



## The robust all-rounder according to ISO 2795

Excellent vibration dampening

### igidur® M250



#### When to use it?

- When the bearings are exposed to large amounts of dirt
- When high vibration dampening is necessary
- For low to medium speeds
- When mechanical reaming of the bore is necessary



#### When not to use?

- For applications in wet areas  
*igidur® H*
- When very high precision is necessary  
*igidur® P*
- For very smooth shafts  
*igidur® J*
- When a cost-effective wear-resistant plain bearing is required  
*igidur® R*

# Bearing technology | Plain bearing | iglidur® M250



Ø  
1.0 – 75.0mm



Also available as:



Bar stock, round bar  
Page 672

## The robust all-rounder according to ISO 2795 Excellent vibration dampening

The self-lubricating plain bearing made from iglidur® M250 distinguishes itself through its impact resistance, vibration dampening and wear resistance. They excel in applications in which vibration dampening is necessary, for example, in fitness and packaging machines.

- Over 450 sizes available from stock
- Excellent vibration dampening
- Suitable for high edge pressures
- Suitable for impact loads
- Thick-walled according to ISO 2795
- Dirt can become embedded for shaft protection
- Lubrication-free
- Maintenance-free
- Thrust washers available only in imperial sizes, from page 1601



Bar stock, plate  
Page 683



tribo-tape liner  
Page 691

### Typical application areas

- Agricultural machines
- Furniture/Industrial design
- Textile industry
- Doors and gates
- Mechanical engineering



Piston rings  
Page 584



Two hole flange bearings  
Page 603



Moulded special parts  
Page 624



igubal® spherical balls  
Page 841

Descriptive technical specifications				
Wear resistance at +23°C	-	<div style="width: 25%; background-color: #0070C0;"></div>		+
Wear resistance at +90°C	-	<div style="width: 35%; background-color: #0070C0;"></div>		+
Wear resistance at +150°C	-	<div style="width: 15%; background-color: #0070C0;"></div>		+
Low coefficient of friction	-	<div style="width: 30%; background-color: #0070C0;"></div>		+
Low moisture absorption	-	<div style="width: 10%; background-color: #0070C0;"></div>		+
Wear resistance under water	-	<div style="width: 15%; background-color: #0070C0;"></div>		+
High media resistance	-	<div style="width: 40%; background-color: #0070C0;"></div>		+
Resistant to edge pressures	-	<div style="width: 50%; background-color: #0070C0;"></div>		+
Suitable for shock and impact loads	-	<div style="width: 50%; background-color: #0070C0;"></div>		+
Resistant to dirt	-	<div style="width: 50%; background-color: #0070C0;"></div>		+

Online product finder  
[www.igus.eu/igidur-finder](http://www.igus.eu/igidur-finder)

Online service life calculation  
[www.igus.eu/igidur-expert](http://www.igus.eu/igidur-expert)

## Technical data

General properties		Testing method	
Density	g/cm <sup>3</sup>	1.14	
Colour		dark grey	
Max. moisture absorption at +23°C and 50% r.h.	% weight	1.4	DIN 53495
Max. moisture absorption	% weight	7.6	
Coefficient of friction, dynamic, against steel	μ	0.18 – 0.40	
pv value, max. (dry)	MPa · m/s	0.12	
Mechanical properties			
Flexural modulus	MPa	2,700	DIN 53457
Flexural strength at +20°C	MPa	112	DIN 53452
Compressive strength	MPa	52	
Max. recommended surface pressure (+20°C)	MPa	20	
Shore D hardness		79	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°C	+80	
Max. application temperature short-term	°C	+170	
Min. application temperature	°C	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +23°C)	K <sup>-1</sup> · 10 <sup>-5</sup>	10	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10 <sup>13</sup>	DIN IEC 93
Surface resistance	Ω	> 10 <sup>11</sup>	DIN 53482

Table 01: Material properties

The self-lubricating plain bearing made from iglidur® M250 distinguishes itself through its impact resistance, vibration dampening and wear resistance. They excel in applications in which vibration dampening is necessary, for example, in fitness and packaging machines. Since they are additionally able to absorb dirt, they are also suited for agricultural machines and garden appliances.

### Moisture absorption

Under standard climatic conditions, the moisture absorption of iglidur® M250 plain bearings is approximately 1.4% weight. The saturation limit in water is 7.6% weight. This must be taken into account for these types of applications.

### Vacuum

In vacuum, any present moisture is released as vapour. The use in vacuum is only possible to a limited extent.

### Radiation resistance

Plain bearings made from iglidur® M250 have limited use under radioactive radiation. They are resistant to radiation up to an intensity of 1 · 10<sup>4</sup>Gy.

### Resistance to weathering

iglidur® M250 plain bearings are not resistant to weathering. The material properties are significantly affected. Discoloration occurs. Practical tests under real application conditions are strongly recommended.

### Mechanical properties

With increasing temperatures, the compressive strength of iglidur® M250 plain bearings decreases. Diagram 02 shows this inverse relationship. The maximum recommended surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

iglidur® M250 plain bearings can withstand a maximum recommended surface pressure of 20MPa. Compared with other iglidur® materials iglidur® M250 plain bearings are highly elastic. By this elasticity they can yield very well, but retain their original shape again. A plastic deformation is minimal up to the maximum recommended surface pressure.

**Surface pressure, page 41**



-40°C up to +80°C



20MPa



## Permissible surface speeds

As standard, iglidur® M250 is manufactured as a thick-walled bearing. iglidur® M250 is best suited for low to medium surface speeds. The maximum permissible surface speed for dry operation is 0.8m/s (rotating) or 2.5m/s (linear). In practice, though, this level is rarely reached due to varying application conditions.

**Surface speed, page 44**

## Temperature

Short-term application temperatures up to +170°C are permitted. However, iglidur® M250 plain bearings can only be exposed to this temperature if no additional load is applied. The maximum long-term application temperature is +80°C. This is also the point of the wear limit, i.e. the temperature over which the wear increases exponentially. For temperatures over +60°C an additional securing is required.

**Application temperatures, page 49**

**Additional securing, page 49**

## Friction and wear

The coefficient of friction  $\mu$  of a plain bearing among other factors is influenced by the surface speed and the load (diagrams 04 and 05).

**Coefficient of friction and surfaces, page 47**

**Wear resistance, page 50**

## Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. If you observe the coefficient of friction, then the ideal shaft surface finish for iglidur® M250 bearings is Ra = 0.6mm. Diagrams 06 and 07 show the test results of iglidur® M250 plain bearings running against various shaft materials. Up to loads of 2MPa the shaft material plays a relatively small role for rotational movements. Therefore, a suitable shaft material must be considered for higher loads. These are hardened shafts, such as Cf53 or hard-chromed. Diagram 07 shows that iglidur® M250 is considerably better for rotational than for pivoting movements. However, it must be mentioned that pivoting movements often cause high vibrations. Here, iglidur® M250 can utilise its special dampening properties. In our test, these vibrations are excluded for clarity so that the comparison between rotation and pivoting operation is accurate.

**Shaft materials, page 52**

## Installation tolerances

iglidur® M250 plain bearings require a relatively large amount of clearance for optimal operation. This ensures that the bearing remains reliable during temperature change and water absorption. The disadvantages of the bearings clearance are minimised by the vibration-dampening properties. The bearings are designed for press-fit 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 D11 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table). The shaft should have a recommended minimum h9 tolerance.

**Testing methods, page 57**

Chemicals	Resistance
Alcohols	+ up to 0
Diluted acids	0 up to -
Diluted alkalines	+
Fuels	+
Greases, oils without additives	+
Hydrocarbons	+
Strong acids	-
Strong alkalines	0

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

Table 02: Chemical resistance

**Chemical table, page 1636**

	Rotating	Oscillating	linear
long-term	m/s 0.8	0.6	2.5
short-term	m/s 2.0	1.4	5.0

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction $\mu$	0.18 – 0.40	0.09	0.04	0.04

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

Ø d1 [mm]	Housing		Plain bearing		Shaft	
	H7 [mm]	D11 [mm]	H7 [mm]	D11 [mm]	h9 [mm]	h9 [mm]
0 – 3	+0.000	+0.010	+0.020	+0.080	-0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.030	+0.105	-0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.040	+0.130	-0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.050	+0.160	-0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.065	+0.195	-0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.080	+0.240	-0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.100	+0.290	-0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.120	+0.340	-0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.145	+0.395	-0.100	+0.000

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

## Technical data

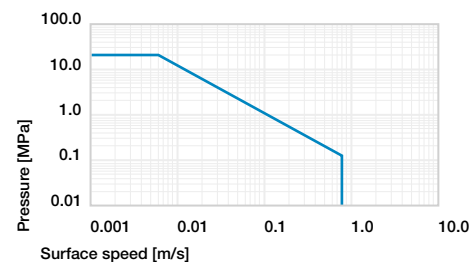


Diagram 01: Permissible pv values for iglidur® M250 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +20°C, mounted in a steel housing

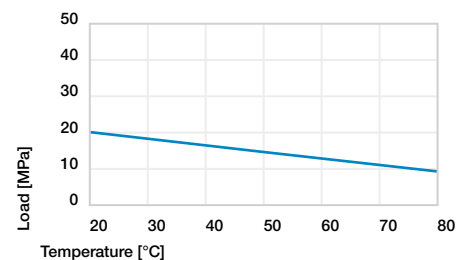


Diagram 02: Maximum recommended surface pressure as a function of temperature (20MPa at +20°C)

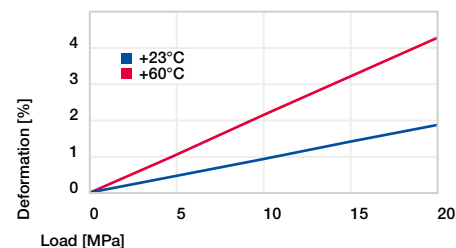


Diagram 03: Deformation under pressure and temperature

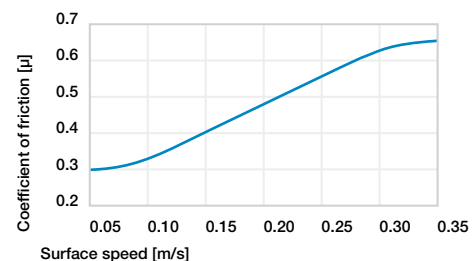


Diagram 04: Coefficient of friction as a function of the surface speed, p = 0.75MPa

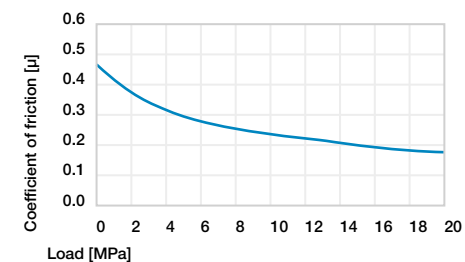


Diagram 05: Coefficient of friction as a function of the load, v = 0.01m/s

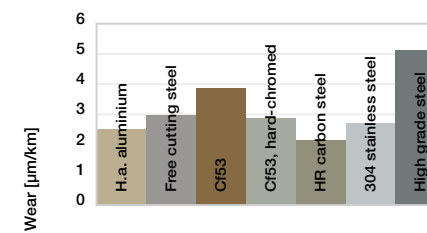


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 1MPa, v = 0.3m/s

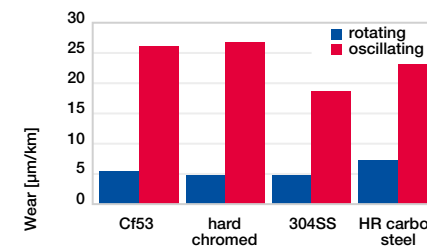
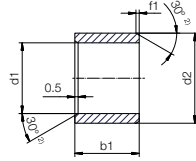


Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 2MPa

Sleeve bearing (form S)



<sup>2)</sup> Thickness < 0.6mm: Chamfer = 20°

Chamfer in relation to d1

d1 [mm]	Ø 1-6	Ø 6-12	Ø 12-30	Ø > 30
f1 [mm]	0.3	0.5	0.8	1.2

**i** Dimensions according to ISO 2795 and special dimensions

**?** Order example: **MSM-0103-02** – no minimum order quantity.  
**M250** iglidur® material **S** Sleeve bearing **M** Metric **Ø1** Inner Ø d1 **Ø3** Outer Ø d2 **Ø2** Total length b1

d1	d1 Tolerance <sup>3)</sup>	d2	b1 h13	Part No.	d1	d1 Tolerance <sup>3)</sup>	d2	b1 h13	Part No.
[mm]		[mm]	[mm]		[mm]		[mm]	[mm]	
1.0		3.0	2.0	MSM-0103-02	6.0		10.0	4.0	MSM-0610-04
1.5		4.0	2.0	MSM-0104-02	6.0		10.0	6.0	MSM-0610-06
2.0		5.0	1.0	MSM-0205-01	6.0		10.0	8.0	MSM-0610-08
2.0		5.0	2.0	MSM-0205-02	6.0	+0.030	10.0	10.0	MSM-0610-10
2.0	+0.020	5.0	3.0	MSM-0205-03	6.0	+0.105	11.0	4.0	MSM-0611-04
2.5	+0.080	6.0	3.0	MSM-0206-03	6.0		12.0	6.0	MSM-0612-06
3.0		5.0	3.0	MSM-0305-03	6.0		12.0	10.0	MSM-0612-10
3.0		5.0	4.0	MSM-0305-04	7.0		10.0	5.0	MSM-0710-05
3.0		6.0	3.0	MSM-0306-03	7.0		10.0	8.0	MSM-0710-08
3.0		6.0	4.0	MSM-0306-04	7.0		10.0	10.0	MSM-0710-10
4.0		5.5	4.0	MSM-0405-04	7.0		11.0	16.0	MSM-0711-16
4.0		5.5	6.0	MSM-0405-06	8.0		10.0	6.0	MSM-0810-06
4.0		7.0	3.0	MSM-0407-03	8.0		10.0	8.0	MSM-0810-08
4.0		7.0	4.0	MSM-0407-04	8.0		10.0	10.0	MSM-0810-10
4.0		7.0	6.0	MSM-0407-06	8.0		10.0	12.0	MSM-0810-12
4.0		8.0	4.0	MSM-0408-04	8.0		11.0	6.0	MSM-0811-06
4.0		8.0	6.0	MSM-0408-06	8.0		11.0	8.0	MSM-0811-08
5.0		7.0	5.0	MSM-0507-05	8.0	+0.040	11.0	12.0	MSM-0811-12
5.0		7.0	10.0	MSM-0507-10	8.0	+0.130	12.0	4.0	MSM-0812-04
5.0	+0.030	8.0	4.0	MSM-0508-04	8.0		12.0	6.0	MSM-0812-06
5.0	+0.105	8.0	5.0	MSM-0508-05	8.0		12.0	8.0	MSM-0812-08
5.0		8.0	8.0	MSM-0508-08	8.0		12.0	10.0	MSM-0812-10
5.0		9.0	5.0	MSM-0509-05	8.0		12.0	12.0	MSM-0812-12
5.0		9.0	8.0	MSM-0509-08	8.0		14.0	6.0	MSM-0814-06
6.0		8.0	6.0	MSM-0608-06	8.0		14.0	10.0	MSM-0814-10
6.0		8.0	8.0	MSM-0608-08	9.0		12.0	14.0	MSM-0912-14
6.0		8.0	10.0	MSM-0608-10	10.0		12.0	8.0	MSM-1012-08
6.0		9.0	6.0	MSM-0609-06	10.0		12.0	10.0	MSM-1012-10
6.0		10.0	2.5	MSM-0610-02	10.0		12.0	12.0	MSM-1012-12

<sup>3)</sup> After press-fit. Testing methods, page 57

Product range

d1	d1 Tolerance <sup>3)</sup>	d2	b1 h13	Part No.	d1	d1 Tolerance <sup>3)</sup>	d2	b1 h13	Part No.
[mm]		[mm]	[mm]		[mm]		[mm]	[mm]	
10.0		12.0	15.0	MSM-1012-15	16.0		21.0	7.0	MSM-1621-07
10.0		12.0	20.0	MSM-1012-20	16.0		22.0	12.0	MSM-1622-12
10.0		14.0	6.0	MSM-1014-06	16.0		22.0	15.0	MSM-1622-15
10.0		14.0	8.0	MSM-1014-08	16.0		22.0	16.0	MSM-1622-16
10.0		14.0	10.0	MSM-1014-10	16.0		22.0	20.0	MSM-1622-20
10.0	+0.040	14.0	16.0	MSM-1014-16	16.0		22.0	25.0	MSM-1622-25
10.0	+0.130	16.0	6.0	MSM-1016-06	18.0	+0.050	20.0	15.0	MSM-1820-15
10.0		16.0	8.0	MSM-1016-08	18.0	+0.160	20.0	20.0	MSM-1820-20
10.0		16.0	10.0	MSM-1016-10	18.0		20.0	25.0	MSM-1820-25
10.0		16.0	16.0	MSM-1016-16	18.0		24.0	12.0	MSM-1824-12
10.0		16.0	50.0	MSM-1016-50	18.0		24.0	20.0	MSM-1824-20
12.0		14.0	10.0	MSM-1214-10	18.0		24.0	30.0	MSM-1824-30
12.0		14.0	12.0	MSM-1214-12	18.0		24.0	40.0	MSM-1824-40
12.0		14.0	15.0	MSM-1214-15	20.0		23.0	10.0	MSM-2023-10
12.0		14.0	20.0	MSM-1214-20	20.0		23.0	15.0	MSM-2023-15
12.0		16.0	15.0	MSM-1216-15	20.0		23.0	20.0	MSM-2023-20
12.0		16.0	20.0	MSM-1216-20	20.0		23.0	25.0	MSM-2023-25
12.0		18.0	8.0	MSM-1218-08	20.0		23.0	30.0	MSM-2023-30
12.0		18.0	10.0	MSM-1218-10	20.0		25.0	14.0	MSM-2025-14
12.0		18.0	15.0	MSM-1218-15	20.0		25.0	20.0	MSM-2025-20
12.0		18.0	20.0	MSM-1218-20	20.0		25.0	30.0	MSM-2025-30
13.0		15.0	10.0	MSM-1315-10	20.0		26.0	12.0	MSM-2026-12
13.0		15.0	20.0	MSM-1315-20	20.0		26.0	15.0	MSM-2026-15
14.0		16.0	8.5	MSM-1416-085	20.0		26.0	20.0	MSM-2026-20
14.0		16.0	10.0	MSM-1416-10	20.0		26.0	30.0	MSM-2026-30
14.0		16.0	15.0	MSM-1416-15	22.0		24.0	8.0	MSM-2224-08
14.0		16.0	20.0	MSM-1416-20	22.0		25.0	15.0	MSM-2225-15
14.0		16.0	25.0	MSM-1416-25	22.0		25.0	20.0	MSM-2225-20
14.0		16.0	29.0	MSM-1416-29	22.0		25.0	25.0	MSM-2225-25
14.0	+0.050	18.0	20.0	MSM-1418-20	22.0	+0.065	25.0	30.0	MSM-2225-30
14.0	+0.160	20.0	10.0	MSM-1420-10	22.0	+0.195	26.0	15.0	MSM-2226-15
14.0		20.0	15.0	MSM-1420-15	22.0		28.0	10.0	MSM-2228-10
14.0		20.0	20.0	MSM-1420-20	22.0		28.0	15.0	MSM-2228-15
15.0		17.0	10.0	MSM-1517-10	22.0		28.0	20.0	MSM-2228-20
15.0		17.0	15.0	MSM-1517-15	22.0		28.0	30.0	MSM-2228-30
15.0		17.0	20.0	MSM-1517-20	24.0		27.0	15.0	MSM-2427-15
15.0		17.0	25.0	MSM-1517-25	24.0		27.0	20.0	MSM-2427-20
15.0		21.0	10.0	MSM-1521-10	24.0		27.0	25.0	MSM-2427-25
15.0		21.0	15.0	MSM-1521-15	24.0		27.0	30.0	MSM-2427-30
15.0		21.0	20.0	MSM-1521-20	24.0		30.0	15.0	MSM-2430-15
15.0		21.0	23.0	MSM-1521-23	24.0		30.0	20.0	MSM-2430-20
16.0		18.0	12.0	MSM-1618-12	24.0		30.0	30.0	MSM-2430-30
16.0		18.0	15.0	MSM-1618-15	25.0		28.0	12.0	MSM-2528-12
16.0		18.0	20.0	MSM-1618-20	25.0		28.0	15.0	MSM-2528-15
16.0		18.0	25.0	MSM-1618-25	25.0		28.0	20.0	MSM-2528-20
16.0		20.0	20.0	MSM-1620-20	25.0		28.0	25.0	MSM-2528-25
16.0		20.0	25.0	MSM-1620-25	25.0		28.0	30.0	MSM-2528-30
16.0		20.0	30.0	MSM-1620-30	25.0		30.0	20.0	MSM-2530-20

<sup>3)</sup> After press-fit. Testing methods, page 57

# Bearing technology | Plain bearing | iglidur® M250

d1	d1 Tolerance <sup>3)</sup>	d2	b1 h13	Part No.	d1	d1 Tolerance <sup>3)</sup>	d2	b1 h13	Part No.
[mm]	[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	
25.0		30.0	30.0	MSM-2530-30	30.0		38.0	20.0	MSM-3038-20
25.0		30.0	40.0	MSM-2530-40	30.0	+0.065	38.0	30.0	MSM-3038-30
25.0		32.0	10.0	MSM-2532-10	30.0	+0.195	38.0	40.0	MSM-3038-40
25.0		32.0	12.0	MSM-2532-12	30.0		40.0	40.0	MSM-3040-40
25.0		32.0	20.0	MSM-2532-20	32.0		36.0	20.0	MSM-3236-20
25.0		32.0	30.0	MSM-2532-30	32.0		36.0	30.0	MSM-3236-30
25.0		32.0	35.0	MSM-2532-35	32.0		36.0	40.0	MSM-3236-40
25.0		32.0	40.0	MSM-2532-40	32.0		40.0	20.0	MSM-3240-20
26.0		30.0	20.0	MSM-2630-20	32.0		40.0	30.0	MSM-3240-30
26.0		32.0	30.0	MSM-2632-30	32.0		40.0	40.0	MSM-3240-40
27.0		34.0	20.0	MSM-2734-20	35.0		39.0	20.0	MSM-3539-20
27.0		34.0	30.0	MSM-2734-30	35.0		39.0	30.0	MSM-3539-30
27.0	+0.065	34.0	40.0	MSM-2734-40	35.0		39.0	40.0	MSM-3539-40
28.0	+0.195	32.0	20.0	MSM-2832-20	35.0		39.0	50.0	MSM-3539-50
28.0		32.0	25.0	MSM-2832-25	35.0		42.0	50.0	MSM-3542-50
28.0		32.0	30.0	MSM-2832-30	40.0		44.0	20.0	MSM-4044-20
28.0		33.0	20.0	MSM-2833-20	40.0	+0.080	44.0	30.0	MSM-4044-30
28.0		36.0	20.0	MSM-2836-20	40.0	+0.240	44.0	40.0	MSM-4044-40
28.0		36.0	30.0	MSM-2836-30	40.0		44.0	50.0	MSM-4044-50
28.0		36.0	40.0	MSM-2836-40	40.0		46.0	20.0	MSM-4046-20
30.0		34.0	20.0	MSM-3034-20	45.0		50.0	20.0	MSM-4550-20
30.0		34.0	25.0	MSM-3034-25	45.0		50.0	30.0	MSM-4550-30
30.0		34.0	30.0	MSM-3034-30	45.0		50.0	40.0	MSM-4550-40
30.0		34.0	40.0	MSM-3034-40	45.0		50.0	50.0	MSM-4550-50
30.0		35.0	20.0	MSM-3035-20	50.0		55.0	20.0	MSM-5055-20
30.0		35.0	40.0	MSM-3035-40	50.0		55.0	30.0	MSM-5055-30
30.0	+0.032				50.0		55.0	40.0	MSM-5055-40
30.0	+0.102	38.0	3.0	MSM-3038-03	50.0		55.0	50.0	MSM-5055-50
30.0	+0.065				50.0		55.0	60.0	MSM-5055-60
30.0	+0.195	38.0	4.5	MSM-3038-045					
30.0	+0.080				75.0	+0.100	80.0	60.0	MSM-7580-60
30.0	+0.240	38.0	17.0	MSM-3038-17		+0.290			

<sup>3)</sup> After press-fit. Testing methods, page 57

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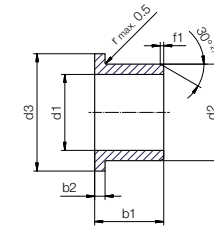
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# Bearing technology | Plain bearing | iglidur® M250

## Flange bearing (form F)



<sup>3)</sup> Thickness < 0.6mm: Chamfer = 20°

Chamfer in relation to d1

d1 [mm]	Ø 1–6	Ø 6–12	Ø 12–30	Ø > 30
f1 [mm]	0.3	0.5	0.8	1.2

Dimensions according to ISO 2795 and special dimensions

**Order example: MFM-0103-02 – no minimum order quantity.**  
M250 iglidur® material F Flange bearing M Metric O1 Inner Ø d1 O3 Outer Ø d2 O2 Total length b1

d1	d1 Tolerance <sup>3)</sup>	d2	d3	b1	b2	Part No.	d1	d1 Tolerance <sup>3)</sup>	d2	d3	b1	b2	Part No.
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
1.0		3.0	5.0	2.0	1.00	MFM-0103-02	8.0		12.0	16.0	8.0	2.00	MFM-0812-08
1.5		4.0	6.0	2.0	1.00	MFM-0104-02	8.0		12.0	16.0	12.0	2.00	MFM-0812-12
2.0	+0.020	5.0	8.0	3.0	1.50	MFM-0205-03	8.0		14.0	18.0	6.0	3.00	MFM-0814-06
2.5	+0.080	6.0	9.0	3.0	1.50	MFM-0206-03	8.0		14.0	16.0	6.0	3.00	MFM-081416-06
3.0		6.0	9.0	4.0	1.50	MFM-0306-04	8.0		14.0	18.0	10.0	3.00	MFM-0814-10
4.0		8.0	12.0	4.0	2.00	MFM-0408-04	8.0		14.0	16.0	10.0	3.00	MFM-081416-10
4.0		8.0	12.0	6.0	2.00	MFM-0408-06	9.0		14.0	19.0	6.0	2.00	MFM-0914-06
4.0		8.0	12.0	8.0	2.00	MFM-0408-08	9.0		14.0	19.0	10.0	2.00	MFM-0914-10
5.0		9.0	13.0	5.0	2.00	MFM-0509-05	9.0		14.0	19.0	14.0	2.00	MFM-0914-14
5.0		9.0	13.0	6.0	2.00	MFM-0509-06	10.0		12.0	18.0	7.0	1.00	MFM-1012-07
5.0		9.0	13.0	8.0	2.00	MFM-0509-08	10.0		12.0	18.0	9.0	1.00	MFM-1012-09
6.0	+0.030	8.0	12.0	4.0	1.00	MFM-0608-04	10.0		12.0	18.0	9.0	1.00	MFM-1014-09
6.0	+0.105	8.0	12.0	8.0	1.00	MFM-0608-08	10.0	+0.040	12.0	18.0	12.0	1.00	MFM-1012-12
6.0		10.0	14.0	4.0	2.00	MFM-0610-04	10.0	+0.130	12.0	18.0	17.0	1.00	MFM-1012-17
6.0		10.0	14.0	6.0	2.00	MFM-0610-06	10.0		14.0	19.0	8.0	2.00	MFM-101419-08
6.0		10.0	14.0	10.0	2.00	MFM-0610-10	10.0		14.0	19.0	10.0	2.00	MFM-1014-10
6.0		11.0	14.0	4.0	2.00	MFM-0611-04	10.0		14.0	19.0	12.0	1.50	MFM-101419-12
6.0		12.0	14.0	6.0	3.00	MFM-0612-06	10.0		14.0	20.0	12.0	2.00	MFM-101420-12
6.0		12.0	14.0	10.0	3.00	MFM-0612-10	10.0		14.0	17.5	14.0	1.00	MFM-1014-14
7.0		11.0	15.0	6.0	2.00	MFM-0711-06	10.0		14.0	17.5	19.0	1.00	MFM-1014-19
7.0		11.0	15.0	8.0	2.00	MFM-0711-08	10.0		14.0	17.5	24.0	1.00	MFM-1014-24
8.0		9.0	13.0	5.5	0.50	MFM-0809-055	10.0		14.0	17.5	34.0	1.00	MFM-1014-34
8.0		10.0	15.0	5.5	1.00	MFM-0810-05	10.0		16.0	20.0	6.0	3.00	MFM-101620-06
8.0	+0.040	10.0	15.0	7.5	1.00	MFM-0810-07	10.0		16.0	22.0	8.0	3.00	MFM-1016-08
8.0	+0.130	10.0	15.0	9.5	1.00	MFM-0810-09	10.0		16.0	22.0	10.0	3.00	MFM-1016-10
8.0		11.0	13.0	5.0	2.00	MFM-0811-05	10.0		16.0	20.0	10.0	3.00	MFM-101620-10
8.0		11.0	13.0	8.0	2.00	MFM-0811-08	10.0		16.0	22.0	16.0	3.00	MFM-1016-16
8.0		12.0	16.0	6.0	2.00	MFM-0812-06							

<sup>3)</sup> After press-fit. Testing methods, page 57