





YE

Plastic-steel hybrid e-chain®

Combine the best properties of steel and plastic



Advantages of the YE system:

- Up to 50% lighter than a pure steel chain of comparable size
- Up to 50% longer unsupported length than a comparable plastic e-chain®
- Also available as HD version for maximum strength in combination with high fill weights and extreme environments
- Easy installation
- High ease of movement due to plastic-steel pin connection, high tensile force absorption
- Tough steel mounting brackets
- Wide range of cable- and hose-friendly interior separation
- Available as ready-to-install readychain® system with cables, hoses and hydraulic components



When to use another e-chain® series:

- When pure plastic e-chains® are required
 - ▶ E4Q, page 588
- For travel lengths gliding
 - ▶ P4 / P4.1, page 1270
 - ▶ Rol e-chain®, page 1280



Combine the best properties of steel and plastic - YE hybrid e-chain®

50% stronger than pure plastic energy chains* and 50% lighter than pure steel energy chains*. No rivets, no screws. e-chains® links open quickly for easy cable replacement. Steel or plastic does not have to be an either-or decision. In order to reach the highest possible unsupported length with the lowest possible weight, so-called hybrid e-chains® are ideal, combining the best properties of steel and plastic.

- High tensile strength
- No screws, rivets or bolts which can become loose under vibration
- Easy installation of plastic outer links with flange for easy e-chain® link assembly
- Available as ready-to-install readychain® system with cables, hoses and hydraulic components
- Smooth operation due to plastic pin connection
- Wide range of interior separation elements
- 30% less energy consumption in production compared to steel chain

*Compared to plastic or steel energy chains of comparable sizes.

Typical industries and applications

- Cherry pickers
- Construction equipment
- Breakdown vehicles
- Lifting platforms
- Telescopic loaders
- Vertical lifts
- Articulated telescopic platforms
- Horizontal drilling rigs
- Articulated arm systems
- Drilling and diaphragm wall rigs
- Work platforms

Tough: steel mounting brackets with attachment options from any side

50% less weight: than a pure steel chain of comparable size, thanks to plastic outer links

Maximum strength: steel inner plates absorb the force of the fixed plastic outer link stop-dogs

50% longer unsupported length with more compact dimensions than a comparable plastic e-chain®

Fast assembly: plastic outer links with flange for easy assembly of e-chain® links

Smooth running: very smooth operation due to plastic pin connections

Fast filling: plastic crossbars removable along the inner and outer radius

YE·YEHD | Table of contents

Series	Inner height <i>hi</i> in. (mm)	Inner width <i>Bi</i> in. (mm)	Outer width <i>Ba</i> in. (mm)	Outer height <i>ha</i> in. (mm)	Bend radius <i>R</i> in. (mm)	Unsupported length ≤ ft. (m)
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Plastic-steel hybrid e-chains®

crossbars removable along the inner and outer radius

YE.42	1.65 (42)	3.94-15.75 (100* - 400)	4.65-16.46 (118-418)	2.99 (76)	3.94-5.91 (100-150)	**
YE.56	2.20 (56)	3.94-23.62 (100* - 600)	4.88-25.47 (124-624)	3.54 (90)	3.94-19.69 (100-500)	**



Heavy-duty: plastic-steel hybrid HD e-chains®

Crossbars removable along the inner and outer radius.

YEHD.108	4.25 (108)	15.41-21.65 (387-550)	17.13-23.54 (435-598)	5.75 (146)	9.84-23.62 (250-600)	**
YEHD.112	4.41 (112)	7.87-23.62 (200-600)	9.76-25.51 (248-648)	5.75 (146)	9.84-23.62 (250-600)	**



Heavy-duty: plastic-steel hybrid HD e-tubes

Lids removable along the inner and outer radius.

YRHD.108	4.25 (108)	7.87-19.69 (200-500)	9.76-21.57 (248-548)	5.75 (146)	9.84-23.62 (250-600)	**
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* Widths under *Bi* 100 available upon request. Here, an inspection and dimensioning via the igus® design is required in advance.

2) Radius *R* 125, 150 available upon request. Delivery time upon request.

**Unsupported lengths depending on the angle of inclination ► see corresponding graphs on the series pages



Available from stock. Ready to ship in 48 - 72hrs.*

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

Free YE white paper: energy supply systems for machines with inclined axes

- Read this white paper to learn about the benefits of the YE hybrid chain for aerial work platforms and other machinery and applications
 - Describes requirements for telescopic work platforms and cherry pickers
- Download whitepaper ► www.igus.com/YE

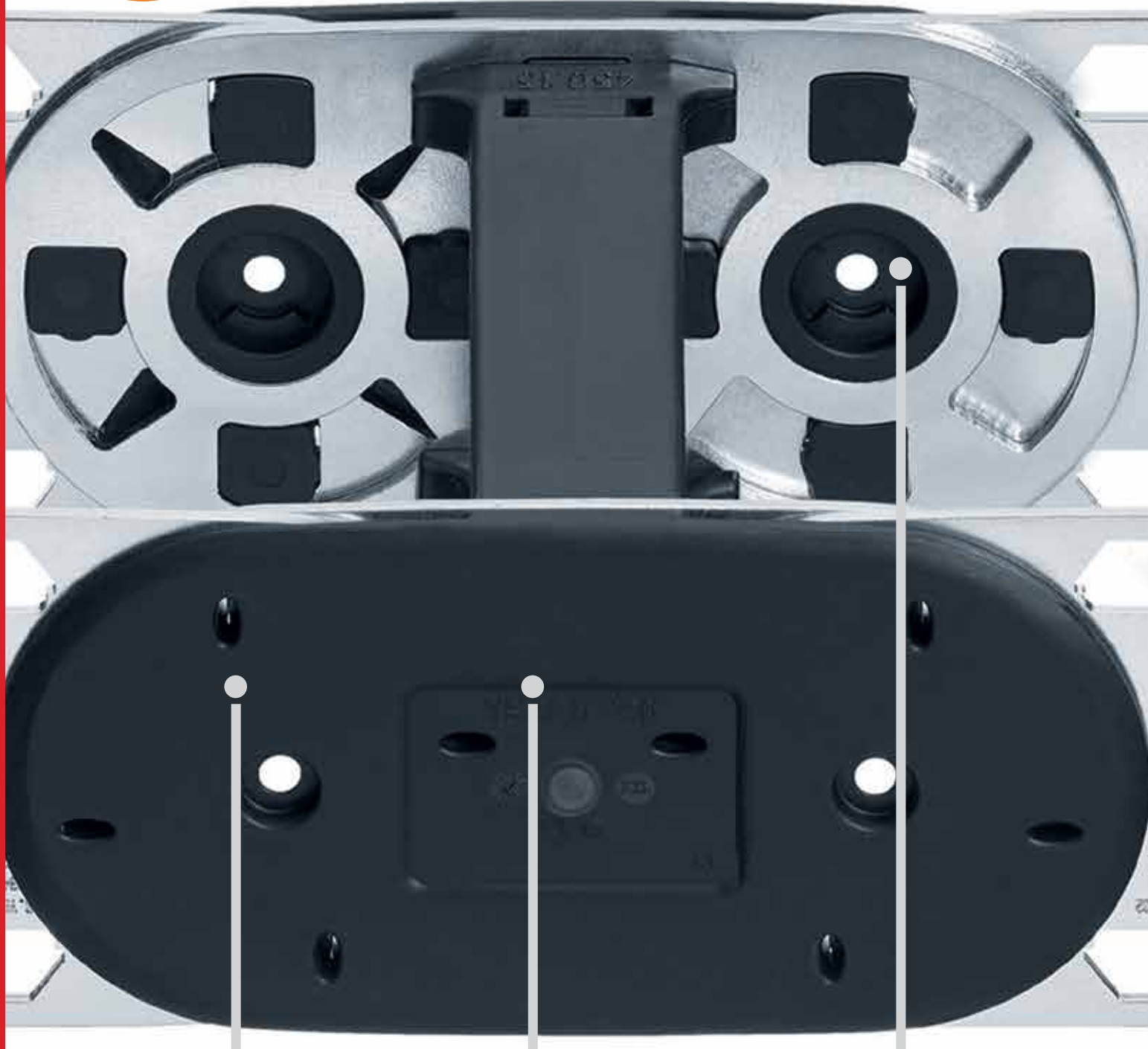


YE | Plastic-steel hybrid e-chains® | Design Principle



Plastic outer links

The plastic outer links of the YE system are made of glass fiber reinforced igumid G. Large pins result in a high tensile force. Due to rotation around the plastic pins, the e-chain® is very smooth in operation. A single outer link is necessary for the entire product range. This increases the flexibility and quick availability of various bending radii. The undercut design of the stop-dogs lock the steel links under load.



Up to 50% less weight than a pure steel chain of comparable size, thanks to plastic outer links and plastic crossbars

Significantly lower assembly costs - e-chain® links can be assembled individually

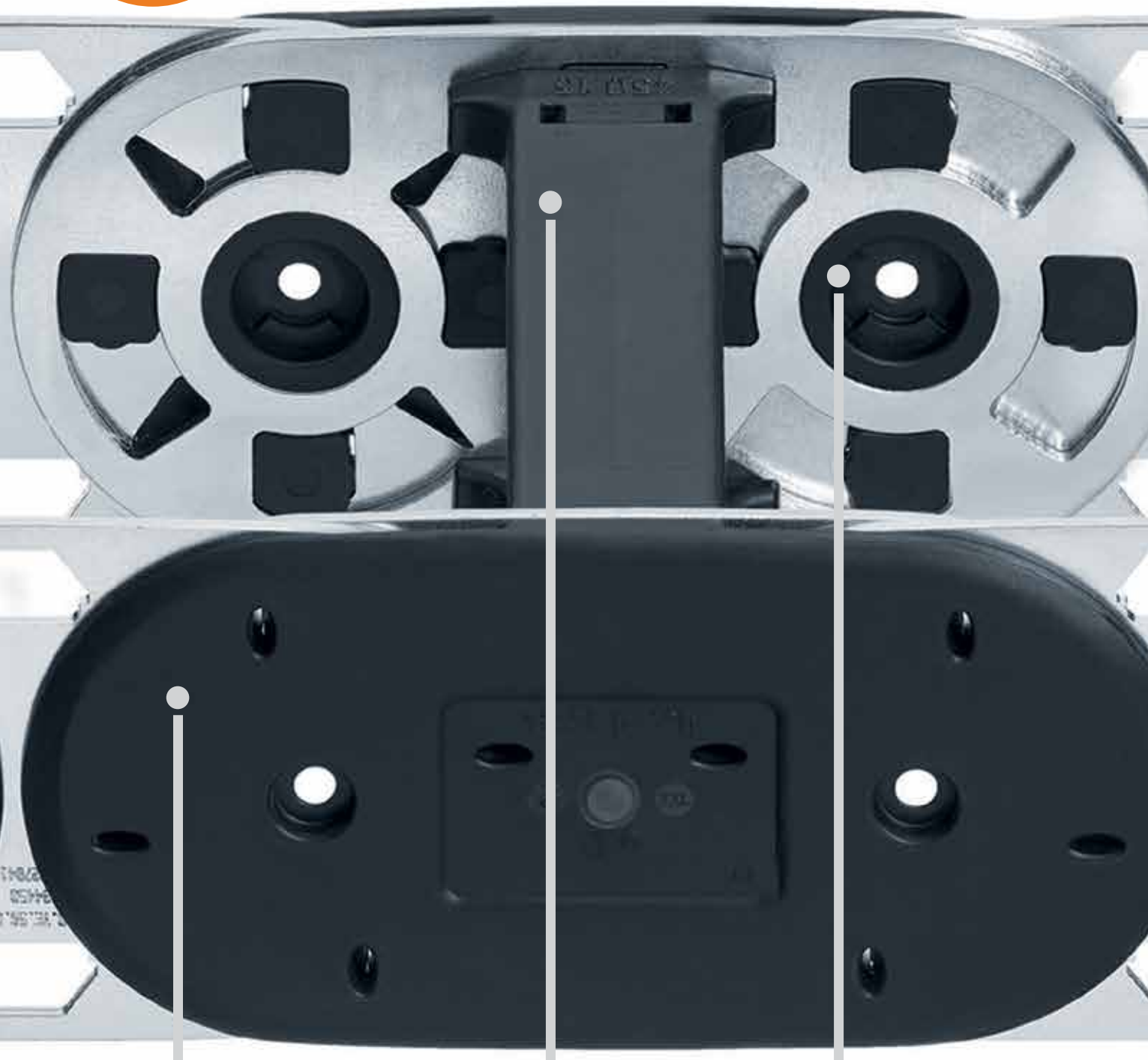
High ease of movement due to plastic pin connections, high tensile force absorption

YE | Plastic-steel hybrid e-chains® | Design Principle



Steel inner links

The min. 2.5mm thick steel inner plates have recesses for the stop-dogs of the igumid G outer links. The YE system is designed in such a way that when loaded, force is exerted on the fixed stops from both sides through the steel links. This allows a higher load on the stop-dogs.



Up to 50% longer unsupported length than a comparable plastic e-chain®

Strong notched crossbars with visible scale and double locking mechanism

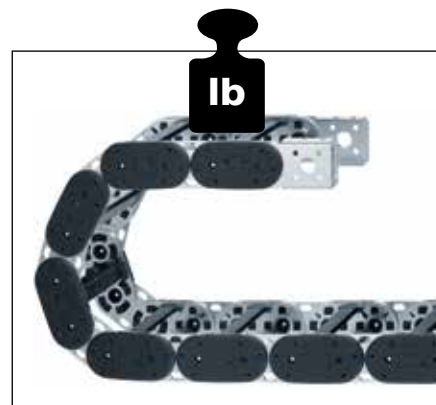
No screws, rivets or bolts that can become loose under vibration (for YE series)



Plastic outer links - high tensile force absorption using plastic pins. Plastic outer links provide 50% less weight, quick installation and smooth running



Steel inner plates absorb the force of the stop-dogs of the plastic outer links and increase the stability by 50%



Strong and vibration-resistant - for heavy loads with compact dimensions and low weight. Advantage for work platforms: each saved gram increases the payload



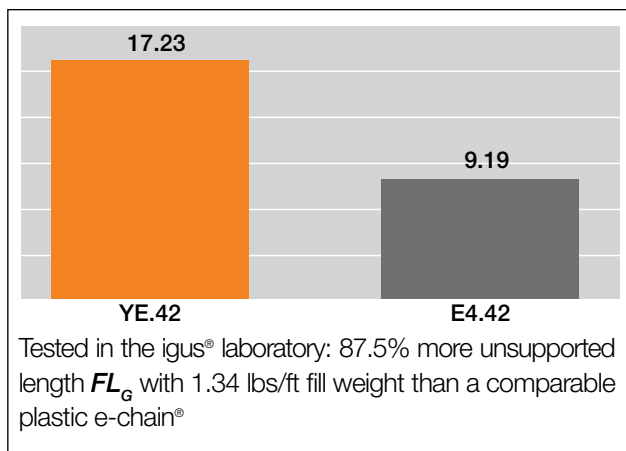
Variable widths - 3.94" to 23.62" (100 to 600mm) inner width available. Crossbars openable and removable along the inner and outer radius



Standard interior separation from the proven E4 modular system available from stock



Tough steel mounting brackets



Test - unsupported length of the igus® YE.42 series

In a comparison test in its test laboratory, which is the largest in the industry, igus® compared the YE.42 and E4.42 series with each other. The two series were evaluated with regard to their unsupported length (with straight upper run) with a 1.34 lbs/ft (2kg/m) fill weight.

Result: With a fill weight of 1.34 lbs/ft, the YE.42 series can travel unsupported for a distance of up to 17.23 ft but the E4.42 can only achieve 9.19 ft. This corresponds to an 87.5% longer unsupported length (with straight upper run) with a 1.34 lbs/ft fill weight for the YE.42 series compared to the E4.42 series.

Why plastic-steel hybrid e-chain® ...

Standard steel energy chains in access platforms vs. igus® YE hybrid e-chains®

 Standard steel chain	 igus® YE plastic-steel hybrid e-chains®
Frequently observed problems with pure steel energy supply systems:	The problem solution:
● Screws, bolts and circlips can be lost over time and make the whole system unstable	● No screws or rivets connecting the e-chains®
● e-chain® links of steel chains are non-openable and cannot be partially replaced	● e-chains® links are openable. If required, cables can be added or removed.
● Corrosion at the joints, resulting in stiffness of the entire energy supply	● Plastic-metal joints prevent seizure of the e-chain® links through corrosion
● Deformation of the crossbars leading to seizure/ twisting of the energy chain. Sharp edges can also damage the cables and hoses	● Plastic crossbars do not permanently deform. In addition, they can be replaced individually in the event of a defect. Rounded crossbars protect the cables and hoses
● Heavy, because of the metal energy supply system	● Up to 50% lighter hybrid energy chain
● Standard steel chains often have a rather loose design, which can lead to strong vibration of the steel chain	● The combination of high-performance plastic and steel prevents the e-chain® from vibrating and thus contributes to a longer service life



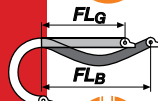
Standard steel chains with their associated problems are a thing of the past with igus® YE plastic-steel hybrid e-chains®

Technical data



Speed FL_G / acceleration FL_G

$\leq 3.28 \text{ ft/s (1 m/s) } / \leq 3.28 \text{ ft/s}^2 (1 \text{ m/s}^2)$



Speed FL_B / acceleration FL_B

$\leq 3.28 \text{ ft. (1 m/s) } / \leq 3.28 \text{ ft/s}^2 (1 \text{ m/s}^2)$



Material - permitted temperature °F, igumid G

-40°F (-40°C) / +248°F (+120°C)



Flammability class, igumid G

VDE 0304 IIC UL94-HB

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

*Temperature data and flammability class refer to the plastic outer links made of igumid G

Order example | Examples based on series YE.26



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: 3.28 ft. (1m) or 11 links **YE.56.15.200.0**

+ Mounting brackets 1 full set (odd number of links), pre-assembled moving and pivoting, fixed end locking **YE.562.R100.1.12.A**

Interior separation with 2 separators assembled every 2nd link **2 x 56.1.1**

Order text: 9.84 ft (3m) YE.56.15.200.0 + YE.562.R200.1.12.A + 2 x 56.1.1

Order key and color examples | Examples based on series YE.56



Order key

Plastic-steel hybrid e-chains®

YE.56.15.200.0

Series / Type
Inner height
Width index (depends on **B**)
Bend radius **R**
Color index (standard black)



Cherry pickers, construction machinery and lifting platforms have an identical challenge to face: a safe and compact guidance of the cables and hoses. For those applications that require special high unsupported lengths at different angles of elevation, igus® has developed the plastic-steel hybrid e-chain® YE



The igus® YE system is ideal for construction machinery and lifting platforms - no screws, rivets or bolts that can come loose under vibration. In addition, the YE system is easy to open and close



Conversion of a lift platform with igus® YE.42 hybrid e-chain®. Find a video online

► www.igus.com/YE

The first modular plastic-steel hybrid e-chain® made of steel and plastic from igus® easily manages long, unsupported travels, quick and easy to open and close. Safe guidance of cables and hoses - the YE system is 50% lighter than conventional steel chains due to its high-performance polymers and provides up to 50% longer unsupported length than plastic e-chains®

Plastic-steel hybrid e-chains®



e-chains® | Series YE.42 | Crossbars removable along the inner and outer radius
 e-tubes | Series YR.42 | Lids openable along the inner and outer radius

Part No.		Bi	Ba	YE.42	YR.42
e-chains./e-tubes		in. (mm)	in. (mm)	lbs/ft(kg/m)	lbs/ft(kg/m)
YE.42.*	05. R.0	1.97 (50)	2.68 (68)	≈ 2.701 (4.020)	
YE.42.*	06. R.0	2.68 (68)	3.39 (86)	≈ 2.733 (4.067)	
YE.42.*	07. R.0	2.95 (75)	3.66 (93)	≈ 2.745 (4.085)	
YE.42.*	087. R.0	3.43 (87)	4.13 (105)	≈ 2.766 (4.116)	
YE.42. YR.42. 10.	R.0	3.94 (100)	4.65 (118)	≈ 2.789 (4.150)	≈ 3.29 (4.89)
YE.42. YR.42. 11.	R.0	4.25 (108)	4.96 (126)	≈ 2.803 (4.171)	≈ 3.32 (4.94)
YE.42.	112. R.0	4.41 (112)	5.12 (130)	≈ 2.810 (4.181)	
YE.42. YR.42. 12.	R.0	4.92 (125)	5.63 (143)	≈ 2.832 (4.215)	≈ 3.43 (5.10)
YE.42.	137. R.0	5.39 (137)	6.10 (155)	≈ 2.853 (4.246)	
YE.42. YR.42. 15.	R.0	5.91 (150)	6.61 (168)	≈ 2.876 (4.280)	≈ 3.59 (5.34)
YE.42.	162. R.0	6.38 (162)	7.09 (180)	≈ 2.897 (4.311)	
YE.42. YR.42. 17.	R.0	6.61 (168)	7.32 (186)	≈ 2.908 (4.327)	≈ 3.72 (5.53)
YE.42.	18. R.0	6.89 (175)	7.60 (193)	≈ 2.920 (4.345)	
YE.42.	187. R.0	7.36 (187)	8.07 (205)	≈ 2.941 (4.376)	
YE.42. YR.42. 20.	R.0	7.87 (200)	8.58 (218)	≈ 2.963 (4.410)	≈ 3.92 (5.83)
YE.42.	212. R.0	8.35 (212)	9.06 (230)	≈ 2.984 (4.441)	

Complete Part No. with required radius (R). Example: YE.42.10.100.0

Available bend radii

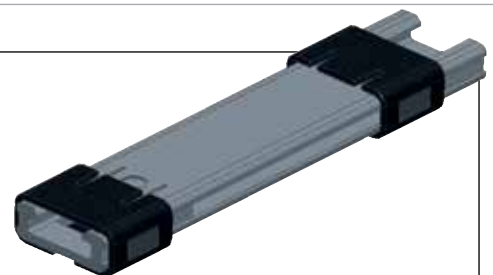
R in. (mm) | 3.94 (100)** | 4.92 (125) | 5.91 (150) |

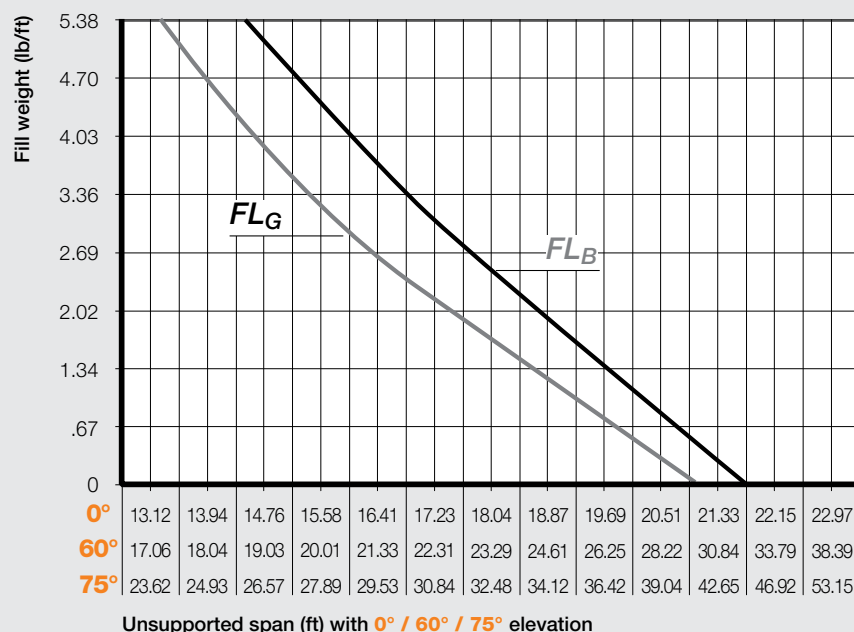
* Widths under Bi 100 available upon request. Here, an inspection and dimensioning via the igus® design is required in advance.

** YR tubes are not available in the 100mm bend radius

Lock the crossbars in place with 385.LOCK

- The 385.LOCK latches the crossbar and locks it securely
 - It is simply placed on the crossbar and pushed over the flange
- More information ► upon request

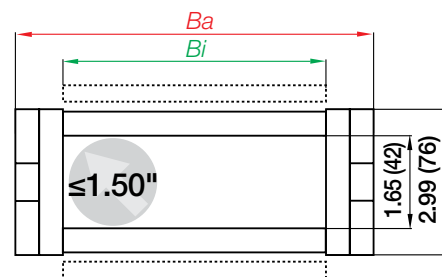
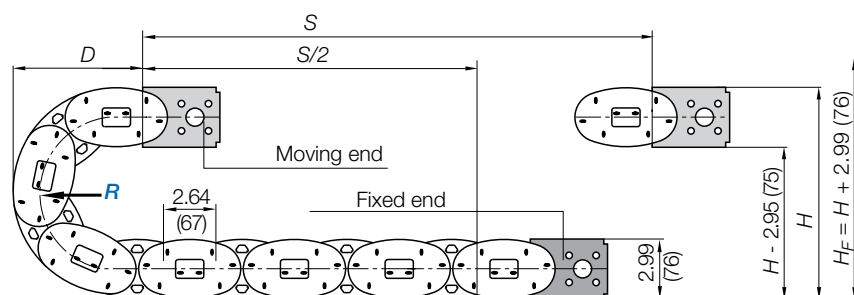




Unsupported lengths [m]
with 0° / 60° / 75° elevation
with 0° / 60° / 75° elevation

FL_G = unsupported with straight upper run

FL_B = unsupported with permitted sag



R 3.94 (100)* 4.92 (125) 5.91 (150)

H 13.86 (352) 15.83 (402) 17.80 (452)

D 9.39 (238.5) 10.37 (263.5) 13.33 (338.5)

K 17.64 (448) 20.87 (530) 24.02 (610)

The required clearance height: $H_F = H + 2.99$ in. (76 mm) with 1.68 lbs/ft (2.5 kg/m) fill weight.

*Radius not available for e-tubes. More radii available upon request.

Inner height in. (mm) 1.64 (42)

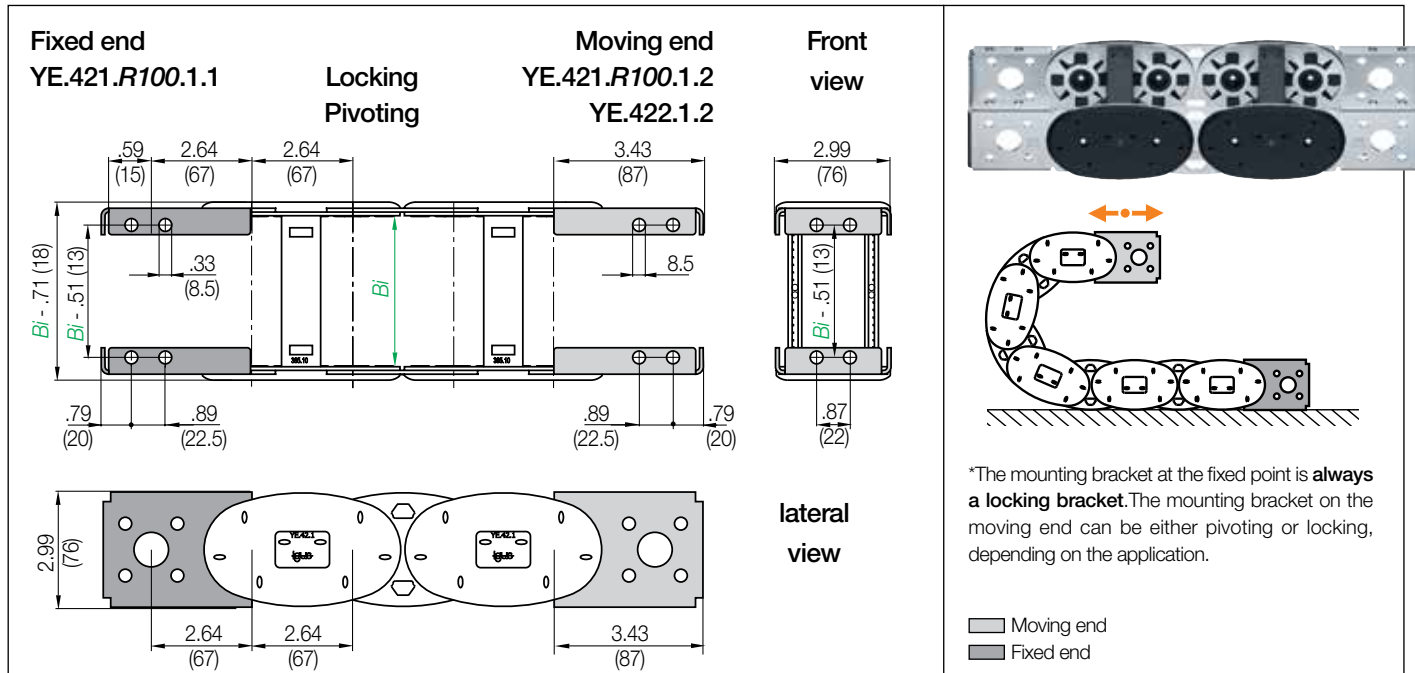
Pitch per link in. (mm) 2.64 (67)

Links/ft (m) 4.45 (15)

corresponds to (mm) 1,005

e-chain® length $L_K = \frac{S}{2} + K$

Steel mounting brackets | Locking | Pivoting



Pivoting | Recommended for unsupported applications

Locking | Recommended for standing/vertical hanging applications

Part No. full set for moving end pivoting, fixed end* locking	Part No. full set for moving end locking, fixed end* locking	Description Full set (both ends)
YE.422.R100.1.12.A	YE.421.R100.1.12.A	e-chains® always start and end with outer links, pre-assembled

Complete Part No. with required radius (R). Example: YE.422.R100.1.12.A

Available bend radii

R in. (mm) | 3.94 (100)** | 4.92 (125) | 5.91 (150) |

Steel mounting brackets as individual parts

Part number mounting bracket only fixed end*, steel fixed version	Part number mounting bracket only moving end, steel fixed version	Part number mounting bracket only moving end, steel pivoting
YE.421.R100.1.1.A	YE.421.R100.1.2.A	YE.422.1.2.A

Complete Part No. with required radius (R). Example: YE.421.R100.1.2.A

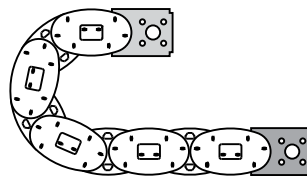
Available bend radii

R in. (mm) | 3.94 (100)** | 4.92 (125) | 5.91 (150) |

YE.422.R100.1.12.A Order example

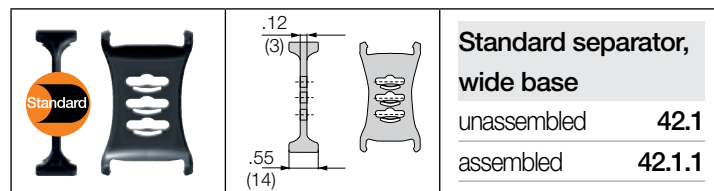
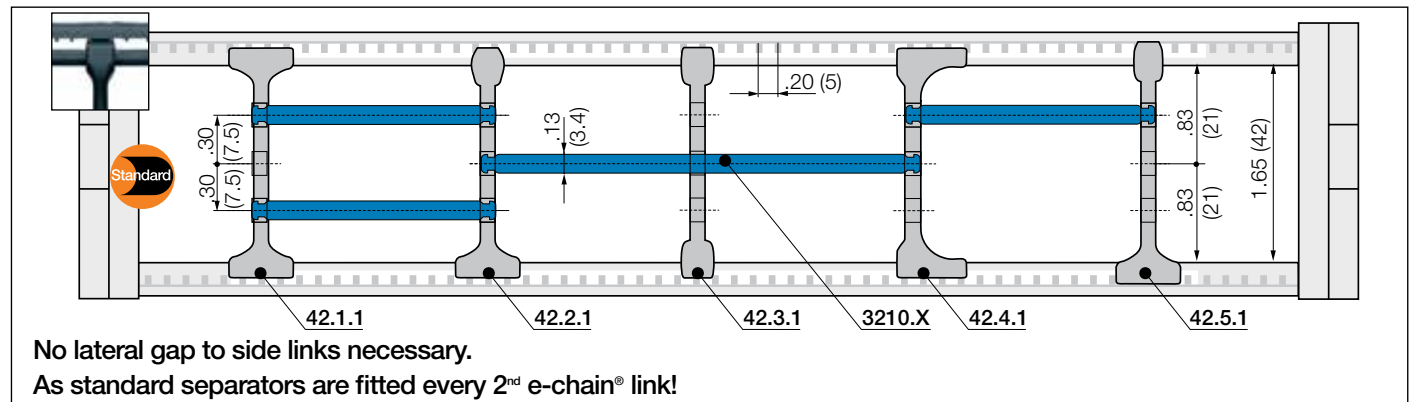
Pre-assembled
Full set
Odd numbers of links
Index radius
Moving end pivoting, fixed end* locking
Series

Note: The YE plastic-steel hybrid e-chains® always end with outer links (odd number of links). The mounting brackets at the moving end and fixed end always form the end of the e-chain® and are inner links.



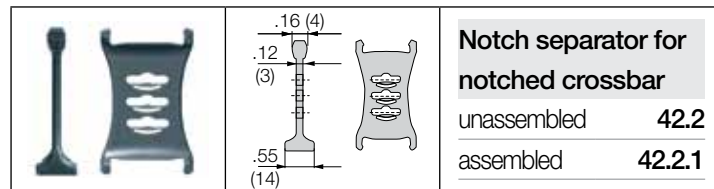
Strain relief e.g. clamps, tiewrap plates, nuggets and clips are available from stock.
The complete chainfix range with ordering options ► From page 1418

Interior separation | Increase cable service life



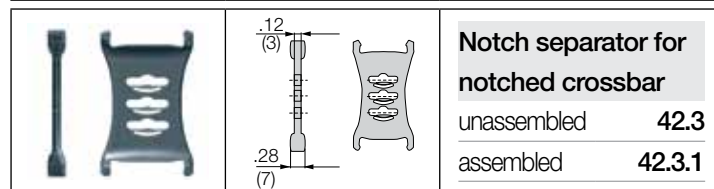
Standard - for any application

Separator with a wide base for maximum holding force.



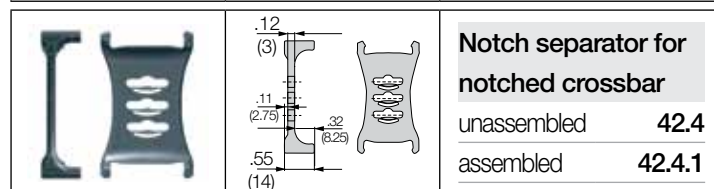
For even faster installation

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



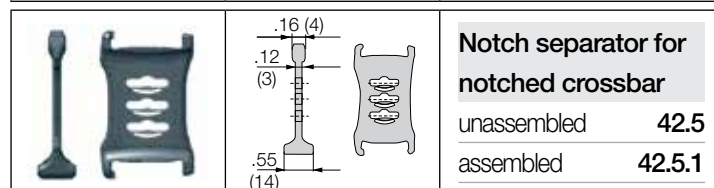
For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



For side-mounted applications

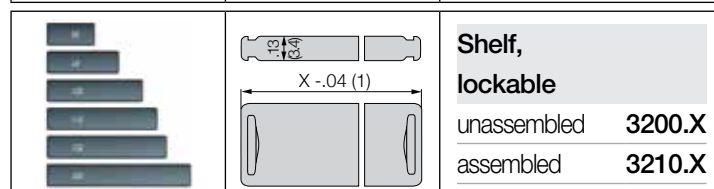
Asymmetrical separator, for defined gap distance. No additional spacers required.



Locks securely in preset increments

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

(*Suitable from **Bi 75**)



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.

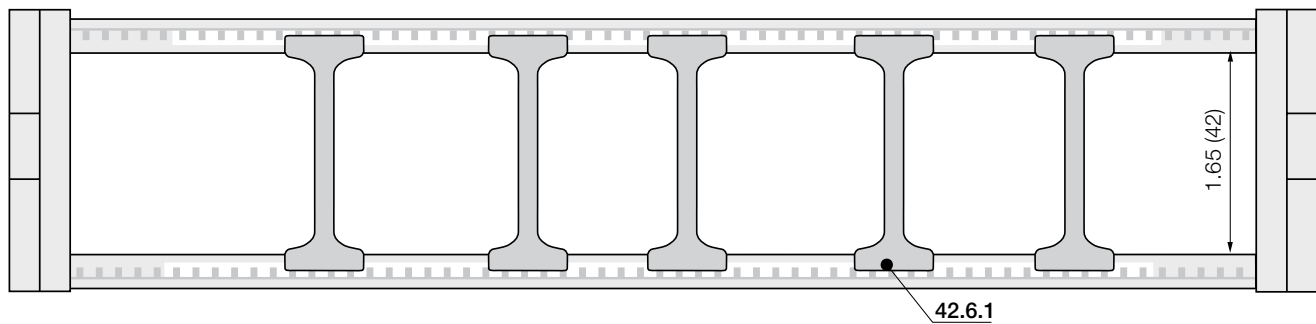
Shelves

Width = X in. (mm)

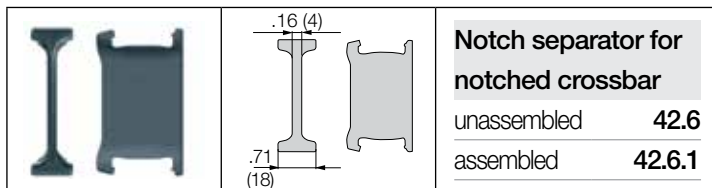


X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled
1.97 (050)	3200.050	3210.050	4.92 (125)	3200.125	3210.125	8.86 (225)	3200.225	3210.225
2.95 (075)	3200.075	3210.075	5.91 (150)	3200.150	3210.150	9.84 (250)	3200.250	3210.250
3.94 (100)	3200.100	3210.100	6.89 (175)	3200.175	3210.175			
4.53 (115)	3200.115	3210.115	7.87 (200)	3200.200	3210.200			

Interior separation | To allow higher holding force



No lateral gap to side links necessary.
As standard separators are fitted every 2nd e-chain® link!



Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Here is a tip from the chainflex® cable world:

Fail-safe cables

- 1,354 cable types - all tested
- With up to 4 year guarantee
- Calculate service life easily online

More information ► www.igus.com/chainflex



Reduce assembly time - E4 e-chain® opener

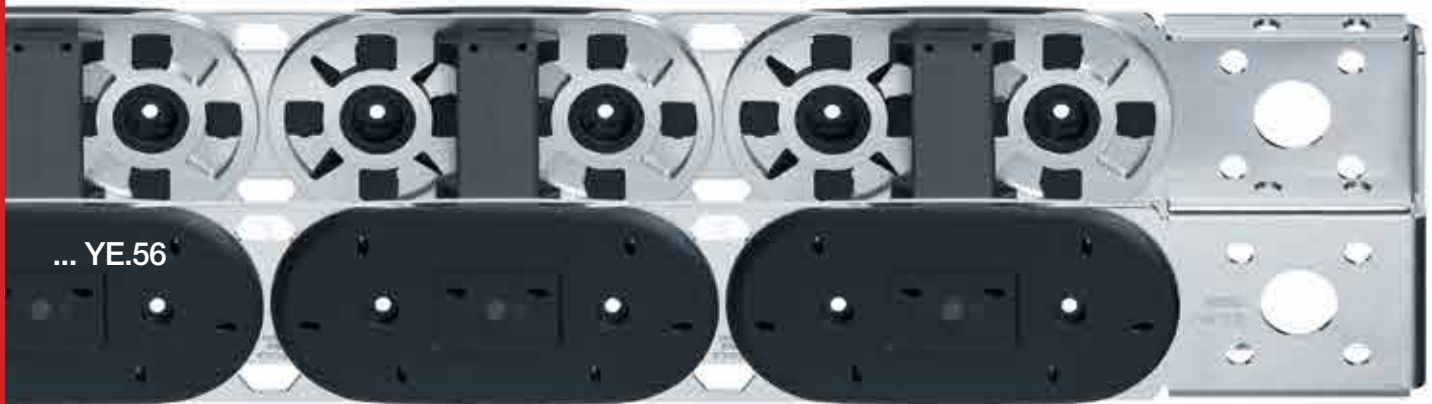
- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ► www.igus.com/E4savetime



Narrow installation spaces, large unsupported lengths and lightweight: e-chains® and chainflex® cables are the ideal "cast" for the demanding part of energy supply for diagonal and telescopic applications

Plastic-steel hybrid e-chains®



e-chains® | Series YE.56 | Crossbars removable along the inner and outer radius
 e-tubes | Series YR.56 | Lids openable along the inner and outer radius

Part No.		<i>Bi</i>	<i>Ba</i>	YE.56.	YR.56.
e-chains®/e-tubes		in. (mm)	in. (mm)	lbs/ft (kg/m)	lbs/ft (kg/m)
YE.56.*	05. <i>R.0*</i>	1.97 (50)	2.91 (74)	≈ 4.304 (6.405)	
YE.56.*	06. <i>R.0*</i>	2.56 (65)	3.50 (89)	≈ 4.338 (6.455)	
YE.56.*	07. <i>R.0*</i>	2.95 (75)	3.90 (99)	≈ 4.360 (6.489)	
YE.56.*	08. <i>R.0*</i>	3.43 (87)	4.37 (111)	≈ 4.388 (6.530)	
YE.56. YR.56.	10. <i>R.0</i>	3.94 (100)	4.88 (124)	≈ 4.418 (6.574)	≈ 5.19 (7.73)
YE.56.	11. <i>R.0</i>	4.41 (112)	5.35 (136)	≈ 4.444 (6.614)	
YE.56. YR.56.	12. <i>R.0</i>	4.92 (125)	5.87 (149)	≈ 4.474 (6.658)	≈ 5.48 (8.16)
YE.56.	13. <i>R.0</i>	5.39 (137)	6.34 (161)	≈ 4.501 (6.698)	
YE.56. YR.56.	15. <i>R.0</i>	5.91 (150)	6.85 (174)	≈ 4.530 (6.742)	≈ 5.77 (8.58)
YE.56.	16. <i>R.0</i>	6.38 (162)	7.32 (186)	≈ 4.586 (6.824)	
YE.56.	169. <i>R.0</i>	6.69 (170)	7.64 (194)	≈ 4.605 (6.853)	
YE.56. YR.56.	17. <i>R.0</i>	6.89 (175)	7.83 (199)	≈ 4.617 (6.871)	≈ 5.93 (8.82)
YE.56.	182. <i>R.0</i>	7.20 (183)	8.15 (207)	≈ 4.637 (6.901)	
YE.56.	18. <i>R.0</i>	7.36 (187)	8.31 (211)	≈ 4.647 (6.915)	
YE.56. YR.56.	20. <i>R.0</i>	7.87 (200)	8.82 (224)	≈ 4.678 (6.962)	≈ 96.16 (9.16)
YE.56.	207. <i>R.0</i>	8.19 (208)	9.13 (232)	≈ 4.706 (7.004)	
YE.56.	21. <i>R.0</i>	8.35 (212)	9.29 (236)	≈ 4.717 (7.019)	
YE.56.	22. <i>R.0</i>	8.86 (225)	9.80 (249)	≈ 4.749 (7.067)	
YE.56.	23. <i>R.0</i>	9.33 (237)	10.28 (261)	≈ 4.778 (7.111)	
YE.56. YR.56.	25. <i>R.0</i>	9.84 (250)	10.79 (274)	≈ 4.811 (7.159)	≈ 6.65 (9.89)
YE.56.	26. <i>R.0</i>	10.31 (262)	11.26 (286)	≈ 4.840 (7.203)	
YE.56. YR.56.	27. <i>R.0</i>	10.83 (275)	11.77 (299)	≈ 4.872 (7.251)	≈ 6.89 (10.26)
YE.56.	28. <i>R.0</i>	11.30 (287)	12.24 (311)	≈ 4.903 (7.296)	

Part No.		<i>Bi</i>	<i>Ba</i>	YE.56.	YR.56.
e-chains®/e-tubes		in. (mm)	in. (mm)	lbs/ft (kg/m)	lbs/ft (kg/m)
YE.56. YR.56.	30. <i>R.0</i>	11.81 (300)	12.76 (324)	≈ 4.935 (7.344)	≈ 7.10 (10.57)
YE.56.	31. <i>R.0</i>	12.28 (312)	13.23 (336)	≈ 4.965 (7.388)	
YE.56.	32. <i>R.0</i>	12.80 (325)	13.74 (349)	≈ 4.997 (7.436)	
YE.56.	33. <i>R.0</i>	13.27 (337)	14.21 (361)	≈ 5.026 (7.480)	
YE.56. YR.56.	35. <i>R.0</i>	13.78 (350)	14.72 (374)	≈ 5.059 (7.528)	≈ 7.62 (11.34)
YE.56.	36. <i>R.0</i>	14.25 (362)	15.20 (386)	≈ 5.116 (7.614)	
YE.56.	37. <i>R.0</i>	14.76 (375)	15.71 (399)	≈ 5.149 (7.663)	
YE.56.	38. <i>R.0</i>	15.24 (387)	16.18 (411)	≈ 5.180 (7.709)	
YE.56. YR.56.	40. <i>R.0</i>	15.75 (400)	16.69 (424)	≈ 5.214 (7.759)	≈ 8.16 (12.15)
YE.56.	41. <i>R.0</i>	16.22 (412)	17.17 (436)	≈ 5.244 (7.804)	
YE.56.	42. <i>R.0</i>	16.73 (425)	17.68 (449)	≈ 5.278 (7.854)	
YE.56.	43. <i>R.0</i>	17.20 (437)	18.15 (461)	≈ 5.308 (7.899)	
YE.56.	45. <i>R.0</i>	17.72 (450)	18.66 (474)	≈ 5.341 (7.949)	
YE.56. YR.56.	46. <i>R.0</i>	18.19 (462)	19.13 (486)	≈ 5.372 (7.995)	≈ 8.65 (12.87)
YE.56.	47. <i>R.0</i>	18.70 (475)	19.65 (499)	≈ 5.405 (8.044)	
YE.56.	48. <i>R.0</i>	19.17 (487)	20.12 (511)	≈ 5.436 (8.090)	
YE.56.	50. <i>R.0</i>	19.69 (500)	20.63 (524)	≈ 5.469 (8.139)	
YE.56.	51. <i>R.0</i>	20.16 (512)	21.10 (536)	≈ 5.509 (8.198)	
YE.56.	52. <i>R.0</i>	20.67 (525)	21.61 (549)	≈ 5.542 (8.248)	
YE.56.	53. <i>R.0</i>	21.14 (537)	22.09 (561)	≈ 5.573 (8.294)	
YE.56.	55. <i>R.0</i>	21.65 (550)	22.60 (574)	≈ 5.607 (8.344)	
YE.56.	60. <i>R.0</i>	23.62 (600)	24.57 (624)	≈ 5.735 (8.535)	

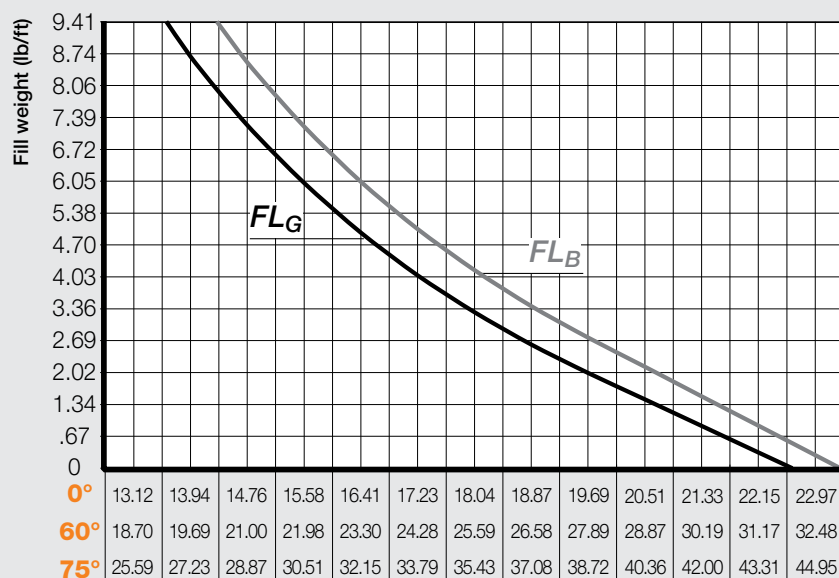
Complete Part No. with required radius (*R*). Example: **YE.56.15.200.0**

Available bend radii

R in. (mm) | 3.94 (100)** | 4.92 (125)** | 5.91 (150) | 7.87 (200) | 9.84 (250) | 11.81 (300) | 13.78 (350) | 15.75 (400) | 19.69 (500) |

* Widths under *Bi* 100 available upon request. Here, an inspection and dimensioning via the igus® design is required in advance.

** YR tubes are not available in the 100mm and 125mm bend radius

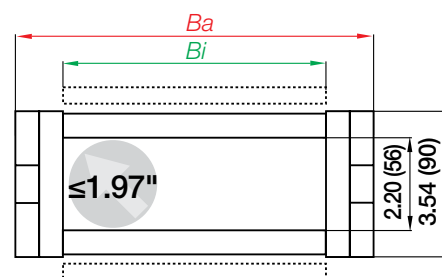
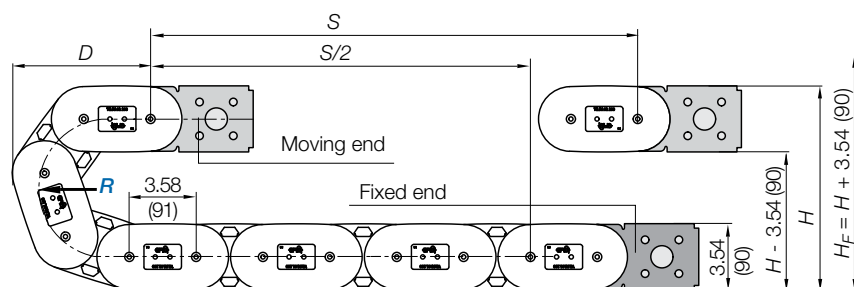


Unsupported span (ft) with 0° / 60° / 75°

Unsupported lengths [ft]
with 0° / 60° / 75° elevation

FL_G = unsupported with straight upper run

FL_B = unsupported with permitted sag

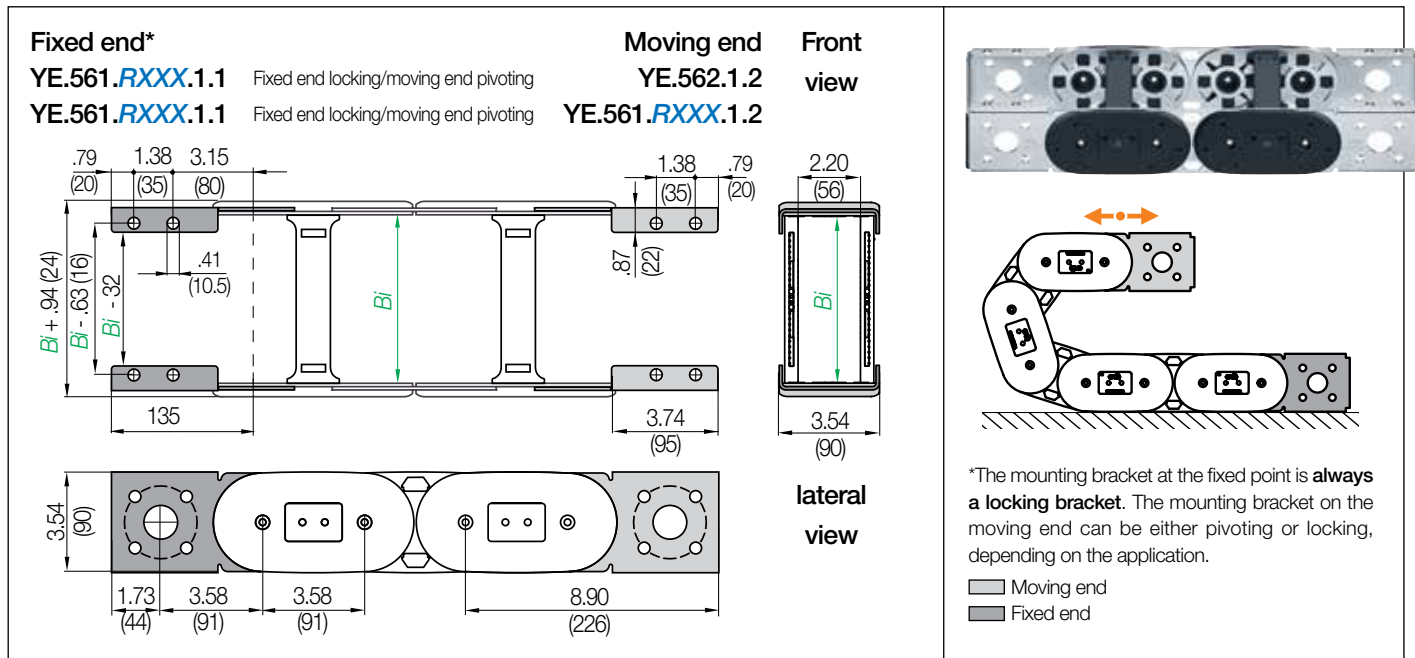


R	3.94 (100)*	4.92 (125)*	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)	19.69 (500)
H	14.96 (380)	16.93 (430)	18.90 (480)	22.83 (580)	26.77 (680)	30.71 (780)	34.65 (880)	38.58 (980)	46.46 (1180)
D	11.08 (281.5)	12.07 (306.5)	13.05 (331.5)	15.02 (381.5)	16.99 (431.5)	18.96 (481.5)	20.93 (531.5)	22.89 (581.5)	26.83 (681.5)
K	19.69 (500)	22.64 (575)	25.79 (655)	32.09 (815)	38.19 (970)	44.29 (1125)	50.59 (1285)	56.69 (1440)	69.09 (1755)

The required clearance height: $H_F = H + 3.54$ in. (90 mm) with 2.02 lbs/ft (3.0 kg/m) fill weight.

More radii available upon request.

Inner height in. (mm)	2.20 (56)
Pitch per link in. (mm)	3.58 (91)
Links/ft (m)	3.35 (11)
corresponds to (mm)	1,001
e-chain® length	$L_K = \frac{S}{2} + K$



Pivoting
Locking

Recommended for unsupported applications
Recommended for standing/vertical hanging applications

Part No. full set for moving end pivoting, fixed end* locking	Part No. full set for moving end locking, fixed end* locking	Description Full set (both ends)
YE.562.RXXX.1.12.A	YE.561.RXXX.1.12.A	e-chains® always start and end with outer links, pre-assembled

Complete Part No. with required radius (R). Example: YE.562.R100.1.12.A

Available bend radii

R in. (mm) | 3.94 (100)** | 4.92 (125)** | 5.91 (150) | 7.87 (200) | 9.84 (250) | 11.81 (300) | 13.78 (350) | 15.75 (400) | 19.69 (500) |

Steel mounting brackets as individual parts

Part number mounting bracket only fixed end*, steel fixed version	Part number mounting bracket only moving end, steel fixed version	Part number mounting bracket only moving end, steel pivoting
YE.561.RXXX.1.1.A	YE.561.RXXX.1.2.A	YE.562.RXXX.1.2.A

Complete Part No. with required radius (R). Example: YE.561.R200.1.2.A

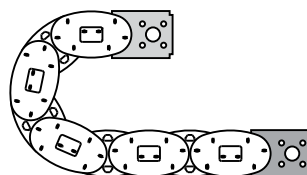
Available bend radii

R in. (mm) | 3.94 (100)** | 4.92 (125)** | 5.91 (150) | 7.87 (200) | 9.84 (250) | 11.81 (300) | 13.78 (350) | 15.75 (400) | 19.69 (500) |

YE.562.R200.1.12.A Order example

Pre-assembled
Full set
Odd numbers of links
Index radius
Moving end pivoting, fixed end* locking
Series

Note: The YE plastic-steel hybrid e-chains® always end with outer links (odd number of links). The mounting brackets at the moving end and fixed end always form the end of the e-chain® and are inner links.

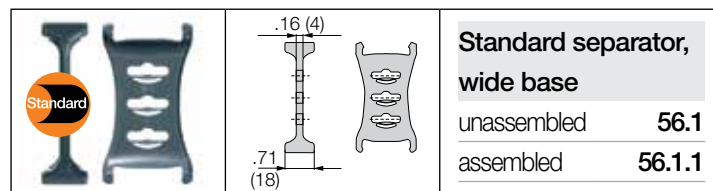
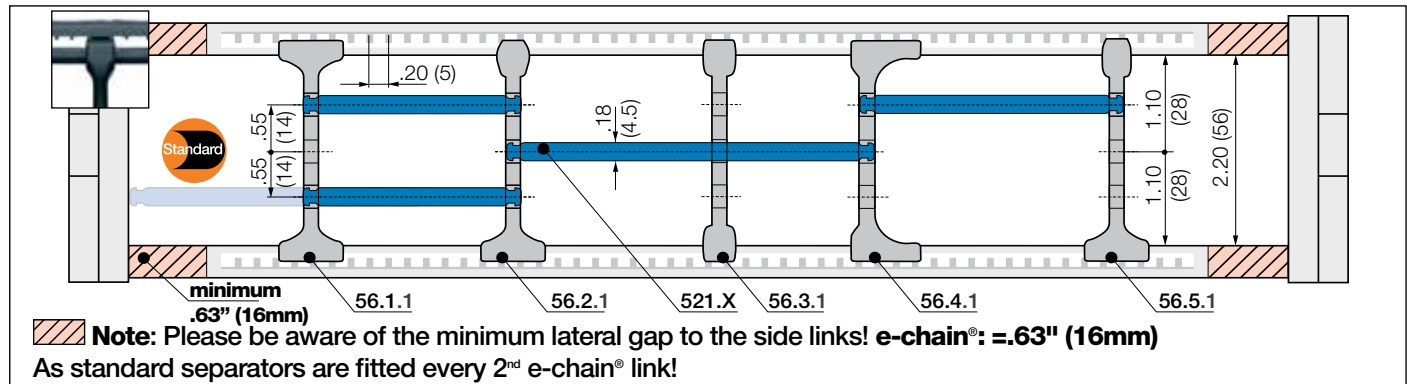


Strain relief e.g. clamps, tie-wrap plates, nuggets and clips are available from stock.

The complete chainfix range with ordering options ► From page 1418

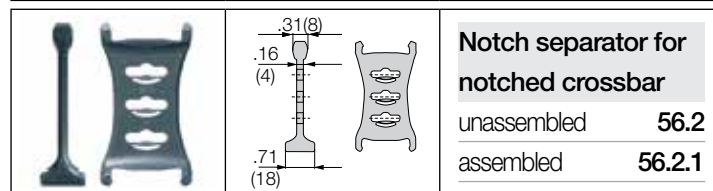
Interior separation | Increase cable service life

Interior separation - to allow higher holding force ► [next page](#)



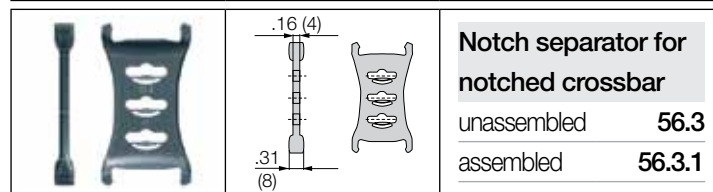
Standard - for any application

Separator with a wide base for maximum holding force.



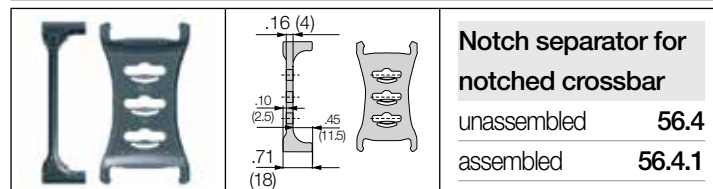
For even faster installation

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



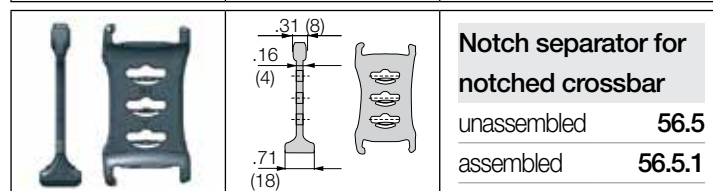
For a large number of thin cables

Separator with a narrow base for a large number of thin cables side by side. Saves space.



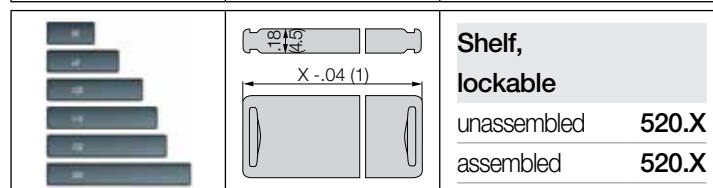
For side-mounted applications

Asymmetrical separator, for defined gap distance. No additional spacers required.



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.

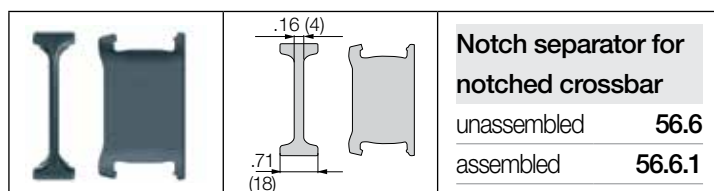
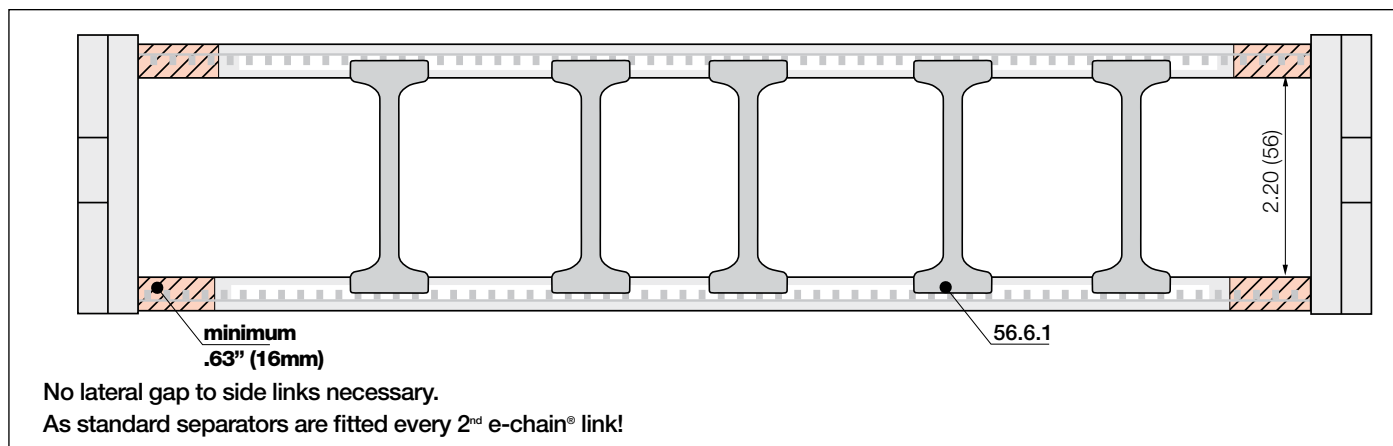
Shelves

Width = X in. (mm)



X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled
1.97 (050)	520.050	521.050	5.91 (150)	520.150	521.150	11.81 (300)	520.300	521.300
2.56 (065)	520.065	521.065	6.89 (175)	520.175	521.175	13.78 (350)	520.350	521.350
2.95 (075)	520.075	521.075	7.87 (200)	520.200	521.200	14.76 (375)	520.375	521.375
3.94 (100)	520.100	521.100	8.86 (225)	520.225	521.225	15.24 (387)	520.387	521.387
4.92 (125)	520.125	521.125	9.84 (250)	520.250	521.250	17.72 (450)	520.450	521.450

Interior separation | To allow higher holding force



Notch locking separator for increased holding force

Notch locking separators offer higher crossbar opening forces for high humidity and/or large hydraulic hoses. They can be positioned precisely and then locked in position.

Here is a tip from the chainflex® cable world:

Fail-safe cables

- 1,354 cable types - all tested
- With up to 4 year guarantee
- Calculate service life easily online

More information ► www.igus.com/chainflex



Reduce assembly time - E4 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ► www.igus.com/E4savetime



The igus® YE system is ideal for construction machines and lifting platforms - no screws, rivets or bolts that can come loose under vibration

Plastic-steel hybrid e-chains® and e-tubes



e-chains® | YEHD.112 | Crossbars every link (Crossbars removable along the inner and outer radius)

Part No. e-chain®	Bi in. (mm)	Ba in. (mm)	YEHD.112. lbs/ft (kg/m)
YEHD. 112.10. R.0	3.48 (100)	5.83 (148)	≈ 14.26 (21.22)
YEHD. 112.11. R.0	4.41 (112)	6.30 (160)	≈ 14.30 (21.28)
YEHD. 112.12. R.0	4.92 (125)	6.81 (173)	≈ 14.34 (21.34)
YEHD. 112.13. R.0	5.39 (137)	7.28 (185)	≈ 14.37 (21.39)
YEHD. 112.15. R.0	5.91 (150)	7.80 (198)	≈ 14.41 (21.44)
YEHD. 112.16. R.0	6.38 (162)	8.27 (210)	≈ 14.48 (21.55)
YEHD. 112.17. R.0	6.89 (175)	8.78 (223)	≈ 14.51 (21.59)
YEHD. 112.18. R.0	7.36 (187)	9.25 (235)	≈ 14.55 (21.66)
YEHD. 112.20. R.0	7.87 (200)	9.76 (248)	≈ 14.598 (21.724)
YEHD. 112.207. R.0	8.15 (207)	10.04 (255)	≈ 14.635 (21.780)
YEHD. 112.21. R.0	8.35 (212)	10.24 (260)	≈ 14.647 (21.797)
YEHD. 112.22. R.0	8.86 (225)	10.75 (273)	≈ 14.688 (21.858)
YEHD. 112.23. R.0	9.33 (237)	11.22 (285)	≈ 14.726 (21.914)
YEHD. 112.25. R.0	9.84 (250)	11.73 (298)	≈ 14.767 (21.976)
YEHD. 112.26. R.0	10.31 (262)	12.20 (310)	≈ 14.805 (22.032)
YEHD. 112.27. R.0	10.83 (275)	12.72 (323)	≈ 14.846 (22.093)
YEHD. 112.28. R.0	11.30 (287)	13.19 (335)	≈ 14.884 (22.150)
YEHD. 112.30. R.0	11.81 (300)	13.70 (348)	≈ 14.925 (22.211)
YEHD. 112.31. R.0	12.28 (312)	14.17 (360)	≈ 14.963 (22.267)
YEHD. 112.32. R.0	12.80 (325)	14.69 (373)	≈ 10.004 (22.328)

Part No. e-chain®	Bi in. (mm)	Ba in. (mm)	YEHD.112. lbs/ft (kg/m)
YEHD. 112.33. R.0	13.27 (337)	15.16 (385)	≈ 15.042 (22.385)
YEHD. 112.35. R.0	13.78 (350)	15.67 (398)	≈ 15.083 (22.446)
YEHD. 112.36. R.0	14.25 (362)	16.14 (410)	≈ 15.155 (22.553)
YEHD. 112.37. R.0	14.76 (375)	16.65 (423)	≈ 15.197 (22.616)
YEHD. 112.38. R.0	15.24 (387)	17.13 (435)	≈ 15.236 (22.674)
YEHD. 112.40. R.0	15.75 (400)	17.64 (448)	≈ 15.633 (22.737)
YEHD. 112.41. R.0	16.22 (412)	18.11 (460)	≈ 15.279 (22.795)
YEHD. 112.42. R.0	16.73 (425)	18.62 (473)	≈ 15.318 (22.858)
YEHD. 112.43. R.0	17.20 (437)	19.09 (485)	≈ 15.360 (22.916)
YEHD. 112.45. R.0	17.72 (450)	19.61 (498)	≈ 15.399 (22.979)
YEHD. 112.46. R.0	18.19 (462)	20.08 (510)	≈ 15.441 (23.037)
YEHD. 112.47. R.0	18.70 (475)	20.59 (523)	≈ 15.522 (23.100)
YEHD. 112.48. R.0	19.17 (487)	21.06 (535)	≈ 15.562 (23.159)
YEHD. 112.50. R.0	19.69 (500)	21.57 (548)	≈ 15.604 (23.222)
YEHD. 112.51. R.0	20.16 (512)	22.05 (560)	≈ 15.654 (23.296)
YEHD. 112.52. R.0	20.67 (525)	22.56 (573)	≈ 15.697 (23.360)
YEHD. 112.53. R.0	21.14 (537)	23.03 (585)	≈ 15.736 (23.418)
YEHD. 112.55. R.0	21.65 (550)	23.54 (598)	≈ 15.779 (23.482)
YEHD. 112.60. R.0	23.62 (600)	25.51 (648)	≈ 15.943 (23.726)

e-chains® | YEHD.108 | Crossbars every link (Reinforced, screw-secured crossbars for extreme loads) e-tubes | YRHD.108 | Fully enclosed (Lids openable along the outer radius from one side)

Part No. e-chain®	Bi in. (mm)	Ba in. (mm)	YEHD.108. lbs/ft (kg/m)
YEHD. 108.387. R.0	15.24 (387)	17.64 (448)	≈ 14.961 (22.265)
YEHD. 108.550. R.0	21.65 (550)	23.54 (598)	≈ 16.344 (24.322)

Complete Part No. with required radius (R). Example: YEHD.112.38.250.0

Available bend radii

R in. (mm) | 9.84 (250) | 15.75 (400) | 19.69 (500) | 23.62 (600) |

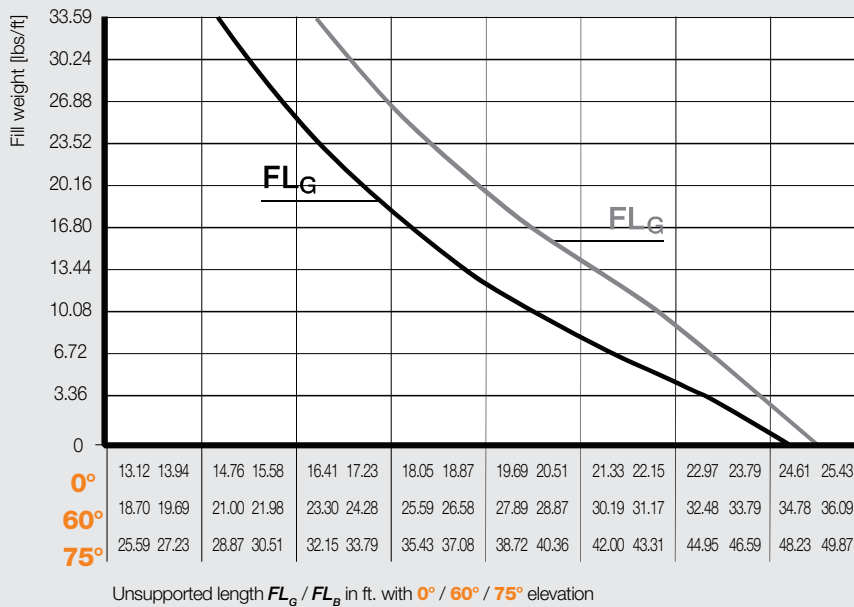
Part No. e-tubes	Bi in. (mm)	Ba in. (mm)	YRHD.108. lbs/ft (kg/m)
YRHD. 108.20. R.0	7.87 (200)	9.76 (248)	≈ 14.598 (21.724)
YRHD. 108.25. R.0	9.84 (250)	11.73 (298)	≈ 14.767 (21.976)
YRHD. 108.30. R.0	11.81 (300)	13.70 (348)	≈ 14.925 (22.211)
YRHD. 108.35. R.0	13.78 (350)	15.67 (398)	≈ 15.083 (22.446)
YRHD. 108.40. R.0	15.75 (400)	17.64 (448)	≈ 15.633 (22.737)
YRHD. 108.50. R.0	19.69 (500)	21.57 (548)	≈ 15.604 (23.222)



For extreme loads: YEHD.108 series

- With reinforced, screw-secured crossbars
 - For extreme loads, e.g. vibrations. e.g. on drilling devices
 - Greater inner height available with the same exterior dimensions
- More information ► www.igus.com/YEHD.108

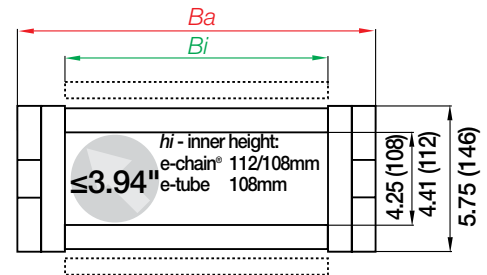
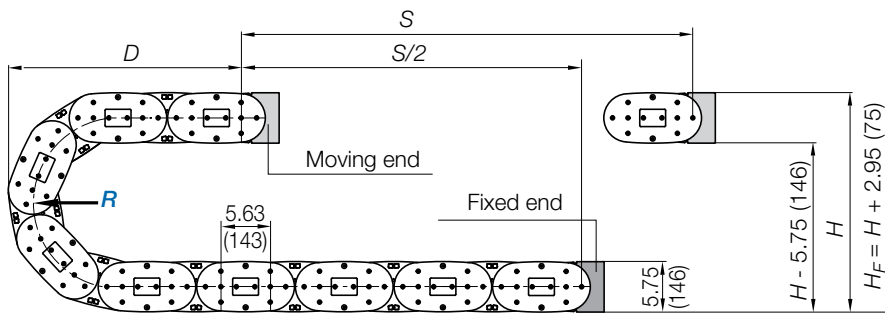
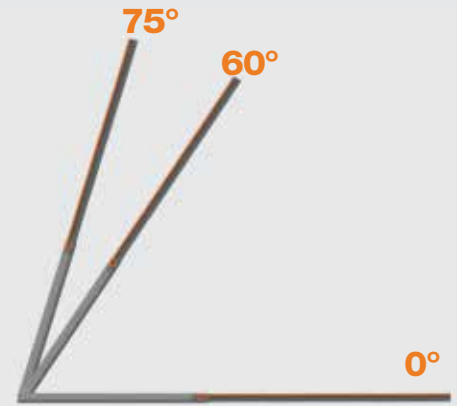
High unsupported lengths, ideal for elevated axes



Unsupported lengths [ft]
with 0° / 60° / 75° elevation

FL_G = unsupported with straight upper run

FL_B = unsupported with permitted sag



R 9.84 (250) 15.75 (400) 19.69 (500) 23.62 (600)

H 28.34 (720) 40.16 (1020) 48.03 (1220) 55.91 (1420)

D 21.16 (537.5) 27.07 (687.5) 31.00 (787.5) 34.94 (887.5)

K 42.17 (1071) 60.75 (1543) 73.11 (1857) 85.47 (2171)

The required clearance height: $H_r = H + 2.95$ in. (75 mm) with 6.72.02 lbs/ft (10 kg/m) fill weight.

YEHD.112 e-chain® Inner height in. (mm) 4.41 (112)

YEHD.112 e-chain® Inner height in. (mm) 4.25 (108)

YEHD.112 e-tubes Inner height in. (mm) 4.25 (108)

Pitch per link in. (mm) .56 (143)

Links/ft (m) 21.4 (7)

corresponds to (mm) 1,001

e-chain® length $L_K = S/2 + K$

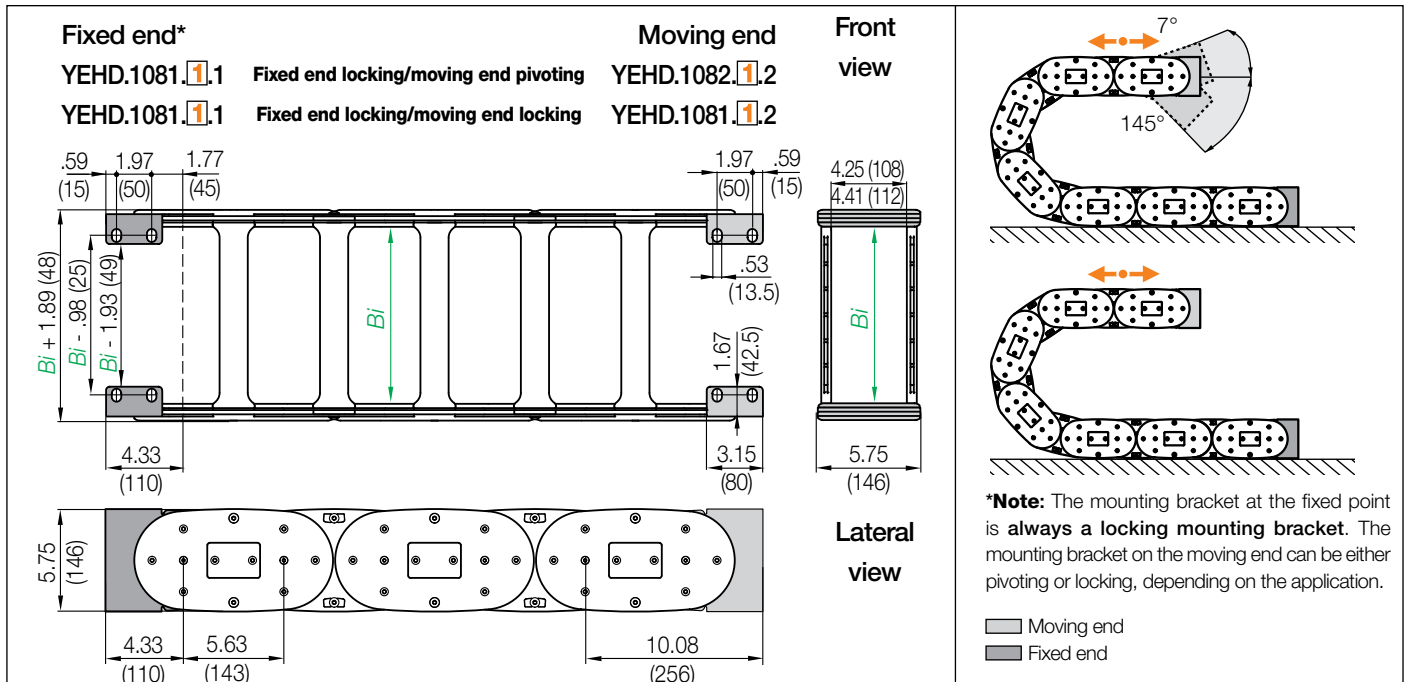
Reduce assembly time: YEHD.112 e-chain® opener

- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

More information ► www.igus.com/E4savetime



Steel mounting brackets | Pivoting | Locking



Pivoting
Locking

Recommended for unsupported applications
Recommended for standing/vertical hanging applications

Part No. full set for
moving end pivoting,
fixed end* locking

YEHD.1082.1.12.A

Part No. full set for
moving end locking,
fixed end* locking

YEHD.1081.1.12.A

Description mounting bracket
Complete fastening set
(moving end and fixed end)

e-chains® always start and end
with outer links, pre-assembled

Steel mounting brackets as individual parts

Part number mounting bracket
only fixed end*, steel fixed version

YEHD.1081.1.1.A

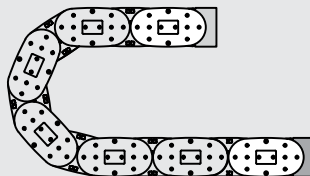
Part number mounting bracket
only moving end, steel fixed version

YEHD.1081.1.2.A

Part number mounting bracket
only moving end, steel pivoting

YEHD.1082.1.2.A

Note: The YE plastic-steel hybrid e-chains® always end with outer links (odd number of links, index 1). The mounting brackets at the moving end and fixed end always form the end of the e-chain® and are inner links.



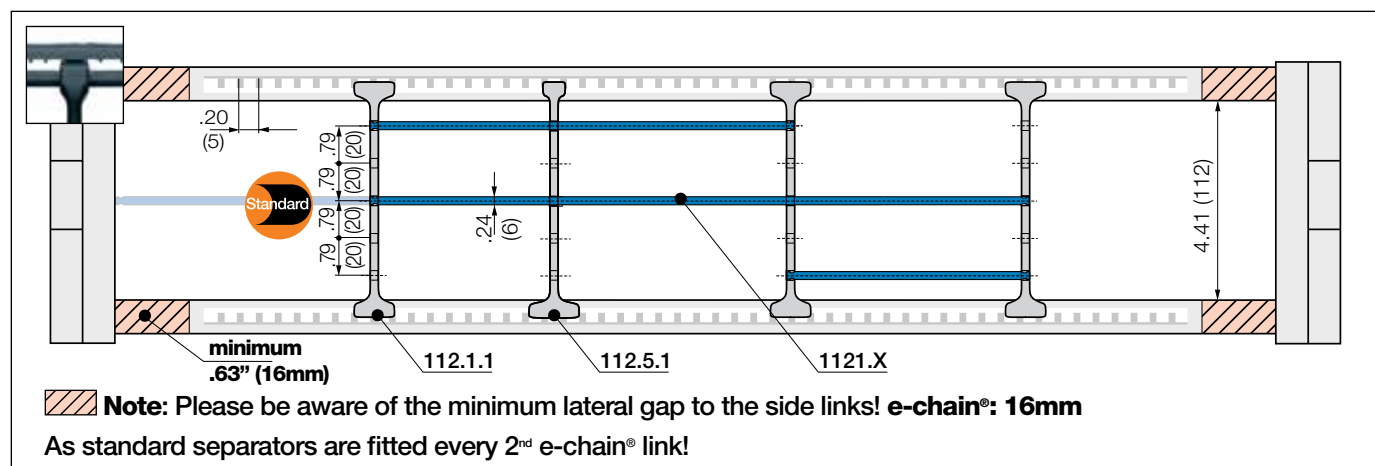
YEHD.1081.1.12.A Order example

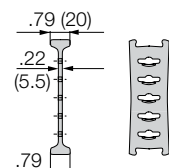
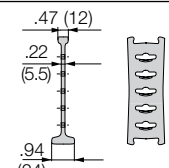
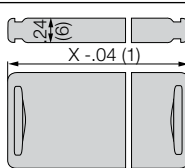
- Pre-assembled
- Full set
- Odd numbers of links
- Index radius
- Moving end locking, fixed end* locking
- Series



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

Only for YEHD.112 | Interior separation | Increase cable service life



		Standard separator, wide base unassembled 112.1 assembled 112.1.1
		Notch separator for notched crossbar unassembled 112.5 assembled 112.5.1
		Shelf, lockable unassembled 1120.X assembled 1121.X

Standard - for any application

Separator with a wide base for maximum holding force.

Locks securely in preset increments

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

Horizontal separation

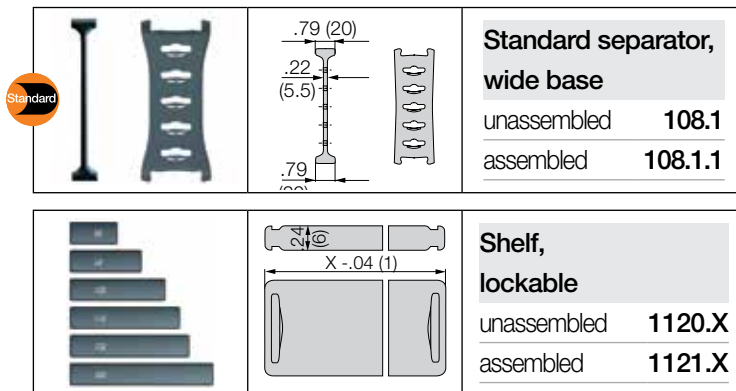
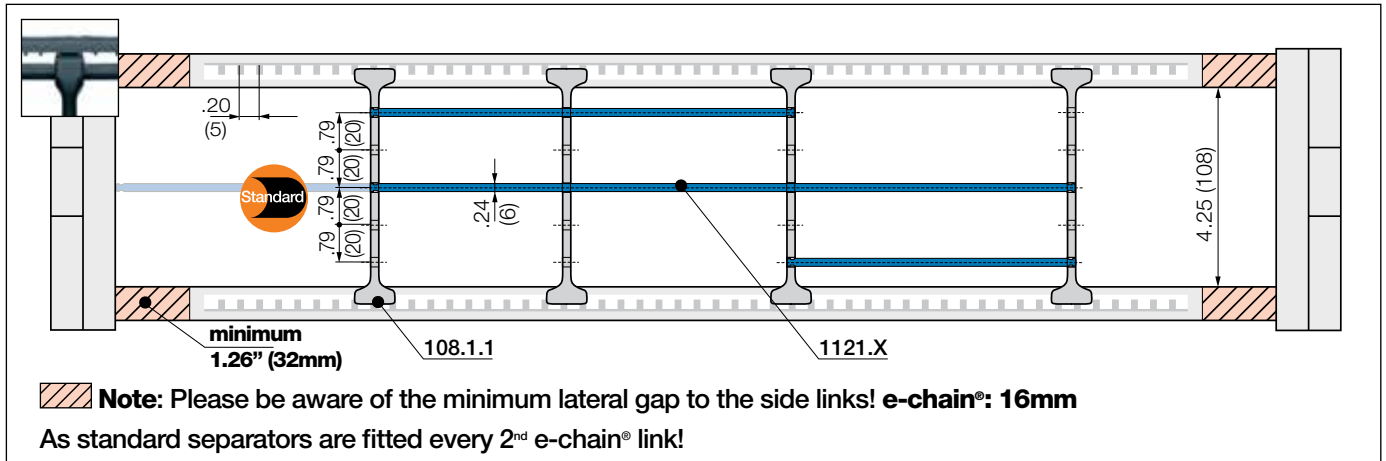
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled
1.97 (050)	1120.050	1121.050	5.91 (150)	1120.150	1121.150	11.81 (300)	1120.300	1121.300
2.56 (065)	1120.065	1121.065	6.89 (175)	1120.175	1121.175	13.78 (350)	1120.350	1121.350
2.95 (075)	1120.075	1121.075	7.87 (200)	1120.200	1121.200	14.76 (375)	1120.375	1121.375
3.94 (100)	1120.100	1121.100	8.86 (225)	1120.225	1121.225	15.24 (387)	1120.387	1121.387
4.92 (125)	1120.125	1121.125	9.84 (250)	1120.250	1121.250	17.72 (450)	1120.450	1121.450



Standard - for any application

Separator with a wide base for maximum holding force.

Horizontal separation

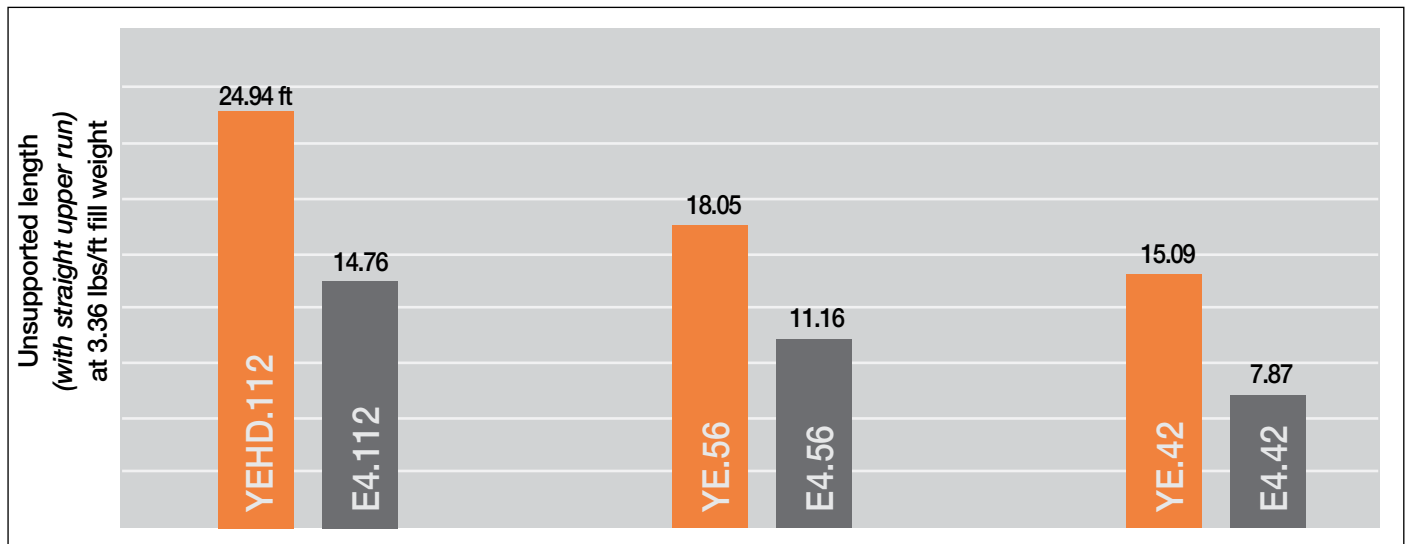
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

Shelves

Width = X [mm]



X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled	X in. (mm)	unassembled	assembled
1.97 (050)	1120.050	1121.050	5.91 (150)	1120.150	1121.150	11.81 (300)	1120.300	1121.300
2.56 (065)	1120.065	1121.065	6.89 (175)	1120.175	1121.175	13.78 (350)	1120.350	1121.350
2.95 (075)	1120.075	1121.075	7.87 (200)	1120.200	1121.200	14.76 (375)	1120.375	1121.375
3.94 (100)	1120.100	1121.100	8.86 (225)	1120.225	1121.225	15.24 (387)	1120.387	1121.387
4.92 (125)	1120.125	1121.125	9.84 (250)	1120.250	1121.250	17.72 (450)	1120.450	1121.450



Tested in the igus® laboratory: comparison of YEHD and YE vs. E4.1 unsuported length at 3.36 lbs/ft fill weight



Ideal for large unsuported lengths, deep drilling rigs, horizontal drilling rigs, steel mills