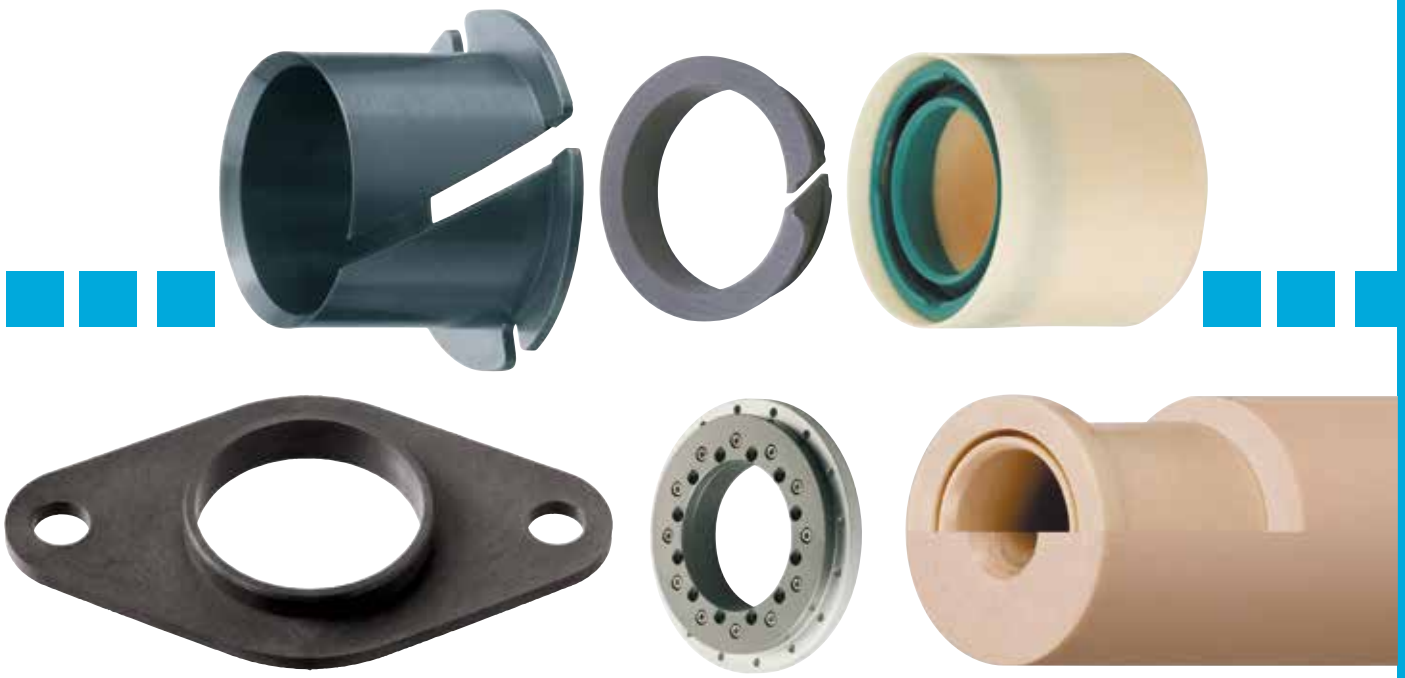
2. iglidur®



Other designs: clip and slewing ring bearings, bar stock and much more…

...plastics

iglidur® – Other designs | Product Overview

For guiding shafts through sheet metal

iglidur® Clip Bearings
▶ from page 559

Easy installation, fixed by two flanges
Clip
▶ page 559

Easy installation due to splitted design
Clips2
▶ page 565

Press in and fold down
MKM
▶ page 569

Slewing Ring Bearings

iglidur® PRT
▶ from page 577

High stiffness,
PRT-01
▶ page 577

For high temperature,
PRT-01-H1
▶ page 580

With toothed outer ring
PRT-01-TO
▶ page 582

For exceptional applications

Special types
▶ from page 589

Zero-clearance and pre-tensioned bearings
JVSM/JVFM
▶ page 593

For all shaft surfaces and materials
PEP
▶ page 601

Secured by screws
Flange bearings
▶ page 589

Alternative to stamped PTFE tapes

Piston rings
▶ from page 605

Custom-made: choose material and dimensions
▶ page 605

For design freedom

Bar stock
▶ from page 609

Choose material, dimensions and design – fast machining with Speedicut
▶ page 609

Customized moulded parts

speedigus
▶ from page 613

iglidur® moulded parts in 1–15 days upon request
▶ page 613

For different applications

Special solutions
▶ from page 617

Incorporated radial shaft seal
Bearings with lip seal
▶ page 617

Matching sliding surfaces
Axial bearing
▶ page 621

Press and plug
MDM

▶ page 573

Very low weight
PRT-02

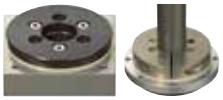
▶ page 583

FDA-compliant
PRT-02/A180

▶ page 583

Low-cost
PRT-03

▶ page 583

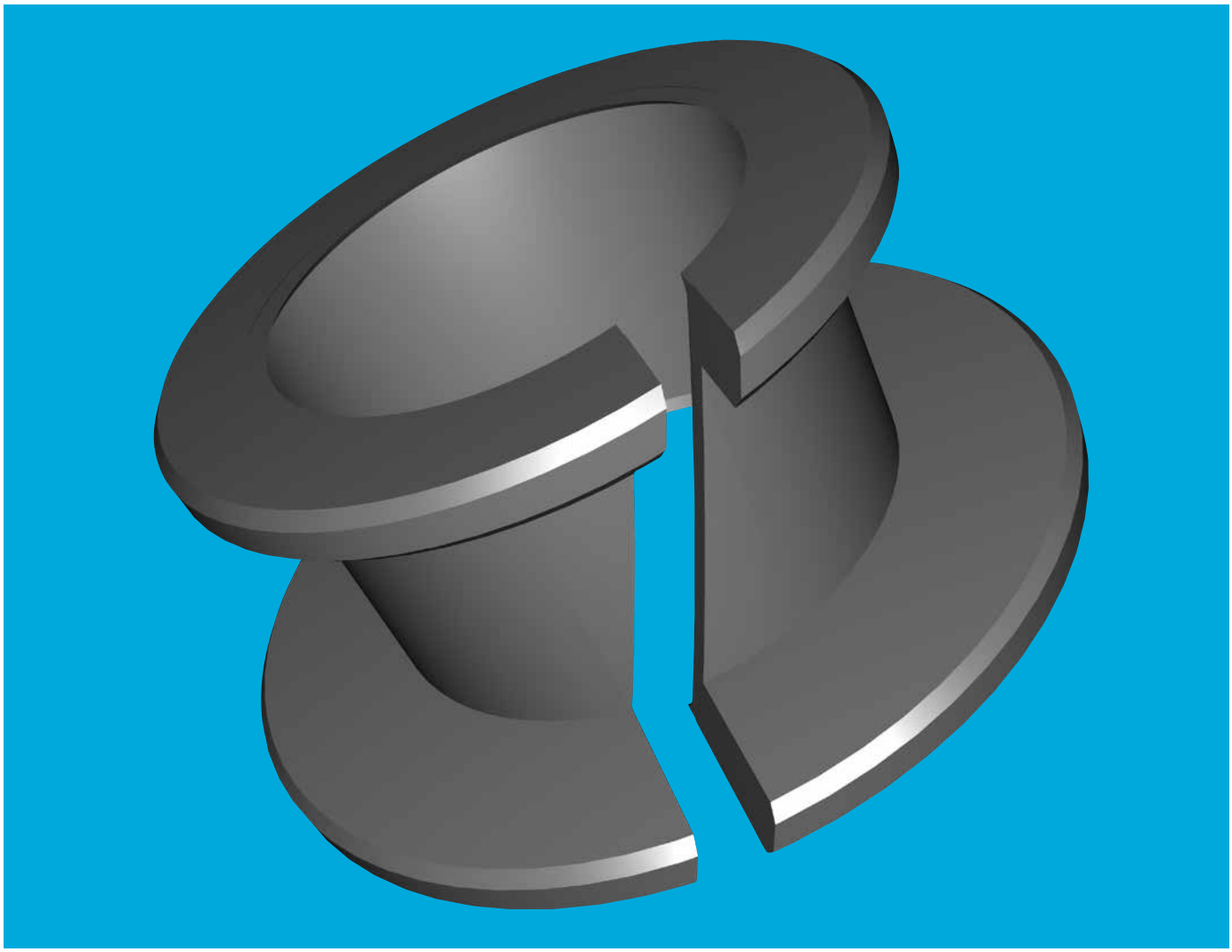


Special geometries and accessories

▶ page 585

Polymer disc springs
polysorb

▶ page 597



iglidur® Clip Bearings

- Standard range from stock
- Easy to fit
- Increased security with the double flange design
- Good wear resistance
- Maintenance-free and predictable lifetime
- Material iglidur® M250
- Special dimensions are possible

iglidur® Clip Bearings

For putting shafts through sheet metal. iglidur® clip bearings are designed specifically for putting 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.

Maintenance-free and predictable lifetime

Increased security with the double flange design

High resistance to edge loads

Lateral slot for easy installation

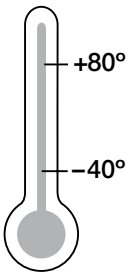
When to use it?

- When a sheet metal bearing is required
- When the bearing should be fitted into a drilled or punched hole with a wide tolerance
- For rotating, linear and pivoting movements
- When a quick-fitting bearing solution is sought

When not to use it?

- When continuous temperatures of above +80 °C occur
  ▶ iglidur® G, page 65
- When a high-precision bearing is needed
  ▶ iglidur® J, page 93
- When the sheet metal is more than 4 mm thick
  ▶ iglidur® Clips2, page 565
  ▶ iglidur® MKM, page 569
- When extremely high surface pressures occur
  ▶ iglidur® G, page 65

Temperature



Product range

1 style
Ø 3–25 mm
more dimensions on request

iglidur® Clip Bearings | Technical Data

Main Criteria

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 bore 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 of 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. The bearings can also be lubricated as iglidur® M250 material is resistant to all common lubricants.

Mechanical Properties

The permissible static pressure of iglidur® clip bearings 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**

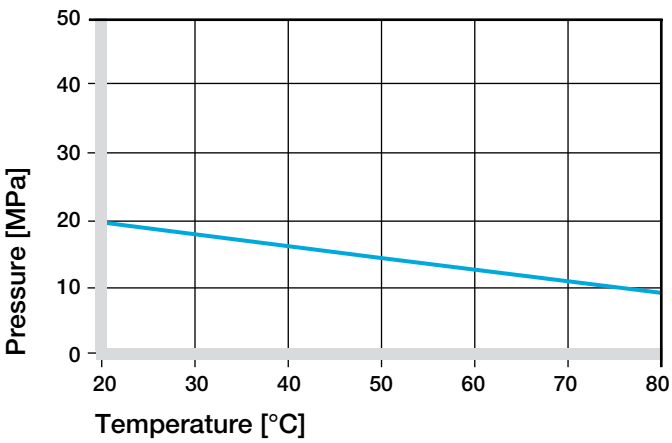


Diagram 01: Recommended maximum surface pressure as a function of temperature (20 MPa at +20 °C)

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 49**

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

Table 01: Maximum running speed

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 50**

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

Table 02: Temperature limits

Installation

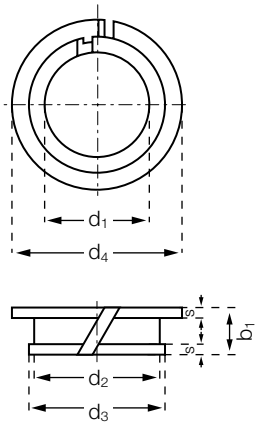
For installation, the plain bearings are pressed together on the side with the large flange. The angled slot makes the bearing spiral shaped so that it can be placed easily into the metal plate. The slot also compensates for expansions of the circumference. In this way, a tight clearance is possible with the clip bearings.
The recommended clearance allows a nominal size shaft to turn 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 d1 [mm]	Shaft h9 [mm]	Tolerances D11 [mm]	Housing H7 [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

Clip Bearings



Order key

MCM-06-015

- Sheet metal thickness
- Inner diameter d1
- Metric
- Clip Bearings
- Material iglidur® M250

Material:
iglidur® M250 ▶ page 111

Dimensions [mm]

Part number	d1	d2	d3	d4	s	b1
	D11*				–0.10	+ 0.20
MCM-03-02	3	4.2	4.8	6	0.6	3.2
MCM-03-03	3	4.2	4.8	6	0.6	4.2
MCM-04-02	4	5.2	5.9	7	0.6	3.2
MCM-04-03	4	5.2	5.9	7	0.6	4.2
MCM-05-02	5	6.2	6.8	8	0.6	3.2
MCM-05-03	5	6.2	6.8	8	0.6	4.2
MCM-06-015	6	7.2	7.8	11	0.6	3.2
MCM-06-02	6	7.2	7.8	11	0.6	3.2
MCM-06-03	6	7.2	7.8	11	0.6	4.2
MCM-06-04	6	7.2	7.8	11	0.6	5.2
MCM-07-03	7	9	9.8	13	0.8	4.6
MCM-08-02	8	9.6	10.4	13	0.8	3.6
MCM-08-03	8	9.6	10.4	13	0.8	4.6
MCM-09-02	9	10.6	11.4	14	0.8	3.6

Part number	d1	d2	d3	d4	s	b1
	D11*				–0.10	+ 0.20
MCM-10-02	10	11.6	12.4	15	0.8	3.6
MCM-10-025	10	11.6	12.4	15	0.8	4.1
MCM-10-03	10	11.6	12.4	15	0.8	4.6
MCM-10-08	10	11.6	12.4	15	0.8	9.6
MCM-12-02	12	13.6	14.4	17	0.8	3.6
MCM-12-03	12	13.6	14.4	17	0.8	4.6
MCM-12-035	12	13.6	14.4	17	0.8	5.1
MCM-12-04	12	13.6	14.4	17	0.8	5.6
MCM-14-03	14	15.6	16.4	19	0.8	4.6
MCM-16-02	16	17.6	18.4	21	0.8	3.6
MCM-16-03	16	17.6	18.4	21	0.8	4.6
MCM-18-03	18	20	21	23	1.0	5.0
MCM-20-03	20	22	23	25	1.0	5.0
MCM-25-03	25	27	28	30	1.0	5.0

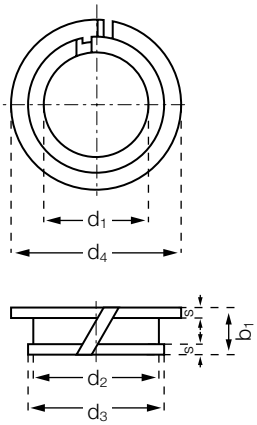
* d1 measurement is measured with a plug gauge after fitting into a reference housing d2 (+0.005). Please see D11 tolerances table ▶ page 561.

delivery time from stock

prices price list online
www.igus.co.uk/en/clips

iglidur® Clip Bearings | Product Range | Inch

Clip Bearings



Order key

MCI-03-01

- Sheet metal thickness
- Inner diameter d1
- Inch
- Clip Bearings
- Material iglidur® M250

Material:
iglidur® M250 ▶ page 111

Dimensions [Inch]

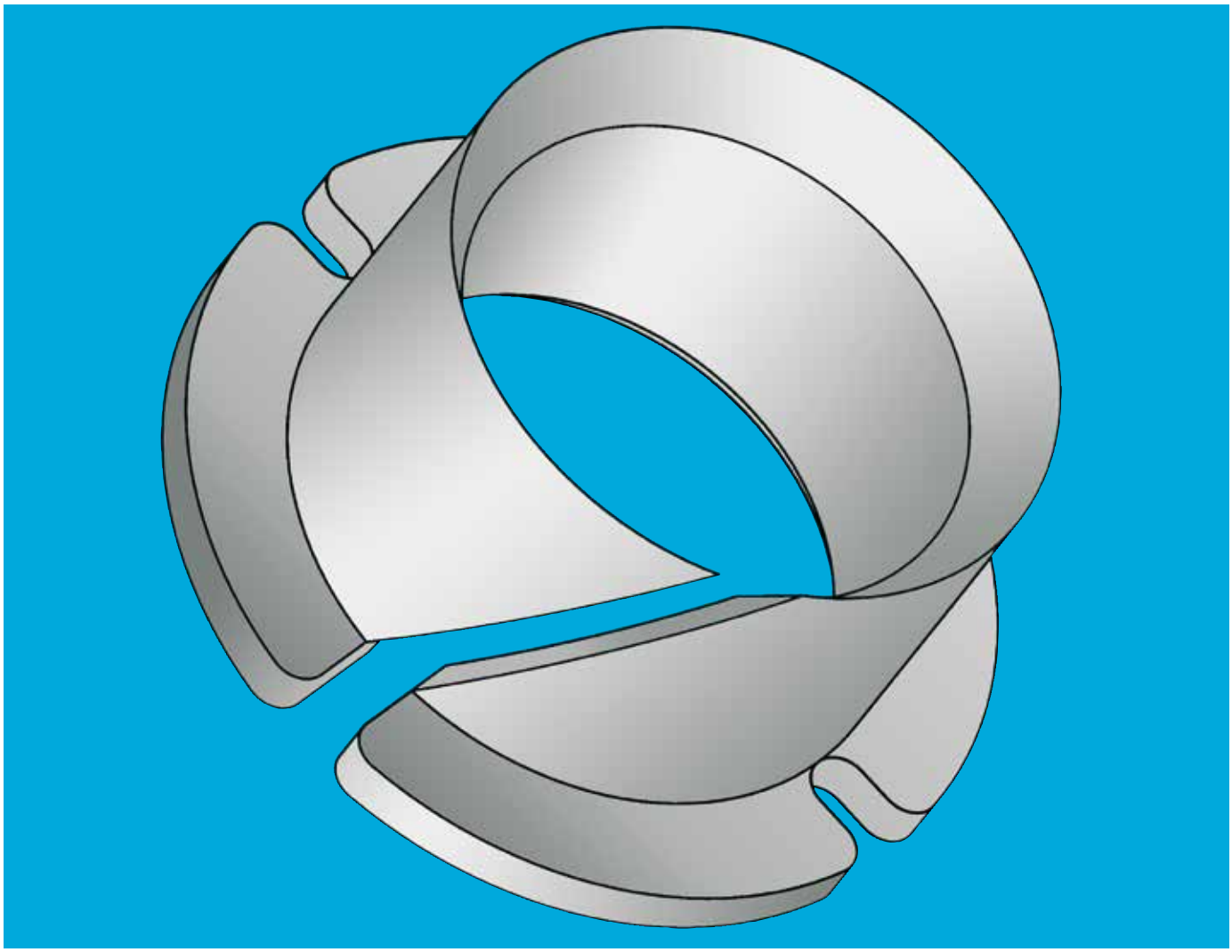
Part number	d1 D11*	d2	d3	d4	s –0.10	b1 + 0.20
MCI-03-01	3/16	0.2343	1/4	5/16	0.032	0.1380
MCI-03-02	3/16	0.2343	1/4	5/16	0.032	0.2000
MCI-04-01	1/4	0.3125	11/32	7/16	0.032	0.1380
MCI-04-02	1/4	0.3125	11/32	7/16	0.032	0.2000
MCI-05-01	5/16	0.3750	13/32	1/2	0.032	0.1380
MCI-05-02	5/16	0.3750	13/32	1/2	0.032	0.2000
MCI-06-01	3/8	0.4375	15/32	9/16	0.032	0.1380
MCI-06-02	3/8	0.4375	15/32	9/16	0.032	0.2000
MCI-07-01	7/16	0.5000	17/32	5/8	0.032	0.1380
MCI-07-02	7/16	0.5000	17/32	5/8	0.032	0.2000
MCI-08-01	1/2	0.5625	19/32	11/16	0.032	0.1380
MCI-08-02	1/2	0.5625	19/32	11/16	0.032	0.2000

* d1 measurement is measured with a plug gauge after fitting into a reference housing d2 (+0.005). Please see D11 tolerances table ▶ page 561.

delivery time from stock

prices price list online
www.igus.co.uk/en/clips

My Sketches



iglidur® Clips2 – easy assembly and precise

- Available from stock
- Low bearing clearance, high precision
- Easy installation due to chamfered edge
- Material: iglidur® M250
- Maintenance-free and predictable service life

iglidur® Clips2

Easy assembly in sheet metal and precise. Clip bearings easy to install made of the proven iglidur® M250 material. The lateral slot compensates the housing bore tolerances, enables low clearances and ensures an easy assembly.

Maintenance-free
and predictable service life

Vibration dampening

Low clearance
and easy installation
due to lateral slot

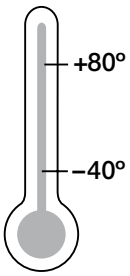
When to use it?

- When simple assembly (by hand) is required
- When there is a very imprecise housing bore
- When a simple and cost effective bearing solution is sought

When not to use it?

- When the bearing should be secured by press fit
  ▶ iglidur® M250, page 111
- When continuous temperatures of above +80 ° C occur
  ▶ iglidur® G, page 65
- When extremely high surface pressures occur
  ▶ iglidur® G, page 65

Temperature

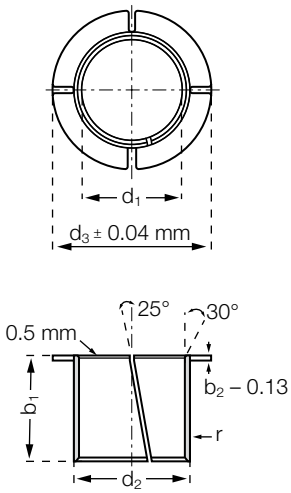


Product range

1 style
Ø 4–25 mm
more dimensions
on request

iglidur® Clips2 | Product Range

Clips2



Order key

MYM-04-04

- Length b1
- Inner diameter d1
- Metric
- Form: Clips2
- Material iglidur® M250

Material:
iglidur® M250 ▶ page 111

Dimensions [mm]

Part number	d1	d1-Tolerance*	d2**	d3 ±0.40	b1 –0.40	b2 –0.13
MYM-04-04	4	+0.025 +0.075	5.20	7.00	4.00	0.60
MYM-05-05	5	+0.025 +0.075	6.20	8.00	5.00	0.60
MYM-06-06	6	+0.025 +0.075	7.20	9.50	6.00	0.60
MYM-08-08	8	+0.025 +0.075	9.60	12.00	8.00	0.80
MYM-10-10	10	+0.025 +0.075	11.60	15.00	10.00	0.80
MYM-12-12	12	+0.025 +0.075	13.60	18.00	12.00	0.80
MYM-14-14	14	+0.025 +0.075	15.60	21.00	14.00	0.80
MYM-16-16	16	+0.025 +0.075	17.60	24.00	16.00	0.80
MYM-20-20	20	+0.025 +0.075	21.60	30.00	20.00	0.80
MYM-25-25	25	+0.025 +0.075	27.40	37.50	25.00	1.20

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

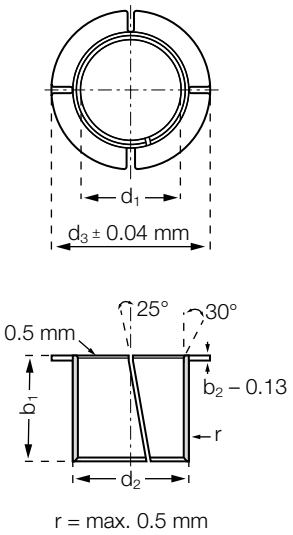
** Recommended housing bore tolerance: H9

delivery time from stock

prices price list online
www.igus.co.uk/en/clips2

iglidur® Clips2 | Product Range | Inch

Clips2



Order key

MYI-04-04

- Length b1
- Inner diameter d1
- Inch
- Form: Clips2
- Material iglidur® M250

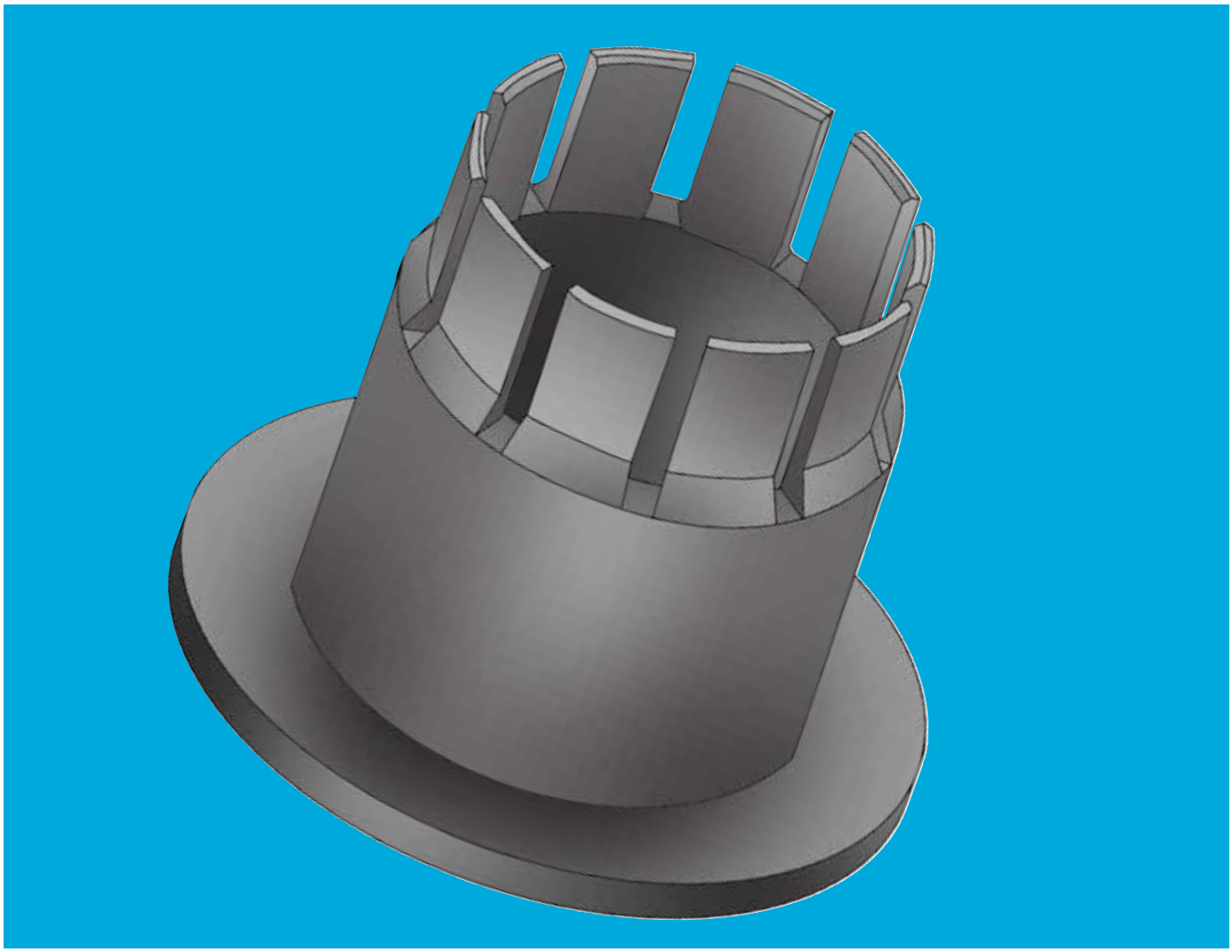
Material:
iglidur® M250 ▶ page 111

Dimensions [Inch]

Part number	d1	Shaft diameter		d2	Housing bore		d3	b1	b1-	b2
		min.	max.		min.	max.			Tolerance	
MYI-03-03	3/16	.1875	.1865	0.2339	.2351	.2339	19/61	3/16	–0.016	0.0252
MYI-04-04	1/4	.0025	.2490	0.2965	.2979	.2965	13/32	1/4	–0.016	0.0252
MYI-05-05	5/16	.3125	.3115	0.3744	.3758	.3744	1/2	5/16	–0.017	0.0299
MYI-06-06	3/8	.3750	.3740	0.4370	.4387	.4370	19/32	3/8	–0.017	0.0299
MYI-07-07	7/16	.4375	.4365	0.4996	.5013	.4996	21/32	7/16	–0.017	0.0299
MYI-08-06	1/2	.5000	.4990	0.5618	.5635	.5618	3/4	3/4	–0.018	0.0299
MYI-08-08	1/2	.5000	.4990	0.5618	.5635	.5618	3/4	1/2	–0.018	0.0299
MYI-10-07	5/8	.6250	.6240	0.6870	.6887	.6870	15/16	7/16	–0.018	0.0299
MYI-10-10	5/8	.6250	.6240	0.6870	.6887	.6870	15/16	5/8	–0.018	0.0299
MYI-10-18	5/8	.6250	.6240	0.6870	.6887	.6870	15/16	1 1/8	–0.018	0.0299
MYI-12-12	3/4	.7500	.7490	0.8118	.8139	.8118	1 1/8	3/4	–0.019	0.0299
MYI-12-18	3/4	.7500	.7490	0.8118	.8139	.8118	1 1/8	1 1/8	–0.019	0.0299
MYI-14-7.5	7/8	.8750	.8740	0.9370	.9391	.9370	1 5/16	15/32	–0.019	0.0299
MYI-14-14	7/8	.8750	.8740	0.9370	.9391	.9370	1 5/16	7/8	–0.019	0.0299
MYI-16-14	1	1.0000	.9985	1.0933	1.0954	1.0933	1 1/2	7/8	–0.020	0.0449
MYI-16-16	1	1.0000	.9985	1.0933	1.0954	1.0933	1 1/2	1	–0.020	0.0449

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/clips2



iglidur® MKM-Double Flange Bearing: press in – fold down – ready

- Pressfit
- Axial load on both sides
- Compensation of tolerances of the sheet metal
- Easy assembly
- Axial pre-tension
- Special design possible, conductive material available

iglidur® MKM Double Flange Bearing

Press in sheet metal and fold down. Double flange bearings easy to install made of the proven iglidur® M250 material. By pressing and turning down the „second flange“ the bearing is axially secured even when fitted into widely toleranced housing bores.

Pressfit

Axial load on both sides

Compensation of tolerances of the sheet metal

Easy assembly

Axial pre-tension

Special design possible, including conductive material

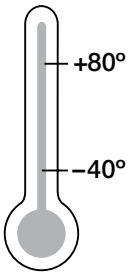
When to use it?

- When a double flanged bearing is needed
- When the housing bore is more than 4 mm long
- When the press fit force cannot be guaranteed
- When a double flange is required as a thrust surface

When not to use it?

- When extreme compressive strengths are required
  ▶ iglidur® G, page 65
- When a simple press-fit bearing is required
  ▶ iglidur® M250, page 111
- When a clip bearing for sheet metal is required
  ▶ iglidur® clip bearings, page 559

Temperature

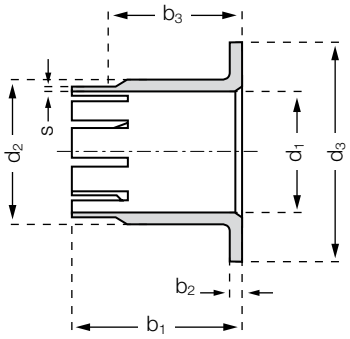


Product range

1 style
more dimensions on request

iglidur® MKM Double Flange Bearing | Product Range

Double Flange Bearing



Order key

MKM-1012-10

- Metal sheet thickness
- Outer diameter d2
- Inner diameter d1
- Metric
- Type (Form K)
- Material iglidur® M250

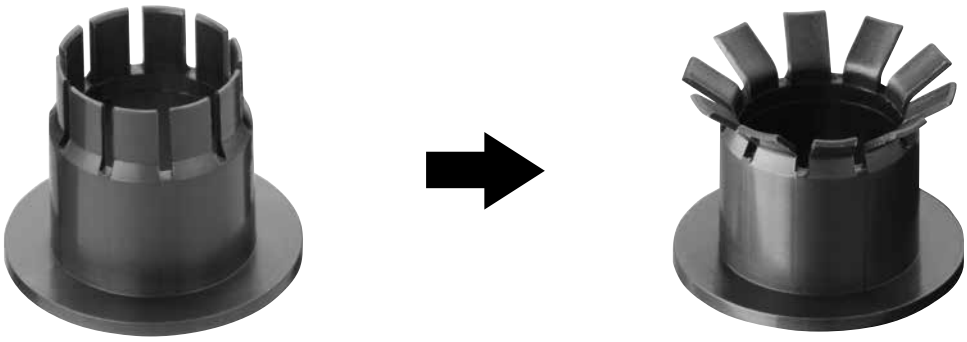
Material:
iglidur® M250 ▶ page 111

Sample dimension [mm]

Part number	d1	d1-Tolerance*	d2	d3	b1	b2	b3	s
		E10		d13	h13	–0.14	+0.1/+0.7	±0.1
MKM-1012-10	10	+0.025 +0.083	12	18	14	1	10	0.4

*** after pressfit. Testing methods ▶ page 59**

Assembly:



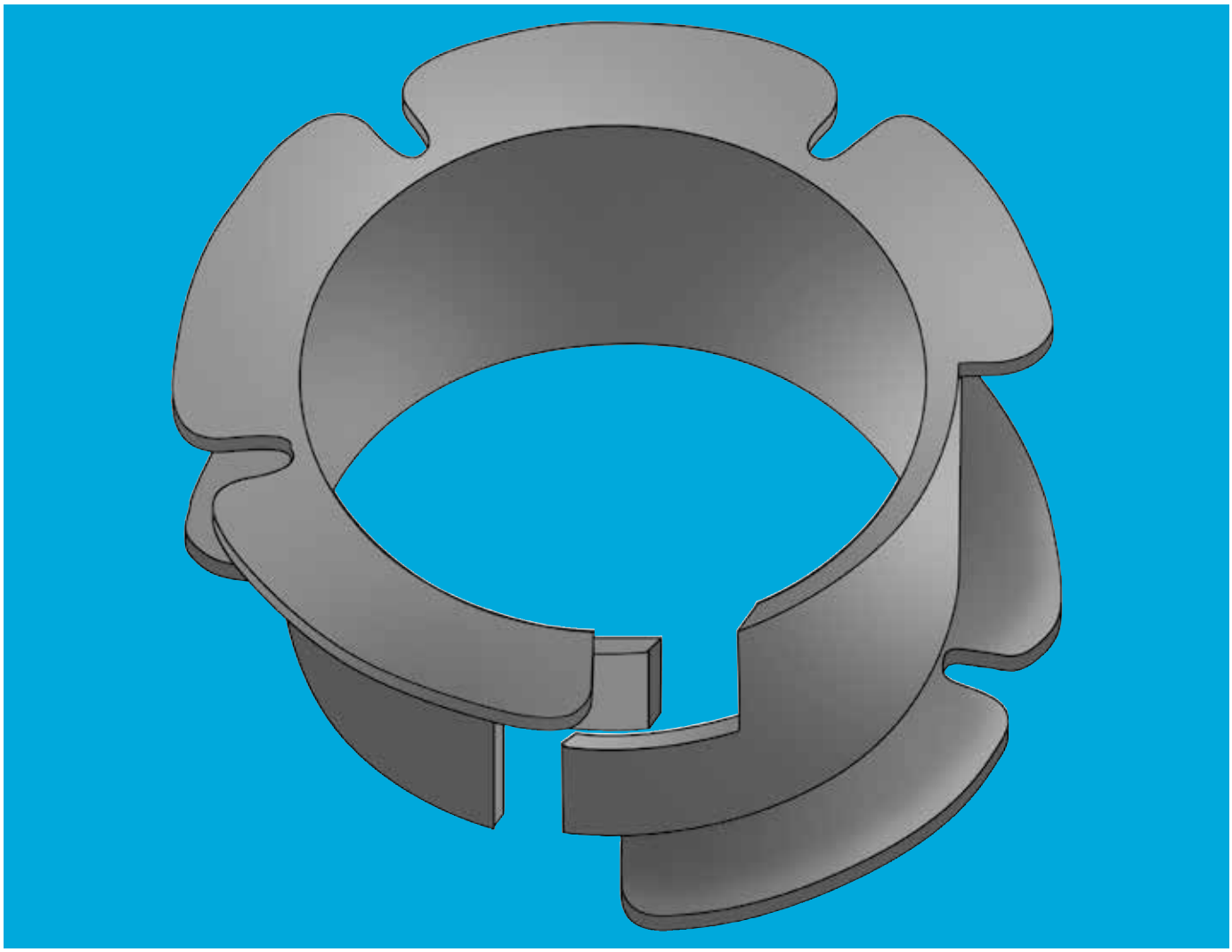
Press in, fold down, finished: axial load on both sides

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. Let us work together on your application!

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/mkm

My Sketches

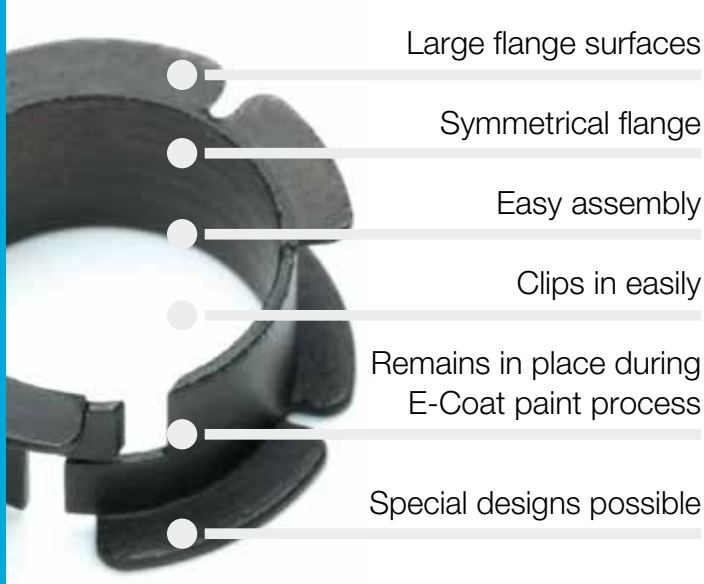


iglidur® MDM Double Flange Bearing: clip in – ready

- Large flange surfaces
- Symmetrical flange
- Easy assembly
- Clips in easily
- Remains in place during E-Coat paint process
- Special designs possible

iglidur® MDM Double Flange Bearing

Press in sheet metal and plug. Clip-in double flange bearing with symmetrical flange. The large second flange allows the bearing to take high axial forces, and the bearing is secure even when fitted to wide toleranced bores.



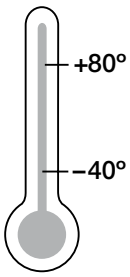
When to use it?

- When the axial security of an iglidur® clip bearing is not sufficient
- When there is a housing with very wide tolerance
- For high axial loads

When not to use it?

- When an automated assembly is required
  ▶ iglidur® MKM, page 569
- When the iglidur® clip bearings offer adequate fit
  ▶ iglidur® clip bearings, page 559
- When a large bearing length is required
  ▶ iglidur® MKM, page 569

Temperature

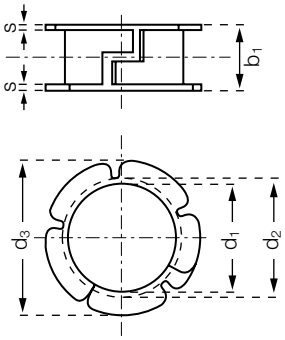


Product range

1 style
more dimensions on request

iglidur® Double Flange Bearing | Product Range

Double Flange Bearing



Order key

MDM-1213-06

- Sheet metal thickness
- Outer diameter d2
- Inner diameter d1
- Metric
- Type (Form D)
- Material iglidur® M250

Material:
iglidur® M250 ▶ **page 111**

Sample dimension [mm]

Part number	d1	d1-Tolerance*	d2	d3	b1	s
MDM-1213-06	12	+0.050 +0.160	13	16.5	7	0.5

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

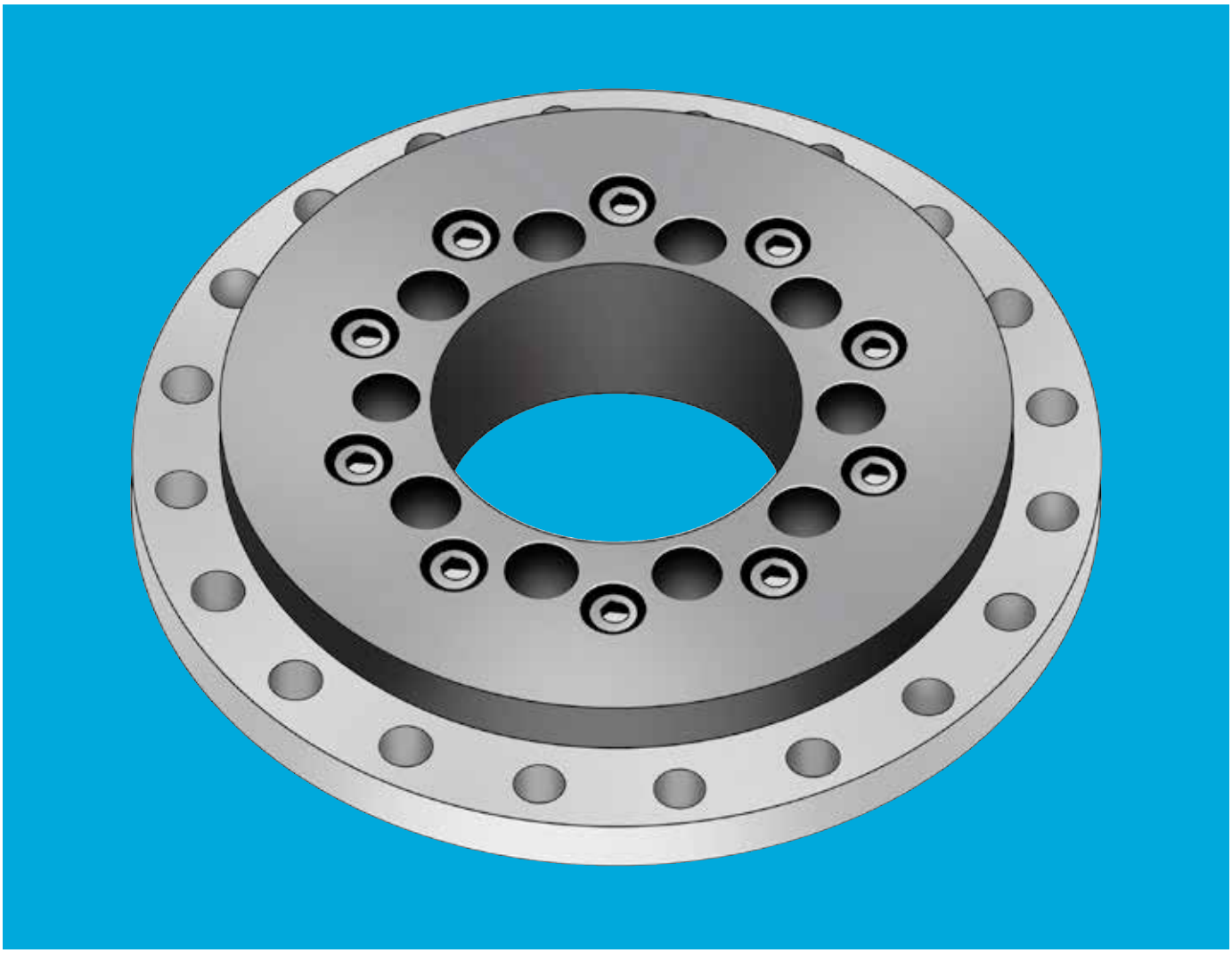
Assembly:

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. Let us work together on your application!

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/mdm

My Sketches



iglidur® PRT – Slewing Ring Bearing

- Standard range from stock
- Completely maintenance-free
- Easy installation, iglidur® sliding pads
- High wear resistance
- For high load capacity, high stiffness
- Available as stainless steel version
- Wide range of accessories

iglidur® PRT

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

Completely maintenance-free

Easy installation, iglidur® sliding pads

High wear resistance

For high load capacity, high stiffness

Stainless steel versions available

Wide range of accessories

When to use it?

- When a ready-to-fit solution is needed
- As a robust and corrosion resistant bearing unit for high loads
- For high tilting moments
- For use with different sorrounding media
- When a lubrication and maintenance free Slewing Ring Bearing is needed
- For slow to medium speed

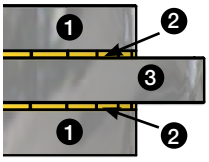
When not to use it?

- For fast rotations
- With temperatures over +180 °C
- When there is not enough driving torque at high loads
- When highest precision is needed

Temperature
(depending on type)

Product range

3 types
42 dimensions
Ø 20–300 mm



❶ **Type 01:**
Aluminum, hard anodized,
or Stainless steel V4A
Type 02:
iglidur® J4 or A180

❷ **Type 01:**
iglidur® J or H1

❸ **Type 01 and 02:**
Aluminum, anodized,
or Stainless steel V4A

iglidur® PRT | Application Examples

Typical sectors of industry and application areas

● Conveyors ● Automation ● Assembly stations ● Theatre/Stage and lighting technology ● Renewable energy etc.

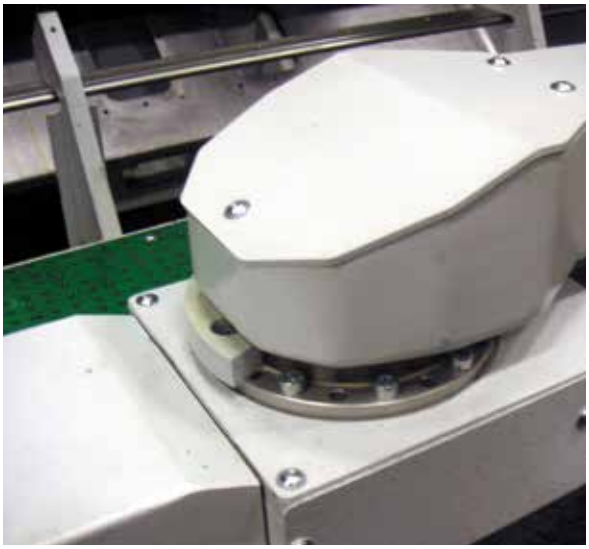
Improve technology and reduce costs – 310 exciting examples for iglidur® plain bearings online

▶ www.igus.co.uk/iglidur-applications

Handling and conveyance system for semiconductor transport/box.

▶ www.igus.co.uk/projector

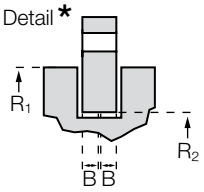
▶ www.igus.co.uk/welding-plant

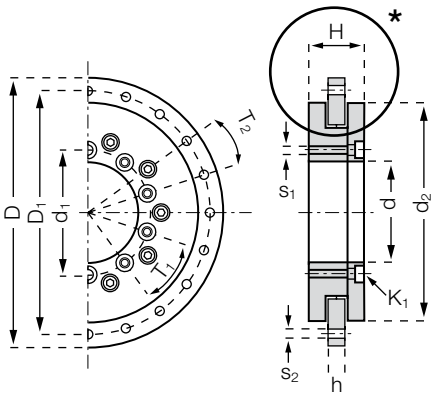


▶ www.igus.co.uk/cnc-machining

iglidur® PRT | High stiffness, product range Type 01

Slewing ring bearing





Order key

PRT-01-30-ES-H1

- blank = iglidur® J
- Sliding pads from iglidur® H1
- Blank: Alumnium
- ES: Stainless steel V4A
- Inner-Ø
- Type
- Slewing Ring

Special properties

- Slewing ring with high stiffness
- Easy to fit
- High wear resistance
- Maintenance-free sliding pads made of iglidur® J ▶ **page 93**
- Available in aluminium or stainless steel V4A

Available in stainless steel

Dimensions [mm]

Part Number	D*	D1	d1	d	d2 ±0.2	H	h	T1	T2	S1	S2	K1 for screw	R1	R2	B
PRT-01-20	80	70	31	20	60	24	8	3 x 120°	6 x 60°	M4	4.5	DIN 7984 M4	30	20	3.5
PRT-01-30	100	91	42.5	30	82	29	10	8 x 45°	8 x 45°	M4	4.5	DIN 7984 M4	41	29	4.5
PRT-01-50	150	135	65	50	120	33	10	8 x 45°	16 x 22.5°	M6	6.6	DIN 912 M6	11.4	33	11.6
PRT-01-60	160	145	74	60	130	33	10	10 x 36°	20 x 18°	M5	5.5	DIN 912 M5	65	51.5	4.5
PRT-01-100	185	170	112	100	160	34	12	12 x 30°	16 x 22.5°	M5	5.5	DIN 912 M5	80	69	5.5
PRT-01-150	250	235	165	150	220	35	12	12 x 30°	16 x 22.5°	M5	5.5	DIN 912 M5	110	96.5	5.5
PRT-01-200	300	285	215	200	274	38	15	12 x 30°	16 x 22.5°	M6	7.0	DIN 912 M6	137	124	7.0
PRT-01-300	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

*** Tolerance according to DIN ISO 2768 mK**

High temperature slewing ring bearing

Special properties

- Suitable up to +180 °C, high chemical resistance
- Available for 6 standard dimensions of type 01
- Body in aluminium or stainless steel
- Sliding pads in iglidur® H1 ▶ **page 349**

Dimensions [mm]

Part Number	D*	D1	d1	d	d2 ±0.2	H	h	T1	T2	S1	S2	K1 for screw	R1	R2	B
PRT-01-30-H1	100	91	42.5	30	82	29	10	8 x 45°	8 x 45°	M4	4.5	DIN 7984 M4	41	29	4.5
PRT-01-60-H1	160	145	74	60	130	33	10	10 x 36°	20 x 18°	M5	5.5	DIN 912 M5	65	51.5	4.5
PRT-01-100-H1	185	170	112	100	160	34	12	12 x 30°	16 x 22.5°	M5	5.5	DIN 912 M5	80	69	5.5
PRT-01-150-H1	250	235	165	150	220	35	12	12 x 30°	16 x 22.5°	M5	5.5	DIN 912 M5	110	96.5	5.5
PRT-01-200-H1	300	285	215	200	274	38	15	12 x 30°	16 x 22.5°	M6	7.0	DIN 912 M6	137	124	7.0
PRT-01-300-H1	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

*** Tolerance according to DIN ISO 2768 mK**

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/prt

iglidur® PRT | Technical Data Type 01

Properties PRT-01-	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
Max. axial load, static	N	15,000	27,000	40,000	50,000	55,000	80,000	100,000	150,000
Max. axial load, dynamic	N	4,000	7,000	10,000	15,000	16,000	25,000	30,000	90,000
Max. radial load, static	N	2,300	5,000	8,000	10,000	16,000	25,000	35,000	45,000
Max. radial load, dynamic	N	600	1,500	2,500	3,000	5,000	8,000	10,000	27,000
Max. rotat. speed dry running	1/min	300	250	200	200	150	100	80	50
Rigidity, axial	N/µm	80	100	250	300	400	450	500	500
Rigidity, radial	N/µm	10	50	60	65	65	65	65	65
Max. perm. tilting moment	Nm	100	200	600	800	1,500	2,000	3,800	5,000

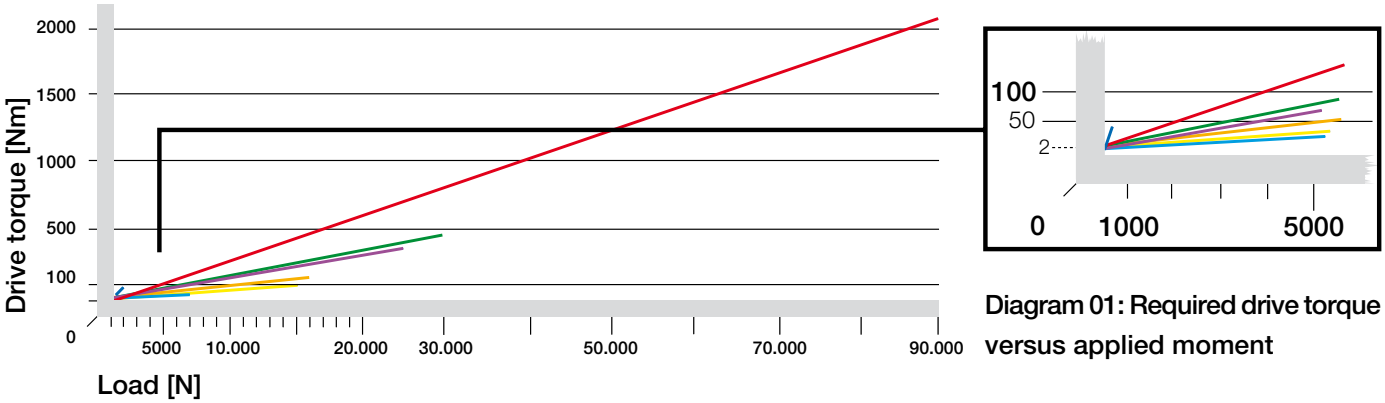


Diagram 01: Required drive torque versus applied moment

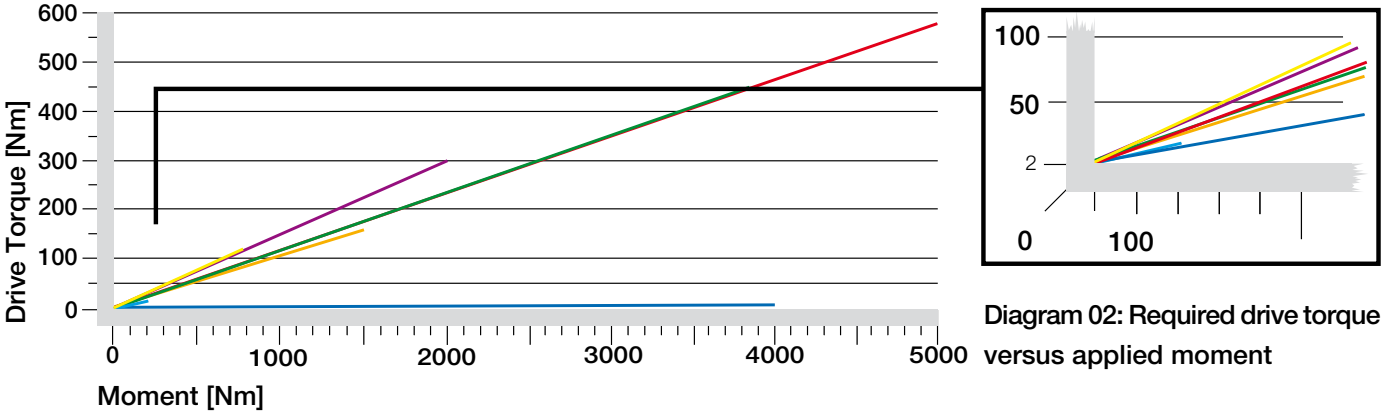


Diagram 02: Required drive torque versus applied moment

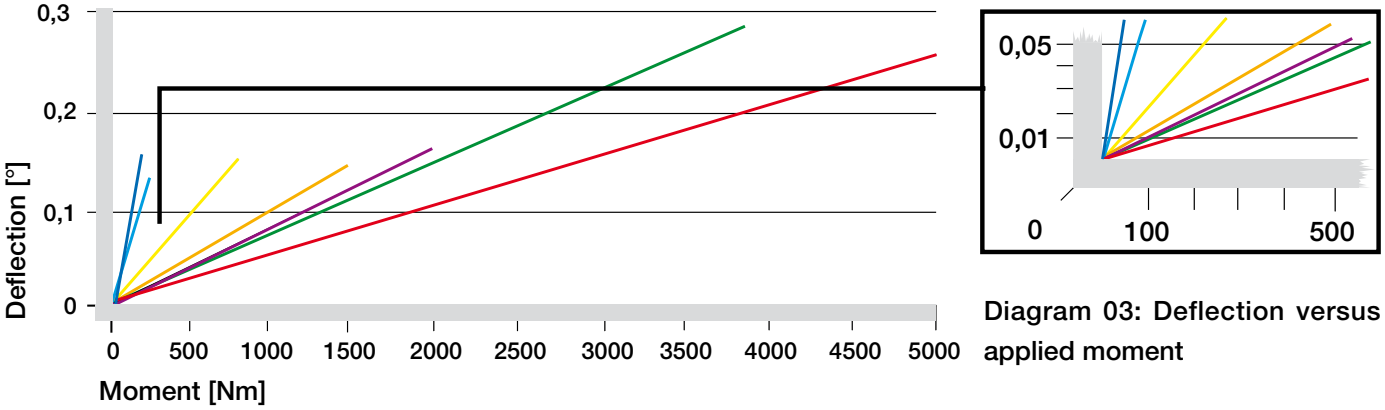


Diagram 03: Deflection versus applied moment

PRT-01-20	PRT-01-30	PRT-01-60	PRT-01-100	PRT-01-150	PRT-01-200	PRT-01-300
M4, min. 6 screws	M4, min. 8 screws	M5, min. 10 screws	M5, min. 12 screws	M5, min. 12 screws	M6, min. 12 screws	M8, min. 12 screws

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 of the PRT the screws have to be inserted to a minimum thread depth of 2xd in every bore location in the outer ring. All data can be used for both lateral and horizontal assembly.

iglidur® PRT | High stiffness, product range Type 01

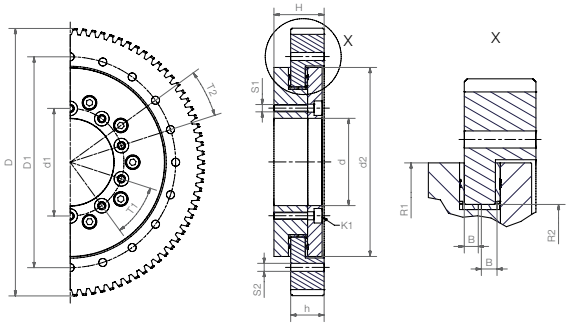
Slewing ring bearing with toothed outer ring

For each of the 6 sizes of the PRT-01 design version, 4 standards for toothed outer ring are available.
A classic spur gear teeth according to DIN3967 for use with a plastic gear or gear rack, and three commercially available belt profiles: T10, AT10, HTD8M. In the case of the externally toothed PRT, the inner ring is fixed and the outer ring driven.

Order key

PRT-01-30-TO-...

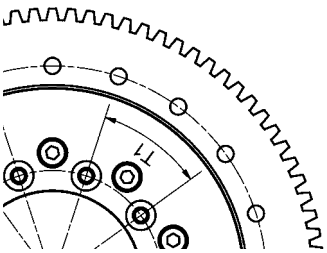
- Tooth profile type
- Toothed outer ring
- Inner-Ø
- Type
- Slewing Ring



Dimensions [mm]

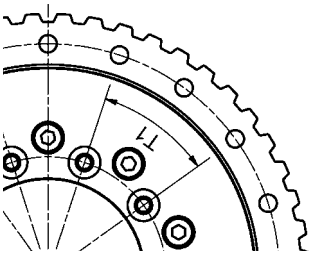
Part number	D1	d1	d	d2	h	T1	T2	S1	S2	K1 for screw	R1	R2	B	H
PRT-01-30-TO-...	91	42.5	30	82	21	8x45°	8x45°	M4	4.5	DIN 912 M4	41	29.0	4.5	(30.4)
PRT-01-60-TO-...	145	74.0	60	130	23	10x36°	20x18°	M5	5.5	DIN 912 M5	65	51.5	4.5	(34.5)
PRT-01-100-TO-...	170	112.0	100	160	25	12x30°	16x22,5°	M5	5.5	DIN 912 M5	80	69.0	5.5	(36.0)
PRT-01-150-TO-...	235	165.0	150	220	25	12x30°	16x22.5°	M5	5.5	DIN 912 M5	110	96.5	5.5	(37.5)
PRT-01-200-TO-...	285	215.0	200	274	30	12x30°	16x22.5°	M6	7.0	DIN 912 M6	137	124.0	7.0	(41.5)
PRT-01-300-TO-...	430	320.0	300	410	30	12x30°	16x22.5°	M8	9.0	DIN 912 M8	205	186.5	8.5	(46.5)

Spur gearing DIN3967



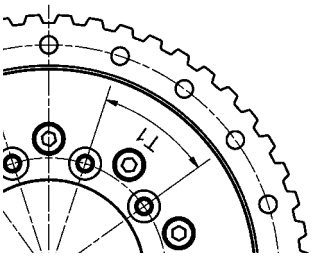
Part number	m	z	D
...-ST	2	54	(112)
...-ST	2	90	(184)
...-ST	2	96	(196)
...-ST	2	126	(256)
...-ST	2	152	(308)
...-ST	3	152	(462)

Toothed belt profile AT10



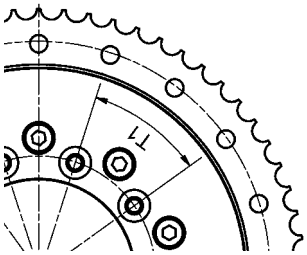
Part number	z	D
...-AT10	34	(106.4)
...-AT10	52	(163.8)
...-AT10	60	(189.2)
...-AT10	80	(252.9)
...-AT10	96	(303.9)
...-AT10	144	(456.7)

Toothed belt profile T10



Part number	z	D
...-T10	34	(106.4)
...-T10	52	(163.8)
...-T10	60	(189.2)
...-T10	80	(252.9)
...-T10	96	(303.9)
...-T10	144	(456.7)

Toothed belt profile HTD8M



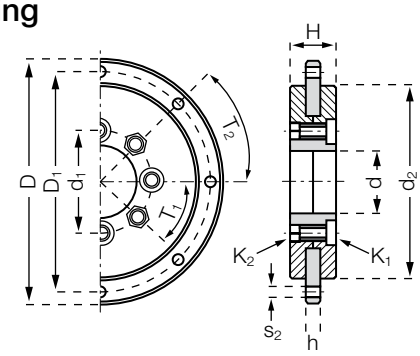
Part number	z	D
...-HTD8M	44	(105.6)
...-HTD8M	66	(166.7)
...-HTD8M	74	(189.2)
...-HTD8M	100	(253.3)
...-HTD8M	120	(304.3)
...-HTD8M	180	(457.1)

delivery time from stock

prices price list online
www.igus.co.uk/en/prt

iglidur® PRT | Low weight, product range Type 02

Slewing ring bearing



Order key

PRT-02-20-AL

- AL: Aluminium
- ES: Stainless steel V4A
- Inner-Ø
- Type
- Slewing Ring

Special properties

- Slewing ring with very low weight
- Outer ring made from hard anodized Aluminium or stainless steel (V4A)
- iglidur® J4 – head rings – sliding against the outer ring without lubrication
- Low cost

Outer ring available in stainless steel as an option. Headrings made of iglidur® J4

Dimensions [mm]

Part number	D	D1	d1	d	d2	H	h	T1	T2	S2	K1 for screw	K2 for screw
PRT-02-20-AL/ES	80	70	31	20	60	16	5	6 x 60°	6 x 60°	4.5	DIN 6912-A2 M5	DIN 439-A2 M5
PRT-02-30-AL/ES	100	91	42.5	30	80	19	6	8 x 45°	8 x 45°	4.5	DIN 7984 M5	DIN 439-A2 M5
PRT-02-60-AL	160	145	86.0	60	130	30	10	12 x 30°	20 x 18°	5.5	DIN 931 M5X25	DIN 934 M5

Slewing ring bearing, FDA compliant

FDA

Special properties

- For use in the food technology with headrings made from FDA-conforming material iglidur® A180
- The stainless steel outer ring and the material iglidur® A180 ▶ **page 395** are suitable for the direct contact with food, pharmaceuticals and humidity.
- Low profile and low weight
- Ready to fit

Dimensions [mm]

Part Number	D	D1	d1	d	d2	H	h	T1	T2	S2	K1 for screw	K2 for screw
PRT-02-30-ES-A180	100	91	42.5	30	80	19	6	8 x 45°	8 x 45°	4.5	DIN 7984 M5	DIN 439-A2 M5

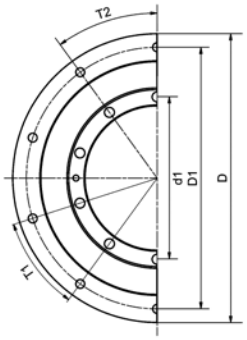
Properties	Unit	PRT-02-20	PRT-02-30	PRT-02-60
Weight	kg	0.1	0.2	0.7
Max. axial load, stat.	N	13,000	25,000	45,000
Max. axial load, dyn.	N	4,000	7,000	12,000
Max. radial load, stat.	N	2,000	2,500	10,000
Max. radial load, dyn.	N	500	700	2,800
Max. rotat. speed dry running	1/min	250	200	120
Max. permissible tilting moment	Nm	60	100	200

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/prt

iglidur® PRT | Low-cost, product range Type 03

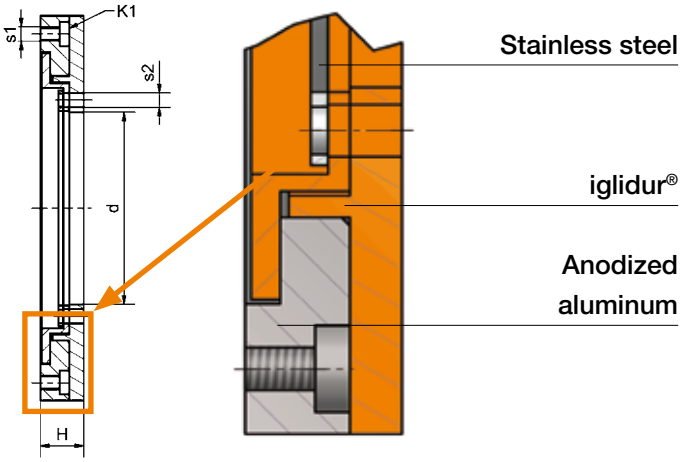
Slewing ring bearing in a new Low-Cost-Design



Order key

PRT-03-80

- Inner-Ø
- Type
- Slewing Ring



iglidur® PRT slewing ring bearings in a new economic design. Ongoing cost engineering has resulted in a new design, with a greater use of plastics.

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

Properties	Unit	PRT-03-80
max. rpm	rpm	120
max. recommended static load rating axial (push direction)	N	12,000
recommended dynamic load rating axial (push direction)	N	45,000
max. recommended static load rating axial (pull direction)	N	5,000
max. recommended dynamic load rating axial (pull direction)	N	2,000
max. recommended static overturning moment	Nm	120
max. recommended static load rating radial	N	4,000
max. recommended dynamic load rating radial	N	1,000
max. temperature	°C	60
Weight	kg	0.45

Dimension [mm]

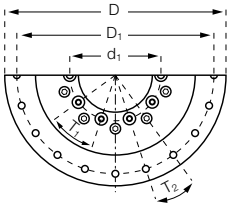
Part number	D	D1	d1	d	H	T1	T2	s1	s2	K1 for screw
PRT-03-80	160	145	90	80	18	10 x 36°	10 x 36°	M6	5.5	DIN 7984 M5

delivery time from stock

prices price list online
www.igus.co.uk/en/prt

iglidur® PRT | Accessories and special geometries

Slewing ring bearing with large outer ring

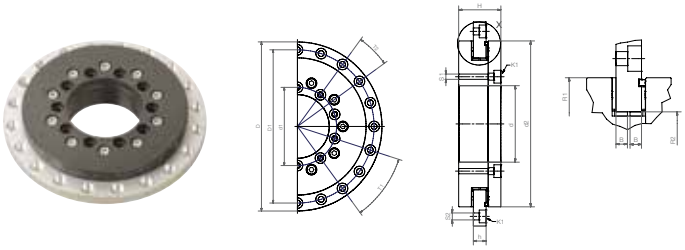


Dimensions [mm] – other dimensions similar to standard type PRT-01 ▶ page 580

Part number	D	D1
PRT-01-100-M-ARG*	205	185
PRT-01-100-M-ARGG*	205	185
PRT-01-100-M-ARGS*	205	185
PRT-01-200-M-ARG*	320	300
PRT-01-200-M-ARGG*	320	300
PRT-01-200-M-ARGS*	320	300

* Ending: -G standard, -GG thread- or -GS counterbore

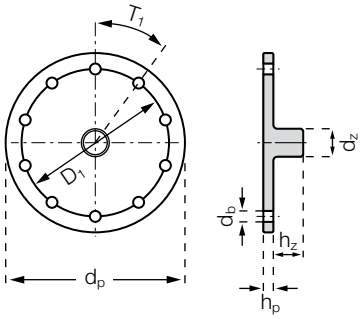
PRT-01 with dust seal (-D: one-sided, -DD: both-sided)



Dimensions [mm]

Part number	D*	D1	d1	d	d2	H	h	T1	T2	S1	S2	K1	R1	R2	B
					±0.2							for screw			
PRT-01-60-D/DD	160	145	74	60	130	33	10	10 x 36°	20 x 18°	M5	5.5	DIN 912 M5	65	51.5	4.5
PRT-01-100-D/DD	185	170	112	100	160	34	12	12 x 30°	16 x 22.5°	M5	5.5	DIN 912 M5	80	69	5.5

Drive pin



PRT with assembled drive pin

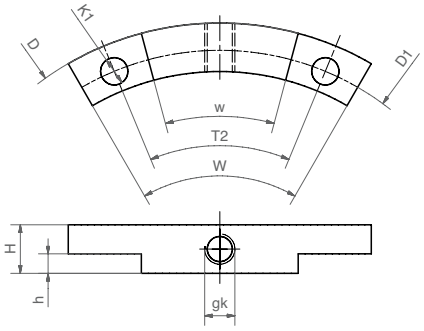
Dimensions [mm]

Part number	dp	hp	dz	hz	D1	T1	db
PRT-AZ-30	55	5	10	15	42.5	8 x 45°	4.5
PRT-AZ-60	90	5	14	15	74	10 x 36°	5.5

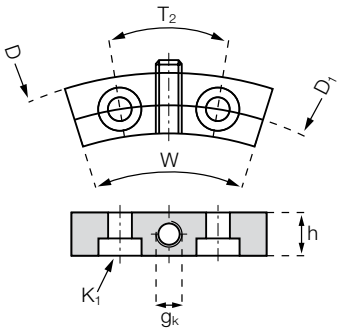
iglidur® PRT | Accessories and special geometries

Hand clamp

PRT-HK-30



PRT-HK-60/100/200



PRT with fitted manual clamp

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

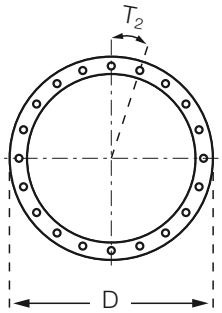
Dimensions [mm]

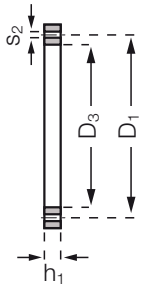
Part number	D	D1	T2	K1 for screw	H	h	gk	W
PRT-HK-30	100	91	8 x 45°	4.5	8	3.2	M5	60°
PRT-HK-60	160	145	20 x 18°	DIN 7984 M5	–	10	M6	35°
PRT-HK-100*	205	185	16 x 22.5°	DIN 7984 M5	–	10	M6	40°
PRT-HK-200*	320	300	16 x 22.5°	DIN 7984 M6	–	10	M6	40°

*** Only available with large outer rings**

iglidur® PRT | Accessories and special geometries

Spacing rings made of anodized aluminum



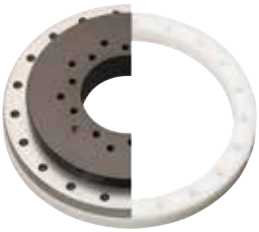


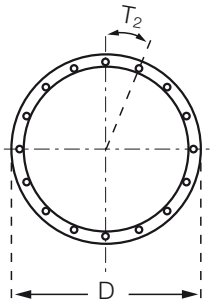
PRT with assembled spacing ring

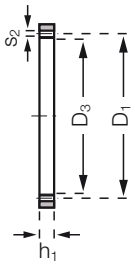
Dimensions [mm]

Part number	D	D1	T2	S2	D3	h1
PRT-01-30-DR	100	91	8 x 45°	4.5	84	11
PRT-01-60-DR	160	145	20 x 18°	5.5	132	13
PRT-01-100-DR	185	170	16 x 22.5°	5.5	162	13
PRT-01-150-DR	250	235	16 x 22.5°	5.5	222	13
PRT-01-200-DR	300	285	16 x 22.5°	7.0	276	13

Spacing rings made of polymer





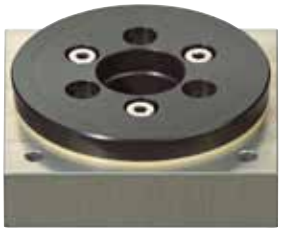


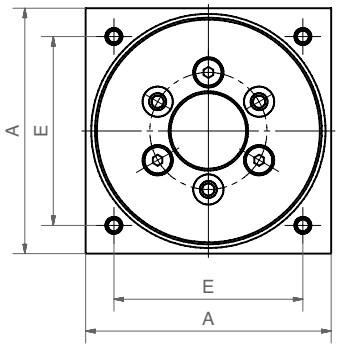
Dimensions [mm]

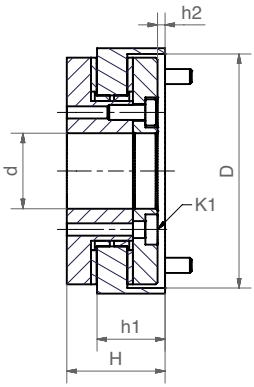
Part number	D	D1	T2	S2	D3	h1
PRT-01-20-DR-POM	80	70	6 x 60°	4.5	62	10
PRT-01-30-DR-POM	100	91	8 x 45°	4.5	84	11
PRT-01-60-DR-POM	160	145	20 x 18°	5.5	132	13
PRT-01-100-DR-POM	185	170	16 x 22.5°	5.5	162	13

iglidur® PRT | Accessories and special geometries

New!* Size 20 with square flange for direct assembly





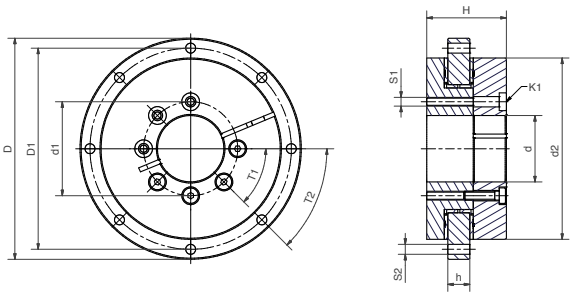


- No through-bore necessary
- No separate distance ring
- Fix with only 4 screws

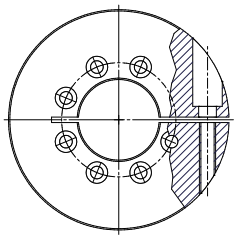
Dimensions [mm]

Part number	d	D	A	E	H	h1	h2	K1 for screw
PRT-01-20-SQ New!*	20	62	65	50	26	18	2°	DIN 7984 M4

New!* 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

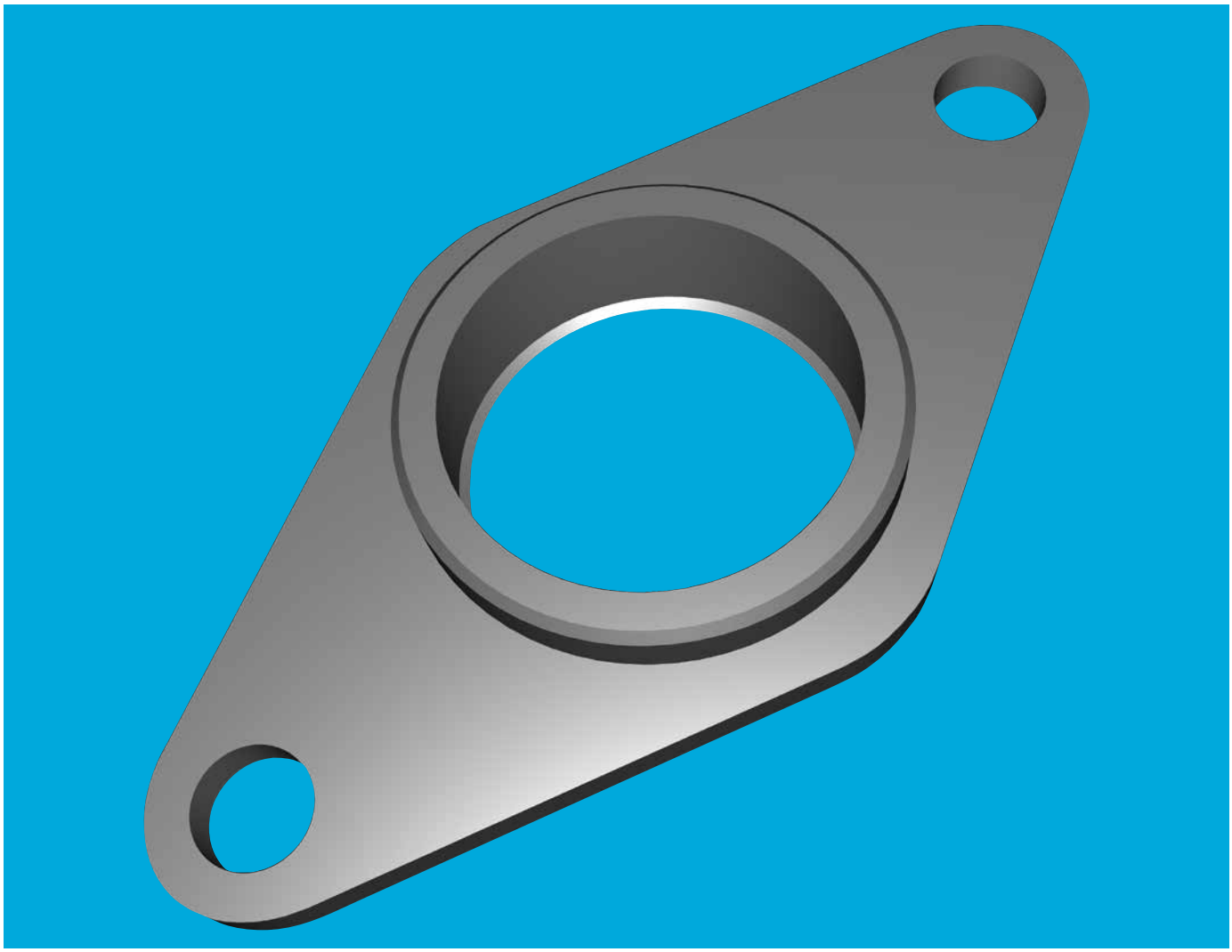
Dimensions [mm]

Part number	D	D1	d1	d	d2	H	h	T1	T2	S1	S2	K1 for screw
PRT-01-30-C New!*	100	91	42.5	30	82	36	10	8 x 45	8 x 45	M4	4.5	DIN 7984 M4

* in this catalog

delivery time from stock

prices price list online
www.igus.co.uk/en/prt



iglidur® Flange Bearings

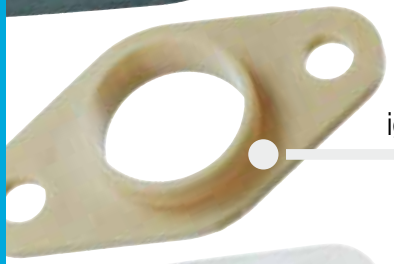
- Standard range from stock
- Very good wear resistance
- Maintenance-free
- Materials: iglidur® G, iglidur® A180, iglidur® J and iglidur® X
- Light weight

iglidur® Flange Bearings

Maintenance-free. With this design it is possible to use iglidur® high performance plain bearings in locations where recommended housing bore tolerances are not possible.

Very good wear resistance

Maintenance-free



Material: iglidur® G, iglidur® A180, iglidur® J and iglidur® X

Light weight

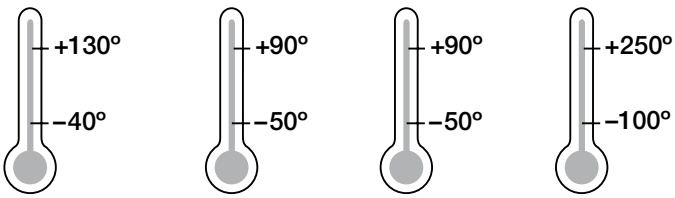
When to use it?

- When a screw flanged bearing is required
- When a clip bearing solution is not satisfactory
- When there is a housing with very wide tolerances
- When the tight fit of a press-fit bearing is not sufficient as axial securing

When not to use it?

- When an additional angular compensation is required
  ▶ igubal® Flange bearings, page 617
- When a screw connection is not possible
  ▶ iglidur® Clip bearings, page 569
- When a large guide length is necessary
  ▶ iglidur® G, page 65

Temperature



GFL A180FL JFL XFL

Product range

1 style
Ø 10–35 mm
more dimensions on request

iglidur® Flange Bearings | Technical Data

General Properties

With this design it is possible to use iglidur® high performance plain bearings in locations where the 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. iglidur® maintenance-free flange bearings are made of iglidur® G, iglidur® J, iglidur® X or iglidur® A180. In this way, all the advantages of the iglidur® high performance polymers can be used, e.g. universal bearings, bearings with high wear-resistance or high temperature-resistance (up to +250 °C) or FDA-compliance.

Installation

Depending on the requirements, different mounting types can be considered. 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 bore on the reinforced side facing the direction of the load. For this bore, 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.
For the fitting of the iglidur® maintenance-free flange bearing, no special materials or tools are necessary.

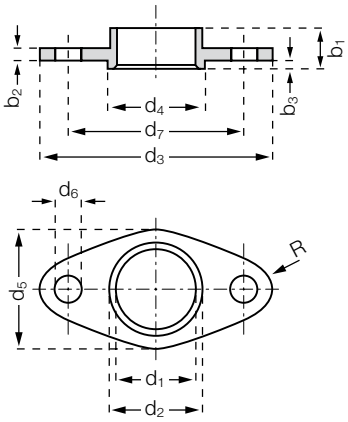
The installation of iglidur® flange bearing: simple and secure

Material data for available materials:

- **iglidur® G ▶ page 65**
- **iglidur® A180 ▶ page 395**
- **iglidur® J ▶ page 93**
- **iglidur® X ▶ page 157**

iglidur® Flange Bearings | Product Range

Flange bearings



Order key

GFL-10

- Inner diameter d1
- Flange Bearings
- Material

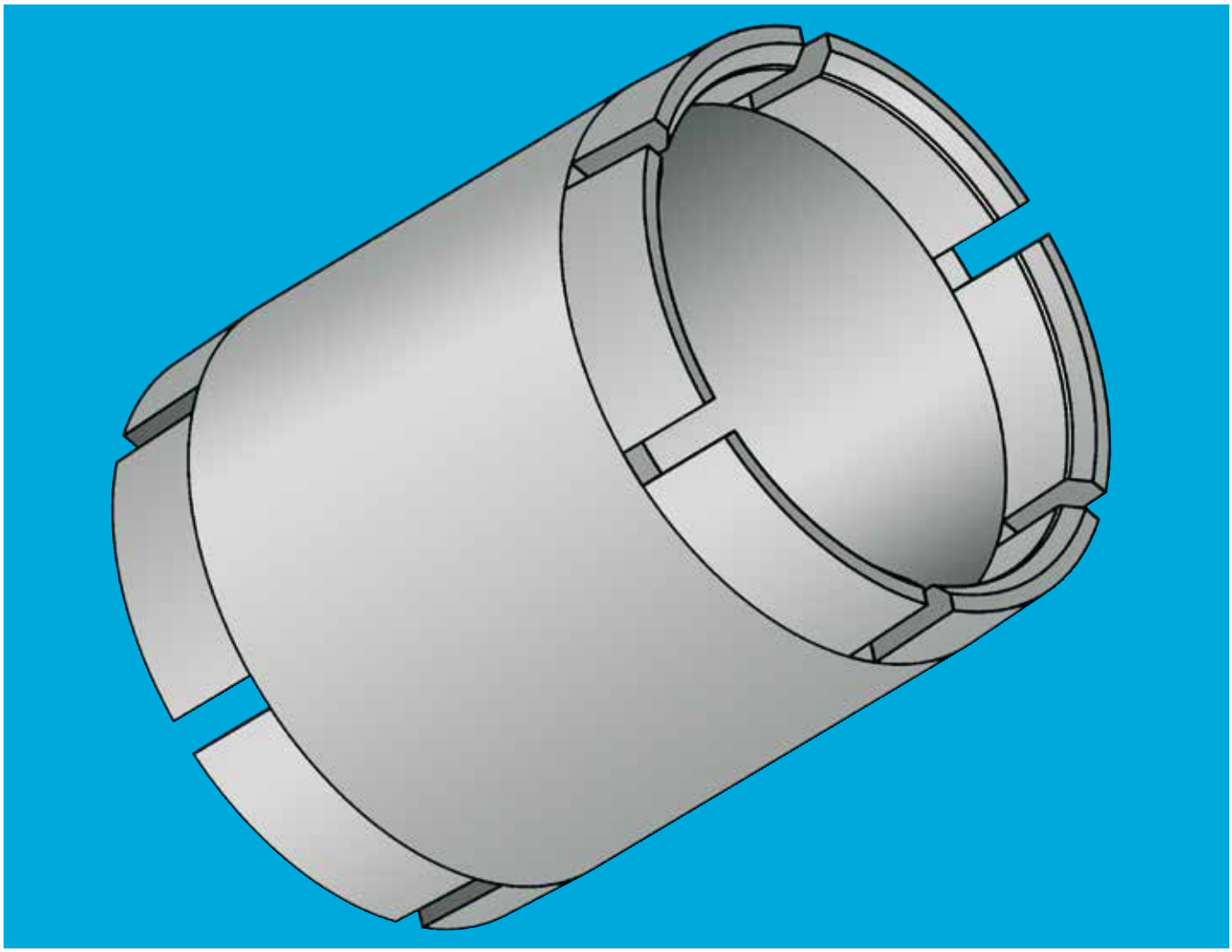
Dimensions [mm]

Part number	d1	d1-Tolerance*	d2**	d3	d4	d5	d6	d7	b1	b2	b3	R (±0.2)
GFL-10	10	+0.025 +0.083	12	30	14	15	4.5	22	6	2	1	4
GFL-12	12	+0.032 +0.102	14	36	16	18	4.5	26	6	2	1	4.5
GFL-14	14	+0.032 +0.102	16	42	18	21	5.5	30	6	2	1	5
GFL-16	16	+0.032 +0.102	18	48	20	24	5.5	34	6	2	1	5.5
GFL-18	18	+0.032 +0.102	20	54	22	27	6.5	39	6	2	1	7
GFL-20	20	+0.040 +0.124	23	60	26	30	6.5	44	10	3	2	7
GFL-25	25	+0.040 +0.124	28	75	30	35	6.5	55	10	3	2	8.5
GFL-30	30	+0.040 +0.124	34	90	36	40	8.5	66	10	3	2	10
GFL-35	35	+0.050 +0.150	39	95	41	55	8.5	77	10	3	2	12
A180FL-10	10	+0.025 +0.083	12	30	14	15	4.5	22	6	2	1	4
A180FL-12	12	+0.032 +0.102	14	36	16	18	4.5	26	6	2	1	4.5
A180FL-16	16	+0.032 +0.102	18	48	20	24	5.5	34	6	2	1	5.5
A180FL-20	20	+0.040 +0.124	23	60	26	30	6.5	44	10	3	2	7
A180FL-25	25	+0.040 +0.124	28	75	30	35	6.5	55	10	3	2	8.5
A180FL-30	30	+0.040 +0.124	34	90	36	40	8.5	66	10	3	2	10
A180FL-35	35	+0.050 +0.150	39	95	41	55	8.5	77	10	3	2	12
JFL-10	10	+0.025 +0.083	12	30	14	15	4.5	22	6	2	1	4
JFL-12	12	+0.032 +0.102	14	36	16	18	4.5	26	6	2	1	4.5
JFL-14	14	+0.032 +0.102	16	42	18	21	5.5	30	6	2	1	5
JFL-16	16	+0.032 +0.102	18	48	20	24	5.5	34	6	2	1	5.5
JFL-20	20	+0.040 +0.124	23	60	26	30	6.5	44	10	3	2	7
JFL-25	25	+0.040 +0.124	28	75	30	35	6.5	55	10	3	2	8.5
JFL-30	30	+0.040 +0.124	34	90	36	40	8.5	66	10	3	2	10
JFL-35	35	+0.050 +0.150	39	95	41	55	8.5	77	10	3	2	12
XFL-10	10	+0.013 +0.071	12	30	14	15	4.5	22	6	2	1	4
XFL-12	12	+0.016 +0.086	14	36	16	18	4.5	26	6	2	1	4.5
XFL-14	14	+0.016 +0.086	16	42	18	21	5.5	30	6	2	1	5
XFL-16	16	+0.016 +0.086	18	48	20	24	5.5	34	6	2	1	5.5
XFL-20	20	+0.020 +0.104	23	60	26	30	6.5	44	10	3	2	7
XFL-25	25	+0.020 +0.104	28	75	30	35	6.5	55	10	3	2	8.5
XFL-30	30	+0.020 +0.104	34	90	36	40	8.5	66	10	3	2	10
XFL-35	35	+0.025 +0.125	39	95	41	55	8.5	77	10	3	2	12

* after pressfit. Testing methods ▶ page 59 ** Pressfit in H7 tolerance housing bore

delivery time from stock

prices price list online
www.igus.co.uk/en/iglidur-flange



iglidur® JVSM/JVFM – Zero Clearance and Pre-Tensioned Bearings

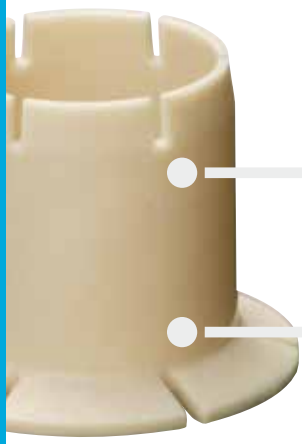
- Standard range from stock
- Radial and axial pretension of bearings
- Zero clearance in free state
- Material: iglidur® J
- Maintenance-free and predictable service life

iglidur® JVSM/JVFM

Zero-clearance and pre-tensioned bearings. iglidur® JVSM and JVFM bearings are clearance-free in unloaded condition due to the axial and/or radial pretension. The iglidur® J material possesses extremely low coefficients of friction in dry operation and a very low stick-slip effect. Ideal for “anti-vibration mounting” of pedal box bearings, etc.

When to use it?

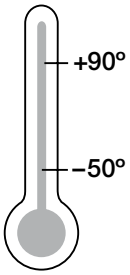
- When a radial and/or axial pretension of bearings is required
- When a rattle-free bearing in the unloaded state is required
- When you want a zero clearance feel



When not to use it?

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

Temperature

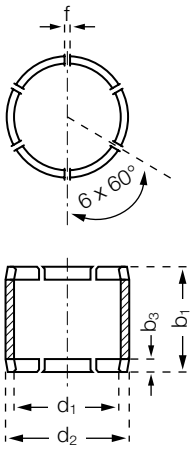


Product range

2 types
Ø 6–20 mm
more dimensions on request

iglidur® JVSM/JVFM | Product Range

Sleeve Bearing



Order key

JVSM-0608-06

- Length b1
- Outer diameter d2
- Inner diameter d1
- Metric
- Type (Form S)
- pre-tensioned
- Material iglidur® J

Material:
iglidur® J ▶ page 93

Dimensions [mm]

Part number	d1	d1-Tolerance* E10	d2	b1 h13	b3
JVSM-0608-06	6.0	+0.020 +0.068	8.0	6.0	2.0
JVSM-0810-08	8.0	+0.025 +0.083	10.0	8.0	2.0
JVSM-1012-10	10.0	+0.025 +0.083	12.0	10.0	2.0
JVSM-1214-12	12.0	+0.032 +0.102	14.0	12.0	2.0
JVSM-1416-14	14.0	+0.032 +0.102	16.0	14.0	2.0
JVSM-1517-15	15.0	+0.032 +0.102	17.0	15.0	2.5
JVSM-1820-18	18.0	+0.032 +0.102	20.0	18.0	2.5
JVSM-2023-20	20.0	+0.040 +0.124	23.0	20.0	2.5

*d1 – Measured after pressfit in housing bore. d2 H7 within the measurement plane

Dimensions [Inch]

Part number	d1	d1* max.	d1* min.	d2	b1 h13	b1-Tolerance
JVSI-0608-06	3/8	.3773	.3750	1/2	3/8	0.075
JVSI-0810-08	1/2	.5040	.5013	5/8	1/2	0.075
JVSI-1012-10	5/8	.6297	.6270	3/4	5/8	0.075
JVSI-1214-12	3/4	.7541	.7505	1 1/8	3/4	0.075
JVSI-1618-16	1	1.0041	1.0007	28.58	1	0.100

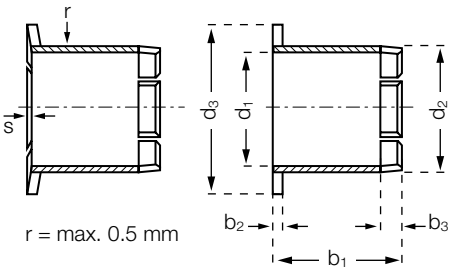
*d1 – Measured after pressfit in housing bore. d2 H7 within the measurement plane

delivery time from stock

prices price list online
www.igus.co.uk/en/jvsm

iglidur® JVSM/JVFM | Product Range

Flange Bearing



Order key

JVFM-0810-10

- Length b1
- Outer diameter d2
- Inner diameter d1
- Metric
- Type (Form F)
- pre-tensioned
- Material iglidur® J

Material:
iglidur® J ▶ page 93

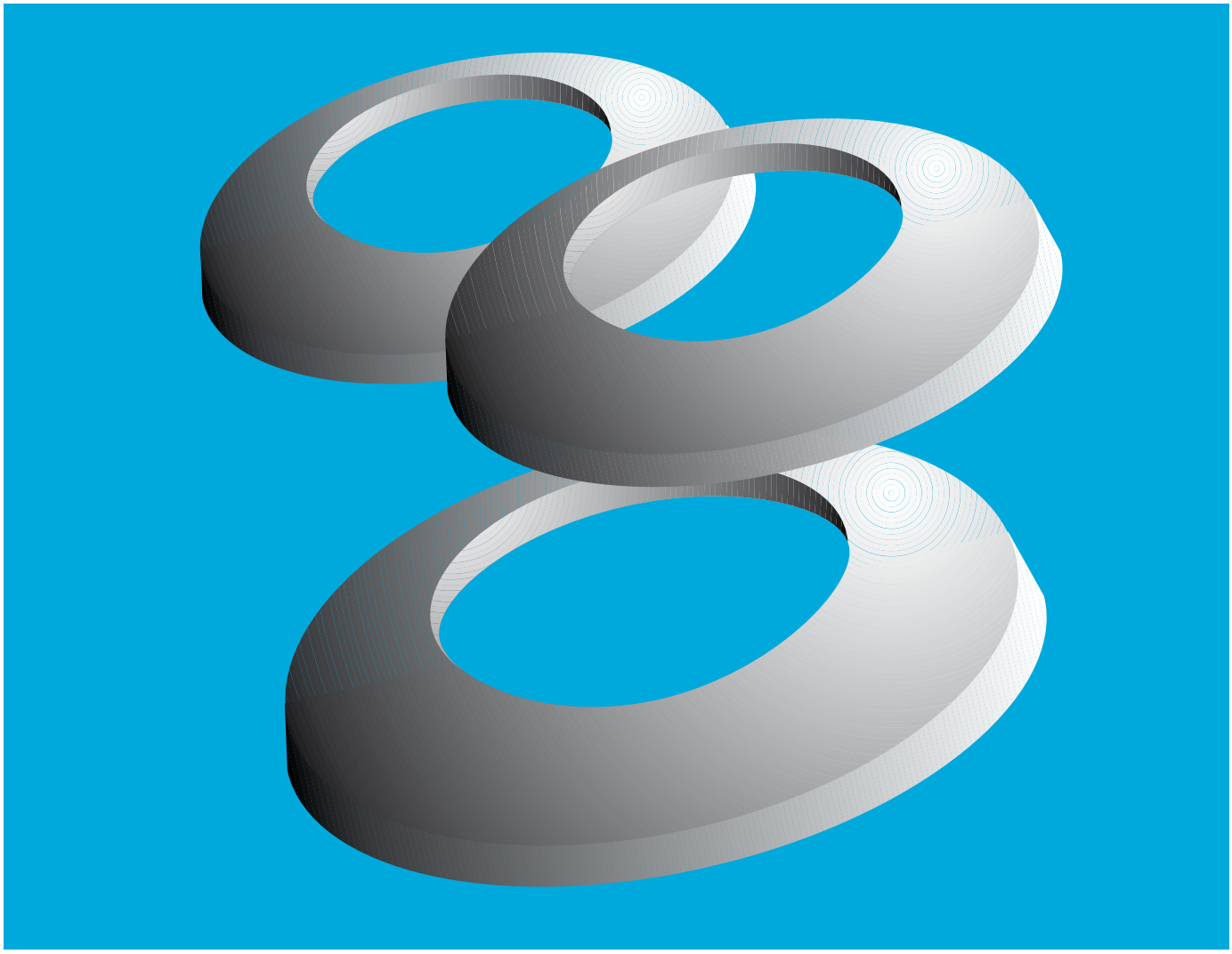
Dimensions [mm]

Part number	d1	d1-Tolerance*	d2	d3	b1	b2	b3	s
		E10			h13			±0.1
JVFM-0810-10	8.0	+0.025 +0.083	10.0	15.0	10.0	1.0	2.0	0.44
JVFM-1012-10	10.0	+0.025 +0.083	12.0	18.0	10.0	1.0	2.0	0.53
JVFM-1214-12	12.0	+0.032 +0.102	14.0	20.0	12.0	1.0	2.0	0.53
JVFM-1416-12	14.0	+0.032 +0.102	16.0	22.0	12.0	1.0	2.0	0.53
JVFM-1517-15	15.0	+0.032 +0.102	17.0	23.0	15.0	1.0	2.5	0.53
JVFM-1820-18	18.0	+0.032 +0.102	20.0	26.0	18.0	1.0	2.5	0.53
JVFM-2023-20	20.0	+0.040 +0.124	23.0	30.0	20.0	1.5	2.5	0.62

***d1 – Measured after pressfit in housing bore. d2 H7 within the measurement plane**

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/jvfm

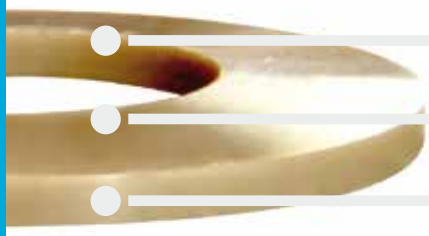


polysorb – Polymer Disc Springs

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

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.



Compensation for axial clearances and manufacturing tolerances

Vibration dampening

Noise dampening

Corrosion-free

Light weight

Electrical and thermal insulation

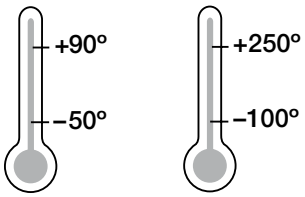
When to use it?

- Application requires disc spring characteristics which are only possible in metal at a considerable expense (slotted design)
- Compensation of axial clearances and manufacturing tolerances
- Vibration dampening
- Noise reduction
- Non-magnetic
- Electrical and thermal insulation

When not to use it?

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

Temperature



iglidur® J iglidur® A500

Product range

1 style, 2 materials
Ø 5–20 mm
more dimensions
on request

polysorb | Technical Data

General properties

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.

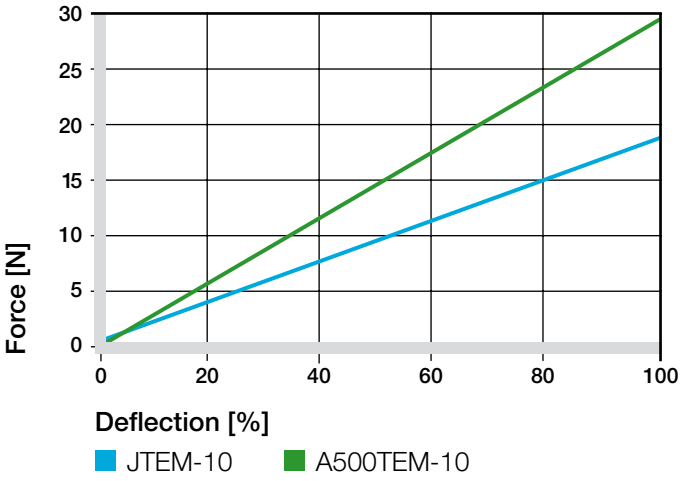


Diagram 01: Spring force as a function of percental deflection measured with size 10

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	Resistance	
	iglidur® J	iglidur® A500
Alcohol	+	+
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 of 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 03.

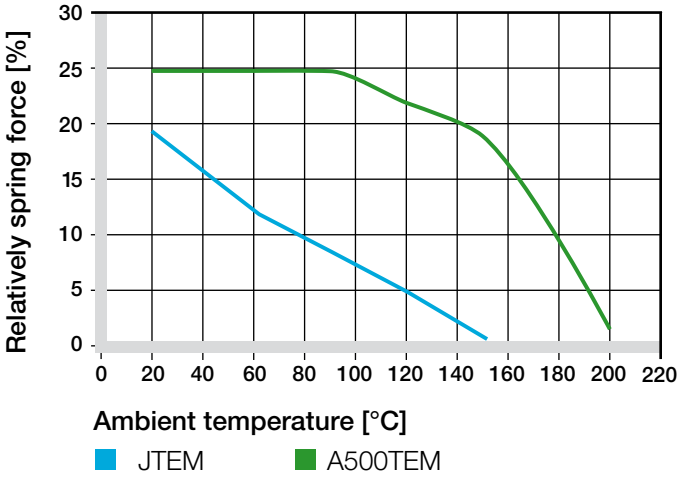
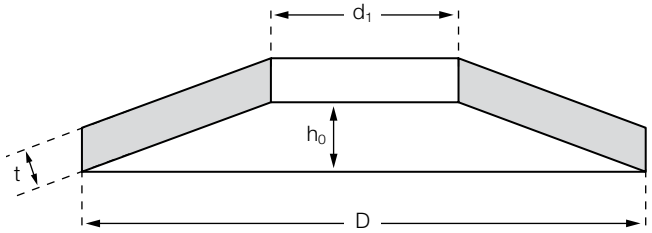


Diagram 02: Effect of ambient temperature on the spring force

Material:
iglidur® J ▶ page 93
iglidur® A500 ▶ page 431

polysorb | Product Range

Polymer disc springs



Dimensions based on DIN 2093

Order key

☐TEM-05

- Inner diameter d1
- Metric
- "Elastic spring"
- Thrust washer style
- Material* iglidur® J or A500

Material:
iglidur® J ▶ page 93
iglidur® A500 ▶ page 431

Dimensions [mm]

Part number	D	d1	t	h_0	Standard values: spring lengths and forces $F_{1.0}$ iglidur® J [N]	$F_{1.0}$ iglidur® A500 [N]
☐ TEM-05*	10.0	5.2	0.5	0.25	5	7
☐ TEM-06*	12.5	6.2	0.7	0.30	10	14
☐ TEM-08*	16.0	8.2	0.9	0.35	15	18
☐ TEM-10*	20.0	10.2	1.1	0.45	18	24
☐ TEM-12*	25.0	12.2	1.5	0.55	40	55
☐ TEM-16*	31.5	16.3	1.75	0.70	70	80
☐ TEM-20*	40.0	20.4	2.25	0.90	130	140

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

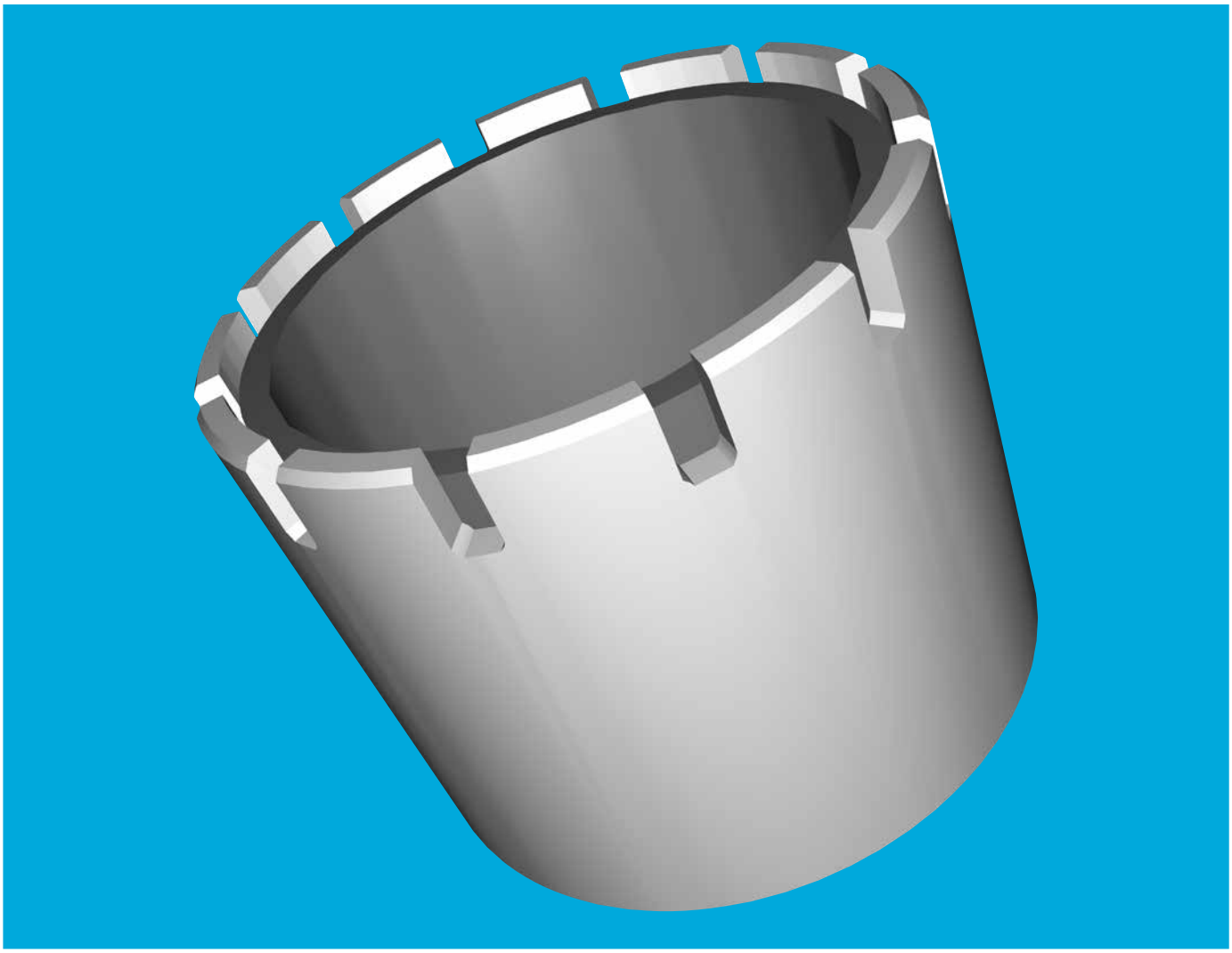
*** Material: iglidur® J, JTEM, Standard**
iglidur® A500, A500TEM, high temperature and chemical resistance

Symbols and Units:

F = Force
D = Outside diameter [mm]
d1 = Inside diameter [mm]
t = Plate thickness [mm]
h_0 = Maximum spring displacement [mm]
$F_{1,0}$ = Spring force 100 % displacement [N]

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/polysorb



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 coefficient of friction

iglidur® PEP

For all shaft surfaces and materials. 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.

Can be used with any shaft material

Very cost-effective

Easy to fit

Low coefficient of friction

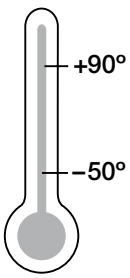
When to use it?

- Cost-effective polymer bearing system
- Independent of the shaft material and of the shaft surface
- Protection of expensive and sensitive shafts

When not to use it?

- For high surface speeds
  ▶ iglidur® J, page 93
- At high loads
  ▶ iglidur® G, page 65
  ▶ iglidur® Q, page 485
- For high temperatures
  ▶ iglidur® V400, page 301
  ▶ iglidur® X, page 157
  ▶ iglidur® Z, page 311
- When low clearance bearings are required
  ▶ iglidur® P, page 179
  ▶ iglidur® X, page 157

Temperature



Product range

1 type
Ø 6–20 mm
more dimensions
on request

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 lubricant-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 new polymer plain bearing. Due to the bearing materials used, the PEP polymer bearing is totally corrosion-free.

Wear Resistance

The wear resistance of PEP is of significant interest. For loads up to 5 N/mm² the test results are compelling. Here PEP polymer bearings obtain values that are comparable to most wear resistant metal-backed bearing systems. 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.

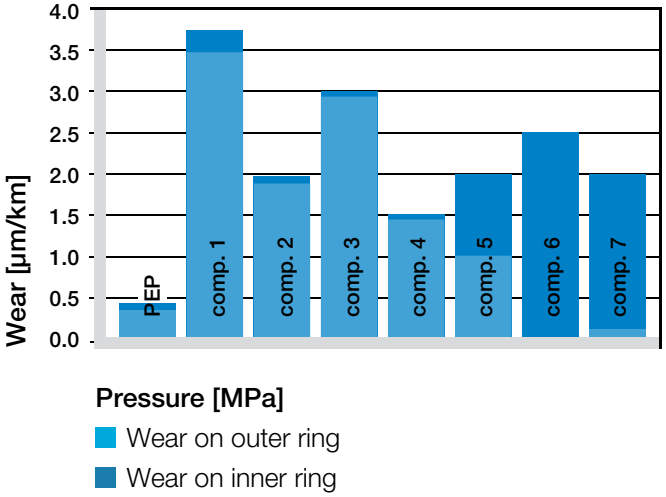


Diagram 01: Wear experiments of different material combinations, p = 0.75 MPa, v = 0.3 m/s

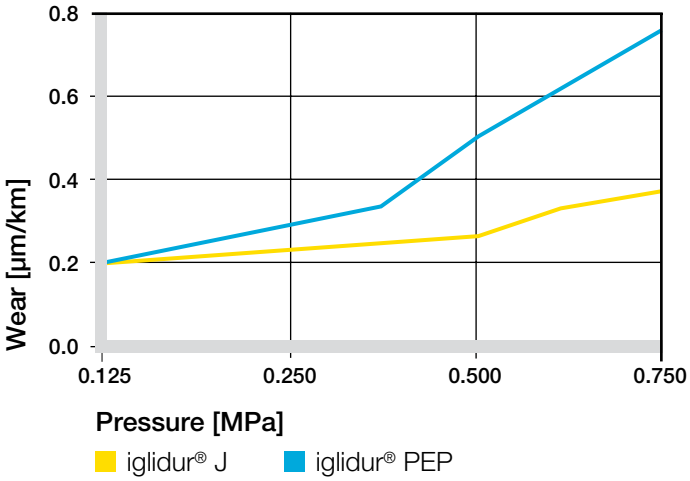


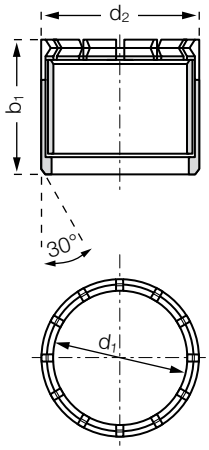
Diagram 02: Wear of iglidur® PEP bearings as a function of the pressure, v = 0.3 m/s

Fitting

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 Bearing



Order key

PEPSM-0610-10

- Length b1
- Outer diameter d2
- Inner diameter d1
- Metric
- Type (Form S)
- Material iglidur® PEP

Dimensions [mm]

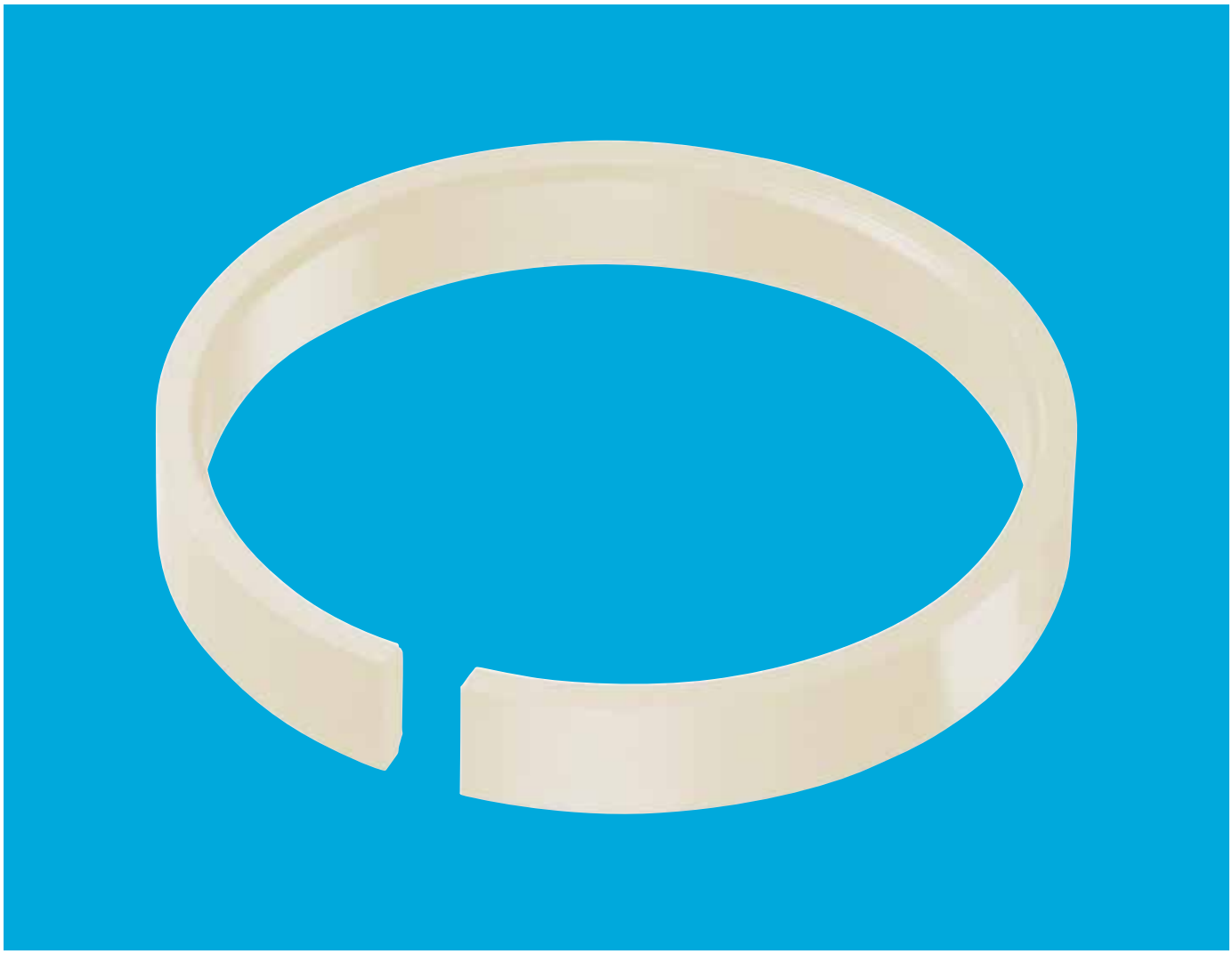
Part number	d1	d2	b1
PEPSM-0610-10	6	10	10
PEPSM-0812-12	8	12	12
PEPSM-1014-12	10	14	12
PEPSM-1216-15	12	16	15
PEPSM-1620-20	16	20	20
PEPSM-2023-20	20	23	20

Dimensions [Inch]

Part number	d1	d2	b1
PEPSI-0406-06	1/4	3/8	3/8
PEPSI-0608-08	3/8	1/2	1/2
PEPSI-0810-08	1/2	5/8	1/2
PEPSI-1012-12	5/8	3/4	3/4
PEPSI-1214-12	3/4	7/8	3/4
PEPSI-1618-16	1	1 1/8	1

delivery time from stock

prices price list online
www.igus.co.uk/en/pep



iglidur® Piston Rings

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

iglidur® Piston Rings

Custom-made: choose the material and the dimensions. Why complicate things when it can be done simply? It can actually be very easy: Replace complex stamped PTFE tapes with a single clip-on guide ring, for example in cylinders, control valves and fittings. We offer iglidur® piston rings made of any iglidur® material for a wide range of applications.

Easy installation

Economic

More wear-resistant than PTFE-strips

High load capacity

Wide dimensional range

Different materials, e.g. iglidur® J, H370...

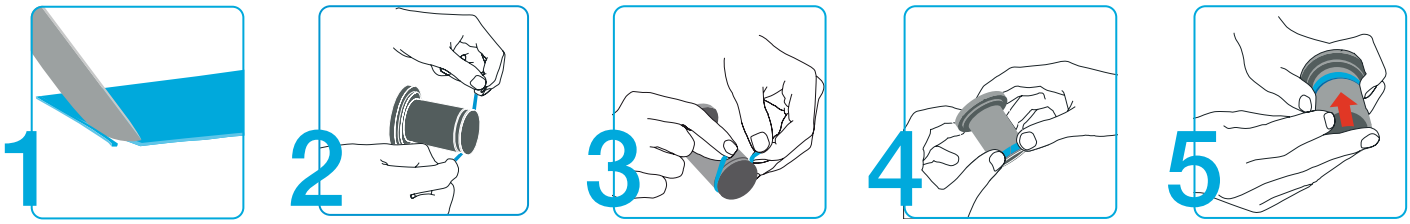
When to use it?

- 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

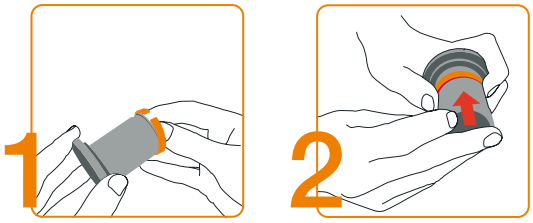
When not to use it?

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

Traditional method:



New: with iglidur®:

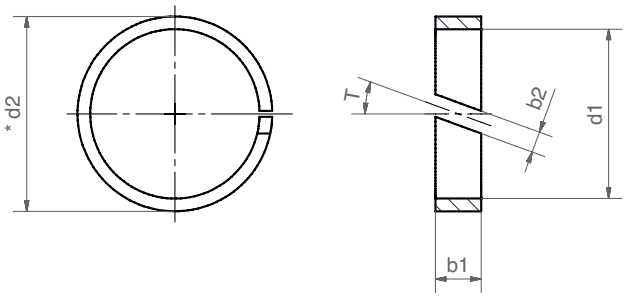


Product range

Ø 10–70 mm
more dimensions on request

More information ▶ www.igus.co.uk/en/pistonring

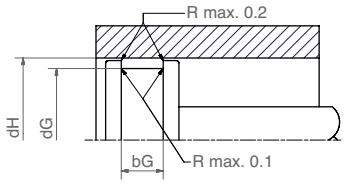
iglidur® Piston Rings | Product Range

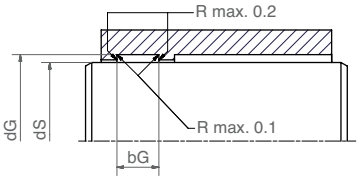


Order key

□PRM-d1d2-b1

- b1: required length
- Inner- and outer-Ø (d1 and d2) from available standards plain bearing
- Metric
- Piston ring
- iglidur® material





Installation recommendation for piston

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

Installation recommendation for housing

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

Dimensions [mm] – iglidur® J piston rings, from stock

Part number	d1	d2	b1 h13	b2 ±0.5	T [°]
JPRM-1012-054	10	12	5.4	2.5	20
JPRM-1214-054	12	14	5.4	2.5	20
JPRM-1416-054	14	16	5.4	2.5	20
JPRM-1618-054	16	18	5.4	2.5	20
JPRM-2023-054	20	23	5.4	2.5	20
JPRM-2528-054	25	28	5.4	2.5	20
JPRM-3034-054	30	34	5.4	2.5	20
JPRM-3539-054	35	39	5.4	2.5	20
JPRM-4044-054	40	44	5.4	2.5	20
JPRM-4550-054	45	50	5.4	2.5	20
JPRM-5055-054	50	55	5.4	2.5	20
JPRM-6065-054	60	65	5.4	2.5	20
JPRM-7075-054	70	75	5.4	2.5	20

Custom-made piston rings

Piston rings in your required material and dimensions in max. 10 days from the entire iglidur® bearings catalog program – economically injection molded and processed to your required dimensions.

Preferable iglidur® materials:

- **iglidur® J: universal ▶ page 93**
- **iglidur® A180: FDA conform ▶ page 395**
- **iglidur® J350: >+90 °C ▶ page 241**
- **iglidur® X: chemicals, temperatures ▶ page 157**

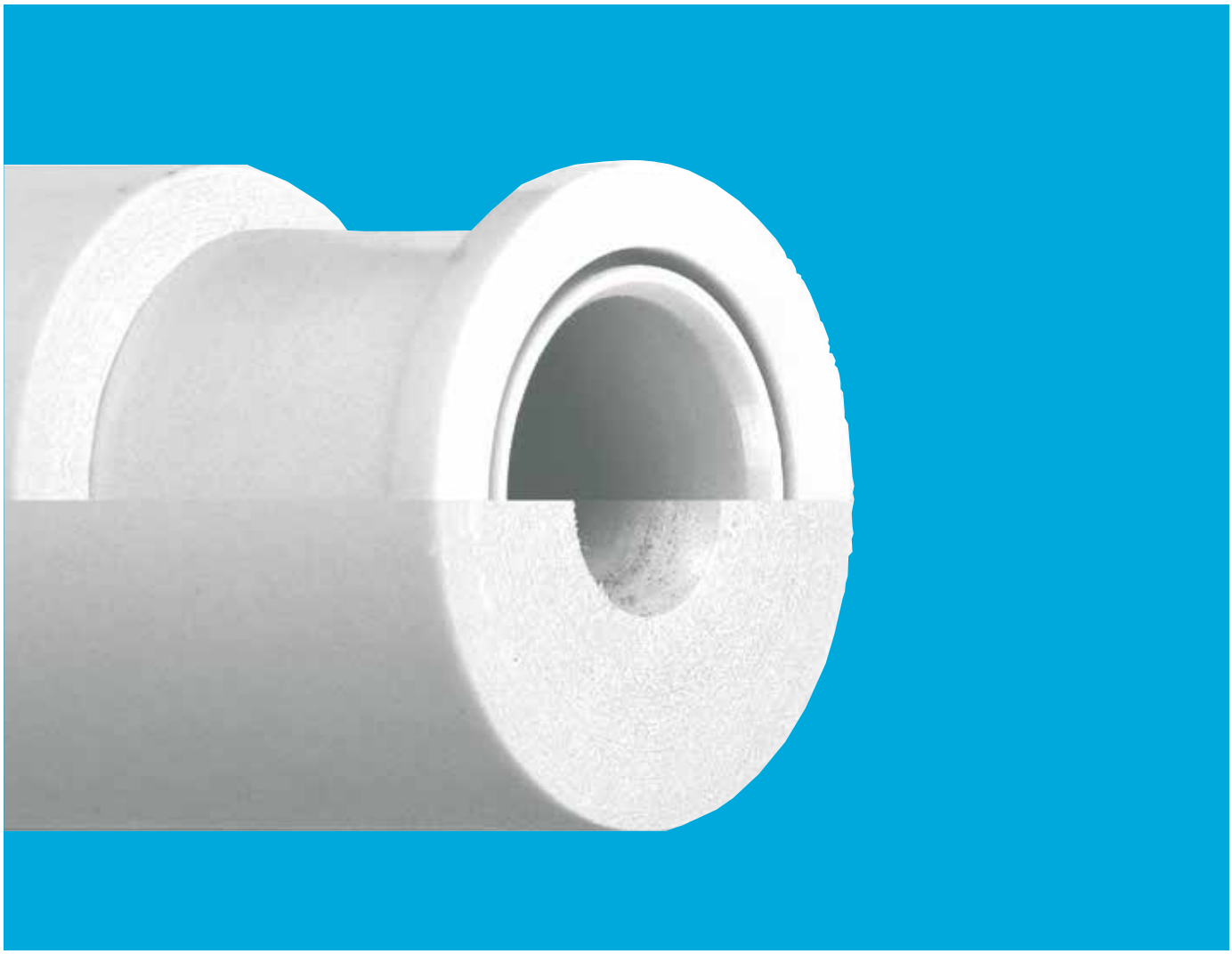
Choose your material and diameter from the igus® bearing catalog, tell us your required length and order.

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.

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/pistonring

My Sketches

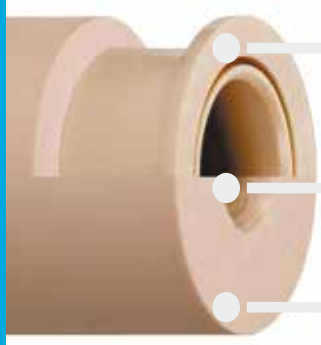


iglidur® Bar stock

- Standard range from stock
- iglidur® materials as round material
- Maintenance-free and predictable service life
- Fast delivery and low-cost

iglidur® Bar stock | For design freedom

Choose material, dimensions and design – fast machining with Speedicut. iglidur® gives design freedom – now available as round material, mechanically finished special parts or customized moulded parts – for prototypes, test samples and low volume requirements.



iglidur® materials as round material

Maintenance-free and predictable service life

fast delivery and low-cost

When to use it?

- If the required size is not in iglidur® catalog range
- If you need a stock bar with low wear rates and coefficient of friction
- If you need only a small amount of special parts
- If you need to make a prototype using igus® bearings

When not to use it?

- If an iglidur® standard catalog bearing is available
- If you need an iglidur® plain bearings with special dimensions in high quantity
  ▶ Please ask us
- If you need a stock bar without any tribological properties

Material data for Bar stock

iglidur® A180 ▶ page 395
iglidur® A350 ▶ page 421
iglidur® J ▶ page 93
iglidur® J4 ▶ page 1126
iglidur® J350 ▶ page 241
iglidur® P210 ▶ page 191
iglidur® T220 ▶ page 451
iglidur® W300 ▶ page 135
iglidur® X ▶ page 157

igus® increases constantly the amount of available materials for bar stock.
Please check the latest situation online
▶ **www.igus.co.uk/barstock**

Product range

9 materials
Ø 10–100 mm
more dimensions
on request

Temperatures

iglidur® A180	iglidur® A350	iglidur® J	iglidur® J4	iglidur® J350
+90° / –50°	+180° / –100°	+90° / –50°	+90° / –50°	+180° / –100°

iglidur® P210	iglidur® T220	iglidur® W300	iglidur® X
+100° / –40°	+100° / –40°	+90° / –40°	+250° / –100°

iglidur® Bar stock | Product Range

Order key

SFR□-3000-500

- Length*
- Inner diameter (00 = solid material)
- Outer diameter
- iglidur® material
- round
- iglidur® Bar stock

Part number		Dimensions [mm] Ø	Lengths
iglidur® J – General purpose, good wear-resistance and low friction			
SFRJ-1000		10	100 to 1000*
SFRJ-2000		20	100 to 1000*
SFRJ-3000		30	100 to 1000*
SFRJ-4000		40	100 to 1000*
SFRJ-5000		50	100 to 1000*
SFRJ-6000		60	100 to 1000*
SFRJ-8000		80	100 to 1000*
SFRJ-10000		100	100 to 1000*
iglidur® W300 – Material for high load requirements			
SFRW-3000		30	100 to 1000*
SFRW-6000		60	100 to 1000*
iglidur® A180 – General purpose for medical and food industry (FDA compliant)			
SFRA180-1000		10	100 to 1000*
SFRA180-2000		20	100 to 1000*
SFRA180-3000		30	100 to 1000*
SFRA180-4000		40	100 to 1000*
SFRA180-5000		50	100 to 1000*
SFRA180-6000		60	100 to 1000*
SFRA180-8000		80	100 to 1000*
SFRA180-10000		100	100 to 1000*
iglidur® J350 – high-temperature material			
SFRJ350-3000		30	100 to 1000*
SFRJ350-4000	New!	40	100 to 1000*
SFRJ350-5000	New!	50	100 to 1000*
SFRJ350-6000	New!	60	100 to 1000*

Part number		Dimensions [mm] Ø	Lengths
iglidur® J4 – wear resistant and cost-effective			
SFRJ4-2000		20	100 to 1000*
SFRJ4-3000		30	100 to 1000*
SFRJ4-4000		40	100 to 1000*
SFRJ4-5000		50	100 to 1000*
SFRJ4-6000		60	100 to 1000*
iglidur® P210 – Material for high speeds at low loads			
SFRP210-3000		30	100 to 1000*
SFRP210-4000	New!	40	100 to 1000*
SFRP210-5000	New!	50	100 to 1000*
SFRP210-6000	New!	60	100 to 1000*
iglidur® A350 – High-temperature material for medical and food industry (FDA compliant)			
SFRA350-3000		30	100 to 1000*
SFRA350-4000	New!	40	100 to 1000*
SFRA350-5000	New!	50	100 to 1000*
SFRA350-6000	New!	60	100 to 1000*
iglidur® T220 – Material for tobacco applications			
SFRT220-3000	New!	30	100 to 1000*
SFRT220-4000	New!	40	100 to 1000*
SFRT220-5000	New!	50	100 to 1000*
SFRT220-6000	New!	60	100 to 1000*
iglidur® X – chemical-resistant high-temperature material			
SFRX-3000	New!	30	100 to 1000*

* length in mm from 100 to 1000 graduated in 100 mm steps

delivery time from stock

prices price list online
www.igus.co.uk/en/barstock

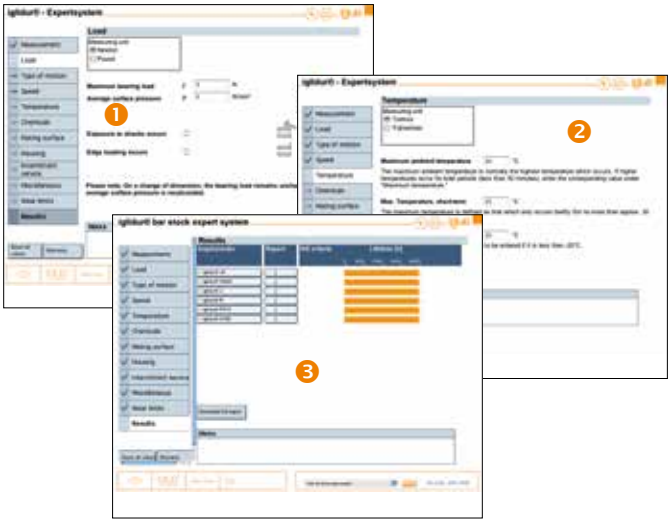
iglidur® Bar stock | Online-Tools

Find & compare semi-finished products

iglidur® materials as semi-finished products for design freedom. This material finder helps you find the right iglidur® material for your project with a few clicks!
Select the requirements for the bearing ❶, and then enter the surface pressure and the temperature parameters ❷.
The results are displayed below in conjunction with your selection ❸.

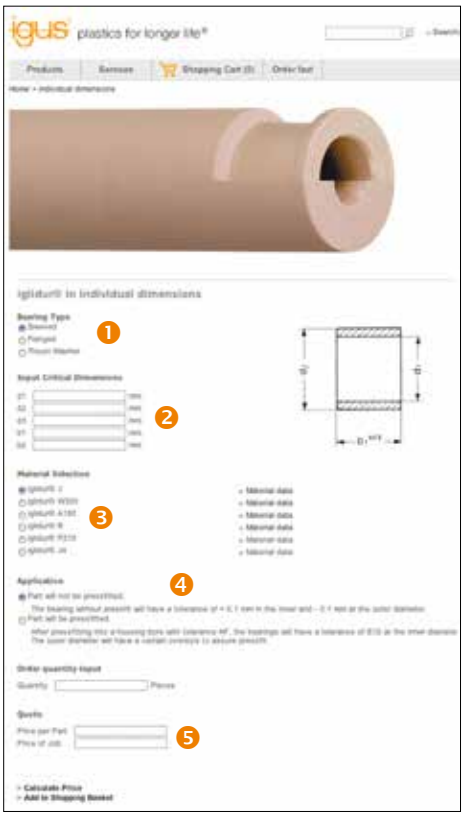
Calculate lifetime of semi-finished products

Quick calculation of the service life of your iglidur® semi-finished product.
In the first step, enter the product details ❶ and then enter page for page the details relevant for your application of the iglidur® material ❷.
Instantly you will be given the service life of your product under the operating conditions you have specified.
The results are displayed as service life in hours ❸.



Configure required dimensions

Quickly configure your required bearing and determine its price.
Select the desired bearing type ❶ and then enter the dimensions ❷ and the material selection ❸ of the bearing, then select the tolerance of the mounting hole ❹.
Enter the quantity and you immediately see the price online ❺. If the “on request” is shown, please enter your personal details and send us a request. We will contact you shortly.



speedigus – Custom part manufacturing services by igus® – fast delivery and low cost

speedimold – real moulded parts to your 3D model

speedicut – custom parts machined from iglidur® stock bar

speedifit – igus® parts fitted into your custom housing, supplied as one part

speedimold | Fast injection moulded custom parts

Custom iglidur® parts manufactured by injection moulding. A speedimold part is made using an aluminium tool, and this process can be extremely fast due to lean manufacturing methods. Leadtimes can be as quick as 24 hours, and certainly no longer than 15 working days, even for very complex components. Tooling costs are very low.

- Ideal for prototypes
- Delivery from 24 hours
- Injection moulded parts made of high performance polymers
- Predictable service life

How does speedimold work?

1. Tell us about your special part: material, special requirements etc. and upload or email us your 3D model
2. Check your speedimold quotation, select your required leadtime, then place your order
3. The tool for your individual speedimold part is manufactered
4. The parts are moulded in the igus® material which you have selected
5. You fit your parts

Along with the quote, you will receive all technical information including delivery time options for your tribo-part.

Available Materials

- iglidur® G ▶ page 65
- iglidur® J ▶ page 93
- iglidur® M250 ▶ page 111
- iglidur® W300 ▶ page 135
- iglidur® X ▶ page 157
- iglidur® P ▶ page 179
- iglidur® H2 ▶ page 383
- iglidur® H ▶ page 337
- iglidur® A180 ▶ page 395
- igumid G ▶ page 1127

delivery time **1–15 days**

More information
▶ www.igus.co.uk/en/speedigus

speedicut | iglidur® stock bar machined to your drawing

Custom iglidur® parts machined from stock bar. A speedicut part is made by machining a standard iglidur® stock bar to a customer's drawing. Leadtimes can be as quick as 3 days, and certainly no longer than 15 working days.

- Ideal for low volumes
- Delivery from 3 days
- Machined exactly to drawing
- Predictable service life
- Max. diameter: 100 mm

How does speedicut work?

❶ Tell us about your special part: material, special requirements etc. and upload or email us your 3D model or 2D drawing

❷ Check your speedicut quotation, select your required leadtime, then place your order

❸ The advanced speedicut machining cell produces your parts

❹ You receive your parts within the leadtime you have selected*

❺ You fit your parts

*The delivery lead time options are detailed within the quotation and range from 3 days to 15 days (for 100 pieces). The different lead time costs are specified individually on your speedicut quote.

Available Materials

- **iglidur® J ▶ page 93**
- **iglidur® W300 ▶ page 135**
- **iglidur® X ▶ page 157**
- **iglidur® P210 ▶ page 191**
- **iglidur® J350 ▶ page 241**
- **iglidur® A180 ▶ page 395**
- **iglidur® A350 ▶ page 421**
- **iglidur® T220 ▶ page 451**
- **iglidur® J4 ▶ page 1126**

delivery time **3–15 days**

More information
▶ www.igus.co.uk/en/speedigus

speedifit | igus® polymer bearings in custom assemblies ready to fit

iglidur® parts fitted into a custom assembly. A speedifit part is made by taking a standard or custom iglidur® plain bearing, and fitting this into a housing machined to a customer's drawing. This whole assembly is then supplied as a single component, saving time and money.

- Any igus® part into any housing (steel, stainless steel, aluminium, plastic...)
- Increase your productivity
- Increase your cash flow
- Reduce numbers of suppliers and orders
- Delivery from 5 days

How does speedifit work?

❶ Send igus® your assembly and housing drawing(s)

❷ You receive a quote, which includes fitting of all bearings, check, then send order

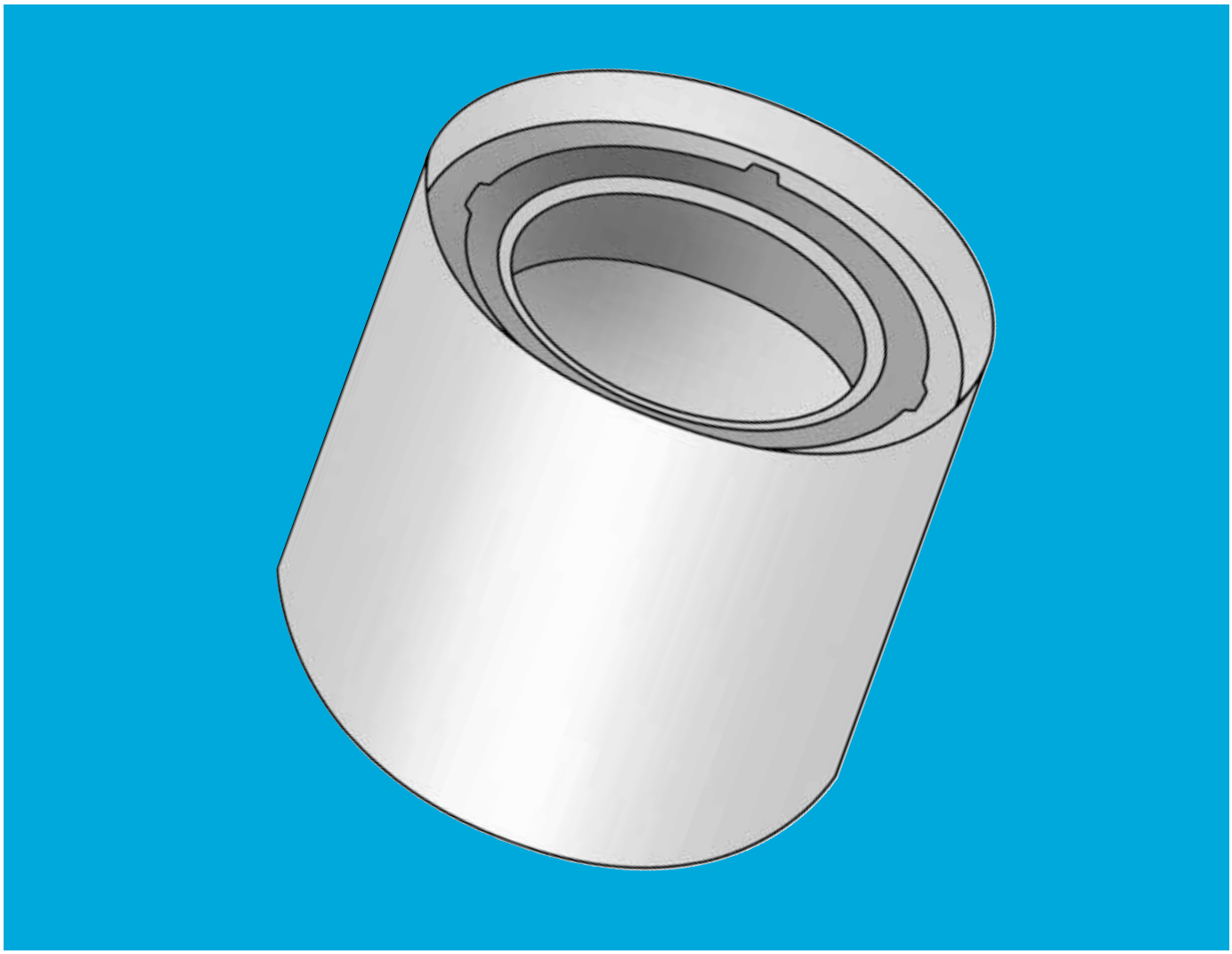
❸ The speedifit manufacturing and assembly centre produces your parts

❹ Complete assemblies delivered to you, ready to fit

Why not try the speedifit quote service? You can use the online enquiry form or if you prefer, email us your drawings directly ▶ **speedifit@igus.eu**

delivery time **5–15 days**

More information
▶ **www.igus.co.uk/en/speedigus**

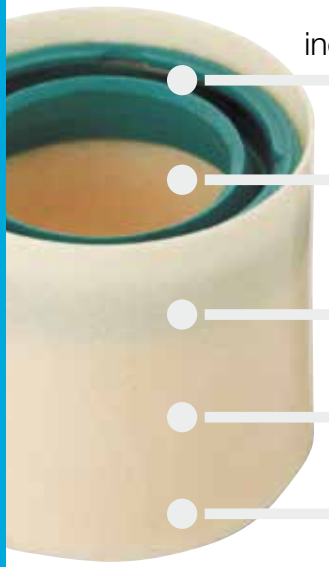


iglidur® Polymer Bearing with Lip Seal

- 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

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



- Polymer bearing with incorporated 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

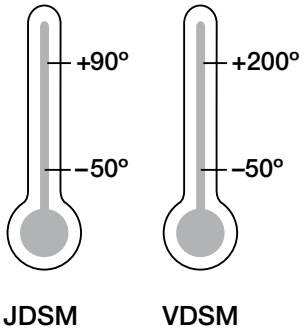
When to use it?

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

Temperature

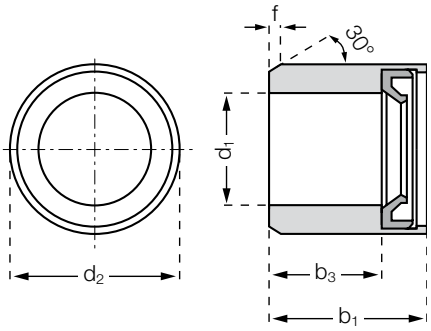


Product range

1 type
2 materials
Ø 10 mm
other dimensions on request

iglidur® Polymer Bearing with Lip Seal | Product Range

Polymer bearing with lip seal



Order key

☐DSM-1015-14

- Height b1
- Outer diameter d2
- Inner diameter d1
- Metric
- Polymer Bearing with lip seal, Form S
- Seal
- Material iglidur® J/V400

Material:
iglidur® J ▶ page 93
iglidur® V400 ▶ page 301

Dimensions [mm]

Part number	d1	d1-Tolerance*	d2	b1	b3	f
	E11		Ø	h13		
JDSM-1015-14	10	+0.025 +0.135	15	14	10	1
VDSM-1015-14	10	+0.025 +0.135	15	14	10	1

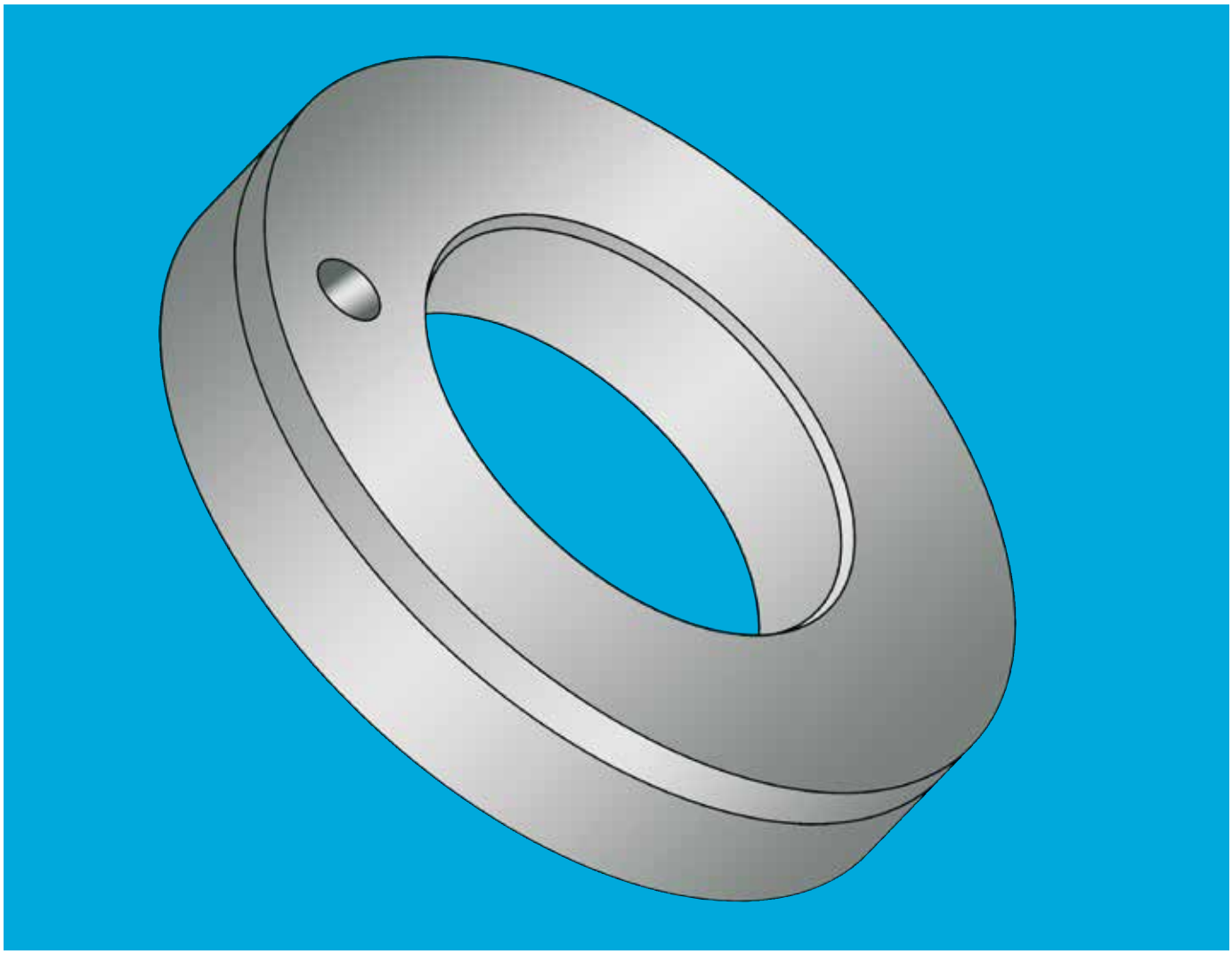
*** after pressfit. Testing methods ▶ page 59**

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 proposal.

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/jdsm

My Sketches



iglidur® axial bearings – matching sliding surfaces

maintenance-free plain bearing system

for high performance

matching sliding surfaces

predictable service life

iglidur® axial bearings

Matching sliding surfaces. iglidur® axial bearings JATM/VATM consist of an anodized aluminum ring combined with an iglidur® bearing ring. This combination of materials offers in low friction values and high wear resistance – without lubrication.

Maintenance-free plain bearing system

For high performance

Matching sliding surfaces

Predictable life time

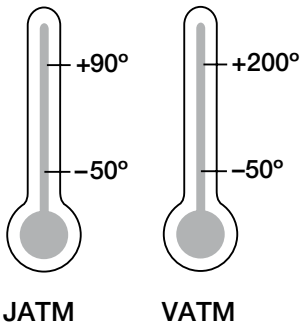
When to use it?

- When an axial bearing system with defined tribological characteristics is required
- For extremely high wear resistance
- When a very low coefficient of friction is required

When not to use it?

- When an additional angular compensation is required
  ▶ igubal® Axial bearing, page 649
- When only a small installation space is available
  ▶ iglidur® J, Thrust Washer, page 106
- For occasional use only
  ▶ iglidur® G, Thrust Washer, page 84

Temperature



Product range

1 type
2 materials
Ø 20 mm
more dimensions on request

The calculated rates of wear rates of thrust bearing JATM

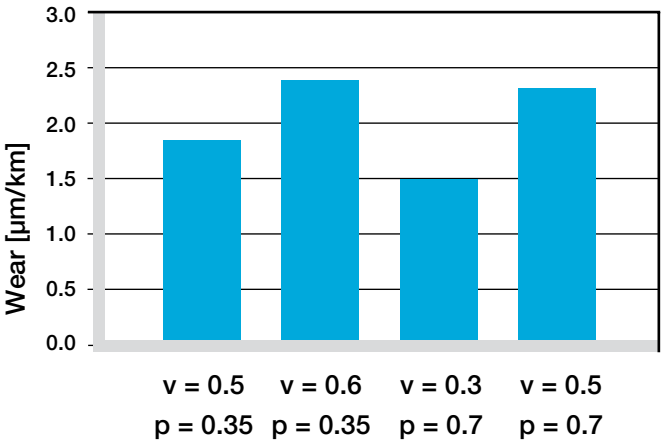


Diagram 01: The diagram shows the effect of pressure (p in MPa) and speed (v in m/s) on the thrust bearing wear

Calculated friction value of thrust bearing JATM

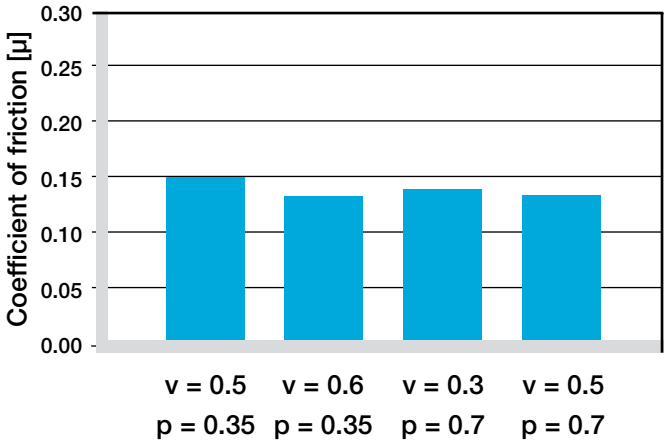
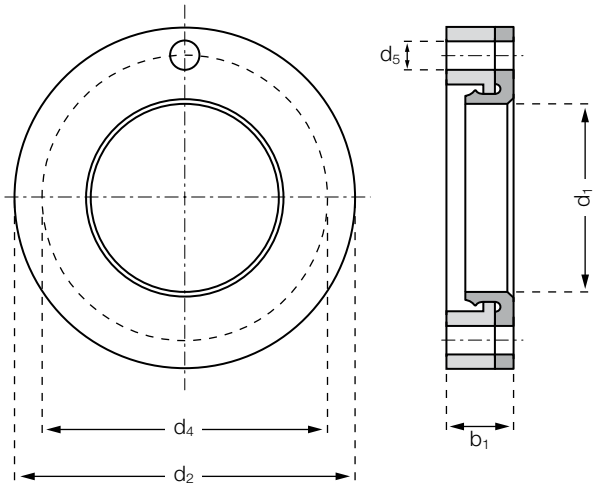


Diagram 02: In a test, the friction values of the bearing systems were calculated at different speeds (v) and pressures (p) – (v in m/s, p in MPa)

More information ▶ www.igus.co.uk/en/jatm

iglidur® axial bearings | Product Range



Order key

☐ATM-2036-070

- Total height b1
- Outer diameter d2
- Inner diameter d1
- Metric
- Thrust bearing
- Aluminium
- Material iglidur® J/V400

Material:
iglidur® J ▶ page 93
iglidur® V400 ▶ page 301

Example designs [mm]

Part number	d1	d2	b1	d4	d5
JATM-2036-070	20	36	7	30	3
VATM-2036-070	20	36	7	30	3

Plase contact us if you need a custom-made iglidur® axial bearing for your application. We will help you with the design and create an appropriate proposal.

delivery time **from stock**

prices **price list online**
www.igus.co.uk/en/jatm