	960.50.375
.23	265	960.50.325	960.50.400
.237	277	960.50.325	960.50.400
.25	290	960.50.350	960.50.425
.262	302	960.50.350	960.50.425
.28	315	960.50.375	960.50.450
.29	327	960.50.375	960.50.450
.30	340	960.50.400	960.50.475
.312	352	960.50.400	960.50.475
.325	365	960.50.425	960.50.500
.337	377	960.50.425	960.50.500
.350	390	960.50.450	960.50.525
.362	402	960.50.450	960.50.525
.375	415	960.50.475	960.50.550
.387	427	960.50.475	960.50.550
.400	440	960.50.500	960.50.575

E4.64L

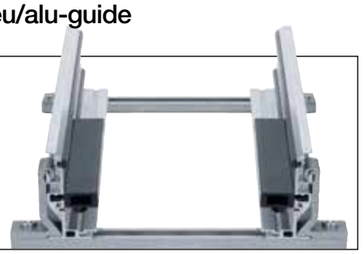
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.087	117	960.50.175	960.50.225
.100	130	960.50.225	960.50.275
.150	180	960.50.275	960.50.325
.200	230	960.50.250	960.50.300

E4/4HD - we recommend the heavy-duty version for the 4040HD/8840HD series for heavy-duty applications. You can configure it online at▶ www.igus.eu/alu-guide**

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available for plant manufacturing with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version at our online-catalogue
- **Installation set Part No. 974.50.**

More information ▶ www.igus.eu/alu-guide



Aluminium SuperTrough | 975.30.SL | 975.31.SLH

Trough height: 236mm | Product range

Easy to assemble and low-abrasion high-speed glide bar

For the following igus® series

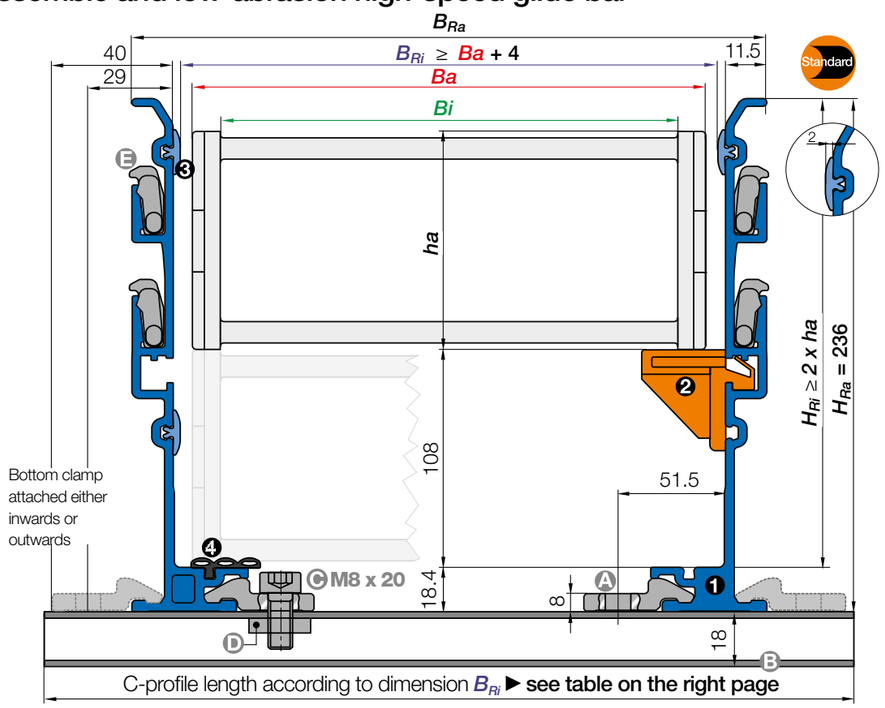
E4Q
- E4Q.82/H4Q.82

E4.1
- E4.80/H4.80/R4.80

E4/light
- 15050/15150/R19850
- 15250/15350

E6
- E6.80

E4/4HD**
- 5050HD/9850HD



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets ❶ | ❷ | ❸ | ❹ (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** glide bars	975.30.SLA [1]	≈ 14.0kg
1 set of 2 trough side parts, incl. glide strips, **with** high-speed glide bars	975.31.SLH [2]	≈ 15.4kg

1) For additional noise dampening strip, please add index A to the Part No. Example: **975.30.SLA**

2) 1 set of 2 trough side parts, incl. glide strips and with standard glide bars is still available: **Part No. 974.31.SL**

Full installation set Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ	Part No.	Weight
1 installation set **without** C-profile	960.50	≈ 0.08kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960.50.XXX [3]	upon request

3) Please add the C-profile length XXX as shown on the tables (right side). Example: **960.50.250**

Individual parts

Components as individual parts, trough	Part No.	Weight
❶ 1 trough side part, 2m section	75.11	≈ 6.94kg
❷ 1 high-speed glide bar, 0.5m. **More information ▶ page 1306**	GB.31.500 [4]	≈ 0.18kg
❸ 1 glide strip, plastic, 2m section	75.01	≈ 0.06kg
❹ 1 noise dampening strip, 2m section	75.68.H.2000	≈ 0.38kg

4) Conventional glide bar as individual part, 2m piece still available, **Part No. 83.79**

Components as individual parts, installation set	Part No.	Weight
Ⓐ 1 bottom clamp, aluminium individual	75.50	≈ 0.04kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E [5]	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040445 / M8 x 20	
Ⓓ 1 glide nut, individual	MAT 0040413 / M8	
Ⓔ 1 interface connector, individual	75.60	

5) Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.250.E**. For stainless steel AISI 304, please add index E.

Options

Additional options for simple fastening without drilling	Part No.
1 fixed end module set to attach the e-chain® into the aluminium SuperTrough. **More information ▶ page 1304**	975.80 A) / 975.81 B)
Trough clip for guiding cables on the outside of a aluminium SuperTrough. **More information ▶ page 1307**	SLC.40.17

A) - for series E4.80/H4.80/R4.80, E6.80 B) - for series 15050/15150/R19850, 15250/15350

C-profile lengths (according to Dim. B_{Ri}) | Basic version

Bottom clamp attached either inwards or outwards

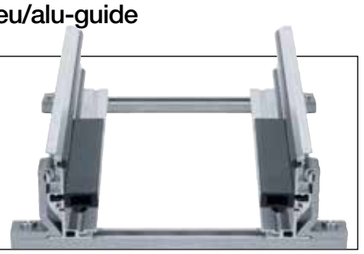
E4Q.82/H4Q.82				E4.80/H4.80/R4.80				15050/15150/R19850				15250/15350				E6.80			
Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards	Width index	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.100	154	960.50.225	960.50.275	.05	104	upon request	960.50.225	.05	84	upon request	960.50.200	.05	84	upon request	960.50.200	.05	98	upon request	960.50.225
.112	167	960.50.225	960.50.300	.06	119	upon request	960.50.250	.06	99	upon request	960.50.225	.06	102	upon request	960.50.225	.06	113	upon request	960.50.225
.125	179	960.50.250	960.50.300	.07	129	upon request	960.50.250	.07	109	upon request	960.50.225	.07	109	upon request	960.50.225	.07	123	upon request	960.50.250
.137	192	960.50.250	960.50.325	.08	141	960.50.200	960.50.275	.08	121	upon request	960.50.250	.087	121	upon request	960.50.250	.10	148	960.50.200	960.50.275
.150	204	960.50.275	960.50.325	.10	154	960.50.225	960.50.275	.10	134	upon request	960.50.250	.09	131	upon request	960.50.250	.11	160	960.50.225	960.50.275
.162	217	960.50.275	960.50.350	.11	167	960.50.225	960.50.300	.11	146	960.50.200	960.50.275	.10	134	upon request	960.50.250	.12	173	960.50.225	960.50.300
.175	229	960.50.300	960.50.350	.12	179	960.50.250	960.50.300	.12	159	960.50.225	960.50.275	.11	142	960.50.200	960.50.250	.13	185	960.50.250	960.50.300
.187	242	960.50.300	960.50.375	.13	192	960.50.250	960.50.325	.13	171	960.50.225	960.50.300	.112	147	960.50.200	960.50.275	.15	198	960.50.250	960.50.325
.200	254	960.50.325	960.50.375	.15	204	960.50.275	960.50.325	.15	184	960.50.250	960.50.300	.12	159	960.50.225	960.50.275	.16	210	960.50.275	960.50.325
.212	267	960.50.325	960.50.400	.16	217	960.50.275	960.50.350	.16	196	960.50.250	960.50.325	.137	171	960.50.225	960.50.300	.17	223	960.50.275	960.50.350
.225	279	960.50.350	960.50.400	.17	229	960.50.300	960.50.350	.17	209	960.50.275	960.50.325	.15	184	960.50.250	960.50.300	.18	235	960.50.300	960.50.350
.237	292	960.50.350	960.50.425	.18	242	960.50.300	960.50.375	.18	221	960.50.275	960.50.350	.162	197	960.50.250	960.50.325	.20	248	960.50.300	960.50.375
.250	304	960.50.375	960.50.425	.20	254	960.50.325	960.50.375	.20	234	960.50.300	960.50.350	.17	202	960.50.250	960.50.325	.21	260	960.50.325	960.50.375
.262	317	960.50.375	960.50.450	.21	267	960.50.325	960.50.400	.21	246	960.50.300	960.50.375	.18	209	960.50.275	960.50.325	.22	273	960.50.325	960.50.400
.275	329	960.50.400	960.50.450	.22	279	960.50.350	960.50.400	.22	259	960.50.325	960.50.375	.187	222	960.50.275	960.50.350	.23	285	960.50.350	960.50.400
.287	342	960.50.400	960.50475	.23	292	960.50.350	960.50.425	.23	271	960.50.325	960.50.400	.20	234	960.50.300	960.50.350	.25	298	960.50.350	960.50.425
.300	354	960.50.425	960.50.475	.25	304	960.50.375	960.50.425	.25	284	960.50.350	960.50.400	.212	247	960.50.300	960.50.375	.26	310	960.50.375	960.50.425
.312	367	960.50.425	960.50.500	.26	317	960.50.375	960.50.450	.26	296	960.50.350	960.50.425	.23	259	960.50.325	960.50.375	.27	323	960.50.375	960.50.450
.325	379	960.50.450	960.50.500	.27	329	960.50.400	960.50.450	.27	309	960.50.375	960.50.425	.237	272	960.50.325	960.50.400	.28	335	960.50.400	960.50.450
.337	392	960.50.450	960.50.525	.28	342	960.50.400	960.50475	.28	321	960.50.375	960.50.450	.25	284	960.50.350	960.50.400	.30	348	960.50.400	960.50.475
.350	404	960.50.475	960.50.525	.30	354	960.50.425	960.50.475	.30	334	960.50.400	960.50.450	.262	297	960.50.350	960.50.425	.31	360	960.50.425	960.50.475
.362	417	960.50.475	960.50.550	.31	367	960.50.425	960.50.500	.31	346	960.50.400	960.50.475	.28	309	960.50.375	960.50.425	.32	373	960.50.425	960.50.500
.375	429	960.50.500	960.50.550	.32	379	960.50.450	960.50.500	.32	359	960.50.425	960.50.475	.29	322	960.50.375	960.50.450	.33	385	960.50.450	960.50.500
.387	442	960.50.500	960.50.575	.33	392	960.50.450	960.50.525	.33	371	960.50.425	960.50.500	.30	334	960.50.400	960.50.450	.35	398	960.50.450	960.50.525
.400	454	960.50.525	960.50.575	.35	404	960.50.475	960.50.525	.35	384	960.50.450	960.50.500	.312	347	960.50.400	960.50.475	.36	410	960.50.475	960.50.525
.412	467	960.50.525	960.50600	.36	417	960.50.475	960.50.550	.36	396	960.50.450	960.50.525	.325	359	960.50.425	960.50.475	.37	423	960.50.475	960.50.550
.425	479	960.50.550	960.50.600	.37	429	960.50.500	960.50.550	.37	409	960.50.475	960.50.525	.337	372	960.50.425	960.50.500	.38	435	960.50.500	960.50.550
.437	492	960.50.550	960.50.625	.38	442	960.50.500	960.50.575	.38	421	960.50.475	960.50.550	.350	384	960.50.450	960.50.500	.40	448	960.50.500	960.50.575
.450	504	960.50.575	960.50.625	.40	454	960.50.525	960.50.575	.40	434	960.50.500	960.50.550	.362	397	960.50.450	960.50.525	.41	460	960.50.525	960.50.575
.462	517	960.50.575	960.50.650	.41	467	960.50.525	960.50600	.41	446	960.50.500	960.50.575	.375	409	960.50.475	960.50.525	.42	473	960.50.525	960.50.600
.475	529	960.50.600	960.50.650	.42	479	960.50.550	960.50.600	.42	459	960.50.525	960.50.575	.387	422	960.50.475	960.50.550	.43	485	960.50.550	960.50.600
.487	542	960.50.600	960.50.675	.43	492	960.50.550	960.50.625	.43	471	960.50.525	960.50.600	.400	434	960.50.500	960.50.550	.45	498	960.50.550	960.50.625
.500	554	960.50.625	960.50.675	.45	504	960.50.575	960.50.625	.45	484	960.50.550	960.50.600					.46	510	960.50.575	960.50.625
.512	567	960.50.625	960.50.700	.46	517	960.50.575	960.50.650	.46	496	960.50.550	960.50.625					.47	523	960.50.575	960.50.650
.525	579	960.50.650	960.50.700	.47	529	960.50.600	960.50.650	.47	509	960.50.575	960.50.625					.48	535	960.50.600	960.50.650
.537	592	960.50.650	960.50.725	.48	542	960.50.600	960.50.675	.48	521	960.50.575	960.50.650					.50	548	960.50.600	960.50.675
.550	604	960.50.675	960.50.725	.50	554	960.50.625	960.50.675	.50	534	960.50.600	960.50.650					.51	560	960.50.625	960.50.675
.562	616	960.50.675	960.50.725	.51	567	960.50.625	960.50.700	.51	546	960.50.600	960.50.675					.52	573	960.50.625	960.50.700
.575	629	960.50.675	960.50.750	.52	579	960.50.650	960.50.700	.52	559	960.50.625	960.50.675					.53	585	960.50.650	960.50.700
.587	641	960.50.700	960.50.750	.53	592	960.50.650	960.50.725	.53	571	960.50.625	960.50.700					.55	598	960.50.650	960.50.725
.600	654	960.50.725	960.50.775	.55	604	960.50.675	960.50.725	.55	584	960.50.650	960.50.700					.60	648	960.50.700	960.50.775
				.60	654	960.50.725	960.50.775	.60	634	960.50.700	960.50.750								

E4/4HD - we recommend the heavy-duty version for the 5050HD/9850HD series for heavy-duty applications. You can configure it online at ▶ www.igus.eu/alu-guide**

Heavy-duty version for high load applications

- This aluminium SuperTrough is also available for plant manufacturing with special heavy-duty brackets for secure connection
- You can configure the heavy-duty version at our online-catalogue
- **Installation set Part No. 975.50.**

More information ▶ www.igus.eu/alu-guide





Steel guide trough

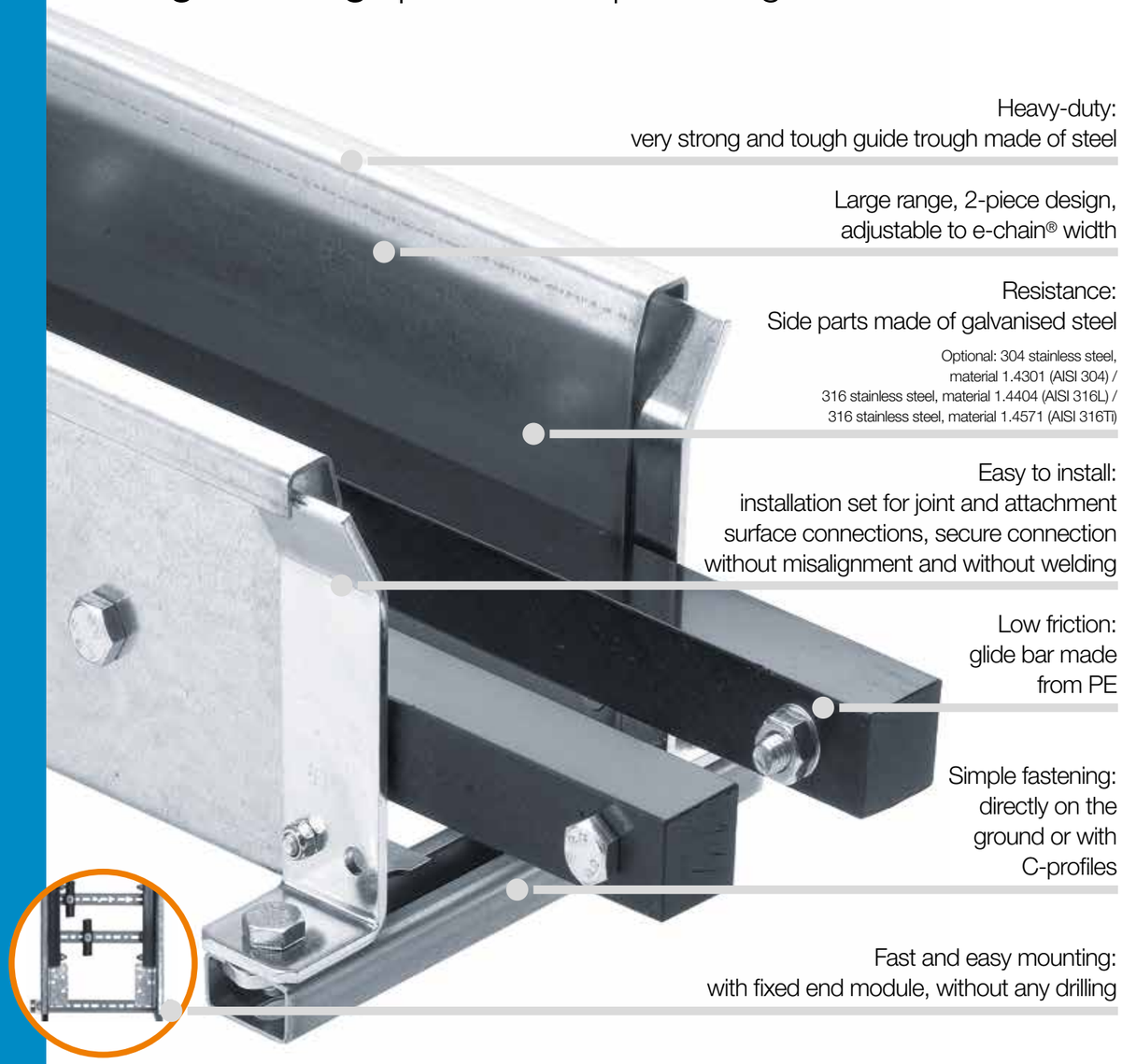
very strong and tough for heavy duty applications

Advantages of the steel guide trough

- Very strong and tough guide trough for applications in tough environments
- Easy assembly due to installation set for joint and attachment surface connection
- Easy mounting directly to the base of the C-profile
- Large range, 2-piece design, adjustable to e-chain® width
- Available in galvanised steel and stainless steel
- Low friction: Glide bar made of PE
- Fixed end module option available, for fast and easy mounting - without any drilling
- Conductivity according to DIN EN 61537 - standard

When to use another guide trough:

- When a corrosion-resistant, seawater-resistant aluminium trough is required,
  ► **Aluminium SuperTroughs, page 1298**
- If an even simpler and faster assembly is required
  ► **Aluminium SuperTrough, page 1298**
- When a 5 times more abrasion resistant glide bar is required for highly dynamic applications
  ► **High-speed glide bar for some aluminium SuperTroughs, Page 1306**



Heavy-duty:
very strong and tough guide trough made of steel

Large range, 2-piece design,
adjustable to e-chain® width

Resistance:
Side parts made of galvanised steel

Optional: 304 stainless steel,
material 1.4301 (AISI 304) /
316 stainless steel, material 1.4404 (AISI 316L) /
316 stainless steel, material 1.4571 (AISI 316Ti)

Easy to install:
installation set for joint and attachment
surface connections, secure connection
without misalignment and without welding

Low friction:
glide bar made
from PE

Simple fastening:
directly on the
ground or with
C-profiles

Fast and easy mounting:
with fixed end module, without any drilling

Very stable and tough for heavy-duty applications - steel guide trough

If the igus® installation sets are used, the guide troughs are very easy to assemble. All steel guide troughs are constructed according to the same basic principle. On the following pages, you will find information about dimensions, weights and accessories according to the trough size. On the following pages, you will find information about dimensions, weights and accessories according to the trough size. All sizes use a common C-profile on which the guide parts are assembled. The assembly brackets used vary in height only. Conductivity according to DIN EN 61537 - standard.

Steel

Part No. **without** glide bars	Part No. **with** glide bars	Outer height H_{Ra} [mm]	Part No. Installation set	Side part material	Page
				**Steel guide trough** very strong and tough for heavy-duty applications	
92.30	**92.31**	70	92.50	galvanised steel[1)]	**1334**
95.30	**95.31**	100	95.50	galvanised steel[1)]	**1336**
99.30	**99.31**	100	95.50	galvanised steel[1)]	**1338**
97.30	**97.31**	130	93.50	galvanised steel[1)]	**1340**
93.30	**93.31**	130	93.50	galvanised steel[1)]	**1342**
94.30	**94.31**	170	94.50	galvanised steel[1)]	**1344**
94.14550.30	**94.14550.31**	170	94.50	galvanised steel[1)]	**1346**
96.30	**96.31**	220	96.50	galvanised steel[1)]	**1348**
98.30	**98.31**	300	98.50	galvanised steel[1)]	**1350**
90.30	**90.31**	480	90.50	galvanised steel[1)]	**1352**
91.10 - 91.71[2)]		48	–	Galvanised steel	**1333**

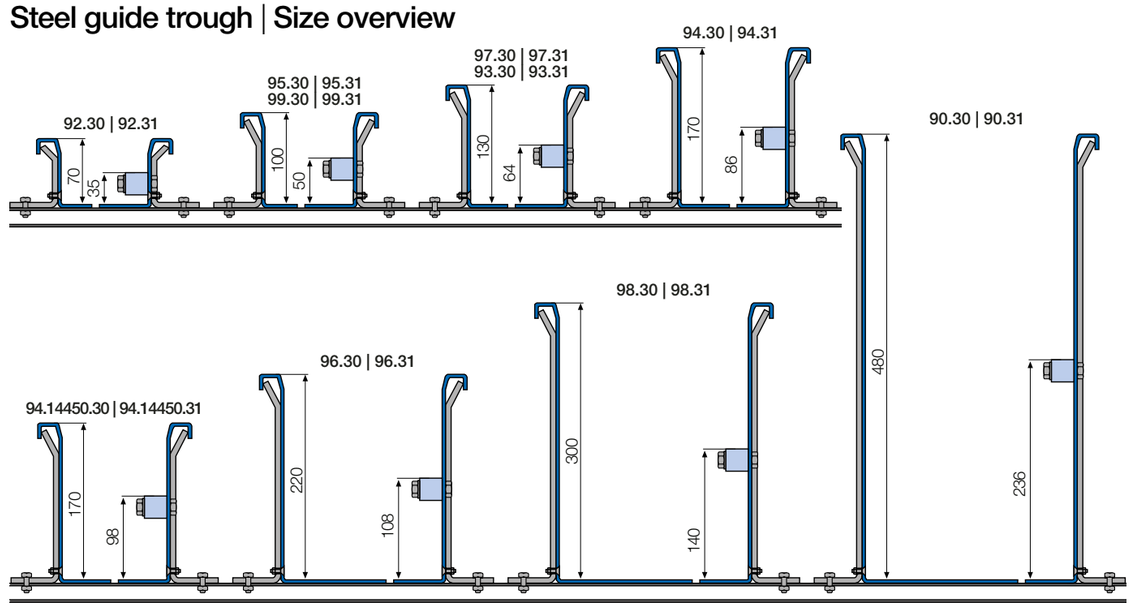
1) Optional: 304 stainless steel, material 1.4301 (AISI 304) / 316 stainless steel, material 1.4404 (AISI 316L) / 316 stainless steel, material 1.4571 (AISI 316Ti)

2) Steel guide trough, 1 piece. Only for series 10, 15 and B15

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Steel guide trough | Size overview

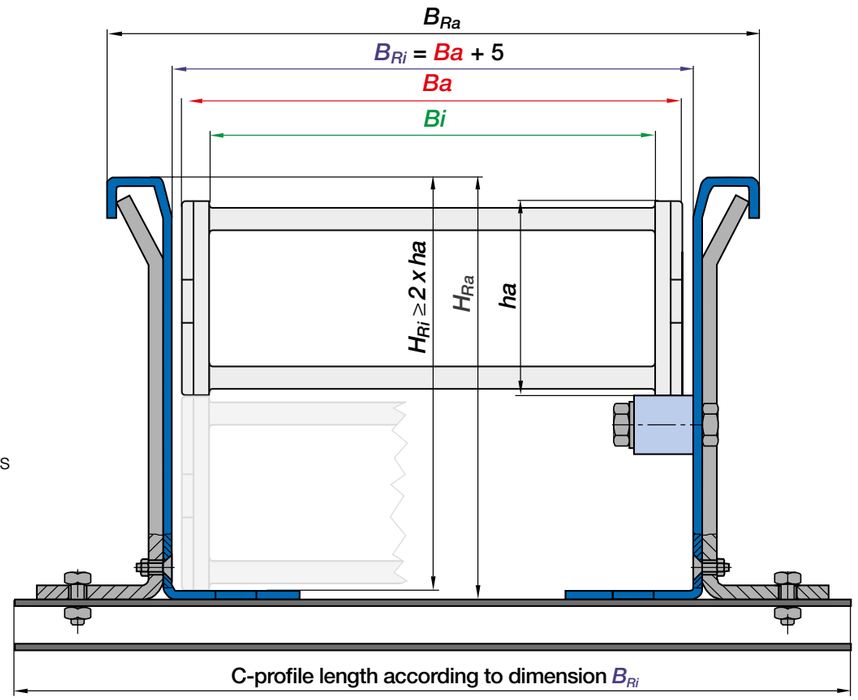


Steel guide trough | Individual parts

Components

- = Guide trough[1)]
- = glide bar
- = Installation set
- = C-profile[2)]

Ba = Outer e-chain® width
Bi = Inner e-chain® width
ha = e-chain® outer height
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width
n_{Mon} = Number of installation sets (left/right)
n_{Ri} = Number of trough sets (left/right)



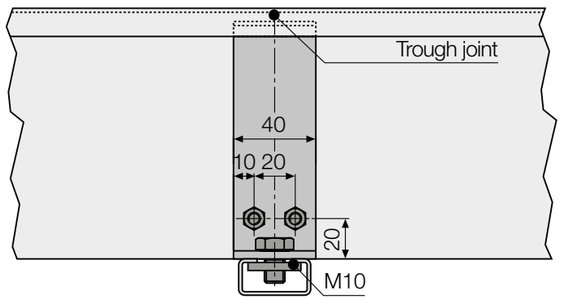
1) Guide trough side parts made from galvanised steel. Optional: 304 stainless steel, material 1.4301 (AISI 304) / 316 stainless steel, material 1.4404 (AISI 316L) / 316 stainless steel, material 1.4571 (AISI 316Ti) 2) C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304)

Steel guide trough | Features

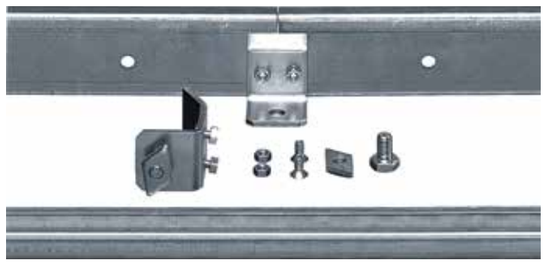




Steel guide trough available without and with glide bars



Side view of trough joint - steel guide troughs - all dimensions except for height apply to all sizes



Installation set for joint and attachment surface connections, secure connection without misalignment and without welding

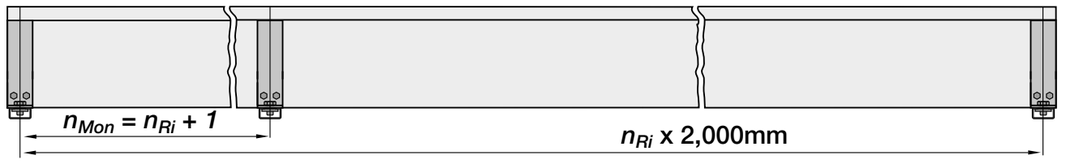
Steel guide trough | Configuration

Configured according to your requirements

Quickly and easily assemble the right steel guide trough for your application

- Selection of the suitable guide trough according to the e-chain® series and e-chain® width ***Bi***
- Determine the feed-in point of the cables
- Determine travel distance and thus the length of the required guide trough and the number of trough sections. (standard length of a trough side part: 2,000mm). For centre infeed, the length of the guide trough is calculated from half the travel length with and half the travel length without the glide bar
- Number and type of the installation set

The quantity of the installation set is calculated from the number of the trough sections + 1 set:



- The installation set matches the igus® C-profile option
- If you have opted for an e-chain® with KMA mounting brackets, we offer a fixed end module for the quick and simple fastening of the e-chain® in the trough without drilling

Installation guide PDF with detailed assembly information ▶ www.igus.eu/installation-guide-pdf

Order example | Examples based on Part No. 94.30 | 94.31

Order example: length of travel 30m - centre mounted for series E4.56.20.300.0 with B_{Ri} = 239

1 set of 2 trough side parts, incl. glide strips, **without** glide bars **Order text: 16m guide trough without glide bars (8 sets of 2 off 2m sections)**	94.30
1 set of 2 trough side parts, incl. glide strips, **with** glide bars **Order text: 16m guide trough with glide bars (8 sets of 2 off 2m sections)**	94.31
Installation set basic complete **(quantity: guide trough sets + 1)** **Order text: 17 installation sets**	94.50.350
Fixed end module **Order text: 1 set**	94.80.01

Calculation - travel centre fixed: half travel length, rounded to full 2m sections = X m. Guide trough length **without** glide bars + X m guide trough length **with** glide bars + installation sets (number of trough sections + 1)

Steel guide trough | Fixed end module

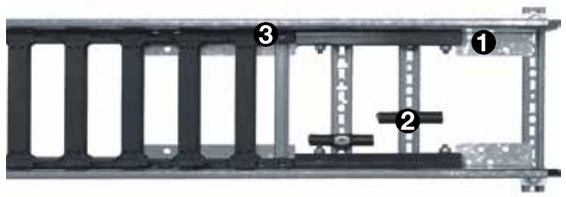
Quick and simple fastening onto the steel guide trough



When installing the mounting brackets at the fixed end, the steel trough normally needs to be drilled to match the mounting bracket hole pattern. This is history. With the new fixed end module, the holes are pre-fabricated so that the 2,000mm long component can be used for centre-fed, end-fed and even for reverse-fed applications.

❶ Fast fixation of igus® mounting brackets thanks to prefabricated boreholes
❷ Fast installation of C-profile for strain relief
❸ Fast bolting of glide bars

Industries: power plants, coal conveyors, mining, composting plants, raw material storage, gypsum plants, etc.



Series Part No.	For steel guide troughs	For e-chain® series
90.80.01*	90.30 | 90.31	800, 840
92.80.01	92.30 | 92.31	E2.26, 2500, 255, E6.29/R6.29
93.80.01	93.30 | 93.31	E4.48L/R4.48L, E4Q.44/H4Q.44, E2.48, 3500, R68, E4.42/H4.42/R4.42, E6.52/R6.52
94.80.01	94.30 | 94.31	E4.64L, E4Q.58/H4Q.58, E4.56/H4.56/R4.56, 14040/14140 /R18840, 14240/14340, E6.62, 4040HD/8840HD
95.80.01	95.30 | 95.31	E2.38, 2700
96.80.01	96.30 | 96.31	E4Q.82/H4Q.82, E4.80/H4.80/R4.80, 15050/15150/R19850, E6.80, 5050HD/9850HD
97.80.01	97.30 | 97.31	E4.38L/R4.38L, E4Q.34/H4Q.34, E4.32/H4.32/R4.32, E6.40/R6.40
98.80.01	98.30 | 98.31	E4.112/R4.112, 1640/R1608
99.80.01	99.30 | 99.31	E4.31L/R4.31L, E4.28/R4.28, E6.35
94.14550.80.01*	94.14550.30 | 94.14550.31	14550/14650/R19050

*Fixed end module available upon request. Please consult igus® for delivery time.



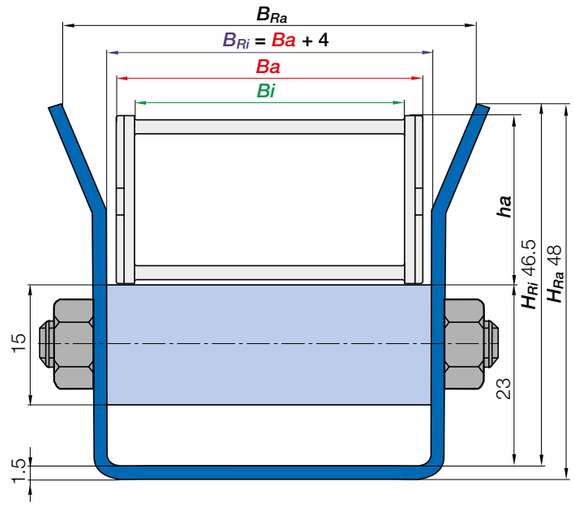
Fixed end module - length 2,000mm

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Steel guide trough | One-piece, U-shaped

Special solution for series 10, B15 and 15



Components
- = Guide trough
- = glide bar
- = Fastening screws

Ba = Outer e-chain® width
Bi = Inner e-chain® width
ha = e-chain® outer height
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width

For the following igus® series

E2 mini
- 10
- B15

zipper
- 15



For series 10, 15 and B15 one-piece, U-shaped steel guide troughs are available. They have a continuous glide bar for the gliding section of the trough. The guide troughs for the e-chains® with an outer width up to 100mm are available from stock. For wider e-chains® special solutions are possible. For this trough sizes no installation sets are necessary as the guide troughs are made of a single U-profile. The solution for the trough joint is specific for any application. (material: galvanised steel)

Series Part No.		For e-chain® series	B_{Ra} [mm]	B_{Ri} [mm]	Weight [kg/m]
91.10	Trough **without** glide bar, 2m section	10.015/15.015/B15.015	40.5	30	≈ 1.50
91.11	Trough **with** glide bar, 2m section	10.015/15.015/B15.015	40.5	30	≈ 2.10
91.20	Trough **without** glide bar, 2m section	10.025/15.025/B15.025	50.5	40	≈ 1.65
91.21	Trough **with** glide bar, 2m section	10.025/15.025/B15.025	50.5	40	≈ 2.35
91.30	Trough **without** glide bar, 2m section	10.038/15.038/B15.038	62.5	52	≈ 1.80
91.31	Trough **with** glide bar, 2m section	10.038/15.038/B15.038	62.5	52	≈ 2.70
91.40	Trough **without** glide bar, 2m section	10.050/15.050/B15.050	72.5	62	≈ 1.90
91.41	Trough **with** glide bar, 2m section	10.050/15.050/B15.050	72.5	62	≈ 3.15
91.50	Trough **without** glide bar, 2m section	10.5/15.5/B15.5	89.5	79	≈ 2.15
91.51	Trough **with** glide bar, 2m section	10.5/15.5/B15.5	89.5	79	≈ 4.30
91.60	Trough **without** glide bar, 2m section	10.6/15.6/B15.6	106.5	96	≈ 2.40
91.61	Trough **with** glide bar, 2m section	10.6/15.6/B15.6	106,5	96	≈ 4.60
91.70	Trough **without** glide bar, 2m section	10.7/15.7/B15.7	126.5	116	≈ 2.80
91.71	Trough **with** glide bar, 2m section	10.7/15.7/B15.7	126.5	116	≈ 5.20

Steel guide trough | 92.30 | 92.31 | Heavy-duty

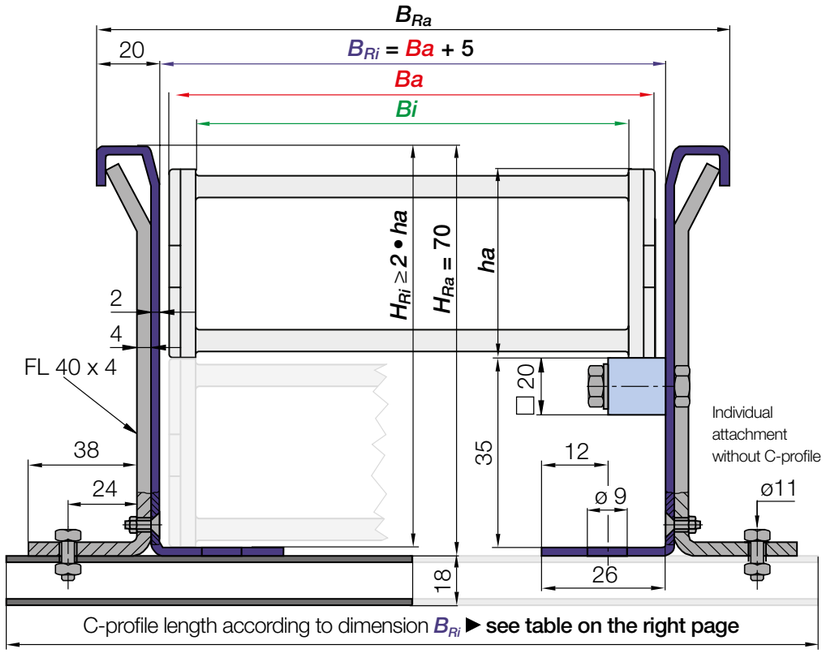
Trough height: 70mm | Product range

For the following igus® series

E2.1
- E2.26

E2/000
- 2500
- 255

E6
- E6.29/R6.29



C-profile length according to dimension B_{Ri} ▶ **see table on the right page**

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	92.30.E[1] / E44[2] / E45[3]	≈ 7.60kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	92.31.E[1] / E44[2] / E45[3]	≈ 9.60kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	92.50	≈ 0.34kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	92.50.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: 92.50.200

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	92.11.E[1] / E44[2] / E45[3]	≈ 3.80kg
1 glide bar, 2m section	92.01	≈ 0.75 kg
1 glide bar, 2m section + 11 screw sets	92.20	≈ 0.98kg
1 package with 11 screw sets (for glide bar, 2m section)	92.21	≈ 0.23kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	92.51	≈ 0.12kg
1 countersunk-head screw, individual	92.53 / M6 x 14	
1 hexagon nut, individual	92.54 / M6	
1 hexagon-head screw, individual	92.55 / M10 x 16	
1 glide nut, individual	92.56 / M10	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX*.E[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. **(more information ▶ Page) 1332**	92.80.01*	≈ 7.60kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: 92.52.200.E

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index E to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index E44 to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index E45 to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E2.26			2500			255			E6.29/R6.29		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.025	47	upon request	.02	46	upon request	.03	59	upon request	.030	51	upon request
.038	60	upon request	.03	59	upon request	.05	78	92.50.200	.040	61	upon request
.057	79	92.50.200	.05	78	92.50.200	.07	98	92.50.225	.050	71	92.50.200
.077	99	92.50.225	.07	98	92.50.225	.10	124	92.50.250	.060	81	92.50.200
.089	111	92.50.225	.09	110	92.50.225				.070	91	92.50.200
.103	125	92.50.250	.10	124	92.50.250				.080	101	92.50.225
.125	147	92.50.275	.12	146	92.50.275				.090	111	92.50.225
									.100	121	92.50.250
									.110	131	92.50.250
									.120	141	92.50.250



igus® steel guide trough in use

Steel guide trough | 95.30 | 95.31 | Heavy-duty

Trough height: 100mm | Product range

For the following igus® series

E2.1

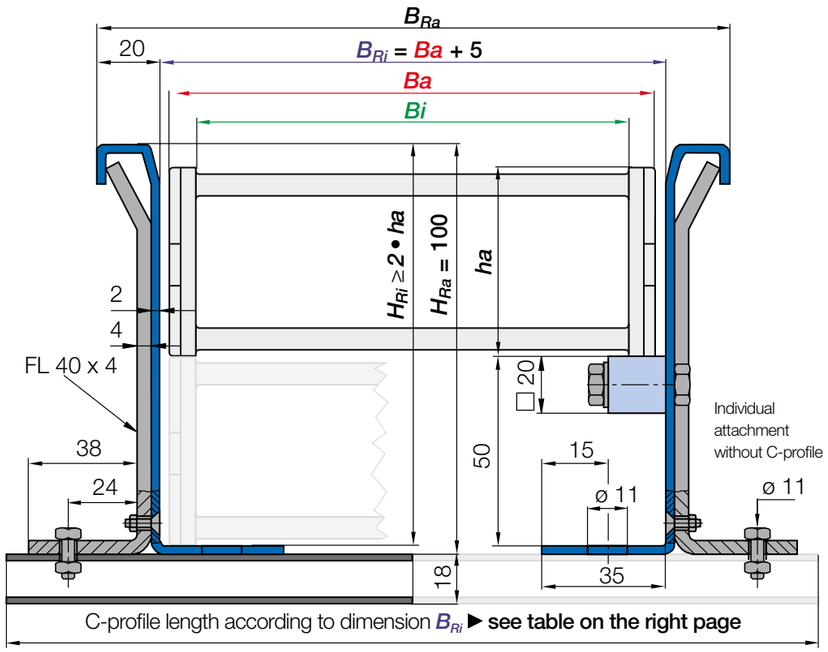
● E2.38

E2/000

● 2700

E2 R

● R58



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**95.30.E**[1] / **E44**[2] / **E45**[3]	≈ 10.00kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	**95.31.E**[1] / **E44**[2] / **E45**[3]	≈ 12.00kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	**95.50**	≈ 0.41kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**95.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **95.50.200**

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	**95.11.E**[1] / **E44**[2] / **E45**[3]	≈ 5.00kg
1 glide bar, 2m section	**92.01**	≈ 0.75 kg
1 glide bar, 2m section + 11 screw sets	**92.20**	≈ 0.98kg
1 package with 11 screw sets (for glide bar, 2m section)	**92.21**	≈ 0.23kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**95.51**	≈ 0.16kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. **(more information ▶ Page) 1332**	**95.80.01**	≈ 10.00kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **95.52.200.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E2.38			2700			R58		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.50	72	95.50.200	.05	71	95.50.200	.050	71	95.50.200
.65	87	95.50.200	.06	86	95.50.200	.075	96	95.50.225
.75	97	95.50.225	.07	96	95.50.225	.100	121	95.50.250
.90	112	95.50.225	.09	111	95.50.225	.125	146	95.50.275
.100	122	95.50.250	.10	121	95.50.250	.150	171	95.50.300
.125	147	95.50.275	.12	146	95.50.275	.175	196	95.50.325
.150	172	95.50.300	.15	171	95.50.300	.200	221	95.50.350
.175	200	95.50.325	.17	199	95.50.325			



igus® steel guide trough used in a storage and retrieval equipment with series E2/000 and chainflex® cables

Steel guide trough | 99.30 | 99.31 | Heavy-duty

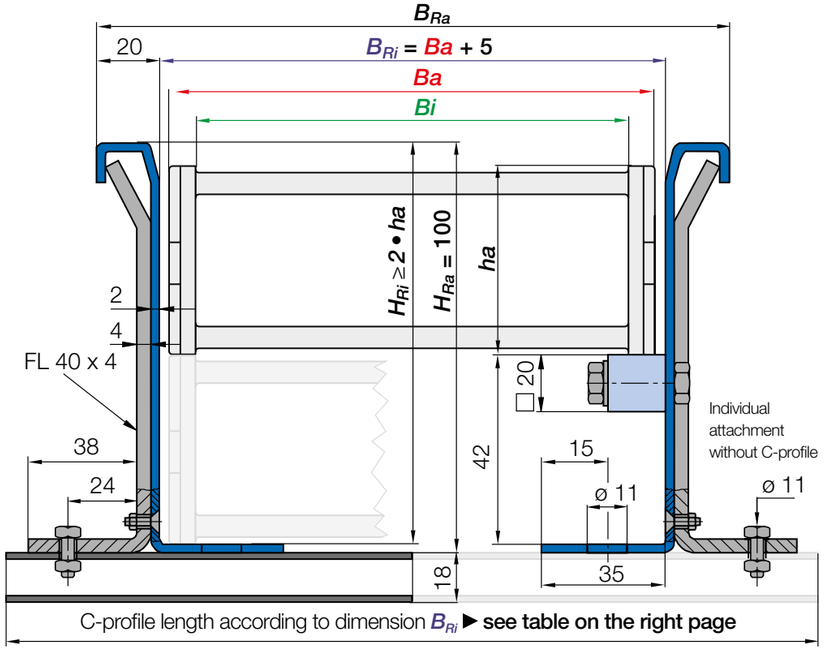
Trough height: 100mm | Product range

For the following igus® series

E4.1L
- E4.31L/R4.31L

E4.1
- E4.28/R4.28

E6
- E6.35



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**99.30.E**[1] / **E44**[2] / **E45**[3]	≈ 10.00kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	**99.31.E**[1] / **E44**[2] / **E45**[3]	≈ 12.00kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	**95.50**	≈ 0.41kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**95.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **95.50.200**

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	**99.11.E**[1] / **E44**[2] / **E45**[3]	≈ 5.00kg
1 glide bar, 2m section	**92.01**	≈ 0.75 kg
1 glide bar, 2m section + 11 screw sets	**92.20**	≈ 0.98kg
1 package with 11 screw sets (for glide bar, 2m section)	**92.21**	≈ 0.23kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**95.51**	≈ 0.16kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. **(more information ▶ Page) 1332**	**99.80.01**	≈ 10.00kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.200.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4.31L/R4.31L			E4.28/R4.28			E6.35		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.040	59	upon request	.040	65	upon request	.030	55	upon request
.050	69	upon request	.050	75	95.50.200	.040	65	upon request
.062	81	95.50.200	.062	87	95.50.200	.050	75	95.50.200
.075	94	95.50.200	.070	95	95.50.200	.060	85	95.50.200
.087	106	95.50.225	.075	100	95.50.225	.070	95	95.50.200
.100	119	95.50.225	.087	112	95.50.225	.080	105	95.50.225
.112	131	95.50.250	.100	125	95.50.250	.090	115	95.50.225
.125	144	95.50.250	.125	150	95.50.275	.100	125	95.50.250
.137	156	95.50.275	.150	175	95.50.300	.110	135	95.50.250
.150	169	95.50.275	.175	200	95.50.325	.120	145	95.50.250
.162	181	95.50.300	.200	225	95.50.350			
.175	194	95.50.300	.225	250	95.50.375			
.187	206	95.50.325	.250	275	95.50.400			
.200	219	95.50.325	.275	300	95.50.425			
			.300	325	95.50.450			



Light weight and high strength: igus® polymer e-chain® carries rigid hydraulic hoses

Steel guide trough | 97.30 | 97.31 | Heavy-duty

Trough height: 130mm | Product range

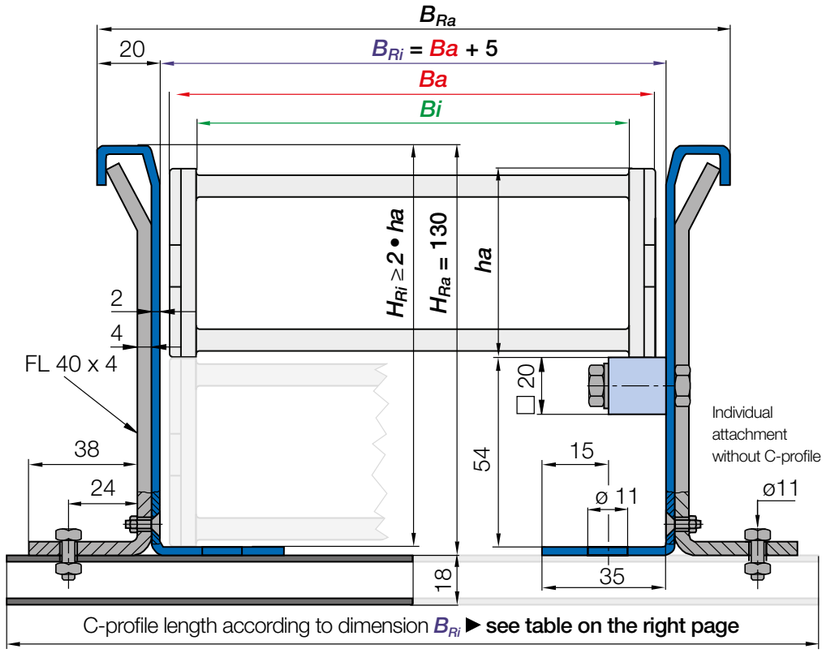
For the following igus® series

E4.1L
- E4.38L/R4.38L

E4Q
- E4Q.34/H4Q.34

E4.1
- E4.32/H4.32/R4.32

E6
- E6.40/R6.40



Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**97.30.E**[1] / **E44**[2] / **E45**[3]	≈ 11.80kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	**97.31.E**[1] / **E44**[2] / **E45**[3]	≈ 13.60kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	**93.50**	≈ 0.49kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**93.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **93.50.350**

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	**97.11.E**[1] / **E44**[2] / **E45**[3]	≈ 5.90kg
1 glide bar, 2m section	**92.01**	≈ 0.75 kg
1 glide bar, 2m section + 11 screw sets	**92.20**	≈ 0.98kg
1 package with 11 screw sets (for glide bar, 2m section)	**92.21**	≈ 0.23kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**93.51**	≈ 0.20kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. **(more information ▶ Page) 1332**	**97.80.01**	≈ 11.80kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.350.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4.38L/R4.38L			E4Q.34/H4Q.34			E4.32/H4.32/R4.32			E6.40/R6.40		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.050	71	93.50.200	075.	103	93.50.225	.05	78	93.50.200	.040	65	upon request
.062	83	93.50.200	087.	115	93.50.225	.06	96	93.50.225	.050	75	93.50.200
.075	96	93.50.225	100.	128	93.50.250	.07	103	93.50.225	.062	87	93.50.200
.087	108	93.50.225	108.	136	93.50.250	.087	115	93.50.225	.070	95	93.50.225
.100	121	93.50.250	112.	141	93.50.250	.10	128	93.50.250	.075	100	93.50.225
.105	126	93.50.250	125.	153	93.50.275	.11	136	93.50.250	.087	112	93.50.225
.112	133	93.50.250	137.	166	93.50.275	.112	141	93.50.250	.100	125	93.50.250
.125	146	93.50.275	150.	178	93.50.300	.12	153	93.50.275	.125	150	93.50.275
.137	158	93.50.275	162.	191	93.50.300	.137	166	93.50.275	.150	175	93.50.300
.150	171	93.50.300	168.	196	93.50.325	.15	178	93.50.300	.175	200	93.50.325
.162	183	93.50.300	175.	203	93.50.325	.162	191	93.50.300	.200	225	93.50.350
.175	196	93.50.325	187.	216	93.50.325	.17	196	93.50.325	.225	250	93.50.375
.187	208	93.50.325	200.	228	93.50.350	.18	203	93.50.325	.250	275	93.50.400
.200	221	93.50.350	212.	241	93.50.350	.187	216	93.50.325	.275	300	93.50.425
.212	233	93.50.350	225.	253	93.50.375	.20	228	93.50.350	.300	325	93.50.450
.225	246	93.50.375	237.	266	93.50.375	.212	241	93.50.350			
.237	258	93.50.375	250.	278	93.50.400	.23	253	93.50.375			
.250	271	93.50.400	262.	291	93.50.400	.237	266	93.50.375			
.262	283	93.50.400	275.	303	93.50.425	.25	278	93.50.400			
.275	296	93.50.425	287.	316	93.50.425	.262	291	93.50.400			
.287	308	93.50.425	300.	328	93.50.450	.28	303	93.50.425			
.300	321	93.50.450	312.	341	93.50.450	.29	316	93.50.425			
.312	333	93.50.450	325.	353	93.50.475	.30	328	93.50.450			
.325	346	93.50.475	337.	366	93.50.475	.312	341	93.50.450			
.337	358	93.50.475	350.	378	93.50.500	.325	353	93.50.475			
.350	371	93.50.500	362.	391	93.50.500	.337	366	93.50.475			
.362	383	93.50.500	375.	403	93.50.525	.350	378	93.50.500			
.375	396	93.50.525	387.	416	93.50.525	.362	391	93.50.500			
.387	408	93.50.525	400.	428	93.50.550	.375	403	93.50.525			
.400	421	93.50.550				.387	416	93.50.525			
						.400	428	93.50.550			





igus® system E4 with extension link on a ship loader for coal handling. Travel 105m, speed 240m/min, fill weight 53kg/m

Steel guide trough | 93.30 | 93.31 | Heavy-duty

Trough height: 130mm | Product range

For the following igus® series

E2.1
- E2.48

E2/000
- 3500

E2 R
- R68

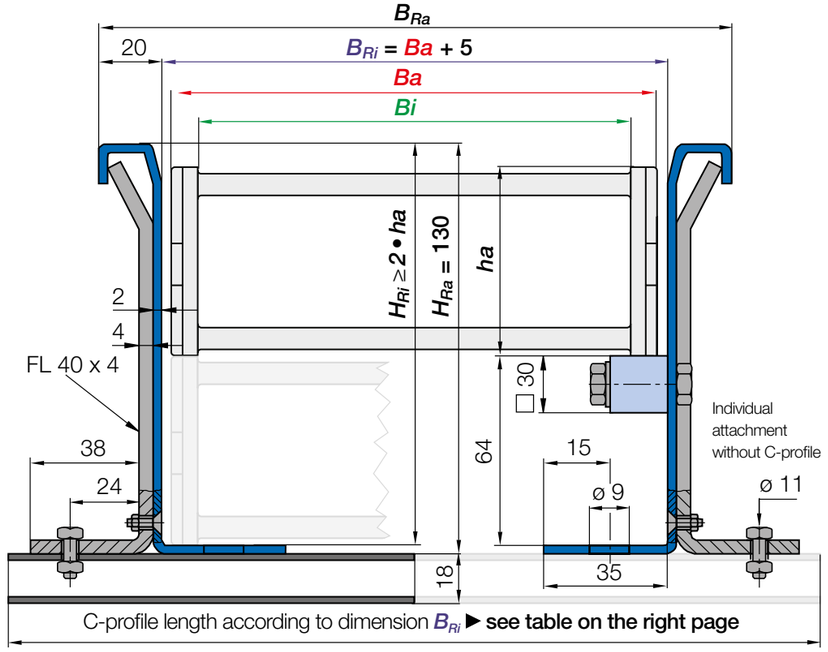
E4.1L
- E4.48L/R4.48L

E4Q
- E4Q.44/H4Q.44

E4.1
- E4.42/H4.42/R4.42

E6
- E6.52/R6.52

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.



Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	93.30.E[1] / E44[2] / E45[3]	≈ 11.80kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	93.31.E[1] / E44[2] / E45[3]	≈ 16.20kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	93.50	≈ 0.49kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	93.50.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: 93.50.350

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	93.11.E[1] / E44[2] / E45[3]	≈ 5.90kg
1 glide bar, 2m section	93.01	≈ 1.68kg
1 glide bar, 2m section + 11 screw sets	93.20	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	93.21	≈ 0.54kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	93.51	≈ 0.20kg
1 countersunk-head screw, individual	92.53 / M6 x 14	
1 hexagon nut, individual	92.54 / M6	
1 hexagon-head screw, individual	92.55 / M10 x 16	
1 glide nut, individual	92.56 / M10	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX*.E[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. (more information ▶ Page) 1332	93.80.01	≈ 11.80kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: 92.52.350.E

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index E to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index E44 to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index E45 to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E2.48

Width index	B_{Ri} [mm]	Part No. Installation set
.050	77	93.50.200
.075	102	93.50.225
.100	127	93.50.250
.115	142	93.50.250
.125	152	93.50.275
.150	177	93.50.300
.175	202	93.50.325
.200	227	93.50.350
.225	252	93.50.375
.250	277	93.50.400

3500

Width index	B_{Ri} [mm]	Part No. Installation set
.050	75	93.50.200
.075	100	93.50.225
.100	125	93.50.250
.115	140	93.50.250
.125	150	93.50.275
.150	175	93.50.300
.175	200	93.50.325
.200	225	93.50.350
.225	250	93.50.375
.250	275	93.50.400

E4.48L/R4.48L

Width index	B_{Ri} [mm]	Part No. Installation set
.050	75	93.50.200
.062	87	93.50.200
.075	100	93.50.225
.087	112	93.50.225
.100	125	93.50.250
.105	130	93.50.250
.112	137	93.50.250
.125	150	93.50.275
.137	162	93.50.275
.150	175	93.50.300
.162	187	93.50.300
.175	200	93.50.325
.187	212	93.50.325
.200	225	93.50.350
.212	237	93.50.350
.225	250	93.50.375
.237	262	93.50.375
.250	275	93.50.400
.262	287	93.50.400
.275	300	93.50.425
.287	312	93.50.425
.300	325	93.50.450
.312	337	93.50.450
.325	350	93.50.475
.337	362	93.50.475
.350	375	93.50.500
.362	387	93.50.500
.375	400	93.50.525
.387	412	93.50.525
.400	425	93.50.550

E4Q.44/H4Q.44

Width index	B_{Ri} [mm]	Part No. Installation set
.075	106	93.50.225
.087	119	93.50.250
.100	131	93.50.250
.108	139	93.50.250
.112	144	93.50.275
.125	156	93.50.275
.137	169	93.50.300
.150	181	93.50.300
.162	194	93.50.325
.168	199	93.50.325
.175	206	93.50.325
.187	219	93.50.350
.200	231	93.50.350
.212	244	93.50.375
.225	256	93.50.375
.237	269	93.50.400
.250	281	93.50.400
.262	294	93.50.425
.275	306	93.50.425
.287	319	93.50.450
.300	331	93.50.450
.312	344	93.50.475
.325	356	93.50.475
.337	369	93.50.500
.350	381	93.50.500
.362	394	93.50.525
.375	407	93.50.525
.387	419	93.50.550
.400	431	93.50.550

E4.42/H4.42/R4.42

Width index	B_{Ri} [mm]	Part No. Installation set
.05	81	93.50200
.06	99	93.50.225
.07	106	93.50.225
.087	119	93.50.250
.10	131	93.50.250
.11	139	93.50.250
.112	144	93.50.275
.12	156	93.50.275
.137	169	93.50.300
.15	181	93.50.300
.162	194	93.50.325
.17	199	93.50.325
.18	206	93.50.325
.187	219	93.50.350
.20	231	93.50.350
.212	244	93.50.375
.23	256	93.50.375
.237	269	93.50.400
.25	281	93.50.400
.262	294	93.50.425
.28	306	93.50.425
.29	319	93.50.450
.30	331	93.50.450
.312	344	93.50.475
.325	356	93.50.475
.337	369	93.50.500
.350	381	93.50.500
.362	394	93.50.525
.375	407	93.50.525
.387	419	93.50.550
.400	431	93.50.550

R68

Width index	B_{Ri} [mm]	Part No. Installation set
.050	73	93.50.200
.075	98	93.50.225
.100	123	93.50.250
.115	138	93.50.250
.125	148	93.50.275
.150	173	93.50.300
.175	198	93.50.325
.200	223	93.50.350
.225	248	93.50.375
.250	273	93.50.400

E6.52/R6.52

Width index	B_{Ri} [mm]	Part No. Installation set
.040	69	upon request
.050	79	93.50.200
.062	91	93.50.200
.070	99	93.50.225
.075	104	93.50.225
.087	116	93.50.225
.100	129	93.50.250
.125	154	93.50.275
.150	179	93.50.300
.175	204	93.50.325
.200	229	93.50.350
.225	254	93.50.375
.250	279	93.50.400
.275	304	93.50.425
.300	329	93.50.450



Travel up to 195m with the igus® system E4, safely guided in an igus® steel trough

Steel guide trough | 94.30 | 94.31 | Heavy-duty

Trough height: 170mm | Product range

For the following igus® series

E4.1L
- E4.64L

E4Q
- E4Q.58/H4Q.58

E4.1
- E4.56/H4.56/R4.56

E4/light
- 14040/14140/R18840
- 14240/14340

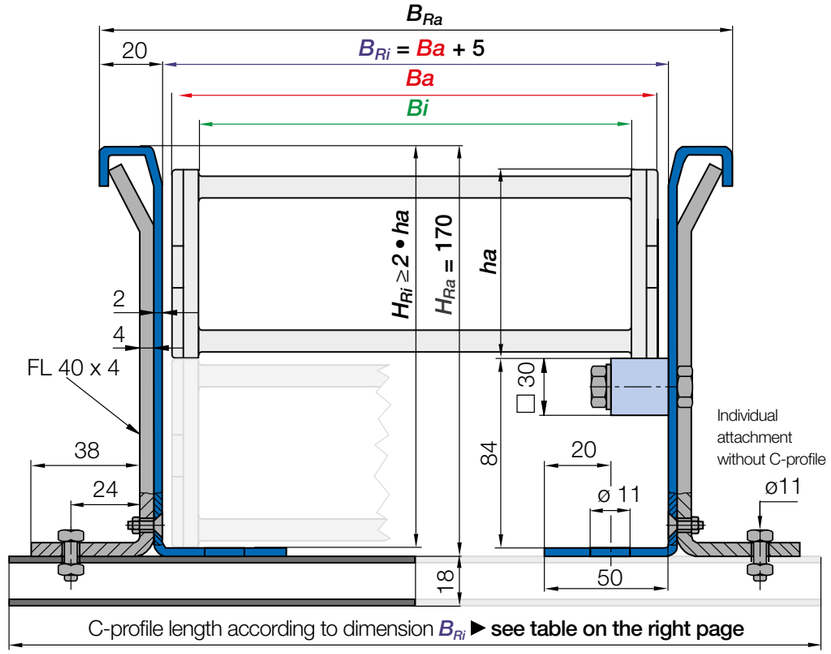
E6
- E6.62

E4/4HD
- 4040HD/8840HD



Option: with reinforced mounting angles for extremely heavy-duty applications. For particularly demanding applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.



Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**94.30.**E[1] / E44[2] / E45[3]	≈ 14.70kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	**94.31.**E[1] / E44[2] / E45[3]	≈19.00kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	**94.50**	≈ 0.58kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**94.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **94.50.350**

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	**94.11.**E[1] / E44[2] / E45[3]	≈ 7.35kg
1 glide bar, 2m section	**93.01**	≈ 1.68kg
1 glide bar, 2m section + 11 screw sets	**93.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**93.21**	≈ 0.54kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**94.51**	≈ 0.25kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.**E[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. **(more information ▶ Page) 1332**	**94.80.01**	≈ 14.70kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.350.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index E to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index E44 to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index E45 to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4Q.58/H4Q.58			E4.56/H4.56/R4.56			14040/14140/R18840			14240/14340			E6.62			4040HD/8840HD		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.100	139	94.50.250	.05	89	upon request	.05	81	upon request	.05	81	upon request	.05	91	upon request	.05	109	94.50.225
.112	152	94.50.275	.06	104	94.50.225	.06	96	upon request	.06	99	upon request	.06	109	94.50.225	.06	124	94.50.250
.125	164	94.50.275	.07	114	94.50.225	.07	106	94.50.225	.07	106	94.50.225	.07	116	94.50.225	.07	134	94.50.250
.137	177	94.50.300	.08	121	94.50.225	.10	131	94.50.250	.087	119	94.50.250	.087	128	94.50.250	.10	159	94.50.275
.150	189	94.50.300	.10	139	94.50.250	.11	144	94.50.275	.10	131	94.50.250	.10	141	94.50.250	.11	171	94.50.300
.162	202	94.50.325	.11	152	94.50.275	.12	156	94.50.275	.11	139	94.50.250	.11	149	94.50.275	.12	184	94.50.300
.175	214	94.50.325	.12	164	94.50.275	.13	169	94.50.300	.112	144	94.50.275	.112	153	94.50.275	.13	196	94.50.325
.187	227	94.50.350	.13	177	94.50.300	.15	181	94.50.300	.12	156	94.50.275	.12	166	94.50.275	.15	209	94.50.325
.200	239	94.50.350	.15	189	94.50.300	.16	194	94.50.325	.137	169	94.50.300	.137	178	94.50.300	.16	221	94.50.350
.212	252	94.50.375	.16	202	94.50.325	.17	206	94.50.325	.15	181	94.50.300	.15	191	94.50.300	.17	234	94.50.350
.225	264	94.50.375	.17	214	94.50.325	.18	219	94.50.350	.162	194	94.50.325	.162	203	94.50.325	.18	246	94.50.375
.237	277	94.50.400	.18	227	94.50.350	.20	231	94.50.350	.17	199	94.50.325	.17	209	94.50.325	.20	259	94.50.375
.250	289	94.50.400	.20	239	94.50.350	.21	244	94.50.375	.18	206	94.50.325	.18	216	94.50.325	.21	271	94.50.400
.262	302	94.50.425	.21	252	94.50.375	.22	256	94.50.375	.187	219	94.50.350	.187	228	94.50.350	.22	284	94.50.400
.275	314	94.50.425	.22	264	94.50.375	.23	269	94.50.400	.20	231	94.50.350	.20	241	94.50.350	.23	296	94.50.425
.287	327	94.50.450	.23	277	94.50.400	.25	281	94.50.400	.212	244	94.50.375	.212	253	94.50.375	.25	309	94.50.425
.300	339	94.50.450	.25	289	94.50.400	.26	294	94.50.425	.23	256	94.50.375	.23	266	94.50.375	.26	321	94.50.450
.312	352	94.50.475	.26	302	94.50.425	.27	306	94.50.425	.237	269	94.50.400	.237	278	94.50.400	.27	334	94.50.450
.325	364	94.50.475	.27	314	94.50.425	.28	319	94.50.450	.25	281	94.50.400	.25	291	94.50.400	.28	346	94.50.475
.337	377	94.50.500	.28	327	94.50.450	.30	331	94.50.450	.262	294	94.50.425	.262	303	94.50.425	.30	359	94.50.475
.350	389	94.50.500	.30	339	94.50.450	.31	344	94.50.475	.28	306	94.50.425	.28	316	94.50.425	.31	371	94.50.500
.362	402	94.50.525	.31	352	94.50.475	.32	356	94.50.475	.29	319	94.50.450	.29	328	94.50.450	.32	384	94.50.500
.375	414	94.50.525	.32	364	94.50.475	.33	369	94.50.500	.30	331	94.50.450	.30	341	94.50.450	.33	396	94.50.525
.387	427	94.50.550	.33	377	94.50.500	.35	381	94.50.500	.312	344	94.50.475	.312	353	94.50.475	.35	409	94.50.525
.400	439	94.50.550	.35	389	94.50.500	.36	394	94.50.525	.325	356	94.50.475	.325	366	94.50.475	.36	421	94.50.550
.412	452	94.50.575	.36	402	94.50.525	.37	406	94.50.525	.337	369	94.50.500	.337	378	94.50.500	.37	434	94.50.550
.425	464	94.50.575	.37	414	94.50.525	.38	419	94.50.550	.350	381	94.50.500	.350	391	94.50.500	.38	446	94.50.575
.437	477	94.50.600	.38	427	94.50.550	.40	431	94.50.550	.362	394	94.50.525	.362	403	94.50.525	.40	459	94.50.575
.450	489	94.50.600	.40	439	94.50.550	.41	444	94.50.575	.375	406	94.50.525	.375	416	94.50.525	.41	471	94.50.600
.462	502	94.50.625	.41	452	94.50.575	.42	456	94.50.575	.384	419	94.50.550	.387	428	94.50.550	.42	484	94.50.600
.475	514	94.50.625	.42	464	94.50.575	.43	469	94.50.600	.400	431	94.50.550	.400	441	94.50.550	.43	496	94.50.625
.487	527	94.50.650	.43	477	94.50.600	.45	481	94.50.600							.45	509	94.50.625
.500	539	94.50.650	.45	489	94.50.600	.46	494	94.50.625							.46	521	94.50.650
.512	552	94.50.675	.46	502	94.50.625	.47	506	94.50.625							.47	534	94.50.650
.525	564	94.50.675	.47	514	94.50.625	.48	519	94.50.650							.48	546	94.50.675
.537	577	94.50.700	.48	527	94.50.650	.50	531	94.50.650							.50	559	94.50.675
.550	589	94.50.700	.50	539	94.50.650	.51	544	94.50.675							.51	571	94.50.700
.562	601	94.50.725	.51	552	94.50.675	.52	556	94.50.675							.52	584	94.50.700
.575	614	94.50.725	.52	564	94.50.675	.53	569	94.50.700							.53	596	94.50.725
.587	626	94.50.750	.53	577	94.50.700	.55	581	94.50.700							.55	609	94.50.725
.600	639	94.50.750	.55	589	94.50.700	.60	631	94.50.750							.60	659	94.50.775
			.60	639	94.50.750												

E4.64L		
Width index	B_{Ri} [mm]	Part No. Installation set
.087	118	94.50.225
.100	131	94.50.250
.150	181	94.50.300
.200	231	94.50.350



Extremely dirty and tough environment in coal handling. igus® roller e-chains® guided in tough steel troughs

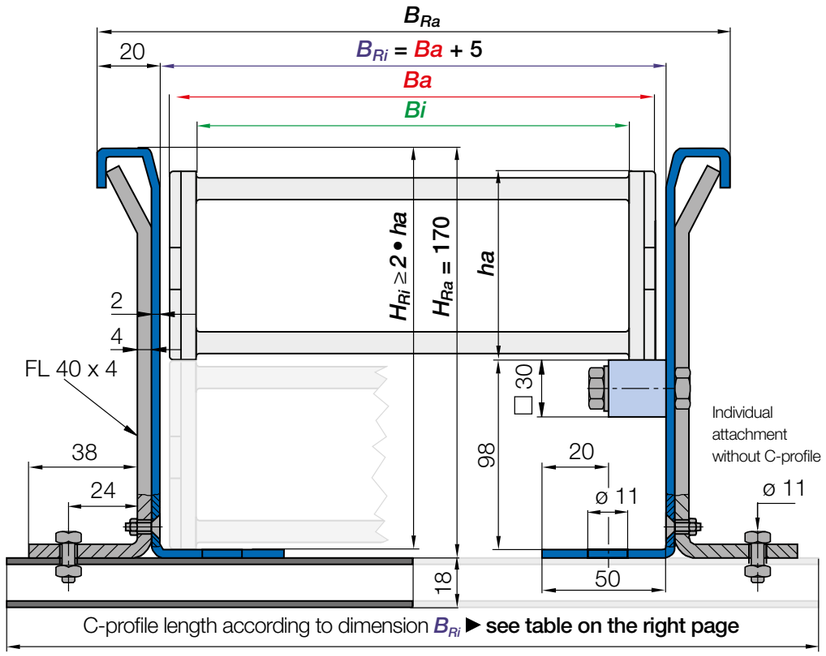
Steel guide trough | 94.14550.30 | 94.14550.31 | Heavy-duty

Trough height: 170mm | Product range

For the following igus® series

E4/light

● 14550/14650/R19050





Option: with reinforced mounting angles for extremely heavy-duty applications. For particularly demanding applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**94.14550.30.E**[1]**/E44**[2]**/E45**[3]	≈ 14.70kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	**94.14550.31.E**[1]**/E44**[2]**/E45**[3]	≈ 19.00kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	**94.50**	≈ 0.58kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**94.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **94.50.350**

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	**94.14550.11.E**[1] **/ E44**[2] **/ E45**[3]	≈ 7.35kg
1 glide bar, 2m section	**93.01**	≈ 1.68kg
1 glide bar, 2m section + 11 screw sets	**93.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**93.21**	≈ 0.54kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**94.51**	≈ 0.25kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. **(more information ▶ Page) 1332**	**94.14550.80.01****	≈ 14.70kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **95.52.350.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

**Fixed end module available upon request. Please consult igus® for delivery time.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

14550/14650/R19050

Width index	B_{Ri} [mm]	Part No. Installation set
.05	82	upon request
.06	97	upon request
.07	107	94.50.225
.08	119	94.50.250
.10	132	94.50.250
.11	144	94.50.275
.12	157	94.50.275
.13	169	94.50.300
.15	182	94.50.300
.16	194	94.50.325
.17	207	94.50.325
.18	219	94.50.350
.20	232	94.50.350
.21	244	94.50.375
.22	257	94.50.375
.23	269	94.50.400
.25	282	94.50.400
.26	294	94.50.425
.27	307	94.50.425
.28	319	94.50.450
.30	332	94.50.450
.31	344	94.50.475
.32	357	94.50.475
.33	369	94.50.500
.35	382	94.50.500
.36	394	94.50.525
.37	407	94.50.525
.38	419	94.50.550
.40	432	94.50.550
.41	444	94.50.575
.42	457	94.50.575
.43	469	94.50.600
.45	482	94.50.600
.46	494	94.50.625
.47	507	94.50.625
.48	519	94.50.650
.50	532	94.50.650
.51	544	94.50.675
.52	557	94.50.675
.53	569	94.50.700
.55	582	94.50.700
.60	632	94.50.750



System E4 with extension links and heavy fill weights -long travel application on-board West Navigator

Steel guide trough | 96.30 | 96.31 | Heavy-duty

Trough height: 220mm | Product range

For the following igus® series

E4Q
- E4Q.82/H4Q.82

E4.1
- E4.80/H4.80/R4.80

E4/light
- 15050/15150/R19850
- 15250/15350

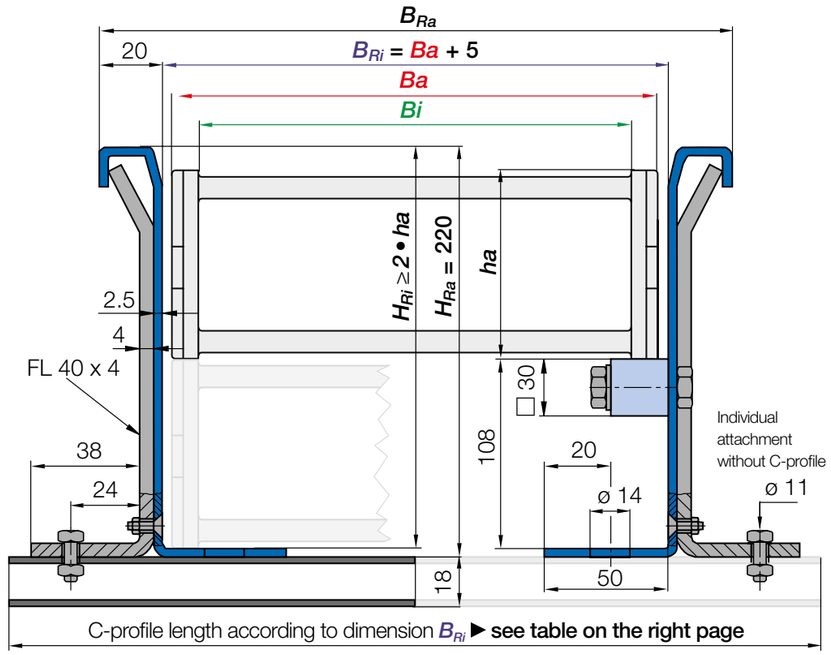
E6
- E6.80

E4/4HD
- 5050HD/9850HD



Option: with reinforced mounting angles for extremely heavy-duty applications. For particularly demanding applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.



C-profile length according to dimension B_{Ri} ▶ see table on the right page

Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**96.30.**E[1] / E44[2] / E45[3]	≈ 22.80kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	**96.31.**E[1] / E44[2] / E45[3]	≈ 27.20kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	**96.50**	≈ 0.72kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**96.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **96.50.375**

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	**96.11.**E[1] / E44[2] / E45[3]	≈ 11.40kg
1 glide bar, 2m section	**93.01**	≈ 1.68kg
1 glide bar, 2m section + 11 screw sets	**93.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**93.21**	≈ 0.54kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**96.51**	≈ 0.31kg
1 countersunk-head screw, individual	**92.53 / M6 x 14**	
1 hexagon nut, individual	**92.54 / M6**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.**E[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. (more information ▶ Page) 1332	**96.80.01**	≈22.80kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.82.375.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index E to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index E44 to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index E45 to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4Q.82/H4Q.82			E4.80/H4.80/R4.80			15050/15150/R19850			15250/15350			E6.62			5050HD/9850HD		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.100	155	96.50.275	.05	105	96.50.225	.05	85	upon request	.05	85	upon request	.05	105	96.50.225	.05	115	96.50.225
.112	168	96.50.300	.06	120	96.50.250	.06	100	upon request	.06	103	96.50.225	.06	120	96.50.250	.06	130	96.50.250
.125	180	96.50.300	.07	130	96.50.250	.07	110	96.50.225	.07	110	96.50.225	.07	130	96.50.250	.07	140	96.50.250
.137	193	96.50.325	.10	155	96.50.275	.10	135	96.50.250	.087	122	96.50.250	.10	155	96.50.275	.10	165	96.50.275
.150	205	96.50.325	.11	168	96.50.300	.11	148	96.50.275	.09	132	96.50.250	.11	167	96.50.300	.11	177	96.50.300
.162	218	96.50.350	.12	180	96.50.300	.12	160	96.50.275	.10	135	96.50.250	.12	180	96.50.300	.12	190	96.50.300
.175	230	96.50.350	.13	193	96.50.325	.13	173	96.50.300	.11	143	96.50.275	.13	192	96.50.325	.13	202	96.50.325
.187	243	96.50.375	.15	205	96.50.325	.15	185	96.50.300	.112	148	96.50.275	.15	205	96.50.325	.15	215	96.50.325
.200	255	96.50.375	.16	218	96.50.350	.16	198	96.50.325	.12	160	96.50.275	.16	217	96.50.350	.16	227	96.50.350
.212	268	96.50.400	.17	230	96.50.350	.17	210	96.50.325	.137	172	96.50.300	.17	230	96.50.350	.17	240	96.50.350
.225	280	96.50.400	.18	243	96.50.375	.18	223	96.50.350	.15	185	96.50.300	.18	242	96.50.375	.18	252	96.50.375
.237	293	96.50.425	.20	255	96.50.375	.20	235	96.50.350	.162	198	96.50.325	.20	255	96.50.375	.20	265	96.50.375
.250	305	96.50.425	.21	268	96.50.400	.21	248	96.50.375	.17	203	96.50.325	.21	267	96.50.400	.21	277	96.50.400
.262	318	96.50.450	.22	280	96.50.400	.22	260	96.50.375	.18	210	96.50.325	.22	280	96.50.400	.22	290	96.50.400
.275	330	96.50.450	.23	293	96.50.425	.23	273	96.50.400	.187	223	96.50.350	.23	292	96.50.425	.23	302	96.50.425
.287	343	96.50.475	.25	305	96.50.425	.25	285	96.50.400	.20	235	96.50.350	.25	305	96.50.425	.25	315	96.50.425
.300	355	96.50.475	.26	318	96.50.450	.26	298	96.50.425	.212	248	96.50.375	.26	317	96.50.450	.26	327	96.50.450
.312	368	96.50.500	.27	330	96.50.450	.27	310	96.50.425	.23	260	96.50.375	.27	330	96.50.450	.27	340	96.50.450
.325	380	96.50.500	.28	343	96.50.475	.28	323	96.50.450	.237	273	96.50.400	.28	342	96.50.475	.28	352	96.50.475
.337	393	96.50.525	.30	355	96.50.475	.30	335	96.50.450	.25	285	96.50.400	.30	355	96.50.475	.30	365	96.50.475
.350	405	96.50.525	.31	368	96.50.500	.31	348	96.50.475	.262	298	96.50.425	.31	367	96.50.500	.31	377	96.50.500
.362	418	96.50.550	.32	380	96.50.500	.32	360	96.50.475	.28	310	96.50.425	.32	380	96.50.500	.32	390	96.50.500
.375	430	96.50.550	.33	393	96.50.525	.33	373	96.50.500	.29	323	96.50.450	.33	392	96.50.525	.33	402	96.50.525
.387	443	96.50.575	.35	405	96.50.525	.35	385	96.50.500	.30	335	96.50.450	.35	405	96.50.525	.35	415	96.50.525
.400	455	96.50.575	.36	418	96.50.550	.36	398	96.50.525	.312	348	96.50.475	.36	417	96.50.550	.36	427	96.50.550
.412	468	96.50.600	.37	430	96.50.550	.37	410	96.50.525	.325	360	96.50.475	.37	430	96.50.550	.37	440	96.50.550
.425	480	96.50.600	.38	443	96.50.575	.38	423	96.50.550	.337	373	96.50.500	.38	442	96.50.575	.38	452	96.50.575
.437	493	96.50.625	.40	455	96.50.575	.40	435	96.50.550	.350	385	96.50.500	.40	455	96.50.575	.40	465	96.50.575
.450	505	96.50.625	.41	468	96.50.600	.41	448	96.50.575	.362	398	96.50.525	.41	470	96.50.600	.41	477	96.50.600
.462	518	96.50.650	.42	480	96.50.600	.42	460	96.50.575	.375	410	96.50.525	.42	480	96.50.600	.42	490	96.50.600
.475	530	96.50.650	.43	493	96.50.625	.43	473	96.50.600	.387	423	96.50.550	.43	492	96.50.625	.43	502	96.50.625
.487	543	96.50.675	.45	505	96.50.625	.45	485	96.50.600	.400	435	96.50.550	.45	505	96.50.625	.45	515	96.50.625
.500	555	96.50.675	.46	518	96.50.650	.46	498	96.50.625				.46	517	96.50.650	.46	527	96.50.650
.512	568	96.50.700	.47	530	96.50.650	.47	510	96.50.625				.47	530	96.50.650	.47	540	96.50.650
.525	580	96.50.700	.48	543	96.50.675	.48	523	96.50.650				.48	542	96.50.675	.48	552	96.50.675
.537	593	96.50.725	.50	555	96.50.675	.50	535	96.50.650				.50	555	96.50.675	.50	565	96.50.675
.550	605	96.50.725	.51	568	96.50.700	.51	548	96.50.675				.51	567	96.50.700	.51	577	96.50.700
.562	617	96.50.725	.52	580	96.50.700	.52	560	96.50.675				.52	580	96.50.700	.52	590	96.50.700
.575	630	96.50.750	.53	593	96.50.725	.53	573	96.50.700				.53	592	96.50.725	.53	602	96.50.725
.587	642	96.50.750	.55	605	96.50.725	.55	585	96.50.700				.55	605	96.50.725	.55	615	96.50.725
.600	655	96.50.775	.60	655	96.50.775	.60	635	96.50.750				.60	655	96.50.775	.60	665	96.50.775



igus® E4 rol e-chain® and steel guide trough

Steel guide trough | 98.30 | 98.31 | Heavy-duty

Trough height: 300mm | Product range

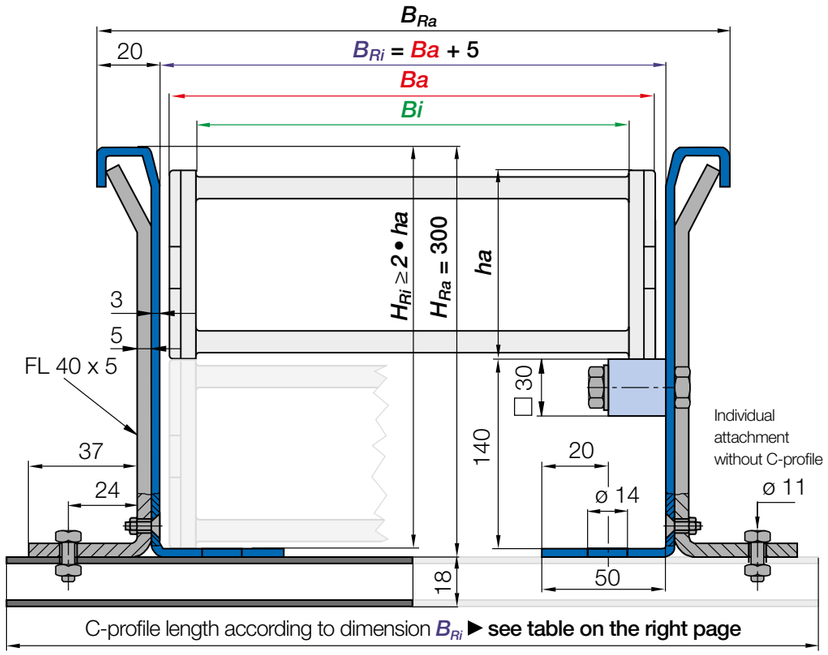
For the following igus® series

E4.1

● E4.112/R4.112

E4/light

● 1640/R1608





Option: with reinforced mounting angles for extremely heavy-duty applications. For particularly demanding applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.

Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**98.30.E**[1] / **E44**[2] / **E45**[3]	≈ 34.60kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	**98.31.E**[1] / **E44**[2] / **E45**[3]	≈ 39.00kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	**98.50**	≈ 1.16kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**98.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **98.50.350**

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	**98.11.E**[1] / **E44**[2] / **E45**[3]	≈ 17.30kg
1 glide bar, 2m section	**93.01**	≈ 1.68kg
1 glide bar, 2m section + 11 screw sets	**93.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**93.21**	≈ 0.54kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**98.51**	≈ 0.52kg
1 countersunk-head screw, individual	**92.05 / M8 x 20**	
1 hexagon nut, individual	**92.04 / M8**	
1 hexagon-head screw, individual	**92.55 / M10 x 16**	
1 glide nut, individual	**92.56 / M10**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**92.52.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. **(more information ▶ Page) 1332**	**98.80.01**	≈ 34.60kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **92.52.350.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

E4.112/R4.112			1640/R1608		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.05	107	98.50.225	.05	89	upon request
.06	122	98.50.250	.06	104	98.50.225
.07	132	98.50.250	.07	114	98.50.250
.10	157	98.50.275	.08	124	98.50.250
.11	169	98.50.300	.10	139	98.50.275
.12	182	98.50.300	.11	151	98.50.275
.13	194	98.50.325	.12	164	98.50.300
.15	207	98.50.325	.13	176	98.50.300
.16	219	98.50.350	.15	189	98.50.325
.17	232	98.50.350	.16	201	98.50.325
.18	244	98.50.375	.17	214	98.50.350
.20	257	98.50.375	.18	226	98.50.350
.21	269	98.50.400	.20	239	98.50.375
.22	282	98.50.400	.21	251	98.50.375
.23	294	98.50.425	.22	264	98.50.400
.25	307	98.50.425	.23	276	98.50.400
.26	319	98.50.450	.25	289	98.50.425
.27	332	98.50.450	.26	301	98.50.425
.28	344	98.50.475	.27	314	98.50.450
.30	357	98.50.475	.28	326	98.50.450
.31	369	98.50.500	.30	339	98.50.475
.32	382	98.50.500	.31	351	98.50.475
.33	394	98.50.525	.32	364	98.50.500
.35	407	98.50.525	.33	376	98.50.500
.36	419	98.50.550	.35	389	98.50.525
.37	432	98.50.550	.36	401	98.50.525
.38	444	98.50.575	.37	414	98.50.550
.40	457	98.50.575	.38	426	98.50.550
.41	469	98.50.600	.40	439	98.50.575
.42	482	98.50.600	.41	451	98.50.575
.43	494	98.50.625	.42	464	98.50.600
.45	507	98.50.625	.43	476	98.50.600
.46	519	98.50.650	.45	489	98.50.625
.47	532	98.50.650	.46	501	98.50.625
.48	544	98.50.675	.47	514	98.50.650
.50	557	98.50.675	.48	526	98.50.650
.51	569	98.50.700	.50	539	98.50.675
.52	582	98.50.700	.51	551	98.50.675
.53	594	98.50.725	.52	564	98.50.700
.55	607	98.50.725	.53	576	98.50.700
.60	657	98.50.775	.55	589	98.50.725
			.60	639	98.50.775



E4 e-chain® with several extension links for extreme fill weights, guided in igus® steel trough over long distances and in rough seas

Steel guide trough | 90.30 | 90.31 | Heavy-duty

Trough height: 480mm | Product range

For the following igus® series

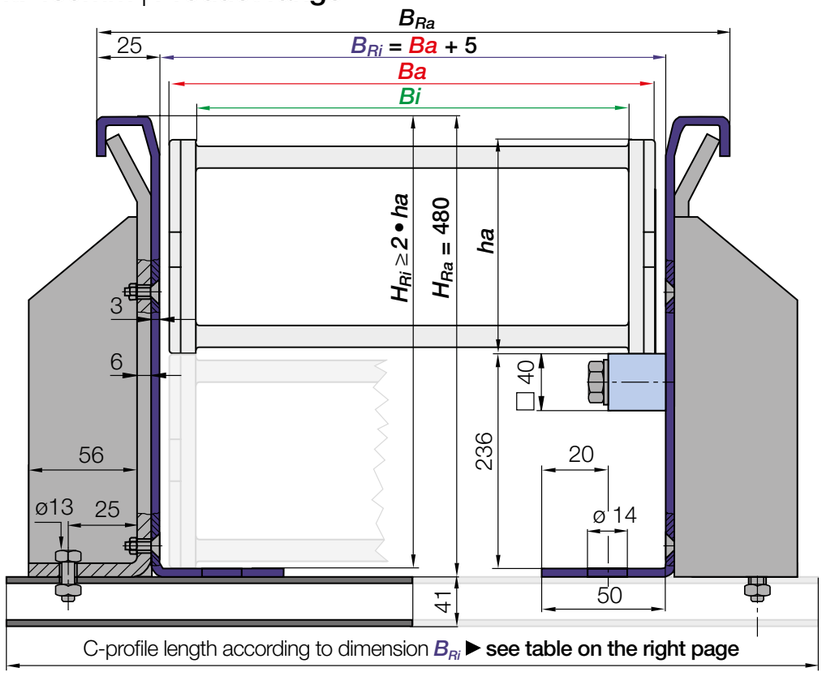
E4.1

- 800
- 840



Option: with reinforced mounting angles for extremely heavy-duty applications. For particularly demanding applications

Note: The inner width of the guide through and the C-profile length of the installation set can differ according to the bracket you choose. Please call us.



C-profile length according to dimension B_{Ri} ▶ **see table on the right page**

Full sets

Full trough side part sets (2m pieces each)	Part No.	Weight
1 set of 2 trough side parts, **without** glide bars, 2m section	**90.30.E**[1] **/ E44**[2] **/ E45**[3]	≈ 53.40kg
1 set of 2 trough side parts, **with** glide bars, 2m section, galvanised steel	**90.31.E**[1] **/ E44**[2] **/ E45**[3]	≈ 59.40kg
Full installation set	**Part No.**	**Weight**
1 installation set **without** C-profile	**90.50**	≈ 0.41kg
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	**90.50.XXX***	upon request

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **90.50.450**

Individual parts and options

Components as individual parts, trough	Part No.	Weight
1 trough side part, 2m section	**90.11.E**[1] **/ E44**[2] **/ E45**[3]	≈ 26.70kg
1 glide bar, 2m section	**90.01**	≈ 1.68kg
1 glide bar, 2m section + 11 screw sets	**90.20**	≈ 2.22kg
1 package with 11 screw sets (for glide bar, 2m section)	**90.21**	≈ 0.54kg
Components as individual parts, installation set	**Part No.**	**Weight**
1 clamping bracket, individual	**90.51**	≈ 0.52kg
1 countersunk-head screw, individual	**MAT0040014 / M8 x 25**	
1 hexagon nut, individual	**MAT0040012 / M8**	
1 hexagon-head screw, individual	**MAT0040384 / M12 x 30**	
1 glide nut, individual	**MAT0040385 / M12**	
1 C-profile, individual (C-profile length according to dimension B_{Ri})	**IE70.41-41.XXX*.E**[1]	≈ 0.90kg/m
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. **(more information ▶ Page) 1332**	**90.80.01****	≈ 53.40kg

*Please add the C-profile length XXX as shown on the tables on the right page. Example: **IE70.41-41.450.E**

1) Trough side parts + C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index **E** to the Part No.

2) Trough side parts - also available in 316 stainless steel, material 1.4404 (AISI 316L). Please add index **E44** to the Part No.

3) Trough side parts - also available in 316 stainless steel, material 1.4571 (AISI 316Ti). Please add index **E45** to the Part No.

**Fixed end module available upon request. Please consult igus® for delivery time.

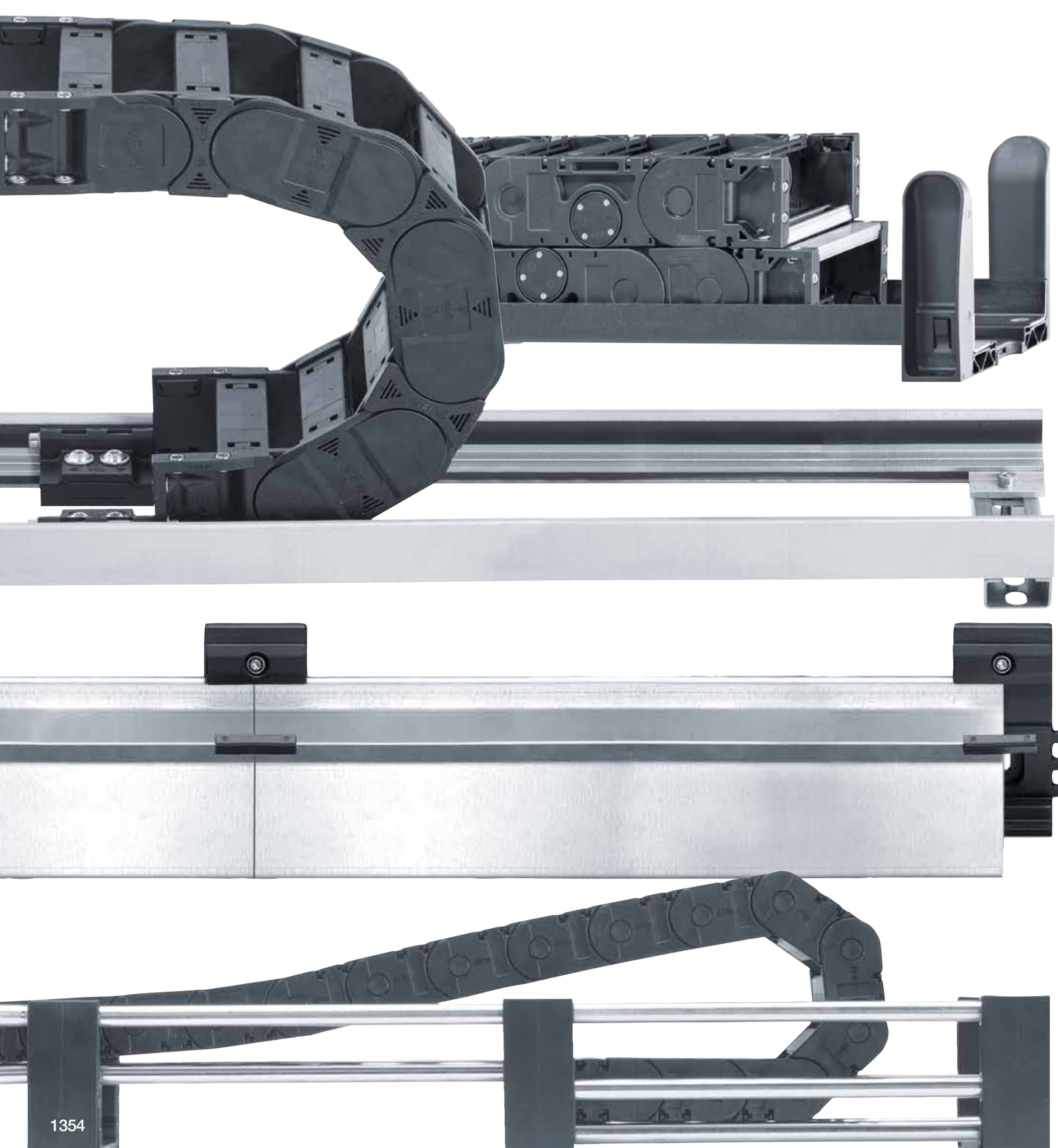
Steel guide trough | C-profile lengths

C-profile length according to dimension B_{Ri}

800			840		
Width index	B_{Ri} [mm]	Part No. Installation set	Width index	B_{Ri} [mm]	Part No. Installation set
.20	265	90.50.450	.13	165	90.50.350
.25	315	90.50.500	.15	178	90.50.350
.30	365	90.50.550	.16	190	90.50.375
.32	390	90.50.575	.17	203	90.50.375
.35	415	90.50.600	.18	215	90.50.400
.40	465	90.50.650	.20	228	90.50.400
.45	515	90.50.700	.21	240	90.50.425
.50	565	90.50.750	.22	253	90.50.425
.55	615	90.50.800	.23	265	90.50.450
.60	665	90.50.850	.25	278	90.50.450
			.26	290	90.50.475
			.27	303	90.50.475
			.28	315	90.50.500
			.30	328	90.50.500
			.31	340	90.50.525
			.32	353	90.50.525
			.33	365	90.50.550
			.35	378	90.50.550
			.36	390	90.50.575
			.37	403	90.50.575
			.38	415	90.50.600
			.40	428	90.50.600
			.41	440	90.50.625
			.42	453	90.50.625
			.43	465	90.50.650
			.45	478	90.50.650
			.46	490	90.50.675
			.47	503	90.50.675
			.48	515	90.50.700
			.50	528	90.50.700
			.51	540	90.50.725
			.52	553	90.50.725
			.53	565	90.50.750
			.55	578	90.50.750
			.60	628	90.50.800



Assembly of an E4 e-chain® series 800 in a steel guide trough



Other guide trough systems

Steel support tray |
Aluminium support tray |
guidefast | guidelite |
Tubular trough |
Snap-in trough |



Noise and wear-reducing:
safe guidance of the lower run of your e-chain®
for standard applications

Flexible one-piece solution:
for a large selection of igus®
E2/000 and E4.1 e-chains®

Simple design:
easy mounting to all types of
profiles and wall brackets

Complete system:
ready to install

Lightweight material:
available in the colour
of your choice

Option 01 -
with connection rail

Option 02 -
with wall bracket



Option 03 -
without rail (upon request)



Option 04 -
customised (upon request)

For easy support of the lower run - steel support tray

Simple one-piece steel support trays for the e-chain® lower run to your requirements and specification. Your width, height and colour - we supply the fitting e-chain®, together with the support tray system, ready to install onto your machine or application. Save time on procurement and design.

- Complete system, ready to install
- Avoids costly custom designs
- Easy installation onto your machine, on profiles or wall brackets
- igus® steel support tray - in 2 types and 4 options available
- Available with KMA mounting bracket for many e-chains®

Series Part No.	e-chains® *Bi* [mm]*	B_{Ra} [mm]	B_{Ri} [mm]	Material	Page
	**Type 01 for series:** ● E2.26 ● E2.38 ● 2400/2450/2480/2500 ● 2600/2650/2680/2700 ● E4.31L/R4.31L ● E4.38L/R4.38L ● E4Q.34/H4Q.34 ● E4.21 ● E4.28/R4.28 ● E4.32/H4.32/R4.32 ● EF61.29/E61.29 ● E6.29/R6.29 ● E61.35 ● E6.35 ● E61.40 ● E6.40/R6.40				
S9.010/011.05.XXXX.0	.05 / .050	89	80	Steel, black	1358
S9.010/011.07.XXXX.0	.07 / .070	114	105	Steel, black	1358
S9.010/011.10.XXXX.0	.10 / .100	139	130	Steel, black	1358
S9.010/011.15.XXXX.0	.15 / .150	185	175	Steel, black	1358
	**Type 02 for series:** ● E2.48 ● 3400/3450/3480/3500 ● E4.48L/R4.48L ● E4.64L ● E4Q.44/H4Q.44 ● E4Q.58/H4Q.58 ● E4Q.82/H4Q.82 ● E4.42/H4.42/R4.42 ● E4.56/H4.56/R4.56 ● E4.80/H4.80/R4.80 ● 14040/14140/R18840 ● 14240/14340 ● 14550/14650/19050 ● 15050/15150/R19850 ● 15250/15350 ● E61.52 ● E6.52/R6.52 ● E61.62 ● E6.62 ● E61.80 ● E6.80				
S9.020/021.10.XXXX.0	.10 / .100	167	156	Steel, black	1360
S9.020/021.15.XXXX.0	.15 / .150	217	206	Steel, black	1360
S9.020/021.20.XXXX.0	.20 / .200	267	256	Steel, black	1360
S9.020/021.25.XXXX.0	.25 / .250	317	306	Steel, black	1360

*_Bi_ depends on width-index

Available from stock. Ready to ship in 24 - 48hrs.*

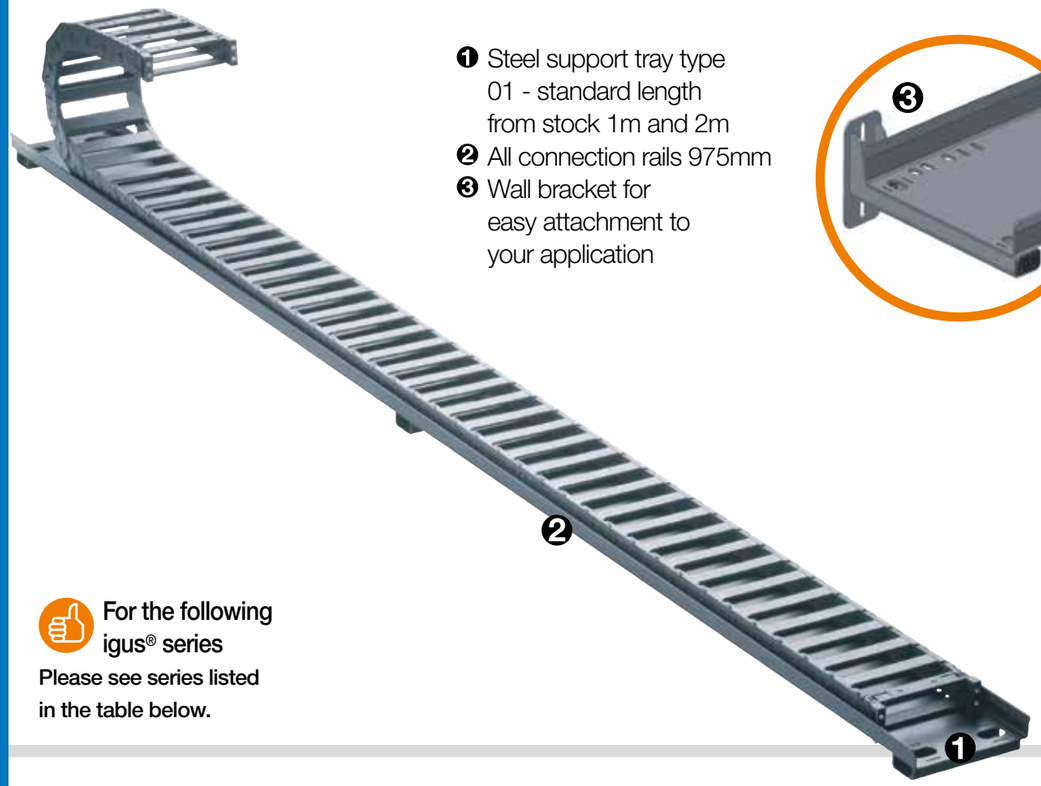
*Average time before the ordered goods are dispatched.



Steel support tray with bracket for easy attachment to your application

Steel support tray | Type 01 | Product range

Standard lengths from stock 1m and 2m



❶ Steel support tray type 01 - standard length from stock 1m and 2m
❷ All connection rails 975mm
❸ Wall bracket for easy attachment to your application

For the following igus® series
Please see series listed in the table below.

Type 01 | Series S9.010. | S9.011. | Product range

For system	Suitable for the following series	Width index	B_{Ra} [mm]	B_{Ri} [mm]	Part No. support tray, single	Part No. with wall bracket	Part No. wall bracket, single
E2.1 **E2/000**	E2.26 2400/2450/2480/2500	.05.	89	80	S9.010.05.XXXX.0	S9.011.05.XXXX.0	907.724.05.0
		.07.	114	105	S9.010.07.XXXX.0	S9.011.07.XXXX.0	907.724.07.0
		.10.	139	130	S9.010.10.XXXX.0	S9.011.10.XXXX.0	907.724.10.0
E2.1 **E2/000** **E4.1L** **E4Q** **E4.1**	E2.38 2600/2650/2680/2700 E4.38L/R4.38L E4Q.34/H4Q.34 E4.32/H4.32/R4.32	.05.	89	80	S9.010.05.XXXX.0	S9.011.05.XXXX.0	907.724.05.0
		.07.	114	105	S9.010.07.XXXX.0	S9.011.07.XXXX.0	907.724.07.0
		.10.	139	130	S9.010.10.XXXX.0	S9.011.10.XXXX.0	907.724.10.0
		.15.	185	175	S9.010.15.XXXX.0	S9.011.15.XXXX.0	907.724.15.0
E4.1 **E6.1** **E6** **E6.1** **E6**	E4.21 EF61.29/E61.29 E6.29/R6.29 E61.35 E6.35	.050.	89	80	S9.010.05.XXXX.0	S9.011.05.XXXX.0	907.724.05.0
		.070.	114	105	S9.010.07.XXXX.0	S9.011.07.XXXX.0	907.724.07.0
		.100.	139	130	S9.010.10.XXXX.0	S9.011.10.XXXX.0	907.724.10.0
E4.1L **E4.1** **E6.1** **E6**	E4.31L/R4.31L E4.28/R4.28 E61.40 E6.40/R6.40	.050.	89	80	S9.010.05.XXXX.0	S9.011.05.XXXX.0	907.724.05.0
		.070.	114	105	S9.010.07.XXXX.0	S9.011.07.XXXX.0	907.724.07.0
		.100.	139	130	S9.010.10.XXXX.0	S9.011.10.XXXX.0	907.724.10.0
		.150.	185	175	S9.010.15.XXXX.0	S9.011.15.XXXX.0	907.724.15.0

Please replace XXXX by the standard lengths 1,000mm or 2,000mm available from stock

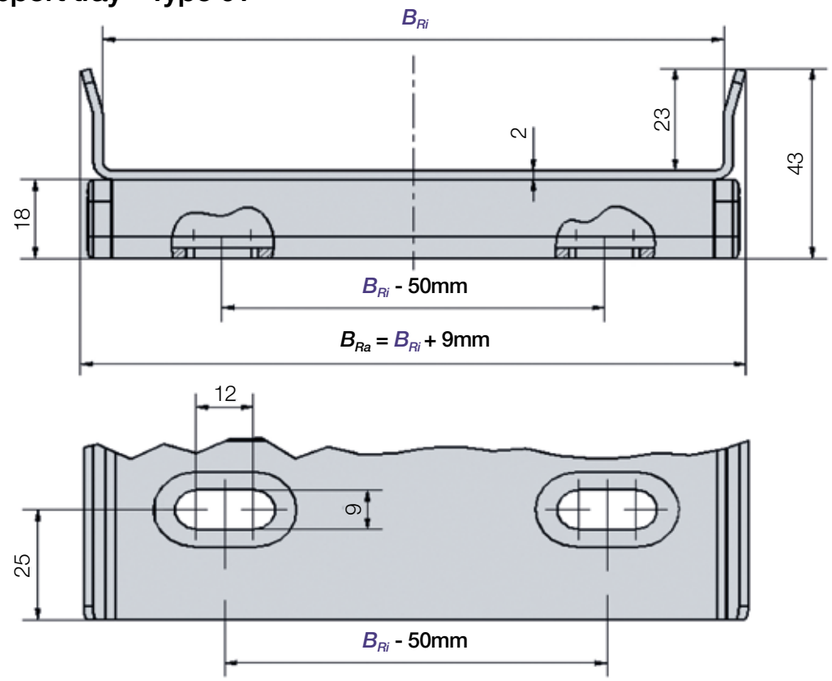
The lengths and widths mentioned here are available from stock in the standard black colour. For other lengths, widths and colours, please contact us.

Note: Please use these support trays only in combination with KMA mounting brackets!

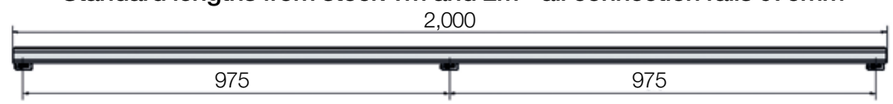
Steel support tray | Type 01 | Installation dimensions

Installation dimensions and mounting holes

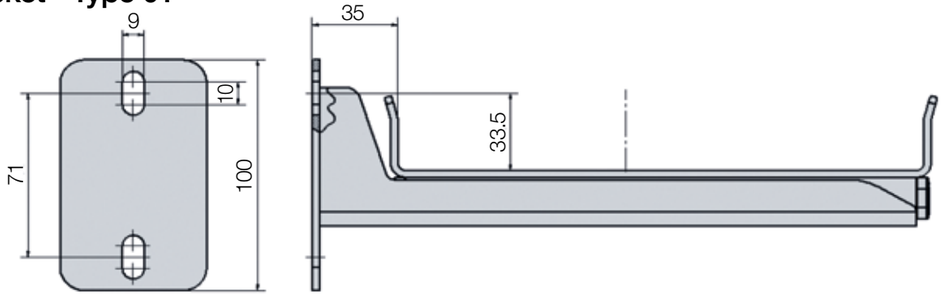
Steel support tray - Type 01



Standard lengths from stock 1m and 2m - all connection rails 975mm



Bracket - Type 01



Order key S9.010.07.1000.0

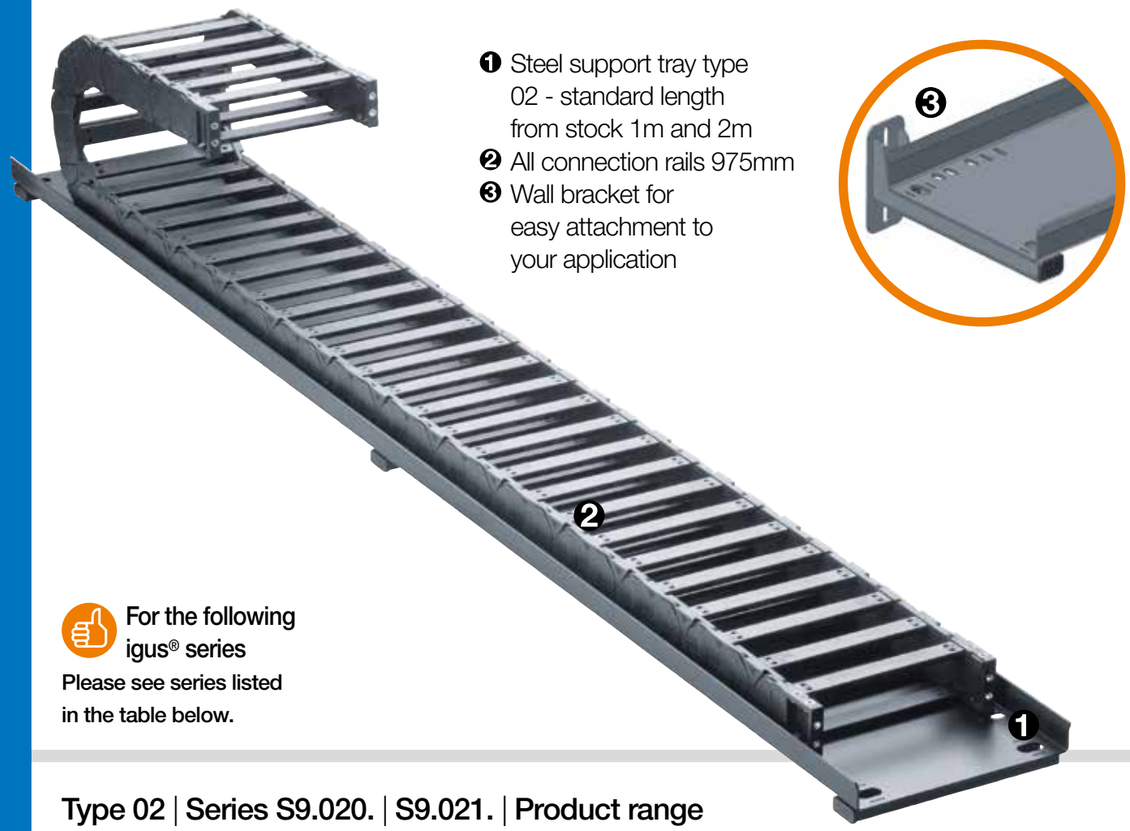
Standard length: 1m
Steel support tray
Without wall bracket
Width e-chain®
Length 1,000mm
Colour, powdered black

Order key S9.011.15.2000.0

Standard length: 2m
Steel support tray
With bracket
Width e-chain®
Length 2,000mm
Colour, powdered black

Steel support tray | Type 02 | Product range

Standard lengths from stock 1m and 2m



❶ Steel support tray type 02 - standard length from stock 1m and 2m
❷ All connection rails 975mm
❸ Wall bracket for easy attachment to your application

For the following igus® series
Please see series listed in the table below.

Type 02 | Series S9.020. | S9.021. | Product range

For system	Suitable for the following series	Width index	B_{Ra} [mm]	B_{Ri} [mm]	Part No. support tray, single	Part No. with wall bracket	Part No. wall bracket, single
		.10.	167	156	S9.020.10.XXXX.0	S9.021.10.XXXX.0	907.759.010.0
E4.1L	E4.48L/R4.48L	.15.	217	206	S9.020.15.XXXX.0	S9.021.15.XXXX.0	907.759.015.0
E4.1L	E4.64L	.20.	267	256	S9.020.20.XXXX.0	S9.021.20.XXXX.0	907.759.020.0
E4Q	E4Q.44/H4Q.44	.25.	317	306	S9.020.25.XXXX.0	S9.021.25.XXXX.0	907.759.025.0
E4Q	E4Q.58/H4Q.58						
E4Q	E4Q.82/H4Q.82						
E4.1	E4.42/H4.42/R4.42						
E4.1	E4.56/H4.56/R4.56						
E4.1	E4.80/H4.80/R4.80						
E4/light	14040/14140/R18840						
E4/light	14240/14340						
E4/light	14550/14650/19050						
E4/light	15050/15150/R19850						
E4	15250/15350						
E6.1	E61.62						
E6	E6.62						
E6.1	E61.80						
E6	E6.80						
E2.1	E2.48	.100.	167	156	S9.020.10.XXXX.0	S9.021.10.XXXX.0	907.759.010.0
E2/000	3400/3450/3480/3500	.150.	217	206	S9.020.15.XXXX.0	S9.021.15.XXXX.0	907.759.015.0
E6.1	E61.52	.200.	267	256	S9.020.20.XXXX.0	S9.021.20.XXXX.0	907.759.020.0
E6	E6.52/R6.52	.250.	317	306	S9.020.25.XXXX.0	S9.021.25.XXXX.0	907.759.025.0

Please replace XXXX by the standard lengths 1,000mm or 2,000mm available from stock

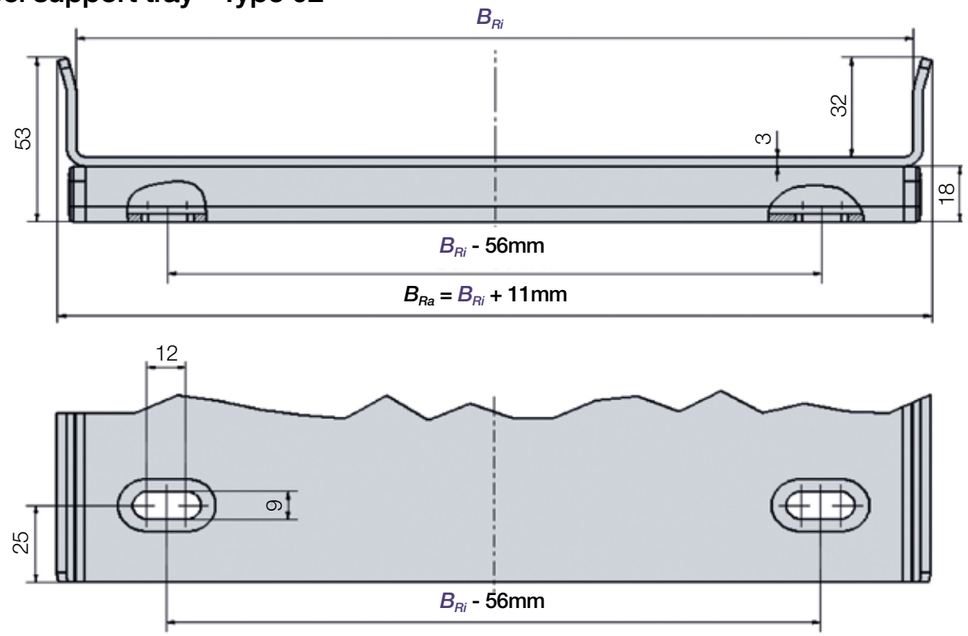
The lengths and widths mentioned here are available from stock in the standard black colour. For other lengths, widths and colours, please contact us.

Note: Please use these support trays only in combination with KMA mounting brackets!

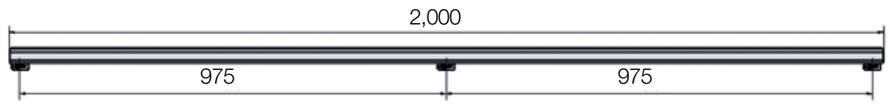
Steel support tray | Type 02 | Installation dimensions

Installation dimensions and mounting holes

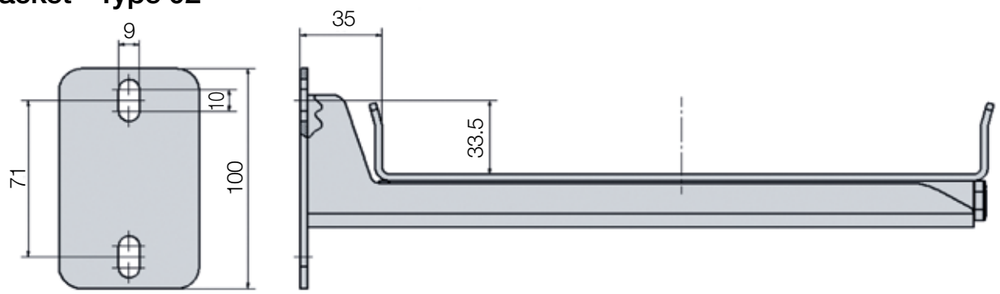
Steel support tray - Type 02



Standard lengths from stock 1m and 2m - all connection rails 975mm



Bracket - Type 02

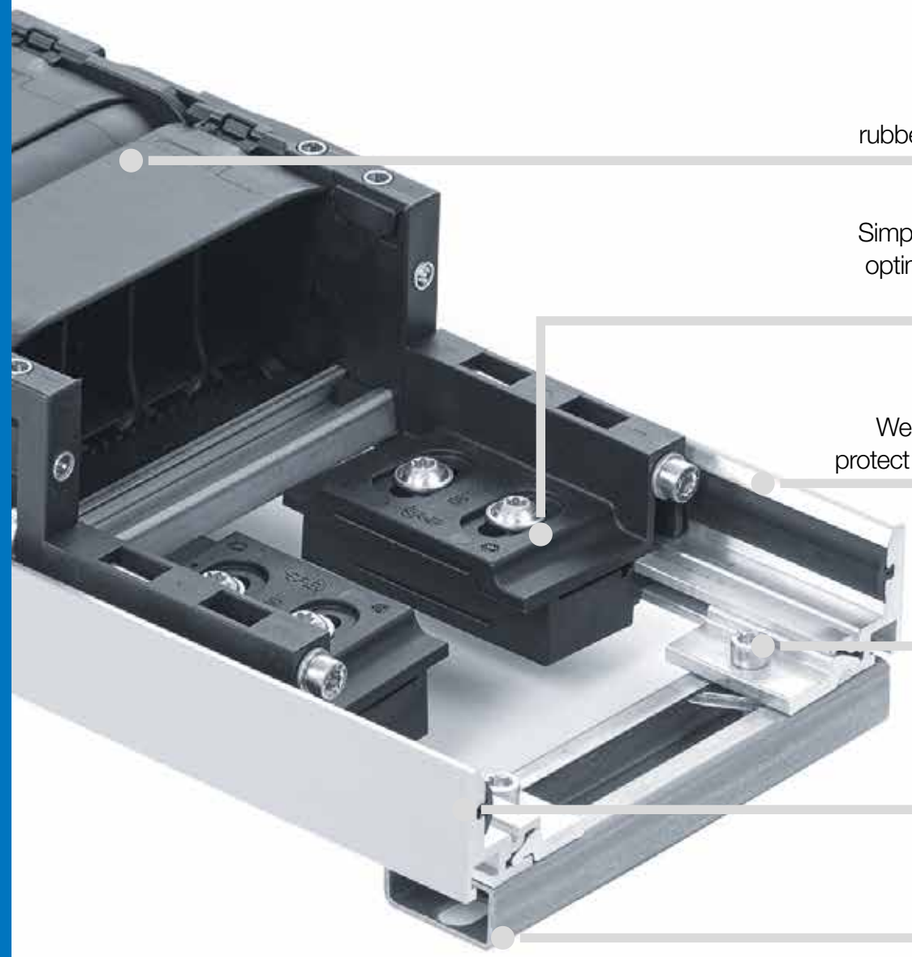


Order key S9.020.20.1000.0

- Standard length: 1m
- Steel support tray without bracket
- Width e-chain®
- Length 1,000mm
- Colour, powdered black

Order key S9.021.20.2000.0

- Standard length: 2m
- Steel support tray with bracket
- Width e-chain®
- Length 2,000mm
- Colour, powdered black



The flexible construction kit to support the lower run - aluminium support tray

The design of this aluminium support tray emulates the igus® aluminium SuperTrough. This modular construction kit covers the standard sizes of our e-chains®. Because of its flexible width adjustment using installation sets with C-profiles, the aluminium support tray is used with various e-chains® series and widths. An aluminium support tray consists of two 2 trough side parts each with 2m length. Standard installation sets can be used, just as for the aluminium SuperTrough.

- Corrosion-resistant, seawater-resistant aluminium profile
- Wear-reducing glide strips integrated as standard
- Quiet movement of the e-chain® due to optional silencer profile
- Simple assembly on flexible width C-profiles with basic clamps
- e-chain® easily connects to aluminium support tray using plastic fixed end modules
- Open guide trough design, debris can fall through
- Conductivity according to DIN EN 61537 - standard

Part No. **without** silencer profile	Part No. **with** silencer profile	Outer height H_{Ra} [mm]	Part No. Installation set	Side part material	Page
					
9AT.35.SL	**9AT.35.SLA**	35	960AT.30.**XXX***	Aluminium	**1362**

Aluminium support tray
available with and without silencer profile
For the following systems:
● E2.1 ● E2/000 ● R2.1 ● E4.1L ● E4.1 ● E6.1 ● E6

*XXX = C-profile length

Available from stock. Ready to ship in 24 - 48hrs.*
*Average time before the ordered goods are dispatched.



An aluminium support tray consists of two 2 trough side parts each with 2m length

Aluminium support tray | Individual parts

Components, guide troughs and components, mounting kits

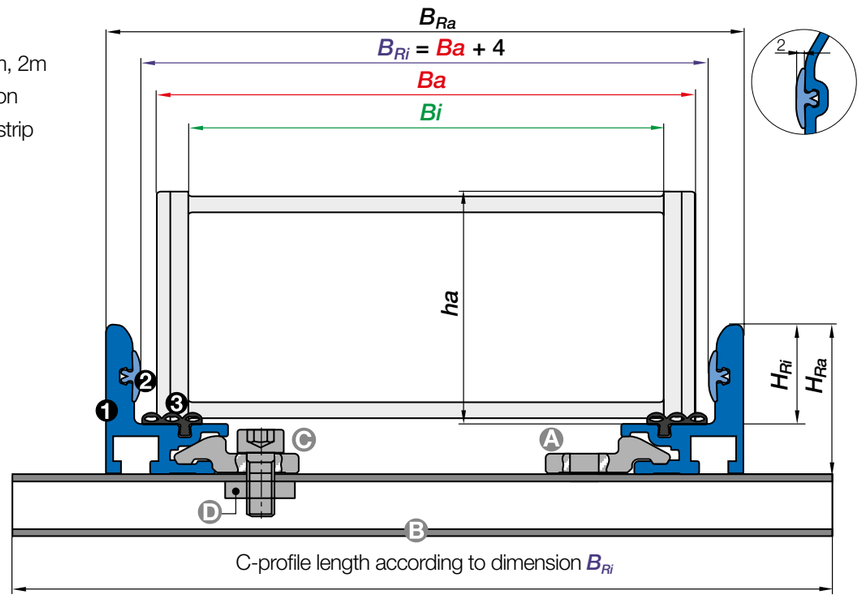
Components

❶ Trough side parts, aluminium, 2m
❷ Glide strip, plastic, 2m section
❸ Optional: noise dampening strip

Components, installation set

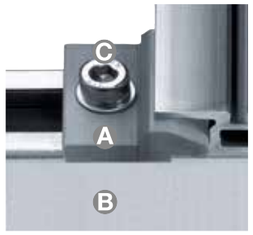
Ⓐ Bottom clamp, aluminium
Ⓑ C-profile[1)], galvanised steel
Ⓒ Allen wrench
Ⓓ Sliding nut

Ba = Outer e-chain® width
Bi = Inner e-chain® width
ha = e-chain® outer height
H_{Ri} = Trough inner height
H_{Ra} = Trough outer height
B_{Ri} = Trough inner width
B_{Ra} = Trough outer width

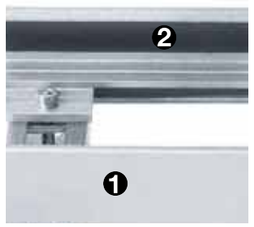


1) C-profile also available in 304 stainless steel. Material 1.4301 (AISI 304)

Aluminium support tray | Features



Simple fastening with basic bottom clamp and C-profile



Wear-reducing due to glide strips



Noise-reducing with silencer profile option



Simple connection to the e-chain® with the fixed end module

Order example | Based on Part No. 9AT.35.SLA

Order key Guide trough 9AT.35.SLA

Trough system
Aluminium support tray
Outer height
With glide strip
With silencer profile

Order key installation set 960AT.30.125

Installation set
Size of bottom clamp
Length of C-profile

Aluminium support tray | Fixed end module

Quick and simple fastening onto the aluminium support tray

Fixed end module - to attach the e-chain® into the aluminium support tray

- Mounting bracket attachment on the aluminium support tray without drilling
- Fixed end module is clamped to the trough
- Save installation time
- Minimise errors from drilling your own holes
- Stainless and cost-effective





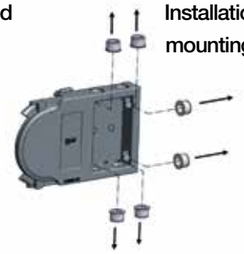
A



B

Installation - fixed end module

❶ Remove the pre-assembled metal bushings



❷ Insert the threaded bushings



Installation - KMA mounting bracket

❸ Installing the fixed end module



❹ Mounting on KMA mounting bracket



❺ Mounting on the aluminium support tray



Fixed end module | Fixed end clamp | Product range

Series Part No.	For aluminium support tray	For e-chain® series	From inner width *Bi* [mm]	Mounting bracket
971.80.4[1)]	9AT.35.SL | 9AT.35.SLA	E2.26, 2400/2500/2450/2480, E6.29, EF61.29/E61.29	.07	KMA
972.80.4[1)]	9AT.35.SL | 9AT.35.SLA	E4.31L/R4.31L, E4.28/R4.28, E6.35, E61.35	.06	KMA
972.80.4[1)]	9AT.35.SL | 9AT.35.SLA	E4.38L/R4.38L, E4Q.34/H4Q.34, E4.32/H4.32/R4.32, E6.40/R6.40, E61.40	.06	KMA
972.80.4[1)]	9AT.35.SL | 9AT.35.SLA	2600/2700/2650/2680	.06	KMA

More series available upon request

1) Material: plastic. Material screw kits: standard steel, galvanised. Option: 316 stainless steel, material 1.4571 (AISI 316Ti), standard steel, galvanised.

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Aluminium support tray | 9AT.35.SL | 9AT.35.SLA

Trough height: 35mm | Product range

For the following igus® series

E2.1
- E2.26

E2/000
- 2400/2500/2450/2480
- 2600/2700/2650/2680

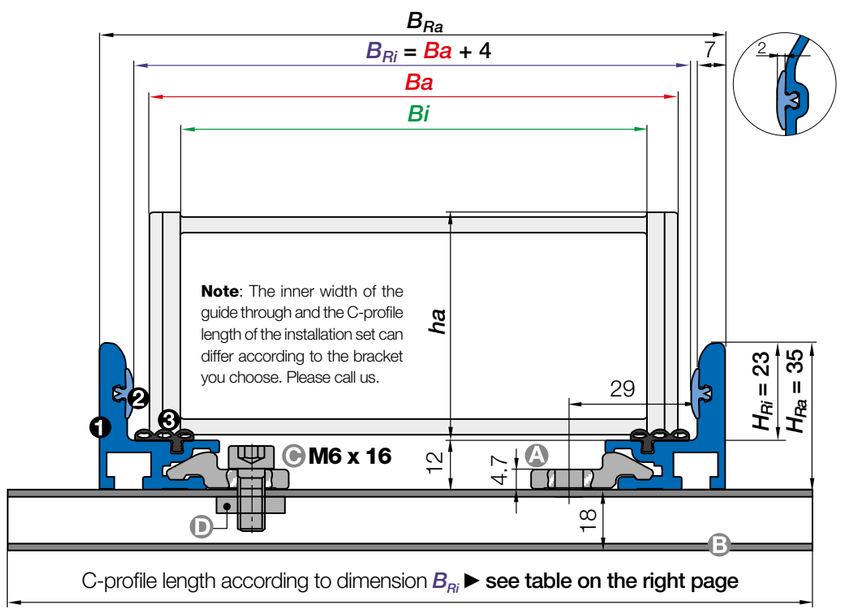
E4.1L
- E4.31L/R4.31L
- E4.38L/R4.38L

E4Q
- E4Q.34/H4Q.34

E4.1
- E4.28/R4.28
- E4.32/H4.32/R4.32

E6.1
- EF61.29/E61.29
- E61.35
- E61.40

E6
- E6.29
- E6.35
- E6.40/R6.40



C-profile length according to dimension B_{Ri} ▶ **see table on the right page**

Aluminium support tray | Full set

Trough side parts ❶ | ❷ | ❸	Part No.	Weight
1 set of 2 trough side parts, incl. glide strips, **without** silencer profile, 2m section	9AT.35.SL	≈ 3.470kg
1 set of 2 trough side parts, incl. glide strips, **with** silencer profile, 2m section	9AT.35.SLA	≈ 3.714kg

Installation sets Ⓐ | Ⓑ | Ⓒ | Ⓓ	Part No.	Weight
1 installation set **without** C-profile	960.30	upon request
1 installation set **with** C-profile (C-profile length according to dimension B_{Ri})	960AT.30.XXX*	upon request

*Please add the C-profile length XXX as shown on the tables (right side). Example: **960AT.30.150**

Aluminium support tray | Components as individual parts

Individual parts, trough	Part No.	Weight
❶ 1 trough side part, individual, 2m section	9AT.35.11	≈ 1.673kg
❷ 1 glide strip, plastic, individual, 2m section	75.01	≈ 0.062kg
❸ 1 Silencer profile, rubber, individual, 2m section (optional for an additional noise dampening)	75.67.H.2000	≈ 0.122kg
Individual parts, installation set	**Part No.**	**Weight**
Ⓐ 1 bottom clamp, aluminium individual	75.40	≈ 0.03kg
Ⓑ 1 C-profile, individual (C-profile length according to dimension B_{Ri})	92.52.XXX.E*	≈ 0.90kg/m
Ⓒ 1 screw M6 x 16, individual	MAT 0040209 / M6 x16	
Ⓓ 1 glide nut, individual	MAT 0040057 / M6	
Additional option for simple fastening of the e-chain® without drilling	**Part No.**	
1 set fixed end module. **(more information ▶ Page) 1365**	971.80.4 / 972.80.4	

*Please add the C-profile length XXX as shown on the tables (right side). Example: **92.52.125.E**

C-profile - also available in 304 stainless steel, material 1.4301 (AISI 304). Please add index E to the Part No.

C-profile lengths

For aluminium support tray with fixed end module

(depending to dimension B_{Ri}), bottom clamp attached inwards

E2.26

Width index	B_{Ri} [mm]	Part No. attached inwards
.07	97	960AT.30.150
.09	109	960AT.30.175
.10	123	960AT.30.175
.12	145	960AT.30.200

2400/2500/2450/2480

Width index	B_{Ri} [mm]	Part No. attached inwards
.07	97	960AT.30.150
.09	109	960AT.30.175
.10	123	960AT.30.175
.12	145	960AT.30.200

2600/2700/2650/2680

Width index	B_{Ri} [mm]	Part No. attached inwards
.06	85	960AT.30.150
.07	95	960AT.30.150
.09	110	960AT.30.175
.10	120	960AT.30.175
.12	145	960AT.30.200
.15	170	960AT.30.225
.17	198	960AT.30.250

E4.31L/R4.31L

Width index	B_{Ri} [mm]	Part No. attached inwards
.062	80	960AT.30.150
.075	93	960AT.30.150
.087	105	960AT.30.175
.100	118	960AT.30.175
.112	130	960AT.30.200
.125	143	960AT.30.200
.137	155	960AT.30.225
.150	168	960AT.30.225
.162	180	960AT.30.250
.175	193	960AT.30.250
.187	205	960AT.30.275
.200	218	960AT.30.275

E4.28/R4.28

Width index	B_{Ri} [mm]	Part No. attached inwards
.062	86	960AT.30.150
.070	94	960AT.30.150
.075	99	960AT.30.150
.087	111	960AT.30.175
.100	124	960AT.30.175
.125	149	960AT.30.200
.150	174	960AT.30.225
.175	199	960AT.30.250
.200	224	960AT.30.275
.225	249	960AT.30.300
.250	274	960AT.30.325
.275	299	960AT.30.350
.300	324	960AT.30.375

E4.38L/R4.38L

Width index	B_{Ri} [mm]	Part No. attached inwards
.062	82	960AT.30.150
.075	95	960AT.30.150
.087	107	960AT.30.175
.100	120	960AT.30.175
.105	125	960AT.30.175
.112	132	960AT.30.200
.125	145	960AT.30.200
.137	157	960AT.30.225
.150	170	960AT.30.225
.162	182	960AT.30.250
.175	195	960AT.30.250
.187	207	960AT.30.275
.200	220	960AT.30.275
.212	232	960AT.30.300
.225	245	960AT.30.300
.237	257	960AT.30.325
.250	270	960AT.30.325
.262	282	960AT.30.325
.275	295	960AT.30.350
.287	307	960AT.30.350
.300	320	960AT.30.375
.312	332	960AT.30.375
.325	345	960AT.30.400
.337	357	960AT.30.400
.350	370	960AT.30.425
.362	382	960AT.30.450
.375	395	960AT.30.450
.387	407	960AT.30.450
.400	420	960AT.30.475

E4Q.34/H4Q.34

Width index	B_{Ri} [mm]	Part No. attached inwards
.075	102	960AT.30.150
.087	114	960AT.30.175
.100	127	960AT.30.175
.108	135	960AT.30.200
.112	140	960AT.30.200
.125	152	960AT.30.200
.137	165	960AT.30.225
.150	177	960AT.30.225
.162	190	960AT.30.250
.168	195	960AT.30.250
.175	202	960AT.30.250
.187	215	960AT.30.275
.200	227	960AT.30.275
.212	240	960AT.30.300
.225	252	960AT.30.300
.237	265	960AT.30.325
.250	277	960AT.30.325
.262	290	960AT.30.350
.275	302	960AT.30.350
.287	315	960AT.30.375
.300	327	960AT.30.375
.312	340	960AT.30.400
.325	352	960AT.30.400
.337	365	960AT.30.425
.350	377	960AT.30.425
.362	390	960AT.30.450
.375	402	960AT.30.450
.387	415	960AT.30.475
.400	427	960AT.30.475

E4.32/H4.32/R4.32

Width index	B_{Ri} [mm]	Part No. attached inwards
.06	95	960AT.30.150
.07	102	960AT.30.150
.087	114	960AT.30.175
.10	127	960AT.30.175
.11	135	960AT.30.200
.112	140	960AT.30.200
.12	152	960AT.30.200
.137	165	960AT.30.225
.15	177	960AT.30.225
.162	190	960AT.30.250
.17	195	960AT.30.250
.18	202	960AT.30.250
.187	215	960AT.30.275
.20	227	960AT.30.275
.212	240	960AT.30.300
.23	252	960AT.30.300
.237	265	960AT.30.325
.25	277	960AT.30.325
.262	290	960AT.30.350
.28	302	960AT.30.350
.29	315	960AT.30.375
.30	327	960AT.30.375
.312	340	960AT.30.400
.325	352	960AT.30.400
.337	365	960AT.30.425
.350	377	960AT.30.425
.362	390	960AT.30.450
.375	402	960AT.30.450
.387	415	960AT.30.475
.400	427	960AT.30.475

E61.40

Width index	B_{Ri} [mm]	Part No. attached inwards
.062	86	960AT.30.150
.070	94	960AT.30.150
.075	99	960AT.30.150
.087	111	960AT.30.175
.100	124	960AT.30.175
.125	149	960AT.30.200
.150	174	960AT.30.225
.175	199	960AT.30.250
.200	224	960AT.30.275
.225	249	960AT.30.300
.250	274	960AT.30.325
.275	299	960AT.30.350
.300	324	960AT.30.375

E6.40/R6.40

Width index	B_{Ri} [mm]	Part No. attached inwards
.062	86	960AT.30.150
.070	94	960AT.30.150
.075	99	960AT.30.150
.087	111	960AT.30.175
.100	124	960AT.30.175
.125	149	960AT.30.200
.150	174	960AT.30.225
.175	199	960AT.30.250
.200	224	960AT.30.275
.225	249	960AT.30.300
.250	274	960AT.30.325
.275	299	960AT.30.350
.300	324	960AT.30.375

EF61.29/E61.29

Width index	B_{Ri} [mm]	Part No. attached inwards
.070	90	960AT.30.150
.080	100	960AT.30.150
.090	110	960AT.30.175
.100	120	960AT.30.175
.110	130	960AT.30.200
.120	140	960AT.30.200

E6.29/R6.29

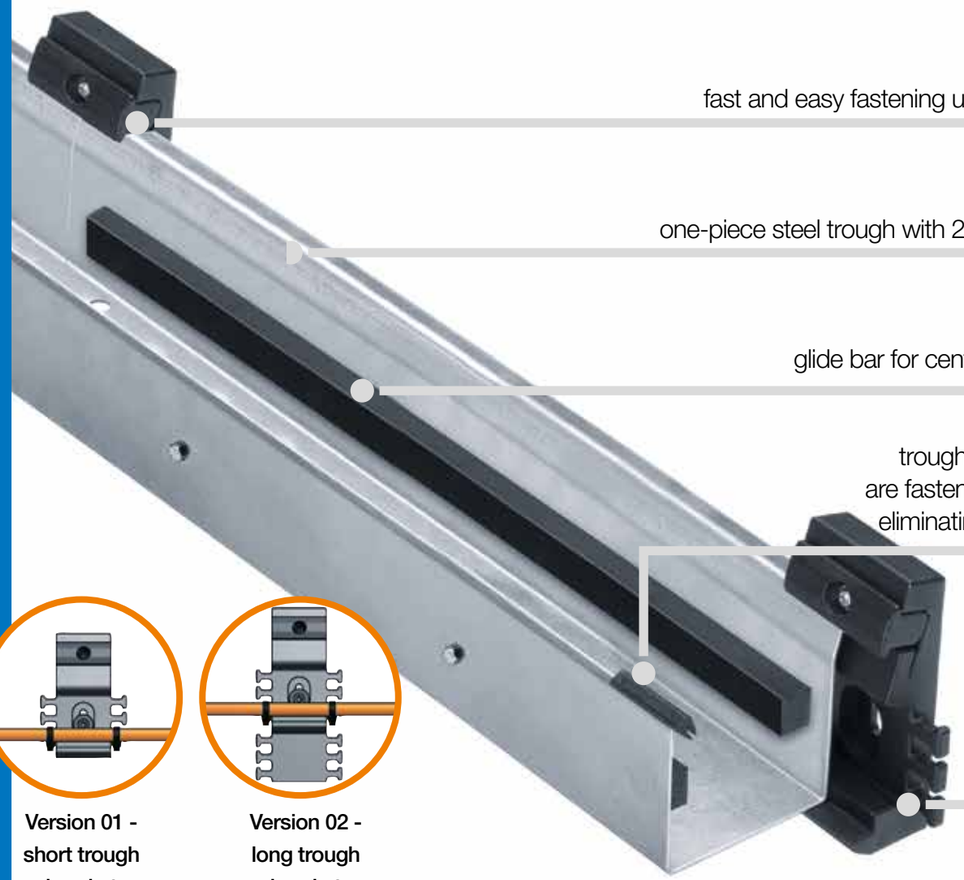
Width index	B_{Ri} [mm]	Part No. attached inwards
.070	90	960AT.30.150
.080	100	960AT.30.150
.090	110	960AT.30.175
.100	120	960AT.30.175
.110	130	960AT.30.200
.120	140	960AT.30.200

E61.35

Width index	B_{Ri} [mm]	Part No. attached inwards
.060	84	960AT.30.150
.070	94	960AT.30.150
.080	104	960AT.30.150
.090	114	960AT.30.175
.100	124	960AT.30.175
.110	134	960AT.30.200
.120	144	960AT.30.200

E6.35

Width index	B_{Ri} [mm]	Part No. attached inwards
.060	84	960AT.30.150
.070	94	960AT.30.150
.080	104	960AT.30.150
.090	114	960AT.30.175
.100	124	960AT.30.175
.110	134	960AT.30.200
.120	144	960AT.30.200



Version 01 - short trough bracket

Version 02 - long trough bracket

Energy supply for crane girders and indoor cranes - guidefast

- The guidefast guide trough is mounted on the side of the crane girder so that welded brackets are not necessary
- Save up to 80% installation time compared to standard trough systems
- Cost-effective modular solution
- Fits virtually any standard crane girder
- 2 versions of brackets with integrated strain relief for assembly of static cables on the crane girder
- Suitable for any side-mounted application - not only on cranes
- Easy to install due to preassembled hole patterns of e-chain® brackets
- Standard material: galvanised steel,
- Optional: 304 stainless steel, material 1.4301 (AiSI 304) or black powder coated
- Conductivity according to DIN EN 61537: as standard with special connector
- Long-term tested to withstand vibration and tough environments

Typical industries and applications

- Crane manufacturers (mainly indoor cranes) - Applications where the side installation of the guide trough is beneficial

Series Part No.	For e-chains® series *Bi* [mm]		*B_{Ri}* [mm]	Overall width [mm]	Material trough profile	Page
					**guidefast - without glide bar** **for the following series:** ● E2.26 ● E2.38 ● 1500 ● 2500 ● 2700	
GF91.30.025.2000	–	1500.025.	42.5	81	galvanised steel*	**1371**
GF91.30.050.2000	–	1500.050.	67.5	106	galvanised steel*	**1371**
GF92.30.03. 2000	E2.26.038.	2500.03.	58	96.5	galvanised steel*	**1371**
GF92.30.05. 2000	E2.26.057.	2500.05.	77	115.5	galvanised steel*	**1371**
GF92.30.07. 2000	E2.26.077.	2500.07.	97	135.5	galvanised steel*	**1371**
GF92.30.09. 2000	E2.26.089.	2500.09.	109	145.5	galvanised steel*	**1371**
GF92.30.10. 2000	E2.26.103.	2500.10.	123	161.5	galvanised steel*	**1371**
GF95.30.05. 2000	E2.38.050.	2700.05.	70	108.5	galvanised steel*	**1371**
GF95.30.07. 2000	E2.38.075.	2700.07.	95	133.5	galvanised steel*	**1371**
GF95.30.10. 2000	E2.38.100.	2700.10.	120	158.5	galvanised steel*	**1371**
					**guidefast - with glide bar** **for the following series:** ● E2.26 ● E2.38 ● 1500 ● 2500 ● 2700	
GF91.31.025.2000	–	1500.025.	42.5	81	galvanised steel*	**1371**
GF91.31.050.2000	–	1500.050.	67.5	106	galvanised steel*	**1371**
GF92.31.03. 2000	E2.26.038.	2500.03.	58	96.5	galvanised steel*	**1371**
GF92.31.05. 2000	E2.26.057.	2500.05.	77	115.5	galvanised steel*	**1371**
GF92.31.07. 2000	E2.26.077.	2500.07.	97	135.5	galvanised steel*	**1371**
GF92.31.09. 2000	E2.26.089.	2500.09.	109	145.5	galvanised steel*	**1371**
GF92.31.10. 2000	E2.26.103.	2500.10.	123	161.5	galvanised steel*	**1371**
GF95.31.05. 2000	E2.38.050.	2700.05.	70	108.5	galvanised steel*	**1371**
GF95.31.07. 2000	E2.38.075.	2700.07.	95	133.5	galvanised steel*	**1371**
GF95.31.10. 2000	E2.38.100.	2700.10.	120	158.5	galvanised steel*	**1371**

*Standard material: galvanised steel. Optional: 304 stainless steel, material 1.4301 (AiSI 304) or black powder coated

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

guidefast guide trough | Individual parts

Standard lengths from stock 2m

For the following igus® series

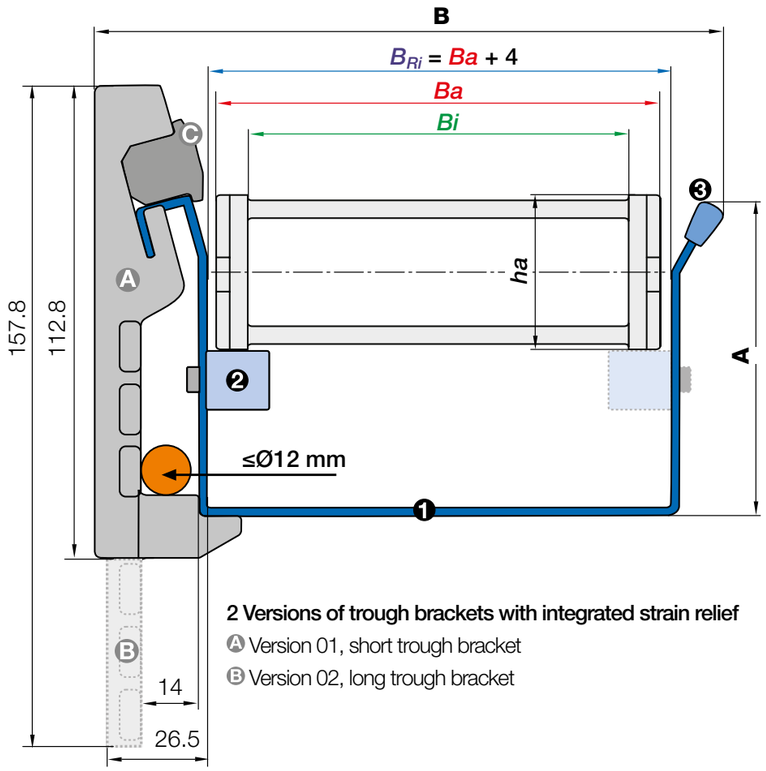
E2.1
- E2.26
- E2.38

E2/000
- 1500
- 2500
- 2700

Components, guidefast set
1. Trough profile, 2m section
2. Glide bar, polymer, 2m section, optional
3. Clip connector, Part No. 908.467
   (electrically conductive clip: 911.301.CD)

Components - trough bracket
- A Version 01 - short trough bracket
- B Version 02, long trough bracket
- C Clamping blocks, Part No. G9.2.10

Ba = Outer e-chain® width
Bi = Inner e-chain® width
ha = e-chain® outer height
B_{Ri} = Trough inner width



2 Versions of trough brackets with integrated strain relief
- A Version 01, short trough bracket
- B Version 02, long trough bracket



guidefast guide trough without glide bar, short trough bracket, standard length from stock 2m



guidefast guide trough with glide bar, short trough bracket, standard length from stock 2m

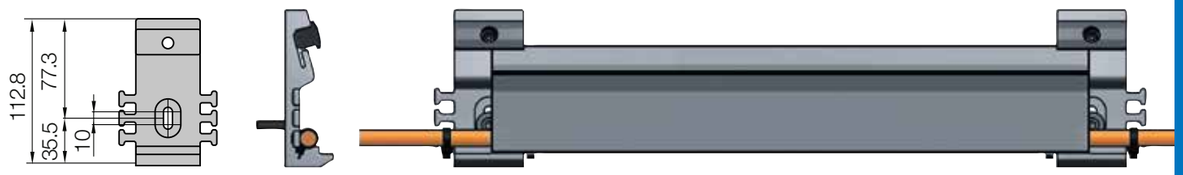
Trough profile | Product range | Installation dimensions

For e-chain® series		Trough profile **without** glide bar (set with clips)	Trough profile **with** glide bar (set with clips)	B_{Ri} [mm]	A [mm]	B [mm]
–	1500.025.	GF91.30.025.2000	GF91.31.025.2000	42.5	61	81
–	1500.050.	GF91.30.050.2000	GF91.31.050.2000	67.5	61	106
E2.26.038.	2500.03.	GF92.30.03. 2000	GF92.31.03. 2000	58	75	97
E2.26.057.	2500.05.	GF92.30.05. 2000	GF92.31.05. 2000	77	75	115.5
E2.26.077.	2500.07.	GF92.30.07. 2000	GF92.31.07. 2000	97	75	135.5
E2.26.089.	2500.09.	GF92.30.09. 2000	GF92.31.09. 2000	109	75	148
E2.26.103	2500.10.	GF92.30.10. 2000	GF92.31.10. 2000	123	75	161.5
E2.38.050.	2700.05.	GF95.30.05. 2000	GF95.31.05. 2000	70	105	108.5
E2.38.075.	2700.07.	GF95.30.07. 2000	GF95.31.07. 2000	95	105	133.5
E2.38.100.	2700.10.	GF95.30.10. 2000	GF95.31.10. 2000	120	105	158.5

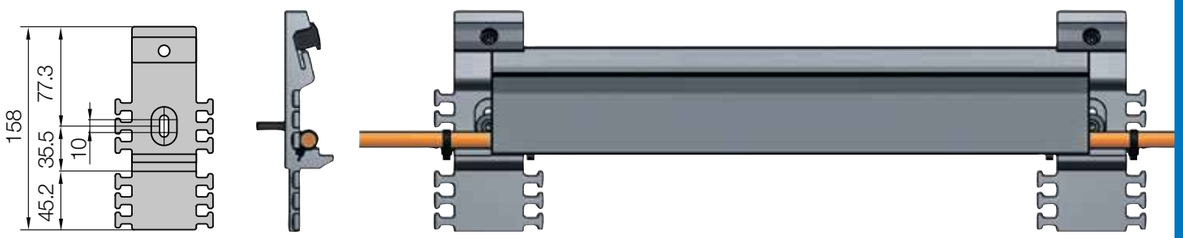
*Standard material: galvanised steel. Optional: 304 stainless steel, material 1.4301 (AiSI 304) or black powder coated

Trough brackets with integrated strain relief | 2 versions | Product range | Installation dimensions

For trough profile	guidefast trough bracket **short** version 01 (set with clamping blocks)	guidefast trough bracket **long** version 02 (set with clamping blocks)
GF91.XX.025.	GF9.2.12	GF9.2.11
GF91.XX.050.	GF9.2.12	GF9.2.11
GF92.XX.03.	GF9.2.12	GF9.2.11
GF92.XX.05.	GF9.2.12	GF9.2.11
GF92.XX.07.	GF9.2.12	GF9.2.11
GF92.XX.09.	GF9.2.12	GF9.2.11
GF92.XX.10.	GF9.2.12	GF9.2.11
GF95.XX.05.	GF9.2.12	GF9.2.11
GF95.XX.07.	GF9.2.12	GF9.2.11
GF95.XX.10.	GF9.2.12	GF9.2.11



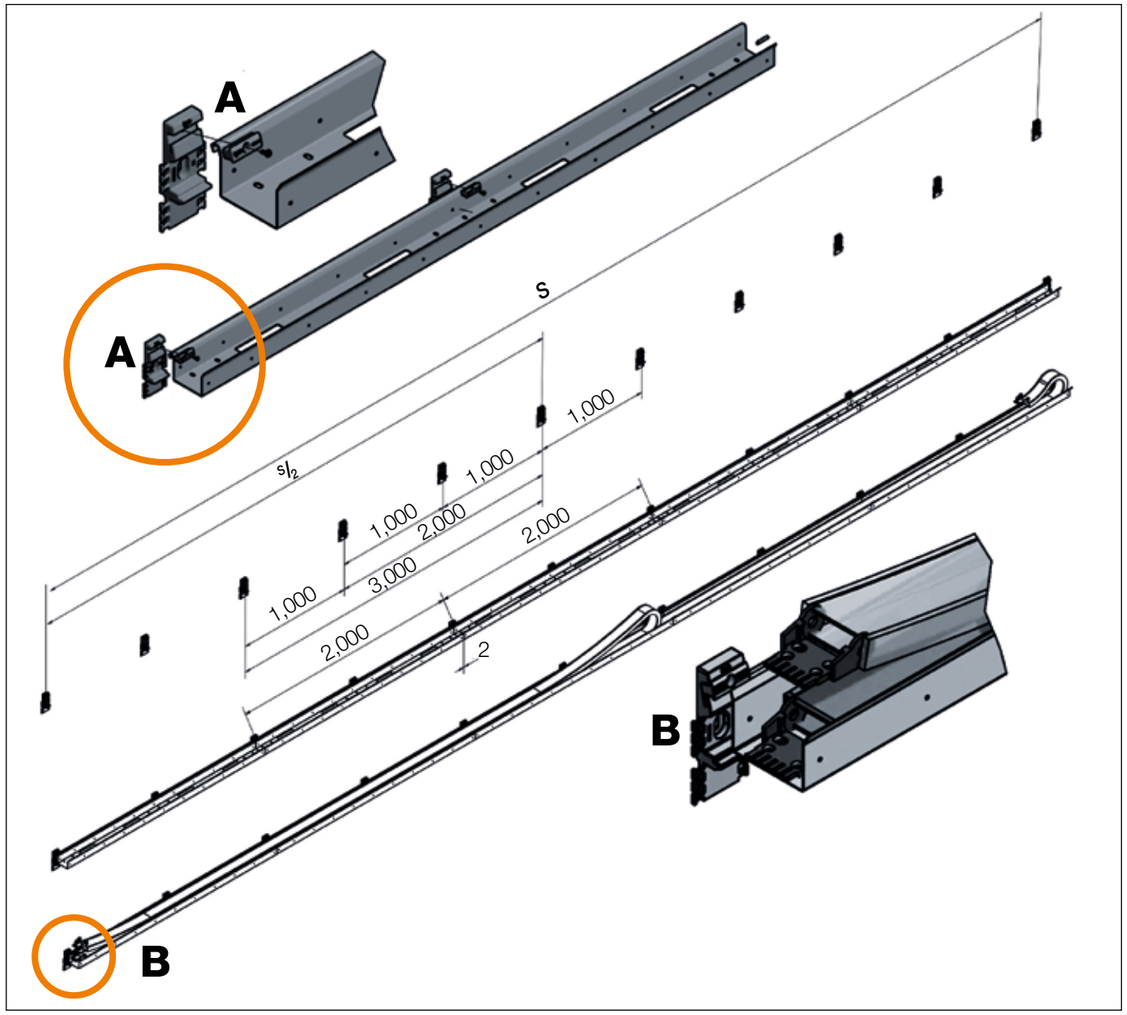
Version 01 - short trough bracket Part No. GF9.2.12 with integrated strain relief,
± 5mm vertical adjustment (electrically conductive version: GF9.2.12.CD)



Version 02 - long trough bracket Part No. GF9.2.11 with integrated strain relief,
± 5mm vertical adjustment (electrically conductive version: GF9.2.11.CD)

guidefast guide trough | Length calculation

Standard lengths from stock 2m



Order example for end fed, travel ≈ 9.5m / guide trough 10m

Trough profile set **without** glide bar (incl. 5 clip connectors) **Order text:** 10m = 5 x 2m sections trough profile, without glide bar	GF92.30.07.2000
Trough brackets (incl. 11 clamping blocks, **long** Version 02) **Order text:** 11 x trough brackets	GF9.2.11

10m = 5 x 2m trough profile, without glide bar + 11 x trough brackets
10m = 5 x GF92.30.07.2000 + 11 x GF9.2.11

guidefast guide trough | Application



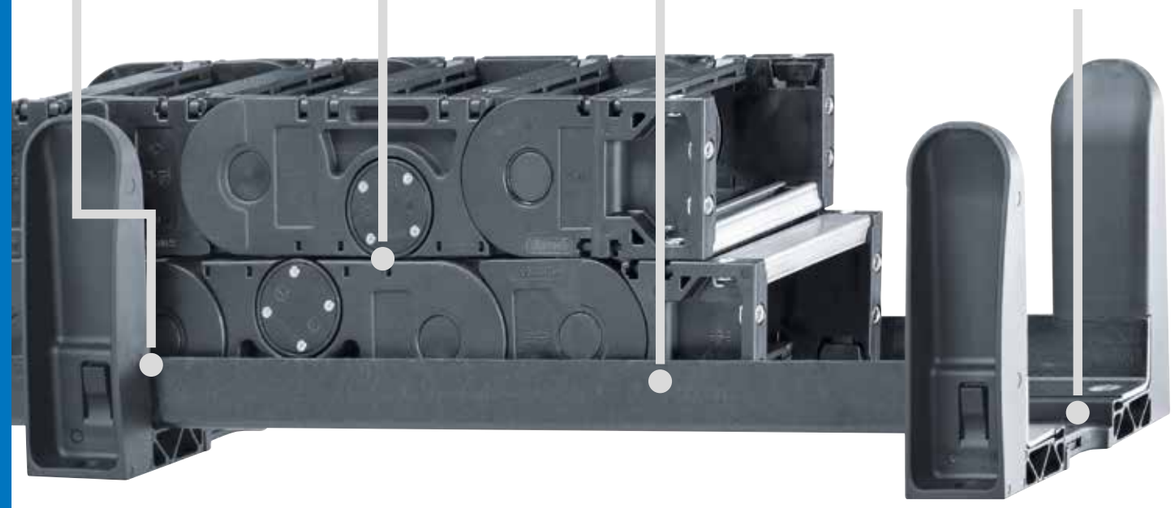
guidefast - attachment to the crane girder using welded bolts or nut/thread, here with version 2 long trough bracket

Corrosion-resistant: made completely from plastic components

Cost-effective: construction kit solution with e-chain®

Time saving: easy and fast assembly

2 installation set versions: 01) With spacer for a fixed width or with 02) C-profile for a larger range of widths



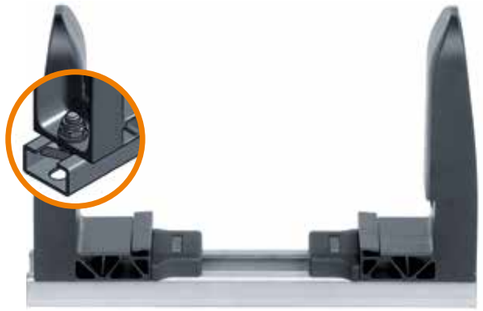
Travel lengths up to 150m, quick and cost-effective - igus® guidelite

A construction kit system primarily for slow applications with low cycle duty. The lower run of the igus® e-chain® is guided in two L-shaped guide rails made from fibreglass reinforced plastics. The upper run of the e-chain® is partially guided by guide angle brackets that are installed at distances of one metre. One option to obtain the correct width is to install clip-on spacers (Version 01) between the retainers. This greatly simplifies the installation since no further adjustments are needed. Another option, which facilitates a greater range of widths, is to mount the guide angle brackets on a C-profile (Version 02).

- Quick assembly saves time
- Very lightweight polymer components - quieter than troughs made from steel
- Cost-effective
- Corrosion-resistant
- Gliding application: max. speed 1m/s
- Unsupported application (guidelite as support tray): max. speed 5m/s (higher speeds can be attained. Please contact us for details)
- Construction kit solution, from stock

Typical industries and applications

● Irrigation and watering systems ● For applications with low duty cycles, low speed and fill weight ● As cost-effective support tray for unsupported applications

Series Part No.	For e-chain® series	Page
	**guidelite version 01 - installation set with spacer, standard** fixed width due to clip-on spacer, no retrospective adjustments needed	
9GL.64.50.450.XX	● E2.48 ● 2500 ● 2700 ● 3500 ● E4Q.34 ● E4.21 ● E4.28 ● E4.32	1376
	**guidelite version 02 - installation set with C-profile** guide angle brackets are assembled on C-profile for a larger range of widths	
9GL.64.50.LLL	● E2.26 ● E2.38 ● 1500 ● 2500 ● 2700 ● 3500 ● E4Q.34 ● E4.21 ● E4.28 ● E4.32	1378

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.



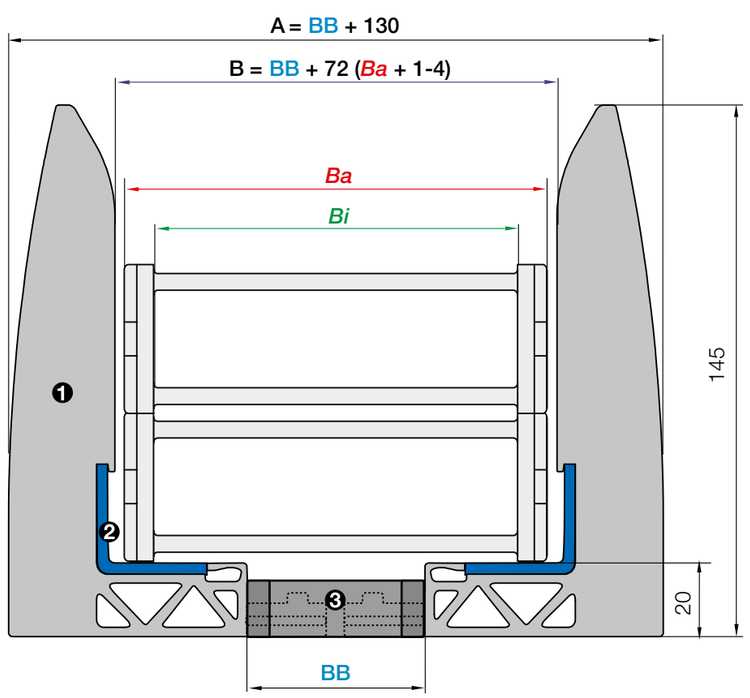
E2/000 rol e-chain® in a guidelite guide trough on an irrigation plant

guidelite | Version 01 | Individual parts

Installation set with spacer - fixed width with clip-on spacers

For the following igus® series

E2.1	E2/000	E4Q	E4.1
● E2.48	● 2500	● E4Q.34	● E4.21
	● 2700		● E4.28
	● 3500		● E4.32



Components - version 01

❶ Guide angles
❷ Plastic guide rail
❸ Crossbar, clip-on

Ba = Outer e-chain® width
Bi = Inner e-chain® width
BB = Length of spacer
A = Outer guide angle distance
B = inner guide angle distance

Dimension **B** must always be 1mm to 4mm larger than *Ba* of the e-chain®.

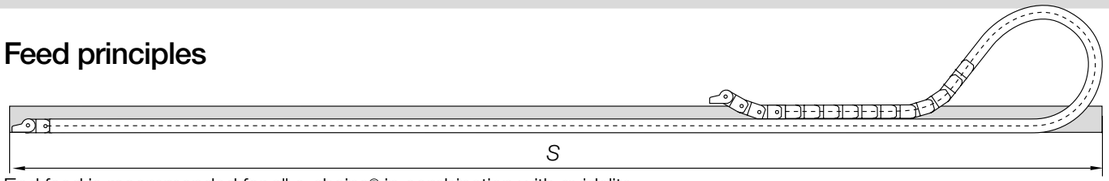
guidelite | Version 01

Description	Part No.
Installation set with spacer for a fixed width, consisting of 2 x plastic guide rails + 1 x spacer	9GL.64.50.450.XX
Set plastic guide rails (left and right) in specified lengths (standard: 2m)	9GL.64.30.2000
Feed module that guides the upper run of the e-chain® down, 2m	
Only for series 2700R and 3500R rol e-chain® with centre feed	9GL.64.80.XXXXX.450.XX

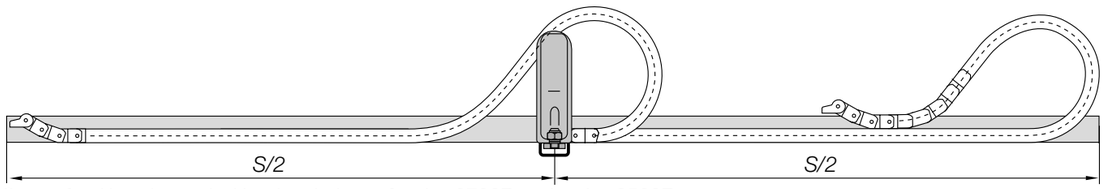
Installation set: please add the width index XX as shown on the tables on the right page. Example: **9GL.64.50.150**

Feed module: please add the width index XX as shown on the tables on the right page. Example: **9GL.64.50.450.05**

Feed principles



End feed is recommended for all e-chains® in combination with guidelite



Centre feed is only used with rol e-chains® of series 2700R and series 3500R.

Please use the feed module **9GL.64.80. series 450.XX**, which guides the upper run of the e-chain® down.

guidelite | Version 01 | Product range

Installation set with crossbar - for a fixed width

Part No. including width index spacer Crossbar XX	For E2.1 series	For E2/000 series	For E4.1 series	For E4Q series	For rol E2/000 series	Length of spacer BB [mm]	Outer guide angle distance A [mm]	Inner guide angle distance B [mm]
9GL.64.50.450.05	E2.26.103.R.0	2500.10.R.0	–	–	–	50	180	122
9GL.64.50.450.12	E2.38.175.R.0	2700.17.R.0	–	–	2700R.17.R.0	125	255	197
9GL.64.50.450.05	E2.48.100.R.0	3500.100.R.0	–	–	3500R.100.R.0	50	180	122
9GL.64.50.450.06	E2.48.115.R.0	3500.115.R.0	–	–	3500R.115.R.0	65	195	137
9GL.64.50.450.07	E2.48.125.R.0	3500.125.R.0	–	–	3500R.125.R.0	75	205	147
9GL.64.50.450.10	E2.48.150.R.0	3500.150.R.0	–	–	3500R.150.R.0	100	230	172
9GL.64.50.450.12	E2.48.175.R.0	3500.175.R.0	–	–	3500R.175.R.0	125	255	197
9GL.64.50.450.15	E2.48.200.R.0	3500.200.R.0	–	–	3500R.200.R.0	150	280	222
9GL.64.50.450.17	E2.48.225.R.0	3500.225.R.0	–	–	3500R.225.R.0	175	305	247
9GL.64.50.450.20	E2.48.250.R.0	3500.250.R.0	–	–	3500R.250.R.0	200	330	272
9GL.64.50.450.06	–	–	E4.21.120.R.0	–	–	65	195	137
9GL.64.50.450.05	–	–	E4.28.100.R.0	–	–	50	180	122
9GL.64.50.450.07	–	–	E4.28.125.R.0	–	–	75	205	147
9GL.64.50.450.05	–	–	E4.32.097.R.0	–	–	50	180	122
9GL.64.50.450.06	–	–	E4.32.112.R.0	E4Q.34.112.R.0	–	65	195	137

Note: Dimension B (inner guide angle distance) must always be 1mm to 4mm larger than *Ba* of the e-chain®!



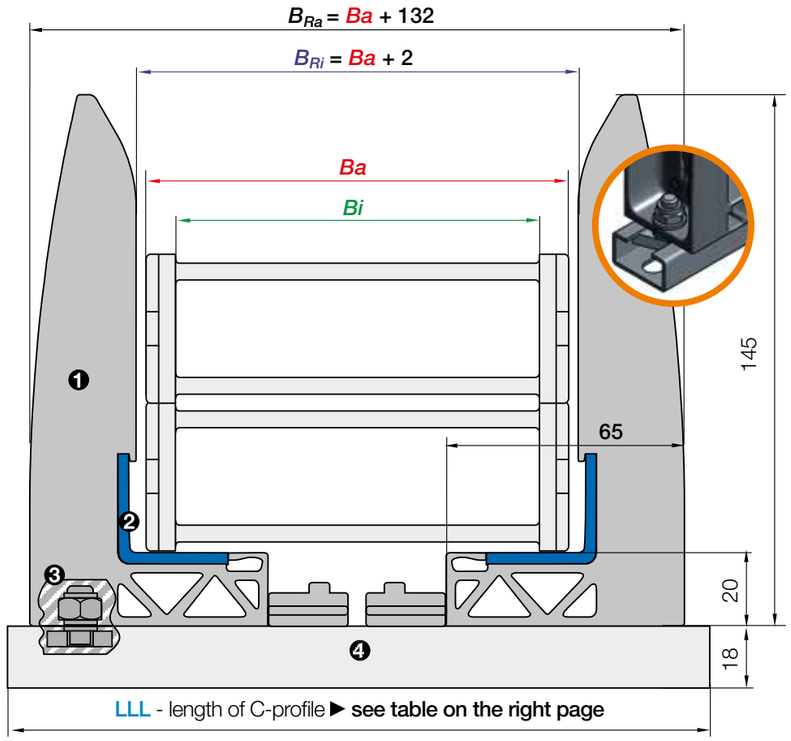
Ideal for outdoor applications - UV-resistant, corrosion-free, allows dirt to pass through

guidelite | Version 02 | Individual parts

Installation set with C-profile | Assembly of guide angles brackets on C-profiles

For the following igus® series

E2.1	E2/000	E4Q	E4.1
● E2.48	● 2500	● E4Q.34	● E4.21
	● 2700		● E4.28
	● 3500		● E4.32



Components, version 02

1. Guide angles
2. Plastic guide rail
3. Screw set M8
4. C-profile

Ba = Outer e-chain® width
Bi = Inner e-chain® width
B_{Ra} = Outer guide angle distance
B_{Ri} = inner guide angle distance

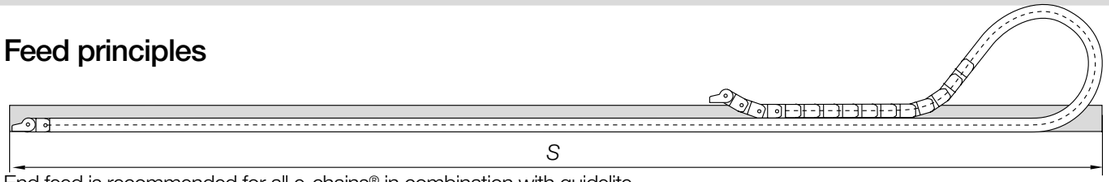
guidelite | Version 02

Description	Part No.
Installation set with C-profiles consisting of 2 x plastic guide rails + 1 x C-profile + Screw sets M8	9GL.64.50.LLL
Set plastic guide rails (left and right) in specified lengths (standard: 2m)	9GL.64.30.2000
Feed module that guides the upper run of the e-chain® down, 2m	
Only for series 2700R and 3500R rol e-chain® with centre feed	9GL.64.80.XXXXX.LLL

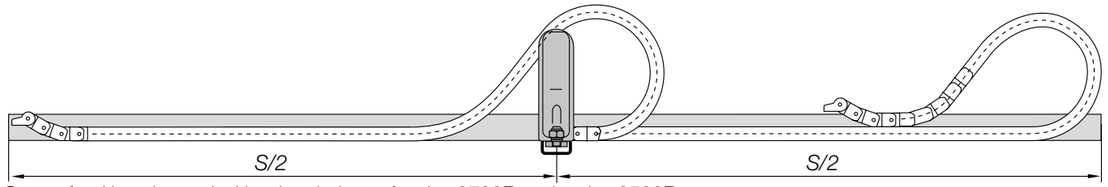
Installation set: please add the C-profile length **LLL** as shown on the tables on the right page. Example: **9GL.64.50.150**

Feed module: please add the width index **XX** as shown on the tables on the right page. Example: **9GL.64.80.3500.05**

Feed principles



End feed is recommended for all e-chains® in combination with guidelite



Centre feed is only used with rol e-chains® of series 2700R and series 3500R.

Please use the feed module **9GL.64.80.Series.LLL**, which guides the upper run of the e-chain® down.

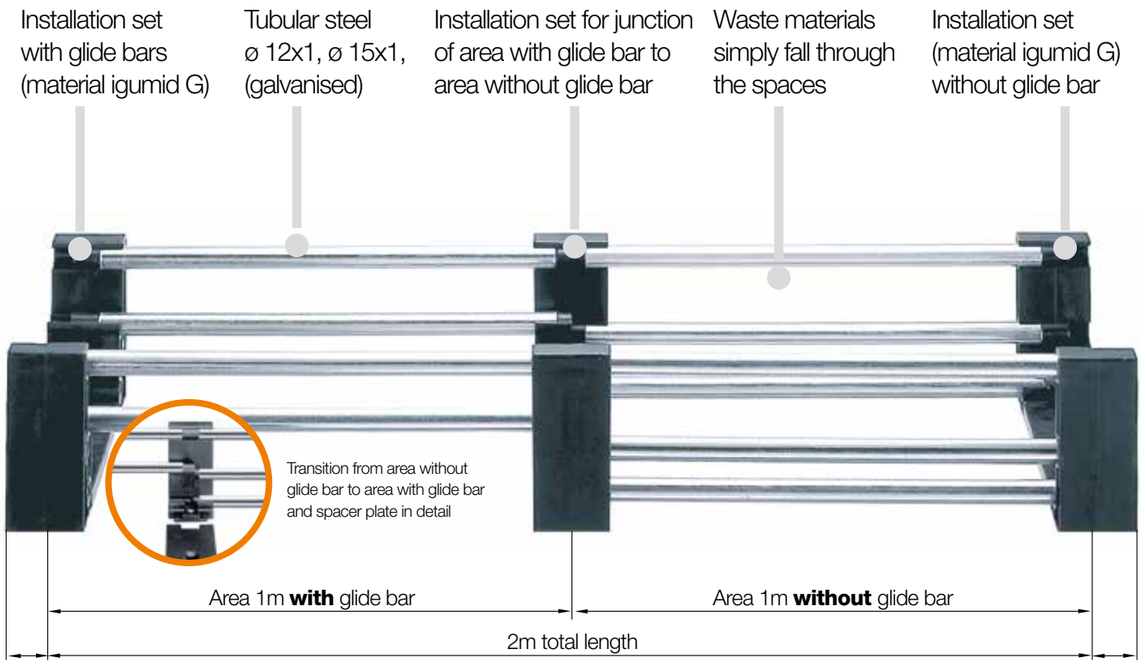
Part No. installation set with C-profile

Part No. installation set + C-profile length LLL	For E2.1 series	For E2/000 series	For E4.1 series	For rol E2/000 series
1500				
9GL.64.50.150	–	1500.068.R.0	–	–
9GL.64.50.175	–	1500.080.R.0	–	–
9GL.64.50.175	–	1500.100.R.0	–	–
9GL.64.50.200	–	1500.125.R.0	–	–
E2.26 / 2500				
9GL.64.50.150	E2.26.057.R.0	2500.05.R.0	–	–
9GL.64.50.175	E2.26.077.R.0	2500.07.R.0	–	–
9GL.64.50.175	E2.26.089.R.0	2500.09.R.0	–	–
9GL.64.50.200	E2.26.103.R.0	2500.10.R.0	–	–
9GL.64.50.225	–	2500.12.R.0	–	–
E2.38 / 2700 / 2700R				
9GL.64.50.150	E2.38.065.R.0	2700.06.R.0	–	2700R.06.R.0
9GL.64.50.175	E2.38.075.R.0	2700.07.R.0	–	2700R.07.R.0
9GL.64.50.175	E2.38.090.R.0	2700.09.R.0	–	2700R.09.R.0
9GL.64.50.200	E2.38.100.R.0	2700.10.R.0	–	2700R.10.R.0
9GL.64.50.225	E2.38.125.R.0	2700.12.R.0	–	2700R.12.R.0
9GL.64.50.250	E2.38.150.R.0	2700.15.R.0	–	2700R.15.R.0
9GL.64.50.275	E2.38.178.R.0	2700.17.R.0	–	2700R.17.R.0
E2.48 / 3500 / 3500R				
9GL.64.50.175	E2.48.075.R.0	3500.075.R.0	–	3500R.075.R.0
9GL.64.50.200	E2.48.100.R.0	3500.100.R.0	–	3500R.100.R.0
9GL.64.50.200	E2.48.115.R.0	3500.115.R.0	–	3500R.115.R.0
9GL.64.50.225	E2.48.125.R.0*	3500.125.R.0	–	3500R.125.R.0
9GL.64.50.250	E2.48.150.R.0	3500.150.R.0	–	3500R.150.R.0
9GL.64.50.275	E2.48.175.R.0	3500.175.R.0	–	3500R.175.R.0
9GL.64.50.300	E2.48.200.R.0*	3500.200.R.0	–	3500R.200.R.0
9GL.64.50.325	E2.48.225.R.0*	3500.225.R.0	–	3500R.225.R.0
9GL.64.50.350	E2.48.250.R.0*	3500.250.R.0	–	3500R.250.R.0
E4.21				
9GL.64.50.150	–	–	E4.21.060.R.0	–
9GL.64.50.150	–	–	E4.21.070.R.0	–
9GL.64.50.175	–	–	E4.21.080.R.0	–
9GL.64.50.175	–	–	E4.21.090.R.0	–
9GL.64.50.175	–	–	E4.21.100.R.0	–
9GL.64.50.200	–	–	E4.21.110.R.0	–
9GL.64.50.200	–	–	E4.21.120.R.0	–

Part No. installation set + C-profile length LLL	For E4Q series	For E4.1 series
E4.28		
9GL.64.50.150	–	E4.28.062.R.0
9GL.64.50.175	–	E4.28.070.R.0
9GL.64.50.175	–	E4.28.075.R.0
9GL.64.50.175	–	E4.28.087.R.0
9GL.64.50.200	–	E4.28.100.R.0
9GL.64.50.225	–	E4.28.125.R.0
9GL.64.50.250	–	E4.28.150.R.0
9GL.64.50.275	–	E4.28.175.R.0
9GL.64.50.300	–	E4.28.200.R.0
9GL.64.50.325	–	E4.28.225.R.0
9GL.64.50.350	–	E4.28.250.R.0
9GL.64.50.375	–	E4.28.275.R.0
9GL.64.50.400	–	E4.28.300.R.0
E4.32 / E4Q.34		
9GL.64.50.150	–	E4.32.05.R.0
9GL.64.50.175	–	E4.32.06.R.0
9GL.64.50.175	E4Q.34.075.R.0	E4.32.07.R.0
9GL.64.50.175	E4Q.34.087.R.0	E4.32.087.R.0
9GL.64.50.200	–	E4.32.09.R.0
9GL.64.50.200	E4Q.34.100.R.0	E4.32.10.R.0
9GL.64.50.200	E4Q.34.108.R.0	E4.32.11.R.0
9GL.64.50.200	E4Q.34.112.R.0	E4.32.112.R.0
9GL.64.50.225	E4Q.34.125.R.0	E4.32.12.R.0
9GL.64.50.225	E4Q.34.137.R.0	E4.32.137.R.0
9GL.64.50.250	E4Q.34.150.R.0	E4.32.15.R.0
9GL.64.50.275	E4Q.34.162.R.0	E4.32.162.R.0
9GL.64.50.275	E4Q.34.168.R.0	E4.32.17.R.0
9GL.64.50.275	E4Q.34.175.R.0	E4.32.18.R.0
9GL.64.50.275	E4Q.34.187.R.0	E4.32.187.R.0
9GL.64.50.300	E4Q.34.200.R.0	E4.32.200.R.0
9GL.64.50.300	E4Q.34.212.R.0	E4.32.212.R.0
9GL.64.50.325	E4Q.34.225.R.0	E4.32.23.R.0
9GL.64.50.325	E4Q.34.237.R.0	E4.32.237.R.0
9GL.64.50.350	E4Q.34.250.R.0	E4.32.25.R.0
9GL.64.50.350	E4Q.34.262.R.0	E4.32.262.R.0
9GL.64.50.375	E4Q.34.275.R.0	E4.32.28.R.0
9GL.64.50.375	E4Q.34.287.R.0	E4.32.29.R.0
9GL.64.50 400	E4Q.34.300.R.0	E4.32.30.R.0

Please note: The smallest possible inner width of the guide trough is 72mm.

*Width available upon request. Delivery time upon request.



Lets light and dirt through - tubular trough system RS

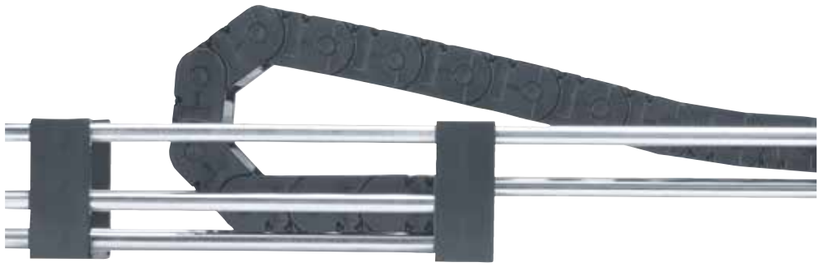
igus® tubular troughs are simple and open options to safely guide e-chains®. Recommended for less demanding applications and applications with travel speeds less than 2m/s, as well as travel distances less than 50m.

- For application areas where dirt or chips occur - the waste simply falls through the spaces
- Elegant design and very easy assembly
- In the case of low mechanical loads
- No difficult setting of the correct width - the fitting spacers are delivered with the complete order
- The tubes are available in galvanised steel or polymer
- Very easy assembly - the elements are pushed together and clipped in

Typical industries and applications

- For application areas with dirt or chips

iF product design award
2000 system RS

Part No. **without** glide bars	Part No. **with** glide bars	For e-chain® series	H_{Ra} [mm]	Page
		**Tubular trough system RS** lets light and dirt through		
92.70.	**92.71.**	**E2.26 ● 2500 ● 255**	90	**1382**
93.70.	**93.71.**	**E2.48 ● 3500**	146	**1383**
95.70.	**95.71.**	**E2.38 ● 2700**	126.3	**1384**

Available from stock. Ready to ship in 24 - 48hrs.*
*Average time before the ordered goods are dispatched.

Tubular trough | System RS | 92.70 | 92.71

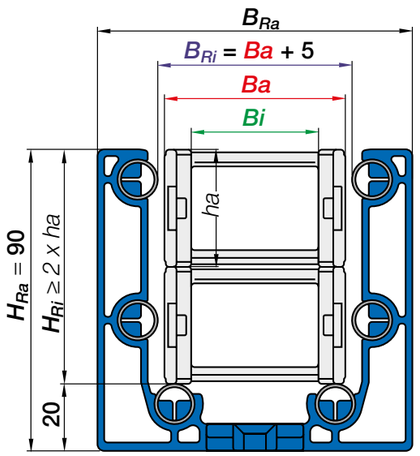
Trough height: 90mm | Product range

For the following igus® series

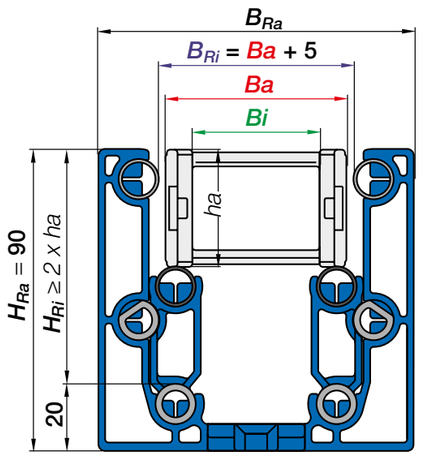
E2.1
- E2.26

E2/000
- 2500
- 255

For 1m trough without glide bars 6 tubes 1 metre long are required. For 1m trough with glide bars 4 tubes 1 metre long are required.



Installation set without glide bars



Installation set **with** glide bars

Installation dimensions

XXX	Bi	Ba	B_{Ra}	B_{Ri}
02*	25	41	81	45
03	38	54	94	58
05	57	73	113	77
07	77	93	133	97
09	89	105	145	109
10	103	119	159	123
12	125	141	181	145

*Spacer plate upon request

XXX = Width index

Tubular trough | Components

Individual parts	Part No.	Weight
Installation set **without** glide bars	**92.70.XXX**	≈ 0.15kg
Installation set **with** glide bars	**92.71.XXX**	≈ 0.12kg
Installation set junction	**92.74.XXX**	
Fastening set	**92.77.2**	
Tubular steel, diameter ø 12 x 1 galvanised	**92.80**	≈ 0.28kg
(L = 985 for clearance installation set 1m)		

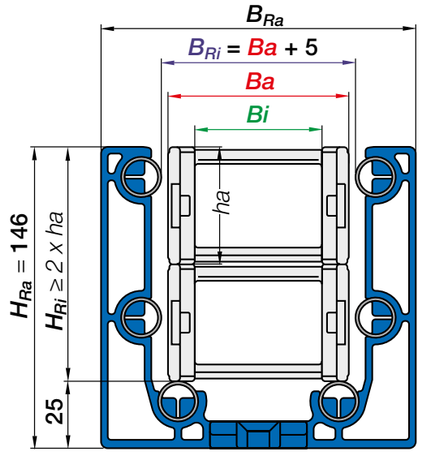
Please add the width index XXX. Example: **92.71.05**

Order example: e-chain® inner width 57mm.
For 8m trough the following parts are required:

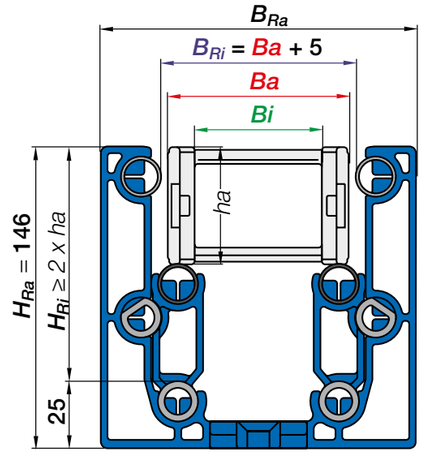
Area **with** glide bar	4 x Montageset +	**92.71.050**
	Tube: 4 x 4 pieces	**92.80**
Area **without** glide bar	4 x Montageset +	**92.70.050**
	Tube: 4 x 6 pieces	**92.80**
Transition from area **without** glide bar to area **with** glide bar	1 x installation set junction	**92.74.05**

Tubular trough | System RS | 93.70 | 93.71

Trough height: 146mm | Product range



Installation set **without** glide bars



Installation set **with** glide bars

For the following igus® series

E2.1
- E2.48

E2/000
- 3500

For 1m trough without glide bars 6 tubes 1 metre long are required. For 1m trough with glide bars 4 tubes 1 metre long are required.

Tubular trough | Components

Individual parts	Part No.	Weight
Installation set **without** glide bars	**93.70.XXX**	≈ 0.25kg
Installation set **with** glide bars	**93.71.XXX**	≈ 0.20kg
Installation set junction	**93.74.XXX**	
Fastening set	**92.77.2**	
Tubular steel, diameter ø 15 x 1 galvanised	**93.80**	≈ 0.50kg
(L = 985 for clearance installation set 1m)		

Please add the width index XXX. Example: **93.71.050**

Installation dimensions

XXX	Bi	Ba	B_{Ra}	B_{Ri}
050	50	70	130	75
075	75	95	155	100
100	100	120	180	125
115	115	135	195	140
125	125	145	205	150
150	150	170	230	175
175	175	195	255	200
200	200	220	280	225
225	225	245	305	250
250	250	270	330	275

XXX = Width index

Order example: e-chain® inner width 50mm.
For 8m trough the following parts are required:

Area **with** glide bar	4 x Montageset +	**93.71.050**
	Tube: 4 x 4 pieces	**93.80**
Area **without** glide bar	4 x Montageset +	**93.70.050**
	Tube: 4 x 6 pieces	**93.80**
Transition from area **without** glide bar to area **with** glide bar	1 x installation set junction	**93.74.050**

Tubular trough | System RS | 95.70 | 95.71

Trough height: 126.3mm | Product range

For the following igus® series

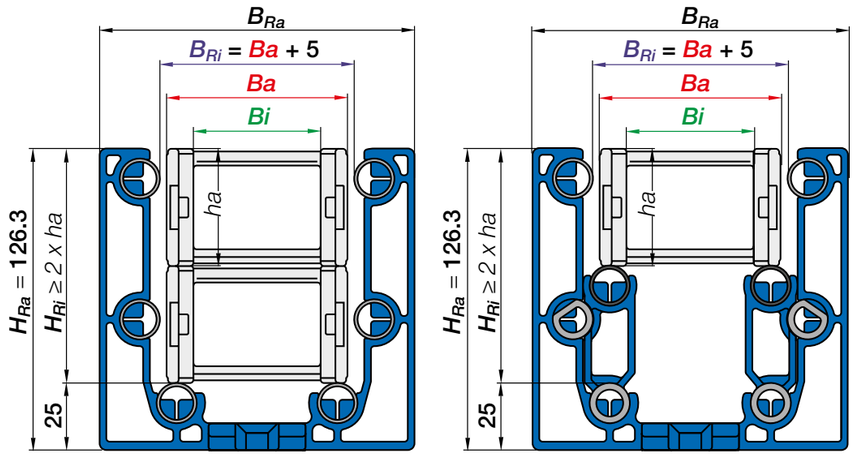
E2.1

- E2.38

E2/000

- 2700

For 1m trough without glide bars 6 tubes 1 metre long are required. For 1m trough with glide bars 4 tubes 1 metre long are required.



Installation set **without** glide bars

Installation set **with** glide bars

Installation dimensions

XXX	Bi	Ba	B_{Ra}	B_{Ri}
05	50	66	124	71
06*	65	81	139	86
07	75	91	149	96
09*	90	106	164	111
10	100	116	174	121
12	125	141	199	146
15	150	166	224	171
17	175	194	252	199
20	200	219	277	224

*Spacer plate upon request

XXX = Width index

Tubular trough | Components

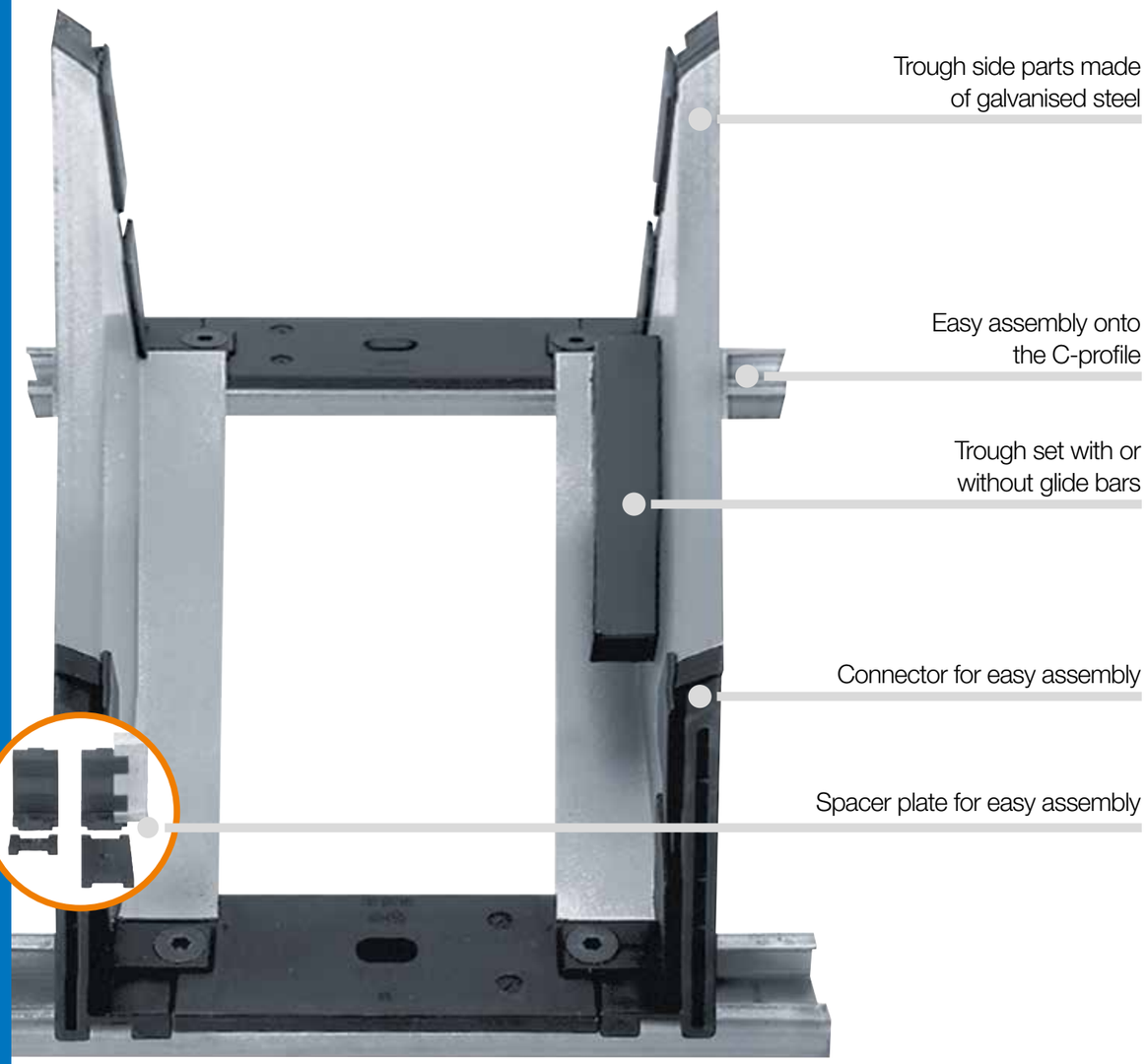
Individual parts	Part No.	Weight
Installation set **without** glide bars	**95.70.XXX**	≈ 0.21kg
Installation set **with** glide bars	**95.71.XXX**	≈ 0.17kg
Installation set junction	**95.74.XXX**	
Fastening set	**92.77.2**	
Tubular steel, diameter ø 15 x 1 galvanised	**93.80**	≈ 0.50kg
(L = 985 for clearance installation set 1m)		

Please add the width index XXX. Example: **95.71.05**

Order example: e-chain® inner width 50mm.
For 8m trough the following parts are required:

Area **with** glide bar	4 x Montageset +	**95.71.050**
	Tube: 4 x 4 pieces	**93.80**
Area **without** glide bar	4 x Montageset +	**95.70.050**
	Tube: 4 x 6 pieces	**93.80**
Transition from area **without** glide bar to area **with** glide bar	1 x installation set junction	**95.74.05**

Tubular trough | My sketches



Simple and cost-effective - snap-in trough system SP

The igus® snap-in trough system SP is a very simple and cost-effective trough-system made from galvanised steel to guide e-chains® up to 50m lengths at low speeds.

- Smaller than conventional troughs
- Quick and easy assembly
- Fixed inner width due to spacer
- No complex width setting required
- No sharp metal edges internally with covered connectors
- Cost-effective due to easy assembly

Typical industries and applications

- For simple applications with less installation space

Part No. **without** glide bars	Part No. **with** glide bars	For e-chain® series	H_{Ra} [mm]	Page
		**Snap-in trough system SP** simple and cost-effective		
91.930	**91.931**	**10 ● B15/B15i ● 15/R15**	55.5	**1388**
92.930	**92.931**	**E2.26 ● 2500 ● 255**	76.6	**1389**
93.930	**93.931**	**E2.48 ● 3500**	138.6	**1390**
95.930	**95.931**	**E2.38 ● 2700**	106.6	**1391**

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

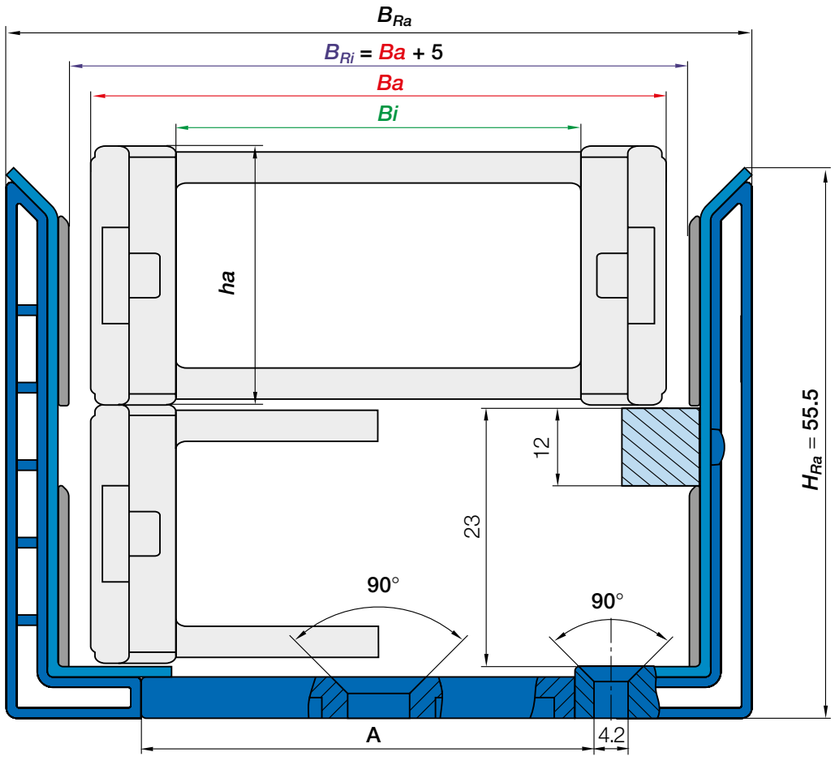
Snap-in trough | System SP | 91.930 | 91.931

Trough height: 55.5mm | Product range

For the following igus® series

E2 mini
- 10
- B15/B15i

zipper
- 15/R15



Installation dimensions

XXX	A	B_{Ra}	B_{Ri}
015	21	46	29.6
025	31	56	39.6
038	43	68	51.6
050	55	80	63.6
05	71	96	79.6
06	88	113	96.6
07	108	133	116.6

XXX = Width index

Snap-in trough | Components

Individual parts	Part No.	Weight
Trough set **without** glide bars, 2 glide strips of 1m	**91.930**	≈ 1.50kg
Trough set **with** glide bars, 2 glide strips of 1m	**91.931**	≈ 1.90kg
Glide bar set, 2 glide bars, 1m section	**91.920**	
Screw set for glide bar	**91.921**	
Installation set **with** spacer plate	**91.950.XXX**	≈ 0.05kg
Installation set **without** spacer plate	**91.950**	≈ 0.03kg

Please add the width index XXX. Example: **91.950.050**

Order example: series 15 for e-chain® inner width 50mm. For 20m trough the following parts are required:

10 x 1m, trough set **without** glide bars (10 x 1m)	**91.930**
10 x 1m, trough set **with** glide bars (10 x 1m)	**91.931**
Installation set with spacer plate (21x)	**91.950.050**

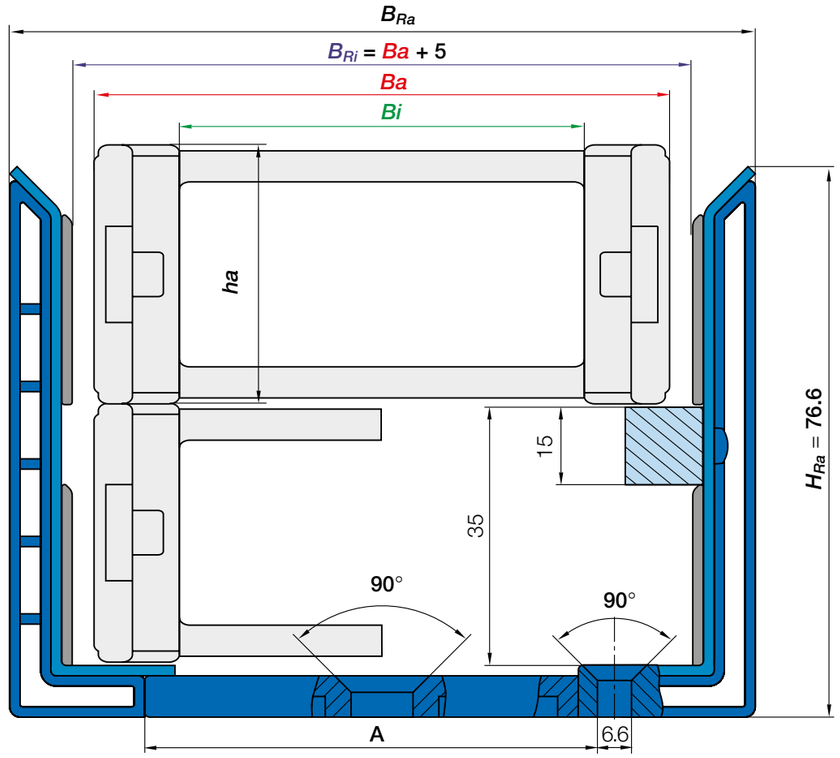
Snap-in trough | System SP | 92.930 | 92.931

Trough height: 76.6mm | Product range

For the following igus® series

E2.1
- E2.26

E2/000
- 2500



Snap-in trough | Components

Individual parts	Part No.	Weight
Trough set **without** glide bars, 2 glide strips of 2m	**92.930**	≈ 5.50kg
Trough set **with** glide bars, 2 glide strips of 2m	**92.931**	≈ 6.50kg
Glide bar set, 2 glide bars, 1m section	**92.920**	
Screw set for glide bar	**92.921**	
Installation set **with** spacer plate	**92.950.XXX**	≈ 0.10kg
Installation set **without** spacer plate	**92.950**	≈ 0.08kg

Please add the width index XXX. Example: **92.950.05**

Installation dimensions

XXX	A	B_{Ra}	B_{Ri}
02*	14	67	43
03	27	80	56
05	46	99	75
07	66	119	95
09	78	131	107
10	92	145	121
12	114	167	143

*Spacer plate upon request

XXX = Width index

Order example: series 2500 for e-chain® inner width 50mm. For 20m trough the following parts are required:

10 x 1m, trough set **without** glide bars (5 x 2m)	**92.930**
10 x 1m, trough set **with** glide bars (5 x 2m)	**92.931**
Installation set with spacer plate (21x)	**92.950.05**

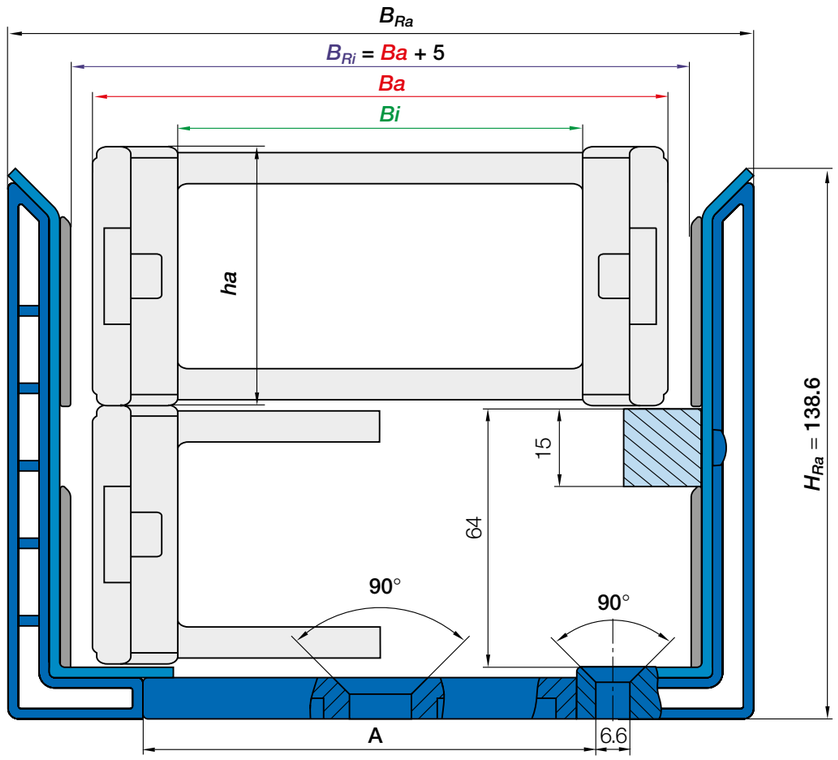
Snap-in trough | System SP | 93.930 | 93.931

Trough height: 138.6mm | Product range

For the following igus® series

E2.1
- E2.48

E2/000
- 3500



Installation dimensions

XXX	A	B_{Ra}	B_{Ri}
050	40	102	74
075	65	127	99
100	90	152	124
115	105	167	139
125	115	177	149
150	140	202	174
175	165	227	199
200	190	252	224
225	215	277	249
250	240	302	274

XXX = Width index

Snap-in trough | Components

Individual parts	Part No.	Weight
Trough set **without** glide bars, 2 glide strips of 2m	**93.930**	≈ 9.00kg
Trough set **with** glide bars, 2 glide strips of 2m	**93.931**	≈ 10.00kg
Glide bar set, 2 glide bars, 1m section	**93.920**	
Screw set for glide bar	**93.921**	
Installation set **with** spacer plate	**93.950.XXX**	≈ 0.20kg
Installation set **without** spacer plate	**93.950**	≈ 0.16kg

Please add the width index XXX. Example: **93.950.050**

Order example: series 3500 for e-chain® inner width 50mm. For 20m trough the following parts are required:

10 x 1m, trough set **without** glide bars (5 x 2m)	**93.930**
10 x 1m, trough set **with** glide bars (5 x 2m)	**93.931**
Installation set with spacer plate (21x)	**93.950.050**

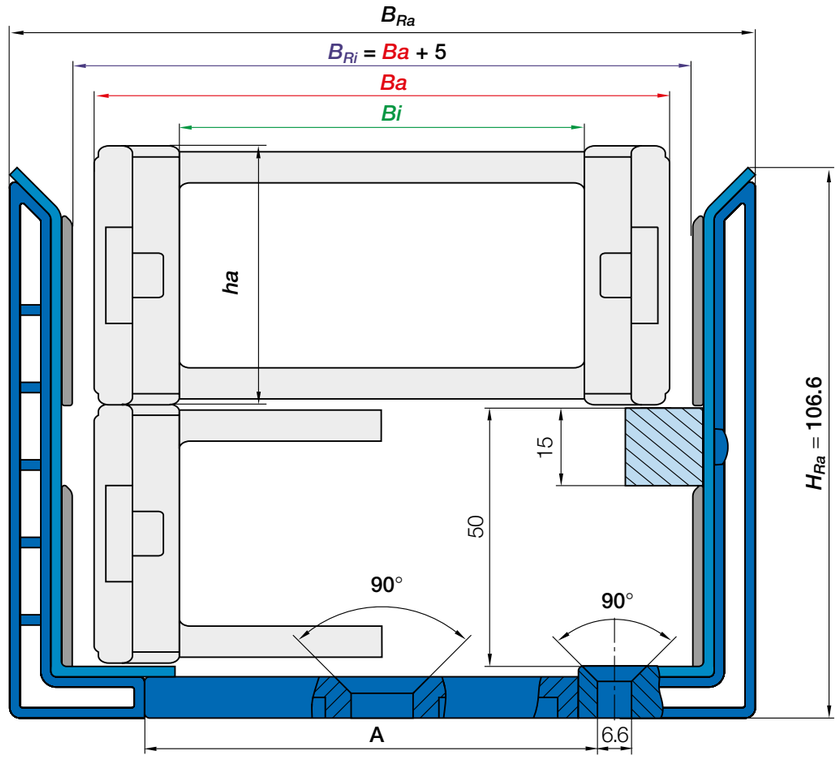
Snap-in trough | System SP | 95.930 | 95.931

Trough height: 106.6mm | Product range

For the following igus® series

E2.1
- E2.38

E2/000
- 2700



Snap-in trough | Components

Individual parts	Part No.	Weight
Trough set **without** glide bars, 2 glide strips of 2m	**95.930**	≈ 7.10kg
Trough set **with** glide bars, 2 glide strips of 2m	**95.931**	≈ 8.10kg
Glide bar set, 2 glide bars, 1m section	**95.920**	
Screw set for glide bar	**95.921**	
Installation set **with** spacer plate	**95.950.XXX**	≈ 0.11kg
Installation set **without** spacer plate	**95.950**	≈ 0.13kg

Please add the width index XXX. Example: **95.950.05**

Installation dimensions

XXX	A	B_{Ra}	B_{Ri}
05	40	94	70
06*	55	109	85
07	65	119	95
09*	80	134	110
10	90	144	120
12	115	169	145
15	140	194	170
17	165	229	195
20	190	244	220

*Spacer plate upon request

XXX = Width index

Order example: series 15 for e-chain® inner width 50mm. For 20m trough the following parts are required:

10 x 1m, trough set **without** glide bars (5 x 2m)	**95.930**
10 x 1m, trough set **with** glide bars (5 x 2m)	**95.931**
Installation set with spacer plate (21x)	**95.950.05**

igus®
chainfix
Strain relief



The diagram shows the new CFU honeycomb strain relief for fast assembly. Simply insert cables and hoses into the honeycomb and close.

igus® chainfix strain relief. Flexible, secure and fast.

Strain relief from igus® is specifically developed for use in e-chains® and dynamic applications. The combination of chainflex® cable materials and the touching plastic components of the chainfix strain relief systems from igus®, have been designed for a long service life of cables and for maximum holding force. For a wide variety of applications, igus® offers the best solution with respect to cost and benefits. Examples are the CFXL clamps for long travels and harsh environments, the CFU.V strain relief with innovative honeycomb design for fast assembly and a high holding force or the chainfix CFN nuggets for simple and cost-effective strain relief solutions. igus® chainfix strain relief components are tested in real-life situations and have been used for years by customers around the world.

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

C-profile - standard and for heavy-duty applications — Page



- **Standard C-profile Part No. 92.42** (can be integrated into KMA) — 1406
- **C-profile Part No. 92.52** for increased holding force (mounting in front of e-chain®) — 1406

Steel and stainless steel clamps - for maximum tensile forces — Page



- **CFX*** single, double, triple clamps with standard base — 1410
- **CFXL*** single, double, triple clamps with wide base for increased holding force — 1411
- chainfix multi-clamps CFX12* — 1413
- chainfix multi-clamps CFX16* — 1414
- chainfix clamps for pneumatic hoses CFX12 New — 1416
- chainfix clamps for pneumatic hoses CFX16 New — 1417

chainfix tiewrap plates - universal, bolted or clip-on — Page



- **Option 1A:** tiewrap plates as individual parts "series 2000" + cable tiewraps — 1420
- **Option 1B:** tiewrap plates as individual parts "series 3000" + cable tiewraps — 1421

chainfix tiewrap plates - optional variants — Page



- **Option 1:** tiewrap plates with clip-on connection to C-profile — 1422
- **Option 2:** strain relief tooth for top-hat (DIN) 15 (TS92.31) New — 1422
- **Option 3:** integrated strain relief for E2 e-tubes - series R — 1423
- **Option 4:** tiewrap plates for fixed crossbars — 1424
- **Option 5:** tiewrap plates for openable crossbars — 1425

CFU.V - strain relief with innovative honeycomb design for fast assembly — Page



- 80% faster filling (compared to CFX strain relief), openable from both sides for assembly in seconds — 1426

Strain relief separators - separator with integrated strain relief teeth — Page



- For easy strain relief with cable tiewraps — 1428

CFV strain relief element - stepped strain relief — Page



- Relieve cable strain easily, for use outside of the e-chain® section. With stepped strain relief teeth, even for fully enclosed e-tubes — 1432

CFN - chainfix nuggets for C-profile and top-hat (DIN) rail 35 — Page



- **Option 1:** simple and universal cable fixation (for cable diameters of Ø 20mm and Ø 30mm) — 1433
- **Option 2:** fastening through clipping onto standard top-hat (DIN) rail 35 — 1433

CFB - strain relief connector system, modular and customised — Page



- **CFB** polymer strain relief connector system, for many cables in a very confined space — 1434

*Standard material: galvanised steel. Also available as stainless steel version (stainless steel material: 1.4301/AISI 304)

e-chain® Series/system	CFX clamp, (incl. multi-clamp and clamp for pneumatic hoses)	CFXL clamp, (incl. multi-clamp and clamp for pneumatic hoses)	CFU Honeycomb strain relief	CFN Nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB Strain relief connector system
E1																	
E1.17.021.	–	–	–	–	–	–	–		–	–	–	E1.021.Z	–	–	–	–	–
easy chain®																	
E03	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E04	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E045/Z045	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E06/Z06	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E065/Z065	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E08/Z08	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E14/Z14	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E200/Z200	X 1)	–	–	–	–	–	–		2XXX.ZB	–	–	2050.Z	–	–	–	–	–
E16/Z16	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E26/Z26	X 1)	–	–	–	–	–	–		–	3XXX.ZB	–	–	–	–	–	–	–
E300/Z300	X 1)	–	–	–	–	–	–		–	3XXX.ZB	–	–	–	–	–	–	–
zipper																	
047	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
07/R07	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
09/R09	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
15/R15	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
17/R17	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2 micro																	
03	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
04	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
045	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B07	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
06	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
074	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
094	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B09	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
08	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2 mini																	
10	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
11.031	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
11.080	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
11.1/11.2	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
14	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B15/B15i	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
B17/B17i	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
F17	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–

1) Assemble before the mounting bracket (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XXX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
5) Combined with other components, CFX standard clamps become multi-clamps or clamps for pneumatic hoses
= Recommended strain relief for selected e-chain®

e-chain® Series/system	CFX clamp, (incl. multi-clamp and clamp for pneumatic hoses)	CFXL clamp, (incl. multi-clamp and clamp for pneumatic hoses)	CFU Honeycomb strain relief	CFN Nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB Strain relief connector system
E2.1 micro																	
E2.10	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2.15	–	–	–	–	–	–	–		–	–	–	–	–	–	–	X	–
E2.1																	
E2.26	X [1]	X [1]	–	–	26.Z [4]	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E2.38	X [1]	X [1]	–	X	–	CFV.42.C	–		2XXX.ZB	3XXX.ZB	–	C.2.522.XXX.ZS	–	–	–	–	–
E2.48	X [1]	X [1]	X [1]	X	–	CFV.42.C	–		–	3XXX.ZB	–	C.2.522.XXX.ZS	–	–	–	–	–
E2/000																	
1400/1500	X [1]	X [1]	–	–	21.1.Z	–	–		2XXX.ZB	–	–	–	–	–	–	X	–
1450/1480	X [1]	X [1]	–	–	21.1.Z	–	–		2XXX.ZB	–	–	–	–	–	–	X	–
2400/2500	X [1]	X [1]	–	–	2020.Z	–	–		2XXX.ZB	–	–	2050.Z	–	–	–	–	–
2450/2480	X [1]	X [1]	–	–	2020.ZR	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
2600/2700	X	X [1]	–	X	262.Z	CFV.42.C	–		2XXX.ZB	3XXX.ZB	30XX.ZC	2050.Z	2050.Z	–	–	–	On request
2650/2680	X	X [1]	–	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	2050.Z [3]	–	–	–	On request
3400/3500	X	X [1]	X [1]	X	301.Z	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	30XX.Z	30XX.ZS	–	–	–	On request
3450/3480	X	X [1]	X [1]	X	34501.Z	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	30XX.ZS [3]	–	–	–	On request
255	–	–	–	–	–	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E2 R100																	
R117/118	X [1]	X [1]	–	–	–	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
R157/158	X [1]	X [1]	–	–	1585.01.Z	–	–		–	–	–	–	–	–	–	–	–
R167/168	X [1]	X [1]	X [1]	–	1685.01.Z	–	–		–	–	–	–	–	–	–	–	–
E2 R																	
R48	X [1]	X [1]	–	–	481.ZR	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
R58	X [1]	X [1]	–	–	–	–	–		–	–	–	–	–	–	5850.Z	–	–
R68	X [1]	X [1]	X [1]	–	–	–	–		–	–	–	–	–	–	30XX.Z	–	–
R2.1																	
R2.26	X [1]	X [1]	–	–	R2.26.Z	CFV.R2.26.Z	–		–	–	–	–	–	–	–	–	–
R2.40	X [1]	X [1]	–	–	R2.40.Z	CFV.R2.40.Z	–		–	–	–	–	–	–	–	–	–
R2.48	X [1]	X [1]	X [1]	–	–	CFV.R2.48.Z	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	–
R2.75	X [1]	X [1]	–	–	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	–
RX																	
RX32	–	–	–	–	–	–	X		–	–	–	–	–	–	–	–	X
RX40	–	–	–	–	–	–	X		–	–	–	–	–	–	–	–	X
RX48	–	–	–	–	–	–	X		–	–	–	–	–	–	–	–	X
RX56	–	–	–	–	–	–	On request		–	–	–	–	–	–	–	–	X

1) Assemble before the mounting bracket (CFXL clamps are always assembled before the mounting bracket in a separate C-profile 92.52.XXX)
2) Can be found on the product page of each e-chain® series
3) Half e-tube only
4) For KMA mounting bracket only
5) Combined with other components, CFX standard clamps become multi-clamps or clamps for pneumatic hoses
= Recommended strain relief for selected e-chain®

e-chain® Series/system	CFX clamp, (incl. multi-clamp and clamp for pneumatic hoses)	CFXL clamp, (incl. multi-clamp and clamp for pneumatic hoses)	CFU Honeycomb strain relief	CFN Nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB Strain relief connector system
E4.1L																	
E4.31L/R4.31L	X 1)	X 1)	–	–	31.Z	CFV.31.N15	–		–	–	2010.ZH	–	–	–	–	–	–
E4.38L/R4.38L	X	X 1)	–	X	38.Z	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	C622.100.ZS	–	–	–	X
E4.48L/R4.48L	X	X 1)	X 1)	X	48.Z / 48.ZS	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	C622.100.ZS	–	–	–	X
E4.64L	X	X 1)	–	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E4Q																	
E4Q.34/E4Q.34	X	X 1)	–	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	–
E4Q.44/E4Q.44	X	X 1)	X 1)	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E4Q.58/E4Q.58	X	X 1)	–	X	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E4Q.82/E4Q.82	X	X 1)	–	X	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E4.1																	
E4.21	X 1)	X 1)	–	–	T2103.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E4.28/R4.28	X 1)	X 1)	–	–	28.Z / 28.ZT	–	–		2XXX.ZB	–	–	–	2050.Z	–	–	–	–
E4.32/H4.32/R4.32	X	X 1)	–	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E4.42/H4.42/R4.42	X	X 1)	X 1)	X	–	CFV.42.C	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E4.56/H4.56/R4.56	X	X 1)	–	X	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
E4.80/H4.80/R4.80	X	X 1)	–	X	–	CFV.80.C	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
E4.112	X 1)	X 1)	–	–	–	–	–		–	3XXX.ZB	–	–	45XX.ZS	–	–	–	X
E4.162	X 1)	X 1)	–	–	–	–	–		–	3XXX.ZB	–	–	–	–	–	–	X
800	X 1)	X 1)	–	–	–	–	–		–	3XXX.ZB	–	–	–	–	–	–	–
840	X 1)	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–
E4/light																	
14040/14140/18840	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
14240/14340	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
14550/14650/19050	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
15050/15150/19850	X	X 1)	–	–	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
15250/15350	X	X 1)	–	–	–	–	On request		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
1640/R1608	X	X 1)	–	–	–	–	On request		–	3XXX.ZB	–	–	45XX.ZS	–	–	–	–
YE																	
YE.42	X 1)	X 1)	–	–	–	–	–		–	–	–	–	3850.ZS	–	–	–	–
YE.56	X 1)	X 1)	–	–	–	–	–		–	–	–	–	45XX.ZS	–	–	–	–

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4) For KMA mounting bracket only
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= Recommended strain relief for selected e-chain®

e-chain® Series/system	CFX clamp, (incl. multi-clamp and clamp for pneumatic hoses)	CFXL clamp, (incl. multi-clamp and clamp for pneumatic hoses)	CFU Honeycomb strain relief	CFN Nugget	Strain relief separator	CFV Stepped strain relief	Strain relief can be clipped onto mounting brackets/KMA		Tiewrap plate Series 2000	Tiewrap plate Series 3000	Tiewrap plate with clip-on connection to C-profile	Tiewrap plate for fixed crossbars	Tiewrap plate for openable crossbars	Tiewrap plate for triflex® R and triflex® 2)	Tiewrap plate for E2 e-tubes	Tiewrap plate/ teeth directly moulded on the mounting bracket	CFB Strain relief connector system
T3																	
T3.29	–	–	–	–	E6.29.02.Z	–	20XX.ZB		–	–	–	–	–	–	–	–	–
E3																	
E3.10	–	–	–	–	–	–	E3.00.020		–	–	–	–	–	–	–	–	–
E3.15	–	–	–	–	–	–	E3.00.020		–	–	–	–	–	–	–	–	–
E3.22	–	–	–	–	–	–	E3.00.020		–	–	–	–	–	–	–	–	–
E6.1																	
E61.29/EF61.29	X 1)	X 1)	–	–	E6.29.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E61.35	X 1)	X 1)	–	–	E6.35.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	X
E61.40	X	X 1)	–	X	E6.40.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	X
E61.52	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	2050.Z	–	–	–	X
E61.62	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E61.80	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
E6																	
E6.29	X 1)	X 1)	–	–	E6.29.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
R6.29	X 1)	X 1)	–	–	–	–	–		2XXX.ZB	–	–	–	–	–	–	–	–
E6.35	X 1)	X 1)	–	–	E6.35.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	X
E6.40	X	X 1)	–	X	E6.40.02.Z	–	–		2XXX.ZB	–	–	–	–	–	–	–	X
E6.52	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	2050.Z	–	–	–	X
R6.52	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	–	–	–	–	X
E6.62	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	3850.ZS	–	–	–	X
E6.80L	X	X 1)	–	X	–	–	–		–	3XXX.ZB	30XX.ZC	–	45XX.ZS	–	–	–	X
e-skin®																	
SK28	–	–	–	–	–	–	2000.077.ZB		–	–	–	–	–	–	–	–	–
SK40	–	–	–	–	–	–	2000.077.ZB		–	–	–	–	–	–	–	–	–
triflex® R																	
TRC	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	X	–	–	–
TRC	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	X	–	–	–
TRCF	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	X	–	–	–
TRL	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	X	–	–	–
TRLF	X 1)	X 1)	–	–	–	–	–		–	–	–	–	–	X	–	–	–
triflex®																	
easy triflex®	X 1)	–	–	–	–	–	–		–	–	–	–	–	E33X.XX.2	–	–	
triflex®	X 1)	–	–	–	–	–	–		–	–	–	–	–	33X.XX	–	–	

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2) Can be found on the product page of each e-chain® series
3) Half e-tube only
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5) Combined with other components, CFX standard clamps become multi-clamps or clamps for pneumatic hoses
= Recommended strain relief for selected e-chain®

chainfix strain relief | Parameters | Overview

igus® chainfix strain relief system								
	CFX - clamps	**Tiewrap plates - bolted, clip-on**	**CFU.V - with innovative honeycomb design**		**CFN nuggets**	**Strain relief separators**	**CFV - strain relief element**	**CFB - strain relief connector system**
Recommended standard for the following e-chains®:	**E4, E6, for all KMA* with C-profile** *Plastic metal mounting bracket	**easy chain®, E2/000, E2 e-tubes, E4, E6**	**E2.48, 3400/3500, 3450/3480, R68, R167/168, R2.48, E4.48L/R4.48L, E4.42/H4.42/R4.42, E61.52, E6.52/R6.52**		**For all KMA* with C-profile or top-hat (DIN) rail 35** *Plastic metal mounting bracket	**E2/000, E2 e-tubes, E6, T3**	**E2/000, R2.1, E4.1L, E4.1**	**E4, E6, for all KMA* with C-profile** *Plastic metal mounting bracket
When to use this strain relief?	Standard for high accelerations, loads and demanding applications. For many cables, large cable diameters and stacked cables. For long travels, cranes, offshore, machine tools, high speeds and hydraulic cables.	Standard for many applications at medium and low accelerations. For unsupported, gliding, hanging and standing applications in general machinery and machine tools. For cables side by side. Also available as an individual part, for example in control cabinets.	CFU.V strain relief with innovative honeycomb design for fast assembly and high holding force Openable on both sides. Easy positioning of cables for a variable filling. Cables with different diameters can be strain-relieved easily in one layer. Different attachment options in front of the e-chain®, strain relief can be screwed in from above and below.		Cost-effective, fast strain relief for simpler application with small spaces and medium accelerations. Also available as single parts for fixed applications, e.g. in cabinets, etc.	Combination of separator and strain relief, ideal for small spaces. For applications with medium accelerations. For small cable diameters. Ideal for e-tubes. For machine tools and automation.	For both e-chains® and e-tubes. Stepped strain relief for use outside of the energy chain cross section - even with different connectors. A subsequent installation is possible. Easy installation in a top-hat (DIN) rail 15 (TS92.31) or in the C-profile of the KMA mounting brackets.	Space-saving, modular strain relief with many cables in confined spaces. For applications with high accelerations and loads e.g. machine tools.
When do I not take them:	No limitation	For large cable diameters	For high loads and large cable diameters		For high loads	For high loads	For high loads	No limitation
Properties								
Assembly time index	+	+	+ + +		+ –	+	+ +	+ –
Definable tensile strength	+ +	–	+		–	–	–	+
Price index	●●◐	●○○	●●●		●○○	●○○	●○○	●●●
Modularity	yes	yes	yes		yes	yes	yes	yes (special fabrication)
Dynamics	high to very high	high	medium		high	high	medium	high to very high

Price index
- ◐○○ low price category
- ●◐○ medium price category
- ●●● highest price category

+++ = best suitability
\+ = good suitability
+ – = suitable
– = limited suitability

Standard C-profile Part No. 92.42.XXX

- For all igus® CFX clamps and KMA mounting brackets with C-profile option
- Standard material galvanised steel
- Also available as stainless steel* version
- Length tolerances for C-profiles of ±1mm possible!

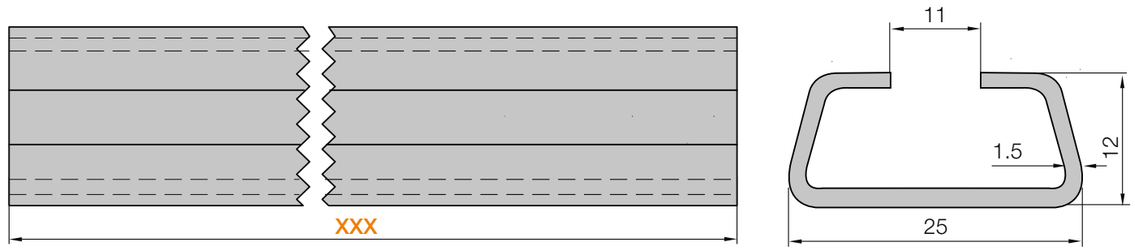
Complete Part No. with the required length **XXX** in mm. Example: **92.42.075** for 75mm.

*For stainless steel material AISI 304, please add index **.E**. Example: **92.42.075.E**



Standard C-profile Part No. 92.42. | For standard applications

Can be integrated into KMA with C-profile option!



Optional | For heavy-duty applications

C-profile Part No. 92.52.XXX

- For all igus® **CFXL** clamps
- With increased holding force - even for harsh applications
- Standard material galvanised steel
- Also available as stainless steel* version
- Length tolerances for C-profiles of ±5mm possible!

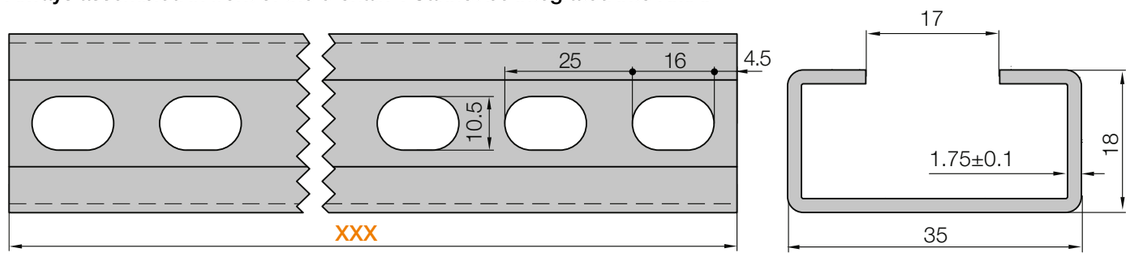
Complete Part No. with the required length **XXX** in mm. Example: **92.52.075** for 75mm.

*For stainless steel material AISI 304, please add index **.E**. Example: **92.52.075.E**



C-profile Part No. 92.52 | For increased holding force for harsh applications

Always assembled in front of the e-chain®. Cannot be integrated into KMA!

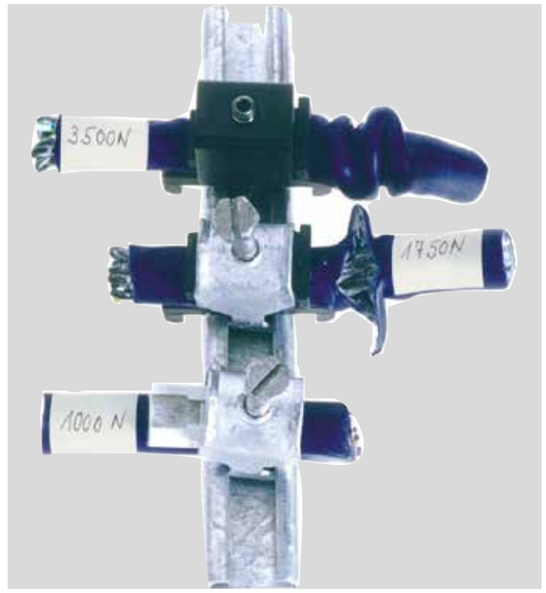


igus® chainfix strain relief devices are tested in the in-house igus® laboratory under real-world conditions, taking many parameters into account

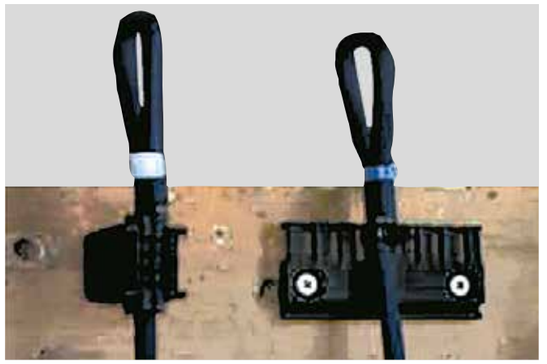
Whether under the influence of fluids like water or oil, or at different ambient temperatures. The interaction of chainfix systems with different jacket materials of cables and hoses plays a big role in the in-house test program.



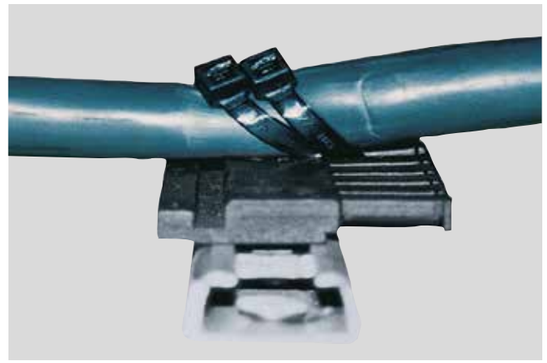
igus® tensile strength test CFX clamps with stacker saddle. **Conclusion**: the tensile strength of igus® chainfix clamps is three times higher when compared with conventional strain relief



Comparison test of three different strain relief systems. **Conclusion**: the tensile strength of igus® chainfix clamps is three times higher when compared with conventional strain relief



Tensile strength tests with chainflex® cables



Tensile strength tests of igus® chainfix tiewrap plate with cable tiewraps



Can be integrated into igus® KMA mounting bracket

For up to three cables stacked above one another

Reduced installation height, space-saving

High strength for dynamic applications

chainfix clamps - fitted quickly and securely

- **New:** CFX clamps with special stacker saddles for strain relief of pneumatic hoses without crushing them or reducing the cross-section
- Sizes for cable diameters 42-46mm and 46-50mm are also available
- chainfix clamps with up to 15mm reduced installation height compared to conventional clamps due to optimised housing height
- Tested: up to 3.5 times higher force absorption compared to conventional clamps
- Easy to read the part number and mark indicating the correct installation direction
- Space and time-saving assembly
- Delivery options for complete systems with cables and pre-assembled strain relief
- Improved base for easier fit into the C-profile
- Simple assembly with threaded pins screwed with an Allen wrench
- Durability for dynamic applications with improved stacker elements
- Integrated ribs on the stacker elements prevent the cables from coming loose from the strain relief
- Optional: CFXL clamps for increased holding force for heavy-duty applications (**note:** CFXL clamps are always assembled in front of the e-chain®. They cannot be integrated into KMA mounting brackets with C-profile option!)

Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Product range and materials

- Steel clamp: clamp and screw black painted steel
- Stainless steel clamp: clamp and screw: blank (material 1.4301/AISI 304)
- Stacker elements: bottom saddle and stacker saddle (igumid G material)
- Steel C-profile available (material galvanised steel)
- Stainless steel C-profile available (material 1.4301/AISI 304)

Installation height

If the e-chain® glides on itself for long travels, the screw heads of the strain relief at the fixed end of the e-chain® must have a distance of at least 10mm from the top of the e-chain®. As a result, many strain relief elements described here may not be suitable for use at the fixed end on long gliding e-chains®. For unsupported e-chains®, strain relief elements can always be safely used.

Please note

- The cables should ideally be fixed at both ends of the e-chain®.
  As a minimum they need to be attached at the moving end of the e-chain®!
- When using chainfix clamps on C-profiles in the mounting bracket for the series E4.38L/R4.38L, E4Q.34/H4Q.34, E4.32/H4.32/R4.32 (also for the classic series 280/290/R770, 2828/2928/R7728), a shortened bottom saddle must be used. For shortened bottom saddles, please add the part number with index **K**. Example: **Part No. CFX12.1K**



CFX - reduced installation height due to threaded pin and optimal housing height



Save both time and space during installation with igus® chainfix clamps

For the following igus® series

E2.1
- E2.38
- E2.48

E2/000
- 2600/2700/2650/2680
- 3400/3500/3450/3480

E4.1L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4Q
- E4Q.34/H4Q.34
- E4Q.44/H4Q.44
- E4Q.58/H4Q.58
- E4Q.82/H4Q.82

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80
- E4.112/R4.112
- E4.162

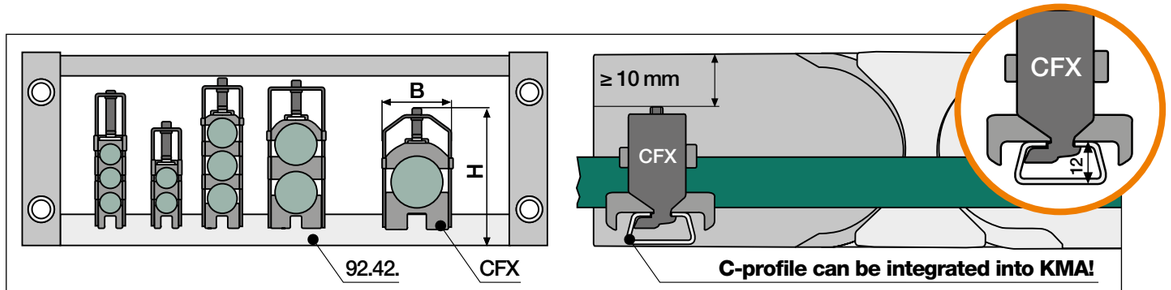
E4/light
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350

E6.1
- E61.40
- E61.52
- E61.62
- E61.80

E6
- E6.40
- E6.52/R6.52
- E6.62
- E6.80L
- E6.80

chainfix strain relief | CFX clamps

Now even for larger hose and cable diameters



The **H** dimension in the tables is based on the maximum cable diameter.
Cables with smaller diameters may result in lower overall clamp housing heights. Tightening torque for CFX clamps 1.5Nm.

CFX | Standard clamps with standard base

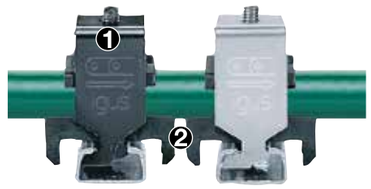
(suitable for C-profile **92.42.XXX** - can be integrated into KMA with C-profile option)

Single clamp housing, incl. bottom saddle

Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.1	**CFX12.1.E**	06 - 12	16	54	**CFX30.1**	**CFX30.1.E**	26 - 30	34	71
CFX14.1	**CFX14.1.E**	12 - 14	18	50	**CFX34.1**	**CFX34.1.E**	30 - 34	38	75
CFX16.1	**CFX16.1.E**	14 - 16	20	52	**CFX38.1**	**CFX38.1.E**	34 - 38	42	79
CFX18.1	**CFX18.1.E**	16 - 18	22	54	**CFX42.1**	**CFX42.1.E**	38 - 42	46	83
CFX20.1	**CFX20.1.E**	18 - 20	24	56	**CFX46.1**	**CFX46.1.E**	42 - 46	51	115
CFX22.1	**CFX22.1.E**	20 - 22	26	58	**CFX50.1**	**CFX50.1.E**	46 - 50	55	121
CFX26.1	**CFX26.1.E**	22 - 26	30	67					

*Stainless steel material: 1.4301/AISI 304

❶ Clamp
❷ Bottom saddle
❸ Stacker saddle



Double clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.2	**CFX12.2.E**	06 - 12	16	72	**CFX22.2**	**CFX22.2.E**	20 - 22	26	90
CFX14.2	**CFX14.2.E**	12 - 14	18	74	**CFX26.2**	**CFX26.2.E**	22 - 26	30	109
CFX16.2	**CFX16.2.E**	14 - 16	20	78	**CFX30.2**	**CFX30.2.E**	26 - 30	34	117
CFX18.2	**CFX18.2.E**	16 - 18	22	82	**CFX34.2**	**CFX34.2.E**	30 - 34	38	125
CFX20.2	**CFX20.2.E**	18 - 20	24	86					

*Stainless steel material: 1.4301/AISI 304



Triple clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFX12.3	**CFX12.3.E**	06 - 12	16	100	**CFX18.3**	**CFX18.3.E**	16 - 18	22	108
CFX14.3	**CFX14.3.E**	12 - 14	18	96	**CFX20.3**	**CFX20.3.E**	18 - 20	24	114
CFX16.3	**CFX16.3.E**	14 - 16	20	102	**CFX22.3**	**CFX22.3.E**	20 - 22	26	120

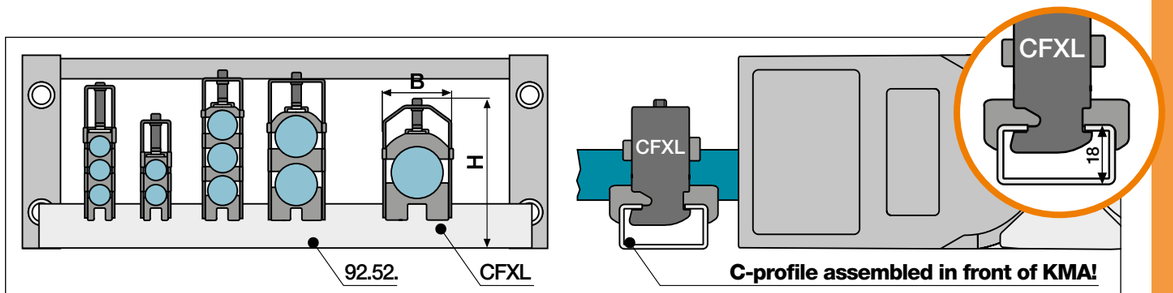
*Stainless steel material: 1.4301/AISI 304



Suitable C-profile for CFX clamps ▶ Page 1406

chainfix strain relief | Optional CFXL clamps

Now even for larger hose and cable diameters



The **H** dimension in the tables is based on the maximum cable diameter.
Cables with smaller diameters may result in lower overall clamp housing heights. Tightening torque for CFX clamps 1.5Nm.

CFXL | Clamps with wide base for increased holding force

(suitable for C-profile **92.52.XXX**, always assembled before the energy chain. Cannot be integrated into KMA!)

Single clamp housing, incl. bottom saddle

Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.1	**CFXL12.1.E**	06 - 12	16	60	**CFXL30.1**	**CFXL30.1.E**	26 - 30	34	77
CFXL14.1	**CFXL14.1.E**	12 - 14	18	56	**CFXL34.1**	**CFXL34.1.E**	30 - 34	38	81
CFXL16.1	**CFXL16.1.E**	14 - 16	20	58	**CFXL38.1**	**CFXL38.1.E**	34 - 38	42	85
CFXL18.1	**CFXL18.1.E**	16 - 18	22	60	**CFXL42.1**	**CFXL42.1.E**	38 - 42	46	89
CFXL20.1	**CFXL20.1.E**	18 - 20	24	62	**CFX46.1**	**CFX46.1.E**	42 - 46	51	122
CFXL22.1	**CFXL22.1.E**	20 - 22	26	64	**CFX50.1**	**CFX50.1.E**	46 - 50	55	125
CFXL26.1	**CFXL26.1.E**	22 - 26	30	73					

*Stainless steel material: 1.4301/AISI 304

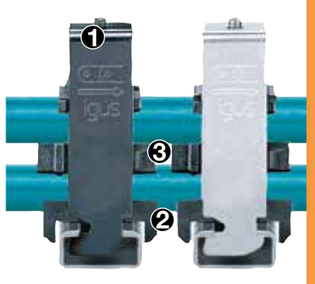
❶ Clamp
❷ Bottom saddle
❸ Stacker saddle



Double clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.2	**CFXL12.2.E**	06 - 12	16	78	**CFXL22.2**	**CFXL22.2.E**	20 - 22	26	86
CFXL14.2	**CFXL14.2.E**	12 - 14	18	80	**CFXL26.2**	**CFXL26.2.E**	22 - 26	30	115
CFXL16.2	**CFXL16.2.E**	14 - 16	20	84	**CFXL30.2**	**CFXL30.2.E**	26 - 30	34	123
CFXL18.2	**CFXL18.2.E**	16 - 18	22	86	**CFXL34.2**	**CFXL34.2.E**	30 - 34	38	131
CFXL20.2	**CFXL20.2.E**	18 - 20	24	92					

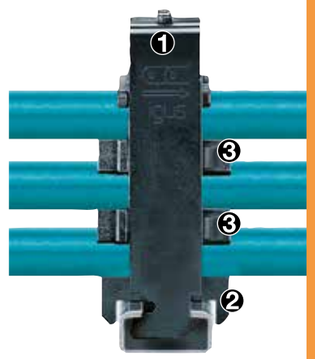
*Stainless steel material: 1.4301/AISI 304



Triple clamp housing, incl. bottom and stacker saddles

Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]	Part No. Steel	Part No. stainless steel*	≤ Ø [mm]	B+2 [mm]	H [mm]
CFXL12.3	–	06 - 12	16	106	**CFXL18.3**	–	16 - 18	22	114
CFXL14.3	–	12 - 14	18	102	**CFXL20.3**	–	18 - 20	24	120
CFXL16.3	–	14 - 16	20	108	**CFXL22.3**	–	20 - 22	26	126

*Stainless steel material: 1.4301/AISI 304

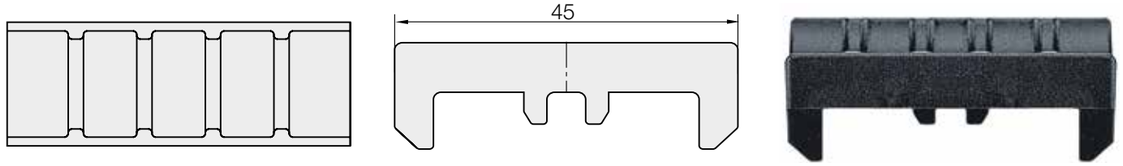


Suitable C-profile for CFXL clamps ▶ Page 1406

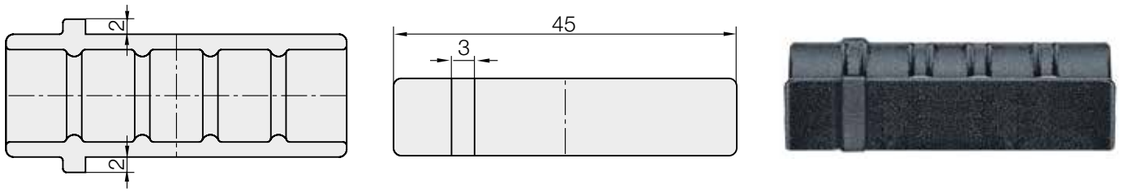
Druckelemente für CFX-und CFXL Bügelschellen
- Built-in ribs for secure grip on cables
- Optimised stacker saddles, captive by ❶ locking spring and with ❷ spring groove for a simplified and precise installation
- Herkömmliche Doppelwannen
- Long contact surface improves the clamp's stability
- Significantly more secure due to high rigidity



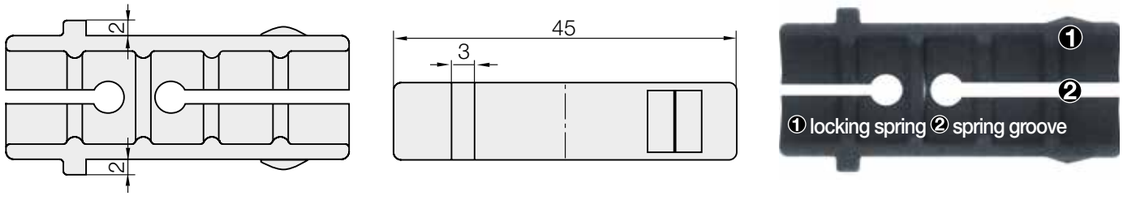
CGXX | Bottom saddles to fit into the clamp housing as an individual part



CDXX | Conventional stacker saddles for all for all double and triple clamps as an individual part



CD.XX.C | Optimised stacker saddles for all double and triple clamps as an individual part



CGXX Bottom saddle	CDXX Stacker saddle	CDXX.C Stacker saddle	For clamp	≤ Ø [mm]
CG12	CD12	CD.12.C	CFX/CFXL12.X	06 - 12
CG14	CD14	CD.14.C	CFX/CFXL14.X	12 - 14
CG16	CD16	CD.16.C	CFX/CFXL16.X	14 - 16
CG18	CD18	CD.18.C	CFX/CFXL18.X	16 - 18
CG20	CD20	CD.20.C	CFX/CFXL20.X	18 - 20
CG22	CD22	CD.22.C	CFX/CFXL22.X	20 - 22

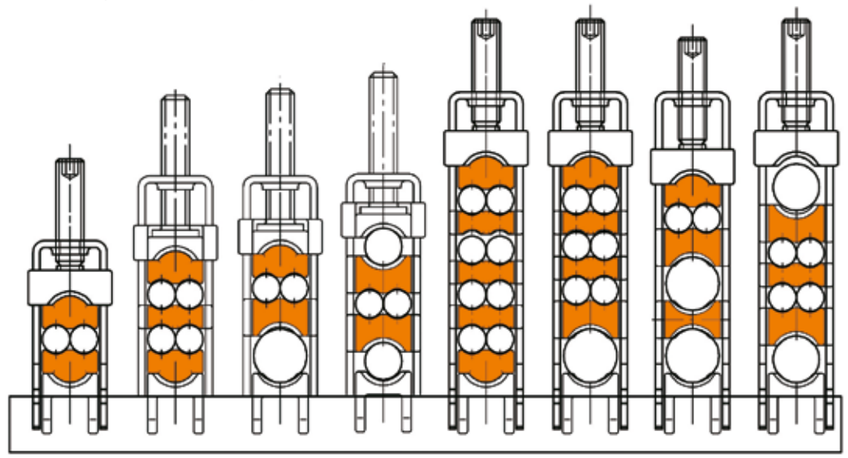
CGXX Bottom saddle	CDXX Stacker saddle	CDXX.C Stacker saddle	For clamp	≤ Ø [mm]
CG26	CD26	CD.26.C	CFX/CFXL26.X	22 - 26
CG30	CD30	CD.30.C	CFX/CFXL30.X	26 - 30
CG34	CD34	CD.34.C	CFX/CFXL34.X	30 - 34
CG38	–	–	CFX/CFXL38.X	34 - 38
CG42	–	–	CFX/CFXL42.X	38 - 42

Please note: When using chainfix clamps on C-profiles in the mounting bracket for the series E4.38L/R4.38L, E4Q.34/H4Q.34, E4.32/H4.32/R4.32, a shortened bottom saddle must be used. For shortened bottom saddles, please add the part number with index **K**. Example: **Part No. CFX12.1K**

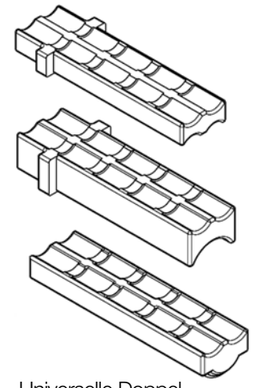
CFX12 - multi-clamps
- More modular options of the proven igus® chainfix strain relief system
- Universal strain relief for various assembly options
- Save both time and space during installation
- Cost-effective, compact and modular
- For cable diameters from 6mm to 12mm



CFX12 | Multi-clamps, universal strain relief



CFX12.1.Z1 CFXL12.1.Z1 | CFX12.2.Z1 CFXL12.2.Z1 | CFX12.2.Z2 CFXL12.2.Z2 | CFX12.2.Z3 CFXL12.2.Z3 | CFX12.3.Z1 CFXL12.3.Z1 | CFX12.3.Z2 CFXL12.3.Z2 | CFX12.3.Z3 CFXL12.3.Z3 | CFX12.3.Z4 CFXL12.3.Z4



Universelle Doppel- und Gegenwannen

Stacker saddles - single parts | Maximum cable or hose diameter

Part No. Type	CDA.4/4-8	CD4/4	CD.4/4-8	CD12	≤ Ø [mm]
CFX12.1.Z1 / CFXL12.1.Z1	2 x	–	–	–	6
CFX12.2.Z1 / CFXL12.2.Z1	2 x	1 x	–	–	6
CFX12.2.Z2 / CFXL12.2.Z2	1 x	–	1 x	–	6 + 12
CFX12.2.Z3 / CFXL12.2.Z3	–	–	2 x	–	6 + 8
CFX12.3.Z1 / CFXL12.3.Z1	2 x	3 x	–	–	6
CFX12.3.Z2 / CFXL12.3.Z2	1 x	2 x	1 x	–	6 + 12
CFX12.3.Z3 / CFXL12.3.Z3	1 x	–	1 x	1 x	6 + 12
CFX12.3.Z4 / CFXL12.3.Z4	–	1 x	2 x	–	6 + 10

Standard material: galvanised steel. For the stainless steel version (material 1.4301/AISI 304), please add the part number with index **.E**. Example: **Part No. CFX.12.3.Z1.E**

For the following igus® series ▶ Page1409

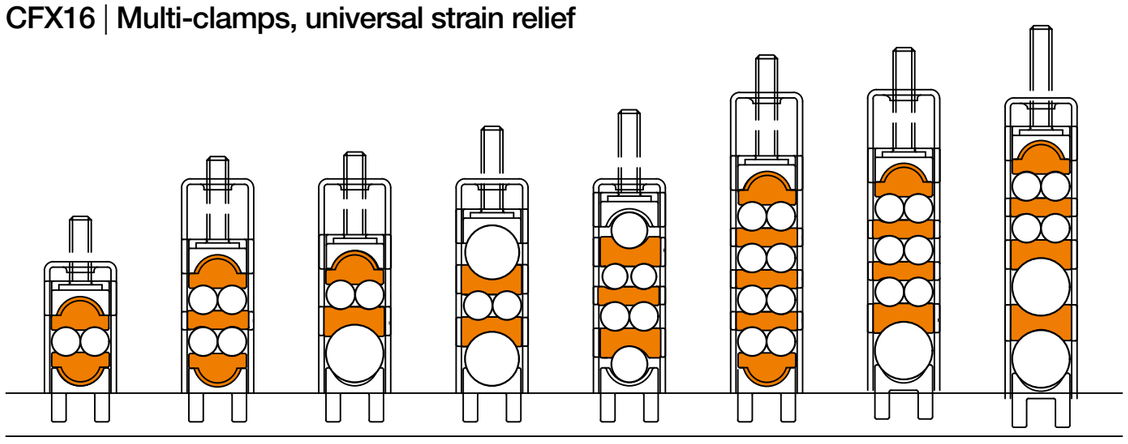
Suitable C-profile for CFX and CFXL clamps ▶ Page 1406

CFX16 - Mehrfach-Bügelschellen

- Very versatile, infinite assembly options
- **CFX** standard clamps with standard base
- Optional **CFXL** clamps with wide base for increased holding force available
- Save both time and space during installation
- Cost-effective, compact and modular
- For cable diameters from 8mm to 16mm



CFX16 | Multi-clamps, universal strain relief



CFX16.1.Z1 CFXL16.1.Z1	CFX16.2.Z1 CFXL16.2.Z1	CFX16.2.Z2 CFXL16.2.Z2	CFX16.2.Z3 CFXL16.2.Z3	CFX16.2.Z4 CFXL16.2.Z4	CFX16.3.Z1 CFXL16.3.Z1	CFX16.3.Z2 CFXL16.3.Z2	CFX16.3.Z3 CFXL16.3.Z3

Stacker saddles - single parts | Maximum cable or hose diameter

Part No. Type	CDA.8/8-16	CD.8/8	CD.8/8-16	CD.16	≤ Ø [mm]
CFX16.1.Z1 / CFXL16.1.Z1	2 x	–	–	–	8
CFX16.2.Z1 / CFXL16.2.Z1	2 x	1 x	–	–	8
CFX16.2.Z2 / CFXL16.2.Z2	1 x	–	1 x	–	8 + 16
CFX16.2.Z3 / CFXL16.2.Z3	–	–	2 x	–	8 + 15
CFX16.2.Z4 / CFXL16.2.Z4	–	1 x	2 x	–	8 + 10
CFX16.3.Z1 / CFXL16.3.Z1	2 x	3 x	–	–	8
CFX16.3.Z2 / CFXL16.3.Z2	1 x	3 x	1 x	–	8 + 16
CFX16.3.Z3 / CFXL16.3.Z3	1 x	1 x	2 x	1 x	8 + 16

Standard material: galvanised steel. For the stainless steel version (material 1.4301/AISI 304), please add the part number with index .E. Example: **Part No. CFX.16.3.Z1.E**

For the following igus® series ▶ Page1409

Suitable C-profile for CFX and CFXL clamps ▶ Page 1406

Pneumatic stacker saddles for CFX and CFXL clamps

- Strain relief of pneumatic hoses without crushing or damage
- For pneumatic hose diameters of 4mm, 6mm, 8mm, 10mm, and 12mm
- High holding force due to "all-round" grip
- The cross section of pneumatic hoses is fully retained
- No crushing of the hoses, and therefore no loss of hose length
- Coloured identification markings, inserts are blue
- Good price-performance ratio
- Fast assembly without checking the tightening torque



CFX12.X.P | CFX16.X.P | Pneumatic stacker saddles



Secure guidance of pneumatic hoses without crushing them or reducing the cross-section

With a new igus® clamp for pneumatic hoses, the cross section of pneumatic hoses is fully retained. At the same time, the hoses are held securely. Due to high sides, the inserts generate a high holding force for pneumatic hoses in the e-chain® and prevent them from being crushed.



Easy to install by tightening on block

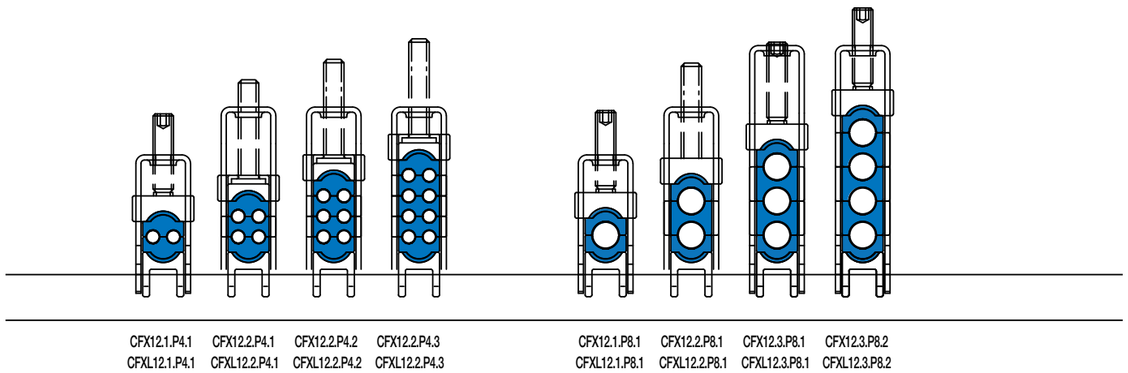
Available from stock. Ready to ship in 24 - 48hrs.*

*Average time before the ordered goods are dispatched.

Pneumatic stacker saddle for CFX12
- For hose diameters 4 and 8mm
- With these options, the proven igus® chainfix strain relief system can be specifically used for pneumatic hoses
- Pneumatic hoses are held securely
- No hose crushing
- Infinite assembly options
- Cost-effective, compact and modular



CFX12 | With pneumatic stacker saddles | Cable diameter 4mm / 8mm



CFX12.1.P4.1 CFXL12.1.P4.1 | CFX12.2.P4.1 CFXL12.2.P4.1 | CFX12.2.P4.2 CFXL12.2.P4.2 | CFX12.2.P4.3 CFXL12.2.P4.3 | CFX12.1.P8.1 CFXL12.1.P8.1 | CFX12.2.P8.1 CFXL12.2.P8.1 | CFX12.3.P8.1 CFXL12.3.P8.1 | CFX12.3.P8.2 CFXL12.3.P8.2

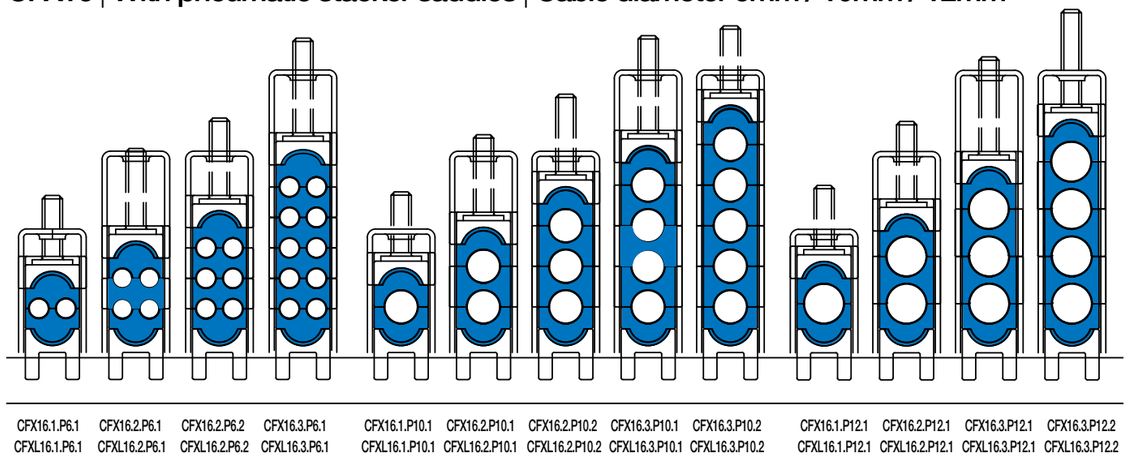
Part No. Type	CDA.4 / 4-12.P	CD.4 / 4.P	CDA.8 / 12.P	CD.8 / 8.P	ø [mm]
CFX12.1.P4.1 / CFXL12.1.P4.1	2 x	–	–	–	04
CFX12.2.P4.1 / CFXL12.2.P4.1	2 x	1 x	–	–	04
CFX12.2.P4.2 / CFXL12.2.P4.2	2 x	2 x	–	–	04
CFX12.2.P4.3 / CFXL12.2.P4.3	2 x	3 x	–	–	04
CFX12.1.P8.1 / CFXL12.1.P8.1	–	–	2 x	–	08
CFX12.2.P8.1 / CFXL12.2.P8.1	–	–	2 x	1 x	08
CFX12.3.P8.1 / CFXL12.3.P8.1	–	–	2 x	2 x	08
CFX12.3.P8.2 / CFXL12.3.P8.2	–	–	2 x	3 x	08

Suitable C-profile for
CFX and CFXL clamps ▶ Page 1406

Pneumatic hose saddle for CFX16
- For hose diameters 6, 10 and 12mm
- With these options, the proven igus® chainfix strain relief system can be specifically used for pneumatic hoses
- Pneumatic hoses are held securely
- No hose crushing
- Infinite assembly options
- Cost-effective, compact and modular



CFX16 | With pneumatic stacker saddles | Cable diameter 6mm / 10mm / 12mm



CFX16.1.P6.1 CFXL16.1.P6.1 | CFX16.2.P6.1 CFXL16.2.P6.1 | CFX16.2.P6.2 CFXL16.2.P6.2 | CFX16.3.P6.1 CFXL16.3.P6.1 | CFX16.1.P10.1 CFXL16.1.P10.1 | CFX16.2.P10.1 CFXL16.2.P10.1 | CFX16.2.P10.2 CFXL16.2.P10.2 | CFX16.3.P10.1 CFXL16.3.P10.1 | CFX16.3.P10.2 CFXL16.3.P10.2 | CFX16.1.P12.1 CFXL16.1.P12.1 | CFX16.2.P12.1 CFXL16.2.P12.1 | CFX16.3.P12.1 CFXL16.3.P12.1 | CFX16.3.P12.2 CFXL16.3.P12.2

Part No. Type	CDA.6 / 6-16.P	CD.6 / 6.P	CDA.10-16.P	CD.10 / 10.P	CDA.12-16.P	CD.12 / 12.P	ø [mm]
CFX16.1.P6.1 / CFXL16.1.P6.1	2 x	–	–	–	–	–	06
CFX16.2.P6.1 / CFXL16.2.P6.1	2 x	1 x	–	–	–	–	06
CFX16.2.P6.2 / CFXL16.2.P6.2	2 x	2 x	–	–	–	–	06
CFX16.3.P6.1 / CFXL16.3.P6.1	2 x	4 x	–	–	–	–	06
CFX16.1.P10.1 / CFXL16.1.P10.1	–	–	2 x	–	–	–	10
CFX16.2.P10.1 / CFXL16.2.P10.1	–	–	2 x	1 x	–	–	10
CFX16.2.P10.2 / CFXL16.2.P10.2	–	–	2 x	2 x	–	–	10
CFX16.3.P10.1 / CFXL16.3.P10.1	–	–	2 x	3 x	–	–	10
CFX16.3.P10.2 / CFXL16.3.P10.2	–	–	2 x	4 x	–	–	10
CFX16.1.P12.1 / CFXL16.1.P12.1	–	–	–	–	2 x	–	12
CFX16.2.P12.1 / CFXL16.2.P12.1	–	–	–	–	2 x	1 x	12
CFX16.3.P12.1 / CFXL16.3.P12.1	–	–	–	–	2 x	2 x	12
CFX16.3.P12.2 / CFXL16.3.P12.2	–	–	–	–	2 x	3 x	12

Suitable C-profile for
CFX and CFXL clamps ▶ Page 1406

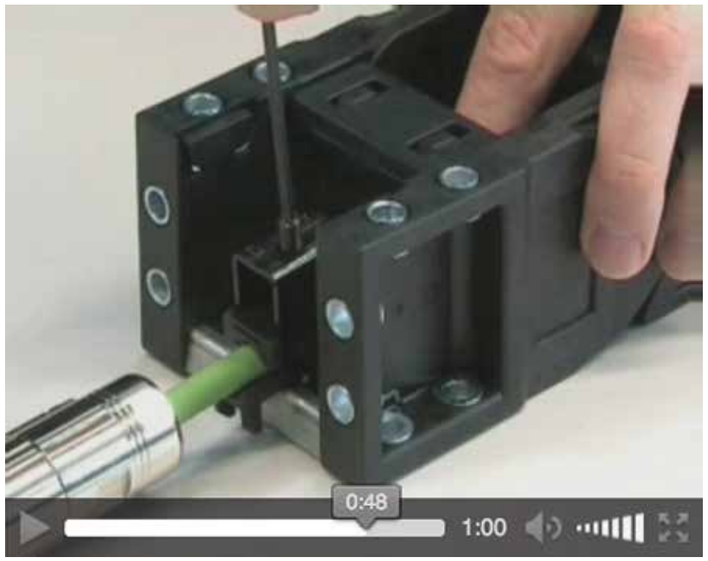
Tests | Standard clamps vs. clamps for pneumatic hoses

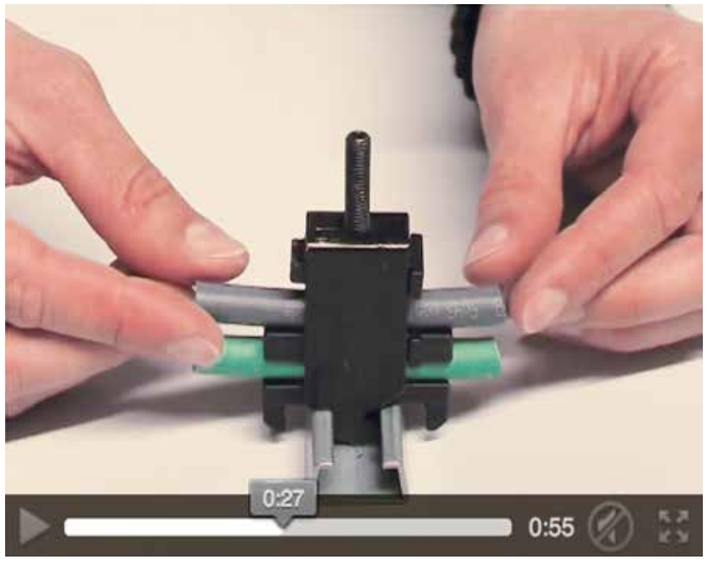
Tests performed at our customer Schwäbische Werkzeugmaschinen



Advantages of igus® clamps for pneumatic hoses	Disadvantages of commercially available standard clamps
● No crushing of the hoses after strain relief thanks to CFX clamps with pneumatic saddles	● Hose crushing after strain relief with standard clamps
● Tightening force is limited by the saddle	● Variable adjustment of the tightening force required

CFX clamps | Assembly videos online



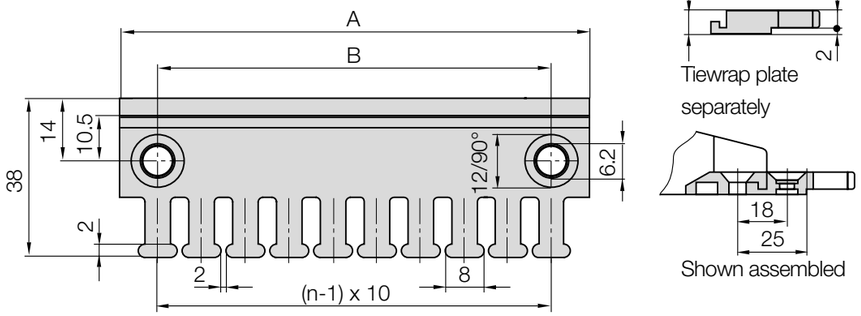


You can find assembly videos for chainfix clamps online at ▶ www.igus.eu/chainfix

Option 1A: chainfix tiewrap plate series 2000
Available as an individual component
- Screwed on KMA with C-profile (KMA = plastic metal mounting bracket)
- Can be clipped onto some mounting brackets
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Series 2000 | Tiewrap plate as an individual part



Part No. Tiewrap plates	Number of teeth [n]	A [mm]	B [mm]	C [mm]	Centre bore – = no / + = yes
2020.ZB*	3	30	15	–	–
2030.ZB	4	40	20	–	–
2040.ZB	5	50	30	–	–
2050.ZB	6	58	40	–	–
2070.ZB	8	80	60	–	–
2090.ZB (= 2030.ZB + 2040.ZB)**	9	90	–	–	–
2100.ZB	10	100	80	–	–
2125.ZB (= 2050.ZB + 2050.ZB)**	12	120	–	–	–

***Not** suitable for E4.21.030. series **Strain relief consisting of 2 tiewrap plates

Cable tiewraps as individual parts

Part No. cable tiewraps 100-piece bag	Width x length [mm]	≤ Ø [mm]	Tensile strength [N]
CFB.001	4.8 x 150	36	222 N

For the following igus® series

easy chain®
- E200/Z200

E2.1
- E2.26

E2/000
- 1400/1500/1450/1480
- 2400/2500/2450/2480
- 255

E2 R100
- R117/R118

E2 R
- R48

E4.1
- E4.21

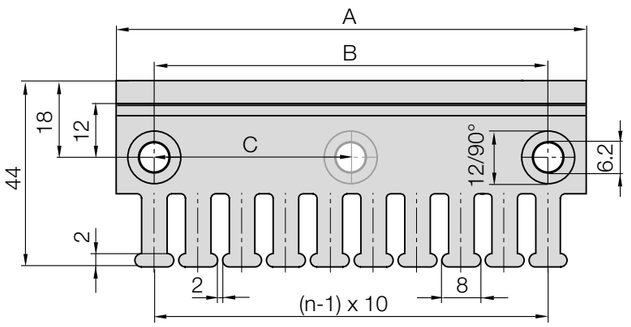
E6.1
- E61.29/EF61.29
- E61.35
- E61.40

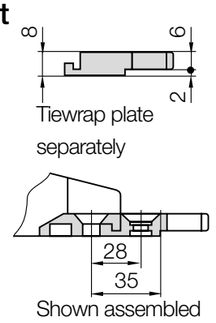
E6
- E6.29/R6.29
- E6.35
- E6.40

Option 1B: chainfix tiewrap plate Series 3000
Available as an individual component
- Screwed on KMA with C-profile (KMA = plastic metal mounting bracket)
- Can be clipped onto some mounting brackets
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Series 3000 | Tiewrap plate as an individual part





Part No. Tiewrap plates	Number of teeth [n]	A [mm]	B [mm]	C [mm]	Centre bore – = no / + = yes
3050.ZB	5	50	30	–	–
3075.ZB	7	75	55	–	–
3100.ZB	10	100	80	–	–
3115.ZB	11	115	95	–	–
3125.ZB	12	125	105	–	–
3150.ZB	15	150	130	–	–
3175.ZB	17	175	155	–	–
3200.ZB	20	200	180	90	+
3225.ZB	22	225	205	102.5	+
3250.ZB	25	250	230	115	+

Cable tiewraps as individual parts

Part No. cable tiewraps 100-piece bag	Width x length [mm]	≤ Ø [mm]	Tensile strength [N]
CFB.001	4.8 x 150	36	222 N

For the following igus® series

easy chain®
- E26/Z26
- E300/Z300

E2.1
- E2.38
- E2.48

E2/000
- 2600/2700/2650/2680
- 3400/3500/3450/3480

E4.1L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4Q
- E4Q.34/H4Q.34
- E4Q.44/H4Q.44
- E4Q.58/H4Q.58
- E4Q.82/H4Q.82

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80
- E4.112/R4.112
- E4.162
- 800
- 840

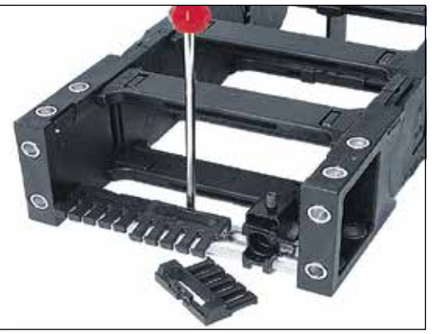
E4/light
- 14040/14140/18840
- 14240/14340
- 14550/14650/19050
- 15050/15150/19850
- 15250/15350
- 1640/1608

E6.1
- E61.52
- E61.62
- E61.80

E6
- E6.52/R6.52
- E6.62
- E6.80L
- E6.80

Option 1: chainfix tiewrap plates with clip-on connection to C-profile

- Can be clipped into the KMA C-profile
- Easy to assemble without any screws
- Easy to remove with screwdriver but secure when in use
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Option 1 | Tiewrap plate for C-profile

Part No. Tiewrap plates	Width [mm]	Number of teeth	For series
3050.ZC	50	5	**For all mounting brackets with C-profile**
3075.ZC	75	7	**For all mounting brackets with C-profile**

For the following igus® series

C-profile

- For all mounting brackets with C-profile

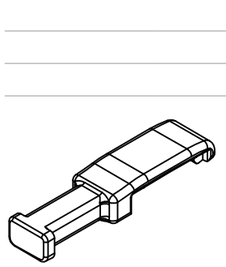
Option 2: chainfix strain relief tooth for top-hat (DIN) 15 (TS92.31)

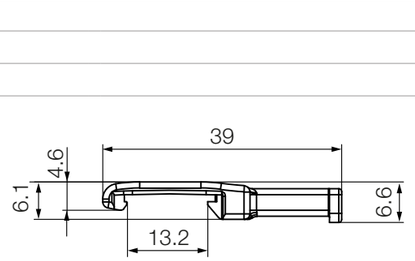
- Can be clipped into top-hat (DIN) rails
- Width per strain relief tooth: 10mm
- Four ZE teeth on each side are required for a 40mm inner width
- Easy to retrofit
- Simple installation into top-hat (DIN) rail 15 (TS92.31)

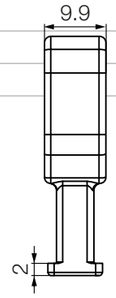


Option 2 | Strain relief tooth for top-hat (DIN) rail 15 (TS92.31)

Part No. Tiewrap plates	Width [mm]	Number of teeth	For series
2010.ZH	10	1	**E4.31L / R4.31L**







For the following igus® series

Top-hat (DIN) rail

- For all top-hat (DIN) rails 15 TS92.31

Option 2: integrated strain relief for R series E2 e-tubes

- Strain relief integrates completely into the e-tube
- Easy to assemble without any screws
- Can be used as an individual part in switchgear cabinets or in the assembly of machines



Option 3 | Tiewrap plate for R series E2 e-tubes

Part No. Tiewrap plates	Width [mm]	Number of teeth	For series	
3050.Z*	50	5	**R68**	
3075.Z	75	7	**R68**	
5850.Z	46	4	**R58**	
5835.Z	32	3	**R58**	for series 58.050. ***Bi*** 50 only

*Only possible from e-chain® width 100mm and larger

For the following igus® series

E2 R

- R58
- R68

Option 4: chainfix tiewrap plates for fixed crossbars
- Can be clipped on fixed crossbars
- For use with many harnessed cables
- If the KMA is too small for C-profile
- Easy to assemble without any screws



Option 3 | Tiewrap plate for fixed crossbars

Part No. Tiewrap plates	Width [mm]	Number of teeth	For series
2050.Z	60	6	E/Z200, 2400/2500, 2600/2700
3050.Z	50	5	3400/3500
3075.Z	74	7	3400/3500
C.2.522.050.ZS	48	4	E2.38, E2.48
C.2.522.065.ZS	63	6	E2.38, E2.48
C.2.522.075.ZS	73	7	E2.38, E2.48

For the following igus® series

easy chain®
- E200/Z200

E2.1
- E2.38
- E2.48

E2/000
- 2400/2500
- 2600/2700
- 3400/3500

Option 5: chainfix tiewrap plates for openable crossbars
- Can be clipped on openable crossbars
- For use with many harnessed cables
- If the KMA is too small for C-profile
- Easy to assemble without any screws



Option 4 | Tiewrap plate for openable crossbars

Part No. Tiewrap plates	Width [mm]	Number of teeth	For series
2050.Z	60	6	2600/2700/2650, E4.28, E61.52, E6.52
3035.ZS	35	3	3400/3500/3450
3050.ZS	50	5	3400/3500/3450
3075.ZS	75	7	3400/3500/3450
3850.ZS	48	5	E4.32/H4.32, E4.42/H4.42, 14240/14340, 15250/15350, E61.62, E6.62
3875.ZS	74	7	E4.32/H4.32, E4.42/H4.42, 14240/14340, 15250/15350, E61.62, E6.62
4550.ZS	74	5	E4.56/H4.56, E4.80/H4.80, E4.112, 14040/14140,14550/14650, 15050/15150, E61.80, E6.80L, E6.80, 1640
4575.ZS	80	7	E4.56/H4.56, E4.80/H4.80, E4.112, 14040/14140, 14550/14650, 15050/15150, E61.80, E6.80L, E6.80, 1640
C622.100.ZS		8	E4.38L, E4.48L

For the following igus® series

E2/000
- 2600/2700/2650
- 3400/3500/3450

E4.1L
- E4.38L
- E4.48L

E4.1
- E4.28
- E4.32/H4.32
- E4.42/H4.42
- E4.56/H4.56
- E4.80/H4.80
- E4.112

E4/light
- 14040/14140
- 14240/14340
- 14550/14650
- 15050/15150
- 15250/15350
- 1640

E6
- E6.52
- E6.62
- E6.80L
- E6.80

E6.1
- E61.52
- E61.62
- E61.80

chainfix strain relief elements | Honeycomb strain relief

CFU.V Honeycomb strain relief | Product range

CFU.V strain relief with innovative honeycomb design for fast assembly and high holding force

- 80% faster filling (compared to CFX strain relief), openable from both sides for assembly in seconds
- Flexible honeycomb design for increased holding force
- Tribologically optimised honeycomb design for the best hold
- Different cables with diameters from 2mm to 17mm can be strain-relieved without problems
- Cables can be replaced easily
- Easy positioning of cables
- CFU.V cannot be attached to mounting bracket, but has to be installed beforehand on-site



CFU.V | Honeycomb strain relief | Product range

Part No. CFU.V	*Bi* [mm]	Height [mm]	For series
CFU.V.64.40.100.25.01	100	62	See table on the right
CFU.V.64.40.125.25.01	125	62	See table on the right
CFU.V.64.40.150.25.01	150	62	See table on the right
CFU.V.64.40.175.25.01	175	62	See table on the right
CFU.V.64.40.200.25.01	200	62	See table on the right
CFU.V.64.40.225.25.01	225	62	See table on the right
CFU.V.64.40.250.25.01	250	62	See table on the right
CFU.V.64.40.275.25.01	275	62	See table on the right
CFU.V.64.40.300.25.01	300	62	See table on the right
CFU.V.64.40.325.25.01	325	62	See table on the right
CFU.V.64.40.350.25.01	350	62	See table on the right
CFU.V.64.40.375.25.01	375	62	See table on the right
CFU.V.64.40.400.25.01	400	62	See table on the right

For the following igus® series

E2.1
E2.48

E2/000
- 3400/3500/3450/3480

R2.1
- R2.48

E2R100
- 167/68

E2R
- R68

E4.1L
- E4.48L/R4.48L

E4.1
- E4.42/H4.42/R4.42

E6.1
- E61.52*

E6
- E6.52/R6.52*

* Available upon request.
Delivery time upon request.

reddot design award
winner 2018



Installation note: 80% faster (compared to CFX strain relief) for different cable types in different chambers, fully flexible, with strong holding force and easy assembly

chainfix strain relief elements | Honeycomb strain relief

CFU.V Honeycomb strain relief | Assembly instruction | Design

1



Remove the top side with a hexagon wrench, openable on both sides ...

2



... fill the CFU.V honeycomb with different cables (with diameters from 2mm to 17mm)

3



Close the top ...

4



... and screw the top side down with a hexagon wrench

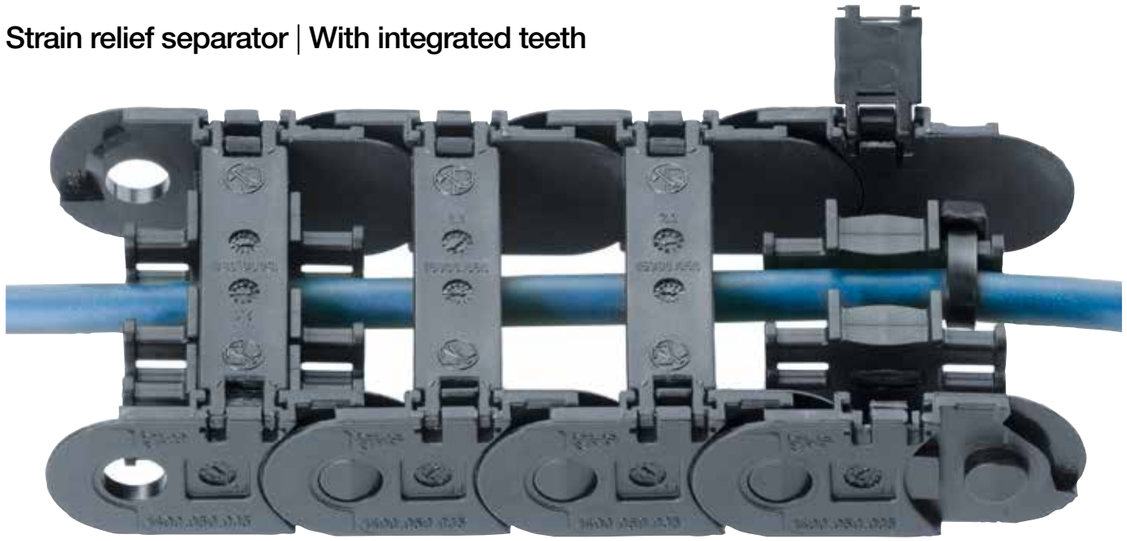
An assembly video is available online at
▶ www.igus.eu/info/cfu-honeycomb-strain-relief

Strain relief separators - separator with integrated strain relief teeth

- To be fitted at the first and last e-chain® link
- For restricted space conditions
- Easy to assemble without any screws
- The number **"*n*"** depends on the selection of the cables (diameter, type) and the available space

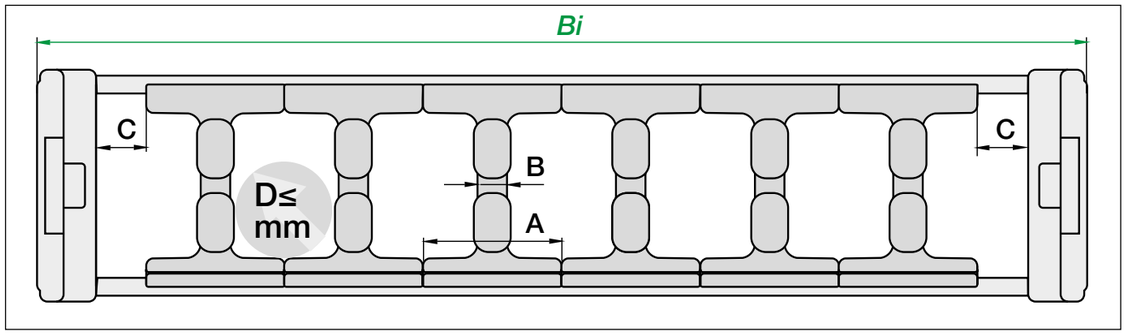


Strain relief separator | With integrated teeth



Strain relief separators are assembled either at the first or last e-chain® link. Alternatively they can be fitted within the e-chain® as an intermediate strain relief

Product range | Installation dimensions



Strain relief separator | Product range | Installation dimensions

Part No.	For series	Number of teeth	A [mm]	B [mm]	C [mm]	D [mm]
26.Z*	**E2.26**	6	12	3	–	7
21.1.Z	**1400/1500**	4	10	4	–	6
2020.Z	**2400/2500**	2	10	4	–	6
2020.ZR	**2450/2480**	4	10	4	–	6
262.Z	**2600/2700**	3	10	4	–	6
301.Z	**3400/3500**	3	18	4	–	14
34501.Z	**3450/3480**	6	14	4	–	10
1585.01.Z	**R157/R158**	6	22	4	–	18
1685.01.Z	**R167/R168**	8	22	4	–	18
481.ZR	**R48**	4	10	3.5	10	6.5
R2.26.Z	**R2.26/R2.26i**	4	10	3	–	6
R2.40.Z	**R2.40/R2i.40**	8	12	3	–	7
31.Z	**E4.31L/R4.31L**	4	9	4	6	6
38.Z	**E4.38L/R4.38L**	4	14	4.5	8	15
48.Z	**E4.48L/R4.48L**	4	14	4.5	8	20
48.ZS	**E4.48L/R4.48L**	4	14	4.5	8	20
T2103.Z	**E4.21**	2	8	4	1	4
28.Z	**E4.28**	4	10	4	–	6
28.ZT	**R4.28**	4	10	4	15	6
E6.29.02.Z	**T3.29**	2	8	4	1	4
E6.29.02.Z	**E6.29/E61.29**	2	8	4	1	4
R6.29.02.Z	**R6.29**	2	10	4	10	4
E6.35.02.Z	**E6.35/E61.35**	3	8	4	1	4
E6.40.02.Z	**E6.40/E61.40**	3	13	4	–	8

*For KMA mounting bracket only

For the following igus® series

E2.1
- E2.26

E2/000
- 1400/1500
- 2400/2500
- 2450/2480
- 2600/2700
- 3400/3500
- 3450/3480

E2 R100
- R157/R158
- R167/R168

E2 R
- R48

R2.1
- R2.26/R2i.26
- R2i.40/R2i.40

E4.1L
- E4.31L/R4.31L
- E4.38L/R4.38L
- E4.48L/R4.48L

E4.1
- E4.21
- E4.28/R4.28

T3
- T3.29

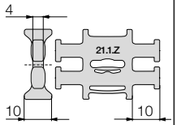
E6.1
- E61.29/EF61.29
- E61.35
- E61.40

E6
- E6.29
- R6.29
- E6.35
- E6.40

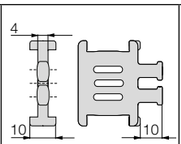
chainfix strain relief | Clip-on solutions

Strain relief separator | Overview

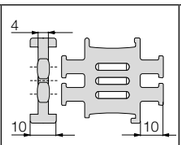
For series E2/000

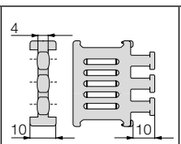
1400/1500 e-chains®
unassembled 21.1.Z
assembled 21.1.Z.1

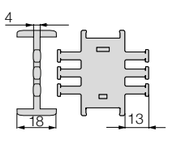
2400/2500 e-chains®
unassembled 2020.Z
assembled 2120.Z

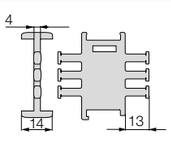
2450/2480 e-tubes
unassembled 2020.ZR
assembled 2120.ZR

2600/2700 e-chains®
unassembled 262.Z
assembled 263.Z

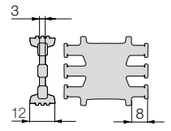
3400/3500 e-chains®
unassembled 301.Z
assembled 311.Z

3450/3480 e-tubes
unassembled 34501.Z
assembled 34511.Z

For series E2.1 e-chains®

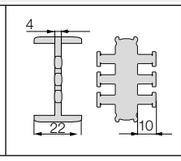




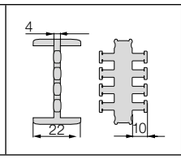
E2.26·E2i.26* e-chains®
unassembled 26.Z
assembled 26.Z.1

*For KMA mounting bracket only

For series R100 E2 e-tubes

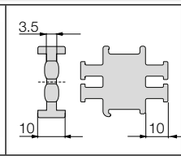



R157/R158 e-tubes
unassembled 1585.01.Z
assembled 1586.01.Z

R167/R168 e-tubes
unassembled 1685.01.Z
assembled 1686.01.Z

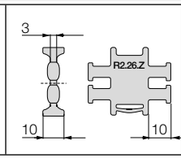
For series R E2 e-tubes

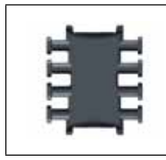
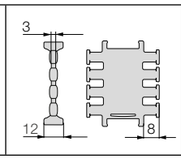
R48 e-tubes
unassembled 481.ZR
assembled 482.ZR

For series R2.1 e-tubes





R2.26·R2i.26 e-tubes
unassembled R2.26.Z
assembled R2.26.Z.1

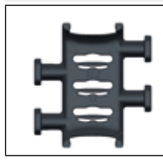
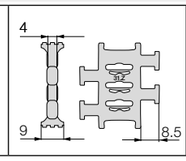
R2.40·R2i.40 e-tubes
unassembled R2.40.Z
assembled R2.40.Z.1

chainfix

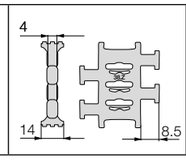
chainfix strain relief | Clip-on solutions

Strain relief separator | Overview

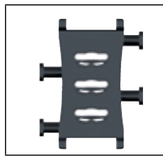
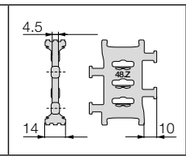
For series E4.1L

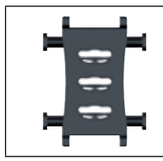
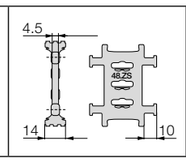
E4.31L/R4.31L e-chains®/e-tubes
unassembled 31.Z
assembled 31.Z.1

E4.38L/R4.38L e-chains®/e-tubes
unassembled 38.Z
assembled 38.Z.1

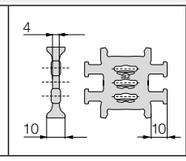



E4.48L/R4.48L e-chains®/e-tubes
unassembled 48.Z
assembled 48.Z.1

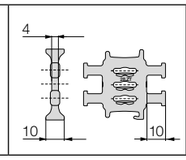



E4.48L/R4.48L e-chains®/e-tubes
unassembled 48.ZS
assembled 48.ZS.1

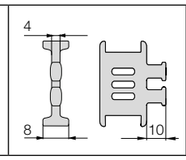
To series E4.1

E4.28 e-chains®
unassembled 28.Z
assembled 28.Z.1

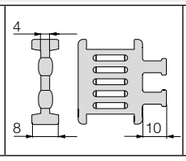



R4.28 e-tubes
unassembled 28.ZT
assembled 28.ZT.1

E4.21 e-chains®
unassembled T2103.Z
assembled T2113.Z

For series T3

T3.29 e-chains®
unassembled E6.29.02.Z
assembled E6.29.12.Z

For series E6.1/E6/R6

E6.29/E61.29 e-chains®
unassembled E6.29.02.Z
assembled E6.29.12.Z

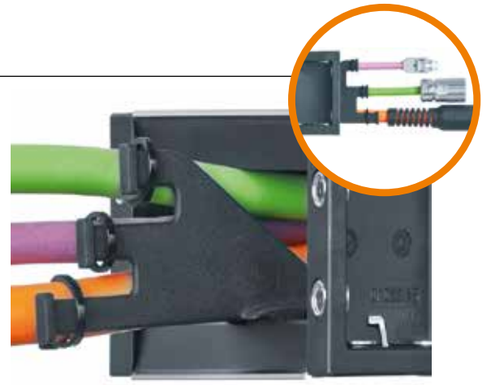
R6.29 e-tubes
unassembled R6.29.02.Z
assembled R6.29.12.Z

E6.35/E61.35 e-chains®
unassembled E6.35.02.Z
assembled E6.35.12.Z

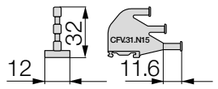
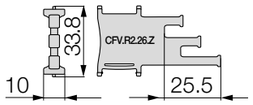
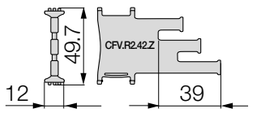
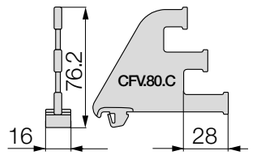
E6.40/E61.40 e-chains®
unassembled E6.40.02.Z
assembled E6.40.12.Z

CFV strain relief element - for a stepped strain relief for use outside of the e-chain® section

- Easy strain relief for cables, even in fully enclosed tubes and with different connectors
- For e-chains® and e-tubes
- Subsequent installation into KMA mounting bracket or top-hat (DIN) rail 15 (TS92.31) possible



CFV | Strain relief elements with tiewrap teeth

Part No.	For series	Inner height *hi* [mm]	For use in
CFV.31.N15	**E4.31L/R4.31L**	31	Top-hat (DIN) rail 15 (TS92.31)
			
CFV.R2.26.Z	**R2.26**	26	KMA*
			
CFV.R2.40.Z	**R2.40**	40	KMA*
			
CFV.42.C	**2600/2700/2650/2680**	35	KMA*
	3400/3500/3450/3480	45	KMA*
	E4Q.34/H4Q.34	32	KMA*
	E4.32/H4.32/R4.32	32	KMA*
	E4Q.44/H4Q.44	42	KMA*
	E4.42/H4.42/R4.42	42	KMA*
	E4.38L/R4.38L	38	KMA*
	E4.48L/R4.48L	48	KMA*
CFV.80.C	**R2.75**	75	KMA*
	**E4.64L**	64	KMA*
	E4Q.58/H4Q.58	56	KMA*
	E4.56/H4.56/R4.56	56	KMA*
	E4Q.82/H4Q.82	80	KMA*
	E4.80/H4.80/R4.80	80	KMA*

*KMA = polymer metal mounting bracket

For the following igus® series

E2/000
- 2600/2700
- 2650/2680
- 3400/3500
- 3450/3480

R2.1
- R2.26
- R2.40

E4.1L
- E4.31L/R4.31L
- E4.38L/R4.38L
- E4.48L/R4.48L
- E4.64L

E4Q
- E4Q.34/H4Q.34
- E4Q.44/H4Q.44
- E4Q.58/H4Q.58
- E4Q.82/H4Q.82

E4.1
- E4.32/H4.32/R4.32
- E4.42/H4.42/R4.42
- E4.56/H4.56/R4.56
- E4.80/H4.80/R4.80



CFV stepped strain relief elements easily clipped on from above

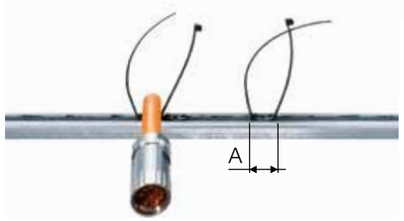
Option 1: CFN nuggets for C-profile
Option 2: CFN nuggets for top-hat (DIN) rail 35

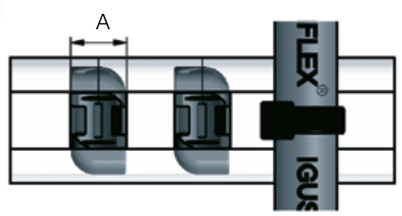
- Universal cable fixation in C-profile or clip onto a standard top-hat (DIN) rail 35
- Simple strain relief with cable tiewraps
- Very little space required
- Easy to assemble without any screws and tools
- Adjustable to every e-chain® filling



Option 1 | CFN nuggets for C-profile

Part No. Nugget	For C-profile	≤ Ø [mm]	A [mm]
CFN.20	**92.42 ... /92.42 ... E**	20	10.8
CFN.30.52	**92.52 ... /92.52 ... E**	30	16.4



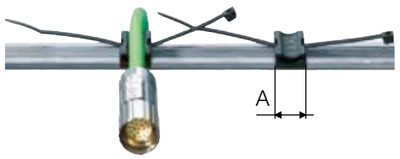


For the following igus® series

C-profile
- For all mounting brackets with C-profile

Option 2 | CFN nuggets for top-hat (DIN) rail 35

Part No. Nugget	For standard rails	≤ Ø [mm]	A [mm]
CFN.20.N35	**Top-hat (DIN) rail 35**	20	20





For the following igus® series

Top-hat (DIN) rail
- Top-hat (DIN) rail 35

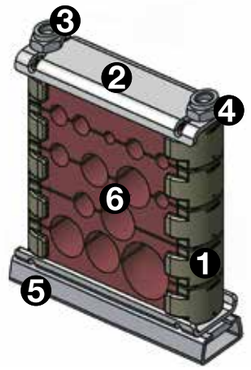
CFB strain relief connector system - polymer, modular, can be mounted into the C-profile

- Customised strain relief solutions can be offered
- 2 options available, cost-effective and strong
- Fast assembly with bolted connection
- Can be mounted in the mounting bracket or in front of the e-chain®
- Customised production from 1 piece



CFB strain relief connector system | Series 907.881

Please consult igus® when designing with this product



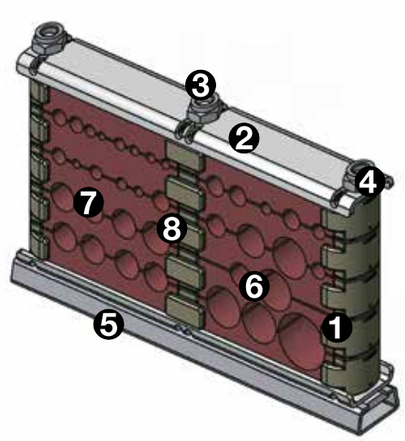
Parts list Description	Part No.	Quantity
❶ Outer fixing block	**CFB20.1**	N x 2
❷ Clamping bar	**907.881.1.XXX**	2
❸ Threaded bolt with plate	**907.825.2.LLL**	2
❹ Hexagon nut M8	**MAT 0040012**	2
❺ C-profile (part of KMA)	**92.42.XXX**	1
❻ Strain relief block	Customer-specific	1

Order key
907.881.XXX.N

N = Number of layers of fixing blocks
XXX = ***Bi*** - 3mm (mounting bracket)
Part number with version 881

CFB strain relief connector system | Series 907.825

Please consult igus® when designing with this product

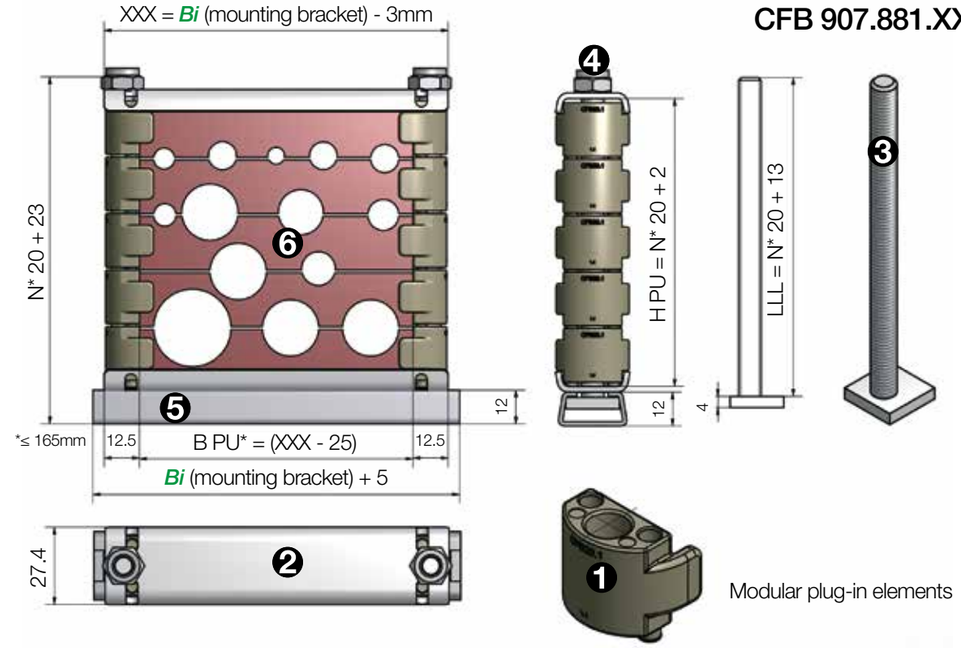


Parts list Description	Part No.	Quantity
❶ Outer fixing block	**CFB20.1**	N x 2
❷ Clamping bar	**907.825.1.XXX**	2
❸ Threaded bolt with plate	**907.825.2.LLL**	3
❹ Hexagon nut M8	**MAT 0040012**	3
❺ C-profile (part of KMA)	**92.42.XXX**	1
❻ Strain relief block	Customer-specific	1
❼ Strain relief block	Customer-specific	1
❽ Inner fixing block	**CFB20.2**	N

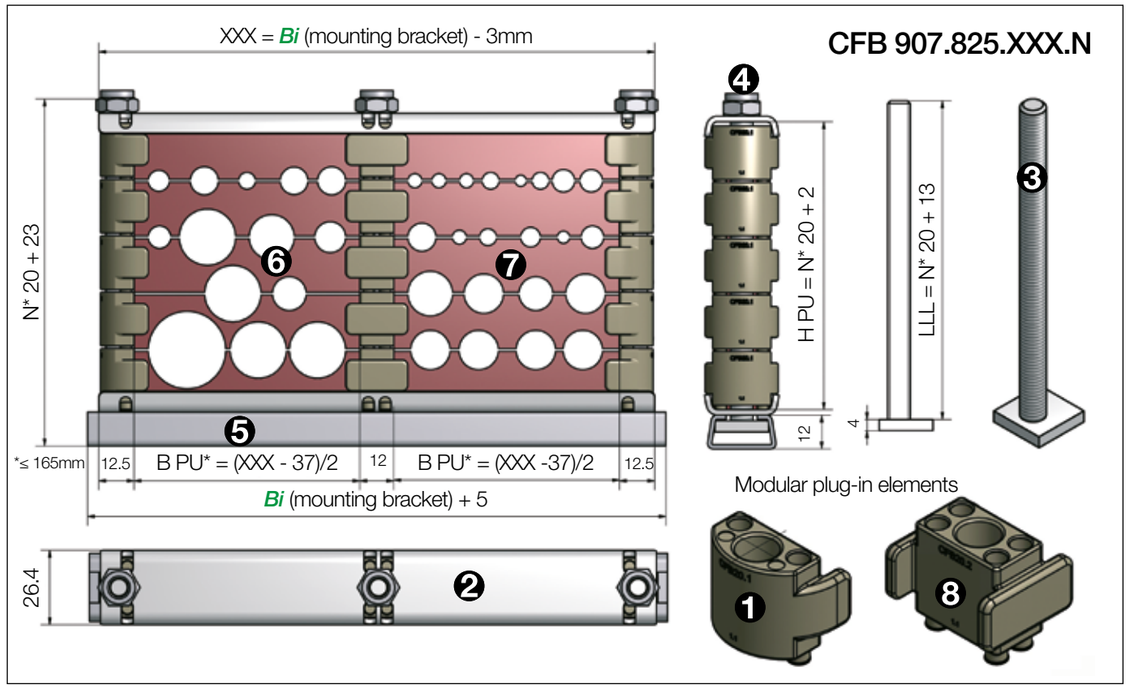
Order key
907.825.XXX.N

N = Number of layers of fixing blocks
XXX = ***Bi*** - 3mm (mounting bracket)
Part number with version 825

CFB 907.881.XXX.N



CFB 907.825.XXX.N

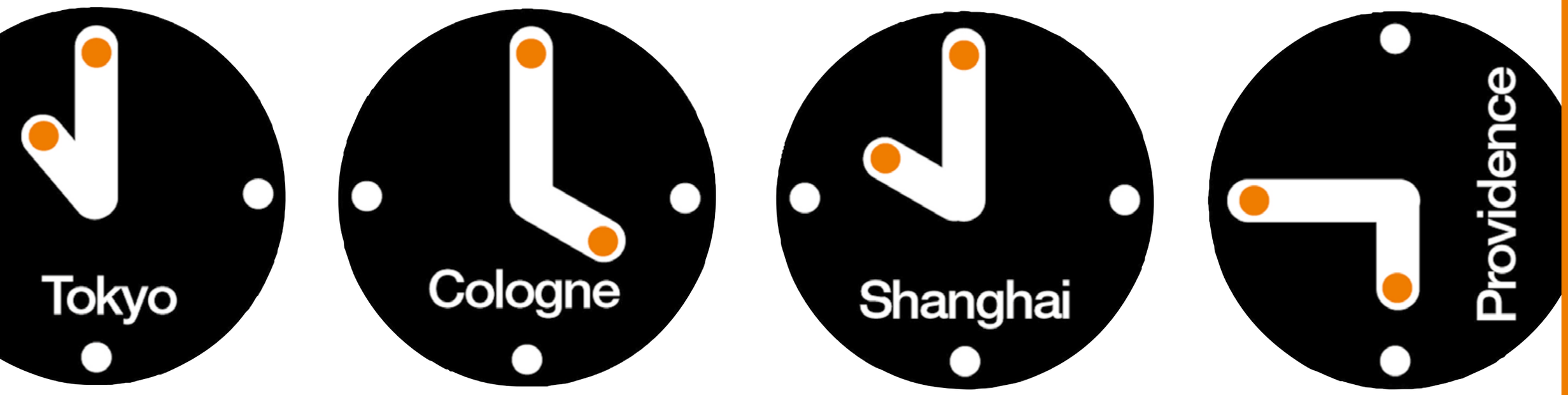


Delivery time upon request due to customer-specific fabrication!

chainfix strain relief elements | My sketches

chainfix

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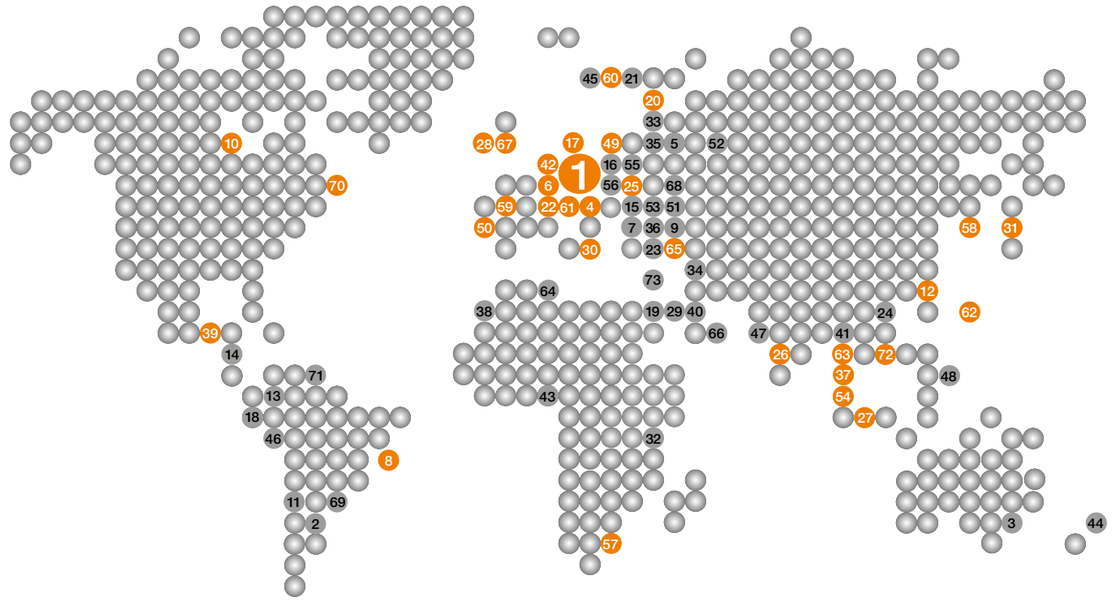
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