

P4/P4.1

Longest travel distances, fast and quiet



General advantages P4/P4.1:

- Rolling instead of gliding: compared to sliding friction, the rolling friction is 75% lower which means up to 57% less drive power
- Safe, low noise, abrasion-resistant energy supply system for long travels
- Travel lengths up to 1,000m and more and high travel speeds up to 10m/s
- Identical pitch of the e-chain® link with or without roller
- Combstyle autoglide crossbars for secure guidance

Further features of the new generation P4.1 (series P41.56/ P41.80):

- Less friction, twice the service life compared to P4
- Longer service life due to maintenance-free tribo-polymer plain bearings in conjunction with the e-chain® links
- As an option equipped with smart sensors, e.g. wear sensor: for condition monitoring with igus® **i.Sense**



Tough:
pivoting steel
mounting brackets

Secure guidance:
combstyle autoglide
crossbars

Low noise:
special roller and
e-chain® link design

Low vibration:
offset operation
of upper and
lower run

Low maintenance:
tribo-optimised
plastic rollers in pin/
bore connection

Wear pads:
for high speeds
in guide troughs

Smooth rolling:
same size of P4
rol and standard
e-chain® links

Long travels, fast and quiet - P4

System P4 - safe, low noise, abrasion-resistant energy supply system for long travels. With the low-maintenance igus® system P4, a secure energy supply system can be implemented on travel lengths up to 600m for cranes or conveyor systems. The upper run and lower run roll staggered on each other. In this way the tribo-optimised plastic rollers don't impact on each other, but roll on a continuous, wide rolling surface. The P4 profile-rol e-chain® is safely guided by the combstyle autoglide crossbars and the special trough system.

- Travel lengths of 600m and more are possible
- For travels at speeds up to 6m/s
- Identical pitch of the e-chain® link with or without roller
- Extremely quiet - significant reduction of operating noise
- Combstyle autoglide crossbars for secure guidance
- Inner height: 32mm and 42mm

Typical industries and applications

- Crane equipment ● Automated storage and retrieval systems ● Plant construction
- Gantry robots ● Material handling



Technical data

Speed gliding	≤ 6 [m/s]
Acceleration gliding	≤ 50 [m/s²]
igumid G material, permitted temperature °C	-40°C / +120°C
Flammability class, igumid G	VDE 0304 IIC UL94-HB

Explore the benefits ► www.igus.eu/best/P4



Series Part No.	Inner height hi [mm]	Inner width Bi [mm]	Outer width Ba [mm]	Outer height ha [mm]	Bend radius R [mm]	Travel ≤ [m]	Page
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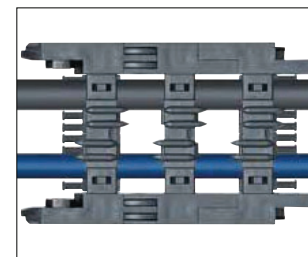
P4 profile rol e-chain®
low noise, abrasion-resistant for
travel lengths up to 600m

P4.32	32	100 - 250	132 - 282	54	150 - 200	500	1236
P4.42	42	100 - 200	154 - 254	64	100 - 350	600	1237

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

Available from stock. Ready to ship in 5 - 7 days*
*Average time before the ordered goods are dispatched.

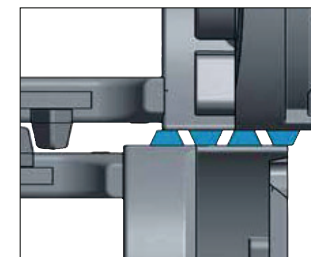
System P4 | Features | Accessories



Secure guidance thanks to combstyle autoglide crossbars, even at high speeds and fill weights



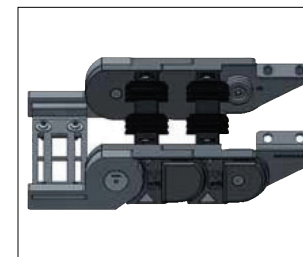
Tribo-optimised long-life plastic rollers for wear and abrasion-optimised running



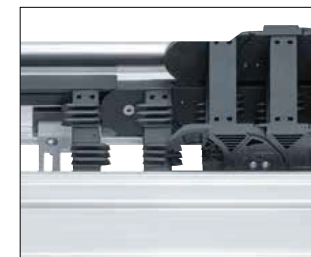
Due to the offset between upper run and lower run, the plastic rollers glide past each other



Equal pitch of the e-chain® links with and without roller for smooth rolling of the e-chain®



Tough, pivoting steel mounting brackets for strong connection



Aluminium guide trough system with special geometry available

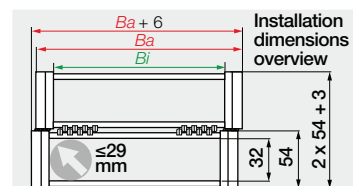
3D CAD, configurators, service life calculation and more ► www.igus.eu/P4



Series P4.32 | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	P4.32 [kg/m]
P4.32.10	100	132	150 175 200	≈ 2.71
P4.32.15	150	182	150 175 200	≈ 3.04
P4.32.20	200	232	150 175 200	≈ 3.34
P4.32.25	250	282	150 175 200	≈ 3.66

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



Inner height e-chain®	32mm
Pitch per e-chain® link	56mm
Links per metre	18 pieces

Outer height e-chain®	54mm
Max. cable diameter	Max. ø 29mm
18 links correspond to	1,008mm

Mounting brackets



Tough, pivoting steel mounting brackets for strong connection

Interior separation



Cable-friendly interior separations available

Guide troughs



Special P4 aluminium guide trough system available



All information on this page is for guidance only ...

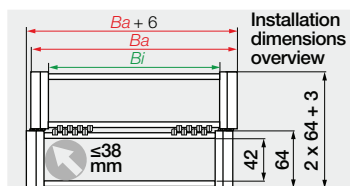
Systems of this type should always be designed in conjunction with our engineering team. Please contact us at ► www.igus.eu/contact



Series P4.42 | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	P4.42 [kg/m]
P4.42.10	100	154	100 125 150 200 250 300 350	≈ 3.96
P4.42.15	150	202	100 125 150 200 250 300 350	≈ 4.22
P4.42.20	200	254	100 125 150 200 250 300 350	≈ 4.47

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



Inner height e-chain®	42mm
Pitch per e-chain® link	67mm
Links per metre	15 pieces

Outer height e-chain®	64mm
Max. cable diameter	Max. ø 38mm
15 links correspond to	1,005mm

Mounting brackets



Tough, pivoting steel mounting brackets for strong connection

Interior separation



Cable-friendly interior separations available

Guide troughs



Special P4 aluminium guide trough system available



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Tough:
pivoting steel
mounting brackets

Low vibration:
offset operation
of upper and
lower run

i.Sense condition
monitoring:
with optional
smart sensors

Longer service life:
maintenance-
free tribo-polymer
plain bearings

Low maintenance:
tribo-optimised
plastic rollers

Secure guidance:
combstyle
autoglide
crossbars

Smooth rolling:
same size of roller
and standard
e-chain® links

Longest travels, even faster and quieter - new generation P4.1



P4.1 - merging two core products for more service life. By developing new plastic compounds, igus® was able to further optimise the P4 system and significantly increase reliability and plant availability with the P4.1 rol e-chain®. There is a bearing point in every connection of the e-chain® links. This has now been equipped with maintenance-free plain bearings, which more than doubles the service life. Optionally an intelligent wear sensor ensures a longer service life of the P4.1 for crane and linear robot systems. Due to the offset between upper run and lower run, the plastic rollers are not rolled over, but roll past each other to allow very smooth running. As a result, the coefficient of friction decreases and the drive power is reduced by 57%.

- Less friction, twice the service life
- Travel lengths of 1,000m and more are possible
- For travels at speeds up to 10m/s
- Inner height: 56mm and 80mm

Typical industries and applications

- Crane equipment ● Automated storage and retrieval systems ● Plant construction
- Gantry robots ● Material handling

Technical data

 Speed gliding	≤ 10 [m/s]
Acceleration gliding	≤ 50 [m/s²]
 igumid G material, permitted temperature °C	-40°C / +120°C
 Flammability class, igumid G	VDE 0304 IIC UL94-HB

More information ► www.igus.eu/P4.1

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Series Part No.	Inner height hi [mm]	Inner width Bi [mm]	Outer width Ba [mm]	Outer height ha [mm]	Bend radius R [mm]	Travel ≤ [m]	Page
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P4.1 profile rol e-chain®
less friction, twice the service life

P41.56	56	187 - 400	257 - 470	84	250 - 350	1,000	1240
P41.80	80	187 - 400	263 - 476	108	250 - 350	1,000	1241

Note: The P41.56/P41.80 replaces the previous P4.56/P4.80 series and are compatible for spare parts requirements!

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*Average time before the ordered goods are dispatched.

System P4 | Features | Accessories



Less friction, twice the service life compared to P4



Longer service life due to maintenance-free tribo-polymer plain bearings in the pin/bore connection of the e-chain® links



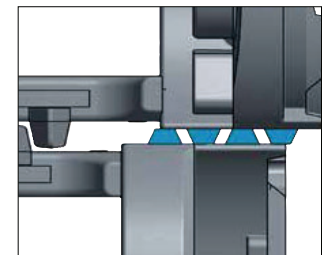
Intelligent networking and condition monitoring with i.Sense - P4.1 with optional smart sensors



For higher fill weights +50% and maximum torsional stiffness, roller extension links are available



Tribo-optimised long-life plastic rollers for wear and abrasion-optimised running



Due to the offset between upper run and lower run, the plastic rollers glide past each other

Travel lengths up to 1,000m

56

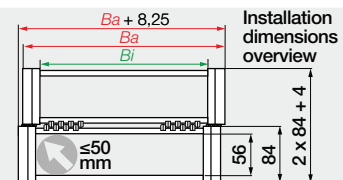


P41.56

Series P41.56 | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	P4.56 [kg/m]
P41.56. 18	187	257	250 300 350	≈ 6.72
P41.56. 20	200	270	250 300 350	≈ 7.03
P41.56. 25	250	320	250 300 350	≈ 7.39
P41.56. 30	300	370	250 300 350	≈ 7.79
P41.56. 35	350	420	250 300 350	≈ 8.19
P41.56. 40	400	470	250 300 350	≈ 8.49

Note: The P41.56/P41.80 replaces the previous P4.56/P4.80 series and are compatible for spare parts requirements!

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

Inner height e-chain®	56mm
Pitch per e-chain® link	91mm
Links per metre	11 pieces

Outer height e-chain®	84mm
Max. cable diameter	Max. ø 50mm
11 links correspond to	1,001mm

Mounting brackets



Tough, pivoting steel mounting brackets for strong connection

Interior separation



Cable-friendly interior separations available

Extension links



Centre link solution for higher fill weights - +50% possible

Guide troughs



Special P4 aluminium guide trough system available

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Travel lengths up to 1,000m

80

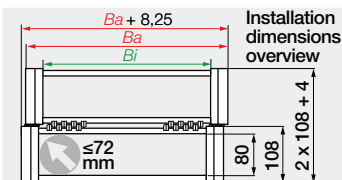


P41.80

Series P41.80 | Crossbars every link (crossbars removable along the inner and outer radius)

Available widths	Bi [mm]	Ba [mm]	R Available bend radii [mm]	P4.80 [kg/m]
P41.80. 18	187	263	250 300 350	≈ 8.85
P41.80. 20	200	276	250 300 350	≈ 9.13
P41.80. 25	250	326	250 300 350	≈ 9.46
P41.80. 30	300	376	250 300 350	≈ 9.83
P41.80. 35	350	426	250 300 350	≈ 10.19
P41.80. 40	400	476	250 300 350	≈ 10.46

Note: The P41.56/P41.80 replaces the previous P4.56/P4.80 series and are compatible for spare parts requirements!

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Inner height e-chain®	80mm
Pitch per e-chain® link	100mm
Links per metre	10 pieces

Outer height e-chain®	108mm
Max. cable diameter	Max. ø 72mm
10 links correspond to	1,000mm

Mounting brackets



Tough, pivoting steel mounting brackets for strong connection

Interior separation



Cable-friendly interior separations available

Extension links



Centre link solution for higher fill weights - +50% possible

Guide troughs



Special P4 aluminium guide trough system available

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