Solutions for vertical motion

liftband

Cable guidance up to 42.65ft. (13m) height with limited installation space

Advantages of liftband:

- For high vertical applications that need a compact solution
- Modular, quiet, space-saving; vertical guidance for media, energy and data
- Max. extension length 42.65ft. (13m)
- Available in 2 sizes
- Alternative to zig-zag solutions, but lighter and requires less installation space
- Vertical applications implemented with ease

When to use another system:

- With very high loads that have to be guided vertically
  ► **zig-zag applications, page 129**
- For high dynamics with lateral accelerations
  ► **guidelok slimline P, page 1190**

Extended:
secure cable supply up to 42.65ft. (13m)

Robust drive plate:
for easy attachment to your application

Safe and strong:
nylon straps for secure guidance and high fill weight

Tough:
even with lateral system movements
through "push-button" joint

Light:
lightweight, compact design

Available in 2 sizes:
easy triflex® for easy fitting of cables

Chamfered basket:
for safe operation

Retracted:
safe storage in a solid steel basket

Optimized for space:
compact steel basket for best use of space

Cable guidance up to 42.65 ft. (13m) height with limited installation space - liftband

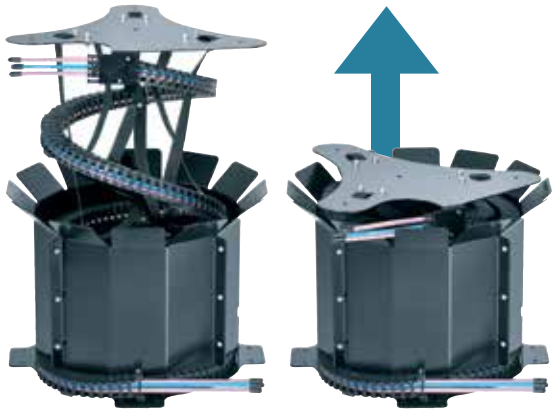
liftband - modular, quiet, space-saving - vertical guidance of energy, data and media. With the liftband, high vertical applications can be implemented, which have a lot of space available horizontally but only allow for low system heights.

- 2 sizes: inner width .98" and 1.26" (25 and 32mm)
- 2 bend radii: 6.89" and 9.84" (175 and 250mm)
- Alternative to zig-zag solutions
- Lighter and with reduced installation space
- Vertical applications implemented with ease
- Max. extension length: .51" (13m)

Typical industries and applications

● Theatre and stage technology ● Indoor cranes ● Mobile telescopic antennas

liftband | Selection table | Technical data

Series	Extension height ft. (m)	Inner height *hi* in. (mm)	Inner width *Bi* in. (mm)	Bend radius ≤ *R* in. (mm)	Cable ≤ ø in. (mm)
					
LB.E332.25 [1]	3.28 - 42.65 (1 - 13)	.08 x .51 (2 x 13)	.98 (25)	6.89 (175)	ø .35 (9)
LB.E332.32 [2]	3.28 - 42.65 (1 - 13)	.08 x .67 (2 x 17)	1.26 (32)	9.84 (250)	ø .47 (12)

liftband -
cable guidance up to .51"(13m) height
with limited installation space

1) Simply press cables up to a diameter of .35" (9mm) into the e-chain®/pull cables up to a diameter of .43" (11mm) into the e-chain®

2) Simply press cables up to a diameter of .47" (12mm) into the e-chain®/pull cables up to a diameter of .59" (15mm) into the e-chain®

Available from stock. Ready to ship in 3-5 business days

*Average time before the ordered goods are dispatched.

Speed	**≤ 3.28ft/s (1m/s)**
Acceleration	**≤ 6.5 ft/s (2m/s²)**
Lateral speed	**≤ 3.28ft/s (1m/s)**
Lateral acceleration	**≤ 6.56ft/s (2m/s²)**

Theatre, stage and lighting technology: (the standard e-spool® is not in accordance with the DIN EN 17206 guidelines for stage and theatre operations. If you have questions, please get in touch with igus®.)

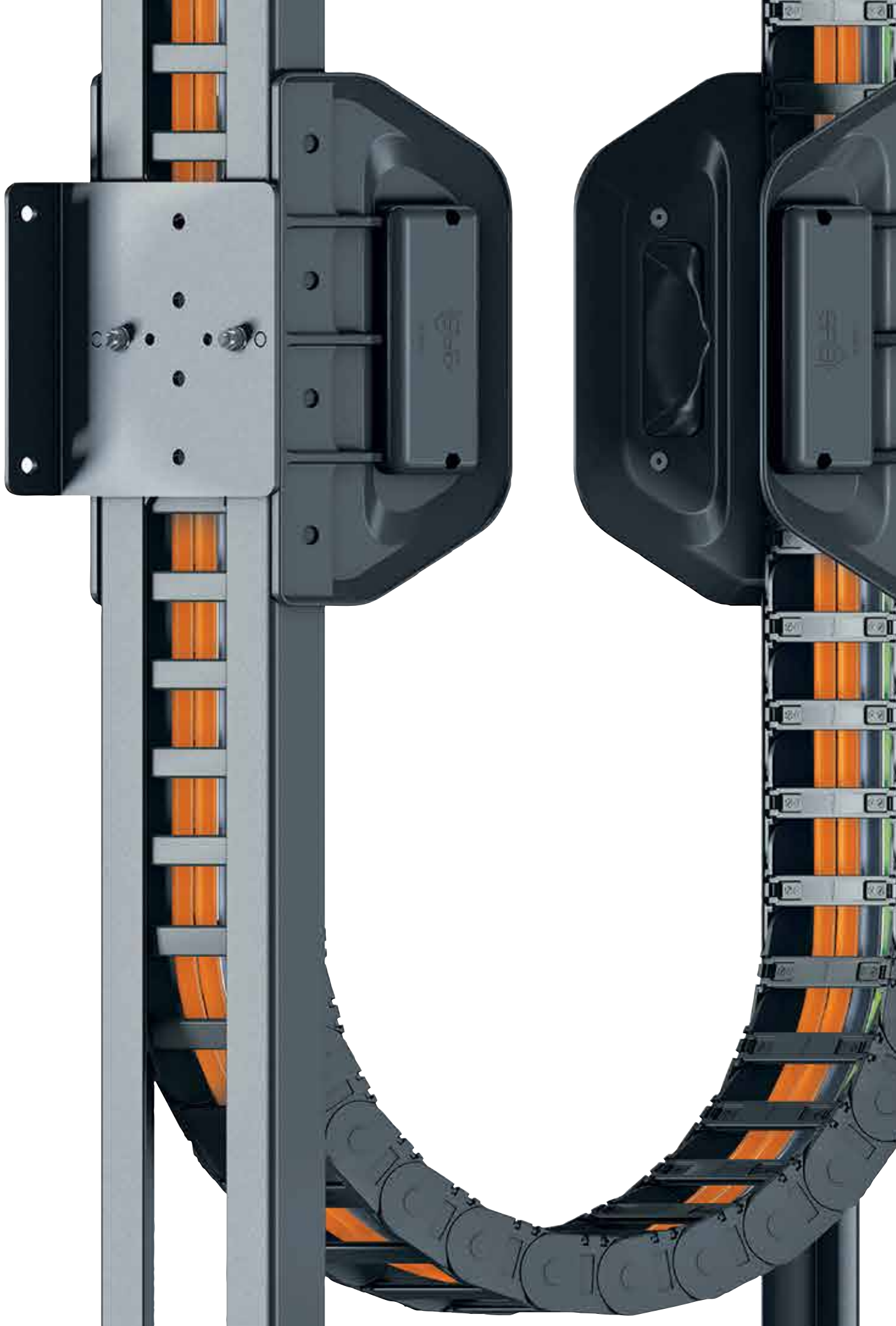
liftband Series LB.E332.25 | e-chain® with "easy" design | inner width .98" (25 mm)

Part No.	Extension Height	*Bi*	*hi*	≤ *R*	Cable
liftband	ft (m)	in. (mm)	in. (mm)	in. (mm)	≤ Ø in. (mm)
LB.E332.25.2.175.1.01.0	3.28 (1)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.2.01.0	6.56 (2)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.3.01.0	9.84 (3)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.4.01.0	13.12 (4)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.5.01.0	16.41 (5)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.6.01.0	19.69 (6)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.7.01.0	22.97 (7)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.8.01.0	26.25 (8)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.9.01.0	29.53 (9)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.10.01.0	32.81 (10)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.11.01.0	36.10 (11)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.12.01.0	39.37 (12)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)
LB.E332.25.2.175.13.01.0	42.65 (13)	.98 (25)	.08 x .51 (2 x 13)	6.89 (175)	Ø .35 (9)

liftband Series LB.E332.32 | e-chain® with "easy" design | inner width 1.26" (32 mm)

Part No.	Extension Height	*Bi*	*hi*	≤ *R*	Cable
liftband	ft (m)	in. (mm)	in. (mm)	in. (mm)	≤ Ø in. (mm)
LB.E332.32.2.250.1.01.0	3.28 (1)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.2.01.0	6.56 (2)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.3.01.0	9.84 (3)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.4.01.0	13.12 (4)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.5.01.0	16.41 (5)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.6.01.0	19.69 (6)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.7.01.0	22.97 (7)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.8.01.0	26.25 (8)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.9.01.0	29.53 (9)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.10.01.0	32.81 (10)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.11.01.0	36.10 (11)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.12.01.0	39.37 (12)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)
LB.E332.32.2.250.13.01.0	42.65 (13)	1.26 (32)	.08 x .67 (2 x 17)	9.84 (250)	Ø .47 (12)

liftband test setup in the igus® test lab



Solutions for vertical motion

guidelok slimline P

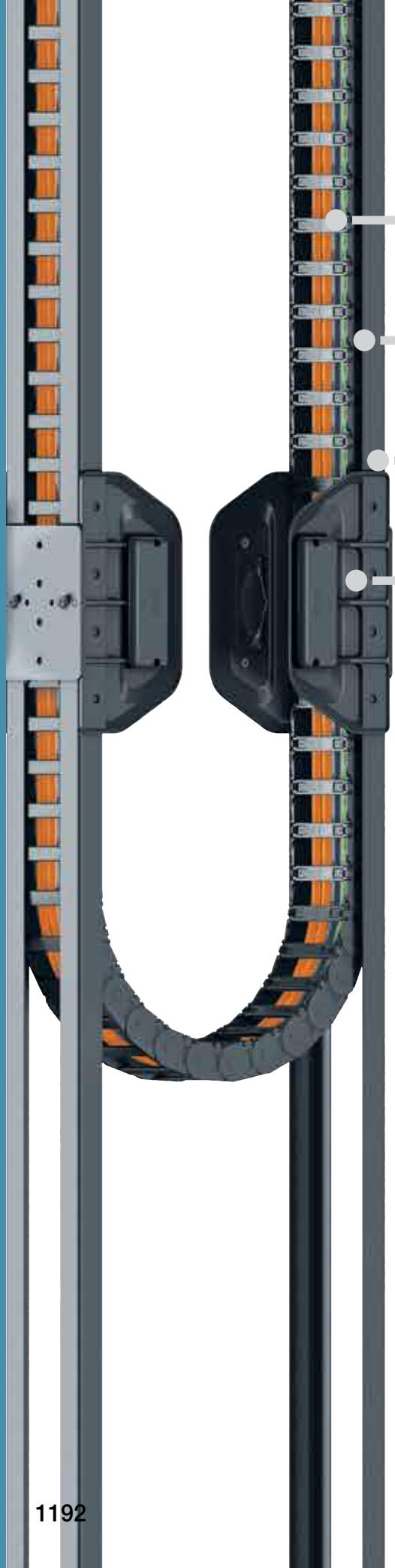
Safe vertical guidance

Advantages of guidelok slimline P:

- Up to 22.97ft/s (7m/s) and 32.81ft/s² (10m/s²)
- Up to 80% less trough required, saving costs and weight
- For hanging systems up to 164ft (50m)
- No swinging of the e-chain®, high reliability due to the lock mechanism and guiding rails
- Fast and easy installation
- Reduced noise
- Easy access for servicing
- Energy, data and all kinds of media can be safely guided

When to use another system:

- With very high loads that have to be guided vertically
  ► **zig-zag applications, page 129**
- For high vertical applications with limited space
  ► **liftband, page 1184**



Safe guidance:
even for high travel speeds

Quick assembly:
lightweight glass-fiber reinforced plastic profiles ensure easy and quick installation

Long travels:
travel lengths up to 164ft (50m) in 4.92ft (1.5m) or 6.56ft (2m) channel section length possible

No swinging of the e-chain®:
guidelok safety catches the e-chain® even under high lateral accelerations

Safe vertical guidance - guidelok slimline P

In highly dynamic storage and retrieval systems a horizontal movement speed exceeding 7m/s is not uncommon. The advanced igus® guidelok slimline guides e-chains® even at the fastest speeds. Note: Systems of this type should be designed with our engineering team. We can provide a quotation quickly - please contact us.

- Up to 22.97ft/s (7m/s) and 32.81ft/s² (10m/s²)
- Up to 80% less trough required, saving costs and weight
- For hanging systems up to 164ft (50m)
- No swinging of the e-chain®, high reliability due to the lock mechanism and guiding rails
- Fast and easy installation
- Reduced noise
- Easy access for servicing
- Low weight due to plastic construction
- Energy and data and all kinds of media can be safely guided

Typical industries and applications

● Storage and retrieval units ● Lifts ● Elevators ● Construction and crane lifts ● Hoists ● Automatic miniload warehouses

More information ▶ www.igus.com/glslp

guidelok slimline P | Selection table

Series	For e-chains® series	Inner height *hi* in. (mm)	Inner width *Bi* in. (mm)	Bend radius *R* in. (mm)
		**guidelok slimline P -** safe vertical guidance		
GLSL.P.2700.10	2700	1.38 (35)	3.94 (100)	5.91 - 9.84 (150 - 250)

Available from stock. Ready to ship in 3-5 business days

*Average time before the ordered goods are dispatched.

Find a video online
▶ www.igus.com/glslp-movie

Made completely from plastic, cost-effective, light and easy to assemble - guidelok slimline P.S

- Significant savings in cost and weight
- Fast, safe and easy assembly with clip-on guide rails
- Easy access for servicing
- Energy, data and all kinds of media can be safely guided
- Guide hanging applications up to 164ft (50m) in height

More Information online ▶ www.igus.com/glsl-ps

igus® solutions for special applications | Overview

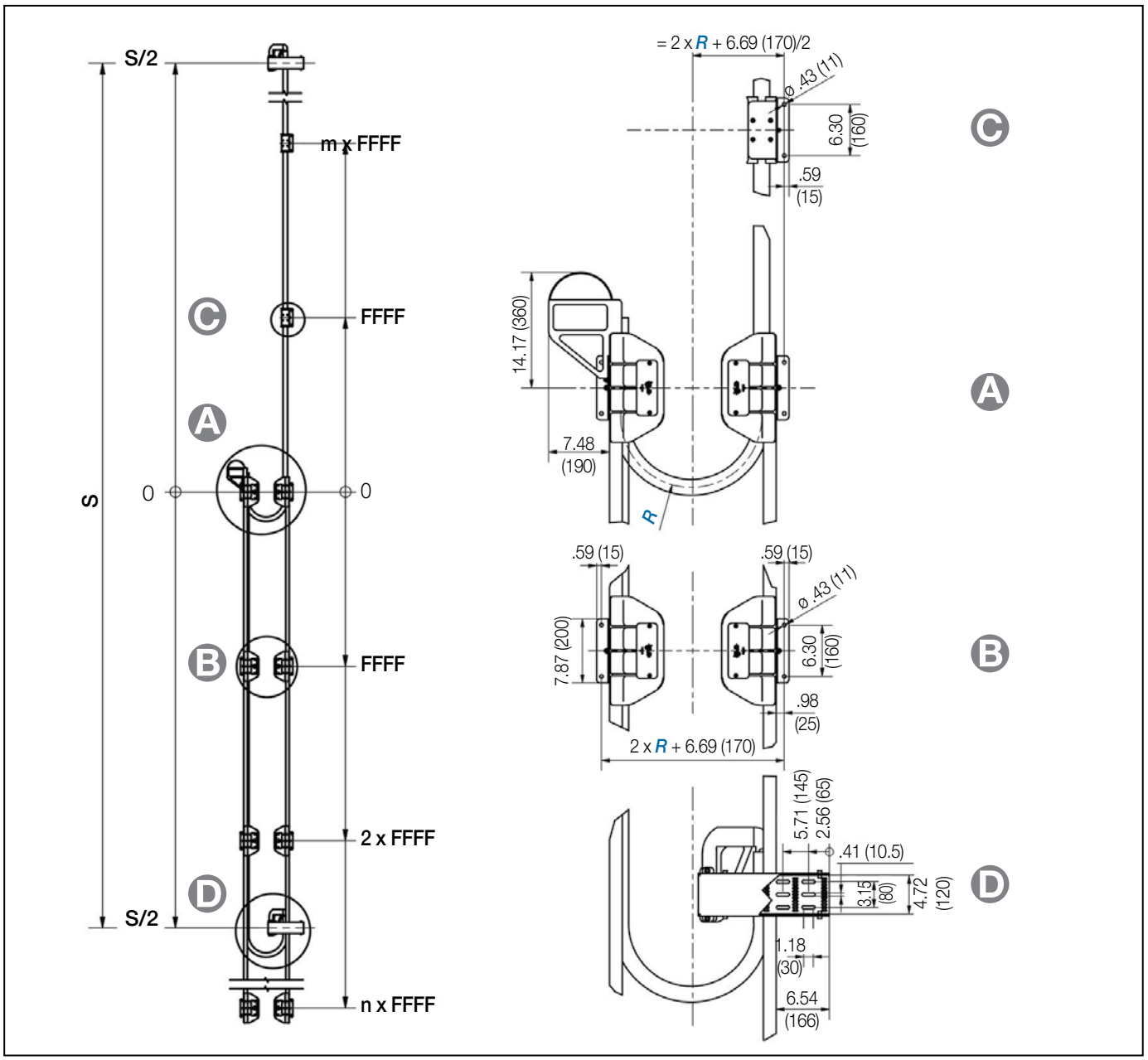
Part No. guidelok P	For series	*Bi* in. (mm)	*R* in. (mm)
GLSL.P.2700.10.*R*.LLLL/FFFF	2700	3.94 (100)	| 5.91 (150) | 6.89 175 | 7.87 200 | 9.84 250 |

LLLL = Total length **FFFF** = Channel section length

Special versions with different widths, radii and channel section lengths possible. Please consult igus® for delivery time.

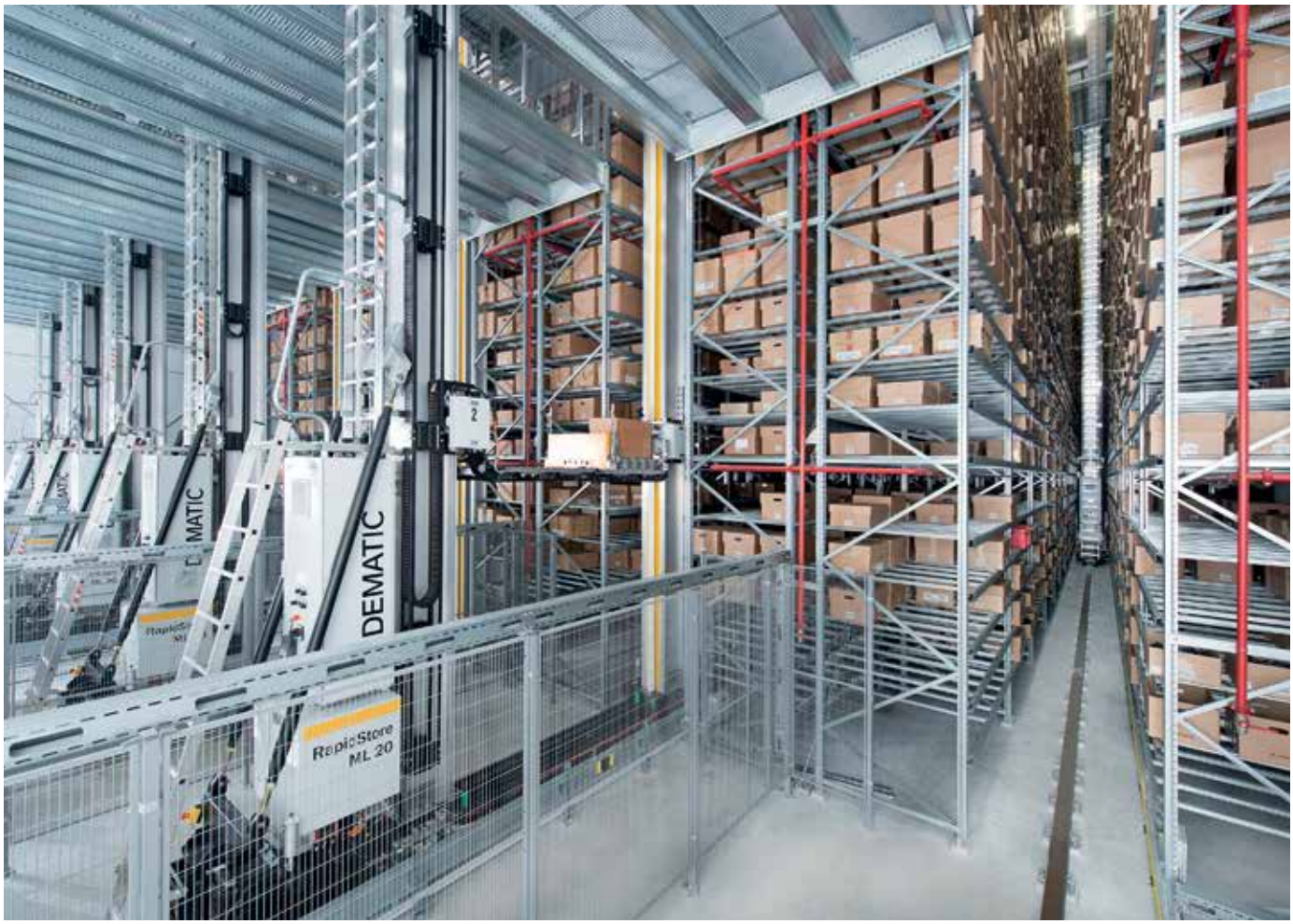
Complete Part No. with required radius (*R*) and required value for total length and channel section length
Example: **GLSL-P-2700-10-150-9000/1500**

Installation dimensions



Technical data

Speed vertical	≤ 22.97ft (7m/s)
Acceleration	≤ 32.81ft (10m/s²)

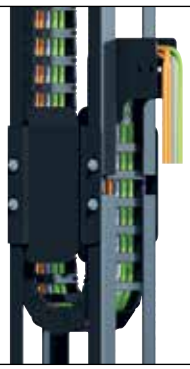


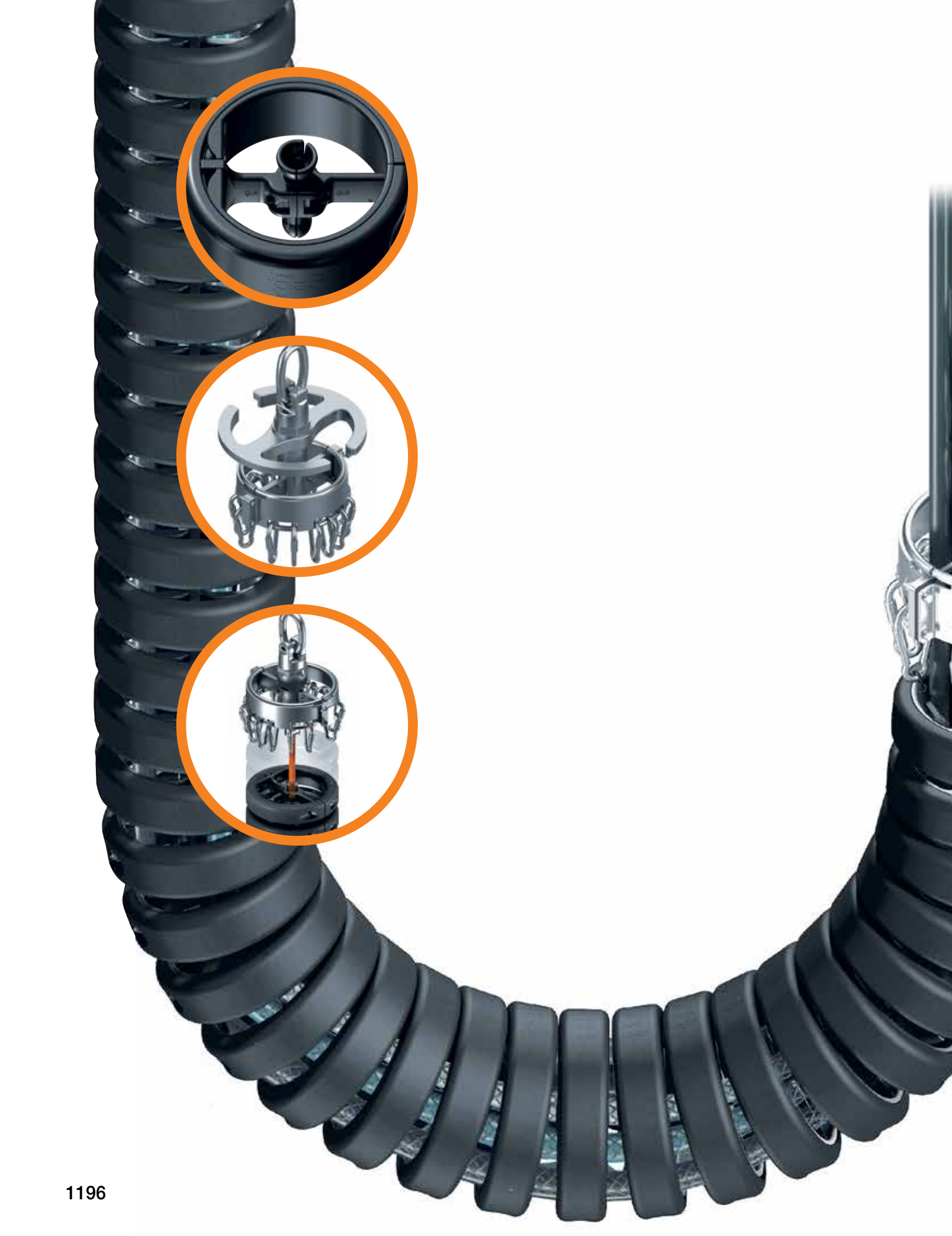
guidelok slimline P in a high-bay warehouse

Cable guidance for vertical applications: lighter, low-noise, easier - lower costs - guidelite GLV

- The "guidelite vertical" (GLV) guide trough guides e-chains® and cables for vertical applications such as high bay warehouse safely in one system
- Segmental design and lightweight components reduce weight and noise
- Open design and self-locking screws facilitate easy assembly
- Significant savings in costs and weight when compared with a complete housing
- Easy access for servicing

More Information online ▶ www.igus.com/GLV





Solutions for vertical motion

e-loop®

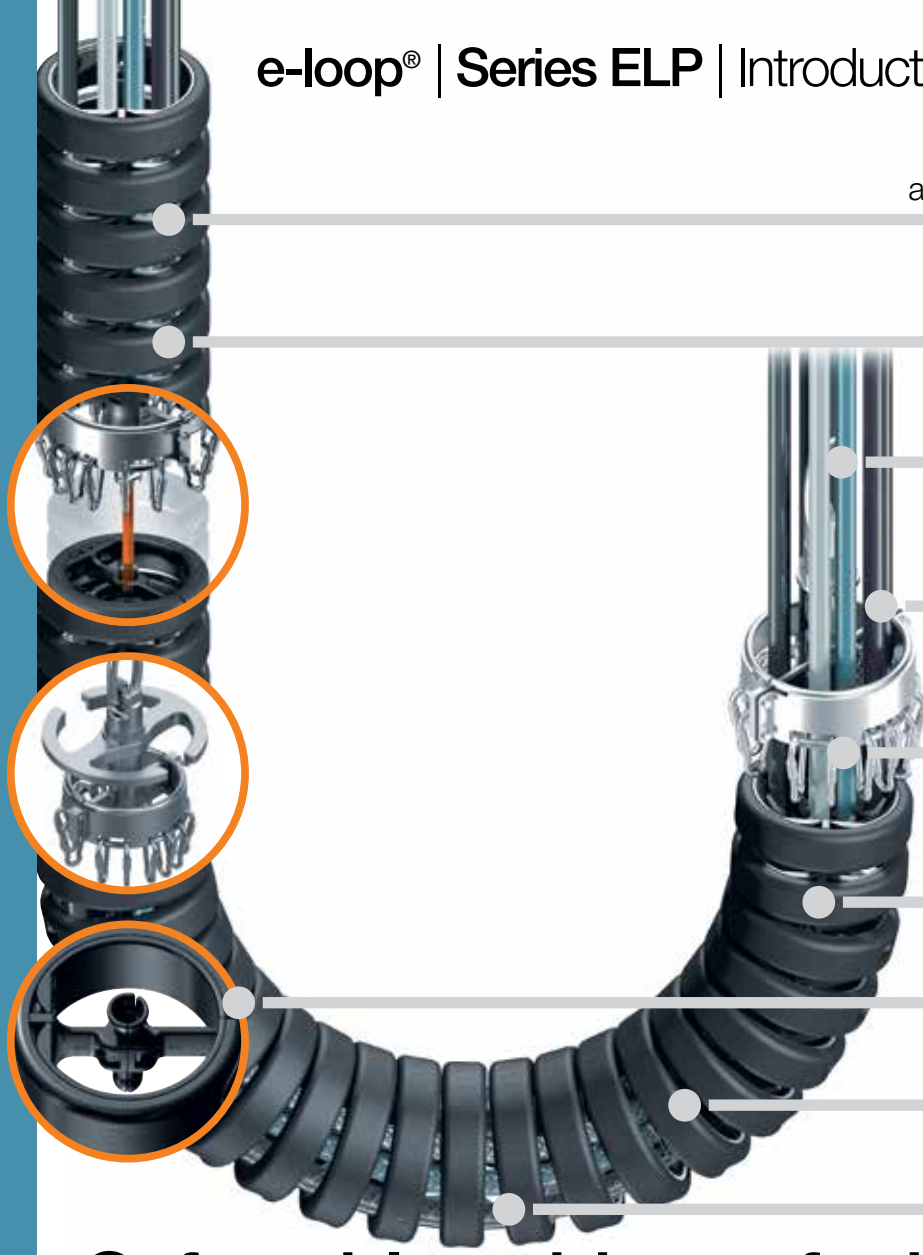
Safe cable guidance for hanging applications- e-loop

Advantages of e-loop®:

- The e-loop® as an alternative to the service loop - available as a dynamic version with crossbars every link and as a static version with crossbars every 2nd link
- Dynamic e-loop®: for all moving applications, e.g. top drive systems
- Static e-loop®: for purely static cable guidance. Offers the opportunity to combine large cable packages as a single unit, e.g. on oil rigs
- Modular system, easy to open
- Offers operational reliability due to locking tension of all bolted connections
- An optional "drop safe" version is also available, with additional screw locking
- Maximum cable or hose diameters: 4.25" (108mm)
- Protects against impact due to robust PU outer body
- Dirt and weather-resistant
- Easy maintenance
- Robust mounting brackets hook or flange solution for quick and easy installation
- All components are individually replaceable
- Cable-friendly 2- or 4-chamber design interior separation

When to use another system:

- The offshore e-chain® (OSC) is also suitable for extremely high loads that have to be guided vertically
  ► **www.igus.com/industries-offshore-e-chain**



Modular system:
all components are individually replaceable

Weather- and dirt-proof:
optimal for the offshore industry

Maximum permissible mass [1]:
up to 12 tons for ELP.430.01

High operational safety:
screw connection of all elements
and optional screw lock

Tough hook-type mounting brackets:
simple and quick assembly, optionally
available with flange type

Simple and time-saving maintenance:
openable e-loop®, allows cables and
elements can be quickly replaced

Cable-friendly: 2- or 4-chamber
design interior separation

Robust PU outer body:
protects against impacts

Defined bend radius:
prevents excessive bending of the cables

1 mounting brackets; higher loads possible with special solutions

Safe cable guidance for hanging applications - e-loop®

To guide cables safely in hanging applications, igus® has developed the e-loop® as an alternative to the service loop - ideally suited for three-dimensional applications. The e-loop® combines the advantages of a plastic energy chain with those of a high-strength pull rope. Inside the e-chain®, the pull rope transfers the tensile force to the hook-type mounting brackets and the structure. The cable package inside the e-loop® thus only carries its own weight. The modular e-chain® made of high-performance polymer always enforces a defined bend radius and easily copes with vibration and impacts.

- The e-loop® as an alternative to the service loop - available as a dynamic version with crossbars every link and as a static version with crossbars every 2nd link, e.g. on the cable routing from the drilling rig down to the drill floor
- Maximum cable or hose diameters: 4.25" (108mm)
- An optional "drop safe" version is also available, with additional screw locking
- Hook-type mounting brackets also optionally available in stainless steel

Typical industries and applications

● Offshore ● Oil and gas industry ● Shore power supply ● Construction machinery ● Wind turbine

e-loop® | Series ELP | Selection table | Technical data

Series	Inner width	Outer width	Bend radius	Max. cable ø	Total weight
e-loop®	*Bi* ø in. (mm)	*Ba* ø in. (mm)	*R* in. (mm)	in. (mm)	max.[1] (tons)

e-loop®,
dynamic, crossbars every link
for all moving applications

ELP.220.01.D	5.91 (150)	8.66 (220)	15.00 (380)	1.50 (38)	4.409 [1]
ELP.300.01.D	9.05 (230)	11.81 (300)	19.69 (500)	2.95 (75)	7.716 [1]
ELP.430.01.D	14.17 (360)	16.93 (430)	26.77 (680)	4.25 (108)	12.125 [1]

e-loop®,
static, with crossbars every 2nd link
for purely static cable guidance

ELP.220.01.S	5.91 (150)	8.66 (220)	6.89 (175)	1.50 (38)	4.409 [1]
ELP.300.01.S	9.05 (230)	11.81 (300)	8.27 (210)	2.95 (75)	7.716 [1]

*1) With standard mounting brackets; higher loads possible with special solutions.

Systems of this type should be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.com/contact

Delivery time upon request*
*Average time before the ordered goods are dispatched.

Speed	**≤ 9.84ft/s (3.0m/s)**
Acceleration FL_B	**≤ 8.20ft/s² (2.5 m/s²)**
Material - permitted temperature °F	**-22°F (-30°C) up to 122°F (+50°C)**

White paper: cable guiding in vertical drilling rigs

A newly developed alternative to the service loops on vertical drilling rigs offers significantly longer service life under extremely tough environmental conditions. In this white paper, you can find among other topics:
● Application areas of the e-loop® ● State of the art for service loops
Download whitepaper ▶ www.igus.com/e-loop

For ELP.220.01 and ELP.300.01 series, the interior consists of four injection molded parts. Two of them form the crossbar in the e-chain® link and are screwed on (captively). Due to being screwed connections, they are clamped onto the pull rope

External protectors made of impact absorbing PU protector material ensure that the e-chain® and the cables are protected when hard impacts occur

The individual e-chain® links are clamped onto the high-strength pull rope. The plastic-fiber rope absorbs the entire tensile force of e-loop®

Tough hook-type mounting brackets, optionally with flange design. The plastic-fiber rope, which absorbs the entire tensile force of the e-loop®, is an integral part of the brackets

e-loop® with rollers and handles

To facilitate the movement of cable packages across the floor, the e-loop® can be additionally equipped with rollers. In addition, handles can be installed on the e-chain® links, in combination with the rollers. This additionally facilitates movement of the e-loop®, e.g. over quays in ports.

Upon request - more information online ▶ www.igus.com/e-loop

Strongest e-chain® - double-protected - flexible - offshore e-chain® OSC

- For the toughest conditions - when safety, long life and harsh environmental influences are decisive criteria for the function of the system
- The OSC series combines the advantages of a plastic e-chain® with those of a high-strength pull rope, which is guided in both e-chain® links
- Modular system, easy to open if required
- All components are individually replaceable
- Interior separation can be individually adapted to project and cable package

More Information online ▶ www.igus.com/offshore-chain-osc

The e-loop® is used for cable guidance on the top drive of a drilling rig. Compared to conventional service loops, the igus® e-loop® is a compact system that bundles all cables and hydraulic hoses, but also enables the simple replacement of individual cables and elements. This minimizes maintenance costs and maximizes the operating time of the system

The e-loop® is used in a bucket wheel excavator made by Holcim (Germany) GmbH. The modular system made of high-performance plastic always enables a defined bend radius and can handle vibration and impacts. Instead of the planned eight hours of installation time, work with the e-loop® was completed after just four hours

e-loop® | Series ELP.200 | Product range

For a maximum permissible mass of up to 4.409 tons[1)]

5.91"

ELP.220.01.D | Crossbars every link, dynamic - for all moving applications
ELP.220.01.S | With crossbars every 2nd link, static - for purely static cable guidance

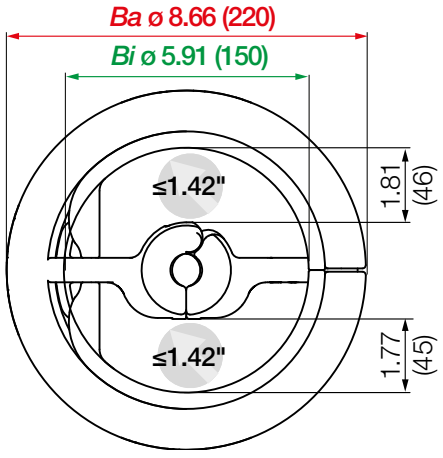
Part No. e-loop®	*Bi* ø in. (mm)	*Ba* ø in. (mm)	*R* in. (mm)	≤ *d* in. (mm)	lbs/ft (kg/m)
ELP. 220. 01.D	5.91 (150)	8.66 (220)	15.00 (380)	1.50 (38)	≈ 12.10 (18.0)
ELP. 220. 01.S	5.91 (150)	8.66 (220)	6.89 (175)	1.50 (38)	≈ 7.39 (11.0)

1) With standard mounting brackets; higher loads possible with special solutions

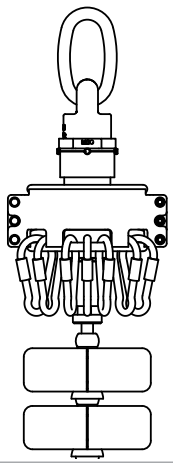
This type of system should be designed in conjunction with our engineering team.

Installation dimensions | Overview

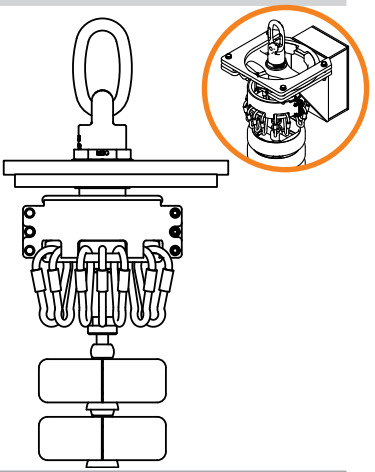
2-chamber design interior separation



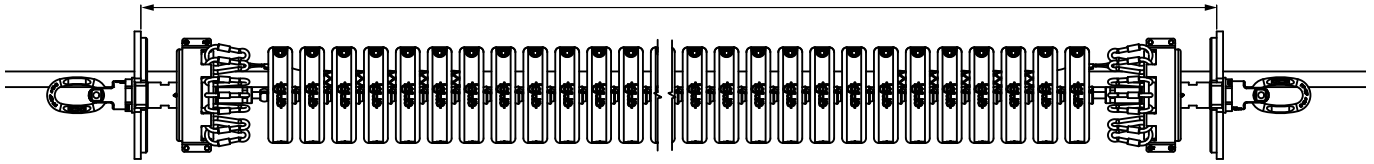
Standard fastening: hook-type mounting bracket **without** flange



Special solution: hook-type mounting bracket **with** flange, optional



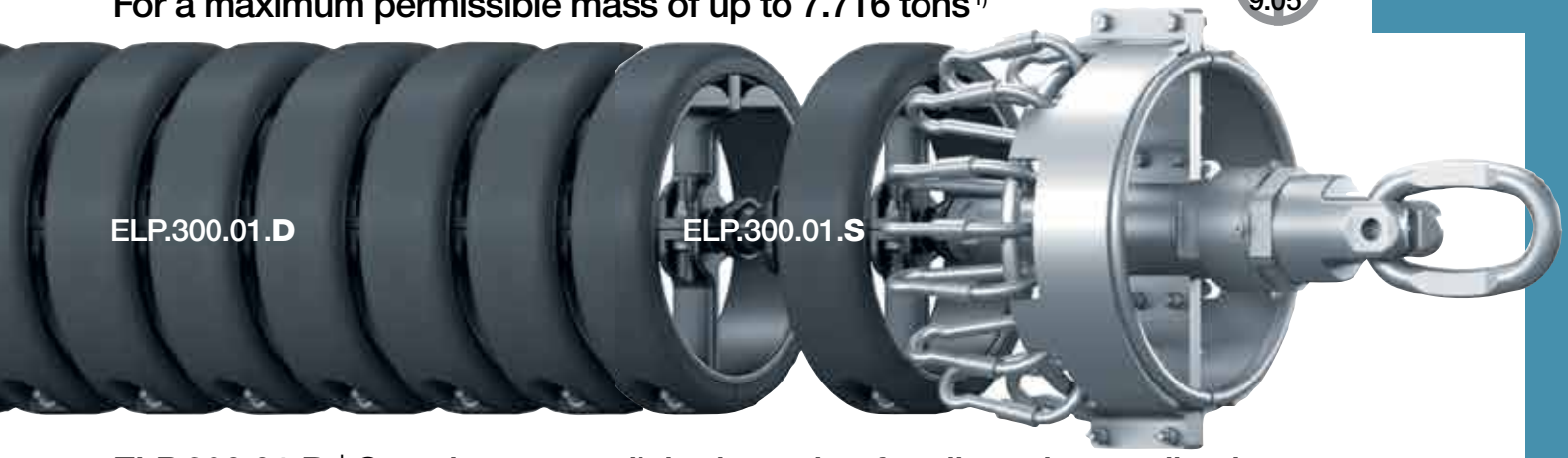
The e-chain® length can be freely chosen.



All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.com/contact

e-loop® | Series ELP.300 | Product range

For a maximum permissible mass of up to 7.716 tons[1)]



ELP.300.01.D | Crossbars every link, dynamic - for all moving applications
ELP.300.01.S | With crossbars every 2nd link, static - for purely static cable guidance

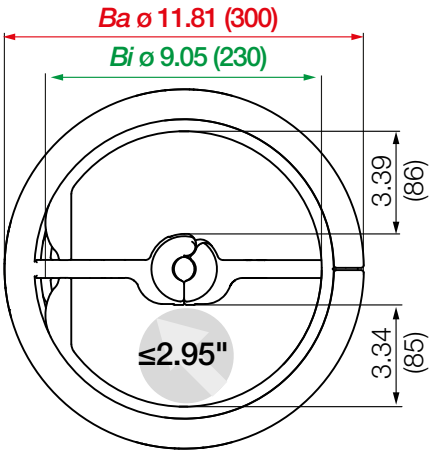
Part No. e-loop®	*Bi* ø in. (mm)	*Ba* ø in. (mm)	*R* in. (mm)	≤ *d* in. (mm)	Weight lbs/ft (kg/m)
ELP. 300. 01.**D**	9.05 (230)	11.81 (300)	19.69 (500)	2.95 (75)	≈ 14.78 (22.0)
ELP. 300. 01.**S**	9.05 (230)	11.81 (300)	8.27 (210)	2.95 (75)	≈ 8.74 (13.0)

1) With standard mounting brackets; higher loads possible with special solutions

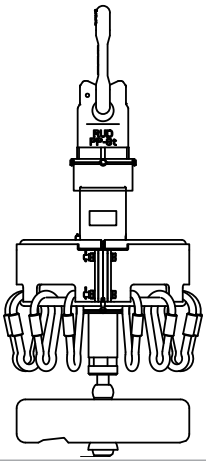
This type of system should be designed in conjunction with our engineering team.

Installation dimensions | Overview

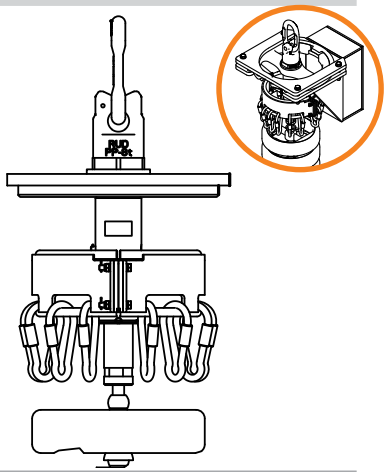
2-chamber design
interior separation



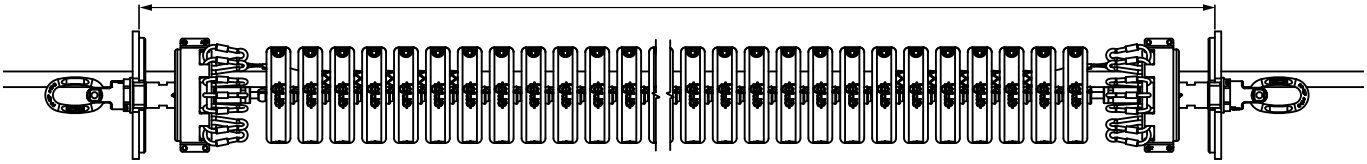
Standard fastening: hook-type mounting bracket **without** flange



Special solution: hook-type mounting bracket **with** flange, optional



The e-chain® length can be freely chosen.



All information on this page is for guidance only ...
Systems of this type should always be designed in conjunction with our engineering team.
Please contact us at ▶ www.igus.com/contact

e-loop® | Series ELP.430 | Product range

For a maximum permissible weight of up to 12.13 tons[1)]

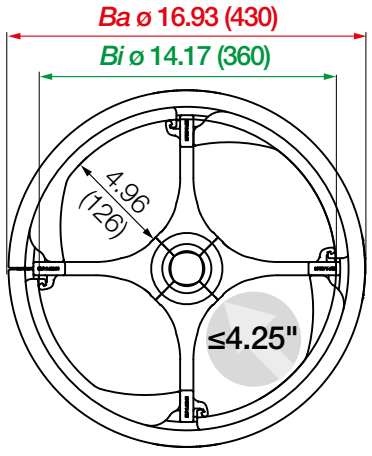
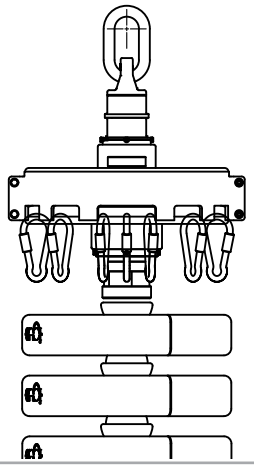
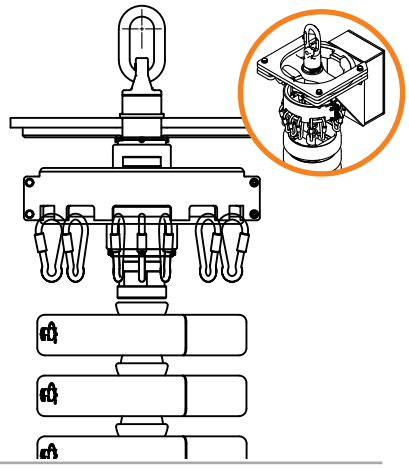
14.17”

ELP.430.01.D | Crossbars every link, dynamic - for all moving applications

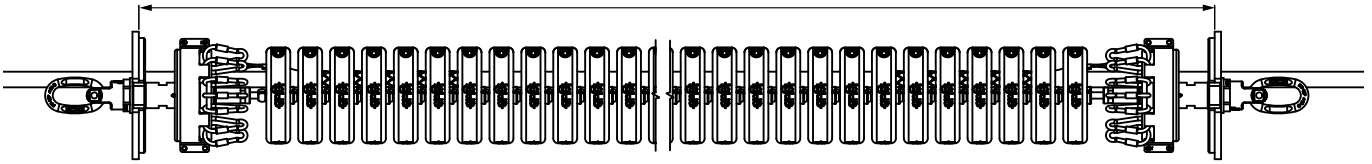
Part No. e-loop®	*Bi* ø in. (mm)	*Ba* ø in. (mm)	*R* in. (mm)	≤ *d* in. (mm)	lbs/ft (kg/m)
ELP. 430. 01.D	14.17 (360)	16.93 (430)	(XXX)	4.25 (108)	≈ 20.16 (30.0)

This type of system should be designed in conjunction with our engineering team.

Installation dimensions | Overview

4-chamber design interior separation	Standard fastening: hook-type mounting bracket **without** flange	Special solution: hook-type mounting bracket **with** flange, optional
		

The e-chain® length can be freely chosen.



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e-loop® | ELP | Load and break test

igus® performs application-specific tests in the in-house laboratory

igus® offers the e-loop® as a fully harnessed readychain® solution with cables and connectors. Everything from one source including system guarantee

Load test of e-loop®

Continuous test of a completely harnessed e-loop® with cable filling for 500t top drive. The test is carried out in the open air with all environmental influences as well as simulation of wind and vibration. **Result**: The test has run 150,000 double strokes. All influences due to weather do not affect the functionality of the e-loop®. Side impacts, bumps or vibration do not bother the e-loop®.

Break test of the e-loop®

Test setup: the e-loop® is dropped from a height of 10 metres onto a safe and hits with full force. **Result**: The test proves that the e-loop® withstands the impact without problems; its design is resistant to shocks and is shatterproof.

Both videos online
▶ www.igus.com/e-loop

e-loop® assembly instructions - find out how to assemble the e-loop® with and without cables ▶ www.igus.com/e-loop