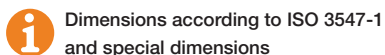
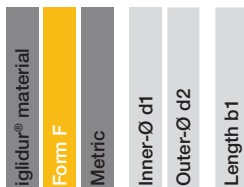


Order key

Type Dimensions [mm]

J3 F M-03 04-05



Dimensions according to ISO 3547-1 and special dimensions



Imperial dimensions available

► From page 1433

2) Thickness < 1 mm: chamfer = 20°

Chamfer in relation to the d1

d1 [mm]: Ø 1-6 | Ø 6-12 | Ø 12-30 | Ø > 30

f [mm]: 0.3 | 0.5 | 0.8 | 1.2

Dimensions [mm]

d1	d1- Tolerance ³⁾	d2	d3	b1	b2	Part No.
		d13	d13	h13	-0.14	
2.0	+0.014	3.5	5.0	5.0	0.75	J3FM-0203505-05
3.0	+0.054	4.5	7.5	5.0	0.75	J3FM-0304-05
5.0		7.0	11.0	5.0	1.0	J3FM-0507-05
6.0	+0.020	8.0	12.0	4.0	1.0	J3FM-0608-04
6.0	+0.068	8.0	12.0	6.0	1.0	J3FM-0608-06
6.0		8.0	12.0	8.0	1.0	J3FM-0608-08
8.0		10.0	15.0	5.5	1.0	J3FM-0810-05
8.0		10.0	15.0	7.5	1.0	J3FM-0810-07
8.0		10.0	15.0	9.5	1.0	J3FM-0810-09
8.0		10.0	15.0	10.0	1.0	J3FM-0810-10
10.0	+0.025	12.0	18.0	7.0	1.0	J3FM-1012-07
10.0	+0.083	12.0	18.0	9.0	1.0	J3FM-1012-09
10.0		12.0	18.0	10.0	1.0	J3FM-1012-10
10.0		12.0	18.0	12.0	1.0	J3FM-1012-12
10.0		12.0	18.0	17.0	1.0	J3FM-1012-17
12.0		14.0	20.0	7.0	1.0	J3FM-1214-07
12.0		14.0	20.0	9.0	1.0	J3FM-1214-09
12.0		14.0	20.0	12.0	1.0	J3FM-1214-12
12.0	+0.032	14.0	20.0	17.0	1.0	J3FM-1214-17
14.0	+0.102	16.0	22.0	12.0	1.0	J3FM-1416-12
14.0		16.0	22.0	17.0	1.0	J3FM-1416-17
15.0		17.0	23.0	9.0	1.0	J3FM-1517-09

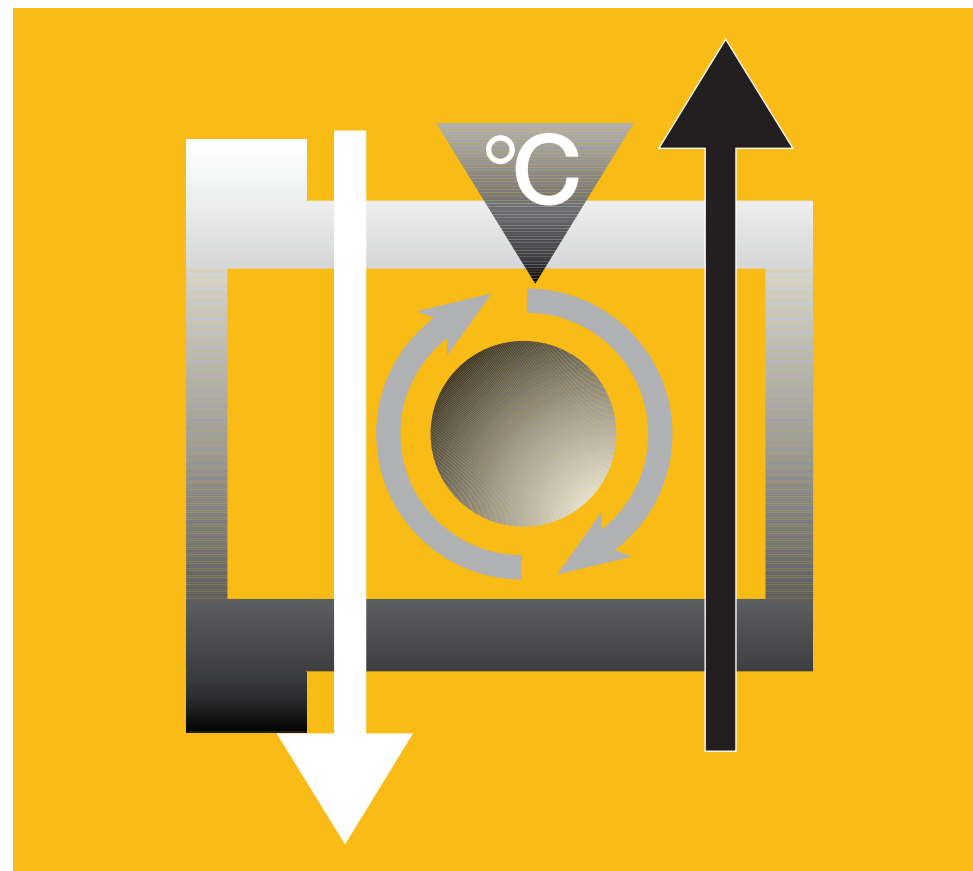
d1	d1- Tolerance ³⁾	d2	d3	b1	b2	Part No.
		d13	d13	h13	-0.14	
15.0		17.0	23.0	12.0	1.0	J3FM-1517-12
15.0	+0.032	17.0	23.0	17.0	1.0	J3FM-1517-17
16.0	+0.102	18.0	24.0	12.0	1.0	J3FM-1618-12
16.0		18.0	24.0	17.0	1.0	J3FM-1618-17
18.0		20.0	26.0	12.0	1.0	J3FM-1820-12
18.0		20.0	26.0	17.0	1.0	J3FM-1820-17
18.0		20.0	26.0	22.0	1.0	J3FM-1820-22
18.0		21.0	25.0	12.0	1.0	J3FM-1821-12
20.0		23.0	30.0	11.5	1.5	J3FM-2023-11
20.0	+0.040	23.0	30.0	16.5	1.5	J3FM-2023-16
20.0	+0.124	23.0	30.0	21.5	1.5	J3FM-2023-21
25.0		28.0	35.0	11.5	1.5	J3FM-2528-11
25.0		28.0	35.0	16.5	1.5	J3FM-2528-16
25.0		28.0	35.0	21.0	1.5	J3FM-2528-21
30.0		34.0	42.0	16.0	2.0	J3FM-3034-16
30.0		34.0	42.0	26.0	2.0	J3FM-3034-26
35.0		39.0	47.0	16.0	2.0	J3FM-3539-16
35.0		39.0	47.0	26.0	2.0	J3FM-3539-26
40.0	+0.050	44.0	52.0	30.0	2.0	J3FM-4044-30
40.0	+0.150	44.0	52.0	40.0	2.0	J3FM-4044-40
45.0		50.0	58.0	50.0	2.0	J3FM-4550-50

3) After press-fit. Testing methods ► Page 57



Couldn't find your size?

Do you need another length, other dimensions or tolerances? You need a particular design or alternative for your application? Please call us. igus® listens to your needs and provides you a solution very quickly.



Endurance runner with high dimensional stability at high temperature – iglidur® J350

Excellent coefficient of friction against steel

Continuous service temperature up to +180 °C

For medium and high loads

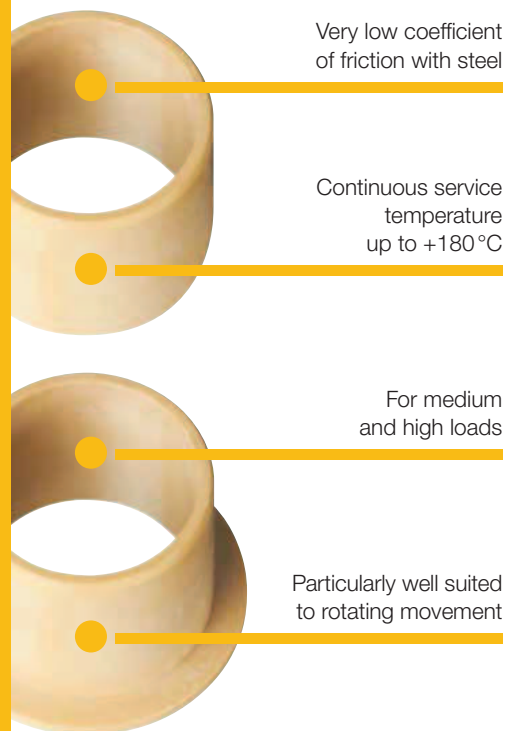
Particularly well suited to rotating movement

Lubrication and maintenance-free

Standard range from stock



Can be used with many kinds of shafts and loads



Very low coefficient of friction with steel

Continuous service temperature up to +180°C

For medium and high loads

Particularly well suited to rotating movement

An outstanding bearing for rotating applications – and for a wide range of different shaft materials: With iglidur® J350 bearings, the lifetime can often be increased for applications between 2 and 50 MPa. In addition, the high temperature resistance makes it a very versatile material.



When to use it?

- If a high wear-resistant bearing for rotating movement at medium and high loads is required
- When a cost-effective bearing for high temperatures is required
- If pressfit up to +150°C is necessary
- If high wear resistance is required at high loads
- If the bearing is exposed to shock loading



When not to use it?

- If permanent temperatures exceed +180°C
 - ▶ iglidur® X, page 245
- If low friction is required
 - ▶ iglidur® J, page 141
- When a cost-effective bearing with a low friction is needed
 - ▶ iglidur® D, page 229
 - ▶ iglidur® R, page 221
- With high rotational speeds
 - ▶ iglidur® J, page 141

Typical application areas

- Automation
- Machine building
- Automotive
- Glass industry



Available from stock

Detailed information about delivery time online.



Block pricing online

No minimum order value. From batch size 1.



Max. +180°C

Min. -100°C



Ø 4–50 mm

More dimensions upon request



Imperial dimensions available

▶ From page 1391



Online product finder

▶ www.igus.eu/iglidur-finder

Material properties

General properties	Unit	iglidur® J350	Testing method
Density	g/cm³	1.44	
Colour		yellow	
Max. moisture absorption at +23°C/50% r.h.	% weight	0.3	DIN 53495
Max. water absorption	% weight	1.6	
Coefficient of sliding friction, dynamic, against steel	μ	0.1–0.2	
pv value, max. (dry)	MPa · m/s	0.45	
Mechanical properties			
Flexural modulus	MPa	2,000	DIN 53457
Flexural strength at +20°C	MPa	55	DIN 53452
Compressive strength	MPa	60	
Max. recommended surface pressure (+20°C)	MPa	60	
Shore-D hardness		80	DIN 53505
Physical and thermal properties			
Max. long-term application temperature	°C	+180	
Max. short-term application temperature	°C	+220	
Min. long-term application temperature	°C	-100	
Heat conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +23°C)	K ⁻¹ · 10 ⁻⁵	7	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10 ¹³	DIN IEC 93
Surface resistance	Ω	> 10 ¹⁰	DIN 53482

Table 01: Material properties table

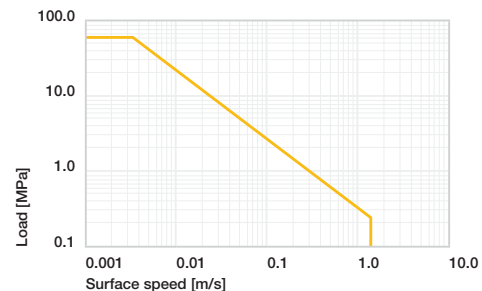


Diagram 01: Permissible pv values for iglidur® J350 bearings with a wall thickness of 1 mm dry running against a steel shaft, at +20°C, mounted in a steel housing

Moisture absorption

The moisture absorption of iglidur® J350 is low and can be ignored when using standard-bearings. Even when saturated with water, iglidur® J350 does not absorb more than 1.6% weight of water.

▶ Diagram, www.igus.eu/j350-moisture

Vacuum

iglidur® J350 plain bearings outgas to a very limited extent. Use in vacuum is possible with dehumidified bearings.

Radiation resistance

Plain bearings made from iglidur® J350 are resistant up to a radiation intensity of 2 · 10³ Gy.

UV resistance

iglidur® J350 plain bearings are partially resistant to UV radiation.

Medium	Resistance
Alcohol	+
Hydrocarbons	+ to 0
Greases, oils without additives	+
Fuels	+
Diluted acids	+
Strong acids	+ to 0
Diluted alkalines	+
Strong alkalines	+

+ resistant 0 conditionally resistant – not resistant

All data given at room temperature [+20°C]

Table 02: Chemical resistance

▶ Chemical table, page 1478

iglidur® J350 blends universally good wear resistance, flexibility and temperature resistance into a very versatile iglidur® material with a broad application spectrum.

Mechanical properties

With increasing temperatures, the compressive strength of iglidur® J350 plain bearings decreases. The diagram 02 shows this inverse relationship. The recommended maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

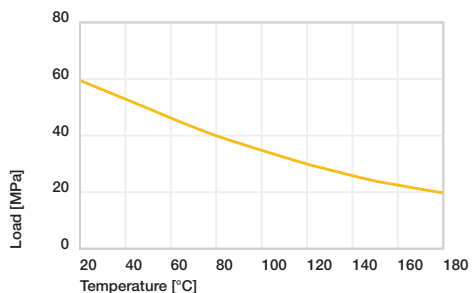


Diagram 02: Recommended maximum surface pressure (60 MPa at +20 °C) as a function of temperature

iglidur® J350 bearings are adequate for medium and high loads. Diagram 03 shows the elastic deformation of iglidur® J350 under different loads. It shows the material behaviour submitted to a short-term load. The surrounding temperatures are only noticeable at 60 MPa.

► Surface pressure, page 41

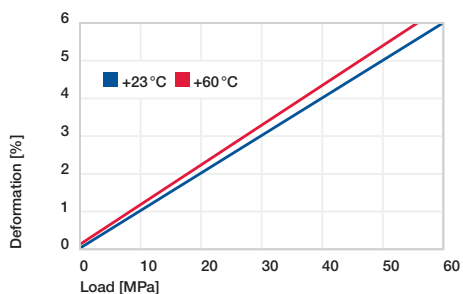


Diagram 03: Deformation under pressure and temperature

Permissible surface speeds

iglidur® J350 bearings are suitable for low and medium speeds in rotating and oscillating use. The wear rates are much better in rotating applications. And linear motions can be well mounted with iglidur® J350.

► Surface speed, page 44

m/s	Rotating	Oscillating	Linear
Continuous	1.3	1	4
Short-term	3	2.3	8

Table 03: Maximum surface speeds

Temperatures

The temperatures prevailing in the bearing system also have an influence on the bearing wear. The wear-rate of iglidur® J350 bearings changes very little at high temperatures. In some cases, the wear even decreases at +100 °C. At temperatures over +140 °C an additional securing is required.

► Application temperatures, page 49

► Additional securing, page 49

Friction and wear

The coefficients of friction of iglidur® J350 in dry operation against steel lie in a very good range. They decrease significantly at higher surface speeds. This benefits the service life of the bearings in continuous operations with high surface speeds. Diagram 04 shows this inverse relationship. Especially with loads larger than 2 MPa, the iglidur® J350 bearings are clearly superior to other bearings in rotating applications.

► Coefficients of friction and surfaces, page 47

► Wear resistance, page 50

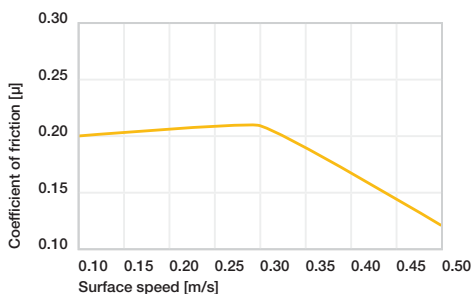


Diagram 04: Coefficient of friction as a function of the surface speed, p = 1 MPa

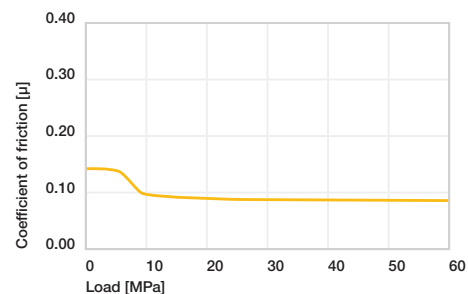


Diagram 05: Coefficient of friction as a function of the pressure, v = 0.01 m/s

Shaft materials

Diagrams 06 and 07 show results of testing different shaft materials with plain bearings made from iglidur® J350. iglidur® plain bearings can be combined with various shaft materials. One shaft – bearing combination stands out when looking at the wear results of the test: iglidur® J350 with soft 304 stainless steel. Not many bearing materials are suitable for use with this rather difficult soft stainless steel material (304 stainless steel) and achieve good wear results. Also, good properties are reached with hard anodised aluminium shafts. If the shaft material you plan to use is not contained in this list, please contact us.

► Shaft materials, page 52

iglidur® J350	Dry	Greases	Oil	Water
C. o. f. µ	0.1–0.2	0.09	0.04	0.04

Table 04: Coefficient of friction against steel (Ra = 1µm, 50 HRC)

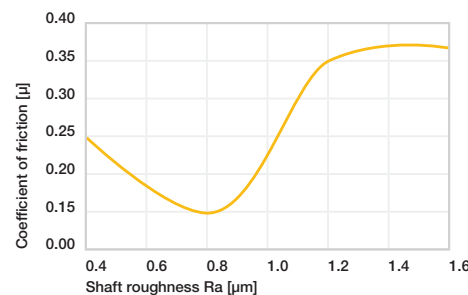


Diagram 06: Coefficient of friction as function of the shaft surface (Cf53 hardened and ground steel)

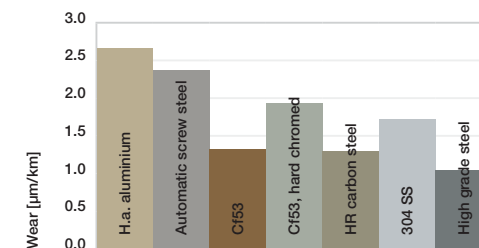


Diagram 07: Wear, rotating with different shaft materials, pressure, p = 1 MPa, v = 0.3 m/s

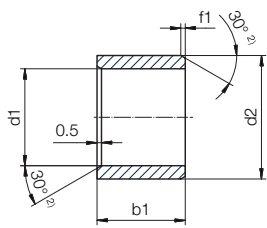
Installation tolerances

iglidur® J350 plain bearings are standard bearings for shafts with h-tolerance (recommended minimum h9). The bearings are designed for pressfit into a housing machined to a H7 tolerance. After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

► Testing methods, page 57

Diameter d1 [mm]	Shaft h9 [mm]	iglidur® J350 F10 [mm]	Housing H7 [mm]
up to 3	0–0.025	+0.006 +0.046	0 +0.010
> 3 to 6	0–0.030	+0.010 +0.058	0 +0.012
> 6 to 10	0–0.036	+0.013 +0.071	0 +0.015
> 10 to 18	0–0.043	+0.016 +0.086	0 +0.018
> 18 to 30	0–0.052	+0.020 +0.104	0 +0.021
> 30 to 50	0–0.062	+0.025 +0.125	0 +0.025
> 50 to 80	0–0.074	+0.030 +0.150	0 +0.030

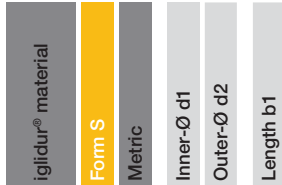
Table 05: Important tolerances for plain bearings according to ISO 3547-1 after pressfit



Order key

Type Dimensions [mm]

J350 S M -0405-04



i Dimensions according to ISO 3547-1 and special dimensions

inch Imperial dimensions available
► From page 1410

d1	d1- Tolerance ³⁾	d2	b1 h13	Part No.
16.0		18.0	15.0	J350SM-1618-15
16.0		18.0	20.0	J350SM-1618-20
16.0	+0.016	18.0	25.0	J350SM-1618-25
18.0	+0.086	20.0	15.0	J350SM-1820-15
18.0		20.0	20.0	J350SM-1820-20
18.0		20.0	25.0	J350SM-1820-25
20.0		23.0	10.0	J350SM-2023-10
20.0		23.0	15.0	J350SM-2023-15
20.0		23.0	20.0	J350SM-2023-20
20.0		23.0	25.0	J350SM-2023-25
20.0		23.0	30.0	J350SM-2023-30
22.0		25.0	15.0	J350SM-2225-15
22.0		25.0	20.0	J350SM-2225-20
22.0		25.0	25.0	J350SM-2225-25
22.0		25.0	30.0	J350SM-2225-30
24.0		27.0	15.0	J350SM-2427-15
24.0	+0.020	27.0	20.0	J350SM-2427-20
24.0	+0.104	27.0	25.0	J350SM-2427-25
24.0		27.0	30.0	J350SM-2427-30
25.0		28.0	15.0	J350SM-2528-15
25.0		28.0	20.0	J350SM-2528-20
25.0		28.0	25.0	J350SM-2528-25
25.0		28.0	30.0	J350SM-2528-30
25.0		28.0	45.0	J350SM-2528-45
28.0		32.0	20.0	J350SM-2832-20
28.0		32.0	25.0	J350SM-2832-25
28.0		32.0	30.0	J350SM-2832-30
30.0		34.0	20.0	J350SM-3034-20

²⁾ Thickness < 1 mm: chamfer = 20°

Chamfer in relation to the d1

d1 [mm]: Ø 1-6 | Ø 6-12 | Ø 12-30 | Ø > 30
f [mm]: 0.3 | 0.5 | 0.8 | 1.2

Dimensions [mm]

d1	d1- Tolerance ³⁾	d2	b1 h13	Part No.
4.0		5.5	4.0	J350SM-0405-04
4.0		5.5	6.0	J350SM-0405-06
5.0	+0.010	7.0	5.0	J350SM-0507-05
5.0	+0.058	7.0	10.0	J350SM-0507-10
6.0		8.0	6.0	J350SM-0608-06
6.0		8.0	8.0	J350SM-0608-08
6.0		8.0	10.0	J350SM-0608-10
8.0		10.0	8.0	J350SM-0810-08
8.0		10.0	10.0	J350SM-0810-10
8.0		10.0	12.0	J350SM-0810-12
10.0	+0.013	12.0	8.0	J350SM-1012-08
10.0	+0.071	12.0	10.0	J350SM-1012-10
10.0		12.0	12.0	J350SM-1012-12
10.0		12.0	15.0	J350SM-1012-15
10.0		12.0	20.0	J350SM-1012-20
12.0		14.0	10.0	J350SM-1214-10
12.0		14.0	12.0	J350SM-1214-12
12.0		14.0	15.0	J350SM-1214-15
12.0		14.0	20.0	J350SM-1214-20
13.0		15.0	10.0	J350SM-1315-10
13.0	+0.016	15.0	20.0	J350SM-1315-20
14.0	+0.086	16.0	15.0	J350SM-1416-15
14.0		16.0	20.0	J350SM-1416-20
14.0		16.0	25.0	J350SM-1416-25
15.0		17.0	15.0	J350SM-1517-15
15.0		17.0	20.0	J350SM-1517-20
15.0		17.0	25.0	J350SM-1517-25
16.0		18.0	4.0	J350SM-1618-04

³⁾ After press-fit. Testing methods ► Page 57

Dimensions [mm]

d1	d1- Tolerance ³⁾	d2	b1 h13	Part No.
30.0		34.0	25.0	J350SM-3034-25
30.0	+0.020	34.0	30.0	J350SM-3034-30
30.0	+0.104	34.0	40.0	J350SM-3034-40
32.0		36.0	20.0	J350SM-3236-20
32.0		36.0	30.0	J350SM-3236-30
32.0		36.0	40.0	J350SM-3236-40
35.0		39.0	20.0	J350SM-3539-20
35.0	+0.025	39.0	30.0	J350SM-3539-30
35.0	+0.125	39.0	40.0	J350SM-3539-40
35.0		39.0	50.0	J350SM-3539-50
40.0		44.0	20.0	J350SM-4044-20
40.0		44.0	30.0	J350SM-4044-30

³⁾ After press-fit. Testing methods ► Page 57

d1	d1- Tolerance ³⁾	d2	b1 h13	Part No.
40.0		44.0	40.0	J350SM-4044-40
40.0		44.0	50.0	J350SM-4044-50
45.0		50.0	20.0	J350SM-4550-20
45.0		50.0	30.0	J350SM-4550-30
45.0	+0.025	50.0	40.0	J350SM-4550-40
45.0	+0.125	50.0	50.0	J350SM-4550-50
50.0		55.0	20.0	J350SM-5055-20
50.0		55.0	30.0	J350SM-5055-30
50.0		55.0	40.0	J350SM-5055-40
50.0		55.0	50.0	J350SM-5055-50
50.0		55.0	60.0	J350SM-5055-60

i Couldn't find your size?

Do you need another length, other dimensions or tolerances? You need a particular design or alternative for your application? Please call us. igus® listens to your needs and provides you a solution very quickly.

@ Even more dimensions from stock

More than 300 dimensions are now available. Search online for your required bearing.

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