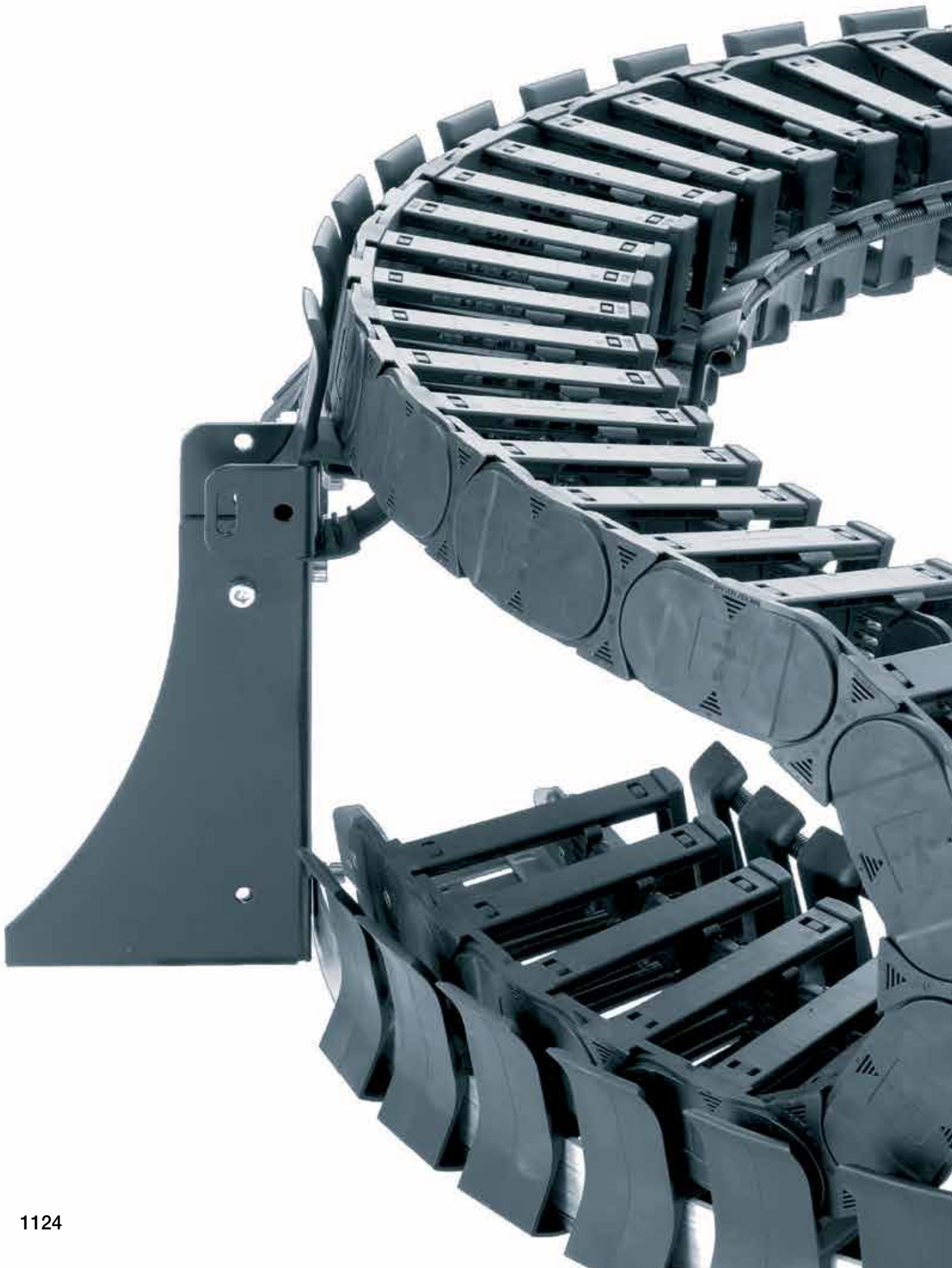
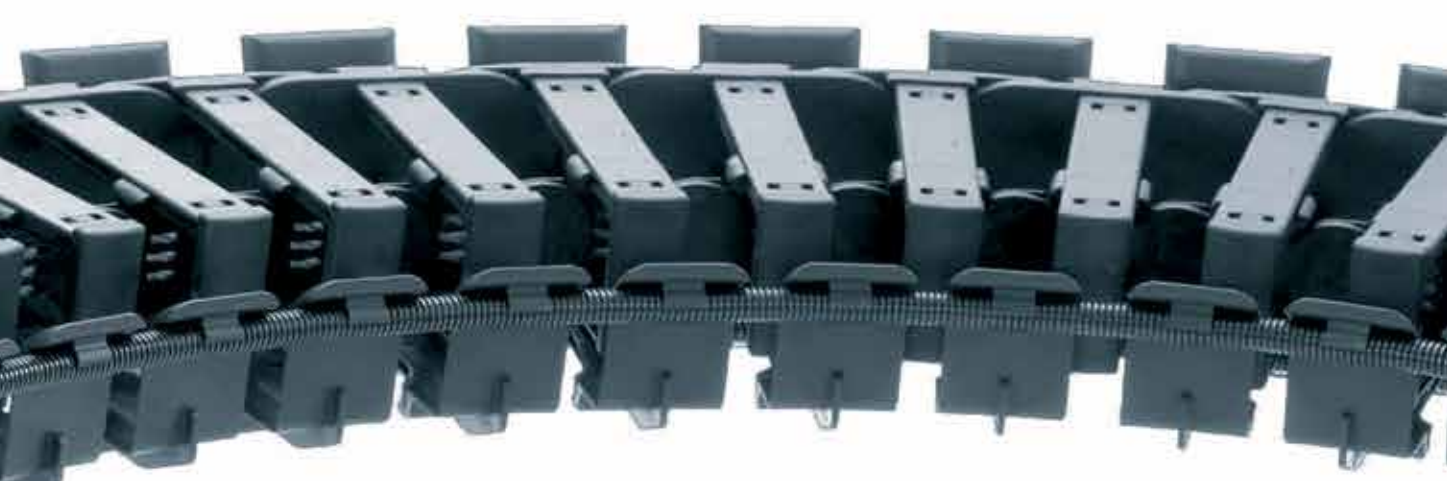






twisterchain

Circular and spiral movements



twisterchain advantages:

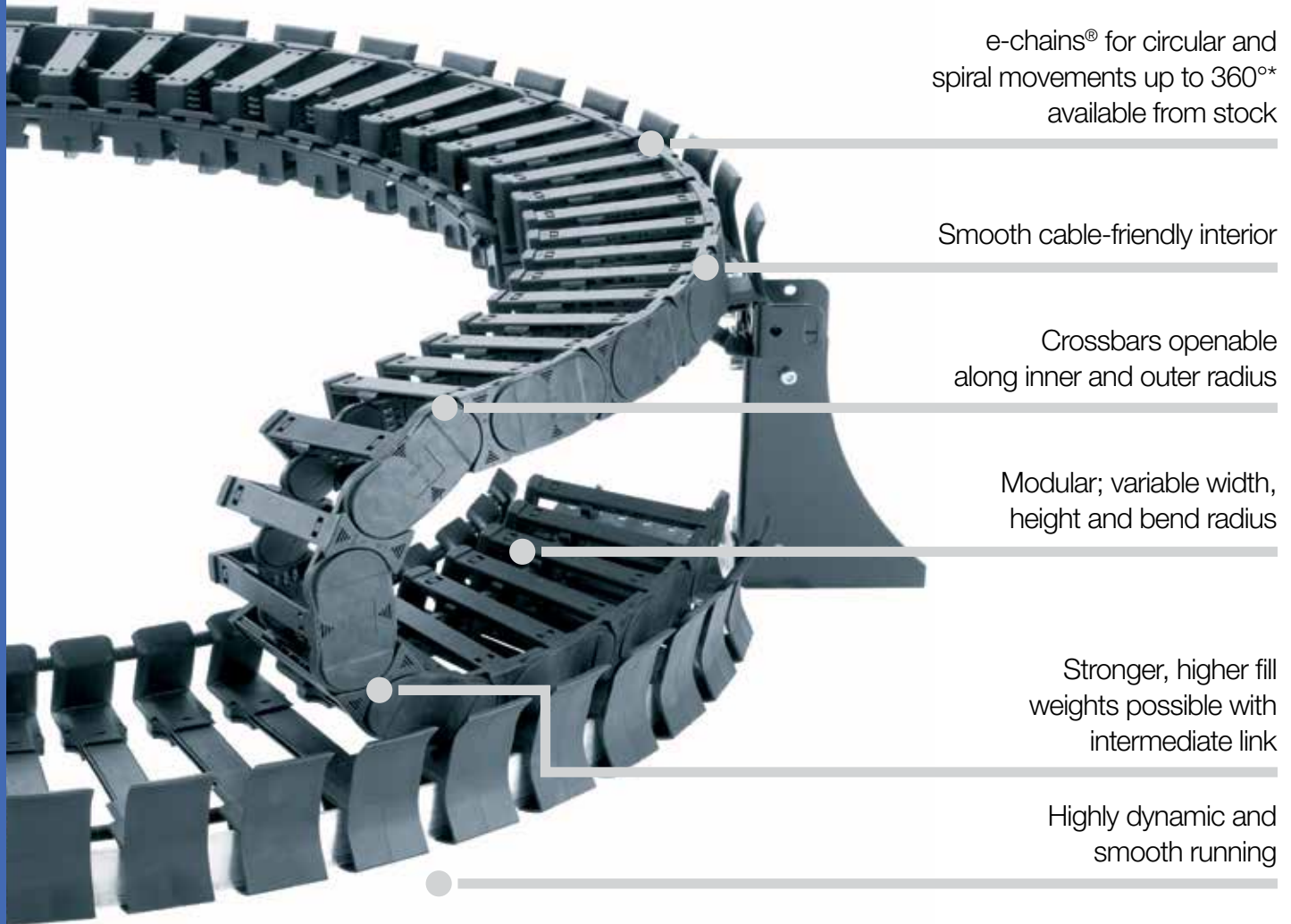
- Circular/spiral movements up to 360° from stock (up to 400° upon request)
- Tough, quiet and high dynamics, suitable for high fill weights
- Rotary speeds up to 1m/s and more
- Modular interior separation
- Smooth cable-friendly interior
- Openable from both sides - crossbars removable along the inner and outer radius



When to use another igus® solution:

- For large rotary movements, igus® **RBR** solutions
 - ▶ **Designing, page 132**
- In case of rotary movements in the most confined spaces up to 7,000°
 - ▶ **twisterband, page 1146**
- For angle of rotation >360° please contact us.





e-chains® for circular and spiral movements up to 360°* available from stock

Smooth cable-friendly interior

Crossbars openable along inner and outer radius

Modular; variable width, height and bend radius

Stronger, higher fill weights possible with intermediate link

Highly dynamic and smooth running

Strong, quiet and up to 360° - circular and spiral movements with twisterchain

The igus® twisterchain product line offers an extensive range of products for circular movement and is available in four sizes. Its modular width and radius design ensures it can be used flexibly in applications with rotary and spiral movements up to 360° and more, with high fill weights and where smooth operation is required. twisterchain applications are available with modular guide troughs which offer: e-chain® guidance, reduced e-chain® wear, optimal levels of smooth operation, angle of rotations up to 360°* from stock.

- Strong, high fill weights, smooth running
- Rotary speeds up to 1m/s and more
- e-chains® for circular and spiral movements up to 360°*available from stock
- Cable-friendly, smooth interior
- Crossbars openable along the inner and outer radius
- Successfully tested for over 1 million cycles in the igus® laboratory

Typical industries and applications

- Robots, Handling machines
- Packaging machines
- Glass machines
- General machinery, etc.



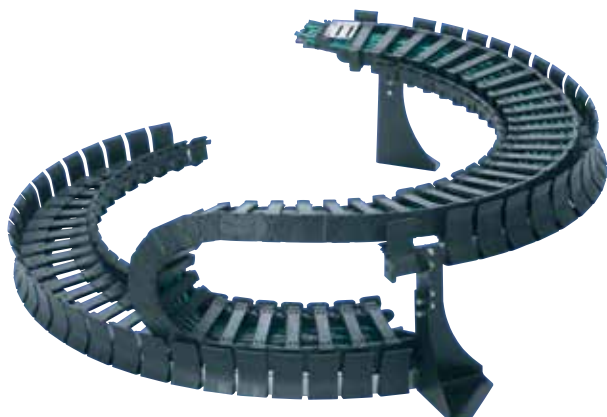
Circular movements up to 540° possible (with special attachments)



UL94-V0 classifications upon request

twisterchain | Selection table

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)	Circular radii <i>AR</i> in. (mm)
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twisterchain

For circular movements up to 360° available from stock; for angle of rotation >360° please contact us.
Crossbars removable along the inner and outer radius

2208*	1.10 (28)	2.07-4.43 (52.5-112.5)	3.15-5.51 (80-140)	1.65 (42)	2.17-5.91 (055-150)	11.81 (300)
TC32	1.26 (32)	3.44-5.91 (87.5-150)	4.27-6.73 (108.5-171)	2.13 (54)	3.94-9.84 (100-250)	15.75-23.62 (400 - 600)
TC42	1.65 (42)	3.44-7.87 (87.5-200)	4.35-8.78 (110.5-223)	2.52 (64)	3.94-9.84 (100-250)	15.75-33.46 (400 - 850)
TC56	2.20 (56)	4.92-7.87 (125-200)	6.10-9.06 (155-230)	3.31 (84)	5.91-15.75 (150-400)	25.59-33.46 (650 - 850)

*twisterchain classic (1st generation), openable from both sides



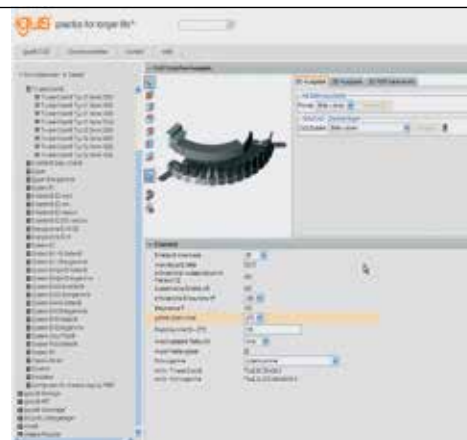
Available from stock. Ready to ship in 3 - 5 business days*

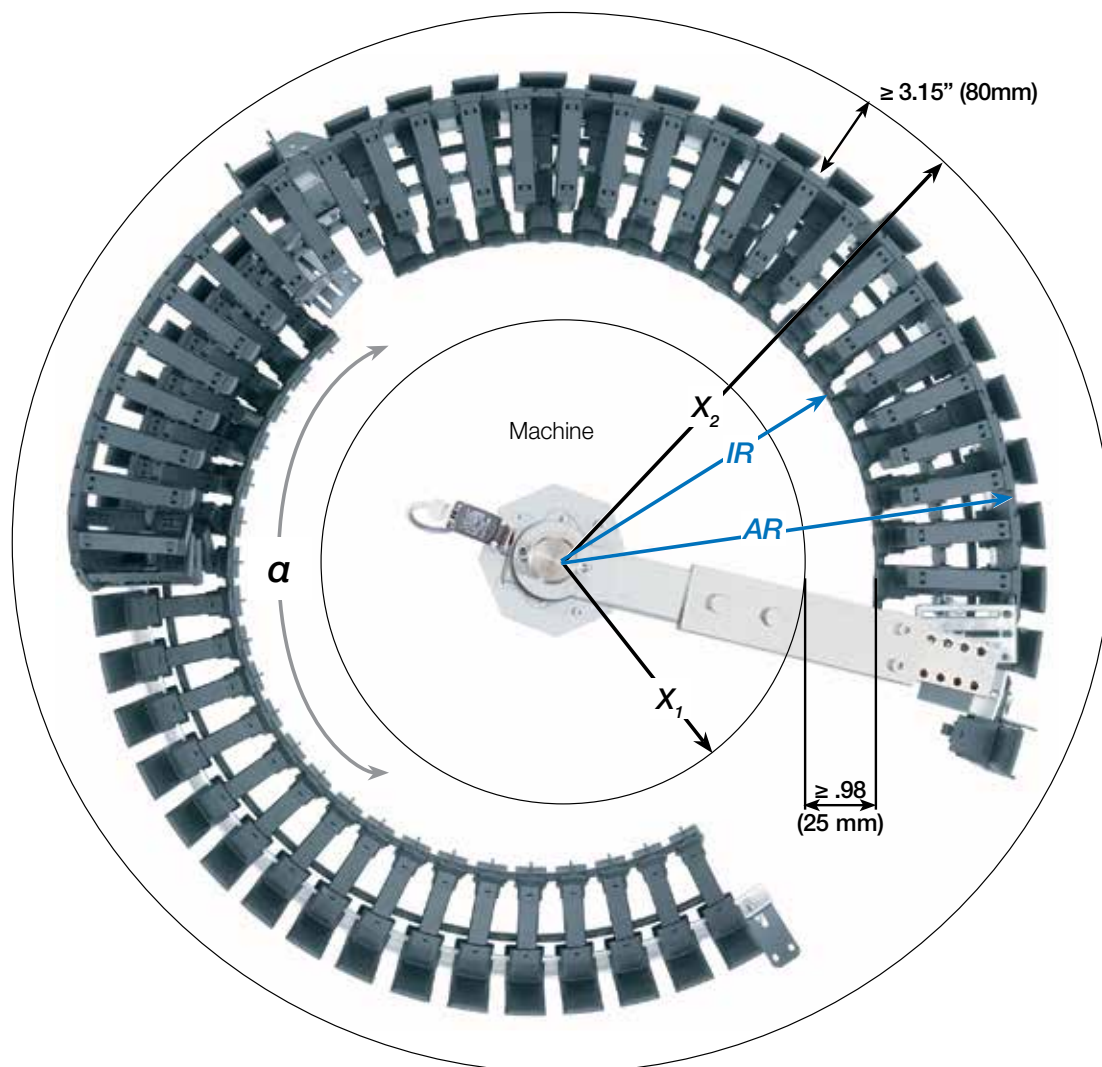
*Average time before the ordered goods are dispatched.

Quickly generate complete twisterchain 3D CAD models

- Get complete 3D models just by inputting the angle of rotation and basic dimensions
- Free positioning of the e-chain® moving end along the travel length
- Optional generation of twisterchain as an individual part or complete with guide trough and base support
- Fast download of the CAD files without registration
- 11 different 3D formats and 8 different 2D formats available

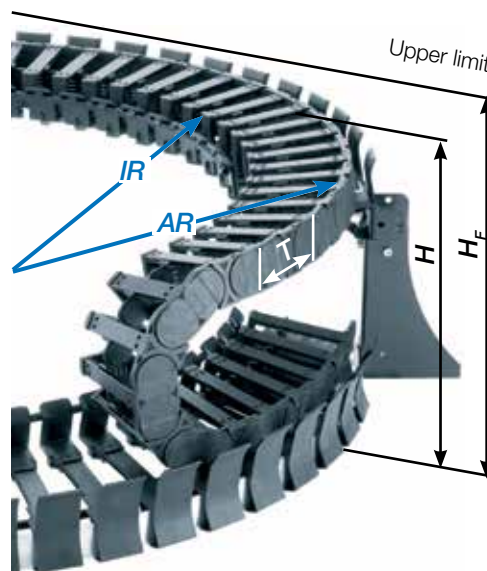
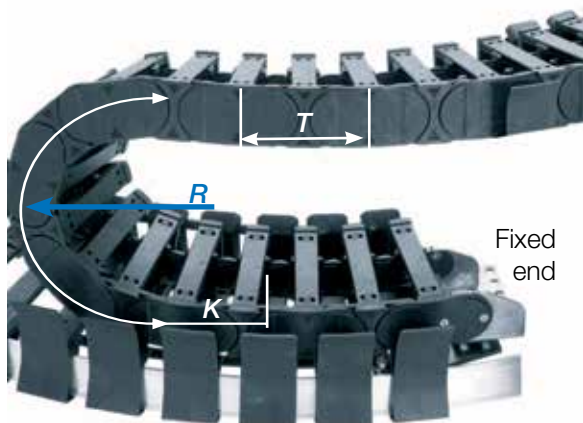
More information ► www.igus.com/twister-configurator





twisterchain general information

In the case of machines that travel in a circular movement both to the left and to the right, the total angle of rotation is calculated by adding the two angles.



AR = Outer radius, e-chain®

IR = Inner radius, e-chain®

R = Bending radius

X₁ = Inner machine limit

X₂ = Outer machine limit

T = Pitch

H_F = e-chain® incl. 1.97" (50 mm) clearance

H = e-chain® height

K = Add-on for bending radius

hi = Inner height e-chain®

ha = Outer height e-chain®

α = Angle of rotation

Technical data



Speed / acceleration

upon request



Material - permitted temperature, igumid G)

-40°F / +248°F (-40°C / +120°C)



Flammability class, igumid G

VDE 0304 IIC UL94-HB

Order example | Order key

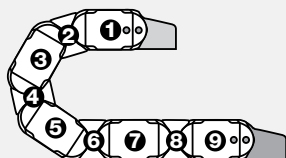


Order example for complete e-chain® 3.28 ft. (1m),
color black, with mounting brackets:

e-chain® 3.28 ft. (1m) Please indicate e-chain® length or number of links: 3.28 ft. (1m) or 11 links **TC56.12.250/650.0**

+ Mounting brackets 1 set **TC5600.34.VS.E**

Order text: 3.28 ft (1m) TC56.12.250/650.0 + TC5600.34.VS.E



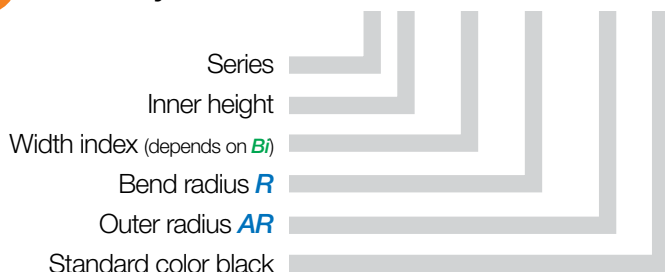
*Important note:

twisterchain e-chains® must always start and end on an outer side link (odd number of links).
An outer side link should always be the first link at the moving end.



Order key

TC56.12.250/650.0



TC56.12.250/650.0 =

e-chain® openable along the inner radius, from both sides
Bi 12mm inner width, **R** 250mm bend radius /
AR 650mm outer radius, color black

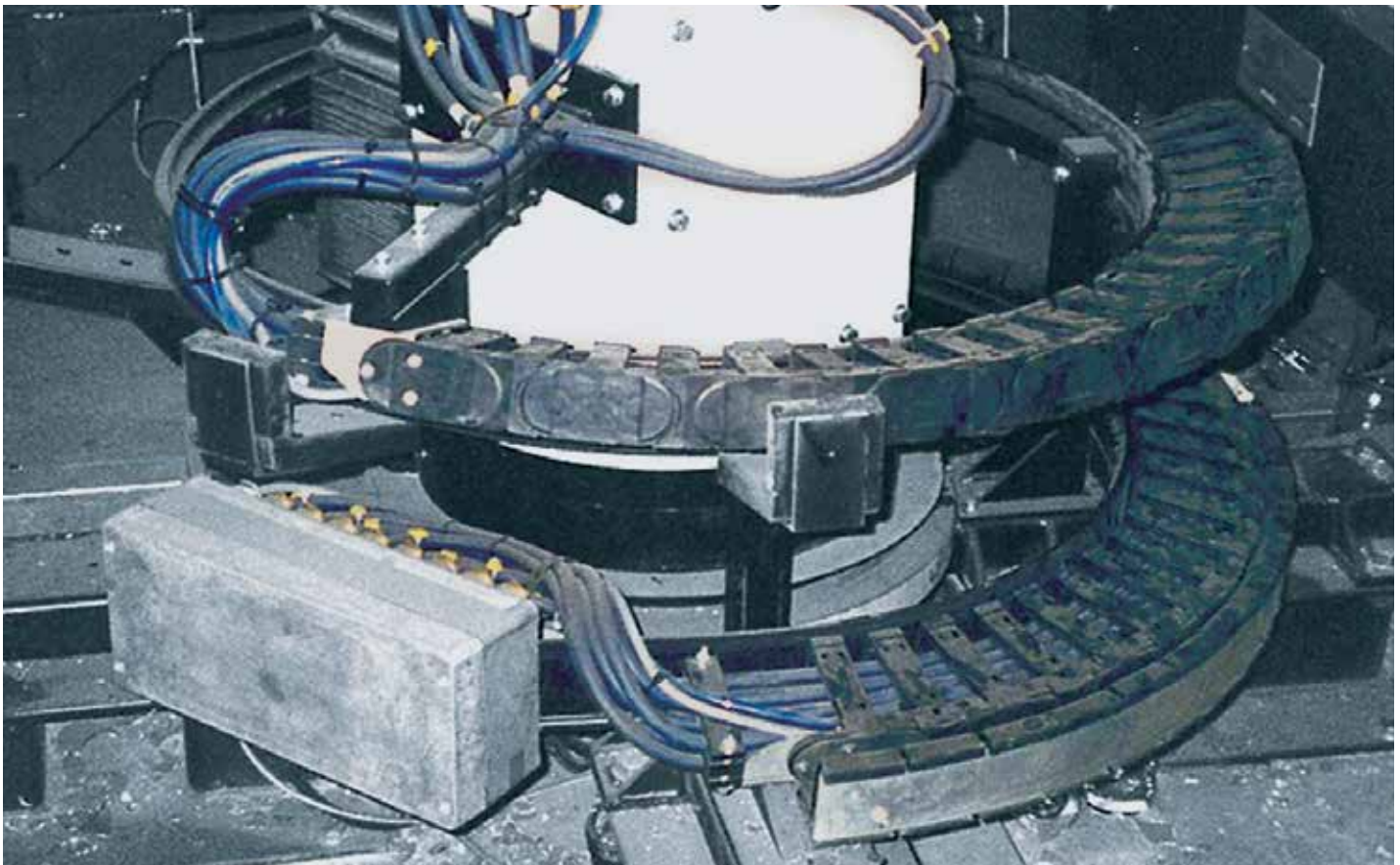
Circular and spiral movements up to 360°

Series 2208 | Crossbars removable along the inner and outer radius

AR	IR	Bi	Ba	2.17 (055)	2.48 (063)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	Weight
in. (mm)	in. (mm)	in. (mm)	in. (mm)	2208-	2208-	2208-	2208-	2208-	2208-	lbs/ft. (kg/m)
11.81 (300)	8.94 (227)	2.07 (52.5)	3.15 (80)	.052.063/300	.052.063/300	.052.075/300	.052.100/300	.052.125/300	.052.150/300	≈ 0.806 (1.20)
11.81 (300)	8.54 (217)	2.46 (62.5)	3.54 (90)			.062.075/300	.062.100/300	.062.125/300	.062.150/300	≈ 0.833 (1.24)
11.81 (300)	8.07 (205)	2.93 (74.5)	4.02 (102)				.074.100/300	.074.125/300	.074.150/300	≈ 0.867 (1.29)
11.81 (300)	7.56 (192)	3.44 (87.5)	4.53 (115)				.087.100/300	.087.125/300	.087.150/300	≈ 0.907 (1.35)
11.81 (300)	6.57 (167)	4.43 (112.5)	5.51 (140)					.112.125/300	.112.150/300	≈ 0.981 (1.46)

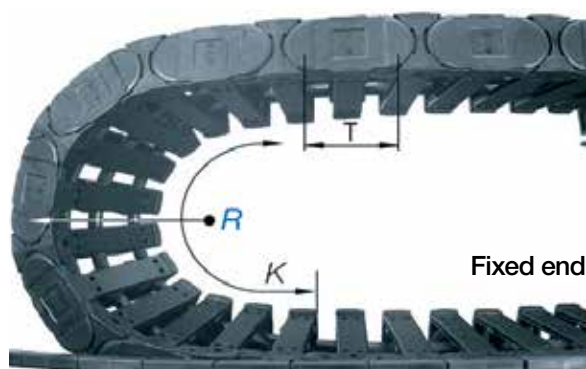
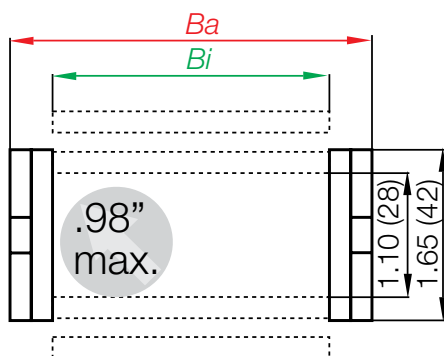
R	2.17 (55)	2.48 (63)	2.95 (75)	3.94 (100)	4.92 (125)	5.91 (150)
K	10.43 (265)	11.42 (290)	12.99 (330)	16.14 (410)	19.09 (485)	22.24 (565)

Pitch per link in. (mm)	1.73 (44)
Links/ft (m)	6.9 (23)
corresponds to (mm)	1,012

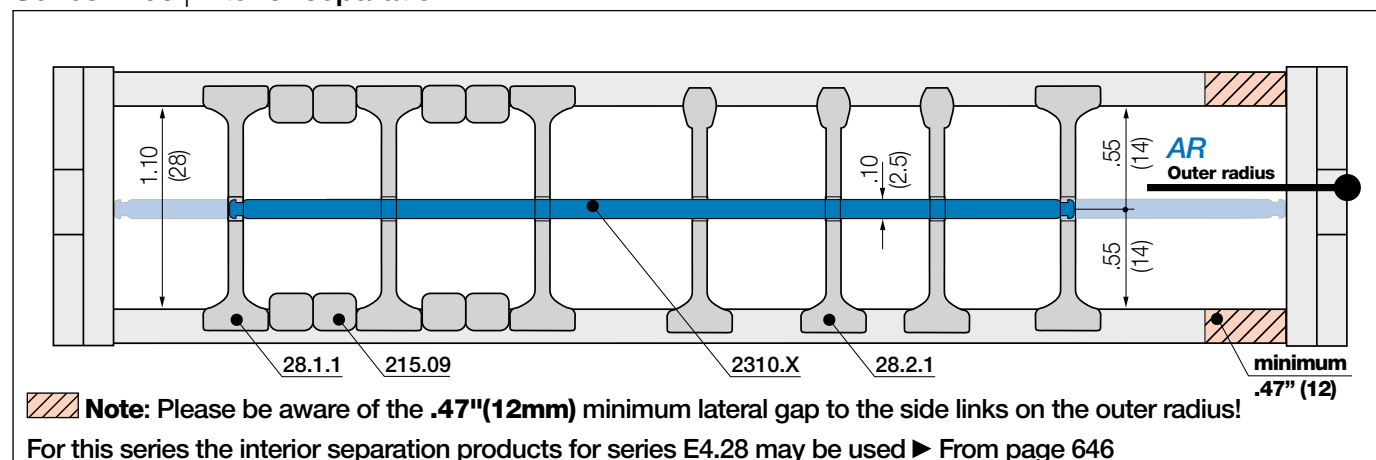


Combined spiral and circular movement - igus® twisterchain classic (1st generation)

Dimensions



Series 2208 | interior separation



AR = Outer radius of e-chain®

IR = Inner radius e-chain®

R = Bend radius e-chain®

X_1 = Inner machine limit

X_2 = Outer machine limit

$A1$ = Intermediate link position

H = Nominal clearance height

K = Add-on for bend radius

T = Pitch

Series TC32 | Crossbars removably along the inner and outer radius

AR	Bi	Ba	X _a	X _i	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)	Weight
in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	TC32-	TC32-	TC32-	TC32-	TC32-	TC32-	lbs/ft (kg/m)
15.75 (400)	3.44 (87.5)	4.27 (108.5)	18.90 (480)	10.63 (270)	087.100/400	087.125/400	087.150/400	087.175/400	087.200/400	087.250/400	≈ 1.22 (1.82)
15.75 (400)	3.94 (100)	4.76 (121)	18.90 (480)	9.84 (250)	—	—	10.150/400	10.175/400	10.200/400	10.250/400	≈ 1.28 (1.90)
15.75 (400)	4.25 (108)	5.08 (129)	18.90 (480)	9.84 (250)	—	—	—	11.175/400	11.200/400	11.250/400	≈ 1.31 (1.95)
15.75 (400)	4.92 (125)	5.75 (146)	18.90 (480)	8.66 (220)	—	—	—	12.175/400	12.200/400	12.250/400	≈ 1.38 (2.05)
15.75 (400)	5.41 (137.5)	6.24 (158.5)	18.90 (480)	8.27 (210)	—	—	—	—	—	137.250/400	≈ 1.43 (2.13)
15.75 (400)	5.91 (150)	6.73 (171)	18.90 (480)	7.87 (200)	—	—	—	—	—	15.250/400	≈ 1.49 (2.21)
19.69 (500)	3.94 (100)	4.76 (121)	22.83 (580)	13.78 (350)	10.100/500	10.125/500	10.150/500	10.175/500	10.200/500	10.250/500	≈ 1.28 (1.90)
19.69 (500)	4.25 (108)	5.08 (129)	22.83 (580)	13.78 (350)	—	11.125/500	11.150/500	11.175/500	11.200/500	11.250/500	≈ 1.31 (1.95)
19.69 (500)	4.92 (125)	5.75 (146)	22.83 (580)	12.60 (320)	—	12.125/500	12.150/500	12.175/500	12.200/500	12.250/500	≈ 1.38 (2.05)
19.69 (500)	5.41 (137.5)	6.24 (158.5)	22.83 (580)	12.20 (310)	—	—	137.150/500	137.175/500	137.200/500	137.250/500	≈ 1.43 (2.13)
19.69 (500)	5.91 (150)	6.73 (171)	22.83 (580)	11.81 (300)	—	—	15.150/500	15.175/500	15.200/500	15.250/500	≈ 1.49 (2.21)
23.62 (600)	4.25 (108)	5.08 (129)	26.77 (680)	17.72 (450)	11.100/600	11.125/600	11.150/600	—	—	—	≈ 1.31 (1.95)
23.62 (600)	4.92 (125)	5.75 (146)	26.77 (680)	16.54 (420)	—	12.125/600	12.150/600	12.175/600	12.200/600	12.250/600	≈ 1.38 (2.05)
23.62 (600)	5.41 (137.5)	6.24 (158.5)	26.77 (680)	16.14 (410)	—	137.125/600	137.150/600	137.175/600	137.200/600	137.250/600	≈ 1.43 (2.13)
23.62 (600)	5.91 (150)	6.73 (171)	26.77 (680)	15.75 (400)	—	—	15.150/600	15.175/600	15.200/600	15.250/600	≈ 1.49 (2.21)

R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H ^{+60°}	10.00 (254)	11.97 (304)	13.94 (354)	15.91 (404)	17.87 (454)	21.81 (554)
K	18.31 (465)	21.65 (550)	24.41 (620)	27.56 (700)	30.71 (780)	37.01 (940)

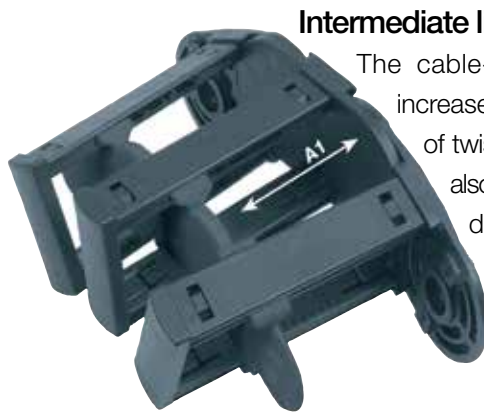
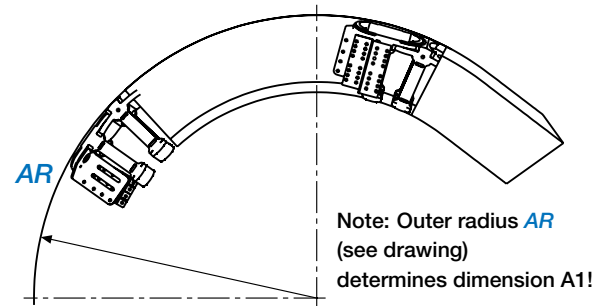
Pitch per link in. (mm)	2.20 (56)
Links/ft (m)	5.4 (18)
corresponds to (mm)	1,008

twisterchain 2nd generation from igus® - successfully tested for over 1 million cycles in the igus® laboratory

Dimension A1 dependent on outer radius **AR**

AR	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
	A1	A1	A1	A1	A1	A1
mm	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)
400	2.01 (51)	2.01 (51)	2.05 (52)	2.09 (53)	2.09 (53)	2.28 (58)
500	2.56 (65)	2.56 (65)	2.60 (66)	2.64 (67)	2.72 (69)	2.80 (71)
600	3.11 (79)	3.15 (80)	3.19 (81)	3.19 (81)	3.23 (82)	3.35 (85)

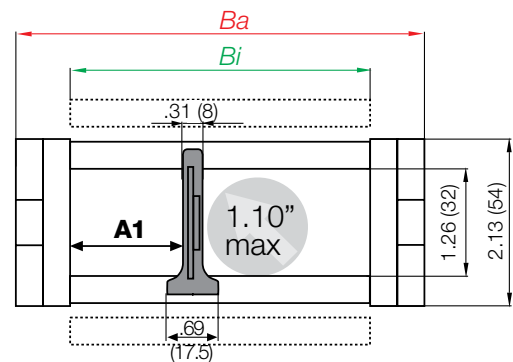
Dimension A1 always with tolerance of $\pm .10"$ (2.5 mm) mm)



Intermediate link

The cable-friendly intermediate link increases the strength and stability of twisterchain many times over. It also serves as interior separation, dividing the filling space into two chambers. **Outer radius **AR**** determines dimension **A1**.

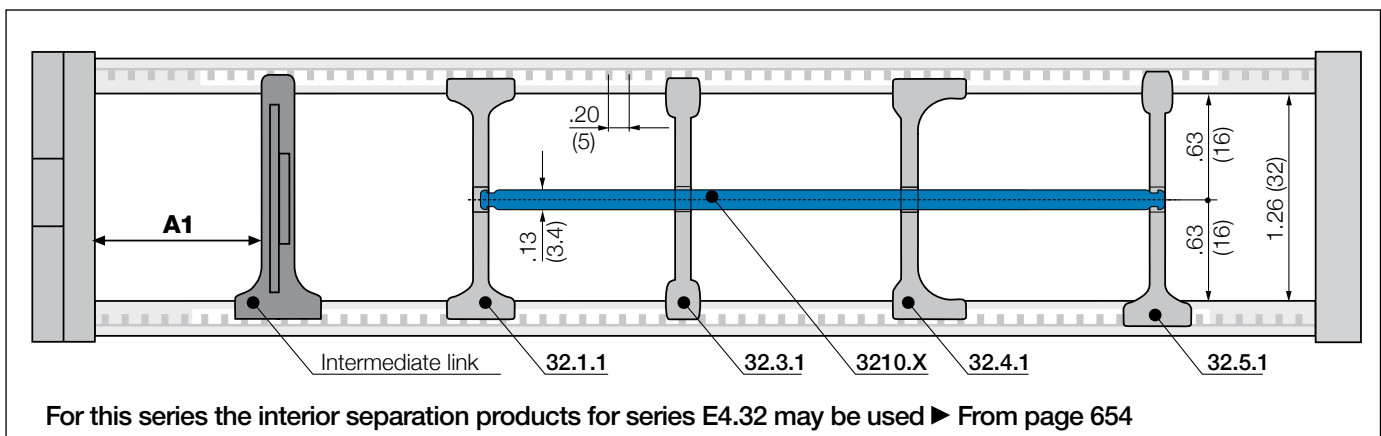
Dimensions



Series TC32 | Additional parameters dependent on outer radius **AR**

AR	Max. fill weight $\alpha 0^\circ - 180^\circ$ lb (kg)	Max. fill weight $\alpha 180^\circ - 360^\circ$ lb (kg)	Max. V ft/s [m/s]	Max. a ft/s ² [m/s ²]
mm				
400	8.81 (4.0)	4.40 (2.0)	3.28 (1.0)	6.56 (2.0)
500	8.81 (4.0)	4.40 (2.0)	3.28 (1.0)	6.56 (2.0)
600	8.81 (4.0)	4.40 (2.0)	3.28 (1.0)	6.56 (2.0)

Series TC32 | Interior separation



For this series the interior separation products for series E4.32 may be used ▶ From page 654

AR = Outer radius
IR = Inner radius e-chain®
R = Bending radius

X₁ = Inner machine limit
X₂ = Outer machine limit
A1 = Intermediate link position

H = Nominal clearance height
K = Add-on for bending radius
T = Pitch

Circular and spiral movements up to 360°

Series TC42 | Crossbars removable along the inner and outer radius

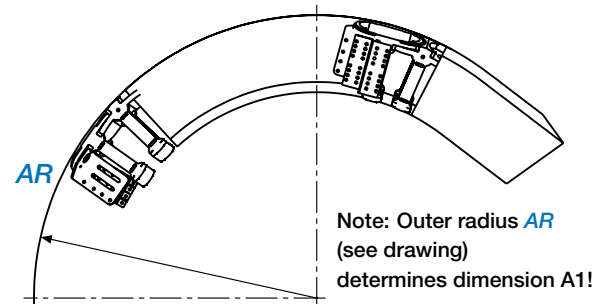
AR	Bi	Ba	X _a	X _i	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)	Weight
in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	TC42-	TC42-	TC42-	TC42-	TC42-	TC42-	lbs/ft (kg/m)
15.75 (400)	3.44 (87.5)	4.35 (110.5)	18.90 (480)	10.63 (270)	087.100/400	087.125/400	087.150/400	087.175/400	087.200/400	087.250/400	≈ 1.32 (1.97)
15.75 (400)	3.94 (100)	4.84 (123)	18.90 (480)	9.84 (250)	10.100/400	10.125/400	10.150/400	10.175/400	10.200/400	10.250/400	≈ 1.36 (2.03)
15.75 (400)	4.25 (108)	5.16 (131)	18.90 (480)	9.84 (250)	—	11.125/400	11.150/400	11.175/400	11.200/400	11.250/400	≈ 1.39 (2.07)
15.75 (400)	4.92 (125)	5.83 (148)	18.90 (480)	8.66 (220)	—	12.125/400	12.150/400	12.175/400	12.200/400	12.250/400	≈ 1.45 (2.16)
15.75 (400)	5.41 (137.5)	6.32 (160.5)	18.90 (480)	8.27 (210)	—	137.125/400	137.150/400	137.175/400	137.200/400	137.250/400	≈ 1.49 (2.22)
15.75 (400)	5.91 (150)	6.81 (173)	18.90 (480)	7.87 (200)	—	—	—	15.175/400	15.200/400	15.250/400	≈ 1.54 (2.29)
15.75 (400)	6.40 (162.5)	7.30 (185.5)	18.90 (480)	7.48 (190)	—	—	—	—	162.200/400	162.250/400	≈ 1.60 (2.35)
15.75 (400)	6.61 (168)	7.52 (191)	18.90 (480)	7.48 (190)	—	—	—	—	—	17.250/400	≈ 1.60 (2.38)
15.75 (400)	6.89 (175)	7.80 (198)	18.90 (480)	7.09 (180)	—	—	—	—	—	18.250/400	≈ 1.62 (2.41)
19.69 (500)	3.94 (100)	4.84 (123)	22.83 (580)	13.78 (350)	10.100/500	10.125/500	10.150/500	10.175/500	10.200/500	10.250/500	≈ 1.36 (2.03)
19.69 (500)	4.25 (108)	5.16 (131)	22.83 (580)	13.78 (350)	—	11.125/500	11.150/500	11.175/500	11.200/500	11.250/500	≈ 1.39 (2.07)
19.69 (500)	4.92 (125)	5.83 (148)	22.83 (580)	12.60 (320)	—	12.125/500	12.150/500	12.175/500	12.200/500	12.250/500	≈ 1.45 (2.16)
19.69 (500)	5.41 (137.5)	6.32 (160.5)	22.83 (580)	12.20 (310)	—	—	137.150/500	137.175/500	137.200/500	137.250/500	≈ 1.49 (2.22)
19.69 (500)	5.91 (150)	6.81 (173)	22.83 (580)	11.81 (300)	—	—	15.150/500	15.175/500	15.200/500	15.250/500	≈ 1.54 (2.29)
19.69 (500)	6.40 (162.5)	7.30 (185.5)	22.83 (580)	11.42 (290)	—	—	162.150/500	162.175/500	162.200/500	162.250/500	≈ 1.60 (2.35)
19.69 (500)	6.61 (168)	7.52 (191)	22.83 (580)	11.42 (290)	—	—	—	17.175/500	17.200/500	17.250/500	≈ 1.60 (2.38)
19.69 (500)	6.89 (175)	7.80 (198)	22.83 (580)	11.02 (280)	—	—	—	—	18.200/500	18.250/500	≈ 1.62 (2.41)
19.69 (500)	7.38 (187.5)	8.29 (210.5)	22.83 (580)	11.02 (280)	—	—	—	—	187.200/500	187.250/500	≈ 1.67 (2.48)
19.69 (500)	7.87 (200)	8.78 (223)	22.83 (580)	9.84 (250)	—	—	—	—	20.200/500	20.250/500	≈ 1.71 (2.54)
23.62 (600)	4.25 (108)	5.16 (131)	26.77 (680)	17.72 (450)	11.100/600	11.125/600	11.150/600	11.175/600	11.200/600	—	≈ 1.39 (2.07)
23.62 (600)	4.92 (125)	5.83 (148)	26.77 (680)	16.54 (420)	12.100/600	12.125/600	12.150/600	12.175/600	12.200/600	12.250/600	≈ 1.45 (2.16)
23.62 (600)	5.41 (137.5)	6.32 (160.5)	26.77 (680)	16.14 (410)	137.100/600	137.125/600	137.150/600	137.175/600	137.200/600	137.250/600	≈ 1.49 (2.22)
23.62 (600)	5.91 (150)	6.81 (173)	26.77 (680)	15.75 (400)	15.100/600	15.125/600	15.150/600	15.175/600	15.200/600	15.250/600	≈ 1.54 (2.29)
23.62 (600)	6.40 (162.5)	7.30 (185.5)	26.77 (680)	15.35 (390)	—	162.125/600	162.150/600	162.175/600	162.200/600	162.250/600	≈ 1.60 (2.35)
23.62 (600)	6.61 (168)	7.52 (191)	26.77 (680)	15.35 (390)	—	—	17.150/600	17.175/600	17.200/600	17.250/600	≈ 1.60 (2.38)
23.62 (600)	6.89 (175)	7.80 (198)	26.77 (680)	14.96 (380)	—	—	18.150/600	18.175/600	18.200/600	18.250/600	≈ 1.62 (2.41)
23.62 (600)	7.38 (187.5)	8.29 (210.5)	26.77 (680)	14.96 (380)	—	—	187.150/600	187.175/600	187.200/600	187.250/600	≈ 1.67 (2.48)
23.62 (600)	7.87 (200)	8.78 (223)	26.77 (680)	13.78 (350)	—	—	20.150/600	20.175/600	20.200/600	20.250/600	≈ 1.71 (2.54)
25.59 (650)	4.92 (125)	5.83 (148)	28.74 (730)	18.50 (470)	12.100/650	12.125/650	12.150/650	12.175/650	12.200/650	12.250/650	≈ 1.45 (2.16)
25.59 (650)	5.41 (137.5)	6.32 (160.5)	28.74 (730)	18.11 (460)	137.100/650	137.125/650	137.150/650	137.175/650	137.200/650	137.250/650	≈ 1.49 (2.22)
25.59 (650)	5.91 (150)	6.81 (173)	28.74 (730)	17.72 (450)	15.100/650	15.125/650	15.150/650	15.175/650	15.200/650	15.250/650	≈ 1.54 (2.29)
25.59 (650)	6.40 (162.5)	7.30 (185.5)	28.74 (730)	17.32 (440)	—	162.125/650	162.150/650	162.175/650	162.200/650	162.250/650	≈ 1.60 (2.35)
25.59 (650)	6.61 (168)	7.52 (191)	28.74 (730)	16.93 (430)	—	17.125/650	17.150/650	17.175/650	17.200/650	17.250/650	≈ 1.60 (2.38)
25.59 (650)	6.89 (175)	7.80 (198)	28.74 (730)	16.93 (430)	—	—	18.150/650	18.175/650	18.200/650	18.250/650	≈ 1.62 (2.41)
25.59 (650)	7.38 (187.5)	8.29 (210.5)	28.74 (730)	16.54 (420)	—	—	187.150/650	187.175/650	187.200/650	187.250/650	≈ 1.67 (2.48)
25.59 (650)	7.87 (200)	8.78 (223)	28.74 (730)	15.75 (400)	—	—	20.150/650	20.175/650	20.200/650	20.250/650	≈ 1.71 (2.54)
29.52 (750)	5.41 (137.5)	6.32 (160.5)	32.67 (830)	22.05 (560)	137.100/750	137.125/750	137.150/750	137.175/750	137.200/750	137.250/750	≈ 1.49 (2.22)
29.52 (750)	5.91 (150)	6.81 (173)	32.67 (830)	21.65 (550)	15.100/750	15.125/750	15.150/750	15.175/750	15.200/750	15.250/750	≈ 1.54 (2.29)
29.52 (750)	6.40 (162.5)	7.30 (185.5)	32.67 (830)	21.26 (540)	—	162.125/750	162.150/750	162.175/750	162.200/750	162.250/750	≈ 1.60 (2.35)
29.52 (750)	6.61 (168)	7.52 (191)	32.67 (830)	21.26 (540)	—	17.125/750	17.150/750	17.175/750	17.200/750	17.250/750	≈ 1.60 (2.38)
29.52 (750)	6.89 (175)	7.80 (198)	32.67 (830)	20.87 (530)	—	18.125/750	18.150/750	18.175/750	18.200/750	18.250/750	≈ 1.62 (2.41)
29.52 (750)	7.38 (187.5)	8.29 (210.5)	32.67 (830)	20.47 (520)	—	187.125/750	187.150/750	187.175/750	187.200/750	187.250/750	≈ 1.67 (2.48)
29.52 (750)	7.87 (200)	8.78 (223)	32.67 (830)	19.69 (500)	—	20.125/750	20.150/750	20.175/750	20.200/750	20.250/750	≈ 1.71 (2.54)
33.46 (850)	5.91 (150)	6.81 (173)	36.61 (930)	25.59 (650)	15.100/850	15.125/850	15.150/850	15.175/850	15.200/850	15.250/850	≈ 1.54 (2.29)
33.46 (850)	6.40 (162.5)	7.30 (185.5)	36.61 (930)	25.20 (640)	162.100/850	162.125/850	162.150/850	162.175/850	162.200/850	162.250/850	≈ 1.60 (2.35)
33.46 (850)	6.61 (168)	7.52 (191)	36.61 (930)	24.80 (630)	17.100/850	17.125/850	17.150/850	17.175/850	17.200/850	17.250/850	≈ 1.60 (2.38)
33.46 (850)	6.89 (175)	7.80 (198)	36.61 (930)	24.80 (630)	—	18.125/850	18.150/850	18.175/850	18.200/850	18.250/850	≈ 1.62 (2.41)
33.46 (850)	7.38 (187.5)	8.29 (210.5)	36.61 (930)	24.41 (620)	—	187.125/850	187.150/850	187.175/850	187.200/850	187.250/850	≈ 1.67 (2.48)
33.46 (850)	7.87 (200)	8.78 (223)	36.61 (930)	23.62 (600)	—	20.125/850	20.150/850	20.175/850	20.200/850	20.250/850	≈ 1.71 (2.54)

R	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
H ⁺²⁰	10.51 (267)	12.48 (317)	14.45 (367)	16.42 (417)	18.39 (467)	22.32 (567)
K	19.69 (500)	25.59 (650)	28.54 (725)	31.50 (800)	34.45 (875)	41.34 (1050)

Pitch per link in. (mm)	2.65 (67)
Links/ft (m)	4.5 (15)
corresponds to (mm)	1,005

Dimension A1 dependent on outer radius AR

AR	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)
	A1	A1	A1	A1	A1	A1
mm	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)
400	2.01 (49)	1.97 (50)	2.01 (51)	2.09 (53)	2.13 (54)	2.28 (58)
500	2.52 (64)	2.56 (65)	2.60 (66)	2.64 (67)	2.68 (68)	2.80 (71)
600	3.11 (79)	3.11 (79)	3.15 (80)	3.19 (81)	3.23 (82)	3.35 (85)
650	3.38 (86)	3.43 (87)	3.43 (87)	3.46 (88)	3.50 (89)	3.62 (92)
750	3.98 (101)	3.98 (101)	4.02 (102)	4.06 (103)	4.09 (104)	4.17 (106)
850	4.57 (116)	4.57 (116)	4.61 (117)	4.65 (118)	4.65 (118)	4.72 (120)

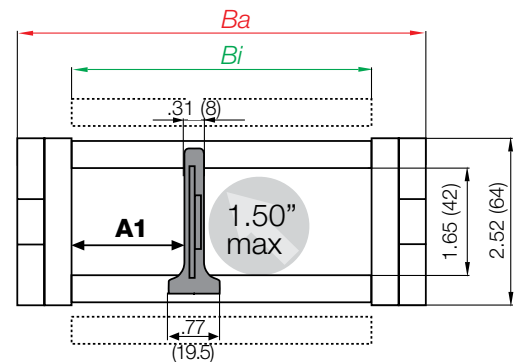


Intermediate link



The cable-friendly intermediate link increases the strength and stability of twisterchain many times over. It also serves as interior separation, dividing the filling space into two chambers. **Outer radius AR** determines dimension **A1**.

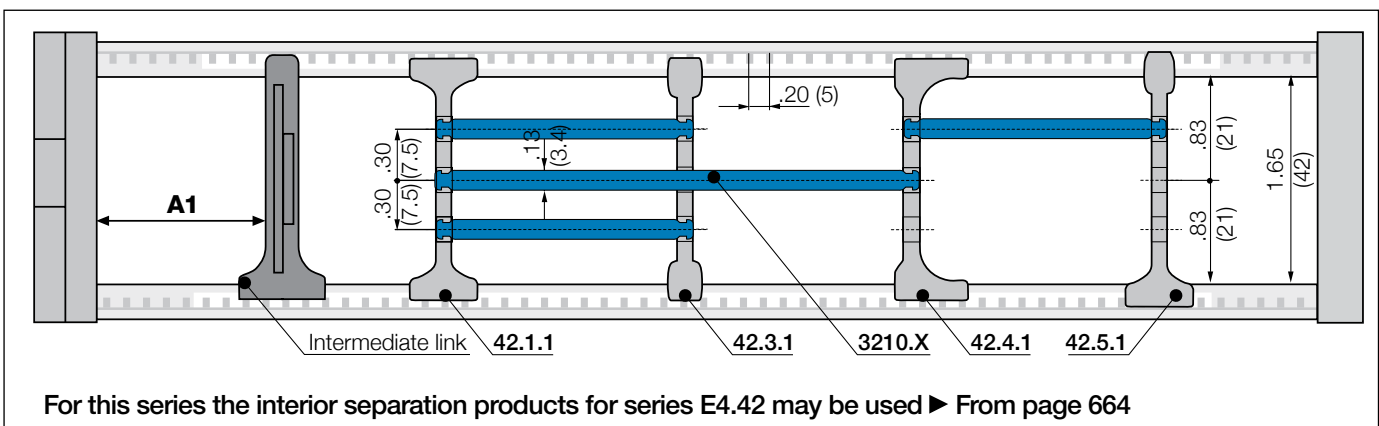
Dimensions



Series TC42 | Additional parameters dependent on outer radius AR

AR	Max. fill weight	Max. fill weight	Max. V	Max. a
mm	α 0° - 180° lb (kg)	α 180° - 360° lb (kg)	ft/s [m/s]	ft/s² [m/s²]
400-600	13.23 (6.0)	7.94 (3.6)	3.28 (1.0)	6.56 (2.0)
650	11.02 (5.0)	5.95 (2.7)	3.28 (1.0)	4.92 (1.5)
750-850	8.81 (4.0)	3.97 (1.8)	3.28 (1.0)	3.28 (1.0)

Series TC42 | Interior separation



AR = Outer radius
 IR = Inner radius e-chain®
 R = Bending radius

X_1 = Inner machine limit
 X_2 = Outer machine limit
 $A1$ = Intermediate link position

H = Nominal clearance height
 K = Add-on for bending radius
 T = Pitch

Circular and spiral movements up to 360°

Series TC56 | Crossbars removably along the inner and outer radius

AR in. (mm)	Bi in. (mm)	Ba in. (mm)	X _i in. (mm)	X _e in. (mm)	5.91 (150) TC56-	7.87 (200) TC56-	9.84 (250) TC56-	11.81 (300) TC56-	15.75 (400) TC56-	Weight lbs/ft (kg/m)
25.59 (650)	4.92 (125)	6.10 (155)	28.74 (730)	18.50 (470)	12.150/650	12.200/650	12.250/650	12.300/650	—	≈ 2.32 (3.45)
25.59 (650)	5.41 (137.5)	6.61 (168)	28.74 (730)	18.11 (460)	—	13.200/650	13.250/650	13.300/650	13.400/650	≈ 2.38 (3.54)
25.59 (650)	5.91 (150)	7.09 (180)	28.74 (730)	17.72 (450)	—	—	15.250/650	15.300/650	15.400/650	≈ 2.43 (3.62)
25.59 (650)	6.40 (162.5)	7.60 (193)	28.74 (730)	17.32 (440)	—	—	16.250/650	16.300/650	16.400/650	≈ 2.49 (3.70)
25.59 (650)	6.89 (175)	8.07 (205)	28.74 (730)	16.93 (430)	—	—	—	17.300/650	17.400/650	≈ 2.54 (3.78)
25.59 (650)	7.38 (187.5)	8.58 (218)	28.74 (730)	16.54 (420)	—	—	—	18.300/650	18.400/650	≈ 2.60 (3.87)
25.59 (650)	7.87 (200)	9.06 (230)	28.74 (730)	15.75 (400)	—	—	—	—	20.400/650	≈ 2.65 (3.95)
29.53 (750)	5.41 (137.5)	6.61 (168)	32.68 (830)	22.05 (560)	13.150/750	13.200/750	13.250/750	13.300/750	—	≈ 2.38 (3.54)
29.53 (750)	5.91 (150)	7.09 (180)	32.68 (830)	21.65 (550)	—	15.200/750	15.250/750	15.300/750	15.400/750	≈ 2.43 (3.62)
29.53 (750)	6.40 (162.5)	7.60 (193)	32.68 (830)	21.26 (540)	—	16.200/750	16.250/750	16.300/750	16.400/750	≈ 2.49 (3.70)
29.53 (750)	6.89 (175)	8.07 (205)	32.68 (830)	20.87 (530)	—	—	17.250/750	17.300/750	17.400/750	≈ 2.54 (3.78)
29.53 (750)	7.38 (187.5)	8.58 (218)	32.68 (830)	20.47 (520)	—	—	18.250/750	18.300/750	18.400/750	≈ 2.60 (3.87)
29.53 (750)	7.87 (200)	9.06 (230)	32.68 (830)	19.69 (500)	—	—	20.250/750	20.300/750	20.400/750	≈ 2.65 (3.95)
33.46 (850)	5.91 (150)	7.09 (180)	36.61 (930)	25.59 (650)	15.150/850	15.200/850	15.250/850	15.300/850	15.400/850	≈ 2.43 (3.62)
33.46 (850)	6.40 (162.5)	7.60 (193)	36.61 (930)	25.20 (640)	16.150/850	16.200/850	16.250/850	16.300/850	16.400/850	≈ 2.49 (3.70)
33.46 (850)	6.89 (175)	8.07 (205)	36.61 (930)	24.80 (630)	17.150/850	17.200/850	17.250/850	17.300/850	17.400/850	≈ 2.54 (3.78)
33.46 (850)	7.38 (187.5)	8.58 (218)	36.61 (930)	24.41 (620)	—	18.200/850	18.250/850	18.300/850	18.400/850	≈ 2.60 (3.87)
33.46 (850)	7.87 (200)	9.06 (230)	36.61 (930)	23.62 (600)	—	—	20.250/850	20.300/850	20.400/850	≈ 2.65 (3.95)

R	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)	15.75 (400)
H ⁺²⁰	15.12 (384)	19.06 (484)	22.99 (584)	26.93 (684)	34.80 (884)
K	29.53 (750)	35.43 (900)	41.34 (1050)	48.23 (1225)	57.09 (1450)

Pitch per link in. (mm)	3.58 (91)
Links/ft (m)	3.4 (11)
corresponds to (mm)	1,001

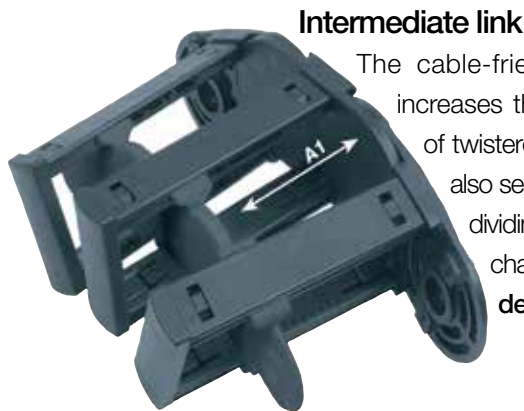
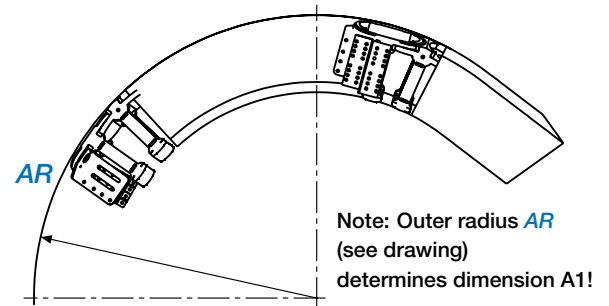
twisterchain in a guide trough type 01 for rotary movement
on an articulated robot - long service life and robust: tested
successfully for more than 1,000,000 cycles



Dimension A1 dependent on outer radius AR

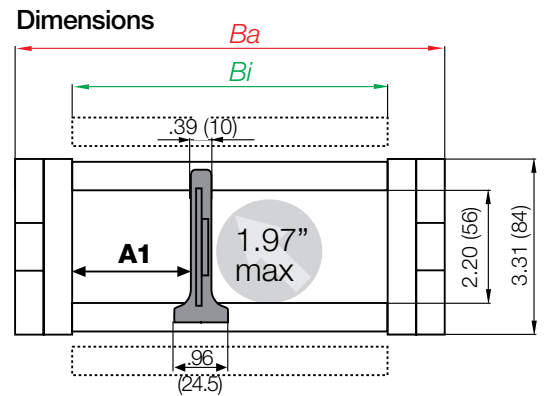
AR	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)	15.75 (400)
	A1	A1	A1	A1	A1
mm	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)
650	3.27 (83)	3.35 (85)	3.46 (88)	3.54 (90)	3.82 (97)
750	3.86 (98)	3.98 (101)	4.02 (102)	4.06 (103)	4.33 (110)
850	4.45 (113)	4.57 (116)	4.61 (117)	4.65 (118)	4.88 (124)

Dimension A1 always with tolerance of $\pm 10''$ (2.5 mm) mm



Intermediate link

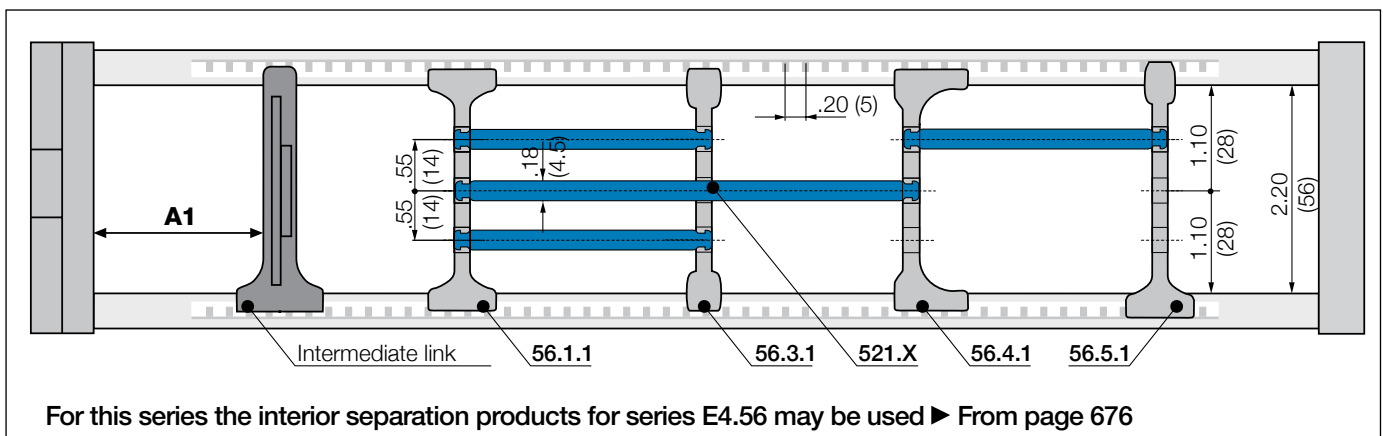
The cable-friendly intermediate link increases the strength and stability of twisterchain many times over. It also serves as interior separation, dividing the filling space into two chambers. **Outer radius AR determines dimension A1.**



Series TC56 | Additional parameters dependent on outer radius AR

AR	Max. fill weight $\alpha 0^\circ - 180^\circ$ lb (kg)	Max. fill weight $\alpha 180^\circ - 360^\circ$ lb (kg)	Max. V ft/s [m/s]	Max. a ft/s ² [m/s ²]
mm				
650	17.64 (8.0)	11.02 (5.0)	3.28 (1.0)	6.56 (2.0)
750	8.81 (4.0)	4.40 (2.0)	3.28 (1.0)	6.56 (2.0)
850	8.81 (4.0)	4.40 (2.0)	3.28 (1.0)	6.56 (2.0)

Series TC56 | Interior separation

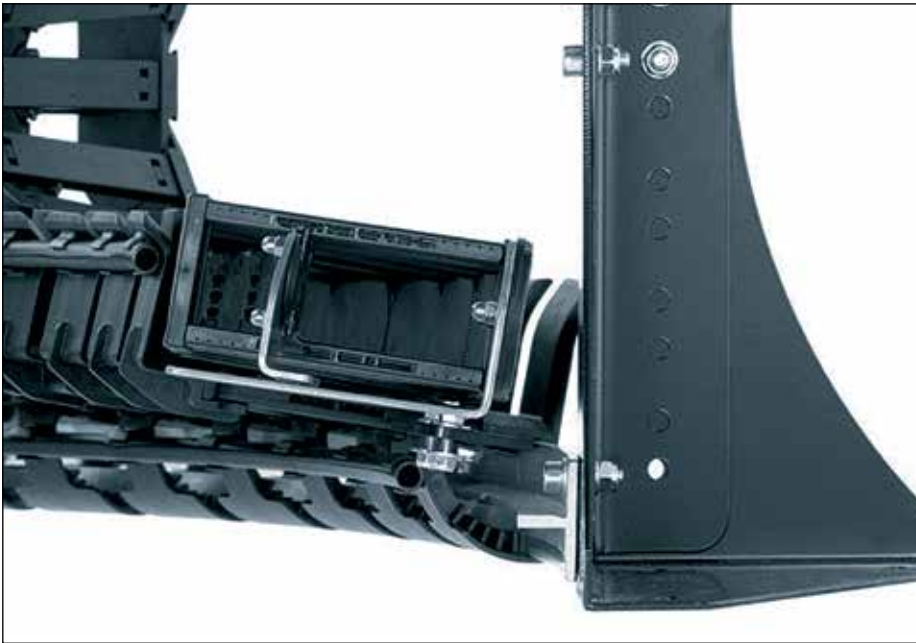


AR = Outer radius
 IR = Inner radius e-chain®
 R = Bending radius

X_1 = Inner machine limit
 X_2 = Outer machine limit
 $A1$ = Intermediate link position

H = Nominal clearance height
 K = Add-on for bending radius
 T = Pitch

Steel mounting bracket for twisterchain (2nd generation)



Position 1

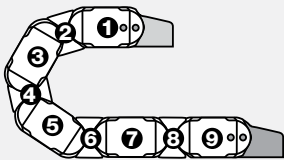
Position 2

Important note: twisterchain e-chains® must always start and end on an outer side link (odd number of links).

- One part for all e-chain® widths
- Electrically conductive
- Universal installation
- Material: AISI 304 stainless steel

Steel, one-piece for twisterchain (2nd generation) |
Recommended for unsupported and rotary applications

For series	Part No. full set	Part No. position 1	Part No. position 2
TC32 ▶	TC3200.34.VS.E	TC3200.30.VS.E	TC3200.40.VS.E
TC42 ▶	TC4200.34.VS.E	TC4200.30.VS.E	TC4200.40.VS.E
TC56 ▶	TC5600.34.VS.E	TC5600.30.VS.E	TC5600.40.VS.E



Important note: twisterchain e-chains® must always start and end on an outer side link (odd number of links). An outer side link should always be the first link at the moving end.

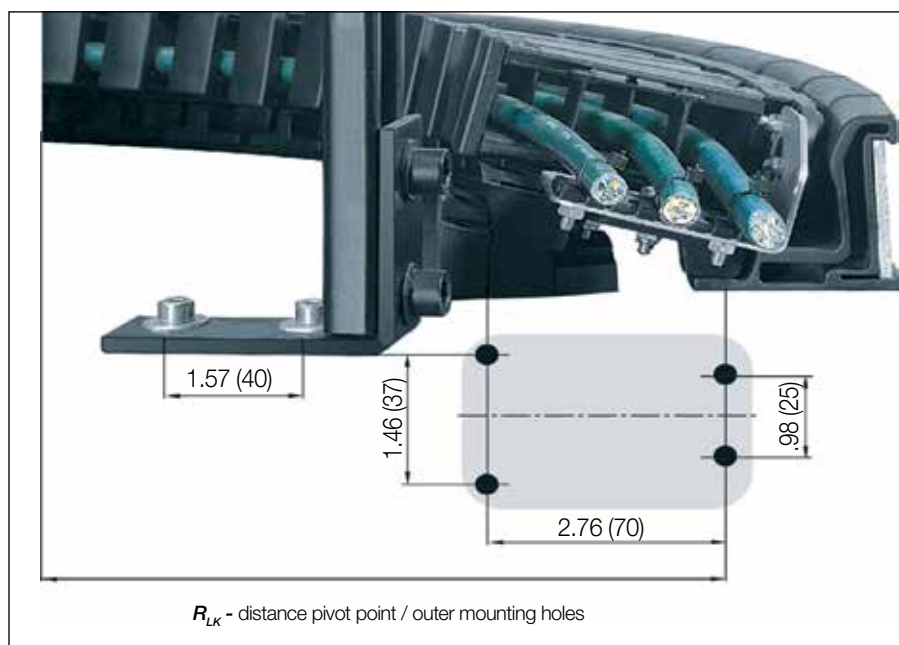
TC3200.34.VS.E

Order example



- Stainless steel (standard)
- Standard: bolted
- Full set
- Series

Steel mounting bracket for twisterchain (1st generation)



Position 1

Position 2

Important note: twisterchain e-chains® must always start and end on an outer side link (odd number of links).

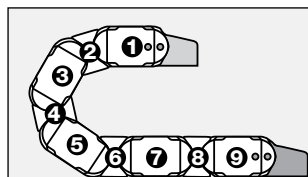
- One part for all e-chain® widths
- Electrically conductive
- Universal installation
- Material: AISI 304 stainless steel

Steel, one-piece for twisterchain (1st generation) | Recommended for unsupported and rotary applications

For series	Part No. full set	Part No. position 1	Part No. position 2
2208 ▶	22080.34.VS.E	22080.30.VS.E	22080.40.VS.E

The guide trough is attached to the fixed end of the twisterchain classic based on the drill pattern shown in the diagram.

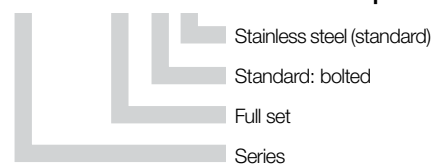
The following bolted connections are permitted: ● Plain holes: 4 x Ø 6.6 - 7mm ● Mounting only with bolts: 4 x bolts M6



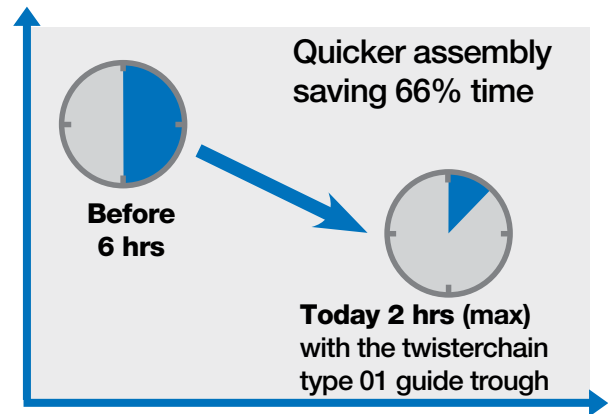
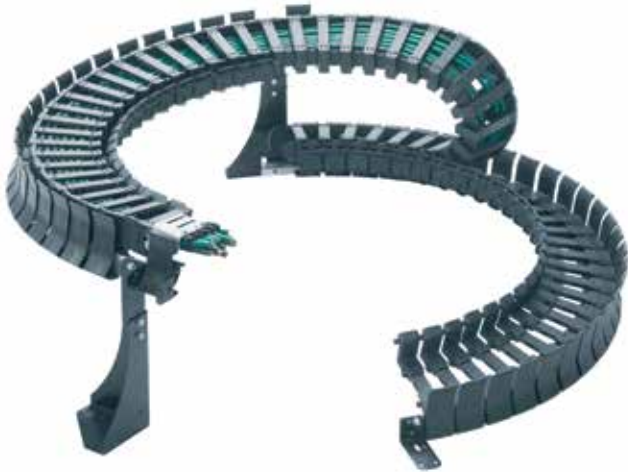
Important note: twisterchain e-chains® must always start and end on an outer side link (odd number of links). An outer side link should always be the first link at the moving end.

22080. 34.VS.E

Order example



Save installation time and cost - better guidance for circular movement - increase service life!



With the twisterchain trough type 01, complex adjustment work is reduced and so assembly time is reduced from 6 hours to 2 hours. It also reduces noise, whilst travel speed and service life can be increased, thanks to its nearly all-plastic design. Available for all twisterchains from the new and original product range.

- Suitable for high dynamics thanks to full guidance of the upper run
- Much smoother and quieter motion of the twisterchain in the trough due to continuous guidance of upper run
- Upper run guided in the plastic trough and supported over the full length
- Fully harnessed delivery possible
- Easy adjustment, alignment and handling
- Assembly time reduced from 6 hours to 2 hours

twisterchain type 01 guide trough options



9XXX.31

Complete trough

(with base support, height adjustment and attachment angle brackets)



9XXX.32

Upper and lower run trough

(without floor support and height adjustment)
Special option: customer supplies base supports



9XXX.30

Lower run trough

(with mounting angle brackets)
Special option: customer builds upper run trough

Guide trough | Type 01 | Product range

Product range | twisterchain guide trough type 01

Part No. Series	Outer radius <i>AR</i> [mm]	Angle of rotation min.-max. α	Part No. complete trough	Part No. upper/lower run trough	Part No. lower run trough
TC32 / TC42	400	0 - 90°	9XXX. 31 .90 .400/ <i>Bi</i> . <i>R</i>	9XXX. 32 .90 .400/ <i>Bi</i> . <i>R</i>	9XXX. 30 .90 .400/ <i>Bi</i> . <i>R</i>
		90° - 180°	9XXX. 31 .180.400/ <i>Bi</i> . <i>R</i>	9XXX. 32 .180.400/ <i>Bi</i> . <i>R</i>	9XXX. 30 .180.400/ <i>Bi</i> . <i>R</i>
		180° - 270°	9XXX. 31 .270.400/ <i>Bi</i> . <i>R</i>	9XXX. 32 .270.400/ <i>Bi</i> . <i>R</i>	9XXX. 30 .270.400/ <i>Bi</i> . <i>R</i>
		270° - 360°	9XXX. 31 .360.400/ <i>Bi</i> . <i>R</i>	9XXX. 32 .360.400/ <i>Bi</i> . <i>R</i>	9XXX. 30 .360.400/ <i>Bi</i> . <i>R</i>
	500	0 - 90°	9XXX. 31 .90 .500/ <i>Bi</i> . <i>R</i>	9XXX. 32 .90 .500/ <i>Bi</i> . <i>R</i>	9XXX. 30 .90 .500/ <i>Bi</i> . <i>R</i>
		90° - 180°	9XXX. 31 .180.500/ <i>Bi</i> . <i>R</i>	9XXX. 32 .180.500/ <i>Bi</i> . <i>R</i>	9XXX. 30 .180.500/ <i>Bi</i> . <i>R</i>
		180° - 270°	9XXX. 31 .270.500/ <i>Bi</i> . <i>R</i>	9XXX. 32 .270.500/ <i>Bi</i> . <i>R</i>	9XXX. 30 .270.500/ <i>Bi</i> . <i>R</i>
		270° - 360°	9XXX. 31 .360.500/ <i>Bi</i> . <i>R</i>	9XXX. 32 .360.500/ <i>Bi</i> . <i>R</i>	9XXX. 30 .360.500/ <i>Bi</i> . <i>R</i>
	600	0 - 90°	9XXX. 31 .90 .600/ <i>Bi</i> . <i>R</i>	9XXX. 32 .90 .600/ <i>Bi</i> . <i>R</i>	9XXX. 30 .90 .600/ <i>Bi</i> . <i>R</i>
		90° - 180°	9XXX. 31 .180.600/ <i>Bi</i> . <i>R</i>	9XXX. 32 .180.600/ <i>Bi</i> . <i>R</i>	9XXX. 30 .180.600/ <i>Bi</i> . <i>R</i>
		180° - 270°	9XXX. 31 .270.600/ <i>Bi</i> . <i>R</i>	9XXX. 32 .270.600/ <i>Bi</i> . <i>R</i>	9XXX. 30 .270.600/ <i>Bi</i> . <i>R</i>
		270° - 360°	9XXX. 31 .360.600/ <i>Bi</i> . <i>R</i>	9XXX. 32 .360.600/ <i>Bi</i> . <i>R</i>	9XXX. 30 .360.600/ <i>Bi</i> . <i>R</i>
TC42 / TC56	650	0 - 90°	9XXX. 31 .90 .650/ <i>Bi</i> . <i>R</i>	9XXX. 32 .90 .650/ <i>Bi</i> . <i>R</i>	9XXX. 30 .90 .650/ <i>Bi</i> . <i>R</i>
		90° - 180°	9XXX. 31 .180.650/ <i>Bi</i> . <i>R</i>	9XXX. 32 .180.650/ <i>Bi</i> . <i>R</i>	9XXX. 30 .180.650/ <i>Bi</i> . <i>R</i>
		180° - 270°	9XXX. 31 .270.650/ <i>Bi</i> . <i>R</i>	9XXX. 32 .270.650/ <i>Bi</i> . <i>R</i>	9XXX. 30 .270.650/ <i>Bi</i> . <i>R</i>
		270° - 360°	9XXX. 31 .360.650/ <i>Bi</i> . <i>R</i>	9XXX. 32 .360.650/ <i>Bi</i> . <i>R</i>	9XXX. 30 .360.650/ <i>Bi</i> . <i>R</i>
	750	0 - 90°	9XXX. 31 .90 .750/ <i>Bi</i> . <i>R</i>	9XXX. 32 .90 .750/ <i>Bi</i> . <i>R</i>	9XXX. 30 .90 .750/ <i>Bi</i> . <i>R</i>
		90° - 180°	9XXX. 31 .180.750/ <i>Bi</i> . <i>R</i>	9XXX. 32 .180.750/ <i>Bi</i> . <i>R</i>	9XXX. 30 .180.750/ <i>Bi</i> . <i>R</i>
		180° - 270°	9XXX. 31 .270.750/ <i>Bi</i> . <i>R</i>	9XXX. 32 .270.750/ <i>Bi</i> . <i>R</i>	9XXX. 30 .270.750/ <i>Bi</i> . <i>R</i>
		270° - 360°	9XXX. 31 .360.750/ <i>Bi</i> . <i>R</i>	9XXX. 32 .360.750/ <i>Bi</i> . <i>R</i>	9XXX. 30 .360.750/ <i>Bi</i> . <i>R</i>
	850	0 - 90°	9XXX. 31 .90 .850/ <i>Bi</i> . <i>R</i>	9XXX. 32 .90 .850/ <i>Bi</i> . <i>R</i>	9XXX. 30 .90 .850/ <i>Bi</i> . <i>R</i>
		90° - 180°	9XXX. 31 .180.850/ <i>Bi</i> . <i>R</i>	9XXX. 32 .180.850/ <i>Bi</i> . <i>R</i>	9XXX. 30 .180.850/ <i>Bi</i> . <i>R</i>
		180° - 270°	9XXX. 31 .270.850/ <i>Bi</i> . <i>R</i>	9XXX. 32 .270.850/ <i>Bi</i> . <i>R</i>	9XXX. 30 .270.850/ <i>Bi</i> . <i>R</i>
		270° - 360°	9XXX. 31 .360.850/ <i>Bi</i> . <i>R</i>	9XXX. 32 .360.850/ <i>Bi</i> . <i>R</i>	9XXX. 30 .360.850/ <i>Bi</i> . <i>R</i>

Complete Part No. **9XXX** with required series (TC32, TC42, TC56),
value *Bi* and required bend radius *R* ► 9TC32.31.180.600/06.250
For series 2208 please use guide troughs type 02 ► Page 1144

9TC32.**31**.180.600/12.250

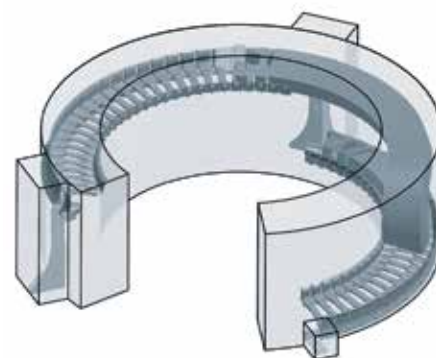
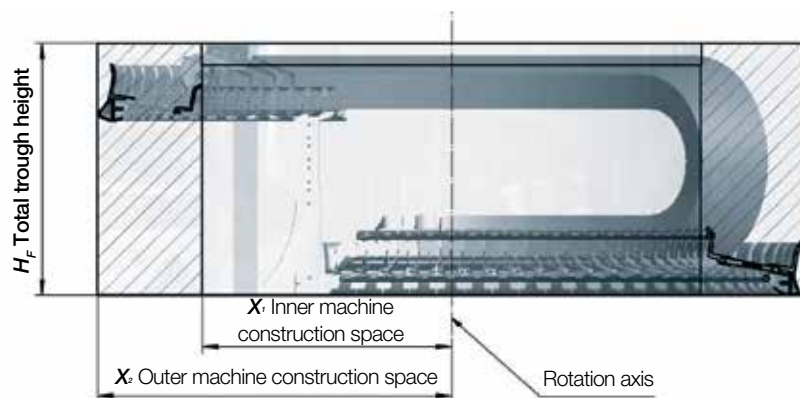
9XXX.**31**.180.600/*Bi*.*R*


Order key
Guide trough type 01

- R* - Bend radius, please add required value
- Bi* - width index, please add required value
- Outer radius e-chain®
- Angle of rotation of application (90°, 180°, 270°, 360°)
- Trough version
- Guide trough of selected series

More order examples

Complete trough	Part No.	9TC32. 31 .180.600/12.250
Lower run trough only	Part No.	9TC32. 30 .180.600/12.250
Upper and lower run trough without base support	Part No.	9TC32. 32 .180.600/12.250



Minimum required space
for igus® twisterchain guide trough system

Installation dimensions | X_1 inner machine limit and X_2 outer machine limit

AR in. in. (mm)	X_2 in. (mm)	X_1 (mm) depending on Bi in. (mm)											
TC32		3.44 (87.5)	3.94 (100)	4.25 (108)	4.92 (125)	5.41 (137.5)	5.91 (150)						
15.75 (400)	18.90 (480)	10.63 (270)	9.84 (250)	9.84 (250)	8.66 (220)	8.27 (210)	7.87 (200)						
19.69 (500)	22.83 (580)	–	13.78 (350)	13.78 (350)	12.60 (320)	12.20 (310)	11.81 (300)						
23.62 (600)	26.77 (680)	–	–	17.72 (450)	16.54 (420)	16.14 (410)	15.75 (400)						
TC42		3.44 (87.5)	3.94 (100)	4.25 (108)	4.92 (125)	5.41 (137.5)	5.91 (150)	162.5	168	175	187.5	200	
15.75 (400)	18.90 (480)	10.63 (270)	9.84 (250)	9.84 (250)	8.66 (220)	8.27 (210)	7.87 (200)	7.48 (190)	7.48 (190)	7.09 (180)	–	–	
19.69 (500)	22.83 (580)	–	13.78 (350)	13.78 (350)	12.60 (320)	12.20 (310)	11.81 (300)	11.42 (290)	11.42 (290)	11.02 (280)	11.02 (280)	9.84 (250)	
23.62 (600)	26.77 (680)	–	–	17.72 (450)	16.54 (420)	16.14 (410)	15.75 (400)	15.35 (390)	15.35 (390)	14.96 (380)	14.96 (380)	13.78 (350)	
TC56		–	–	–	125	137.5	150	162.5	–	175	187.5	200	
25.59 (650)	28.74 (730)	–	–	–	18.50 (470)	18.11 (460)	17.72 (450)	17.32 (440)	–	16.93 (430)	16.54 (420)	15.75 (400)	
29.53 (750)	32.68 (830)	–	–	–	–	22.05 (560)	21.65 (550)	21.26 (540)	–	20.87 (530)	20.47 (520)	19.69 (500)	
33.46 (850)	36.61 (930)	–	–	–	–	–	25.59 (650)	25.20 (640)	–	24.80 (630)	24.41 (620)	23.62 (600)	

Construction height | H_F depending on bend radius of twisterchain guide trough

Part no.	R in. (mm)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)	11.81 (300)	15.75 (400)
Series	H_F Construction height in. (mm)								
TC32		14.57 (370)	16.54 (420)	18.50 (470)	20.47 (520)	22.44 (570)	26.38 (670)	–	–
TC42		14.96 (380)	16.93 (430)	18.90 (480)	20.87 (530)	22.83 (580)	26.77 (680)	–	–
TC56		–	–	19.69 (500)	–	23.62 (600)	27.56 (700)	31.50 (800)	39.37 (1000)

Guide trough | Type 01 | Installation dimensions

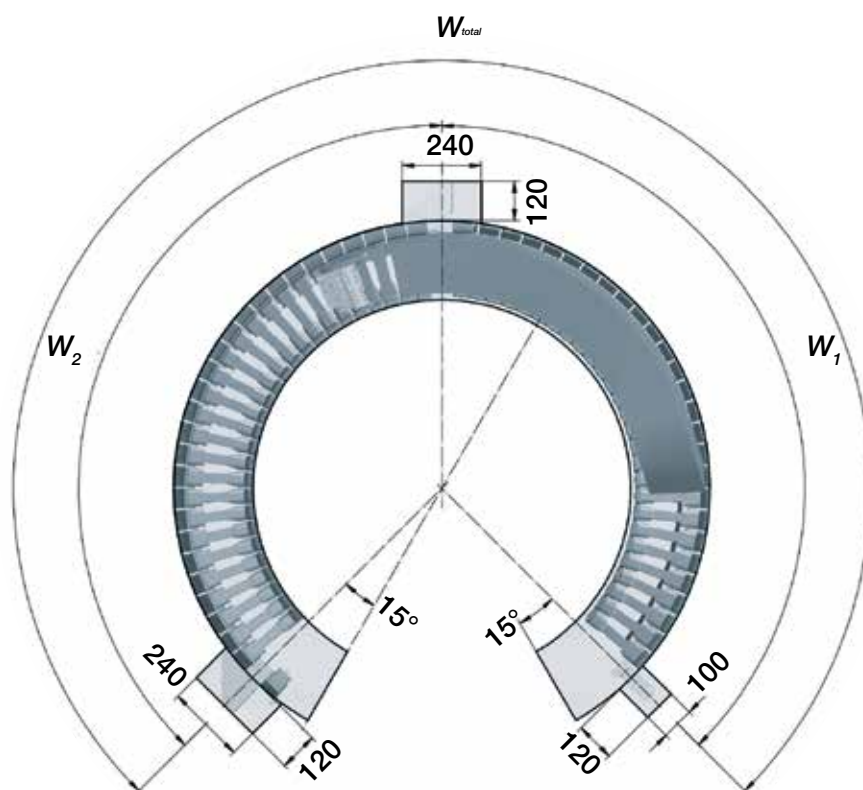
Angle of rotation for 360° | W_2 angle of upper run twisterchain guide trough

Series	AR (mm)	R [mm]	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	9.84 (250)	11.81 (300)	15.75 (400)
W_2 Rotation angle										
TC32/TC42	400		90°	90°	90°	90°	90°	90°	90°	90°
TC32/TC42	500		90°	90°	90°	90°	90°	90°	90°	90°
TC32/TC42	600		135°	135°	135°	135°	90°	90°	90°	90°
TC42/TC56	650		135°	135°	135°	135°	90°	90°	90°	90°
TC42/TC56	750		135°	135°	135°	135°	135°	135°	90°	90°
TC42/TC56	850		135°	135°	135°	135°	135°	135°	135°	135°

Support for the upper run as of 180° rotation angle

Angle of rotation | W_1 | W_{total}

Angle of rotation of system W_{total}	Angle of lower run W_1
90°	45°
180°	90°
270°	135°
360°	180°



AR = Outer radius e-chain®
 IR = Inner radius e-chain®
 R = Bend radius e-chain®

X_1 = Inner machine limit
 X_2 = Outer machine limit
 H_F = Total trough height

H_F = e-chain® height incl. 50mm clearance
 H = e-chain® height
 K = Add-on for bend radius

W_1 = Angle of upper run
 W_2 = Angle of lower run
 W_{total} = Angle of rotation of system

Guide trough type 02 for twisterchain classic (1st generation) series 2208

- Support for the upper run and guidance of twisterchain classic series 2208
- Angle of rotation up to 360° possible, 400° upon request
- The modular design of the guide trough makes it possible to connect a large number of e-chains® radii, circle and bend radii by using the same trough sections
- If the e-chain® radius changes, the trough can simply be adapted without purchasing a completely new trough
- The specified part number shown below includes the complete trough system



Product range | Guide trough type 02 for twisterchain classic (1st generation)

Part No. Series	Outer radius <i>AR</i> [mm]	Angle of rotation min.-max. α	Part No. Guide trough type 02	Part No. Guide trough with bottom support	Number of supports
2208	300	45° - 100°	92208.4.45.300/ <i>Bi.R</i>	not necessary	–
	300	>100° - 180°	92208.4.90.300/ <i>Bi.R</i>	not necessary	–
	300	>180° - 270°	92208.4.135.300/ <i>Bi.R</i> *	92208.5.135.300/ <i>Bi.R</i>	1
	300	>270° - 360°	92208.4.180.300/ <i>Bi.R</i> **	92208.5.180.300/ <i>Bi.R</i>	2

92208.5.180.600/112.150



Order key
Guide trough type 02

R - Bend radius, please add required value

Bi - width index, please add required value

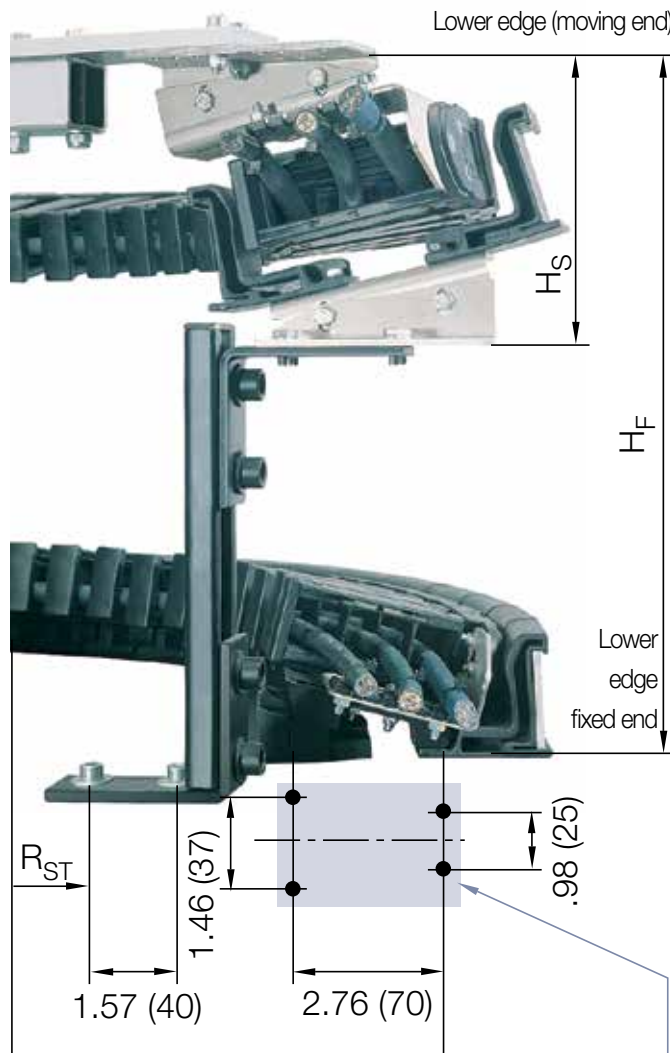
Outer radius e-chain®

Trough angle (Standard 180°, 135°, 90°, 45°)

Trough version (.5. with and .4. without bottom support)

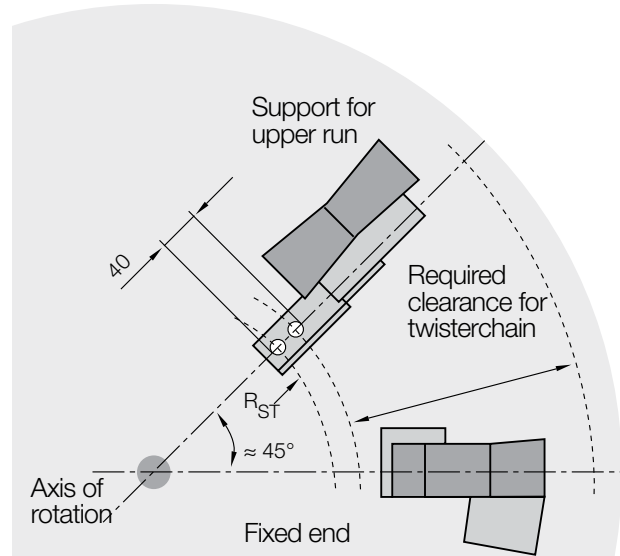
Guide trough - series 2208

Guide trough | Type 02 for twisterchain classic (1st generation)

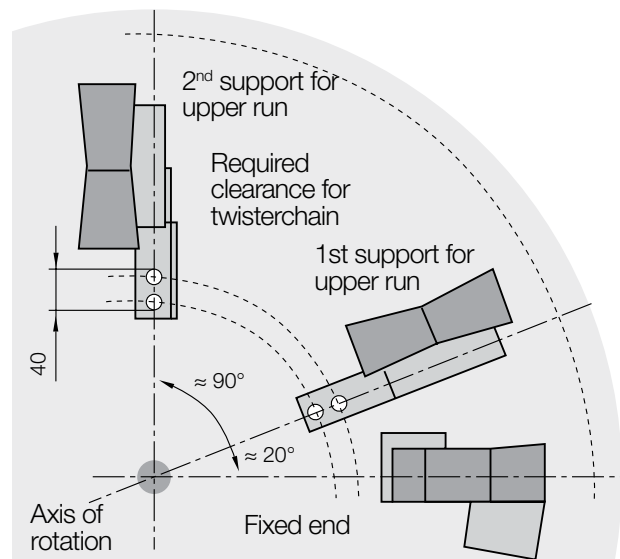


The guide trough must be mounted at the fixed end of the twisterchain using the drilling template shown. The following screw connections are allowed:

- Bore hole: 4 x Ø 6.6 - 7mm
- Mounting only with bolts: 4 x bolt M6



Mounting position for one support



Mounting position for two supports

Installation dimensions | Guide troughs type 02 (1st generation)

Series	R_{LK}	H_s	Part No. Trough	R_{ST}	R	2.16 (055)	2.48 (063)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)
	in. (mm)	in. (mm)		in. (mm)	in. (mm)						
2208...	10.43 (265)	5.12 (130)	92208...	5.71 (145)		7.68 (195)	8.31 (211)	9.25 (235)	11.22 (285)	13.19 (335)	15.16 (385)





twisterband

Up to 7,000°* rotary movement in the smallest spaces



twisterband advantages:

- Up to 7,000° rotation horizontally and 3,000° rotation vertically
- Rotary speeds of up to 180°/s possible
- Openable with film hinge or openable "easy" design
- HD version with strong pin and hook connection for an even longer service life
- Compact, modular and light
- Strips can be shortened as required
- Minimum installation spaces, fits tightly around the rotary axis
- Cost-effective and easy to fill



When to use another igus® solution:

- For applications with a high fill weight
 - ▶ **twisterchain system, page 1124**
- For applications with multi-axis movements
 - ▶ **triflex® R, page 990**
- **RBR** versions with a high fill weight
 - ▶ **Designing, page 132**
- If a lubrication and maintenance-free slewing ring bearing for "endless" rotation is required
 - ▶ **iglide® slewing ring bearings, www.igus.com/slewing-rings**
- If shielded cables are necessary
 - ▶ **Please contact us**

*Rotary movements up to 3,600° can be ordered from stock.
Above 3,600°, please contact igus®.

Up to 7,000°* rotary movements in small spaces - twisterband

With the compact igus® twisterband, rotations of up to 7,000°* can be achieved cost-effectively, even in confined spaces. Energy, data and media are securely guided.

- Up to 7,000° rotation horizontally and 3,000° rotation vertically
- Rotary speeds of up to 180°/s possible
- Openable with film hinge or openable "easy" design
- HD version with strong pin and hook connection for an even longer service life
- Compact, modular and light
- Strips can be shortened as required
- Minimum installation spaces, fits tightly around the rotary axis
- Cost-effective and easy to fill

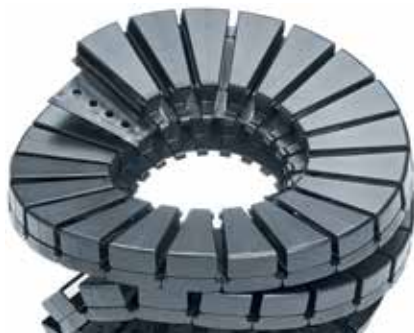
Typical industries and applications

- Cable reels
- Robots (robot arms, axis1/6, SCARA robots)
- Machine tools
- Medical equipment
- Radar and telescope equipment
- Aerospace, test, measurement, handling, lifting and installation equipment
- Wind turbines (e.g. blade adjustment)
- Wherever rotary unions are used

*Rotary movements up to 3,600° can be ordered from stock. Above 3,600°, please contact igus®.

twisterband | Selection table

Series	Inner height hi in. (mm)	Inner width Bi in. (mm)	$\varnothing X_1$ in. (mm)	$\varnothing X_2$ in. (mm)	$\geq R$ in. (mm)	$\leq R$ in. (mm)	$\leq d1$  in. (mm)	Interior separation	Opening principle
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twisterband

e-chain® links on a strip.
Openable with film hinge
or openable "easy" design

TB12.23.9	.35 (9)	.91 (23)	1.57 (40)	5.51 (140)	.94 (024)	1.38 (035)	.28 (7)	–	"easy" design
TB20.44.12	.47 (12)	1.73 (44)	1.97 (50)	8.66 (220)	1.34 (034)	2.24 (057)	.35 (9)	–	"easy" design
TB20.44.18	.71 (18)	1.73 (44)	1.97 (50)	8.66 (220)	1.34 (034)	2.24 (057)	.55 (14)	yes	film-hinge
TB29.27.22	.87 (22)	1.06 (27)	7.87 (200)	12.60 (320)	2.72 (069)	3.22 (082)	.67 (17)	yes	film-hinge
TB30.75.22	.87 (22)	2.95 (75)	3.54 (90)	12.99 (330)	1.73 (044)	3.03 (077)	.67 (17)	yes	film-hinge



twisterband HD e-chain® links with strong pin
and hook connection.
Openable with film-hinge

TBHD12.24.11	.43 (11)	.94 (24)	1.57 (40)	5.51 (140)	.94 (024)	1.38 (035)	.39 (10)	yes	"easy" design
TBHD20.44.18	.71 (18)	1.73 (44)	1.97 (50)	8.66 (220)	1.46 (037)	2.48 (063)	.55 (14)	yes	"easy" design
TBHD30.75.22	.87 (22)	2.95 (75)	3.54 (90)	12.99 (330)	1.73 (044)	3.03 (077)	.67 (17)	yes	film-hinge
TBHD42.135.30	1.18 (30)	5.31 (135)	3.54 (90)	19.29 (490)	2.20 (056)	4.69 (119)	.79 (20)	yes	film-hinge

Other sizes available upon request. X_1 = inner machine limit X_2 = outer machine limit



Available from stock. Orders ship as early as today.*

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



Bi = Inner width e-chain®
 hi = Inner height e-chain®

X_1 = Inner machine limit
 X_2 = Outer machine limit

$\geq R$ = Minimum bend radius e-chain®
 $\leq R$ = Max. bend radius e-chain®

$d1$ = Max. cable diameter
 XX = Number of strips



A central shaft must be installed for horizontal orientation angles of rotation above 1,500° A central shaft must be installed for horizontal orientation angles of rotation above 1,500°



Max. angle of rotation: as a rule of thumb: each segment gives $180^\circ = 360^\circ$ more rotation



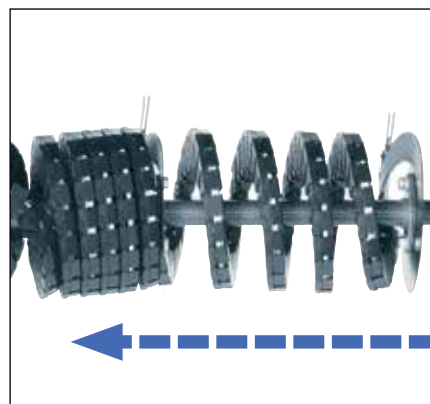
igus® twisterband: minimum installation space, fits tightly around the rotary axis



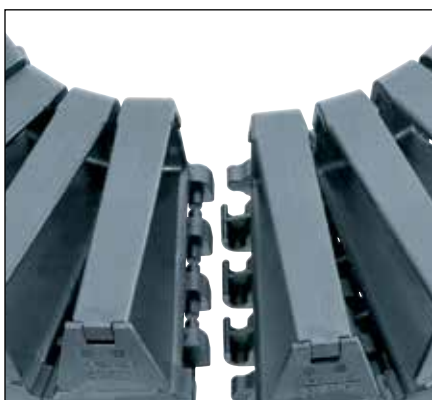
Film hinge: easy access and quick filling with cables and hoses



Compact, modular, cost-effective - up to 7,000° rotary movement* in the most confined spaces



Can be reliably used in various installation positions (horizontal: 7,000° and more). Limited length compensation possible



The twisterband HD is an advanced version of the standard twisterband ...stock



... instead of bands with integral hinges, the twisterband HD version is composed of separate e-chain® links with the pin/hook connecting system ...



... the advantage is a defined radius with higher strength.

iF product design award
2011 igus® twisterband



reddot design award
winner 2011

Technical data



Speed / acceleration

180°/s



twisterband - Material - permitted temperature, igumid TE

+32°F (0°C) / +158°F (+70°C)

twisterband - Material - permitted temperature, igumid G

-40°F (-40°C) / +248°F (+120°C)



Flammability class, igumid TE

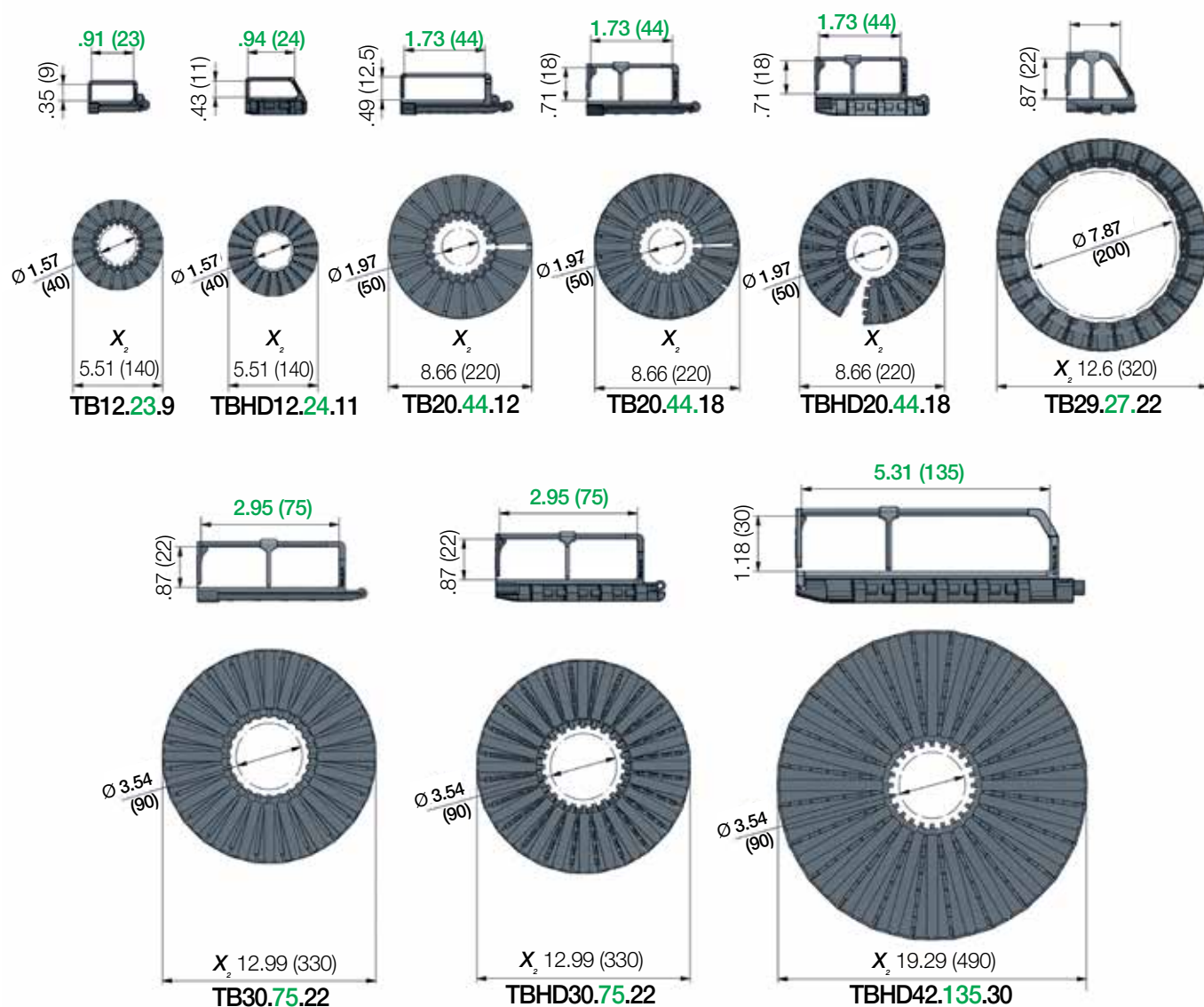
VDE 0304 IIC UL94-HB

Flammability class, igumid G

VDE 0304 IIC UL94-HB

*Speed / acceleration for TB29.27. upon request

Size overview



Up to 7,000°* rotary movements in small spaces - twisterband

Base plate
with strain
relief**

Bands can be
lengthened
and shortened
as required

4 sizes
available

Some parts
available
with interior
separation

Openable
with film hinge
or openable
"easy" design

Base plate
with strain
relief**

With the compact igus® twisterband rotations can be achieved cost-effectively and with low wear and low maintenance, even in confined spaces. Energy, data and media are securely guided. Available in 5 sizes.

- Up to 7,000° rotation horizontally and 3,000° rotation vertically
- Rotary speeds of up to 180°/s possible
- Compact, modular and light
- Strips can be shortened as required
- Minimum installation spaces, fits tightly around the rotary axis
- Can be used reliably in various installation positions (horizontal, vertical, upside down)
- Cost-effective
- Easy filling
- Ideal in combination with igus® chainflex® cables for rotary movements in very limited installation spaces

Typical industries and applications

- Cable reels
- Robots (robot arms, axis1/6, SCARA robots)
- Machine tools
- Medical equipment
- Radar and telescope equipment
- Aerospace, test, measurement, handling, lifting and installation equipment
- Wind turbines (e.g. blade adjustment)
- Wherever rotary unions are used

*Rotary movements up to 3,600° can be ordered from stock. Above 3,600°, please contact igus®.

**Base plates are delivered as standard as part of the twisterband module!



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

*Average time before the ordered goods are dispatched.

e-chain® links on a strip



twisterband | Openable with film hinge or with "easy" design

Part No.	<i>hi</i>	<i>Bi1</i>	$X_1 \varnothing$	$X_2 \varnothing$	$\geq R$	$\leq R$	$\leq d1$	Opening principle
twisterband	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	
TB12. 23 .9. XX .01.0	.35 (9)	.91 (23)	1.57 (40)	5.51 (140)	.94 (024)	1.38 (035)	.28 (7)	"easy" design
TB20. 44 .12. XX .01.0	.47 (12)	1.73 (44)	1.97 (50)	8.66 (220)	1.34 (034)	2.24 (057)	.35 (9)	"easy" design
TB20. 44 .18. XX .01.0	.71 (18)	1.73 (44)	1.97 (50)	8.66 (220)	1.34 (034)	2.24 (057)	.55 (14)	film-hinge
TB29. 27 .22. XX .01.0*	.87 (22)	1.06 (27)	7.87 (200)	12.60 (320)	2.72 (069)	3.22 (082)	.67 (17)	film-hinge
TB30. 75 .22. XX .01.0	.87 (22)	2.95 (75)	3.54 (90)	12.99 (330)	1.73 (044)	3.03 (077)	.67 (17)	film-hinge

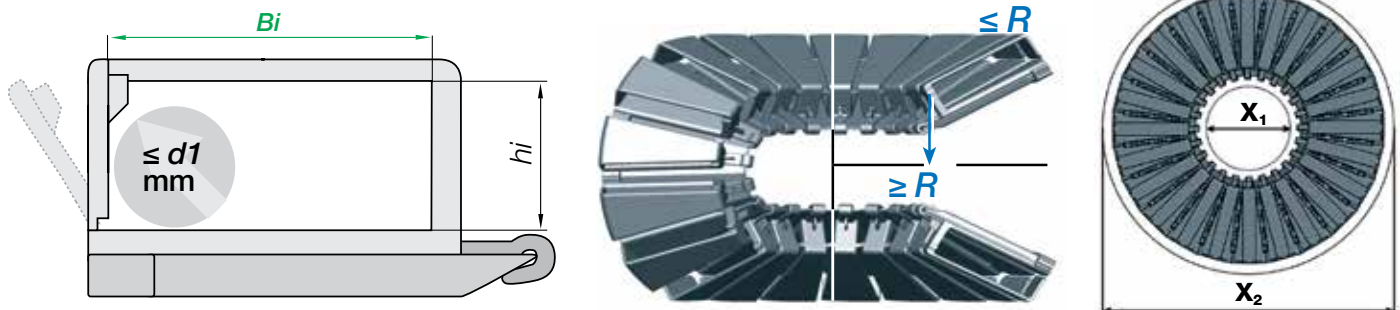
More twisterband sizes upon request! **Note:** Series TB29.27.22. Rotary movement up to max. 720°

Base plates are delivered as standard as part of the twisterband module!

X_1 = $\varnothing$ inner machine installation space X_2 = $\varnothing$ outer machine installation space

Complete Part No. with required number of strips **XX**. Example: TB20.44.12.6.01.0

Installation dimensions

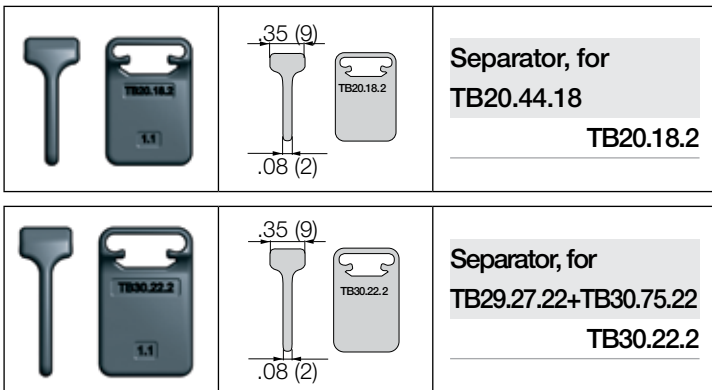
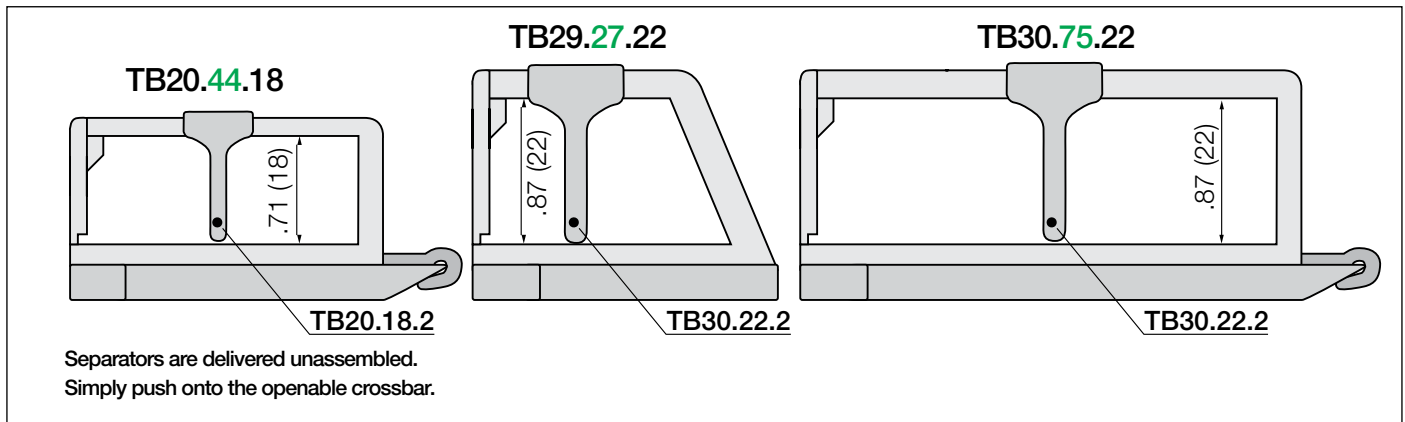


Calculation: number of strips depends on angle of rotation
(please always round up number of strips)

TB12: XX $\approx$	$\frac{\text{XXXX}^\circ}{360} + 2 =$	Example: XX $\approx$	$\frac{1200^\circ}{360} + 2 =$	Result: XX $\approx$ 6 strips
TB20: XX $\approx$	$\frac{\text{XXXX}^\circ}{340} + 2 =$	Example: XX $\approx$	$\frac{1200^\circ}{340} + 2 =$	Result: XX $\approx$ 6 strips
TB29: XX $\approx$	$\frac{\text{XXXX}^\circ}{180} + 2 =$	Example: XX $\approx$	$\frac{720^\circ}{180} + 2 =$	Result: XX $\approx$ 6 strips
TB30: XX $\approx$	$\frac{\text{XXXX}^\circ}{180} + 6 =$	Example: XX $\approx$	$\frac{1200^\circ}{180} + 6 =$	Result: XX $\approx$ 13 strips

XXXX° = Angle of rotation

Interior separation for twisterband

**Separators**

To fit, simply open the e-chain®, insert a cable and press the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.



Easy opening and filling of the twisterband with a click or with the "easy" design. Simply press separators on and add more cables. The separators provide a clear, cable-friendly interior separation.



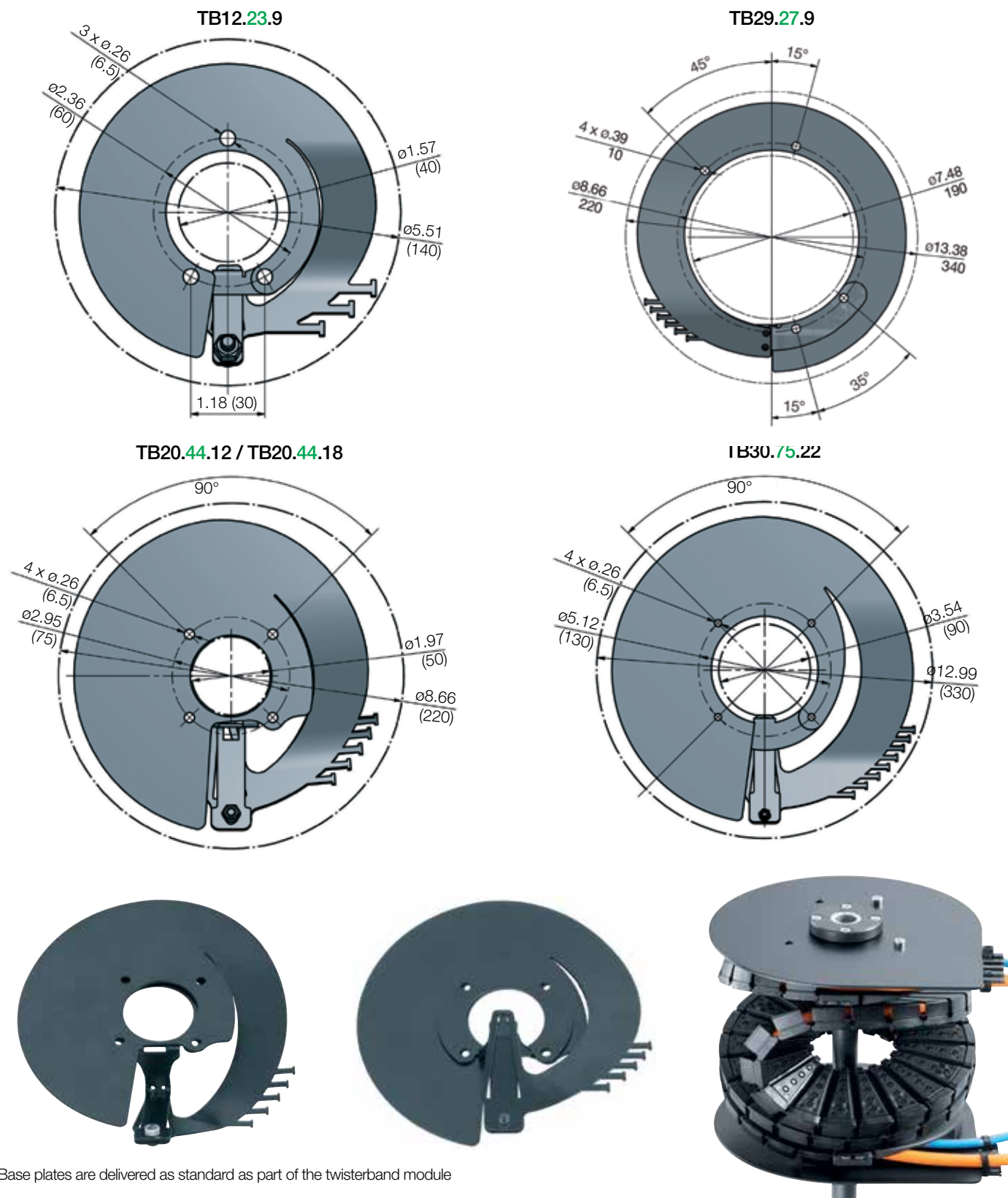
igus® twisterband TB30 for circular movements up to 360°, E2 mini and E2/000 e-chains® are used in this loading and unloading unit



Two systems stacked above one another - this space-saving solution allows double filling space with a constant outer diameter of the system

Steel base plate dimensions

Steel base plate dimensions for twisterband HD
(for TB29.27.22 upon request)



Rotary movement in the most confined spaces, now even stronger - twisterband HD

Base plate with strain relief**

Modular separation available

Temperature range
+32°F up to 176°F
(0°C up to +80°C)

Strong pin and hook connection of the e-chain® links

Openable with film-hinge

Base plate with strain relief**

Instead of strips, the twisterband HD has a strong pin/hook connection between the e-chain® links. Longer service life and higher filling are possible.

- Continuous cable guidance in rotational movements
- Strong pin/hook connection for high load and long service life
- For routing electrical and fibre optic cables and pneumatic lines in one system
- Stop-dogs for defined bend radius
- Cable-friendly thanks to defined radius stops
- Max. rotating speed: 180°/s

Typical industries and applications

- Machining heads on machine tools
 - Rotary tables
 - Sixth axis robots
- Generally all applications that currently work with slip rings

*Rotary movements up to 3,600° can be ordered from stock. Above 3,600°, please contact igus®.

**Base plates are delivered as standard as part of the twisterband module!



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

*Average time before the ordered goods are dispatched.



twisterband | Openable with film hinge

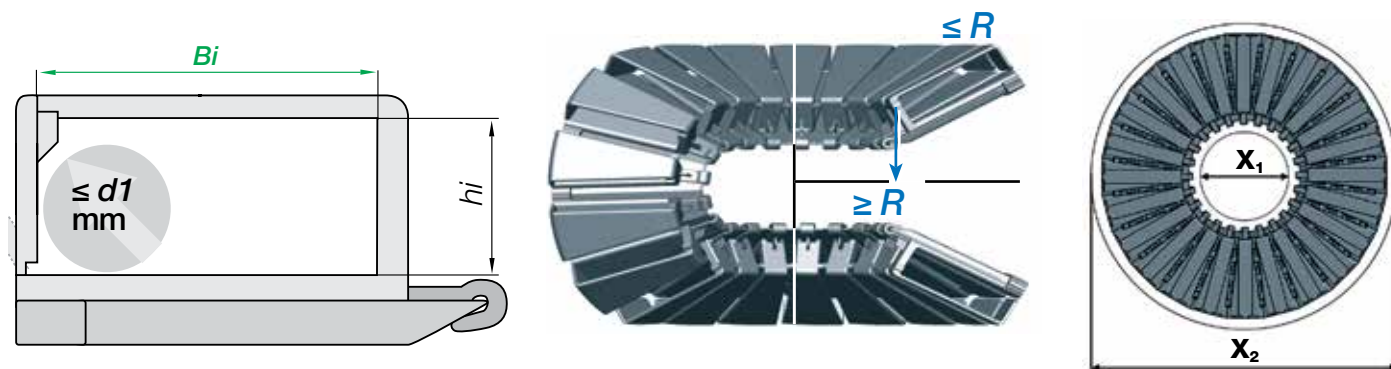
Part No.	<i>Bi</i> 1	<i>hi</i>	$X_1 \varnothing$	$X_2 \varnothing$	$\geq R$	$\leq R$	$\leq d1$	Opening principle
twisterband	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)	
TBHD12. 24 .11. XXX .01.0	.43 (11)	.94 (24)	1.57 (40)	5.51 (140)	.94 (24)	1.38 (35)	.39 (10)	"easy" design
TBHD20. 44 .18. XXX .01.0	.71 (18)	1.73 (44)	1.97 (50)	8.66 (220)	1.46 (37)	2.48 (63)	.55 (14)	"easy" design
TBHD30. 75 .22. XXX .01.0	2.95 (75)	.87 (22)	3.54 (90)	12.99 (330)	1.73 (044)	3.03 (077)	.67 (17)	film-hinge
TBHD42. 135 .30. XXX .01.0	5.31 (135)	1.18 (30)	3.54 (90)	19.29 (490)	2.20 (056)	4.69 (119)	.79 (20)	film-hinge

Base plates are delivered as standard as part of the twisterband module!

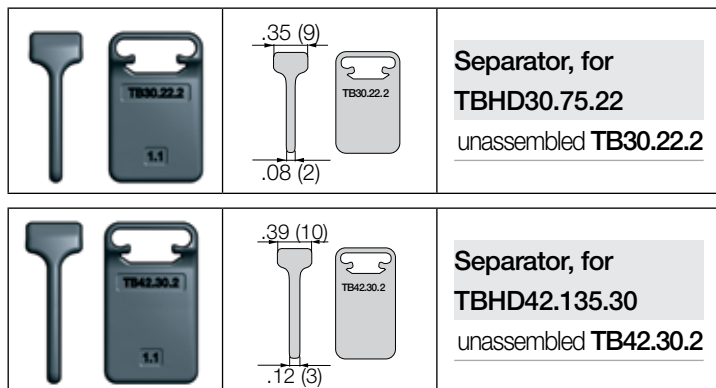
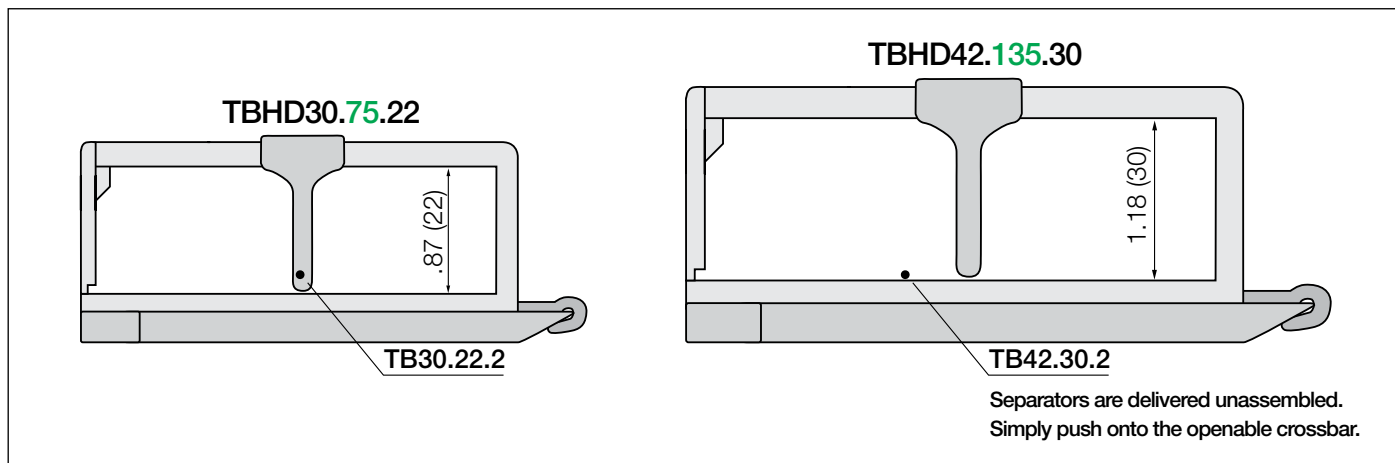
X_1 = $\varnothing$ inner machine installation space X_2 = $\varnothing$ outer machine installation space

Complete Part No. with required number of strips **XXX**. Example: TBHD30.75.22.180.01.0

Installation dimensions



Interior separation for twisterband HD



Separators

To fit, simply open the e-chain®, insert a cable and press the separator onto the crossbar. Then add more cables. The separators provide a clear, cable-friendly interior separation.

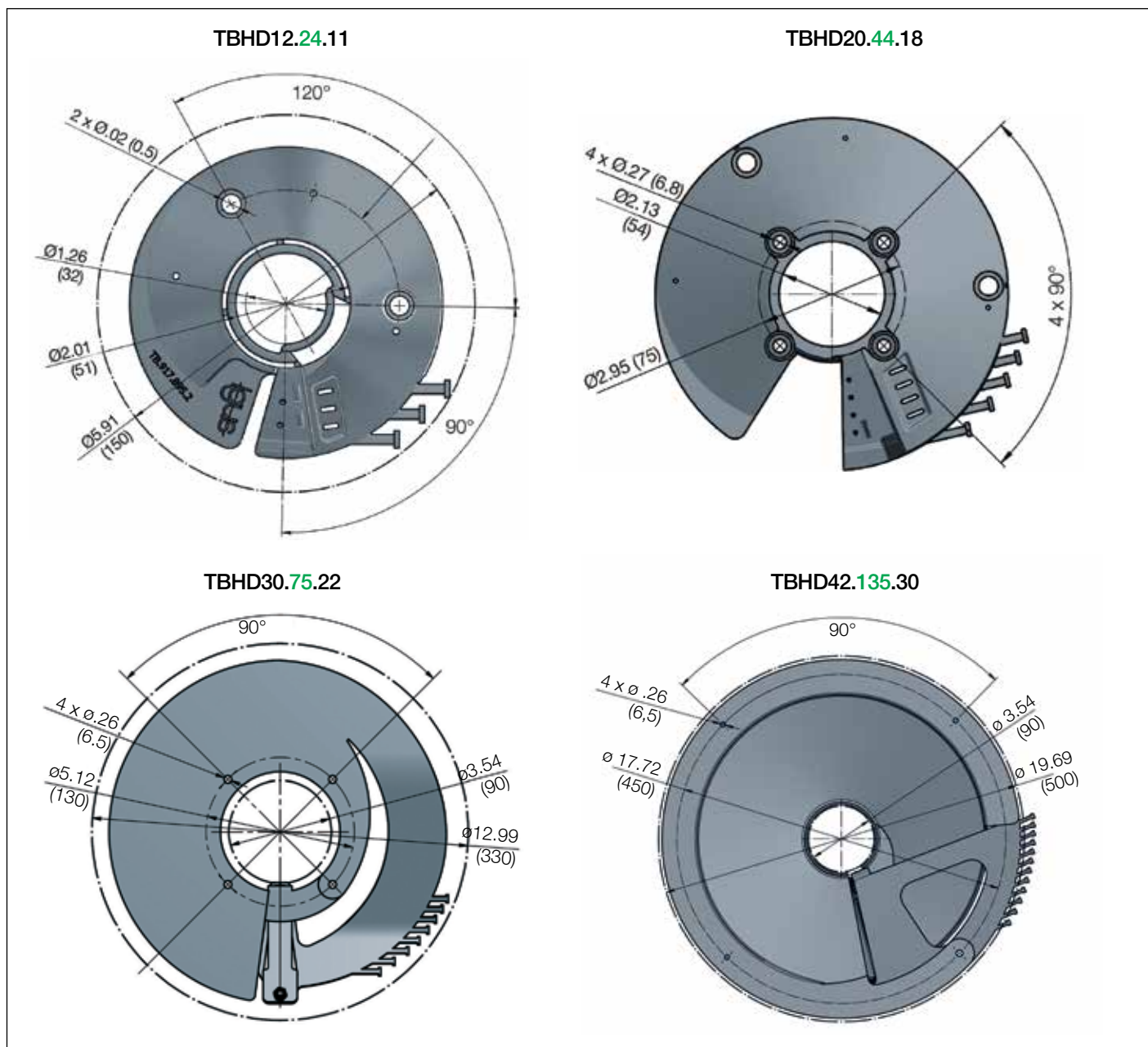


Easy opening and filling of the twisterband with a click or with the "easy" design. Simply press separators on and add more cables. The separators provide a clear, cable-friendly interior separation.



igus® twisterband and other e-chains® in a wood working machine

Steel HD base plate dimensions



Base plates are delivered as standard as part of the twisterband module!