
# YE/YEHD

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

**Combine the best properties of steel and plastic**

**Benefits of the YE/YEHD 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: www.igus.eu/E4Q**
- For travel lengths gliding
  ▶ **P4: www.igus.eu/P4 / P4.1: www.igus.eu/P4.1**
  ▶ **RoI e-chain®: www.igus.eu/role**

Diagram shows YE.56 series

Robust:
steel mounting brackets

YE series:
with pure steel
inner plates

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

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

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

Special feature:
YEHD.108 with reinforced,
screw-secured crossbars
for even higher loads

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

Many variants:
also available as fully
enclosed e-tube
series YRHD.108

Diagram shows YEHD/YRHD series

# Combine the best properties of steel and plastic - YE and YEHD hybrid e-chains®

Approximately 50% stronger* than pure plastic energy chains and up to 50% lighter* than pure steel energy chains. e-chain® links openable 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
- Easy installation of plastic outer links with flange for easy e-chain® link assembly
- Smooth operation due to plastic pin connection
- Flexible interior separation thanks to proven E4 components
- Available as HD version for maximum stability in combination with high fill weights and extreme environments
- Available as ready-to-install readychain® system with cables, hoses and hydraulic components

*Compared to plastic or steel energy chains of comparable sizes

## Typical industries and applications

**YE:** ● Work platforms ● Construction machinery ● Breakdown vehicles ● Lifting platforms ● Telescopic loaders ● Vertical lifts ● Articulated telescopic platforms ● Horizontal drilling rigs ● Articulated arm systems ● Drilling and diaphragm wall rigs

**YEHD:** ● Drill rigs ● Large portal milling machines ● Deep drilling rigs ● Horizontal drilling rigs ● Steel mills ● Large unsupported lengths



More information ▶ www.igus.eu/YE





1) 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.

3) Unsupported lengths depending on the angle of inclination ▶ **see corresponding graphs on the series pages**

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

*Average time before the ordered goods are dispatched.

**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
- Components for telescopic work platforms

**Download whitepaper ▶ www.igus.eu/YE**

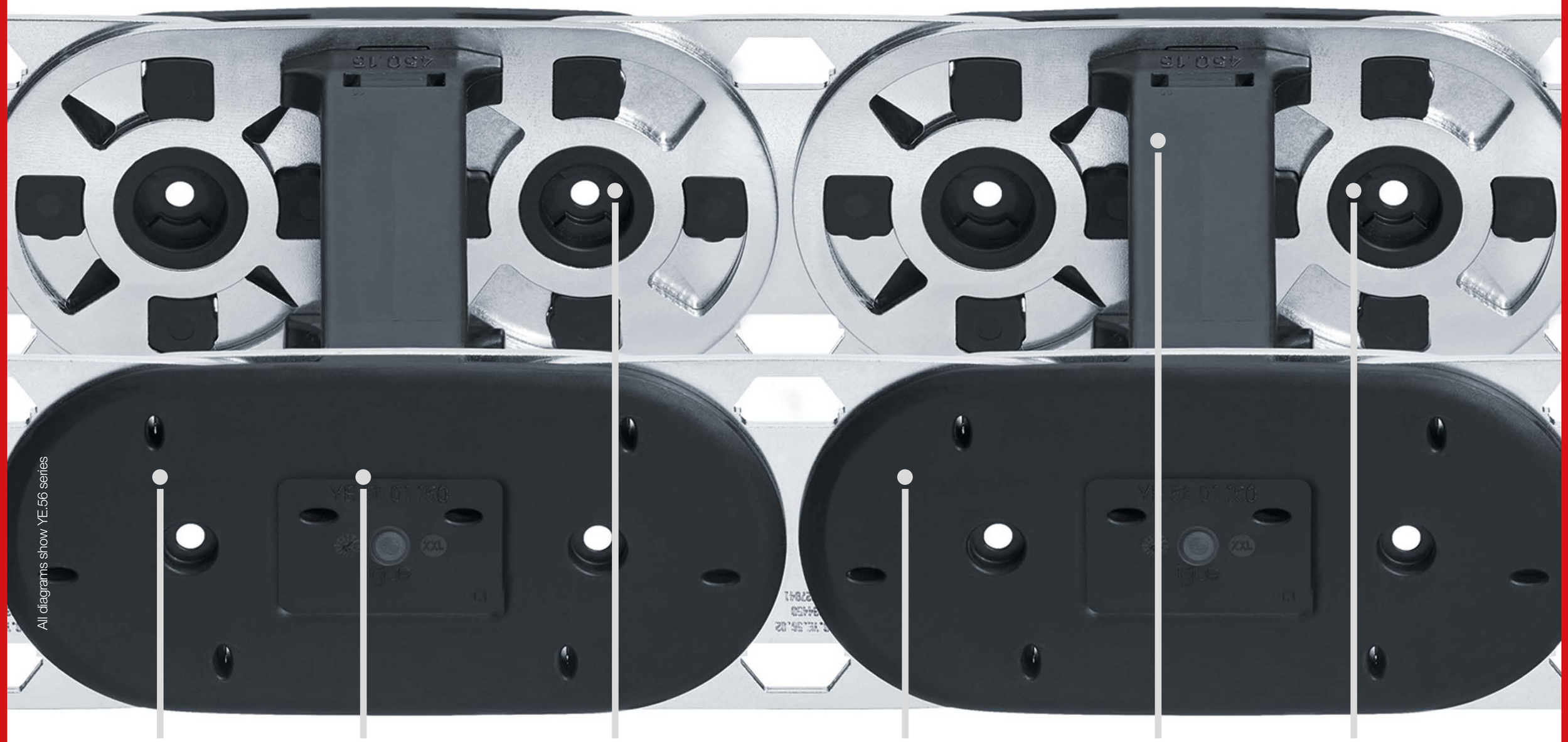
### Plastic outer links

The plastic outer links of the YE system are made of glass fibre 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.



### 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.



All diagrams show YE.56 series

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

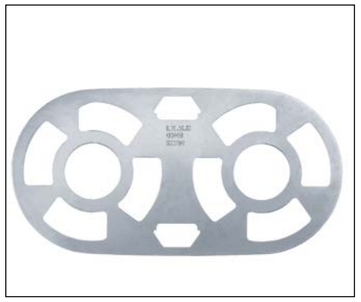
High ease of movement due to plastic-steel pin connection, high tensile force absorption

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

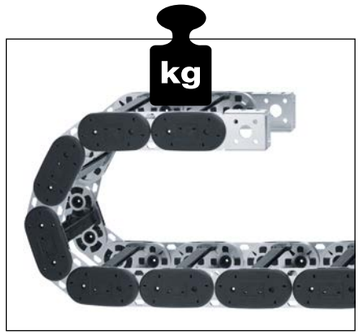
Strong notched crossbars with visible scale and double locking mechanism

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



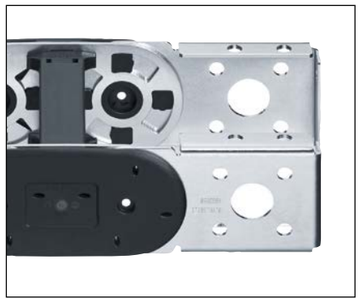
Steel inner plates absorb the force of the stop-dogs of the plastic outer links and increase the stability by 50%



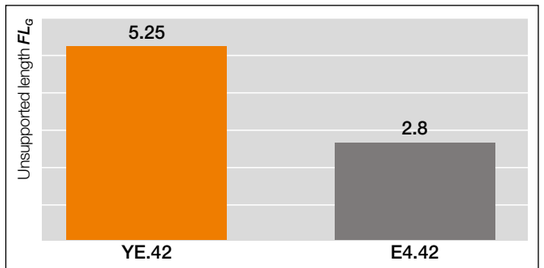

Strong and vibration-resistant - for heavy loads with compact dimensions and low weight. Advantage for work platforms: each saved gram increases the payload

Variable widths - 100mm 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




Tested in the igus® laboratory: 87.5% more unsupported length $FL_G$ with 2kg/m fill weight than a comparable plastic e-chain®

## 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 2kg/m fill weight.

**Result**: with a fill weight of 2kg/m, the YE.42 series can be used unsupported for a distance of up to 5.25m and the E4.42 can achieve 2.8m. This corresponds to an 87.5% longer unsupported length ***(with straight upper run)*** with a 2kg/m fill weight for the YE.42 series compared to the E4.42 series.



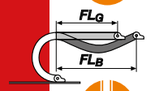
# Why plastic-steel hybrid e-chains® ...

## Standard steel chain vs. igus® YE hybrid e-chain®

| Standard steel chain | igus® YE plastic-steel hybrid e-chain® |
|---|---|
| **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® (in the YE series) |
| ● 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 steely 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 $FL_G$ | ≤ 1 [m/s] / ≤ 1 [m/s²] |
| Speed $FL_B$ / acceleration $FL_B$ | ≤ 1 [m/s] / ≤ 1 [m/s²] |
| Material - permitted temperature °C* | -40°C/+120°C |
| Flammability class* | 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 | Based on YE.56 series

**Order example for complete e-chain® (1.0m), colour black, with mounting brackets and interior separation:**

| | | |
|---|---|---|
| **e-chain®** (1.0m) | Please indicate e-chain® length or number of links: 1.0m or 11 links | **YE.56.15.200.0** |
| **+ Mounting bracket** | 1 full set (odd number of links), pre-assembled moving end pivoting, fixed end locking | **YE.562.*R*200.1.12.A** |
| **Interior separation** | With 2 separators assembled every 2nd link | **2 x 56.1.1** |
| **Order text:** | **1m YE.56.15.200.0 + YE.562.*R*200.1.12.A + 2 x 56.1.1 (2nd link each)** | |

## Order key and colour 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 *Bi*)
- Bend radius *R*
- Colour index (standard black)

Work platforms, construction machinery and lifting platforms face an identical challenge: safe and compact vertical guidance of cables and hoses. For applications that require particularly 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 machines and work 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 work platform with igus® YE.42 hybrid e-chain®. **Find a video online ▶ www.igus.eu/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®

# YE | Series YE.42 | Product range

## Plastic-steel hybrid e-chains®

42


## Series YE.42 | Crossbars removable along the inner and outer radius

| Part No. e-chains® | Bi [mm] | Ba [mm] | YE.42 [kg/m] |
|---|---|---|---|
| YE.42.05. R.0* | 50 | 68 | ≈ 4.020 |
| YE.42.06. R.0* | 68 | 86 | ≈ 4.067 |
| YE.42.07. R.0* | 75 | 93 | ≈ 4.085 |
| YE.42.087.R.0* | 87 | 105 | ≈ 4.116 |
| YE.42.10. R.0 | 100 | 118 | ≈ 4.150 |
| YE.42.11. R.0 | 108 | 126 | ≈ 4.171 |
| YE.42.112.R.0 | 112 | 130 | ≈ 4.181 |
| YE.42.12. R.0 | 125 | 143 | ≈ 4.215 |
| YE.42.137.R.0 | 137 | 155 | ≈ 4.246 |
| YE.42.15. R.0 | 150 | 168 | ≈ 4.280 |
| YE.42.162.R.0 | 162 | 180 | ≈ 4.311 |
| YE.42.17. R.0 | 168 | 186 | ≈ 4.327 |
| YE.42.18. R.0 | 175 | 193 | ≈ 4.345 |
| YE.42.187.R.0 | 187 | 205 | ≈ 4.376 |
| YE.42.20. R.0 | 200 | 218 | ≈ 4.410 |
| YE.42.212.R.0 | 212 | 230 | ≈ 4.441 |

| Part No. e-chains® | Bi [mm] | Ba [mm] | YE.42 [kg/m] |
|---|---|---|---|
| YE.42.23. R.0 | 225 | 243 | ≈ 4.475 |
| YE.42.237.R.0 | 237 | 255 | ≈ 4.506 |
| YE.42.25. R.0 | 250 | 268 | ≈ 4.540 |
| YE.42.262.R.0 | 262 | 280 | ≈ 4.571 |
| YE.42.28. R.0 | 275 | 293 | ≈ 4.605 |
| YE.42.29. R.0 | 287 | 305 | ≈ 4.636 |
| YE.42.30. R.0 | 300 | 318 | ≈ 4.670 |
| YE.42.312.R.0 | 312 | 330 | ≈ 4.701 |
| YE.42.325.R.0 | 325 | 343 | ≈ 4.735 |
| YE.42.337.R.0 | 337 | 355 | ≈ 4.766 |
| YE.42.350.R.0 | 350 | 368 | ≈ 4.800 |
| YE.42.362.R.0 | 362 | 380 | ≈ 4.831 |
| YE.42.375.R.0 | 375 | 393 | ≈ 4.865 |
| YE.42.387.R.0 | 387 | 405 | ≈ 4.896 |
| YE.42.400.R.0 | 400 | 418 | ≈ 4.930 |

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

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

**Available bend radii**

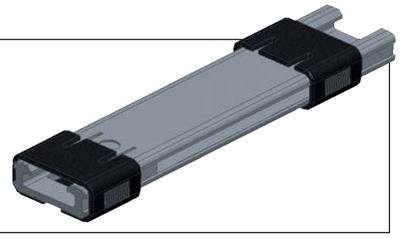
*R* [mm] | **100** | 125*| 150*|

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

### 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**



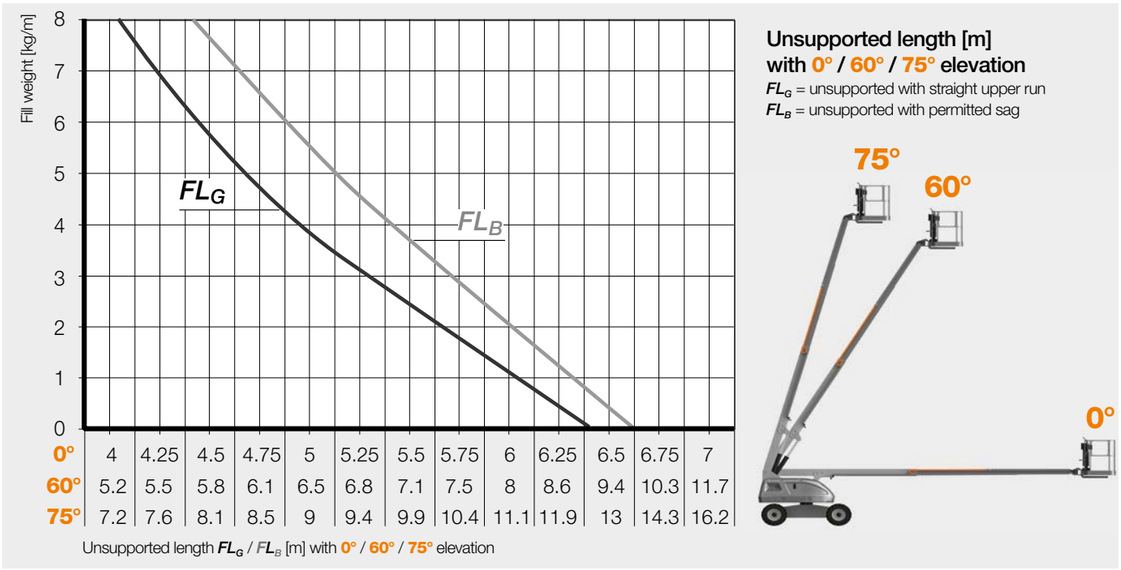




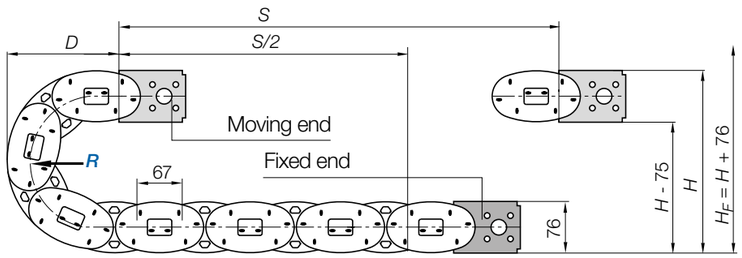
# YE | Series YE.42 | Installation dimensions

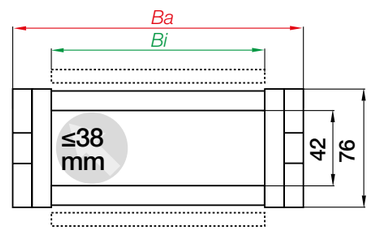
## High unsupported lengths, ideal for elevated axes

▶ igus.eu/chainfix




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4 | 4.25 | 4.5 | 4.75 | 5 | 5.25 | 5.5 | 5.75 | 6 | 6.25 | 6.5 | 6.75 | 7 |
| 60° | 5.2 | 5.5 | 5.8 | 6.1 | 6.5 | 6.8 | 7.1 | 7.5 | 8 | 8.6 | 9.4 | 10.3 | 11.7 |
| 75° | 7.2 | 7.6 | 8.1 | 8.5 | 9 | 9.4 | 9.9 | 10.4 | 11.1 | 11.9 | 13 | 14.3 | 16.2 |




| *R* | 100 | 125* | 150* |
|---|---|---|---|
| *H* | 352 | 402 | 452 |
| *D* | 238.5 | 263.5 | 338.5 |
| *K* | 450 | 530 | 610 |

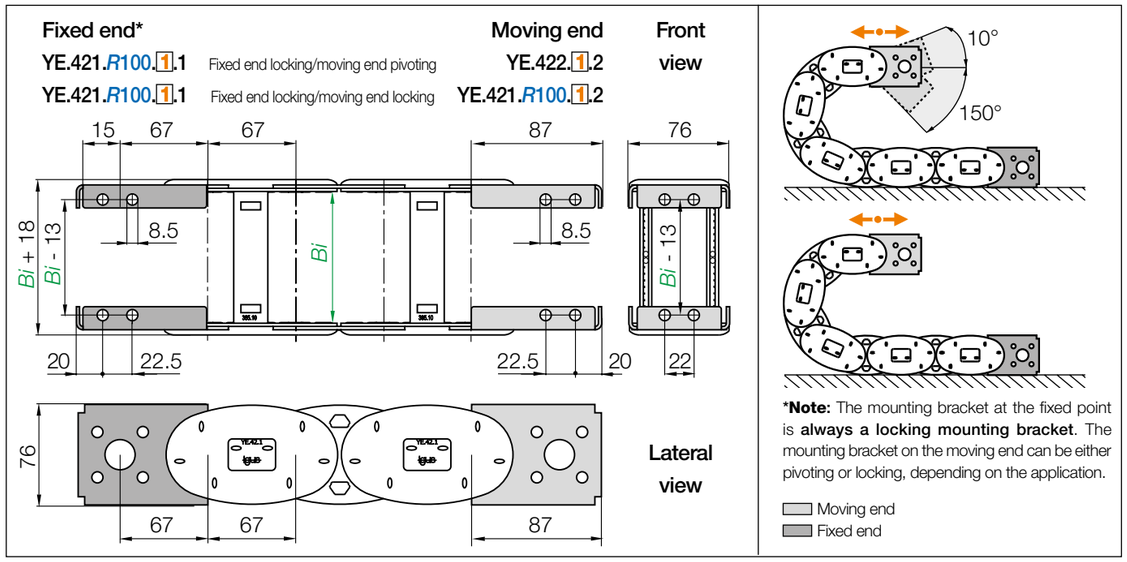
The required clearance height: $H_F = H + 76$mm (with 2.5kg/m fill weight)

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

| | |
|---|---|
| **Inner height** [mm] | **42** |
| **Pitch** [mm/link] | **67** |
| **Links/m** | **15** |
| corresponds to[mm] | **1,005** |
| **e-chain® length** | $L_K = S/2 + K$ |

# YE | Series YE.42 | Accessories

## Steel mounting brackets | Locking | Pivoting



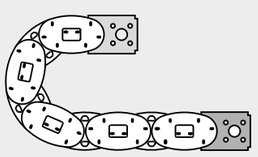

**Pivoting** | Recommended for unsupported applications
**Locking** | Recommended for standing/vertical hanging applications

| 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.*R*100.1.12.**A** | YE.421.*R*100.1.12.**A** | 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** | Part number mounting bracket **only moving end, steel fixed version** | Part number mounting bracket **only moving end, steel pivoting** |
|---|---|---|
| YE.421.*R*100.1.1.**A** | YE.421.*R*100.1.2.**A** | YE.422.1.2.**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.



YE.422.*R*100.1.12.**A** Order example
- Pre-assembled
- Full set
- Odd numbers of links
- Index radius
- Moving end pivoting, fixed end* locking
- Series

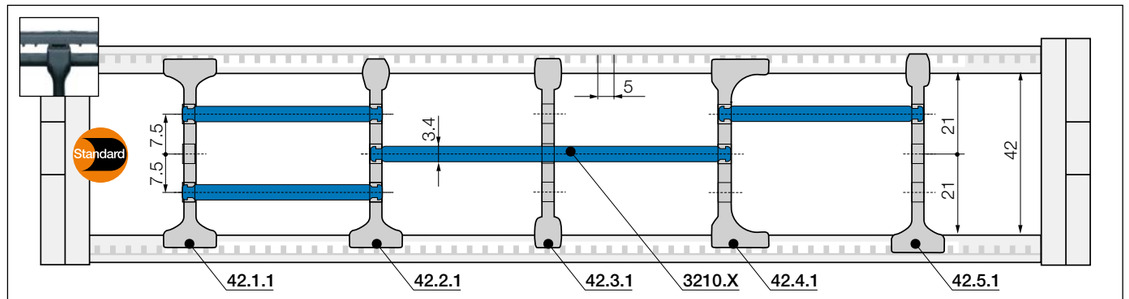
Strain relief, e.g. clamps, tiewrap plates, nuggets and clips are available from stock. Complete chainfix range with ordering options ▶ www.igus.eu/chainfix





# YE | Series YE.42 | Accessories

## Interior separation | Increase cable service life




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

| Standard separator, wide base | |
|---|---|
| unassembled | 42.1 |
| assembled | 42.1.1 |

### Standard - for any application
Separator with a wide base for maximum holding force.

| Separator, narrow top | |
|---|---|
| unassembled | 42.2 |
| assembled | 42.2.1 |

### For even faster installation
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.

| Separator, narrow | |
|---|---|
| unassembled | 42.3 |
| assembled | 42.3.1 |

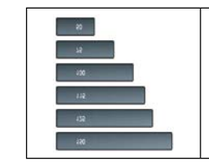
### For a large number of thin cables
Separator with a narrow base for a large number of thin cables side by side. Saves space.

| Separator, asymmetrical | |
|---|---|
| unassembled | 42.4 |
| assembled | 42.4.1 |

### For side-mounted applications
Asymmetrical separator, for defined gap distance. No additional spacers required.

| Notch separator* for notched crossbar | |
|---|---|
| unassembled | 42.5 |
| assembled | 42.5.1 |

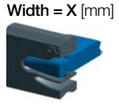
### Locks securely in preset increments
Notch separator for exact positioning. Recommended for side-mounted applications.
**(*Suitable from *Bi* 75)**



| Shelf, lockable | |
|---|---|
| unassembled | 3200.X |
| assembled | 3210.X |

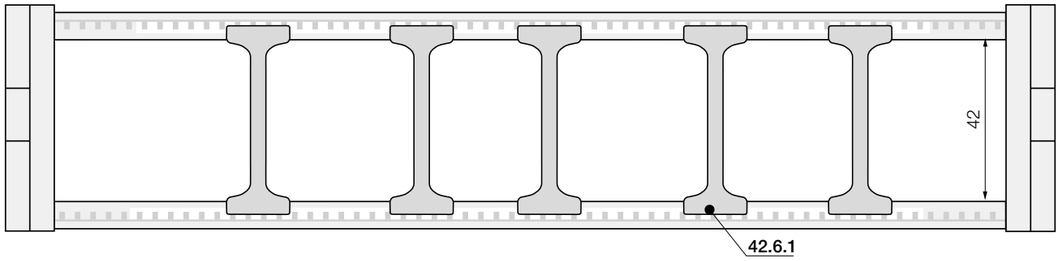
### Horizontal separation
Full-width shelf locks securely into separators at both ends, giving a fixed width. Can be used as full-width or partial shelf.

**Shelves**
Width = X [mm]

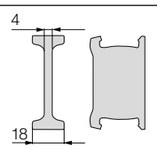


| X [mm] | unassembled | assembled | X [mm] | unassembled | assembled | X [mm] | unassembled | assembled |
|---|---|---|---|---|---|---|---|---|
| 050 | 3200.050 | 3210.050 | 125 | 3200.125 | 3210.125 | 225 | 3200.225 | 3210.225 |
| 075 | 3200.075 | 3210.075 | 150 | 3200.150 | 3210.150 | 250 | 3200.250 | 3210.250 |
| 100 | 3200.100 | 3210.100 | 175 | 3200.175 | 3210.175 | | | |
| 115 | 3200.115 | 3210.115 | 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, lockable for e-chains® | |
|---|---|
| unassembled | 42.6 |
| assembled | 42.6.1 |

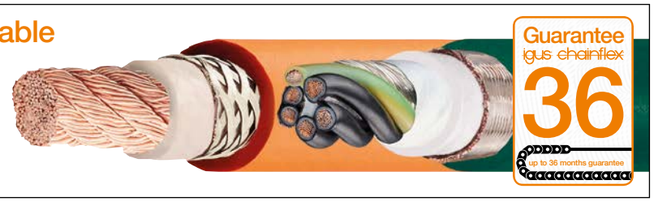
### Notch locking separator for increased holding force

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 36 months guarantee
- Calculate service life easily online

**More information ▶ www.igus.eu/chainflex**



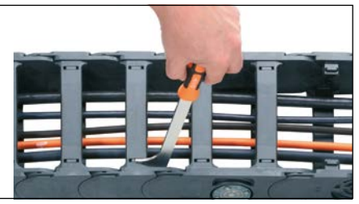





### Reduce assembly time - E4 e-chain® opener

- 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.eu/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

# YE | Series YE.56 | Product range

## Plastic-steel hybrid e-chains®

56


### Series YE.556 | Crossbars removable along the inner and outer radius

| Part No. e-chains® | Bi [mm] | Ba [mm] | YE.56 [kg/m] |
|---|---|---|---|
| YE.56.05. R.0* | 50 | 74 | ≈ 6.405 |
| YE.56.06. R.0* | 65 | 89 | ≈ 6.455 |
| YE.56.07. R.0* | 75 | 99 | ≈ 6.489 |
| YE.56.08. R.0* | 87 | 111 | ≈ 6.530 |
| YE.56.10. R.0 | 100 | 124 | ≈ 6.574 |
| YE.56.11. R.0 | 112 | 136 | ≈ 6.614 |
| YE.56.12. R.0 | 125 | 149 | ≈ 6.658 |
| YE.56.13. R.0 | 137 | 161 | ≈ 6.698 |
| YE.56.15. R.0 | 150 | 174 | ≈ 6.742 |
| YE.56.16. R.0 | 162 | 186 | ≈ 6.824 |
| YE.56.169. R.0 | 170 | 194 | ≈ 6.853 |
| YE.56.17. R.0 | 175 | 199 | ≈ 6.871 |
| YE.56.182. R.0 | 183 | 207 | ≈ 6.901 |
| YE.56.18. R.0 | 187 | 211 | ≈ 6.915 |
| YE.56.20. R.0 | 200 | 224 | ≈ 6.962 |
| YE.56.207. R.0 | 208 | 232 | ≈ 7.004 |
| YE.56.21. R.0 | 212 | 236 | ≈ 7.019 |
| YE.56.22. R.0 | 225 | 249 | ≈ 7.067 |
| YE.56.23. R.0 | 237 | 261 | ≈ 7.111 |
| YE.56.25. R.0 | 250 | 274 | ≈ 7.159 |
| YE.56.26. R.0 | 262 | 286 | ≈ 7.203 |
| YE.56.27. R.0 | 275 | 299 | ≈ 7.251 |
| YE.56.28. R.0 | 287 | 311 | ≈ 7.296 |

| Part No. e-chains® | Bi [mm] | Ba [mm] | YE.56 [kg/m] |
|---|---|---|---|
| YE.56.30. R.0 | 300 | 324 | ≈ 7.344 |
| YE.56.31. R.0 | 312 | 336 | ≈ 7.388 |
| YE.56.32. R.0 | 325 | 349 | ≈ 7.436 |
| YE.56.33. R.0 | 337 | 361 | ≈ 7.480 |
| YE.56.35. R.0 | 350 | 374 | ≈ 7.528 |
| YE.56.36. R.0 | 362 | 386 | ≈ 7.614 |
| YE.56.37. R.0 | 375 | 399 | ≈ 7.663 |
| YE.56.38. R.0 | 387 | 411 | ≈ 7.709 |
| YE.56.40. R.0 | 400 | 424 | ≈ 7.759 |
| YE.56.41. R.0 | 412 | 436 | ≈ 7.804 |
| YE.56.42. R.0 | 425 | 449 | ≈ 7.854 |
| YE.56.43. R.0 | 437 | 461 | ≈ 7.899 |
| YE.56.45. R.0 | 450 | 474 | ≈ 7.949 |
| YE.56.46. R.0 | 462 | 486 | ≈ 7.995 |
| YE.56.47. R.0 | 475 | 499 | ≈ 8.044 |
| YE.56.48. R.0 | 487 | 511 | ≈ 8.090 |
| YE.56.50. R.0 | 500 | 524 | ≈ 8.139 |
| YE.56.51. R.0 | 512 | 536 | ≈ 8.198 |
| YE.56.52. R.0 | 525 | 549 | ≈ 8.248 |
| YE.56.53. R.0 | 537 | 561 | ≈ 8.294 |
| YE.56.55. R.0 | 550 | 574 | ≈ 8.344 |
| YE.56.60. R.0 | 600 | 624 | ≈ 8.535 |

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

**Available bend radii**

*R* [mm] | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 500 |

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

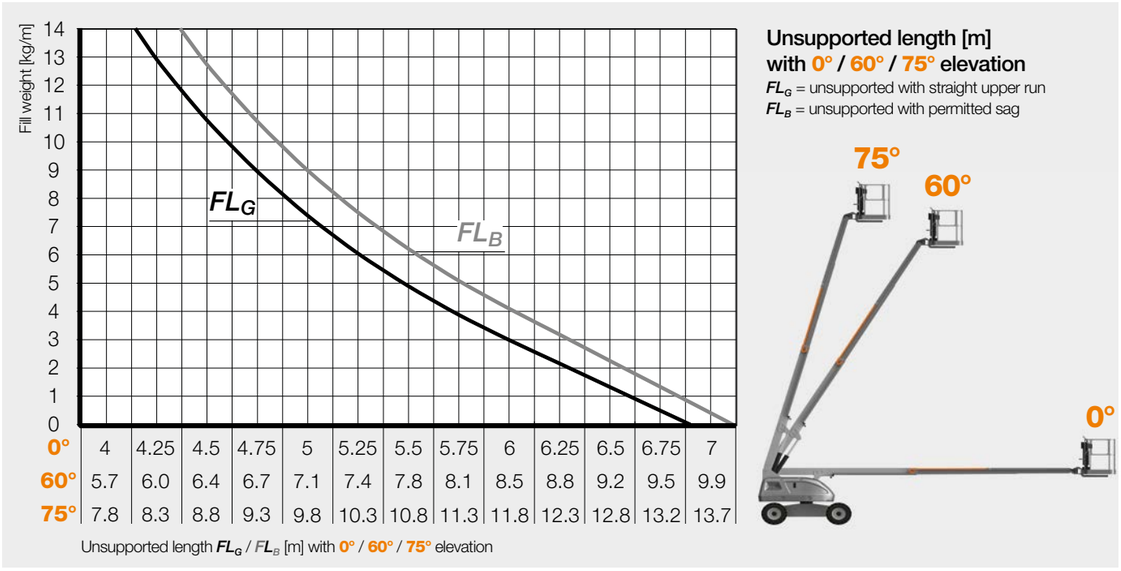


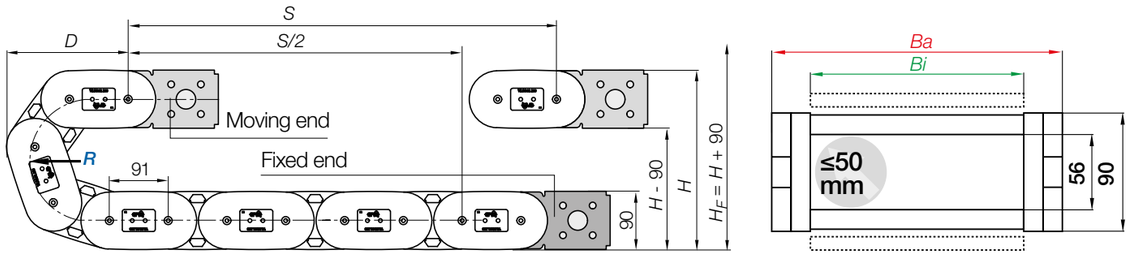


# YE | Series YE.56 | Installation dimensions

## High unsupported lengths, ideal for elevated axes

▶ igus.eu/chainfix



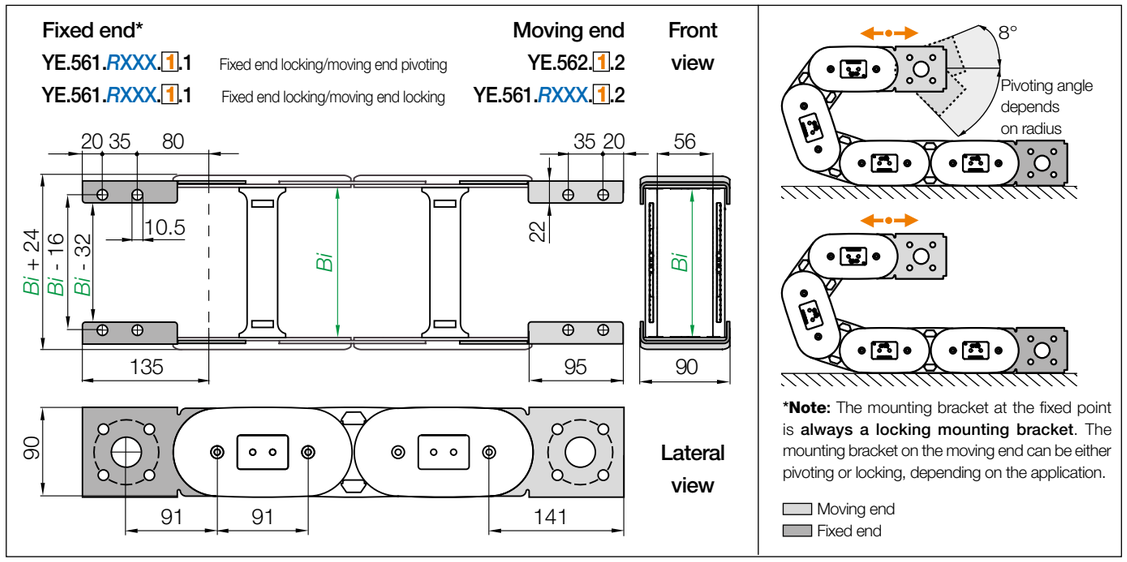

| R | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 500 |
|---|---|---|---|---|---|---|---|---|---|
| H | 380 | 430 | 480 | 580 | 680 | 780 | 880 | 980 | 1,180 |
| D | 281.5 | 306.5 | 331.5 | 381.5 | 431.5 | 481.5 | 531.5 | 581.5 | 681.5 |
| K | 500 | 575 | 655 | 815 | 970 | 1,125 | 1,285 | 1,440 | 1.755 |

The required clearance height: $H_F = H + 90$mm (with 3.0kg/m fill weight)

| | |
|---|---|
| Inner height [mm] | 56 |
| Pitch [mm/link] | 91 |
| Links/m | 11 |
| corresponds to[mm] | 1,001 |
| e-chain® length | $L_K = S/2 + K$ |

# YE | Series YE.56 | Accessories

## Steel mounting brackets | Locking | Pivoting




**Pivoting** | Recommended for unsupported applications
**Locking** | Recommended for standing/vertical hanging applications

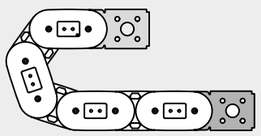
| Part No. full set for **moving end pivoting, fixed end* locking** | Part No. full set for **moving end locking, fixed end* locking** | Description Full set (both ends) |
|---|---|---|
| YE.562.*RXXX*.1.12.A | YE.561.*RXXX*.1.12.A | e-chains® always start and end with outer links, pre-assembled |

### Steel mounting brackets as individual parts

| Part number mounting bracket **only fixed end*, steel fixed version** | 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.562.1.2.A |

Complete Part No. with required radius (*R*), e.g. YE.562.*R200*.1.12.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.



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

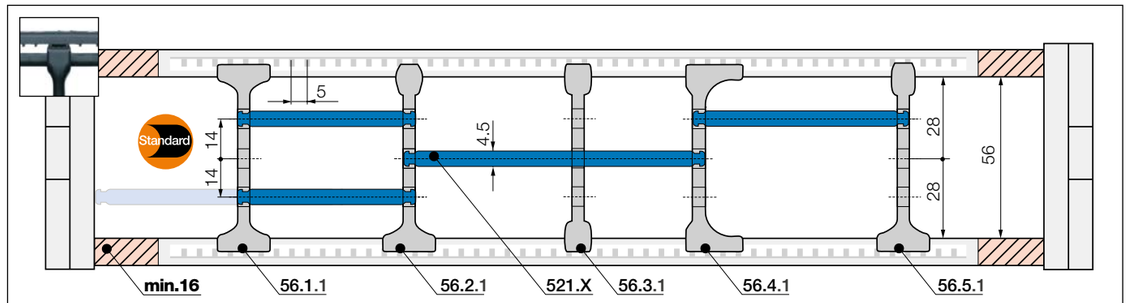
Strain relief, e.g. clamps, tiewrap plates, nuggets and clips are available from stock. Complete chainfix range with ordering options ▶ www.igus.eu/chainfix



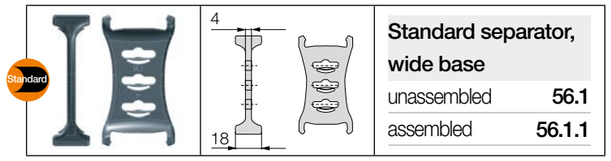


## Interior separation | Increase cable service life

Interior separation - to allow higher holding force ▶ next page



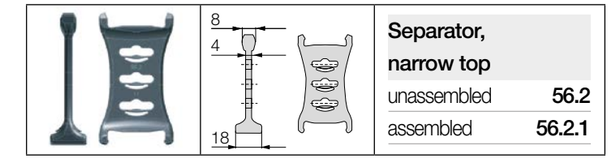

**Note:** Please be aware of the minimum lateral gap to the side links! **e-chain®: =16mm**
As standard separators are fitted every 2nd e-chain® link!




| Standard separator, wide base | |
|---|---|
| unassembled | **56.1** |
| assembled | **56.1.1** |

### Standard - for any application

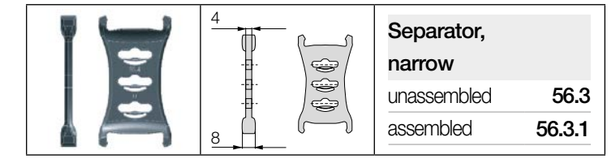
Separator with a wide base for maximum holding force.




| Separator, narrow top | |
|---|---|
| unassembled | **56.2** |
| assembled | **56.2.1** |

### For even faster installation

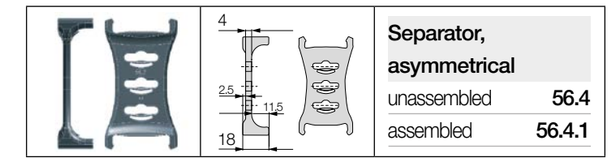
Wide on one side for high holding force, narrow on opposite side for easy cable fitting.




| Separator, narrow | |
|---|---|
| unassembled | **56.3** |
| assembled | **56.3.1** |

### For a large number of thin cables

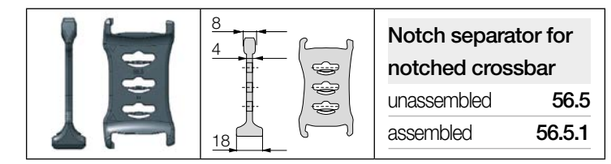
Separator with a narrow base for a large number of thin cables side by side. Saves space.




| Separator, asymmetrical | |
|---|---|
| unassembled | **56.4** |
| assembled | **56.4.1** |

### For side-mounted applications

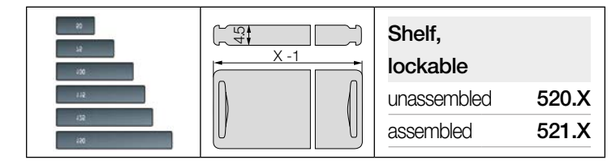
Asymmetrical separator, for defined gap distance. No additional spacers required.




| Notch separator for notched crossbar | |
|---|---|
| unassembled | **56.5** |
| assembled | **56.5.1** |

### Locks securely in preset increments

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



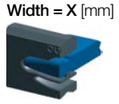

| Shelf, lockable | |
|---|---|
| unassembled | **520.X** |
| assembled | **521.X** |

### 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.

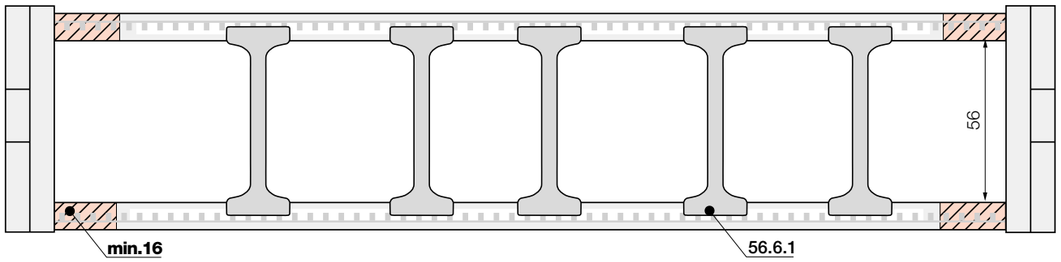
### Shelves

Width = X [mm]

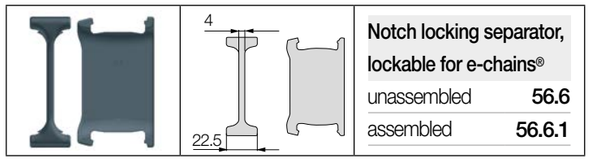


| X [mm] | unassembled | assembled | X [mm] | unassembled | assembled | X [mm] | unassembled | assembled |
|---|---|---|---|---|---|---|---|---|
| 050 | **520.050** | **521.050** | 150 | **520.150** | **521.150** | 300 | **520.300** | **521.300** |
| 065 | **520.065** | **521.065** | 175 | **520.175** | **521.175** | 350 | **520.350** | **521.350** |
| 075 | **520.075** | **521.075** | 200 | **520.200** | **521.200** | 375 | **520.375** | **520.375** |
| 100 | **520.100** | **521.100** | 225 | **520.225** | **521.225** | 387 | **520.387** | **520.387** |
| 125 | **520.125** | **521.125** | 250 | **520.250** | **521.250** | 450 | **520.450** | **521.450** |

## Interior separation | To allow higher holding force




**Note:** Please be aware of the minimum lateral gap to the side links! **e-chain® = 16mm**
As standard separators are fitted every 2nd e-chain® link!




| Notch locking separator, lockable for e-chains® | |
|---|---|
| unassembled | **56.6** |
| assembled | **56.6.1** |

### 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.



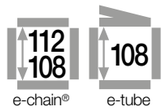






The igus® YE system is ideal for construction machines and work platforms - no screws, rivets or bolts that can come loose under vibration

# YEHD.112·YEHD.108·YRHD.108 | Product range




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


**e-chains®| YEHD.112 | Crossbars every link** (Crossbars removable along the inner and outer radius)
**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-chains® | Part No. e-tubes | Bi [mm] | Ba [mm] | YEHD.112 [kg/m] | YRHD.108 [kg/m] |
|---|---|---|---|---|---|
| YEHD.112.20.R.0 | YRHD.108.20.R.0 | 200 | 248 | ≈ 21.724 | ≈ 23.492 |
| YEHD.112.207.R.0 | – | 207 | 255 | ≈ 21.780 | – |
| YEHD.112.21.R.0 | – | 212 | 260 | ≈ 21.797 | – |
| YEHD.112.22.R.0 | – | 225 | 273 | ≈ 21.858 | – |
| YEHD.112.23.R.0 | – | 237 | 285 | ≈ 21.914 | – |
| YEHD.112.25.R.0 | YRHD.108.25.R.0 | 250 | 298 | ≈ 21.976 | ≈ 24.165 |
| YEHD.112.26.R.0 | – | 262 | 310 | ≈ 22.032 | – |
| YEHD.112.27.R.0 | – | 275 | 323 | ≈ 22.093 | – |
| YEHD.112.28.R.0 | – | 287 | 335 | ≈ 22.150 | – |
| YEHD.112.30.R.0 | YRHD.108.30.R.0 | 300 | 348 | ≈ 22.211 | ≈ 24.838 |
| YEHD.112.31.R.0 | – | 312 | 360 | ≈ 22.267 | – |
| YEHD.112.32.R.0 | – | 325 | 373 | ≈ 22.328 | – |
| YEHD.112.33.R.0 | – | 337 | 385 | ≈ 22.385 | – |
| YEHD.112.35.R.0 | YRHD.108.35.R.0 | 350 | 398 | ≈ 22.446 | ≈ 25.505 |
| YEHD.112.36.R.0 | – | 362 | 410 | ≈ 22.553 | – |
| YEHD.112.37.R.0 | – | 375 | 423 | ≈ 22.616 | – |
| YEHD.112.38.R.0 | – | 387 | 435 | ≈ 22.674 | – |

| Part No. e-chains® | Part No. e-tubes | Bi [mm] | Ba [mm] | YEHD.112 [kg/m] | YRHD.108 [kg/m] |
|---|---|---|---|---|---|
| YEHD.108.387.R.0* | – | 387 | 435 | ≈ 23.265 | – |
| YEHD.112.40.R.0 | YRHD.108.40.R.0 | 400 | 448 | ≈ 22.737 | ≈ 26.190 |
| YEHD.112.41.R.0 | – | 412 | 460 | ≈ 22.795 | – |
| YEHD.112.42.R.0 | – | 425 | 473 | ≈ 22.858 | – |
| YEHD.112.43.R.0 | – | 437 | 485 | ≈ 22.916 | – |
| YEHD.112.45.R.0 | – | 450 | 498 | ≈ 22.979 | – |
| YEHD.112.46.R.0 | – | 462 | 510 | ≈ 23.037 | – |
| YEHD.112.47.R.0 | – | 475 | 523 | ≈ 23.100 | – |
| YEHD.112.48.R.0 | – | 487 | 535 | ≈ 23.159 | – |
| YEHD.112.50.R.0 | YRHD.108.50.R.0 | 500 | 548 | ≈ 23.222 | ≈ 27.394 |
| YEHD.112.51.R.0 | – | 512 | 560 | ≈ 23.296 | – |
| YEHD.112.52.R.0 | – | 525 | 573 | ≈ 23.360 | – |
| YEHD.112.53.R.0 | – | 537 | 585 | ≈ 23.418 | – |
| YEHD.112.55.R.0 | – | 550 | 598 | ≈ 23.482 | – |
| YEHD.108.550.R.0* | – | 550 | 598 | ≈ 24.322 | – |
| YEHD.112.60.R.0 | – | 600 | 648 | ≈ 23.726 | – |

*YEHD.108 series with reinforced, screw-secured crossbars for extreme loads

**Available bend radii**

*R* [mm] | 250 | 400 | 500 | 600 |

Complete Part No. with required radius (*R*), e.g. **YEHD.112.38.250.0**

## 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

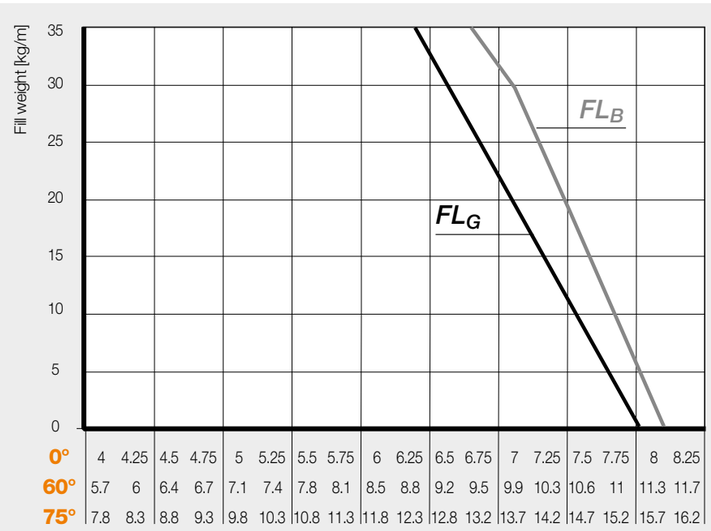
**More information ▶ www.igus.eu/YEHD.108**





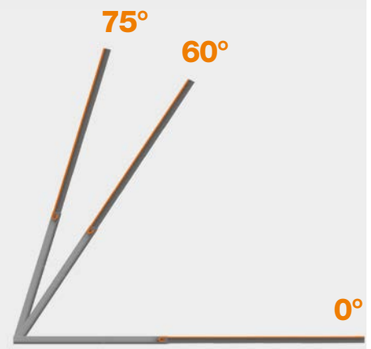
# YEHD.112·YEHD.108·YRHD.108 | Installation height

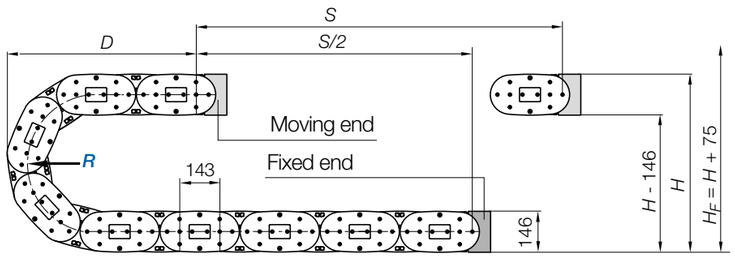

## High unsupported lengths, ideal for elevated axes




**Unsupported length [m] with 0° / 60° / 75° elevation**

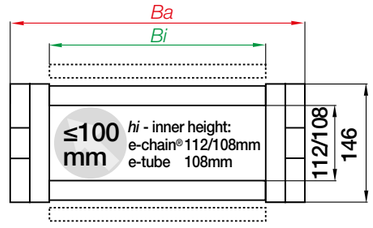
$FL_G$ = unsupported with straight upper run
$FL_B$ = unsupported with permitted sag




| R | 250 | 400 | 500 | 600 |
|---|---|---|---|---|
| H | 720 | 1,020 | 1,220 | 1,420 |
| D | 537.5 | 687.5 | 787.5 | 887.5 |
| K | 1,071 | 1,543 | 1,857 | 2,171 |

The required clearance height: $H_F = H + 75$mm (with 10kg/m fill weight)

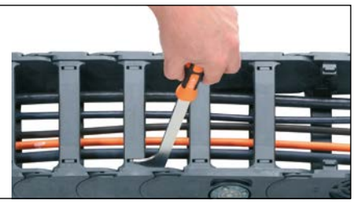



| | |
|---|---|
| YEHD.112 e-chain® inner height | 112 |
| YEHD.108 e-chain® inner height | 108 |
| YRHD.108 e-tube inner height | 108 |
| Pitch [mm/link] | 143 |
| Links/m | 7 |
| corresponds to[mm] | 1,001 |
| e-chain® length | $L_K = s/2 + K$ |

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

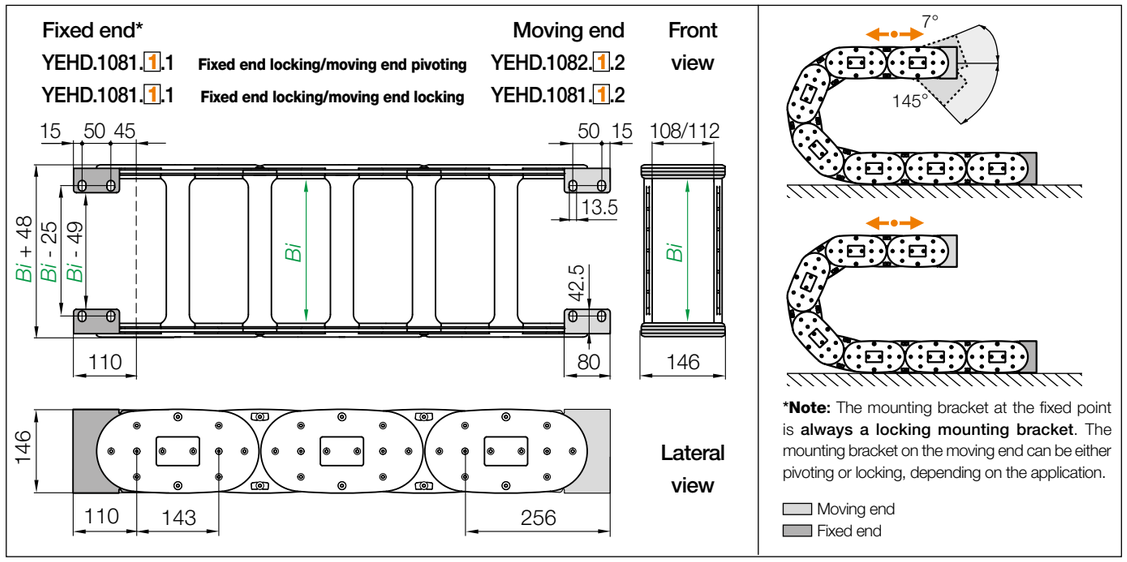
- e-chain® opener tools for easy opening and closing of e-chains®
- Simple opening and closing of e-chain® crossbars
- Also for use in hard to reach locations
- Significant assembly time reduction

**More information ▶ www.igus.eu/E4savetime**



# YEHD.112·YEHD.108·YRHD.108 | Accessories

## Steel mounting brackets | Pivoting | Locking



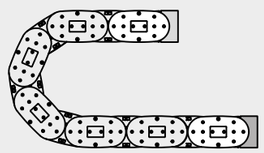

**Pivoting** | Recommended for unsupported applications
**Locking** | Recommended for standing/vertical hanging applications

| Part No. full set for<br>**moving end pivoting,**<br>**fixed end* locking** | Part No. full set for<br>**moving end locking,**<br>**fixed end* locking** | Description mounting bracket<br>Complete fastening set<br>(moving end and fixed end) |
|---|---|---|
| YEHD.1082.1.12.A | YEHD.1081.1.12.A | e-chains® always start and end with outer links, pre-assembled |

### Steel mounting brackets as individual parts

| Part number mounting bracket<br>**only fixed end*, steel fixed version** | Part number mounting bracket<br>**only moving end, steel fixed version** | Part number mounting bracket<br>**only moving end, steel pivoting** |
|---|---|---|
| YEHD.1081.1.1.A | YEHD.1081.1.2.A | 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

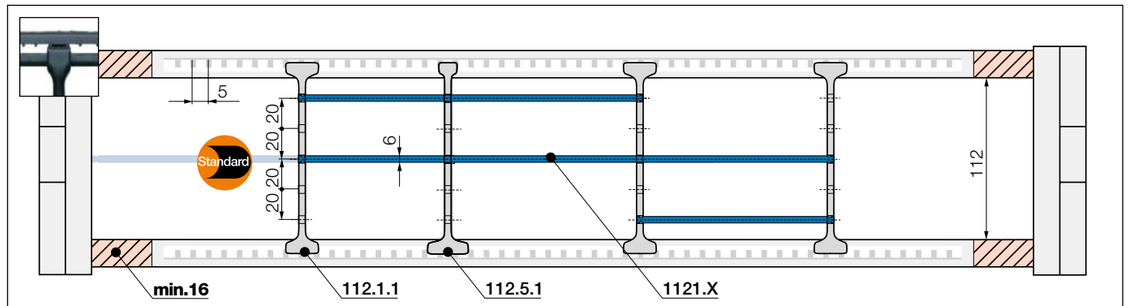
Strain relief, e.g. clamps, tiewrap plates, nuggets and clips are available from stock. Complete chainfix range with ordering options ▶ www.igus.eu/chainfix





# YEHD.112 | Accessories

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



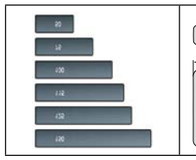

**Note:** Please be aware of the minimum lateral gap to the side links! **e-chain®: 16mm**
As standard separators are fitted every 2nd e-chain® link!


**Standard separator, wide base**
unassembled **112.1**
assembled **112.1.1**

### Standard - for any application
Separator with a wide base for maximum holding force.


**Notch separator for notched crossbar**
unassembled **112.5**
assembled **112.5.1**

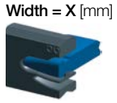
### Locks securely in preset increments
Notch separator for exact positioning. Recommended for side-mounted applications.




**Shelf, lockable**
unassembled **1120.X**
assembled **1121.X**

### 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.

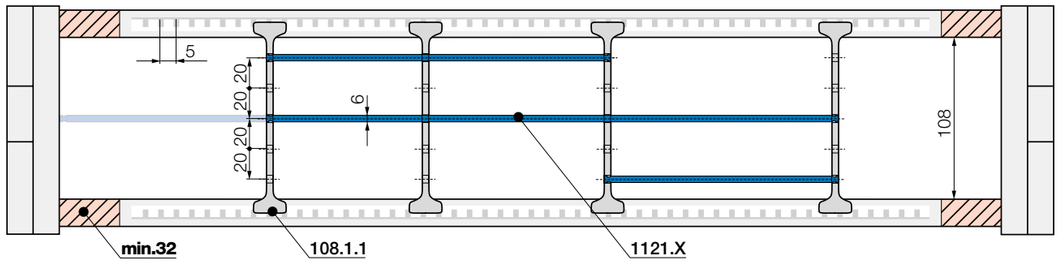
### Shelves
Width = X [mm]



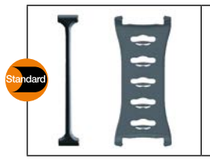
| X [mm] | unassembled | assembled | X [mm] | unassembled | assembled | X [mm] | unassembled | assembled |
|---|---|---|---|---|---|---|---|---|
| 050 | **1120.050** | **1121.050** | 150 | **1120.150** | **1121.150** | 300 | **1120.300** | **1121.300** |
| 065 | **1120.065** | **1121.065** | 175 | **1120.175** | **1121.175** | 350 | **1120.350** | **1121.350** |
| 075 | **1120.075** | **1121.075** | 200 | **1120.200** | **1121.200** | 375 | **1120.375** | **1121.375** |
| 100 | **1120.100** | **1121.100** | 225 | **1120.225** | **1121.225** | 387 | **1120.387** | **1121.387** |
| 125 | **1120.125** | **1121.125** | 250 | **1120.250** | **1121.250** | 450 | **1120.450** | **1121.450** |

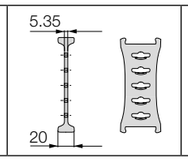
# YRHD.108·YEHD.108 | Accessories

## Only for YRHD.108 and YEHD.108 | Interior separation




**Note**: Please be aware of the minimum lateral gap to the side links! **e-tubes: 32mm**
As standard separators are fitted every 2nd e-chain® link!

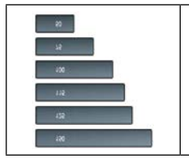


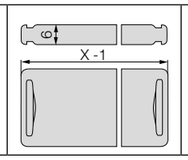



| Standard separator, wide base | |
|---|---|
| unassembled | **108.1** |
| assembled | **108.1.1** |

### Standard - for any application

Separator with a wide base for maximum holding force.





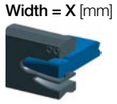

| Shelf, lockable | |
|---|---|
| unassembled | **1120.X** |
| assembled | **1121.X** |

### 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]

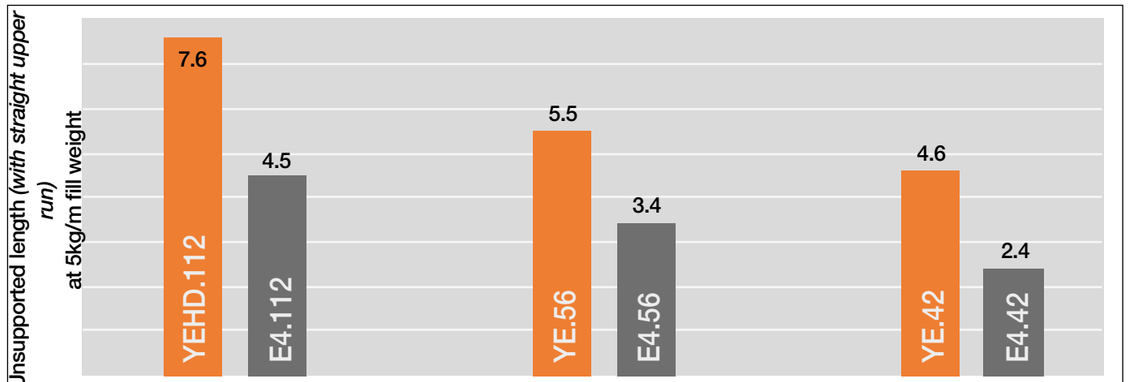


| X [mm] | unassembled | assembled | X [mm] | unassembled | assembled | X [mm] | unassembled | assembled |
|---|---|---|---|---|---|---|---|---|
| 050 | **1120.050** | **1121.050** | 150 | **1120.150** | **1121.150** | 300 | **1120.300** | **1121.300** |
| 065 | **1120.065** | **1121.065** | 175 | **1120.175** | **1121.175** | 350 | **1120.350** | **1121.350** |
| 075 | **1120.075** | **1121.075** | 200 | **1120.200** | **1121.200** | 375 | **1120.375** | **1121.375** |
| 100 | **1120.100** | **1121.100** | 225 | **1120.225** | **1121.225** | 387 | **1120.387** | **1121.387** |
| 125 | **1120.125** | **1121.125** | 250 | **1120.250** | **1121.250** | 450 | **1120.450** | **1121.450** |





# YEHD.112·YEHD.108·YRHD.108 | Application




Tested in the igus® laboratory: comparison of YEHD and YE vs. E4.1 unsupported length at 5kg/m fill weight

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