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igus®

E2/000 | 1400·1450·1480·1500

21 21

Price index

IPA Qualification Certificate Air Cleanless Class ISO Class 3 (at v = 2 m/s) upon request

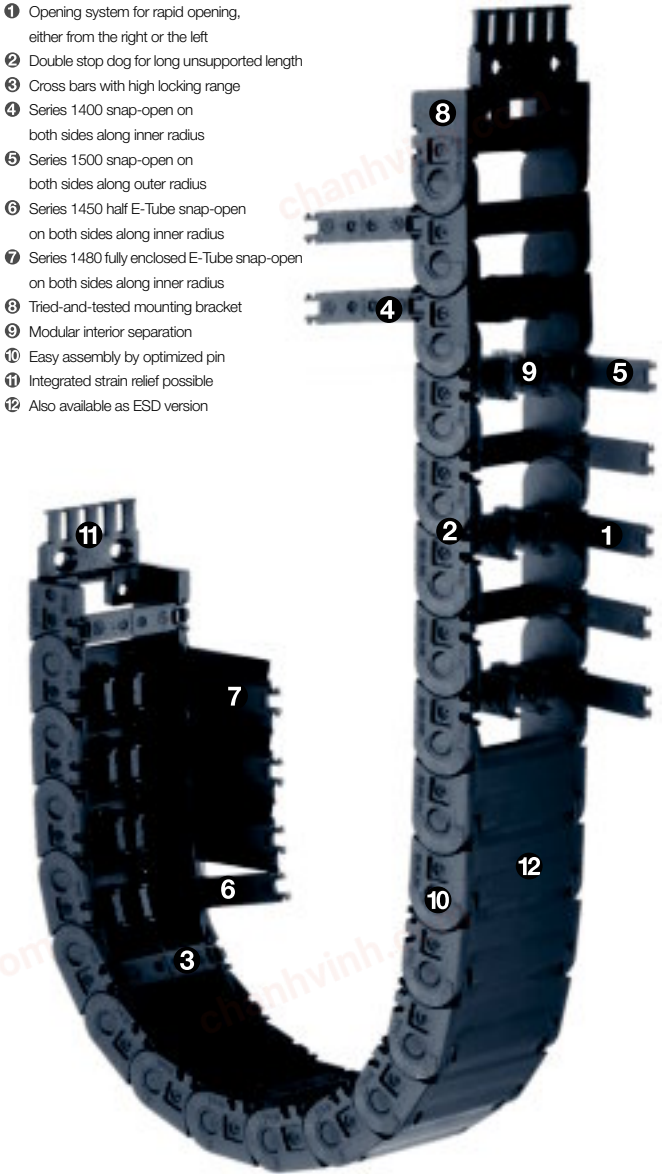
ESD classification: Electrically conductive ESD/ATEX version upon request

UL94 V2 classifications upon request



Snap-open mechanism, choice of snap-open on left or right. Hinged crossbar can be swiveled by more than 180° on both sides. Lightning-fast closing by hand. Secure fit without additional locking devices.

1. Opening system for rapid opening, either from the right or the left
2. Double stop dog for long unsupported length
3. Cross bars with high locking range
4. Series 1400 snap-open on both sides along inner radius
5. Series 1500 snap-open on both sides along outer radius
6. Series 1450 half E-Tube snap-open on both sides along inner radius
7. Series 1480 fully enclosed E-Tube snap-open on both sides along inner radius
8. Tried-and-tested mounting bracket
9. Modular interior separation
10. Easy assembly by optimized pin
11. Integrated strain relief possible
12. Also available as ESD version



When to use the Series 1400/1450/1480/1500:

- If snap-open accessibility along inner or outer radius is required
- If integrated strain relief is required at the connection point
- If half E-Tube is required (Series 1450)
- If fully enclosed E-Tube is required (Series 1480)
- If long service life is required
- If easy installation is required
- Standard product with many accessories

When not to use it:

- If the application is very simple
  ▶ **Easy Chain®, Series E14, page 3.32**

Order example complete E-Chain®

Please indicate chain-lenghts or number of links **Example: 3 m or 90 links**

3 m **1400.038.100.0**	**E-Chain®**
with 2 separators **14011** assembled every 2nd link	**Interior separation**
1 set **15000.038.34PZB**	**Mounting bracket**

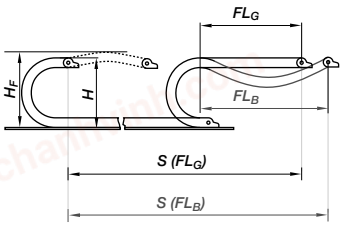
Available from stock. Delivery in 24h or today! (Delivery time means time until shipping of goods)

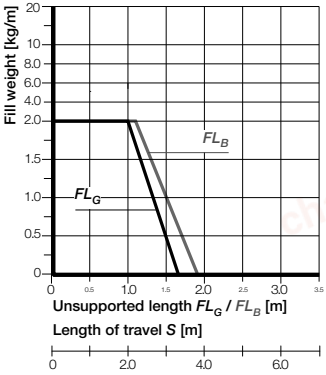
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Unsupported length

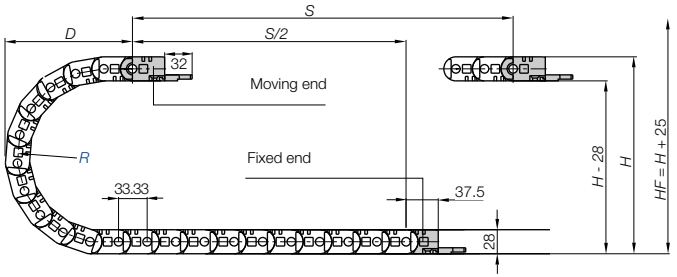
FL_G = with straight upper run
FL_B = with permitted sag
Further information ▶ **Design, page 1.12**





S = Length of travel
R = Bending radius
H = Nominal clearence height
H_F = Required clearence height
H_{RI} = Trough inner height
D = Overlength E-Chain® radius in final position
K = π • *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 ≤ 20 m
Vertical, standing ≤ 2 m
Side mounted, unsupp. ≤ 0,7 m
Rotary requires further calculation
Unsupported length of upper run = upon request



Pitch = 33,3 mm/link **Links/m** = 30 (1000 mm) **Chain length** = $^{S}/_{2} + K$

R	035*	038*	048*	075	100	125	145	180
H	98	104	124	178	228	278	318	388
D	85	90	100	125	150	175	195	230
K	180	190	220	305	385	460	525	635
H_2	98	104	124	178	100	100	100	100
D_2^{+25}	85	90	100	125	340	495	540	690
K_2	180	190	220	305	600	800	940	1170

*for Series 1450/1480 upon request

Standard

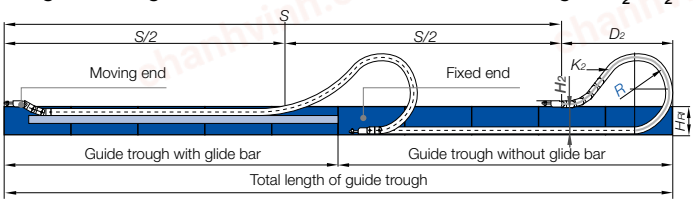
Short travels - unsupported

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* + 25 mm
(with 0,5 kg/m fill weight)

Long travel lengths from 10 m to max. 75 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. 75 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

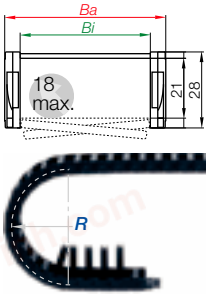
Speed / acceleration FL_G	max. 20 [m/s] / max. 200 [m/s²]
Speed / acceleration FL_B	max. 3 [m/s] / max. 6 [m/s²]
Gliding speed / acceleration (maximum)	max. 10 [m/s] / max. 50 [m/s²]
Material - permitted temperature °C	igumid G / -40° up to +120° C
Flammability class, igumid G	VDE 0304 IIC UL94 HB

Details of material properties
▶ **page 1.38**

▶ page 5.91

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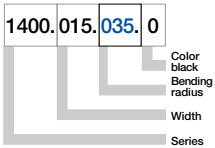
igus® E-ChainSystems®
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igus® GmbH
51147 Cologne
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E-mail: info@igus.de



Series 1400 - **E-Chain®** - snap-open along inner radius

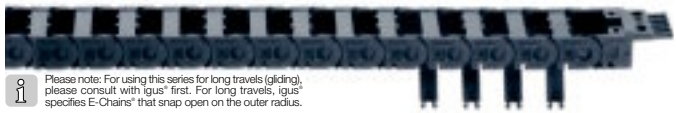
Part No.	Bi [mm]	Ba [mm]	R [mm] Bending radii								Weight [kg/m]
1400.015. ☐ .0	15	28,5	035	038	048	075	100	125	145	180	≈ 0,46
1400.020. ☐ .0	20	33,5	035	038	048	075	100	125	145	180	≈ 0,47
1400.025. ☐ .0	25	38,5	035	038	048	075	100	125	145	180	≈ 0,49
1400.038. ☐ .0	38	51,5	035	038	048	075	100	125	145	180	≈ 0,53
1400.050. ☐ .0	50	63,5	035	038	048	075	100	125	145	180	≈ 0,56
1400.068. ☐ .0	68	81,5	035	038	048	075	100	125	145	180	≈ 0,63
1400.080. ☐ .0	80	93,5	035	038	048	075	100	125	145	180	≈ 0,67
1400.100. ☐ .0	100	113,5	035	038	048	075	100	125	145	180	≈ 0,74
1400.125. ☐ .0	125	138,5	035	038	048	075	100	125	145	180	≈ 0,83

Part No. structure

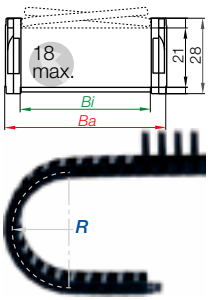


Supplement Part No. with required radius. Example: 1400.015. 035 .0

0 = standard color, other colors ▶ page 1.39 · Pitch = 33,3 mm/link - Links/m = 30



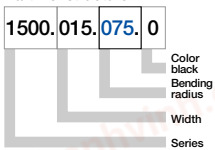
Please note: For using this series for long travels (gliding), please consult with igus® first. For long travels, igus® specifies E-Chains® that snap open on the outer radius.



Standard Series 1500 - **E-Chain®** - snap-open along outer radius - Standard!

Part No.	Bi [mm]	Ba [mm]	R [mm] Bending radii								Weight [kg/m]
1500.015. ☐ .0	15	28,5	035	038	048	075	100	125	145	180	≈ 0,46
1500.020. ☐ .0	20	33,5	035	038	048	075	100	125	145	180	≈ 0,47
1500.025. ☐ .0	25	38,5	035	038	048	075	100	125	145	180	≈ 0,49
1500.038. ☐ .0	38	51,5	035	038	048	075	100	125	145	180	≈ 0,53
1500.050. ☐ .0	50	63,5	035	038	048	075	100	125	145	180	≈ 0,56
1500.068. ☐ .0	68	81,5	035	038	048	075	100	125	145	180	≈ 0,63
1500.080. ☐ .0	80	93,5	035	038	048	075	100	125	145	180	≈ 0,67
1500.100. ☐ .0	100	113,5	035	038	048	075	100	125	145	180	≈ 0,74
1500.125. ☐ .0	125	138,5	035	038	048	075	100	125	145	180	≈ 0,83

Part No. structure



Supplement Part No. with required radius. Example: 1500.015. 075 .0

0 = standard color, other colors ▶ page 1.39 · Pitch = 33,3 mm/link - Links/m = 30



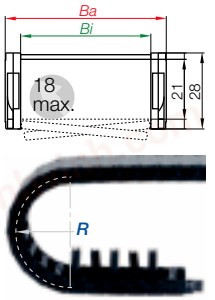
Info ▶ www.igus.de/en/1400 · www.igus.de/en/1450 · www.igus.de/en/1480 · www.igus.de/en/1500

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Series 1450 - **half E-Tube** - snap-open along inner radius

Part No.		Bi [mm]	Ba [mm]	R [mm] Bending radii					Weight [kg/m]
1450.015.	.0	15	28,5	075	100	125	145	180	≈ 0,48
1450.025.	.0	25	38,5	075	100	125	145	180	≈ 0,57
1450.038.	.0	38	51,5	075	100	125	145	180	≈ 0,59
1450.050.	.0	50	63,5	075	100	125	145	180	≈ 0,65
1450.068.	.0	68	81,5	075	100	125	145	180	≈ 0,74
1450.080.	.0	80	93,5	075	100	125	145	180	≈ 0,80
1450.100.	.0	100	113,5	075	100	125	145	180	≈ 0,90
1450.125.	.0	125	138,5	075	100	125	145	180	≈ 1,03

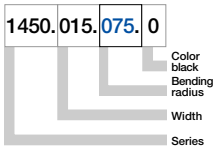


The bending radii 035 038 048 are available upon request.

Supplement Part No. with required radius. Example: 1450.015. 075 .0

0 = standard color, other colors ▶ page 1.39 · Pitch = 33,3 mm/link - Links/m = 30

Part No. structure

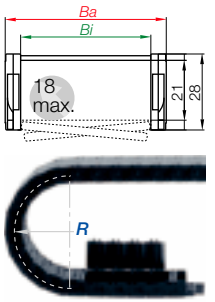




Please note: For using this series for long travels (gliding), please consult with igus® first. For long travels, igus® specifies E-Chains® that snap open on the outer radius.

Series 1480 - **E-Tube** - snap-open along inner radius

Part No.		Bi [mm]	Ba [mm]	R [mm] Bending radii					Weight [kg/m]
1480.015.	.0	15	28,5	075	100	125	145	180	≈ 0,48
1480.025.	.0	25	38,5	075	100	125	145	180	≈ 0,54
1480.038.	.0	38	51,5	075	100	125	145	180	≈ 0,61
1480.050.	.0	50	63,5	075	100	125	145	180	≈ 0,67
1480.068.	.0	68	81,5	075	100	125	145	180	≈ 0,77
1480.080.	.0	80	93,5	075	100	125	145	180	≈ 0,84
1480.100.	.0	100	113,5	075	100	125	145	180	≈ 0,95
1480.125.	.0	125	138,5	075	100	125	145	180	≈ 1,08

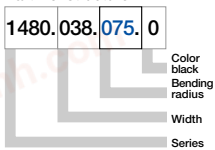


The bending radii 035 038 048 are available upon request.

Supplement Part No. with required radius. Example: 1480.038. 075 .0

0 = standard color, other colors ▶ page 1.39 · Pitch = 33,3 mm/link - Links/m = 30

Part No. structure





Please note: For using this series for long travels (gliding), please consult with igus® first. For long travels, igus® specifies E-Chains® that snap open on the outer radius.

▶ page 5.91

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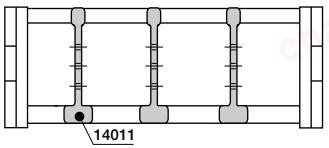
Vert. Separator, slotted	
unassembled	14001
assembled	14011



Option 1: Vertical Separators for **E-Chains®** Series 1400 · 1500

Vertical Separators are used if a vertical subdivision of the E-Chain® interior is required -
By standard Vertical Separators are assembled every other E-Chain® link

- **Standard** subdivision with **Vertical Separator, slotted 14011**,
  for combinations with **Full-Width Shelf 111.X**





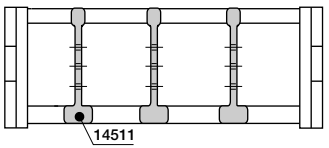
Vert. Separator, slotted	
unassembled	14501
assembled	14511



Option 2: Vertical Separators for **E-Tubes** Series 1450 · 1480

Vertical Separators are used if a vertical subdivision of the half E-Tube (Series 1450) and the fully enclosed E-Tube (Series 1480) interior is required -
By standard Vertical Separators are assembled every other E-Chain® link

- **Standard** subdivision with **Vertical Separator, slotted 14511**,
  for combinations with **Full-Width Shelf 111.X**

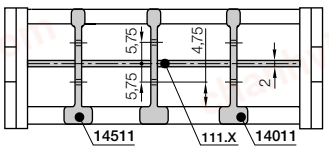




Option 3: Full-Width Shelves for **E-Chains®** Series 1400 · 1500 and **E-Tubes** Series 1450 · 1480

For applications involving many cables with similar or identical diameters

- **Full-Width Shelf 111.X** can be combined with **Vertical Separator, slotted 14011** (E-Chain®) and **Vertical Separator, slotted 14511** (E-Tube/half E-Tube)





Full-Width Shelf
X
t = 2

Width X [mm]	Part No. unassembled	Part No. assembled
015	**110.15**	**111.15**
020	**110.20**	**111.20**
025	**110.25**	**111.25**
038	**110.38**	**111.38**
050	**110.50**	**111.50**

Width X [mm]	Part No. unassembled	Part No. assembled
068	**110.68**	**111.68**
080	**110.80**	**111.80**
100	**110.100**	**111.100**
125	**110.125**	**111.125**

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igus® GmbH
51147 Cologne

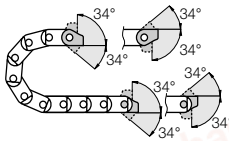
Internet: www.igus.eu
E-mail: info@igus.de

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The Standard - one-piece mounting brackets - pivoting

- Recommended for unsupported and gliding applications
- Well suited for tight installation conditions
- Integrated multed strain relief
- Easy to assembly
- Various mounting positions

Moving end with bore (outer link) 14...3PZ



14...4PZ Fixed end with pin (inner link)



Possible installation conditions for assembled mounting brackets ▶ Order example "preassembled" below

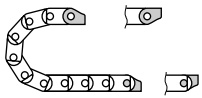
One-piece mounting brackets - locking

- Recommended for unsupported and gliding applications

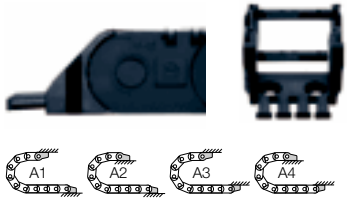
Furthermore:

- At very high speed and/or acceleration
- If space is limited for height (the H_F measurement)
- Various mounting positions

Moving end with bore (outer link) 14...1PZ



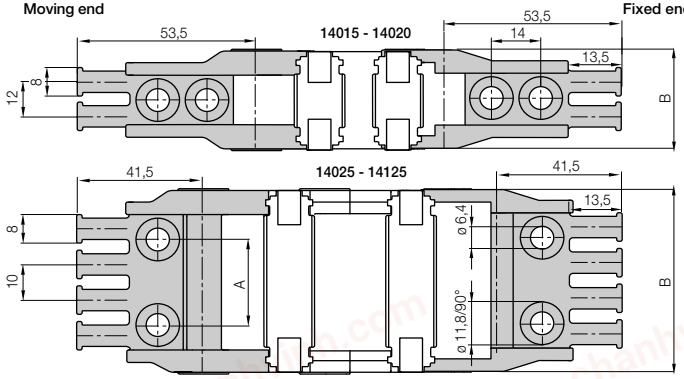
14...2PZ Fixed end with pin (inner link)



Possible installation conditions for assembled mounting brackets ▶ Order example "preassembled" below

14...3PZ Standard! (pivoting)
14...1PZ (locking)
Moving end

Standard! (pivoting) 14...4PZ
(locking) 14...2PZ
Fixed end



For E-Chain®:	Part No. full set with tiewrap plate	Dim.A [mm]	Dim.B [mm]	Number of teeth
1400 - 1500.015 ▶	14015.☐PZ	–	28,5	2
1400 - 1500.020 ▶	14020.☐PZ	–	33,5	2
1400 - 1500.025 ▶	14025.☐PZ	13	38,5	2
1400 - 1500.038 ▶	14038.☐PZ	24	51,5	4
1400 - 1500.050 ▶	14050.☐PZ	36	63,5	6
1400 - 1500.068 ▶	14068.☐PZ	54	81,5	7
1400 - 1500.080 ▶	14080.☐PZ	66	93,5	8
1400 - 1500.100 ▶	14100.☐PZ	86	113,5	10
1400 - 1500.125 ▶	14125.☐PZ	111	138,5	13

Please add the Part No. with the requested index - 34 for the pivoting configuration
e.g. 14015. 34 **PZ** or 12 for the locking configuration **e.g. 14015.** 12 **PZ**
For the **preassembled** mode please add the index A1 ... A4 **e.g. 14015.** 34 **PZ** A1

Dimensions and order configurations

Strain relief is possible on the moving end and/or the fixed end.

Part No. structure (pivoting)

14015. 34 PZ A1 Standard

A...must be indicated on preassembled configurations
With assembled strain relief tiewrap plates
Full set pivoting = 34
Mounting brackets for selected chain type

Full set, for both ends:
14015. 34 PZ +tiewrap plate
Single-part order:
14015. 3 PZ +tiewrap plate
Mounting bracket **with bore**
14015. 4 PZ +tiewrap plate
Mounting bracket **with pin**

Part No. structure (locking)

14015. 12 PZ A1

A...must be indicated on preassembled configurations
With assembled strain relief tiewrap plates
Full set pivoting= 12
Mounting brackets for selected chain type

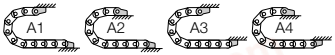
Full set, for both ends:
14015. 12 PZ +tiewrap plate
Single-part order:
14015. 1 PZ +tiewrap plate
Mounting bracket **with bore**
14015. 2 PZ +tiewrap plate
Mounting bracket **with pin**

▶ page 5.91

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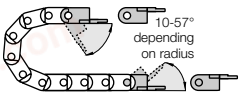


Possible installation conditions for assembled mounting brackets ▶ Order example "preassembled" below

Mounting bracket - polymer

- Recommended for unsupported and gliding applications
- Well suited for tight installation conditions
- Strain relief with detachable tiewrap plates
- Variable traverse angle for flexible assembly
- The twistability of the E-Chain® and the option to assemble the mounting brackets on the fixed end and/or the moving end, enable various installation options

Moving end with bore (outer link) 15000...3PZ(B)

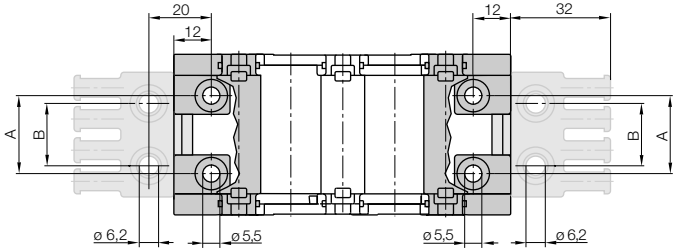


15000...4PZ(B) Fixed end with pin (inner link)

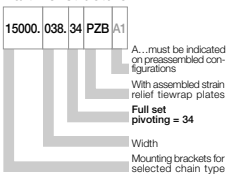
Dimensions and order configurations

Strain relief is possible on the moving end and/or the fixed end.

15000...3PZ(B) Moving end | **15000...4PZ(B) Fixed end**



Part No. structure



Full set, for both ends:

15000.038.34PZB +tiewrap plate

Single-part order:

15000.038. 3 PZB +tiewrap plate Mounting bracket **with bore**

15000.038. 4 PZB +tiewrap plate Mounting bracket **with pin**

For E-Chain®	Part No. full set **with** tiewrap plate	Part No. full set **without** tiewrap plate	Dim. A [mm]	Dim. B [mm]
1400 - 1500.015 ▶	–	–	–	–
1400 - 1500.020 ▶	–	–	–	–
1400 - 1500.025 ▶	15000.025.34PZB	15000.025.34PZ	12	15
1400 - 1500.038 ▶	15000.038.34PZB	15000.038.34PZ	25	20
1400 - 1500.050 ▶	15000.050.34PZB	15000.050.34PZ	37	30
1400 - 1500.068 ▶	15000.068.34PZB	15000.068.34PZ	55	40
1400 - 1500.080 ▶	15000.080.34PZB	15000.080.34PZ	67	60
1400 - 1500.100 ▶	15000.100.34PZB	15000.100.34PZ	87	80
1400 - 1500.125 ▶	15000.125.34PZB*	15000.125.34PZ	112	105

For the **preassembled** mode please add the index A1 ... A4 **e.g. 15000.038.34PZB A1**

***Tie wrap plate (consists of 2 x 2050.ZB) does not snap on but needs to be bolted down separately**

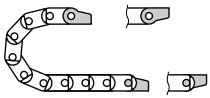
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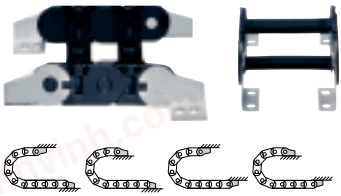
Steel mounting bracket - locking

- Locked connections
- One part for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible

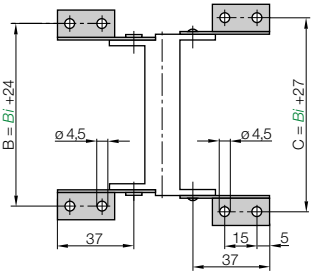
Moving end with bore (outer link) 14000....1

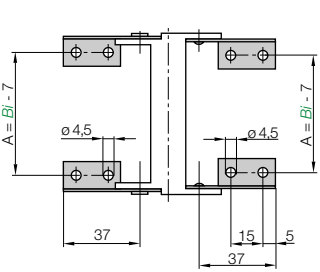


14000...2 Fixed end with pin (inner link)



Possible installation conditions - Further installation angles ▶ installation sketch





Dimensions and order configurations

*pivoting with no stop, (360°). Screw-on area of the mounting brackets can be on the interior or exterior.

For E-Chain®	Part No. full set	Dim. A [mm]	Dim. B [mm]	Dim. C [mm]
1400 - 1500.015 ▶	14000.12	8	39	42
1400 - 1500.020 ▶	14000.12	13	44	47
1400 - 1500.025 ▶	14000.12	18	49	52
1400 - 1500.038 ▶	14000.12	31	62	65
1400 - 1500.050 ▶	14000.12	43	74	77
1400 - 1500.068 ▶	14000.12	61	92	95
1400 - 1500.080 ▶	14000.12	73	104	107
1400 - 1500.100 ▶	14000.12	93	124	127
1400 - 1500.125 ▶	14000.12	118	149	152

14000.12 **Full set,** 4 parts 2 with pin / 2 with bore

Single-part order:

14000.1 Mounting bracket **with bore,** 1 part left / right

14000.2 Mounting bracket **with pin,** 1 part left / right

▶ page 5.91

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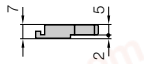
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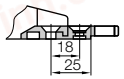
Tiewrap plate as individual part

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

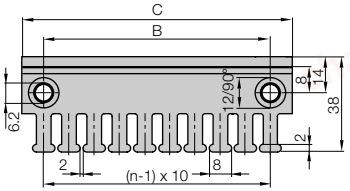
Tiewrap plate	No. of teeth *n*	Dim. C [mm]	Dim. B [mm]
2020.ZB	3	30	15
2030.ZB	4	40	20
2040.ZB	5	50	30
2050.ZB	6	60	40
2070.ZB	8	80	60
2090.ZB = (2030.ZB + 2040.ZB)	9	90	–
2100.ZB	10	100	80
2125.ZB = (2050.ZB + 2050.ZB)	12	120	–



Single tiewrap plate



Shown assembled





Cable tiewraps as individual part

Cable tiewraps (100-piece bag)	Width x length	max. Ø	Tensile strength
CFB.001	4,8 x 150 mm	36 mm	222 N



Strain relief for steel mounting brackets

Clip-on connection is not possible with steel mounting brackets. In this case, the tiewrap plates must be bolted directly into separate bore holes in front of the mounting bracket. Alternatively the tiewrap plates **20XX.ZB** can be also used here. **Details ▶ chapter 10**

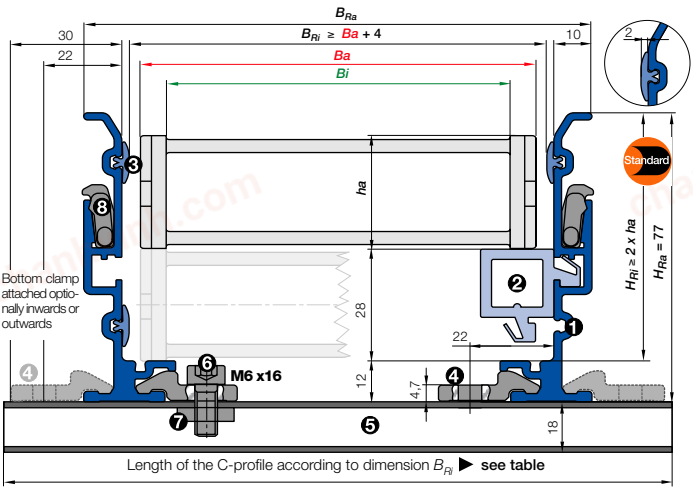


Other strain relief elements - optional ▶ chapter 10

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Part No. 970.30.SL | 970.32.SL | Trough height: 77 mm
Aluminum "SuperTrough" | Basic Version





● **Components, trough "Basic":** ❶ Trough side parts, aluminum, 2 m ❷ Glide bar, plastic, 2 m ❸ Glide strips, plastic, 2 m (without glide strips on request) ● **Components, installation set "Basic":** ❹ Bottom clamp, aluminum ❺ C-profile, steel galvanized ❻ Screw M6 x16 ❼ Sliding nut M6 ❽ Interface connector, plastic

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)

! $H_{Ri} \geq 2 \bullet ha$
$B_{Ri} \geq Ba + 4$

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

Installation set "Basic" with C-profile

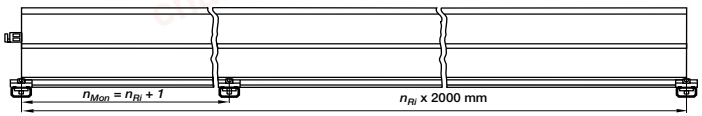
Bottom Clamp attached optionally **inwards** or **outwards**

1500.**050**.035.0 ▶ Order example

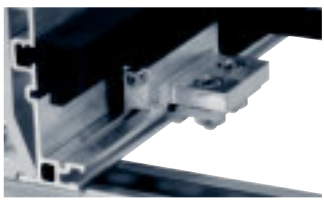
	B_{Ri} [mm]	Part No. attached inwards	Part No. attached outwards
.015	33	–	**960.30.125**
.020	38	–	**960.30.125**
.025	43	–	**960.30.150**
.038	56	–	**960.30.150**
.050	68	**960.30.125**	**960.30.175**
.068	86	**960.30.150**	**960.30.175**
.080	98	**960.30.150**	**960.30.200**
.100	118	**960.30.175**	**960.30.225**
.125	143	**960.30.200**	**960.30.250**

Order example: Length of travel 30 m - Center mounted for Series 1500.050.035.0 with B_{Ri} = 68

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. 970.30.SL**
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. 970.32.SL**
Installation set "Basic" complete **(guide trough-sets + 1)** **Order text: 17 installation sets "Basic"**	**Part No. 960.30.125**
Module for the fixed end **Order text: 1 set**	**Part No. 970.80**
Option: For an additional noise dampening with silencer profile, please add Index A - Example:	**Part No. 970.30.SLA**



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



A quick fix for mounting the stationary end of an E-Chain®

With this module for the fixed end, fast and easy mounting onto the Aluminum "SuperTrough" is now possible without any drilling. Fast mounting of the E-Chain® by clamping onto the aluminum trough ● Quick relocation of the stationary end ● No drilling necessary

Details about Alu "SuperTrough" and further guidance possibilities ▶ chapter 9, guide troughs

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▶ chapter 10
▶ chapter 9
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