



The "food-classic" for low duty FDA-compliant iglidur® A200



When to use it?

- Suitable for contact with food
- When a low noise level is required
- When dirt needs to become embedded
- When FDA compliance is required



When not to use?

- When the maximum wear resistance is necessary
iglidur® W300
- When continuous operating temperatures are higher than +80°C
iglidur® A350, iglidur® A500
- When a cost-effective universal plain bearing is required
iglidur® G
- For operations in wet environments
iglidur® A180

Bearing technology | Plain bearing | iglidur® A200



Ø
1.0 – 32.0mm



Also available as:



Bar stock, round bar
Page 657



Bar stock, plate
Page 683



tribo-tape liner
Page 691



Piston rings
Page 581



Two hole flange bearings
Page 603



Moulded special parts
Page 624



igubal® spherical balls
Page 841

The "food-classic" for low duty FDA-compliant

FDA-compliant material for applications with low to medium loads in immediate environs of (or contact) with food or drugs.

- FDA-compliant
- Suitable for contact with food
- Suitable for low surface speeds
- Lubrication-free
- Standard range from stock
- Maintenance-free
- Thrust washers available only in imperial sizes, from page 1601

Typical application areas

- Food industry

Descriptive technical specifications				
Wear resistance at +23°C	-	<div style="width: 20px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+
Wear resistance at +90°C	-	<div style="width: 10px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+
Wear resistance at +150°C	-	<div style="width: 10px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+
Low coefficient of friction	-	<div style="width: 20px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+
Low moisture absorption	-	<div style="width: 10px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+
Wear resistance under water	-	<div style="width: 10px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+
High media resistance	-	<div style="width: 20px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+
Resistant to edge pressures	-	<div style="width: 20px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+
Suitable for shock and impact loads	-	<div style="width: 20px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+
Resistant to dirt	-	<div style="width: 20px; height: 10px; background-color: green;"></div>	<div style="width: 20px; height: 10px; background-color: white;"></div>	+

Online product finder
www.igus.eu/iglidur-finder

Online service life calculation
www.igus.eu/iglidur-expert

Technical data

General properties		Testing method	
Density	g/cm ³	1.14	
Colour		white	
Max. moisture absorption at +23°C and 50% r.h.	% weight	1.5	DIN 53495
Max. moisture absorption	% weight	7.6	
Coefficient of friction, dynamic, against steel	μ	0.10 – 0.40	
pv value, max. (dry)	MPa · m/s	0.09	
Mechanical properties			
Flexural modulus	MPa	2,500	DIN 53457
Flexural strength at +20°C	MPa	116	DIN 53452
Compressive strength	MPa	54	
Max. recommended surface pressure (+20°C)	MPa	18	
Shore D hardness		81	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 ⁻¹ · 10 ⁻⁵	10	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10 ¹³	DIN IEC 93
Surface resistance	Ω	> 10 ¹²	DIN 53482

Table 01: Material properties

Plain bearings made from iglidur® A200 are suitable for application in direct contact with food. Hence they are the ideal solution for bearing requirements in machines for the food industry, medical equipment manufacturing, for small equipment for households, etc. As the incorporation of solid lubricants is dispensed with in favour of food compatibility, the thermoplastic composition of iglidur® A200 is especially adjusted for abrasion resistance. In addition the iglidur® A200 is characterised by its capacity to embed dirt and by its quiet operating behaviour. The good wear properties, dirt resistance and the possibility for dry operation allow to replace elaborately sealed, lubricated bearings for little costs.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglidur® A200 plain bearings is approximately 1.5% 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® A200 are resistant up to a radiation intensity of 1 · 10⁴Gy.

Resistance to weathering

iglidur® A200 plain bearings are not resistant to weathering. The material properties are significantly affected. Severe discoloration occurs. Applications with this material under weathering conditions are not recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglidur® A200 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.

Diagram 03 shows the elastic deformation of iglidur® A200 at radial loads. At the maximum recommended surface pressure of 18MPa the deformation is less than 2%. A plastic deformation can be negligible up to this value. However, it is also dependent on the service time.

Surface pressure, page 41



-40°C up to +80°C



18MPa



V-2



Permissible surface speeds

iglidur® A200 was developed for low surface speeds. The given values in table 03 indicate the limits at which an increase up to the continuous permissible temperature occurs. This increase is a result of friction. In practice, though, this level is rarely reached due to varying application conditions.

Surface speed, page 44

Temperature

The iglidur® A200 plain bearings can be used in short-term temperatures up to +170°C. The temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +50°C an additional securing is required.

Application temperatures, page 49

Additional securing, page 49

Friction and wear

Similar to wear resistance, the coefficient of friction μ also changes with the surface speed and load (diagrams 04 and 05).

Coefficient of friction and surfaces, page 47

Wear resistance, page 50

Shaft materials

Diagrams 06 and 07 show the test results of iglidur® A200 plain bearings running against various shaft materials. In pivoting applications below a load of 2MPa, the wear of iglidur® A200 plain bearings is higher than in rotating applications with equal load. Here the HR carbon steel shaft is a positive exception.

Shaft materials, page 52

Installation tolerances

iglidur® A200 plain bearings are standard bearings for shafts with h tolerance (recommended minimum h9). 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).

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	2.0
short-term	m/s 1.5	1.1	3.0

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.10 – 0.40	0.09	0.04	0.04

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

Ø d1 [mm]	Housing		Plain bearing		Shaft	
	H7 [mm]	D11 [mm]	D11 [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

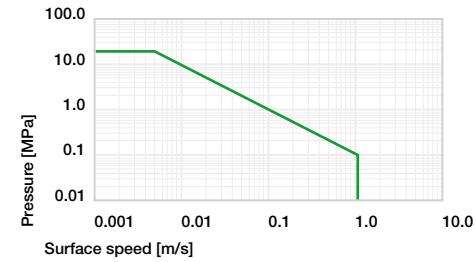


Diagram 01: Permissible pv values for iglidur® A200 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +20°C, mounted in a steel housing

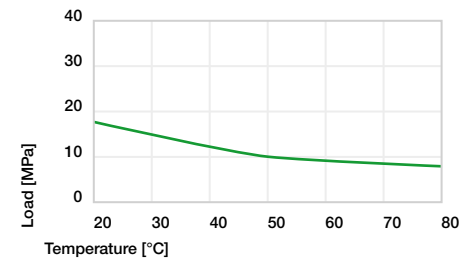


Diagram 02: Maximum recommended surface pressure as a function of temperature (18MPa at +20°C)

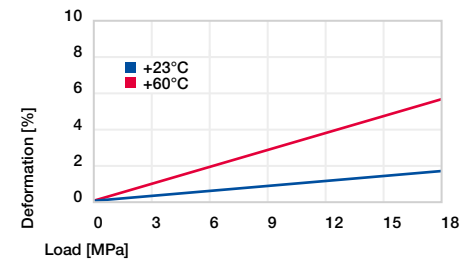


Diagram 03: Deformation under pressure and temperature

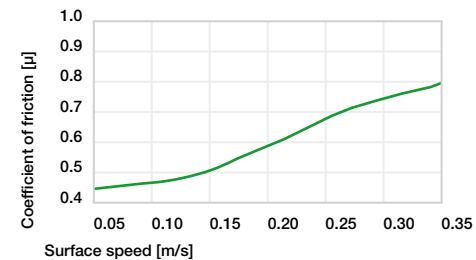


Diagram 04: Coefficient of friction as a function of the surface speed, p = 0.75MPa

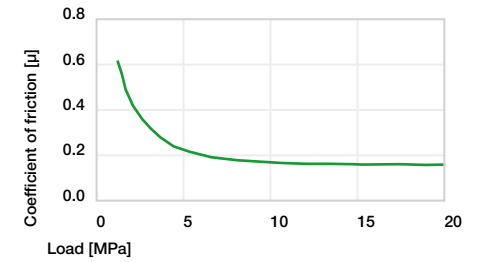


Diagram 05: Coefficient of friction as a function of the load, v = 0.01m/s

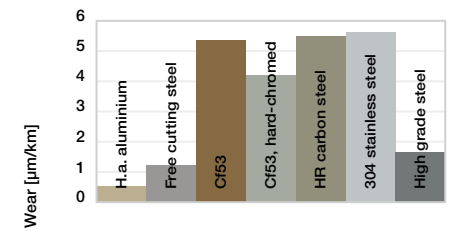


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 1MPa, v = 0.3m/s

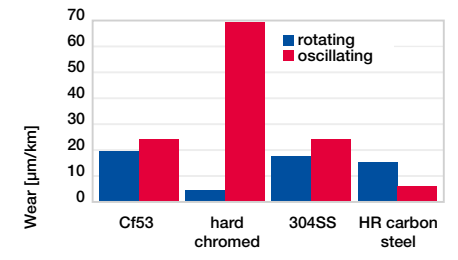
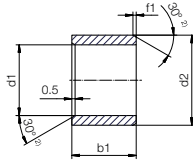


Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 2MPa

Sleeve bearing (form S)



²⁾ 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: **ASM-0103-02** – no minimum order quantity.

A200 iglidur® material **S** Sleeve bearing **M** Metric **01** Inner Ø d1 **03** Outer Ø d2 **02** Total length b1

d1	d1	d2	b1	Part No.	d1	d1	d2	b1	Part No.
[mm]	Tolerance ³⁾	[mm]	[mm]		[mm]	Tolerance ³⁾	[mm]	[mm]	
1.0		3.0	2.0	ASM-0103-02	8.0		10.0	10.0	ASM-0810-10
1.5		4.0	2.0	ASM-0104-02	8.0		11.0	8.0	ASM-0811-08
2.0		5.0	2.0	ASM-0205-02	8.0		11.0	12.0	ASM-0811-12
2.0		5.0	3.0	ASM-0205-03	8.0		12.0	6.0	ASM-0812-06
2.5	+0.020	6.0	3.0	ASM-0206-03	8.0		12.0	8.0	ASM-0812-08
3.0	+0.080	5.0	3.0	ASM-0305-03	8.0		12.0	10.0	ASM-0812-10
3.0		5.0	4.0	ASM-0305-04	8.0		12.0	12.0	ASM-0812-12
3.0		6.0	3.0	ASM-0306-03	8.0		14.0	6.0	ASM-0814-06
3.0		6.0	4.0	ASM-0306-04	8.0	+0.040	14.0	10.0	ASM-0814-10
4.0		7.0	3.0	ASM-0407-03	9.0	+0.130	12.0	14.0	ASM-0912-14
4.0		7.0	4.0	ASM-0407-04	10.0		12.0	10.0	ASM-1012-10
4.0		7.0	6.0	ASM-0407-06	10.0		14.0	6.0	ASM-1014-06
4.0		8.0	6.0	ASM-0408-06	10.0		14.0	8.0	ASM-1014-08
5.0		8.0	4.0	ASM-0508-04	10.0		14.0	10.0	ASM-1014-10
5.0		8.0	5.0	ASM-0508-05	10.0		14.0	16.0	ASM-1014-16
5.0		8.0	8.0	ASM-0508-08	10.0		16.0	6.0	ASM-1016-06
5.0	+0.030	9.0	5.0	ASM-0509-05	10.0		16.0	10.0	ASM-1016-10
5.0	+0.105	9.0	8.0	ASM-0509-08	10.0		16.0	16.0	ASM-1016-16
6.0		8.0	10.0	ASM-0608-10	12.0		14.0	20.0	ASM-1214-20
6.0		9.0	6.0	ASM-0609-06	12.0		16.0	15.0	ASM-1216-15
6.0		10.0	4.0	ASM-0610-04	12.0		16.0	20.0	ASM-1216-20
6.0		10.0	6.0	ASM-0610-06	12.0		18.0	8.0	ASM-1218-08
6.0		10.0	10.0	ASM-0610-10	12.0		18.0	10.0	ASM-1218-10
6.0		12.0	6.0	ASM-0612-06	12.0		18.0	15.0	ASM-1218-15
6.0		12.0	10.0	ASM-0612-10	12.0	+0.050	18.0	20.0	ASM-1218-20
7.0		10.0	5.0	ASM-0710-05	14.0	+0.160	16.0	10.0	ASM-1416-10
7.0	+0.040	10.0	8.0	ASM-0710-08	14.0		16.0	15.0	ASM-1416-15
8.0	+0.130	10.0	6.0	ASM-0810-06	14.0		16.0	20.0	ASM-1416-20
8.0		10.0	8.0	ASM-0810-08	14.0		20.0	10.0	ASM-1420-10

³⁾ After press-fit. Testing methods, page 57

Product range

d1	d1	d2	b1	Part No.	d1	d1	d2	b1	Part No.
[mm]	Tolerance ³⁾	[mm]	[mm]		[mm]	Tolerance ³⁾	[mm]	[mm]	
14.0		20.0	15.0	ASM-1420-15	22.0		28.0	15.0	ASM-2228-15
14.0		20.0	20.0	ASM-1420-20	22.0		28.0	20.0	ASM-2228-20
15.0		17.0	10.0	ASM-1517-10	22.0		28.0	30.0	ASM-2228-30
15.0		17.0	15.0	ASM-1517-15	24.0		30.0	15.0	ASM-2430-15
15.0		21.0	10.0	ASM-1521-10	24.0		30.0	20.0	ASM-2430-20
15.0		21.0	15.0	ASM-1521-15	24.0		30.0	30.0	ASM-2430-30
15.0		21.0	20.0	ASM-1521-20	25.0		28.0	12.0	ASM-2528-12
16.0		18.0	12.0	ASM-1618-12	25.0		28.0	20.0	ASM-2528-20
16.0		18.0	20.0	ASM-1618-20	25.0		30.0	20.0	ASM-2530-20
16.0	+0.050	20.0	20.0	ASM-1620-20	25.0		30.0	30.0	ASM-2530-30
16.0	+0.160	20.0	25.0	ASM-1620-25	25.0		30.0	40.0	ASM-2530-40
16.0		22.0	12.0	ASM-1622-12	25.0		32.0	20.0	ASM-2532-20
16.0		22.0	15.0	ASM-1622-15	25.0	+0.065	32.0	30.0	ASM-2532-30
16.0		22.0	16.0	ASM-1622-16	25.0	+0.195	32.0	40.0	ASM-2532-40
16.0		22.0	20.0	ASM-1622-20	26.0		30.0	20.0	ASM-2630-20
16.0		22.0	25.0	ASM-1622-25	26.0		32.0	30.0	ASM-2632-30
18.0		24.0	12.0	ASM-1824-12	27.0		34.0	20.0	ASM-2734-20
18.0		24.0	20.0	ASM-1824-20	27.0		34.0	30.0	ASM-2734-30
18.0		24.0	30.0	ASM-1824-30	27.0		34.0	40.0	ASM-2734-40
20.0		23.0	15.0	ASM-2023-15	28.0		33.0	20.0	ASM-2833-20
20.0		23.0	20.0	ASM-2023-20	28.0		36.0	20.0	ASM-2836-20
20.0		25.0	15.0	ASM-2025-15	28.0		36.0	30.0	ASM-2836-30
20.0		25.0	20.0	ASM-2025-20	28.0		36.0	40.0	ASM-2836-40
20.0	+0.065	25.0	30.0	ASM-2025-30	30.0		38.0	20.0	ASM-3038-20
20.0	+0.195	26.0	15.0	ASM-2026-15	30.0		38.0	30.0	ASM-3038-30
20.0		26.0	20.0	ASM-2026-20	30.0		38.0	40.0	ASM-3038-40
20.0		26.0	30.0	ASM-2026-30	32.0		40.0	20.0	ASM-3240-20
22.0		26.0	15.0	ASM-2226-15	32.0	+0.080	40.0	30.0	ASM-3240-30
22.0		28.0	10.0	ASM-2228-10	32.0	+0.240	40.0	40.0	ASM-3240-40

³⁾ After press-fit. Testing methods, page 57

Available from stock
Detailed information about delivery time online.
www.igus.eu/24

Online ordering
Including delivery times, prices, online tools
www.igus.eu/A200

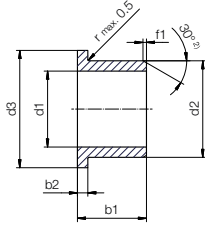
Ordering note
Our prices are scaled according to order quantities, current prices can be found online.

Discount scaling		
1 – 9	50 – 99	500 – 999
10 – 24	100 – 199	1,000 – 2,499
25 – 49	200 – 499	2,500 – 4,999

No minimum order value.
No low-quantity surcharges.
Free shipping within Germany for orders above €150.

Bearing technology | Plain bearing | iglidur® A200

Flange bearing (form F)



³⁾ 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: **AFM-0103-02** – no minimum order quantity.

A200 iglidur® material **F** Flange bearing **M** Metric **01** Inner Ø d1 **03** Outer Ø d2 **02** Total length b1

d1	d1	d2	d3	b1	b2	Part No.
[mm]	Tolerance ³⁾	[mm]	d13 ³⁾	[mm]	[mm]	
1.0		3.0	5.0	2.0	1.00	AFM-0103-02
1.5	+0.020	4.0	6.0	2.0	1.00	AFM-0104-02
2.0		5.0	8.0	3.0	1.50	AFM-0205-03
2.5	+0.080	6.0	9.0	3.0	1.50	AFM-0206-03
3.0		6.0	9.0	4.0	1.50	AFM-0306-04
4.0		8.0	12.0	4.0	2.00	AFM-0408-04
4.0		8.0	12.0	6.0	2.00	AFM-0408-06
5.0		7.0	11.0	5.0	1.00	AFM-0507-05
5.0		9.0	13.0	5.0	2.00	AFM-0509-05
5.0	+0.030	9.0	13.0	6.0	2.00	AFM-0509-06
5.0		9.0	13.0	8.0	2.00	AFM-0509-08
6.0	+0.105	10.0	14.0	4.0	2.00	AFM-0610-04
6.0		10.0	14.0	6.0	2.00	AFM-0610-06
6.0		10.0	14.0	10.0	2.00	AFM-0610-10
6.0		12.0	14.0	6.0	3.00	AFM-0612-06
6.0		12.0	14.0	10.0	3.00	AFM-0612-10
7.0		11.0	15.0	8.0	2.00	AFM-0711-08
8.0		11.0	13.0	8.0	2.00	AFM-0811-08
8.0		12.0	16.0	6.0	2.00	AFM-0812-06
8.0		12.0	16.0	8.0	2.00	AFM-0812-08
8.0		12.0	16.0	12.0	2.00	AFM-0812-12
8.0	+0.040	12.0	16.0	22.0	2.00	AFM-0812-22
8.0		+0.130	14.0	18.0	6.0	3.00
8.0	14.0		18.0	10.0	3.00	AFM-0814-10
9.0		14.0	19.0	6.0	2.00	AFM-0914-06
9.0		14.0	19.0	10.0	2.00	AFM-0914-10
9.0		14.0	19.0	14.0	2.00	AFM-0914-14
10.0		16.0	22.0	6.0	3.00	AFM-1016-06

d1	d1	d2	d3	b1	b2	Part No.
[mm]	Tolerance ³⁾	[mm]	d13 ³⁾	[mm]	[mm]	
10.0		16.0	22.0	8.0	3.00	AFM-1016-08
10.0	+0.040	16.0	22.0	10.0	3.00	AFM-1016-10
10.0		+0.130	16.0	22.0	16.0	3.00
10.0	16.0		20.0	10.0	3.00	AFM-101620-10
12.0		14.0	20.0	12.0	1.00	AFM-1214-12
12.0		18.0	24.0	8.0	3.00	AFM-1218-08
12.0		18.0	22.0	10.0	3.00	AFM-1218-10
12.0		18.0	24.0	12.0	3.00	AFM-1218-12
12.0		18.0	22.0	15.0	3.00	AFM-1218-15
12.0		18.0	22.0	20.0	3.00	AFM-1218-20
14.0		20.0	25.0	10.0	3.00	AFM-1420-10
14.0		20.0	25.0	15.0	3.00	AFM-1420-15
14.0		20.0	25.0	20.0	3.00	AFM-1420-20
15.0	+0.050	21.0	27.0	10.0	3.00	AFM-1521-10
15.0		+0.160	21.0	27.0	15.0	3.00
15.0	21.0		27.0	20.0	3.00	AFM-1521-20
15.0		21.0	27.0	25.0	3.00	AFM-1521-25
16.0		22.0	28.0	12.0	3.00	AFM-1622-12
16.0		22.0	28.0	15.0	3.00	AFM-1622-15
16.0		22.0	28.0	20.0	3.00	AFM-1622-20
16.0		22.0	28.0	25.0	3.00	AFM-1622-25
18.0		24.0	30.0	12.0	3.00	AFM-1824-12
18.0		24.0	30.0	18.0	3.00	AFM-1824-18
18.0		24.0	30.0	20.0	3.00	AFM-1824-20
18.0		24.0	30.0	30.0	3.00	AFM-1824-30
20.0	+0.065	26.0	32.0	15.0	3.00	AFM-2026-15
20.0		+0.195	26.0	32.0	20.0	3.00
20.0	26.0		32.0	30.0	3.00	AFM-2026-30

³⁾ After press-fit. Testing methods, page 57

Product range

d1	d1	d2	d3	b1	b2	Part No.
[mm]	Tolerance ³⁾	[mm]	d13 ³⁾	[mm]	[mm]	
22.0		28.0	34.0	15.0	3.00	AFM-2228-15
22.0		28.0	34.0	20.0	3.00	AFM-2228-20
22.0		28.0	34.0	30.0	3.00	AFM-2228-30
24.0		30.0	36.0	15.0	3.00	AFM-2430-15
24.0		30.0	36.0	20.0	3.00	AFM-2430-20
24.0	+0.065	30.0	36.0	30.0	3.00	AFM-2430-30
24.0		+0.195	32.0	38.0	20.0	4.00
25.0	32.0		38.0	30.0	4.00	AFM-2532-30
25.0		32.0	38.0	40.0	4.00	AFM-2532-40
27.0		34.0	40.0	20.0	4.00	AFM-2734-20
27.0		34.0	40.0	30.0	4.00	AFM-2734-30

³⁾ After press-fit. Testing methods, page 57

d1	d1	d2	d3	b1	b2	Part No.
[mm]	Tolerance ³⁾	[mm]	d13 ³⁾	[mm]	[mm]	
27.0		34.0	40.0	40.0	4.00	AFM-2734-40
28.0		36.0	42.0	20.0	4.00	AFM-2836-20
28.0		36.0	42.0	30.0	4.00	AFM-2836-30
28.0	+0.065	36.0	42.0	40.0	4.00	AFM-2836-40
28.0		+0.195	38.0	44.0	20.0	4.00
30.0	38.0		44.0	30.0	4.00	AFM-3038-30
30.0		38.0	44.0	40.0	4.00	AFM-3038-40
32.0	+0.080	40.0	46.0	20.0	4.00	AFM-3240-20
32.0		+0.240	40.0	46.0	30.0	4.00
32.0	40.0		46.0	40.0	4.00	AFM-3240-40



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