Increased inner height
E4/00 | Series 640

Price index

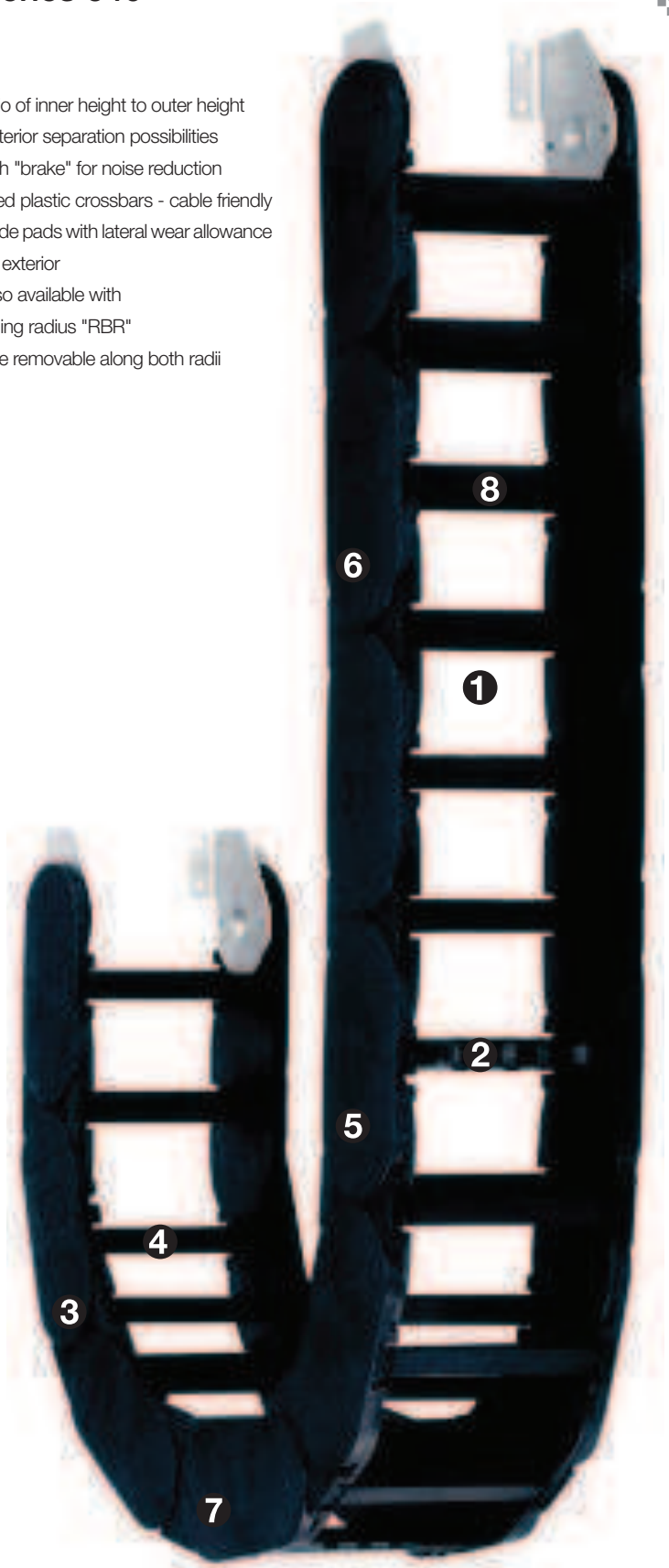
This E4 Series is a "Low-noise-Version"

Clean-Room
Cleanroom test upon request

EX
ESD classification: Electrically conductive ESD/ATEX version upon request

1. Optimum ratio of inner height to outer height
2. Numerous interior separation possibilities
3. Stop dog with "brake" for noise reduction
4. Wide, rounded plastic crossbars - cable friendly
5. Optimized glide pads with lateral wear allowance
6. Dirt-repellent exterior
7. E-Chains® also available with reverse bending radius "RBR"
8. Crossbars are removable along both radii

Opening E-Chains®: Remove crossbars and clips - Insert screwdriver into the slot, push down, release by lever action. Repeat action for the other side



When to use the Series 640:
- If a low-noise version is required
- At very high speeds and/or accelerations
- For long travels
- For high additional loads

When not to use it:
- If a simple and low-cost solution is required
  ▶ **Series 1640, page 7.90**
- If higher stability is required
  ▶ **Series 600/601/R608, page 7.200**
- If an enclosed solution is required
  ▶ **Series R608, page 7.200**

Order example complete E-Chain®

Please indicate chain-lenghts or number of links **Example: 4 m or 28 links**

4 m **640.33.300.0**	**E-Chain®**
with 2 separators **6411** assembled every 2nd link	**Interior separation**
1 set **6000.1.12**	**Mounting bracket**

Available from stock. Delivery in 24h or today! (Delivery time means time until shipping of goods)

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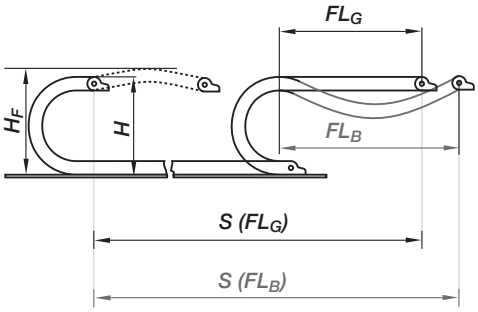
Fax +49- (0) 22 03-96 49-222

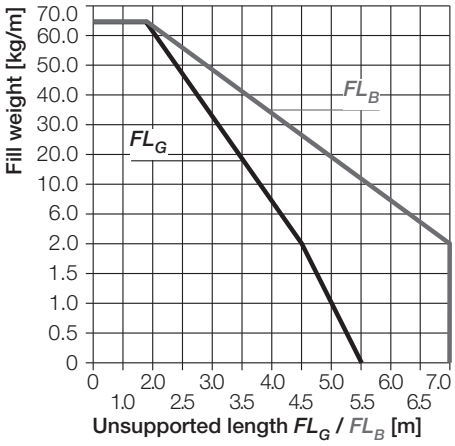
Unsupported length

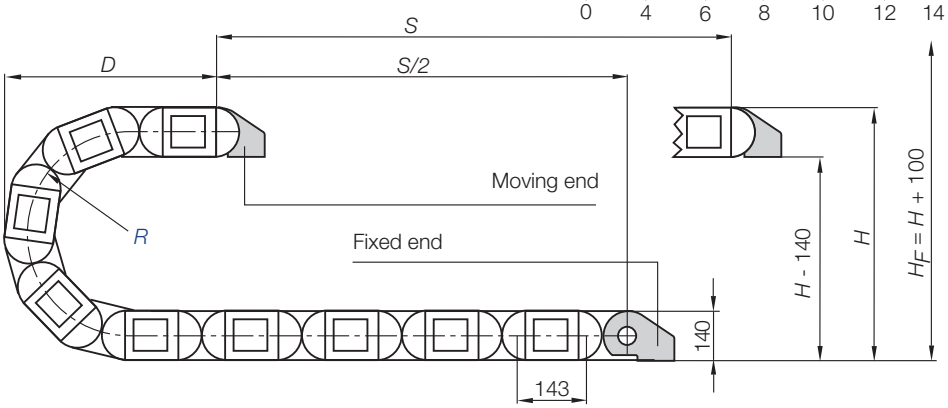
FL_G = with straight upper run

FL_B = with permitted sag

Further information ▶ **Design, page 1.12**







Pitch = 143 mm/link **Links/m =** 7 (1001 mm) **Chain length =** $S/2 + K$

R	200	250	300	350	400	450	500	550	600	750	1000
H	545	645	745	845	945	1045	1145	1245	1345	1645	2145
D	415	465	515	565	615	665	715	765	815	965	1215
K	920	1080	1240	1400	1560	1720	1870	2020	2175	2660	3435
H_2	325	325	325	325	325	325	325	325	325	325	–
D_2^{+25}	800	900	1100	1200	1430	1580	1700	1850	2050	2850	–
K_2	1287	1430	1859	2145	2574	2860	3146	3432	3861	5005	–

S = Length of travel
R = Bending radius
H = Nominal clearance height
H_F = Required clearance height
H_{RI} = Trough inner height
D = Overlength E-Chain® radius in final position
K = $\pi \bullet R$ + "safety"
D_2 = Over length - long travels, gliding
K_2 = *Further add-on
H_2 = *Mounting height
*if the mounting bracket location is set lower

Other installation methods
Vertical, hanging ≤ 120 m
Vertical, standing ≤ 6 m
Side mounted, unsupp. ≤ 4 m
Rotary requires further calculation
Unsupported length of upper run = upon request

Standard

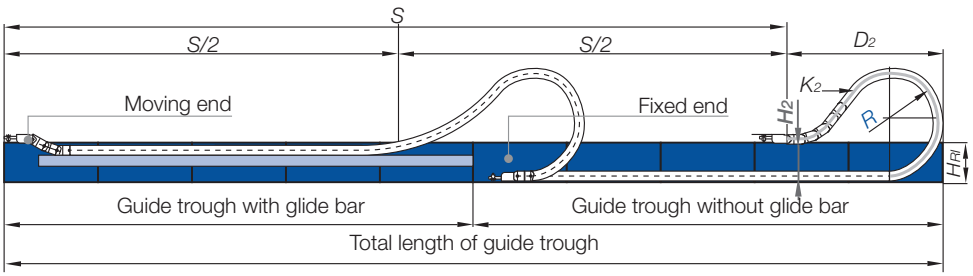
Short travels - unsupported

Unsupported E-Chains® feature positive camber over short travels. This must be accounted for when specifying the clearance height H_F. Please consult igus® if space is particularly restricted.

The required clearance height:
$H_F = H$ + 100 mm
(with 5,0 kg/m fill weight)

Long travel lengths from 10 m to max. 450 m

Chain length = $S/2 + K_2$



In case of travels between 4 and 10 m we recommend a longer unsupported length.

Gliding, long travel applications (max. 450 m)

In this case the E-Chain® upper run will be introduced in a guide trough on the lower run. We recommend to realize the engineering of such a plant by our technicians.

Technical Data

Speed / acceleration FL_G	max. 20 [m/s] / max. 200 [m/s²]
Speed / acceleration FL_B	max. 3 [m/s] / max. 6 [m/s²]
Gliding speed / acceleration (maximum)	max. 10 [m/s] / max. 50 [m/s²]
Material - permitted temperature °C	igumid G / -40° up to +120° C
Flammability class, igumid G	VDE 0304 IIC UL94 HB

Details of material properties
▶ **page 1.38**

▶ page 7.161

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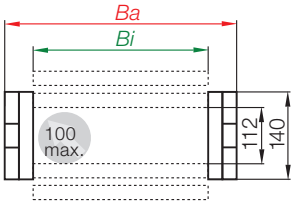
E4/00 | **Series 640** | **Product Range**

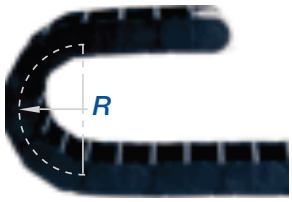


Part No. structure

640.	33.	300.	0

Color black
Bending radius
Width
Series

Series 640 - E-Chain® with crossbars every link



- Crossbars every link
- For rigid hydraulic hoses
- For applications particularly demanding
- Can be opened from two sides

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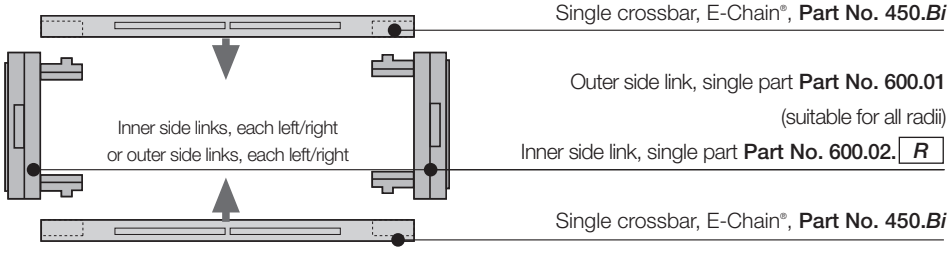
Part No.	*Bi* [mm]	*Ba* [mm]	Weight [kg/m]
640.12. ☐.0	87	139	≈ 7,57
640.13. ☐.0	99	152	≈ 7,66
640.15. ☐.0	112	164	≈ 7,70
640.16. ☐.0	124	177	≈ 7,77
640.17. ☐.0	137	189	≈ 7,84
640.18. ☐.0	149	202	≈ 7,91
640.20. ☐.0	162	214	≈ 7,92
640.21. ☐.0	174	227	≈ 7,99
640.22. ☐.0	187	239	≈ 8,04
640.23. ☐.0	199	252	≈ 8,12
640.25. ☐.0	212	264	≈ 8,18
640.26. ☐.0	224	277	≈ 8,23
640.27. ☐.0	237	289	≈ 8,30
640.28. ☐.0	249	302	≈ 8,32
640.30. ☐.0	262	314	≈ 8,39
640.31. ☐.0	274	327	≈ 8,46
640.32. ☐.0	287	339	≈ 8,51
640.33. ☐.0	300	352	≈ 8,62
640.35. ☐.0	312	364	≈ 8,68
640.36. ☐.0	324	377	≈ 8,72
640.37. ☐.0	337	389	≈ 8,74
640.38. ☐.0	349	402	≈ 8,79
640.40. ☐.0	362	414	≈ 8,92
640.41. ☐.0	374	427	≈ 9,02
640.42. ☐.0	387	439	≈ 9,11
640.43. ☐.0	399	452	≈ 9,16
640.45. ☐.0	412	464	≈ 9,20
640.46. ☐.0	424	477	≈ 9,21
640.47. ☐.0	437	489	≈ 9,26
640.48. ☐.0	449	502	≈ 9,30
640.50. ☐.0	462	514	≈ 9,38
640.51. ☐.0	474	527	≈ 9,39
640.52. ☐.0	487	539	≈ 9,42
640.53. ☐.0	499	552	≈ 9,52
640.55. ☐.0	512	564	≈ 9,83
640.60. ☐.0	562	614	≈ 9,95

Available bending radii

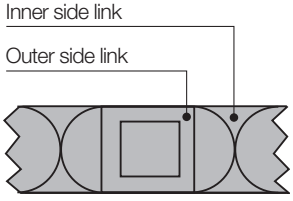
R [mm] 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 750 | 1000

Supplement Part No. with required radius. Example: 640.33. 300 .0

0 = standard color, other colors ▶ page 1.39 · Pitch = 143 mm/link - Links/m = 7

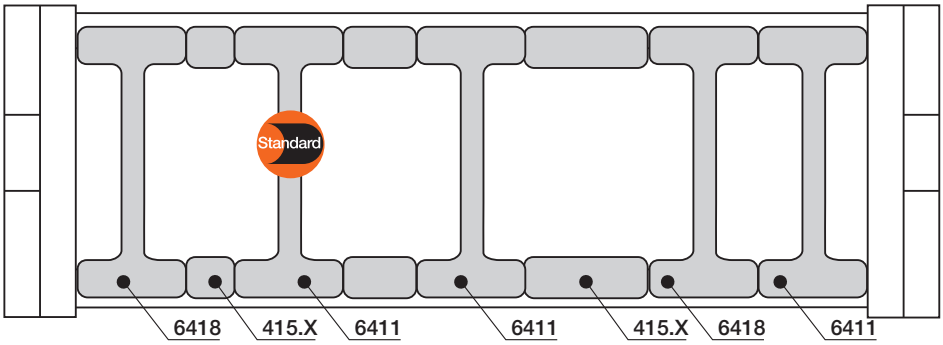


Part No. E-Chain® links, single parts



▶ page 7.161

Vertical separators are used if a vertical subdivision is required. In the standard configuration, a separator is mounted at every second link.



Vertical separator
6401

Spacer
405.XX

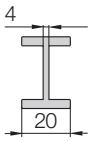
Locking separator
6408

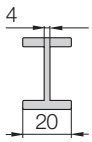
Vertical separator for E-Chains®	
unassembled	**6401**
assembled	**6411**

Spacer* for E-Chains®	
unassembled	**405.XX**
assembled	**415.XX**

Locking separator for E-Chains®	
unassembled	**6408**
assembled	**6418**

*For side-mounted applications





Option 1: Vertical separators and spacers

● **Standard separator 6401 for E-Chains®** offers safe stability due to its wide base design, also when used with thick cables or hoses.

● Separators (e.g. "side mounted") for E-Chains® can be fixed in their position with **Spacers 405.XX**. The available inner height will be reduced by 2 mm, per spacer and side. To avoid this, the parts can be assembled on outside of the crossbar (not for long travels) **XX = width of the spacer** (available 10, 15, 20, 30, 40 mm)

Additionally:

● The **Locking separator for E-Chains® 6408** is designed for applications exposed to extremely high humidity, for example, at composting plants. The lateral cam serves for uniform alignment of the vertical separators; if these separators are misaligned, they will inevitably get damaged on an attempt to open the E-Chain®.

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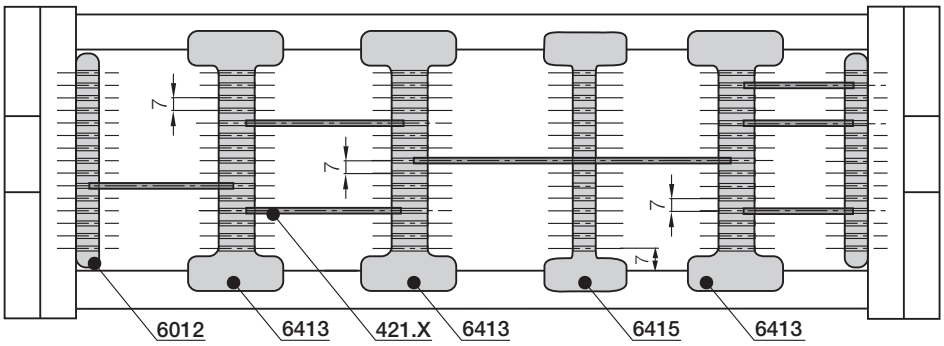
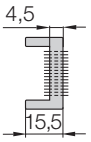


For use with many cables of differing diameters. E-Chains® and E-Tubes can be subdivided both vertically and horizontally. The shelves can be arranged elevator-shifted with different bottoms

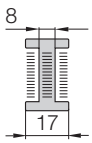
Option 2: Shelves

● **Side plates 6002, middle plates 6403** and **shelves 420.X** form the basic pattern of a shelf system. Shelves of various widths can be arranged at 15 different heights (**in 7 mm increments**).

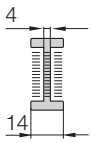
● The unilateral **open slotted separator 6405 can be retrofitted** into an existing interior separation system without a need for dismantling the interior separators. During an installation of open slotted separators, the top and bottom notches cannot be occupied by shelves.



Side plate for E-Chains®	
unassembled	**6002**
assembled	**6012**



Middle plate for E-Chains®	
unassembled	**6403**
assembled	**6413**



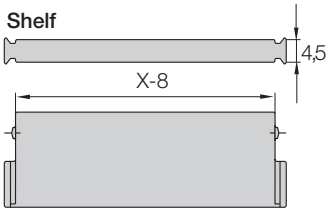
Open slotted separator for E-Chains®	
unassembled	**6405**
assembled	**6415**

Side plate
6002

Middle plate
6403

Open slotted separator
6405

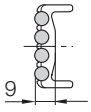
Shelf 420.X



Width X [mm]	Part No. unassembled	Part No. assembled
018	**420.18**	**421.18**
023	**420.23**	**421.23**
025	**420.25**	**421.25**
028	**420.28**	**421.28**
033	**420.33**	**421.33**
043	**420.43**	**421.43**
050	**420.50**	**421.50**
062	**420.62**	**421.62**

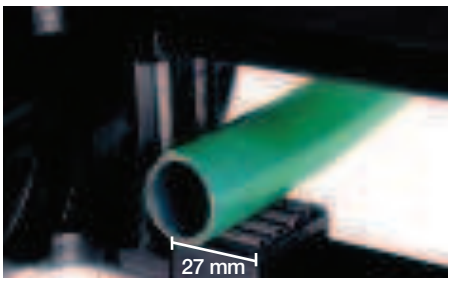
Width X [mm]	Part No. unassembled	Part No. assembled
075	**420.75**	**421.75**
088	**420.88**	**421.88**
100	**420.100**	**421.100**
125	**420.125**	**421.125**
150	**420.150**	**421.150**
175	**420.175**	**421.175**
187	**420.187**	**421.187**
200	**420.200**	**421.200**

Additional elements for interior separation



Rollclip	
unassembled	**489.27**
assembled	**490.27**

Rollclip - minimizes abrasion of particularly sensitive hoses. The Rollclip is simply clamped onto the opening crossbar. The movable rollers compensate for relative movement between the chain and hose.



System E4/00
Inner height: 112 mm
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▶ page 7.161

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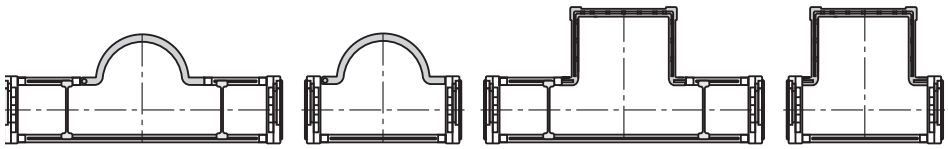
E-mail: info@igus.de

Consult igus® for your extender crossbar applications. We are happy to assist you with your design layout

Extender crossbars - careful guide of hosed applications

- Suitable for hoses with a maximum outer diameter of 300 mm
- Gliding operation with crossbars assembled along the outer radius and a special guide trough
- Gliding operation not guaranteed with crossbars assembled along the inner radius
- The extender crossbar can either be attached to the side links directly or can be used in combination with two stranded snap-open crossbars



Round extender crossbar with snap-open crossbars | Attached directly to the side link | Square extender crossbar with snap-open crossbars | Attached directly to the side link

Part No.	Max Ø [mm] hose	Form	Installation side link	Combination with snap-open crossb.
450.15.RHD115	115	○	–	+
450.17.RD115	115	○	+	–
450.25.D150	150	□	+	–
450.30.D200	200	□	+	–
450.35.D250	250	□	+	–
450.40.D300	300	□	+	–
450.20.HD150	150	□	–	+
450.25.HD200	200	□	–	+
450.30.HD250	250	□	–	+

○ = round □ = square + = yes / – = no

E4 clip-on cable binder

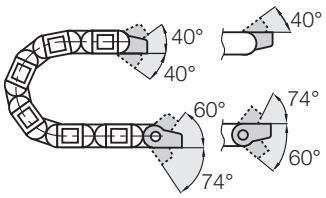
● For side-mounted applications ● Serves as a clip-on, lateral guide for hoses and cables on E-Chains® ● The loops can be adjusted as required ● Compatible with many E4 E-Chains® ● Stylish and economical ● One clip and one locking band are needed for each chain link ● Call us if you have any questions on project planning

Part No.	Form
450.B12	Locking clip, comprising a locking element
450.B12.200	Locking band, comprising a locking element and band; 12 x 1,5 x 200 mm

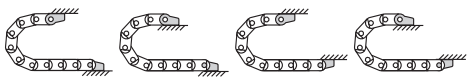
Option steel - pivoting

- For pivoting connections
- One part (two-piece) for all chain widths
- Electrically conductive

Moving end
6000.1



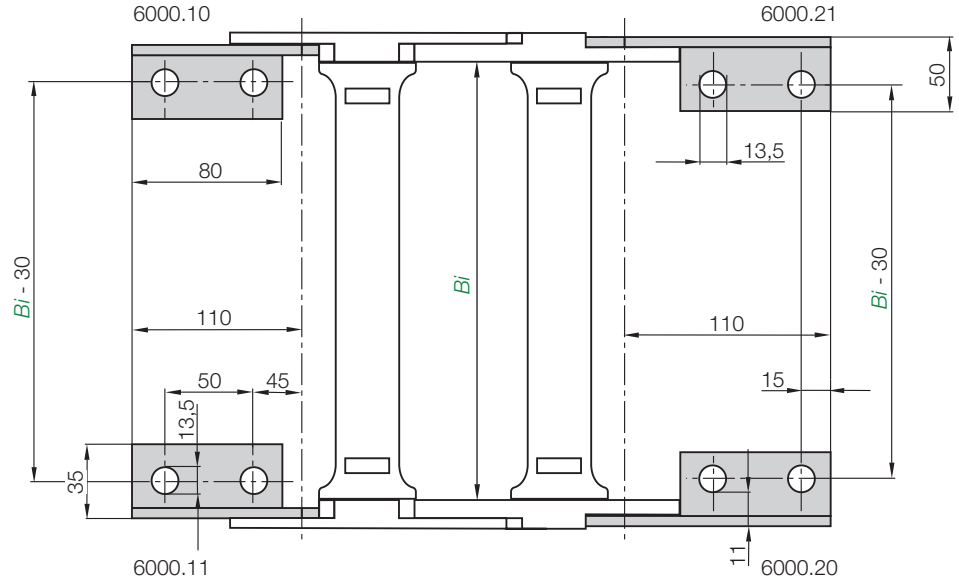
Fixed end
6000.2



Possible installation conditions -
Further installation angles ▶ installation sketch

Moving end
6000.1

Fixed end
6000.2



Part No.	Mounting bracket
6000.[1].12	Full attachment set (both sides) for E-Chain®, ending with outer side link
6000.[3].12	Full attachment set (both sides) for E-Chain®, beginning with outer side link (moving end), ending with inner side link (fixed end)
6000.1	Mounting bracket set **moving end** (one side) for outer side link
6000.2	Mounting bracket set **fixed end** (one side) for inner side link

Dimensions and order configurations

Note mounting brackets:
Depending on the E-Chain® length, the carrier will end with outer or inner side links. For the best appearance, make sure the chain ends with outer side link whenever possible. An odd number of links will always end with outer side links.

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▶ chapter 10

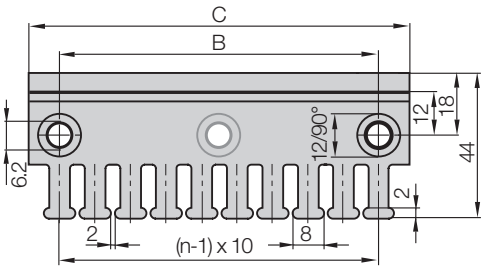
▶ page 7.161

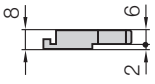
E4/00 | **Series 640** | **Accessories** | Strain Relief

Tiewrap plate	No. of teeth *n*	Dim. C [mm]	Dim. B [mm]	Center bore
3050.ZB	5	50	30	–
3075.ZB	7	75	55	–
3100.ZB	10	100	80	–
3115.ZB	11	115	95	–
3125.ZB	12	125	105	–
3150.ZB	15	150	130	–
3175.ZB	17	175	155	–
3200.ZB	20	200	180	+
3225.ZB	22	225	205	+
3250.ZB	25	250	230	+

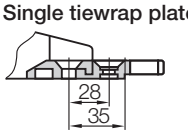
Tiewrap plate as individual part

As individual component screwed on KMA. Can be plugged in the mounting brackets. **Details ▶ chapter 10**





Single tiewrap plate



Shown assembled

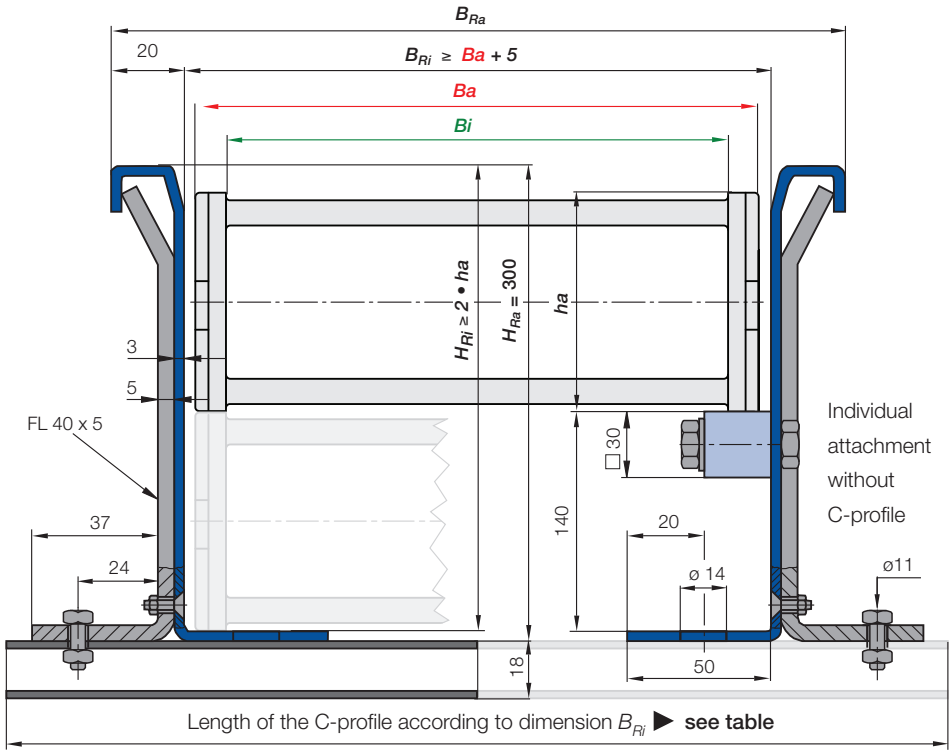
Part No. 98.30 | 98.31 | Trough height: 300 mm

Steel Guide Troughs | Very stable and rugged

Ba = Outer width E-Chains® / E-Tube
Bi = Inner width E-Chains® / E-Tube
ha = Outer height E-Chains® / E-Tube
H_{Ri} = Inner trough height
H_{Ra} = Outer trough height
B_{Ri} = Inner trough width ▶ depends on dim. *Ba*
B_{Ra} = Outer trough width
n_{Mon} = Number of installation sets (left/right)
n_{Ri} = Number of trough sets (left/right)

! $H_{Ri} \geq 2 \bullet ha$
$B_{Ri} \geq Ba + 5$

● = Guide trough set
● = Installation set
● = Glide bar
● = C-profile



Installation set with C-profile

640.12.300.0 ▶ Order example

	B_{Ri}	Part No. Installation set
.12	144	**98.50.275**
.13	157	**98.50.275**
.15	169	**98.50.300**
.16	182	**98.50.300**
.17	194	**98.50.325**
.18	207	**98.50.325**
.20	219	**98.50.350**
.21	232	**98.50.350**
.22	244	**98.50.375**
.23	257	**98.50.375**
.25	269	**98.50.400**
.26	282	**98.50.400**
.27	294	**98.50.425**
.28	307	**98.50.425**
.30	319	**98.50.450**
.31	332	**98.50.450**
.32	344	**98.50.475**
.33	357	**98.50.475**
.35	369	**98.50.500**
.36	382	**98.50.500**
.37	394	**98.50.525**
.38	407	**98.50.525**
.40	419	**98.50.550**
.41	432	**98.50.550**
.42	444	**98.50.575**
.43	457	**98.50.575**
.45	469	**98.50.600**
.46	482	**98.50.600**
.47	494	**98.50.625**
.48	507	**98.50.625**
.50	519	**98.50.650**
.51	532	**98.50.650**
.52	544	**98.50.675**
.53	557	**98.50.675**
.55	569	**98.50.700**
.60	619	**98.50.750**

Guide troughs are used with applications where the upper run of the E-Chain® glides on the lower run. If using igus® steel guide troughs, the following components are required:

- **Guide trough without glide bars**
  Part No. 98.30
- **Guide trough with glide bars**
  Part No. 98.31
- **Installation sets as end connectors**
  Part No. 98.50.XX

.XX indicates the length of the C-profile on which the guide trough is mounted. The values and part numbers are specified in the table on the left. Standard length of the trough components and glide bars is 2 m.The required overall length of the guide trough directly correlates to the length of travel. Special dimensions are available for confined spaces.

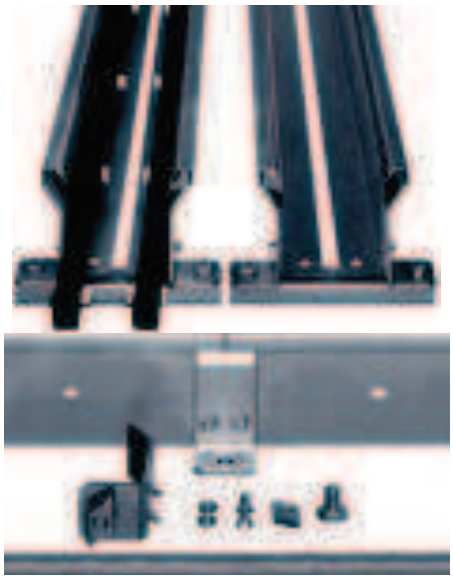


Illustration top: Guide trough with and without glide bar. Illustration bottom: installation set

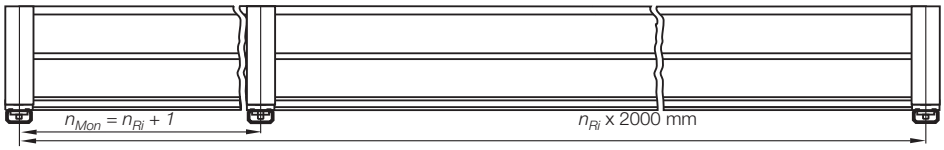
Order example: Length of travel 30 m - Center mounted for Series 640.33.300.0 with B_{Ri} = 357

Guide trough set (set of 2 trough side parts, incl. glide strips) **without** glide bar
Order text: 16 m Guide trough without glide bar (8 x 2 m sections) Part No. 98.30

Guide trough set (set of 2 trough side parts, incl. glide strips) **with** glide bar
Order text: 16 m Guide trough with glide bar (8 x 2 m sections) Part No. 98.31

Installation set "Basic" complete **(Guide trough-sets + 1)**
Order text: 17 Installation sets (with C-profile) Part No. 98.50.475

Principle sketch: Number of installation sets to be installed = Number of trough sections + 1



Details about steel guide troughs ▶ chapter 9, Guide Troughs

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