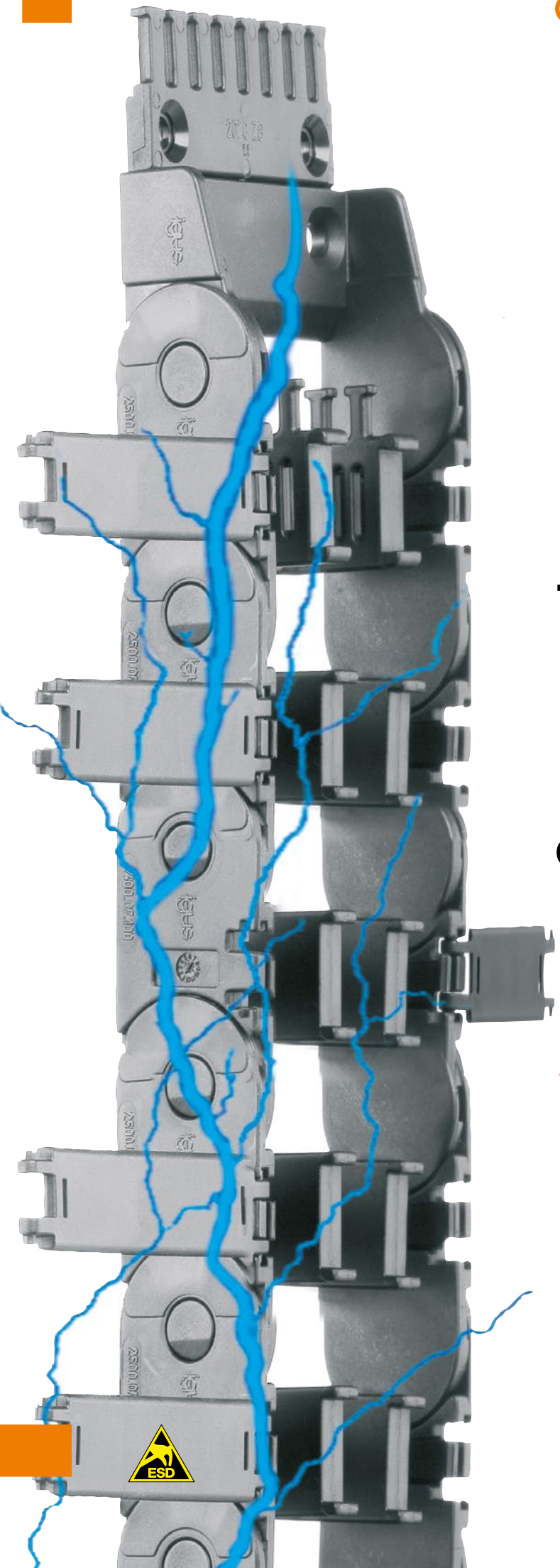


e-chains®

igus.eu ... ESD e-chains® ... product range ... 24hrs, from stock ... 08/2020



igus®

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.

Note: According to a statement by TÜV Rheinland 557/ Ex 125071309.00 / 17, igus® e-chains® do not fall under the scope of application of Directive 2014/34/EU.

Your benefits with ESD products

- ESD material tested for over 10 million cycles for the toughest requirements
- Openable e-chains® with mounting brackets and interior separation in ESD and ATEX design, available from stock
- Standardised product using igumid ESD
- Proven over years of use in explosion-proof areas
- Short delivery times
- 7:00am to 8:00pm - ordering and delivery service



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

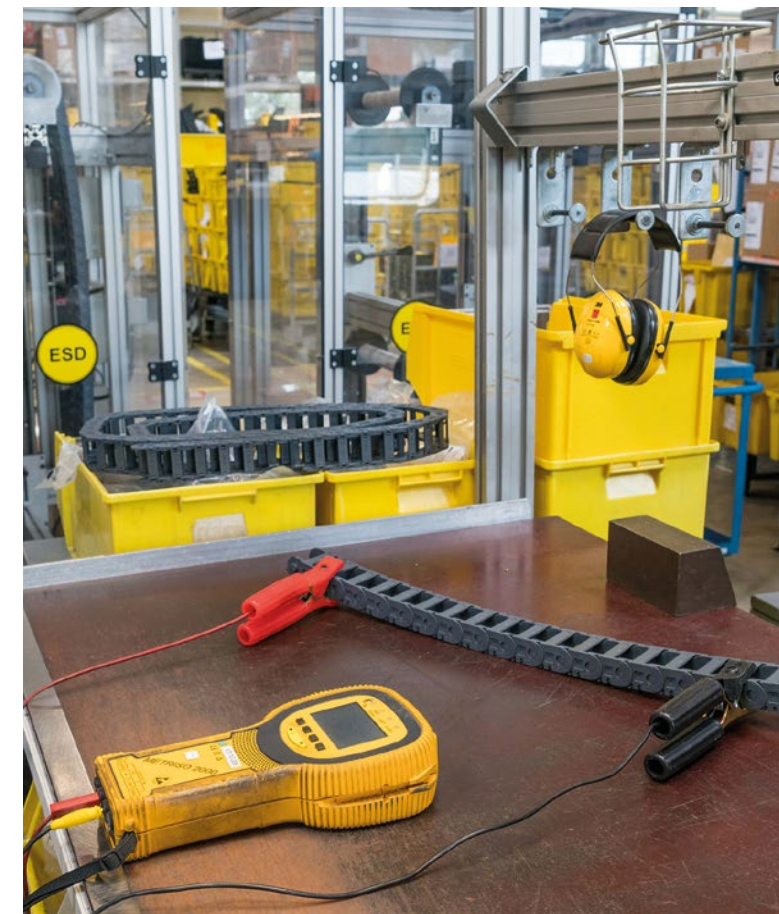
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

igumid ESD

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. 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)



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

igumid ESD material

System design

Both the material and the design play a vital part in ensuring safe electro-static discharge. The e-chains® from the E4.1 modular range ensure a constant discharge because they have a positive connection between the e-chain® links. With the patented undercut design, the inner link engages with the outer link - thereby guaranteeing a discharge - even after millions of cycles. The e-chains® from the E2/000 range ensure a safe discharge as the clearance between the pin and the bore of the e-chain® links is extremely low.

Material data table igumid ESD

Material data	Measurement units	igumid ESD
igumid ESD		
Mechanical properties		
Limit of elasticity (bending)	MPa	9,500
Flexural strength	MPa	230
Shore D hardness	–	83
General properties		
Density	g/m³	1.2
Moisture absorption 23/50 r.h.	–	1.9
Maximum water absorption	–	7.3
Electrical properties		
Specific transitional resistance	Ω cm	<10⁹
Surface resistance ROA	Ω	<10⁹
Thermal properties		
Lower operating temperature	°C / °F	-40°C / -40°F
Upper long-term application temp.	°C / °F	80°C / 176°F
Upper short-term application temp.	°C / °F	150°C / 302°F
Material certificates		
Fire resistance as per UL94	–	HB
Silicone-free	–	yes
Halogen-free	–	yes
2002/95/EG (RoHS)	–	yes
2002/96/EG (WEEE)	–	yes
Colour (according to RAL, approx.)		
ESD e-chains®, slate-grey		■ ≈ RAL7015
Exception: cover zipper and triflex® R, black		■ ≈ RAL9004

Important notice: Using the special material in combination with reduced pin/bore clearance can lead to a higher rolling resistance compared to e-chains® in standard material - especially when using the e-chain® in environments with persistently high levels of humidity.

Nothing suitable in the standard range?

Many other products in the igus® e-chain® range are available as special parts in the **ESD version**. igus® will be happy to make an offer for your required product and quantity, if technically possible.



A little hint from the igus® plain bearings world: A huge range of conductive iglidur® plastic plain bearings, available from stock, can be found at ► www.igus.eu/F2

igus® ESD e-chains®

More information

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

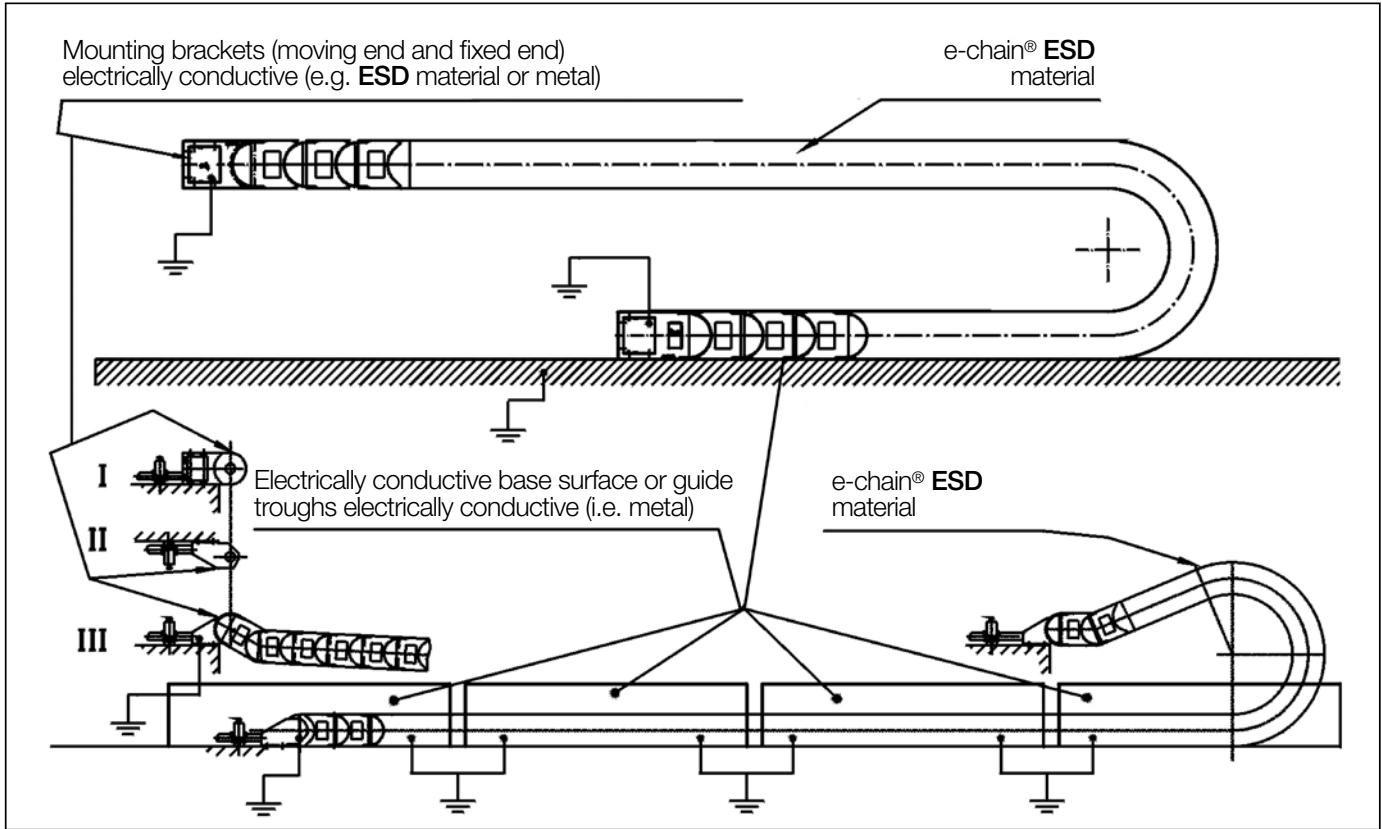
Please follow the information in the installation instructions for the standard e-chains® and the catalogue information on assembly, removal and installation for trouble-free operation. igus® ESD e-chains® must be grounded with appropriate measures in accordance with drawing number 18392 in order to 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. Commissioning

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® are maintenance-free*. Correct grounding of the 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)



Applications

using igus® ESD e-chains®



ESD application with igus® E2/000 e-chains® in a centrifuge for de-oiling, drying, rinsing, coating and rust protection

Applications

using igus® ESD e-chains®



igus® ESD version of the E2/000 system in a tank filling station

Legend	Opening principle	ESD series / product	Inner height hi [mm] + $\leq \varnothing$ [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 $\leq$ [kg/m]	Unsupported length $FL_B \leq$ [m]	Long travel length $\leq$ [m]	ESD standard separators	Page
● Available from stock ○ Not possible														

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

► From page 12

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

		07	10.3	ø 8	10 - 50	15		16.5 - 57	018 - 038	20	0.4	0.55	–	○	14
		09	15	ø 13	16 - 50	19.3		24.2 - 58.2	028 - 048	20	0.7	1.0	–	●	16

E2.1 micro - smallest inner heights and bend radii

► From page 18

ESD e-chains® | Non-openable

		E2C.10	10.6	ø 8	16 - 30	15		23.4 - 37.4	018 - 038	20	0.7	0.75	–	●	20
		E2C.15	14.9	ø 12.5	16 - 30	19.3		23.8 - 37.8	028 - 048	20	1.25	1.3	–	●	22

E2/000 - All-rounder for a wide range of applications

► From page 24

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

		1500	21	ø 18	15 - 80	28		28.5 - 93.5	038 - 145	33.3	2	1.9	75	●	26
		2500	25	ø 23	25 - 125	35		41 - 141	055 - 175	46	5	2.25	100	●	30
		2700	35	ø 32	50 - 125	50		66 - 141	063 - 150	56	8	2.5	120	●	34



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

*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

Legend
● Available from stock
○ Not possible

Opening principle	ESD 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 FLB ≤ [m]	Long travel length ≤ [m]	ESD standard separators	Page

E4.1 - ONE e-chain® series for almost any application
From page 38

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





E4.21	21	ø 18	30 - 80	28		44 - 94	048 - 100	30.5	4	2.5	120	●	40
E4.28	28	ø 25	40 - 125	42		60 - 145	055 - 125	46	10	2.5	200	●	44
E4.32	32	ø 28	50 - 200	54		73 - 223	063 - 250	56	15	3.3	200	●	48
E4.42	42	ø 38	50 - 200	64		76 - 226	075 - 250	67	37	4.0	300	●	52
E4.56	56	ø 50	75 - 300	84		109 - 334	135 - 250	91	62.5	5.0	400	●	56
E4.80	80	ø 72	75 - 300	108		125 - 350	200 - 300	111	80	6.2	400	●	60

E4/light - light, strong and cost-effective
From page 64

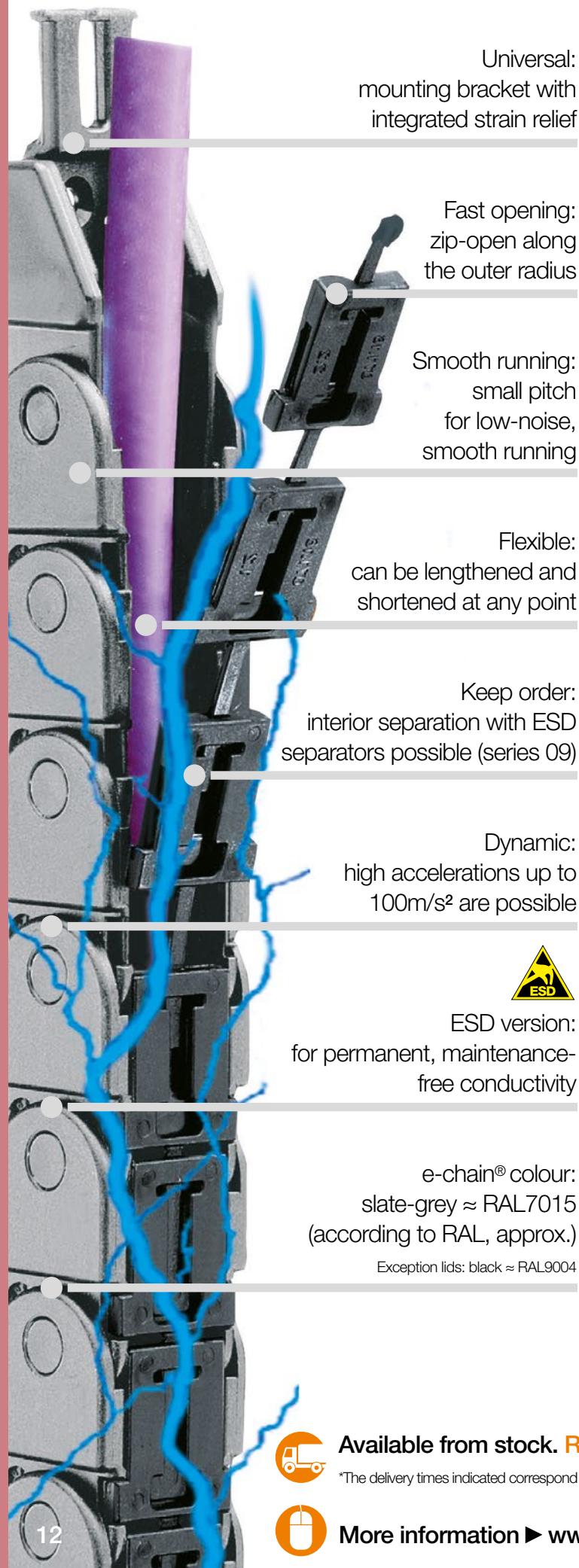
ESD e-chains® | Crossbars every link - crossbars removable along the inner and outer radius

		14240	62	ø 56	50 - 200	84		76 - 226	150 - 250	91	40	4.0	150	●	66
		15050	80	ø 74	75 - 300	108		105 - 330	150 - 250	91	55	4.6	250	●	70

triflex® R - for multi-axis movements and robots
From page 74

ESD TRC e-tubes | Totally enclosed, non-openable

		TRC.40	15/13	ø 13	15 / 13	ø 43		ø 43	058	13.9	-	-	-	○	76
		TRC.60	22.5/19.5	ø 20.5	22.5 / 19.5	ø 65		ø 65	087	20.4	-	-	-	○	76
		TRC.70	28/24	ø 26	28 / 24	ø 81		ø 81	110	25.6	-	-	-	○	76



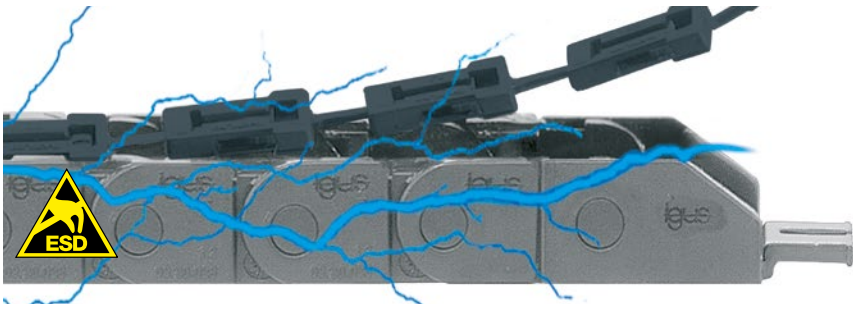
Zip fastening e-chains® and e-tubes - zipper ESD

igus® "zipper" e-chains® 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 low noise, smooth running
- High accelerations: 100m/s² and more
- Interior separation possible (series 09)

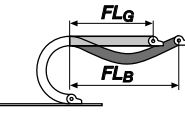
Typical industries and applications

- Pick and place machines
- Semi-conductor machines
- Linear motors, actuators
- Measuring equipment
- Machine tools
- General machinery, etc.

ESD series from stock	Inner height <i>hi</i> [mm]	Inner width <i>Bi</i> [mm]	Outer width <i>Ba</i> [mm]	Outer height <i>ha</i> [mm]	Bend radius <i>R</i> [mm]	Unsupported length ≤ [m]	Page
							
07	10.3	10 - 50	16.5 - 57	15	018 - 038	0.55	14
09	15	16 - 50	24.2 - 58.2	19.3	028 - 048	1.00	16

zipper - ESD e-chains® crossbars on a strip - zip-open along the outer radius

Technical data

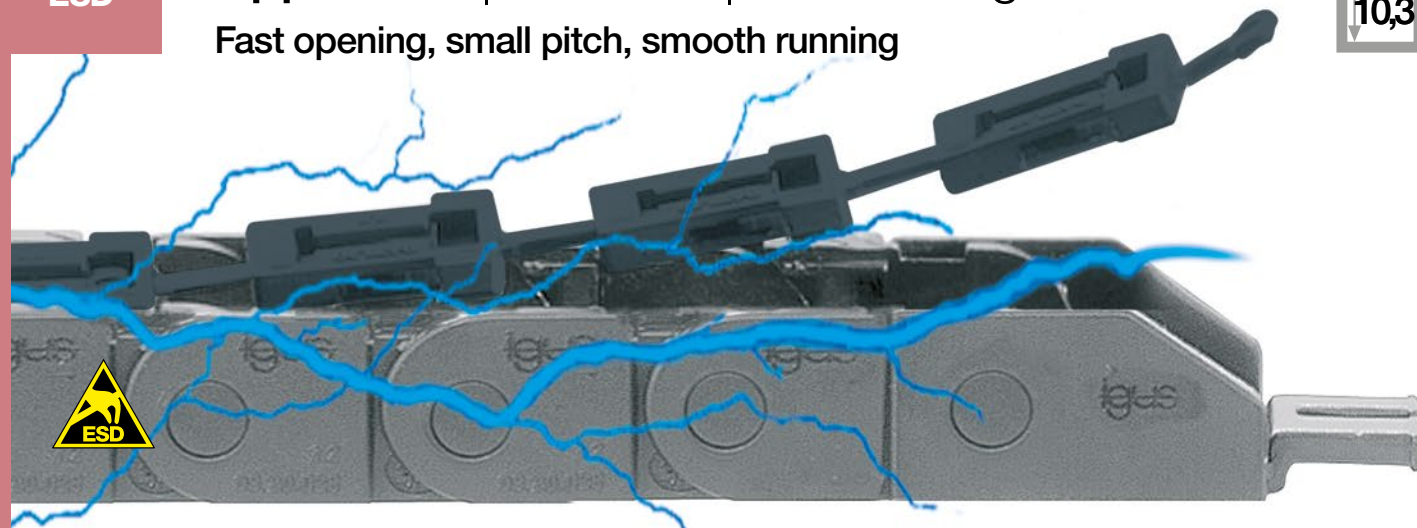
	Speed gliding / acceleration gliding	≤ 10 [m/s] / ≤ 50 [m/s²]
	Speed <i>FL_G</i> / acceleration <i>FL_G</i>	≤ 20 [m/s] / ≤ 200 [m/s²]
	Speed <i>FL_B</i> / acceleration <i>FL_B</i>	≤ 3 [m/s] / ≤ 6 [m/s²]
	Material lower part - permitted temperature °C, igumid ESD	-40°C / +80°C
	Flammability class, igumid ESD	VDE 0304 IIC UL94-HB
	Note for load diagrams <i>FL_G</i> / <i>FL_B</i>: Values apply to standard e-chains® using igumid G material! The values can also be used for the assessment of applications of the e-chain® in special ESD material. If the respective maximum unsupported length exceeds 80%, the suitability of the e-chain® should be verified by a practical test. ■ <i>FL_G</i> = unsupported with straight upper run ■ <i>FL_B</i> = unsupported with permitted sag	

Installation types, maximum travels

Series	 Unsupported	 Vertical hanging	 Vertical standing	 Side mounted unsupported
07	≤ 1.10m	upon request	upon request	upon request
09	≤ 2.00m	upon request	upon request	upon request

 Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

 More information ► www.igus.eu/zipper_ESD

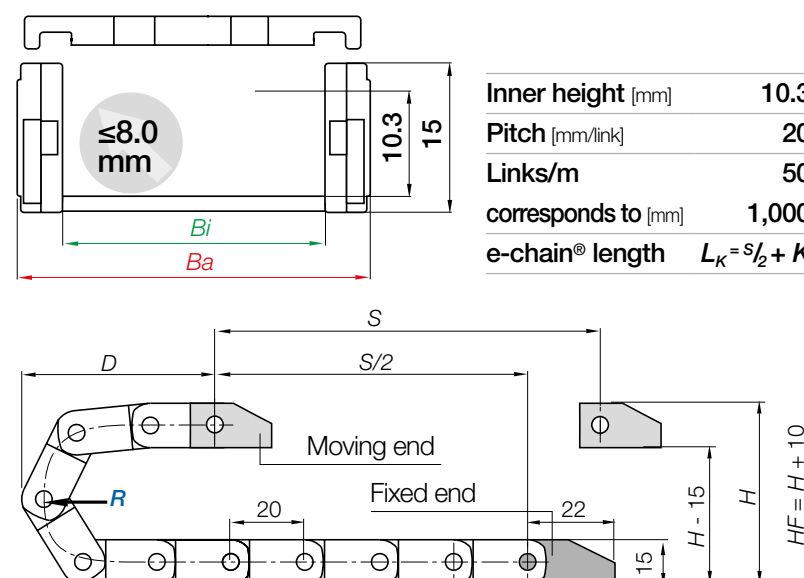
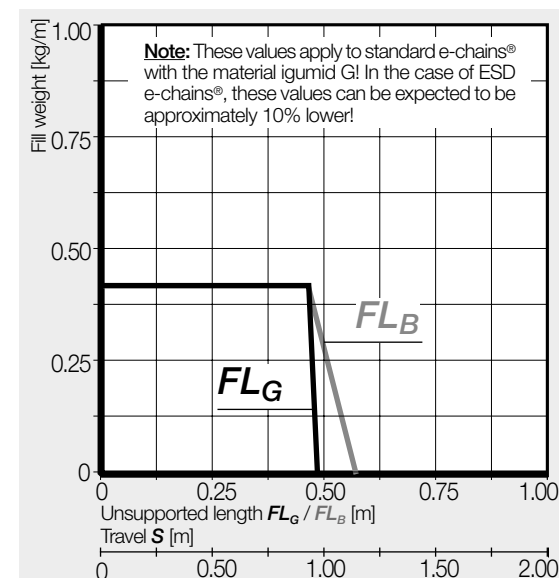


zipper ESD | Series 07 | Crossbars on a strip - zip-open along the outer radius

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
07.10.R.0.ESD	10	16.5	018 028 038	≈ 0.14
07.16.R.0.ESD	16	22.5	018 028 038	≈ 0.16
07.20.R.0.ESD	20	27	018 028 038	≈ 0.17
07.30.R.0.ESD	30	37	018 028 038	≈ 0.20
07.40.R.0.ESD	40	47	018 028 038	≈ 0.23
07.50.R.0.ESD	50	57	018 028 038	≈ 0.26

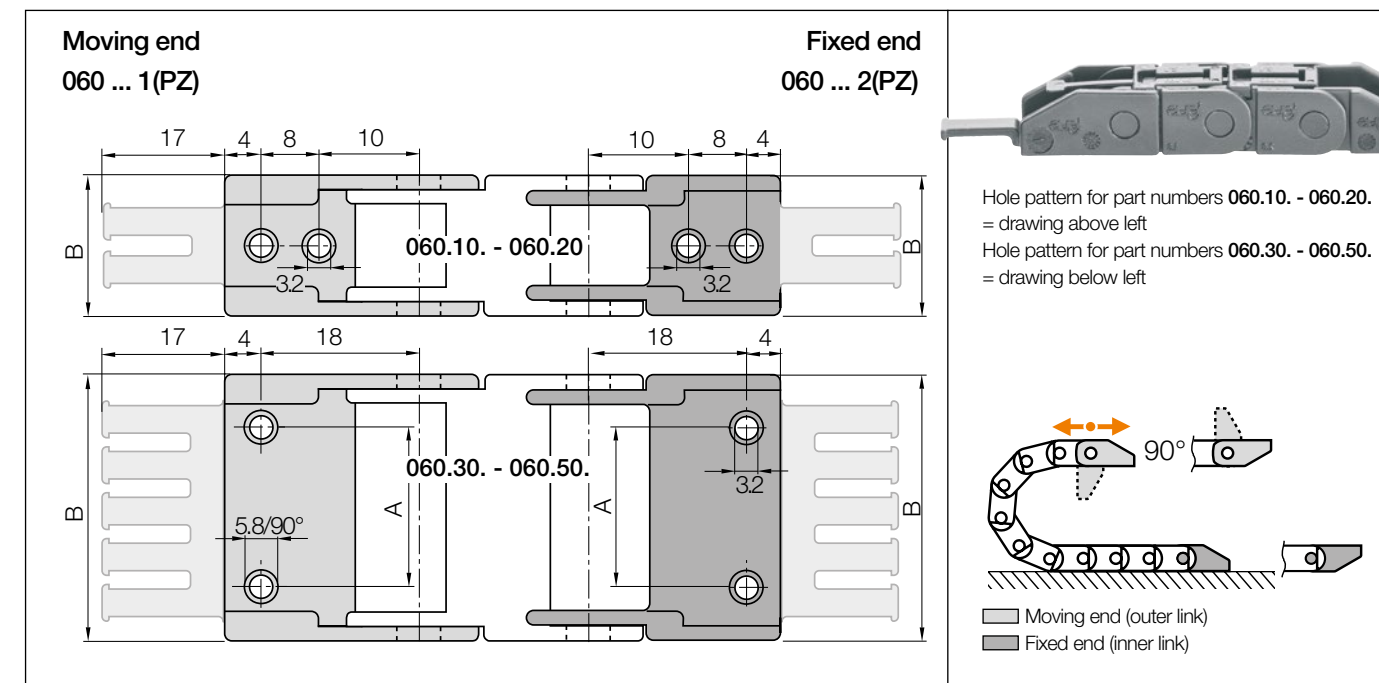
Complete Part No. with required radius (R). Example: 07.40.038.0.ESD

Installation dimensions

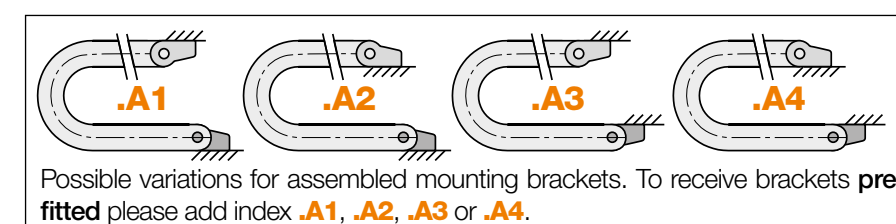


R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

The required clearance height: $H_F = H + 10\text{mm}$ (with 0.2kg/m fill weight)



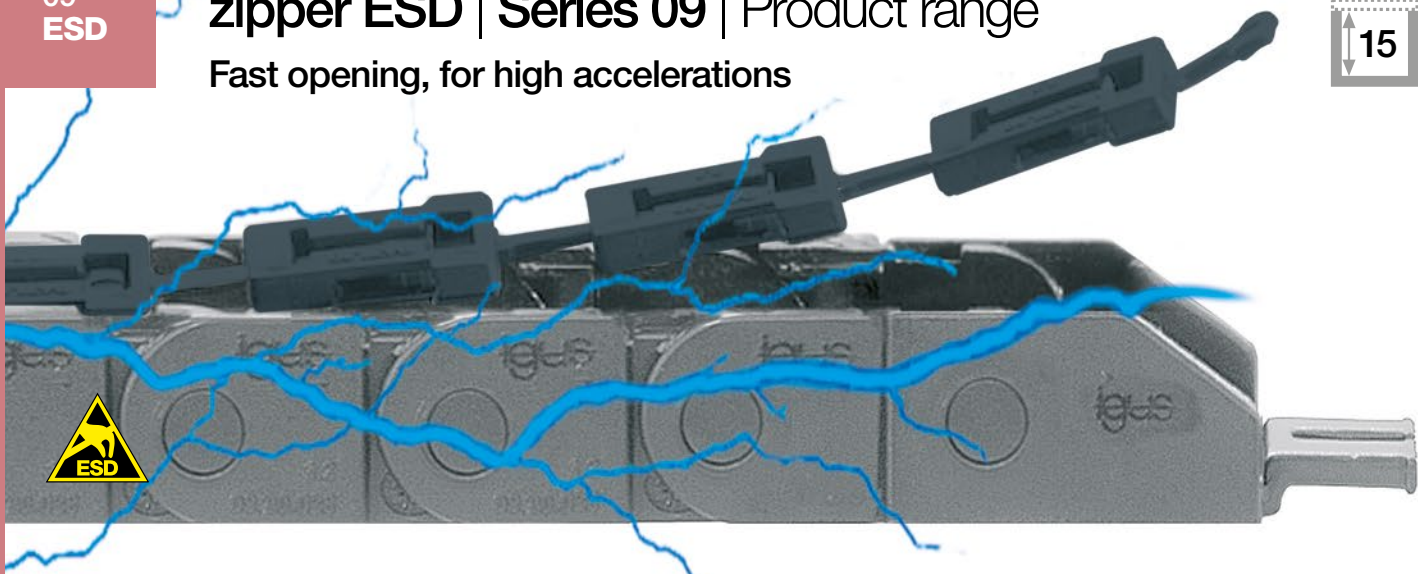
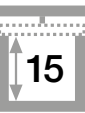
Width index	Part No. full set with tiewrap plates	Part No. full set without tiewrap plates	A [mm]	B [mm]	Number of teeth
10. ▶	060.10.12PZ.ESD	060.10.12.ESD	–	16.5	1
16. ▶	060.16.12PZ.ESD	060.16.12.ESD	–	22.5	2
20. ▶	060.20.12PZ.ESD	060.20.12.ESD	–	27.0	2
30. ▶	060.30.12PZ.ESD	060.30.12.ESD	22	37.0	3
40. ▶	060.40.12PZ.ESD	060.40.12.ESD	32	47.0	4
50. ▶	060.50.12PZ.ESD	060.50.12.ESD	42	57.0	5



060.40.12PZ.ESD.A1 Order example
.A... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

zipper ESD | Series 09 | Product range

Fast opening, for high accelerations

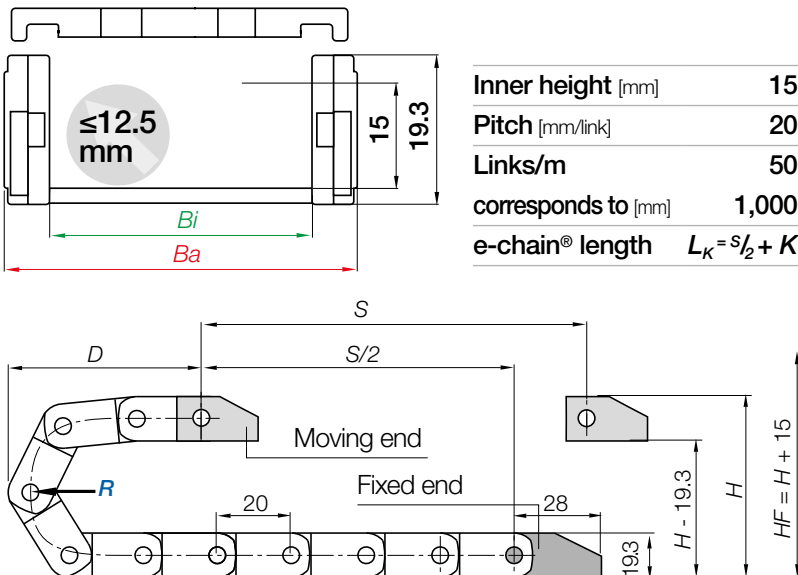
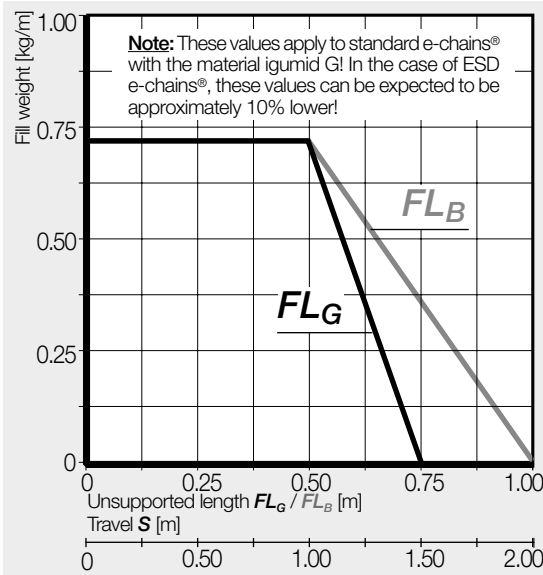


zipper ESD | Series 09 | Crossbars on a strip - zip-open along the outer radius

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]			Weight [kg/m]
09.16.R.0.ESD	16	24.2	—	038	—	≈ 0.24
09.20.R.0.ESD	20	28.2	—	—	048	≈ 0.25
09.30.R.0.ESD	30	38.2	028	038	048	≈ 0.28
09.40.R.0.ESD	40	48.2	028	038	048	≈ 0.31
09.50.R.0.ESD	50	58.2	028	038	048	≈ 0.34

Complete Part No. with required radius (R). Example: 09.40.048.0.ESD

Installation dimensions

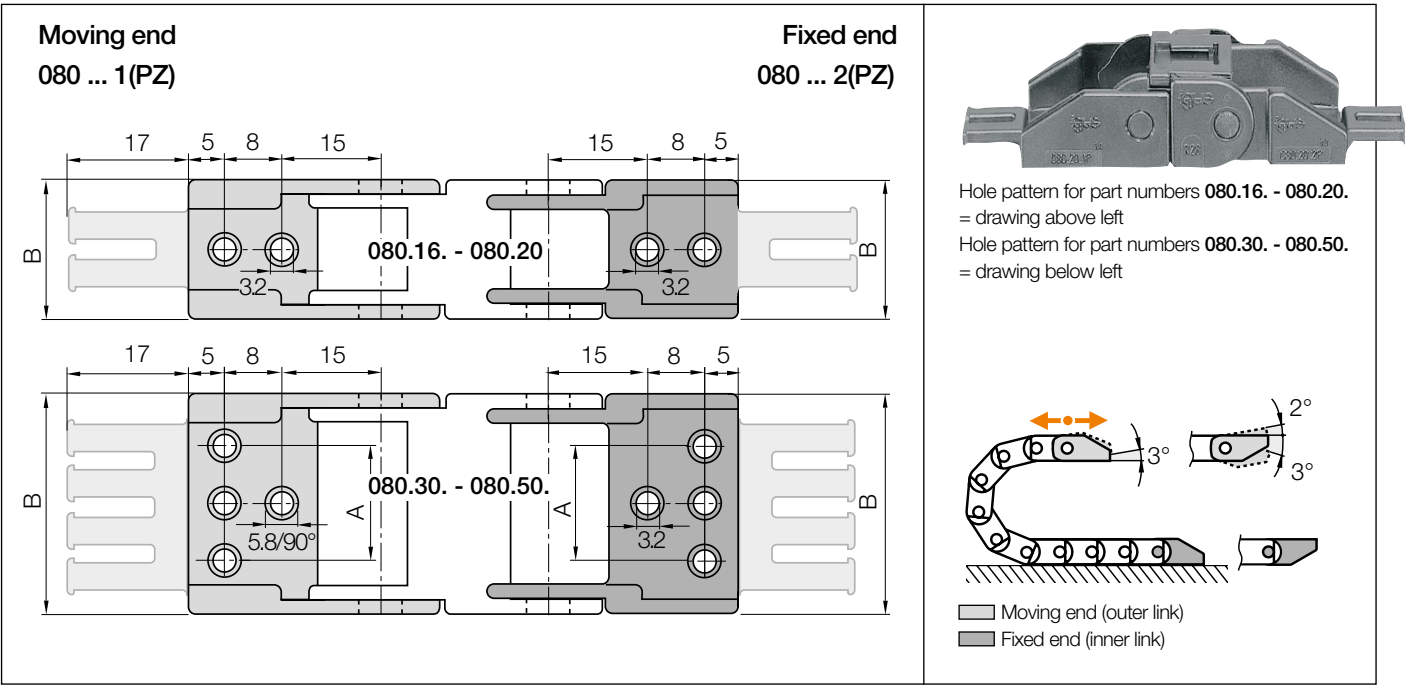


R	028	038	048
H	75	95	115
D	68	78	88
K	130	160	195

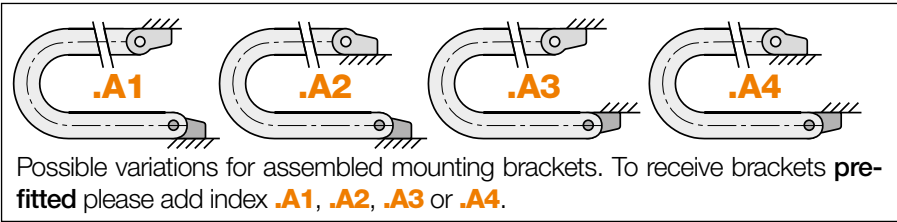
The required clearance height: $H_F = H + 15\text{mm}$ (with 0.3kg/m fill weight)

zipper ESD | Series 09 | Accessories

Mounting brackets, polymer one-piece | Locking



Width index	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.ESD	080.16.12.ESD	—	24.2	2
20.	080.20.12PZ.ESD	080.20.12.ESD	—	28.2	2
30.	080.30.12PZ.ESD	080.30.12.ESD	22	38.2	3
40.	080.40.12PZ.ESD	080.40.12.ESD	32	48.2	4
50.	080.50.12PZ.ESD	080.50.12.ESD	42	58.2	5



080.40.12PZ.ESD.A1 Order example

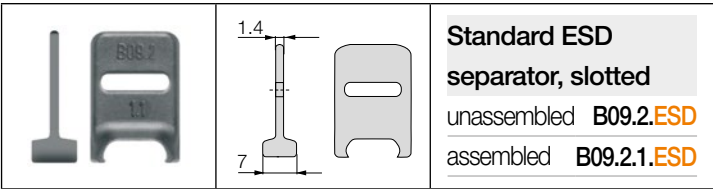
.A... to indicate option with brackets pre-fitted

With integrated strain relief tiewrap plates

Full set

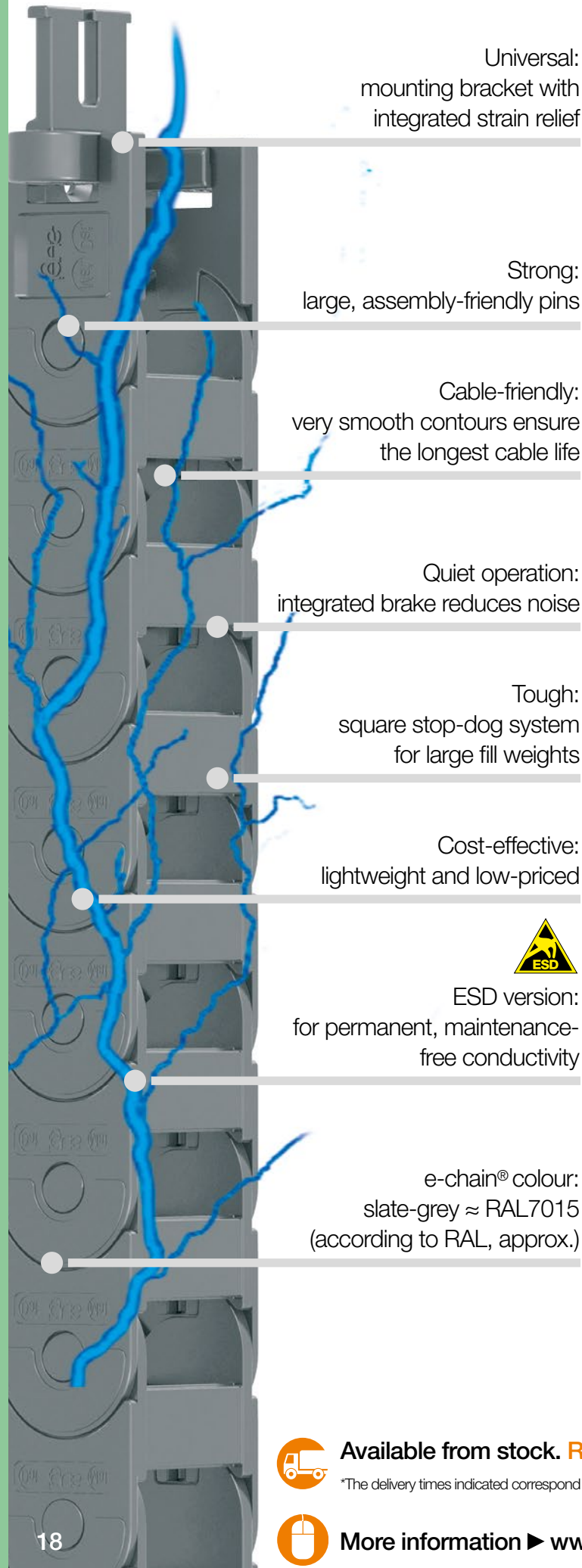
Series

ESD interior separation



Standard ESD separator

For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

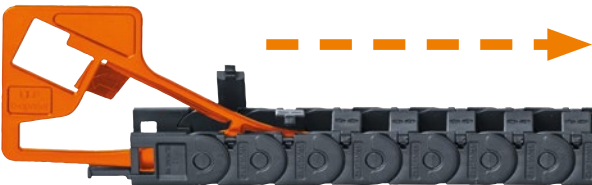


Smallest inner heights and bend radii - E2.1 micro ESD

The new generation of E2 micro is very small with low weight and therefore ideal for highly dynamic applications. E2 micro e-chains® are optimised for the smallest installation spaces. 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, strong and have a wide range of accessories, such as interior separation and mounting brackets.

Typical industries and applications

- Pick and place machines
- Semi-conductor machines
- Linear motors, actuators
- Measuring equipment
- Machine tools
- General machinery, etc.



For a quick and easy opening, an e-chain® opener is included with every first order of openable E2.1 micro from igus®

ESD series from stock	Inner height <i>hi</i> [mm]	Inner width <i>Bi</i> [mm]	Outer width <i>Ba</i> [mm]	Outer height <i>ha</i> [mm]	Bend radius <i>R</i> [mm]	Unsupported length ≤ [m]	Page
E2C.10	10.6	16 - 30	23.4 - 37.4	15	018 - 038	0.75	20
E2C.15	14.9	16 - 30	23.8 - 37.8	19.3	028 - 048	1.30	22

Technical data

	Speed gliding / acceleration gliding	≤ 10 [m/s] / ≤ 50 [m/s²]
	Speed <i>FL_G</i> / acceleration <i>FL_G</i>	≤ 20 [m/s] / ≤ 200 [m/s²]
	Speed <i>FL_B</i> / acceleration <i>FL_B</i>	≤ 3 [m/s] / ≤ 6 [m/s²]
	Material - permitted temperature °C, igumid ESD	-40°C / +80°C
	Flammability class, igumid ESD	VDE 0304 IIC UL94-HB
	Note for load diagrams <i>FL_G</i> / <i>FL_B</i>: Values apply to standard e-chains® using igumid G material! The values can also be used for the assessment of applications of the e-chain® in special ESD material. If the respective maximum unsupported length exceeds 80%, the suitability of the e-chain® should be verified by a practical test. ■ <i>FL_G</i> = unsupported with straight upper run ■ <i>FL_B</i> = unsupported with permitted sag	

Installation types, maximum travels

Series	Unsupported	Vertical hanging	Vertical standing	Side mounted unsupported	Rotary	Zig-zag
E2C.10	≤ 1.50m	upon request	upon request	upon request	with rework	upon request
E2C.15	≤ 2.60m	upon request	upon request	upon request	with rework	upon request

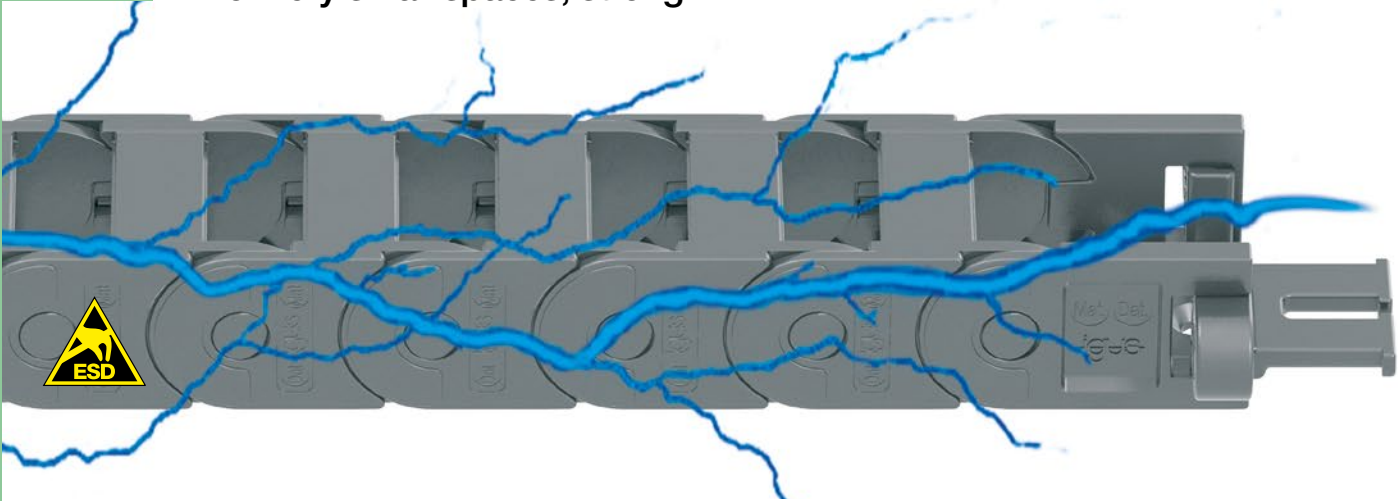
Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

More information ► www.igus.eu/E2.1micro_ESD



3D CAD, service life calculation, configurators and more ► www.igus.eu/E2.1micro_ESD

For very small spaces, strong

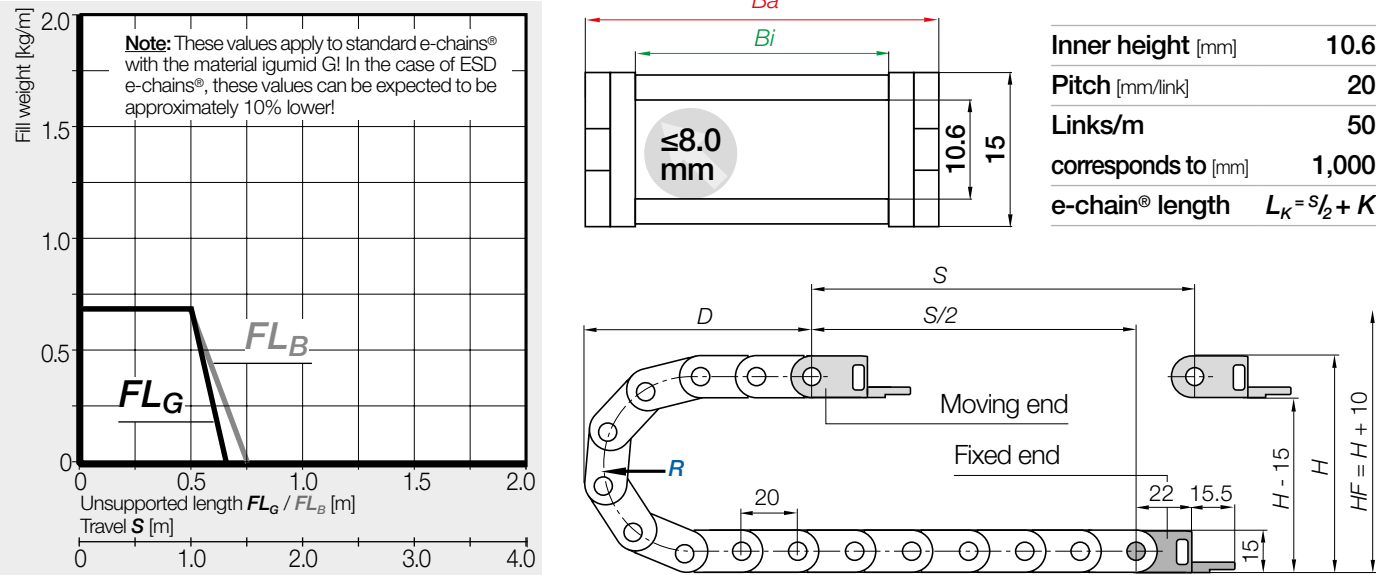


E2 micro ESD | Series E2C.10 | One-piece design, non-openable

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
E2C.10.16.R.0.ESD	16	23.4	018 028 038	≈ 0.16
E2C.10.20.R.0.ESD	20	27.4	018 028 038	≈ 0.17
E2C.10.30.R.0.ESD	30	37.4	018 028 038	≈ 0.20

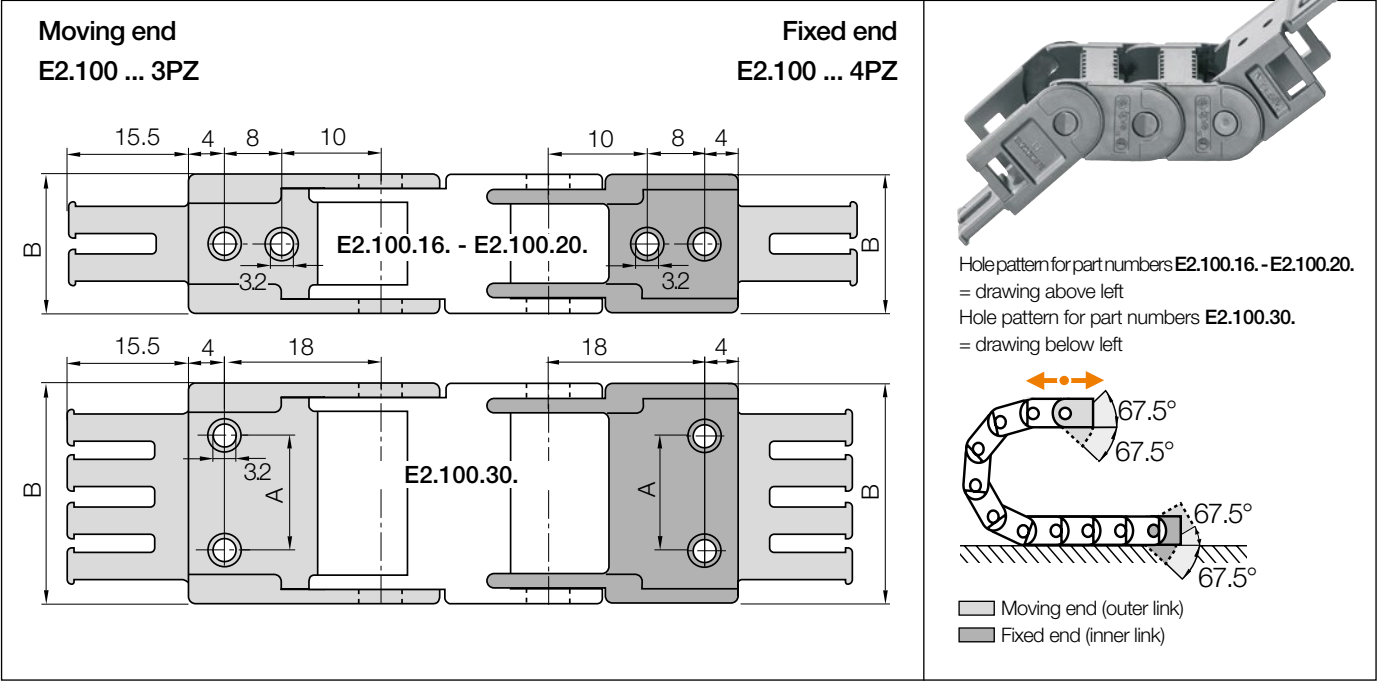
Complete Part No. with required radius (R). Example: E2C.10.20.038.0.ESD

Installation dimensions

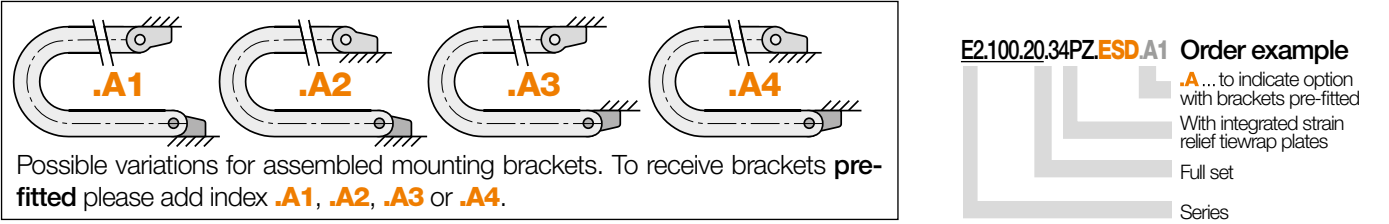


R	018	028	038
H	51	71	91
D	56	66	76
K	100	130	160

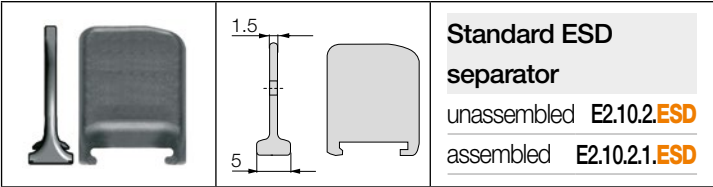
The required clearance height: $H_F = H + 10\text{mm}$ (with 0.2kg/m fill weight)



Width index	Part No. full set with tiewrap plates	A [mm]	B [mm]	Number of teeth
16. ▶	E2.100.16.34PZ.ESD	–	24.2	2
20. ▶	E2.100.20.34PZ.ESD	–	28.2	2
30. ▶	E2.100.30.34PZ.ESD	22	38.2	3



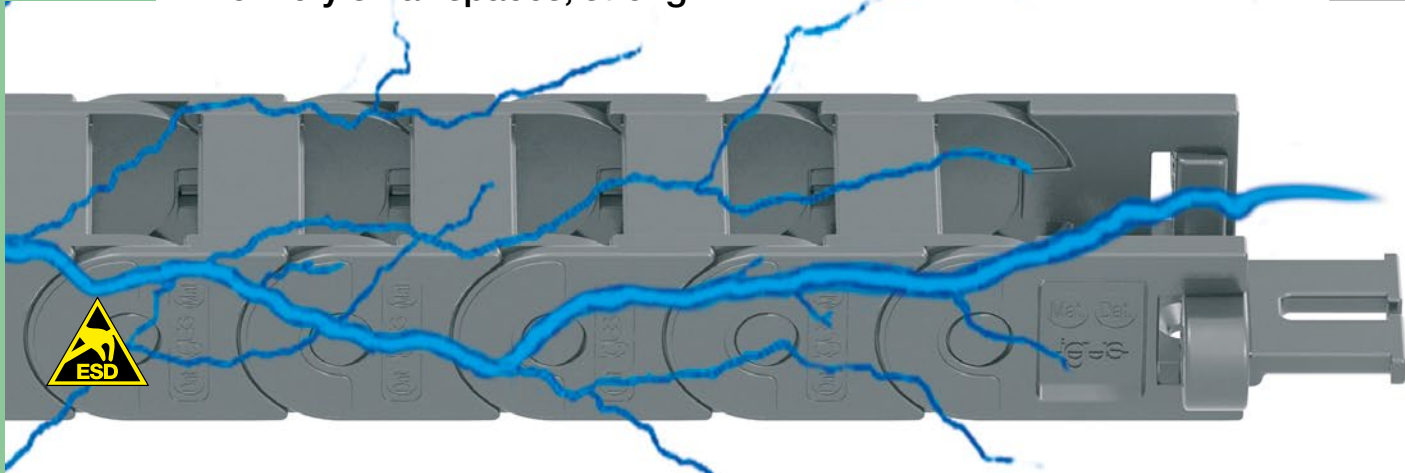
ESD interior separation



Standard ESD separator
For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

For very small spaces, strong

14.9

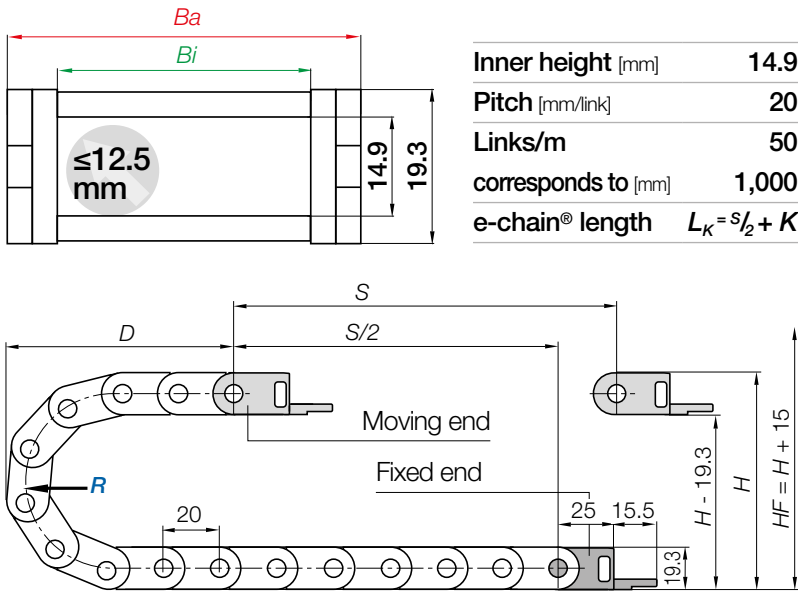
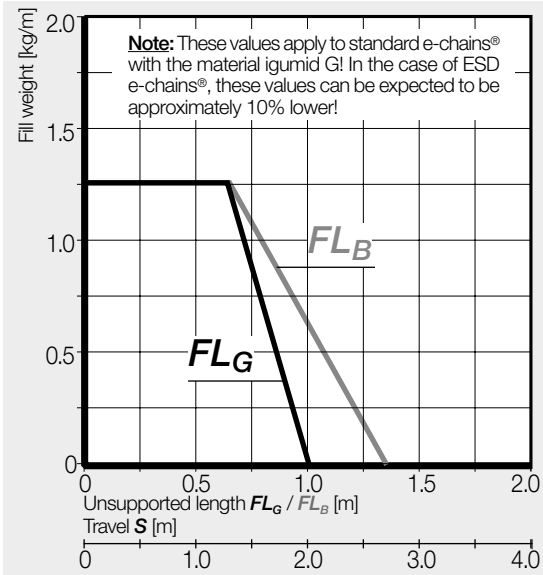


E2 micro ESD | Series E2C.15 | One-piece design, non-openable

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
E2C.15.16.R.0.ESD	16	23.8	028 038 048	≈ 0.20
E2C.15.20.R.0.ESD	20	27.8	028 038 048	≈ 0.21
E2C.15.30.R.0.ESD	30	37.8	028 038 048	≈ 0.24

Complete Part No. with required radius (R). Example: E2C.15.20.038.0.ESD

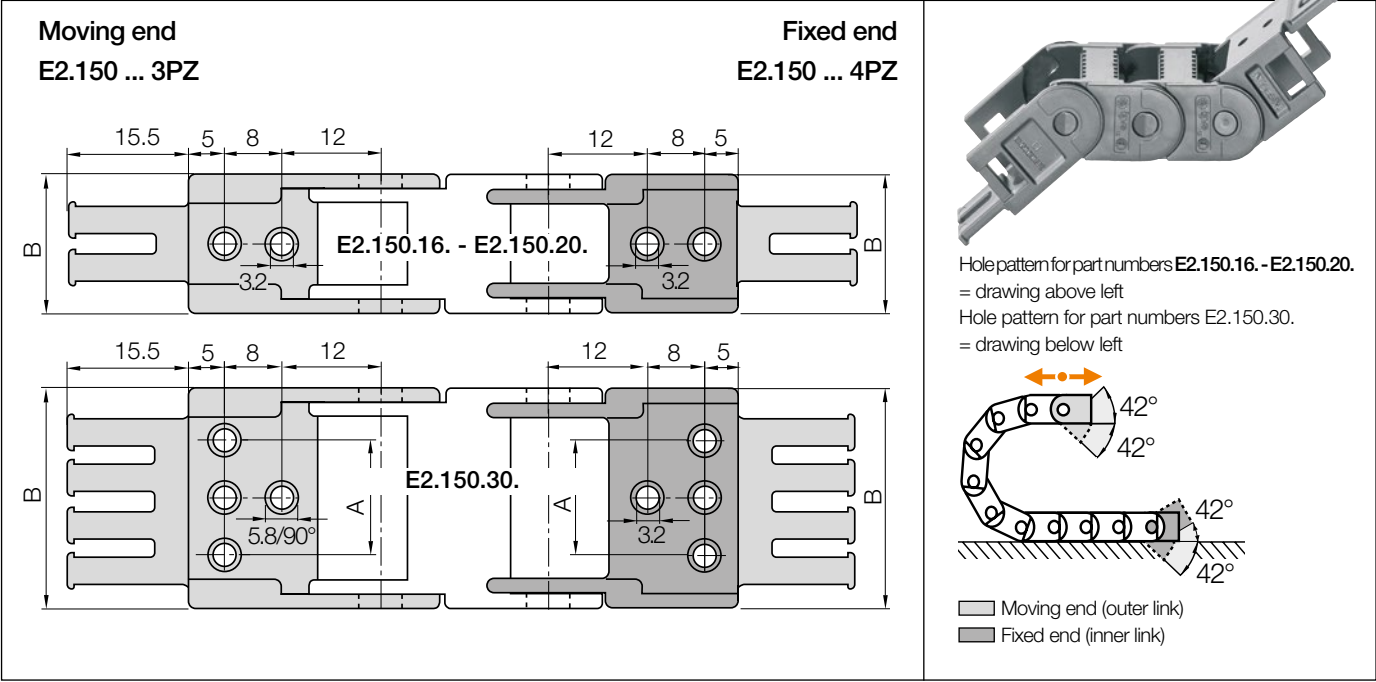
Installation dimensions



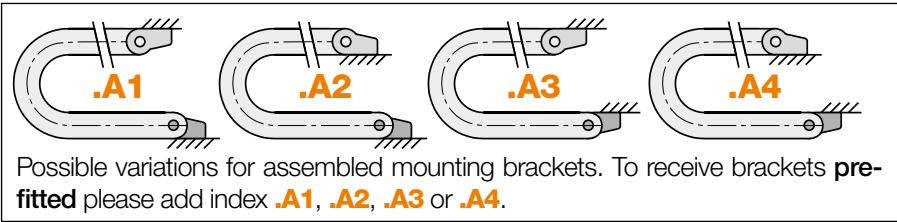
R	028	038	048
H	75	95	115
D	68	78	88
K	130	160	195

The required clearance height: $H_F = H + 15\text{mm}$ (with 0.3kg/m fill weight)

ESD mounting brackets, polymer one-piece | Pivoting

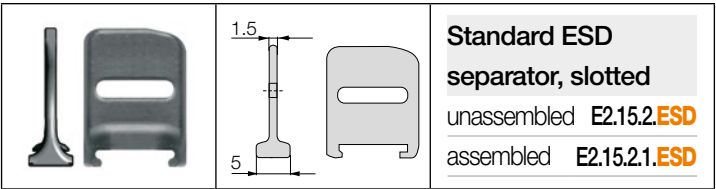


Width index	Part No. full set with tiewrap plates	A [mm]	B [mm]	Number of teeth
16. ▶	E2.150.16.34PZ.ESD	—	23.8	2
20. ▶	E2.150.20.34PZ.ESD	—	27.8	2
30. ▶	E2.150.30.34PZ.ESD	22	37.8	3



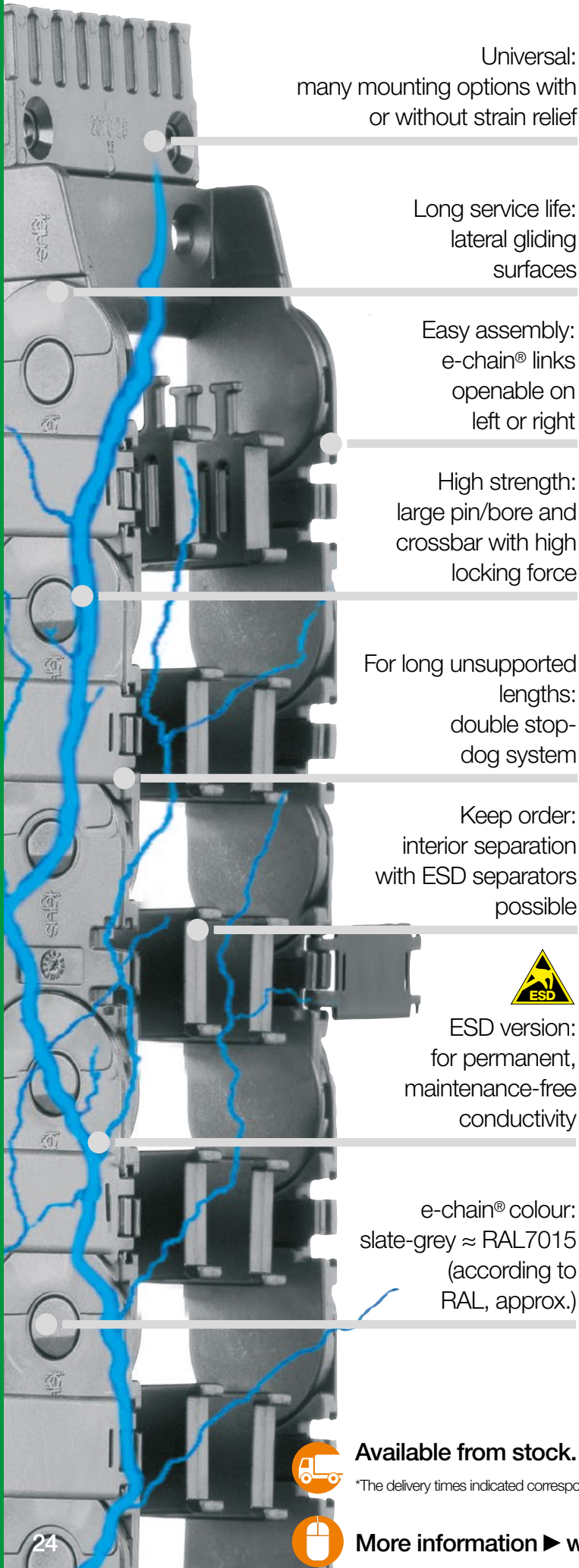
E2.150.20.34PZ.ESD.A1 Order example
.A... to indicate option with brackets pre-fitted
With integrated strain relief tiewrap plates
Full set
Series

ESD interior separation



Standard ESD separator

For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.



Universal:
many mounting options with
or without strain relief

Long service life:
lateral gliding
surfaces

Easy assembly:
e-chain® links
openable on
left or right

High strength:
large pin/bore and
crossbar with high
locking force

For long unsupported
lengths:
double stop-
dog system

Keep order:
interior separation
with ESD separators
possible


ESD version:
for permanent,
maintenance-free
conductivity

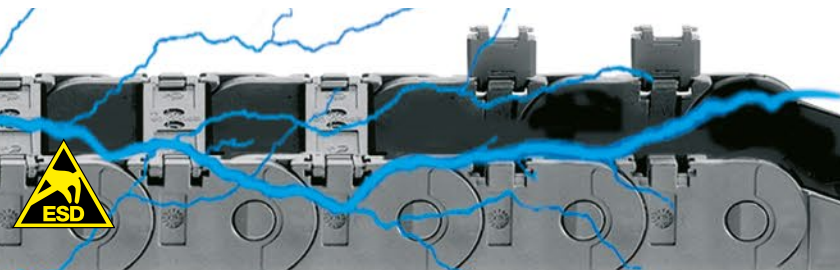
e-chain® colour:
slate-grey ≈ RAL7015
(according to
RAL, approx.)

All-rounder for a wide range of applications - E2/000 ESD

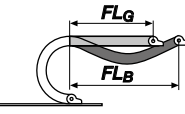
Series E2/000 is the fourth generation in this size. All past experience went into this series: easy and versatile assembly combined with ruggedness - high strength paired with quieter motion - long cable life and many mounting options. The design is consistent across all E2/000 variants. It is the standard product for machinery around the world.

Typical industries and applications

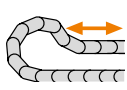
- Pick and place machines
- Semi-conductor machines
- Linear motors, actuators
- Measuring equipment
- Machine tools
- General machinery, etc.

ESD series from stock	Inner height <i>hi</i> [mm]	Inner width <i>Bi</i> [mm]	Outer width <i>Ba</i> [mm]	Outer height <i>ha</i> [mm]	Bend radius <i>R</i> [mm]	Unsupported length ≤ [m]	Page
							
E2/000 ESD e-chains® - crossbars openable along the outer radius, from both sides							
1500	21	15 - 80	28.5 - 93.5	28	038 - 145	1.90	26
2500	25	25 - 125	41 - 141	35	055 - 175	2.25	30
2700	35	50 - 125	66 - 141	50	063 - 150	2.50	34

Technical data

	Speed gliding / acceleration gliding	≤ 10 [m/s] / ≤ 50 [m/s²]
	Speed <i>FL_G</i> / acceleration <i>FL_G</i>	≤ 20 [m/s] / ≤ 200 [m/s²]
	Speed <i>FL_B</i> / acceleration <i>FL_B</i>	≤ 3 [m/s] / ≤ 6 [m/s²]
	Material - permitted temperature °C, igumid ESD	-40°C / +80°C
	Flammability class, igumid ESD	VDE 0304 IIC UL94-HB
	Note for load diagrams <i>FL_G</i> / <i>FL_B</i>: Values apply to standard e-chains® using igumid G material! The values can also be used for the assessment of applications of the e-chain® in special ESD material. If the respective maximum unsupported length exceeds 80%, the suitability of the e-chain® should be verified by a practical test. ■ <i>FL_G</i> = unsupported with straight upper run ■ <i>FL_B</i> = unsupported with permitted sag	

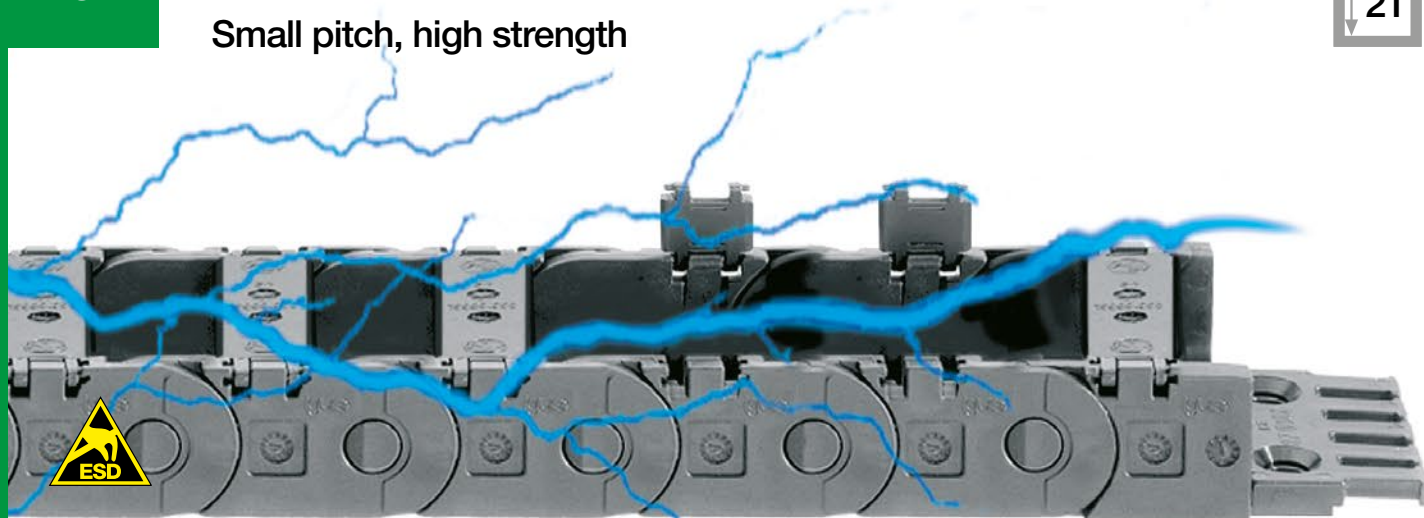
Installation types, maximum travels

Series	 Unsupported	 Gliding	 Vertical hanging	 Vertical standing	 Side mounted unsupported	 Rotary	 Zig-zag	 Unsupported length lower run
1500	≤ 3.9m	≤ 75m	≤ 20m	≤ 2.0m	≤ 0.7m	with rework	upon request	upon request
2500	≤ 4.25m	≤ 100m	≤ 40m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request
2700	≤ 5.5m	≤ 120m	≤ 50m	≤ 3.0m	≤ 1.0m	with rework	upon request	upon request

 Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

 More information ► www.igus.eu/E2000_ESD



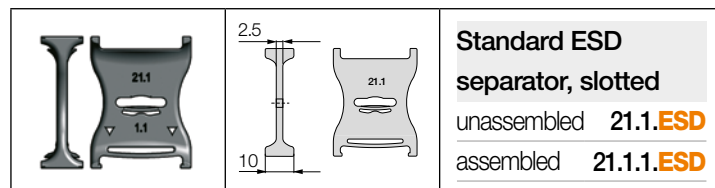


E2/000 ESD | Series 1500 | Crossbars openable along the outer radius, from both sides

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
1500.015.R.0.ESD	15	28.5	038 048 – – – –	≈ 0.46
1500.025.R.0.ESD	25	38.5	038 048 075 – – –	≈ 0.49
1500.038.R.0.ESD	38	51.5	038 048 075 – – –	≈ 0.53
1500.050.R.0.ESD	50	63.5	038 048 075 100 125 –	≈ 0.56
1500.068.R.0.ESD	68	81.5	038 048 075 100 125 145	≈ 0.63
1500.080.R.0.ESD	80	93.5	038 048 075 100 125 145	≈ 0.67

Art. Complete Part No. with required radius (R). Example: 1500.080.048.0.ESD

ESD interior separation



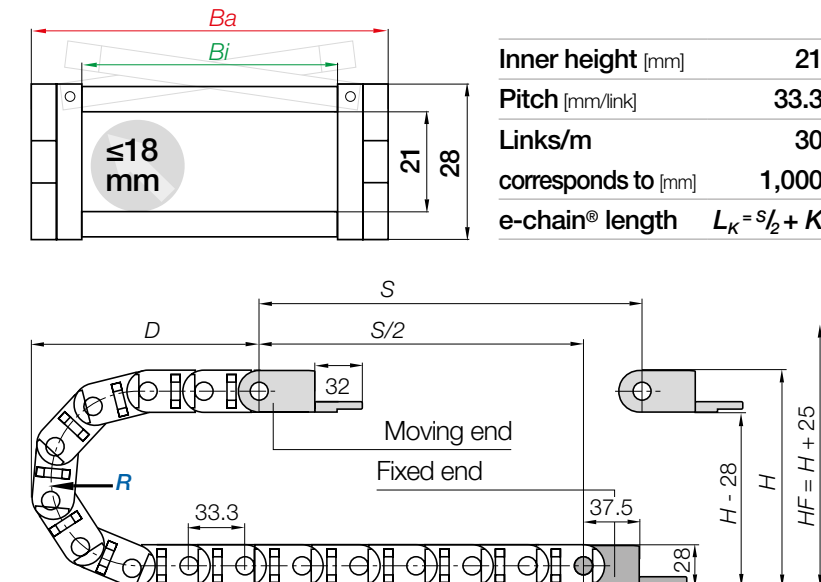
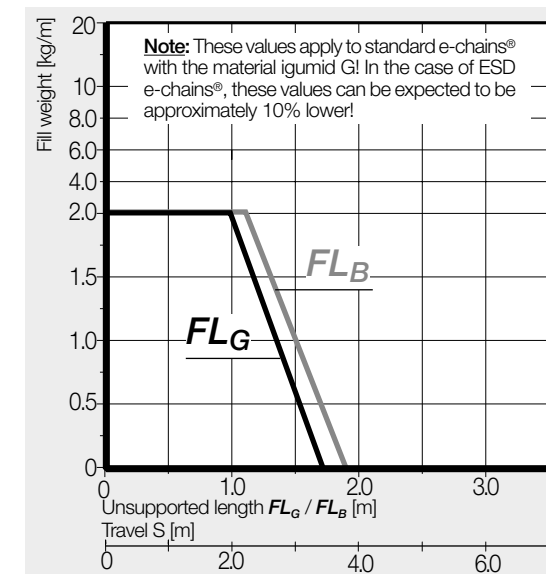
Standard ESD separator

For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.



Reduce assembly time - E2/000 e-chain® opener

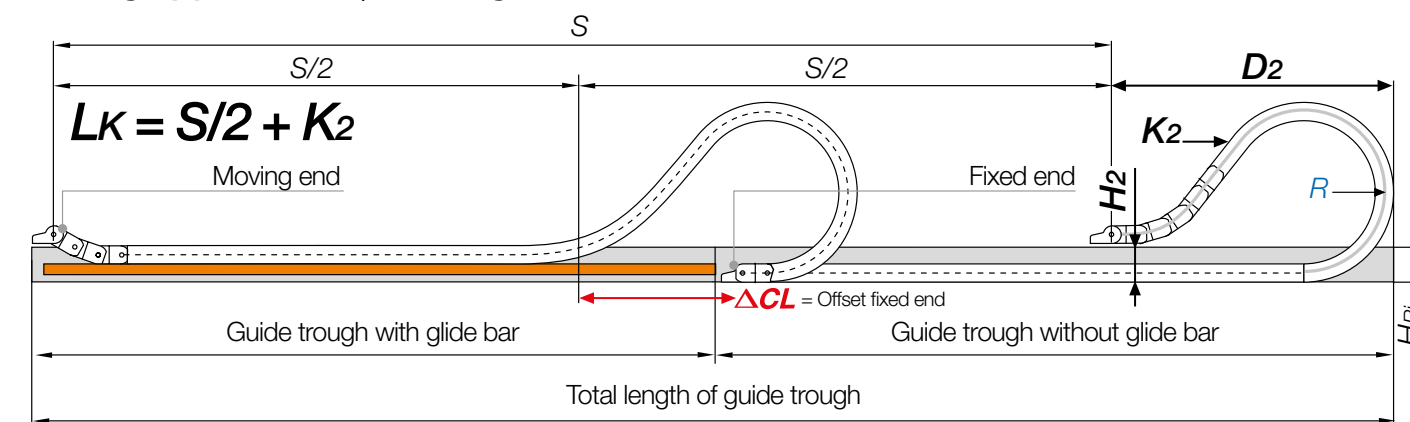
- Reduce opening times from 33 to 2 seconds
 - Open a long e-chain® section in one go
 - Part No. 908.254.1400
- More information ► www.igus.eu/E2opener



R	038	048	075	100	125	145
H	104	124	178	228	278	318
D	102	112	139	164	189	209
K	190	220	305	385	460	525

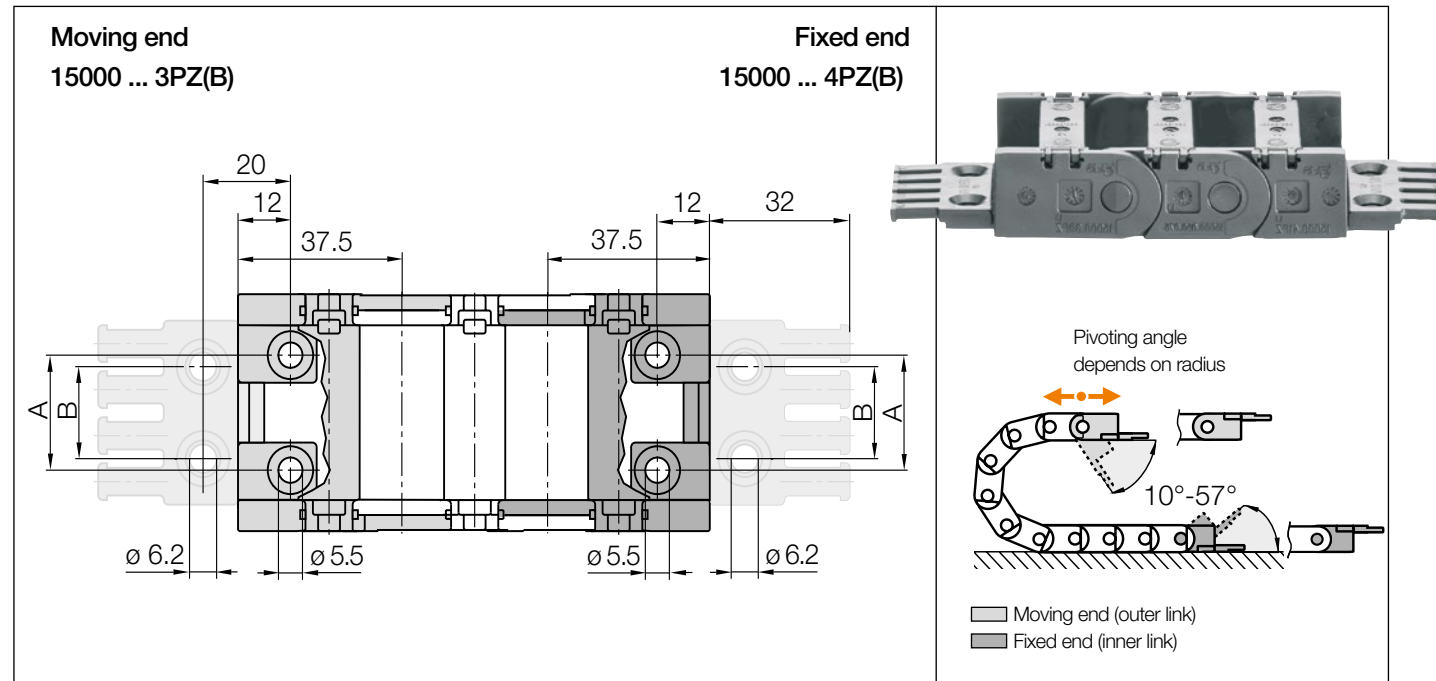
The required clearance height: $H_F = H + 25\text{mm}$ (with 0.5kg/m fill weight)

Gliding applications | For long travels from 10m to max. 75m



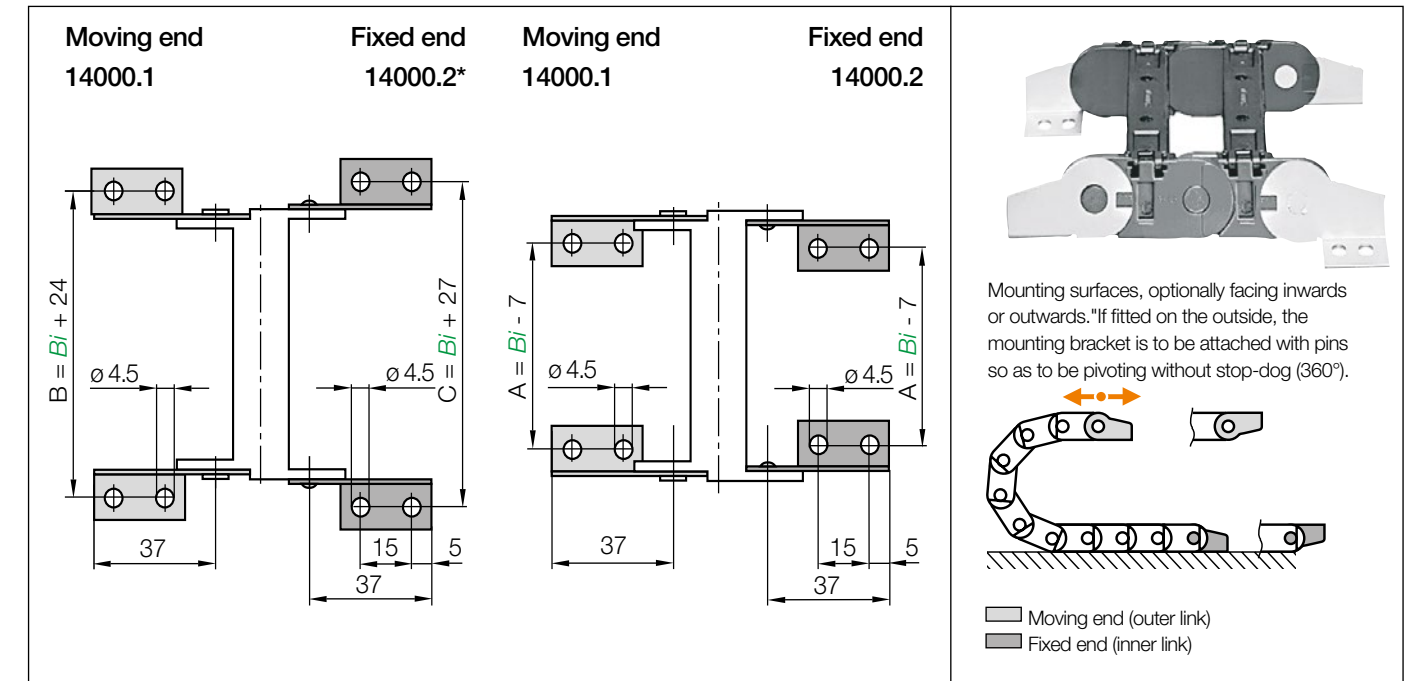
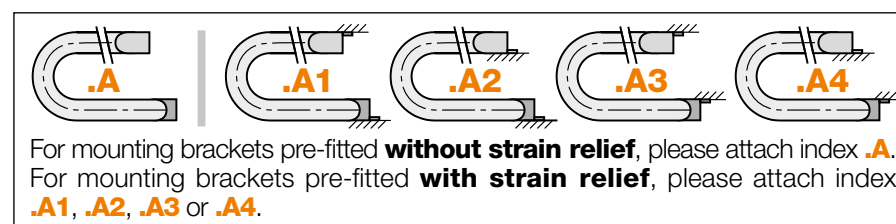
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	038	048	075	100	125	145
H ₂	76	96	150	100	100	100
D ₂ ⁺²⁵	102	112	139	340	495	540
K ₂	190	220	305	600	800	940
ΔCL	–	–	–	179	305	340

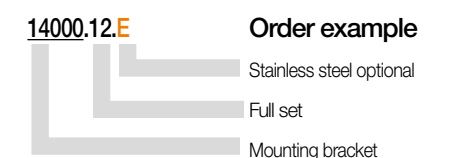
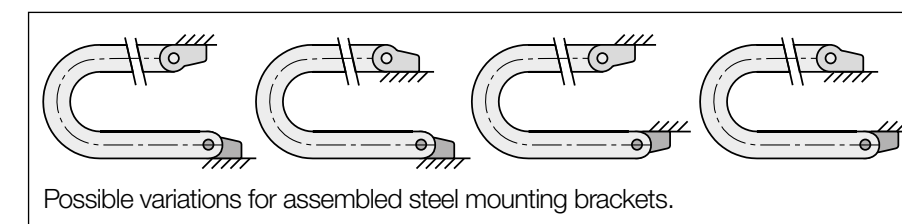


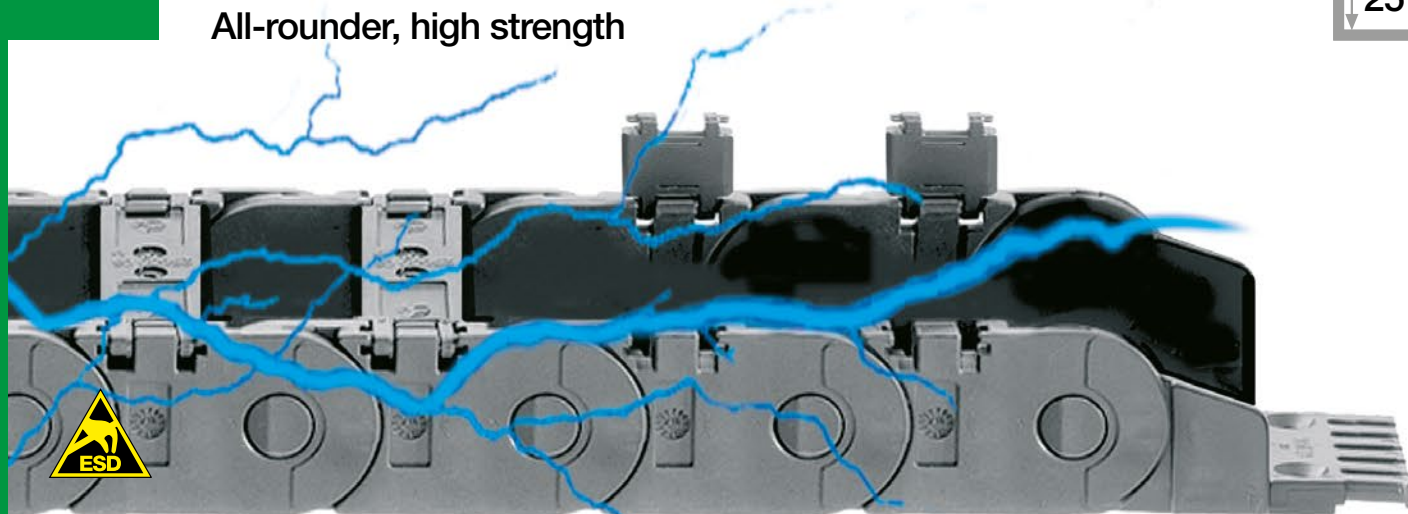
Width index	Part No. full set pivoting with tie-wrap plate	Part No. full set pivoting without tie-wrap plate	A [mm]	B [mm]	Number of teeth
.015. ▶	—	—	—	—	—
.025. ▶	15000.025.34PZB.ESD	15000.025.34PZ.ESD	12	15	3
.038. ▶	15000.038.34PZB.ESD	15000.038.34PZ.ESD	25	20	4
.050. ▶	15000.050.34PZB.ESD	15000.050.34PZ.ESD	37	30	5
.068. ▶	15000.068.34PZB.ESD	15000.068.34PZ.ESD	55	40	6
.080. ▶	15000.080.34PZB.ESD	15000.080.34PZ.ESD	67	60	8

Note: mounting brackets not to assemble at the gable end.



Width index	Part No. full set Steel	Part No. full set Stainless steel (AISI 304)	A [mm]	B [mm]	C [mm]
.015. ▶	14000.12	14000.12.E	8	39	42
.025. ▶	14000.12	14000.12.E	18	49	52
.038. ▶	14000.12	14000.12.E	31	62	65
.050. ▶	14000.12	14000.12.E	43	74	77
.068. ▶	14000.12	14000.12.E	61	92	95
.080. ▶	14000.12	14000.12.E	73	104	107





E2/000 ESD | Series 3500 | Crossbars openable along the outer radius, from both sides

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
2500.02.R.0.ESD	25	41	055 075 100 125 175	≈ 0.77
2500.03.R.0.ESD	38	54	055 075 100 125 175	≈ 0.83
2500.05.R.0.ESD	57	73	055 075 100 125 175	≈ 0.91
2500.07.R.0.ESD	77	93	055 075 100 125 175	≈ 1.01
2500.09.R.0.ESD	89	105	055 075 100 125 175	≈ 1.08
2500.10.R.0.ESD	103	119	055 075 100 125 175	≈ 1.15
2500.12.R.0.ESD	125	141	055 075 100 125 175	≈ 1.22

Art. Complete Part No. with required radius (R). Example: 2500.02.055.0.ESD

ESD interior separation

	Standard ESD separator, slotted	
	unassembled	25.1.ESD
	assembled	25.1.1.ESD

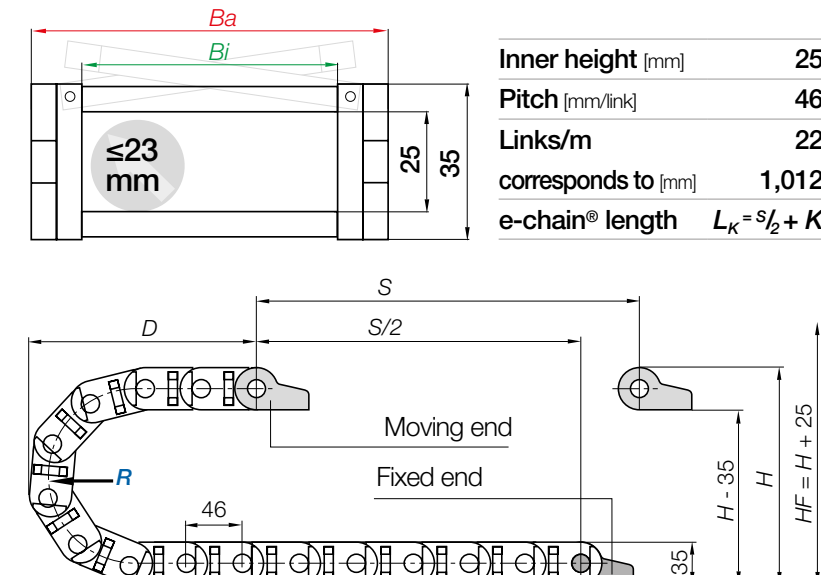
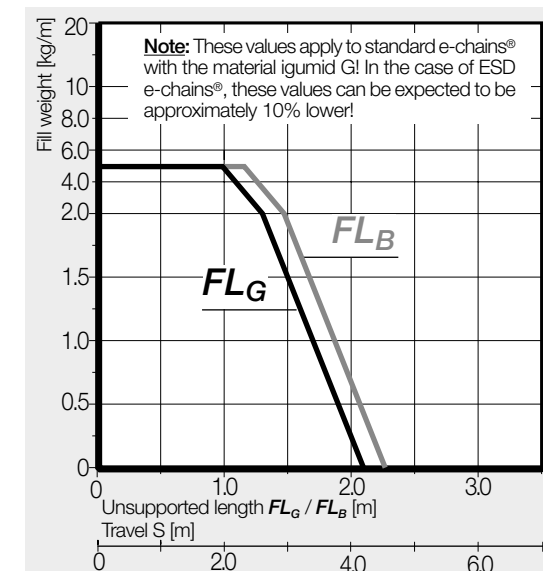
Standard ESD separator

For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.



Reduce assembly time - E2/000 e-chain® opener

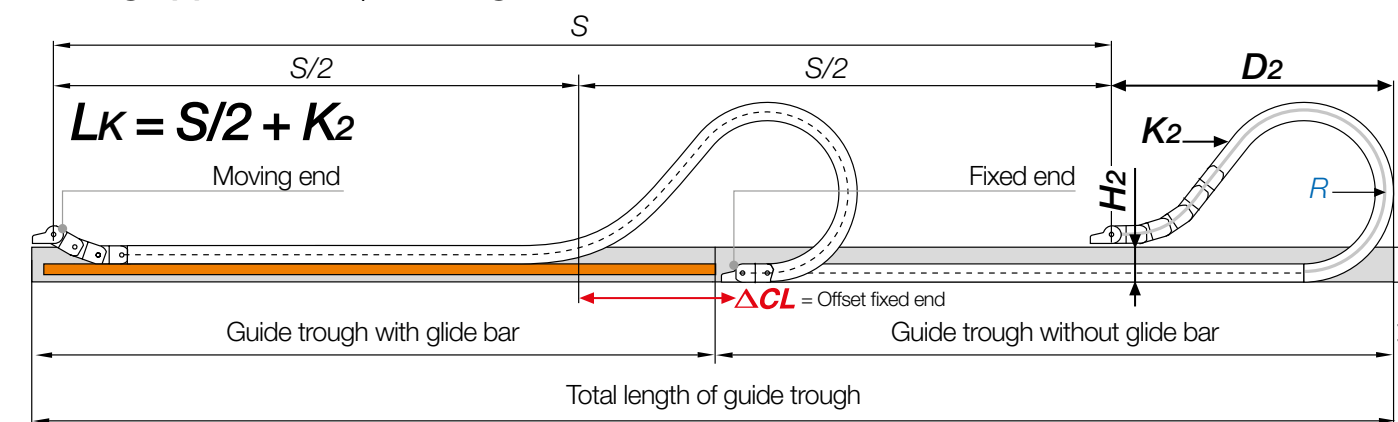
- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- Part No. 908.254.2400
- More information ► www.igus.eu/E2opener



R	055	075	100	125	175
H	145	185	235	285	385
D	142	162	187	212	262
K	265	330	410	485	645

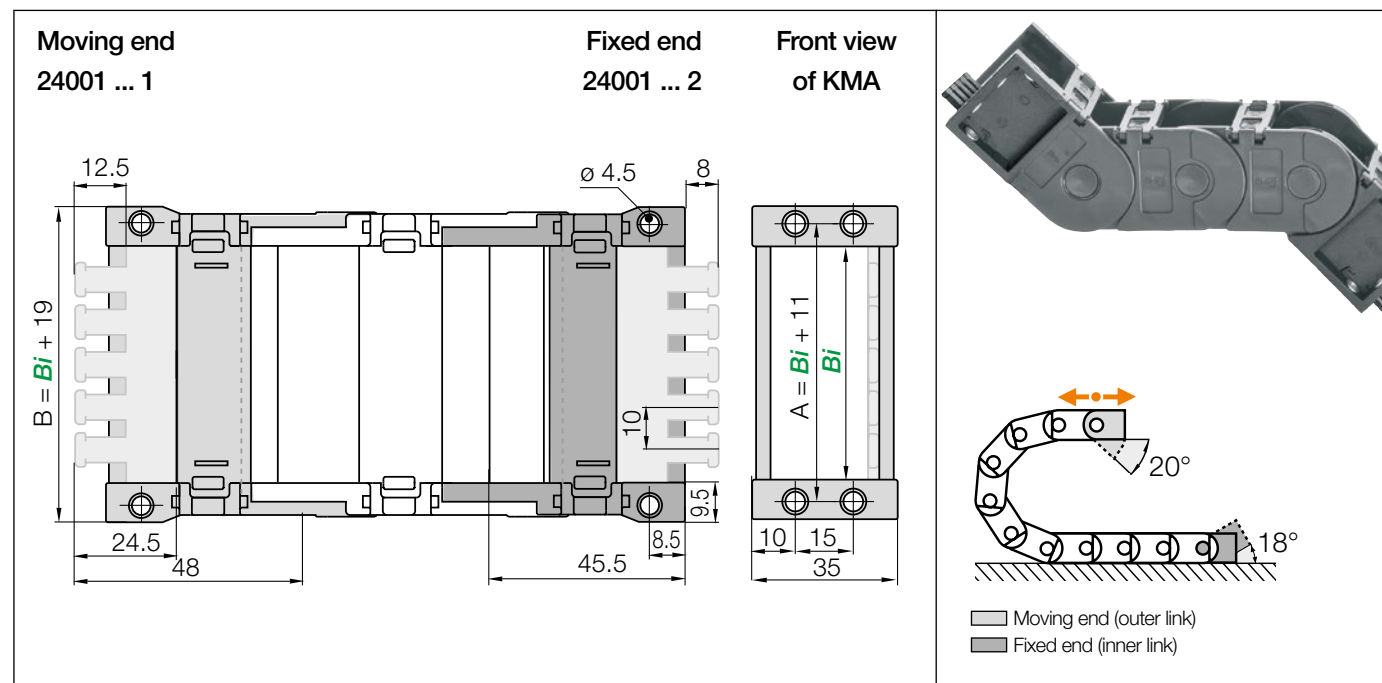
The required clearance height: $H_F = H + 25\text{mm}$ (with 1.5kg/m fill weight)

Gliding applications | For long travels from 10m to max. 100m



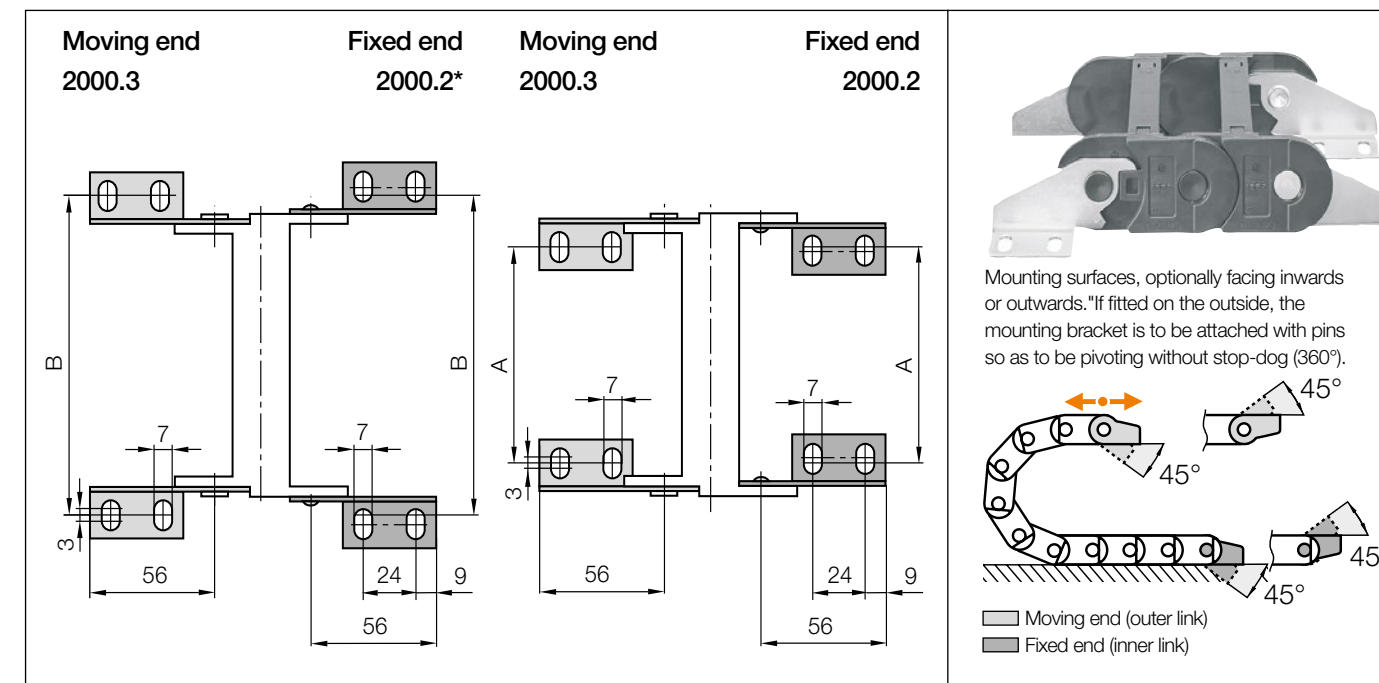
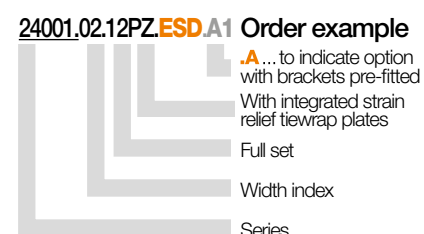
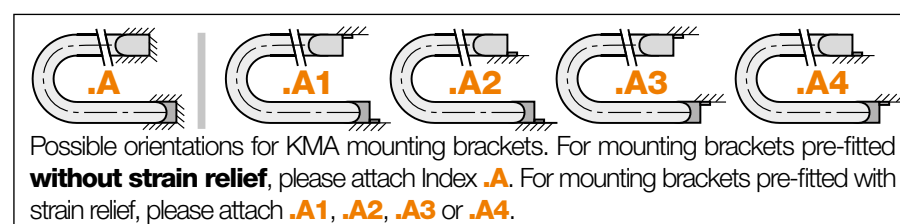
In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	055	075	100	125	175
H ₂	110	150	100	100	100
D ₂ +25	142	162	380	440	755
K ₂	265	330	644	736	1,242
ΔCL	—	—	204	244	504

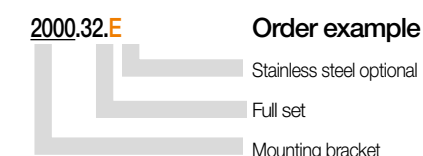
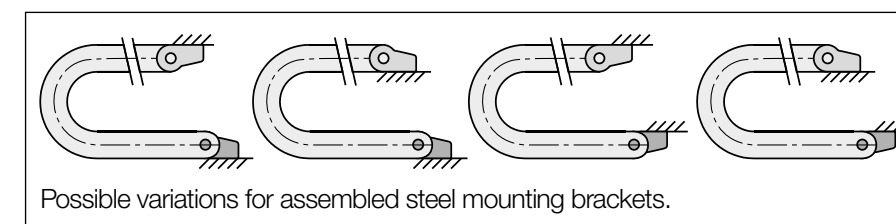


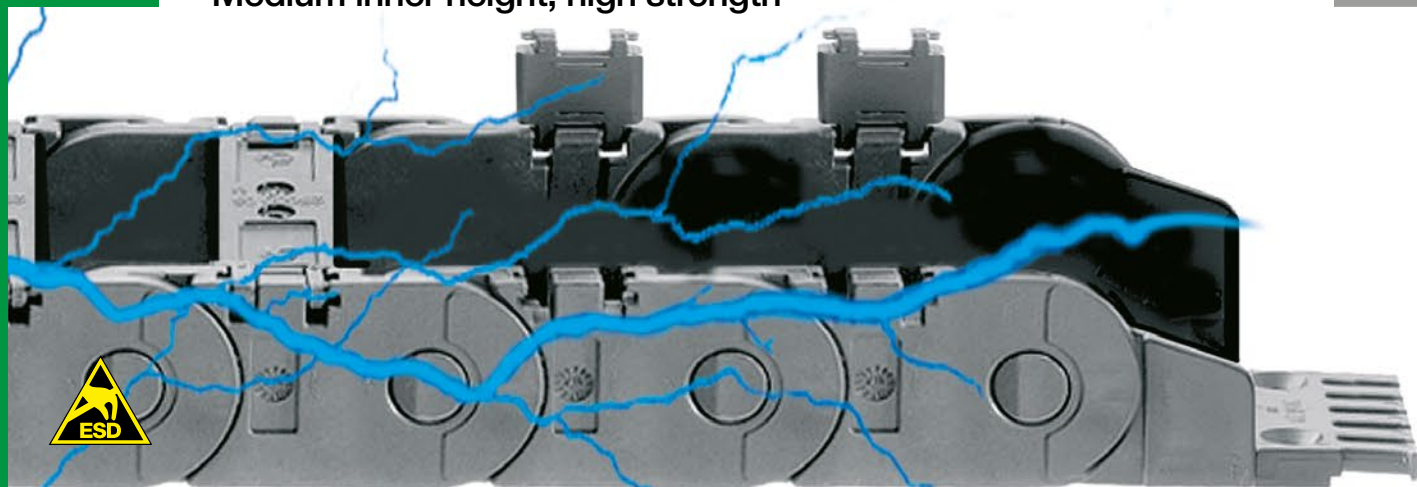
Width index		Part No. full set pivoting with tiewrap plate	Part No. full set pivoting without tiewrap plate	A [mm]	B [mm]	Number of teeth
.02. ▶		24001.02.12ZB. ESD	24001.02.12. ESD	36	44	2
.03. ▶		24001.03.12ZB. ESD	24001.03.12. ESD	49	57	4
.05. ▶		24001.05.12ZB. ESD	24001.05.12. ESD	68	76	6
.07. ▶		24001.07.12ZB. ESD	24001.07.12. ESD	88	86	7
.09. ▶		24001.09.12ZB. ESD	24001.09.12. ESD	100	108	9
.10. ▶		24001.10.12ZB. ESD	24001.10.12. ESD	114	122	10
.12. ▶		24001.12.12ZB. ESD	24001.12.12. ESD	136	144	12

(KMA = polymer metal mounting bracket)



Width index	Part No. full set Steel	Part No. full set Stainless steel (AISI 304)	A [mm]	B [mm]
.02. ▶	2000.32	2000.32.E	–	60
.03. ▶	2000.32	2000.32.E	25	73
.05. ▶	2000.32	2000.32.E	44	92
.07. ▶	2000.32	2000.32.E	64	112
.09. ▶	2000.32	2000.32.E	76	124
.10. ▶	2000.32	2000.32.E	90	138
.12. ▶	2000.32	2000.32.E	112	160





E2/000 ESD | Series 2700 | Crossbars openable along the outer radius, from both sides

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
2700.05.R.0.ESD	50	66	063 075 – – –	≈ 1.17
2700.06.R.0.ESD	65	81	– 075 100 – –	≈ 1.24
2700.07.R.0.ESD	75	91	063 075 100 125 150	≈ 1.30
2700.09.R.0.ESD	90	106	063 075 100 125 150	≈ 1.37
2700.10.R.0.ESD	100	116	– 075 100 125 150	≈ 1.39
2700.12.R.0.ESD	125	141	– 075 100 125 150	≈ 1.48

Art. Complete Part No. with required radius (R). Example: 2700.12.100.0.ESD

ESD interior separation

		Standard ESD separator, slotted unassembled 35.1.ESD assembled 35.1.1.ESD
--	--	--

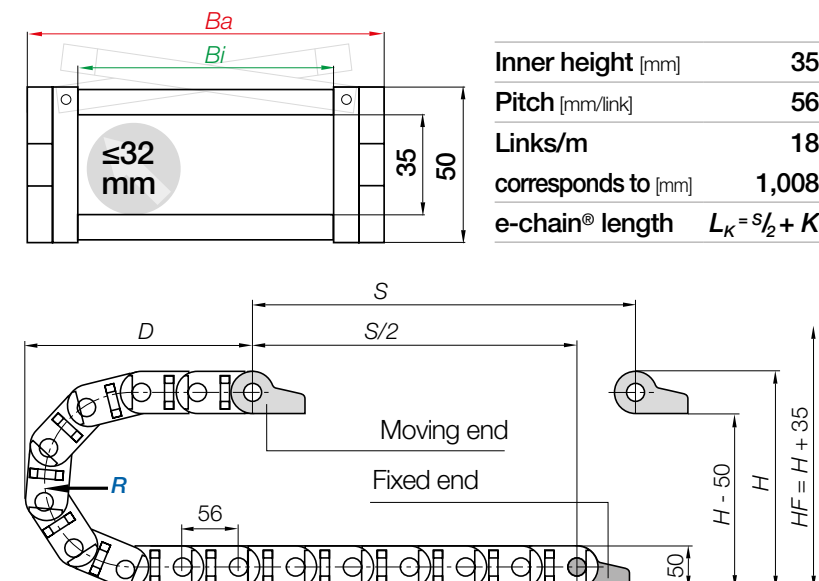
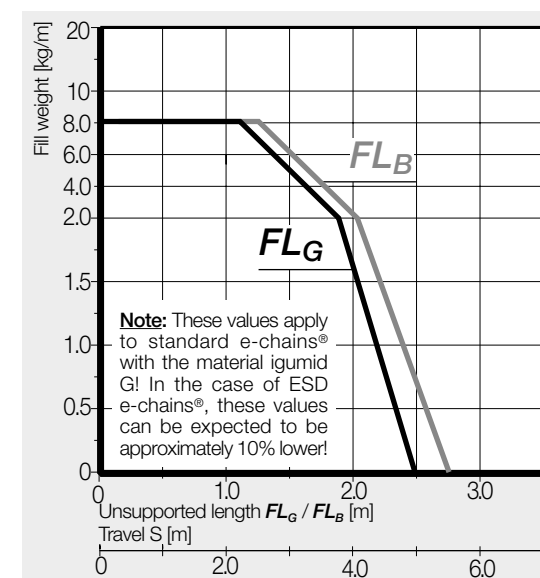
Standard ESD separator

For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.



Reduce assembly time - E2/000 e-chain® opener

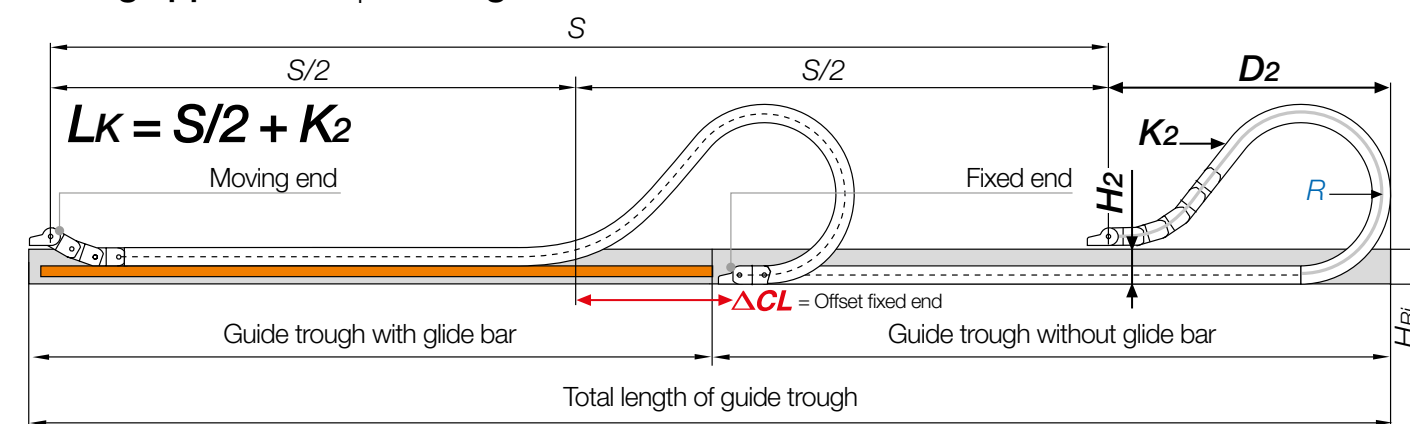
- Reduce opening times from 33 to 2 seconds
- Open a long e-chain® section in one go
- Part No. EO.2600
- More information ► www.igus.eu/E2opener



R	063	075	100	125	150
H	176	200	250	300	350
D	172	184	209	234	259
K	310	350	430	505	585

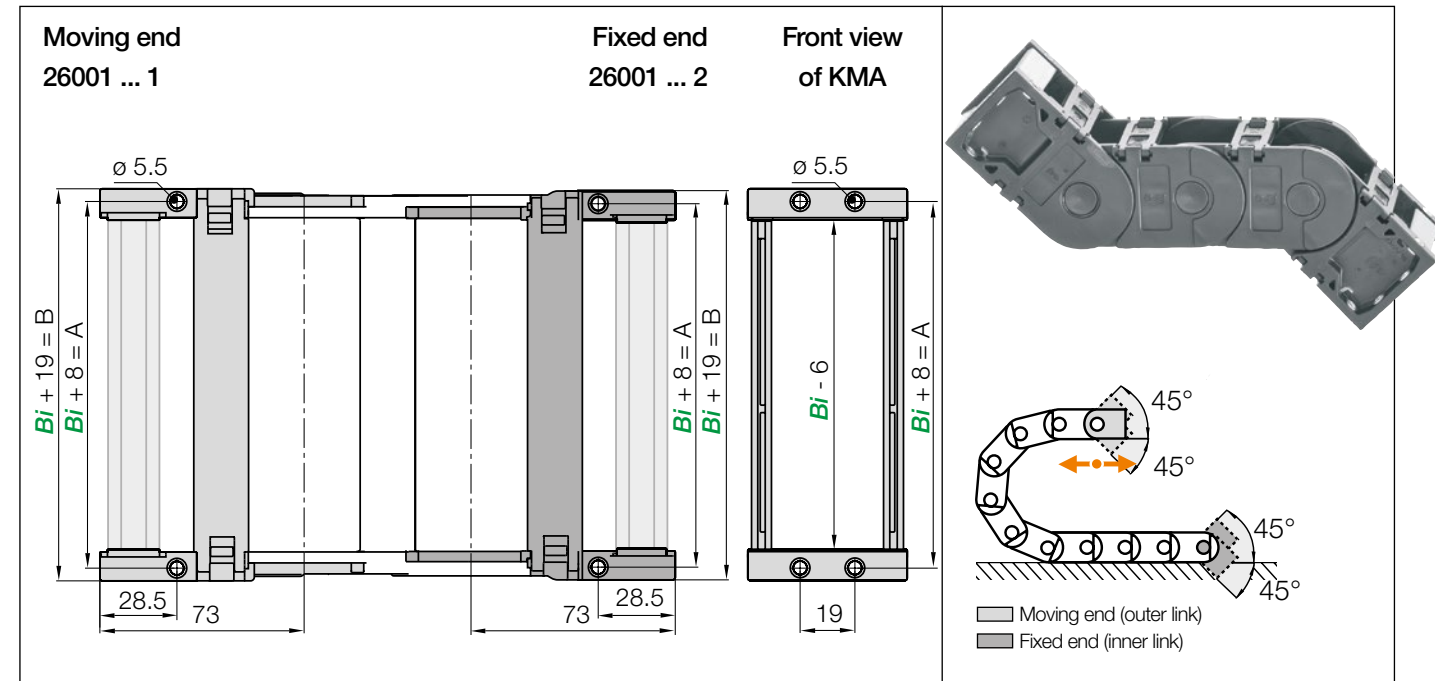
The required clearance height: $H_F = H + 35\text{mm}$ (with 2.0kg/m fill weight)

Gliding applications | For long travels from 10m to max. 120m



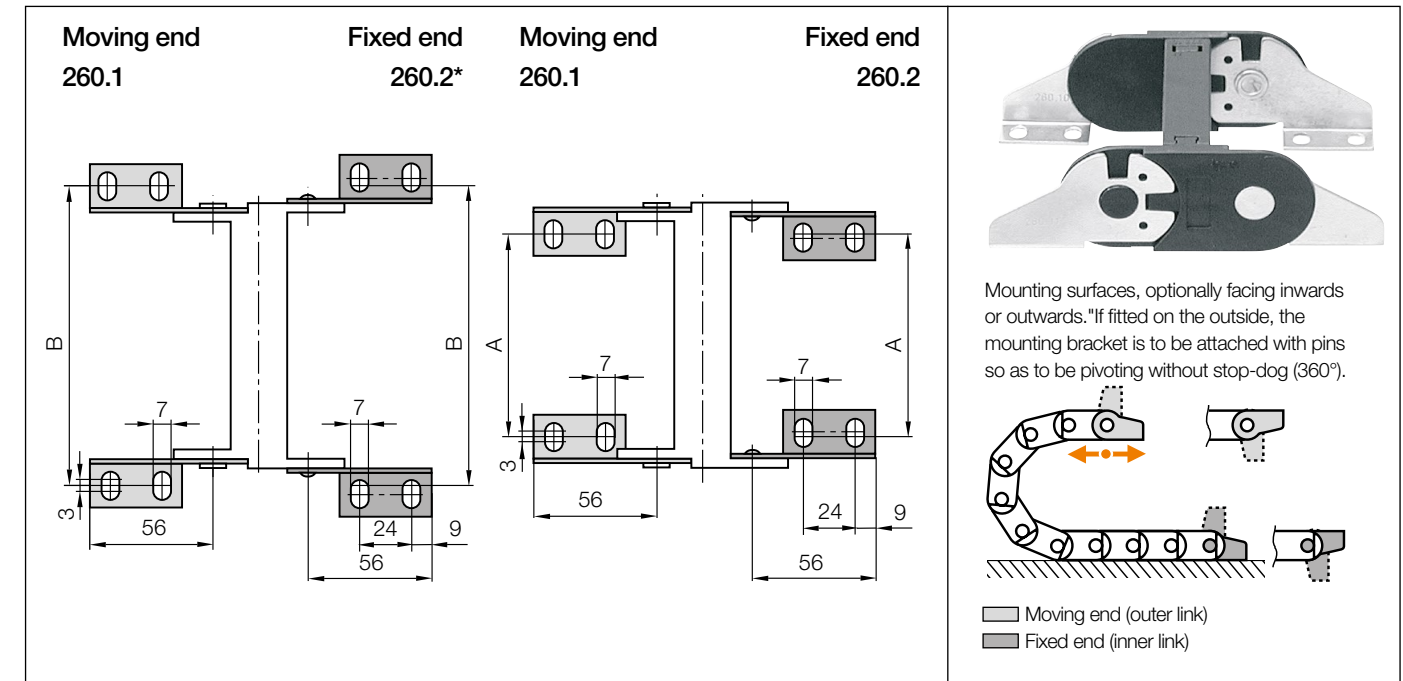
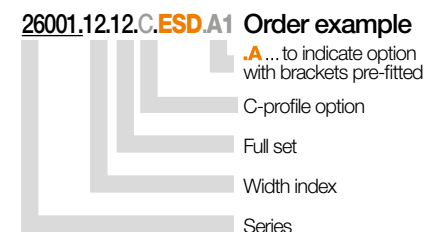
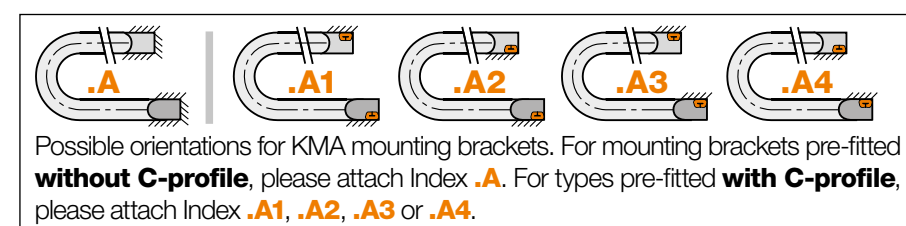
In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

R	063	075	100	125	150
H ₂	130	150	166	166	166
D ₂ ⁺²⁵	140	150	395	510	545
K ₂	335	375	616	784	896
ΔCL	–	–	144	244	244

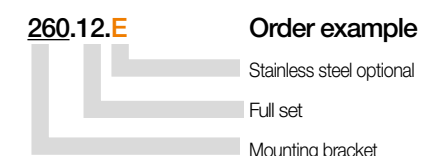
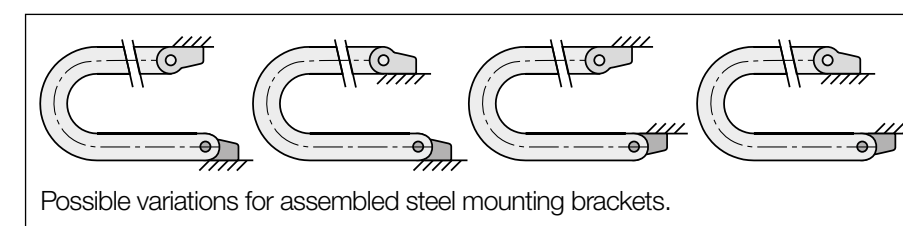


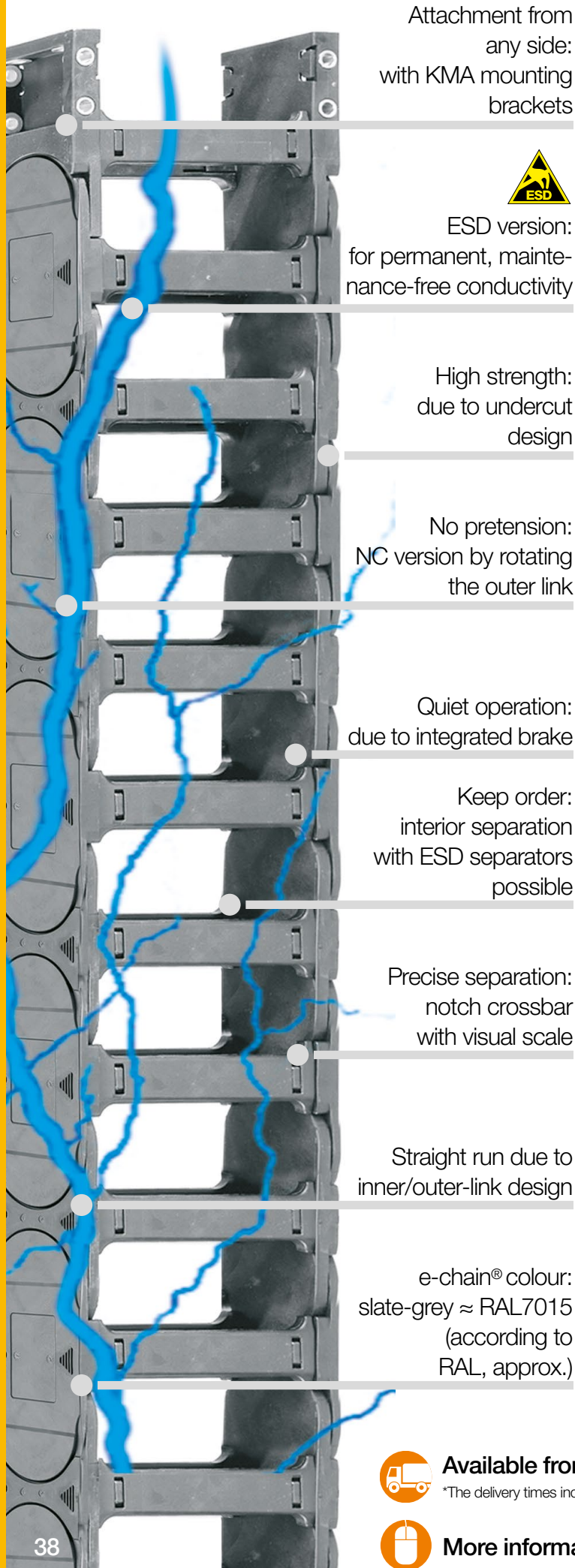
Width index	Part No. full set KMA with C-profile	Part No. full set KMA without C-profile	A [mm]	B [mm]
.05. ▶	26001.05.12.C.ESD	26001.05.12.ESD	58	69
.06. ▶	26001.06.12.C.ESD	26001.06.12.ESD	73	84
.07. ▶	26001.07.12.C.ESD	26001.07.12.ESD	83	94
.09. ▶	26001.09.12.C.ESD	26001.09.12.ESD	98	109
.10. ▶	26001.10.12.C.ESD	26001.10.12.ESD	108	119
.12. ▶	26001.12.12.C.ESD	26001.12.12.ESD	133	144

(KMA = polymer metal mounting bracket)



Width index	Part No. full set Steel	Part No. full set Stainless steel (AISI 304)	A [mm]	B [mm]
.05. ▶	260.12	260.12.E	37	83
.06. ▶	260.12	260.12.E	52	98
.07. ▶	260.12	260.12.E	62	108
.09. ▶	260.12	260.12.E	77	123
.10. ▶	260.12	260.12.E	87	133
.12. ▶	260.12	260.12.E	112	158





Attachment from any side:
with KMA mounting brackets

 ESD version:
for permanent, maintenance-free conductivity

High strength:
due to undercut design

No pretension:
NC version by rotating the outer link

Quiet operation:
due to integrated brake

Keep order:
interior separation with ESD separators possible

Precise separation:
notch crossbar with visual scale

Straight run due to inner/outer-link design

e-chain® colour:
slate-grey ≈ RAL7015
(according to RAL, approx.)



Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.



More information ► www.igus.eu/E4.1_ESD



One series for almost any application - E4.1 ESD

System E4.1 combines all the advantages of the previous three versions and is the best igus® e-chain® in the product range. Series E4.1 is stronger whilst having the same or even smaller dimensions than previous versions. Almost all accessories and mounting dimensions are identical. Increase the service life of your application with the igus® system E4.1 whilst reducing cost.

- Undercut design for high lateral stability, high strength for long travels and for large unsupported lengths
- Especially 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

- Pick and place machines
- Semi-conductor machines
- Linear motors, actuators
- Measuring equipment
- Machine tools
- General machinery, etc.

ESD series from stock	Inner height <i>hi</i> [mm]	Inner width <i>Bi</i> [mm]	Outer width <i>Ba</i> [mm]	Outer height <i>ha</i> [mm]	Bend radius <i>R</i> [mm]	Unsupported length ≤ [m]	Page
-----------------------	-----------------------------	----------------------------	----------------------------	-----------------------------	---------------------------	--------------------------	------



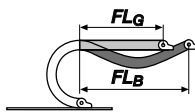
E4.1 ESD e-chains®, crossbars every link for particularly demanding applications

E4.21	21	30 - 80	44 - 94	28	048 - 100	2.50	40
E4.28	28	40 - 125	60 - 145	42	055 - 125	2.50	44
E4.32	32	50 - 200	73 - 223	54	063 - 250	3.30	48
E4.42	42	50 - 200	76 - 226	64	075 - 250	4.00	52
E4.56	56	75 - 300	109 - 334	84	135 - 250	5.00	56
E4.80	80	75 - 300	125 - 350	108	200 - 300	6.20	60

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 ESD -40°C / +80°C



Flammability class, igumid ESD VDE 0304 IIC UL94-HB



Note for load diagrams *FL_G* / *FL_B*: Values apply to standard e-chains® using igumid G material! The values can also be used for the assessment of applications of the e-chain® in special ESD material. If the respective maximum unsupported length exceeds 80%, the suitability of the e-chain® should be verified by a practical test. ■ *FL_G* = unsupported with straight upper run ■ *FL_B* = unsupported with permitted sag

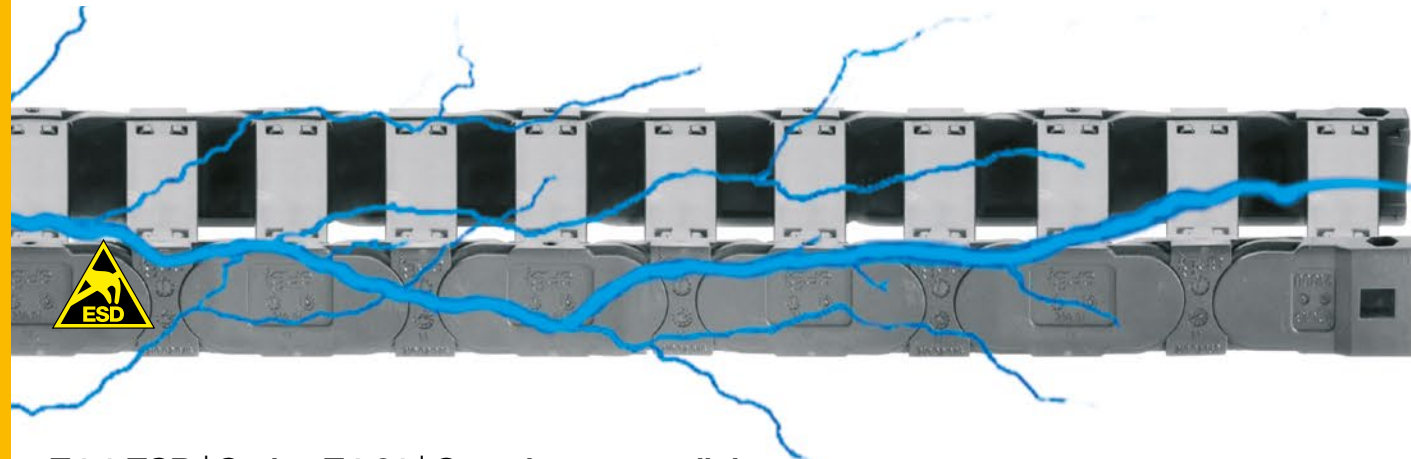
Installation types, maximum travels

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	≤ 5.0m	≤ 200m	≤ 80m	≤ 5.0m	≤ 1.2m	with rework	upon request	upon request
E4.32	≤ 6.6m	≤ 200m	≤ 80m	≤ 5.0m	≤ 1.5m	with rework	upon request	upon request
E4.42	≤ 8.0m	≤ 300m	≤ 100m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
E4.56	≤ 10.0m	≤ 400m	≤ 100m	≤ 6.0m	≤ 2.5m	with rework	upon request	upon request
E4.80	≤ 12.4m	≤ 400m	≤ 120m	≤ 6.0m	≤ 3.0m	with rework	upon request	upon request



3D CAD, configurators, service life calculation and more ► www.igus.eu/E4.1_ESD

Strong due to undercut design, small inner height

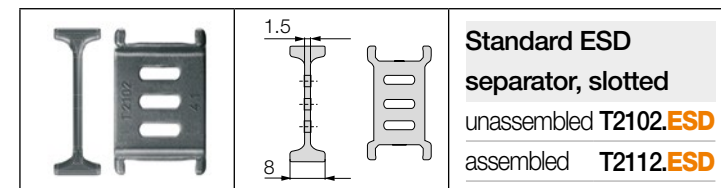


E4.1 ESD | Series E4.21 | Crossbars every link (crossbars removable along the inner and outer radius)

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
E4.21.030.R.0.ESD	30	44	048 063 075 100	≈ 0.60
E4.21.040.R.0.ESD	40	54	048 063 075 100	≈ 0.64
E4.21.050.R.0.ESD	50	64	048 063 075 100	≈ 0.67
E4.21.060.R.0.ESD	60	74	048 063 075 100	≈ 0.71
E4.21.070.R.0.ESD	70	84	048 063 075 100	≈ 0.74
E4.21.080.R.0.ESD	80	94	048 063 075 100	≈ 0.78

Complete Part No. with required radius (R). Example: E4.21.070.100.0.ESD

ESD interior separation



Standard ESD separator

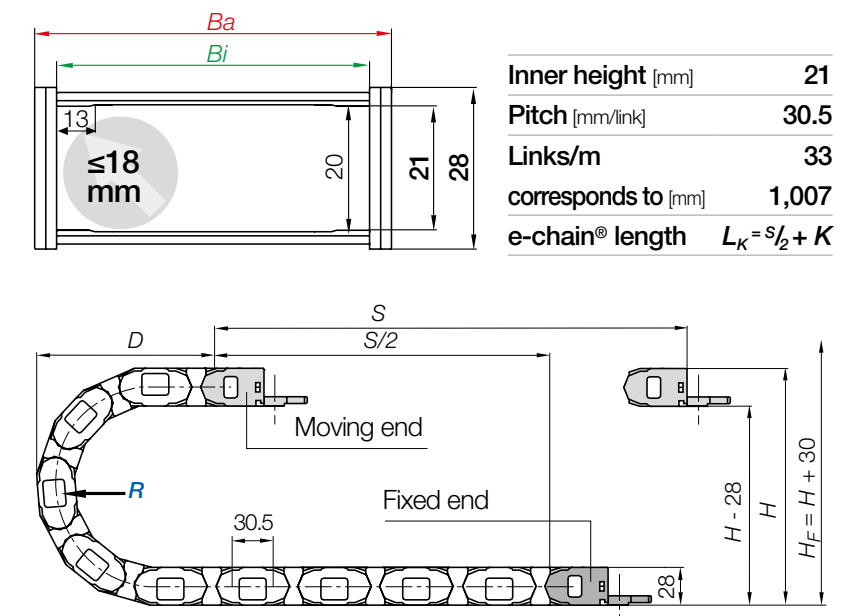
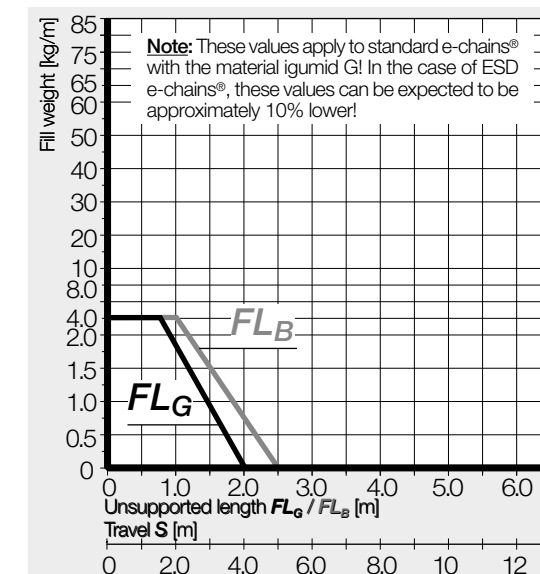
For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

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



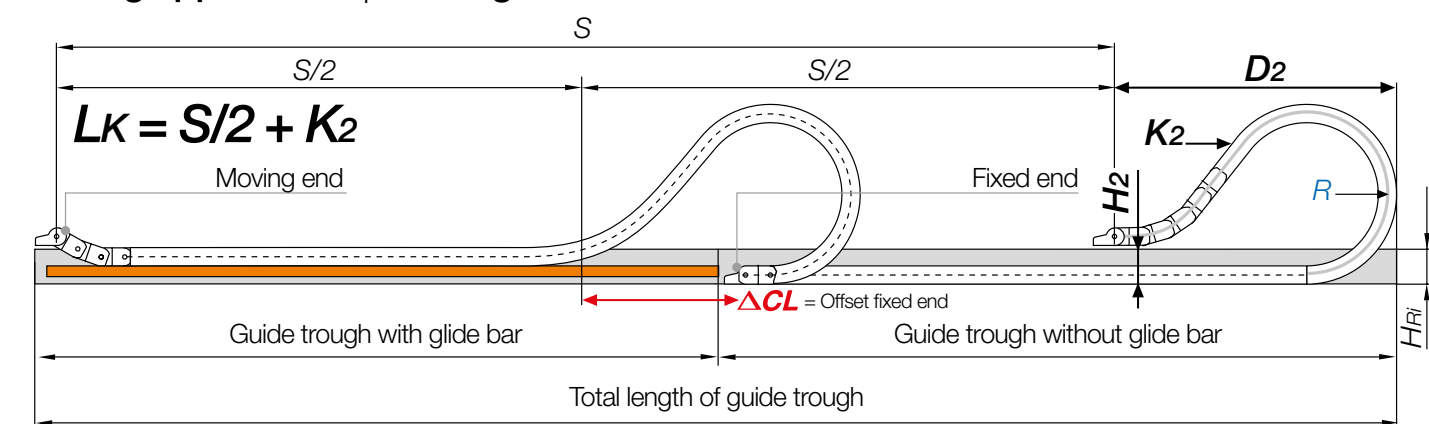
Unsupported applications | Short travels



R	048	063	075	100
H	124	154	178	228
D	108	123	135	160
K	215	260	300	380

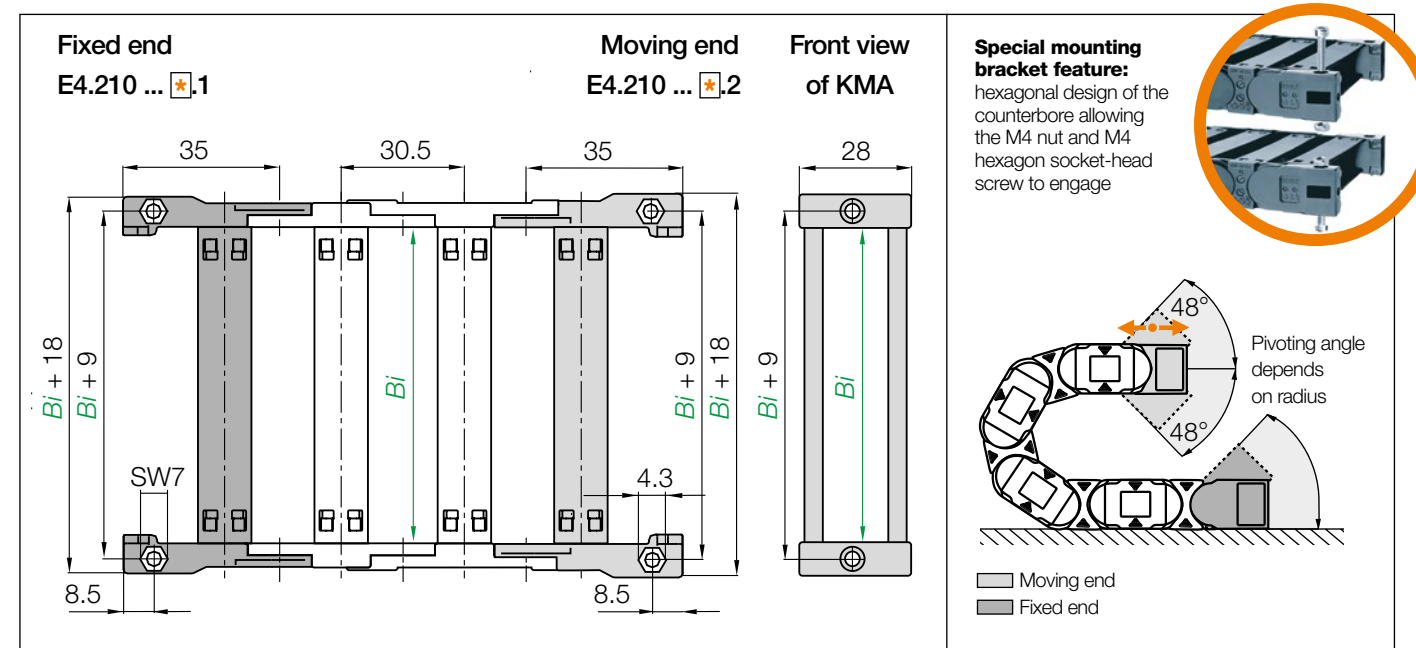
The required clearance height: $H_F = H + 30\text{mm}$ (with 1.5kg/m fill weight)

Gliding applications | For long travels from 10m to max. 120m



In case of travels between 4 and 10m we recommend an e-chain® with a longer unsupported length.

R	048	063	075	100
H ₂	96	126	152	135
D ₂	95	110	120	430
K ₂	215	260	300	640.5
ΔCL	–	–	–	270

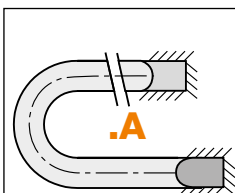


KMA pivoting | Recommended for unsupported and gliding applications

Width index	Part No. full set KMA without C-profile	<i>Bi</i> [mm]
.030. ▶	E4.210.030.  12. ESD	30
.040. ▶	E4.210.040.  12. ESD	40
.050. ▶	E4.210.050.  12. ESD	50
.060. ▶	E4.210.060.  12. ESD	60
.070. ▶	E4.210.070.  12. ESD	70
.080. ▶	E4.210.080.  12. ESD	80

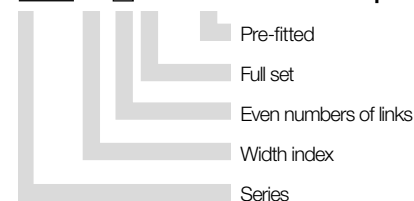
(KMA = polymer metal mounting bracket)

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  (for odd) or  (for even) depending on an even or odd number of links required.

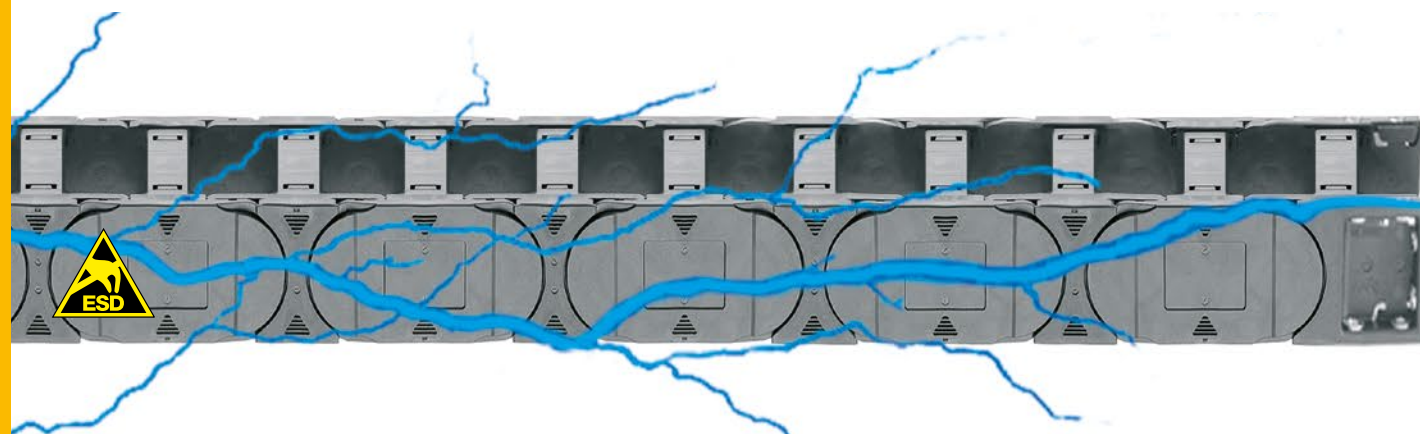


The bracket orientations are set automatically when using an igus® KMA mounting bracket with attachment from any side. To receive a KMA mounting bracket pre-fitted please add index **.A.**

E4.210.030.2.12.ESD.A Order example



Strong due to undercut design, small inner height

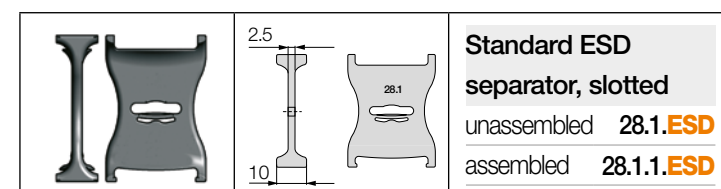


E4.1 ESD | Series E4.28 | Crossbars every link (crossbars removable along the inner and outer radius)

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
E4.28.040.R.0.ESD	40	60	055 063 075 100 125	≈ 1.06
E4.28.050.R.0.ESD	50	70	055 063 075 100 125	≈ 1.11
E4.28.062.R.0.ESD	62	82	055 063 075 100 125	≈ 1.17
E4.28.070.R.0.ESD	70	90	055 063 075 100 125	≈ 1.20
E4.28.075.R.0.ESD	75	95	055 063 075 100 125	≈ 1.23
E4.28.087.R.0.ESD	87	107	055 063 075 100 125	≈ 1.28
E4.28.100.R.0.ESD	100	120	055 063 075 100 125	≈ 1.37
E4.28.125.R.0.ESD	125	145	055 063 075 100 125	≈ 1.51

Complete Part No. with required radius (R). Example: E4.28.100.100.0.ESD

ESD interior separation



Standard ESD separator

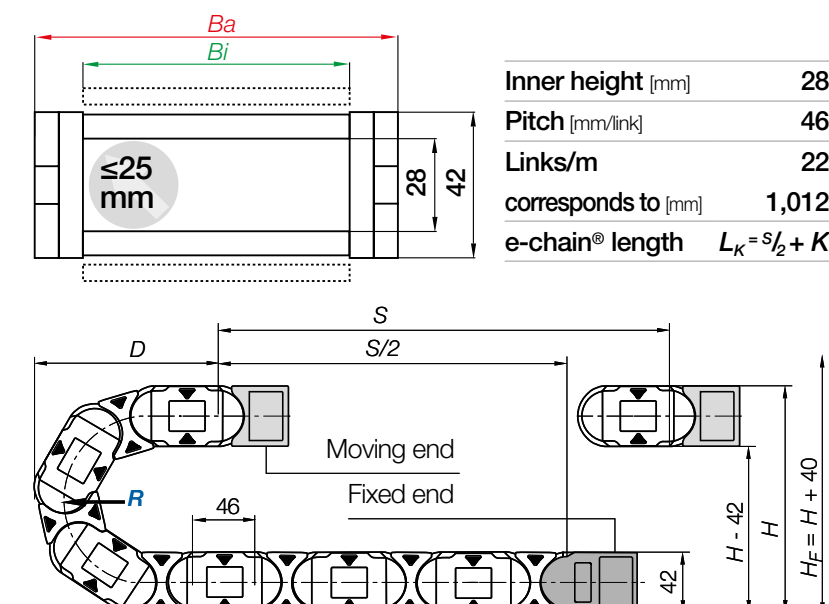
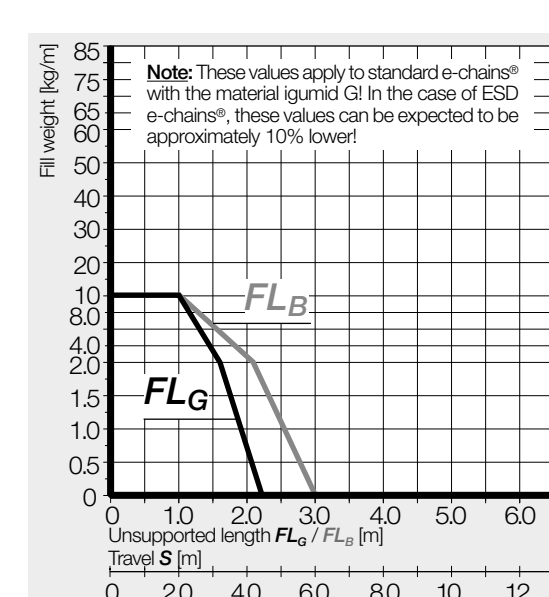
For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

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



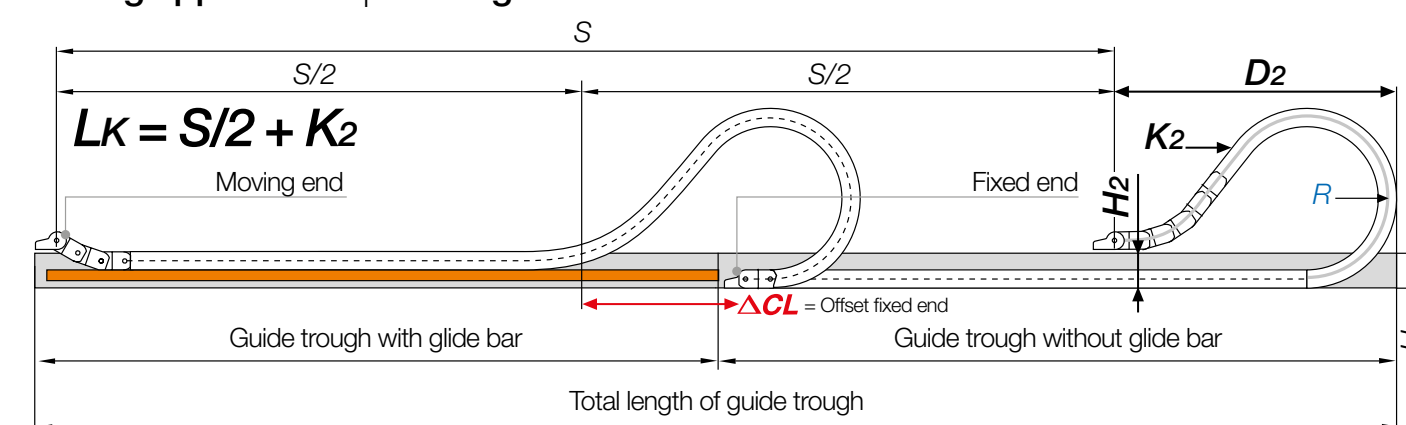
Unsupported applications | Short travels



R	055	063	075	100	125
H	152	168	192	242	292
D	145	153	165	190	215
K	265	290	330	410	485

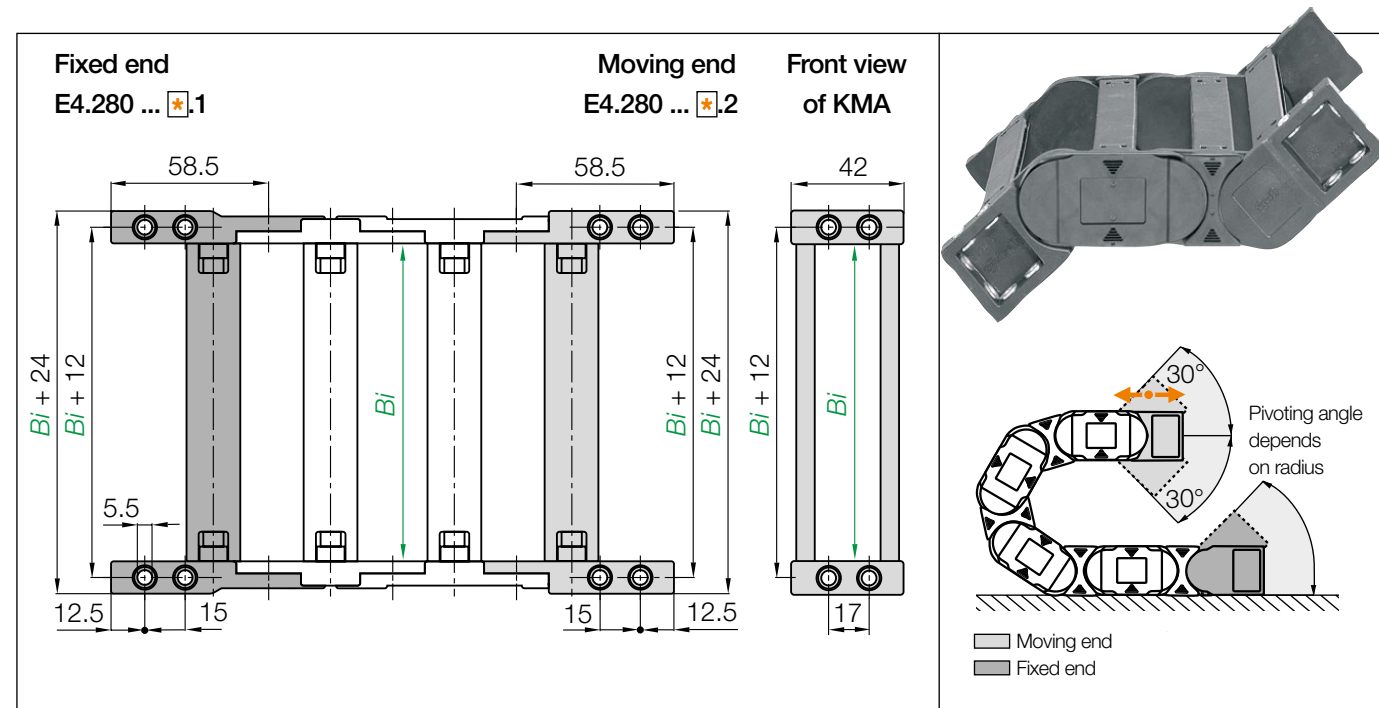
The required clearance height: $H_F = H + 40\text{mm}$ (with 1.0kg/m fill weight)

Gliding applications | For long travels from 10m to max. 200m



In case of travels between 5 and 10m we recommend an e-chain® with a longer unsupported length.

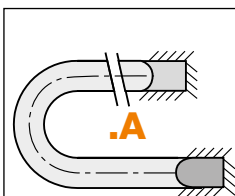
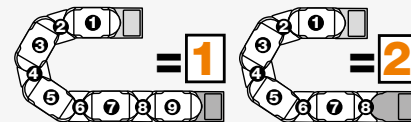
R	055	063	075	100	125
H ₂	110	126	150	158	158
D ₂ ⁺²⁵	122	130	142	350	490
K ₂	265	290	330	598	782
ΔCL	—	—	—	150	270



Width index	Part No. full set KMA without C-profile	Bi [mm]
.040. ▶	E4.280.040.  12.ESD	40
.050. ▶	E4.280.050.  12.ESD	50
.062. ▶	E4.280.062.  12.ESD	62
.070. ▶	E4.280.070.  12.ESD	70
.075. ▶	E4.280.075.  12.ESD	75
.087. ▶	E4.280.087.  12.ESD	87
.100. ▶	E4.280.100.  12.ESD	100
.125. ▶	E4.280.125.  12.ESD	125

(KMA = polymer metal mounting bracket)

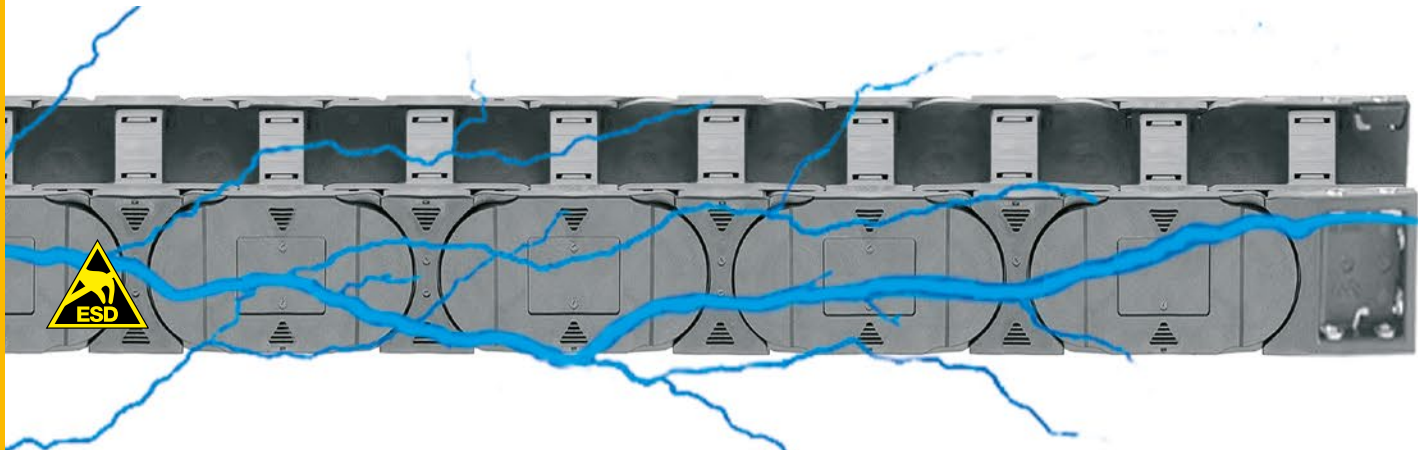
Note: * The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index **1** (for odd) or **2** (for even) depending on an even or odd number of links required.



The bracket orientations are set automatically when using igus® KMA mounting bracket with attachment from any side. To receive a KMA mounting bracket pre-fitted please add index **A**.

E4.280.100.2.12.ESD.A Order example



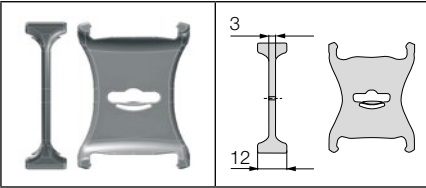


E4.1 ESD | Series E4.32 | Crossbars every link (crossbars removable along the inner and outer radius)

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
E4.32.05 .R.0.ESD	50	73	063 075 100 125 200 250	≈ 1.68
E4.32.06 .R.0.ESD	68	91	063 075 100 125 200 250	≈ 1.81
E4.32.07 .R.0.ESD	75	98	063 075 100 125 200 250	≈ 1.85
E4.32.087 .R.0.ESD	87	110	063 075 100 125 200 250	≈ 1.92
E4.32.10 .R.0.ESD	100	123	063 075 100 125 200 250	≈ 2.00
E4.32.15 .R.0.ESD	150	173	063 075 100 125 200 250	≈ 2.33
E4.32.18 .R.0.ESD	175	198	063 075 100 125 200 250	≈ 2.46
E4.32.20 .R.0.ESD	200	223	063 075 100 125 200 250	≈ 2.63

Complete Part No. with required radius (R). Example: E4.32.10.100.0.ESD

ESD interior separation



Standard ESD separator, slotted

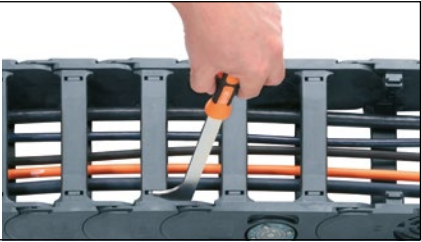
unassembled	32.1.ESD
assembled	32.1.1.ESD

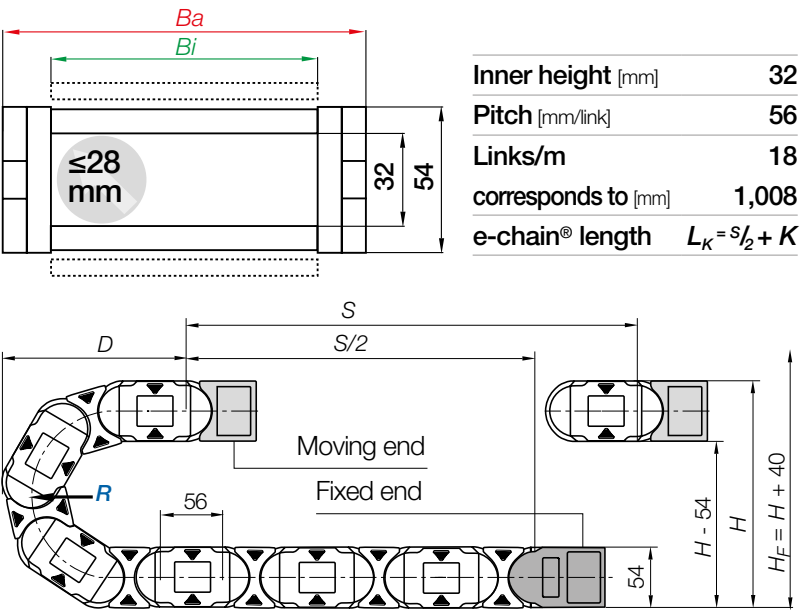
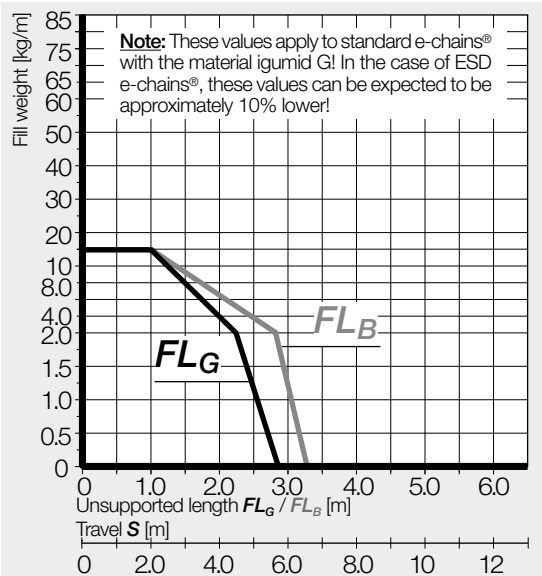
Standard ESD separator
For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

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

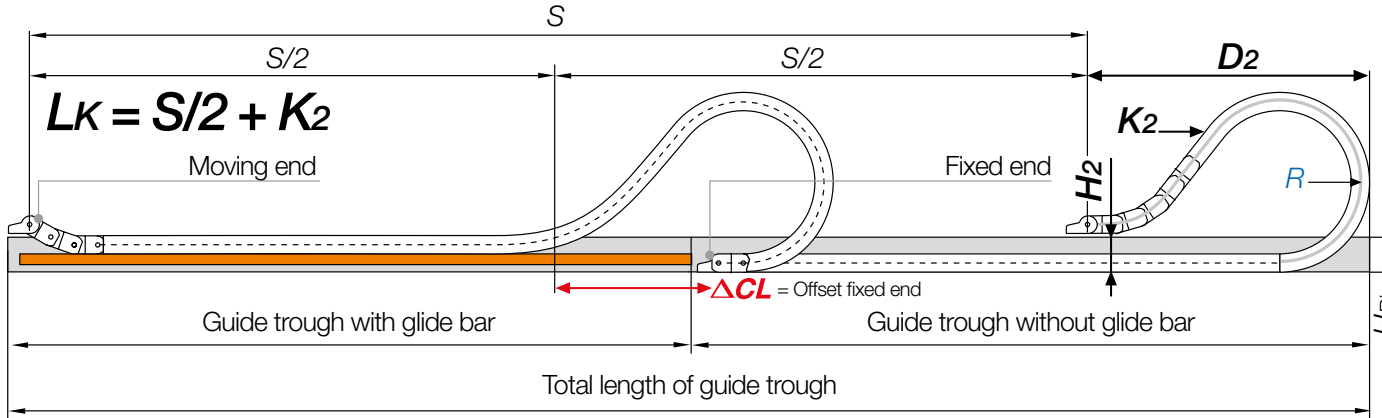




R	063	075	100	125	200	250
H +20	180	204	254	304	454	554
D	174	186	211	236	311	361
K	310	350	430	505	745	900

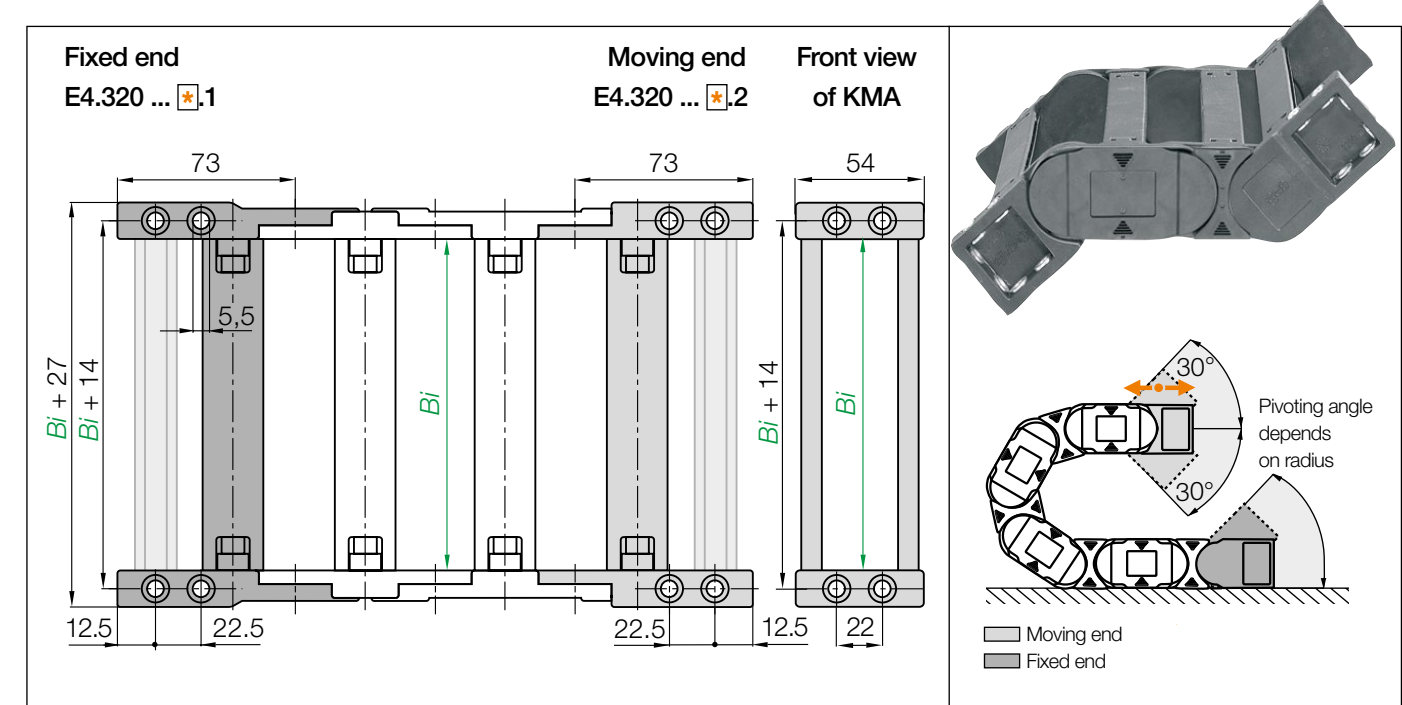
The required clearance height: $H_F = H + 40\text{mm}$ (with 2.0kg/m fill weight)

Gliding applications | For long travels from 10m to max. 200m



In case of travels between 7 and 10m we recommend an e-chain® with a longer unsupported length.

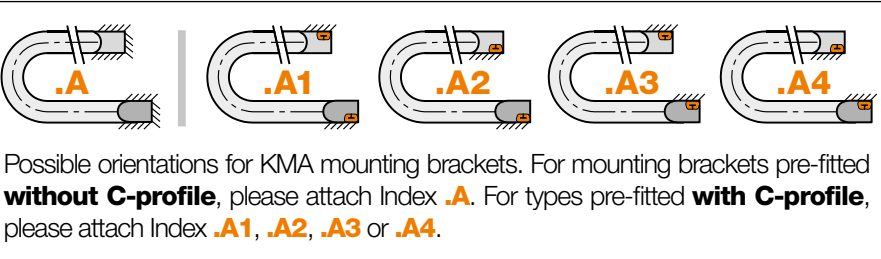
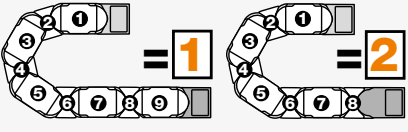
R	063	075	100	125	200	250
H ₂	126	150	166	166	166	166
D ₂ +25	146	158	370	470	770	930
K ₂	310	350	616	784	1,288	1,568
ΔCL	–	–	160	210	460	570



Width index	Part No. full set KMA with C-profile	Part No. full set KMA without C-profile	Bi [mm]
.05. ▶	E4.320.05. .12.C.ESD	E4.320.05. .12.ESD	50
.06. ▶	E4.320.06. .12.C.ESD	E4.320.06. .12.ESD	68
.07. ▶	E4.320.07. .12.C.ESD	E4.320.07. .12.ESD	75
.087. ▶	E4.320.087. .12.C.ESD	E4.320.087. .12.ESD	87
.10. ▶	E4.320.10. .12.C.ESD	E4.320.10. .12.ESD	100
.15. ▶	E4.320.15. .12.C.ESD	E4.320.15. .12.ESD	150
.18. ▶	E4.320.18. .12.C.ESD	E4.320.18. .12.ESD	175
.20. ▶	E4.320.20. .12.C.ESD	E4.320.20. .12.ESD	200

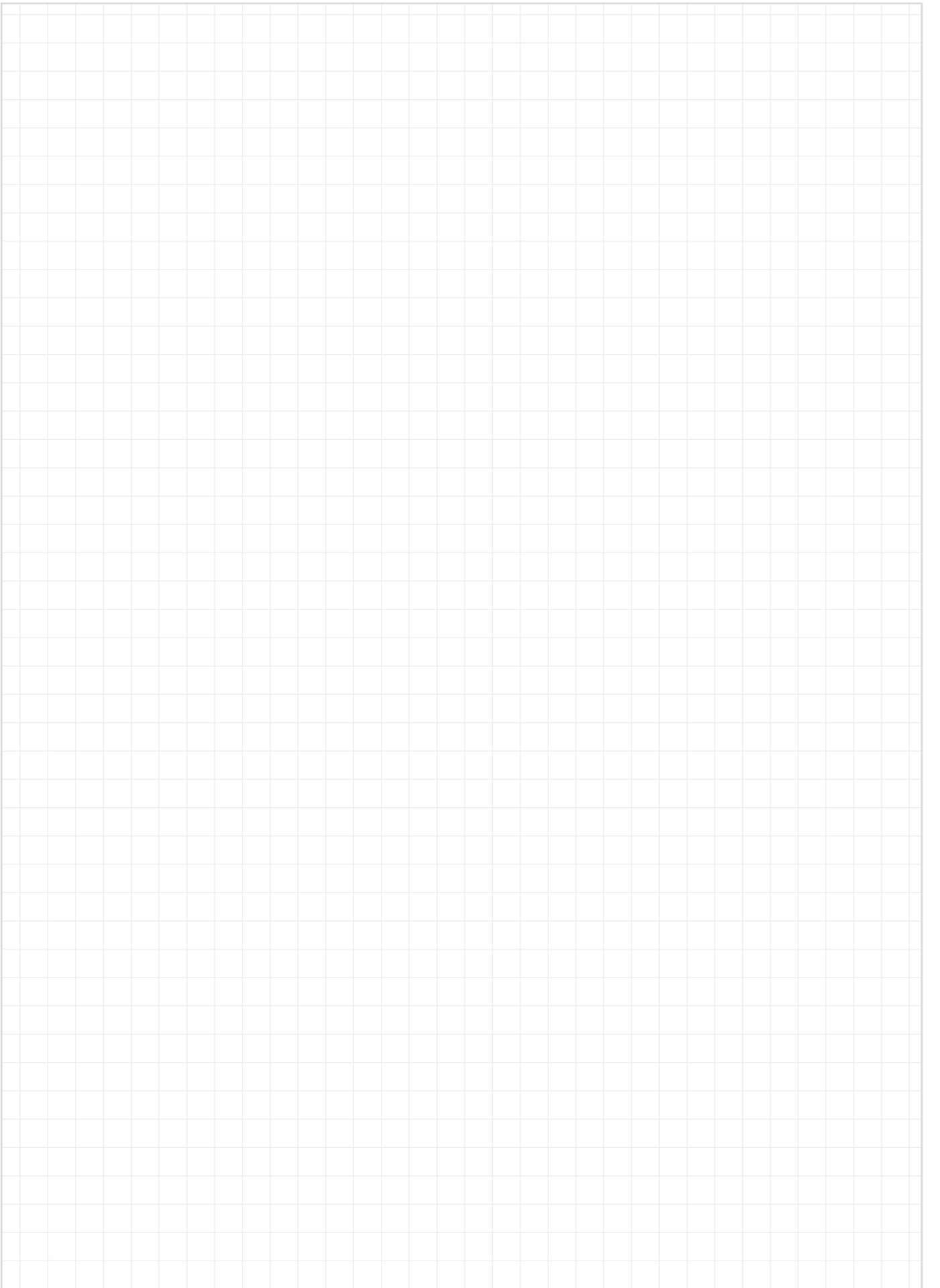
(KMA = polymer metal mounting bracket)

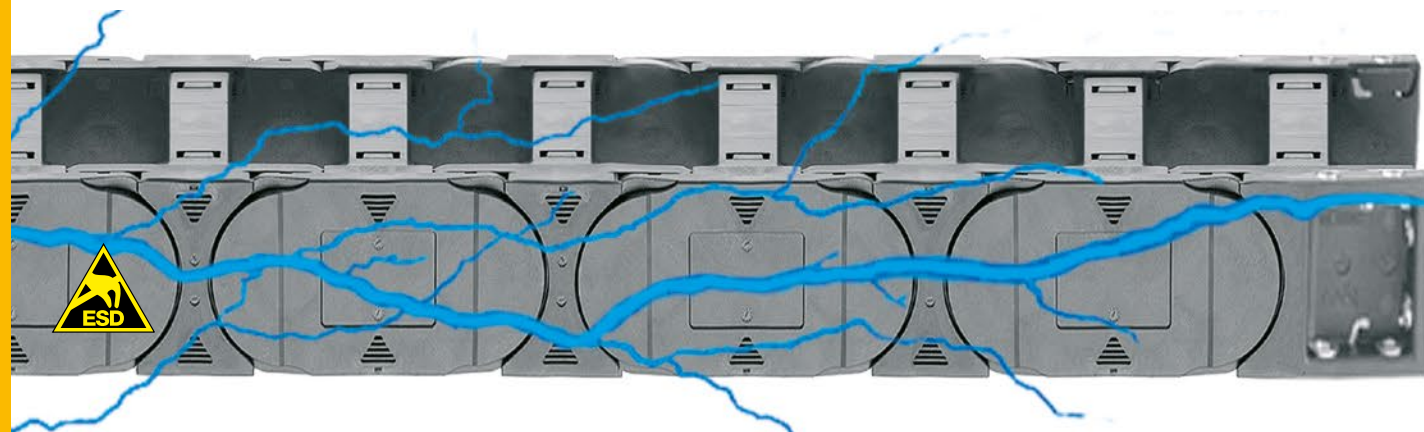
Note: The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index (for odd) or (for even) depending on an even or odd number of links required.



E4.320.10..12.ESD.C.A2 Order example

- .A... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- Even numbers of links
- Width index
- Series





E4.1 ESD | Series E4.42 | Crossbars every link (crossbars removable along the inner and outer radius)

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
E4.42.05 .R.0.ESD	50	76	075 100 150 200 250	≈ 2.10
E4.42.06 .R.0.ESD	68	94	075 100 150 200 250	≈ 2.21
E4.42.07 .R.0.ESD	75	101	075 100 150 200 250	≈ 2.24
E4.42.087 .R.0.ESD	87	114	075 100 150 200 250	≈ 2.30
E4.42.10 .R.0.ESD	100	126	075 100 150 200 250	≈ 2.37
E4.42.15 .R.0.ESD	150	176	075 100 150 200 250	≈ 2.64
E4.42.18 .R.0.ESD	175	201	075 100 150 200 250	≈ 2.75
E4.42.20 .R.0.ESD	200	226	075 100 150 200 250	≈ 2.90

Complete Part No. with required radius (R). Example: **E4.42.10.100.0.ESD**

ESD interior separation

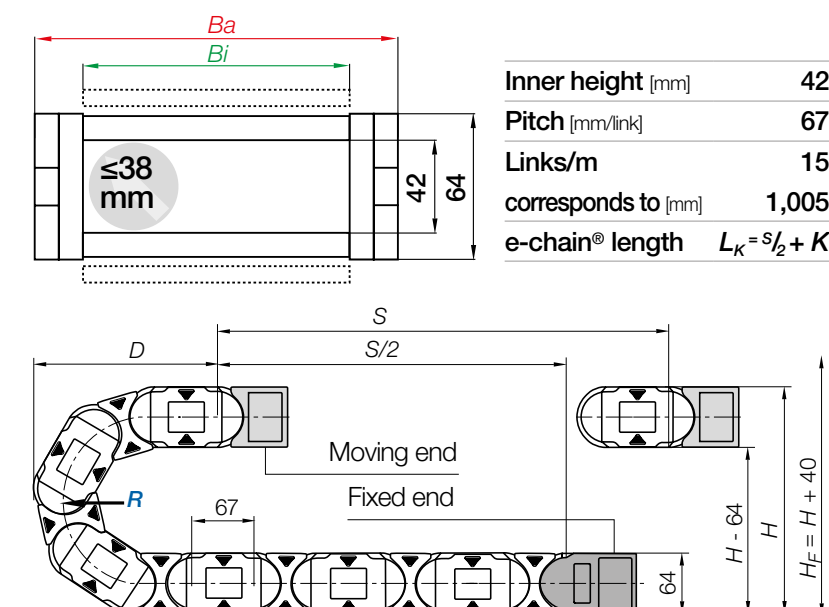
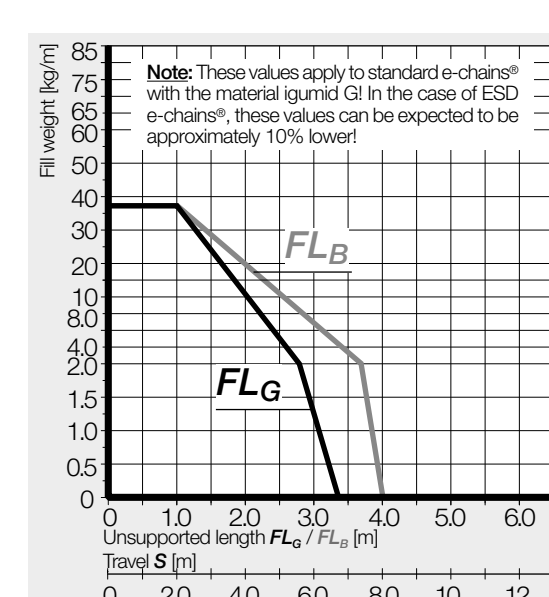
	Standard ESD separator, slotted
	unassembled 42.1.ESD assembled 42.1.1.ESD

Standard ESD separator

For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

Reduce assembly time - E4 e-chain® opener

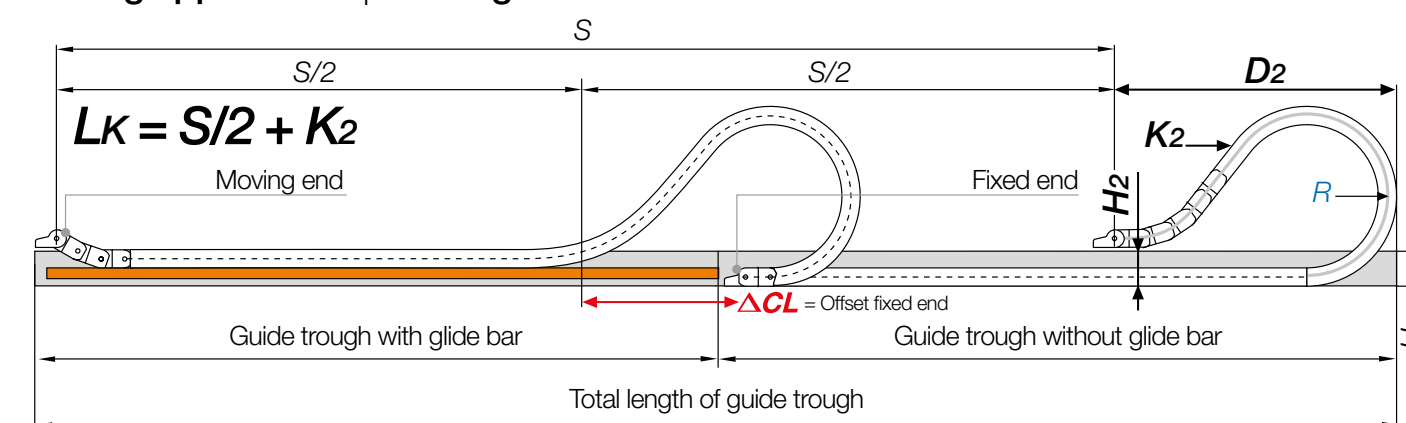
- e-chain® opener tools for easy opening and closing of e-chains®
 - Simple opening and closing of e-chain® crossbars
 - Also for use in hard to reach locations
 - Significant assembly time reduction
- More information ► www.igus.eu/E4savetime



R	075	100	150	200	250
H_{-25}^{+25}	214	264	364	464	564
D	208	233	283	333	383
K	370	450	610	765	920

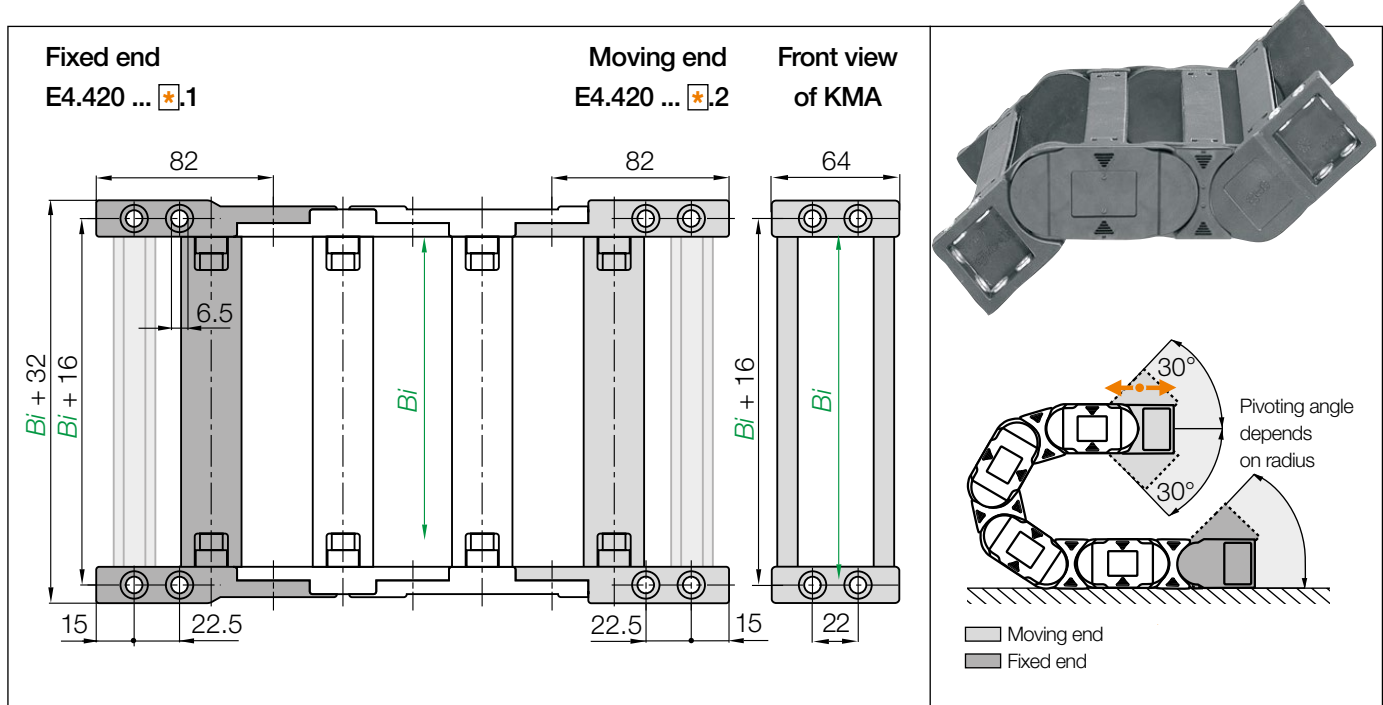
The required clearance height: $H_F = H + 40\text{mm}$ (with 3.0kg/m fill weight)

Gliding applications | For long travels from 12m to max. 300m



In case of travels between 8 and 12m we recommend an e-chain® with a longer unsupported length.

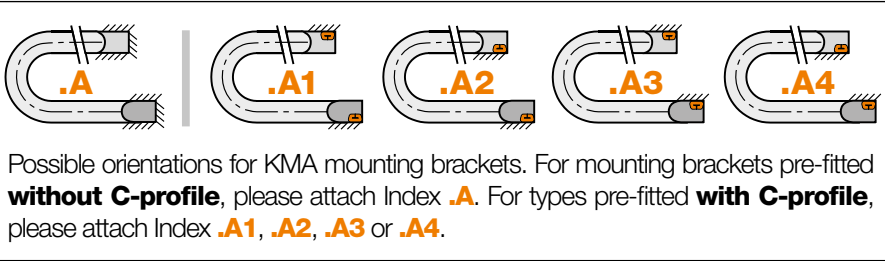
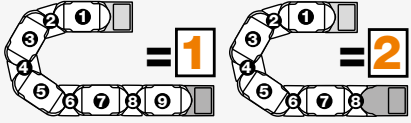
R	075	100	150	200	250
H_2	150	186	186	186	186
D_2^{+25}	174	390	570	780	1,030
K_2	370	603	938	1,340	1,675
ΔCL	–	170	300	460	660



Width index	Part No. full set KMA with C-profile	Part No. full set KMA without C-profile	Bi [mm]
.05. ▶	E4.420.05. .12.C.ESD	E4.420.05. .12.ESD	50
.06. ▶	E4.420.06. .12.C.ESD	E4.420.06. .12.ESD	68
.07. ▶	E4.420.07. .12.C.ESD	E4.420.07. .12.ESD	75
.087. ▶	E4.420.087. .12.C.ESD	E4.420.087. .12.ESD	87
.10. ▶	E4.420.10. .12.C.ESD	E4.420.10. .12.ESD	100
.15. ▶	E4.420.15. .12.C.ESD	E4.420.15. .12.ESD	150
.18. ▶	E4.420.18. .12.C.ESD	E4.420.18. .12.ESD	175
.20. ▶	E4.420.20. .12.C.ESD	E4.420.20. .12.ESD	200

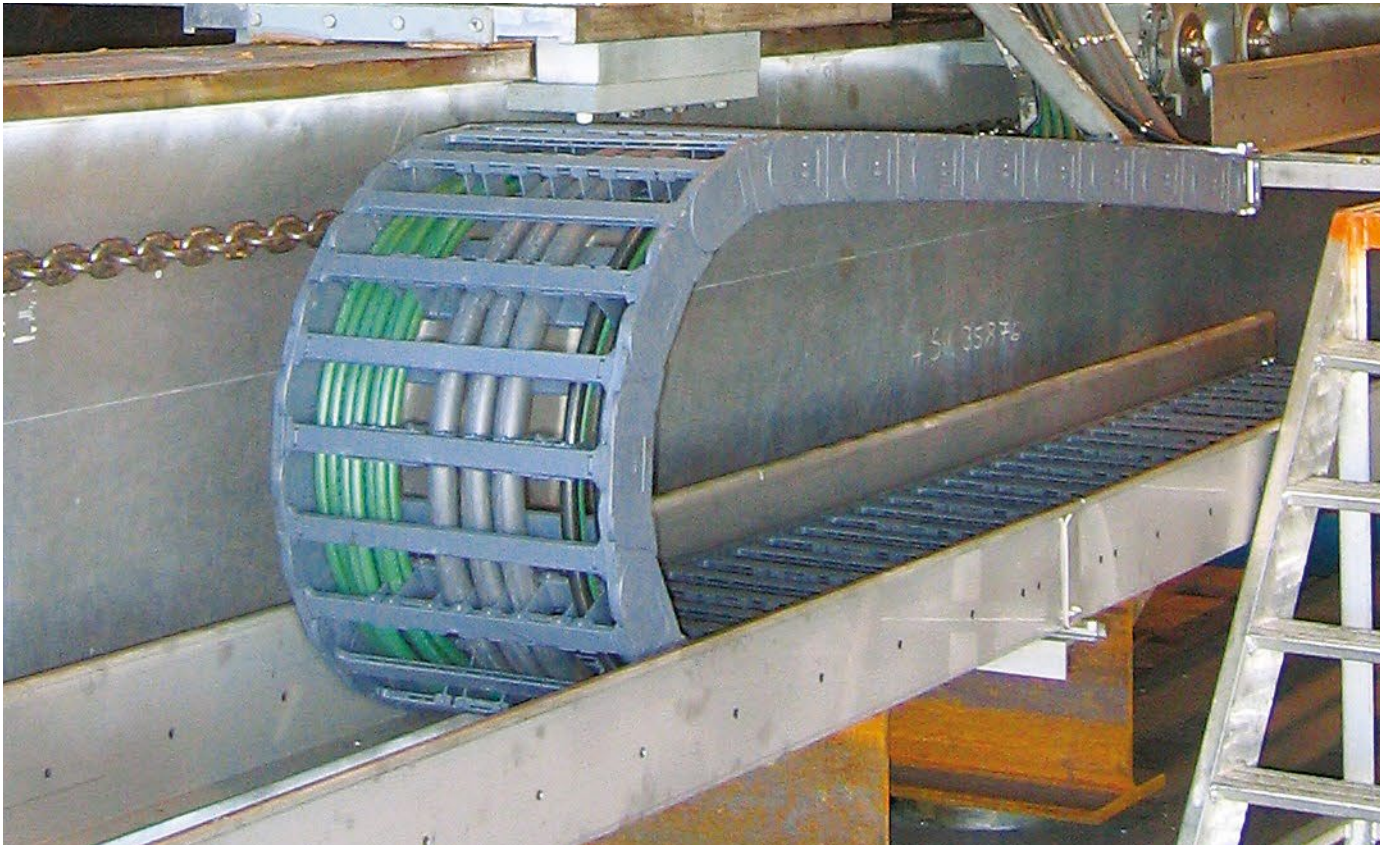
(KMA = polymer metal mounting bracket)

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 (for odd) or (for even) depending on an even or odd number of links required.



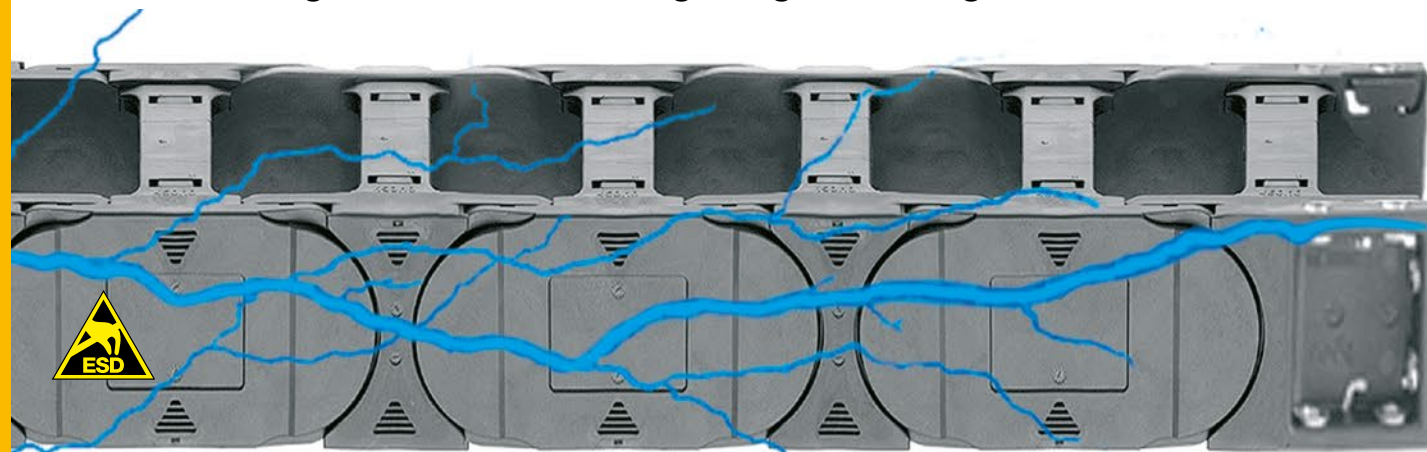
E4.420.10..12.ESD.C.A2 Order example

- .A... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- Even numbers of links
- Width index
- Series



ESD version of the igus® E4 system, harnessed with hydraulic hoses and igus® chainflex® cables.

Strong due to undercut design, large inner height



E4.1 ESD | Serie E4.56 | Crossbars every link (crossbars removable along the inner and outer radius)

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
E4.56.07.R.0.ESD	75	109	135 150 175 200 250	≈ 3.76
E4.56.12.R.0.ESD	125	159	135 150 175 200 250	≈ 4.13
E4.56.15.R.0.ESD	150	184	135 150 175 200 250	≈ 4.28
E4.56.20.R.0.ESD	200	234	135 150 175 200 250	≈ 4.71
E4.56.25.R.0.ESD	250	284	135 150 175 200 250	≈ 4.93
E4.56.30.R.0.ESD	300	334	135 150 175 200 250	≈ 5.48

Complete Part No. with required radius (R). Example: **E4.56.15.150.0.ESD**

ESD interior separation

	4		Standard ESD separator, slotted unassembled 56.1.ESD assembled 56.1.1.ESD
	18		

Standard ESD separator

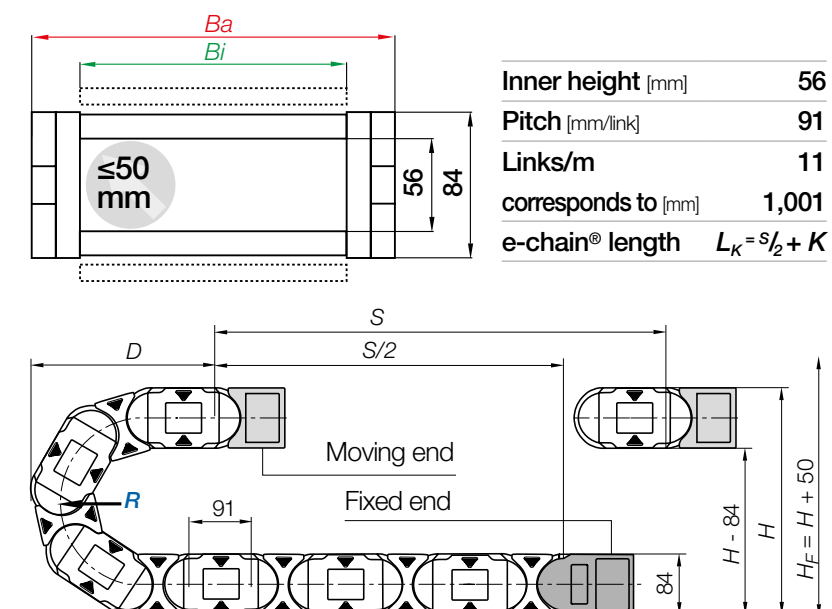
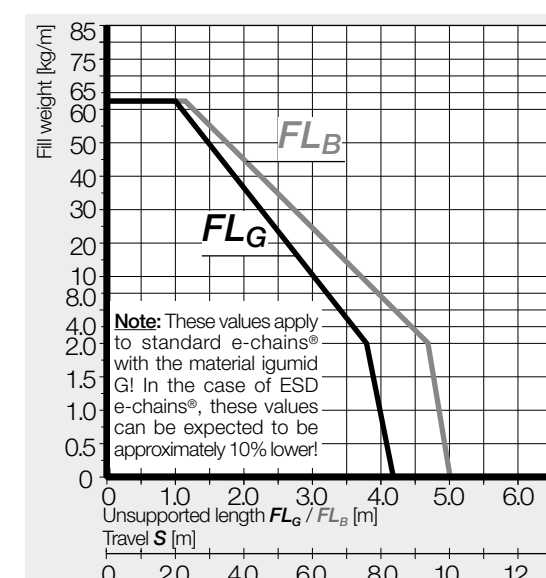
For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

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



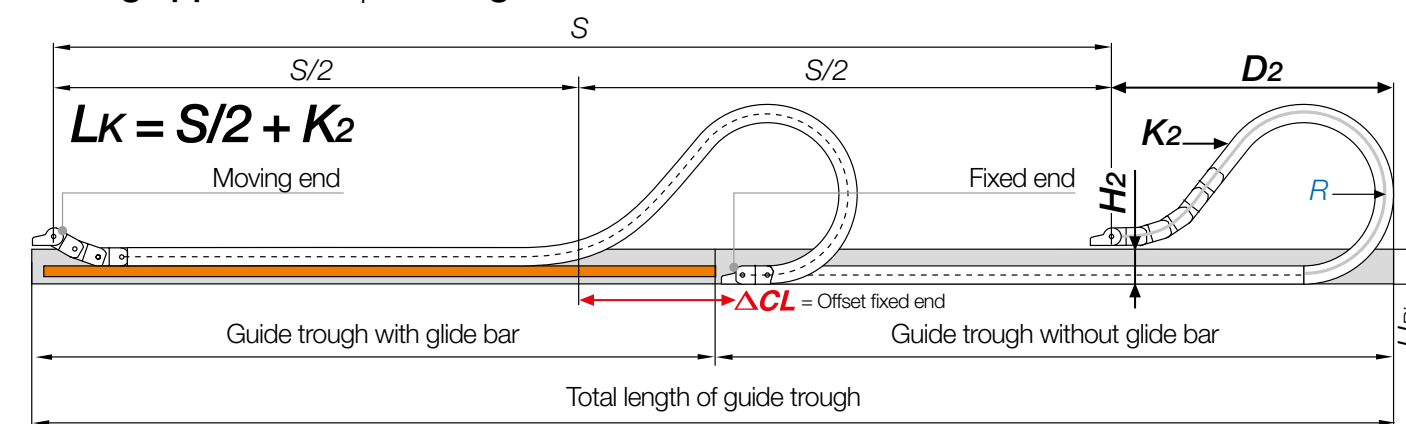
Unsupported applications | Short travels



R	135	150	175	200	250
H ₂₅	354	384	434	484	584
D	314	329	354	379	429
K	610	655	735	815	970

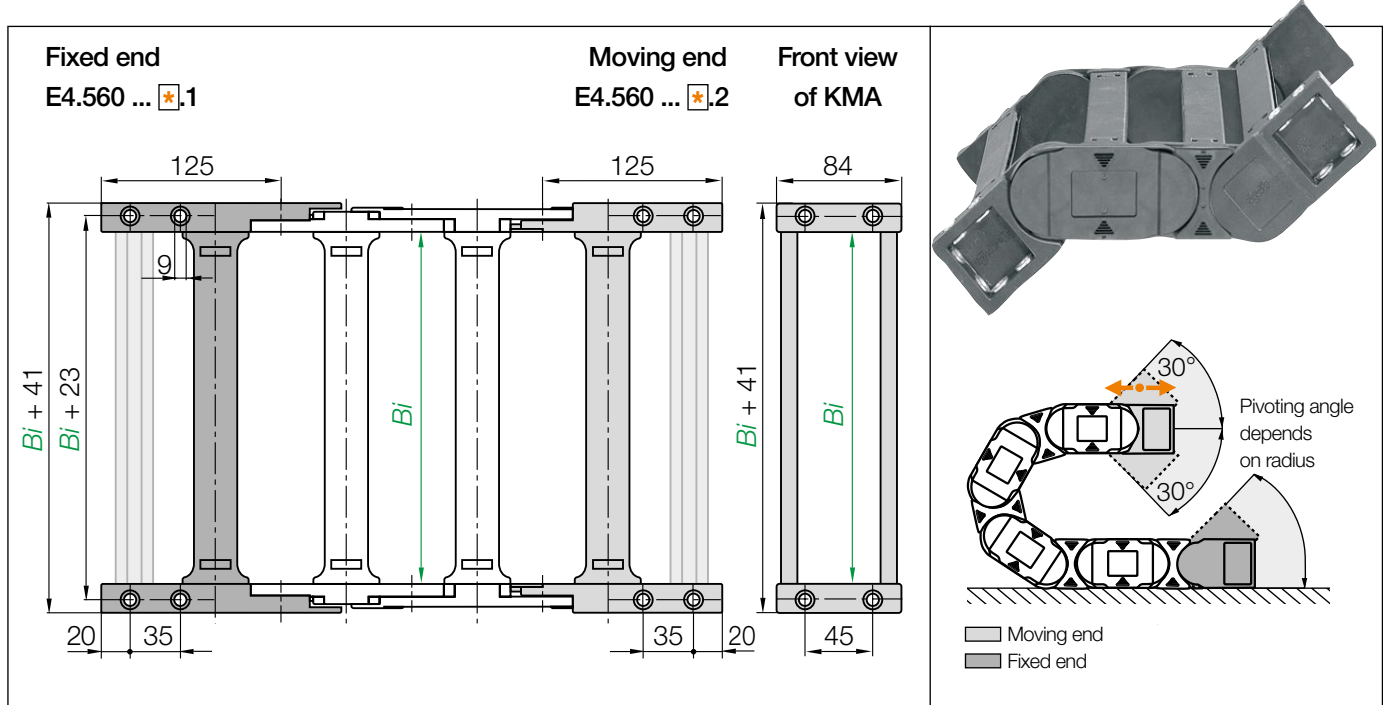
The required clearance height: $H_F = H + 50\text{mm}$ (with 3.0kg/m fill weight)

Gliding applications | For long travels from 12m to max. 400m



In case of travels between 10 and 12m we recommend an e-chain® with a longer unsupported length.

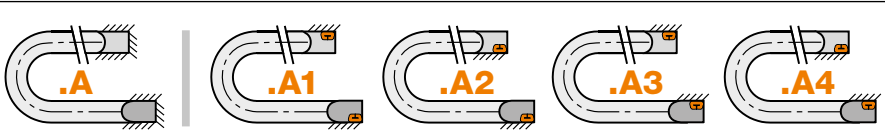
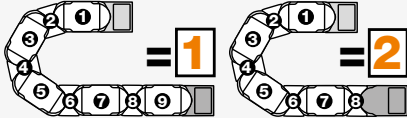
R	135	150	175	200	250
H ₂	270	266	266	266	266
D ₂₅	268	450	580	710	980
K ₂	610	819	1,092	1,274	1,638
ΔCL	–	159	259	359	559



Width index	Part No. full set KMA with C-profile	Part No. full set KMA without C-profile	Bi [mm]
.07. ▶	E4.560.07. [1] .12.C.ESD	E4.560.07. [2] .12.ESD	75
.12. ▶	E4.560.12. [1] .12.C.ESD	E4.560.12. [2] .12.ESD	125
.15. ▶	E4.560.15. [1] .12.C.ESD	E4.560.15. [2] .12.ESD	150
.20. ▶	E4.560.20. [1] .12.C.ESD	E4.560.20. [2] .12.ESD	200
.25. ▶	E4.560.25. [1] .12.C.ESD	E4.560.25. [2] .12.ESD	250
.30. ▶	E4.560.30. [1] .12.C.ESD	E4.560.30. [2] .12.ESD	300

(KMA = polymer metal mounting bracket)

Note: **[1]**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.



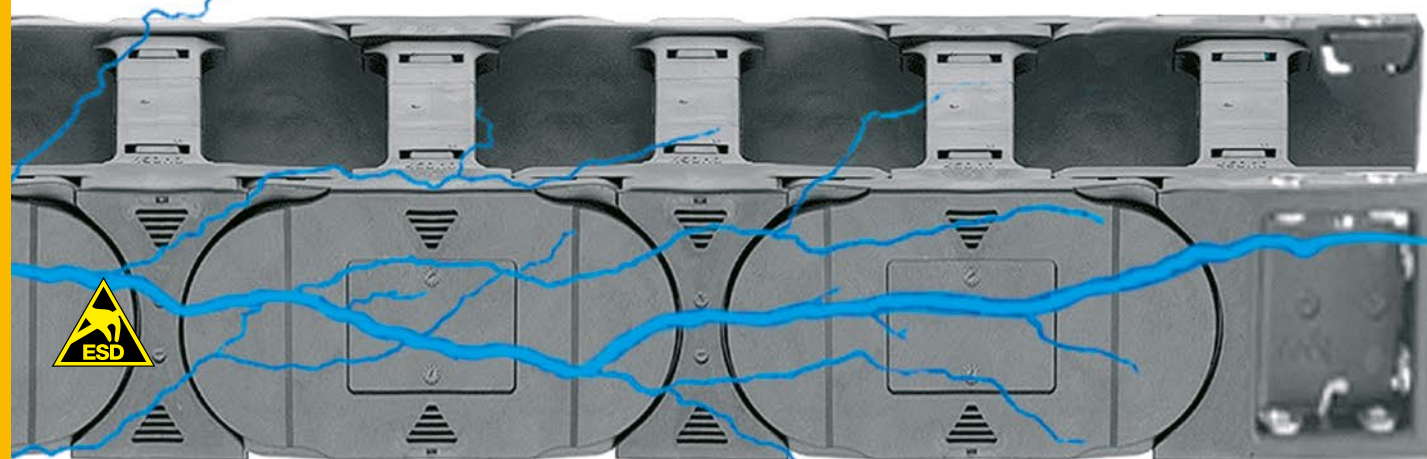
Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach Index **.A**. For types pre-fitted **with C-profile**, please attach Index **.A1**, **.A2**, **.A3** or **.A4**.

E4.560.15.**[2]**.12.ESD.C.A2 Order example

Legend:
.A... to indicate option with brackets pre-fitted
C-profile option
Full set
Even numbers of links
Width index
Series

Strong due to undercut design, new very large inner height

80



E4.1 ESD | Serie E4.80 | Crossbars every link (crossbars removable along the inner and outer radius)

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
E4.80.07.R.0.ESD	75	125	200 250 300	≈ 5.86
E4.80.12.R.0.ESD	125	175	200 250 300	≈ 6.16
E4.80.15.R.0.ESD	150	200	200 250 300	≈ 6.30
E4.80.20.R.0.ESD	200	250	200 250 300	≈ 6.64
E4.80.25.R.0.ESD	250	300	200 250 300	≈ 6.94
E4.80.30.R.0.ESD	300	350	200 250 300	≈ 7.27

Complete Part No. with required radius (R). Example: E4.80.15.250.0.ESD

ESD interior separation

	Standard ESD separator, slotted
	unassembled 80.1.ESD assembled 80.1.1.ESD

Standard ESD separator

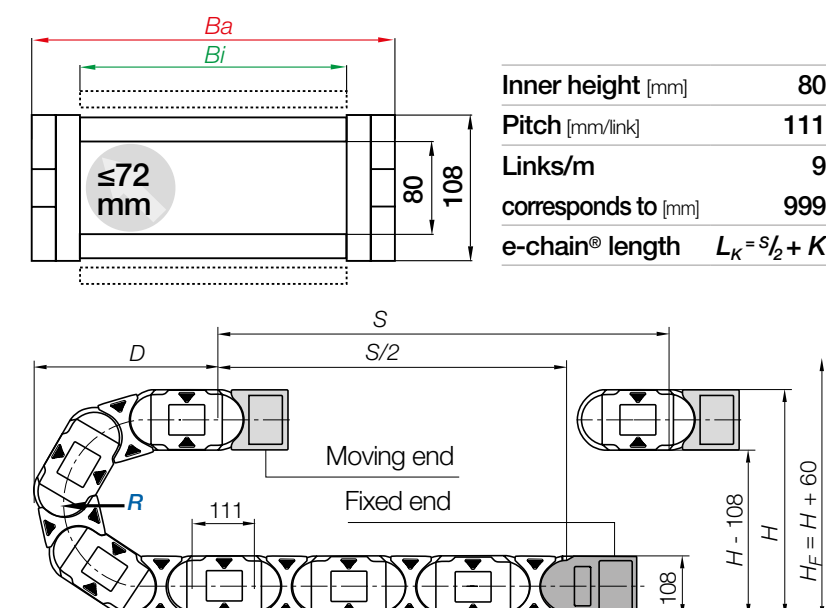
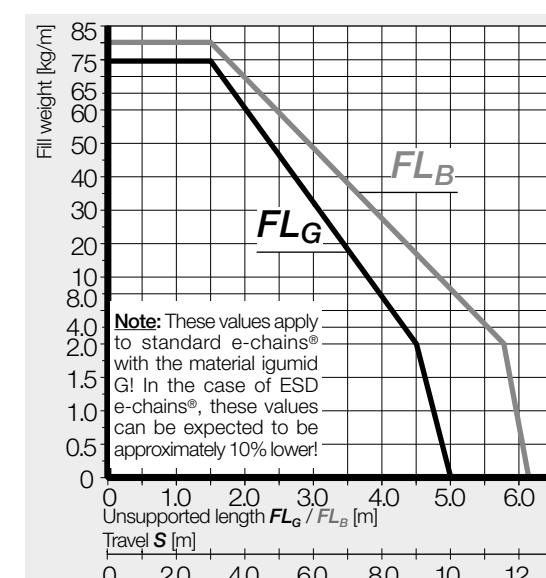
For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

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



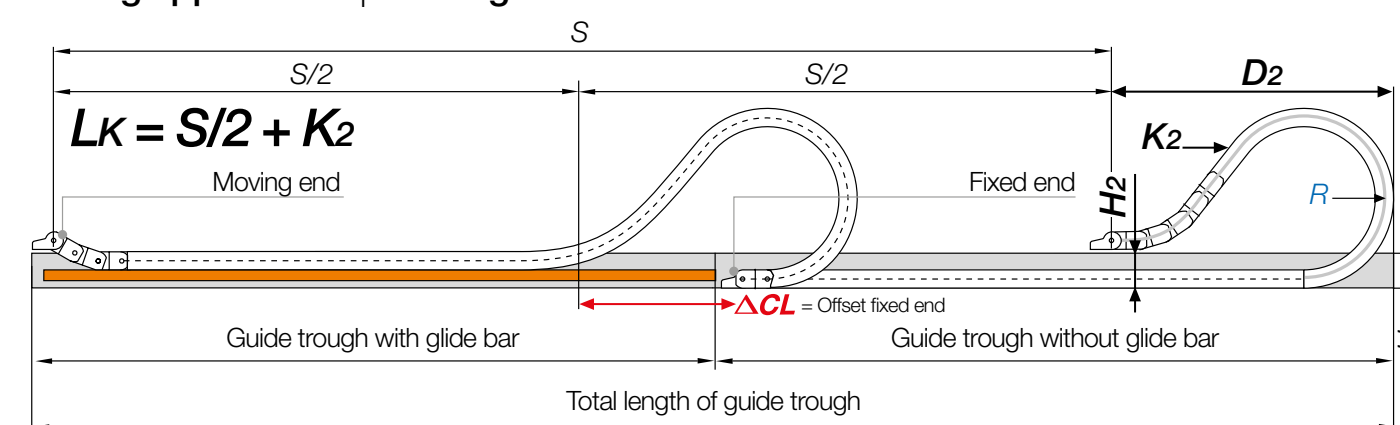
Unsupported applications | Short travels



R	200	250	300
H_{+25}^{-0}	508	608	708
D	421	471	521
K	855	1,010	1,165

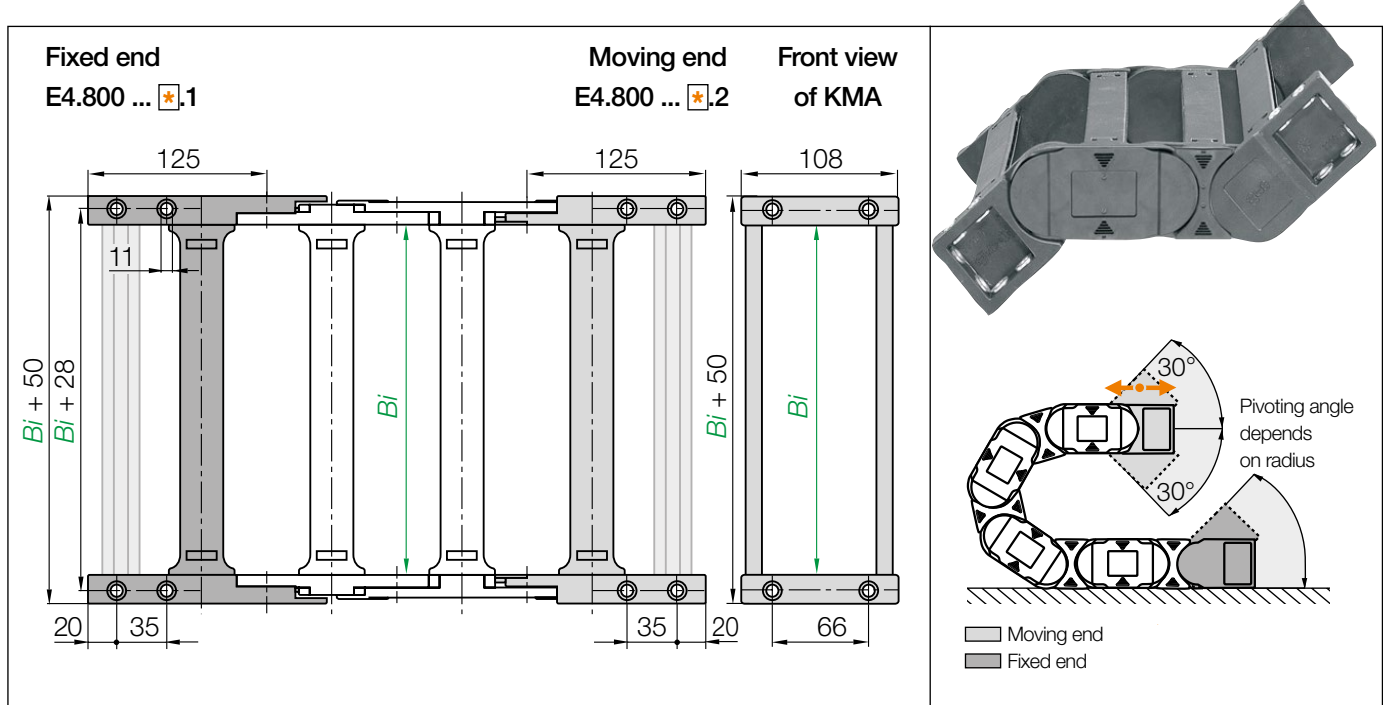
The required clearance height: $H_F = H + 60\text{mm}$ (with 3.0kg/m fill weight)

Gliding applications | For long travels from 12m to max. 400m



In case of travels between 10 and 12m we recommend an e-chain® with a longer unsupported length.

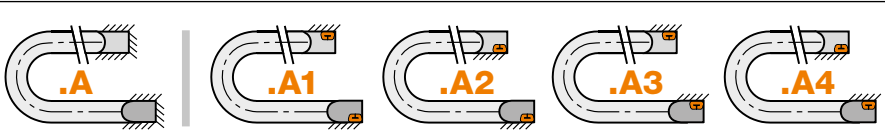
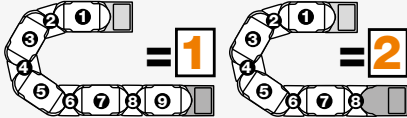
R	200	250	300
H_2	242	242	242
D_2^{+25}	800	1,000	1,200
K_2	1,330	1,665	2,000
ΔCL	389	539	689



Width index	Part No. full set KMA with C-profile	Part No. full set KMA without C-profile	Bi [mm]
.07. ▶	E4.800.07. 1 .12.C.ESD	E4.800.07. 2 .12.ESD	75
.12. ▶	E4.800.12. 1 .12.C.ESD	E4.800.12. 2 .12.ESD	125
.15. ▶	E4.800.15. 1 .12.C.ESD	E4.800.15. 2 .12.ESD	150
.20. ▶	E4.800.20. 1 .12.C.ESD	E4.800.20. 2 .12.ESD	200
.25. ▶	E4.800.25. 1 .12.C.ESD	E4.800.25. 2 .12.ESD	250
.30. ▶	E4.800.30. 1 .12.C.ESD	E4.800.30. 2 .12.ESD	300

(KMA = polymer metal mounting bracket)

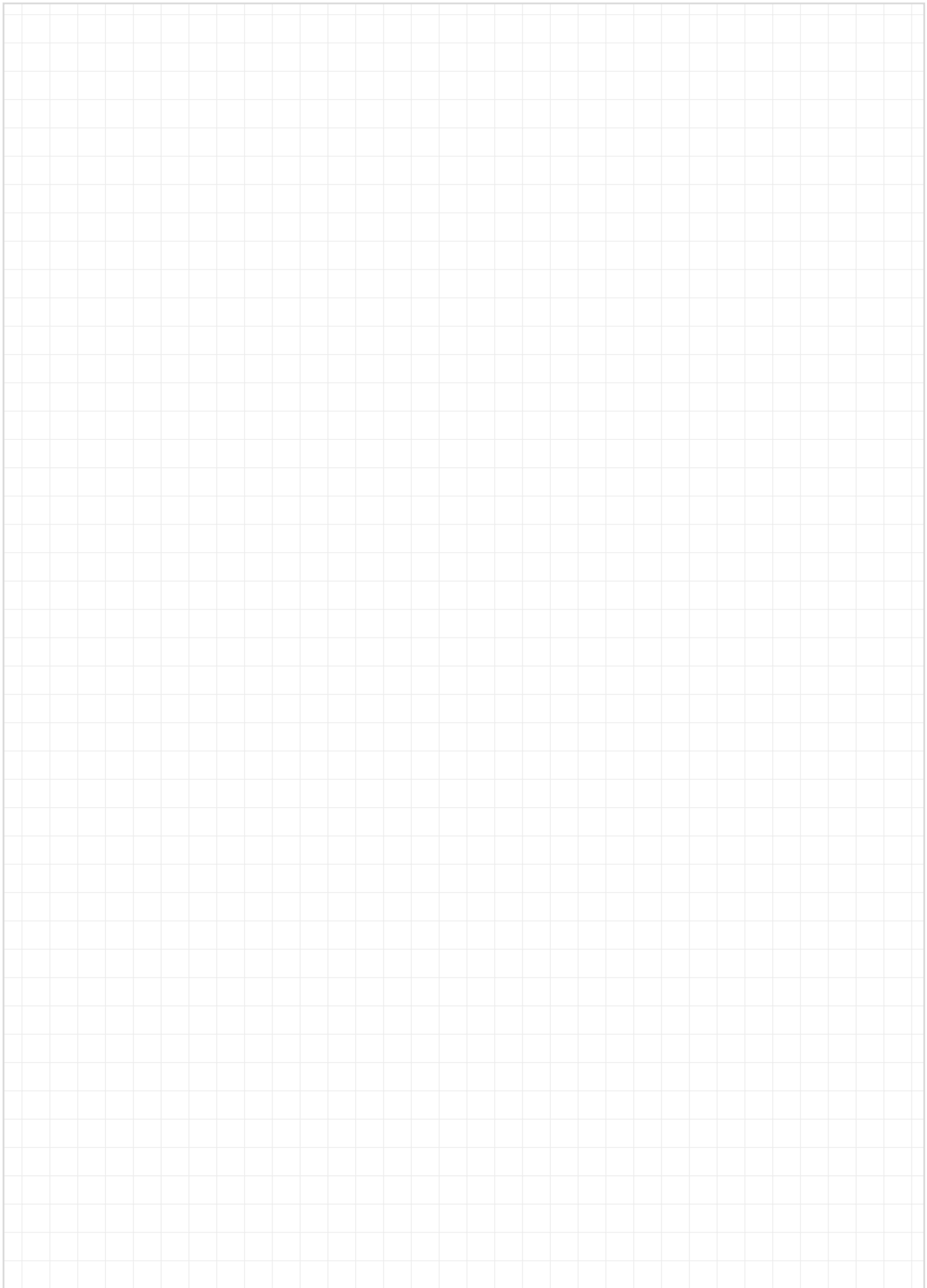
Note: **1** The e-chains® may end with either an inner or an outer side link. An outer side link should always be the first e-chain® link at the moving end. Please specify the index **1** (for odd) or **2** (for even) depending on an even or odd number of links required.

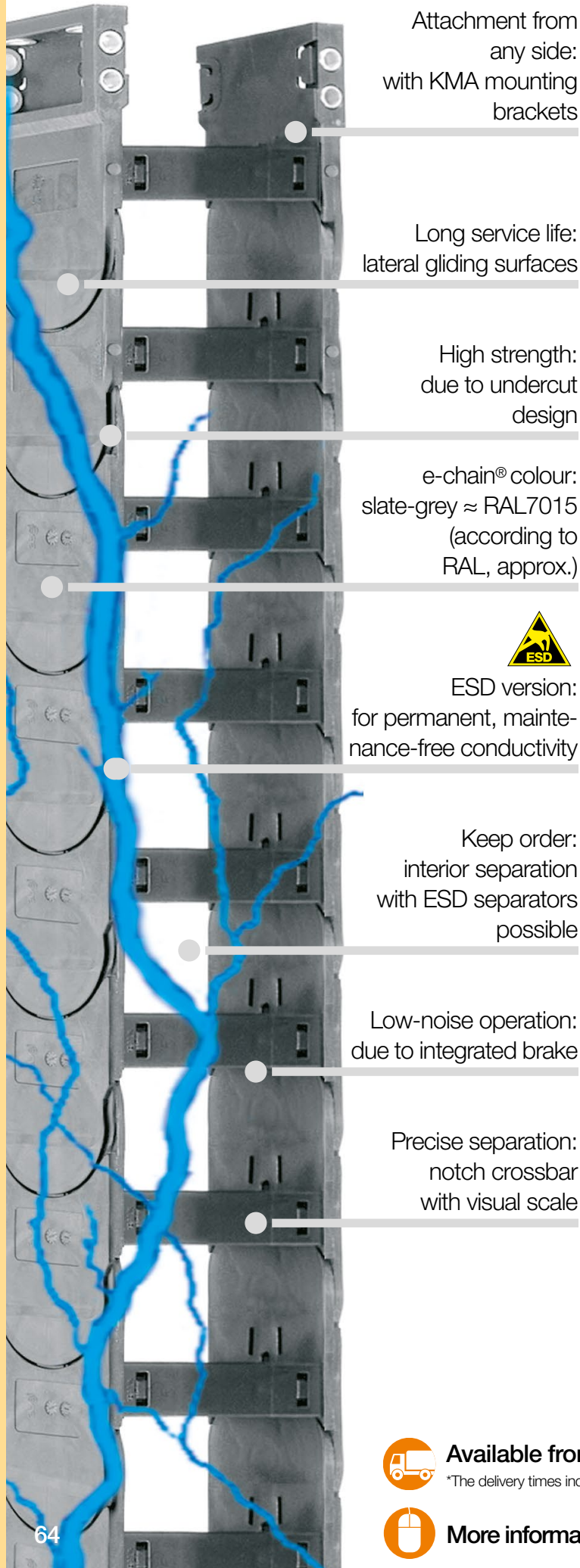


Possible orientations for KMA mounting brackets. For mounting brackets pre-fitted **without C-profile**, please attach Index **.A**. For types pre-fitted **with C-profile**, please attach Index **.A1**, **.A2**, **.A3** or **.A4**.

E4.800.15 **2**.12.ESD.C.A2 Order example

- .A** ... to indicate option with brackets pre-fitted
- C-profile option
- Full set
- Even numbers of links
- Width index
- Series





Attachment from any side: with KMA mounting brackets

Long service life: lateral gliding surfaces

High strength: due to undercut design

e-chain® colour: slate-grey ≈ RAL7015 (according to RAL, approx.)



ESD version: for permanent, maintenance-free conductivity

Keep order: interior separation with ESD separators possible

Low-noise operation: due to integrated brake

Precise separation: notch crossbar with visual scale

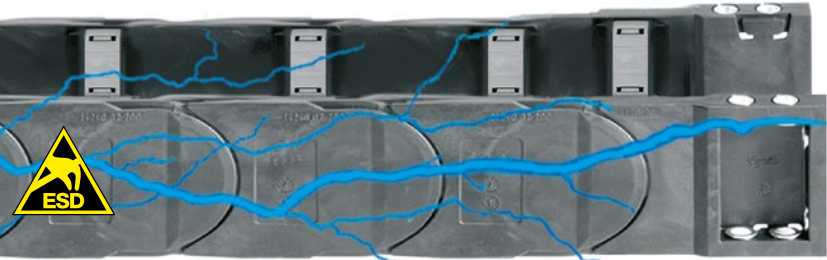
Large, light, strong and cost-effective - E4/light ESD

E4/light - less weight, a larger interior space and a reduced price. The system E4/light features two options: a reduced thickness of the side links (for all types), and a thinner crossbar for series14240. 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

- Pick and place machines
- Semi-conductor machines
- Linear motors, actuators
- Measuring equipment
- Machine tools
- General machinery, etc.

ESD series from stock	Inner height <i>hi</i> [mm]	Inner width <i>Bi</i> [mm]	Outer width <i>Ba</i> [mm]	Outer height <i>ha</i> [mm]	Bend radius <i>R</i> [mm]	Unsupported length ≤ [m]	Page
-----------------------	-----------------------------	----------------------------	----------------------------	-----------------------------	---------------------------	--------------------------	------



E4/light ESD e-chain®, crossbars every link for particularly demanding applications

14240	62	50 - 200	76 - 226	84	150 - 250	4.0	66
15050	80	75 - 300	105 - 330	108	150 - 250	4.6	70

Technical data

	Speed gliding / acceleration gliding	≤ 10 [m/s] / ≤ 50 [m/s²]
	Speed <i>FL_G</i> / acceleration <i>FL_G</i>	≤ 20 [m/s] / ≤ 200 [m/s²]
	Speed <i>FL_B</i> / acceleration <i>FL_B</i>	≤ 3 [m/s] / ≤ 6 [m/s²]
	Material - permitted temperature °C, igumid ESD	-40°C / +80°C
	Flammability class, igumid ESD	VDE 0304 IIC UL94-HB
	Note for load diagrams <i>FL_G</i> / <i>FL_B</i>: Values apply to standard e-chains® using igumid G material! The values can also be used for the assessment of applications of the e-chain® in special ESD material. If the respective maximum unsupported length exceeds 80%, the suitability of the e-chain® should be verified by a practical test. ■ <i>FL_G</i> = unsupported with straight upper run ■ <i>FL_B</i> = 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
14240	≤ 8.0m	≤ 150m	≤ 80m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request
15050	≤ 9.2m	≤ 250m	≤ 100m	≤ 6.0m	≤ 2.0m	with rework	upon request	upon request

Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

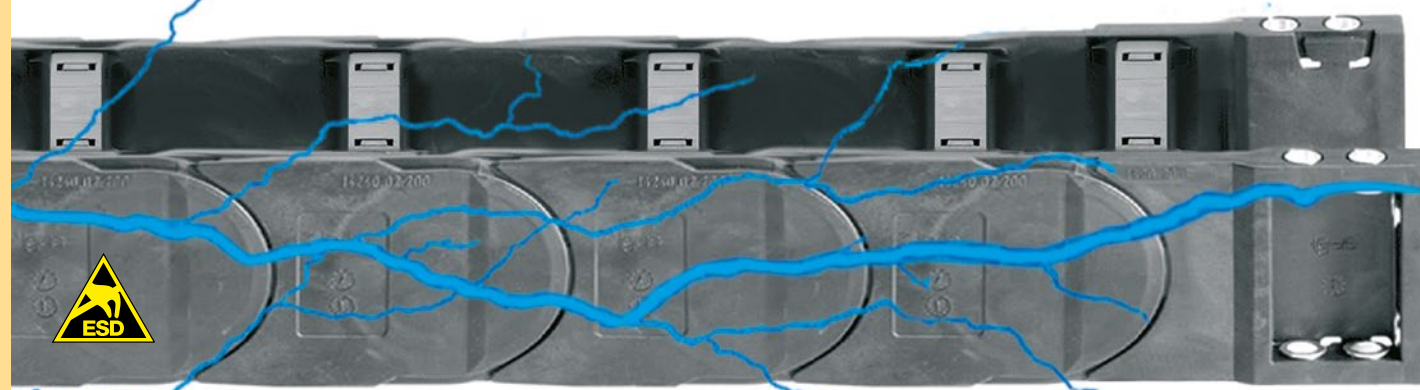
More information ► www.igus.eu/E4light_ESD



3D CAD, service life calculation, configurators and more ► www.igus.eu/E4light_ESD

"Light" design, large inner height

62

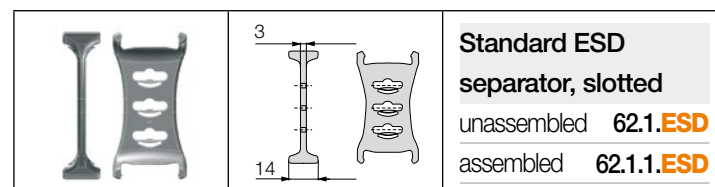


E4/light ESD | Series 14240 | Crossbars every link (crossbars removable along the inner and outer radius)

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
14240.05.R.0.ESD	50	76	150 200 250	≈ 2.37
14240.06.R.0.ESD	68	94	150 200 250	≈ 2.40
14240.10.R.0.ESD	100	126	150 200 250	≈ 2.52
14240.15.R.0.ESD	150	176	150 200 250	≈ 2.72
14240.18.R.0.ESD	175	201	150 200 250	≈ 2.82
14240.20.R.0.ESD	200	226	150 200 250	≈ 2.89

Art. Complete Part No. with required radius (R). Example: 14240.10.150.0.ESD

ESD interior separation



Standard ESD separator

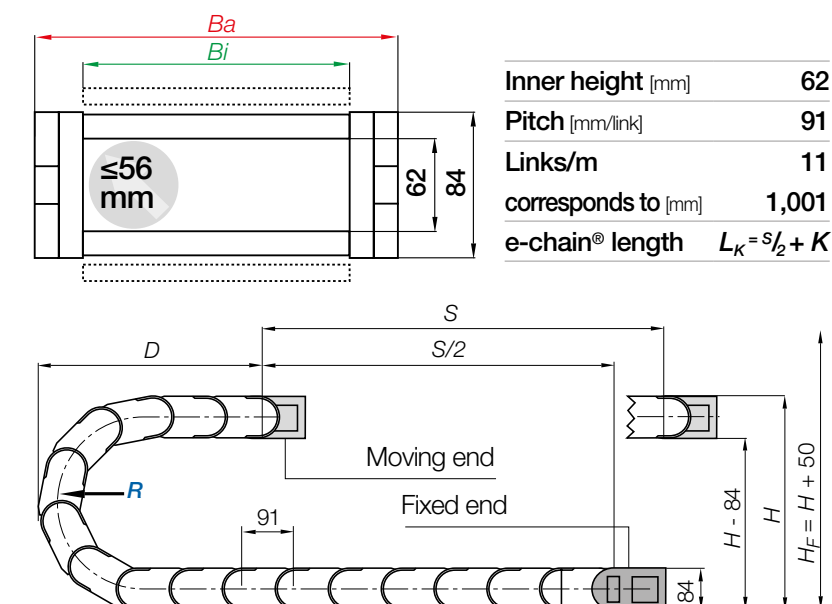
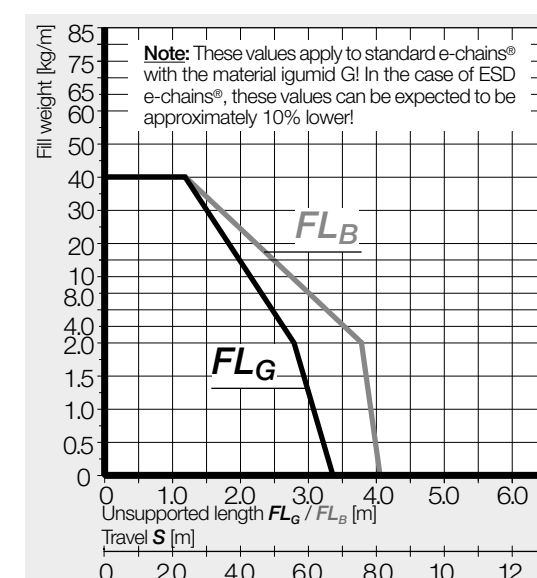
For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

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



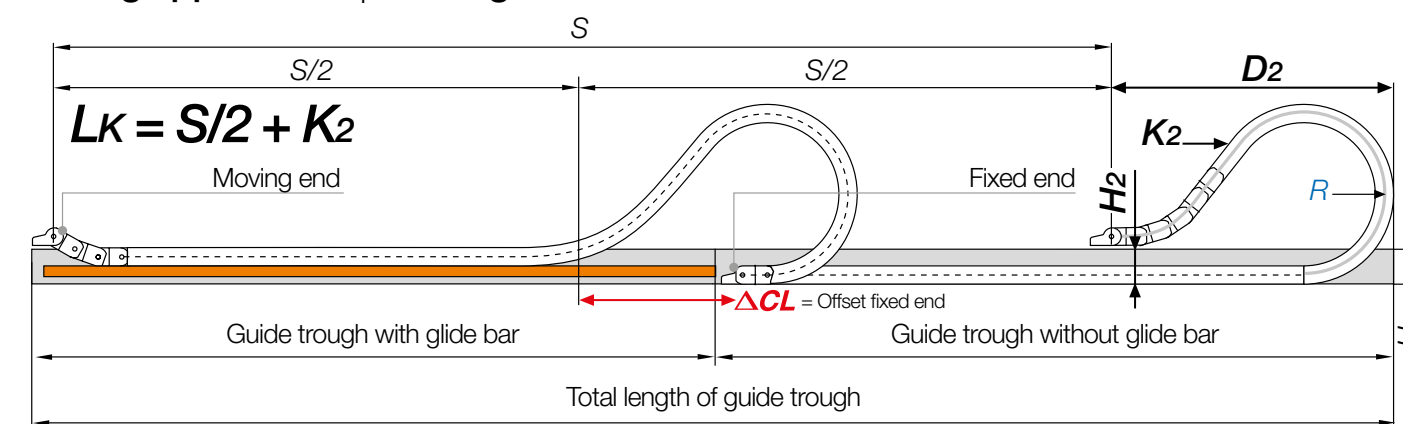
Unsupported applications | Short travels



R	150	200	250
H_{+25}^{-0}	384	484	584
D	329	379	429
K	655	815	970

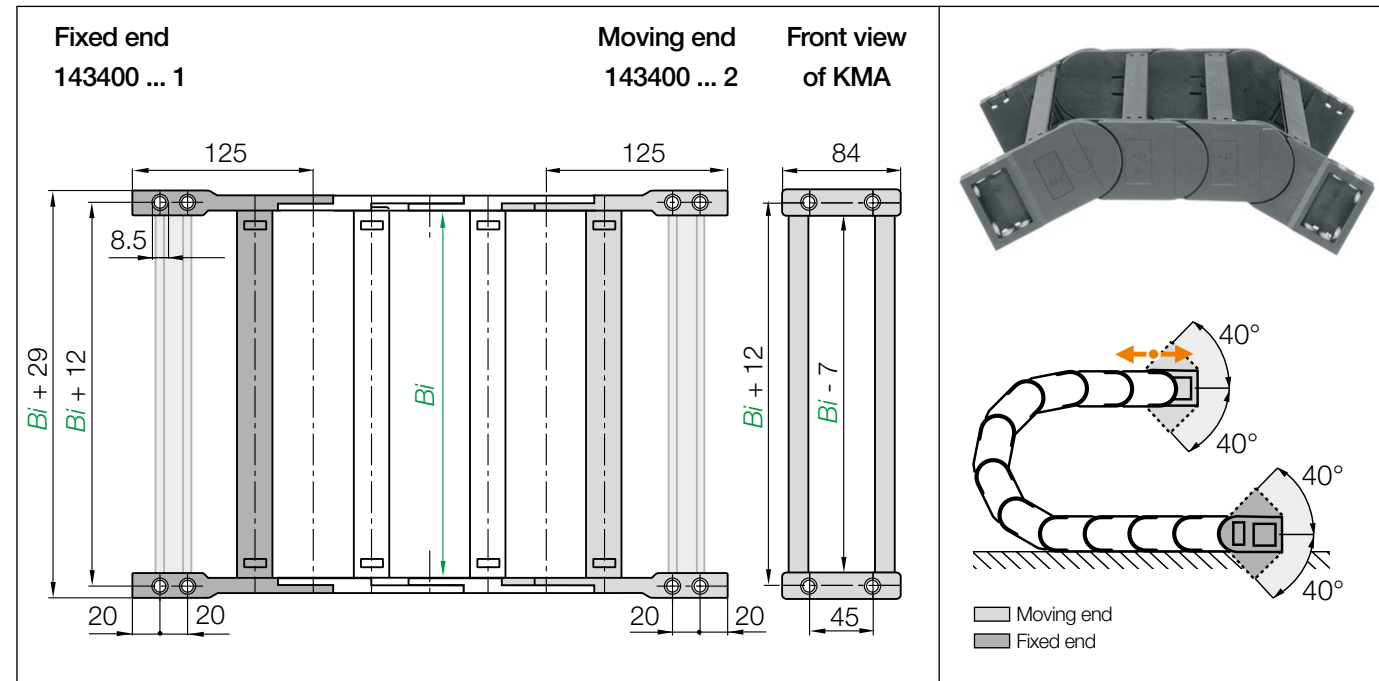
The required clearance height: $H_F = H + 50\text{mm}$ (with 2.0kg/m fill weight)

Gliding applications | For long travels from 12m to max. 250m



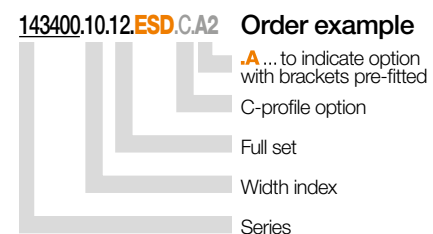
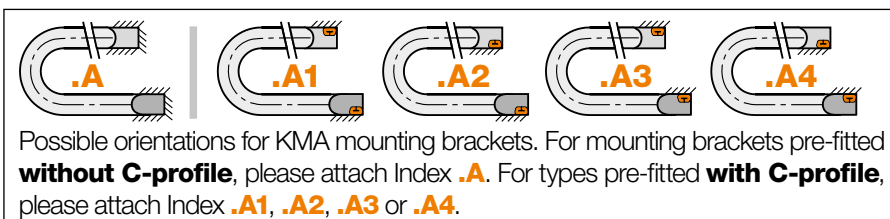
In case of travels between 9 and 12m we recommend an e-chain® with a longer unsupported length.

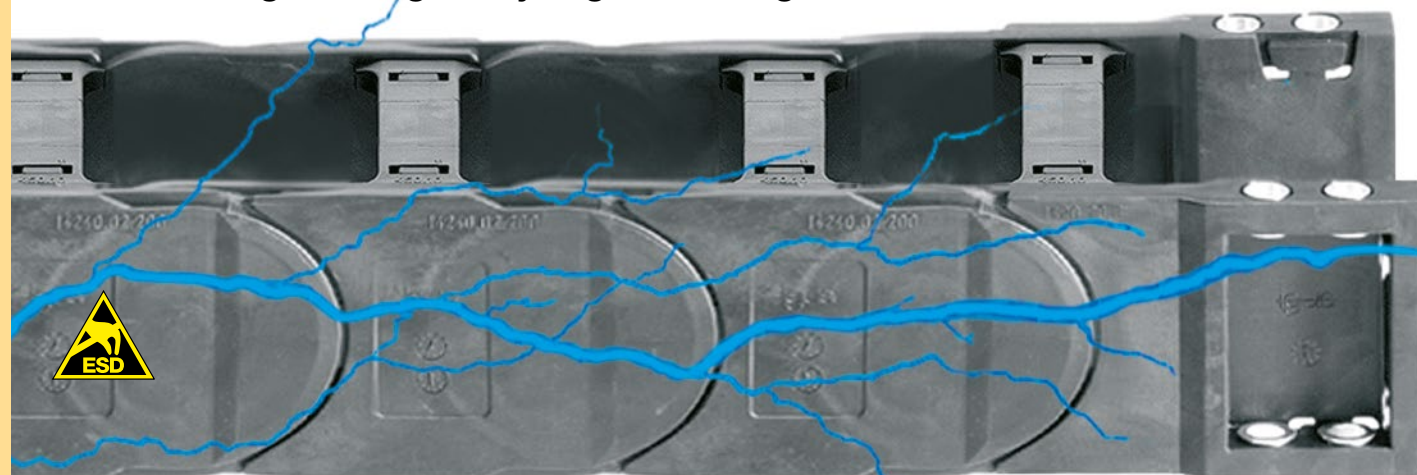
R	150	200	250
H_2	266	266	266
D_2^{+25}	450	710	920
K_2	819	1,274	1,638
ΔCL	159	359	509



Width index		Part No. full set	Part No. full set	<i>Bi</i>
		KMA with C-profile	KMA without C-profile	[mm]
.05. ▶		143400.05.12.C. ESD	143400.05.12. ESD	50
.06. ▶		143400.06.12.C. ESD	143400.06.12. ESD	68
.10. ▶		143400.10.12.C. ESD	143400.10.12. ESD	100
.15. ▶		143400.15.12.C. ESD	143400.15.12. ESD	150
.18. ▶		143400.18.12.C. ESD	143400.18.12. ESD	175
.20. ▶		143400.20.12.C. ESD	143400.20.12. ESD	200

(KMA = polymer metal mounting bracket)





E4/light ESD | Series 15050 | Crossbars every link (crossbars removable along the inner and outer radius)

ESD e-chains® from stock	Bi [mm]	Ba [mm]	R Available bend radii [mm]	Weight [kg/m]
15050.07.R.0.ESD	75	105	150 200 250	≈ 4.00
15050.12.R.0.ESD	125	155	150 200 250	≈ 4.38
15050.15.R.0.ESD	150	180	150 200 250	≈ 4.58
15050.20.R.0.ESD	200	230	150 200 250	≈ 4.93
15050.25.R.0.ESD	250	280	150 200 250	≈ 5.32
15050.30.R.0.ESD	300	330	150 200 250	≈ 5.76

Art. Complete Part No. with required radius (R). Example: 15050.20.150.0.ESD

ESD interior separation

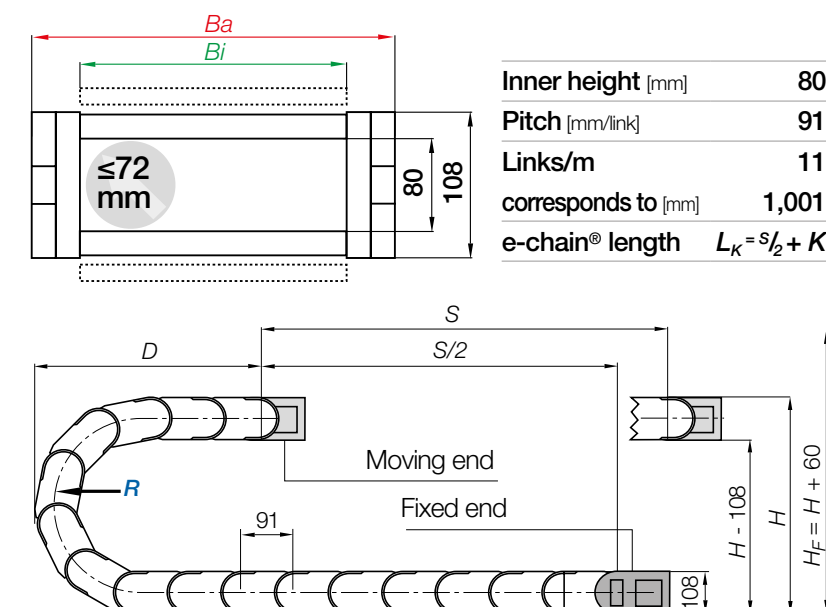
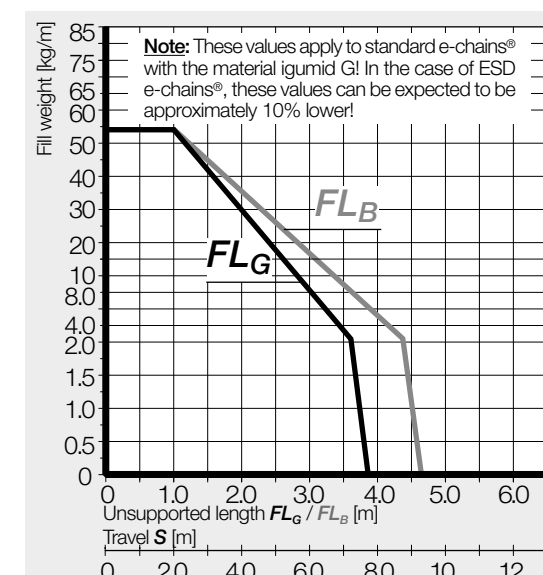
		Standard ESD separator, slotted
		unassembled 80.1.ESD assembled 80.1.1.ESD

Standard ESD separator

For easy vertical separation in e-chains®. Separators can be arranged in any position in the e-chain® cross-section. As standard separators are fitted every 2nd e-chain® link! Other shelving elements available upon request.

Reduce assembly time - E4 e-chain® opener

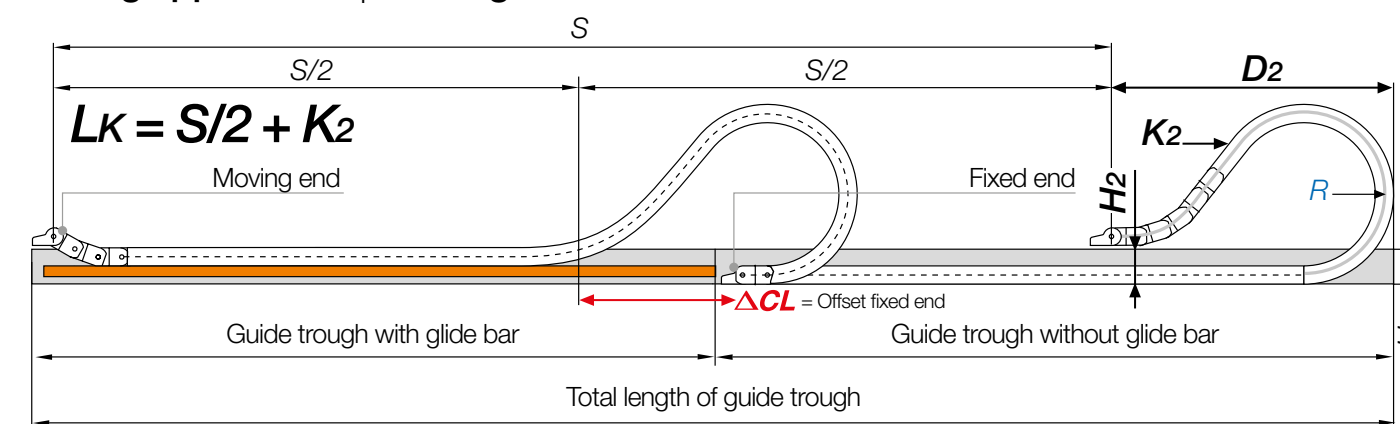
- e-chain® opener tools for easy opening and closing of e-chains®
 - Simple opening and closing of e-chain® crossbars
 - Also for use in hard to reach locations
 - Significant assembly time reduction
- More information ► www.igus.eu/E4savetime



R	150	200	250
H ₂₅	408	508	608
D	341	391	441
K	655	815	970

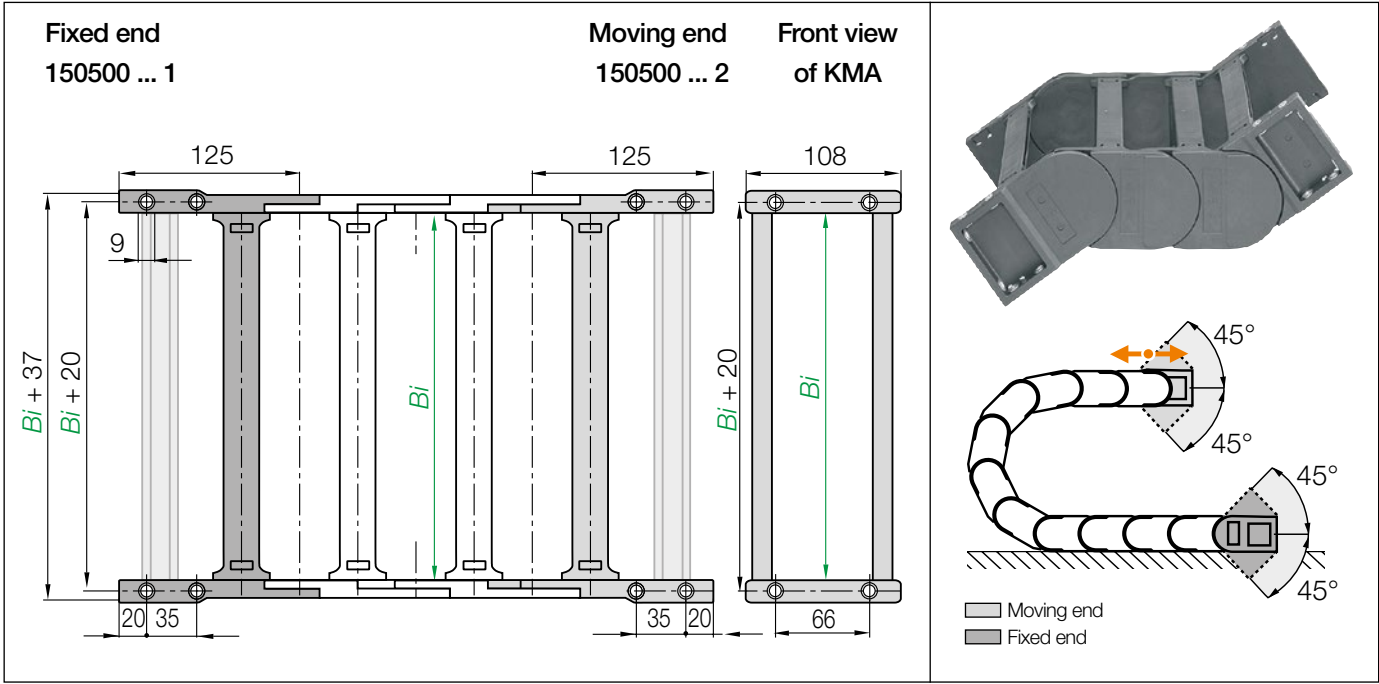
The required clearance height: $H_F = H + 60\text{mm}$ (with 3.0kg/m fill weight)

Gliding applications | For long travels from 12m to max. 250m



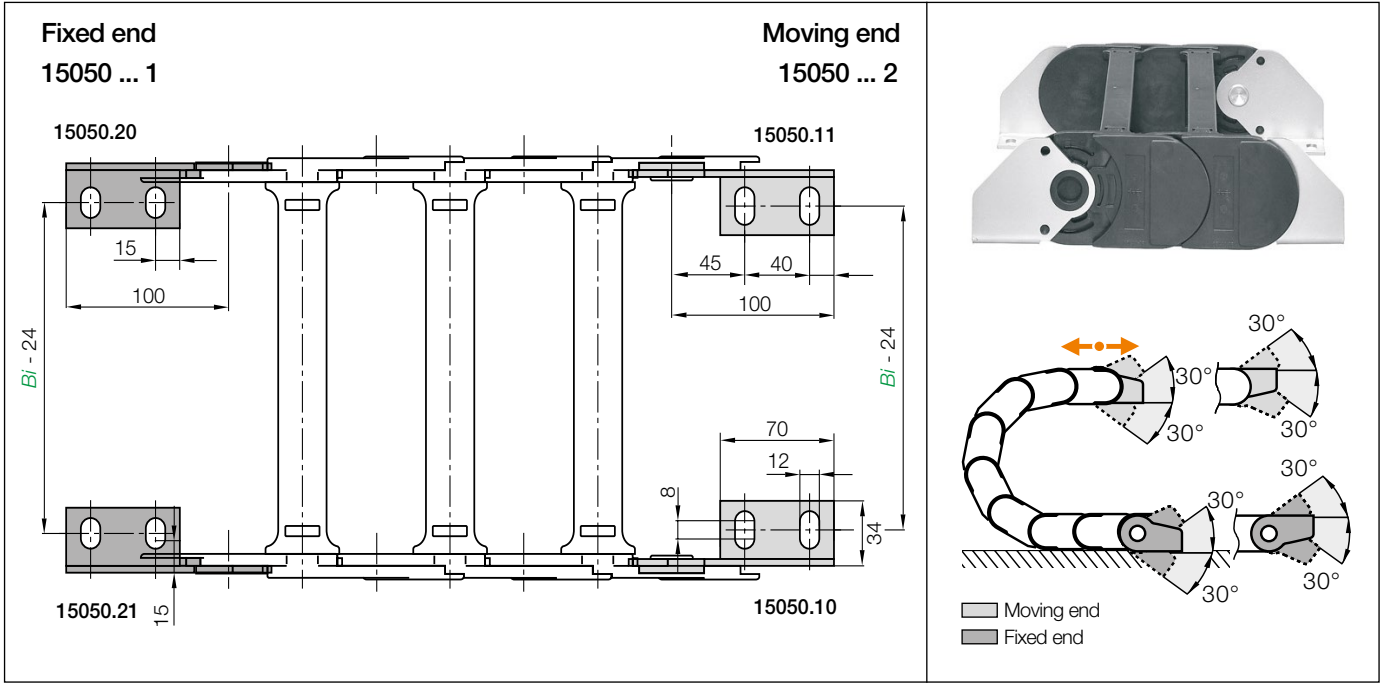
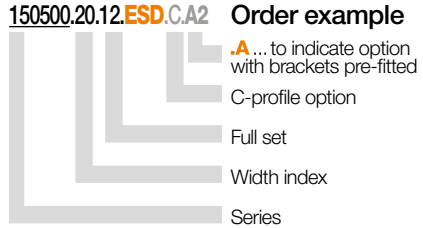
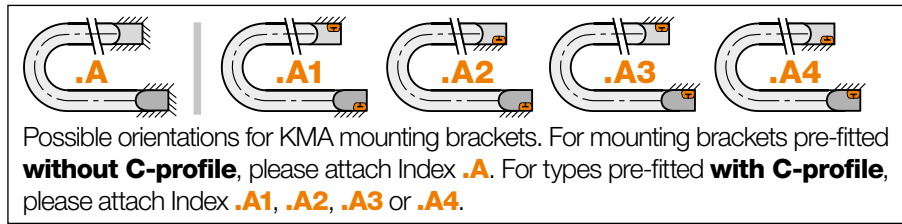
In case of travels between 9 and 12m we recommend an e-chain® with a longer unsupported length.

R	150	200	250
H ₂	242	242	242
D ₂₊₂₅	550	800	950
K ₂	910	1,274	1,638
ΔCL	209	409	509

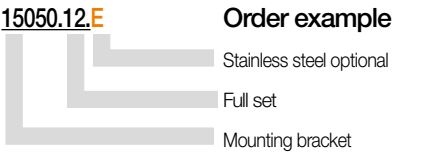
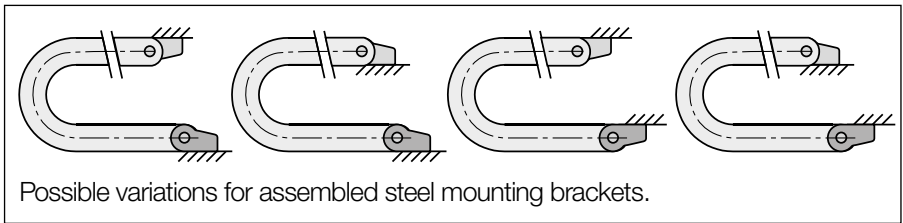


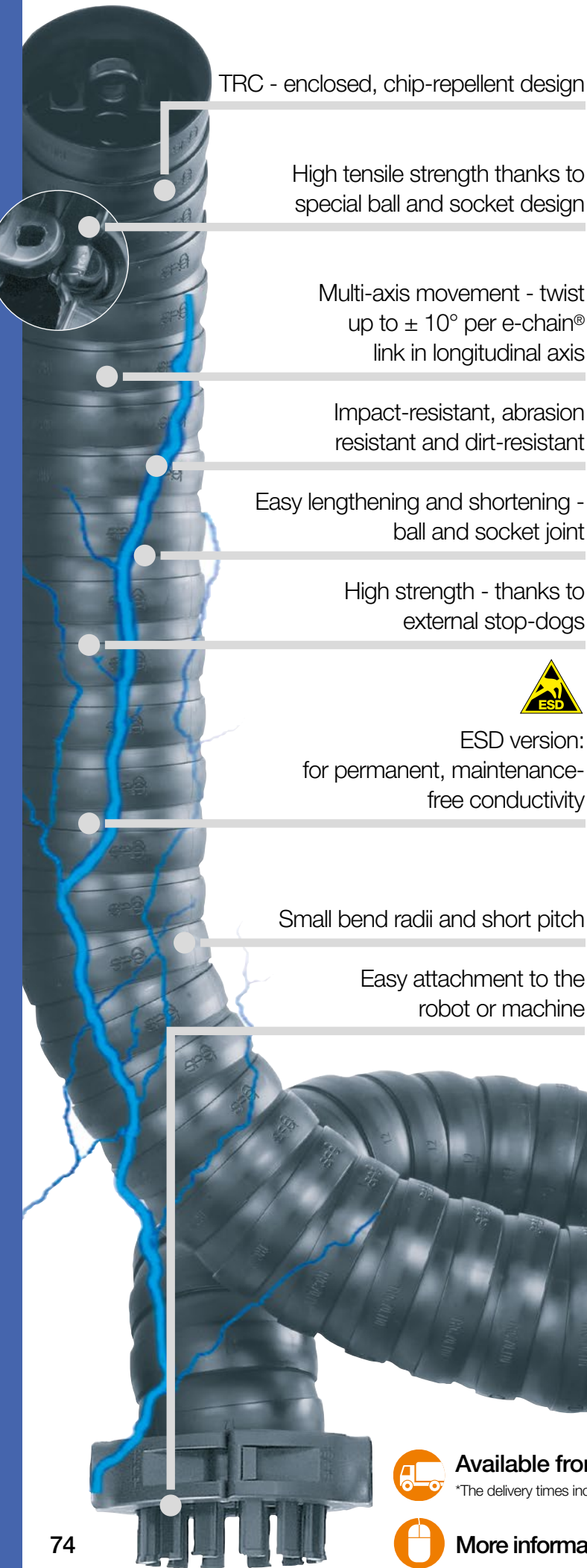
Width index	Part No. full set KMA with C-profile	Part No. full set KMA without C-profile	Bi [mm]
.07. ▶	150500.07.12.C.ESD	150500.07.12.ESD	75
.12. ▶	150500.12.12.C.ESD	150500.12.12.ESD	125
.15. ▶	150500.15.12.C.ESD	150500.15.12.ESD	150
.20. ▶	150500.20.12.C.ESD	150500.20.12.ESD	200
.25. ▶	150500.25.12.C.ESD	150500.25.12.ESD	250
.30. ▶	150500.30.12.C.ESD	150500.30.12.ESD	300

(KMA = polymer metal mounting bracket)



Width index	Part No. full set Steel	Part No. full set Stainless steel (AISI 304)	Bi [mm]
.07. ▶	15050.12	15050.12.E	75
.12. ▶	15050.12	15050.12.E	125
.15. ▶	15050.12	15050.12.E	150
.20. ▶	15050.12	15050.12.E	200
.25. ▶	15050.12	15050.12.E	250
.30. ▶	15050.12	15050.12.E	300





Multi-axis movement - enclosed and chip-repellent - triflex® R TRC ESD

- Approx. ±10° torsion per e-chain® link
- High tensile strength ball and socket joint
- Fibre-rod option for partial directional control and reinforcement
- No extra support elements required e.g. steel cables, spring suspensions etc.
- Wide range of accessories
- Compact retraction system options to prevent loop formation
- TRC - strong, closed and chip-resistant
- Smooth but robust exterior
- High torsional strength
- Easy to lengthen and shorten

Typical industries and applications

- Axis 3 to 6 on robots
- Multi-axis machine tools
- Wet and cold cells
- Painting applications and ESD
- Sand and dust exposure
- Linear motors
- General machinery, etc.

Available from stock. Ready to ship in 24 - 48hrs.*
*The delivery times indicated correspond to the average time until the ordered goods are dispatched.

More information ► www.igus.eu/triflexR_ESD



ESD series from stock	Inner height		Inner width	≤ ø cable		Bend radius	Pitch	Links per m	Page
	Bi1[mm]	Bi2[mm]	Ba [mm]	d1	d2	R [mm]	[mm]		
triflex® R ESD, Series TRC - closed design Swarf protection, smooth outer contour									
TRC.40	15	13	43	13	11	058	13.9	72	76
TRC.60	22.5	19.5	65	20.5	17.5	087	20.4	49	76
TRC.40	28	24	81	26	22	110	25.6	39	76

triflex® R ESD, Series TRC - closed design
Swarf protection, smooth outer contour

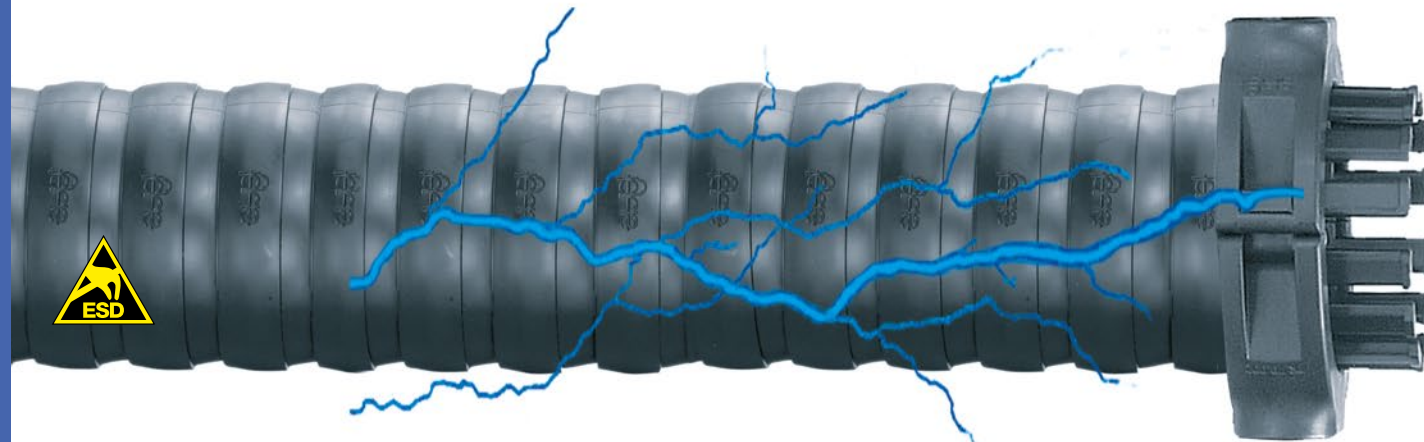
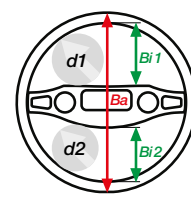
Technical data

	Speed / acceleration	upon request
	Material - permitted temperature °C, igumid ESD	-40°C / +80°C
	Flammability class, igumid ESD	VDE 0304 IIC UL94-HB



triflex® R in storage and retrieval system

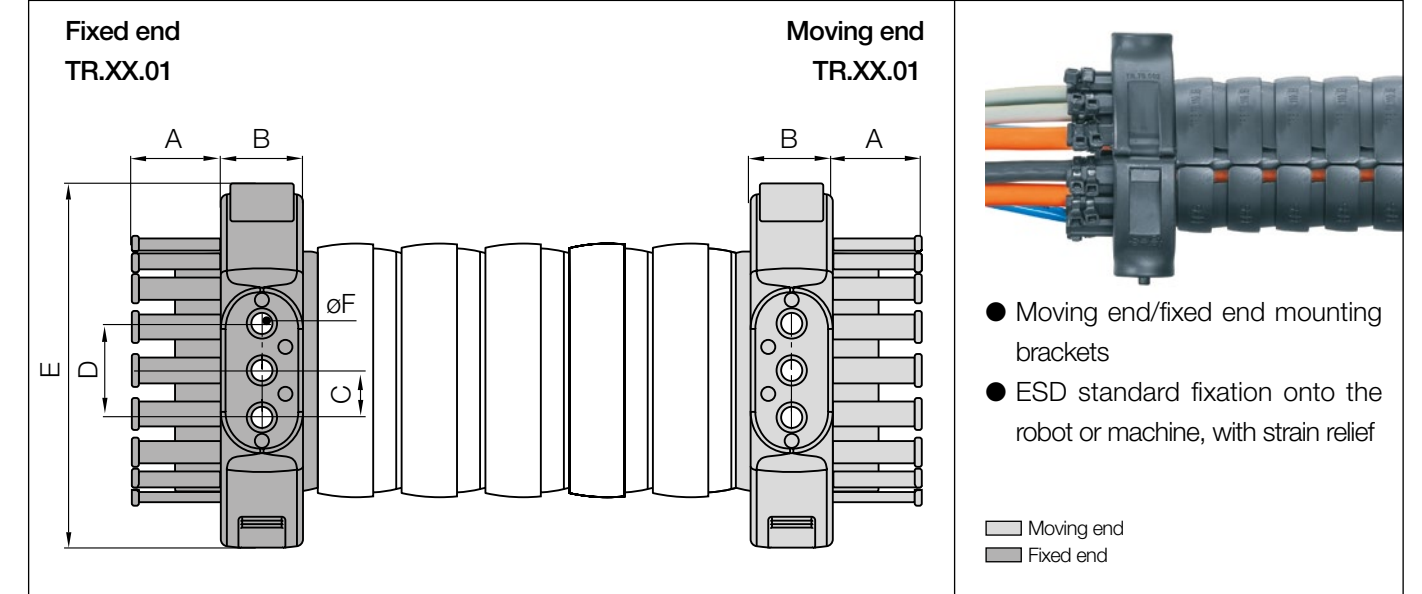
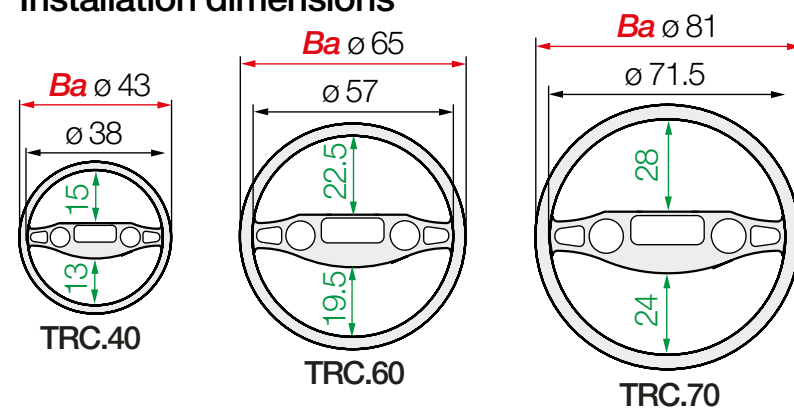
3D CAD, configurators, service life calculation and more ► www.igus.eu/triflexR_ESD



triflex® R ESD | Series TRC | Fully enclosed design, non openable

ESD e-tubes available from stock	Bi1 [mm]	Bi2 [mm]	Ba [mm]	R [mm]	d1 [mm]	d2 [mm]	Pitch [mm]	Links per m	Weight [kg/m]
TRC.40.058.0.ESD	15	13	43	058	13	11	13.9	72	≈ 0.37
TRC.60.087.0.ESD	22.5	19.5	65	087	20.5	17.5	20.4	49	≈ 0.85
TRC.70.110.0.ESD	28	24	81	110	26	22	25.6	39	≈ 1.32

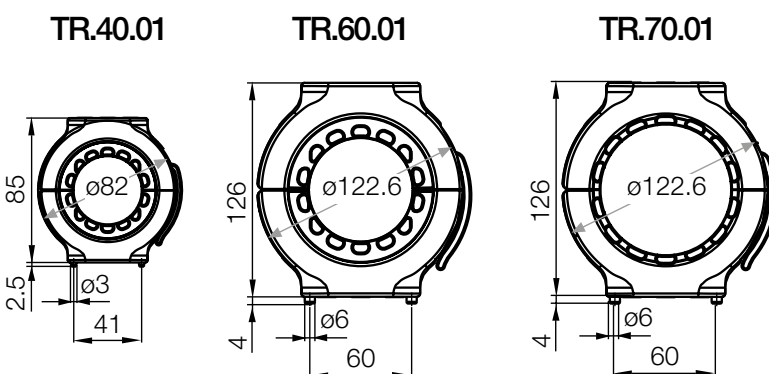
Installation dimensions

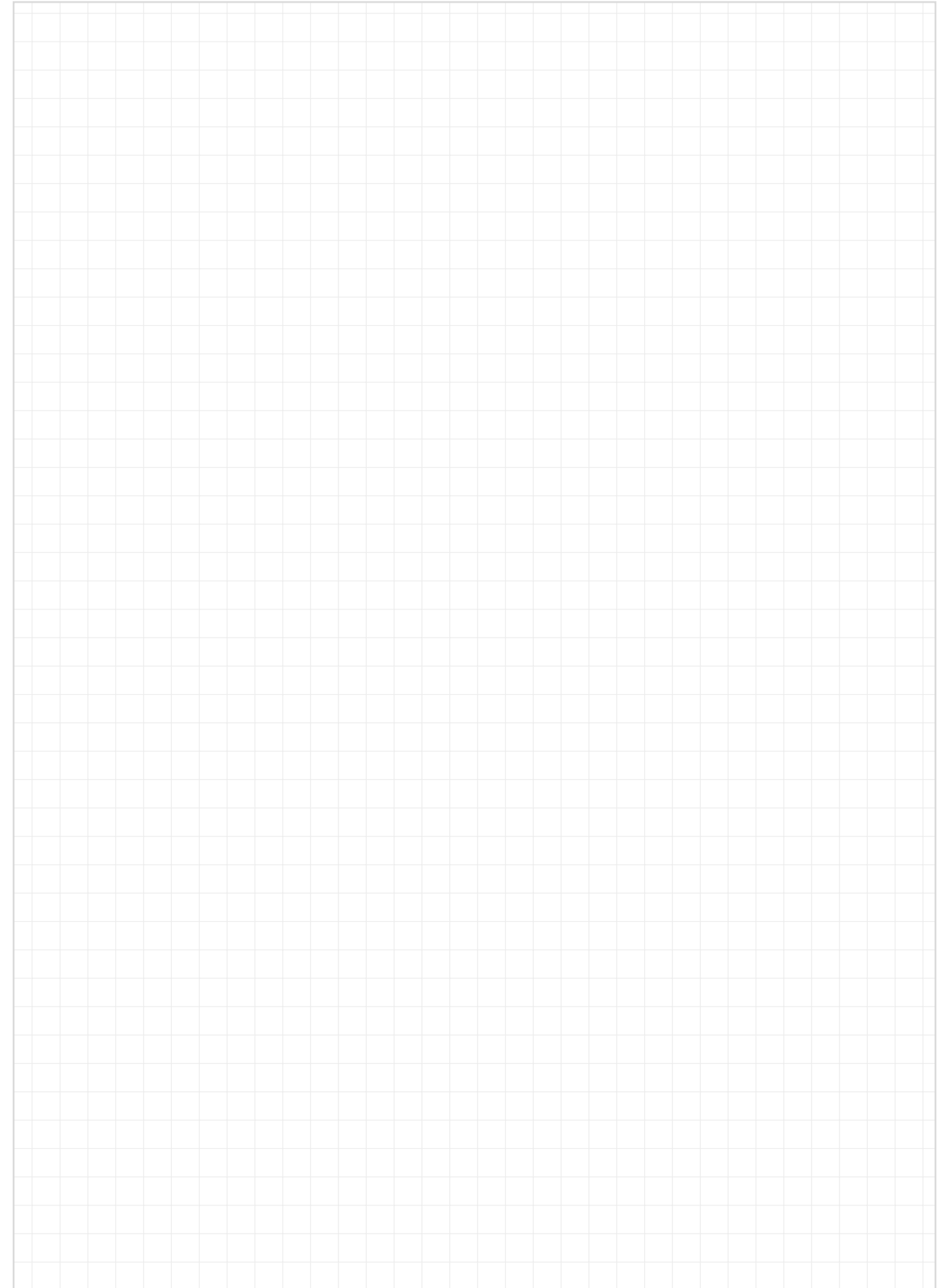
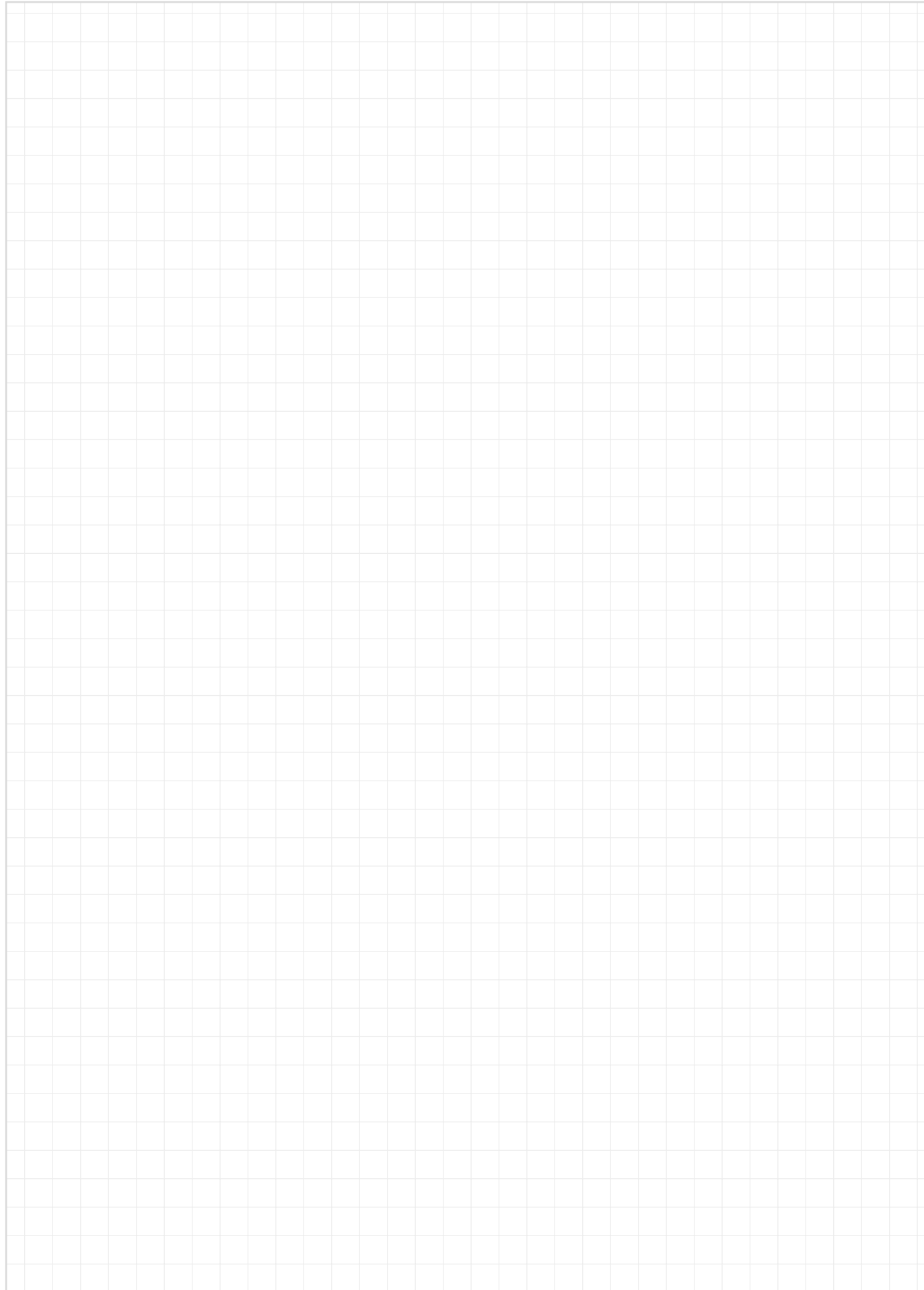


Ø	Part No. with strain relief	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
40.	TR.40.01.M6.ESD ¹⁾	17.8	21	13.5	27	84.5	6.5
60.	TR.60.01.M8.ESD ¹⁾	25	32	20	40	126	9
70.	TR.70.01.M8.ESD ¹⁾	25	32	20	40	126	9

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





igus[®] locations



igus® worldwide

igus® Offices	10 Canada	20 Estonia	28 Ireland	39 Mexico
igus® Distributors	igus® Office Canada Suite 100-180 Bass Pro Mills Dr Vaughan, ON L4K 5W4 Phone +1 905 7608448 Fax +1 905 7608688 webmaster@igus.com	igus® OÜ Lõotsa 4A Tallinn 11415 Phone +372 667 5600 Fax +372 667 5601 info@igus.ee	igus® Ireland Caswell Rd Northampton NN4 7PW Phone +44-1604 677240 Fax +44-1604 677242 sales@igus.ie	igus® México S. de R.L. de C.V. Boulevard Aeropuerto Miguel Alemán 160 Int. 135 Col. Corredor Industrial Toluca Lerma Lerma, Estado de México C.P. 52004 Phone +52 728284 3185 Fax +52 728284 3187 fmarquez@igus.com
1 Germany	igus® GmbH Spicher Str. 1a 51147 Köln P.O. Box 90 61 23 51127 Köln Phone 02203 9649-0 Fax 02203 9649-222 info@igus.de, www.igus.de	21 Finland OEM Finland OY Fiskarsinkatu 3 20750 Turku PL 9, 20101 Turku Phone +358 20 7499499 Fax +358 20 7499456 info@oem.fi	29 Israel Conlog LTD P.O. Box 3265 17 Hamefalssim Str. Industrial Zone Kiryat Arie Petach-Tikva 49130 Phone +972 3 9269595 Fax +972 3 9233367 conlog@conlog.co.il	40 Middle East (except of UAE) JISigus Middle East FZE FF07, Jebel Ali Free Zone PO Box- 17483 Dubai, United Arab Emirates Phone +971 4222 1185 Fax +971 4222 1186 info@jisigus.com
2 Argentina	Borintech SRL Av. Elcano 4971 C1427CIH Buenos Aires Phone +5411 4556 1000 Fax +5411 4556 1000 igus@borintech.com	22 France igus® SARL 49, avenue des Pépinières Parc Médicis 94260 Fresnes Phone +33 1 49840404 Fax +33 1 49840394 info@igus.fr	30 Italy igus® S.r.l. Via delle Rovedine, 4 23899 Robbiate (LC) Phone +39 0395906.1 Fax +39 0395906.222 igusitalia@igus.it	41 Myanmar Sea Lion Co. Ltd. 181 Bo Myat Tun St Botataung Yangon 11161 Myanmar Phone +95 1 29 97 97 Fax +95 1 20 27 51 zaw.m.thant@sealionmyanmar.com
3 Australia	Treotham Automation Pty. Ltd. 14 Sydenham Road Brookvale NSW 2100 Phone +61 2 9907-1788 Fax +61 2 9907-1778 info@treotham.com.au	13 Colombia Productos igus® SAS Calle 33A, #21-09 Bogotá Phone +57 1 561 2959 ext. 113 igus@igus.com.co	31 Japan igus® k.k. Arcacentral 15F, 1-2-1 Kinshi, Sumida-ku Tokyo JAPAN Zip 130-0013 Phone +81 358 192030 Fax +81 358 192055 info@igus.co.jp	42 Netherlands igus® B.V. Sterrenbergweg 9 3769 BS Soesterberg Phone +31 346 353932 Fax +31 346 353849 info@igus.nl
4 Austria	igus® polymer Innovationen GmbH Photo-Play-Straße 1 4860 Lenzing Phone +43 7662 57763 Fax +43 7662 57751 igus-austria@igus.de	14 Costa Rica Enesa Equipos Neumaticos S.A. Del Colegio Marista 100 este, 200 sur, 25 este Urbanizacion Ciruelas Alajuela, Costa Rica Phone +506 2440-2393 Fax +506 2440-2393 equiposneumaticos@enesa.net	32 Kenya Mantrrad Ltd. Sterling House, 1St. Floor Moi Avenue, Mombasa Phone + 254 722 706 830 Fax + 254 720 765 566 info@mantrrad.co.ke	49 Poland igus® Sp. z o.o. ul. Działkowa 121C 02-234 Warszawa Phone +48 22 8635770 Fax +48-22 8636169 info@igus.pl
5 Belarus	SOOO Hennlich Biryuzova street, 4/5, office 1012 220073 Minsk Republik Belarus Phone +375 17 258 88 28 Fax +375 17 373 39 26 info@hennlich.by	23 Greece J. & E. Papadopoulos S.A. 12 Polidefkous str Piraeus, 185 40 Phone +30 210 4113133 Fax +30 210 4116781 sales@papadopoulos-sa.com	33 Latvia Techvitas SIA Daugavas iela 38-3 Mārupe, LV-2167 Phone +372 667 5600 Fax +372 667 5601 i_igusLettland_G@igus.de	56 Slovenia igus® d.o.o. ul. Tržaška c. 134 1000 Ljubljana Slovenija Phone +386 (0)30 601 610 info@igus.si
6 Belgium/Luxembourg	igus® B.V.B.A. Jagersdreef 4A 2900 Schoten Phone +32 3 330 13 60 Fax +32 3 313 79 91 info@igus.be	24 Hong Kong Sky Top Enterprises Ltd. Room 1806 ; Block C; Wah Tat Industrial Center; Wah Sing Street; Kwai Chung Hong Kong Phone +852 23318928 Fax +852 24269738 info@skytop.com.cn	43 Nigeria Deepee Industrials Ltd. 11 Ishaga Road Surulere Lagos Phone +234 803 3899107 ovoachinike@deepeeindustrials.com	60 Sweden – the-chain OEM Automatic AB Box 1011 Dalagatan 4 573 28 Tranås Phone +46 75 2424100 Fax +46 75 2424159 info@oemautomatic.se
7 Bosnia + Herzegovina	HENNLIICH industrijska tehnik a d.o.o. Tvornička 3 (Energoinvest-zgrada C&O) BiH-71210 Ilidža - Sarajevo Phone +387 33 451 439 Fax +387 33 451 439 info@hennlich.ba	25 Hungary igus® Hungária Kft. Ipari Park u.10. 1044 Budapest Phone +36 1 3066486 Fax +36 1 4310374 info@igus.hu	44 New Zealand Treotham Automation Pty Ltd. Stocking Distributor 13c Vogler Drive Wiri Auckland 2104 Phone +64 9 278 6577 Fax +64 9 278 6578 info@treotham.co.nz	65 Turkey igus® Turkey Güzeller Org. San. Bölg. Galvano Teknik San. Sit. Cumhuriyet Cad. 2/32 P.K. 41400 Gebze / Kocaeli Phone +90 262 502 14 08 Fax +90 262 502 14 19 info@igus.com.tr
8 Brazil	igus® do Brasil Ltda. Rua Antônio Christi, nº 611 Parque Industrial III – FAZGRAN Jundiáí – CEP 13213-183 – SP Phone +55 11 3531-4487 Fax +55 11 3531-4488 vendas@igus.com.br	26 India igus® (India) Pvt. Ltd. 36/1, Sy No. 17/3 Euro School Road, Dodda Nekkundi Industrial Area, - 2nd Stage Mahadevapura Post Bangalore 560048 Phone +91 80 68127800 Fax +91 80 68127802 info-in@igus.net	45 Norway ASI Automatikk AS Naberezhnaya reki Lazuri, 15A 170028 Tver Russian Federation Phone +7 4822 787 180 Fax +7 4822 787 180, add. 380 hennlich@hennlich.ru	66 Sweden – dry-tech® Colly Components AB Raseborgsgatan 9 P.O. Box 76 164 94 Kista Phone +46 8 7030100 Fax +46 8 7039841 info@me.colly.se
9 Bulgaria	igus® EOOD 2, Lui Ayer str., fl.4, off. 4 1404 Sofia, Bulgaria Phone +359 2 850 8409 Fax +359 2 850 8409 info@igus.bg	17 Denmark igus® ApS Lysholt Alle 8 DK-7100 Vejle Phone +45 86 603373 Fax +45 86 603273 info@igus.dk	46 Peru PROIGUS S.A.C. Calle Bolivar 388/of. 203 Miraflores Lima 18 – Perú Phone +51 1 2414370 Fax +51 1 2428608 profacoventas@profaco.com	61 Switzerland igus® Schweiz GmbH Winkelstr. 5 4622 Egerkingen Phone +41 62 388 97 97 Fax +41 62 388 97 99 info@igus.ch
	18 Ecuador Ecuainsetec Yugoeslavia N34-110 y Azuay Quito Phone +593 2 2253757 Fax +593 2 2461833 infoiuio@ecuainsetec.com.ec	27 Indonesia PT igus® Indonesia Headquarter Indonesia Taman Tekno BSD Sektor XI, Blok L1 No. 15 Tangerang Selatan 15314 Phone +62 21 7588 1933 Fax +62 21 7588 1932 info@igus.co.id	57 South Africa igus® Pty. Ltd. Unit 29 Midline Business Park Cnr Le Roux & Richards Drive Midrand 1682 Phone +27 11312-1848 Fax +27 11312-1594 sales.sa@igus.de	62 Taiwan igus® Taiwan Company Ltd. 5F, No. 35, 24th Road Taichung Industrial Park Taichung 40850 Phone +886 4 2358-1000 Fax +886 4 2358-1100 info@igus.com.tw
	19 Egypt IEE International Company for Electrical Engineering 2nd floor, 25 Orabi St Down Town, Cairo Phone +202 25767370 Fax +202 25767375 sales@iee-egypt.com	37 Malaysia igus® Malaysia Sdn Bhd Suite 1601-1, Level 16, Tower 2, Wisma AmFirst, Jalan SS 7/15 (Jalan Stadium), 47301 Kelana Jaya, Selangor Phone +603 7803 0618 Fax +603 7886 1328 info@igus.my	58 South Korea igus® Korea Co. Ltd. 613-14 Namchondong, Namdonggu Incheon City, 405-846 Phone +82 32 82129-11 Fax +82 32 82129-13 info@igus.kr	63 Thailand igus® Thailand Co., Ltd 1340 Soi Bangkok-Nonthaburi 30, Bangkok-Nonthaburi Rd., Bangsue, Bangsue Bangkok 10800 Phone +66 (0)2 587 4899 Fax +66 (0)2 587 4898 info@igus.co.th
	9 Bulgaria Hennlich OOD, BG 4003 Plovdiv, Bulgaria 147A, Brezovsko shose Str., Rota center, fl. 3 Phone +359 32 511 326 Fax +359 32 621 929 office@hennlich.bg	38 Morocco AFIT 5, Rue Amir Abdelkader 20300 Casablanca Phone +212 522 633769 Fax +212 522 618351 souria.vu@premium.net.ma	59 Spain igus® S.L.U. Ctra. Llobatona, 6 Poligono Noi del Sucre 08840 Viladecans – BCN Phone +34 936 473950 Fax +34 936 473951 igus.es@igus.es	64 Tunisia BOUDRANT 53, Avenue de Carthage 1000 Tunis – Tunisia Phone +216 71340244 Fax +216 71348910 info@boudrant.com.tn

20 Estonia igus® OÜ Lõotsa 4A Tallinn 11415 Phone +372 667 5600 Fax +372 667 5601 info@igus.ee	28 Ireland igus® Ireland Caswell Rd Northampton NN4 7PW Phone +44-1604 677240 Fax +44-1604 677242 sales@igus.ie	39 Mexico igus® México S. de R.L. de C.V. Boulevard Aeropuerto Miguel Alemán 160 Int. 135 Col. Corredor Industrial Toluca Lerma Lerma, Estado de México C.P. 52004 Phone +52 728284 3185 Fax +52 728284 3187 fmarquez@igus.com
21 Finland OEM Finland OY Fiskarsinkatu 3 20750 Turku PL 9, 20101 Turku Phone +358 20 7499499 Fax +358 20 7499456 info@oem.fi	29 Israel Conlog LTD P.O. Box 3265 17 Hamefalssim Str. Industrial Zone Kiryat Arie Petach-Tikva 49130 Phone +972 3 9269595 Fax +972 3 9233367 conlog@conlog.co.il	40 Middle East (except of UAE) JISigus Middle East FZE FF07, Jebel Ali Free Zone PO Box- 17483 Dubai, United Arab Emirates Phone +971 4222 1185 Fax +971 4222 1186 info@jisigus.com
22 France igus® SARL 49, avenue des Pépinières Parc Médicis 94260 Fresnes Phone +33 1 49840404 Fax +33 1 49840394 info@igus.fr	30 Italy igus® S.r.l. Via delle Rovedine, 4 23899 Robbiate (LC) Phone +39 0395906.1 Fax +39 0395906.222 igusitalia@igus.it	41 Myanmar Sea Lion Co. Ltd. 181 Bo Myat Tun St Botataung Yangon 11161 Myanmar Phone +95 1 29 97 97 Fax +95 1 20 27 51 zaw.m.thant@sealionmyanmar.com
23 Greece J. & E. Papadopoulos S.A. 12 Polidefkous str Piraeus, 185 40 Phone +30 210 4113133 Fax +30 210 4116781 sales@papadopoulos-sa.com	31 Japan igus® k.k. Arcacentral 15F, 1-2-1 Kinshi, Sumida-ku Tokyo JAPAN Zip 130-0013 Phone +81 358 192030 Fax +81 358 192055 info@igus.co.jp	42 Netherlands igus® B.V. Sterrenbergweg 9 3769 BS Soesterberg Phone +31 346 353932 Fax +31 346 353849 info@igus.nl
23 Greece Chrismotor s.a. 71, Sp. Patsi str. 118 55 Athens Phone +30 210 34 25574 Fax +30 210 3425595 info@chrismotor.gr	32 Kenya Mantrrad Ltd. Sterling House, 1St. Floor Moi Avenue, Mombasa Phone + 254 722 706 830 Fax + 254 720 765 566 info@mantrrad.co.ke	42 Netherlands – dry-tech® Elcee B.V. Kamerlingh Onnesweg 28 NL-3316 GL Dordrecht Phone +31 (0)78-654 47 77 Fax +31 (0)78-654 47 33 info@elcee.nl
24 Hong Kong Sky Top Enterprises Ltd. Room 1806 ; Block C; Wah Tat Industrial Center; Wah Sing Street; Kwai Chung Hong Kong Phone +852 23318928 Fax +852 24269738 info@skytop.com.cn	33 Latvia Techvitas SIA Daugavas iela 38-3 Mārupe, LV-2167 Phone +372 667 5600 Fax +372 667 5601 i_igusLettland_G@igus.de	43 Nigeria Deepee Industrials Ltd. 11 Ishaga Road Surulere Lagos Phone +234 803 3899107 ovoachinike@deepeeindustrials.com
25 Hungary igus® Hungária Kft. Ipari Park u.10. 1044 Budapest Phone +36 1 3066486 Fax +36 1 4310374 info@igus.hu	34 Lebanon Mecanix Shops SAL Horsh Tablet - Ste Rita blvd P.O.Box: 55384 Beirut Phone +961 1 486701 Fax +961 1 490929 sales@mecanixshops.com	44 New Zealand Treotham Automation Pty Ltd. Stocking Distributor 13c Vogler Drive Wiri Auckland 2104 Phone +64 9 278 6577 Fax +64 9 278 6578 info@treotham.co.nz
25 Hungary Tech-Con Kft. Véső utca 9-11 1133 Budapest Phone +36 1 4124161 Fax +36 1 4124171 tech-con@tech-con.hu	35 Lithuania Hitech UAB Terminalo g. 3 54469 Biruliskiu k. (Kauno LEZ) Kauno raj. Phone +370 37 323271 Fax +370 37 203273 info@hitech.lt	45 Norway ASI Automatikk AS Sankt Hallvards vei 3, port 8 3414 Lierstranda Phone +47 9006 1100 info@asiflex.no
26 India igus® (India) Pvt. Ltd. 36/1, Sy No. 17/3 Euro School Road, Dodda Nekkundi Industrial Area, - 2nd Stage Mahadevapura Post Bangalore 560048 Phone +91 80 68127800 Fax +91 80 68127802 info-in@igus.net	36 Macedonia, Albania, Kosovo Hennlich doo Beograd Radomira Markovica 1/3 11222 Beograd Phone +381 11 63 098 17 Fax +381 11 63 098 20 office@hennlich.rs	46 Peru PROIGUS S.A.C. Calle Bolivar 388/of. 203 Miraflores Lima 18 – Perú Phone +51 1 2414370 Fax +51 1 2428608 profacoventas@profaco.com
27 Indonesia PT igus® Indonesia Headquarter Indonesia Taman Tekno BSD Sektor XI, Blok L1 No. 15 Tangerang Selatan 15314 Phone +62 21 7588 1933 Fax +62 21 7588 1932 info@igus.co.id	37 Malaysia igus® Malaysia Sdn Bhd Suite 1601-1, Level 16, Tower 2, Wisma AmFirst, Jalan SS 7/15 (Jalan Stadium), 47301 Kelana Jaya, Selangor Phone +603 7803 0618 Fax +603 7886 1328 info@igus.my	47 Pakistan GEMS International Trading 501, Windsong Place, Block 7&8, K.C.H.S, Off Shaheed-e-Millat Rd. Karachi - 75350 Phone +92 21 34531505 marketing@gemsinter.com
27 Indonesia PT igus® Indonesia Headquarter Indonesia Taman Tekno BSD Sektor XI, Blok L1 No. 15 Tangerang Selatan 15314 Phone +62 21 7588 1933 Fax +62 21 7588 1932 info@igus.co.id	38 Morocco AFIT 5, Rue Amir Abdelkader 20300 Casablanca Phone +212 522 633769 Fax +212 522 618351 souria.vu@premium.net.ma	48 Philippines Silicon Exponents Corp. Unit 1-B, 8414 LMN Bldg. Dr. A. Santos Avenue Brgy.BF Homes Sucat Parañaque City 1700 Philippines Phone +63 2 8250 126/135 Fax +63 2 8250 141 nyemrigor@sieplus.ph

igus®.eu/8pm

Place your orders until late. Ordering and deliveries weekdays from 7.00am to 8.00pm, Saturday from 8.00am to 12.00pm.

No minimum order quantity, no surcharges. Quick delivery.

www.igus.eu Phone: +49 2203 9649-800 Fax -222

igus®.eu/24

Buy online - 24hrs! www.igus.eu

/9001:2015 /16949:2016

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

/readychain®

Ask for fully harnessed and pre-assembled energy supply systems - increase your cash-flow and profit immediately with readychain®.

www.igus.eu/readychain

/newsletter

Free of charge! Discover more about the latest trends and innovations from the world of igus® motion plastics®. Register here: www.igus.eu/newsletter

igus®.eu

igus® GmbH Spicher Str. 1a 51147 Cologne (Germany)

Phone: +49 2203 9649-800 Fax +49 2203 9649-222

info@igus.de www.igus.eu

© igus® GmbH

Subject to technical alterations. MAT0071824.20 Issue 08/2020