2. Colonia More products and services



...Dlastics

Piston rings and split bearings



An alternative to ► From page 501 PTFE tapes

> Piston rings ▶ Page 501



Easy to fit, security with the double flange design

Clip bearings ► Page 510



Easy installation due to splitted design

Split bearings ▶ Page 511



anti-rotation feature

Split bearings ► Page 512



Press in and fold down

Flanged bearing ▶ Page 513



Press and plug

Double flange bearing

► Page 514



Join and snap into place

Snap-on ▶ Page 515

Solutions for special applications

Special types ► From page 517



For precise conveying Knife edge rollers

► Page 517



Secured by screws

Flange bearings

► Page 521



Zero play and rattling

Preloaded iglidur® J bearings

▶ Page 525



Cushion and dampen

Polymer disc springs

▶ Page 529



For all shaft surfaces and materials

two-part bearing ► Page 533



► From page 537



Bearings with lip seal Sealing lip bearings

► Page 537

igus® service

speedimold ► From page 541



Slewing ring bearing





Type 01

▶ Page 550



Type 01 ▶ Page 551



With outer drive ring



Light weight



Low-cost

Type 03

► Page 553



▶ Page 554

Universal sliding Special geometries pads

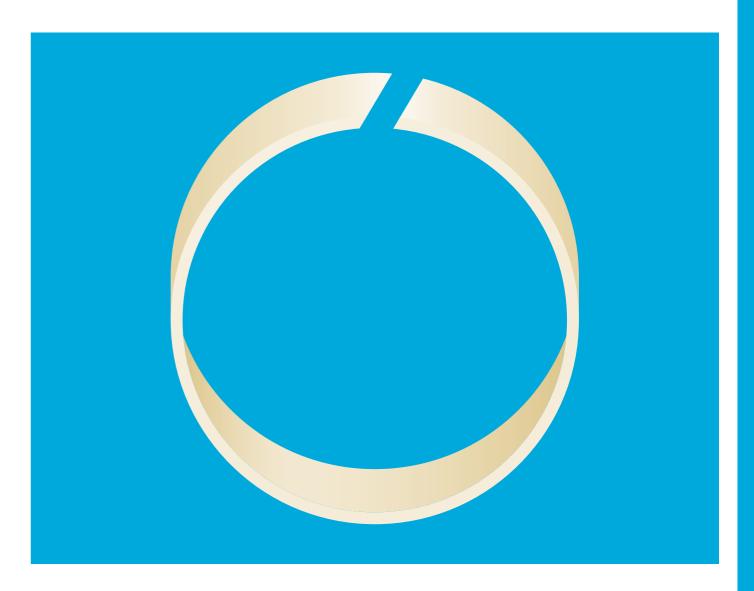
and accessories





Motor-driven iglidur® PRT slewing ring bearings robolink® D ▶ Page 559

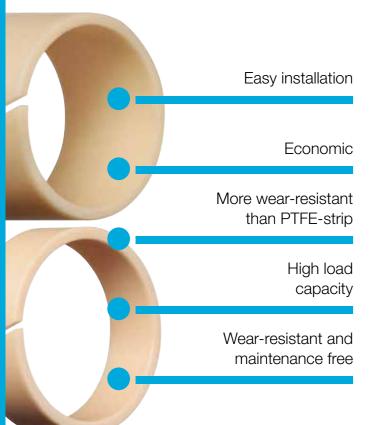
► Page 558



iglidur® piston rings

- Standard range from stock
- Easy installation
- Economic
- More wear-resistant than PTFE-strips
- High load capacity

500



iglidur® piston rings

Why complicate things if you do not need to? Some things can actually be very easy: Replace complex stamped PTFE strips with a single clipon guide ring, for example in cylinders, control valves and fittings. In addition to the standard iglidur® J range, it is also possible to configure your desired piston ring from the entire iglidur® bearing range.



When to use it?

- When piston rings with excellent wear properties are required
- When simple assembly is of great importance
- When high edge loads occur
- When tailor-made solutions based on iglidur[®] materials are required



When not to use it?

- When the piston rings should also act as a seal
- When different diameters should be covered by one part

Traditional method:











with iglidur®:

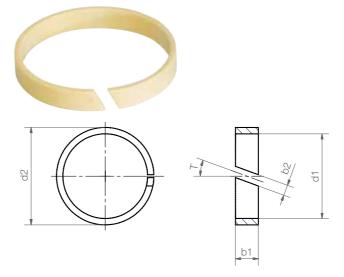


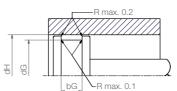


iglidur® piston rings | Product range

iglidur® J piston rings, from stock

iglidur® J is our all-round material when it comes to an outstanding running performance and low coefficients of friction on the broadest range of shafts. The flexibility of iglidur® J enables the typical assembly expected with piston rings using the push over/clip on method. Good media resistance rounds off the range of properties.





Installation recommendation for piston

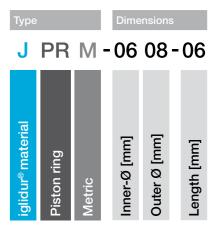
Dimensions	dG	dH	bG	
[mm]	(h-tolerate)	(h-tolerate)		
Nominal size	dG = d1	dH = d2	bG = b1 + 0.2	

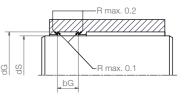
Dimensions [mm]

d1	d2	b1	b2	Т	Part No.
		h13	±0.5	[°]	
6	8	6	1.0	0	JPRM-0608-06
8	10	10	1.0	0	JPRM-0810-10
10	12	5.4	2.5	20	JPRM-1012-054
12	14	5.4	2.5	20	JPRM-1214-054
14	16	5.4	2.5	20	JPRM-1416-054
14	16	10	1.0	20	JPRM-1416-10
16	18	5.4	2.5	20	JPRM-1618-054
17	22	5.4	2.5	25	JPRM-1722-054
20	23	5.4	2.5	20	JPRM-2023-054
25	28	5.4	2.5	20	JPRM-2528-054
28	32	10	1.0	20	JPRM-2832-10
28	32	20	1.0	20	JPRM-2832-20
28	33	5.4	2.5	25	JPRM-2833-054
30	34	5.4	2.5	20	JPRM-3034-054
35	39	5.4	2.5	20	JPRM-3539-054
35	40	5.4	2.5	25	JPRM-3540-054
40	44	5.4	2.5	20	JPRM-4044-054
45	50	5.4	2.5	20	JPRM-4550-054



Order key





Installation recommendation for housing

Dimensions	dS dG		bG	
[mm]	(h-tolerate)	(h-tolerate)		
Nominal size	dS = d1	dG = d2	bG = b1 + 0.2	

d1	d2	b1	b2	T	Part No.
		h13	±0.5	[°]	
45	50	10	2.0	0	JPRM-4550-10
50	55	5.4	2.5	20	JPRM-5055-054
50	55	10	2.0	0	JPRM-5055-10
58	63	9.5 (-0.22)	2.5	25	JPRM-5863-095
60	65	5.4	2.5	20	JPRM-6065-054
70	75	5.4	2.5	20	JPRM-7075-054



More Information about iglidur® material and technical data

iglidur® J ► Page 99



max. +90°C min. -50°C



Ø 6-70 mm

more dimensions on request



Available from stock

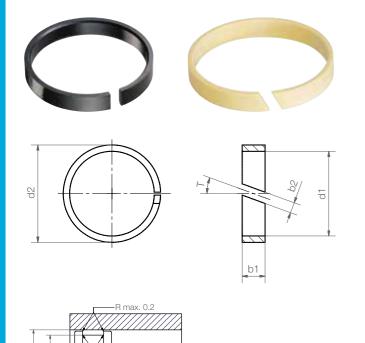
Detailed information about delivery time online.

iglidur® piston rings | Product range

Custom-made piston rings

In addition to the stock range of iglidur® J piston rings, you can also select your desired piston ring on the basis of the entire iglidur® bearing range.

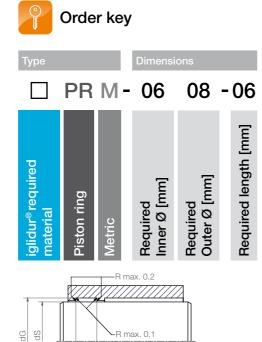
Use the entire iglidur® bearing range and choose the material best suited to your application. Your piston ring will be delivered within 10 days - to your requirements.



Installation recommendation for piston

Dimensions	dG	dH	bG
[mm]	(h-tolerate)	(h-tolerate)	
Nominal size	dG = d1	dH = d2	bG = b1 + 0.2

- Our material recommendations for special requirements:
 - iglidur® A180: FDA-compliant ▶ Page 325
 - iglidur® J350: >+90 °C ► Page 199
 - iglidur® H1: Temperature up to +200°C ► Page 291
- In addition to mechanical processing of existing iglidur® bearings to piston rings, we also develop custom-made piston ring solutions for your volume requirements. Please contact us. We will support you with your design and create an appropriate proposal



Installation recommendation for housing

Dimensions	dS	dG	bG	
[mm]	(h-tolerate)	(h-tolerate)		
Nominal size	dS = d1	dG = d2	bG = b1 + 0.2	

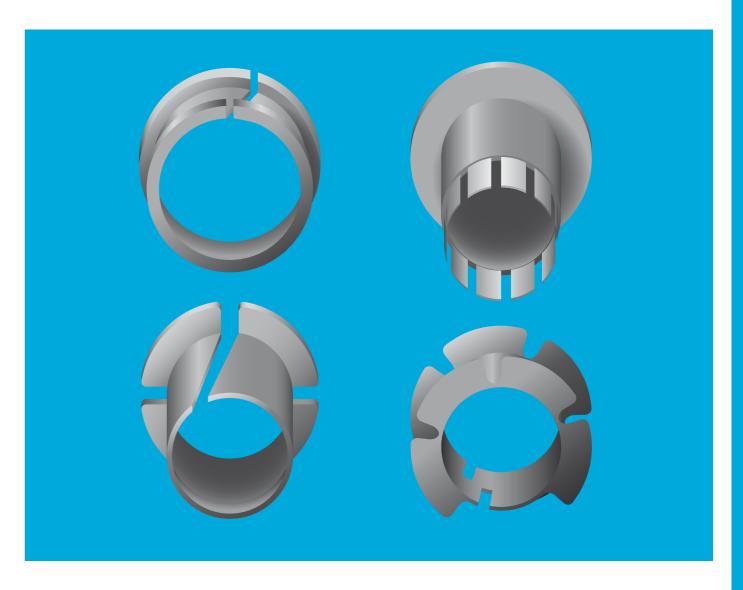


iglidur® piston rings product finder Material selection and individual dimensions

made easy. With just a few clicks, the piston ring finder can find the optimum iglidur® material and select the appropriate dimensions from the standard catalogue range in order to define a piston ring in a customised width.

www.igus.eu/pistonring-finder





iglidur® sheet metal solutions

- Standard range from stock
- Lubrication and maintenance free
- Material: iglidur® M250
- Easy to fit
- Good abrasion resistance
- Predictable service life
- Custom versions possible

iglidur® clip bearings | Advantages

Solutions for stamped sheet metal



iglidur® clip bearing: Captive with double flange ► From page 510



iglidur® split bearings: Easy assembly due to lateral slot,

also with anti-rotation feature

► From page 511



iglidur® flanged bearings: Press in and fold down

► From page 513



iglidur® double flange bearing: Clip-in and plug

► From page 514



Custom solution

iglidur® snap on: Connect and snap into place

► From page 515

iglidur[®] clip bearings for fitting shafts through sheet metal

iglidur® clip bearings are designed specifically for fitting shafts through sheet metal. For this reason, the bearings have flanges located on both ends. The bearings are secured in the sheet metal plate on both sides after fitting.

The clip bearings have an angled slot which allows the bearings to be fitted from one side. After fitting, the bearing expands and forms a lining for the hole in the metal plate. The shaft prevents the clip bearing from falling out the housing. Even during linear movement, the bearing cannot slide out of the housing.

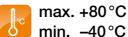
- Lateral slot for easy installation
- Lubrication and maintenance free
- Good adaptability to punched holes
- Good abrasion resistance
- Quiet
- For rotating and linear movements

Typical industries and applications

 ◆ Automotive industry ◆ Mechanical engineering • Jigs and fixtures, etc.



Service life calculation ► www.igus.eu/iglidur-expert



max. +80°C

Material: iglidur® M250

6 types

Ø 3-25 mm

more dimensions on request



Inch dimensions available

► From page 1183



Available from stock

Detailed information about delivery time online.

iglidur® clip bearings | Product overview



iglidur® clip bearing

- Easy to fit due to clip-on feature
- Increased security with the double flange design
- Good abrasion resistance
- From page 510



iglidur® split bearings (Clips2)

- Easy to fit
- Tolerance compensation with angled slot
- Low bearing clearance, high precision
- From page 511



iglidur® flanged bearings

- Easy to fit
- Pressfit
- Axial load on both sides
- Compensation of tolerances of the sheet metal
- From page 513



iglidur® double flange bearing

- Easy to fit due to clip-on feature
- Large flange surfaces
- Symmetrical flange
- Remains in place during E-Coat paint process
- From page 514



Custom solution iglidur® snap On

- The disc is snapped onto the flanged bearing with undercuts
- Compensation of axial clearance
- Pre-assembly possible
- Combination of conductive and non-conductive materials
- From page 515

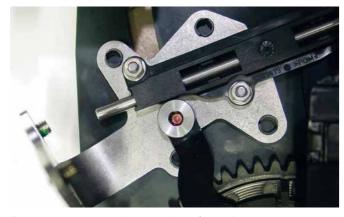
iglidur® clip bearings | Application examples



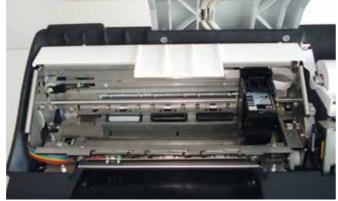
This cutting mechanism is used in the beverage industry. All used components meet the requirement of freedom from lubrication with low weight and low cost.



Easy-to-clean and low-cost iglidur® clip bearings and iglidur® flange bearings are used in a honeycomb.



By using wear-resistant iglidur® clip bearings, the lowering mechanism for radiator mascots on luxury cars could be improved.



The guide rod in this pharmacy printer has been



Rattle-free positioning of seat systems with iglidur® plain/clip bearings, e.g. inner/tilt and seat height adjustment.





attached using igus® clip bearings.

iglidur® clip bearings | Technical data

General properties

The clip bearings have an angled slot which allows the bearings to be fitted from one side. After fitting, the bearing expands and forms a lining for the hole in the metal plate. The shaft prevents the clip bearing from falling out the housing. Even during linear movement, the bearing cannot slide out of the housing. iglidur® clip bearings are made from wear resistant material iglidur® M250.

iglidur® M250 is a plain bearing material with strong wear resistance at average loads. The bearings are self-lubricating and can be used dry. If required the bearings can also be lubricated. The material iglidur® M250 is resistant to all common lubricants.

Mechanical properties

The permissible static pressure of iglidur® M250 at room temperature is 20 MPa. Due to the possibility of high tolerances in the housing bore, the clip bearing has a high compressive strength even for punched holes.

For bearing surfaces that are very small, the vibration dampening properties and the resistance to edge loads are especially important.

▶ iglidur® M250, page 111

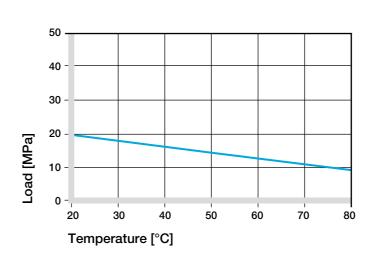


Diagram 01: Recommended maximum surface pressure of as a function of temperature (20 MPa at +20 °C)

Permissible surface speeds

Clip bearings are extremely wear resistant in slow rotating, oscillating, and linear movements. The maximum surface speeds for the different movements are the same as for the material iglidur® M250 (table 01).

With lubrication the permissible speeds can be increased.

Surface speed, page 65

m/s	Rotating	Oscillating	Linear
Continuous	0.8	0.6	2.5
Short term	2	1.4	5

Table 01: Maximum surface speeds

Temperatures

For operating temperatures up to +80 °C iglidur® clip bearings display high wear resistance. Even in the cold, the plain bearings remain elastic and resistant to wear.

► Application temperatures, page 66

iglidur® M250	Application temperature				
Minimum	–40 °C				
Max. long term	+80°C				
Max. short term	+170°C				

Table 02: Temperature limits

Installation

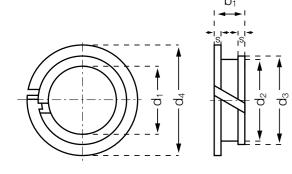
For installation, the plain bearings are pressed together on the side with the large flange. The angled slot makes the bearing spiral shaped so that it can be placed easily into the metal plate.

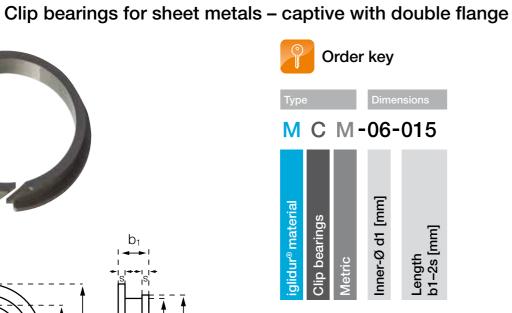
The slot also compensates for expansions of the circumference. In this way, a tight clearance is possible with the clip bearings. The bearing clearance is dimensioned in such a way that in a housing bore with a nominal diameter, a shaft made with the same nominal diameter turns easily. The clip bearings should be fitted into a housing with a "H" class tolerance, up to H13. The clip bearing can also rotate within the housing bore.

Diameter		Shaft h9	Shaft h9 Tolerances		
d1 [mm]		[mm]	D11 [mm]	[mm]	
	up to	3	0-0.025	+0.020 +0.080	0 +0.010
>	3 to	6	0-0.030	+0.030 +0.105	0 +0.012
>	6 to	10	0-0.036	+0.040 +0.130	0 +0.015
>	10 to	18	0-0.043	+0.050 +0.160	0 +0.018
>	18 to	30	0-0.052	+0.065 +0.195	0 +0.021
>	30 to	50	0-0.062	+0.080 +0.240	0 +0.025
>	50 to	80	0-0.074	+0.100 +0.290	0 +0.030

Table 03: Important tolerances for plain bearings according to ISO 3547-1 after pressfit

iglidur® clip bearings | Product range





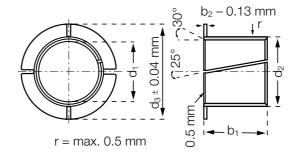
iglidur[®] M250 ► Page 111

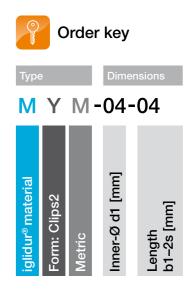
Dimensions [mm]

d1 D11 ⁷⁾	d2	d3	d4	s -0.10	b1 + 0.20	Part No.
3	4.2	4.8	6	0.6	3.2	MCM-03-02
3	4.2	4.8	6	0.6	4.2	MCM-03-03
4	5.2	5.9	7	0.6	3.2	MCM-04-02
4	5.2	5.9	7	0.6	4.2	MCM-04-03
5	6.2	6.8	8	0.6	3.2	MCM-05-02
5	6.2	6.8	8	0.6	4.2	MCM-05-03
6	7.2	7.8	11	0.6	2.7	MCM-06-015
6	7.2	7.8	11	0.6	3.2	MCM-06-02
6	7.2	7.8	11	0.6	4.2	MCM-06-03
6	7.2	7.8	11	0.6	5.2	MCM-06-04
7	9	9.8	13	0.8	4.6	MCM-07-03
8	9.6	10.4	13	0.8	3.6	MCM-08-02
8	9.6	10.4	13	0.8	4.6	MCM-08-03
8	9.6	13.0	10.4	0.8	5.6	MCM-08-04
9	10.6	11.4	14	0.8	3.6	MCM-09-02
10	11.6	12.4	15	0.8	3.6	MCM-10-02
10	11.6	12.4	15	0.8	4.1	MCM-10-025

d1	d2	d3	d4	S	b1	Part No.
D117)				-0.10	+ 0.20	
10	11.6	12.4	15	8.0	4.6	MCM-10-03
10	11.6	12.4	15	8.0	9.6	MCM-10-08
12	13.6	14.4	17	8.0	3.6	MCM-12-02
12	13.6	14.4	17	8.0	4.4	MCM-12-025
12	13.6	14.4	17	0.8	4.6	MCM-12-03
12	13.6	14.4	17	0.8	5.1	MCM-12-035
12	13.6	14.4	17	8.0	5.6	MCM-12-04
12	13.6	14.4	17	8.0	6.4	MCM-12-045
14	15.6	16.4	19	8.0	4.6	MCM-14-03
16	17.6	18.4	21	8.0	3.6	MCM-16-02
16	17.6	18.4	21	8.0	4.6	MCM-16-03
18	20	21	21	0.8	4	MCM-18-02
18	20	21	23	1	5	MCM-18-03
20	22	23	25	1	5	MCM-20-03
25	27	28	30	1	5	MCM-25-03
25	27	28	30	1	8	MCM-25-06

⁷⁾ d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.005). Please see D11 tolerances table ► Page 509





iglidur® M250 ► Page 111 with anti-rotation feature ▶ Page 512

Dimensions [mm]

d1	d1-Tolerance7)	d2 ⁹⁾	d3	b1	b2	Part No.
			±0.40	-0.40	-0.13	
4	+0.025 +0.075	5.20	7.00	4.00	0.60	MYM-04-04
5	+0.025 +0.075	6.20	8.00	5.00	0.60	MYM-05-05
6	+0.025 +0.075	7.20	9.50	6.00	0.60	MYM-06-06
8	+0.025 +0.075	9.60	12.00	8.00	0.80	MYM-08-08
10	+0.025 +0.075	11.60	15.00	10.00	0.80	MYM-10-10
12	+0.025 +0.075	13.60	18.00	12.00	0.80	MYM-12-12
14	+0.025 +0.075	15.60	21.00	14.00	0.80	MYM-14-14
16	+0.025 +0.075	17.60	24.00	16.00	0.80	MYM-16-16
20	+0.025 +0.075	21.60	30.00	16.00	0.80	MYM-20-16
20	+0.025 +0.075	21.60	30.00	20.00	0.80	MYM-20-20
25	+0.025 +0.075	27.40	37.50	25.00	1.20	MYM-25-25

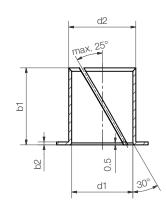
⁷⁾ d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.005)

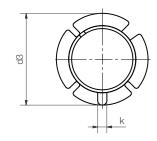
⁹⁾ Recommended housing bore tolerance: H9

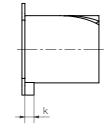
iglidur® clip bearings | Product range

Split bearing with anti-rotation feature

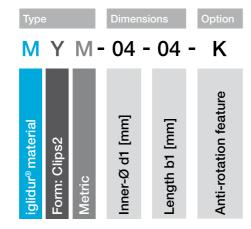


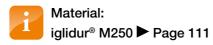


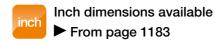




Order key







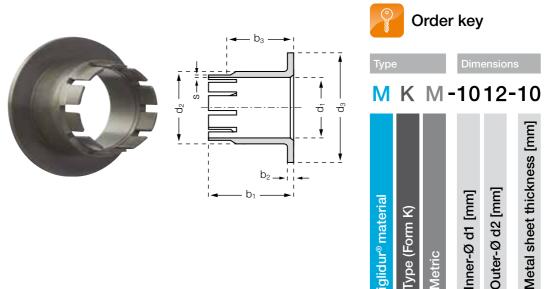
Dimensions [mm]

d1	d1-Tolerance8)	d2 ⁹⁾	d3	b1	b2	k	Part No.
			±0.40	-0.40	-0.13		
4	+0.025 +0.075	5.20	7.00	4.00	0.60	1.0	MYM-04-04-K
5	+0.025 +0.075	6.20	8.00	5.00	0.60	1.0	MYM-05-05-K
6	+0.025 +0.075	7.20	9.50	6.00	0.60	1.5	MYM-06-06-K
10	+0.025 +0.075	11.60	15.00	10.00	0.80	2.0	MYM-10-10-K
14	+0.025 +0.075	15.60	21.00	14.00	0.80	3.0	MYM-14-14-K

⁸⁾ d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.005)

iglidur® clip bearings | Product range

Flanged bearings - press in and fold down





iglidur® M250 ► Page 111

Sample dimension [mm]

d1	d1-Tolerance3)	d2	d3	b1	b2	b3	s	Part No.
	E10		d13	h13	-0.14	+0.1/+0.7	±0.1	
10	+0.025 +0.083	12	18	14	1	10	0.4	MKM-1012-10

³⁾ After pressfit. Testing methods ▶ Page 75



Assembly:







Press in, fold down, ready: axial load on both sides







Please contact us if you need a custom-made bearing for your application. We will help you with your design, drawing on the experience that we have with a large number of custom

bearing solutions.

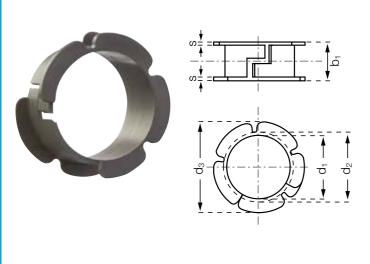
iglidur[®]

MKM

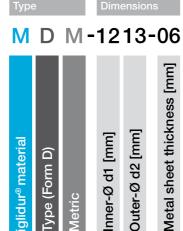
⁹⁾ Recommended housing bore tolerance: H9

iglidur® clip bearings | Product range

Double flange bearing - press and plug









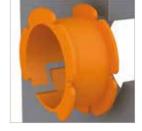
iglidur® M250 ► Page 111

Sample dimension [mm]

d1	d1-Tolerance8)	d2	d3	b1	s	Part No.
12	+0.050 +0.160	13	16.5	7	0.5	MDM-1213-06

⁸⁾ d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.005)

Assembly:







Please contact us if you need a custom-made bearing for your application. We will help you with your design, drawing on the experience that we have with a large number of custom bearing solutions.

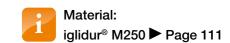
iglidur® custom-made | Product range

iglidur® snap-on: connect and snap into place





The solution for all applications in stamped sheet metal retainers



iglidur® Snap On are frequently used in seat and convertible top systems and multi-joint hinges. iglidur® clip-on bearings facilitate captive assembly even in punched sheetmetal/ steering arms with limited fine blanking content.

- Compensation of axial clearance
- Pre-assembly possible
- Electrically conductive materials are available
- Pressure-resistant materials up to 80 MPa

The Snap On bearings can also be produced from electrically conducting iglidur® RN89, thus permitting e-coating.



Assembly:

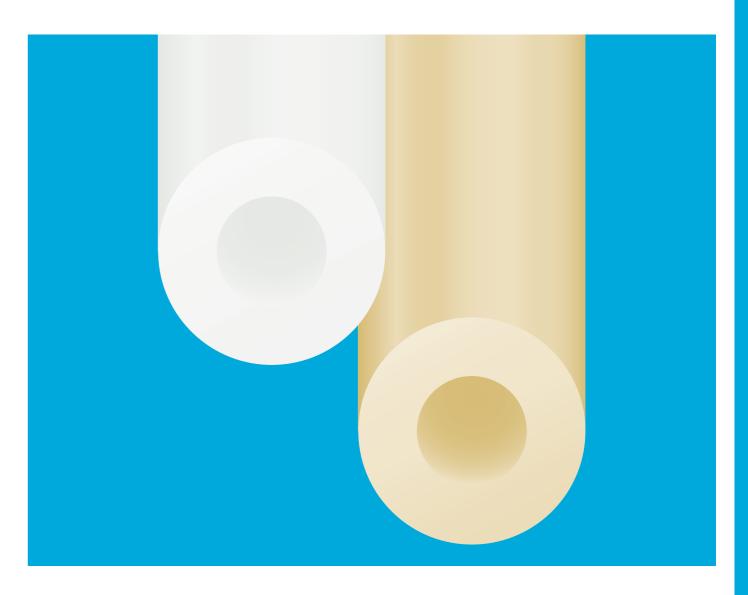
The disc is snap on to the flange bushing with undercuts.







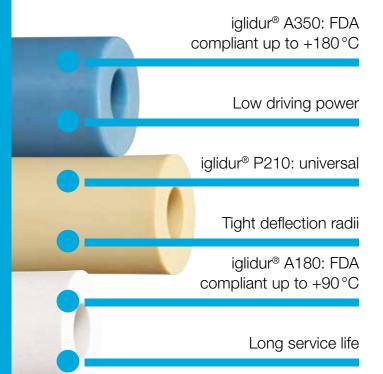
Please contact us if you need this custom-made solution for your application. We will help you with your design, drawing on the experience that we have with a large number of custom bearing solutions.



iglidur® knife edge rollers

- Standard range from stock
- 100 % lubrication free
- Low driving power
- Tight deflection radii
- Long service life of the belt
- Economic
- Long service life

516 517



iglidur® knife edge rollers

igus® has developed its own knife-edge rollers to deflect conveyor belts in materials handling applications. The iglidur® solution is characterised by tight deflection radii and a low level of required drive power.



When to use it?

- When a maintenance free conveyor belt is
- When a precise guiding is required
- When a cost-effective and economical solution is required





When not to use it?

- When high speeds occur
- When high forces are applied on the belts
- When a static knife edge is required



Depending on material:

iglidur® A180: -50°C up to +90°C iglidur® A350: -100 °C up to +180 °C iglidur® P210: -40°C up to +130°C



3 Materials Ø 9-20 mm

more dimensions on request



Available from stock

Detailed information about delivery time online.

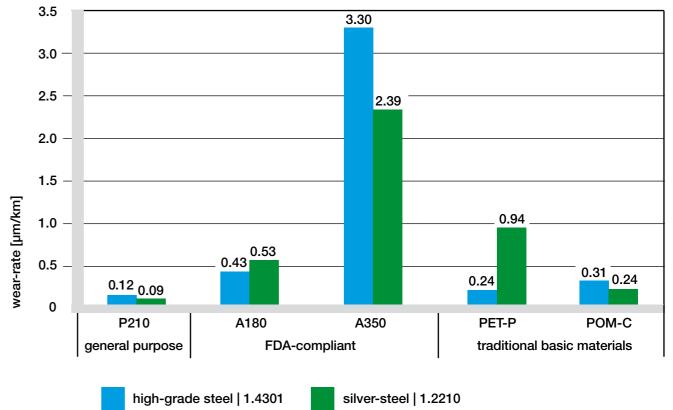
iglidur® knife edge rollers | Technical data

iglidur® knifeedge-rollers

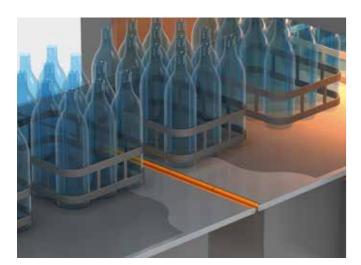
Material properties table

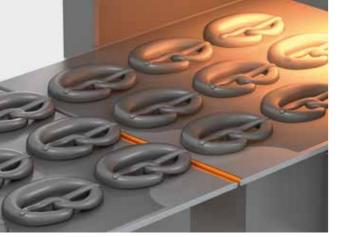
General properties	Unit	iglidur [®] P210	iglidur [®] A180	iglidur® A350	Testing method
Density	g/cm³	1.40	1.46	1.42	
Colour		yellow	white	blue	
Max. moisture absorption at +23 °C/50 % r.h.	% weight	0.3	0.2	0.6	DIN 53495
Max. water absorption	% weight	0.5	1.3	1.9	
Coefficient of sliding friction, dynamic against stee	lμ	0.07-0.19	0.05-0.23	0.1-0.2	
pv value, max. (dry)	MPa · m/s	0.4	0.31	0.4	
Mechanical properties					
Modulus of elasticity	MPa	2,500	2,300	2,000	DIN 53457
Tensile strength at +20°C	MPa	70	88	110	DIN 53452
Compressive strength	MPa	50	78	78	
Max. recommended surface pressure (+20°C)	MPa	50	28	60	
Shore-D hardness		75	76	76	DIN 53505
Physical and thermal properties					
Max. long term application temperature	°C	+100	+90	+180	
Max. short term application temperature	°C	+160	+110	+210	
Min. application temperature	°C	-40	- 50	-100	
Thermal conductivity	W/m · K	0.25	0.25	0.24	ASTM C 177
Coefficient of thermal expansion (at +23 °C)	K⁻¹ · 10⁻⁵	8	11	8	DIN 53752
Electrical properties					
Specific volume resistance	Ωcm	> 1012	> 1012	> 1011	DIN IEC 93
Surface resistance	Ω	> 1011	> 1011	> 1011	DIN 53482

Table 01: Material properties table

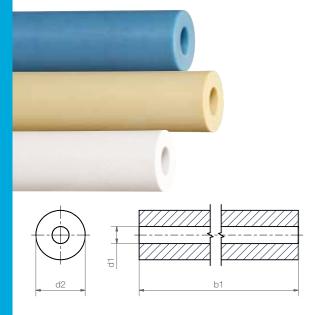


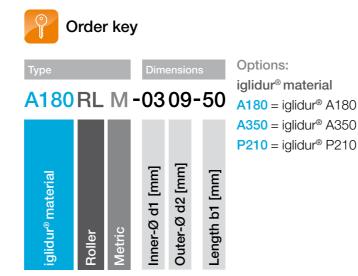






iglidur® knife edge rollers | Product range





Knife edge rollers made from iglidur® A180 – FDA compliant, up to 90°C

d1 +0.1 [mm]	d2 ±0.1 [mm]	b1 -0.3 [mm]	Part No.
3.1	9.0	50.0	A180RLM-0309-50
4.1	9.0	50.0	A180RLM-0409-50
5.1	11.0	70.0	A180RLM-0511-70
5.1	14.0	70.0	A180RLM-0514-70
6.1	12.0	70.0	A180RLM-0612-70
6.1	14.0	70.0	A180RLM-0614-70
8.1	12.0	70.0	A180RLM-0812-70
8.1	14.0	70.0	A180RLM-0814-70
8.1	18.0	70.0	A180RLM-0818-70
10.1	20.0	70.0	A180RLM-1020-70

Knife edge rollers made from iglidur® A350 – FDA compliant, up to 180°C

d1 +0.1 [mm]	d2 ±0.1 [mm]	b1 -0.3 [mm]	Part No.
3.1	9.0	50.0	A350RLM-0309-50
6.1	14.0	70.0	A350RLM-0614-70
8.1	18.0	70.0	A350RLM-0818-70

Knife edge rollers made from iglidur $^{\! \rm B}$ P210 – Universal, up to 100 $^{\circ}\text{C}$

•	•	, ,	
d1 +0.1 [mm]	d2 ±0.1 [mm]	b1 -0.3 [mm]	Part No.
3.1	9.0	50.0	P210RLM-0309-50
4.1	9.0	50.0	P210RLM-0409-50
5.1	11.0	70.0	P210RLM-0511-70
5.1	14.0	70.0	P210RLM-0514-70
6.1	12.0	70.0	P210RLM-0612-70
6.1	14.0	70.0	P210RLM-0614-70
8.1	12.0	70.0	P210RLM-0812-70
8.1	14.0	70.0	P210RLM-0814-70
8.1	16.0	77.0	P210RLM-0816-77
8.1	18.0	70.0	P210RLM-0818-70
10.1	20.0	70.0	P210RLM-1020-70



iglidur® maintenance free flange bearings

- Standard range from stock
- Very good wear resistance
- Maintenance free dry running
- Materials: iglidur[®] G, iglidur[®] A180, iglidur[®] J and iglidur[®] X
- Low weight

iglidur® flange bearings | Advantages

Maintenance free dry running



iglidur® G: Standard material for many applications



iglidur® X: Material for high temperature applications



iglidur® J: Material for low wear



iglidur® A180: Material for use in the food sector

iglidur® maintenance free flange bearings

With this design it is possible to use iglidur® high performance plain bearings in locations where recommended housing bore tolerances are not possible. Due to the design of the bearing, high loads are possible although there is a minimal precision requirement of the housing.

- Very good wear resistance
- Low weight
- Lubrication free

Installation

For low radial loads, it is sufficient to mount iglidur® flange bearings on one surface simply with two bolts. For higher radial loads, it advisable to support the iglidur® flange bearing in a hole. For this hole, large tolerances are permitted, since it serves only as additional support for the iglidur® flange bearing. In order to achieve higher radial loads in the bearings, the iglidur® flange bearing can be pressfit into a recommended housing bore with H7 tolerances. The additional bolts ensure the fit of the bearing in the housing.



Depending on material:

ialidur® G: -40°C up to +130°C iglidur[®] J: -50°C up to +90°C -100°C up to +250°C ialidur® X: iglidur[®] A180: -50 °C up to +90 °C



Material properties:

iglidur® G ► Page 83 iglidur® A180 ► Page 325 iglidur® J ► Page 99 iglidur® X ► Page 133



1 type, 4 materials Ø 10-35 mm

more dimensions on request

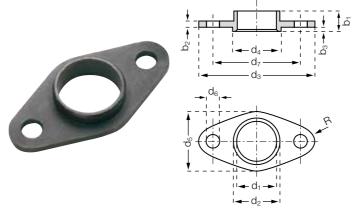


Available from stock

Detailed information about delivery time online.

iglidur® flange bearings | Technical data

Flange bearings





G FL-10

lange bearings nner-Ø [mm] Options: iglidur® material G = iglidur® G A180 = iglidur® A180 = iglidur® J

iglidur®-

flange

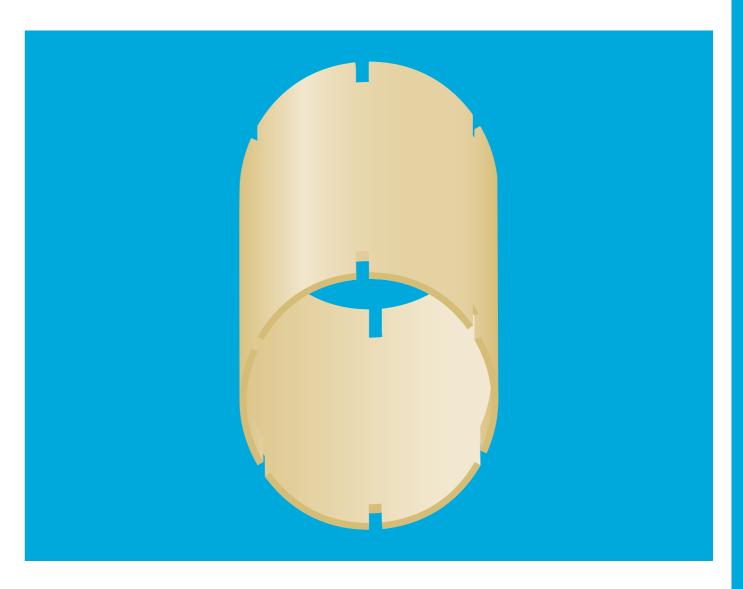
bearings

= iglidur® X

Dimensions [mm]

d1	d1-Tolerance ³⁾	d2 ¹³⁾	d3	d4	d5	d6	d7	b1	b2	b3	R (±0.2)	Part No.
10	+0.025 +0.083	12	30	14	15	4.5	22	6	2	1	4	GFL-10
12	+0.032 +0.102	14	36	16	18	4.5	26	6	2	1	4.5	GFL-12
14	+0.032 +0.102	16	42	18	21	5.5	30	6	2	1	5	GFL-14
16	+0.032 +0.102	18	48	20	24	5.5	34	6	2	1	5.5	GFL-16
18	+0.032 +0.102	20	54	22	27	6.5	39	6	2	1	7	GFL-18
20	+0.040 +0.124	23	60	26	30	6.5	44	10	3	2	7	GFL-20
25	+0.040 +0.124	28	75	30	35	6.5	55	10	3	2	8.5	GFL-25
30	+0.040 +0.124	34	90	36	40	8.5	66	10	3	2	10	GFL-30
35	+0.050 +0.150	39	95	41	55	8.5	77	10	3	2	12	GFL-35
10	+0.025 +0.083	12	30	14	15	4.5	22	6	2	1	4	A180FL-10
12	+0.032 +0.102	14	36	16	18	4.5	26	6	2	1	4.5	A180FL-12
16	+0.032 +0.102	18	48	20	24	5.5	34	6	2	1	5.5	A180FL-16
20	+0.040 +0.124	23	60	26	30	6.5	44	10	3	2	7	A180FL-20
25	+0.040 +0.124	28	75	30	35	6.5	55	10	3	2	8.5	A180FL-25
30	+0.040 +0.124	34	90	36	40	8.5	66	10	3	2	10	A180FL-30
35	+0.050 +0.150	39	95	41	55	8.5	77	10	3	2	12	A180FL-35
10	+0.025 +0.083	12	30	14	15	4.5	22	6	2	1	4	JFL-10
12	+0.032 +0.102	14	36	16	18	4.5	26	6	2	1	4.5	JFL-12
14	+0.032 +0.102	16	42	18	21	5.5	30	6	2	1	5	JFL-14
16	+0.032 +0.102	18	48	20	24	5.5	34	6	2	1	5.5	JFL-16
20	+0.040 +0.124	23	60	26	30	6.5	44	10	3	2	7	JFL-20
25	+0.040 +0.124	28	75	30	35	6.5	55	10	3	2	8.5	JFL-25
30	+0.040 +0.124	34	90	36	40	8.5	66	10	3	2	10	JFL-30
35	+0.050 +0.150	39	95	41	55	8.5	77	10	3	2	12	JFL-35
10	+0.013 +0.071	12	30	14	15	4.5	22	6	2	1	4	XFL-10
12	+0.016 +0.086	14	36	16	18	4.5	26	6	2	1	4.5	XFL-12
14	+0.016 +0.086	16	42	18	21	5.5	30	6	2	1	5	XFL-14
16	+0.016 +0.086	18	48	20	24	5.5	34	6	2	1	5.5	XFL-16
20	+0.020 +0.104	23	60	26	30	6.5	44	10	3	2	7	XFL-20
25	+0.020 +0.104	28	75	30	35	6.5	55	10	3	2	8.5	XFL-25
30	+0.020 +0.104	34	90	36	40	8.5	66	10	3	2	10	XFL-30
35	+0.025 +0.125	39	95	41	55	8.5	77	10	3	2	12	XFL-35

³⁾ after pressfit. Testing methods ▶ Page 75 ¹³⁾ pressfit in H7 tolerance housing bore



iglidur® JVSM/JVFM – zero clearance and preloaded bearings

- Standard range from stock
- Radial and axial preload of bearings
- Clearance free in unloaded condition
- Material: iglidur® J
- Maintenance free and predictable service life

524 525



Zero-clearance and preloaded bearings

Clearance free in unloaded condition

iglidur® – zeroclearance and preloaded bearings

iglidur® JVSM and JVFM bearings are clearancefree in unloaded condition due to the axial and/or radial preload. The iglidur® J material possesses extremely low coefficients of friction in dry operation and a very low stick-slip effect. Ideal for "antivibration mounting" of pedal box bearings, etc.





- When to use it?
- When a radial and/or axial preload of bearings is required
- When a rattle free bearing in the unloaded state is required
- When you need a zero clearance feel



When not to use it?

- When a bearing solution with reduced clearance is needed
- ▶ please contact us
- When the preload has to withstand high radial forces
- When total zero clearance feature is required at high loads



max. +90°C min. -50°C



Material:

iglidur® J ▶ Page 99



2 types Ø 6-20 mm

more dimensions on request



Inch dimensions available ► From page 1183



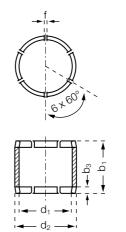
Available from stock

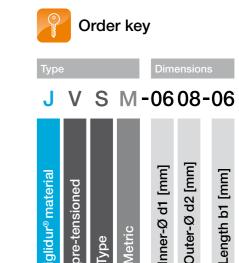
Detailed information about delivery time online.

iglidur® JVSM/JVFM | Product range

Preloaded sleeve bearings







Options:

S = sleeve

F = with flange

Type:

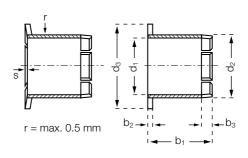
Dimensions [mm]

d1	d1-Tolerance ¹⁴⁾ E10	d2	b1 h13	b3	Part No.
6.0	+0.020 +0.068	8.0	6.0	2.0	JVSM-0608-06
8.0	+0.025 +0.083	10.0	8.0	2.0	JVSM-0810-08
10.0	+0.025 +0.083	12.0	10.0	2.0	JVSM-1012-10
12.0	+0.032 +0.102	14.0	12.0	2.0	JVSM-1214-12
14.0	+0.032 +0.102	16.0	14.0	2.0	JVSM-1416-14
15.0	+0.032 +0.102	17.0	15.0	2.5	JVSM-1517-15
18.0	+0.032 +0.102	20.0	18.0	2.5	JVSM-1820-18
20.0	+0.040 +0.124	23.0	20.0	2.5	JVSM-2023-20

¹⁴⁾ d1 - Measured after pressfit in housing bore. d2 H7 within the measurement plane

Preloaded flange bearings

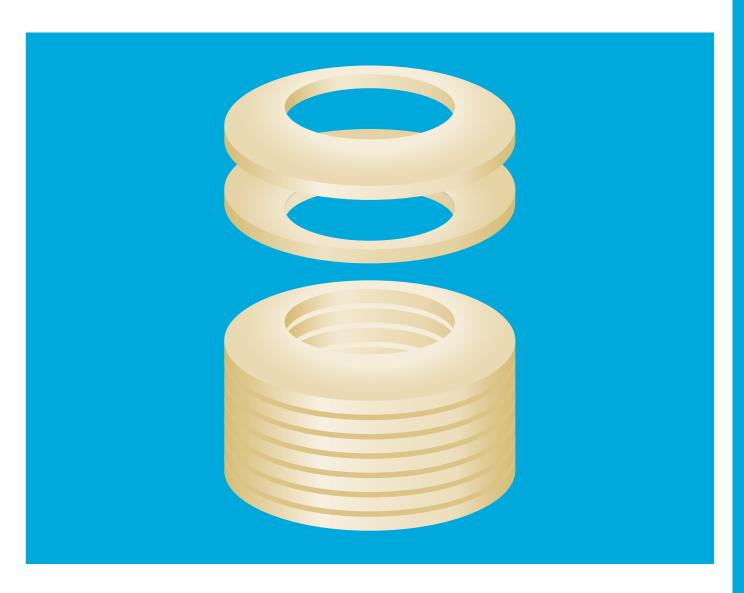




Dimensions [mm]

d1	d1-Tolerance14)	d2	d3	b1	b2	b3	s	Part No.
	E10			h13			±0.1	
8	+0.025 +0.083	10	15	10	1	2.0	0.44	JVFM-0810-10
10	+0.025 +0.083	12	18	10	1	2.0	0.53	JVFM-1012-10
12	+0.032 +0.102	14	20	12	1	2.0	0.53	JVFM-1214-12
14	+0.032 +0.102	16	22	12	1	2.0	0.53	JVFM-1416-12
15	+0.032 +0.102	17	23	15	1	2.5	0.53	JVFM-1517-15
18	+0.032 +0.102	20	26	11	1	2.5	0.53	JVFM-1820-11
18	+0.032 +0.102	20	26	18	1	2.5	0.53	JVFM-1820-18
20	+0.040 +0.124	23	30	20	1.5	2.5	0.62	JVFM-2023-20

¹⁴⁾ d1 - Measured after pressfit in housing bore. d2 H7 within the measurement plane



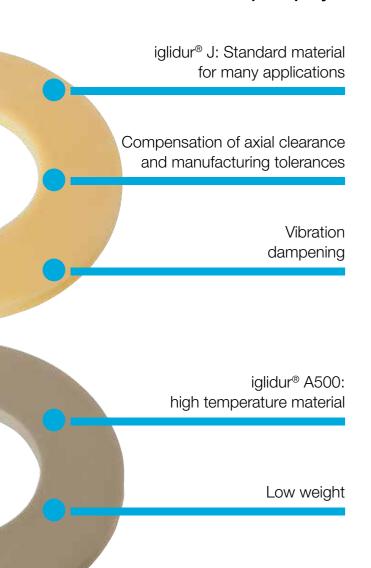
polysorb – polymer disc springs

- Standard range from stock
- Compensation for axial clearances and manufacturing tolerances
- Vibration dampening
- Noise dampening
- Corrosion resistant
- Low weight
- Electrical and thermal insulation

528 529

polysorb | Advantages

Cushion and dampen: polymer disc springs



polysorb polymer disc springs

Spring washers are discs that can be axially loaded, which are concave in the axial direction. polysorb disc springs require less space than other spring types, and are especially suitable for designs that do not require a high spring length.



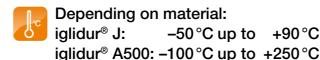
When to use it?

- When an application requires disc spring characteristics which are only possible in metal at a considerable expense (slot design)
- For compensation of axial clearances and manufacturing tolerances
- For vibration dampening
- For noise reduction
- When a non-magnetic material is required
- For electrical and thermal insulation

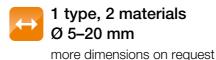


When not to use it?

- When constant spring forces are necessary over a wide temperature range
- When high spring forces are required









General properties

The spring deflection of the disk spring is relatively small. Therefore a number of disk springs are combined in practice. Disc springs that are alternately stacked increase the spring length proportionally to the amount of springs. The total spring force is as large as the force of one single disc spring. In order to increase the force, the disc springs can be parallel stacked to form a spring packet.

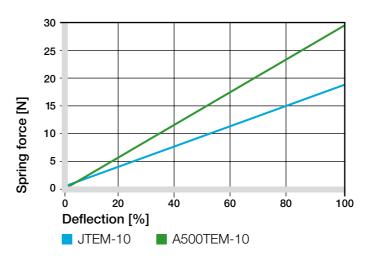


Diagram 01: Spring force as a function of percental deflection measured with size 10

The force-deformation curves of polysorb disc springs are approximately linear.

Additional properties

Chemical resistance

polysorb disc springs are resistant to a variety of chemicals. iglidur® A500 has a higher resistance than iglidur® J.

Medium	Resi	stance
	iglidur® J	iglidur® A500
Alcohols	+	+
Hydrocarbons	+	+
Greases, oils without additives	+	+
Fuels	+	+
Diluted acids	0 to -	+
Strong acids	-	+
Diluted alkalines	+	+
Strong alkalines	+ to 0	+

+ resistant 0 conditionally resistant - not resistant All data given at room temperature [+20°C] Table 01: Chemical resistance

Moisture absorption

The low moisture absorption permits the use in wet or moist environments.

polysorb disc springs absorb moisture and in the process the mechanical properties change. However, in the worst application case – a long term use in water – polysorb disc springs still have a high spring force.

iglidur®	Standard environment 20 °C/50 % r.h.	Saturated in water
J	18	15
A500	24	23

Table 02: Spring force [N] as a function of the absorbed moisture

Increased temperatures

Increased temperatures reduce the rigidity of polymers. polysorb disc springs made from iglidur® J (JTEM-10) still have a maximum spring force of 8 N at the maximum permissible temperature of +90 °C. The spring force against ambient temperature is shown in diagram 02.

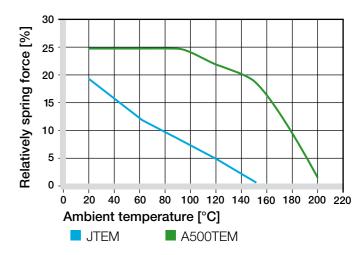
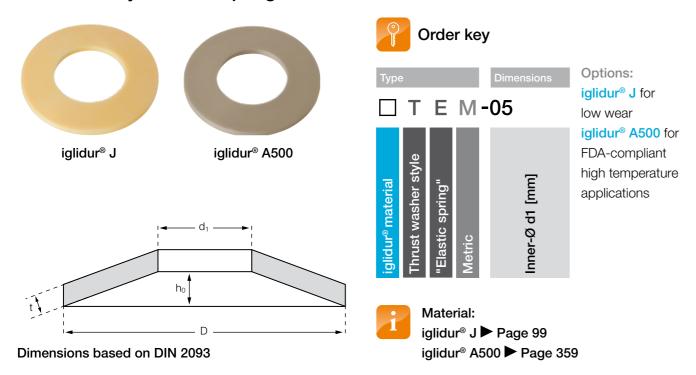


Diagram 02: Effect of ambient temperature on the spring force

polysorb | Product range

Polysorb disk springs



Dimensions [mm]

				Standard values: spr	ring lengths and force	s Part No.15)
D	d1	t	$h_{_0}$	F _{1.0} iglidur® J	F _{1.0} iglidur® A500	
				[N]	[N]	
10.0	5.2	0.5	0.25	5	7	TEM-05
12.5	6.2	0.7	0.30	10	14	TEM-06
16.0	8.2	0.9	0.35	15	18	TEM-08
20.0	10.2	1.1	0.45	18	24	TEM-10
25.0	12.2	1.5	0.55	40	55	TEM-12
31.5	16.3	1.75	0.70	70	80	TEM-16
40.0	20.4	2.25	0.90	130	140	TEM-20

The standard values for the spring lengths and forces are rounded mean values.

iglidur® A500, A500TEM, high temperature and chemical resistance

Symbols and units:

Force [N]

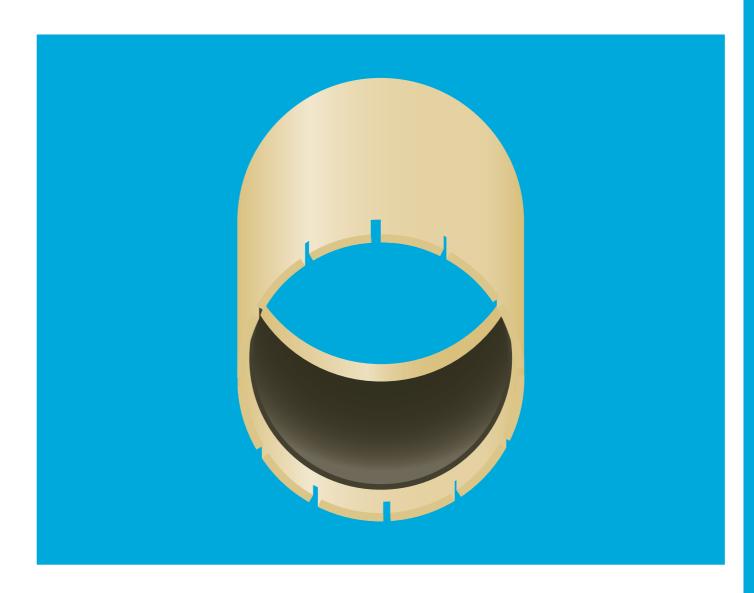
Outer diameter [mm]

Inner diameter [mm]

Plate thickness [mm]

Maximum spring displacement [mm]

Spring force 100 % displacement [N]

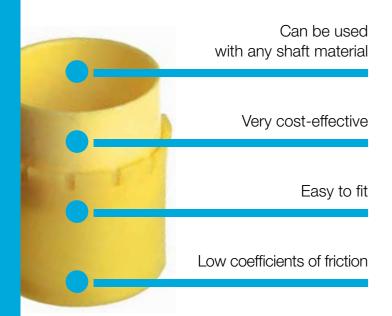


iglidur® PEP – for all shaft surfaces and materials

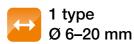
- Standard range from stock
- Can be used with any shaft material
- Very cost-effective
- Easy to fit
- Low coefficients of friction

¹⁵⁾ Material: iglidur® J, JTEM, Standard

For all shaft surfaces and materials

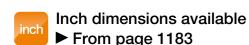


max. +90°C min. -50°C



more dimensions on request







iglidur® PEP – plastic plain bearing system

In standard plain bearing solutions, the shaft has a critical part to play, as important as the bearing itself. With the iglidur® PEP bearings, igus® is forging new trail with this enclosed and maintenance free plain bearing design.



When to use it?

- When a low priced polymer plain bearing system is required
- When independence from the shaft material and shaft surface is required
- For the protection of expensive and sensitive shafts



When not to use it?

- For high surface speeds
- ▶ iglidur® J, page 99
- At high loads
- ► iglidur® G, page 83
- ► iglidur® Q, page 401
- For high temperatures
- ► iglidur® V400, page 255
- ► iglidur® X, page 133
- ► iglidur® Z, page 263
- When low clearance bearings are required
- ▶ iglidur® P, page 149
- ▶ iglidur® X, page 133

iglidur® PEP | Technical data

General properties

Maintenance free plain bearings are generally described as being able to slide on the shaft without any additional coating and/or lubrication. It is evident that shaft materials are as important as the bearing itself. igus® is forging a new path with a plain bearing that is self-contained and maintenance free.

iglidur® PEP is an innovative design for lubrication free polymer plain bearing systems with an inner and outer ring. The special feature; the sliding surface is the inner ring, and for the first, time shaft materials and shaft surfaces are not a concern. Even threads, rust and scratches do not affect the performance or reliability. With the control over the sliding surface and through considerable testing, the long term behaviour of the bearing system can be predicted precisely. Similar to ball bearings, the inner ring turns with the shaft in the polymer PEP plain bearing. Relative movements of the shaft with respect to the bearing are eliminated. This protects the shaft surface from wear and saves costs. An additional benefit; even the most sensitive or unusual materials can be used as the rotating shaft with this polymer plain bearing. Due to the bearing materials used, the PEP polymer bearing is totally corrosion free.

Wear resistance

For loads up to 5 N/mm² the wear test results are compelling. This is a very positive result, when you consider the reduced costs compared with the required shaft surface finish which is demanded by traditional bearings. The consistently low coefficient of friction is also an advantage to the user. Since the running surfaces are fixed, the tribological data can be calculated. The coefficients of friction of the PEP bearings are no longer based on the shaft materials or surface properties. If necessary, the coefficients of friction can be reduced further with a small amount of lubricant.

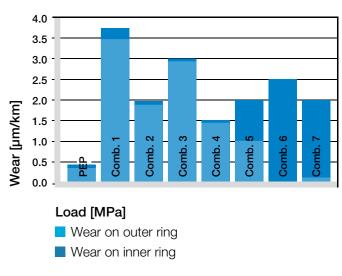


Diagram 01: Wear experiments of different material combinations, p = 0.75 MPa, v = 0.3 m/s

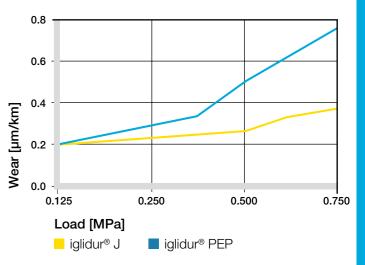


Diagram 02: Wear of iglidur® PEP bearings as a function of the pressure, v = 0.3 m/s

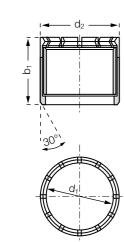
Installation

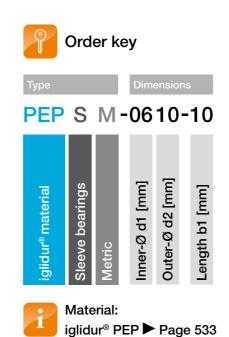
The installation of the PEP plain bearing could not be easier or faster. The bearings are manufactured to be press fitted into a recommended housing bore of H7 tolerance. Then, the shaft is inserted and fits tightly onto the inner ring. The inner bearing is clipped into the outer ring. This design makes it possible to pull the shaft out without removing the inner ring.



iglidur® PEP | Product range Sleeve bearings

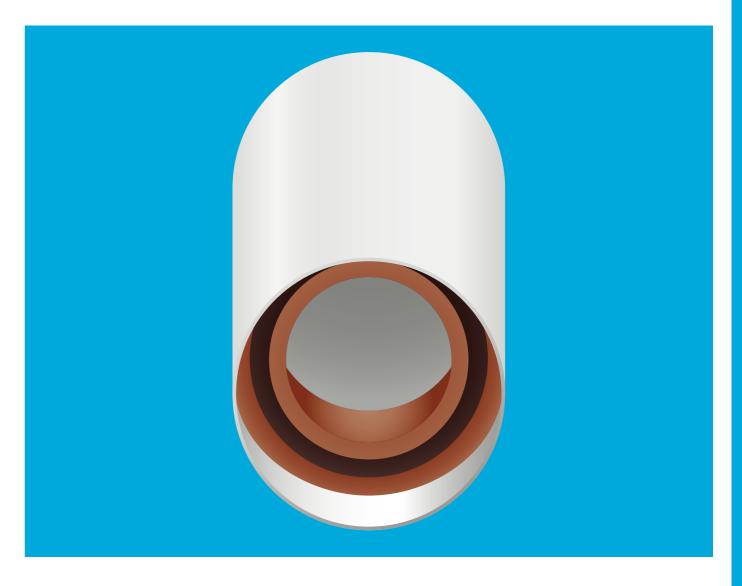






Dimensions [mm]

d1	d2	b1	Part No.
6	10	10	PEPSM-0610-10
8	12	12	PEPSM-0812-12
10	14	12	PEPSM-1014-12
12	16	15	PEPSM-1216-15
16	20	20	PEPSM-1620-20
20	23	20	PEPSM-2023-20



iglidur®-polymer bearing with lip seal

- Polymer bearing with integrated radial shaft seal
- Seals against the rotating shaft
- Reduced space requirement and easy, fast installation
- Can be manufactured with different types of seal
- High-temperature version VDSM available

iglidur® polymer bearing with lip seal | Advantages Position and seal: polymer bearing with clip-on shaft seal

iglidur® polymer bearing with lip seal | Product range Polymer bearing with lip seal, sleeve bearing (Form S)



Seals against the rotating shaft

> Reduced space requirement

Easy and fast installation

Can be manufactured with different types of seal

High-temperature version available (made from iglidur® V400)

iglidur®bearing with lip seal

Easy and quick to fit polymer plain bearing made from iglidur® J (JDSM) or iglidur® V400 (VDSM) with an integrated rotary lip seal, which protects against dust, dirt, and all depressurised liquids.



When to use it?

- When the penetration of dirt and water spray should be prevented
- When only a small installation space is available in the axial direction
- When an existing seal should be integrated in a plain bearing



When not to use it?

- When pressurised media should be sealed
- When a permanent tensioned seal is required



Depending on material: iglidur® J: -50°C up to +90°C iglidur® V400: -50°C up to +200°C





1 type, 2 materials Ø 10 mm

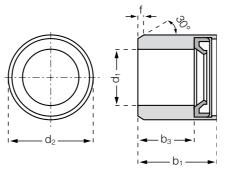
more dimensions on request

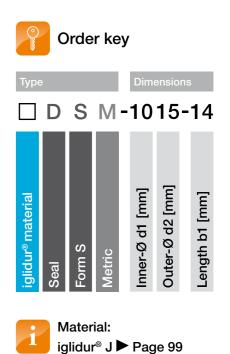


Available from stock

Detailed information about delivery time online.







iglidur® V400 ► Page 255

Dimensions [mm]

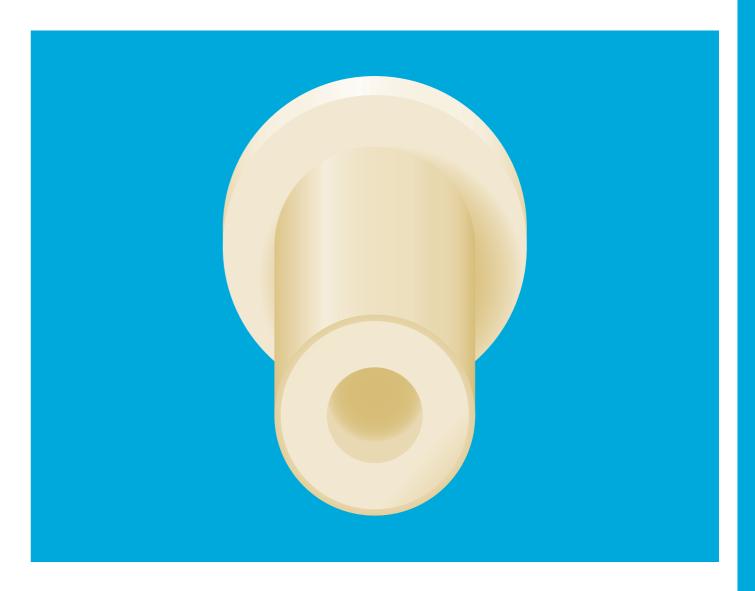
d1	d1-Tolerance3)	d2	b1	b3	f	Part No.
E11		Ø	h13			
10	+0.025 +0.135	15	14	10	1	JDSM-1015-14
10	+0.025 +0.135	15	14	10	1	VDSM-1015-14

³⁾ after pressfit. Testing methods ▶ Page 75



Please contact us if you want to combine your seal with an iglidur® bearing.

We will support you with the design, will check the integration and create an appropriate solution.



speedimold – custom-made parts manufactured by injection moulding

- Low-cost injection-moulded prototypes and series parts
- Original iglidur® tribo-materials
- Tailored to your application
- Fast and cost-effective

540

speedimold | Customised injection-moulded parts

At igus[®], we have the aim of helping our customers reduce costs while bringing technical benefits to their products and Machines. We call this "plastics for longer life®". Sometimes our customers require custom parts or services, and for many years this has been an important part of the igus® support. Now, with speedimold, we combine custom parts with speed, Using the benefits of igus® tribo-plastics.



What is speedimold?

speedimold is primarily simple! Select from 8 iglidur® triboplastics materials (iglidur® G, J, W300, X, M250, P, A180, H2 and igumid G). Get moulded parts in 1 to 10 days, depending on complexity of the part.

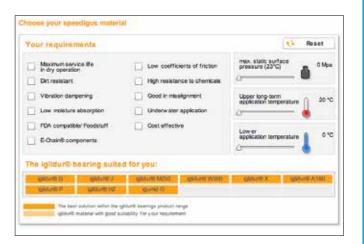


Unable to find the material you desire? Then simply ask us. In addition to the materials that are specially processed for you using the speedimold procedure, it is naturally also possible to choose from the entire range of iglidur® materials in order for us to produce your customised bearing. We work with you to design the bearing, create the initial prototype and take responsibility for serial production.

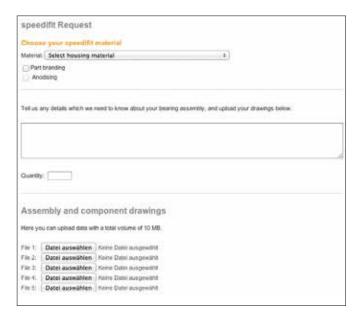
speedimold | Customised special parts

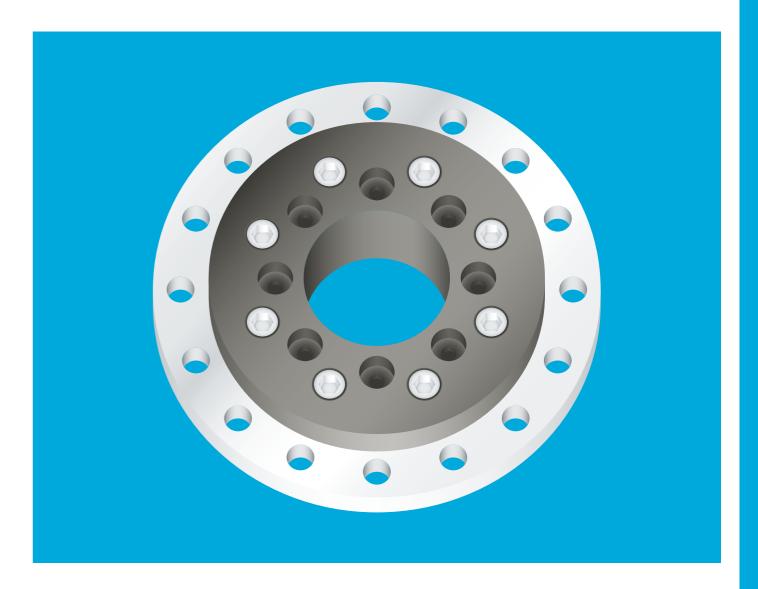
How does speedimold work?

- 1 You tell us about your required special design: what kind of material, special requirements, etc., and send us your 3D model via email
- 2 You get a quote; pay attention to your lead time and send us your order
- 3 The tool for your individual speedimold part is produced
- **4** The required parts are injection molded from your chosen iglidur® material
- **5** Now you can install and use your parts









iglidur® PRT – polymer slewing ring bearings

- Standard range from stock
- Completely maintenance free
- Easy installation and replaceable sliding pads
- High wear resistance
- For high load capacity, high rigidity
- Stainless steel versions available
- Wide range of accessories

544 545

iglidur® PRT | Advantages

Maintenance free slewing ring bearing



Type 01: High rigidity ► From page 550



Type 01 with gear teeth: With outer drive ring ► From page 551



Type 02: Low weight

► From page 552



Type 03:

Economic ► From page 553

Polymer slewing ring bearing

iglidur® PRT is a slewing ring bearing with the proven advantages of the igus® polymer bearings. The sliding pads made from iglidur[®] high-performance polymers are completely free from maintenance and lubrication. All the housing components are made from anodised aluminium or stainless steel, the surfaces which mate with the iglidur® sliding pads are all hard anodised or (optional) stainless steel. All the fixing screws are made from stainless steel.

- Completely maintenance free
- Easy installation and replaceable sliding pads
- High wear resistance
- For high load capacity, high rigidity
- Stainless steel versions available
- Wide range of accessories

Typical industries and applications

- Conveyors Automation
- ◆ Assembly stations
 ◆ Stage and lighting technology

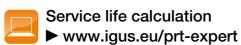
 Renewable energy, etc



Wide range of accessories:

Special geometries and accessories

► From page 554



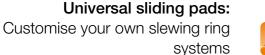
Max. +180 °C



min. -50°C



3 types Ø 20-300 mm



► From page 558

Available from stock

Stainless steel version on request Detailed information about delivery time online.



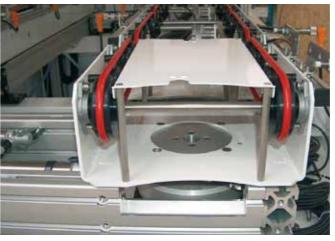
Slewing ring bearings structure

1 Type 01: Hard anodised aluminium, or stainless steel V4A

Type 02: iglidur® J4 or A180

- 2 Type 01: iglidur® J or H1
- 3 Type 01 and 02: Aluminium, anodised, or stainless steel V4A

iglidur® PRT | Application examples



iglidur® PRT-01-60 is used here in a handling/transport system for semiconductor carriers. Through a cylinder control, the PRT polymer slewing ring bearing provides a deflection at the end of the system's track.



A light and lubrication free iglidur® PRT slewing ring bearing is used in a self-rotating light, as found in discos for example.



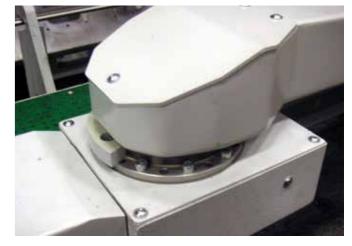
In this machine tool control panel, an iglidur® polymer slewing ring bearing is used due to its freedom from lubrication and maintenance.



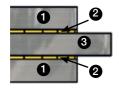
The iglidur® PRT-01-100 slewing ring bearing is used in an automatic welding plant in this application. It enables pivoting in the horizontal plane of the clamping device.



The lubrication free iglidur® PRT slewing ring bearing masters this job brilliantly, is lighter and in terms of purchasing is cheaper than a comparable metal rotary connector.



Lubrication and maintenance free polymer slewing ring bearings for moving the control panel. The low coefficients of friction ensure low actuating force during pivoting.



iglidur® PRT | Technical data

Slewing ring bearings general properties

Type 01

Properties	Unit	-20	-30	-50	-60	-100	-150	-200	-300
Weight	kg	0.2	0.4	1.0	1.1	1.3	2.2	3.2	7.6
Axial load, static	N	15,000	27,000	40,000	50,000	55,000	80,000	100,000	150,000
Axial load, dynamic	N	4,000	7,000	10,000	15,000	16,000	25,000	30,000	90,000
Radial load, static	N	2,300	5,000	8,000	10,000	16,000	25,000	35,000	45,000
Radial load, dynamic	N	600	1,500	2,500	3,000	5,000	8,000	10,000	27,000
Rotat. speed dry running	1/min	300	250	200	200	150	100	80	50
Max. perm. tilting moment	Nm	100	200	600	800	1,500	2,000	3,800	5,000

Type 02

Properties	Unit	-20-AL /-20-ES	-20-LC	-20-P	-30	-60
Weight	kg	0.1	0.1	72	0.2	0.7
Axial load, static	N	13,000	13,000	13000	25,000	45,000
Axial load, dynamic	N	4,000	4,000	4000	7,000	12,000
Radial load, static	N	2,000	2,000	2000	2,500	10,000
Radial load, dynamic	N	500	500	500	700	2,800
Rotat. speed dry running	1/min	250	250	250	200	120
Max. perm. tilting moment	Nm	60	40	40	100	200

Type 03

Properties	Unit	-80
Weight	kg	0.45
Axial load, static (compressive force direction)	N	45,000
Axial load, static (Tensile force direction)	N	5,000
Axial load, dynamic (compressive force direction)	N	12,000
Axial load, dynamic (tensile force direction)	N	2,000
Radial load, static	N	4,000
Radial load, dynamic	N	1,000
Rotat. speed dry running	1/min	120
Max. perm. tilting moment	Nm	120



igus® online tool: Slewing ring bearing configurator

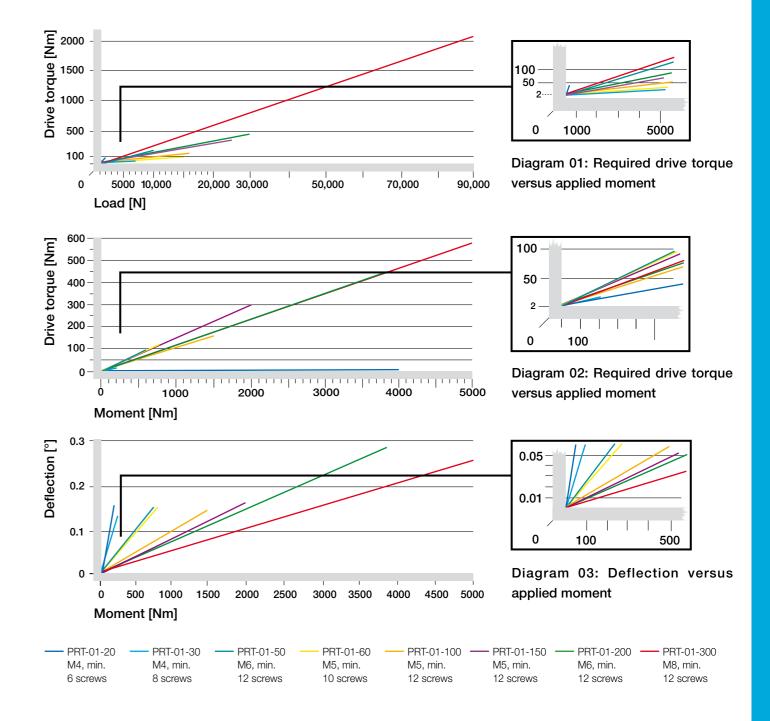
The most common criteria for selecting an iglidur® PRT slewing ring bearing are firstly the loads and torques to be supported and secondly the installation space available. The suitable sizes and types are selected on the basis of this data and the speed and their service life is calculated.

www.igus.eu/prt-expert



iglidur® PRT | Technical data

Type 01





All load values assume the PRT is assembled with socket head screws (strength class 8.8) on the outside pitch circle diameter. For the assembly (using strength class 8.8 screws) of the PRT, the screws have to be inserted to a minimum thread depth of 2 x d in every hole location in the outer ring. All data can be used for both lateral and horizontal assembly (including overhead installation).

High temperature

ESD-compliant

ESD: iglidur® F2,



Standard

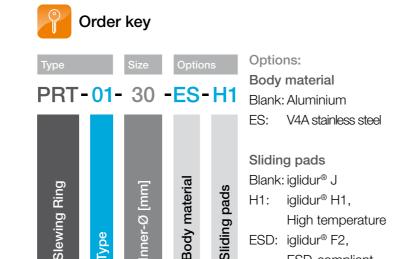
High temperature up to +180°C



Stainless steel version

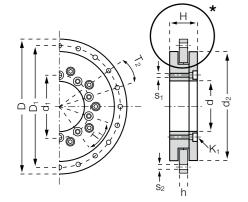
ESD compliant

- Aluminium or stainless steel body (on request)
- Replaceable maintenance free sliding pads made from iglidur® J (Standard) ▶ Page 99, iglidur® H1 (for temperatures up to +180°C) ▶ Page 291, or iglidur® F2 (ESD-compliant) ▶ Page 437

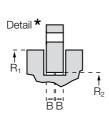




Accessories From page 556







Dimensions [mm]

D ¹⁰⁾	D1	d1	d	d2	Н	h	T1	T2	S1	S2	K1	R1	R2	В	Part No.
				±0.2							for screw				
80	70	31	20	60	24	8	6 x 60°	6 x 60°	M4	4.5	DIN 7984 M4	30	20	3.5	PRT-01-20
100	91	42.5	30	82	29	10	$8 \times 45^{\circ}$	8 x 45°	M4	4.5	DIN 7984 M4	41	29	4.5	PRT-01-30
150	135	65	50	120	33	10	$8 \times 45^{\circ}$	16 x 22.5°	M6	6.6	ISO 4762 M6	60	46.5	4.5	PRT-01-50
160	145	74	60	130	33	10	10 x 36°	20 x 18°	M5	5.5	ISO 4762 M5	65	51.5	4.5	PRT-01-60
185	170	112	100	160	34	12	12 x 30°	16 x 22.5°	M5	5.5	ISO 4762 M5	80	69	5.5	PRT-01-100
250	235	165	150	220	35	12	12 x 30°	16 x 22.5°	M5	5.5	ISO 4762 M5	110	96.5	5.5	PRT-01-150
300	285	215	200	274	38	15	12 x 30°	16 x 22.5°	M6	6.6	ISO 4762 M6	137	124	7.0	PRT-01-200
450	430	320	300	410	42	15	12 x 30°	16 x 22.5°	M8	9.0	DIN 7984 M8	205	186.6	7.0	PRT-01-300

¹⁰⁾ Tolerance according to DIN ISO 2768 mK

Please add suffix "-H1" for the high temperature version or suffix "-ESD" for ESD-compliant slewing ring bearings



All stainless steel versions on request

iglidur® PRT | Product range

Slewing ring bearing with gear teeth





Standard

Stainless steel version

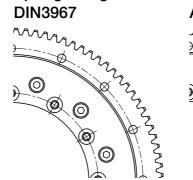
- 4 standards for outer drive rings are available
- A classic spur gear according to DIN3967
- Commercially available belt profiles: T10, AT10, HTD8M
- The inner ring is fixed and the outer ring driven
- The outer ring carries the item to be moved
- Outer ring available in stainless steel as an option (suffix "-ES")

Order key PRT-01- 30 - TO - ... - ES Outer drive ring Slewing Ring Tooth profile

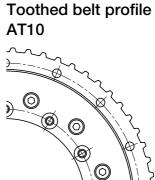
Dimensions [mm]

Spur gearing

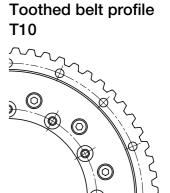
D1	d1	d	d2	h	T1	T2	S1	S2	K1	R1	R2	В	Н	Part No.	
									for screw						
70	31.0	20	60	18	6x60°	6x60°	M4	4.5	DIN 7984 M4	30	20.0	3.5	(26.0)	PRT-01-20-TO	
91	42.5	30	82	21	8x45°	8x45°	M4	4.5	ISO 4762 M4	41	29.0	4.5	(30.5)	PRT-01-30-TO	
145	74.0	60	130	23	10x36°	20x18°	M5	5.5	ISO 4762 M5	65	51.5	4.5	(34.5)	PRT-01-60-TO	
170	112.0	100	160	25	12x30°	16x22.5°	M5	5.5	ISO 4762 M5	80	69.0	5.5	(36.0)	PRT-01-100-TO-	
235	165.0	150	220	25	12x30°	16x22.5°	M5	5.5	ISO 4762 M5	110	96.5	5.5	(37.5)	PRT-01-150-TO-	
285	215.0	200	274	30	12x30°	16x22.5°	M6	7.0	ISO 4762 M6	137	124.0	7.0	(41.5)	PRT-01-200-TO-	
430	320.0	300	410	30	12x30°	16x22.5°	M8	9.0	ISO 4762 M8	205	186.5	8.5	(43.5)	PRT-01-300-TO-	٠



			1 3
D	m	Z	Part No. add-on
(88)	-	42	ST
(112)	2	54	ST
(184)	2	90	ST
(196)	2	96	ST
(256)	2	126	ST
(308)	2	152	ST
(462)	3	152	ST

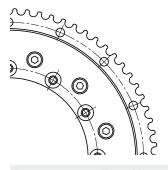


D	Z	Part No. add-on
(87.25)	28	AT10
(106.4)	34	AT10
(163.8)	52	AT10
(189.2)	60	AT10
(252.9)	80	AT10
(303.9)	96	AT10
(456.7)	144	AT10



Z	Part No.
	add-on
28	T10
34	T10
52	T10
60	T10
80	T10
96	T10
144	T10
	28 34 52 60 80 96

Toothed belt profile HTD5M (-20)/HTD8M



D	Z	Part No.
		add-on
(81.25)	52	HTD5M
(110.7)	44	HTD8M
(166.7)	66	HTD8M
(187.1)	74	HTD8M
(253.3)	100	HTD8M
(304.3)	120	HTD8M
(457.1)	180	HTD8M

iglidur® PRT | Product range

Slewing ring bearing, low weight - Type 02





Standard

Stainless steel version





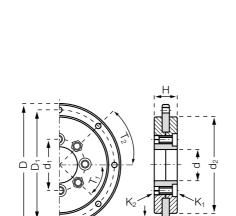
Low-cost version

Solid plastic version



FDA compliant

- Slewing ring with extremely low weight
- Outer ring made from anodised aluminium, stainless steel V4A (on request) or iguton G
- Headrings made from iglidur® J4 or FDA-compliant iglidur® A180
- 30 % lighter with plastic screws



Order key

Slewing Ring

Options:

Body material

AL: Aluminium

LC: Low-cost

P: Solid plastic

ES: V4A stainless steel

PRT-02- 20 - AL-A180

er-Ø [mm]

Body material

Headrings

Headrings

Blank: iglidur® J4

A180: iglidur® A180,

FDA-compliant

Dimensions [mm]

D	D1	d1	d	d2	Н	h	T1	T2	S2	K1	K2	Part No.
										for screw	for screw nut	
80	70	31	20	60	16	5	6 x 60°	6 x 60°	4.5	DIN 6912 M5	DIN 439 M5	PRT-02-20-
100	91	42.5	30	80	19	6	8 x 45°	8 x 45°	4.5	DIN 7984 M5	DIN 439 M5	PRT-02-30-
150	135	65	50	120	20	6	16 x 22.5°	8 x 45°	6.6	Through ho	le 6.5 mm	PRT-02-50- New!
160	145	86.0	60	130	30	10	12 x 30°	20 x 18°	5.5	Counterbore Ø1	6 and 6.5 deep	PRT-02-60-AL

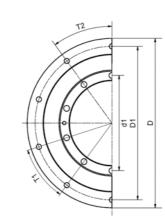
Please add suffix "-A180" for FDA-compliant version

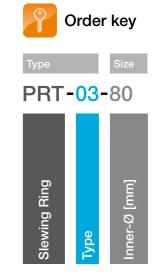


iglidur® PRT | Product range

Slewing ring bearing, low-cost - Type 03



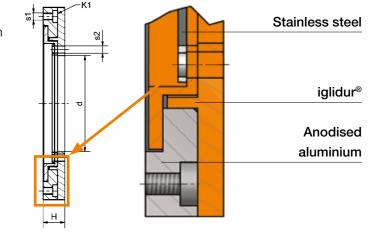




iglidur® PRT slewing ring bearing in a low-cost design. Through consistent downsizing, a completely new design has been created that relies even more on plastic.

3D-CAD files, prices and delivery time ▶ www.igus.eu/prt

- Maintenance and lubrication free
- Low priced and lightweight
- Low installation space
- Ready to fit

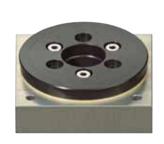


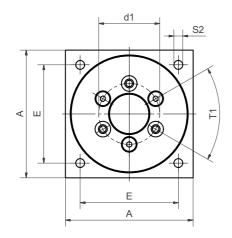
Dimension [mm]

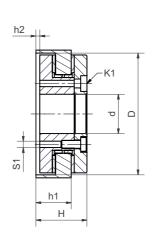
D	D1	d1	d	Н	T1	T2	s1	s2	K1	Part No.
									for screw	
160	145	90	80	18	10 x 36°	10 x 36°	M6	5.5	DIN 7984 M5	PRT-03-80

iglidur® PRT | Product range | Special geometries Type 01

Slewing ring bearing with square flange for direct mounting on flat surfaces







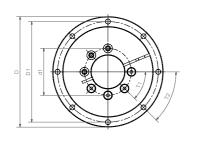
- No through-hole necessary
- No separate distance ring
- Fix with only 4 screws

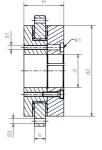
Dimensions [mm]

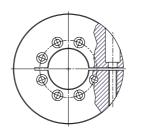
d	d1	d2	D	Α	Е	Н	h1	h2	T1	S1	S2	K1 for screw	Part No.
20	31	60	62	65	50	26	18	2	6 x 60°	M4	4.5	DIN 7984 M4	PRT-01-20-SQ
30	42.5	82	84	85	65	30.5	10	1.5	8 x 45°	M4	4.5	DIN 7984 M4	PRT-01-30-SQ

Slewing ring with collar clamp









Slewing ring with collar clamp PRT-01-30-C

Head ring for PRT-01-30-C

The slewing ring PRT-01-30 a collar ring including clamp function for 30h7 tolerance shafts.

- For simple handling designs
- Quick and easy assembly
- Max. torque moment: 5 Nm

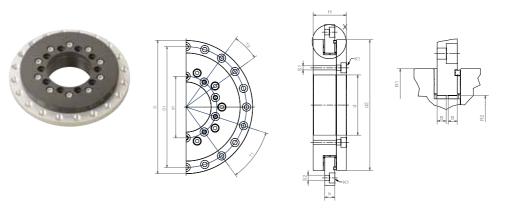
Dimensions [mm]

D	D1	d1	d	d2	Н	h	T1	T2	S1	S2	K1	Part No.
											for screw	
100	91	42.5	30	82	36	10	$6 \times 45^{\circ}$	$8 \times 45^{\circ}$	M4	4.5	DIN 7984 M4	PRT-01-30-C

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Type 01

Slewing ring bearing with dust seal (-D: one-sided, -DD: both-sided)



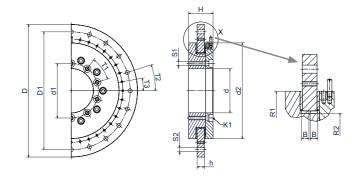
Dimensions [mm]

D ¹⁰⁾	D1	d1	d	d2	Н	h	T1	T2	S1	S2	K1	R1	R2	В	Part No.
				±0.2							for screw				
160	145	74	60	130	33	10	10 x 36°	20 x 18°	M5	5.5	ISO 4762 M5	65	51.5	4.5	PRT-01-60-D/DD
185	170	112	100	160	34	12	12 x 30°	16 x 22.5°	M5	5.5	ISO 4762 M5	80	69	5.5	PRT-01-100-D/DD

¹⁰⁾ Tolerance according to DIN ISO 2768 mK

Slewing ring bearing with angle limit - set the angle limit by yourself





- Angle range in 2° steps
- Set your own angle limits
- Load ratings identical to standard type 01

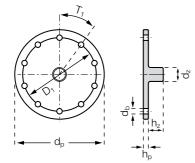
Dimensions [mm]

D	D1	d1	d	d2	Н	h	T1	T2	Т3	S1	S2	K1	R1	R2	ВБ	Part No.
180	160	74	60	130	33	10	10 x 36°	20 x 18°	36 x 10°	M5	5.5	ISO 4762 M5	65	51.5	4.5 F	PRT-01-60-TS

PRT

Drive pins





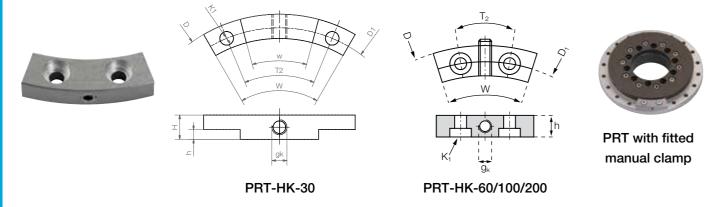


PRT with assembled drive pin

Dimensions [mm]

dp	hp	dz	hz	D1	T1	db	Part No.
55	5	10	15	42.5	8x45°	4.5	PRT-AZ-30
90	5	14	15	74	10x36°	5.5	PRT-AZ-60

Manual clamp



- With 1 Nm screw torque, a holding torque up to 10 Nm is possible
- Easy to screw onto outer ring

Dimensions [mm]

D	D1	T2	K1	Н	h	gk	W	Part No.
			for screw					
100	91	45°	Ø 4.5	8	3.2	M5	60°	PRT-HK-30
160	145	18°	DIN 7984 M5	_	10	M6	35°	PRT-HK-60
205	185	22.5°	DIN 7984 M5	_	10	M6	40°	PRT-HK-100 ¹²⁾
320	300	22.5°	DIN 7984 M6	_	10	M6	40°	PRT-HK-200 ¹²⁾



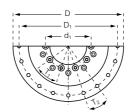
12) To be connected only with enlarged outer ring

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for Type 01

Slewing ring bearing with enlarged outer ring





Dimensions [mm] – other dimensions similar to standard type PRT-01 ▶ Page 550

D	D1	S2	Part No. 11)
205	185	5.5	PRT-01-100-M-ARG
205	185	M6	PRT-01-100-M-ARGG
205	185	5.5	PRT-01-100-M-ARGS
320	300	7.0	PRT-01-200-M-ARG
320	300	M8	PRT-01-200-M-ARGG
320	300	7.0	PRT-01-200-M-ARGS

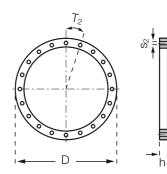
¹¹⁾ Ending: -G standard, -GG thread- or -GS counterbore

Spacing rings made from anodised aluminium or polymer (POM)





Polymer





PRT with mounted spacing ring

Dimensions [mm]

Aluminium

D	D1	T2	S2	D3	h1	Part No.39)
80	70	6 x 60°	4.5	62	10	PRT-01-20-DR
100	91	8 x 45 °	4.5	84	11	PRT-01-30-DR
160	145	20 x 18°	5.5	132	13	PRT-01-60-DR
185	170	16 x 22.5°	5.5	162	13	PRT-01-100-DR
250	235	16 x 22.5°	5.5	222	13	PRT-01-150-DR
300	285	16 x 22.5°	7.0	276	13	PRT-01-200-DR
450	430	16 x 22.5°	9.0	412	15	PRT-01-300-DR

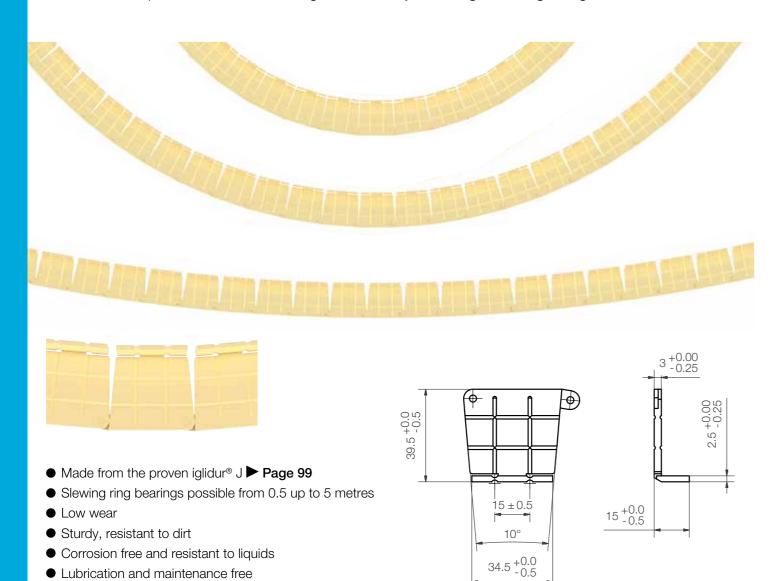
³⁹⁾ Please add suffix "-POM" for plastic version (not available for sizes 150 and 300)

iglidur® PRT | Product range | Accessories

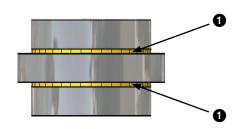
Universal sliding pads

Customise your own slewing ring systems

Using the versatile iglidur® PRT universal slide elements, large slewing ring systems can be tailored to the Type 01. Depending on the number of elements, slewing ring systems with internal diameters of 0.5 to 5 m are possible. We would be glad to assist you during the design stage.



Basic construction of type 01:



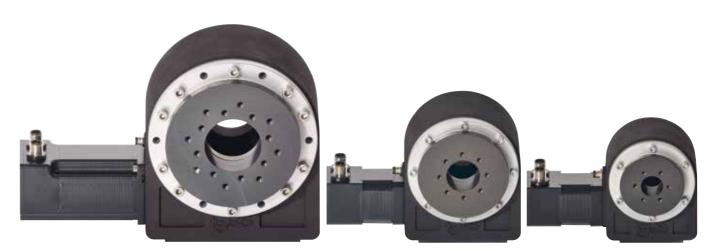


Slide elements made from iglidur® J



iglidur® PRT | Product range | Options

robolink® D - motor-driven iglidur® PRT slewing ring bearings



The main component is a worm gear

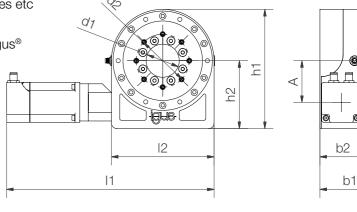
• The center hole remains free for feeding cables etc through

• Can be ordered with or without motor, e.g. igus® stepper motors



More information

www.igus.eu/robolinkD



Dimensions [mm]

Worm gear ratio	igus [®] stepper motor	Based on	Part No.
38:1	NEMA17 with encoder	PRT-01-20	RL-D-20-001
50:1	NEMA17 with encoder	PRT-01-30	RL-D-30-001
48:1	NEMA23XL with encoder	PRT-01-50	RL-D-50-001

Dimensions [mm] - articulated joints without motor

d1	d2	h1	h2	12	Part No.
20	31	103	60	86	RL-D-20-001
30	42.5	128	75	106	RL-D-30-001
50	80	178	100	156	RL-D-50-001

Dimensions [mm] – articulated joints with igus® stepper motors and encoder and INI-Kit

d1	l1	b1	b2	m1	Α	Part No.
20	195	66.5	50	42	31	RL-D-20-001-MOT17-E
30	216	69	50	42	40	RL-D-30-001-MOT17-E
50	315	91	70	60	63	RL-D-50-001-MOT23XL-E

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PRT