

● ● ● Price index



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



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.



When to use the Series 2400/2450/2480/2500:

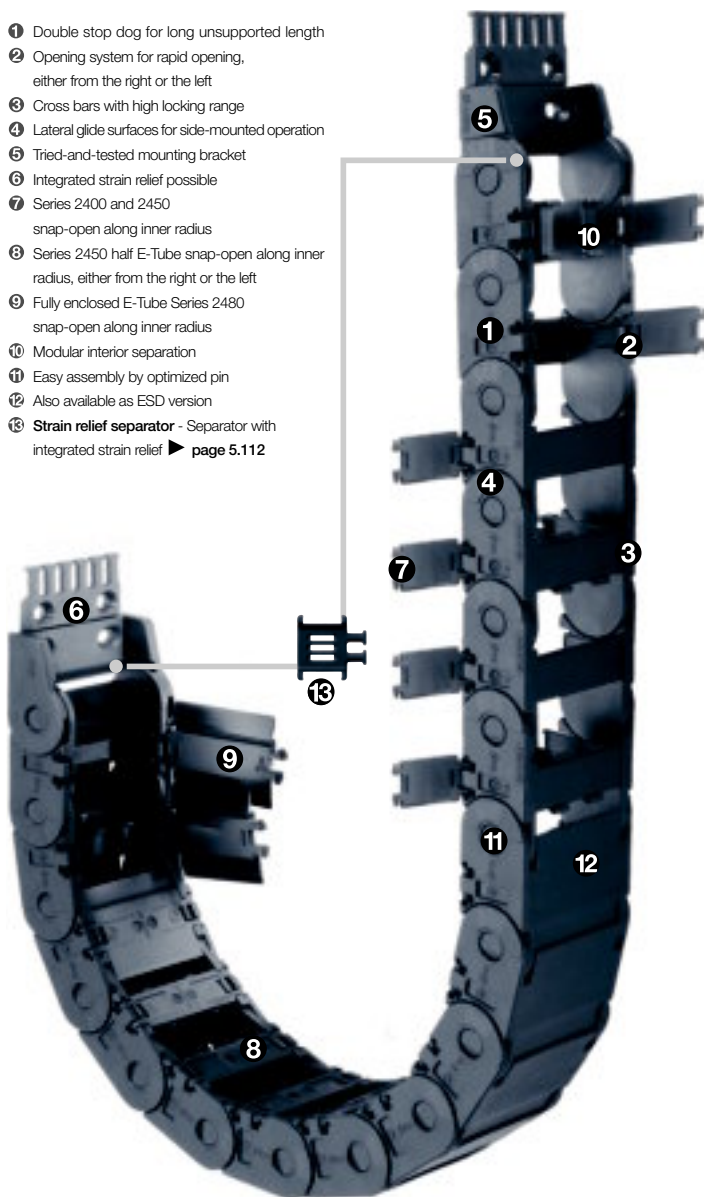
- Snap-open accessibility along both radii
- If integrated strain relief is required at the connection point
- Modular interior separation
- If long service life is required
- If easy installation is required
- If half E-Tube is required (Series 2450)
- If fully enclosed E-Tube is required (Series 2480)



When not to use it:

- If maximum stability is required
 - ▶ System E4.1, Series E4.21, page 7.16
- If the application is very simple
 - ▶ Easy Chain®, Series E200, page 3.36
- E-Tubes with small bending radii 060, 075
 - ▶ System E2 E-Tubes, Series R48, page 6.26

- ① Double stop dog for long unsupported length
- ② Opening system for rapid opening, either from the right or the left
- ③ Cross bars with high locking range
- ④ Lateral glide surfaces for side-mounted operation
- ⑤ Tried-and-tested mounting bracket
- ⑥ Integrated strain relief possible
- ⑦ Series 2400 and 2450 snap-open along inner radius
- ⑧ Series 2450 half E-Tube snap-open along inner radius, either from the right or the left
- ⑨ Fully enclosed E-Tube Series 2480 snap-open along inner radius
- ⑩ Modular interior separation
- ⑪ Easy assembly by optimized pin
- ⑫ Also available as ESD version
- ⑬ **Strain relief separator** - Separator with integrated strain relief ▶ page 5.112



Order example complete E-Chain®

Please indicate chain-lengths or number of links Example: 3 m or 66 links

3 m 2500.10.100.0



E-Chain®

with 2 separators 211 assembled every 2nd link



Interior separation

1 set 2100.34PZB+



Mounting bracket

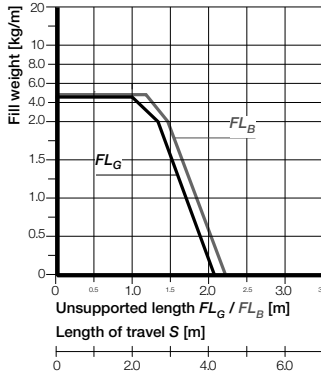
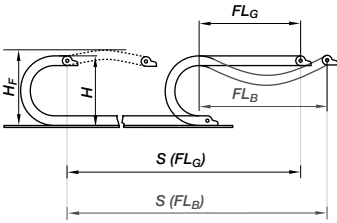


Unsupported length

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 clearance height
 - H_F = Required clearance height
 - H_{RI} = Trough inner height
 - D = Overlength E-Chain® radius in final position
 - $K = \pi \cdot R + \text{"safety"}$
 - 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 ≤ 40 m
- Vertical, standing ≤ 3 m
- Side mounted, un supp. ≤ 1 m
- Rotary requires further calculation
- Unsupported length of upper run = upon request



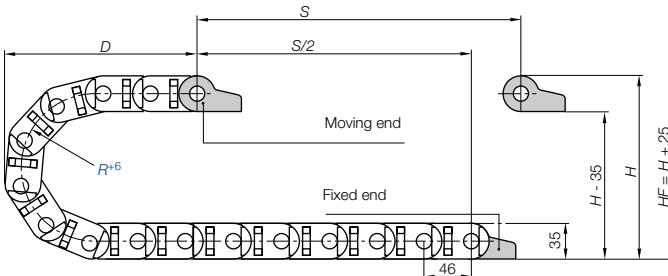
Short travels - unsupported

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:

$$H_F = H + 25 \text{ mm}$$

(with 1,5 kg/m fill weight)

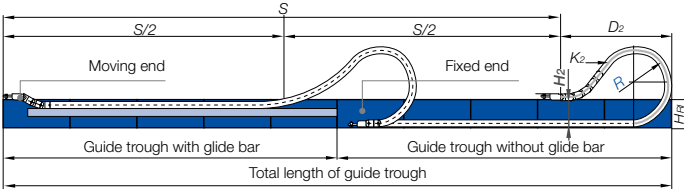


Pitch = 46 mm/link Links/m = 22 (1012 mm) Chain length = $S/2 + K$

R	055*	075*	100	125	150	175	200	225	250
H	145	185	235	285	335	385	435	485	535
D	125	150	170	195	220	245	270	295	320
K	276	346	414	496	578	660	742	814	920
H ₂	145	185	100	100	100	100	100	100	100
D ₂ ⁺²⁵	125	150	380	440	590	755	950	1040	1130
K ₂	276	346	644	736	1012	1242	1472	1610	1794

*for Series 2450/2480 upon request

Long travel lengths from 10 m to max. 100 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. 100 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/s ²]
Speed / acceleration FL_B	max. 3 [m/s] / max. 6 [m/s ²]
Gliding speed / acceleration (maximum)	max. 10 [m/s] / max. 50 [m/s ²]
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

For support of the lower run - **Support Tray tool kit** available ► page 9.70

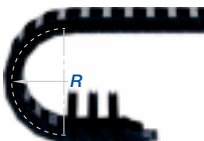
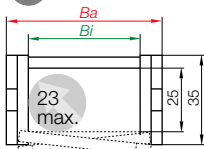


E2/000 medium
Inner height: 25 mm

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► page 5.91



Part No. structure

2400. 02. 055. 0

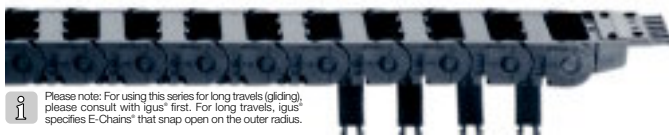


Series 2400 E-Chain® - snap-open along inner radius

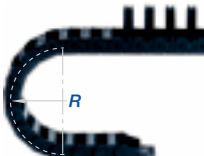
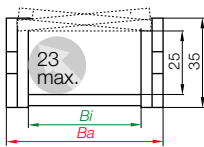
Part No.	Bj [mm]	Ba [mm]	R [mm]	Bending radii										Weight [kg/m]
2400.02.□.0	25	41	055	075	100	125	150	175	200	225	250	= 0,77		
2400.03.□.0	38	54	055	075	100	125	150	175	200	225	250	= 0,83		
2400.05.□.0	57	73	055	075	100	125	150	175	200	225	250	= 0,91		
2400.07.□.0	77	93	055	075	100	125	150	175	200	225	250	= 1,01		
2400.09.□.0	89	105	055	075	100	125	150	175	200	225	250	= 1,08		
2400.10.□.0	103	119	055	075	100	125	150	175	200	225	250	= 1,15		
2400.12.□.0	125	141	055	075	100	125	150	175	200	225	250	= 1,22		

Supplement Part No. with required radius. Example: 2400.02.□055□.0

0 = standard color, other colors ▶ page 1.39 · Pitch = 46 mm/link - Links/m = 22



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.



Part No. structure

2500. 02. 055. 0



Series 2500 - E-Chain® - snap-open along outer radius - Standard!

Part No.	Bj [mm]	Ba [mm]	R [mm]	Bending radii										Weight [kg/m]
2500.02.□.0	25	41	055	075	100	125	150	175	200	225	250	= 0,77		
2500.03.□.0	38	54	055	075	100	125	150	175	200	225	250	= 0,83		
2500.05.□.0	57	73	055	075	100	125	150	175	200	225	250	= 0,91		
2500.07.□.0	77	93	055	075	100	125	150	175	200	225	250	= 1,01		
2500.09.□.0	89	105	055	075	100	125	150	175	200	225	250	= 1,08		
2500.10.□.0	103	119	055	075	100	125	150	175	200	225	250	= 1,15		
2500.12.□.0	125	141	055	075	100	125	150	175	200	225	250	= 1,22		

Supplement Part No. with required radius. Example: 2500.02.□055□.0

0 = standard color, other colors ▶ page 1.39 · Pitch = 46 mm/link - Links/m = 22



Series 2450 - half E-Tube - snap-open along inner radius

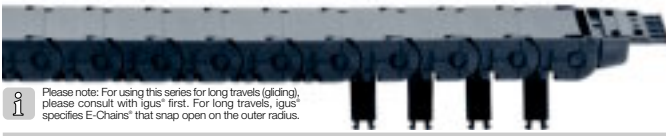
Part No.	Bi [mm]	Ba [mm]	R [mm]	Bending radii	Weight [kg/m]
2450.02.□.0	25	41	100	125 150 175 200 225 250	≈ 0,80
2450.03.□.0	38	54	100	125 150 175 200 225 250	≈ 0,88
2450.05.□.0	57	73	100	125 150 175 200 225 250	≈ 0,99
2450.07.□.0	77	93	100	125 150 175 200 225 250	≈ 1,12
2450.09.□.0	89	105	100	125 150 175 200 225 250	≈ 1,20
2450.10.□.0	103	119	100	125 150 175 200 225 250	≈ 1,27
2450.12.□.0	125	141	100	125 150 175 200 225 250	≈ 1,35

The widths **Bi 125** are available upon request. Time of delivery approx. 6-8 weeks after order.

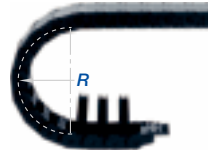
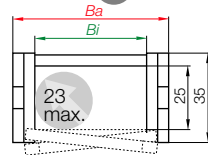
The bending radii **055 | 075** are available upon request.

Supplement Part No. with required radius. Example: 2450.02.100.0

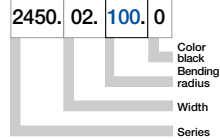
0 = standard color, other colors ▶ page 1.39 · Pitch = 46 mm/link - Links/m = 22



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.



Part No. structure



E2/000 medium
Inner height: 25 mm

Series 2480 - E-Tube - snap-open along inner radius

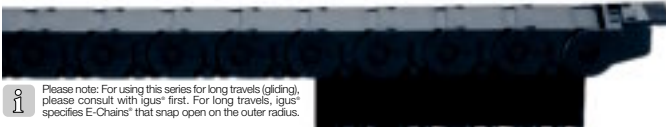
Part No.	Bi [mm]	Ba [mm]	R [mm]	Bending radii	Weight [kg/m]
2480.02.□.0	25	41	100	125 150 175 200 225 250	≈ 0,82
2480.03.□.0	38	54	100	125 150 175 200 225 250	≈ 0,92
2480.05.□.0	57	73	100	125 150 175 200 225 250	≈ 1,03
2480.07.□.0	77	93	100	125 150 175 200 225 250	≈ 1,17
2480.09.□.0	89	105	100	125 150 175 200 225 250	≈ 1,26
2480.10.□.0	103	119	100	125 150 175 200 225 250	≈ 1,34
2480.12.□.0	125	141	100	125 150 175 200 225 250	≈ 1,43

The widths **Bi 25/125** are available upon request. Time of delivery approx. 6-8 weeks after order.

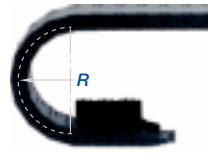
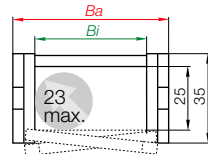
The bending radii **055 | 075** are available upon request.

Supplement Part No. with required radius. Example: 2480.03.100.0

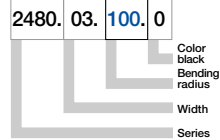
0 = standard color, other colors ▶ page 1.39 · Pitch = 46 mm/link - Links/m = 22



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.



Part No. structure



For smaller bending radii we recommend the fully closed E-Tubes, Series R48 ▶ page 6.34

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▶ page 5.91



Vertical Separator	
unassembled	201
assembled	211



Vertical Separator*	
unassembled	201.28
assembled	211.28



Spacer*	
unassembled	205.09
assembled	215.09



Strain Relief Separator	
unassembled	2020.Z
assembled	2120.Z



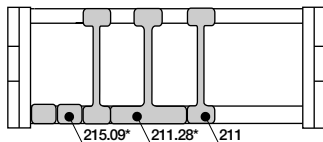
*For side-mounted applications

Option 1: Vertical Separators and Spacer for E-Chains®

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 (Series 2400/Series 2500) with Vertical Separator 211
- If a broad distance shall be kept between the separators or they have to be fixed in their position, e.g. in case of side mounted applications, **Separators with wide base 211.28** or **Spacer 215.09** (not for openable crossbars) can be used
- **Strain Relief Separator 2020.Z**, integrable in the mounting bracket, to position at any point



Vert. Separator, slotted	
unassembled	202
assembled	212



Side Plate	
unassembled	203
assembled	213

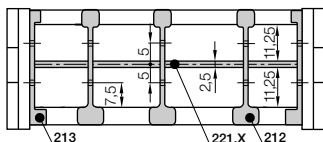


Full-Width Shelf	
X - 1	
t = 2,5	

Option 2: Full-Width Shelves for E-Chains®

For applications involving many thin cables with similar or identical diameters

- Vertical Separator, slotted 212 and Side Plate 213 - for applications with Full-Width Shelf 221.X



Width X [mm]	Part No. unassembled	Part No. assembled
025	220.25	221.25
038	220.38	221.38
057	220.57	221.57
077	220.77	221.77

Width X [mm]	Part No. unassembled	Part No. assembled
090	220.90	221.90
103	220.103	221.103
125	220.125	221.125

Side Plate	
unassembled	2030
assembled	2130



Vert. Separator, slotted	
unassembled	2040
assembled	2140



Middle Plate	
unassembled	2020
assembled	2120

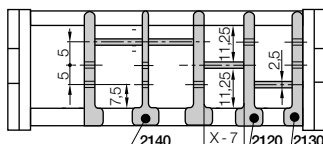


Shelf	
X	
X - 7	
t = 2,5	

Option 3: Shelves for E-Chains®

For applications involving many cables with different diameters. The Shelves can be arranged elevator-shifted with different bottoms within the entire E-Chain® width.

- Shelf 2210.X can be combined with Middle Plate 2120, Vertical Separator, slotted 2140 and Side Plate 2130



Width X [mm]	Part No. unassembled	Part No. assembled
018	2200.18	2210.18
023	2200.23	2210.23
028	2200.28	2210.28
033	2200.33	2210.33
038	2200.38	2210.38
043	2200.43	2210.43

Width X [mm]	Part No. unassembled	Part No. assembled
048	2200.48	2210.48
058	2200.58	2210.58
068	2200.68	2210.68
073	2200.73	2210.73
088	2200.88	2210.88
099	2200.99	2210.99

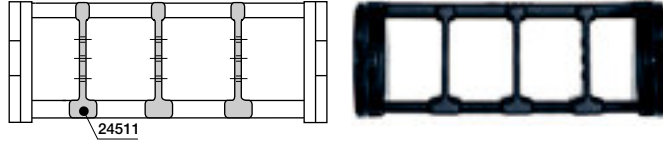
Option 4: Vertical Separators for E-Tubes

Vertical Separators are used if a vertical subdivision of the E-Tube interior is required -

By standard Vertical Separators are assembled every other E-Tube link

- Standard subdivision of the half E-Tube (Series 2450) and the fully enclosed E-Tube (Series 2480) with Vertical Separator, slotted 24511, for combinations with Full-Width Shelf 221.X
- Strain Relief Separator 2020.ZR, integrable in the mounting bracket, to position at any point

Vert. Separator, slotted		
unassembled	24501	
assembled	24511	
Strain Relief Separator		
unassembled	2020.ZR	
assembled	2120.ZR	

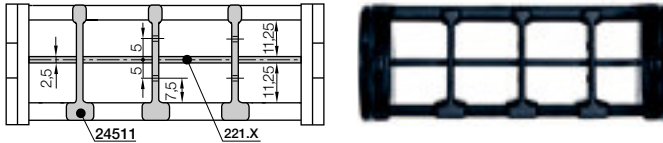


E2/000 medium
Inner height: 25 mm

Option 5: Full-Width Shelves for E-Tubes

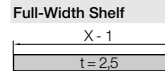
For applications involving many thin cables with similar or identical diameters

- Vertical Separator, slotted 24511 - for applications with Full-Width Shelf 221.X



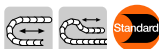
Width X [mm]	Part No. unassembled	Part No. assembled
025	220.25	221.25
038	220.38	221.38
057	220.57	221.57
077	220.77	221.77

Width X [mm]	Part No. unassembled	Part No. assembled
090	220.90	221.90
103	220.103	221.103
125	220.125	221.125



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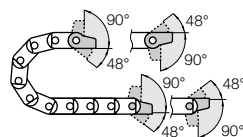




The Standard - option polymer - pivoting

- Recommended for unsupported and gliding applications
- Well suited for tight installation conditions
- Strain relief with detachable tiwrap 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

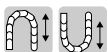
Moving end with bore
(outer link) 2...3PZ(B)+



2...4PZ(B)+ Fixed end
with pin (inner link)



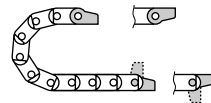
Possible installation conditions for assembled mounting brackets ▶ Order example "preassembled" below



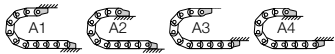
Option polymer - locking

- Recommended for unsupported and gliding applications
- At very high speed and/or acceleration
- If space is limited for height (the H_F measurement)
- 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) 2...1PZ(B)+



2...2PZ(B)+ Fixed end
with pin (inner link)



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

Dimensions and order configurations

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

Part No. structure (pivoting)

2020. 34 PZB+ A1 Standard!

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

Full set, for both ends:

2020. 34 PZB+ +tiwrap plate

Single-part order:

2020. 3 PZB+ +tiwrap plate

Mounting bracket with bore

2020. 4 PZB+ +tiwrap plate

Mounting bracket with pin

Part No. structure (locking)

2020. 12 PZB+ A1

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

Full set, for both ends:

2020. 12 PZB+ +tiwrap plate

Single-part order:

2020. 1 PZB+ +tiwrap plate

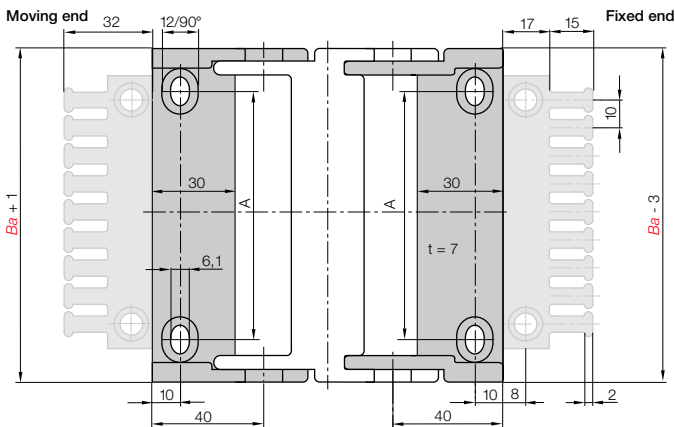
Mounting bracket with bore

2020. 2 PZB+ +tiwrap plate

Mounting bracket with pin

2...3PZ(B)+ Standard! (pivoting)
2...1PZ(B)+ (locking)

Standard! (pivoting) 2...4PZ(B)+
(locking) 2...2PZ(B)+



For E-Chain®	Part No. full set with tiwrap plate	Part No. with tiwrap plate + 10 cable tiwraps	Part No. full set without tiwrap plate	Dim. A [mm]
2400 - 2500.02 ▶	2020. <input type="checkbox"/> PZB+	2020. <input type="checkbox"/> PZBK1+	2020. <input type="checkbox"/> PZ+	12
2400 - 2500.03 ▶	2030. <input type="checkbox"/> PZB+	2030. <input type="checkbox"/> PZBK1+	2030. <input type="checkbox"/> PZ+	25
2400 - 2500.05 ▶	2050. <input type="checkbox"/> PZB+	2050. <input type="checkbox"/> PZBK1+	2050. <input type="checkbox"/> PZ+	44
2400 - 2500.07 ▶	2070. <input type="checkbox"/> PZB+	2070. <input type="checkbox"/> PZBK1+	2070. <input type="checkbox"/> PZ+	64
2400 - 2500.09 ▶	2090. <input type="checkbox"/> PZB+	2090. <input type="checkbox"/> PZBK1+	2090. <input type="checkbox"/> PZ+	77
2400 - 2500.10 ▶	2100. <input type="checkbox"/> PZB+	2100. <input type="checkbox"/> PZBK1+	2100. <input type="checkbox"/> PZ+	90
2400 - 2500.12 ▶	2125. <input type="checkbox"/> PZB+	2125. <input type="checkbox"/> PZBK1+	2125. <input type="checkbox"/> PZ+	112

Please add the Part No. with the requested index - 34 for the pivoting configuration

e.g. 2020. 34 PZB+ or 12 for the locking configuration e.g. 2020. 12 PZB+

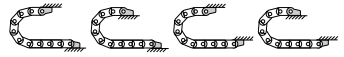
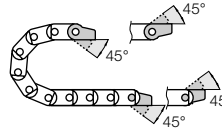
For the preassembled mode please add the index A1...A4 e.g. 2020. 34 PZB+ A1



Steel mounting bracket - pivoting

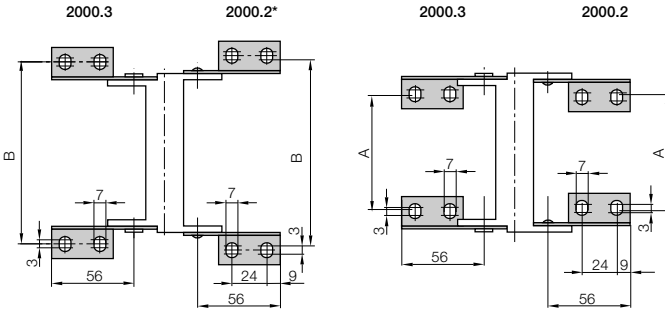
- Pivoting connections
- One part for all chain widths
- Electrically conductive
- Bolted connection outside of chain cross-section possible

Moving end with bore
(outer link) 2000.3



2000.2 Fixed end
with pin (inner link)

Possible installation conditions -
Further installation angles ► installation sketch



Dimensions and order configurations

*pivoting with no stop, (360°)

For E-Chain*	Part No. full set	Dim. A [mm]	Dim. B [mm]
2400 - 2500.02 ►	2000. [32]	-	60
2400 - 2500.03 ►	2000. [32]	25	73
2400 - 2500.05 ►	2000. [32]	44	92
2400 - 2500.07 ►	2000. [32]	64	112
2400 - 2500.09 ►	2000. [32]	76	124
2400 - 2500.10 ►	2000. [32]	90	138
2400 - 2500.12 ►	2000. [32]	112	160

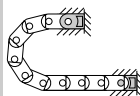
2000. [32] Full set, 4 parts
2 with pin / 2 with bore

Single-part order:

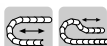
- 2000. [3] Mounting bracket with bore, 1 part left / right
- 2000. [2] Mounting bracket with pin, 1 part left / right

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The attachment variants arising automatically by the choice of the KMA mounting bracket

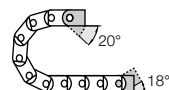


KMA = Polymer Metal Mounting Bracket

Option KMA, pivoting for E-Chains® Series 2400 and Series 2500

- Recommended for unsupported applications
- Bolted connection outside of chain cross-section
- Confined installation conditions
- Universal mountable with attachment capability on all sides
- Strain relief separator pluggable into the KMA-bracket, adjustable in 3 heights
- Stackable

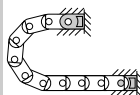
Moving end with bore
Series 2400 = 24001...1
Series 2500 = 24001...1



Series 2400 = 24001...2

Series 2500 = 24001...2

Fixed end with pin



The attachment variants arising automatically by the choice of the KMA mounting bracket



KMA = Polymer Metal Mounting Bracket

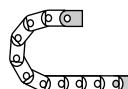
Option KMA, locking for E-Chains® Series 2400 and Series 2500

- Recommended for vertical hanging / standing applications
- Bolted connection outside of chain cross-section
- At very high speed and acceleration
- Universal mountable with attachment capability on all sides
- Strain relief separator pluggable into the KMA-bracket, adjustable in 3 heights
- Stackable

Moving end with bore

Series 2400 = 24101...1

Series 2500 = 24101...1



Series 2400 = 24101...2

Series 2500 = 24101...2

Fixed end with pin

Dimensions and order configurations

2400 | 2500 = 24001...1 (pivoting)

2400 | 2500 = 24001...2 (pivoting)

2400 | 2500 = 24101...1 (locking)

2400 | 2500 = 24101...2 (locking)

Moving end

Fixed end

Part No. structure (pivoting)

24001.02.12.A

A... must be indicated on preassembled configurations

Full set

Width KMA pivoting for the selected E-Chain® type

Full set, for both ends:

24001.02.12.12

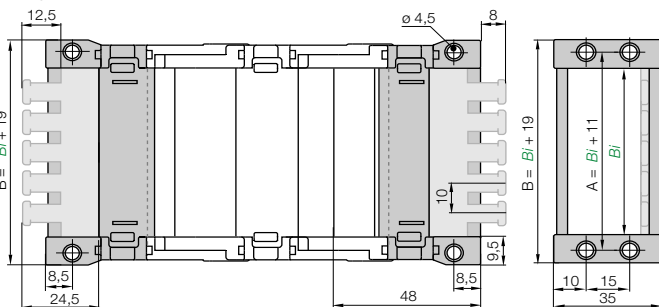
Single-part order:

24001.02.1

Mounting bracket with bore

24001.02.2

Mounting bracket with pin



Part No. structure (locking)

24101.02.12.A

A... must be indicated on preassembled configurations

Full set

Width KMA locking for the selected E-Chain® type

Full set, for both ends:

24101.02.12.12

Single-part order:

24101.02.1

Mounting bracket with bore

24101.02.2

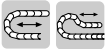
Mounting bracket with pin

For E-Chain®	Part No. full set with	Part No. full set without	Dim. A [mm]	Dim. B [mm]
Series 2400/2500	tiewrap plate			
2400.02 / 2500.02	24001.02.12.ZB	24001.02.12	36	44
2400.03 / 2500.03	24001.03.12.ZB	24001.03.12	49	57
2400.05 / 2500.05	24001.05.12.ZB	24001.05.12	68	76
2400.07 / 2500.07	24001.07.12.ZB	24001.07.12	88	86
2400.09 / 2500.09	24001.09.12.ZB	24001.09.12	100	108
2400.10 / 2500.10	24001.10.12.ZB	24001.10.12	114	122
2400.12 / 2500.12	24001.12.12.ZB	24001.12.12	136	144

● For **E-Chains®** please add the Part No. with the requested index

For the pivoting option e.g. 24001.02.12 or for the locking option e.g. 24101.02.12

For the **preassembled** mode please add the index **A** e.g. 24001.02.12 **A**

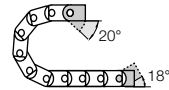


KMA = Polymer Metal Mounting Bracket

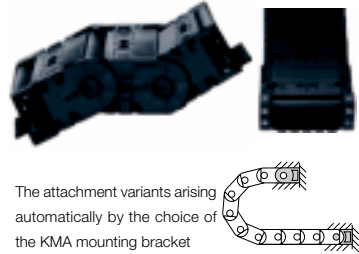
Option KMA, pivoting for half E-Tubes Series 2450 and for full E-Tubes Series 2480

- Recommended for unsupported applications
- Bolted connection outside of chain cross-section
- Confined installation conditions
- Universal mountable with attachment capability on all sides
- Strain relief separator pluggable into the KMA-bracket, adjustable in 3 heights
- Stackable

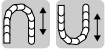
Moving end with bore
Series 2450 = 24501...1
Series 2480 = 24801...1



Series 2450 = 24501...2
Series 2480 = 24801...2
Fixed end with pin



The attachment variants arising automatically by the choice of the KMA mounting bracket

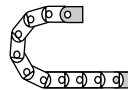


KMA = Polymer Metal Mounting Bracket

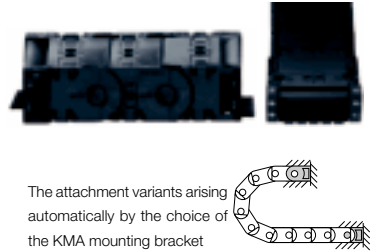
Option KMA, locking for half E-Tubes Series 2450 and for full E-Tubes Series 2480

- Recommended for vertical hanging / standing applications
- Bolted connection outside of chain cross-section
- At very high speed and acceleration
- Universal mountable with attachment capability on all sides
- Strain relief separator pluggable into the KMA-bracket, adjustable in 3 heights
- Stackable

Moving end with bore
Series 2450 = 24511...1
Series 2480 = 24811...1



Series 2450 = 24511...2
Series 2480 = 24811...2
Fixed end with pin

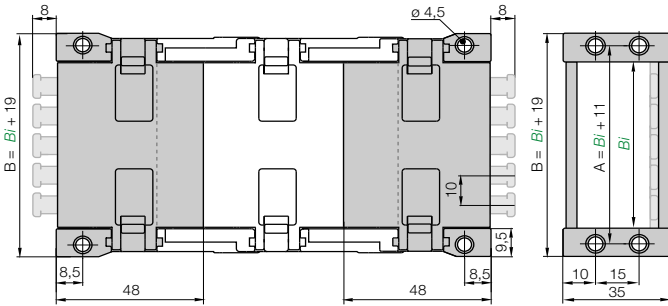


The attachment variants arising automatically by the choice of the KMA mounting bracket

2450 = 24501...1 | 2480 = 24801...1 (pivoting) 2450 = 24501...2 | 2480 = 24801...2 (pivoting)
2450 = 24511...1 | 2480 = 24811...1 (locking) 2450 = 24511...2 | 2480 = 24811...2 (locking)

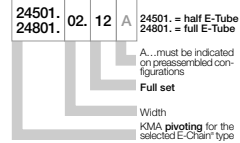
Moving end

Fixed end



Dimensions and order configurations

Part No. structure (pivoting)



Full set, for both ends:

24501. / 24801. 02. 12

Single-part order:

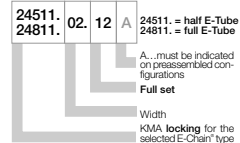
24501. / 24801. 02. 1

Mounting bracket with bore

24501. / 24801. 02. 2

Mounting bracket with pin

Part No. structure (locking)



Full set, for both ends:

24511. / 24811. 02. 12

Single-part order:

24511. / 24811. 02. 1

Mounting bracket with bore

24511. / 24811. 02. 2

Mounting bracket with pin

For E-Chain*	Part No. full set with	Part No. full set without	Dim. A [mm]	Dim. B [mm]
Series 2400/2500	tiewrap plate	tiewrap plate		
2450.02 / 2480.02	02.12.ZB	02.12	36	44
2450.03 / 2480.03	03.12.ZB	03.12	49	57
2450.05 / 2480.05	05.12.ZB	05.12	68	76
2450.07 / 2480.07	07.12.ZB	07.12	88	96
2450.09 / 2480.09	09.12.ZB	09.12	100	108
2450.10 / 2480.10	10.12.ZB	10.12	114	122
2450.12 / 2480.12	12.12.ZB	12.12	136	144

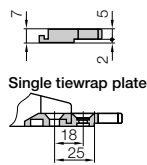
- For **half E-Tube** please add the Part No. with the requested index
For the pivoting option e.g. 24501.02.12 or for the locking option e.g. 24511.02.12
For the **preassembled** mode please add the index [A] e.g. 24501.02.12[A]
- For **full E-Tube** please add the Part No. with the requested index
For the pivoting option e.g. 24801.02.12 or for the locking option e.g. 24811.02.12
For the **preassembled** mode please add the index [A] e.g. 24801.02.12[A]





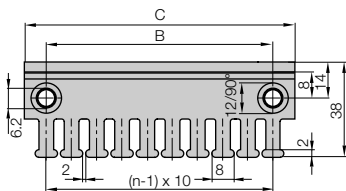
Tie-wrap plate as individual part

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



Single tie-wrap plate

Shown assembled



Tie-wrap 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	-



Cable tie-wraps as individual part

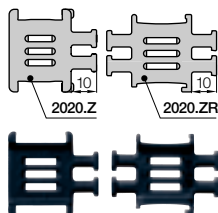
Cable tie-wraps (100-piece bag)	Width x length	max. Ø	Tensile strength
CFB.001	4,8 x 150 mm	36 mm	222 N



"Double" strain relief

If an E-Chain® is harnessed with a very large number of cables, strain relief may be necessary at two levels. Our 2050.Z strain relief system was developed for this purpose. It can be placed in any position along the E-Chain®. As required, the 2050.Z strain relief system is simply clamped onto the crossbar of the chain link. No additional installation elements are needed. **Details ▶ chapter 10**

Part No.	Width strain relief [mm]	
2050.Z*	60	*not available for Series 2450/2480



Strain relief separator

Separator with integrated strain relief, for use in the first or last chain link. For manufacturing of switchgear cabinets or for the assembly of machines. Easy to assemble without any fastening device. Separator base 2020.Z and 2020.ZR is 10 mm wide. The possible number of separators per E-Chain® is defined by its inner width *B_i* and by the cable-diameter. **Details ▶ chapter 10**

Part No.	Number of teeth	For Series
2020.Z	2 one side	2400/2500 E-Chain®
2020.ZR	2 both sides	2450/2480 E-Tube

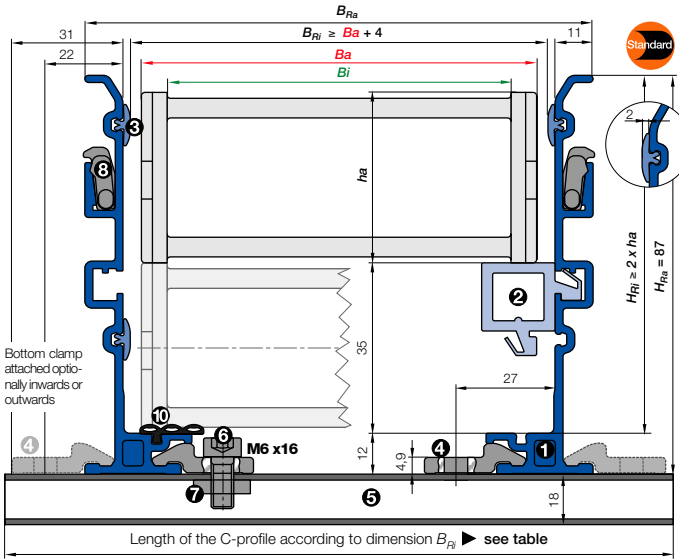


Strain relief for steel mounting brackets

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



Other strain relief elements - optional ▶ chapter 10



- B_a = Outer width E-Chains* / E-Tube
 - B_i = Inner width E-Chains* / E-Tube
 - h_a = Outer height E-Chains* / E-Tube
 - H_{Ri} = Inner trough height
 - H_{Ra} = Outer trough height
 - B_{Ri} = Inner trough width ► depends on dim. B_a
 - B_{Ra} = Outer trough width
 - n_{Mon} = Number of installation sets (left/right)
 - n_{Ri} = Number of trough sets (left/right)
- $H_{Ri} \geq 2 \cdot h_a$
 $B_{Ri} \geq B_a + 4$
- = Guide trough set
 - = Installation set "Basic"
 - = C-profile
 - = Glide bar
 - = C-profile

Installation set "Basic" with C-profile

Bottom Clamp attached optionally inwards or outwards

2500.05.200.0 ► Order example

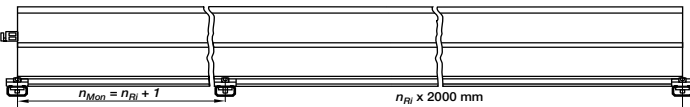
B_{Ri} [mm]	Part No.	
	attached inwards	attached outwards
.02	45	960.30.150
.03	58	960.30.150
.05	77	960.30.125 960.30.175
.07	97	960.30.150 960.30.200
.09	109	960.30.175 960.30.225
.10	123	960.30.175 960.30.225
.12	145	960.30.200 960.30.250



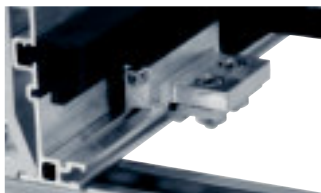
- **Components, trough "Basic":** ① Trough side parts, aluminum, 2 m ② Glide bar, plastic, 2 m ③ Glide strips, plastic, 2 m (without glide strips on request) ⑩ Optional: Silencer profile, rubber
- **Components, installation set "Basic":** ④ Bottom clamp, aluminum ⑤ C-profile, steel galvanized ⑥ Screw M6 x16 ⑦ Sliding nut M6 ⑧ Interface connector, plastic

Order example: Length of travel 30 m - Center mounted for Series 2500.05.200.0 with $B_{Ri} = 77$

- 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. 971.30.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. 971.31.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. 971.80
- Option:** For an additional noise dampening with silencer profile, please add Index A - Example:
 Part No. 971.30.SLA



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

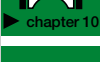


A quick fix for mounting the stationary end of an E-Chain*
 With this module for the fixed end, fast and easy mounting onto the Aluminum "SuperTrough" is now possible without any drilling. Fast mounting of the E-Chain* by clamping onto the aluminum trough

- Quick relocation of the stationary end
- No drilling necessary

Insert for the installation set "Heavy-Duty": **971.50.XXX** instead of (960.30.XXX) on the right column "attached outwards"

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► page 5.91