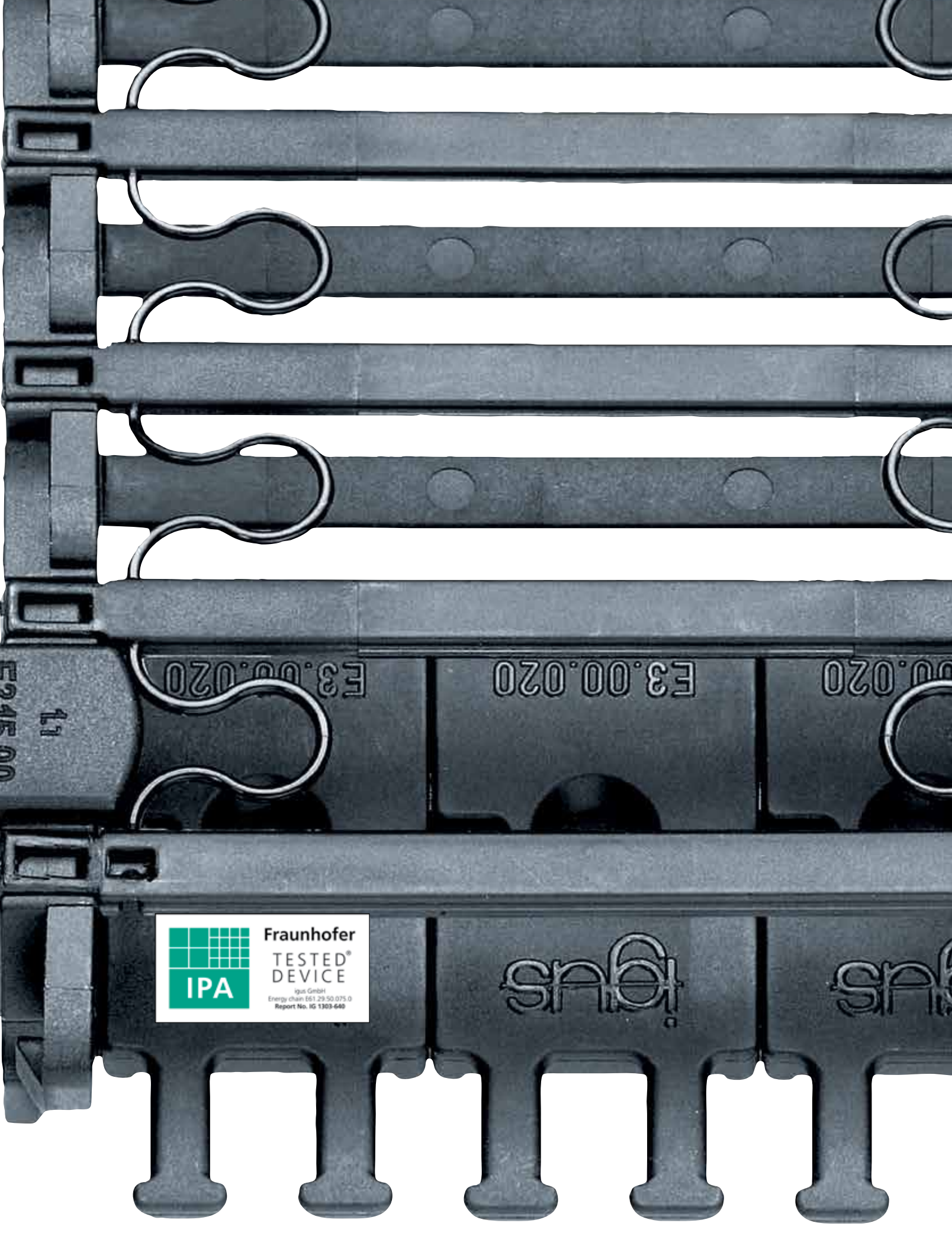




E3.00.020 E3.00.020 E3.00.020

 **Fraunhofer**  
**TESTED<sup>®</sup>**  
**DEVICE**  
igus GmbH  
Energy chain E61.29.50.075.0  
Report No. IG 1303-640

igus

igus



# Highly dynamic and cleanroom compatible



## Advantages of the E3 system:

- For high speeds and accelerations
- For extremely fast opening and closing
- Low noise 38dB(A)<sup>1)</sup> -  
small pitch for low noise, smooth running
- Suitable for cleanrooms according  
to IPA cleanroom Class 1<sup>2)</sup>

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series E3.15.040.075.0



## When to use another e-chain® series:

- When a larger e-chain® with IPA cleanroom Class 1 is required  
▶ **E6.1, page 848**
- When longer unsupported lengths are required  
▶ **E6.1, page 848**
- When an enclosed e-chain® is required  
▶ **e-skin® corrugated tube SKS20, page 839**





# High dynamics and cleanroom compatible - System E3

Universal:  
polymer mounting brackets  
or mounting angles

Low noise from 38dB(A)<sup>1)</sup>:  
small pitch for low noise,  
smooth running

IPA cleanroom Class 1<sup>2)</sup>:  
virtually no wear or abrasion

Fast assembly:  
zip-open along  
the outer radius

Dynamic:  
high speeds and  
accelerations

Modular design:  
crossbars, interior separation  
and links all in one band

Modular:  
easy to lengthen and  
shorten at any point

E3 combines small pitch, smooth running, low noise, stability, easy assembly and low cost. The spring connector element replaces the pin and bore and avoids relative movement between the joints. This means virtually no wear or abrasion (cleanroom). To reduce production and assembly costs, the spring connector is on a segment of ten e-chain® links.

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series E3.15.040.075.0

### Typical industries and applications

- Semi-conductor manufacturing and handling
- Pick and place robots
- Optics
- Material handling technology
- Measuring technology
- Printers and plotters
- Cleanroom environments
- General mechanical engineering



Fraunhofer  
TESTED  
DEVICE  
igus GmbH  
Energy chain / Cable systems  
Report No. IG 0704-400

### IPA Qualification Certificate® - Report IG 0704-400:

ISO Class 1, according to DIN EN ISO 14644-1 for system E3, series E3.15.040.075 at  $v = 1.64\text{ft/s}$  (0.5m/s), 3.28 ft/s (1.0m/s), 6.56ft/s (2.0m/s)



38dB(A)<sup>1)</sup> - level determined at the igus® test-lab acc. to DIN 45635, with consideration of background noises, E3.22.060.044.0 at  $v = 5.91\text{ft/s}$  (1.8m/s)



iF product design award

2005 igus® series E3.15

## E3 | Options and order keys

| Series                                                                                                                                                                                        | Inner height<br><i>hi</i><br>in. (mm) | Inner width<br><i>Bi</i><br>in. (mm) | Outer width<br><i>Ba</i><br>in. (mm) | Outer height<br><i>ha</i><br>in. (mm) | Bend radius<br><i>R</i><br>in. (mm) | Unsupported<br>length<br>≤ ft. (m) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|------------------------------------|
|  <p><b>System E3 - 3-piece e-chains®</b><br/>crossbars on a strip -<br/>zip-open along the outer radius</p> |                                       |                                      |                                      |                                       |                                     |                                    |
| E3.10                                                                                                                                                                                         | .39 (10)                              | .79-2.36 (20-60)                     | 1.26-2.83 (32-72)                    | .59 (15)                              | .59-1.89 (15-48)                    | ≈ 2.30 (0.70)                      |
| E3.15                                                                                                                                                                                         | .59 (15)                              | .79-2.36 (20-60)                     | 1.26-2.83 (32-72)                    | .79 (20)                              | 1.26-2.95 (32-75)                   | ≈ 2.95 (0.90)                      |
| E3.22                                                                                                                                                                                         | .87 (22)                              | .79-2.36 (20-60)                     | 1.26-2.83 (32-72)                    | 1.06 (27)                             | 1.75-2.95 (44-75)                   | ≈ 3.94 (1.20)                      |



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

\*On average 90% of orders ship the same day..



Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ► From page 146



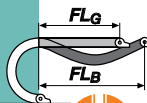
Long-term tests in our acoustics laboratory at a speed of 5.9 ft./s (1.8m/s) and an acceleration of 9.84 ft/s² (3m/s²) showed reductions of 19-20dB(A) compared to conventional e-chains®

## Technical data



Speed  $FL_G$  / acceleration  $FL_G$

$\leq 64.6 \text{ ft/s (20 m/s) } / \leq 656 \text{ ft/s}^2 (200 \text{ m/s}^2)$



Speed  $FL_B$  / acceleration  $FL_B$

$\leq 9.84 \text{ ft. (3 m/s) } / \leq 19.69 \text{ ft/s}^2 (6 \text{ m/s}^2)$



e-chain® link material, igumid G - permitted temperature °F

upon request

Scalable crossbar material, igumid TE - permitted temperature °F

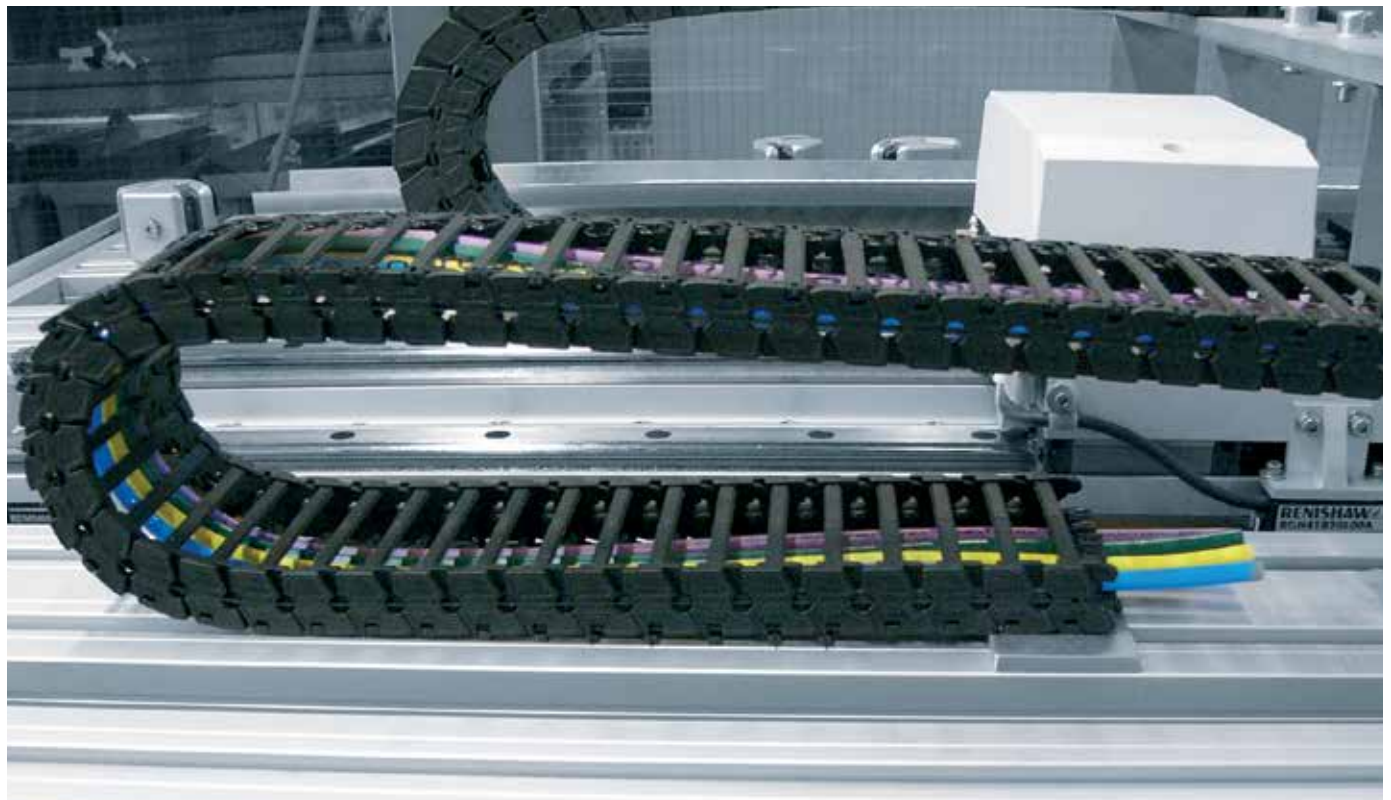
upon request



Flammability class

VDE 0304 IIC UL94-HB

■  $FL_G$  = unsupported with straight upper run ■  $FL_B$  = unsupported with permitted sag



1,125 chainflex® cables are certified according to IPA ISO Class 1 or Class 2. chainflex® cables with tested outer jacket material are available from stock



# E3 | Options and order keys

## Options with order keys | Examples based on series E3.10



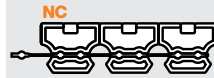
Standard

NC version -  
(No Camber)  
without pretension

Part No.  
Standard



Part No.  
NC version



E3.10.060.R.0

E3.10.060.R.0.NC



Ready to ship in 72hrs.\*

Ready to ship  
in 12 business days\*

\*Average time before the ordered goods are dispatched.

## Order key and color examples | Examples based on series E3.10



Order example for complete e-chain® 3.28 ft. (1m),  
color black, with mounting brackets and interior separation:

e-chain® 3.28 ft. (1m) Please indicate e-chain® length or number of links: 3.28ft. (1m) or 34 links **E3.10.060.015.0**

+ Mounting brackets KMA pivoting - 1 set **E3.100.060.12**

Interior separation with 2 separators assembled every 2<sup>nd</sup> link **2 x E3.10.11**

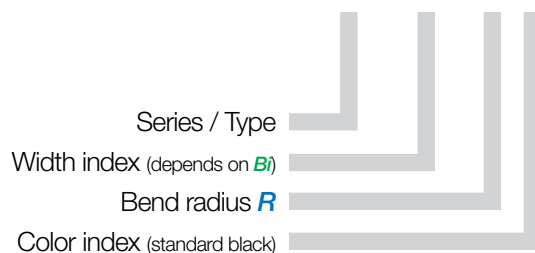
Order text: 3.28 ft (1m) E3.10.060.015.0 + E3.100.060.12 + 2 x E3.10.11



### Order key

e-chain® zip-open along the outer radius

**E3.10.060.015.0**



### Order index for color options

| Color       | Order index       | Color      | Order index       |
|-------------|-------------------|------------|-------------------|
| Black       | Standard .0       | Orange     | Special color .2  |
| Silver-grey | Special color .31 | Yellow     | Special color .4  |
| White       | Special color .1  | Light grey | Special color .14 |
| Grey-white  | Special color .1S |            |                   |

Black e-chains® ready to ship in 72hrs.\*

Above special colors upon request.



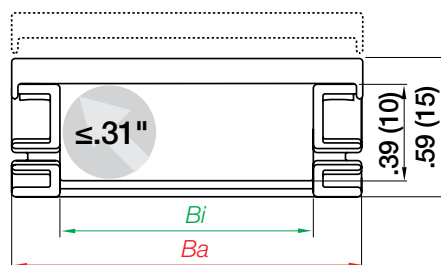
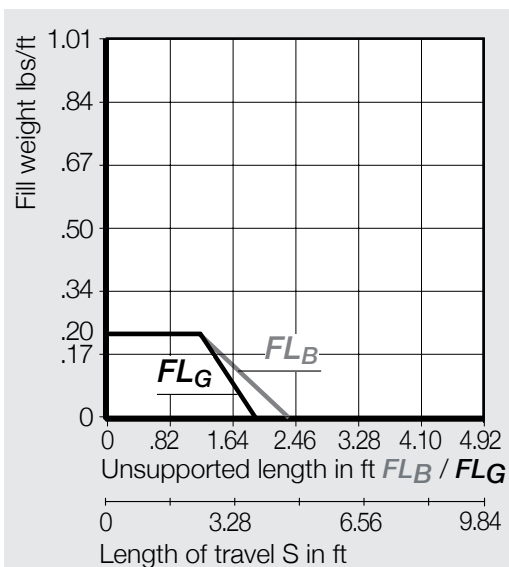
Image with plastic mounting bracket

## e-chains® | Series E3.10 | Crossbars on a strip - zip-open along the outer radius

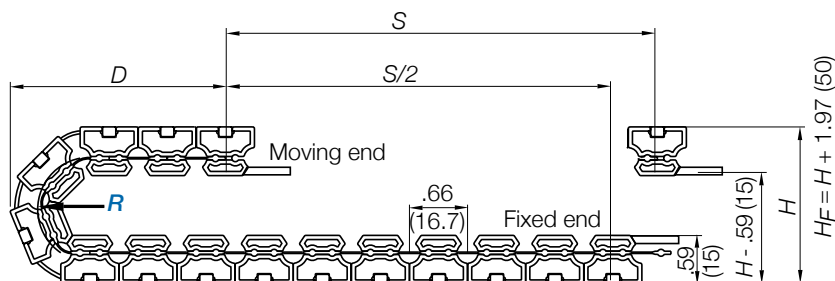
| Part No.              | <i>Bi</i> | <i>Ba</i> | <i>R</i> Available bend radii            | E3.10          |
|-----------------------|-----------|-----------|------------------------------------------|----------------|
| e-chains®             | in. (mm)  | in. (mm)  | in. (mm)                                 | lbs/ft. (kg/m) |
| E3.10.020. <i>R.0</i> | .79 (20)  | 1.26 (32) | 0.59 (015)   1.10 (028)   —   —          | ≈ 0.080 (0.12) |
| E3.10.040. <i>R.0</i> | 1.57 (40) | 2.05 (52) | 0.59 (015)   —   1.50 (038)   1.89 (048) | ≈ 0.100 (0.15) |
| E3.10.060. <i>R.0</i> | 2.36 (60) | 2.83 (72) | 0.59 (015)   —   1.50 (038)   —          | ≈ 0.134 (0.20) |

Complete Part No. with required radius (*R*). Example: E3.10.060.015.0

## Installation dimensions



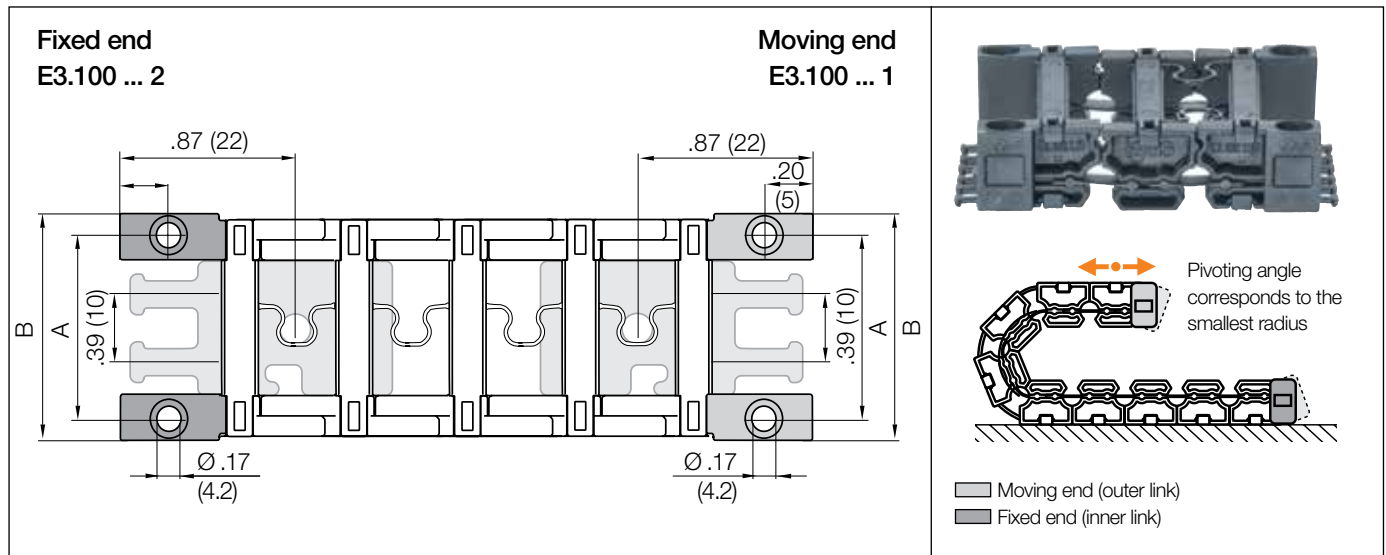
|                         |                         |
|-------------------------|-------------------------|
| Inner height in. (mm)   | .39 (10)                |
| Pitch per link in. (mm) | .66 (16.7)              |
| Links/ft (m)            | 18.18 (60)              |
| corresponds to (mm)     | 1,002                   |
| e-chain® length         | $L_K = \frac{S}{2} + K$ |



| <i>R</i> | .71 (015) | 1.10 (028) | 1.50 (038) | 1.89 (048) |
|----------|-----------|------------|------------|------------|
| <i>H</i> | 2.36 (60) | 3.39 (86)  | 4.17 (106) | 4.96 (126) |
| <i>D</i> | 1.97 (50) | 2.48 (63)  | 2.87 (73)  | 3.27 (83)  |
| <i>K</i> | 3.35 (85) | 4.92 (125) | 6.10 (155) | 7.28 (185) |

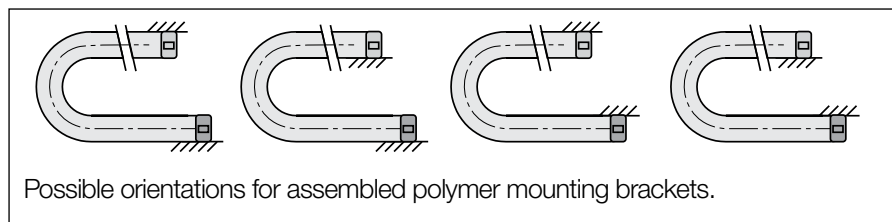
The required clearance height:  $H_r = H + 1.97$  in. (50 mm) with .07 lbs/ft (0.1 kg/m) fill weight.

## Mounting brackets, polymer | Pivoting



| Width index | Part No. full set without tiewrap plates | A in. (mm) | B in. (mm) | Part No. strain relief at both ends* |
|-------------|------------------------------------------|------------|------------|--------------------------------------|
| 020.        | E3.100.020.12                            | 1.10 (28)  | .42 (36)   | E3.020.12                            |
| 040.        | E3.100.040.12                            | 1.89 (48)  | .58 (56)   | E3.040.12                            |
| 060.        | E3.100.060.12                            | 2.68 (68)  | .81 (76)   | E3.060.12                            |

\*Tiewrap plates must be ordered separately.



### E3.100.060.12 Order example



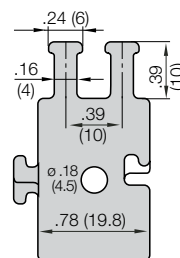
#### Part No. E3.100.XXX.12

Full set without strain relief. Tiewrap plates must be ordered separately.



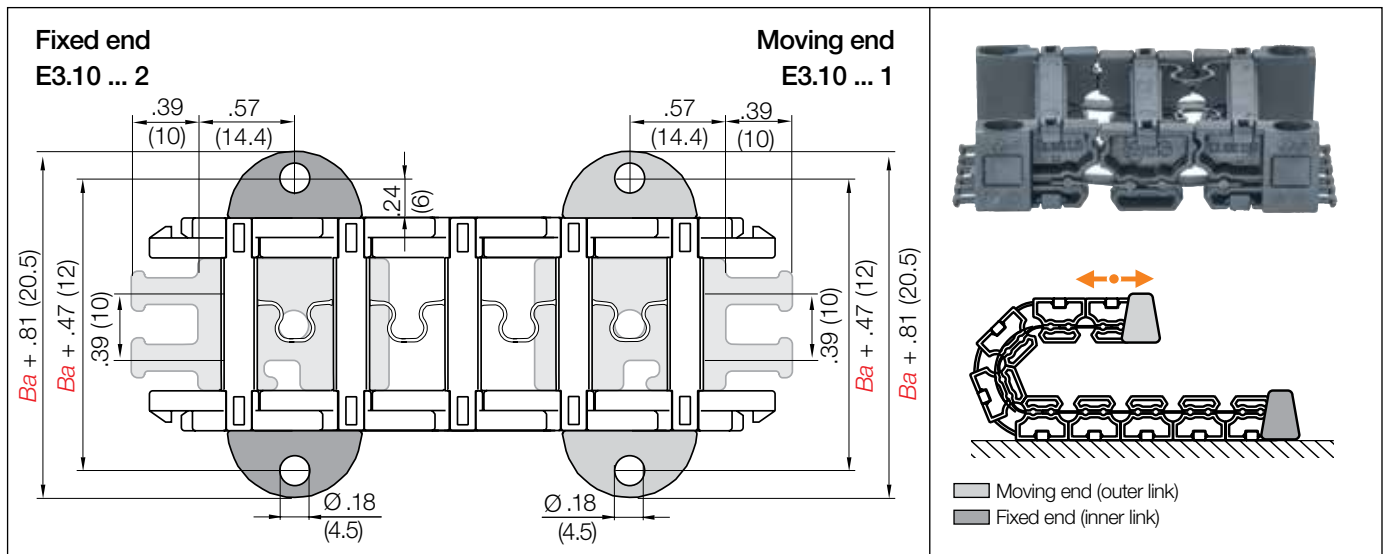
#### Part No. E3.00.020

Tiewrap plate as a single part



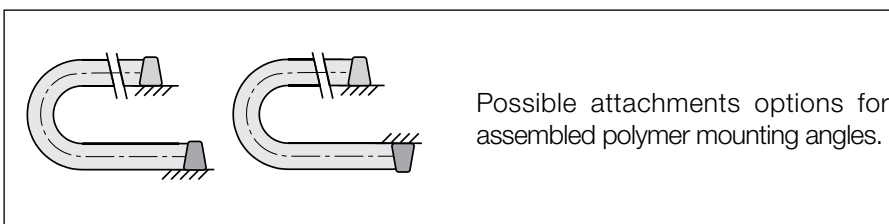


## Mounting angle, polymer | Locking



| Width index | Part No. full set<br>strain relief at both ends<br>+ 4 mounting angles* | Part No.<br>Mounting angle*<br>(single part) | Part no.<br>strain relief at both ends | Ba<br>in. (mm) |
|-------------|-------------------------------------------------------------------------|----------------------------------------------|----------------------------------------|----------------|
| 020. ▶      | E3.10.020.12                                                            | E3.10.00                                     | E3.020.12                              | 1.26 (32)      |
| 040. ▶      | E3.10.040.12                                                            | E3.10.00                                     | E3.040.12                              | 2.05 (52)      |
| 060. ▶      | E3.10.060.12                                                            | E3.10.00                                     | E3.060.12                              | 2.83 (72)      |

**\*Note:** If the mounting brackets are used, two links each end must be added to the calculated e-chain® length, because the first two links are fixed by the mounting brackets.



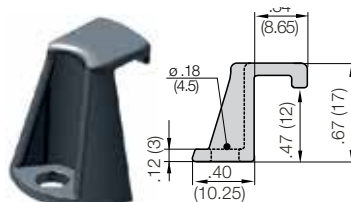
## E3.10.060.12

## Order example



Part No. E3.10.XXX.12

Full set without strain relief. Tiewrap plates must be ordered separately.



Part No. E3.10.00

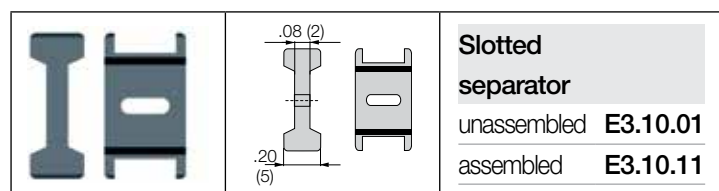
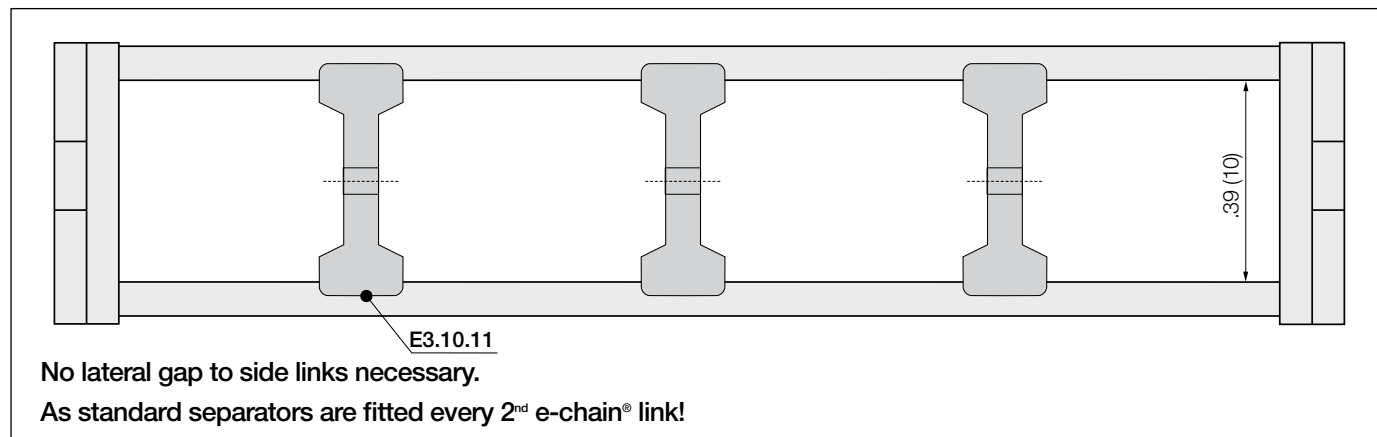
Mounting angle as an individual part



Part No. E3.00.020

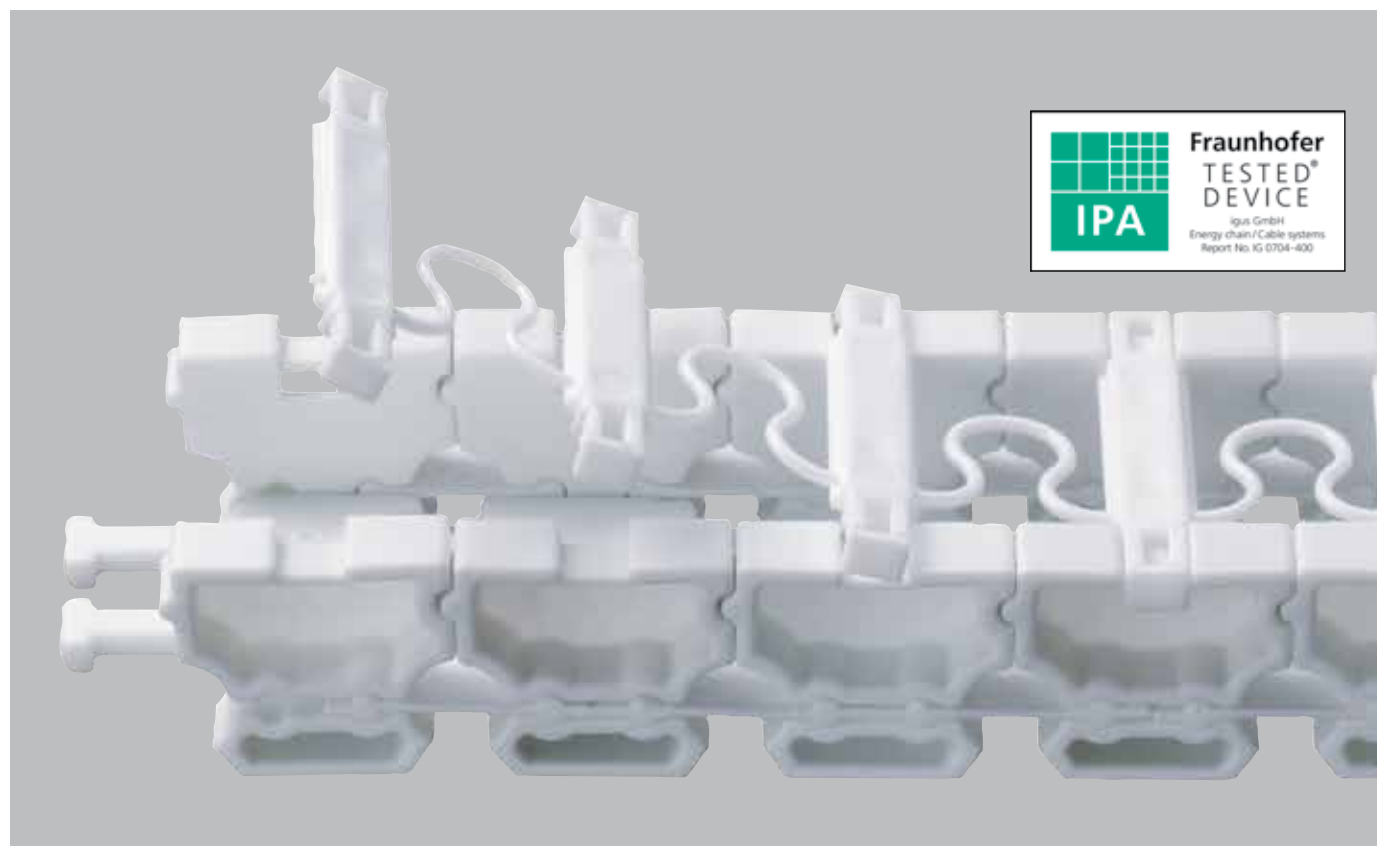
Tiewrap plate as a single part

## Interior separation



### Slotted separator

Separators can be arranged at any position in the chain cross section to divide the interior of the e-chain®.



E3 e-chains® in optional white color; ideal for cleanroom and medical applications, available upon request



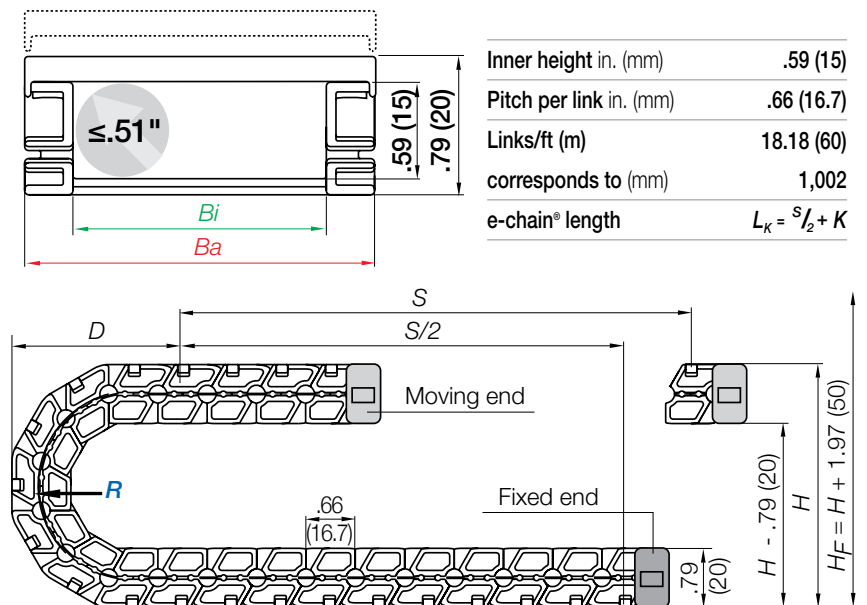
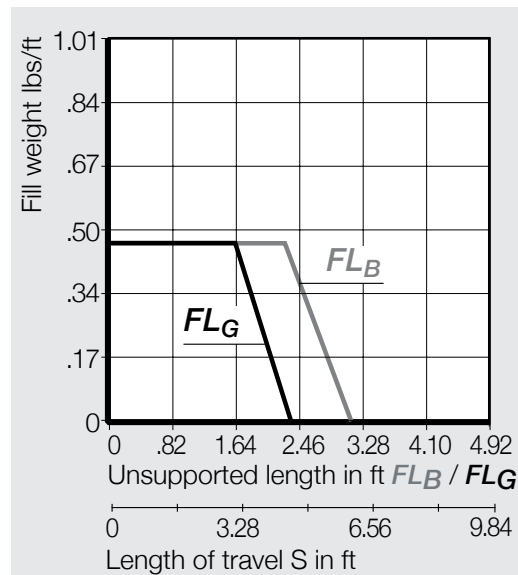
Image with plastic mounting bracket

## e-chains® | Series E3.15 | Crossbars on a strip - zip-open along the outer radius

| Part No.              | <i>Bi</i> | <i>Ba</i> | <i>R</i> Available bend radii |            |            |            | E3.15          |
|-----------------------|-----------|-----------|-------------------------------|------------|------------|------------|----------------|
| e-chains®             | in. (mm)  | in. (mm)  | in. (mm)                      |            |            |            | lbs/ft. (kg/m) |
| E3.15.020. <i>R.0</i> | .79 (20)  | 1.26 (32) | 1.26 (032)                    | —          | —          | —          | ≈ 0.148 (0.22) |
| E3.15.040. <i>R.0</i> | 1.57 (40) | 2.05 (52) | 1.26 (032)                    | 1.50 (038) | 1.89 (048) | 2.95 (075) | ≈ 0.168 (0.25) |
| E3.15.060. <i>R.0</i> | 2.36 (60) | 2.83 (72) | 1.26 (032)                    | 1.50 (038) | 1.89 (048) | 2.95 (075) | ≈ 0.215 (0.32) |

Complete Part No. with required radius (*R*). Example: E3.15.060.032.0

## Installation dimensions

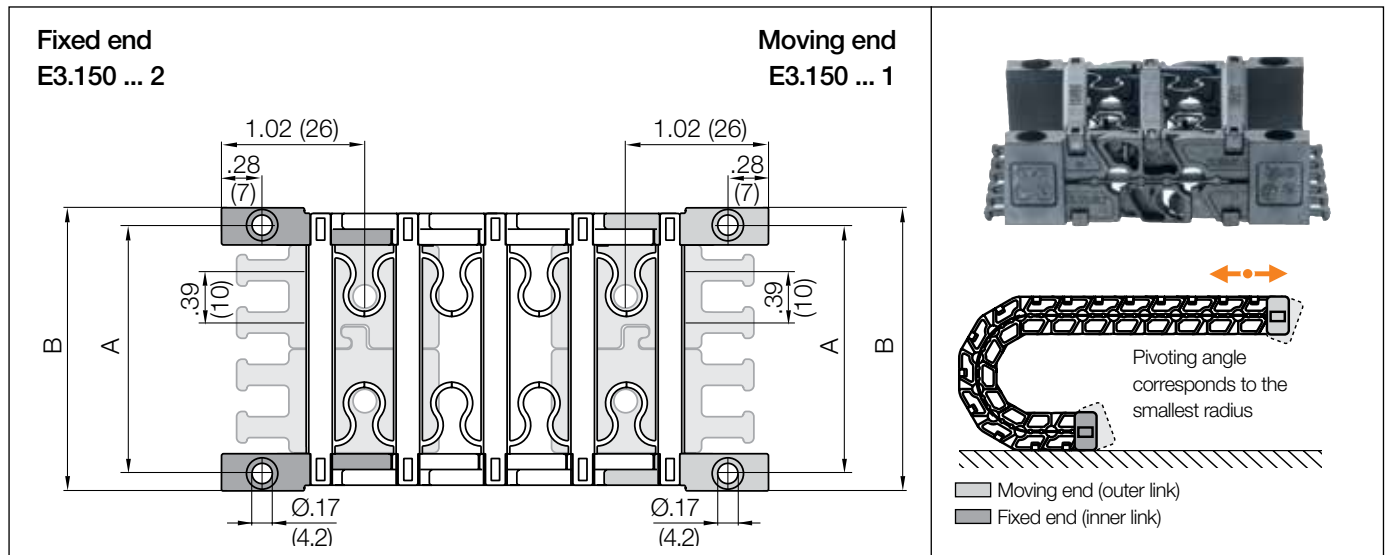


| <i>R</i> | 1.26 (032) | 1.50 (038) | 1.89 (048) | 2.95 (075)  |
|----------|------------|------------|------------|-------------|
| <i>H</i> | 3.90 (99)  | 4.37 (111) | 5.16 (131) | 7.28 (185)  |
| <i>D</i> | 2.64 (67)  | 2.87 (73)  | 3.27 (83)  | 4.33 (110)  |
| <i>K</i> | 5.31 (135) | 6.10 (155) | 7.28 (185) | 10.63 (270) |

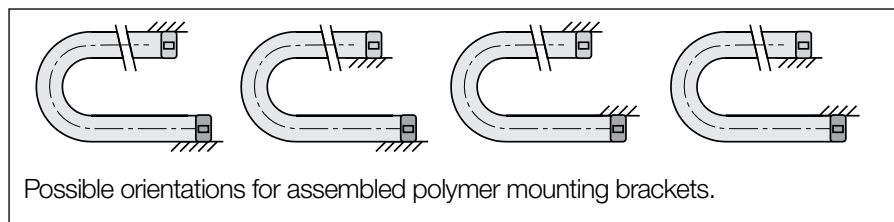
The required clearance height:  $H_r = H + 1.97$  in. (50 mm) with .13 lbs/ft (0.2 kg/m) fill weight.



## Mounting brackets, polymer | Pivoting



| Width index | Part No. full set without tiewrap plates | A in. (mm) | B in. (mm) | Part No. strain relief at both ends* |
|-------------|------------------------------------------|------------|------------|--------------------------------------|
| 020.        | ▶ E3.150.020.12                          | 1.10 (28)  | .42 (36)   | E3.020.12                            |
| 040.        | ▶ E3.150.040.12                          | 1.89 (48)  | .58 (56)   | E3.040.12                            |
| 060.        | ▶ E3.150.060.12                          | 2.68 (68)  | .81 (76)   | E3.060.12                            |

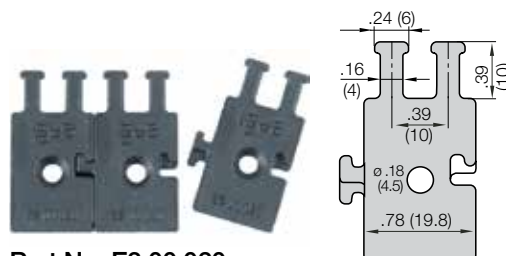


### E3.150.060.12 Order example



#### Part No. E3.150.XXX.12

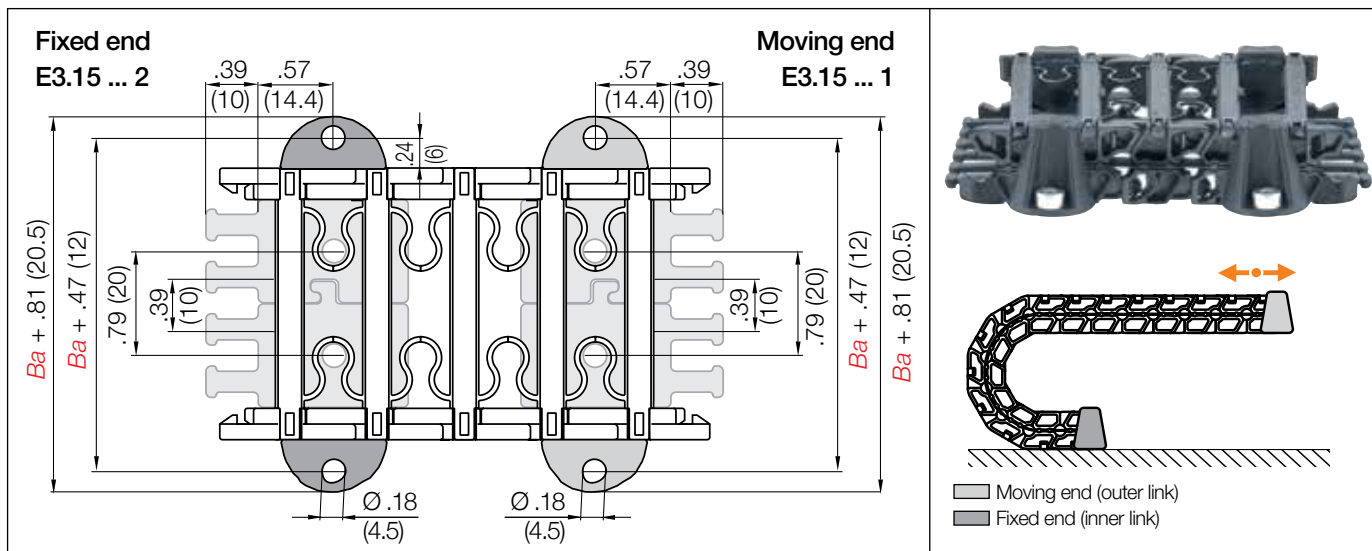
Full set without strain relief. Tiewrap plates must be ordered separately.



#### Part No. E3.00.020

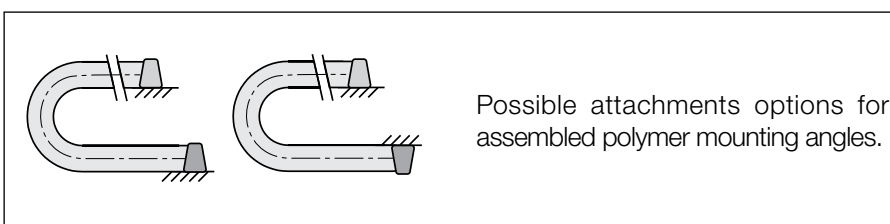
Tiewrap plate as a single part

## Mounting angle, polymer | Locking

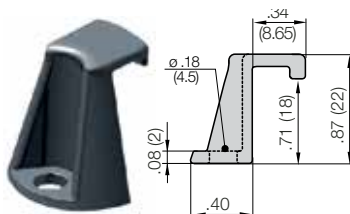


| Width index | Part No. full set<br>strain relief at both ends<br>+ 4 mounting angles* | Part No.<br>Mounting angle*<br>(single part) | Part no.<br>strain relief at both ends | Ba<br>in. (mm) |
|-------------|-------------------------------------------------------------------------|----------------------------------------------|----------------------------------------|----------------|
| 020. ▶      | E3.15.020.12                                                            | E3.15.00                                     | E3.020.12                              | 1.26 (32)      |
| 040. ▶      | E3.15.040.12                                                            | E3.15.00                                     | E3.040.12                              | 2.05 (52)      |
| 060. ▶      | E3.15.060.12                                                            | E3.15.00                                     | E3.060.12                              | 2.83 (72)      |

**\*Note:** If the mounting brackets are used, two links each end must be added to the calculated e-chain® length, because the first two links are fixed by the mounting brackets.

**E3.15.060.12****Order example****Part No. E3.15.XXX.12**

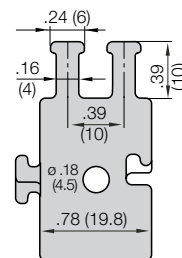
Full set without strain relief. Tiewrap plates must be ordered separately.

**Part No. E3.15.00**

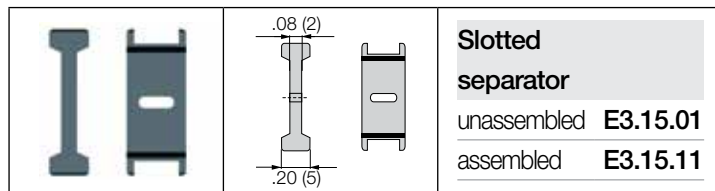
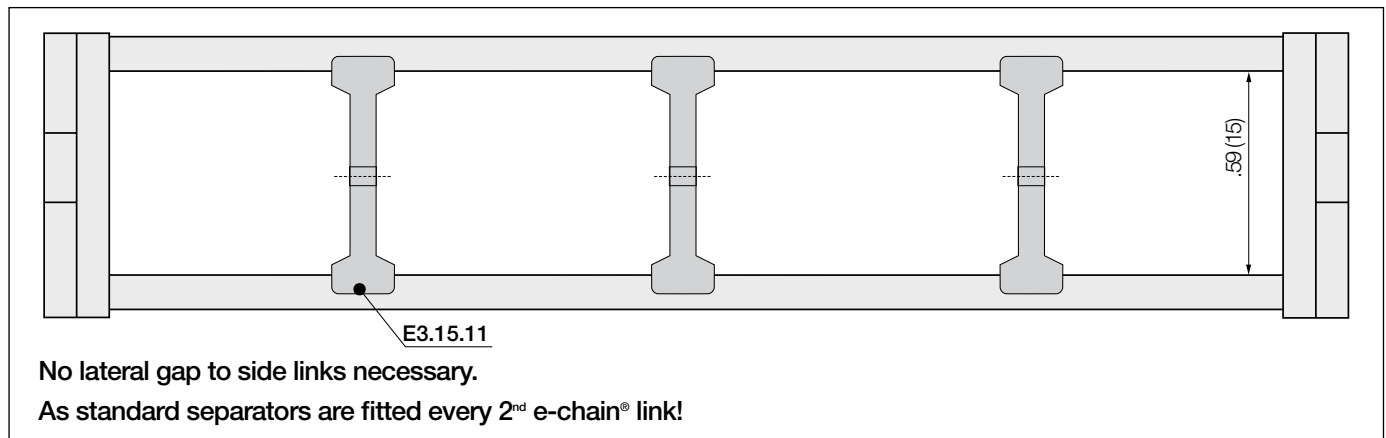
Mounting angle as an individual part

**Part No. E3.00.020**

Tiewrap plate as a single part

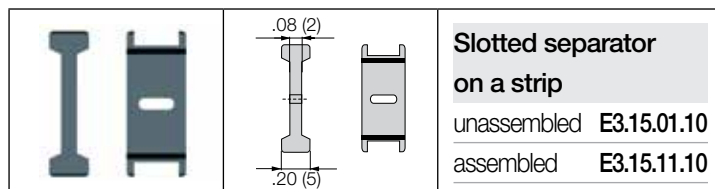


## Interior separation



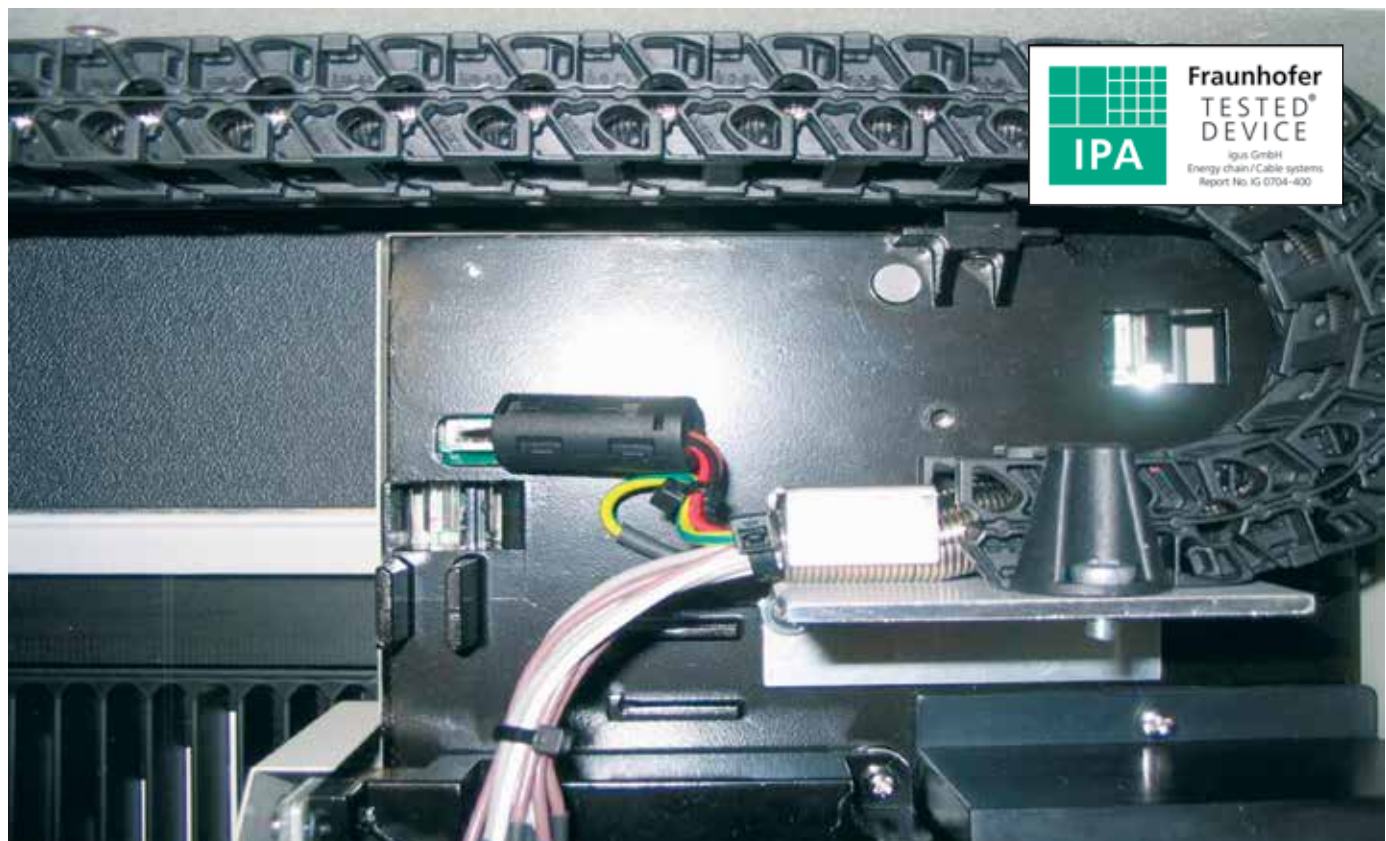
### Slotted separator

Separators can be arranged at any position in the chain cross section to divide the interior of the e-chain®.



### Slotted separator on a strip

Five vertical separators altogether on one strip over ten e-chain® links are mounted on the openable crossbars. In this way separate chambers are formed, protecting the cables. Dimensions same as E3.15.01.



igus® E3 system, ideal for very small installation spaces as well as very low-noise operation

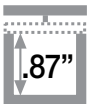


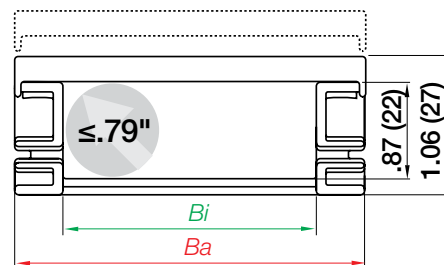
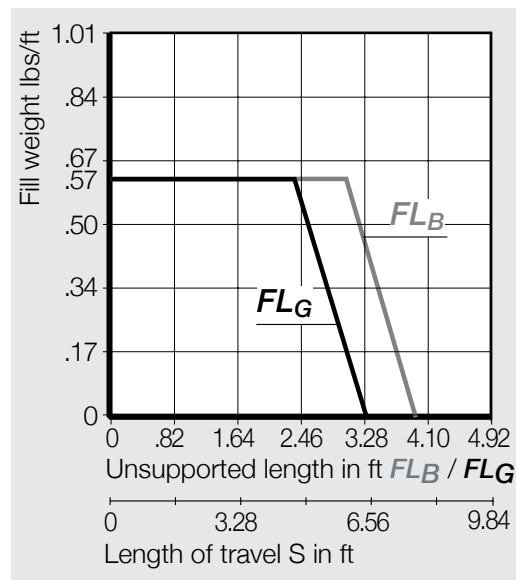
Image with plastic mounting bracket

## e-chains® | Series E3.22 | Crossbars on a strip - zip-open along the outer radius

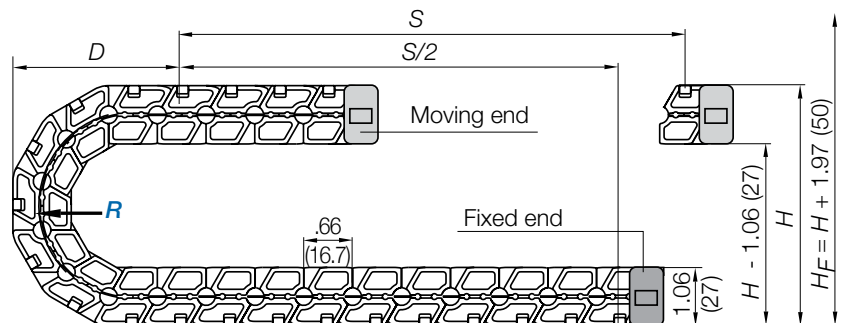
| Part No.               | <i>Bi</i> | <i>Ba</i> | <i>R</i> Available bend radii        | E3.22          |
|------------------------|-----------|-----------|--------------------------------------|----------------|
| e-chains®              | in. (mm)  | in. (mm)  | in. (mm)                             | lbs/ft. (kg/m) |
| E3.22.020. <i>R</i> .0 | .79 (20)  | 1.26 (32) | 1.73 (044)   1.97 (050)   2.95 (075) | ≈ 0.202 (0.30) |
| E3.22.040. <i>R</i> .0 | 1.57 (40) | 2.05 (52) | 1.73 (044)   1.97 (050)   2.95 (075) | ≈ 0.215 (0.32) |
| E3.22.060. <i>R</i> .0 | 2.36 (60) | 2.83 (72) | 1.73 (044)   —   2.95 (075)          | ≈ 0.276 (0.41) |

Complete Part No. with required radius (*R*). Example: E3.22.060.044.0

## Installation dimensions



|                         |                 |
|-------------------------|-----------------|
| Inner height in. (mm)   | .87 (22)        |
| Pitch per link in. (mm) | .66 (16.7)      |
| Links/ft (m)            | 18.18 (60)      |
| corresponds to (mm)     | 1,002           |
| e-chain® length         | $L_K = S/2 + K$ |

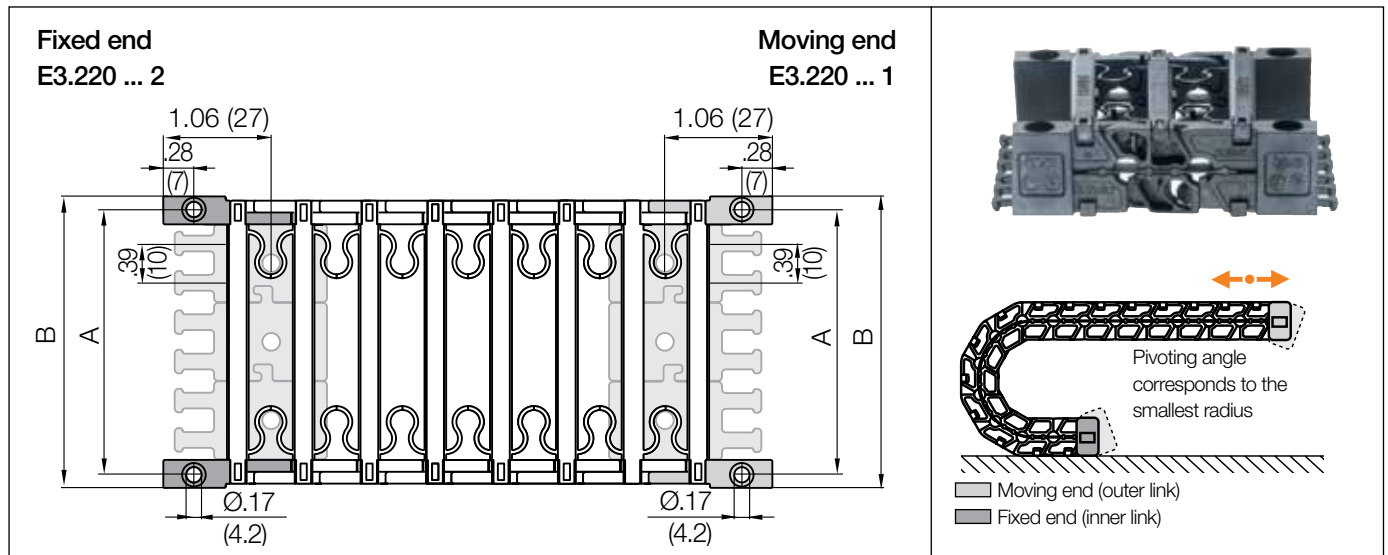


|          |            |            |             |
|----------|------------|------------|-------------|
| <i>R</i> | 1.73 (044) | 1.97 (050) | 2.95 (075)  |
| <i>H</i> | 5.28 (134) | 5.75 (146) | 7.72 (196)  |
| <i>D</i> | 3.46 (88)  | 3.15 (80)  | 4.45 (113)  |
| <i>K</i> | 6.89 (175) | 7.68 (195) | 10.63 (270) |

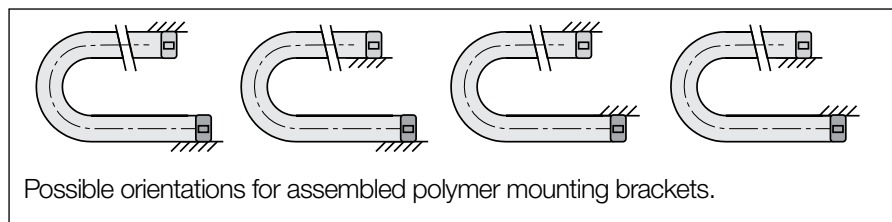
The required clearance height:  $H_F = H + 1.97$  in. (50 mm) with .20 lbs/ft (0.3 kg/m) fill weight.



## Mounting brackets, polymer | Pivoting



| Width index | Part No. full set without tiewrap plates | A in. (mm) | B in. (mm) | Part No. strain relief at both ends* |
|-------------|------------------------------------------|------------|------------|--------------------------------------|
| 020.        | E3.220.020.12                            | 1.10 (28)  | .42 (36)   | E3.020.12                            |
| 040.        | E3.220.040.12                            | 1.89 (48)  | .58 (56)   | E3.040.12                            |
| 060.        | E3.220.060.12                            | 2.68 (68)  | .81 (76)   | E3.060.12                            |

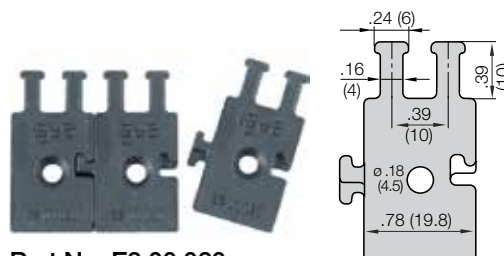


### E3.220.060.12 Order example



#### Part No. E3.220.XXX.12

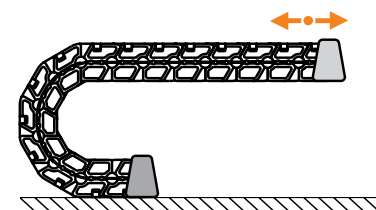
Full set without strain relief. Tiewrap plates must be ordered separately.



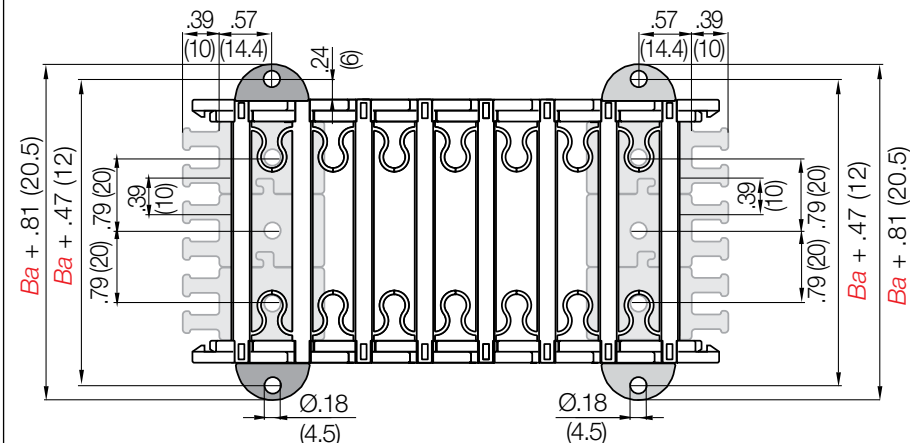
#### Part No. E3.00.020

Tiewrap plate as a single part

## Mounting angle, polymer | Locking

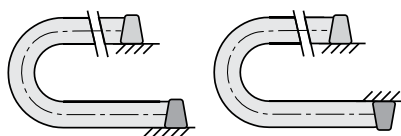
Fixed end  
E3.22 ... 2Moving end  
E3.22 ... 1

Moving end (outer link)  
Fixed end (inner link)



| Width index | Part No. full set<br>strain relief at both ends<br>+ 4 mounting angles* | Part No.<br>Mounting angle*<br>(single part) | Part no.<br>strain relief at both ends | Ba<br>in. (mm) |
|-------------|-------------------------------------------------------------------------|----------------------------------------------|----------------------------------------|----------------|
| 020. ▶      | E3.22.020.12                                                            | E3.22.00                                     | E3.020.12                              | 1.26 (32)      |
| 040. ▶      | E3.22.040.12                                                            | E3.22.00                                     | E3.040.12                              | 2.05 (52)      |
| 060. ▶      | E3.22.060.12                                                            | E3.22.00                                     | E3.060.12                              | 2.83 (72)      |

**\*Note:** If the mounting brackets are used, two links each end must be added to the calculated e-chain® length, because the first two links are fixed by the mounting brackets.



Possible attachments options for assembled polymer mounting angles.

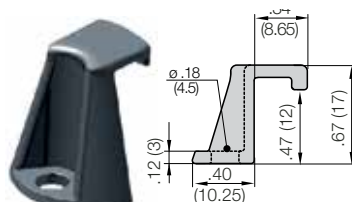
E3.22.060.12

Order example



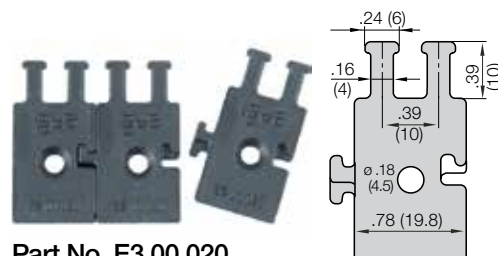
Part No. E3.22.XXX.12

Full set without strain relief. Tiewrap plates must be ordered separately.



Part No. E3.22.00

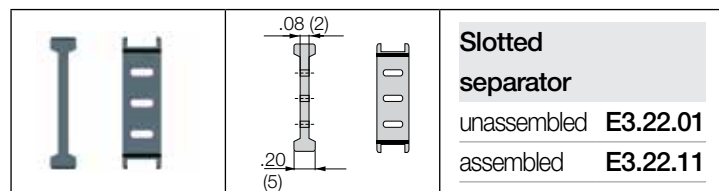
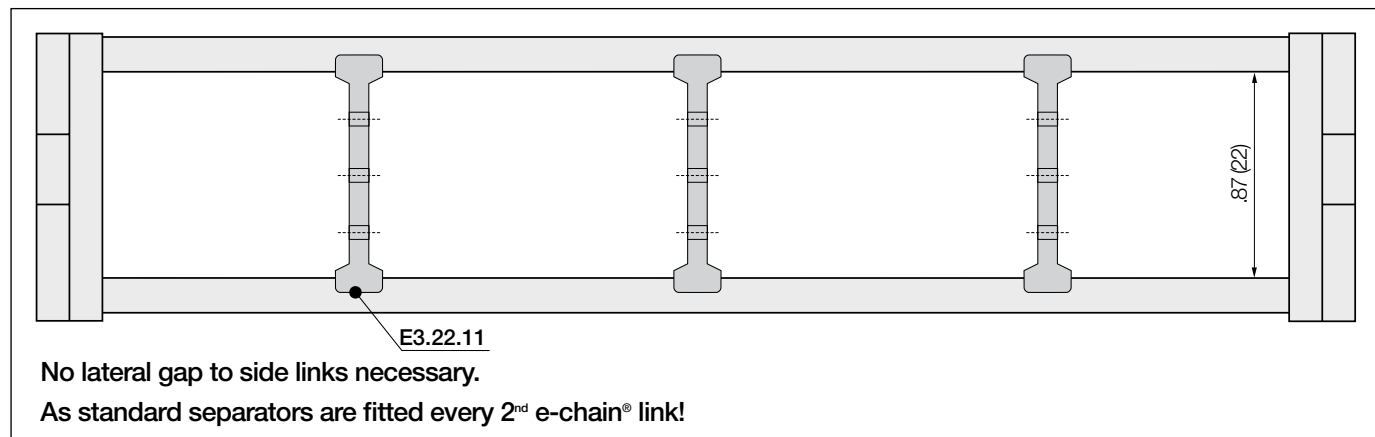
Mounting angle as an individual part



Part No. E3.00.020

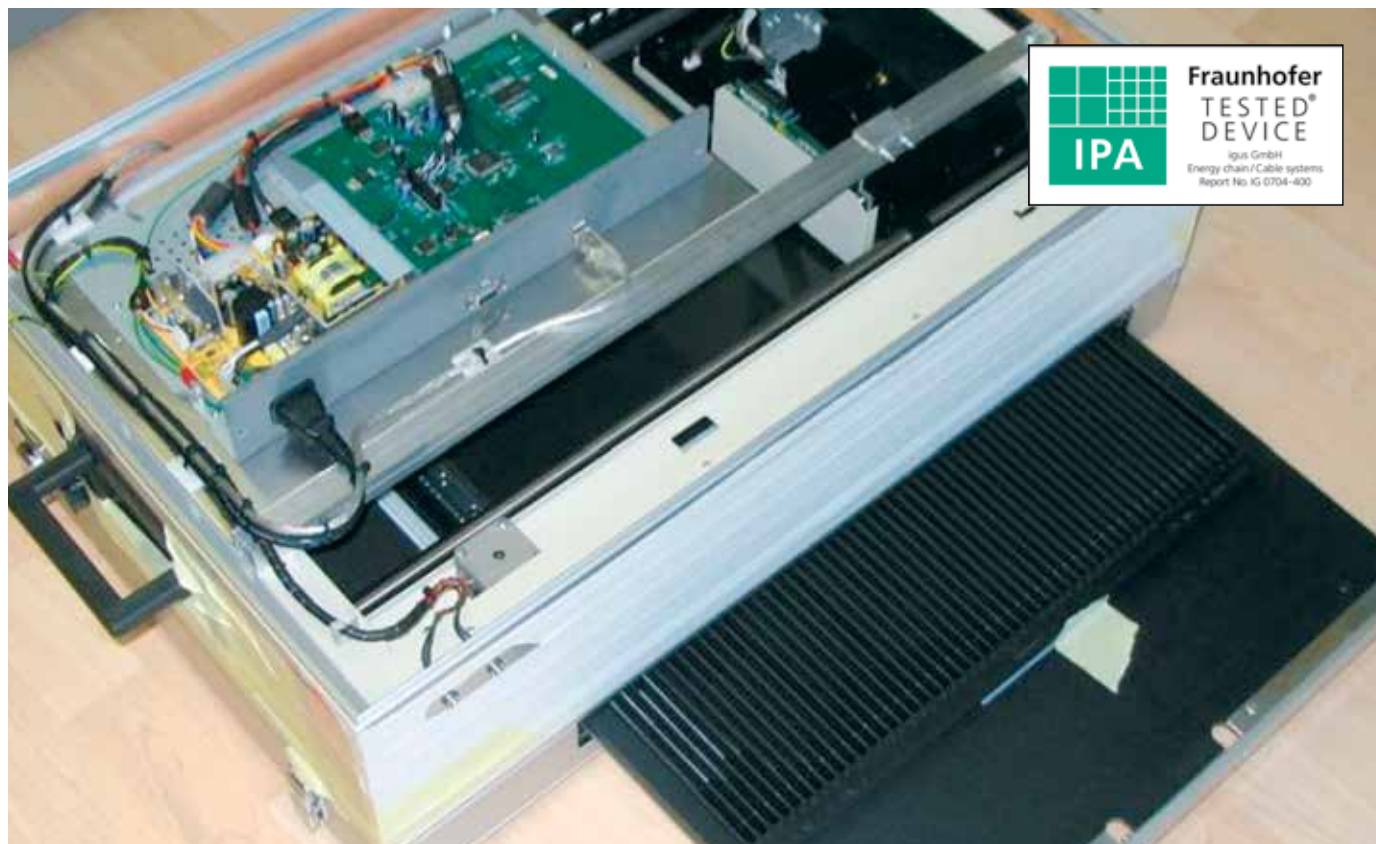
Tiewrap plate as a single part

## Interior separation



### Slotted separator

Separators can be arranged at any position in the chain cross section to divide the interior of the e-chain®.



igus® series E3.15 side mounted as a low-abrasion guide for cables in a scanner system





# T3 Light, highly flexible and low-vibration

clean-  
room



## Advantages of the T3 system:

- Very low weight e-chain®
- For high speeds and accelerations
- Virtually no polygon effect
- Small bend radii and installation space
- Fast, easy filling and assembly
- Low noise 33dB(A)<sup>1)</sup> - small pitch for low noise, smooth running
- Suitable for cleanrooms according to IPA cleanroom Class 1<sup>2)</sup>

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series T3.29.050.038.0



## When to use another igus® e-chain® series:

- When an e-chain® for more fill weight is required
  - ▶ E6.1, page 848
- When larger interior heights are required
  - ▶ E6.1, page 848
- When IPA cleanroom Class 1 is required
  - ▶ E6.1, page 848
- When an enclosed e-chain® for smooth running is required
  - ▶ R6, page 886
  - ▶ e-skin® corrugated tube SK / SKS / SKY, page 829



## Smooth running "T-band", quiet, cost-effective T3 system

Universal:  
mounting plates and  
strain relief option

Low noise 33dB(A)<sup>1)</sup>:  
small pitch for low noise,  
smooth running

Modular design:  
t-band in one  
segment of 8 links

Modular:  
easy to lengthen and  
shorten at any point

Easy to use:  
clip-on interior  
separation clips

IPA cleanroom Class 1<sup>2)</sup>:  
virtually no wear or abrasion

Dynamic:  
high speeds and  
accelerations

Efficient:  
lightweight

The T3 system combines low noise operation, simple assembly and economy. The side bands, which snap together, replace a conventional pin and bore connection and prevent relative movements between the joints giving extremely low wear. This means virtually no wear or abrasion (cleanroom). The novel geometrical shape of the t-band, means that hardly any polygon effect is generated in operation. The t-band therefore rolls in a very smooth arc, giving extremely low vibration and noise. In order to reduce the manufacturing and installation costs, the t-band is made in a segment of 8 links. Due to its low mass, the igus® t-band, is suitable for applications with low fill weights and short strokes, combined with high speeds and accelerations.

1) Extremely low-noise - tested at the igus® lab 2) Cleanroom - Series T3.29.050.038.0

### Typical industries and applications

● Printer and plotter ● Cleanroom applications ●  
Production and processing of semiconductors ●  
Optics ● Pick and place machines ● Measuring  
technology



### IPA Qualification Certificate<sup>2)</sup> - Report IG 1303-640-1:

ISO Class 2, according to DIN EN ISO 14644-1 for system T3, series T3.29.050.038 at  $v = 1.64\text{ft/s}$  (0.5m/s),  $3.28\text{ft/s}$  (1.0m/s),  $6.56\text{ft/s}$  (2.0m/s)



igus® tests at  $3.28\text{ft}$  (1m) measuring distance:  
=  $33\text{dB(A)}^{1)}$  for T3.29.050.038.0 at  $v = 3.28\text{ft/s}$  (1m/s) and  $26.5\text{dB(A)}$  basic sound level

# T3 | Selection table

| Series                                                                                                                                                                                                        | Inner height<br><i>hi</i><br>in. (mm) | Inner width<br><i>Bi</i><br>in. (mm) | Outer width<br><i>Ba</i><br>in. (mm) | Outer height<br><i>ha</i><br>in. (mm) | Bend radius<br><i>R</i><br>in. (mm) | Unsupported<br>length<br>≤ ft. (m) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|------------------------------------|
|  <div> <b>System T3 -<br/>t-shaped band e-chains®</b><br/> crossbars removable along<br/> the inner and outer radius </div> |                                       |                                      |                                      |                                       |                                     |                                    |
| T3.29                                                                                                                                                                                                         | 1.14 (29)                             | 1.18-5.51 (30-140)                   | 2.16-6.50 (55-165)                   | 1.38 (35)                             | 1.50 (038)                          | ≈ 4.76 (1.45)                      |



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

\*On average 90% of orders ship the same day..



Further information about igus® cleanroom e-chains® and the new, unique igus® cleanroom laboratory for IPA cleanroom Class 1 components ► From page 146



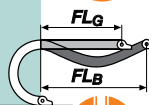
T3 system on the Z-axis of a positioning system. It has very low noise and vibration

## Technical data



Speed  $FL_G$  / acceleration  $FL_G$

$\leq 64.6 \text{ ft/s (20 m/s) } / \leq 656 \text{ ft/s}^2 (200 \text{ m/s}^2)$



Speed  $FL_B$  / acceleration  $FL_B$

$\leq 9.84 \text{ ft. (3 m/s) } / \leq 19.69 \text{ ft/s}^2 (6 \text{ m/s}^2)$



e-chain® link material, igumid G - permitted temperature °F

upon request

Scalable crossbar material, igumid TE - permitted temperature °F

upon request



Flammability class

VDE 0304 IIC UL94-HB

■  $FL_G$  = unsupported with straight upper run ■  $FL_B$  = unsupported with permitted sag

### T3 e-chains® and modules for circular movement

● T3 e-chains® with Reverse Bend Radii **RBR** ● Several radii available: 2.17" (55mm), 2.95" (75mm), 3.94" (100mm), 5.91" (150mm) ● Various installation options ● Wide range of interior separation layouts ● Quiet operation ● Low wear.

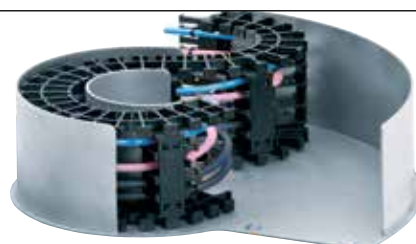
**Delivery time upon request - more information**

► [www.igus.com/circularmovement](http://www.igus.com/circularmovement)



### T3 RBR module for Reverse Bend Radii

● Consists of 4 elements: T3 **RBR** e-chain®, guiding system, chainflex® cables, iglide® PRT slewing ring bearing ● Compact guide trough ● Inner or outer radius rotation ● For high speeds ● Quiet ● Several mounting options. **Delivery time upon request - more information** ► [www.igus.com/circularmovement](http://www.igus.com/circularmovement)





# T3 | Options and order keys

## Options with order keys | Examples based on series E3.10



Standard

NC version -  
(No Camber)  
without pretension

Reverse Bend Radius (RBR)  
for circular movements

Part No.  
Standard



Part No.  
NC version



Part No.  
RBR



T3.29.050.R.0

T3.29.050.R.0.NC

T3.29.050.038/R2.0



Ready to ship in 72hrs.\*

Ready to ship  
in 12 business days\*

Ready to ship  
in 12 business days\*

\*Average time before the ordered goods are dispatched.

## Order key and color examples | Examples based on series T3.29



Order example for complete e-chain® 3.28 ft. (1m),  
color black, with mounting brackets and interior separation:

e-chain® 3.28 ft. (1m) Please indicate e-chain® length or number of links: 3.28ft. (1m) or 67 links **T3.29.050.038.0**

+ Mounting brackets KMA pivoting - 1 set **T3.29.050.12PZ**

Interior separation with 2 separators assembled every 2<sup>nd</sup> link **2 x 29.1.1**

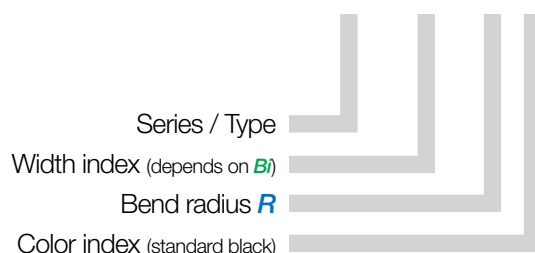
Order text: 3.28 ft (1m) T3.29.050.038.0 + T3.050.12 + 2 x 29.1.1



### Order key

e-chain® zip-open along the outer radius

**T3.29.050.038.0**



### Order index for color options

| Color       | Order index       | Color      | Order index       |
|-------------|-------------------|------------|-------------------|
| Black       | Standard .0       | Orange     | Special color .2  |
| Silver-grey | Special color .31 | Yellow     | Special color .4  |
| White       | Special color .1  | Light grey | Special color .14 |
| Grey-white  | Special color .1S |            |                   |

Black e-chains® ready to ship in 72hrs.\*

Above special colors upon request.

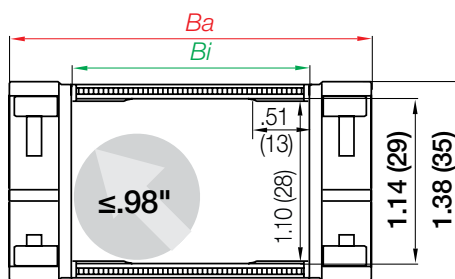
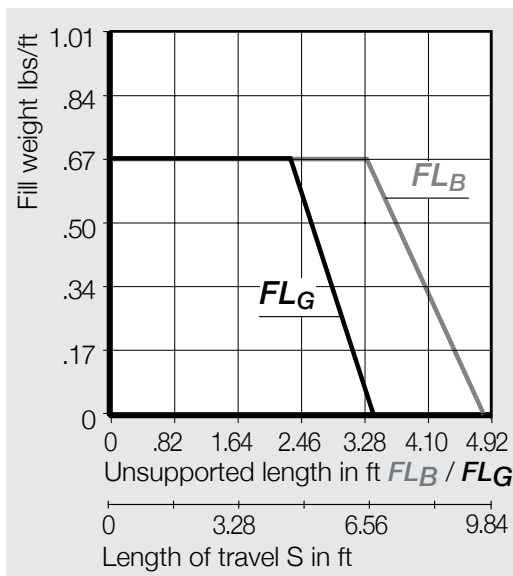


## e-chains® | Series T3.29 | Crossbars removable along the inner and outer radius

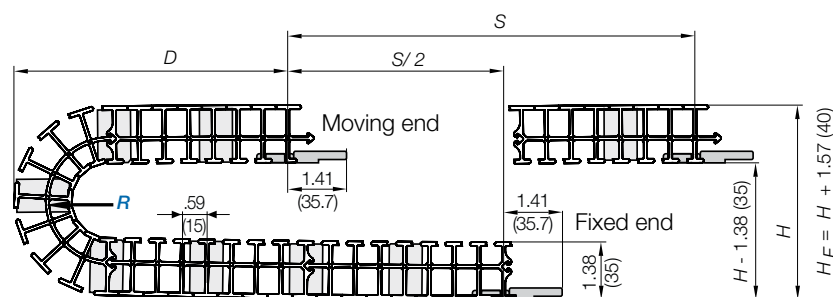
| Part No.               | <i>Bi</i>  | <i>Ba</i>  | <i>R</i> Available bend radii | T3.29          |
|------------------------|------------|------------|-------------------------------|----------------|
| e-chains®              | in. (mm)   | in. (mm)   | in. (mm)                      | lbs/ft. (kg/m) |
| T3.29.030. <i>R</i> .0 | 1.18 (30)  | 2.16 (55)  | 1.50 (038)                    | ≈ 0.27 (0.40)  |
| T3.29.040. <i>R</i> .0 | 1.57 (40)  | 2.56 (65)  | 1.50 (038)                    | ≈ 0.28 (0.42)  |
| T3.29.050. <i>R</i> .0 | 1.97 (50)  | 2.95 (75)  | 1.50 (038)                    | ≈ 0.30 (0.44)  |
| T3.29.060. <i>R</i> .0 | 2.36 (60)  | 3.35 (85)  | 1.50 (038)                    | ≈ 0.31 (0.46)  |
| T3.29.070. <i>R</i> .0 | 2.76 (70)  | 3.74 (95)  | 1.50 (038)                    | ≈ 0.32 (0.48)  |
| T3.29.080. <i>R</i> .0 | 3.15 (80)  | 4.13 (105) | 1.50 (038)                    | ≈ 0.34 (0.50)  |
| T3.29.090. <i>R</i> .0 | 3.54 (90)  | 4.53 (115) | 1.50 (038)                    | ≈ 0.34 (0.51)  |
| T3.29.100. <i>R</i> .0 | 3.94 (100) | 4.92 (125) | 1.50 (038)                    | ≈ 0.36 (0.53)  |
| T3.29.110. <i>R</i> .0 | 4.33 (110) | 5.31 (135) | 1.50 (038)                    | ≈ 0.37 (0.55)  |
| T3.29.120. <i>R</i> .0 | 4.72 (120) | 5.71 (145) | 1.50 (038)                    | ≈ 0.38 (0.57)  |
| T3.29.140. <i>R</i> .0 | 5.51 (140) | 6.50 (165) | 1.50 (038)                    | ≈ 0.40 (0.59)  |

Complete Part No. with required radius (*R*). Example: T3.29.100.038.0

## Installation dimensions



|                         |                         |
|-------------------------|-------------------------|
| Inner height in. (mm)   | 1.14 (29)               |
| Pitch per link in. (mm) | .59 (15)                |
| Links/ft (m)            | 20.3 (67)               |
| corresponds to (mm)     | 1,005                   |
| e-chain® length         | $L_K = \frac{S}{2} + K$ |



*R* 1.50 (038)

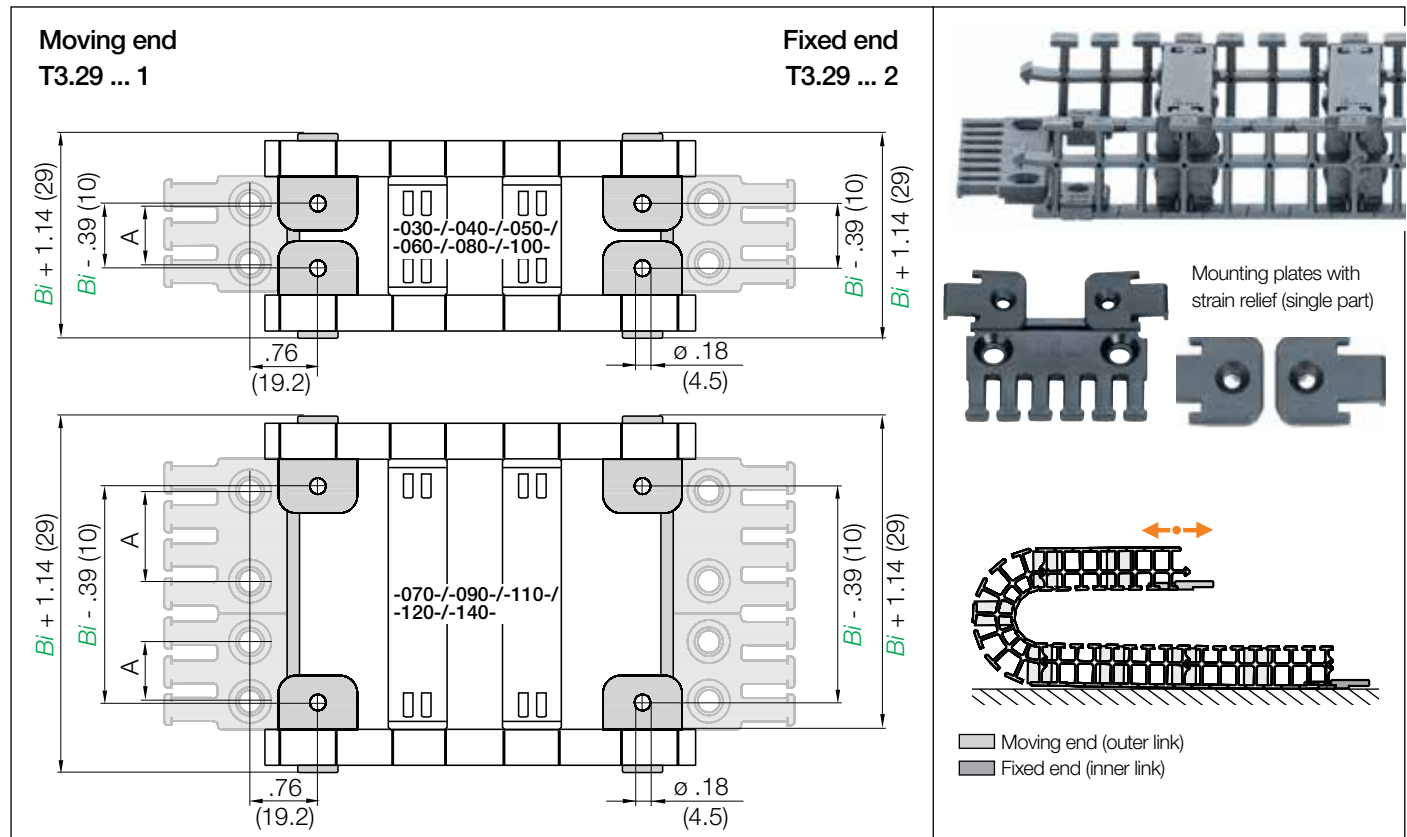
*H* 8.50 (216)

*D* 4.57 (111)

*K* 8.27 (210)

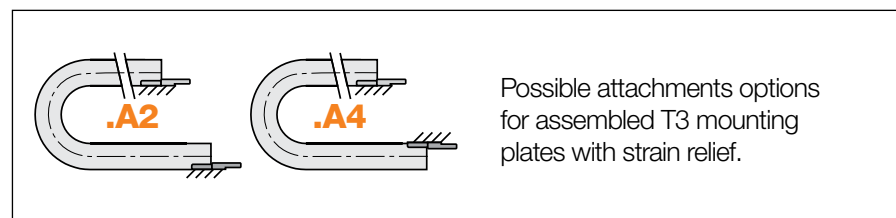
The required clearance height:  $H_r = H + 1.57$  in. (40 mm) with .67 lbs/ft (1.0 kg/m) fill weight.

## Mounting brackets | Mounting plates



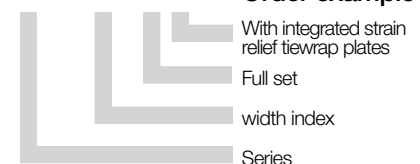
| Width index | Standard | Part No. full set with tie-wrap plates | Part No. full set with tie-wrap plates | A<br>in. (mm) | Bi<br>in. (mm) | Number of teeth |
|-------------|----------|----------------------------------------|----------------------------------------|---------------|----------------|-----------------|
| 030. ▶      |          | T3.29.030.12PZ                         | T3.29.030.12                           | .59 (15)      | 1.18 (30)      | 3               |
| 040. ▶      |          | T3.29.040.12PZ                         | T3.29.040.12                           | .79 (20)      | 1.57 (40)      | 4               |
| 050. ▶      |          | T3.29.050.12PZ                         | T3.29.050.12                           | 1.18 (30)     | 1.97 (50)      | 5               |
| 060. ▶      |          | T3.29.060.12PZ                         | T3.29.060.12                           | 1.57 (40)     | 2.36 (60)      | 6               |
| 070. ▶      |          | T3.29.070.12PZ                         | T3.29.070.12                           | 1.38 (15+20)  | 2.76 (70)      | 7               |
| 080. ▶      |          | T3.29.080.12PZ                         | T3.29.080.12                           | 2.36 (60)     | 3.15 (80)      | 8               |
| 090. ▶      |          | T3.29.090.12PZ                         | T3.29.090.12                           | 1.97 (20+30)  | 3.54 (90)      | 9               |
| 100. ▶      |          | T3.29.100.12PZ                         | T3.29.100.12                           | 3.15 (80)     | 3.94 (100)     | 10              |
| 110. ▶      |          | T3.29.110.12PZ                         | T3.29.110.12                           | 2.75 (30+40)  | 4.33 (110)     | 11              |
| 120. ▶      |          | T3.29.120.12PZ                         | T3.29.120.12                           | 3.14 (40+40)  | 4.72 (120)     | 12              |
| 140. ▶      |          | T3.29.140.12PZ                         | T3.29.140.12                           | 3.93 (60+40)  | 5.51 (140)     | 14              |

\*Strain relief consisting of 2 tie-wrap plates

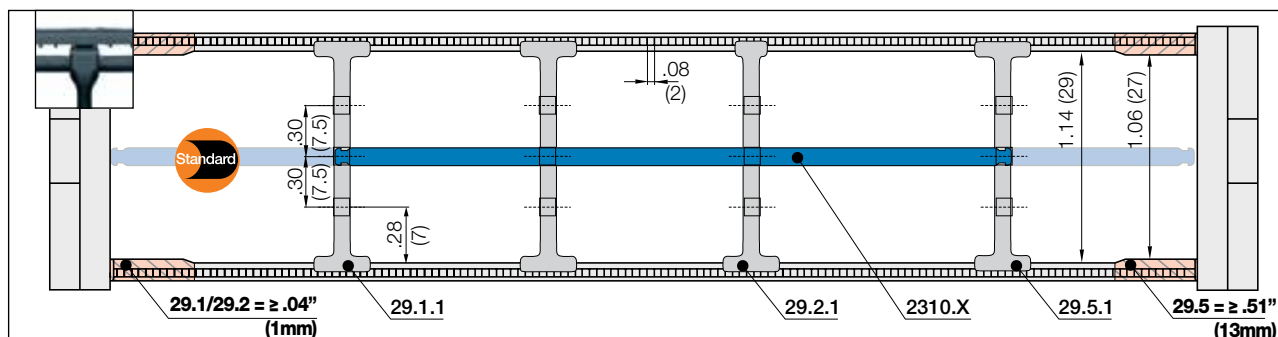


T3.29.100.12PZ

Order example

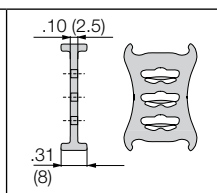
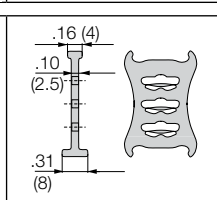
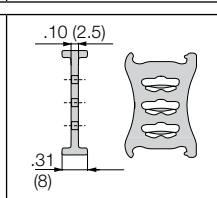
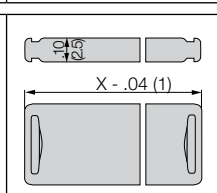


## Interior separation | Increase cable service life



**Note:** Please be aware of the minimum lateral gap to the side links! 29.1/29.2 = 1mm | 29.5 = 13mm

As standard separators are fitted every 4th e-chain® link!

|                                                                                    |                                                                                     |                                                                                                   |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
|    |    | <b>Standard separator, wide base</b><br>unassembled <b>29.1</b><br>assembled <b>29.1.1</b>        |
|   |   | <b>Separator, narrow top</b><br>unassembled <b>29.2</b><br>assembled <b>29.2.1</b>                |
|  |  | <b>Notch separator for notched crossbar</b><br>unassembled <b>29.5</b><br>assembled <b>29.5.1</b> |
|  |  | <b>Shelf, lockable</b><br>unassembled <b>2300.X</b><br>assembled <b>2310.X</b>                    |

**Standard - for any application**

Separator with a wide base for maximum holding force.

**For even faster installation**

Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

**Locks securely in preset increments**

Notch separator for exact positioning. Recommended for side-mounted applications.

**Horizontal separation**

Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

**Shelves**

Width = X in. (mm)



| X in. (mm) | unassembled | assembled | X in. (mm) | unassembled | assembled | X in. (mm) | unassembled | assembled |
|------------|-------------|-----------|------------|-------------|-----------|------------|-------------|-----------|
| .59 (015)  | 2300.015    | 2310.015  | 2.36 (060) | 2300.060    | 2310.060  | 3.43 (087) | 2300.087    | 2310.087  |
| .98 (025)  | 2300.025    | 2310.025  | 2.44 (062) | 2300.062    | 2310.062  | 3.54 (090) | 2300.090    | 2310.090  |
| 1.18 (030) | 2300.030    | 2310.030  | 2.56 (065) | 2300.065    | 2310.065  | 3.94 (100) | 2300.100    | 2310.100  |
| 1.50 (038) | 2300.038    | 2310.038  | 2.76 (070) | 2300.070    | 2310.070  | 4.06 (103) | 2300.103    | 2310.103  |
| 1.57 (040) | 2300.040    | 2310.040  | 2.95 (075) | 2300.075    | 2310.075  | 4.33 (110) | 2300.110    | 2310.110  |
| 1.97 (050) | 2300.050    | 2310.050  | 3.03 (077) | 2300.077    | 2310.077  | 4.72 (120) | 2300.120    | 2310.120  |
| 2.24 (057) | 2300.057    | 2310.057  | 3.15 (080) | 2300.080    | 2310.080  | 4.92 (125) | 2300.125    | 2310.125  |

**Separator with integrated strain relief teeth**

- Can be integrated into the mounting bracket or placed at any point
- Combines strain relief and interior separation, for restricted space conditions
- Strain relief separator is easy to assemble without any screws

Part No. E6.29.02.Z - more information ► From page 1457







Cleanroom-suitable igus® chainflex® cables are safely guided in a T3 e-chain®. 1,125 IPA certified chainflex® cables according to ISO Class 1 or Class 2 are available from stock







# TH3

## The first e-chain® designed according to hygienic principles



### Advantages of the TH3 system:

- The first e-chain® designed according to hygienic principles
- Easy to clean due to open design
- FDA- and EU-compliant materials - blue material typical for plastic parts in the food industry (consists of igumid TH NB for the side parts and igumid TH G for the frames and mounting brackets)
- Good resistance to aggressive cleaning agents and chemicals
- Rounded edges mean that there are no dead spaces or resulting germ formation
- No material on material rubbing
- No bolted connections
- Operating temperature -40°F (-40°C) / +158°F (+70°C)
- reddot award winner 2017



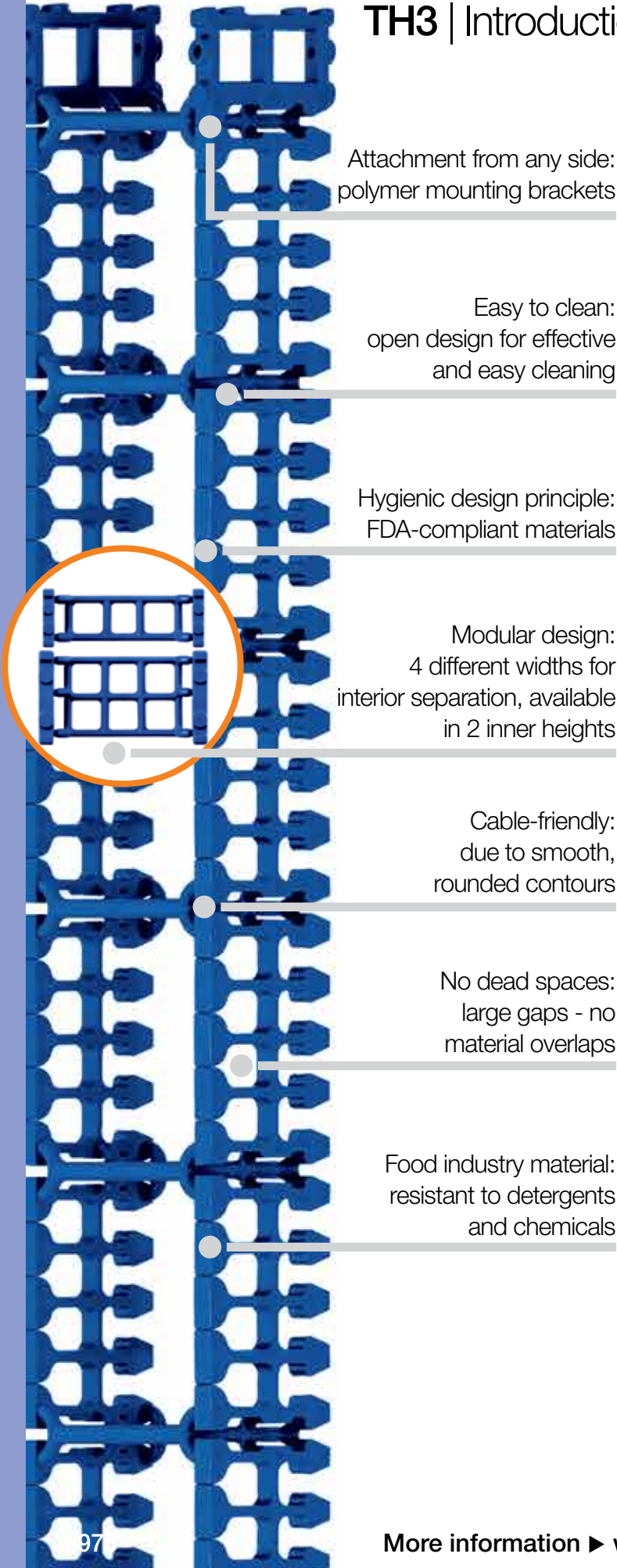
### When to use another igus® e-chain® series:

- When hygienic design does not matter but cleanroom capability is required
  - ▶ T3, page 964
- When IPA cleanroom Class 1 is required
  - ▶ E6.1, page 848



reddot award 2017  
winner

# The first e-chain® designed according to hygienic principles - TH3



Attachment from any side:  
polymer mounting brackets

Easy to clean:  
open design for effective  
and easy cleaning

Hygienic design principle:  
FDA-compliant materials

Modular design:  
4 different widths for  
interior separation, available  
in 2 inner heights

Cable-friendly:  
due to smooth,  
rounded contours

No dead spaces:  
large gaps - no  
material overlaps

Food industry material:  
resistant to detergents  
and chemicals

igus® TH3 is the world's first plastic e-chain® developed according to Hygienic Design Guidelines. The open design of the e-chain® is very easy to clean and, thanks to rounded corners and the absence of bolted connections, dead spaces and the resulting germ formation are avoided. The blue material, which is typical of plastic parts in the food industry, is also highly resistant to aggressive cleaning agents and chemicals. The e-chain® is suitable for applications with the highest hygienic requirements for safe cable and hose guidance.

- Choice of 2 inner heights and 4 inner widths
- Interior separation segments separate the cables and hoses from each other to provide enough clearance for easy cleaning
- For plastic parts in the food industry; the blue material is FDA-compliant
- reddot award winner 2017

### Typical industries and applications

- Packaging machines
- Food and beverage/filling machines
- Wherever hygiene requirements are very high and cables and hoses have to be guided safely and securely



reddot award 2017  
winner

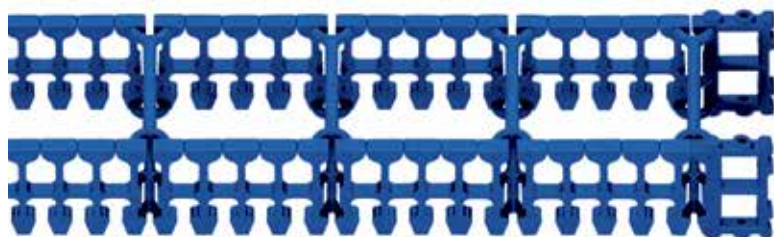


The material of the igus® hygienic design e-chain® is FDA and EU regulation-compliant

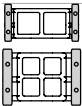
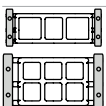
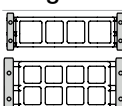


# TH3 | Selection table

| Segment design | Series | Inner height $h_i$<br>in. (mm) | Inner width $B_i$<br>in. (mm) | Outer width $B_a$<br>in. (mm) | Outer height $h_a$<br>in. (mm) | Bend radius $R$<br>in. (mm) | Unsupported length $\leq$ ft (m) |
|----------------|--------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------|----------------------------------|
|----------------|--------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------|----------------------------------|



**System TH3 -  
hygienic design e-chain®**  
3-piece, hygienic design consisting  
of two side parts and an interior  
separation segment

|                                                                                                         |              |              |            |            |           |            |            |
|---------------------------------------------------------------------------------------------------------|--------------|--------------|------------|------------|-----------|------------|------------|
| <b>2-segment</b><br>   | TH3.25.2/26  | 1.00 (25.5)  | 2.76 (70)  | 3.39 (86)  | 1.38 (35) | 2.76 (070) | 3.94 (1.2) |
|                                                                                                         | TH3.45.2/20  | 2 x .79 (20) | 2.76 (70)  | 3.54 (90)  | 2.24 (57) | 3.54 (090) | 4.59 (1.4) |
| <b>3-segment</b><br>   | TH3.25.3/26  | 1.00 (25.5)  | 3.74 (95)  | 4.37 (111) | 1.38 (35) | 2.76 (070) | 3.94 (1.2) |
|                                                                                                         | TH3.45.3/20  | 2 x .79 (20) | 3.74 (95)  | 4.53 (115) | 2.24 (57) | 3.54 (090) | 4.59 (1.4) |
| <b>4-segment</b><br>   | TH3.25.4/26* | 1.00 (25.5)  | 4.72 (120) | 5.35 (136) | 1.38 (35) | 2.76 (070) | 3.94 (1.2) |
|                                                                                                         | TH3.45.4/20* | 2 x .79 (20) | 4.72 (120) | 5.51 (140) | 2.24 (57) | 3.54 (090) | 4.59 (1.4) |
| <b>5-segment</b><br> | TH3.25.5/26* | 1.00 (25.5)  | 5.71 (145) | 6.34 (161) | 1.38 (35) | 2.76 (070) | 3.94 (1.2) |
|                                                                                                         | TH3.45.5/20  | 2 x .79 (20) | 5.71 (145) | 6.50 (165) | 2.24 (57) | 3.54 (090) | 4.59 (1.4) |

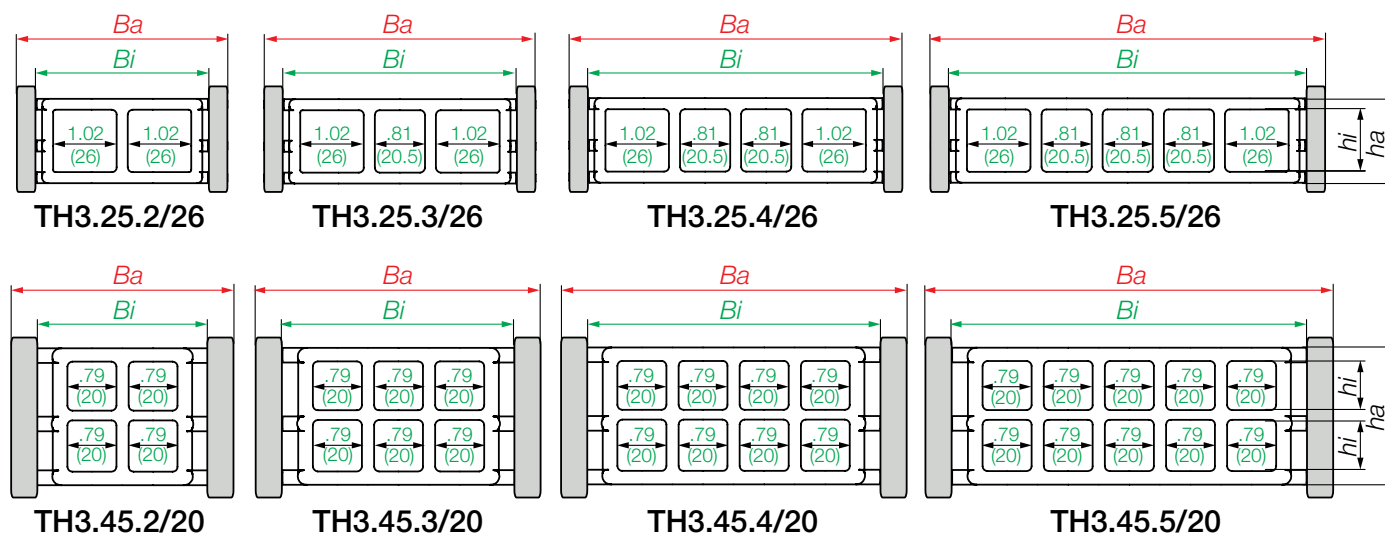
\*Width available upon request. Please consult igus® for delivery time.



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

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

## Size overview - Interior separation segments



## Technical data



Speed  $FL_G$  / acceleration  $FL_G$

≤ 6.56 ft/s (2 m/s) / ≤ 32.8 ft/s² (10 m/s²)



Side part material igumid TH NB - permitted temperature °F

-40°F (-40°C) / +158°F (+70°C)

Interior separation segment material igumid TH G  
- permitted temperature °C

-40°F (-40°C) / +158°F (+70°C)



Flammability class, igumid TH NB

VDE 0304 IIC UL94-HB

Flammability class, igumid TH G

VDE 0304 IIC UL94-HB

■  $FL_G$  = unsupported with straight upper run

## Installation types, maximum travels



Unsupported



Vertical  
hanging

Series

TH3.25

≤ 7.87 ft.  
(2.4m)

≤ 19.69 ft.  
(6m)

TH3.45

≤ 9.19 ft.  
(2.8m)

≤ 19.69 ft.  
(6m)

# TH3 | Order example | Order key

## Order key and color examples | Examples based on series TH3.45



Order example for complete e-chain® 3.28 ft. (1m),  
color black, with mounting brackets and interior separation:

e-chain® 3.28 ft. (1m) Indicate e-chain® length or number of side parts **TH3.45.3/20.090.8**

+ Mounting brackets 1 set **TH3.450.3/20.12.8.A**

**Interior separation** The interior separation segments connect the side parts of the e-chain®.  
The interior separation is already included in the part number of the e-chain®.

Order text: 3.28 ft (1m) TH3.45.3/20.090.80 + TH3.450.3/20.12.8.A



### Order key

Hygienic design e-chains® **TH3.45.3/20.090.8** Order index

|                              |  |
|------------------------------|--|
| Series / Type                |  |
| Inner height                 |  |
| Interior separation segment  |  |
| Bend radius <b>B</b>         |  |
| Colour index (standard blue) |  |

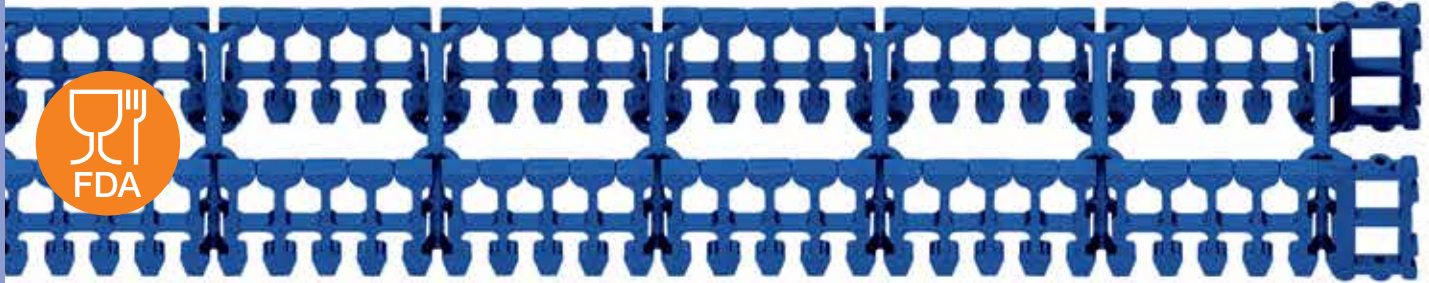
| Colour      | Order index           |
|-------------|-----------------------|
| <b>Blue</b> | Standard<br><b>.8</b> |



For plastic parts in the food industry, the blue material is FDA-compliant.



The TH3 e-chain® is the world's first plastic e-chain® developed according to "Hygienic Design Guidelines" (04/2018)



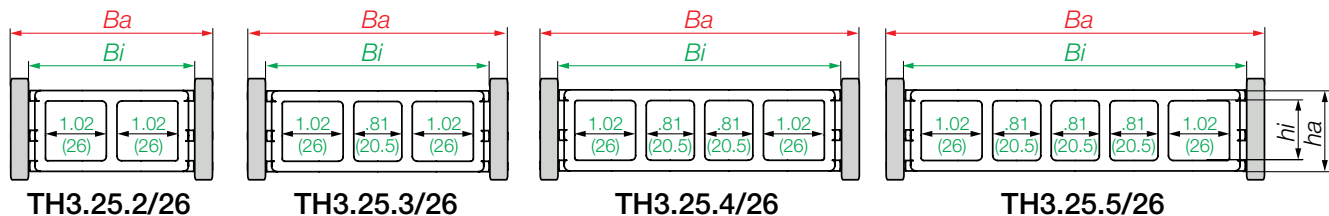
## e-chains® | Series TH3.25 | 3-piece, hygienic design

| Segment design | Part No.<br>e-chains®     | Chamber width<br>(mm) | <i>Bi</i><br>in. (mm) | <i>Ba</i><br>in. (mm) | <i>R</i> Available bend radii<br>in. (mm) | TH3.25<br>[kg/m] |
|----------------|---------------------------|-----------------------|-----------------------|-----------------------|-------------------------------------------|------------------|
| 2-segment      | TH3.25.2/26. <i>R</i> .8  | 26/26                 | 2.76 (70)             | 3.39 (86)             | 2.76 (070)                                | ≈ 0.302 (0.45)   |
| 3-segment      | TH3.25.3/26. <i>R</i> .8  | 26/20.5/26            | 3.74 (95)             | 4.37 (111)            | 2.76 (070)                                | ≈ 0.316 (0.47)   |
| 4-segment      | TH3.25.4/26. <i>R</i> .8* | 26/20.5/20.5/26       | 4.72 (120)            | 5.35 (136)            | 2.76 (070)                                | ≈ 0.336 (0.50)   |
| 5-segment      | TH3.25.5/26. <i>R</i> .8  | 26/20.5/20.5/20.5/26  | 5.71 (145)            | 6.34 (161)            | 2.76 (070)                                | ≈ 0.363 (0.54)   |

\*Width available upon request. Delivery time upon request.

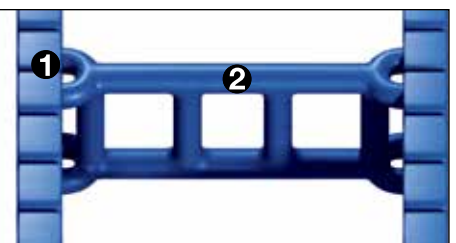
Complete Part No. with required radius (*R*). Example: TH3.25.3/26.070.8

## Interior separation segments series TH3.25 | Size overview



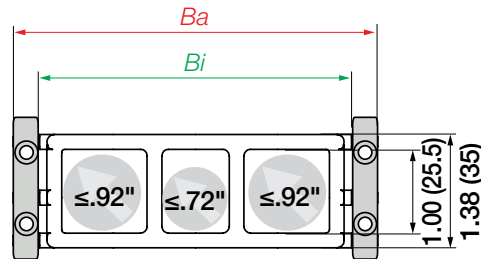
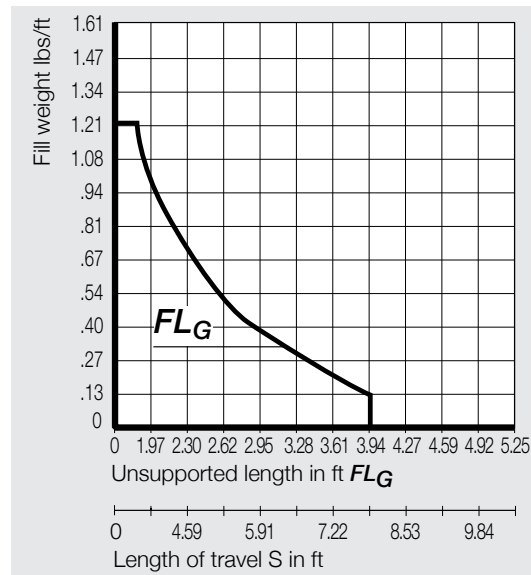
## TH3 - 3-piece hygienic design e-chain®

- The TH3 e-chain® consists of 3 parts, the two side parts ① and one interior separation segment each ②
- The interior separation segments connect the side parts of the e-chain®
- The segments are available in 4 different widths

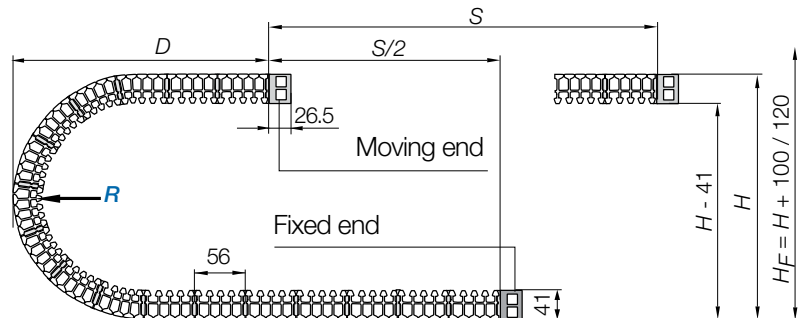




## Unsupported applications | Short travels



|                         |                         |
|-------------------------|-------------------------|
| Inner height in. (mm)   | 1.00 (25.5)             |
| Pitch per link in. (mm) | 2.20 (56)               |
| Links/ft (m)            | 5.45 (18)               |
| corresponds to (mm)     | 1,008                   |
| Links/side link         | 5                       |
| e-chain® length         | $L_K = \frac{S}{2} + K$ |



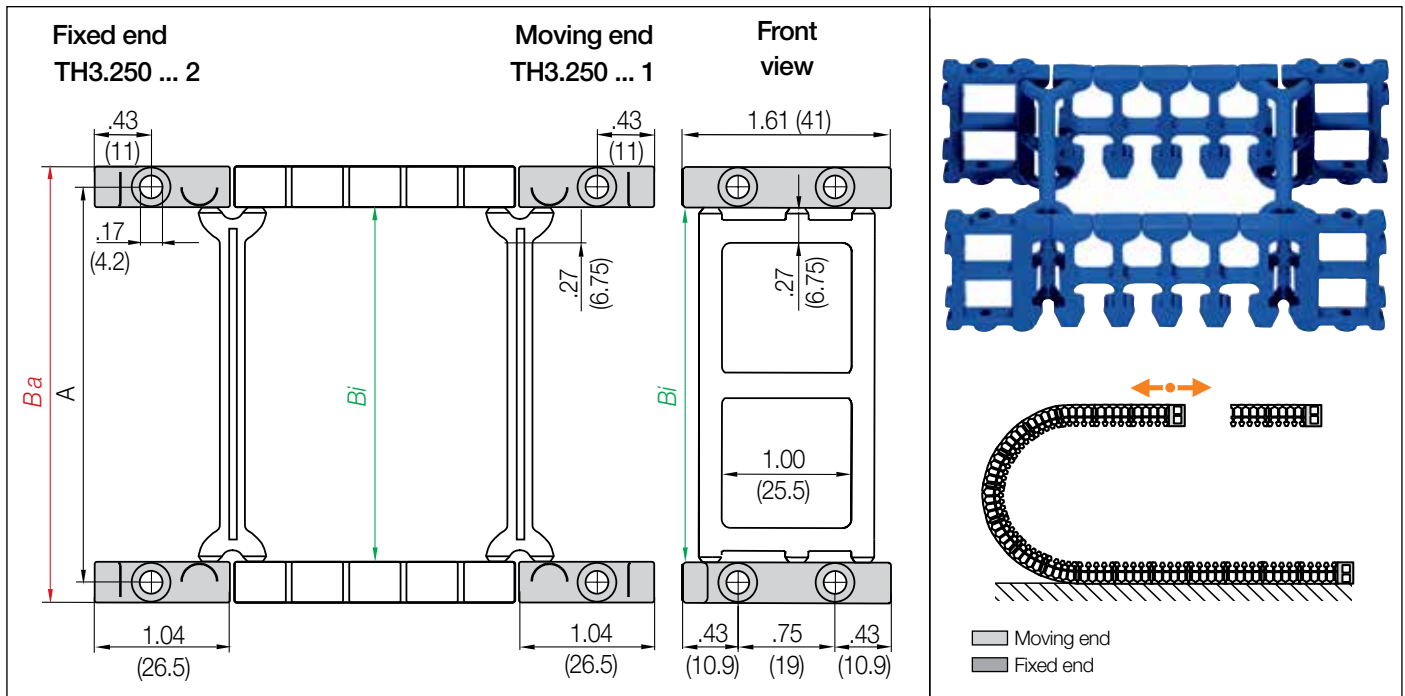
**R min.\* 2.76 (070)** \*Note: The bend radius depends on the length of the e-chain®. Smallest possible radius = 2.76" (70mm)

**H** 7.09 (180) Required clearance height  $H_F$  amounts to:

**D** 4.33 (110) Travel distance up to 11.81" (300mm) = 11.02" (280mm)

**K** 9.45 (240) Travel distance from 11.81" up to 39.4" (300 up to 1,000mm) = 11.81" (300mm)

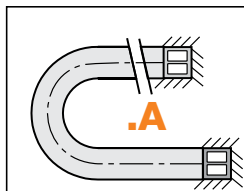
The required clearance height:  $H_F = H + 3.94$  in. (100 mm) and accordingly  $H = 4.72$  in. (120mm) with .27 lbs/ft (0.4 kg/m) fill weight.



### FDA-compliant mounting brackets, locking

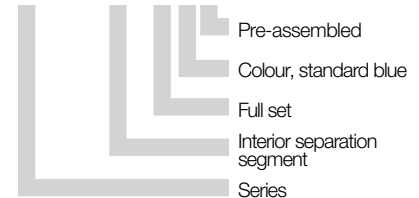
| Width index | Part No. full set locking | A in. (mm)   | Bi in. (mm) | Ba in. (mm) |
|-------------|---------------------------|--------------|-------------|-------------|
| 2/26 ▶      | TH3.250.2/26.12.8.A       | 3.05 (77.5)  | 2.76 (70)   | 3.39 (86)   |
| 3/26 ▶      | TH3.250.3/26.12.8.A       | 4.04 (102.5) | 3.74 (95)   | 4.37 (111)  |
| 4/26 ▶      | TH3.250.4/26.12.8.A*      | 5.02 (127.5) | 4.72 (120)  | 5.35 (136)  |
| 5/26 ▶      | TH3.250.5/26.12.8.A*      | 6.00 (152.5) | 5.71 (145)  | 6.34 (161)  |

\*Width available upon request. Please consult igus® for delivery time.



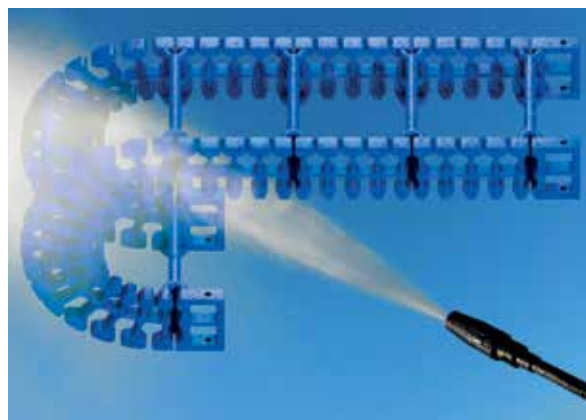
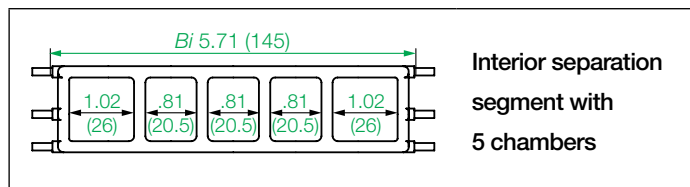
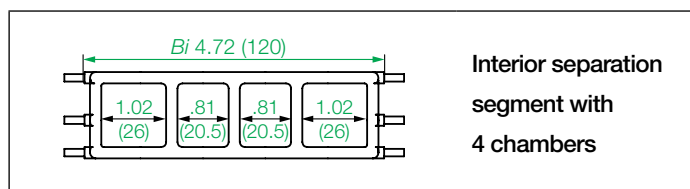
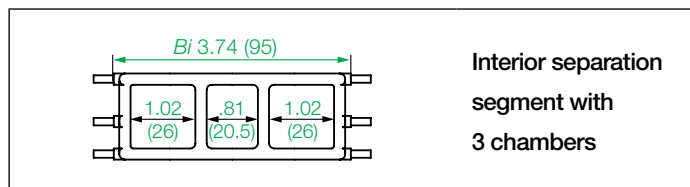
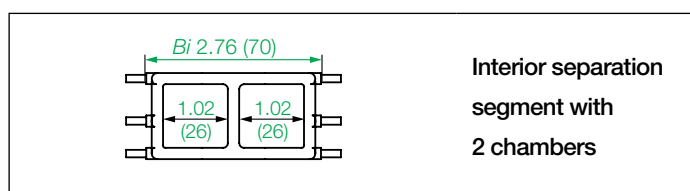
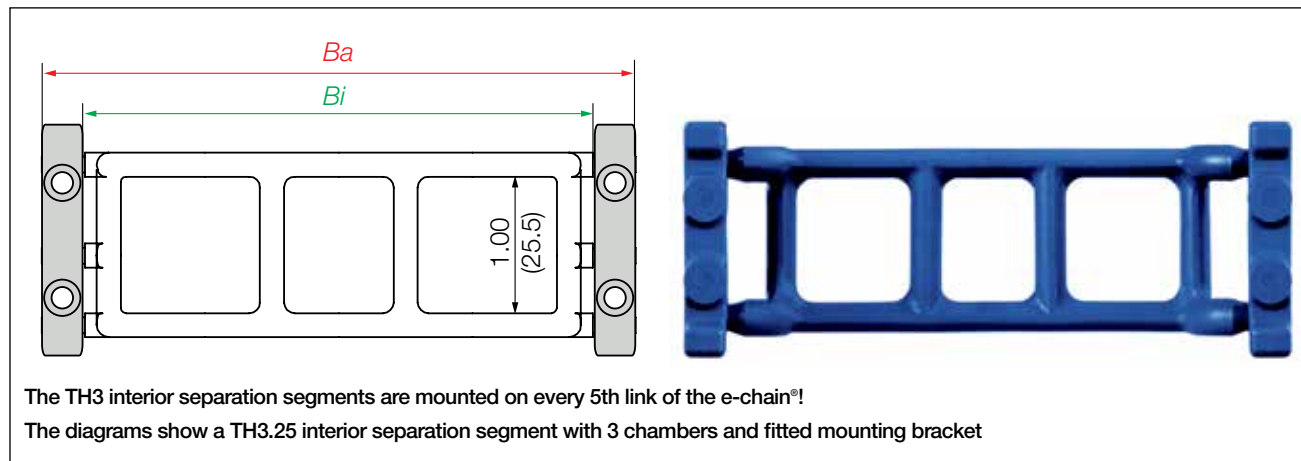
The bracket orientations are set automatically when using igus® mounting brackets.  
**Note:** the TH3 series are always delivered with pre-fitted mounting brackets.

### TH3.250.3/26.12.8.A Order example

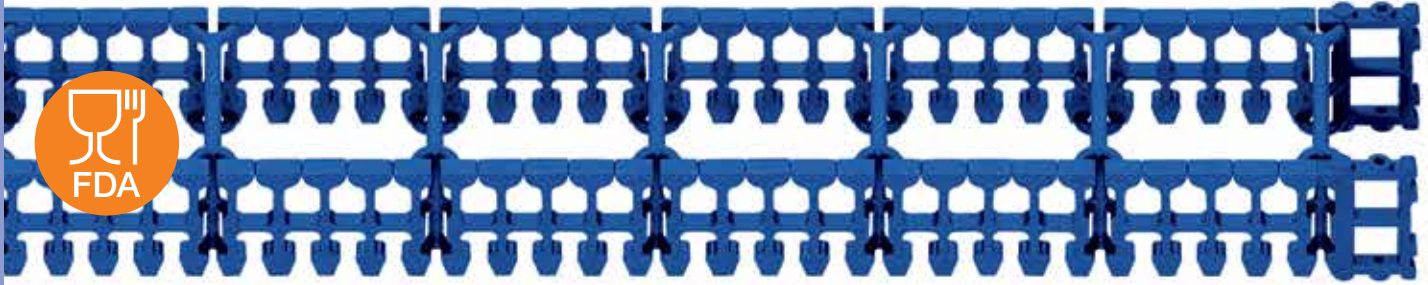


**Strain relief** e.g. clamps, tiwrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ▶ From page 1418

## Interior separation segments



System TH3 - the open design allows effective and easy cleaning



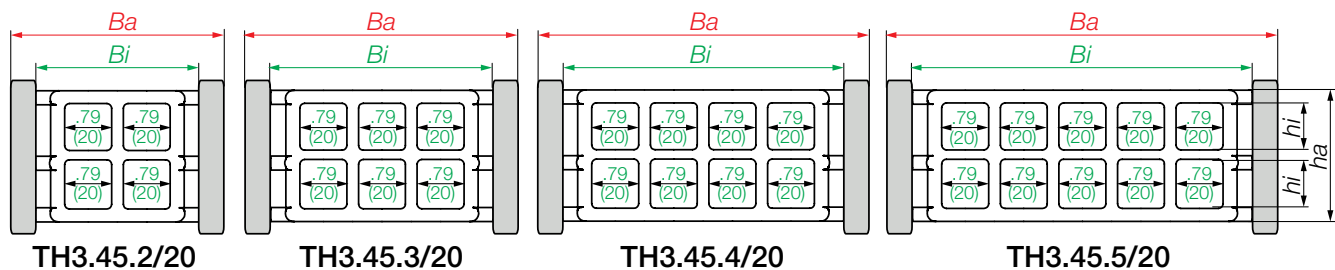
## e-chains® | Series TH3.45 | 3-piece, hygienic design

| Segment design | Part No.<br>e-chains®     | Chamber width<br>(mm) | <i>Bi</i><br>in. (mm) | <i>Ba</i><br>in. (mm) | <i>R</i> Available bend radii<br>in. (mm) | TH3.25<br>lbs/ft (kg/m) |
|----------------|---------------------------|-----------------------|-----------------------|-----------------------|-------------------------------------------|-------------------------|
| 2-segment<br>  | TH3.45.2/20. <i>R</i> .8  | 20/20                 | 2.76 (70)             | 3.54 (90)             | 3.54 (090)                                | ≈ 0.508 (0.82)          |
| 3-segment<br>  | TH3.45.3/20. <i>R</i> .8  | 20/20/20              | 3.74 (95)             | 4.53 (115)            | 3.54 (090)                                | ≈ 0.585 (0.87)          |
| 4-segment<br>  | TH3.45.4/20. <i>R</i> .8* | 20/20/20/20           | 4.72 (120)            | 5.51 (140)            | 2.76 (090)                                | ≈ 0.618 (0.92)          |
| 5-segment<br>  | TH3.45.5/20. <i>R</i> .8* | 20/20/20/20/20        | 5.71 (145)            | 6.50 (165)            | 3.54 (090)                                | ≈ 0.659 (0.98)          |

\*Width available upon request. Delivery time upon request.

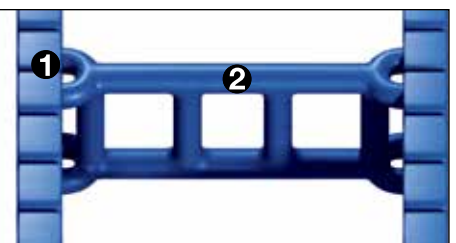
Complete Part No. with required radius (*R*). Example: TH3.45.3/20.090.8

## Interior separation segments series TH3.45 | Size overview



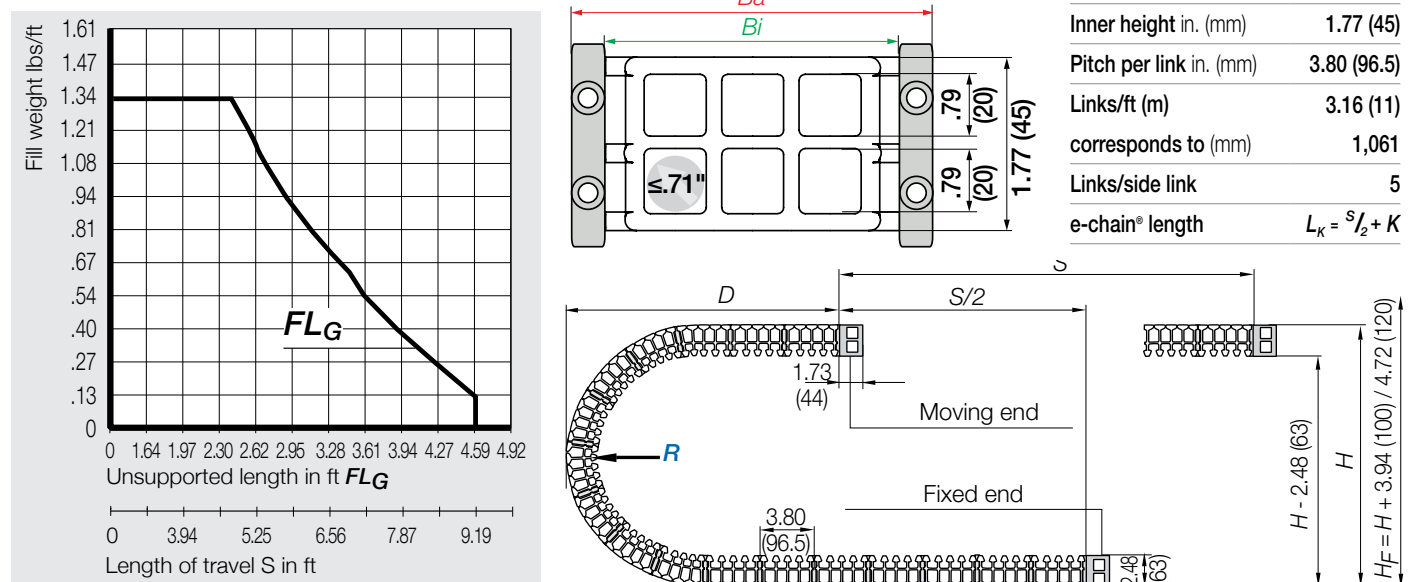
## TH3 - 3-piece hygienic design e-chain®

- The TH3 e-chain® consists of 3 parts, the two side parts ① and one interior separation segment each ②
- The interior separation segments connect the side parts of the e-chain®
- The segments are available in 4 different widths





## Unsupported applications | Short travels



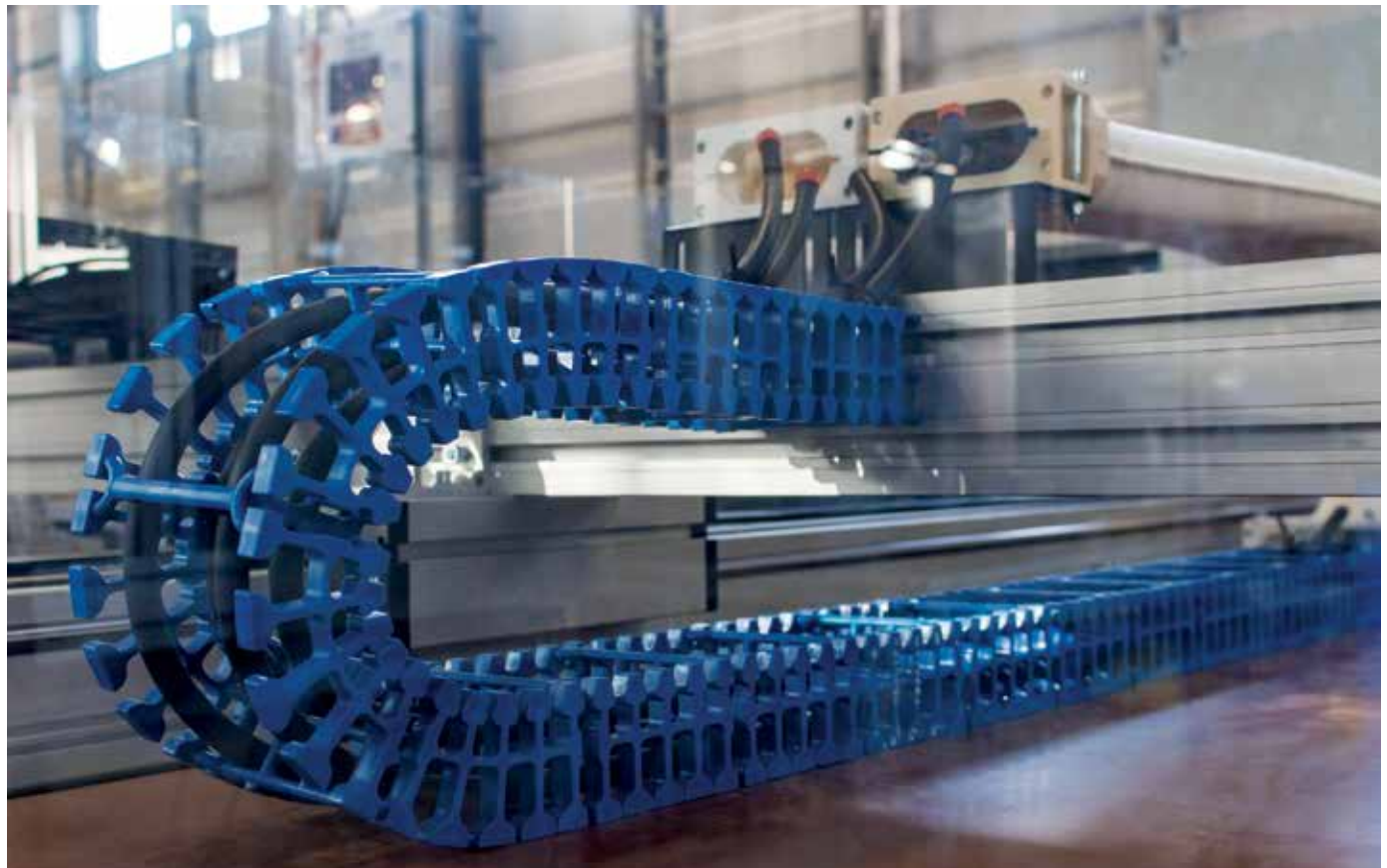
**R min.\*** 3.54 (090) **\*Note:** The bend radius depends on the length of the e-chain®. Smallest possible radius = 3.54" (90mm)

**H** 9.84 (250) Required clearance height  $H_F$  amounts to:

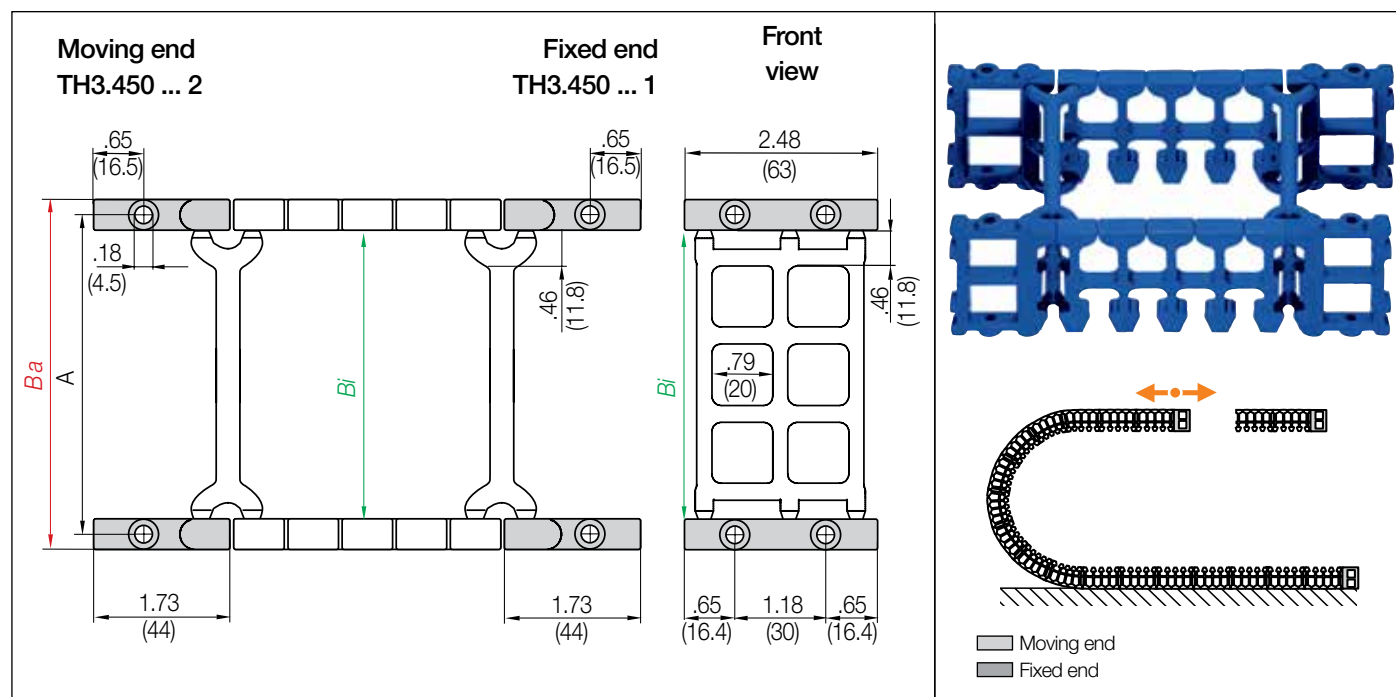
**D** 4.72 (120) Travel distance up to 11.81" (300mm) = 13.78" (350mm)

**K** 13.31 (338) Travel distance from 11.81" up to 39.4" (300 up to 1,000mm) = 14.57" (370mm)

The required clearance height:  $H_F = H + 3.94$  in. (100 mm) and accordingly  $H = 4.72$  in. (120mm) with .27 lbs/ft (0.4 kg/m) fill weight.



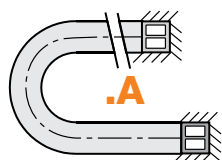
The TH3 series is suitable for applications with the highest hygienic requirements for safe cable and hose guidance



**FDA-compliant mounting brackets, locking**

| Width<br>index |   | Part No.<br>full set locking | A<br>in. (mm) | Bi<br>in. (mm) | Ba<br>in. (mm) |
|----------------|---|------------------------------|---------------|----------------|----------------|
| 2/20           | ▶ | TH3.450.2/20.12.8.A          | 3.15 (80)     | 2.76 (70)      | 3.54 (90)      |
| 3/20           | ▶ | TH3.450.3/20.12.8.A          | 4.13 (105)    | 3.74 (95)      | 4.53 (115)     |
| 4/20           | ▶ | TH3.450.4/20.12.8.A*         | 5.12 (130)    | 4.72 (120)     | 5.51 (140)     |
| 5/20           | ▶ | TH3.450.5/20.12.8.A*         | 6.10 (155)    | 5.71 (145)     | 6.50 (165)     |

\*Width available upon request. Please consult igus® for delivery time.



The bracket orientations are set automatically when using igus® mounting brackets.

**Note:** the TH3 series are always delivered with pre-fitted mounting brackets.

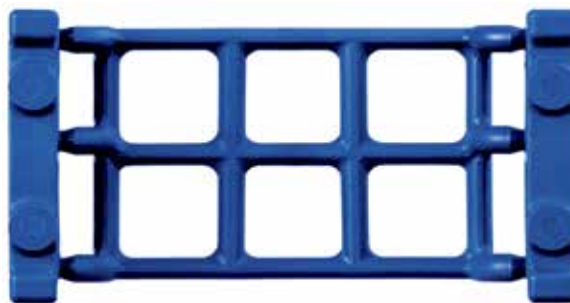
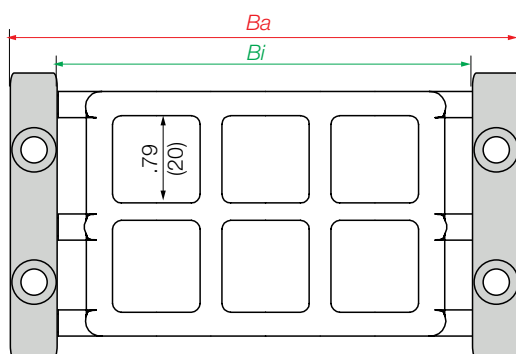
### TH3.450.3/20.12.8.A Order example

- Pre-assembled
- Colour, standard blue
- Full set
- Interior separation segment
- Series



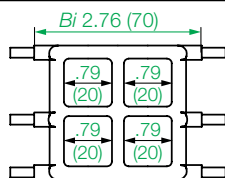
**Strain relief** e.g. clamps, tiwrap plates, nuggets and clips are available from stock. The complete chainfix range with ordering options ► From page 1418

## Interior separation segments

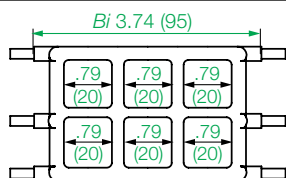


The TH3 interior separation segments are mounted on every 5th link of the e-chain®!

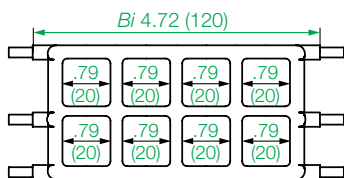
The diagrams show a TH3.45 interior separation segment with 3 chambers and fitted mounting bracket



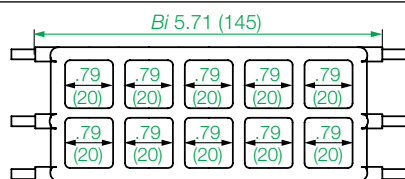
Interior separation  
segment with  
2 x 2 chambers



Interior separation  
segment with  
2 x 3 chambers



Interior separation  
segment with  
2 x 4 chambers



Interior separation  
segment with  
2 x 5 chambers