iglide®...

Polymer plain bearings

...plastics

Application examples: iglide®

Improve technology ... Reduce cost.

For years the igus® motto has been “plastics for longer life®.” By this we mean that our goal is to engineer and manufacture innovative plastic products that reduce maintenance and overall costs, increase service life, and enhance the technical abilities of your machines. We also keep most of our iglide® plain bearings in stock so we can ship what you need the same day.

Rollercoaster

Here iglide® Z plain bearings led to significant reduction of the costs. This was achieved by eliminating the maintenance work completely during the season. With iglide® Z plain bearings it is not necessary to check or re-lubricate the units and shafts. Also it was possible to reduce the weight.
(Six Flags Theme Park)

Surgical light
The motor-powered swiveling LED wings are adjusted with the aid of preloaded iglide® JVFM bearings. Self-lubricating and maintenance-free.
(Trumpf iLED Medical Systems Inc.)

Washing chain bearings
Reduction of the drive power for bottle washing machines by using iglide® under the most difficult conditions in a 2–3% caustic soda and temperature of +176°F.
(Krones AG)

Hay spreader
Main reasons for iglide® plain bearings: The special design to compliment the centrifugal arm results in a significant reduction of manufacturing costs. It is also maintenance-free and has high wear resistance.
(Fella Werke GmbH & Co. KG)

Tool changer chain
Main reasons for iglide® plain bearings: enormous cost advantages in comparison to standard metallic rolled bearings as well as low coefficient of friction also with soft shaft materials.
(Deckel Maho Seebach GmbH)

Axle bearing
The edge load is usually a deciding factor for or against the use of plain bearings. iglide® G plain bearings solve this, also giving high wear resistance, low costs, resistance to corrosion and dirt.
(Zunhammer GmbH Gülletechnik)

Bag forming, filling and sealing machine
The continuous operating temperature in the bonding arms frequently reach +320°F and higher. These requirements are met by iglide® Z plain bearings which also offer particularly high resistance to wear.
(Affeldt Verpackungsmaschinen GmbH)

iglide® plain bearings | Product overview

iglide® plain bearings made from tribo-plastics: general purpose

Materials for general purpose

The classic general purpose: iglide® G

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Universal: iglide® G1

▶ Page 113

The robust all-rounder iglide® M250

▶ Page 121

iglide® plain bearings made from tribo-plastics:

Materials for long service life

Low-cost material for high-volume production: iglide® GLW

▶ Page 183

The versatile endurance runner: iglide® J

▶ Page 193

The classic endurance runner up to 4,351psi: iglide® W300

▶ Page 211

iglide® plain bearings made from tribo-plastics: endurance runner

Endurance runner up to +356°F: iglide® W360

▶ Page 271

For fast rotating applications: iglide® L250

▶ Page 279

For high rotational speeds: iglide® L350

▶ Page 287

For extreme rotational speeds and temperatures: iglide® L500

▶ Page 295

iglide® plain bearings made from tribo-plastics: high temperature

Materials for use at high temperatures

The chemical and temperature specialist: iglide® X

▶ Page 339

Extremely long service life under extreme conditions: iglide® Z

▶ Page 357

The high temperature specialists up to +482°F: iglide® X6

▶ Page 373

iglide® plain bearings made from tribo-plastics: high media resistance

Materials with good media resistance

Endurance runner with high media resistance: iglide® H1

▶ Page 407

Extremely long service life under water: iglide® H370

▶ Page 419

The classic with high resistance to media and temperature: iglide® H

▶ Page 431

Specialist for oscillating, rolling applications and more: iglide® P210

▶ Page 143

For serial production:

iglide® P230

▶ Page 155

The outdoor all-rounder:
iglide® P

▶ Page 161

Versatile and cost-effective:
iglide® K

▶ Page 175

endurance runner

Specialist for oscillating and intermittent loads:
iglide® J3

▶ Page 231

Proven long-life material in black
iglide® J3B

▶ Page 243

High dimensional stability at high temperatures:
iglide® J350

▶ Page 251

Ideal for plastic shafts:
iglide® J260

▶ Page 263

Low-cost:

iglide® R

▶ Page 303

Low-cost with silicone:
iglide® D

▶ Page 315

Specialist for aluminum shafts:
iglide® J200

▶ Page 321

Ideal for oscillating motions:
iglide® E7

▶ Page 327

For soft shafts and high temperatures:
iglide® V400

▶ Page 381

All-rounder for steam sterilization:
iglide® HSD350

▶ Page 389

For hot liquids:
iglide® UW500

▶ Page 397

High temperature endurance runner:
iglide® C500

▶ Page 439

The low-cost specialist for chemicals and temperatures: iglide® H2

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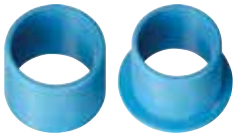
iglide® plain bearings | Product overview

iglide® plain bearings made from tribo-plastics: for contact with food

Materials for contact with food



The universal bearing for contact with food: iglide® A181

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The endurance runner at higher temperatures in the food sector: iglide® A350

▶ Page 469

The media and temperature specialist in the food sector: iglide® A500

▶ Page 481

iglide® plain bearings made from tribo-plastics: for high loads

For the tobacco industry: iglide® T220

▶ Page 531

Materials for heavy-duty applications

The durable heavy-duty bearing: iglide® Q2

▶ Page 541

Cost-effective heavy-duty bearing: iglide® Q2E

▶ Page 553

iglide® plain bearings made from tribo-plastics: specialists

Materials for special application areas

Electrically conductive: iglide® F

▶ Page 589

The ESD-compatible all-rounder: iglide® F2

▶ Page 597

The automotive standard: iglide® H4

▶ Page 605

iglide® plain bearings made from tribo-plastics: specialists

Versatile and cost-effective: iglide® J2

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The first antibacterial iglide® plain bearing: iglide® AB

▶ Page 653

Complies with DIN EN 45545 HL3, R22/R23: iglide® RW370

▶ Page 661

The variable one: iglide® B

▶ Page 669

The all-rounder for food:
iglide® A180

▶ Page 493

The “food-classic” for low speeds:
iglide® A200

▶ Page 501

Food bearing with high media resistance up to +194°F: iglide® A160

▶ Page 515

Suitable for contact with drinking water:
iglide® UW160

▶ Page 523

The peak of stability:

iglide® Q

▶ Page 561

Heavy-duty on soft shafts:
iglide® Q290

▶ Page 571

The heavy-duty bearing up to 29,008psi static and 20,305psi dynamic: iglide® TX1

▶ Page 577

For fast rotation under water:
iglide® UW

▶ Page 613

For continuous direct sunlight:
iglide® J UV

▶ Page 621

The biopolymer:

iglide® N54

▶ Page 629

Low-cost all-rounder for fire protection:
iglide® G V0

▶ Page 637

Free from PTFE and silicone:
iglide® C

▶ Page 675

iglide® plain bearings | Technical properties - quick selection

iglide®	G	G1	M250	P210	P230	P	K	GLW
Installation tolerances	E10	E10	D11	E10	E10	E10	E10	E10
Descriptive technical specifications								
Wear resistance at +73°F	■■■□□	■■■■□	■■□□□	■■■■□	■■■□□	■■■□□	■■■□□	■■□□□
Wear resistance at +194°F	■■■□□	■■■■□	■■■□□	■■■■□	■■□□□	■■■□□	■■■□□	■■□□□
Wear resistance at +302°F	■■□□□	■■■□□	■□□□□	■■■□□	■□□□□	■□□□□	■■□□□	■□□□□
Low coefficient of friction	■■■■□	■■■■□	■■□□□	■■■■■	■■■■■	■■■■□	■■■■□	■■□□□
Low moisture absorption	■■■□□	■■■■□	■□□□□	■■■■□	■■■■■	■■■■□	■■■■■	■□□□□
Wear resistance under water	■□□□□	■□□□□	■□□□□	■■■□□	■■□□□	■■■□□	■■□□□	■□□□□
High media resistance	■■■□□	■■■□□	■■■□□	■■■□□	■■■■□	■■■□□	■■■□□	■■■□□
Resistant to edge pressures	■■■■□	■■■■□	■■■■■	■■■■■	■■■■□	■■■□□	■■■□□	■■■□□
Resistant to impacts/shock	■■■■□	■■■■□	■■■■■	■■■■■	■■■■□	■■■□□	■■■□□	■■■■□
Resistant to dirt	■■■■■	■■■■■	■■■■■	■■■■□	■■■□□	■■■□□	■■■■□	■■■■□
For high loads (>8,702psi)	●	●						●
Electrically conductive								
Approvals and standards								
Dimensions in accordance with DIN	ISO 3547	ISO 3547	ISO 2795	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547
FDA-compliant								
EU10/2011-compliant								
Fire class in accordance with UL-94	HB	HB	V-2	HB	HB	HB	HB	HB
Mold test DIN EN ISO 846	●	●						
Fogging DIN 75201-B	●		●	●				●
Availabilities / variants								
Type S, sleeve	●	●	●	●		●	●	
Type F, with flange	●	●	●	●		●	●	
Type T, thrust washer	●		●					
Bar stock, round material			●	●				●
Bar stock, plate								
Bar stock, tube								
Machined parts made from bar stock			●	●				
tribo-tape liner								
Page	87	113	121	143	155	161	175	183

J	W300	J3	J3B	J350	J260	W360	L250	L350	L500	R	D
E10	E10	E10	E10	F10	E10	E10	E10	F10	F10	E10	E10
				●		●					
ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	
HB	HB	HB	HB	V-0	V-2	HB	HB	V-0	V-0	HB	HB
●				●							
●	●	●	●	●	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	●	●	●	
●	●										
●	●	●		●	●		●			●	
●											
●											
●	●	●		●	●					●	
193	211	231	243	251	263	271	279	287	295	303	315

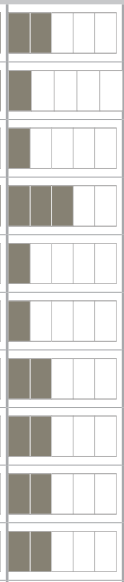
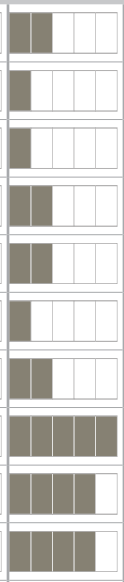
iglide® plain bearings | Technical properties - quick selection

iglide®	J200	E7	X	Z	X6	V400	HSD350
Installation tolerances	E10	E10	F10	F10	F10	F10	F10
Descriptive technical specifications							
Wear resistance at +73°F	■■■□□	■■■■■	■□□□□	■■■□□	■■■□□	■■■□□	■■■■□
Wear resistance at +194°F	■■■□□	■■■■■	■■□□□	■■■□□	■■■□□	■■■■□	■■■■□
Wear resistance at +302°F	■■□□□	■□□□□	■■■■□	■■■□□	■■■■□	■■■■□	■■■□□
Low coefficient of friction	■■■■□	■■■■■	■■□□□	■■■■□	■■□□□	■■□□□	■■■■■
Low moisture absorption	■■■■□	■■■■□	■■■■□	■■■■□	■■■■□	■■■■□	■■■□□
Wear resistance under water	■■□□□	■■■□□	■■■■□	■□□□□	■■■□□	■■■□□	■■■□□
High media resistance	■■■■□	■■■■□	■■■■□	■■■■□	■■■■□	■■■■□	■■■■■
Resistant to edge pressures	■■■■□	■■■■□	■□□□□	■■■■■	■■■□□	■■■□□	■■■■□
Resistant to impacts/shock	■■■■□	■■■■□	■□□□□	■■■■■	■■■□□	■■■□□	■■■■□
Resistant to dirt	■■■□□	■■■□□	■□□□□	■■■■■	■□□□□	■□□□□	■■■□□
For high loads (>8,702psi)			●	●	●		
Electrically conductive			●		●		
Approvals and standards							
Dimensions in accordance with DIN		ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547
FDA-compliant							
EU10/2011-compliant							
Fire class in accordance with UL-94	HB	HB	V-0	V-0	V-0	V-0	V-0
Mold test DIN EN ISO 846			●				
Fogging DIN 75201-B							
Availabilities / variants							
Type S, sleeve		●	●	●	●	●	●
Type F, with flange		●	●	●	●	●	●
Type T, thrust washer			●	●			
Bar stock, round material	●	●	●				●
Bar stock, plate							
Bar stock, tube							
Machined parts made from bar stock	●		●				●
tribo-tape liner						●	
Page	321	327	339	357	373	381	389

UW500	H1	H370	H	C500	H2	A181	A350	A500	A180	A200	A160
F10	F10	F10	F10	F10	F10	E10	F10	F10	E10	D11	E10
											
●	●	●	●	●	●		●	●			
●		●									
ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 2795	ISO 3547
						●	●	●	●	●	●
						●	●	●	●	●	●
V-0	V-0	V-0	V-0	V-0	V-0	HB	V-0	V-1	HB	V-2	HB
	●										
●	●	●	●	●		●	●	●	●	●	●
●	●	●	●	●		●	●	●	●	●	●
	●		●	●		●	●	●	●		●
							●				
	●		●	●		●	●	●	●		●
											●
397	407	419	431	439	447	457	469	481	493	501	515

iglide® plain bearings | Technical properties - quick selection

iglide®	UW160	T220	Q2	Q2E	Q	Q290
Installation tolerances	E10	E10	E10	E10	E10	D11
Descriptive technical specifications						
Wear resistance at +73°F	■■■□□	■■■□□	■■■□□	■■■□□	■■■■□	■■■■■
Wear resistance at +194°F	■□□□□	■□□□□	■■□□□	■■□□□	■■■□□	■■■□□
Wear resistance at +302°F	■□□□□	■□□□□	■■□□□	■■□□□	■■□□□	■■□□□
Low coefficient of friction	■■□□□	■■□□□	■■■□□	■■■□□	■■■■□	■■■■■
Low moisture absorption	■■■■■	■■■■□	■■□□□	■■□□□	■■□□□	■□□□□
Wear resistance under water	■■■■■	■■□□□	■□□□□	■□□□□	■□□□□	■□□□□
High media resistance	■■■■□	■■■□□	■■■□□	■■■□□	■■■□□	■■■□□
Resistant to edge pressures	■■■□□	■■■□□	■■■■■	■■■■■	■■■□□	■■■■■
Resistant to impacts/shock	■■■□□	■■■□□	■■■■■	■■■■■	■■■□□	■■■■■
Resistant to dirt	■■■□□	■■■■□	■■■■■	■■■■■	■■■□□	■■■■■
For high loads (>8,702psi)			●	●	●	●
Electrically conductive						
Approvals and standards						
Dimensions in accordance with DIN	ISO 3547	ISO 3547	ISO 3547		ISO 3547	ISO 3547
FDA-compliant		●				
EU10/2011-compliant						
Fire class in accordance with UL-94	HB	HB	HB	HB	HB	HB
Mold test DIN EN ISO 846						
Fogging DIN 75201-B						
Type S, sleeve	●		●	●	●	●
Type F, with flange	●		●	●	●	●
Type T, thrust washer						
Bar stock, round material	●	●				
Bar stock, plate						
Bar stock, tube						
Machined parts made from bar stock	●	●				
tribo-tape liner						
Page	523	531	541	553	561	571

F	F2	H4	UW	J UV	N54	G V0	J2	AB	RW370	B	C
D11	E10	F10	E10	E10	E10	E10	E10	E10	F10	D11	D11
											
●	●	●				●			●		
●	●										
ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	
HB	HB	V-0	HB	HB	HB	V-0	HB	HB	V-0	HB	HB
						●					
●	●	●	●	●	●	●		●	●		
●	●	●	●	●	●	●		●	●		
	●						●	●	●		
	●						●	●	●		
589	597	605	613	621	629	637	645	653	661	669	675

iglide® plain bearings | Material properties

iglide®	Unit	G	G1	M250	P210	P230	P	K	GLW
General properties									
Density	[g/cm³]	1.46	1.58	1.14	1.40	1.57	1.58	1.52	1.36
Color									
Max. moisture absorption at +73°F and 50% relative humidity	[% weight]	0.7	0.2	1.4	0.3	0.1	0.2	0.1	1.3
Max. total moisture absorption	[% weight]	4.0	1.7	7.6	0.5	0.3	0.4	0.6	5.5
Coefficient of sliding friction, dynamic against steel	[µ]	0.08–0.15	0.08–0.15	0.18–0.40	0.07–0.19	0.06–0.21	0.06–0.21	0.06–0.21	0.10–0.24
pv value, max. (dry)	[psi·fpm]	12,000	17,100	3,400	11,500	8,600	11,100	8,600	8,570
Mechanical properties									
Flexural modulus	[psi]	1,131,294	1,665,903	391,602	362,594	947,387	768,700	507,632	1,116,791
Flexural strength at +68°F	[psi]	30,458	25,817	16,244	10,153	25,092	17,405	11,603	34,064
Compressive strength	[psi]	11,313	16,679	7,542	7,252	14,649	9,572	8,702	10,733
Max. permissible surface pressure at +68°F	[psi]	11,603	13,198	2,901	7,252	8,702	7,252	7,252	11,603
Shore D hardness		81	81	79	75	80	75	72	78
Physical and thermal properties									
Max. continuous operating temperature	[°F]	+266	+356	+176	+212	+230	+266	+338	+212
Max. short-term operating temperature	[°F]	+428	+428	+338	+320	+356	+392	+464	+320
Min. operating temperature	[°F]	–40	–40	–40	–40	–22	–40	–40	–40
Thermal conductivity	[W/m · K]	0.24	0.46	0.24	0.25	0.34	0.25	0.25	0.24
Coefficient of thermal expansion at +73°F	[$K^{-1} \cdot 10^{-5}$]	9	3.5	10	8	5	4	3	17
Electrical properties									
Specific contact resistance	[Ωcm]	> 10^{13}	> 10^{9}	> 10^{13}	> 10^{12}	> 10^{12}	> 10^{13}	> 10^{12}	> 10^{11}
Surface resistance	[Ω]	> 10^{11}	> 10^{11}	> 10^{11}	> 10^{11}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{11}
Page		**87**	**113**	**121**	**143**	**155**	**161**	**175**	**183**

J	W300	J3	J3B	J350	J260	W360	L250	L350	L500	R	D	J200	E7
1.49	1.24	1.42	1.42	1.44	1.35	1.34	1.5	1.54	1.53	1.39	1.4	1.72	1.05
0.3	1.3	0.3	0.3	0.3	0.2	0.2	0.7	0.4	0.1	0.2	0.3	0.2	0.1
1.3	6.5	1.3	1.3	1.6	0.4	1.6	3.9	1.4	0.3	1.1	1.1	0.7	0.1
0.06 – 0.18	0.08 – 0.23	0.06 – 0.20	0.09 – 0.23	0.10 – 0.20	0.06 – 0.20	0.07 – 0.21	0.08 – 0.19	0.15 – 0.20	0.19 – 0.26	0.09 – 0.25	0.08 – 0.26	0.11 – 0.17	0.08 – 0.17
9,700	6,600	14,000	14,300	13,000	10,000	10,000	11,500	85,700	114,000	8,700	8,700	8,600	6,280
348,091	507,632	391,602	419,884	290,075	319,083	555,350	282,824	2,303,489	1,742,628	282,824	290,075	406,106	214,221
10,588	18,130	10,153	9,427	7,977	8,702	17,350	9,718	30,458	29,153	10,153	10,443	8,412	3,191
8,702	8,847	8,702	n.s.	8,702	7,252	10,878	6,817	30,458	10,153	9,863	10,153	6,237	2,611
5,076	8,702	6,527	6,382	8,702	5,802	10,878	6,527	8,557	10,153	3,336	3,336	3,336	2,611
74	77	73	76	80	77	80	68	80	81	77	78	70	61
+194	+194	+194	+194	+356	+248	+356	+194	+356	+482	+194	+194	+194	+158
+248	+356	+120	+230	+428	+284	+392	+356	+410	+599	+230	+230	+248	+194
–58	–40	–58	–58	–148	–148	–40	–40	–148	–148	–58	–58	–58	–58
0.25	0.24	0.25	0.30	0.24	0.24	0.24	0.24	0.61	0.45	0.25	0.25	0.24	0.24
10	9	13	12.7	7	13	6	10	7	6	11	11	8	25
$> 10^{13}$	$> 10^{13}$	$> 10^{12}$	$> 10^{12}$	$> 10^{13}$	$> 10^{12}$	$> 10^{13}$	$> 10^{10}$	$> 10^{5}$	$> 10^{10}$	$> 10^{12}$	$> 10^{14}$	$> 10^{8}$	$> 10^{9}$
$> 10^{12}$	$> 10^{12}$	$> 10^{12}$	$> 10^{12}$	$> 10^{10}$	$> 10^{10}$	$> 10^{12}$	$> 10^{11}$	$> 10^{5}$	$> 10^{12}$	$> 10^{12}$	$> 10^{14}$	$> 10^{8}$	$> 10^{9}$
193	211	231	243	251	263	271	279	287	295	303	315	321	327

iglide® plain bearings | Material properties

iglide®	Unit	X	Z	X6	V400	HSD350	UW500
General properties							
Density	[g/cm³]	1.44	1.4	1.53	1.51	1.39	1.49
Color							
Max. moisture absorption at +73°F and 50% relative humidity	[% weight]	0.1	0.3	0.1	0.1	0.6	0.1
Max. total moisture absorption	[% weight]	0.5	1.1	0.5	0.2	1.2	0.5
Coefficient of sliding friction, dynamic against steel	[µ]	0.09–0.27	0.06–0.14	0.09–0.25	0.15–0.20	0.07–0.23	0.20–0.36
pv value, max. (dry)	[psi·fpm]	37,700	24,000	38,350	14,000	8,570	9,990
Mechanical properties							
Flexural modulus	[psi]	1,174,806	348,091	2,320,604	652,670	311,831	2,320,604
Flexural strength at +68°F	[psi]	24,656	13,779	42,061	13,779	9,718	37,710
Compressive strength	[psi]	14,504	9,427	27,557	6,817	6,382	20,305
Max. permissible surface pressure at +68°F	[psi]	21,756	21,756	21,756	6,527	4,351	20,305
Shore D hardness		85	81	89	74	77	86
Physical and thermal properties							
Max. continuous operating temperature	[°F]	+482	+482	+482	+392	+356	+482
Max. short-term operating temperature	[°F]	+599	+590	+599	+464	+410	+572
Min. operating temperature	[°F]	–148	–148	–148	–58	–40	–148
Thermal conductivity	[W/m · K]	0.60	0.62	0.55	0.24	0.24	0.6
Coefficient of thermal expansion at +73°F	[$K^{-1} \cdot 10^{-5}$]	5	4	1.1	3	7	4
Electrical properties							
Specific contact resistance	[Ωcm]	< 10^5	> 10^{11}	< 10^5	> 10^{12}	> 10^{13}	< 10^9
Surface resistance	[Ω]	< 10^3	> 10^{11}	< 10^3	> 10^{12}	> 10^{14}	< 10^9
Page		339	357	373	381	389	397

H1	H370	H	C500	H2	A181	A350	A500	A180	A200	A160	UW160	T220
1.53	1.66	1.71	1.37	1.72	1.38	1.42	1.28	1.46	1.14	1.00	1.04	1.28
0.1	0.1	0.1	0.3	0.1	0.2	0.6	0.3	0.2	1.5	0.1	0.1	0.3
0.3	0.1	0.3	0.5	0.2	1.3	1.9	0.5	1.3	7.6	0.1	0.1	0.5
0.06 – 0.20	0.07 – 0.17	0.07 – 0.20	0.07 – 0.19	0.07 – 0.30	0.10 – 0.21	0.10 – 0.20	0.26 – 0.41	0.05 – 0.23	0.10 – 0.40	0.09 – 0.19	0.17 – 0.31	0.20 – 0.32
22,800	21,100	39,000	20,000	16,600	8,750	11,400	8,000	8,850	2,570	7,140	6,280	7,990
406,106	1,609,919	1,812,972	478,625	1,493,889	277,457	290,075	522,136	333,587	362,594	166,938	195,656	1,800
7,977	19,580	25,382	14,504	30,458	6,962	15,954	20,305	12,763	16,824	2,756	3,191	9,427
11,313	11,458	11,748	15,954	15,809	8,702	11,313	17,114	11,313	7,832	5,366	4,641	7,977
11,603	10,878	13,053	11,603	15,954	4,496	8,702	17,405	4,061	2,611	2,176	2,176	5,802
77	82	87	80	88	76	76	83	76	81	60	60	76
+392	+392	+392	+482	+392	+194	+356	+482	+194	+176	+194	+194	+212
+464	+464	+464	+572	+464	+230	+410	+572	+230	+338	+212	+212	+320
–40	–40	–40	–148	–40	–58	–148	–148	–58	–40	–58	–58	–40
0.24	0.5	0.6	0.24	0.24	0.25	0.24	0.24	0.25	0.24	0.30	0.50	0.24
6	5	4	9	4	11	8	9	11	10	11	18	11
$> 10^{12}$	$< 10^{5}$	$< 10^{5}$	$> 10^{14}$	$> 10^{15}$	$> 10^{12}$	$> 10^{11}$	$> 10^{14}$	$> 10^{12}$	$> 10^{13}$	$> 10^{12}$	$> 10^{12}$	$> 10^{10}$
$> 10^{11}$	$< 10^{5}$	$< 10^{2}$	$> 10^{13}$	$> 10^{14}$	$> 10^{12}$	$> 10^{11}$	$> 10^{13}$	$> 10^{11}$	$> 10^{12}$	$> 10^{12}$	$> 10^{12}$	$> 10^{10}$
407	419	431	439	447	457	469	481	493	501	515	523	531

iglide®	Unit	Q2	Q2E	Q	Q290	TX1
General properties						
Density	[g/cm³]	1.46	1.46–1.69	1.4	1.27	2.1
Color						
Max. moisture absorption at +73°F and 50% relative humidity	[% weight]	1.1	1.5	0.9	3.0	n.s.
Max. total moisture absorption	[% weight]	4.6	5.0	4.9	9.3	0.1
Coefficient of sliding friction, dynamic against steel	[µ]	0.22–0.42	0.22–0.42	0.05–0.15	0.14–0.26	0.09–0.37
pv value, max. (dry)	[psi·fpm]	20,000	20,000	15,700	20,000	25,400
Mechanical properties						
Flexural modulus	[psi]	1,213,966	n.s.	652,670	445,846	1,740,453
Flexural strength at +68°F	[psi]	34,809	34,084	17,405	14,069	7,977
Compressive strength	[psi]	18,855	n.s.	12,908	9,863	31,908
Max. permissible surface pressure at +68°F	[psi]	17,405	19,580	14,504	7,977	29,008
Shore D hardness		80	80	83	80	n.s.
Physical and thermal properties						
Max. continuous operating temperature	[°F]	+266	+212	+275	+284	+248
Max. short-term operating temperature	[°F]	+392	+284	+311	+356	+338
Min. operating temperature	[°F]	–40	–22	–40	–40	–76
Thermal conductivity	[W/m · K]	0.24	n.s.	0.23	0.24	0.24
Coefficient of thermal expansion at +73°F	[$K^{-1} \cdot 10^{-5}$]	8	n.s.	5	7	3
Electrical properties						
Specific contact resistance	[Ωcm]	> 10^{13}	> 10^{12}	> 10^{15}	> 10^{12}	> 10^{11}
Surface resistance	[Ω]	> 10^{11}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{13}
Page		541	553	561	571	577

F	F2	H4	UW	J UV	N54	G V0	J2	AB	RW370	B	C
1.25	1.52	1.79	1.52	1.49	1.13	1.53	1.44	1.11	1.34	1.15	1.1
1.8	0.2	0.1	0.2	0.3	1.6	0.7	0.2	0.8	0.25	1.0	1.0
8.4	0.4	0.2	0.8	1.3	3.6	4.0	1.3	1.6	1.2	6.3	6.9
0.10 – 0.39	0.16 – 0.22	0.08 – 0.25	0.15 – 0.35	0.08 – 0.19	0.15 – 0.23	0.07 – 0.20	0.11 – 0.27	0.18 – 0.31	0.13 – 0.17	0.18 – 0.28	0.17 – 0.25
9,710	8,850	20,000	3,140	8,570	14,300	1,4,300	6,570	7,140	34,300	4,280	2,860
1,682,438	1,075,890	1,087,783	1,392,362	348,091	261,068	1,145,798	522,861	268,320	434,678	261,068	275,572
37,710	13,489	17,405	13,053	10,443	10,153	20,305	14,649	7,252	14,504	7,977	8,702
14,214	8,847	7,252	10,153	n.s.	4,351	14,504	11,168	5,802	18,710	2,901	4,351
15,229	6,817	9,427	5,802	5,076	5,221	10,878	6,572	3,626	10,878	5,802	5,802
84	72	80	78	74	74	80	n.s.	70	80	69	72
+284	+248	+392	+194	+194	+176	+266	+194	+158	+338	+212	+194
+356	+329	+464	+230	+248	+248	+410	+230	+284	+374	+266	+266
–40	–40	–40	–58	–58	–40	–40	–58	–40	–58	–40	–40
0.65	0.61	0.24	0.6	0.3	0.24	0.25	0.25	0.24	0.22	0.24	0.24
12	5	5	6	10	9	9	7	10	5	12	15
$< 10^3$	$< 10^9$	$> 10^{13}$	$< 10^5$	$> 10^{13}$	$> 10^{13}$	$> 10^{12}$	$> 10^{13}$	$> 10^{12}$	$> 10^{12}$	$> 10^{10}$	$> 10^{10}$
$< 10^2$	$< 10^9$	$> 10^{12}$	$< 10^5$	$> 10^{13}$	$> 10^{11}$	$> 10^{11}$	$> 10^{12}$	$> 10^{12}$	$> 10^{12}$	$> 10^9$	$> 10^9$
589	597	605	613	621	629	637	645	653	661	669	675

iglide® | High performance polymers

Proven. Predictable. Performance.

Proven.

Since 1983, igus® has been manufacturing plain bearings from specifically developed iglide® high-performance plastics. Over 50 different polymer compounds have been developed and tested since then. In order to make the selection of the best material for wear-resistant parts in various environments as easy and safe as possible, igus® tests these materials in over 15,000 application-oriented test series per year. The collected findings flow into unique online selection tools and the know-how of our global network of iglide® application consultants.

Predictable.

Plain bearings are wear-resistant parts. And wear-resistant parts wear out. But when? When is the wear limit reached and when does the plain bearing have to be replaced? The iglide® expert system answers this question. Based on more than 15,000 wear tests per year, the iglide® expert system offers designers the possibility of not only determining the iglide® plain bearing with the best price-performance ratio within a few minutes, but also to get an exact report on the predicted service life in the application. Easy. Online calculation available.

Performance.

Since 1983, iglide® plain bearings have successfully established themselves in various applications all over the world. They are not only cost-effective but also maintenance-free, self-lubricating and versatile. They are suitable for large or small volume production, in the automotive sector, in special machine construction, underwater applications or for the food and packaging industry to kname a few. More than 200,000 customers worldwide successfully use iglide® plain bearings and thereby reduce the costs and increase the service life of their bearing points.

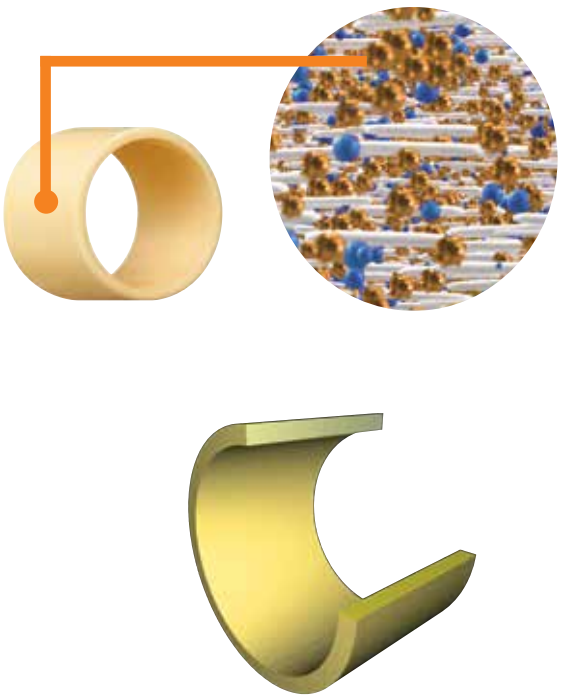
Picture 01: igus® test lab: 15,000 tribological tests (friction and wear) in 300 test set-ups in the industry's largest laboratory (40,900ft²). View inside bearing laboratory in Cologne

Properties and design

iglide® plain bearings made from high-performance polymers

Wear-resistant tribo-polymers improved by precise additions of strengthening materials and solid lubricants, tested thousands of times and proven millions of times – that is iglide®. igus® engineers develop and test more than 265 new plastic compounds every year. The finely tuned combination of plastic matrix, strengthening components and solid lubricants in every single tribo-polymer results in an individual properties profile in each case. In more than 15,000 individual tests a year on over 200 test rigs in the igus® test laboratory, all materials are thoroughly tested. The findings go into a unique knowledge database on the tribology of maintenance-free plastic plain bearings. This database enables us to select the ideal iglide® plain bearing for our customers depending on the application and to calculate its anticipated service life. If necessary, it is also possible to develop an application-specific material, exactly adapted to the thermal, mechanical and tribological requirements, which goes beyond the existing iglide® product range. In addition, freely accessible and user-friendly online tools enable every user to select his personal plain bearing from the iglide® product range. Whether iglide® product finder or iglide® service life calculation, piston ring or bar stock configurator: with a few clicks and application-related information a suitable bearing is quickly found.

▶ **www.igus.com/online-tools**

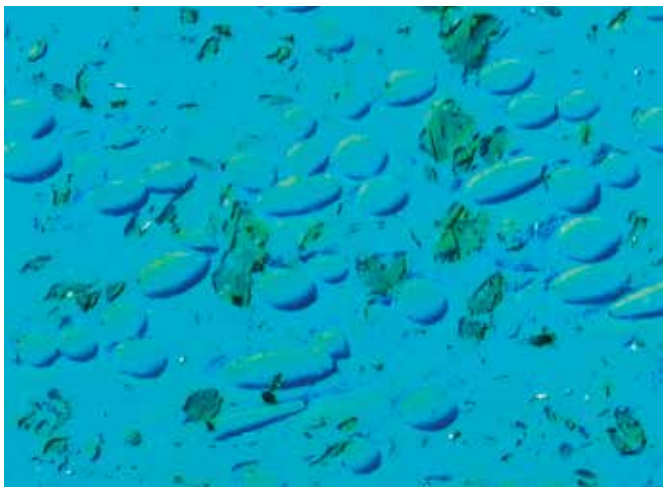


Picture 02: Injection-molded iglide® plain bearings are homogeneously structured. Base polymer, bonding materials and solid lubricants mutually complement each other.

General properties of iglide® plain bearings

- Self-lubricating
- Corrosion-resistant
- Good media resistance
- High compressive strength
- High mechanical dampening
- Low coefficient of friction
- Maintenance-free
- High resistance to contamination
- Lightweight
- High wear resistance
- Excellent price-performance ratio

Over and above the general properties, each iglide® bearing material possesses a series of special properties and strengths, which make it specially suitable for certain applications and requirements. You can find a comprehensive description of the materials in the respective chapters before the dimensions tables.



Picture 03: Base polymers with fibers and solid lubricants, magnified 200 times, dyed

Properties and design

The traditional solution

Hard shells with soft lined inner diameter leaving metal on metal operation. The other traditional solution are lubricated bearings which must be maintained in order to operate properly. However, this soft sliding layer is not strong enough. For high loads, edge pressure or oscillations, it is easily removed.

Base polymers and technical fibers

The radial pressure with which the bearings are loaded is received by the polymer material. In the contact area, this material provides a support to the shaft. The polymer base material ensures that the lubricants do not receive a surface pressure that is too high. The base material is also reinforced by technical fibers or filling materials. These additional materials stabilize the bearing especially in cases of continuous load.

Incorporated self-lubrication

The solid lubricants are, as microscopic particles, embedded in millions of tiny chambers of the material. From these chambers, the plain bearings release tiny amounts of solid lubricants while in motion. This is adequate to sufficiently lubricate the mating surface. The lubricants help to reduce the iglide® bearing's coefficient of friction. They are not indispensable for the bearing's function, but have a supporting effect. Since they are embedded in the tiny chambers, they cannot be forced out. They are always there as soon as the bearing or the shaft is set in motion.

Picture 04: Polymer granulate; basis compound of the self-lubricating and predictable iglide® plain bearings

The iglide® solution: the self-lubricating effect

The high-performance polymers of the iglide® plain bearings consist of:

- Base polymer
- Fibers and filling material
- Solid lubricants

These components are **not applied in layers**, but instead are mixed together homogeneously. The advantage of this design is clear when the requirements on the bearings surface are studied:

1. The coefficient of friction, which is determined especially by the surface of the bearing is as low as possible.

2. The surface cannot be removed by forces that act on the bearing.

3. The bearing is capable of high resisstance due to the wearing force actiing on the surface of the bearing

Each iglide material has different advantages making them suitable in a wide range of applications

- The **base polymers** are responsible for the resistance to wear.
- **Fibers and filling materials** reinforce the bearing so that high forces or edge loads are possible.
- **Solid lubricants** lubricate the bearing independently and prevent friction of the system.

Load

The load of a plain bearing is expressed by the surface pressure (p) in psi. For this purpose, the radial load is determined on the projected surface of the bearing.

Radial bearing:

$$p = \frac{F}{d1 \cdot b1}$$

Thrust bearing:

$$p = \frac{F}{(d2^2 - d1^2) \cdot \frac{\pi}{4}}$$

In these equations:

F **load in [lbs]**
d1 **bearing inner diameter in [inches]**
b1 **bearing length in [inches]**
d2 **outer diameter of the bearing in [inches]**

Max. recommended surface pressure

A comparative value of the iglide® material is the maximum recommended static surface pressure [p] at +68°F. The values of the individual iglide® plain bearings differ greatly on this point. The value [p] indicates the pressure limit of a plain bearing. The plain bearing can carry this pressure permanently without damage. The given value applies to static operation; only very slow speeds up to 1.97fpm are tolerated under this pressure. Higher pressures than those indicated are possible if the duration of the load is short.

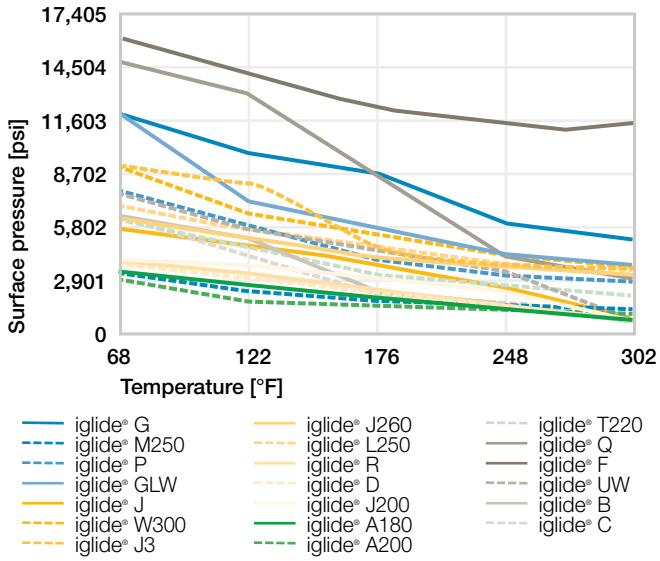
▶ Material properties, **Page 56**

Load and temperature

Diagram 02 and 03 show the maximum recommended static surface pressure of the iglide® plain bearing as a function of temperature. With increasing temperature, this value decreases continuously. Take advantage of the opportunity presented by the predictability of the iglide® plain bearing to record these effects in advance, or determine the effective temperatures in the test.

Pressure and speed

With decreasing radial load on the plain bearing, the permissible surface speed increases. The product of the pressure [p] and speed [v], the so-called pv value, can be understood as a measurement for the frictional heat of the bearing. This relationship is shown by the pv graph that is the first in the respective chapter for each iglide® material.



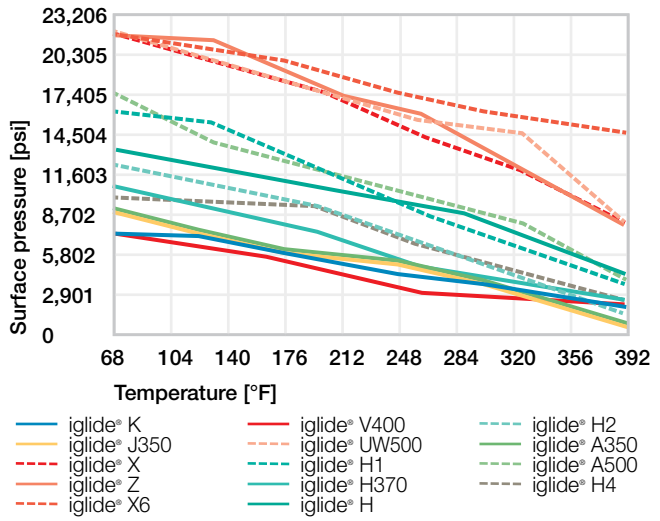


Diagram 02–03: Maximum recommended surface pressure as a function of temperature

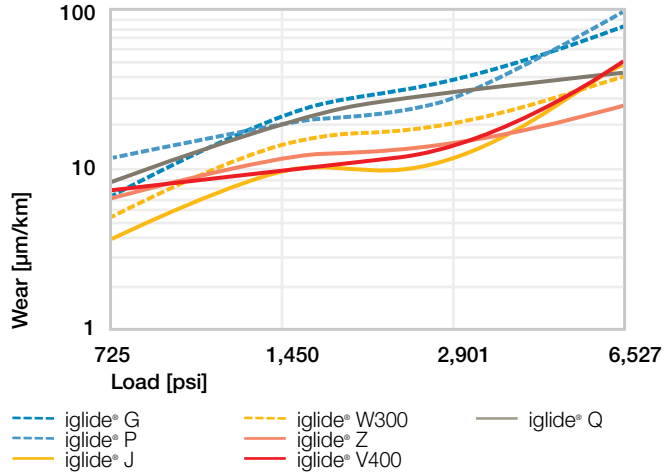
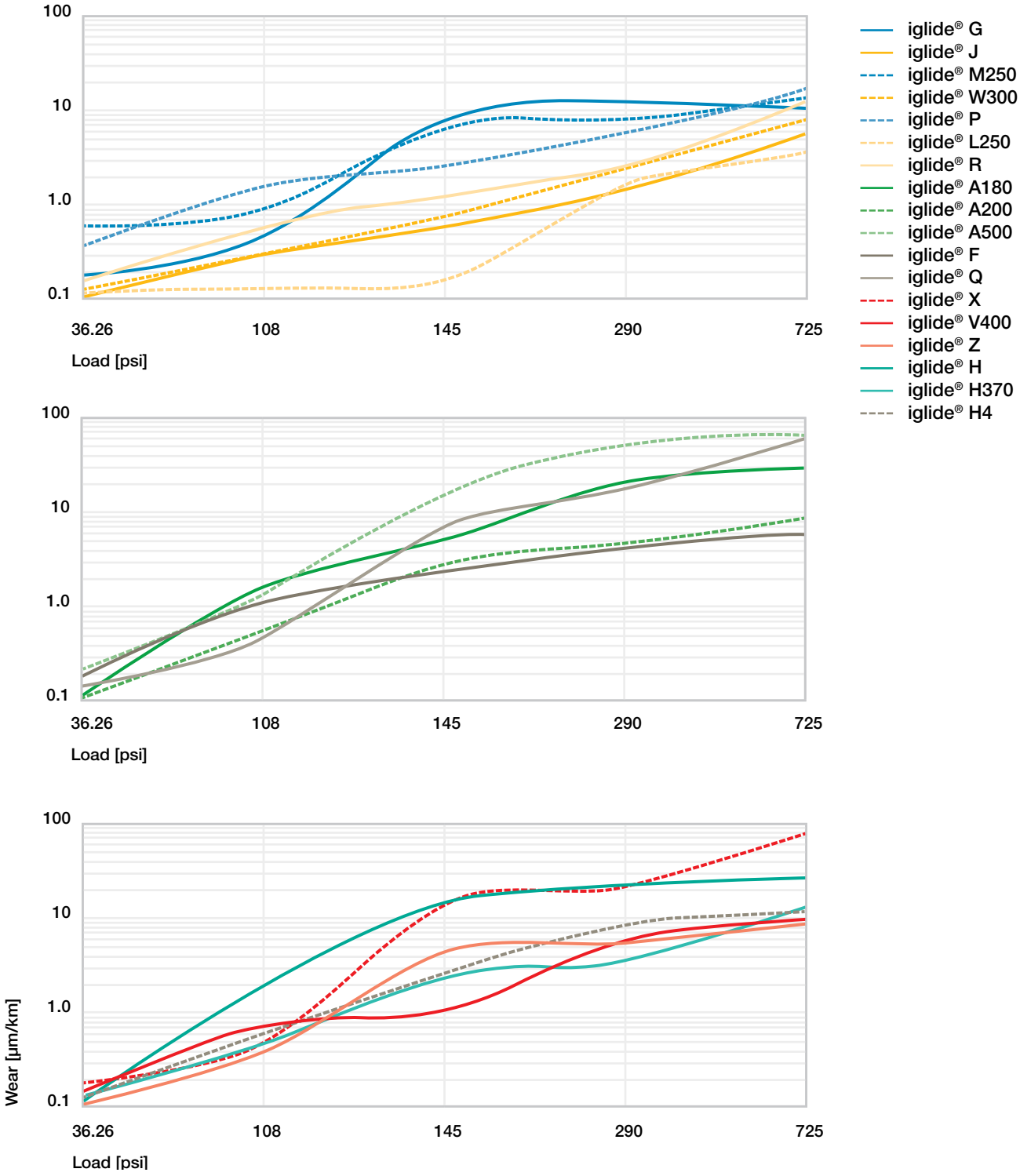


Diagram 04: Wear of iglide® plain bearings under medium and high pressures

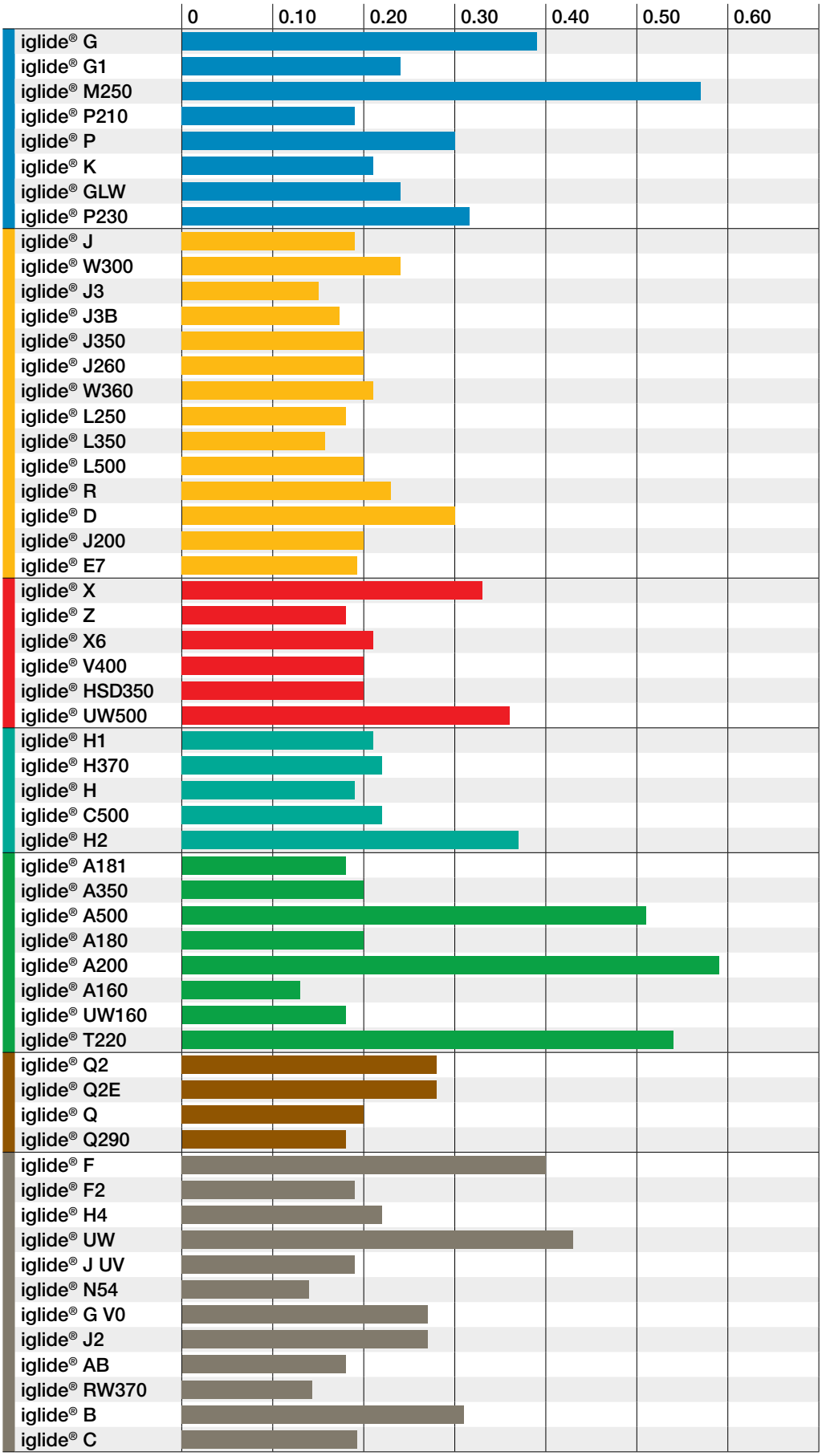
Pressure and wear

The load of the plain bearing has an effect on the wear of the bearing. The following diagrams show the wear behavior of the iglide® bearing materials. It is easily recognized that for each pressure, there is an optimal plain bearing available. The wear is shown as a wear rate in [µm/km].



Diagrams 05–07: Wear of iglide® plain bearings under low pressures

Pressure and coefficient of friction



With increasing load, the coefficient of friction of the plain bearing typically decreases. In this context, shaft materials and the surface finish are also significant.

▶ Coefficient of friction, **page 47**

Diagram 08:
Coefficient of friction of iglide® materials with case hardened steel shaft, rotating

Surface speed

The peripheral speed is always significant in plain bearings. The absolute speed is not crucial, but the relative speed between the shaft and the bearing. The surface speed is expressed in meters per second [fpm] and calculated from the speed n [rpm] with the following formula.
With varying speeds for example with pivoting movements, the value needed is the average surface speed v (see above formula).

IMPERIAL

Rotational motion $v = \frac{rpm \times d1 \times \pi}{12} = fpm$

Oscillating motion $v = \frac{2ab}{360} \times \frac{\pi \times d}{12} = fpm$

In these equations

a = Angle of motion either side of the mean position in degrees
d1 = Shaft diameter in inches, if mm convert to inches prior to calculation
b = Frequency in cycle per minute
d = Inner diameter in inches, if mm convert to inches prior to calculation

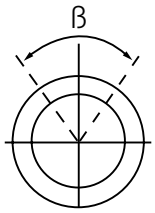
METRIC

Rotational motion $v = \frac{n \times d1 \times \pi}{60 \times 1{,}000} = \frac{m}{s}$

Oscillating motion $v = d1 \times \pi \times \frac{2 \times ß}{360} \times \frac{f}{1{,}000} = \frac{m}{s}$

In these equations

d1 = shaft diameter [mm]
f = frequency in Hertz
ß = angle of motion per cycle [°]
n = rpm



Permissible surface speeds

iglide® plain bearings were primarily developed for low to average surface speeds in continuous operation. Table 01 shows the permissible surface speed of iglide® plain bearings for rotating, oscillating, and linear movements. These surface speeds are limit values assuming minimal pressure loading of the bearing. In practice, these limit values are rarely reached due to an inverse relationship between load and speed. Each pressure increase leads unavoidably to a reduction of the permissible surface speeds and vice versa.
The speed limit is determined by the thermal properties of the bearing. This is also the reason why different surface speeds can occur for the different movement types. For linear movements, more heat can be dissipated via the shaft, since the bearing uses a longer surface area on the shaft.

Surface speed and wear

Considerations regarding the permissible surface speeds should also include the wear resistance of the plain bearing. High surface speeds automatically bring correspondingly high wear rates with them. With higher surface speed, not only the wear rate rises but also the absolute wear.

Surface speed and coefficient of friction

In practice the coefficient of friction of plain bearings is a result of the surface speed. High surface speeds have a higher coefficient of friction than low surface speeds. Diagram 08 shows this relationship by using the example of a steel shaft (case hardened steel) with a load of 101psi.

Material	Rotating		Oscillating		Linear	
	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term
iglide® G	197	394	138	276	787	984
iglide® G1	256	492	197	354	984	1181
iglide® M250	157	394	118	276	492	984
iglide® P210	197	394	138	276	591	787
iglide® P	197	394	138	276	591	787
iglide® K	197	394	138	276	591	787
iglide® GLW	157	197	118	138	492	591
iglide® P230	197	394	138	276	591	787
iglide® J	295	591	217	413	1575	1969
iglide® W300	197	492	138	354	787	1181
iglide® J3	295	591	217	413	1575	1969
iglide® J3B	295	591	217	413	1575	1969
iglide® J350	256	591	197	453	787	1575
iglide® J260	197	394	138	276	591	787
iglide® W360	236	531	177	394	591	984
iglide® L250	197	295	138	217	394	591
iglide® L350	591	787	295	591	787	1181
iglide® L500	591	787	295	591	984	1575
iglide® R	157	236	118	197	689	984
iglide® D	295	591	217	413	1575	1969
iglide® J200	197	295	138	217	1969	2953
iglide® E7	98	157	79	118	394	591
iglide® X	295	689	217	492	984	1969
iglide® Z	295	689	217	492	984	1181
iglide® X6	295	689	217	492	1063	1969
iglide® V400	177	256	118	177	394	591
iglide® UW500	157	295	118	217	394	591
iglide® H1	394	492	197	295	984	1378
iglide® H370	236	295	157	217	787	984
iglide® H	197	295	138	217	591	787
iglide® C500	177	217	138	197	472	551
iglide® H2	177	197	118	138	492	591
iglide® A181	157	236	118	197	689	984
iglide® A350	197	236	157	177	492	591
iglide® A500	118	197	79	138	197	394
iglide® A180	157	236	118	197	689	984
iglide® A200	157	295	118	217	394	591
iglide® A160	98	138	79	118	394	591
iglide® UW160	59	98	59	79	197	492
iglide® T220	79	197	59	138	197	394
iglide® Q2	197	394	138	276	787	984
iglide® Q2E	197	394	138	276	787	984
iglide® Q	197	394	138	276	984	1181
iglide® Q290	157	394	118	276	197	394
iglide® TX1	79	177	39	98	197	394
iglide® F	157	295	118	217	591	984
iglide® F2	157	276	138	217	591	984
iglide® H4	197	295	138	217	197	394
iglide® UW	98	295	79	217	394	591
iglide® J UV	295	433	217	335	1575	2362
iglide® N54	157	295	118	217	197	394
iglide® G V0	197	394	138	276	787	984
iglide® J2	157	374	138	217	591	984
iglide® AB	138	197	98	138	197	354
iglide® B	138	197	98	138	394	591
iglide® C	197	295	138	217	394	591

Table 01: Surface speeds of iglide® plain bearings in fpm; long and short-term

pv value and coefficient of friction

For plain bearings, the product is given a new value depending on the pressure [p] and the surface speed [v]. The **pv value** can be considered a measure of the frictional heat and can be used as an analytical tool to answer questions concerning the proper application of a plain bearing. For this purpose the actual **pv value** is compared with a permitted **pv value** calculable for the height. The permitted **pv value** depends on the shaft material, the ambient temperature and the service time.

Correction factor

The permissible **pv value** can be increased in practical operation if the bearing temperature never reaches the maximum limit because of the short operating time. Tests have shown that this is true for operating times below 10 minutes. It is known that a longer dwell time makes a greater contribution to re-cooling. An important qualifier here is the ratio of the operating time and dwell times. The different curves of diagram 09 represent different ratios (3 x means that the dwell time is three times longer than the operating time).

Lubrication

Although iglide® plain bearings are designed for dry operation, they are quite compatible with standard oils and greases. A single lubrication during the installation improves the start-up behavior and the coefficient of friction, thus reducing the frictional heat. Due to this effect, the permissible loads for plain bearings can be increased by lubrication. Table 02 shows the correction factors for **pv value** using lubrication.

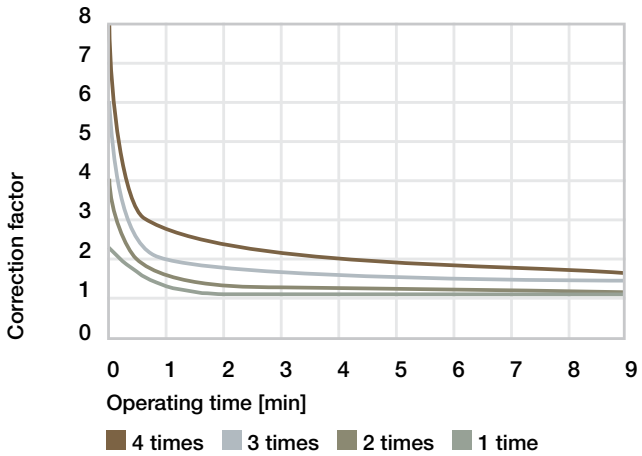


Diagram 09: Correction factor for p · v

pv value

$$pv_{perm.} = \left(\frac{[K1 \cdot \pi \cdot \lambda k \cdot \Delta T]}{\mu \cdot s} + \frac{[K2 \cdot \pi \cdot \lambda s \cdot \Delta T]}{\mu \cdot b1 \cdot 2} \right) \cdot 10^{-3}$$

In these equations:

K1, K2	=	Constant for heat dissipation (K1 = 0.5, K2 = 0.042)
s	=	Bearing wall thickness mm
b1	=	Bearing length mm
μ	=	Coefficient of friction
λs	=	Thermal conductivity of the shaft
λk	=	Thermal conductivity of the bearing
ΔT	=	$(T_a - T_u)$
T_u	=	Ambient temperature [°C]
T_a	=	Max. application temperature [°C]

Lubrication	Correction factor
Dry operation	1.0
During installation	1.3
Continuous, grease	2.0
Continuous, water	4.0
Continuous, oil	5.0

Table 02: Correction of the tolerated pv value by means of lubrication

Material	Thermal conductivity [W/m · k]
Steel	46
Aluminum	204
Grey cast iron	58
304 stainless steel	16
Ceramics	1.4
Plastic	0.24

Table 03: Heat conductivity values of shaft or housing materials

Coefficient of friction

iglide® plain bearings are self-lubricating with the addition of solid lubricants. The solid lubricants lower the coefficient of friction of the plain bearings and thus increase the wear resistance. The coefficient of friction μ is proportional to the normal force and describes which force is needed to move a body in relation to another.

Depending on whether an application is starting from a stationary position or the movement is in progress and needs to be maintained, a distinction is made between a static coefficient of friction and a dynamic coefficient of friction.

Coefficient of friction and surfaces

Shown here is the relationship between coefficient of friction and surface finish of shaft materials. It is clearly shown that the amount of friction is composed of different factors.
If the shaft is too rough, abrasion levels play an important role. Small areas of unevenness that can interlock with each other must be worn off the surface.
When the surfaces are too smooth, however, higher adhesion results, i.e. the surfaces stick to each other. Higher forces are necessary to overcome the adhesion, which results from an increased coefficient of friction.
Stick-slip can be the result of a large difference between static and dynamic friction and of a higher adhesive tendency of mating surfaces. Stick-slip also occurs due to intermittent running behavior and can result in loud squeaking. Over and over again, it is observed that these noises do not occur or can be eliminated with rough shafts. Thus for applications that have a great potential for stick-slip – slow movements, large resonance of the housing – attention must be paid to the optimal surface finish of the shafts.

Picture 05: Better products for less – a key element is the industry's largest test lab. 40,900ft² lab, more than 12,000 tests and 2 billion test strokes per year.

Temperatures

The temperature resistance of high-performance polymer plain bearings is usually underestimated. Data is often found in the literature about the continuous operating temperature. The continuous operating temperature is the highest temperature, which the plastic can withstand for a period of time without a reduction in the tensile strength of the material above or below a prespecified value. This standardized test however yields only a less relevant characteristic value, as bearings are almost always subjected to a load. The application temperatures of the materials are more revealing.

Application temperatures

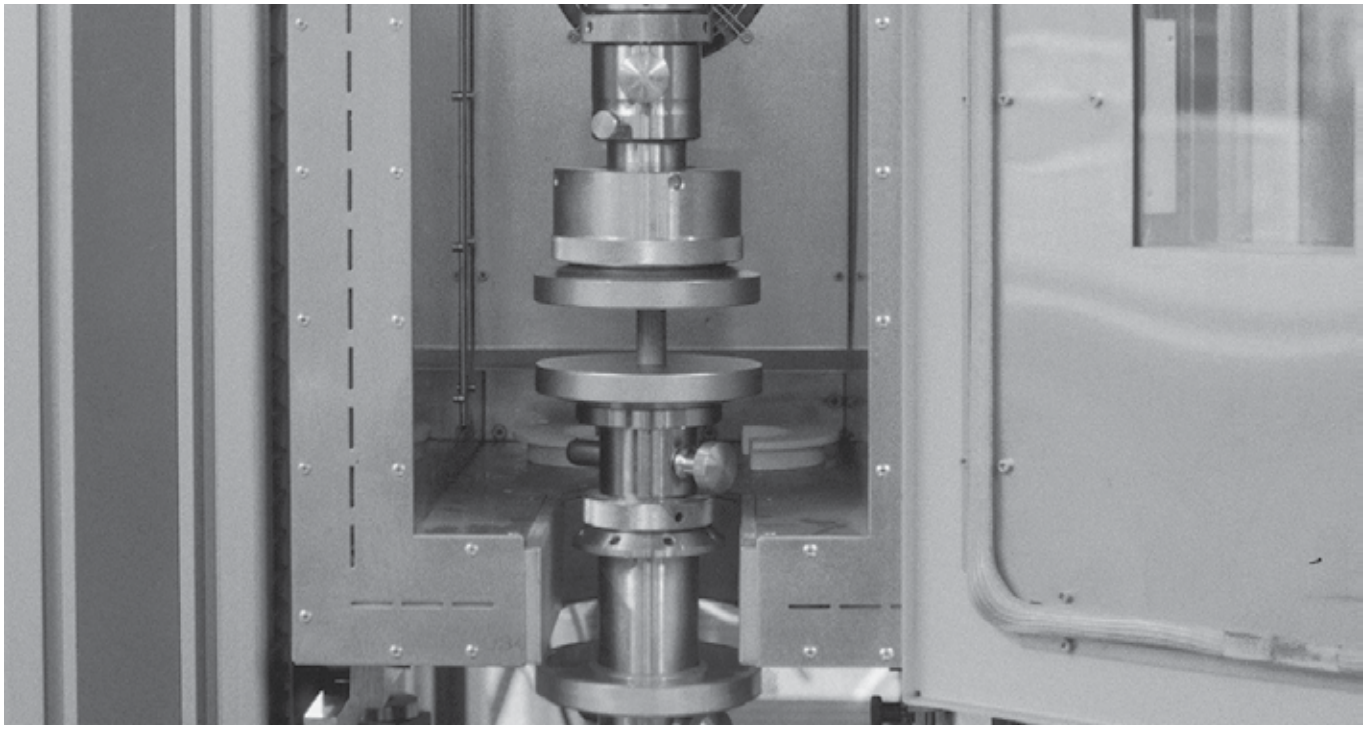
The minimum application temperature is the temperature below which the material is so rigid and hard that it becomes too brittle for standard applications. The maximum continuous application temperature is the temperature which the material can endure without the properties changing considerably.
The maximum, short-term application temperature is the temperature above which the material becomes so soft, that it can only withstand small external loads. "Short term" is defined as a period of a few minutes.
If the plain bearings are moved axially or axial forces occur, there is more opportunity for the bearing to lose press-fit. In these cases, axial securing of the bearing is necessary in addition to the press-fit. The table 04 shows the temperature at which additional securing of the iglide® plain bearing is required, even under low axial loads. The greater the forces, the more reasons to engage such a fastening.

Temperature and load

The diagrams 02 and 03 **(▶ Page 41)** show the maximum recommended surface pressure [p] of the iglide® plain bearings as a function of temperature. With increasing temperature, this value decreases continuously. With plain bearings it is important to note that, due to the friction, the bearing temperature may be higher than the ambient temperature.

Coefficient of thermal expansion

The thermal expansion of polymers is approximately 10 to 20 times higher than metals. In contrast to metal, this expansion is non-linear in plastics. The coefficient of thermal expansion of the iglide® plain bearing is a significant reason for the bearing clearance. At the given application clearance, seizing of the bearing to the shaft does not occur at high temperatures. The coefficient of thermal expansion of iglide® plain bearings was examined for significant temperature ranges and the results are given in the individual materials tables, at the start of each chapter.



Picture 06: Material tests are possible up to +482°F

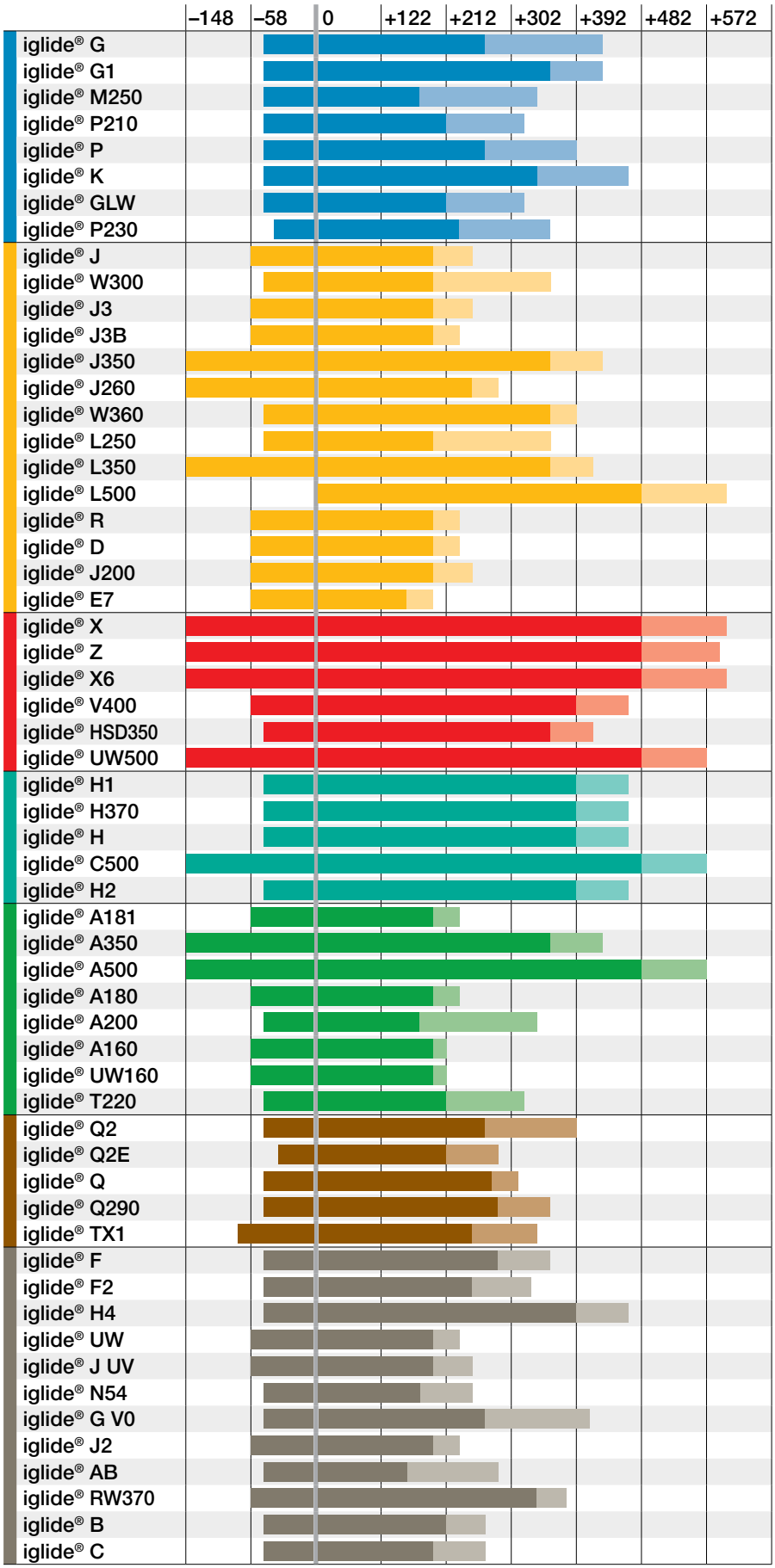


Diagram 10: Comparison of the continuous and short-term upper application temperature limits [°F]

Material	Temperature [°F]
iglide® G	+176
iglide® G1	+248
iglide® M250	+140
iglide® P210	+122
iglide® P	+194
iglide® K	+158
iglide® GLW	+176
iglide® P230	+212
iglide® J	+140
iglide® W300	+140
iglide® J3	+140
iglide® J3B	+140
iglide® J350	+284
iglide® J260	+176
iglide® W360	+194
iglide® L250	+131
iglide® L350	+284
iglide® L500	+275
iglide® R	+122
iglide® D	+122
iglide® J200	+140
iglide® E7	+86
iglide® X	+275
iglide® Z	+293
iglide® X6	+329
iglide® V400	+212
iglide® HSD350	+266
iglide® UW500	+302
iglide® H1	+176
iglide® H370	+212
iglide® H	+248
iglide® C500	+266
iglide® H2	+230
iglide® A181	+140
iglide® A350	+284
iglide® A500	+266
iglide® A180	+140
iglide® A200	+122
iglide® A160	+140
iglide® UW160	+158
iglide® T220	+122
iglide® Q2	+158
iglide® Q2E	+167
iglide® Q	+122
iglide® Q290	+176
iglide® TX1	+212
iglide® F	+221
iglide® F2	+158
iglide® H4	+230
iglide® UW	+176
iglide® J UV	+140
iglide® N54	+140
iglide® G V0	+212
iglide® J2	+140
iglide® AB	+122
iglide® RW370	+248
iglide® B	+122
iglide® C	+104

Table 04: Temperature at which additional securing of the iglide® plain bearing is required

Wear resistance

The wear of components depends on many different factors, therefore it is difficult to make general statements about the wear behavior. In many experiments and tests, the measurement of the wear is a primary factor. In testing, it has become clear what variances are possible between different material pairings. For given loads and surface speeds, the wear resistance can easily vary by a factor of 10 between material pairings that run well together.

▶ Shaft materials, **Page 52**

Wear under load

Different loads greatly influence the bearing wear. Among the iglide® plain bearings, certain materials are optimized for low loads, while others are suitable for use with high or extremely high loads.

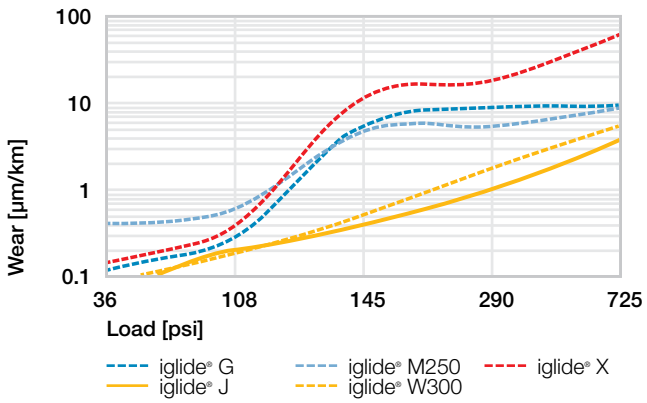


Diagram 11: Wear of iglide® plain bearings under low pressures, case hardened steel shaft, v = 19.7fpm

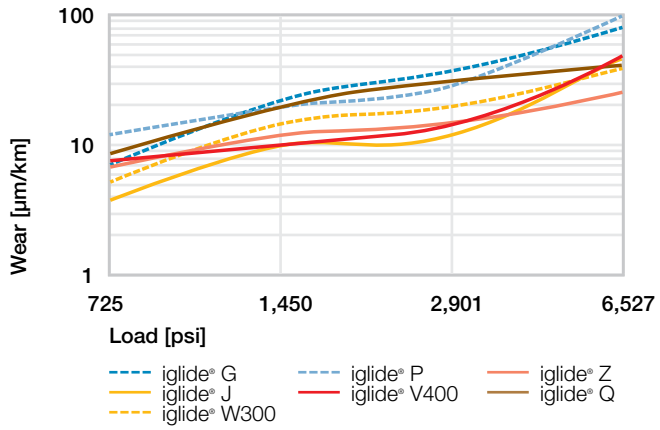


Diagram 12: Wear of iglide® plain bearings at medium and high pressures, shaft: case hardened steel, v = 19.7fpm

Wear and temperature

Within wide temperature ranges, the wear resistance of the iglide® plain bearings shows little change. In the maximum temperature range, however, as temperature increases the wear of the plain bearing increases. One particular exception is represented by iglide® X. The wear resistance of iglide® X greatly increases as temperature increases and reaches the optimum wear resistance at a temperature of +320°F. Then resistance decreases again, gradually.

Wear during abrasive dirt accumulation

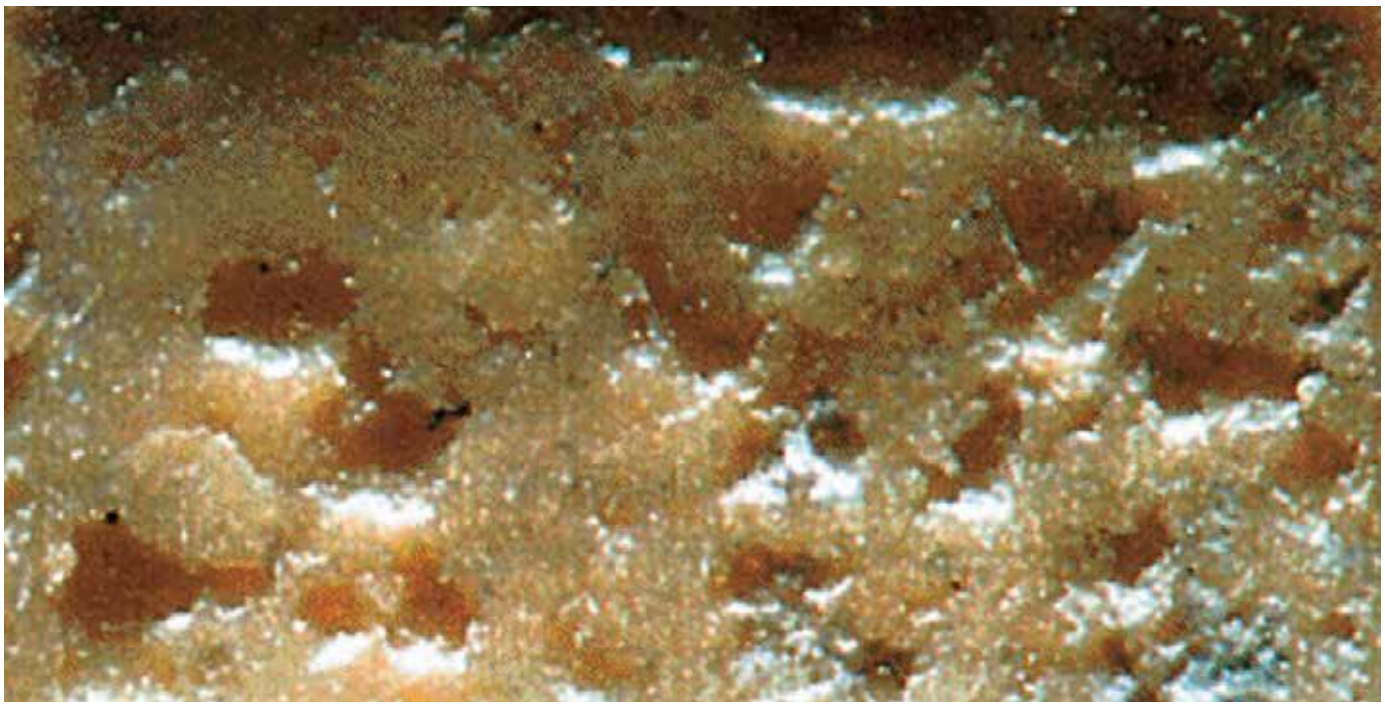
Special wear problems frequently occur if abrasive dirt particles get into the bearing. iglide® plain bearings can clearly improve the operating time of machines and systems in these situations. The high wear resistance of the materials and the dry operation result in the highest service life. As no oil or grease is on the bearing, dirt particles cannot adhere or penetrate as easily into the bearing. Most debris simply falls away from the bearing thus limiting potential damage. If however, a hard particle penetrates into the bearing area, then an iglide® plain bearing can absorb this particle. The foreign body becomes embedded in the wall of the plain bearing. Up to a certain point, operation can be maintained at optimal levels even when there is extreme dirt accumulation. However, it is not just hard particles that can damage bearings and shafts. Soft dirt particles such as for example, textile or paper fibers, are frequently the cause for increased wear. In this instance, the dry operation capability and the dust resistance of the iglide® plain bearings go into action. In the past, this helped save costs in many applications.

Wear and surfaces

Shaft surfaces are important for the wear of bearing systems. Similar to the considerations for the coefficient of friction, a shaft can be too rough in regard to the bearing wear, but it can also be too smooth. A shaft that is too rough acts like a file and during movement separates small particles from the bearing surface. For shafts that are too smooth, however, higher wear can also occur. An extreme increase in friction results due to adhesion. The forces that act on the mating surface can be so large that material blow-outs occur.
It is significant to note that wear by erosion is non-linear, random and cannot be accurately predicted.

Picture 07: High wear resistance: plain bearing in permanent contact with sand

Picture 8: Wear experiments with aluminum shafts



Picture 9: Erosion damage due to shafts that are too smooth

Wear and shaft materials

The shaft is, apart from the plain bearing itself, the most important parameter in a bearing system. It is in direct contact with the bearing, and like the bearing, it is affected by relative motion. The shaft will wear in any case. Modern bearing systems however are designed in a way that the wear of the shafts is so small that it cannot be detected with traditional methods of measurement technology. Shafts can be distinguished and classified according to their hardness and according to the surface finish.

▶ Coefficient of friction, **Page 47**
▶ Wear resistance, **Page 50**

The hardness of the shaft also plays an important role. When the shafts are softer, the shaft is worn smooth during the break-in phase. Abrasive points are worn off and the surface is rebuilt. For some materials, this effect has positive influences, and the wear resistance of the polymer bearing increases. In the following graphs, the most common shaft materials are listed and the iglide® materials that are best suited are compared. For easier comparison, the scaling of the wear axis is the same in all graphs.

The low wear results of the systems with hard-chromed shafts are especially impressive. This very hard, but also smooth shaft gives excellent results on the wear behavior with many bearing combinations. The wear of many iglide® plain bearings is lower on this shaft than on any other shaft material tested. However, it should be pointed out that because of the low surface roughness, the danger of stick-slip on hard-chromed shafts is especially high.
With high-grade steel, a similarly good result is obtained. Case hardened steel standard shafts give very good results, too. With other shaft materials, the wear results vary considerably. For example, in tests with 304 stainless steel shafts at low loads, extremely positive results can be found with the right bearing material. It must be said on the other side, that no other shaft material shows a bigger variation of wear results with different bearing materials. Therefore, the choice of the most suitable bearing material is particularly important with the shaft materials 304 stainless steel and HR carbon steel.
The test results give only a sample of the existing data. All of the results shown were made with same loads and speeds.

Picture 10: Wear test rig for testing the wear in pivoting movements at low loads

Picture 11: Wear test rig for testing the wear in pivoting movements at medium loads

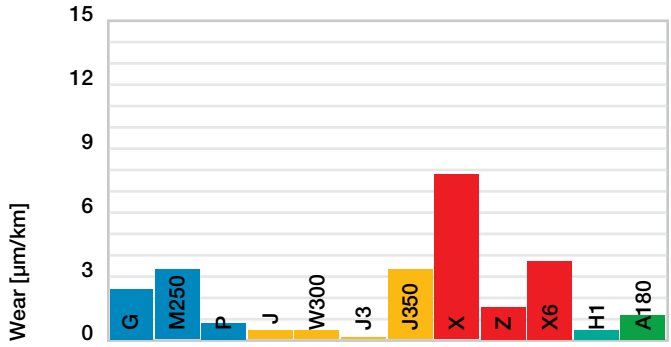


Diagram 13: Wear with case hardened steel shaft, p = 145psi, v = 59fpm, Ra = 0.20µm

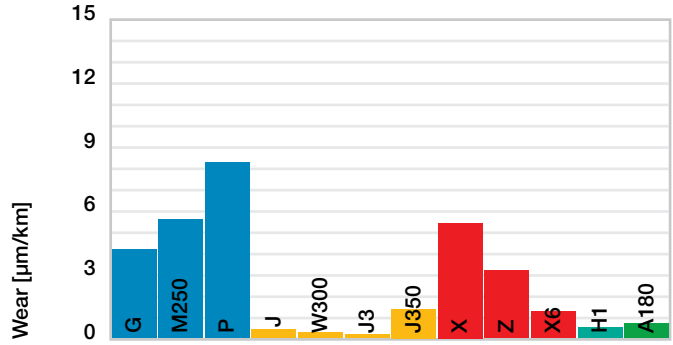


Diagram 14: Wear with 304 stainless steel shaft, p = 145psi, v = 59fpm, Ra = 0.20µm

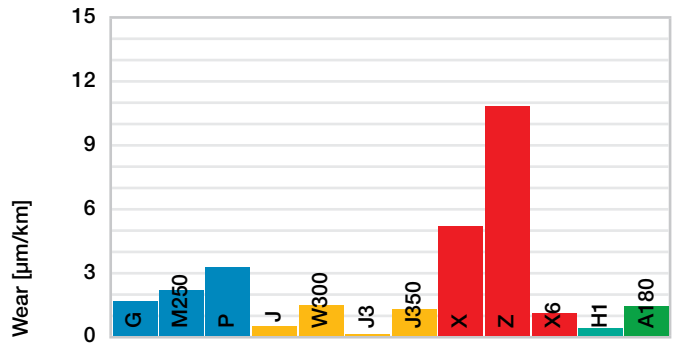


Diagram 15: Wear with HR carbon steel shaft, p = 145psi, v = 59fpm, Ra = 0.20µm

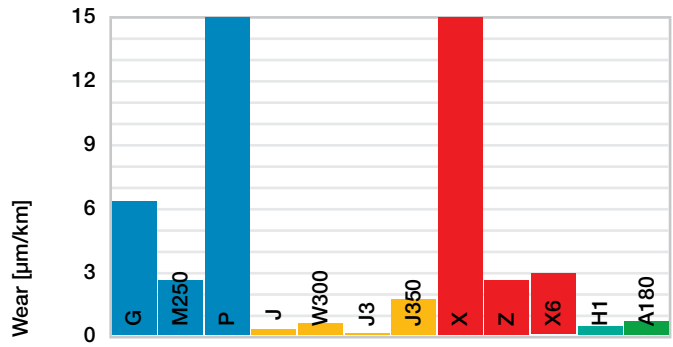


Diagram 16: Wear with case hardened, hard-chromed shaft, p = 145psi, v = 59fpm, Ra = 0.20µm

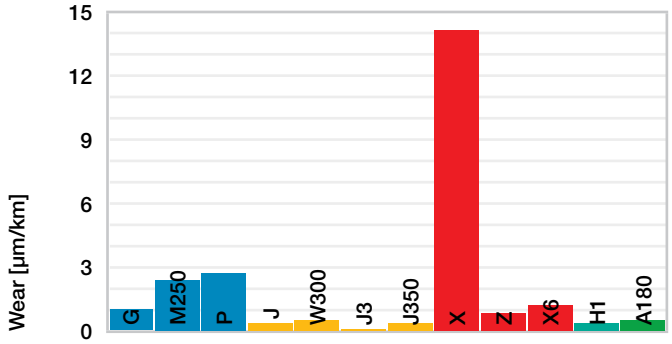


Diagram 17: Wear with hard-anodized aluminum shaft, p = 145psi, v = 59fpm, Ra = 0.20µm

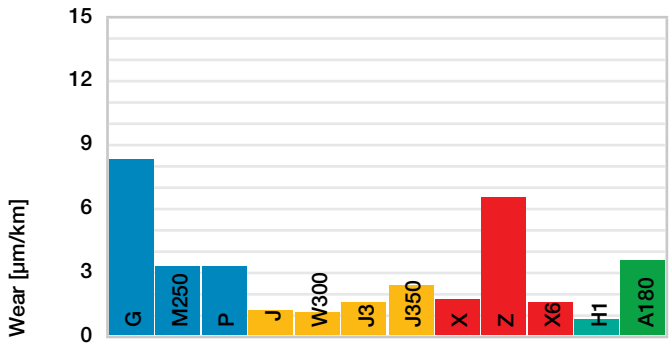


Diagram 18: Wear with free cutting steel shaft, p = 145psi, v = 59fpm, Ra = 0.20µm

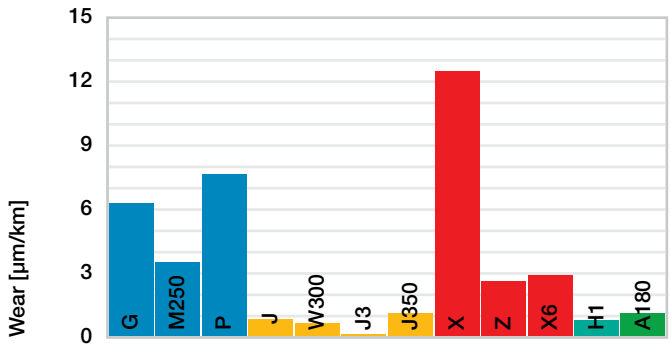


Diagram 19: Wear with high grade steel shaft, p = 145psi, v = 59fpm, Ra = 0.20µm

Chemical resistance

iglide® plain bearings can come into contact with many chemicals during their use. This contact can lead to changes of the structural properties. The behavior of plastics towards a certain chemical is dependent on the temperature, the length of exposure, and the type and amount of the mechanical stress. If iglide® plain bearings are resistant to a chemical, they can be used in these media. Sometimes, the surrounding media can even take on the role of a lubricant. Therefore plain bearings may also be used lubricated. However, in dirty environments, a traditional lubricant can decrease the wear resistance when compared to dry operation. The following overview demonstrates this. You'll find a detailed list of chemical resistances in the rear of the catalog.

▶ Chemical table, **Page 1762**

Applications in the food industry

The iglide® product range with specially developed bearing materials is prepared for the special requirements in machines and equipment for the food industry. The materials of the iglide® A series and of iglide® T220 are made according to the requirements of the American Food and Drugs Administration (FDA) for the repeated contact with food.

Material	Hydro-carbons	Greases, oils, without additives	Weak acids	Weak alkaline
iglide® G	+	+	0 to –	+
iglide® G1	+	+	0 to –	+
iglide® M250	+	+	0 to –	+
iglide® P210	–	–	0	–
iglide® P	–	+	0	–
iglide® K	+	+	0 to –	+
iglide® GLW	+	+	0 to –	+
iglide® P230	+	+	+	+
iglide® J	+	+	0 to –	+
iglide® W300	+	+	0 to –	+
iglide® J3	+	+	0 to –	+
iglide® J3B	+	+	0 to –	+
iglide® J350	+ up to 0	+	+	+
iglide® J260	+	0 to –	–	+ up to 0
iglide® W360	+	+	0 to –	+
iglide® L250	+	+	0 to –	+
iglide® L350	+ up to 0	+	+	+
iglide® L500	+	+	+	+
iglide® R	+	+	0 to –	+
iglide® D	+	+	0 to –	+
iglide® J200	+	+	0 to –	+
iglide® E7	+	+	0 to –	+
iglide® X	+	+	+	+
iglide® Z	+	+	+	+
iglide® X6	+	+	+	+
iglide® V400	+	+	+	+
iglide® HSD350	+	+	+	+
iglide® UW500	+	+	+	+
iglide® H1	+	+	+ up to 0	+
iglide® H370	+	+	+ up to 0	+
iglide® H	+	+	+ up to 0	+
iglide® C500	+	+	+	+
iglide® H2	+	+	+ up to 0	+
iglide® A181	+	+	0 to –	+
iglide® A350	+ up to 0	+	+	+
iglide® A500	+	+	+	+
iglide® A180	+	+	0 to –	+
iglide® A200	+	+	0 to –	+
iglide® A160	+	+	+	+
iglide® UW160	+	+	+	+
iglide® T220	–	+	0	–
iglide® Q2	+	+	0 to –	+
iglide® Q2E	+	+	0 to –	+
iglide® Q	+	+	0 to –	+
iglide® Q290	+	+	0 to –	+
iglide® TX1	+	+	+	+
iglide® F	+	+	0 to –	+
iglide® F2	–	+	0	–
iglide® H4	+	+	+ up to 0	+
iglide® UW	+	+	0 to –	+
iglide® J UV	+	+	0 to –	+
iglide® N54	+	+	0 to –	+
iglide® G V0	+	+	0 to –	+
iglide® J2	+	+	0 to –	+
iglide® AB	+	+	0 to –	+
iglide® RW370	–	+	+	+
iglide® B	–	–	0 to –	–
iglide® C	+	+	0 to –	+

Table 05 (right):
Chemical resistance of iglide® materials

+ Resistant
0 Conditionally resistant
– Not resistant

All data given at room temperature [+68°F]

Resistance to weathering

Radioactive radiation

A comparison of the resistance to radioactive radiation is shown in table 07. iglide® X, UW500, and Z are by far the most resistant materials.

Resistance to weathering

Plain bearings can be exposed to constant weathering when they are used outside. The UV resistance is an important measure that states whether a material is affected by UV radiation. The effects can extend from slight changes in color to brittleness of the material. A comparison of the materials to each other is shown in table 08. The results show that iglide® plain bearings are suitable for outside use. Only for a few iglide® materials are any changes expected.

Vacuum

iglide® plain bearings can be used in a vacuum to a limited extent. Only a small amount of outgassing takes place. In most iglide® plain bearings, the outgassing does not change the material properties. Generally, materials with low moisture absorption are recommended.

Electrical properties

In the product range of the maintenance-free, self-lubricating iglide® plain bearings, there are both insulating as well as electrically conductive materials. The electrical properties are given in detail in the individual material descriptions. Table 07 compares the surface resistance of "conductive" iglide® plain bearings. The iglide® plain bearings not mentioned here are usually electrically insulating. Please observe that for some materials the properties can be changed by the absorption of moisture. Tests should be conducted to determine whether the required properties are also stable when the conditions are changing.

Material	Radiation resistance
X, Z, UW500, A160	$1 \cdot 10^5$ Gy
X6, A500	$2 \cdot 10^5$ Gy
M250, J3, A200, N54	$1 \cdot 10^4$ Gy
L250	$3 \cdot 10^4$ Gy
V400, C	$2 \cdot 10^4$ Gy
P, K	$5 \cdot 10^2$ Gy
G, G1, J, W300, P210, P230, J260, J200, R, D, C500, A180, UW160, T220, F, F2, Q, Q2, UW, G V0, J2, B, GLW, L500, Q290, AB, J UV, Q2E, E7, J3B	$3 \cdot 10^2$ Gy
J350, H, H1, H370, H2, H4, A181, A350, W360, TX1	$2 \cdot 10^2$ Gy

Table 06: Comparison of the radiation resistance of iglide® plain bearings

Material	Surface resistance [Ω]
iglide® X	$< 10^3$
iglide® X6	$< 10^5$
iglide® UW500	$< 10^9$
iglide® H	$< 10^2$
iglide® H370	$< 10^5$
iglide® F	$< 10^2$
iglide® F2	$< 10^9$
iglide® UW	$< 10^5$

Table 07: Electrical properties of conductive iglide® plain bearings

Material iglide®	Resistance to weathering
G	4
G1	n.s.
M250	2
P210	5
P	5
K	4
GLW	4
P230	n.s.
J	4
W300	3
J3	4
J3B	n.s.

Material iglide®	Resistance to weathering
J350	5
J260	5
W360	4
L250	3
L350	n.s.
L500	5
R	4
D	5
J200	4
E7	5
X	5
Z	5

Material iglide®	Resistance to weathering
X6	5
V400	5
HSD350	5
UW500	5
H1	5
H370	5
H	5
C500	4
H2	5
A181	4
A350	5
A500	2

Material iglide®	Resistance to weathering
A180	1
A200	1
A160	5
UW160	5
T220	4
Q2	5
Q2E	n.s.
Q	4
Q290	1
TX1	n.s.
F	3
F2	4

Material iglide®	Resistance to weathering
H4	5
UW	3
J UV	5
N54	4
G V0	4
J2	3
AB	3
RW370	5
B	3
C	3

Table 08: UV resistance of iglide® plain bearings, 1 low resistance, 5 highest resistance

Determination of bending specifications according to DIN EN ISO 178 after weathering with double stroke 4 of ASTM G154. Two alternating statuses (total time: 2,000hrs). Status 1: Irradiation with UVA-340, irradiance 1.55W/m²/nm and 158°F for 8hrs. Status 2: no irradiation, condensation at 122°F for 4hrs.

Installation instructions

iglide® plain bearings are press-fit bearings. The inner diameter adjusts only after press-fit in the proper housing hole with a recommended (H7) tolerance. The press-fit excess dimension can be up to 2% of the inner diameter. This ensures the secure press-fitting of the bearing. Axial or radial movement in the housing are also prevented this way. The hole in the housing should be produced with the recommended tolerance (H7) for all bearings and be smooth, flat and chamfered at between 20 and 30 degrees. The bearing should be press-fitted using a flat press. The use of centering or calibrating pins can cause damage to the bearings and bring a greater amount of clearance. The ID after press-fit calculations are based on a press-fit in a steel housing bore.

Adhesion

It is not usually necessary to use an adhesive to fit the bearing. If a bearing is likely to lose its firm fit on account of high temperatures, a more temperature-resistant plain bearing should be used. If, however, there are plans to secure the bearings with adhesive, it will be necessary to perform suitable tests in each case. It is not possible to simply transfer the successful results seen in other applications.

Machining

iglide® plain bearings are delivered ready-to-fit. The extensive product line makes it possible to use a standard dimension in most cases. If for some reason, a subsequent machining of the plain bearing is necessary, the adjacent table shows the machining standard values. The subsequent machining of the sliding surfaces is to be avoided if possible. Higher wear rate is most often the result.
An exception is iglide® M250 which is suitable for subsequent machining. In other iglide® plain bearings, disadvantages of a sliding surface machining can be counteracted by lubrication during installation.

Picture 12: The bearing should be press-fit using a flat press

Press-fitting plain bearings made easy

iglide® plain bearings are press-fit bearings, which are dimensionally oversized and pressed into a housing with H7 tolerance. This is not always done in an assembly line using suitable tools. The igus® assembly aid flexibly and reliably accepts plain bearings for shaft diameters from 1/2" - 2" [13–50mm] **PT-1350** and 1/4" - 3/4" [6–20mm] **PT-0620** and even permits assembly using a hammer – simple and fast.

PT-1350

PT-0620

Process	Turning	Drilling	Milling
Tool material	Stainless steel	Stainless steel	Stainless steel
Feed [mm]	0.1…0.5	0.1…0.5	to 0.5
Clearance angle	5…15	10…12	3
Rake angle	0…10	3…5	
Cutting speed [m/min]	200…500	50…100	to 1,000

Table 09: Guidelines for machining

Tolerances and measurement system

The installation dimensions and tolerances of the iglide® plain bearings are a function of the material and wall thicknesses. For each material, the moisture absorption and the thermal expansion are imperative. Plain bearings with low moisture absorption can be designed with a minimal amount of bearing clearance. For wall thickness, the rule is: the thicker the bearings are, the larger the tolerances must be. Thus, different tolerance classes exist for iglide® plain bearings. Within these tolerances, iglide® plain bearings can operate in the permissible temperature range and in humidity conditions up to 70% according to the installation recommendations. Should higher air moisture levels be present, or the bearing is used under water, we provide advice with regard to applications, in order to help you use your bearings correctly.

Picture 13: Measurement of the inner diameter of a press-fit plain bearing

Testing methods

iglide® plain bearings are press-fit bearings for housings with a H7 standard hole. This press-fitting of the bearing fixes the bearing in the housing, and the inner diameter of the plain bearing is also formed upon press-fit.
The bearing size test is performed when the bearing is installed in a hole with the minimum specified dimension; both using a 3 point probe and a plug gauge:

- The "Go-Side" of the plug gauge, pressed into the hole, must pass easily through the bearing
- With the 3 point probe, the inner diameter of the bearing must lie within the prescribed tolerance on the measurement plane (diagram 20)

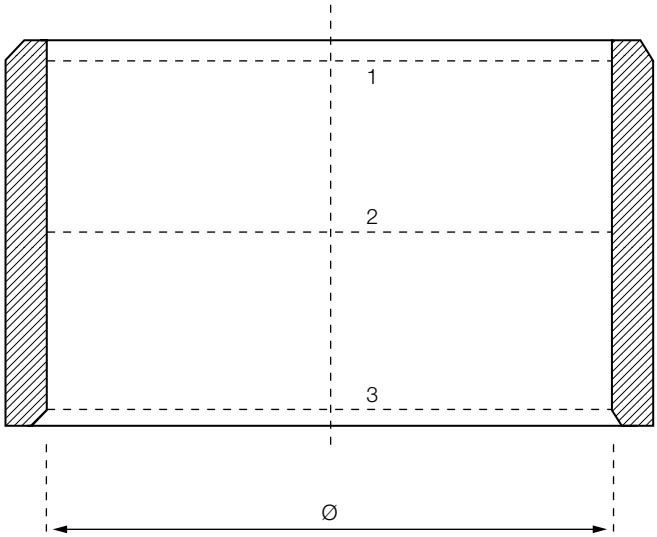


Diagram 20: Positions of the measurement lines

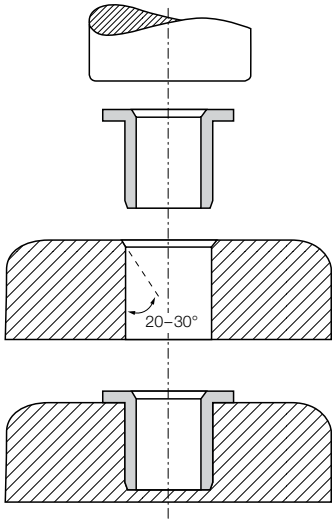


Diagram 21: Press-fit of the bearing (section view)

Tolerances

Installation tolerances

iglide® 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 correct tolerances. For particular dimensions the tolerance differs depending on the wall thickness.

ISO tolerances for iglide® plain bearings [mm]

Diameter	Housing	Shaft	Tolerances according to ISO 3547-1			
d1	H7	h9	E10	E11	F10	D11
up to 3	+0.000 +0.010	–0.025 +0.000	+0.014 +0.054	+0.014 +0.074	+0.006 +0.046	+0.020 +0.080
> 3 to 6	+0.000 +0.012	–0.030 +0.000	+0.020 +0.068	+0.020 +0.095	+0.010 +0.058	+0.030 +0.105
> 6 to 10	+0.000 +0.015	–0.036 +0.000	+0.025 +0.083	+0.025 +0.115	+0.013 +0.071	+0.040 +0.130
> 10 to 18	+0.000 +0.018	–0.043 +0.000	+0.032 +0.102	+0.032 +0.142	+0.016 +0.086	+0.050 +0.160
> 18 to 30	+0.000 +0.021	–0.052 +0.000	+0.040 +0.124	+0.040 +0.170	+0.020 +0.104	+0.065 +0.195
> 30 to 50	+0.000 +0.025	–0.062 +0.000	+0.050 +0.150	+0.050 +0.210	+0.025 +0.125	+0.080 +0.240
> 50 to 80	+0.000 +0.030	–0.074 +0.000	+0.060 +0.180	+0.060 +0.250	+0.030 +0.150	+0.100 +0.290
> 80 to 120	+0.000 +0.035	–0.087 +0.000	+0.072 +0.212	+0.072 +0.292	+0.036 +0.176	+0.120 +0.340
> 120 to 180	+0.000 +0.040	–0.100 +0.000	+0.085 +0.245	+0.085 +0.335	+0.043 +0.203	+0.145 +0.395

Tolerances for iglide® plain bearings [inch]

Dimensions	0.0393”/=.1181”		>0.1181”/=0.23622”		>0.2362”/=0.3937”		>0.3937”/=.7086”	
H 7	+0.0000	+0.0004	+0.0000	+0.0005	+0.0000	+0.0006	+0.0000	+0.0007
E 10	+0.0006	+0.0021	+0.0008	+0.0027	+0.0010	+0.0033	+0.0013	+0.0040
F 10	+0.0002	+0.0018	+0.0004	+0.0023	+0.0005	+0.0028	+0.0006	+0.0034
D 11	+0.0008	+0.0031	+0.0012	+0.0041	+0.0016	+0.0051	+0.0020	+0.0063
f 6	-0.0002	-0.0005	-0.0004	-0.0007	-0.0005	-0.0009	-0.0006	-0.0011
d 13	-0.0008	-0.0063	-0.0012	-0.0083	-0.0016	-0.0102	-0.0020	-0.0126
h 6	-0.0000	-0.0002	-0.0000	-0.0003	-0.0000	-0.0004	-0.0000	-0.0004
h 7	-0.0000	-0.0004	-0.0000	-0.0005	-0.0000	-0.0006	-0.0000	-0.0007
h 9	-0.0000	-0.0010	-0.0000	-0.0012	-0.0000	-0.0014	-0.0000	-0.0017
h 13	-0.0000	-0.0055	-0.0000	-0.0071	-0.0000	-0.0087	-0.0000	-0.0106

Dimensions	> 0.7086”/=1.18111”		>1.1811”/=1.9685”		>1.9685”/=3.1496”	
H 7	+0.0000	+0.0008	+0.0000	+0.0010	+0.0000	+0.0012
E 10	+0.0016	+0.0049	+0.0020	+0.0059	+0.0024	+0.0071
F 10	+0.0008	+0.0041	+0.0010	+0.0049	+0.0012	+0.0059
D 11	+0.0026	+0.0077	+0.0031	+0.0094	+0.0000	+0.0000
f 6	-0.0008	-0.0013	-0.0010	-0.0016	-0.0012	-0.0019
d 13	-0.0026	-0.0156	-0.0031	-0.0185	0.0000	0.0000
h 6	-0.0000	-0.0005	-0.0000	-0.0006	-0.0000	-0.0007
h 7	-0.0000	-0.0008	-0.0000	-0.0010	-0.0000	-0.0012
h 9	-0.0000	-0.0020	-0.0000	-0.0024	-0.0000	-0.0029
h 13	-0.0000	-0.0130	-0.0000	-0.0154	-0.0000	-0.0181

Material	E10	E11	F10	D11
iglide® G	●			
iglide® G1			●	
iglide® M250				●
iglide® P210	●			
iglide® P	●			
iglide® K	●			
iglide® GLW	●			
iglide® P230	●			
iglide® J	●			
iglide® W300	●			
iglide® J3	●			
iglide® J3B	●			
iglide® J350			●	
iglide® J260	●			
iglide® W360	●			
iglide® L250	●			
iglide® L350			●	
iglide® L500			●	
iglide® R	●			
iglide® D	●			
iglide® J200	●			
iglide® E7	●			
iglide® X			●	
iglide® Z			●	
iglide® X6			●	
iglide® V400			●	
iglide® HSD350			●	
iglide® UW500			●	

Material	E10	E11	F10	D11
iglide® H1			●	
iglide® H370			●	
iglide® H			●	
iglide® C500			●	
iglide® H2			●	
iglide® A181	●			
iglide® A350			●	
iglide® A500			●	
iglide® A180	●			
iglide® A200				●
iglide® A160	●			
iglide® UW160	●			
iglide® T220	●			
iglide® Q2	●			
iglide® Q2E		●		
iglide® Q	●			
iglide® Q290	●			
iglide® F				●
iglide® F2	●			
iglide® H4			●	
iglide® UW	●			
iglide® J UV	●			
iglide® N54	●			
iglide® G V0	●			
iglide® J2	●			
iglide® AB	●			
iglide® RW370			●	
iglide® B				●
iglide® C				●

Table 10: Tolerances of iglide® plain bearing materials

Troubleshooting

In spite of careful manufacturing and assembly of the bearings, differences and questions regarding the recommended installation dimensions and tolerances can result. For this reason, we have compiled a list of the most frequent reasons for differences.

Symptom	Action/Solution
Bearing is oversized before pressfit	Check dimensions only after pressfit
Removal of material when pressed into housing	Add chamfer to housing bore, check bore size
Bearing is over/under sized after pressfit	Check housing bore dimension, check housing bore material softer bore materials (plastic, aluminum) can expand upon pressfit
Operating Clearances are too large/small	Check ID of bearing after press, housing bore, shaft diameter
Bearing noise/squeak	Check shaft surface finish/ Possibly roughen shaft
Bearing wears, material deposits on shaft	Operating clearance may be too small/ Increase clearance
Chattering noise	Operating clearance too large, excessive speed/Reduce speed and operating clearance
Shaft wear	Shaft material too soft/ Change shaft material or hardness, switch to alternative iglide material
Bearing seizes on shaft	Operating clearances too small, temperature or moisture may be causing material expansion
Loss of pressfit	Bearings overheated/ Axial secure bearing into housing or select alternative material grade

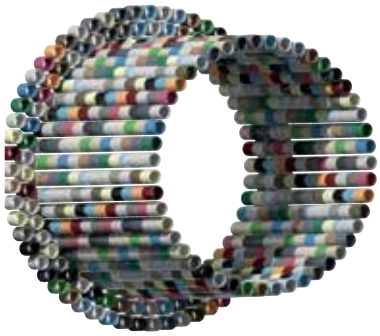
iglide® standards: more than 1,900 parts from stock

Choice of 16 standard iglide® materials

For shaft sizes up to 2” or 50mm according to ISO 3547-1

Self-lubricating and maintenance-free

Service life can be calculated online



iglide® plain bearings made from tribo-plastics: general purpose

Materials for general purpose

The classic general purpose: iglide® G

▶ Page 87

The robust all-rounder

iglide® M250

▶ Page 121

Specialist for oscillating, rolling applications and more: iglide® P210

▶ Page 143

iglide® plain bearings made from tribo-plastics: endurance runner

Materials for long service life

The versatile endurance runner: iglide® J

▶ Page 193

The classic endurance runner up to 4,351 psi: iglide® W300

▶ Page 211

Specialist for oscillating and intermittent loads: iglide® J3

▶ Page 231

iglide® plain bearings made from tribo-plastics: high temperature

Materials for use at high temperatures

The chemical and temperature specialist: iglide® X

▶ Page 339

Extremely long service life under extreme conditions: iglide® Z

▶ Page 357

iglide® plain bearings made from tribo-plastics: high media resistance

Materials with good media resistance

Endurance runner with high media resistance: iglide® H1

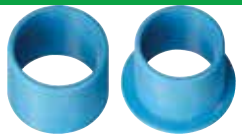
▶ Page 407

Extremely long service life under water: iglide® H370

▶ Page 419

iglide® plain bearings made from tribo-plastics: for contact with food

Materials for contact with food



The universal bearing for contact with food: iglide® A181

▶ Page 457

The endurance runner at higher temperatures in the food sector: iglide® A350

▶ Page 469

The media and temperature specialist in the food sector: iglide® A500

▶ Page 481

The outdoor all-rounder:
iglide® P
▶ Page 161

endurance runner

High dimensional stability at high temperatures:
iglide® J350
▶ Page 251

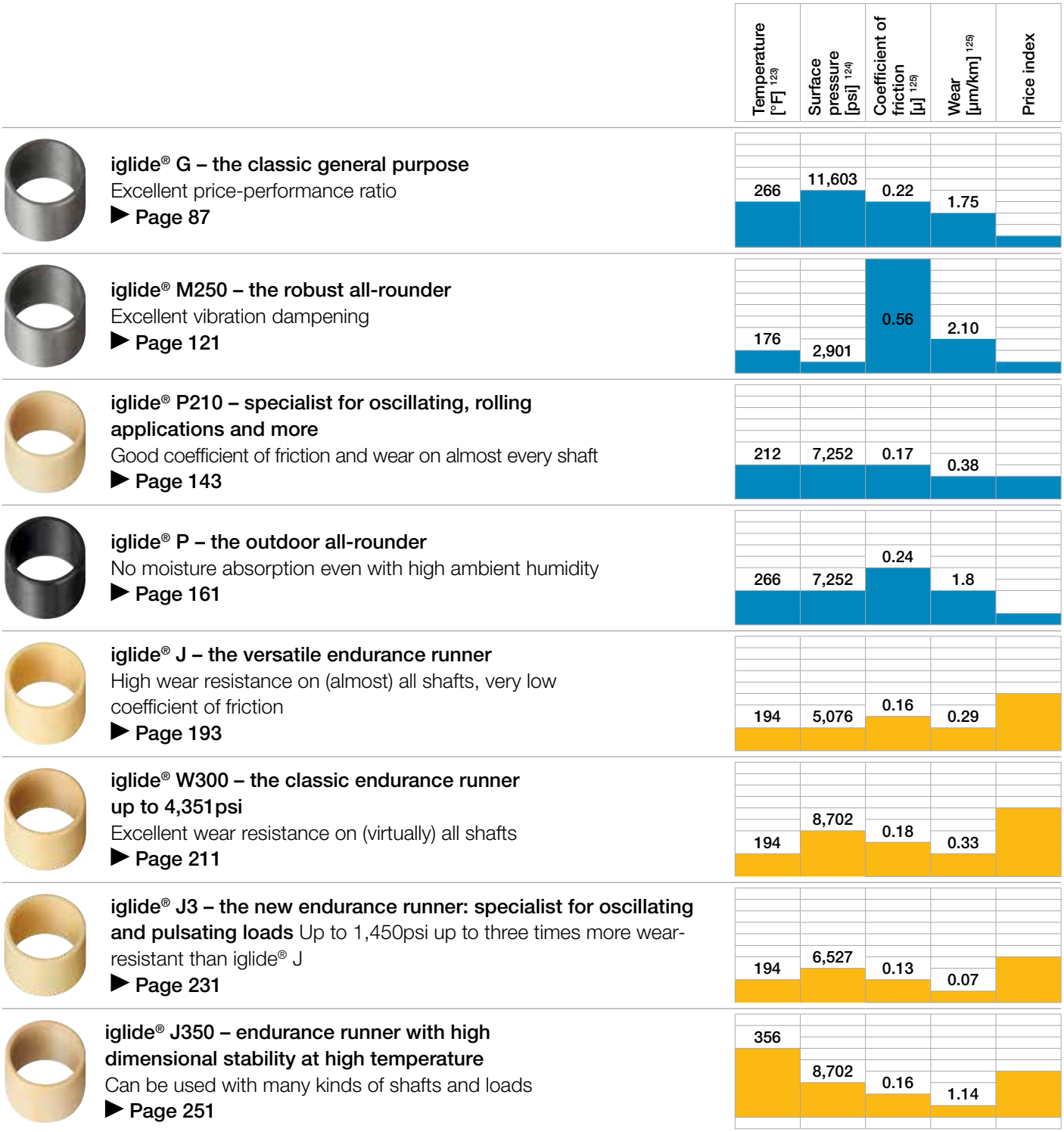
iglide® plain bearings made from tribo-plastics: for high loads

Materials for heavy-duty applications

The durable heavy-duty bearing:
iglide® Q2
▶ Page 541

The most suitable bearing for any application

The iglide® standard product range now features standardization for the main materials with the most common standard dimensions (up to a 2" or 50mm shaft diameter) - with or without flange. This means that the standard catalog range offers more than 1,900 dimensions. Finding, calculating and ordering the most suitable plain bearing for your application that is guaranteed to work has never been easier; for (virtually) any application from high-temperature to salt water, from food to automotive.



iglide® G – the classic general purpose
Excellent price-performance ratio
▶ **Page 87**

iglide® M250 – the robust all-rounder
Excellent vibration dampening
▶ **Page 121**

iglide® P210 – specialist for oscillating, rolling applications and more
Good coefficient of friction and wear on almost every shaft
▶ **Page 143**

iglide® P – the outdoor all-rounder
No moisture absorption even with high ambient humidity
▶ **Page 161**

iglide® J – the versatile endurance runner
High wear resistance on (almost) all shafts, very low coefficient of friction
▶ **Page 193**

iglide® W300 – the classic endurance runner up to 4,351psi
Excellent wear resistance on (virtually) all shafts
▶ **Page 211**

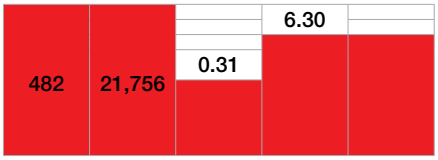
iglide® J3 – the new endurance runner: specialist for oscillating and pulsating loads Up to 1,450psi up to three times more wear-resistant than iglide® J
▶ **Page 231**

iglide® J350 – endurance runner with high dimensional stability at high temperature
Can be used with many kinds of shafts and loads
▶ **Page 251**

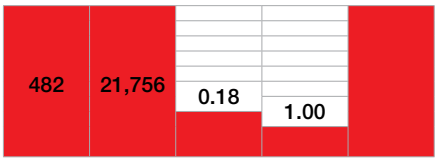
123) Max. long-term application temperature; 124) Max. permissible surface pressure at +68°F; 125) Best combination for p = 145psi, v = 59fpm, rotating

- Self-lubricating and maintenance-free
- Service life can be calculated online
- No minimum order quantities, no surcharges
- No minimum order quantity
- More than 1,900 dimensions

iglide® X – the chemical and temperature specialist
Up to 21,756psi static
▶ **Page 339**

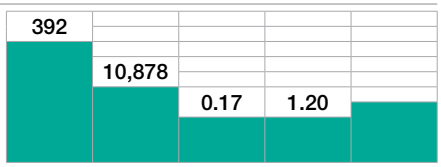


iglide® Z – extremely long service life under extreme conditions
Resistant to wear and impact even at high loads and temperatures
▶ **Page 357**

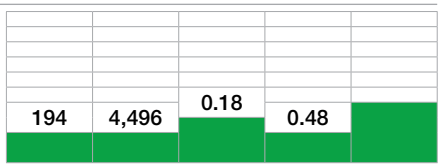


iglide® H1 – endurance runner with high media resistance
Excellent coefficient of friction and wear
▶ **Page 407**

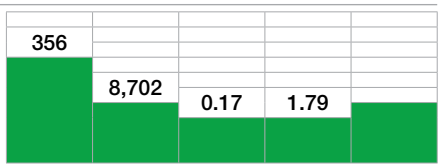
iglide® H370 – extremely long service life under water
High media resistance
▶ **Page 419**



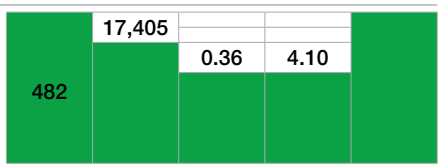
iglide® A181 – the universal bearing for food contact
FDA and EU10/2011-compliant
▶ **Page 457**



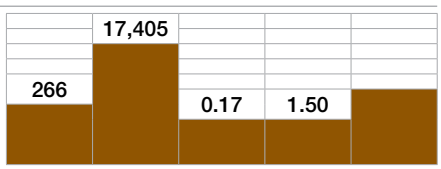
iglide® A350 – the endurance runner at higher temperatures in the food sector
FDA and EU10/2011-compliant, extremely wear-resistant
▶ **Page 469**



iglide® A500 – the media and temperature specialist in the food sector; FDA and EU10/2011-compliant; extremely wear-resistant for high temperatures
▶ **Page 481**



iglide® Q2 – the durable heavy-duty bearing
Combined wear resistance and compressive strength at high loads
▶ **Page 541**



123) Max. long-term application temperature; 124) Max. permissible surface pressure at +68°F; 125) Best combination for p = 145psi, v = 59fpm, rotating

iglide® plain bearings | Technical properties - quick selection

iglide®	G	M250	P210	P	J
Installation tolerances	E10	D11	E10	E10	E10
Descriptive technical specifications					
Wear resistance at +73°F	■■■□□	■■□□□	■■■■□	■■■□□	■■■■■
Wear resistance at +194°F	■■■□□	■■■□□	■■■■□	■■■□□	■■■■■
Wear resistance at +302°F	■■□□□	■□□□□	■■■□□	■□□□□	■□□□□
Low coefficient of friction	■■■■□	■■□□□	■■■■■	■■■■□	■■■■■
Low moisture absorption	■■■□□	■□□□□	■■■■□	■■■■□	■■■■□
Wear resistance under water	■□□□□	■□□□□	■■■□□	■■■□□	■■■□□
High media resistance	■■■□□	■■■□□	■■■□□	■■■□□	■■■■□
Resistant to edge pressures	■■■■□	■■■■■	■■■■■	■■■■□	■■■■□
Resistant to impacts/shock	■■■■□	■■■■■	■■■■■	■■■■□	■■■■□
Resistant to dirt	■■■■■	■■■■■	■■■■□	■■■■□	■■■■□
For high loads (>8,702psi)	●				
Electrically conductive					
Approvals and standards					
Dimensions in accordance with DIN	ISO 3547	ISO 2795	ISO 3547	ISO 3547	ISO 3547
FDA-compliant					
EU10/2011-compliant					
Fire class in accordance with UL-94	HB	V-2	HB	HB	HB
Mold test DIN EN ISO 846	●				●
Fogging DIN 75201-B	●	●	●		
Availabilities / variants					
Type S, sleeve	●	●	●	●	●
Type F, with flange	●	●	●	●	●
Type T, thrust washer	●	●			●
Bar stock, round material		●	●		●
Bar stock, plate					●
Bar stock, tube					●
Machined parts made from bar stock		●	●		●

W300	J3	J350	X	Z	H1	H370	A181	A350	A500	Q2
E10	E10	F10	F10	F10	F10	F10	E10	F10	F10	E10
		●	●	●	●	●		●	●	●
			●			●				
ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547	ISO 3547
							●	●	●	
							●	●	●	
HB	HB	V-0	V-0	V-0	V-0	V-0	HB	V-0	V-1	HB
		●	●		●					
●	●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●	●
●			●	●						
●	●	●	●		●		●	●	●	
								●		
●	●	●	●		●		●	●	●	

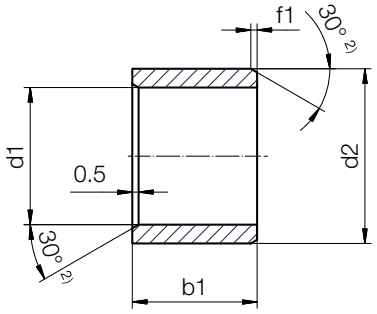
iglide® plain bearings | Material properties

iglide®	Unit	G	M250	P210	P	J
General properties						
Density	**[g/cm³]**	1.46	1.14	1.40	1.58	1.49
Color						
Max. moisture absorption at +73°F and 50% relative humidity	**[% weight]**	0.7	1.4	0.3	0.2	0.3
Max. total moisture absorption	**[% weight]**	4.0	7.6	0.5	0.4	1.3
Coefficient of sliding friction, dynamic against steel	**[µ]**	0.08–0.15	0.18–0.40	0.07–0.19	0.06–0.21	0.06–0.18
pv value, max. (dry)	**[psi·fpm]**	12,000	3,400	11,500	11,100	9,700
Mechanical properties						
Flexural modulus	**[psi]**	1,131,294	391,602	362,594	768,700	348,091
Flexural strength at +68°F	**[psi]**	30,458	16,244	10,153	17,405	10,588
Compressive strength	**[psi]**	11,313	7,542	7,252	9,572	8,702
Max. permissible surface pressure at +68°F	**[psi]**	11,603	2,901	7,252	7,252	5,076
Shore D hardness		81	79	75	75	74
Physical and thermal properties						
Max. continuous operating temperature	**[°F]**	+266	+176	+212	+266	+194
Max. short-term operating temperature	**[°F]**	+428	+338	+320	+392	+248
Min. operating temperature	**[°F]**	–40	–40	–40	–40	–58
Thermal conductivity	**[W/m · K]**	0.24	0.24	0.25	0.25	0.25
Coefficient of thermal expansion at +73°F	**[$K^{-1} \cdot 10^{-5}$]**	9	10	8	4	10
Electrical properties						
Specific contact resistance	**[Ωcm]**	> 10^{13}	> 10^{13}	> 10^{12}	> 10^{13}	> 10^{13}
Surface resistance	**[Ω]**	> 10^{11}	> 10^{11}	> 10^{11}	> 10^{12}	> 10^{12}

W300	J3	J350	X	Z	H1	H370	A181	A350	A500	Q2
1.24	1.42	1.44	1.44	1.40	1.53	1.66	1.38	1.42	1.28	1.46
1.3	0.3	0.3	0.1	0.3	0.1	0.1	0.2	0.6	0.3	1.1
6.5	1.3	1.6	0.5	1.1	0.3	0.1	1.3	1.9	0.5	4.6
0.08–0.23	0.06–0.20	0.10–0.20	0.09–0.27	0.06–0.14	0.06–0.20	0.07–0.17	0.10–0.21	0.10–0.20	0.26–0.41	0.22–0.42
6,600	14,000	13,000	37,700	24,000	22,800	21,100	8,750	11,400	8,000	20,000
507,632	391,602	290,075	1,174,806	348,091	406,106	1,609,919	277,457	290,075	522,136	1,213,966
18,130	10,153	7,977	24,656	13,779	7,977	19,580	6,962	15,954	20,305	34,809
8,847	8,702	8,702	14,504	9,427	11,313	11,458	8,702	11,313	17,114	18,855
8,702	6,527	8,702	21,756	21,756	11,603	10,878	4,496	8,702	17,405	17,405
77	73	80	85	81	77	82	76	76	83	80
+194	+194	+356	+482	+482	+392	+392	+194	+356	+482	+266
+356	+120	+428	+599	+590	+464	+464	+230	+410	+572	+392
–40	–58	–148	–148	–148	–40	–40	–58	–148	–148	–40
0.24	0.25	0.24	0.60	0.62	0.24	0.50	0.25	0.24	0.24	0.24
9	13	7	5	4	6	5	11	8	9	8
$> 10^{13}$	$> 10^{12}$	$> 10^{13}$	$< 10^{5}$	$> 10^{11}$	$> 10^{12}$	$< 10^{5}$	$> 10^{12}$	$> 10^{11}$	$> 10^{14}$	$> 10^{13}$
$> 10^{12}$	$> 10^{12}$	$> 10^{10}$	$< 10^{3}$	$> 10^{11}$	$> 10^{11}$	$< 10^{5}$	$> 10^{12}$	$> 10^{11}$	$> 10^{13}$	$> 10^{11}$

iglide® standards | Product range

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm: chamfer = 20°

Chamfer in relation to d1

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

Order key

Type			Dimensions [mm]		
☐ S	I	-	04	05	- 06
iglide® material	Form S	Inch	Inner Ø d1	Outer Ø d2	Total length b1

Choose the suitable material and dimensions for your application

Dimensions [mm]

Part No.	d1[126]	d2	b1
☐ SI-0203-03	1/8	3/16	3/16
☐ SI-0304-04	3/16	1/4	1/4
☐ SI-0304-06	3/16	1/4	3/8
☐ SI-0405-06	1/4	5/16	3/8
☐ SI-0405-08	1/4	5/16	1/2
☐ SI-0506-04	5/16	3/8	1/4
☐ SI-0506-06	5/16	3/8	3/8
☐ SI-0506-08	5/16	3/8	1/2
☐ SI-0607-04	3/8	15/32	1/4
☐ SI-0607-06	3/8	15/32	3/8
☐ SI-0607-08	3/8	15/32	1/2
☐ SI-0607-10	3/8	15/32	5/8
☐ SI-0607-12	3/8	15/32	3/4

Part No.	d1[126]	d2	b1
☐ SI-0708-08	7/16	17/32	1/2
☐ SI-0708-12	7/16	17/32	3/7
☐ SI-0809-04	1/2	19/32	1/4
☐ SI-0809-06	1/2	19/32	3/8
☐ SI-0809-08	1/2	19/32	1/2
☐ SI-0809-10	1/2	19/32	5/8
☐ SI-0809-12	1/2	19/32	3/4
☐ SI-0809-16	1/2	19/32	1
☐ SI-0910-08	9/16	21/32	1/2
☐ SI-0910-10	9/16	21/32	5/8
☐ SI-0910-12	9/16	21/32	3/4
☐ SI-1011-08	5/8	23/32	1/2
☐ SI-1011-12	5/8	23/32	3/4

[126] After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the tolerances (more information in material specific chapters)

iglide® standards | Product range

Absolute flexibility: all iglide® standard sizes available from stock

G	The classic general purpose
M(250)	The robust all-rounder according to ISO 2795
P210	Specialist for oscillating, rolling applications and more
P	The cost-effective outdoor all-rounder
J	The versatile endurance runner
W(300)	The classic endurance runner up to 4,351psi
J3	The new endurance runner: specialist for oscillating and pulsating loads
J350	Endurance runner with high dimensional stability at high temperature
X	The chemical and temperature specialist
Z	Extremely long service life under extreme conditions
H1	Endurance runner with high media resistance
H370	Extremely long service life under water
A181	The universal bearing for food contact
A350	The endurance runner at higher temperatures in the food sector
A500	The media and temperature specialist in the food sector
Q2	The durable heavy-duty bearing

Dimensions [mm]

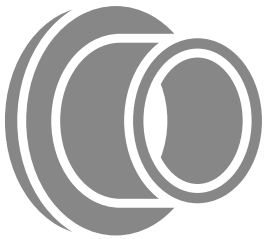
Part No.	d1[126)]	d2	b1
SI-1011-16	5/8	23/32	1
SI-1214-08	3/4	7/8	1/2
SI-1214-12	3/4	7/8	3/4
SI-1214-16	3/4	7/8	1
SI-1416-08	7/8	1	1/2
SI-1416-12	7/8	1	3/4
SI-1416-16	7/8	1	1
SI-1618-08	1	1 1/8	1/2
SI-1618-12	1	1 1/8	3/4
SI-1618-16	1	1 1/8	1
SI-1820-12	1 1/8	1 9/32	3/4
SI-1820-16	1 1/8	1 9/32	1
SI-1820-20	1 1/8	1 9/32	1 1/4

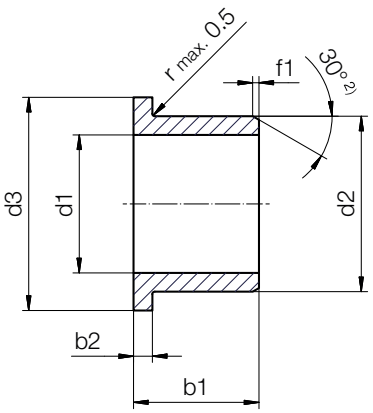
Part No.	d1[126)]	d2	b1
SI-2022-12	1 1/4	1 13/32	3/4
SI-2022-16	1 1/4	1 13/32	1
SI-2022-20	1 1/4	1 13/32	1 1/4
SI-2426-16	1 1/2	1 21/32	1
SI-2426-24	1 1/2	1 21/32	1 1/2
SI-2629-16	1 5/8	1 25/32	1
SI-2629-24	1 5/8	1 25/32	1 1/2
SI-2831-16	1 3/4	1 15/16	1
SI-2831-32	1 3/4	1 15/16	2
SI-3033-16	1 7/8	2 1/16	1
SI-3033-32	1 7/8	2 1/16	2
SI-3235-16	2	2 3/16	1
SI-3235-32	2	2 3/16	2

[126)] After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the tolerances (more information in material specific chapters)

iglide® standards | Product range

Flange bearing (form F), inch





2) Thickness < 0.6mm: chamfer = 20°

Chamfer in relation to d1

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

Order key

Type	Dimensions [mm]		
☐ F I	-04	05	-06
iglide® material	Form F	Inch	Inner Ø d1	Outer Ø d2	Total length b1

Choose the suitable material and dimensions for your application

Dimensions [mm]

Part No.	d1[126]	d2	d3 d13	b1 h13	b2 h13
☐FI-0203-03	1/8	3/16	3/16	.312	.0320
☐FI-0304-04	3/16	1/4	1/4	.375	.0320
☐FI-0405-06	1/4	5/16	3/8	.430	.0320
☐FI-0405-08	1/4	5/16	1/2	.500	.0320
☐FI-0506-04	5/16	3/8	1/4	.500	.0320
☐FI-0506-06	5/16	3/8	3/8	.500	.0320
☐FI-0506-08	5/16	3/8	1/2	.500	.0320
☐FI-0607-04	3/8	15/32	1/4	.687	.0460
☐FI-0607-06	3/8	15/32	3/8	.687	.0460
☐FI-0607-08	3/8	15/32	1/2	.687	.0460
☐FI-0607-12	3/8	15/32	3/4	.687	.0460
☐FI-0708-08	7/16	17/32	1/2	.750	.0460
☐FI-0809-04	1/2	19/32	1/4	.875	.0460
☐FI-0809-06	1/2	19/32	3/8	.875	.0460
☐FI-0809-08	1/2	19/32	1/2	.875	.0460
☐FI-0809-12	1/2	19/32	3/4	.875	.0460
☐FI-0809-16	1/2	19/32	1	.875	.0460
☐FI-1011-08	5/8	23/32	1/2	.937	.0460

126) After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the tolerances (more information in material specific chapters)

iglide® standards | Product range

Flange bearing (form F), inch

G	The classic general purpose
M(250)	The robust all-rounder according to ISO 2795
P210	Specialist for oscillating, rolling applications and more
P	The cost-effective outdoor all-rounder
J	The versatile endurance runner
W(300)	The classic endurance runner up to 4,351psi
J3	The new endurance runner: specialist for oscillating and pulsating loads
J350	Endurance runner with high dimensional stability at high temperature
X	The chemical and temperature specialist
Z	Extremely long service life under extreme conditions
H1	Endurance runner with high media resistance
H370	Extremely long service life under water
A181	The universal bearing for food contact
A350	The endurance runner at higher temperatures in the food sector
A500	The media and temperature specialist in the food sector
Q2	The durable heavy-duty bearing

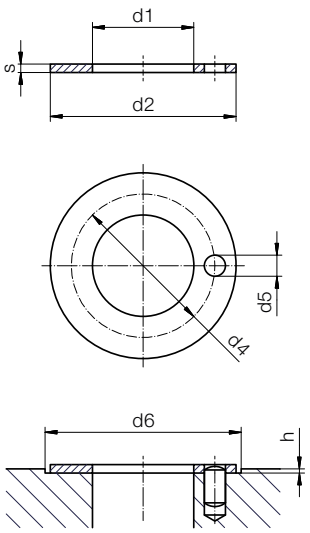
Dimensions [mm]

Part No.	d1[126)]	d2	d3 d13	b1 h13	b2 h13
FI-1011-12	5/8	23/32	3/4	.937	.0460
FI-1011-16	5/8	23/32	1	.937	.0460
FI-1214-08	3/4	7/8	1/2	1.125	.0620
FI-1214-12	3/4	7/8	3/4	1.125	.0620
FI-1214-16	3/4	7/8	1	1.125	.0620
FI-1416-08	7/8	1	1/2	1.250	.0620
FI-1416-12	7/8	1	3/4	1.250	.0620
FI-1416-16	7/8	1	1	1.250	.0620
FI-1618-08	1	1 1/8	1/2	1.375	.0620
FI-1618-12	1	1 1/8	3/4	1.375	.0620
FI-1618-16	1	1 1/8	1	1.375	.0620
FI-2022-16	1 1/4	1 13/32	1	1.687	.0780
FI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.0780
FI-2426-16	1 1/2	1 21/32	1	2.000	.0780
FI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.0780
FI-2831-32	1 3/4	1 15/16	2	2.375	.0930
FI-3235-32	2	2 3/16	2	2.625	.0930

[126)] After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the tolerances (more information in material specific chapters)

iglide® standards | Product range

Thrust washer (form T), inch



Order key

Type			Dimensions [mm]		
☐ T	I	-	06	20	- 01
iglide® material	Form T	Inch	Inner Ø d1	Outer Ø d2	Total length b1

Choose the suitable material and dimensions for your application

Dimensions [mm]

Part No.	d1 +0.25	d2 –0.25	s –0.05	d4 –0.12 +0.12	d5 +0.375 +0.125	h +0.2 –0.2	d6 +0.12
☐TI-0610-01	.375	.625	.0400	*	*	*	.375
☐TI-0814-01	.500	.875	.0585	.692	.067	.040	.875
☐TI-1018-01	.625	1.125	.0585	.880	.099	.040	1.125
☐TI-1220-01	.750	1.250	.0585	1.005	.099	.040	1.250
☐TI-1424-01	.875	1.500	.0585	1.192	.130	.040	1.500

[4] Design without fixing hole

iglide® standards | Product range

Absolute flexibility: all iglide® standard sizes available from stock

G	The classic general purpose
W(300)	The classic endurance runner up to 4,351psi
X	The chemical and temperature specialist

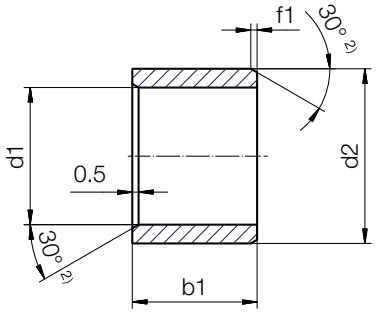
Dimensions [mm]

Part No.	d1 +0.25	d2 –0.25	s –0.05	d4 –0.12 +0.12	d5 +0.375 +0.125	h +0.2 –0.2	d6 +0.12
❑TI-1628-01	1.000	1.750	.0585	1.380	.130	.040	1.750
❑TI-2034-01	1.250	2.125	.0585	1.692	.161	.040	2.125
❑TI-2440-01	1.500	2.500	.0585	2.005	.192	.040	2.500
❑TI-2844-01	1.750	2.750	.0585	2.255	.192	.040	2.750
❑TI-3248-01	2.000	3.000	.0895	2.505	.192	.070	3.000

[4] Design without fixing hole

iglide® standards | Product range

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: chamfer = 20°

Chamfer in relation to d1

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

Order key

Type			Dimensions [mm]		
☐ S	M	-	04	05	- 04
iglide® material	Form S	Metric	Inner Ø d1	Outer Ø d2	Total length b1

Choose the suitable material and dimensions for your application

Dimensions according to ISO 3547-1
With the exception of iglide® M250: ISO 2795

Dimensions [mm]

Part No.	d1[126]	d2	b1
☐SM-0405-04	4	5.5	4
☐SM-0405-06	4	5.5	6
☐SM-0507-05	5	7	5
☐SM-0507-10	5	7	10
☐SM-0608-06	6	8	6
☐SM-0608-08	6	8	8
☐SM-0608-10	6	8	10
☐SM-0810-08	8	10	8
☐SM-0810-10	8	10	10
☐SM-0810-12	8	10	12
☐SM-1012-08	10	12	8
☐SM-1012-10	10	12	10
☐SM-1012-12	10	12	12
☐SM-1012-15	10	12	15
☐SM-1012-20	10	12	20
☐SM-1214-10	12	14	10
☐SM-1214-12	12	14	12
☐SM-1214-15	12	14	15
☐SM-1214-20	12	14	20
☐SM-1315-10	13	15	10

Part No.	d1[126]	d2	b1
☐SM-1315-20	13	15	20
☐SM-1416-15	14	16	15
☐SM-1416-20	14	16	20
☐SM-1416-25	14	16	25
☐SM-1517-15	15	17	15
☐SM-1517-20	15	17	20
☐SM-1517-25	15	17	25
☐SM-1618-15	16	18	15
☐SM-1618-20	16	18	20
☐SM-1618-25	16	18	25
☐SM-1820-15	18	20	15
☐SM-1820-20	18	20	20
☐SM-1820-25	18	20	25
☐SM-2023-10	20	23	10
☐SM-2023-15	20	23	15
☐SM-2023-20	20	23	20
☐SM-2023-25	20	23	25
☐SM-2023-30	20	23	30
☐SM-2225-15	22	25	15
☐SM-2225-20	22	25	20

[126] After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the tolerances (more information in material specific chapters)

iglide® standards | Product range

Absolute flexibility: all iglide® standard sizes available from stock

G	The classic general purpose
M(250)	The robust all-rounder according to ISO 2795
P210	Specialist for oscillating, rolling applications and more
P	The cost-effective outdoor all-rounder
J	The versatile endurance runner
W(300)	The classic endurance runner up to 4,351psi
J3	The new endurance runner: specialist for oscillating and pulsating loads
J350	Endurance runner with high dimensional stability at high temperature
X	The chemical and temperature specialist
Z	Extremely long service life under extreme conditions
H1	Endurance runner with high media resistance
H370	Extremely long service life under water
A181	The universal bearing for food contact
A350	The endurance runner at higher temperatures in the food sector
A500	The media and temperature specialist in the food sector
Q2	The durable heavy-duty bearing

Dimensions [mm]

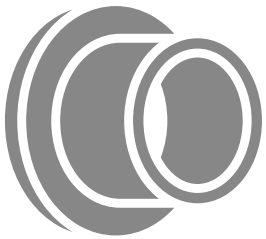
Part No.	d1[126)]	d2	b1
SM-2225-25	22	25	25
SM-2225-30	22	25	30
SM-2427-15	24	27	15
SM-2427-20	24	27	20
SM-2427-25	24	27	25
SM-2427-30	24	27	30
SM-2528-15	25	28	15
SM-2528-20	25	28	20
SM-2528-25	25	28	25
SM-2528-30	25	28	30
SM-2832-20	28	32	20
SM-2832-25	28	32	25
SM-2832-30	28	32	30
SM-3034-20	30	34	20
SM-3034-25	30	34	25
SM-3034-30	30	34	30
SM-3034-40	30	34	40
SM-3236-20	32	36	20
SM-3236-30	32	36	30
SM-3236-40	32	36	40

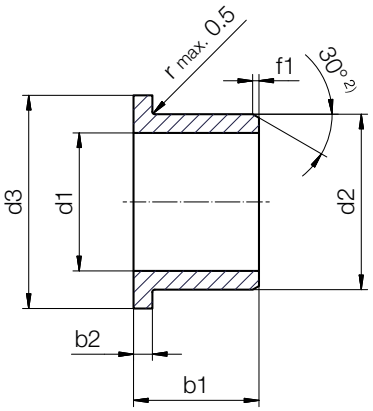
Part No.	d1[126)]	d2	b1
SM-3539-20	35	39	20
SM-3539-30	35	39	30
SM-3539-40	35	39	40
SM-3539-50	35	39	50
SM-4044-20	40	44	20
SM-4044-30	40	44	30
SM-4044-40	40	44	40
SM-4044-50	40	44	50
SM-4550-20	45	50	20
SM-4550-30	45	50	30
SM-4550-40	45	50	40
SM-4550-50	45	50	50
SM-5055-20	50	55	20
SM-5055-30	50	55	30
SM-5055-40	50	55	40
SM-5055-50	50	55	50
SM-5055-60	50	55	60

[126)] After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the tolerances (more information in material specific chapters)

iglide® standards | Product range

Flange bearing (form F), metric





[2] Thickness < 0.6mm: chamfer = 20°

Chamfer in relation to d1

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

Order key

Type	Dimensions [mm]				
☐ F	M	-06	08	-04	
iglide® material	Form F	Metric	Inner Ø d1	Outer Ø d2	Total length b1

Choose the suitable material and dimensions for your application

Dimensions according to ISO 3547-1
With the exception of iglide® M250: ISO 2795

Dimensions [mm]

Part No.	d1[126]	d2	d3 d13	b1 h13	b2 h13
☐FM-0608-04	6	8	12	4	1
☐FM-0608-08	6	8	12	8	1
☐FM-0810-05	8	10	15	5.5	1
☐FM-0810-07	8	10	15	7.5	1
☐FM-0810-09	8	10	15	9.5	1
☐FM-1012-07	10	12	18	7	1
☐FM-1012-09	10	12	18	9	1
☐FM-1012-12	10	12	18	12	1
☐FM-1012-17	10	12	18	17	1
☐FM-1214-07	12	14	20	7	1
☐FM-1214-09	12	14	20	9	1
☐FM-1214-12	12	14	20	12	1
☐FM-1214-17	12	14	20	17	1
☐FM-1416-12	14	16	22	12	1
☐FM-1416-17	14	16	22	17	1
☐FM-1517-09	15	17	23	9	1
☐FM-1517-12	15	17	23	12	1
☐FM-1517-17	15	17	23	17	1

[126] After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the tolerances (more information in material specific chapters)

iglide® standards | Product range

Absolute flexibility: all iglide® standard sizes available from stock

G	The classic general purpose
M(250)	The robust all-rounder according to ISO 2795
P210	Specialist for oscillating, rolling applications and more
P	The cost-effective outdoor all-rounder
J	The versatile endurance runner
W(300)	The classic endurance runner up to 4,351psi
J3	The new endurance runner: specialist for oscillating and pulsating loads
J350	Endurance runner with high dimensional stability at high temperature
X	The chemical and temperature specialist
Z	Extremely long service life under extreme conditions
H1	Endurance runner with high media resistance
H370	Extremely long service life under water
A181	The universal bearing for food contact
A350	The endurance runner at higher temperatures in the food sector
A500	The media and temperature specialist in the food sector
Q2	The durable heavy-duty bearing

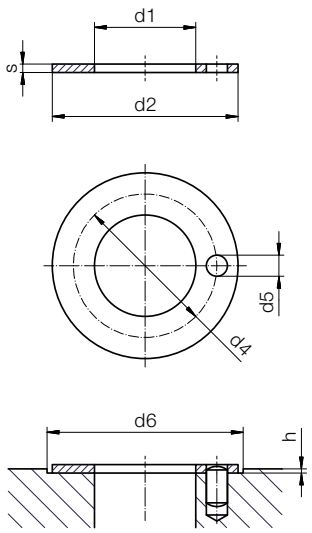
Dimensions [mm]

Part No.	d1[126)]	d2	d3 d13	b1 h13	b2 h13
FM-1618-12	16	18	24	12	1
FM-1618-17	16	18	24	17	1
FM-1820-12	18	20	26	12	1
FM-1820-17	18	20	26	17	1
FM-1820-22	18	20	26	22	1
FM-2023-11	20	23	30	11.5	1.5
FM-2023-16	20	23	30	16.5	1.5
FM-2023-21	20	23	30	21.5	1.5
FM-2528-11	25	28	35	11.5	1.5
FM-2528-16	25	28	35	16.5	1.5
FM-2528-21	25	28	35	21.5	1.5
FM-3034-16	30	34	42	16	2
FM-3034-26	30	34	42	26	2
FM-3539-16	35	39	47	16	2
FM-3539-26	35	39	47	26	2
FM-4044-30	40	44	52	30	2
FM-4044-40	40	44	52	40	2
FM-4550-50	45	50	58	50	2

[126)] After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the tolerances (more information in material specific chapters)

iglide® standards | Product range

Thrust washer (form T), metric



Order key

Type	Dimensions [mm]				
☐ T	M	-06	20	-	015
iglide® material	Form T	Metric	Inner Ø d1	Outer Ø d2	Total length b1

Dimensions according to ISO 3547-1 and special dimensions

Choose the suitable material and dimensions for your application

Dimensions [mm]

Part No.	d1 +0.25	d2 –0.25	s –0.05	d4 –0.12 +0.12	d5 +0.375 +0.125	h +0.2 –0.2	d6 +0.12
☐TM-0620-015	6.0	20.0	1.5	13.0	1.5	1.0	20.0
☐TM-0818-015	8.0	18.0	1.5	13.0	1.5	1.0	18.0
☐TM-1018-010	10.0	18.0	1.0	[4]	[4]	0.7	18.0
☐TM-1224-015	12.0	24.0	1.5	18.0	1.5	1.0	24.0
☐TM-1426-015	14.0	26.0	1.5	20.0	2.0	1.0	26.0
☐TM-1524-015	15.0	24.0	1.5	19.5	1.5	1.0	24.0
☐TM-1630-015	16.0	30.0	1.5	22.0	2.0	1.0	30.0
☐TM-1832-015	18.0	32.0	1.5	25.0	2.0	1.0	32.0
☐TM-2036-015	20.0	36.0	1.5	28.0	3.0	1.0	36.0
☐TM-2238-015	22.0	38.0	1.5	30.0	3.0	1.0	38.0

[4] Design without fixing hole

iglide® standards | Product range

Absolute flexibility: all iglide® standard sizes available from stock

G	The classic general purpose
W(300)	The classic endurance runner up to 4,351psi
X	The chemical and temperature specialist

Dimensions [mm]

Part No.	d1 +0.25	d2 –0.25	s –0.05	d4 –0.12 +0.12	d5 +0.375 +0.125	h +0.2 –0.2	d6 +0.12
☐TM-2442-015	24.0	42.0	1.5	33.0	3.0	1.0	42.0
☐TM-2644-015	26.0	44.0	1.5	35.0	3.0	1.0	44.0
☐TM-2848-015	28.0	48.0	1.5	38.0	4.0	1.0	48.0
☐TM-3254-015	32.0	54.0	1.5	43.0	4.0	1.0	54.0
☐TM-3862-015	38.0	62.0	1.5	50.0	4.0	1.0	62.0
☐TM-4266-015	42.0	66.0	1.5	54.0	4.0	1.0	66.0
☐TM-4874-020	48.0	74.0	2.0	61.0	4.0	1.5	74.0
☐TM-5278-020	52.0	78.0	2.0	65.0	4.0	1.5	78.0
☐TM-6290-020	62.0	90.0	2.0	76.0	4.0	1.5	90.0

[4] Design without fixing hole

Materials for general purpose

Materials for general purpose

The iglide® materials summarized in this group have a universal use under normal conditions (temperature, media, etc.). iglide® G is the most universal among iglide® materials. It performs exceedingly well in almost all technical disciplines. With reduced moisture absorption and improved wear and temperature behavior for many applications, iglide® G1 represents an advanced development of this classic. The iglide® GLW is specially suitable for solutions in large batches. iglide® P has a similar potential as iglide® G paired with significantly reduced moisture absorption, which is advantageous for use in wet environments.

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

iglide® G
The classic general purpose

Temperature [°F] [123]	+266	– +
Surface pressure [psi] [124]	11,603	– +
Coefficient of friction [µ] [125]	0.22	– +
Wear [µm/km] [125]	1.75	– +
Price index		– +

iglide® G1
Universal

Temperature [°F] [123]	+356	– +
Surface pressure [psi] [124]	13,198	– +
Coefficient of friction [µ] [125]	0.11	– +
Wear [µm/km] [125]	0.76	– +
Price index		– +

iglide® M250
The robust all-rounder according to ISO 2795

Temperature [°F] [123]	+176	– +
Surface pressure [psi] [124]	2,901	– +
Coefficient of friction [µ] [125]	0.56	– +
Wear [µm/km] [125]	2.10	– +
Price index		– +

iglide® P210
Specialist for oscillating, rolling applications and more

Temperature [°F] [123]	+212	– +
Surface pressure [psi] [124]	7,252	– +
Coefficient of friction [µ] [125]	0.17	– +
Wear [µm/km] [125]	0.38	– +
Price index		– +

[123] max. long-term application temperature [124] max. recommended surface pressure at +68°F [125] best combination for p = 145psi, v = 59fpm, rotating

General purpose

iglide® P230
The low-cost all-rounder

Temperature [°F] [123]	+230	–	+
Surface pressure [psi] [124]	8,702	–	+
Coefficient of friction [µ] [125]	0.13	–	+
Wear [µm/km] [125]	1.53	–	+
Price index		–	+

iglide® P
The cost-effective outdoor all-rounder

Temperature [°F] [123]	+266	–	+
Surface pressure [psi] [124]	7,252	–	+
Coefficient of friction [µ] [125]	0.24	–	+
Wear [µm/km] [125]	1.80	–	+
Price index		–	+

iglide® K
Versatile and cost-effective

Temperature [°F] [123]	+338	–	+
Surface pressure [psi] [124]	7,252	–	+
Coefficient of friction [µ] [125]	0.16	–	+
Wear [µm/km] [125]	0.60	–	+
Price index		–	+

iglide® GLW
Low-cost material for high-volume production

Temperature [°F] [123]	+212	–	+
Surface pressure [psi] [124]	11,603	–	+
Coefficient of friction [µ] [125]	0.23	–	+
Wear [µm/km] [125]	8.30	–	+

The classic general purpose
Excellent price-performance ratio
iglide® G

When to use it?

- When an economical all-round performance bearing is required
- For low to medium speeds
- When the bearing needs to run on different shaft materials
- For pivoting and rotational movements

When not to use?

- When mechanical reaming of the bore is necessary
  iglide® M250
- When lowest wear is required
  iglide® W300
- When universal chemical resistance is required
  iglide® X
- When continuous operating temperatures are higher than +266°F
  iglide® H, iglide® X, iglide® H370
- For underwater applications
  iglide® H370

Ø
1.5 – 195mm
1/8 - 5 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The classic general purpose
Excellent price-performance ratio

iglide® G plain bearings cover an extremely wide range of different requirements. The material is ideal for universal applications. Typical applications include medium to high loads, medium surface speeds and medium temperatures.

- Over 650 sizes available from stock
- High wear resistance
- Resistant to dirt
- Cost-effective
- Self-lubricating
- Maintenance-free

Typical application areas

- Agricultural machines
- Construction machinery
- Sports and leisure
- Automotive
- Mechatronics
- Machine building

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■■	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.46	
Color		matte grey	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.7	DIN 53495
Max. moisture absorption	% weight	4.0	
Coefficient of friction, dynamic, against steel	µ	0.08 – 0.15	
pv value, max. (dry)	psi · fpm	12,000	
Mechanical properties			
Flexural modulus	psi	1,131,294	DIN 53457
Flexural strength at +68°F	psi	30,458	DIN 53452
Compressive strength	psi	11,313	
Max. recommended surface pressure (+68°F)	psi	11,603	
Shore D hardness		81	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+266	
Max. application temperature short-term	°F	+428	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	9	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

Table 01: Material properties

–40°F up to +266°F

11,603psi

HB

RoHS

ISO 3547-1

iglide® G is the most universal among iglide® materials. It performs exceedingly well in all technical disciplines and is the classic all-rounder, primarily with respect to the overall general, mechanical, thermal and tribological specifications.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® G plain bearings is approximately 0.7% weight. The saturation limit in water is 4.0% weight. This must be taken into account for these types of applications.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® G bearings.

Radiation resistance

Plain bearings made from iglide® G are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® G plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® G plain bearings decreases. Diagram 02 shows this inverse relationship. However, at the long-term maximum temperature of +266°F the permissible surface pressure is around 5,076psi. 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 iglide® G at radial loads. The plastic deformation is minimal up to a pressure of approximately 14,504psi. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® G has been developed for low to medium surface speeds. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The ambient temperatures strongly influence the properties of plain bearings. The temperatures prevailing in the bearing system also have an influence on the wear. With increasing temperatures, the wear increases and this effect is significant when temperatures rise over +248°F. For temperatures over +176°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® G 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. For iglide® G a ground surface with an average surface finish Ra = 0.8μm is recommended. Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® G. It is important to notice that with increasing loads, the recommended hardness of the shaft increases. The "soft" shafts tend to wear more easily and thus the wear of the overall system increases. If the loads exceed 290psi it is important to recognize that the wear rate (the gradient of the curves) clearly decreases with the hard shaft materials. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	196	138	787
short-term	**fpm**	394	276	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.08 – 0.15	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

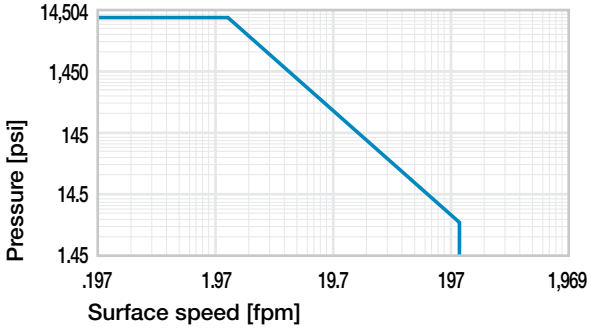


Diagram 01: Permissible pv values for iglide® G plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

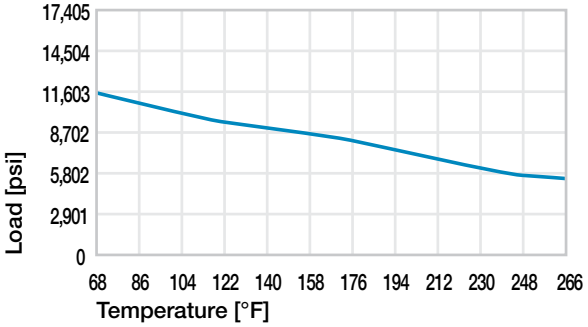


Diagram 02: Maximum recommended surface pressure as a function of temperature (11,603psi at +68°F)

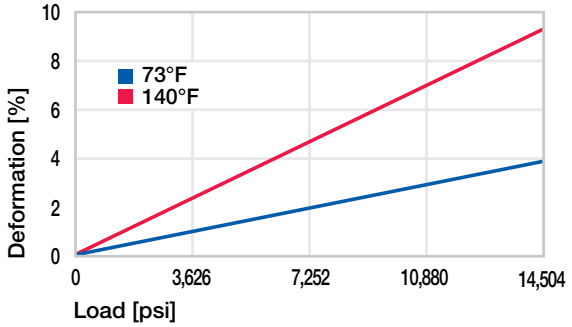


Diagram 03: Deformation under pressure and temperature

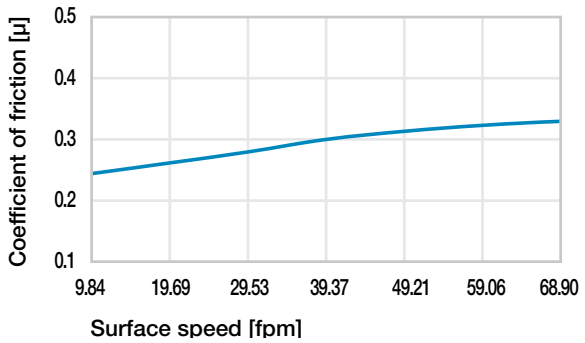


Diagram 04: Coefficient of friction as a function of the surface speed, p = 109psi

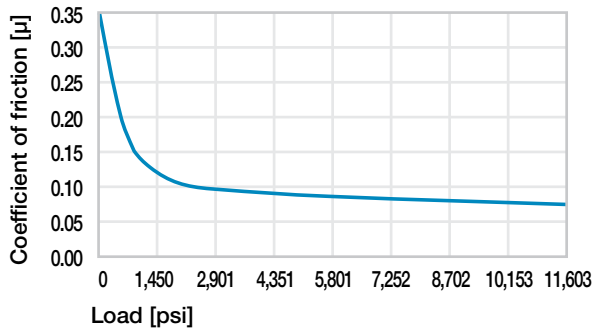


Diagram 05: Coefficient of friction as a function of the load, v = 1.45fpm

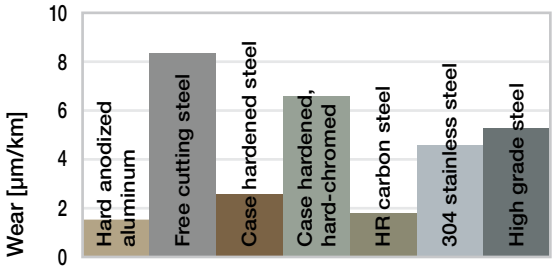


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

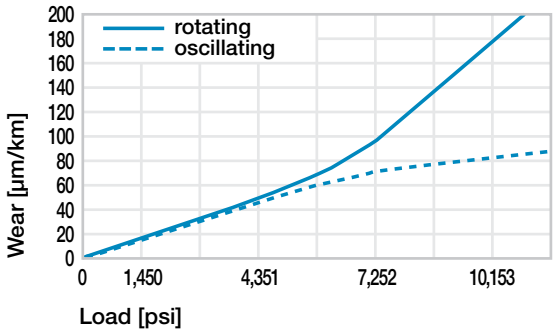
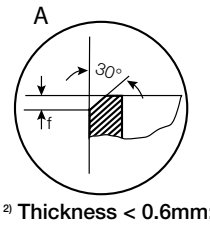
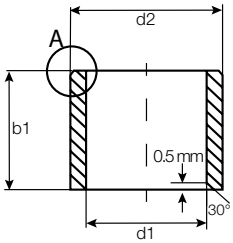


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® G

Sleeve bearing (form S), inch





[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 90**

Order key

Type			Dimensions		
G	S	I	-02	03	-03
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
GSI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
GSI-0203-04	1/8	3/16	1/4			.1873	.1878	.1236	.1243
GSI-0203-06	1/8	3/16	3/8			.1873	.1878	.1236	.1243
GSI-0304-04	3/16	1/4	1/4	.1873	.1892	.2497	.2503	.1858	.1865
GSI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
GSI-0304-08	3/16	1/4	1/2			.2497	.2503	.1858	.1865
GSI-0405-04	1/4	5/16	1/4	.2498	.2521	.3122	.3128	.2481	.2490
GSI-0405-05	1/4	5/16	5/16			.3122	.3128	.2481	.2490
GSI-0405-06	1/4	5/16	3/8			.3122	.3128	.2481	.2490
GSI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
GSI-0405-10	1/4	5/16	5/8			.3122	.3128	.2481	.2490
GSI-0405-12	1/4	5/16	3/4			.3122	.3128	.2481	.2490
GSI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
GSI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
GSI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
GSI-0506-12	5/16	3/8	3/4			.3747	.3753	.3106	.3115
GSI-0607-03	3/8	15/32	3/16	.3750	.3773	.4684	.4691	.3731	.3740
GSI-0607-04	3/8	15/32	1/4			.4684	.4691	.3731	.3740
GSI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
GSI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
GSI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
GSI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
GSI-0608-06	3/8	1/2	3/8	.3760	.3783	.5010	.5015	.3741	.3750
GSI-0608-08	3/8	1/2	1/2			.5010	.5015	.3741	.3750
GSI-0608-10	3/8	1/2	5/8			.5010	.5015	.3741	.3750
GSI-0608-12	3/8	1/2	3/4			.5010	.5015	.3741	.3750
GSI-0608-14	3/8	1/2	7/16			.5010	.5015	.3741	.3750
GSI-0708-04	7/16	17/32	1/4	.4379	.4406	.5309	.5316	.4355	.4365
GSI-0708-08	7/16	17/32	1/2			.5309	.5316	.4355	.4365
GSI-0708-12	7/16	17/32	3/4			.5309	.5316	.4355	.4365
GSI-0809-03	1/2	19/32	3/16	.5003	.5030	.5934	.5941	.4980	.4990
GSI-0809-04	1/2	19/32	1/4			.5934	.5941	.4980	.4990
GSI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
GSI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
GSI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
GSI-0809-12	1/2	19/32	3/4	.5003	.5030	.5934	.5941	.4980	.4990
GSI-0809-14	1/2	19/32	7/8			.5934	.5941	.4980	.4990
GSI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
GSI-0810-08	1/2	5/8	1/2	.5013	.5040	.6250	.6260	.4990	.5000
GSI-0810-12	1/2	5/8	3/4			.6250	.6260	.4990	.5000
GSI-0810-16	1/2	5/8	1			.6250	.6260	.4990	.5000
GSI-0910-06	9/16	21/32	3/8	.5627	.5655	.6559	.6566	.5605	.5615
GSI-0910-08	9/16	21/32	1/2			.6559	.6566	.5605	.5615
GSI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
GSI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
GSI-1011-06	5/8	23/32	3/8	.6253	.6280	.7184	.7192	.6230	.6240
GSI-1011-08	5/8	23/32	1/2			.7184	.7192	.6230	.6240
GSI-1011-10	5/8	23/32	5/8			.7184	.7192	.6230	.6240
GSI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
GSI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
GSI-1011-20	5/8	23/32	1 1/4			.7184	.7192	.6230	.6240
GSI-1011-30	5/8	23/32	1 7/8			.7184	.7192	.6230	.6240
GSI-1012-08	5/8	3/4	1/2	.6253	.6280	.7500	.7508	.6233	.6250
GSI-1012-16	5/8	3/4	1			.7500	.7508	.6233	.6250
GSI-1112-14	11/16	25/32	7/8	.6879	.6906	.7809	.7817	.6855	.6865
GSI-1214-02	3/4	7/8	1/8	.7508	.7541	.8747	.8755	.7479	.7491
GSI-1214-06	3/4	7/8	3/8			.8747	.8755	.7479	.7491
GSI-1214-08	3/4	7/8	1/2			.8747	.8755	.7479	.7491
GSI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
GSI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
GSI-1214-18	3/4	7/8	1 1/8			.8747	.8755	.7479	.7491
GSI-1214-20	3/4	7/8	1 1/4			.8747	.8755	.7479	.7491
GSI-1214-24	3/4	7/8	1 1/2			.8747	.8755	.7479	.7491
GSI-1216-16	3/4	1	1	.7516	.7549	1.0000	1.0008	.7480	.7500
GSI-1416-06	7/8	1	3/8	.8757	.8791	.9997	1.0005	.8729	.8741
GSI-1416-08	7/8	1	1/2			.9997	1.0005	.8729	.8741
GSI-1416-10	7/8	1	5/8			.9997	1.0005	.8729	.8741
GSI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
GSI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741
GSI-1416-24	7/8	1	1 1/2			.9997	1.0005	.8729	.8741
GSI-1618-06	1	1 1/8	3/8	1.0007	1.0041	1.1247	1.1255	.9979	.9991
GSI-1618-08	1	1 1/8	1/2			1.1247	1.1255	.9979	.9991
GSI-1618-12	1	1 1/8	3/4			1.1247	1.1255	.9979	.9991
GSI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
GSI-1618-20	1	1 1/8	1 1/4			1.1247	1.1255	.9979	.9991
GSI-1618-24	1	1 1/8	1 1/2			1.1247	1.1255	.9979	.9991
GSI-1618-33	1	1 1/8	2 1/16			1.1247	1.1255	.9979	.9991
GSI-1820-12	1 1/8	1 9/32	3/4	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
GSI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
GSI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
GSI-1820-24	1 1/8	1 9/32	1 1/2			1.2808	1.2818	1.1226	1.1238

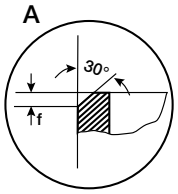
Bearing technology | Plain bearing | iglide® G

Sleeve bearing (form S), inch

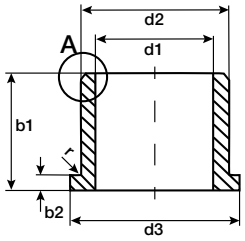
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
GSI-2022-12	1 1/4	1 13/32	3/4	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
GSI-2022-14	1 1/4	1 13/32	7/8			1.4058	1.4068	1.2472	1.2488
GSI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
GSI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
GSI-2022-24	1 1/4	1 13/32	1 1/2			1.4058	1.4068	1.2472	1.2488
GSI-2224-16	1 3/8	1 17/32	1	1.3758	1.3798	1.5308	1.5318	1.3722	1.3738
GSI-2224-24	1 3/8	1 17/32	1 1/2			1.5308	1.5318	1.3722	1.3738
GSI-2224-26	1 3/8	1 17/32	1 5/8			1.5308	1.5318	1.3722	1.3738
GSI-2426-06	1 1/2	1 21/32	3/8	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
GSI-2426-07	1 1/2	1 21/32	7/16			1.6558	1.6568	1.4972	1.4988
GSI-2426-08	1 1/2	1 21/32	1/2			1.6558	1.6568	1.4972	1.4988
GSI-2426-12	1 1/2	1 21/32	3/4			1.6558	1.6568	1.4972	1.4988
GSI-2426-16	1 1/2	1 21/32	1			1.6558	1.6568	1.4972	1.4988
GSI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
GSI-2629-14	1 5/8	1 25/32	7/8	1.6258	1.6297	1.7808	1.7818	1.6222	1.6238
GSI-2629-16	1 5/8	1 25/32	1			1.7808	1.7818	1.6222	1.6238
GSI-2629-20	1 5/8	1 25/32	1 1/4			1.7808	1.7818	1.6222	1.6238
GSI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
GSI-2831-16	1 3/4	1 15/16	1	1.7508	1.7547	1.9371	1.9381	1.7471	1.7487
GSI-2831-24	1 3/4	1 15/16	1 1/2			1.9371	1.9381	1.7471	1.7487
GSI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
GSI-2831-40	1 3/4	1 15/16	2 1/2			1.9371	1.9381	1.7471	1.7487
GSI-2831-48	1 3/4	1 15/16	3			1.9371	1.9381	1.7471	1.7487
GSI-2832-32	1 3/4	2	2	1.7520	1.7559	2.0000	2.0012	1.7496	1.7500
GSI-3033-16	1 7/8	2 1/16	1	1.8757	1.8796	2.0621	2.0633	1.8721	1.8737
GSI-3033-32	1 7/8	2 1/16	2			2.0621	2.0633	1.8721	1.8737
GSI-3235-16	2	2 3/16	1	2.0012	2.0059	2.1871	2.1883	1.9969	1.9981
GSI-3235-24	2	2 3/16	1 1/2			2.1871	2.1883	1.9969	1.9981
GSI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981
GSI-3236-36	2	2 1/4	2 1/4			2.2495	2.2505	1.9969	1.9981
GSI-3639-32	2 1/4	2 7/16	2	2.2531	2.2577	2.4365	2.4377	2.2489	2.2507
GSI-4043-32	2 2/4	2 11/16	2	2.5035	2.5082	2.6869	2.6881	2.4971	2.5000
GSI-4044-32	2 1/2	2 3/4	2	2.5024	2.5071	2.7500	2.7512	2.4971	2.5000
GSI-4447-32	2 3/4	2 15/16	2	2.7523	2.7570	2.9358	2.9370	2.7471	2.7500
GSI-4851-32	3	3 3/16	2	3.0023	3.0070	3.1858	3.1872	2.9971	3.0000
GSI-5660-48	3 1/2	3 3/4	3	3.5028	3.5083	3.7500	3.7514	3.4966	3.5000
GSI-7276-64	4 1/4	4 3/4	4	4.5028	4.5083	4.7500	4.7516	4.4966	4.5000
GSI-8084-64	5	5 1/4	4	5.0033	5.0096	5.2500	5.2516	4.9961	5.0000

Bearing technology | Plain bearing | iglide® G

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 90**

Order key

Type			Dimensions		
G	F	I	-02	03	-02
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
GFI-0203-02	1/8	3/16	1/8	.312	.032	.1251	.1269	.1873	.1878	.1236	.1243
GFI-0203-03	1/8	3/16	3/16	.312	.032			.1873	.1878	.1236	.1243
GFI-0203-04	1/8	3/16	1/4	.312	.032			.1873	.1878	.1236	.1243
GFI-0203-06	1/8	3/16	3/8	.312	.032			.1873	.1878	.1236	.1243
GFI-0304-04	3/16	1/4	1/4	.375	.032	.1873	.1892	.2497	.2503	.1858	.1865
GFI-0304-06	3/16	1/4	3/8	.375	.032			.2497	.2503	.1858	.1865
GFI-0304-08	3/16	1/4	1/2	.375	.032			.2497	.2503	.1858	.1865
GFI-0405-2.4	1/4	5/16	5/32	.500	.032	.2498	.2521	.3122	.3128	.2481	.2490
GFI-0405-04	1/4	5/16	1/4	.500	.032			.3122	.3128	.2481	.2490
GFI-0405-05	1/4	5/16	5/16	.500	.032			.3122	.3128	.2481	.2490
GFI-0405-06	1/4	5/16	3/8	.500	.032			.3122	.3128	.2481	.2490
GFI-0405-08	1/4	5/16	1/2	.500	.032			.3122	.3128	.2481	.2490
GFI-0405-12	1/4	5/16	3/4	.500	.032			.3122	.3128	.2481	.2490
GFI-0506-03	5/16	3/8	3/16	.562	.032	.3125	.3148	.3747	.3753	.3106	.3115
GFI-0506-04	5/16	3/8	1/4	.562	.032			.3747	.3753	.3106	.3115
GFI-0506-06	5/16	3/8	3/8	.562	.032			.3747	.3753	.3106	.3115
GFI-0506-08	5/16	3/8	1/2	.562	.032			.3747	.3753	.3106	.3115
GFI-0506-12	5/16	3/8	3/4	.562	.032			.3747	.3753	.3106	.3115
GFI-0607-04	3/8	15/32	1/4	.687	.046	.3750	.3773	.4684	.4691	.3731	.3740
GFI-0607-05	3/8	15/32	5/16	.687	.046			.4684	.4691	.3731	.3740
GFI-0607-06	3/8	15/32	3/8	.687	.046			.4684	.4691	.3731	.3740
GFI-0607-08	3/8	15/32	1/2	.687	.046			.4684	.4691	.3731	.3740
GFI-0607-12	3/8	15/32	3/4	.687	.046			.4684	.4691	.3731	.3740
GFI-0607-14	3/8	15/32	7/8	.687	.046			.4684	.4691	.3731	.3740
GFI-0708-04	7/16	17/32	1/4	.750	.046	.4379	.4406	.5309	.5316	.4355	.4365
GFI-0708-08	7/16	17/32	1/2	.750	.046			.5309	.5316	.4355	.4365
GFI-0809-02	1/2	19/32	1/8	.875	.046	.5003	.5030	.5934	.5941	.4980	.4990
GFI-0809-04	1/2	19/32	1/4	.875	.046			.5934	.5941	.4980	.4990
GFI-0809-05	1/2	19/32	5/16	.875	.046			.5934	.5941	.4980	.4990
GFI-0809-06	1/2	19/32	3/8	.875	.046			.5934	.5941	.4980	.4990
GFI-0809-08	1/2	19/32	1/2	.875	.046			.5934	.5941	.4980	.4990
GFI-0809-12	1/2	19/32	3/4	.875	.046			.5934	.5941	.4980	.4990
GFI-0809-16	1/2	19/32	1	.875	.046			.5934	.5941	.4980	.4990
GFI-1011-06	5/8	23/32	3/8	.937	.046	.6253	.6280	.7184	.7192	.6230	.6240
GFI-1011-08	5/8	23/32	1/2	.937	.046			.7184	.7192	.6230	.6240

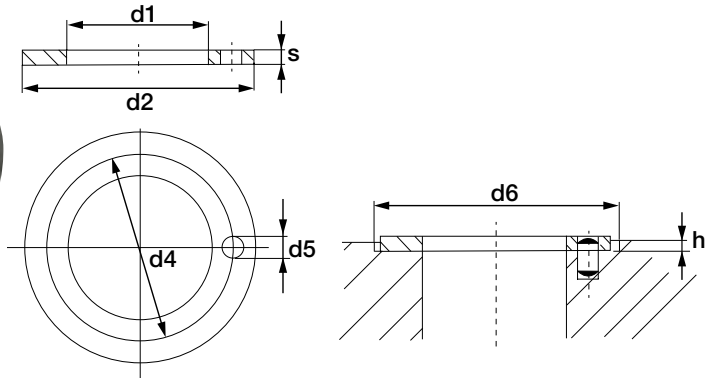
Bearing technology | Plain bearing | iglide® G

Flange bearing (form F), inch

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
GFI-1011-12	5/8	23/32	3/4	.937	.046	.6253	.6280	.7184	.7192	.6230	.6240
GFI-1011-14	5/8	23/32	7/8	.937	.046			.7184	.7192	.6230	.6240
GFI-1011-16	5/8	23/32	1	.937	.046			.7184	.7192	.6230	.6240
GFI-1011-24	5/8	23/32	1 1/2	.937	.046			.7184	.7192	.6230	.6240
GFI-1214-02	3/4	7/8	1/8	1.125	.062	.7508	.7541	.8747	.8755	.7479	.7491
GFI-1214-06	3/4	7/8	3/8	1.125	.062			.8747	.8755	.7479	.7491
GFI-1214-08	3/4	7/8	1/2	1.125	.062			.8747	.8755	.7479	.7491
GFI-1214-10	3/4	7/8	5/8	1.125	.062			.8747	.8755	.7479	.7491
GFI-1214-12	3/4	7/8	3/4	1.125	.062			.8747	.8755	.7479	.7491
GFI-1214-16	3/4	7/8	1	1.125	.062			.8747	.8755	.7479	.7491
GFI-1214-24	3/4	7/8	1 1/2	1.125	.062			.8747	.8755	.7479	.7491
GFI-1416-08	7/8	1	1/2	1.250	.062	.8757	.8791	.9997	1.0005	.8729	.8741
GFI-1416-12	7/8	1	3/4	1.250	.062			.9997	1.0005	.8729	.8741
GFI-1416-16	7/8	1	1	1.250	.062			.9997	1.0005	.8729	.8741
GFI-1416-20	7/8	1	1 1/4	1.250	.062			.9997	1.0005	.8729	.8741
GFI-1416-24	7/8	1	1 1/2	1.250	.062			.9997	1.0005	.8729	.8741
GFI-1618-04	1	1 1/8	1/4	1.375	.062	1.0007	1.0041	1.1247	1.1255	.9979	.9991
GFI-1618-08	1	1 1/8	1/2	1.375	.062			1.1247	1.1255	.9979	.9991
GFI-1618-12	1	1 1/8	3/4	1.375	.062			1.1247	1.1255	.9979	.9991
GFI-1618-16	1	1 1/8	1	1.375	.062			1.1247	1.1255	.9979	.9991
GFI-1618-20	1	1 1/8	1 1/4	1.375	.062			1.1247	1.1255	.9979	.9991
GFI-1618-24	1	1 1/8	1 1/2	1.375	.062			1.1247	1.1255	.9979	.9991
GFI-1820-12	1 1/8	1 9/32	3/4	1.562	.078	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
GFI-1820-16	1 1/8	1 9/32	1	1.562	.078			1.2808	1.2818	1.1226	1.1238
GFI-1820-24	1 1/8	1 9/32	1 1/2	1.562	.078			1.2808	1.2818	1.1226	1.1238
GFI-2022-06	1 1/4	1 13/32	3/8	1.687	.078	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
GFI-2022-12	1 1/4	1 13/32	3/4	1.687	.078			1.4058	1.4068	1.2472	1.2488
GFI-2022-14	1 1/4	1 13/32	7/8	1.687	.078			1.4058	1.4068	1.2472	1.2488
GFI-2022-16	1 1/4	1 13/32	1	1.687	.078			1.4058	1.4068	1.2472	1.2488
GFI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.078			1.4058	1.4068	1.2472	1.2488
GFI-2022-24	1 1/4	1 13/32	1 1/2	1.687	.078			1.4058	1.4068	1.2472	1.2488
GFI-2224-06	1 3/8	1 17/32	3/8	1.875	.078	1.3758	1.3798	1.5308	1.5318	1.3722	1.3738
GFI-2224-16	1 3/8	1 17/32	1	1.875	.078			1.5308	1.5318	1.3722	1.3738
GFI-2426-08	1 1/2	1 21/32	1/2	2.000	.078	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
GFI-2426-12	1 1/2	1 21/32	3/4	2.000	.078			1.6558	1.6568	1.4972	1.4988
GFI-2426-16	1 1/2	1 21/32	1	2.000	.078			1.6558	1.6568	1.4972	1.4988
GFI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.078			1.6558	1.6568	1.4972	1.4988
GFI-2831-16	1 3/4	1 15/16	1	2.375	.093	1.7508	1.7547	1.9371	1.9381	1.7471	1.7487
GFI-2831-24	1 3/4	1 15/16	1 1/2	2.375	.093			1.9371	1.9381	1.7471	1.7487
GFI-2831-32	1 3/4	1 15/16	2	2.375	.093			1.9371	1.9381	1.7471	1.7487
GFI-3235-16	2	2 3/16	1	2.625	.093	2.0012	2.0059	2.1871	2.1883	1.9969	1.9981
GFI-3235-24	2	2 3/16	1 1/2	2.625	.093			2.1871	2.1883	1.9969	1.9981
GFI-3235-32	2	2 3/16	2	2.625	.093			2.1871	2.1883	1.9969	1.9981
GFI-3639-32	2 1/4	2 7/16	2	2.750	.093	2.2531	2.2577	2.4365	2.4377	2.2489	2.2507
GFI-4043-32	2 1/2	2 11/16	2	3.125	.093	2.5035	2.5082	2.6869	2.6881	2.4971	2.5000
GFI-4447-32	2 3/4	2 15/16	2	3.375	.093	2.7523	2.7570	2.9358	2.9370	2.7471	2.7500

Bearing technology | Plain bearing | iglide® G

Thrust washer bearing (form T), inch



Order key

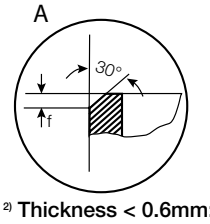
Type			Dimensions		
G	T	I	-06 10	-	01
iglide® material	Thrust washer	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Thickness s (inch)

Part Number	d1	d2	s	d4	d5	h	d6
	+.010	-.010	-.0020	+-.005	+.015 +.005	+.008	+.005
GTI-0610-01	.375	.625	.0400	*	*	*	.375
GTI-0814-01	.500	.875	.0585	.692	.067	.040	.875
GTI-1018-01	.625	1.125	.0585	.880	.099	.040	1.125
GTI-1220-01	.750	1.250	.0585	1.005	.099	.040	1.250
GTI-1424-01	.875	1.500	.0585	1.192	.130	.040	1.500
GTI-1628-01	1.000	1.750	.0585	1.380	.130	.040	1.750
GTI-2034-01	1.250	2.125	.0585	1.692	.161	.040	2.125
GTI-2440-01	1.500	2.500	.0585	2.005	.192	.040	2.500
GTI-2844-01	1.750	2.750	.0585	2.255	.192	.040	2.750
GTI-3248-01	2.000	3.000	.0895	2.505	.192	.070	3.000

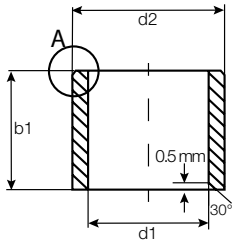
*Designed without fixation hole

Bearing technology | Plain bearing | iglide® G

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 90**

Order key

Type			Dimensions		
G	S	M	-01	03	-02
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
GSM-0103-02	1.5	3.0	2.0	1.514	1.554	3.000	3.010	1.475	1.500
GSM-0203-03	2.0	3.5	3.0	2.014	2.054	3.500	3.512	1.975	2.000
GSM-02504-05	2.5	4.5	5.0	2.514	2.554	4.500	4.512	2.475	2.500
GSM-0304-03	3.0	4.5	3.0	3.014	3.054	4.500	4.512	2.975	3.000
GSM-0304-05	3.0	4.5	5.0			4.500	4.512	2.975	3.000
GSM-0304-06	3.0	4.5	6.0			4.500	4.512	2.975	3.000
GSM-0405-04	4.0	5.5	4.0	4.020	4.068	5.500	5.512	3.970	4.000
GSM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
GSM-0406-08	4.5	6.0	8.0	4.520	4.568	6.000	6.012	4.470	4.500
GSM-0407-05	4.0	7.0	5.5	4.020	4.068	7.000	7.015	3.970	4.000
GSM-0506-046	5.0	6.0	4.6	5.010	5.040	6.000	6.012	4.970	5.000
GSM-0506-05	5.0	6.0	5.0			6.000	6.012	4.970	5.000
GSM-0506-07	5.0	6.0	7.0			6.000	6.012	4.970	5.000
GSM-0507-05	5.0	7.0	5.0	5.020	5.068	7.000	7.015	4.970	5.000
GSM-0507-07	5.0	7.0	7.0			7.000	7.015	4.970	5.000
GSM-0507-08	5.0	7.0	8.0			7.000	7.015	4.970	5.000
GSM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
GSM-0607-06	6.0	7.0	6.0	6.010	6.040	7.000	7.015	5.970	6.000
GSM-0607-12	6.0	7.0	12.0			7.000	7.015	5.970	6.000
GSM-0607-17	6.0	7.0	17.0			7.000	7.015	5.970	6.000
GSM-0607-17.5	6.0	7.0	17.5			7.000	7.015	5.970	6.000
GSM-0607-19	6.0	7.0	19.0			7.000	7.015	5.970	6.000
GSM-0608-015	6.0	8.0	1.5	6.020	6.068	8.000	8.015	5.970	6.000
GSM-0608-025	6.0	8.0	2.5			8.000	8.015	5.970	6.000
GSM-0608-03	6.0	8.0	3.0			8.000	8.015	5.970	6.000
GSM-0608-04	6.0	8.0	4.0			8.000	8.015	5.970	6.000
GSM-0608-05	6.0	8.0	5.0			8.000	8.015	5.970	6.000
GSM-0608-055	6.0	8.0	5.5			8.000	8.015	5.970	6.000
GSM-0608-06	6.0	8.0	6.0			8.000	8.015	5.970	6.000
GSM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
GSM-0608-09	6.0	8.0	9.5			8.000	8.015	5.970	6.000
GSM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
GSM-0608-11	6.0	8.0	11.8			8.000	8.015	5.970	6.000
GSM-0608-13	6.0	8.0	13.8			8.000	8.015	5.970	6.000
GSM-0708-10	7.0	8.0	10.0	7.013	7.049	8.000	8.015	6.964	7.000

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
GSM-0708-19	7.0	8.0	19.0	7.013	7.049	8.000	8.015	6.964	7.000
GSM-0709-08	7.0	9.0	8.0	7.025	7.083	9.000	9.015	6.964	7.000
GSM-0709-09	7.0	9.0	9.0			9.000	9.015	6.964	7.000
GSM-0709-10	7.0	9.0	10.0			9.000	9.015	6.964	7.000
GSM-0709-12	7.0	9.0	12.0			9.000	9.015	6.964	7.000
GSM-0809-05	8.0	9.0	5.0	8.013	8.049	9.000	9.015	7.964	8.000
GSM-0809-06	8.0	9.0	6.0			9.000	9.015	7.964	8.000
GSM-0809-08	8.0	9.0	8.0			9.000	9.015	7.964	8.000
GSM-0809-12	8.0	9.0	12.0			9.000	9.015	7.964	8.000
GSM-0810-05	8.0	10.0	5.0	8.025	8.083	10.000	10.015	7.964	8.000
GSM-0810-06	8.0	10.0	6.0			10.000	10.015	7.964	8.000
GSM-0810-07	8.0	10.0	6.8			10.000	10.015	7.964	8.000
GSM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
GSM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
GSM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
GSM-0810-13	8.0	10.0	13.8			10.000	10.015	7.964	8.000
GSM-0810-14	8.0	10.0	14.0			10.000	10.015	7.964	8.000
GSM-0810-15	8.0	10.0	15.0			10.000	10.015	7.964	8.000
GSM-0810-16	8.0	10.0	16.0			10.000	10.015	7.964	8.000
GSM-0810-18	8.0	10.0	18.0			10.000	10.015	7.964	8.000
GSM-0810-20	8.0	10.0	20.0			10.000	10.015	7.964	8.000
GSM-0810-22	8.0	10.0	22.0			10.000	10.015	7.964	8.000
GSM-0810-25	8.0	10.0	25.0			10.000	10.015	7.964	8.000
GSM-0812-09	8.0	12.0	9.0	8.040	8.130	12.000	12.018	7.964	8.000
GSM-0910-12	9.0	10.0	12.0	9.013	9.049	10.000	10.015	8.964	9.000
GSM-0910-16	9.0	10.0	16.0			10.000	10.015	8.964	9.000
GSM-0911-06	9.0	11.0	6.0	9.025	9.083	11.000	11.018	8.964	9.000
GSM-0911-20	9.0	11.0	20.0			11.000	11.018	8.964	9.000
GSM-1011-06	10.0	11.0	6.0	10.013	10.049	11.000	11.018	9.964	10.000
GSM-1011-07	10.0	11.0	7.0			11.000	11.018	9.964	10.000
GSM-1011-10	10.0	11.0	10.0			11.000	11.018	9.964	10.000
GSM-1011-20	10.0	11.0	20.0			11.000	11.018	9.964	10.000
GSM-1011-25	10.0	11.0	25.0			11.000	11.018	9.964	10.000
GSM-1011-30	10.0	11.0	30.0			11.000	11.018	9.964	10.000
GSM-1012-04	10.0	12.0	4.0	10.025	10.083	12.000	12.018	9.964	10.000
GSM-1012-045	10.0	12.0	4.5			12.000	12.018	9.964	10.000
GSM-1012-05	10.0	12.0	5.0			12.000	12.018	9.964	10.000
GSM-1012-06	10.0	12.0	6.0			12.000	12.018	9.964	10.000
GSM-1012-07	10.0	12.0	7.0			12.000	12.018	9.964	10.000
GSM-1012-08	10.0	12.0	8.0			12.000	12.018	9.964	10.000
GSM-1012-09	10.0	12.0	9.0			12.000	12.018	9.964	10.000
GSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
GSM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
GSM-1012-14	10.0	12.0	14.0			12.000	12.018	9.964	10.000
GSM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
GSM-1012-17	10.0	12.0	17.0			12.000	12.018	9.964	10.000
GSM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000

Bearing technology | Plain bearing | iglide® G

Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
GSM-1013-13	10.0	13.0	13.5	10.025	10.083	13.000	13.018	9.964	10.000
GSM-1014-10	10.0	14.0	10.0	10.025	10.115	14.000	14.018	9.964	10.000
GSM-1014-20	10.0	14.0	20.0			14.000	14.018	9.964	10.000
GSM-1016-10	10.0	16.0	10.0	10.040	10.130	16.000	16.018	9.964	10.000
GSM-1213-047	12.0	13.0	4.7	12.016	12.059	13.000	13.018	11.957	12.000
GSM-1213-10	12.0	13.0	10.0			13.000	13.018	11.957	12.000
GSM-1213-12	12.0	13.0	12.0			13.000	13.018	11.957	12.000
GSM-1213-15	12.0	13.0	15.0			13.000	13.018	11.957	12.000
GSM-1214-04	12.0	14.0	4.0	12.032	12.102	14.000	14.018	11.957	12.000
GSM-1214-05	12.0	14.0	5.0			14.000	14.018	11.957	12.000
GSM-1214-06	12.0	14.0	6.0			14.000	14.018	11.957	12.000
GSM-1214-08	12.0	14.0	8.0			14.000	14.018	11.957	12.000
GSM-1214-10	12.0	14.0	10.0			14.000	14.018	11.957	12.000
GSM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
GSM-1214-14	12.0	14.0	14.0			14.000	14.018	11.957	12.000
GSM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
GSM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
GSM-1214-25	12.0	14.0	25.0			14.000	14.018	11.957	12.000
GSM-1215-06	12.0	15.0	6.0	12.032	12.102	15.000	15.018	11.957	12.000
GSM-1215-22	12.0	15.0	22.0			15.000	15.018	11.957	12.000
GSM-1216-10	12.0	16.0	10.0	12.050	12.160	16.000	16.018	11.957	12.000
GSM-1216-20	12.0	16.0	20.0			16.000	16.018	11.957	12.000
GSM-1315-070	13.0	15.0	7.0	13.032	13.102	15.000	15.018	12.957	13.000
GSM-1315-075	13.0	15.0	7.5			15.000	15.018	12.957	13.000
GSM-1315-10	13.0	15.0	10.0			15.000	15.018	12.957	13.000
GSM-1315-15	13.0	15.0	15.0			15.000	15.018	12.957	13.000
GSM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
GSM-1315-25	13.0	15.0	25.0			15.000	15.018	12.957	13.000
GSM-1416-03	14.0	16.0	3.0	14.032	14.102	16.000	16.018	13.957	14.000
GSM-1416-06	14.0	16.0	6.0			16.000	16.018	13.957	14.000
GSM-1416-08	14.0	16.0	8.0			16.000	16.018	13.957	14.000
GSM-1416-10	14.0	16.0	10.0			16.000	16.018	13.957	14.000
GSM-1416-12	14.0	16.0	12.0			16.000	16.018	13.957	14.000
GSM-1416-15	14.0	16.0	15.0			16.000	16.018	13.957	14.000
GSM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
GSM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
GSM-1416-45	14.0	16.0	45.0			16.000	16.018	13.957	14.000
GSM-1516-10	15.0	16.0	10.0	15.016	15.059	16.000	16.018	14.957	15.000
GSM-1516-15	15.0	16.0	15.0			16.000	16.018	14.957	15.000
GSM-1517-04	15.0	17.0	4.0	15.032	15.102	17.000	17.018	14.957	15.000
GSM-1517-10	15.0	17.0	10.0			17.000	17.018	14.957	15.000
GSM-1517-12	15.0	17.0	12.0			17.000	17.018	14.957	15.000
GSM-1517-15	15.0	17.0	15.0			17.000	17.018	14.957	15.000
GSM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
GSM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
GSM-1618-055	16.0	18.0	5.5	16.032	16.102	18.000	18.018	15.957	16.000
GSM-1618-08	16.0	18.0	8.0			18.000	18.018	15.957	16.000

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
GSM-1618-10	16.0	18.0	10.0	16.032	16.102	18.000	18.018	15.957	16.000
GSM-1618-12	16.0	18.0	12.0			18.000	18.018	15.957	16.000
GSM-1618-13.5	16.0	18.0	13.5			18.000	18.018	15.957	16.000
GSM-1618-15	16.0	18.0	15.0			18.000	18.018	15.957	16.000
GSM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
GSM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
GSM-1618-30	16.0	18.0	30.0			18.000	18.018	15.957	16.000
GSM-1618-38.5	16.0	18.0	38.5			18.000	18.018	15.957	16.000
GSM-1618-50	16.0	18.0	50.0			18.000	18.018	15.957	16.000
GSM-1719-15	17.0	19.0	15.0	17.032	17.102	19.000	19.021	16.957	17.000
GSM-1819-15	18.0	19.0	15.0	18.016	18.059	19.000	19.021	17.957	18.000
GSM-1820-06	18.0	20.0	6.0	18.032	18.102	20.000	20.021	17.957	18.000
GSM-1820-10	18.0	20.0	10.0			20.000	20.021	17.957	18.000
GSM-1820-12	18.0	20.0	12.0			20.000	20.021	17.957	18.000
GSM-1820-15	18.0	20.0	15.0			20.000	20.021	17.957	18.000
GSM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
GSM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
GSM-1820-34	18.0	20.0	34.0			20.000	20.021	17.957	18.000
GSM-1820-38	18.0	20.0	38.0			20.000	20.021	17.957	18.000
GSM-1820-45	18.0	20.0	45.0			20.000	20.021	17.957	18.000
GSM-1822-30	18.0	22.0	30.0	18.032	18.102	22.000	22.021	17.957	18.000
GSM-1922-06	19.0	22.0	6.0	19.040	19.124	22.000	22.021	18.948	19.000
GSM-1922-28	19.0	22.0	28.0			22.000	22.021	18.948	19.000
GSM-1922-35	19.0	22.0	35.0			22.000	22.021	18.948	19.000
GSM-2021-20	20.0	21.0	20.0	20.020	20.072	21.000	21.021	19.948	20.000
GSM-2022-03	20.0	22.0	3.0	20.040	20.124	22.000	22.021	19.948	20.000
GSM-2022-08	20.0	22.0	8.0			22.000	22.021	19.948	20.000
GSM-2022-105	20.0	22.0	10.5			22.000	22.021	19.948	20.000
GSM-2022-15	20.0	22.0	15.0			22.000	22.021	19.948	20.000
GSM-2022-20	20.0	22.0	20.0			22.000	22.021	19.948	20.000
GSM-2022-22	20.0	22.0	22.0			22.000	22.021	19.948	20.000
GSM-2022-28	20.0	22.0	28.0			22.000	22.021	19.948	20.000
GSM-2022-30	20.0	22.0	30.0			22.000	22.021	19.948	20.000
GSM-2022-47	20.0	22.0	47.0			22.000	22.021	19.948	20.000
GSM-2023-045	20.0	23.0	4.5	20.040	20.124	23.000	23.021	19.948	20.000
GSM-2023-10	20.0	23.0	10.0			23.000	23.021	19.948	20.000
GSM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
GSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
GSM-2023-24	20.0	23.0	24.0			23.000	23.021	19.948	20.000
GSM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
GSM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
GSM-2023-35	20.0	23.0	35.0			23.000	23.021	19.948	20.000
GSM-2224-08	22.0	24.0	8.0	22.040	22.124	24.000	24.021	21.948	22.000
GSM-2224-10	22.0	24.0	10.0			24.000	24.021	21.948	22.000
GSM-2224-12	22.0	24.0	12.0			24.000	24.021	21.948	22.000
GSM-2224-15	22.0	24.0	15.0			24.000	24.021	21.948	22.000
GSM-2224-17	22.0	24.0	17.0			24.000	24.021	21.948	22.000

Bearing technology | Plain bearing | iglide® G

Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
GSM-2224-20	22.0	24.0	20.0	22.040	22.124	24.000	24.021	21.948	22.000
GSM-2224-30	22.0	24.0	30.0			24.000	24.021	21.948	22.000
GSM-2224-48	22.0	24.0	48.0			24.000	24.021	21.948	22.000
GSM-2225-15	22.0	25.0	15.0	22.040	22.124	25.000	25.021	21.948	22.000
GSM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
GSM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
GSM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
GSM-2225-38.5	22.0	25.0	38.5			25.000	25.021	21.948	22.000
GSM-2425-25	24.0	25.0	25.0	24.020	24.072	25.000	25.021	23.948	24.000
GSM-2427-06	24.0	27.0	6.0	24.040	24.124	27.000	27.021	23.948	24.000
GSM-2427-15	24.0	27.0	15.0			27.000	27.021	23.948	24.000
GSM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
GSM-2427-24	24.0	27.0	24.0			27.000	27.021	23.948	24.000
GSM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
GSM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
GSM-2526-23	25.0	26.0	23.0	25.020	25.072	26.000	26.021	24.948	25.000
GSM-2526-25	25.0	26.0	25.0			26.000	26.021	24.948	25.000
GSM-2528-12	25.0	28.0	12.0	25.040	25.124	28.000	28.021	24.948	25.000
GSM-2528-15	25.0	28.0	15.0			28.000	28.021	24.948	25.000
GSM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
GSM-2528-24	25.0	28.0	24.0			28.000	28.021	24.948	25.000
GSM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
GSM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
GSM-2528-35	25.0	28.0	35.0			28.000	28.021	24.948	25.000
GSM-2528-50	25.0	28.0	50.0			28.000	28.021	24.948	25.000
GSM-2630-16	26.0	30.0	16.0	26.040	26.124	30.000	30.021	25.948	26.000
GSM-2730-05	27.0	30.0	5.0	27.040	27.124	30.000	30.021	26.948	27.000
GSM-2832-105	28.0	32.0	10.5	28.040	28.124	32.000	32.025	27.948	28.000
GSM-2832-12	28.0	32.0	12.0			32.000	32.025	27.948	28.000
GSM-2832-15	28.0	32.0	15.0			32.000	32.025	27.948	28.000
GSM-2832-20	28.0	32.0	20.0			32.000	32.025	27.948	28.000
GSM-2832-23	28.0	32.0	23.0			32.000	32.025	27.948	28.000
GSM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
GSM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
GSM-2835-19	28.0	35.0	19.0	28.065	28.195	35.000	35.025	27.948	28.000
GSM-2835-28	28.0	35.0	28.0			35.000	35.025	27.948	28.000
GSM-2933-06	29.0	33.0	6.0	29.040	29.124	33.000	33.025	28.948	29.000
GSM-3031-05	30.0	31.0	5.0	30.020	30.072	31.000	31.025	29.948	30.000
GSM-3031-12	30.0	31.0	12.0			31.000	31.025	29.948	30.000
GSM-3031-30	30.0	31.0	30.0			31.000	31.025	29.948	30.000
GSM-3034-12	30.0	34.0	12.0	30.040	30.124	34.000	34.025	29.948	30.000
GSM-3034-15	30.0	34.0	15.0			34.000	34.025	29.948	30.000
GSM-3034-20	30.0	34.0	20.0			34.000	34.025	29.948	30.000
GSM-3034-24	30.0	34.0	24.0			34.000	34.025	29.948	30.000
GSM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
GSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
GSM-3034-35	30.0	34.0	35.0			34.000	34.025	29.948	30.000

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
GSM-3034-40	30.0	34.0	40.0	30.040	30.124	34.000	34.025	29.948	30.000
GSM-3034-525	30.0	34.0	52.5			34.000	34.025	29.948	30.000
GSM-3236-15	32.0	36.0	15.0	32.050	32.150	36.000	36.025	31.938	32.000
GSM-3236-20	32.0	36.0	20.0			36.000	36.025	31.938	32.000
GSM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
GSM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
GSM-3539-14	35.0	39.0	14.0	35.050	35.150	39.000	39.025	34.938	35.000
GSM-3539-20	35.0	39.0	20.0			39.000	39.025	34.938	35.000
GSM-3539-25	35.0	39.0	25.0			39.000	39.025	34.938	35.000
GSM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
GSM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
GSM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
GSM-3541-50	35.0	41.0	50.0	35.050	35.150	41.000	41.025	34.938	35.000
GSM-3640-20	36.0	40.0	20.0	36.050	36.150	40.000	40.025	35.938	36.000
GSM-3741-20	37.0	41.0	20.0	37.050	37.150	41.000	41.025	36.938	37.000
GSM-3842-25	38.0	42.0	25.0	38.050	38.150	42.000	42.025	37.938	38.000
GSM-4044-10	40.0	44.0	10.0	40.050	40.150	44.000	44.025	39.938	40.000
GSM-4044-16	40.0	44.0	16.5			44.000	44.025	39.938	40.000
GSM-4044-20	40.0	44.0	20.0			44.000	44.025	39.938	40.000
GSM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
GSM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
GSM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
GSM-4044-525	40.0	44.0	52.5			44.000	44.025	39.938	40.000
GSM-4246-40	42.0	46.0	40.0	42.050	42.150	46.000	46.025	41.938	42.000
GSM-4448-20	44.0	48.0	20.0	44.050	44.150	48.000	48.025	43.938	44.000
GSM-4550-10	45.0	50.0	10.0	45.050	45.150	50.000	50.025	44.938	45.000
GSM-4550-20	45.0	50.0	20.0			50.000	50.025	44.938	45.000
GSM-4550-22	45.0	50.0	22.0			50.000	50.025	44.938	45.000
GSM-4550-235	45.0	50.0	23.5			50.000	50.025	44.938	45.000
GSM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
GSM-4550-38	45.0	50.0	38.0			50.000	50.025	44.938	45.000
GSM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
GSM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
GSM-5055-20	50.0	55.0	20.0	50.050	50.150	55.000	55.030	49.938	50.000
GSM-5055-25	50.0	55.0	25.0			55.000	55.030	49.938	50.000
GSM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
GSM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
GSM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
GSM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
GSM-5257-20	52.0	57.0	20.0	52.060	52.180	57.000	57.030	51.926	52.000
GSM-5560-20	55.0	60.0	20.0	55.060	55.160	60.000	60.030	54.926	55.000
GSM-5560-40	55.0	60.0	40.0			60.000	60.030	54.926	55.000
GSM-5560-50	55.0	60.0	50.0			60.000	60.030	54.926	55.000
GSM-5560-60	55.0	60.0	60.0			60.000	60.030	54.926	55.000
GSM-6065-30	60.0	65.0	30.0	60.060	60.180	65.000	65.030	59.926	60.000
GSM-6065-40	60.0	65.0	40.0			65.000	65.030	59.926	60.000
GSM-6065-50	60.0	65.0	50.0			65.000	65.030	59.926	60.000

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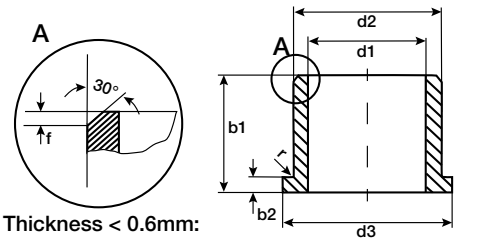
Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
GSM-6065-60	60.0	65.0	60.0	60.060	60.180	65.000	65.030	59.926	60.000
GSM-6065-70	60.0	65.0	70.0			65.000	65.030	59.926	60.000
GSM-6267-35	62.0	67.0	35.0	62.100	62.250	67.000	67.030	61.926	62.000
GSM-6267-72	62.0	67.0	72.0	62.060	62.180	67.000	67.030	61.926	62.000
GSM-6570-30	65.0	70.0	30.0	65.060	65.180	70.000	70.030	64.926	65.000
GSM-6570-50	65.0	70.0	50.0			70.000	70.030	64.926	65.000
GSM-6570-104	65.0	70.0	104.0			70.000	70.030	64.926	65.000
GSM-6873-60	68.0	73.0	60.0	68.060	68.180	73.000	73.030	67.926	68.000
GSM-7075-60	70.0	75.0	60.0	70.060	70.180	75.000	75.030	69.926	70.000
GSM-7277-24.5	72.0	77.0	24.5	72.060	72.180	77.000	77.030	71.926	72.000
GSM-7277-76	72.0	77.0	76.0			77.000	77.030	71.926	72.000
GSM-7580-40	75.0	80.0	40.0	75.060	75.180	80.000	80.030	74.926	75.000
GSM-7580-60	75.0	80.0	60.0			80.000	80.030	74.926	75.000
GSM-8085-60	80.0	85.0	60.0	80.060	80.180	85.000	85.035	79.926	80.000
GSM-8085-100	80.0	85.0	100.0			85.000	85.035	79.926	80.000
GSM-8590-100	85.0	90.0	100.0	85.072	85.212	90.000	90.035	84.913	85.000
GSM-9095-100	90.0	95.0	100.0	90.072	90.212	95.000	95.035	89.913	90.000
GSM-95100-100	95.0	100.0	100.0	95.072	95.212	100.000	100.035	94.913	95.000
GSM-100105-21.5	100.0	105.0	21.5	100.072	100.212	105.000	105.035	99.913	100.000
GSM-100105-30	100.0	105.0	30.0			105.000	105.035	99.913	100.000
GSM-100105-32	100.0	105.0	32.0			105.000	105.035	99.913	100.000
GSM-100105-100	100.0	105.0	100.0			105.000	105.035	99.913	100.000
GSM-105110-100	105.0	110.0	100.0	105.072	105.212	110.000	110.035	104.913	105.000
GSM-110115-100	110.0	115.0	100.0	110.072	110.212	115.000	115.035	109.913	110.000
GSM-120125-100	120.0	125.0	100.0	120.072	120.212	125.000	125.040	119.913	120.000
GSM-125130-100	125.0	130.0	100.0	125.085	125.245	130.000	130.040	124.900	125.000
GSM-130135-100	130.0	135.0	100.0	130.085	130.212	135.000	135.040	129.900	130.000
GSM-135140-80	135.0	140.0	80.0	135.085	135.245	140.000	140.040	134.900	135.000
GSM-140145-100	140.0	145.0	100.0	140.085	140.245	145.000	145.040	139.900	140.000
GSM-140145-104	140.0	145.0	104.0			145.000	145.040	139.900	140.000
GSM-150155-100	150.0	155.0	100.0	150.085	150.245	155.000	155.040	149.900	150.000

Bearing technology | Plain bearing | iglide® G

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 90**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
G	F	M	-03	04	-03
iglide® material	Form F (flange)	etric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1[1]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
GFM-0304-02	3.0	4.5	7.5	2.0	0.50			4.500	4.512	2.975	3.000
GFM-0304-0275	3.0	4.5	7.5	2.7	0.75			4.500	4.512	2.975	3.000
GFM-0304-03	3.0	4.5	7.5	3.0	0.75	3.014	3.054	4.500	4.512	2.975	3.000
GFM-0304-05	3.0	4.5	7.5	5.0	0.75			4.500	4.512	2.975	3.000
GFM-030407-05	3.0	4.5	7.0	5.0	0.75			4.500	4.512	2.975	3.000
GFM-04050-04	4.0	5.0	9.5	4.0	0.50	4.010	4.040	5.000	5.012	3.970	4.000
GFM-04050-06	4.0	5.0	9.5	6.0	0.50			5.000	5.012	3.970	4.000
GFM-0405-0255	4.0	5.5	9.5	2.5	0.75			5.500	5.512	3.970	4.000
GFM-0405-03	4.0	5.5	9.5	3.0	0.75			5.500	5.512	3.970	4.000
GFM-0405-04	4.0	5.5	9.5	4.0	0.75	4.020	4.068	5.500	5.512	3.970	4.000
GFM-0405-06	4.0	5.5	9.5	6.0	0.75			5.500	5.512	3.970	4.000
GFM-040508-10	4.0	5.5	8.0	10.0	1.00			5.500	5.512	3.970	4.000
GFM-0506-035	5.0	6.0	10.0	3.5	0.50			6.000	6.012	4.970	5.000
GFM-0506-04	5.0	6.0	10.0	4.0	0.50			6.000	6.012	4.970	5.000
GFM-0506-05	5.0	6.0	10.0	5.0	0.50	5.010	5.040	6.000	6.012	4.970	5.000
GFM-0506-06	5.0	6.0	10.0	6.0	0.50			6.000	6.012	4.970	5.000
GFM-0506-15	5.0	6.0	10.0	15.3	0.50			6.000	6.012	4.970	5.000
GFM-0507-03	5.0	7.0	11.0	3.5	1.00			7.000	7.015	4.970	5.000
GFM-0507-04	5.0	7.0	11.0	4.0	1.00			7.000	7.015	4.970	5.000
GFM-050715-04	5.0	7.0	15.0	4.0	1.00			7.000	7.015	4.970	5.000
GFM-0507-05	5.0	7.0	11.0	5.0	1.00			7.000	7.015	4.970	5.000
GFM-050709-05	5.0	7.0	9.5	5.0	1.00	5.020	5.068	7.000	7.015	4.970	5.000
GFM-0507-07	5.0	7.0	11.0	7.0	1.00			7.000	7.015	4.970	5.000
GFM-0507-11	5.0	7.0	11.0	11.0	1.00			7.000	7.015	4.970	5.000
GFM-0507-145	5.0	7.0	11.0	14.5	1.00			7.000	7.015	4.970	5.000
GFM-0507-30	5.0	7.0	11.0	30.0	1.00			7.000	7.015	4.970	5.000
GFM-0607-024	6.0	7.0	11.0	2.4	0.50			7.000	7.015	5.970	6.000
GFM-0607-045	6.0	7.0	11.0	4.5	0.50			7.000	7.015	5.970	6.000
GFM-0607-06	6.0	7.0	11.0	6.0	0.50	6.010	6.040	7.000	7.015	5.970	6.000
GFM-0607-10	6.0	7.0	11.0	10.0	0.50			7.000	7.015	5.970	6.000
GFM-0608-025	6.0	8.0	12.0	2.5	1.00			8.000	8.015	5.970	6.000
GFM-060814-028	6.0	8.0	14.0	2.8	1.00			8.000	8.015	5.970	6.000
GFM-0608-04	6.0	8.0	12.0	4.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
GFM-0608-048	6.0	8.0	12.0	4.8	1.00			8.000	8.015	5.970	6.000
GFM-0608-05	6.0	8.0	12.0	5.0	1.00			8.000	8.015	5.970	6.000

Bearing technology | Plain bearing | iglide® G

Flange bearing (form F), metric

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
GFM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
GFM-0608-07	6.0	8.0	12.0	7.0	1.00			8.000	8.015	5.970	6.000
GFM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
GFM-0608-10	6.0	8.0	12.0	10.0	1.00			8.000	8.015	5.970	6.000
GFM-060814-12	6.0	8.0	14.0	12.0	1.00			8.000	8.015	5.970	6.000
GFM-0608-25	6.0	8.0	12.0	25.0	1.00			8.000	8.015	5.970	6.000
GFM-0608-35	6.0	8.0	12.0	35.0	1.00			8.000	8.015	5.970	6.000
GFM-0708-017	7.0	8.0	12.0	1.7	0.50	7.013	7.049	8.000	8.015	6.964	7.000
GFM-0708-03	7.0	8.0	12.0	3.0	0.50			8.000	8.015	6.964	7.000
GFM-0708-06	7.0	8.0	12.0	6.0	0.50			8.000	8.015	6.964	7.000
GFM-0708-08	7.0	8.0	12.0	8.0	0.50			8.000	8.015	6.964	7.000
GFM-0709-035	7.0	9.0	15.0	3.5	1.00	7.025	7.083	9.000	9.015	6.964	7.000
GFM-0709-06	7.0	9.0	15.0	6.0	1.00			9.000	9.015	6.964	7.000
GFM-0709-10	7.0	9.0	15.0	10.0	1.00			9.000	9.015	6.964	7.000
GFM-070919-10	7.0	9.0	19.0	10.0	1.00			9.000	9.015	6.964	7.000
GFM-0709-12	7.0	9.0	15.0	12.0	1.00			9.000	9.015	6.964	7.000
GFM-0809-03	8.0	9.0	15.0	3.0	0.50	8.013	8.049	9.000	9.015	7.964	8.000
GFM-0809-035	8.0	9.0	13.0	3.5	0.50			9.000	9.015	7.964	8.000
GFM-0809-055	8.0	9.0	13.0	5.5	0.50			9.000	9.015	7.964	8.000
GFM-0809-08	8.0	9.0	13.0	8.0	0.50			9.000	9.015	7.964	8.000
GFM-0809-12	8.0	9.0	13.0	12.0	0.50			9.000	9.015	7.964	8.000
GFM-0810-03	8.0	10.0	15.0	3.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
GFM-081018-03	8.0	10.0	18.0	3.0	1.00			10.000	10.015	7.964	8.000
GFM-0810-04	8.0	10.0	15.0	4.0	1.00			10.000	10.015	7.964	8.000
GFM-081014-05	8.0	10.0	14.0	5.0	1.00			10.000	10.015	7.964	8.000
GFM-0810-05	8.0	10.0	15.0	5.5	1.00	8.025	8.083	10.000	10.015	7.964	8.000
GFM-081014-06	8.0	10.0	14.0	6.0	1.00			10.000	10.015	7.964	8.000
GFM-0810-065	8.0	10.0	15.0	6.5	1.00			10.000	10.015	7.964	8.000
GFM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
GFM-081013-08	8.0	10.0	13.0	8.0	1.00			10.000	10.015	7.964	8.000
GFM-081014-08	8.0	10.0	14.0	8.0	1.00			10.000	10.015	7.964	8.000
GFM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
GFM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
GFM-081014-10	8.0	10.0	14.0	10.0	1.00			10.000	10.015	7.964	8.000
GFM-0810-11	8.0	10.0	14.0	11.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
GFM-081016-11	8.0	10.0	16.0	11.5	1.50			10.000	10.015	7.964	8.000
GFM-081012-125	8.0	10.0	12.0	12.5	1.00			10.000	10.015	7.964	8.000
GFM-0810-15	8.0	10.0	15.0	15.0	1.00			10.000	10.015	7.964	8.000
GFM-081016-15	8.0	10.0	16.0	15.0	1.50			10.000	10.015	7.964	8.000
GFM-081017-15	8.0	10.0	17.0	15.0	1.00			10.000	10.015	7.964	8.000
GFM-0810-25	8.0	10.0	15.0	25.0	1.00			10.000	10.015	7.964	8.000
GFM-0810-30	8.0	10.0	15.0	30.0	1.00			10.000	10.015	7.964	8.000
GFM-0812-06	8.0	12.0	16.0	6.0	2.00	8.040	8.130	12.000	12.018	7.964	8.000
GFM-081221-08	8.0	12.0	21.0	8.0	2.00			12.000	12.018	7.964	8.000
GFM-0910-065	9.0	10.0	15.0	6.5	0.50	9.013	9.049	10.000	10.015	8.964	9.000
GFM-0910-17	9.0	10.0	15.0	17.5	0.50			10.000	10.015	8.964	9.000
GFM-1011-03	10.0	11.0	20.0	3.5	0.50	10.013	10.046	11.000	11.018	9.964	10.000

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
GFM-1011-044	10.0	11.0	15.0	4.4	0.50	10.013	10.049	11.000	11.018	9.964	10.000
GFM-1011-10	10.0	11.0	15.0	10.0	0.50			11.000	11.018	9.964	10.000
GFM-1012-035	10.0	12.0	18.0	3.5	1.00	10.025	10.083	12.000	12.018	9.964	10.000
GFM-1012-04	10.0	12.0	18.0	4.0	1.00			12.000	12.018	9.964	10.000
GFM-1012-05	10.0	12.0	18.0	5.0	1.00			12.000	12.018	9.964	10.000
GFM-1012-06	10.0	12.0	18.0	6.0	1.00			12.000	12.018	9.964	10.000
GFM-101216-06	10.0	12.0	16.0	6.0	1.00			12.000	12.018	9.964	10.000
GFM-1012-07	10.0	12.0	18.0	7.0	1.00			12.000	12.018	9.964	10.000
GFM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
GFM-101216-09	10.0	12.0	16.0	9.0	1.00			12.000	12.018	9.964	10.000
GFM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
GFM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
GFM-101215-12	10.0	12.0	15.0	12.0	1.00			12.000	12.018	9.964	10.000
GFM-1012-15	10.0	12.0	18.0	15.0	1.00			12.000	12.018	9.964	10.000
GFM-101216-15	10.0	12.0	16.0	15.0	1.00			12.000	12.018	9.964	10.000
GFM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
GFM-1112-06	11.0	12.0	16.0	6.0	0.50	11.016	11.059	12.000	12.018	10.957	11.000
GFM-1213-03	12.0	13.0	17.0	3.0	0.50	12.016	12.059	13.000	13.018	11.957	12.000
GFM-1213-12	12.0	13.0	17.0	12.0	0.50			13.000	13.018	11.957	12.000
GFM-121315-12	12.0	13.0	15.0	12.0	0.50			13.000	13.018	11.957	12.000
GFM-1214-03	12.0	14.0	20.0	3.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
GFM-121418-04	12.0	14.0	18.0	4.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-05	12.0	14.0	20.0	5.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-06	12.0	14.0	20.0	6.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-07	12.0	14.0	20.0	7.0	1.00			14.000	14.018	11.957	12.000
GFM-121418-08	12.0	14.0	18.0	8.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-10	12.0	14.0	20.0	10.0	1.00			14.000	14.018	11.957	12.000
GFM-121418-10	12.0	14.0	18.0	10.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-11	12.0	14.0	20.0	11.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
GFM-121418-12	12.0	14.0	18.0	12.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-15	12.0	14.0	20.0	15.0	1.00			14.000	14.018	11.957	12.000
GFM-121418-15	12.0	14.0	18.0	15.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-20	12.0	14.0	20.0	20.0	1.00			14.000	14.018	11.957	12.000
GFM-121418-20	12.0	14.0	18.0	20.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-24	12.0	14.0	20.0	24.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-31	12.0	14.0	20.0	31.0	1.00			14.000	14.018	11.957	12.000
GFM-1214-40	12.0	14.0	20.0	40.0	1.00			14.000	14.018	11.957	12.000
GFM-1315-06	13.0	15.0	22.0	6.0	1.00	13.032	13.102	15.000	15.018	12.957	13.000
GFM-1315-08	13.0	15.0	22.0	8.0	1.00			15.000	15.018	12.957	13.000
GFM-131522-40	13.0	15.0	22.0	40.0	1.00			15.000	15.018	12.957	13.000
GFM-1416-03	14.0	16.0	22.0	3.0	1.00	14.032	14.102	16.000	16.018	13.957	14.000
GFM-1416-04	14.0	16.0	22.0	4.0	1.00			16.000	16.018	13.957	14.000
GFM-1416-06	14.0	16.0	22.0	6.0	1.00			16.000	16.018	13.957	14.000
GFM-1416-08	14.0	16.0	22.0	8.0	1.00			16.000	16.018	13.957	14.000

Bearing technology | Plain bearing | iglide® G

Flange bearing (form F), metric

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
GFM-1416-10	14.0	16.0	22.0	10.0	1.00	14.032	14.102	16.000	16.018	13.957	14.000
GFM-1416-12	14.0	16.0	22.0	12.0	1.00			16.000	16.018	13.957	14.000
GFM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
GFM-1416-21	14.0	16.0	22.0	21.0	1.00			16.000	16.018	13.957	14.000
GFM-1516-02	15.0	16.0	20.0	2.0	0.50	15.016	15.059	16.000	16.018	14.957	15.000
GFM-1516-025	15.0	16.0	20.0	2.5	0.50			16.000	16.018	14.957	15.000
GFM-1516-03	15.0	16.0	20.0	3.0	0.50			16.000	16.018	14.957	15.000
GFM-1516-15	15.0	16.0	20.0	15.0	0.50			16.000	16.018	14.957	15.000
GFM-1517-04	15.0	17.0	23.0	4.0	1.00	15.032	15.102	17.000	17.018	14.957	15.000
GFM-1517-045	15.0	17.0	23.0	4.5	1.00			17.000	17.018	14.957	15.000
GFM-1517-05	15.0	17.0	23.0	5.0	1.00			17.000	17.018	14.957	15.000
GFM-1517-09	15.0	17.0	23.0	9.0	1.00			17.000	17.018	14.957	15.000
GFM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
GFM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
GFM-1517-20	15.0	17.0	23.0	20.0	1.00			17.000	17.018	14.957	15.000
GFM-151824-32	15.0	18.0	24.0	32.0	1.50	15.032	15.102	18.000	18.018	14.957	15.000
GFM-1618-04	16.0	18.0	24.0	4.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
GFM-1618-05	16.0	18.0	24.0	5.0	1.00			18.000	18.018	15.957	16.000
GFM-1618-060	16.0	18.0	24.0	6.0	1.00			18.000	18.018	15.957	16.000
GFM-1618-09	16.0	18.0	24.0	9.0	1.00			18.000	18.018	15.957	16.000
GFM-1618-12	16.0	18.0	24.0	12.0	1.00			18.000	18.018	15.957	16.000
GFM-1618-16	16.0	18.0	24.0	16.0	1.00			18.000	18.018	15.957	16.000
GFM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
GFM-1618-21	16.0	18.0	24.0	21.0	1.00			18.000	18.018	15.957	16.000
GFM-1719-09	17.0	19.0	25.0	9.0	1.00	17.032	17.102	19.000	19.021	16.957	17.000
GFM-1719-16	17.0	19.0	25.0	16.0	1.00			19.000	19.021	16.957	17.000
GFM-1719-25	17.0	19.0	25.0	25.0	1.00			19.000	19.021	16.957	17.000
GFM-1820-04	18.0	20.0	26.0	4.0	1.00	18.032	18.102	20.000	20.021	17.957	18.000
GFM-1820-06	18.0	20.0	26.0	6.0	1.00			20.000	20.021	17.957	18.000
GFM-182022-06	18.0	20.0	22.0	6.0	1.00			20.000	20.021	17.957	18.000
GFM-1820-09	18.0	20.0	26.0	9.0	1.00			20.000	20.021	17.957	18.000
GFM-1820-11	18.0	20.0	26.0	11.0	1.00			20.000	20.021	17.957	18.000
GFM-1820-12	18.0	20.0	26.0	12.0	1.00			20.000	20.021	17.957	18.000
GFM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
GFM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
GFM-1820-30	18.0	20.0	26.0	30.0	1.00			20.000	20.021	17.957	18.000
GFM-1820-32	18.0	20.0	26.0	32.0	1.00			20.000	20.021	17.957	18.000
GFM-1822-28	18.0	22.0	26.0	28.0	2.00	18.032	18.102	22.000	22.021	17.957	18.000
GFM-2021-035	20.0	21.0	26.0	3.5	0.50	20.020	20.072	21.000	21.021	19.948	20.000
GFM-2021-15	20.0	21.0	25.0	15.0	0.50			21.000	21.021	19.948	20.000
GFM-2021-20	20.0	21.0	25.0	20.0	0.50			21.000	21.021	19.948	20.000
GFM-2023-07	20.0	23.0	30.0	7.0	1.50	20.040	20.124	23.000	23.021	19.948	20.000
GFM-202326-07	20.0	23.0	26.0	7.0	1.50			23.000	23.021	19.948	20.000
GFM-2023-11	20.0	23.0	30.0	11.5	1.50			23.000	23.021	19.948	20.000
GFM-202328-15	20.0	23.0	28.0	15.0	1.50			23.000	23.021	19.948	20.000
GFM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
GFM-202329-20	20.0	23.0	29.0	20.0	1.50			23.000	23.021	19.948	20.000

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
GFM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000
GFM-202326-21	20.0	23.0	26.0	21.5	1.50			23.000	23.021	19.948	20.000
GFM-2224-25	22.0	24.0	30.0	25.0	1.00	22.040	22.124	24.000	24.021	21.948	22.000
GFM-222529-045	22.0	25.0	29.0	4.5	1.50	22.040	22.124	25.000	25.021	21.948	22.000
GFM-222530-215	22.0	25.0	30.0	21.5	1.50			25.000	25.021	21.948	22.000
GFM-222530-25	22.0	25.0	30.0	25.0	1.50			25.000	25.021	21.948	22.000
GFM-222535-315	22.0	25.0	35.0	31.5	1.50			25.000	25.021	21.948	22.000
GFM-2427-07	24.0	27.0	32.0	7.0	1.50	24.040	24.124	27.000	27.021	23.948	24.000
GFM-2427-10	24.0	27.0	32.0	10.5	1.50			27.000	27.021	23.948	24.000
GFM-2526-25	25.0	26.0	30.0	25.0	0.50	25.020	25.072	26.000	26.021	24.948	25.000
GFM-2527-07	25.0	27.0	32.0	7.0	1.00	25.040	25.124	27.000	27.021	24.948	25.000
GFM-2527-48	25.0	27.0	32.0	48.0	1.00			27.000	27.021	24.948	25.000
GFM-252830-10	25.0	28.0	30.0	10.0	1.50	25.040	25.124	28.000	28.021	24.948	25.000
GFM-2528-11	25.0	28.0	35.0	11.5	1.50			28.000	28.021	24.948	25.000
GFM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
GFM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
GFM-2630-12	26.0	30.0	37.0	12.0	2.00	26.040	26.124	30.000	30.021	25.948	26.000
GFM-2730-20	27.0	30.0	38.0	20.0	1.50	27.040	27.124	30.000	30.021	26.948	27.000
GFM-2830-10	28.0	30.0	36.0	10.0	1.00	28.040	28.124	30.000	30.021	27.948	28.000
GFM-283036-31	28.0	30.0	36.0	31.0	1.00			30.000	30.021	27.948	28.000
GFM-2830-36	28.0	30.0	35.0	36.0	1.00			30.000	30.021	27.948	28.000
GFM-2830-48	28.0	30.0	35.0	48.0	1.00			30.000	30.021	27.948	28.000
GFM-283239-20	28.0	32.0	39.0	20.0	2.00	28.040	28.124	32.000	32.025	27.948	28.000
GFM-283250-35	28.0	32.0	50.0	35.0	2.00			32.000	32.025	27.948	28.000
GFM-3031-20	30.0	31.0	36.0	20.0	0.50	30.040	30.124	31.000	31.025	29.948	30.000
GFM-3031-30	30.0	31.0	35.0	30.0	0.50			31.000	31.025	29.948	30.000
GFM-3032-04	30.0	32.0	37.0	4.0	1.00	30.040	30.124	32.000	32.025	29.948	30.000
GFM-3032-12	30.0	32.0	37.0	12.0	1.00			32.000	32.025	29.948	30.000
GFM-3032-17	30.0	32.0	37.0	17.5	1.00			32.000	32.025	29.948	30.000
GFM-3032-22	30.0	32.0	37.0	22.0	1.00			32.000	32.025	29.948	30.000
GFM-3034-09	30.0	34.0	42.0	9.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
GFM-303440-10	30.0	34.0	40.0	10.0	2.00			34.000	34.025	29.948	30.000
GFM-3034-16	30.0	34.0	42.0	16.0	2.00			34.000	34.025	29.948	30.000
GFM-3034-20	30.0	34.0	42.0	20.0	2.00			34.000	34.025	29.948	30.000
GFM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
GFM-3034-37	30.0	34.0	42.0	37.0	2.00			34.000	34.025	29.948	30.000
GFM-3236-16	32.0	36.0	40.0	16.0	2.00	32.050	32.150	36.000	36.025	31.938	32.000
GFM-3236-26	32.0	36.0	40.0	26.0	2.00			36.000	36.025	31.938	32.000
GFM-343850-35	34.0	38.0	50.0	35.0	2.00	34.050	34.150	38.000	38.025	33.938	34.000
GFM-3539-058	35.0	39.0	47.0	5.8	2.00	35.050	35.150	39.000	39.025	34.938	35.000
GFM-3539-07	35.0	39.0	47.0	7.0	2.00			39.000	39.025	34.938	35.000
GFM-3539-12	35.0	39.0	47.0	12.0	2.00			39.000	39.025	34.938	35.000
GFM-3539-16	35.0	39.0	47.0	16.0	2.00			39.000	39.025	34.938	35.000
GFM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
GFM-3539-36	35.0	39.0	47.0	36.0	2.00			39.000	39.025	34.938	35.000
GFM-3842-10	38.0	42.0	54.0	10.0	2.00	38.050	38.150	42.000	42.025	37.938	38.000
GFM-3842-22	38.0	42.0	54.0	22.0	2.00			42.000	42.025	37.938	38.000

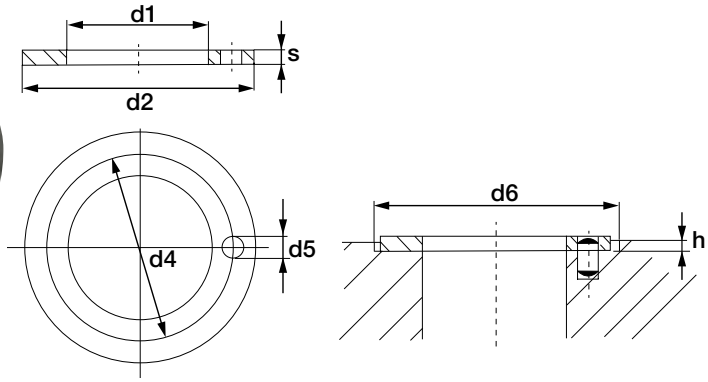
Bearing technology | Plain bearing | iglide® G

Flange bearing (form F), metric

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
GFM-4044-07	40.0	44.0	52.0	7.0	2.00	40.050	40.150	44.000	44.025	39.938	40.000
GFM-4044-14	40.0	44.0	52.0	14.0	2.00			44.000	44.025	39.938	40.000
GFM-4044-20	40.0	44.0	52.0	20.0	2.00			44.000	44.025	39.938	40.000
GFM-4044-30	40.0	44.0	52.0	30.0	2.00			44.000	44.025	39.938	40.000
GFM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
GFM-4044-50	40.0	44.0	52.0	50.0	2.00			44.000	44.025	39.938	40.000
GFM-4046-20	40.0	46.0	50.0	20.0	2.00	40.050	40.150	46.000	46.025	39.938	40.000
GFM-4246-19	42.0	46.0	53.0	19.0	2.00	42.050	42.150	46.000	46.025	41.938	42.000
GFM-4550-25	45.0	50.0	58.0	25.0	2.00	45.050	45.150	50.000	50.025	44.938	45.000
GFM-4550-30	45.0	50.0	58.0	30.0	2.00			50.000	50.025	44.938	45.000
GFM-4550-50	45.0	50.0	58.0	50.0	2.00			50.000	50.025	44.938	45.000
GFM-5055-07	50.0	55.0	63.0	7.0	2.00	50.050	50.150	55.000	55.030	49.938	50.000
GFM-5055-10	50.0	55.0	63.0	10.0	2.00			55.000	55.030	49.938	50.000
GFM-5055-25	50.0	55.0	63.0	25.0	2.00			55.000	55.030	49.938	50.000
GFM-5055-40	50.0	55.0	63.0	40.0	2.00			55.000	55.030	49.938	50.000
GFM-5055-50	50.0	55.0	63.0	50.0	2.00			55.000	55.030	49.938	50.000
GFM-6065-07	60.0	65.0	73.0	7.0	2.00	60.060	60.180	65.000	65.030	59.926	60.000
GFM-6065-22	60.0	65.0	73.0	22.0	2.00			65.000	65.030	59.926	60.000
GFM-6065-30	60.0	65.0	73.0	30.0	2.00			65.000	65.030	59.926	60.000
GFM-6065-50	60.0	65.0	73.0	50.0	2.00			65.000	65.030	59.926	60.000
GFM-606580-62	60.0	65.0	80.0	62.0	2.00			65.000	65.030	59.926	60.000
GFM-6570-50	65.0	70.0	78.0	50.0	2.00	65.060	65.180	70.000	70.030	64.926	65.000
GFM-7075-50	70.0	75.0	83.0	50.0	2.00	70.060	70.180	75.000	75.030	69.926	70.000
GFM-7075-855	70.0	75.0	83.0	85.5	2.00			75.000	75.030	69.926	70.000
GFM-7580-50	75.0	80.0	88.0	50.0	2.00	75.060	75.180	80.000	80.030	74.926	75.000
GFM-8085-50	80.0	85.0	93.0	50.0	2.50	80.060	80.180	85.000	85.035	79.926	80.000
GFM-8085-100	80.0	85.0	93.0	100.0	2.50			85.000	85.035	79.926	80.000
GFM-8590-100	85.0	90.0	98.0	100.0	2.50	85.072	85.212	90.000	90.035	84.913	85.000
GFM-9095-100	90.0	95.0	103.0	100.0	2.50	90.072	90.212	95.000	95.035	89.913	90.000
GFM-95100-100	95.0	100.0	108.0	100.0	2.50	95.072	95.212	100.000	100.035	94.913	95.000
GFM-100105-425	100.0	105.0	113.0	42.5	2.50	100.072	100.212	105.000	105.035	99.913	100.000
GFM-100105-100	100.0	105.0	113.0	100.0	2.50			105.000	105.035	99.913	100.000
GFM-110115-100	110.0	115.0	123.0	100.0	2.50	110.072	110.212	115.000	115.035	109.913	110.000
GFM-120125-80	120.0	125.0	133.0	80.0	2.50	120.072	120.212	125.000	125.040	119.913	120.000
GFM-120125-100	120.0	125.0	133.0	100.0	2.50			125.000	125.040	119.913	120.000
GFM-125130-100	125.0	130.0	138.0	100.0	2.50	125.085	125.245	130.000	130.040	124.900	125.000
GFM-130135-100	130.0	135.0	143.0	100.0	2.50	130.085	130.245	135.000	135.040	129.900	130.000
GFM-140145-100	140.0	145.0	153.0	100.0	2.50	140.085	140.245	145.000	145.040	139.900	140.000
GFM-150155-40	150.0	155.0	163.0	40.0	2.50	150.085	150.245	155.000	155.040	149.900	150.000
GFM-150155-100	150.0	155.0	163.0	100.0	2.50			155.000	155.040	149.900	150.000
GFM-195205240-65	195.0	205.0	240.0	65.0	5.00	195.100	195.285	205.000	205.040	194.900	195.000

Bearing technology | Plain bearing | iglide® G

Thrust washer bearing (form T), metric



Order key

Type			Dimensions		
G	T	M	- 04 08	-	005
iglide® material	Thrust washer	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Thickness s (mm)

Part Number	d1	d2	s	d4	d5	h	d6
	+0.25	-0.25	-0.05	-0.12 +0.12	+0.375 +0.125	+0.2 -0.2	+0.12
GTM-0408-005	4.0	8.0	0.5	*	*	0.2	8
GTM-0409-006	4.0	9.0	0.6	*	*	0.3	9
GTM-0409-016	4.0	9.0	1.6	*	*	0.3	9
GTM-0410-005	4.0	10.0	0.5	*	*	0.2	10
GTM-0411-005	4.0	11.0	0.5	*	*	0.2	11
GTM-0509-006	5.0	9.5	0.6	*	*	0.3	9.5
GTM-0612-015	6.0	12.0	1.5	*	*	1.0	12
GTM-0615-015	6.0	15.0	1.5	*	*	1.0	15
GTM-0620-015	6.0	20.0	1.5	13	1.5	1.0	20
GTM-0611-010	6.2	11.0	1.0	*	*	0.7	11
GTM-0712-005	7.0	12.0	0.5	*	*	0.2	12
GTM-0713-005	7.0	13.0	0.5	*	*	0.2	13
GTM-0815-005	8.0	15.0	0.5	*	*	0.2	15
GTM-0815-015	8.0	15.0	1.5	*	*	1.0	15
GTM-0818-010	8.0	18.0	1.0	*	*	0.7	18
GTM-0818-015	8.0	18.0	1.5	13	1.5	1.0	18
GTM-0818-020	8.0	18.0	2.0	*	*	1.5	18
GTM-0913-010	9.0	13.0	1.0	*	*	0.7	13
GTM-0918-015	9.0	18.0	1.5	13.5	1.5	1.0	18
GTM-1018-005	10.0	17.8	0.5	*	*	0.2	17.8
GTM-1018-010	10.0	18.0	1.0	*	*	0.7	18
GTM-1018-015	10.0	18.0	1.5	*	*	1.0	18
GTM-1018-020	10.0	18.0	2.0	*	*	1.5	18
GTM-1020-015	10.0	20.0	1.5	*	*	0.7	20
GTM-1115-010	11.0	15.0	1.0	*	*	0.7	15
GTM-1127-005	11.0	27.0	0.5	*	*	0.2	27
GTM-1224-015	12.0	24.0	1.5	18	1.5	1.0	24
GTM-1230-015	12.0	30.0	1.5	*	*	1.0	30
GTM-1420-015	14.0	20.0	1.5	*	*	1.0	20
GTM-1426-015	14.0	26.0	1.5	20	2	1.0	26
GTM-1519-008	15.0	19.0	0.8	*	*	0.5	19
GTM-1522-008	15.0	22.0	0.8	*	*	0.5	22
GTM-1524-015	15.0	24.0	1.5	19.5	1.5	1.0	24

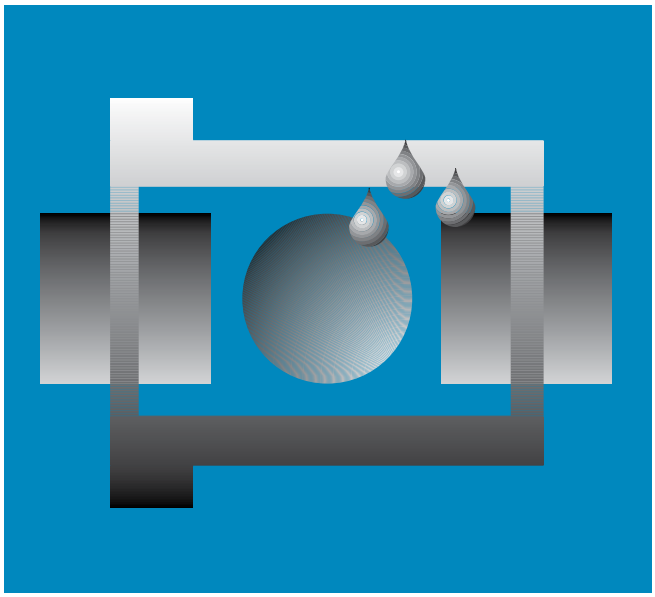
*Design without fixing hole

Bearing technology | Plain bearing | iglide® G

Thrust washer bearing (form T), metric

Part Number	d1	d2	s	d4	d5	h	d6
	+0.25	-0.25	-0.05	-0.12 +0.12	+0.375 +0.125	+0.2 -0.2	+0.12
GTM-1524-0275	15.0	24.0	2.75	*	*	2.0	24
GTM-1628-010	16.0	28.0	1.0	*	*	0.7	28
GTM-1630-015	16.0	30.0	1.5	22	2	1.0	30
GTM-1832-015	18.0	32.0	1.5	25	2	1.0	32
GTM-2036-015	20.0	36.0	1.5	28	3	1.0	36
GTM-2230-015	22.0	30.0	1.5	*	*	1.0	30
GTM-2238-015	22.0	38.0	1.5	30	3	1.0	38
GTM-2442-015	24.0	42.0	1.5	33	3	1.0	42
GTM-2644-015	26.0	44.0	1.5	35	3	1.0	44
GTM-2835-005	28.5	35.8	0.5	*	*	0.2	35.8
GTM-2848-015	28.0	48.0	1.5	38	4	1.0	48
GTM-3246-010	32.0	45.8	1.0	*	*	0.7	45.8
GTM-3254-015	32.0	54.0	1.5	43	4	1.0	54
GTM-3862-015	38.0	62.0	1.5	50	4	1.0	62
GTM-4266-015	42.0	66.0	1.5	54	4	1.0	66
GTM-4860-020	48.0	60.0	2.0	*	*	1.5	60
GTM-4874-020	48.0	74.0	2.0	61	4	1.5	74
GTM-5278-020	52.0	78.0	2.0	65	4	1.5	78
GTM-52569-020	52.5	69.0	2.0	*	*	1.5	69
GTM-6278-020	62.0	78.0	2.0	*	*	1.5	78
GTM-6290-010	62.0	90.0	1.0	*	*	0.7	90
GTM-6290-020	62.0	90.0	2.0	76	4	1.5	90
GTM-6881-020	68.0	81.0	2.0	*	*	1.5	81
GTM-78114-015	78.0	114.0	1.5	*	*	1.0	114
GTM-80114-015	80.5	114.0	1.5	*	*	1.0	114

*Design without fixing hole



Universal

The advanced development of iglide® G

iglide® G1

When to use it?

- When a universal all-round bearing is required
- When low moisture absorption is fundamental
- For low to medium speeds
- For pivoting and rotational movements

When not to use?

- When high shock, impact and edge loads occur
  iglide® G
- When lowest wear is required
  iglide® W300
- When the ultimate media resistance is required
  iglide® X
- For underwater applications
  iglide® H370
- For underwater applications
  iglide® H370

Ø
4.0 – 50.0mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Universal

The advanced development of iglide® G

The most successful plastic bearing in the world – iglide® G – improved all around: iglide® G1, the new standard.

- Double service life at high loads
- Up to 4 times less wear at low loads
- Continuous operating temperatures up to +356°F
- Press-fit up to +248°F (iglide® G: up to +176°F)
- Moisture absorption reduced by 50%

Typical application areas

- Mechanical engineering
- Automation
- Sports and leisure
- Automotive industry
- Mechatronics

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications		
Wear resistance at +73°F	–	+
Wear resistance at +194°F	–	+
Wear resistance at +302°F	–	+
Low coefficient of friction	–	+
Low moisture absorption	–	+
Wear resistance under water	–	+
High media resistance	–	+
Resistant to edge pressures	–	+
Suitable for shock and impact loads	–	+
Resistant to dirt	–	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.58	
Color		grey	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	1.7	
Coefficient of friction, dynamic, against steel	µ	0.10 – 0.29	
pv value, max. (dry)	psi · fpm	17,100	
Mechanical properties			
Flexural modulus	psi	1,665,903	DIN 53457
Flexural strength at +68°F	psi	25,817	DIN 53452
Compressive strength	psi	16,679	
Max. recommended surface pressure (+68°F)	psi	13,198	
Shore D hardness		81	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+356	
Max. application temperature short-term	°F	+428	
Min. application temperature	°F	–40	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	3.7	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^9	DIN IEC 93
Surface resistance	Ω	> 10^9	DIN 53482

–40°F up to +356°F

13,198psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

The requirement profile is demanding: comprehensive advanced development of the successful all-round classic iglide® G. This has been achieved especially in terms of moisture absorption, thermal properties and consistently improved wear resistance. Only with shock, impact and edge loads, the robustness of iglide® G could not quite be achieved.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® G1 plain bearings is approximately 0.2% weight. The saturation limit in water is 1.7% weight. This must be taken into account for these types of applications.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® G1 bearings.

Radiation resistance

Plain bearings made from iglide® G1 are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® G1 plain bearings have not yet been tested for their resistance to weathering. Please consult igus® if you're planning to use them outdoors.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® G1 plain bearings decreases. Diagram 02 shows this inverse relationship. However, at the long-term maximum temperature of +356°F the permissible surface pressure is around 5,802psi. 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 iglide® G1 at radial loads. The plastic deformation is minimal up to a pressure of approximately 114,504psi. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® G1 has been developed for low to medium surface speeds. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The ambient temperatures strongly influence the properties of plain bearings. The temperatures prevailing in the bearing system also have an influence on the wear. With increasing temperatures, the wear increases and this effect is significant when temperatures rise over +248°F. For temperatures over 248°F an additional securing of the bearings in the housing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction μ 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**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® G1 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. For iglide® G1 a ground surface with an average surface finish Ra = 0.8μm is recommended. Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® G1. It can be observed that iglide® G1 achieves good to very good wear results with all shaft materials. The results for stainless steel types are most likely slightly lower. Diagram 07 compares the wear in rotating and pivoting applications. As with many of the iglide® materials, wear rate is better in pivoting applications.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	256	197	984
short-term	**fpm**	492	354	1181

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.10-0.29	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

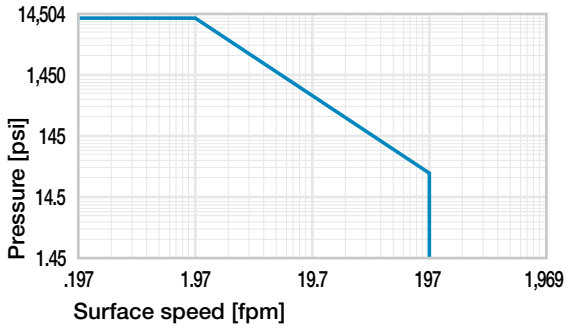


Diagram 01: Permissible pv values for iglide® G plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

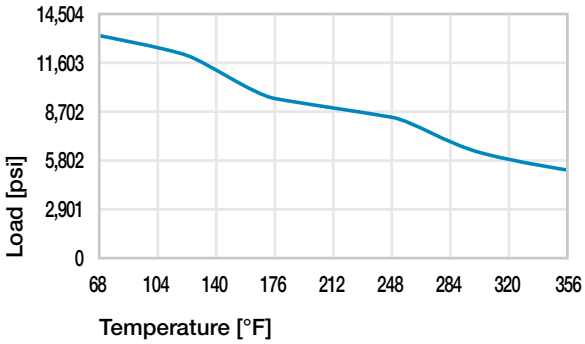


Diagram 02: Maximum recommended surface pressure as a function of temperature (13,198psi at +68°F)

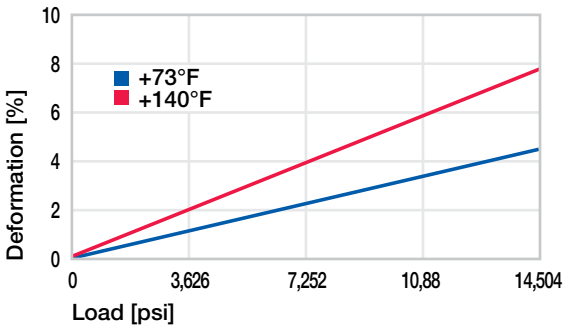


Diagram 03: Deformation under pressure and temperature

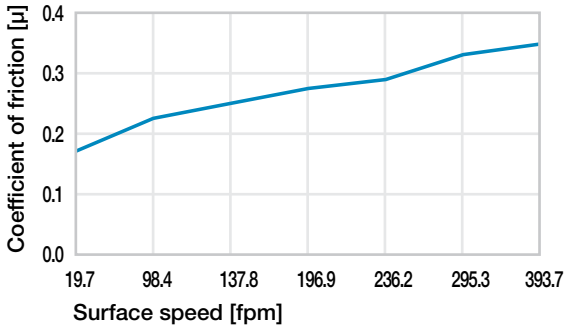


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

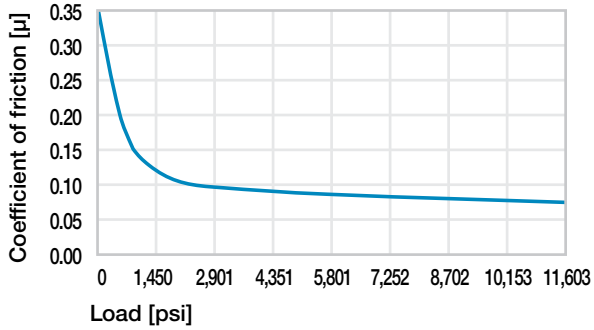


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

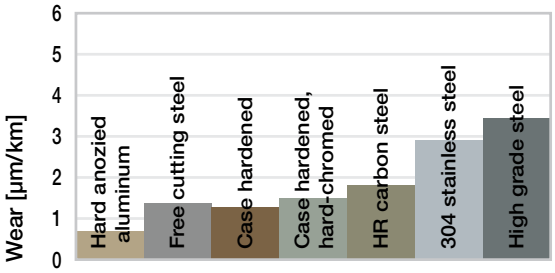


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

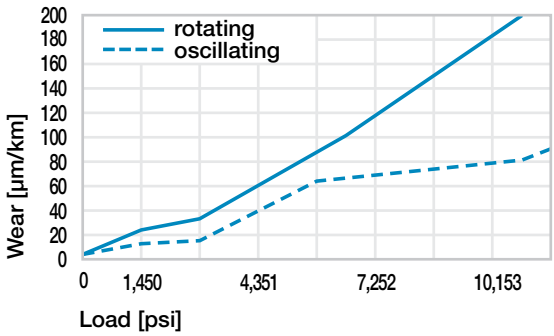
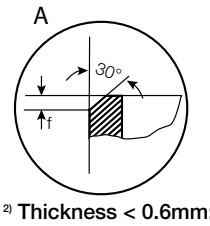


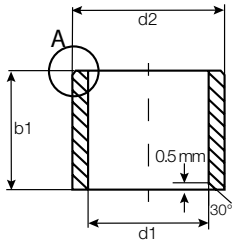
Diagram 07: Wear for oscillating and rotating applications with shaft material Case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® G1

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 116**

Order key

Type			Dimensions		
G1	S	M	-04	05	-04
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

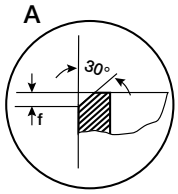
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
G1SM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
G1SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
G1SM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
G1SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
G1SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
G1SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
G1SM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
G1SM-0810-08	8.0	10.0	8.0	8.013	8.071	10.000	10.015	7.964	8.000
G1SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
G1SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
G1SM-1012-08	10.0	12.0	8.0	10.013	10.071	12.000	12.018	9.964	10.000
G1SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
G1SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
G1SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
G1SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
G1SM-1214-10	12.0	14.0	10.0	12.016	12.086	14.000	14.018	11.957	12.000
G1SM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
G1SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
G1SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
G1SM-1315-10	13.0	15.0	10.0	13.016	13.086	15.000	15.018	12.957	13.000
G1SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
G1SM-1416-15	14.0	16.0	15.0	14.016	14.086	16.000	16.018	13.957	14.000
G1SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
G1SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
G1SM-1517-15	15.0	17.0	15.0	15.016	15.086	17.000	17.018	14.957	15.000
G1SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
G1SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
G1SM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
G1SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
G1SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
G1SM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
G1SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
G1SM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
G1SM-2023-10	20.0	23.0	10.0	20.020	20.104	23.000	23.021	19.948	20.000
G1SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000

Product range

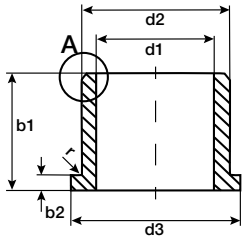
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
G1SM-2023-20	20.0	23.0	20.0	20.020	20.104	23.000	23.021	19.948	20.000
G1SM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
G1SM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
G1SM-2225-15	22.0	25.0	15.0	22.020	22.104	25.000	25.021	21.948	22.000
G1SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
G1SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
G1SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
G1SM-2427-15	24.0	27.0	15.0	24.020	24.104	27.000	27.021	23.948	24.000
G1SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
G1SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
G1SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
G1SM-2528-15	25.0	28.0	15.0	25.020	25.104	28.000	28.021	24.948	25.000
G1SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
G1SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
G1SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
G1SM-2832-20	28.0	32.0	20.0	28.020	28.104	32.000	32.025	27.948	28.000
G1SM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
G1SM-2832-30	28.0	32.0	25.0			32.000	32.025	27.948	28.000
G1SM-3034-20	30.0	34.0	20.0	30.020	30.104	34.000	34.025	29.948	30.000
G1SM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
G1SM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
G1SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
G1SM-3236-20	32.0	36.0	20.0	32.025	32.125	36.000	36.025	31.938	32.000
G1SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
G1SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
G1SM-3539-20	35.0	39.0	20.0	35.025	35.125	39.000	39.025	34.938	35.000
G1SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
G1SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
G1SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
G1SM-4044-20	40.0	44.0	20.0	40.025	40.125	44.000	44.025	39.938	40.000
G1SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
G1SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
G1SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
G1SM-4550-20	45.0	50.0	20.0	45.025	45.125	50.000	50.025	44.938	45.000
G1SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
G1SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
G1SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
G1SM-5055-20	50.0	55.0	20.0	50.025	50.125	55.000	55.030	49.938	50.000
G1SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
G1SM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
G1SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
G1SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000

Bearing technology | Plain bearing | iglide® G1

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, page 116

Order key

Type			Dimensions		
G1	F	M	-06 08	-	04
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part number	d1[1]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
G1FM-0608-04	6.0	8.0	12.0	4.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
G1FM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
G1FM-0810-05	8.0	10.0	15.0	5.5	1.00	8.013	8.071	10.000	10.015	7.964	8.000
G1FM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
G1FM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
G1FM-1012-07	10.0	12.0	18.0	7.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
G1FM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
G1FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
G1FM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
G1FM-1214-07	12.0	14.0	20.0	7.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
G1FM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
G1FM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
G1FM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
G1FM-1416-12	14.0	16.0	22.0	12.0	1.00	14.016	14.086	16.000	16.018	13.957	14.000
G1FM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
G1FM-1517-09	15.0	17.0	23.0	9.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
G1FM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
G1FM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
G1FM-1618-12	16.0	18.0	24.0	12.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
G1FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
G1FM-1820-12	18.0	20.0	26.0	12.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
G1FM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
G1FM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
G1FM-2023-11	20.0	23.0	30.0	11.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000
G1FM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
G1FM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
G1FM-2528-11	25.0	28.0	35.0	11.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
G1FM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
G1FM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
G1FM-3034-16	30.0	34.0	42.0	16.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
G1FM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
G1FM-3539-16	35.0	39.0	47.0	16.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
G1FM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
G1FM-4044-30	40.0	44.0	52.0	30.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000
G1FM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
G1FM-4550-50	45.0	50.0	58.0	50.0	2.00	45.025	45.125	50.000	50.025	44.938	45.000

The robust general purpose
Excellent vibration dampening
iglide® 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
  iglide® H
- When very high precision is necessary
  iglide® P
- For very smooth shafts
  iglide® J
- When a cost-effective wear-resistant plain bearing is required
  iglide® R
- For underwater applications
  iglide® H370

Ø
1.0 – 75mm
1/8 - 3 in.

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The robust general purpose
Excellent vibration dampening

The self-lubricating plain bearing made from iglide® 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
- Self-lubricating
- Maintenance-free
- Thrust washers available in inch sizes, from **page 132**

Typical application areas
- Agricultural machines
- Furniture/Industrial design

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■□□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■■■	+
Suitable for shock and impact loads	–	■■■■■	+
Resistant to dirt	–	■■■■■	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.14	
Color		dark grey	
Max. moisture absorption at +73°F 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)	psi · fpm	3,400	
Mechanical properties			
Flexural modulus	psi	391,602	DIN 53457
Flexural strength at +68°F	psi	16,244	DIN 53452
Compressive strength	psi	7,542	
Max. recommended surface pressure (+68°F)	psi	2,901	
Shore D hardness		79	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+176	
Max. application temperature short-term	°F	+338	
Min. application temperature	°F	–40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	10	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	$> 10^{13}$	DIN IEC 93
Surface resistance	Ω	$> 10^{11}$	DIN 53482

–40°F up to +176°F

2,901psi

V-2

RoHS

ISO 3547-1

Table 01: Material properties

The self-lubricating plain bearing made from iglide® 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 other equipment where dirt and dust are present.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® 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 vapor. The use in vacuum is only possible to a limited extent.

Radiation resistance

Plain bearings made from iglide® M250 have limited use under radioactive radiation. They are resistant to radiation up to an intensity of $1 \cdot 10^4$Gy.

Resistance to weathering

iglide® 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 iglide® 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. iglide® M250 plain bearings can withstand a maximum recommended surface pressure of 2,901psi. Compared with other iglide® materials iglide® M250 plain bearings are highly elastic. The elasticity allows them to absorb shock or impact loads and resume their original shape. Plastic deformation is minimal up to the maximum recommended surface pressure.

▶ Surface pressure, **Page 50**

Permissible surface speeds

As a standard, iglide® M250 is manufactured as a thick-walled bearing. iglide® M250 is best suited for low to medium surface speeds. The maximum permissible surface speed for dry operation is 157fpm (rotating) or 492fpm (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 +338°F are permitted. However, iglide® M250 plain bearings can only be exposed to this temperature if no additional load is applied. The maximum long-term application temperature is +176°F. This is also the point of the wear limit, i. e. the temperature over which the wear increases exponentially. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction μ 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**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® 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 minimized 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**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

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 iglide® M250 bearings is Ra = 0.6mm. Diagrams 06 and 07 show the test results of iglide® M250 plain bearings running against various shaft materials. Up to loads of 290psi 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 case hardened steel or hard-chromed. Diagram 07 shows that iglide® M250 is considerably better for rotational than for oscillating movements. However, it must be mentioned that oscillating movements often cause high vibrations. Here, iglide® M250 can utilize 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**

		Rotating	Oscillating	linear
long-term	**fpm**	157	118	492
short-term	**fpm**	394	276	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.18 - 0.40	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [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 metric tolerances for plain bearings according to ISO 3547-1 after press-fit

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

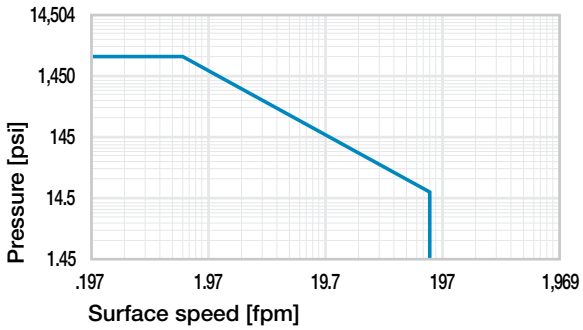


Diagram 01: Permissible pv values for iglide® M250 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

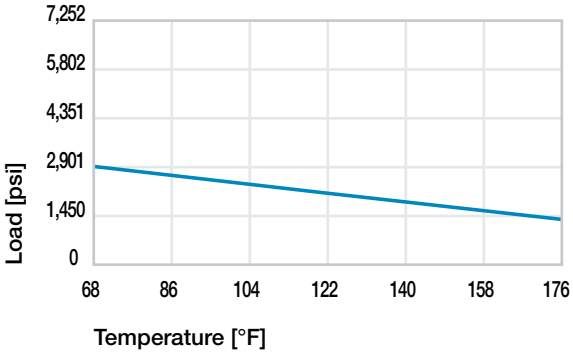


Diagram 02: Maximum recommended surface pressure as a function of temperature (2,901psi at +68°F)

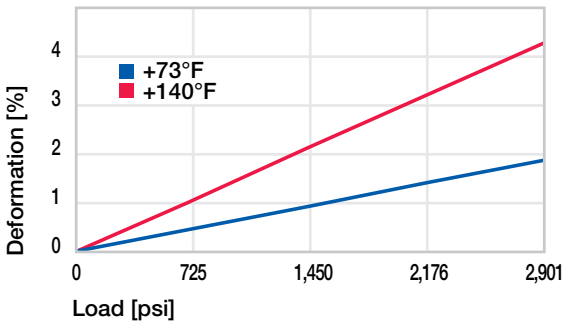


Diagram 03: Deformation under pressure and temperature

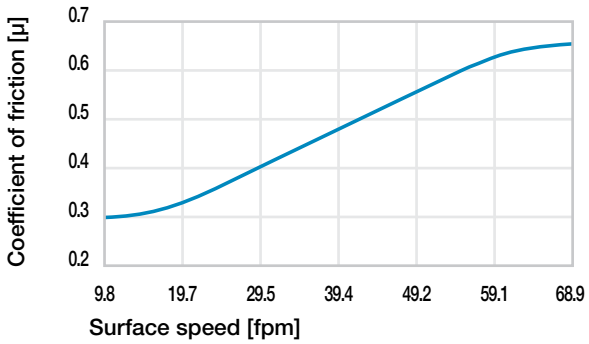


Diagram 04: Coefficient of friction as a function of the surface speed, p = 109psi

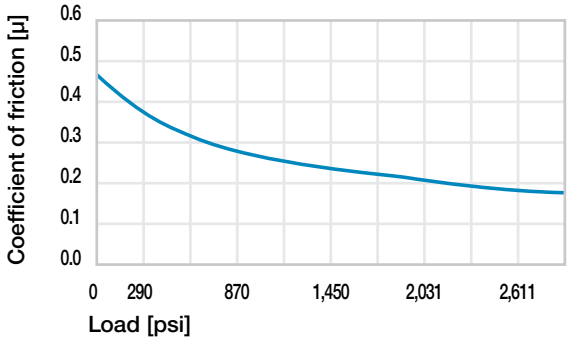


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

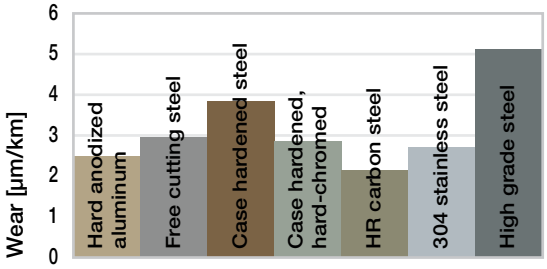


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

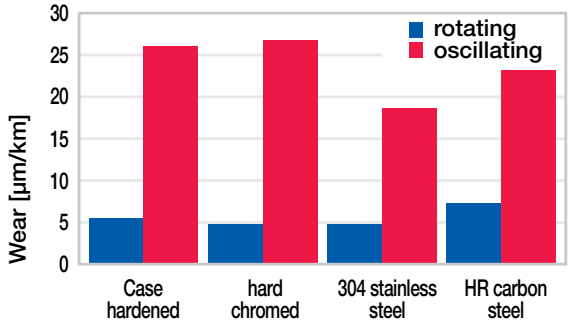
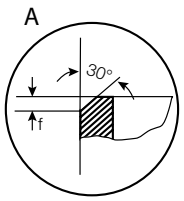


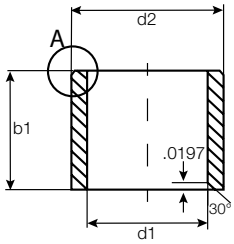
Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Bearing technology | Plain bearing | iglide® M250

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 124**

Order key

Type			Dimensions		
M	S	I	-02	03	-02
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
MSI-0203-02	1/8	3/16	1/8	.1262	.1280	.1875	.1880	.1241	.1250
MSI-0203-04	1/8	3/16	1/4			.1875	.1880	.1241	.1250
MSI-0204-02	1/8	1/4	1/8	.1262	.1280	.2510	.2515	.1241	.1250
MSI-0204-03	1/8	1/4	3/16			.2510	.2515	.1241	.1250
MSI-0204-04	1/8	1/4	1/4			.2510	.2515	.1241	.1250
MSI-0204-06	1/8	1/4	3/8			.2510	.2515	.1241	.1250
MSI-0304-04	3/16	1/4	1/4	.1887	.1905	.2510	.2515	.1866	.1875
MSI-0304-06	3/16	1/4	3/8			.2510	.2515	.1866	.1875
MSI-0304-08	3/16	1/4	1/2			.2510	.2515	.1866	.1875
MSI-0305-02	3/16	5/16	1/8	.1887	.1905	.3135	.3140	.1866	.1875
MSI-0305-03	3/16	5/16	3/16			.3135	.3140	.1866	.1875
MSI-0305-04	3/16	5/16	1/4			.3135	.3140	.1866	.1875
MSI-0305-05	3/16	5/16	5/16			.3135	.3140	.1866	.1875
MSI-0305-06	3/16	5/16	3/8			.3135	.3140	.1866	.1875
MSI-0305-08	3/16	5/16	1/2			.3135	.3140	.1866	.1875
MSI-0405-03	1/4	5/16	3/16	.2516	.2539	.3135	.3140	.2491	.2500
MSI-0405-04	1/4	5/16	1/4			.3135	.3140	.2491	.2500
MSI-0405-06	1/4	5/16	3/8			.3135	.3140	.2491	.2500
MSI-0405-08	1/4	5/16	1/2			.3135	.3140	.2491	.2500
MSI-0406-02	1/4	3/8	1/8	.2516	.2539	.3760	.3765	.2491	.2500
MSI-0406-03	1/4	3/8	3/16			.3760	.3765	.2491	.2500
MSI-0406-04	1/4	3/8	1/4			.3760	.3765	.2491	.2500
MSI-0406-05	1/4	3/8	5/16			.3760	.3765	.2491	.2500
MSI-0406-06	1/4	3/8	3/8			.3760	.3765	.2491	.2500
MSI-0406-08	1/4	3/8	1/2			.3760	.3765	.2491	.2500
MSI-0406-10	1/4	3/8	5/8			.3760	.3765	.2491	.2500
MSI-0406-12	1/4	3/8	3/4			.3760	.3765	.2491	.2500
MSI-0506-03	5/16	3/8	3/16	.3141	.3164	.3760	.3765	.3116	.3125
MSI-0506-04	5/16	3/8	1/4			.3760	.3765	.3116	.3125
MSI-0506-06	5/16	3/8	3/8			.3760	.3765	.3116	.3125
MSI-0506-08	5/16	3/8	1/2			.3760	.3765	.3116	.3125
MSI-0507-03	5/16	7/16	3/16	.3141	.3164	.4385	.4390	.3116	.3125
MSI-0507-04	5/16	7/16	1/4			.4385	.4390	.3116	.3125
MSI-0507-05	5/16	7/16	5/16			.4385	.4390	.3116	.3125
MSI-0507-06	5/16	7/16	3/8			.4385	.4390	.3116	.3125

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
MSI-0507-08	5/16	7/16	1/2	.3141	.3164	.4385	.4390	.3116	.3125
MSI-0507-10	5/16	7/16	5/8			.4385	.4390	.3116	.3125
MSI-0507-12	5/16	7/16	3/4			.4385	.4390	.3116	.3125
MSI-0607-04	3/8	7/16	1/4	.3766	.3789	.4385	.4390	.3741	.3750
MSI-0607-06	3/8	7/16	3/8			.4385	.4390	.3741	.3750
MSI-0607-08	3/8	7/16	1/2			.4385	.4390	.3741	.3750
MSI-0608-03	3/8	1/2	3/16	.3766	.3789	.5010	.5015	.3741	.3750
MSI-0608-04	3/8	1/2	1/4			.5010	.5015	.3741	.3750
MSI-0608-05	3/8	1/2	5/16			.5010	.5015	.3741	.3750
MSI-0608-06	3/8	1/2	3/8			.5010	.5015	.3741	.3750
MSI-0608-08	3/8	1/2	1/2			.5010	.5015	.3741	.3750
MSI-0608-10	3/8	1/2	5/8			.5010	.5015	.3741	.3750
MSI-0608-12	3/8	1/2	3/4			.5010	.5015	.3741	.3750
MSI-0608-16	3/8	1/2	1			.5010	.5015	.3741	.3750
MSI-0709-06	7/16	9/16	3/8	.4395	.4422	.5625	.5635	.4365	.4375
MSI-0709-08	7/16	9/16	1/2			.5625	.5635	.4365	.4375
MSI-0810-04	1/2	5/8	1/4	.5020	.5047	.6250	.6260	.4990	.5000
MSI-0810-05	1/2	5/8	5/16			.6250	.6260	.4990	.5000
MSI-0810-06	1/2	5/8	3/8			.6250	.6260	.4990	.5000
MSI-0810-08	1/2	5/8	1/2			.6250	.6260	.4990	.5000
MSI-0810-10	1/2	5/8	5/8			.6250	.6260	.4990	.5000
MSI-0810-12	1/2	5/8	3/4			.6250	.6260	.4990	.5000
MSI-0810-16	1/2	5/8	1			.6250	.6260	.4990	.5000
MSI-1012-04	5/8	3/4	1/4	.6270	.6297	.7500	.7510	.6240	.6250
MSI-1012-06	5/8	3/4	3/8			.7500	.7510	.6240	.6250
MSI-1012-08	5/8	3/4	1/2			.7500	.7510	.6240	.6250
MSI-1012-10	5/8	3/4	5/8			.7500	.7510	.6240	.6250
MSI-1012-12	5/8	3/4	3/4			.7500	.7510	.6240	.6250
MSI-1012-16	5/8	3/4	1			.7500	.7510	.6240	.6250
MSI-1012-26	5/8	3/4	1 5/8			.7500	.7510	.6240	.6250
MSI-1013-06	5/8	13/16	3/8	.6270	.6297	.8125	.8135	.6240	.6250
MSI-1013-08	5/8	13/16	1/2			.8125	.8135	.6240	.6250
MSI-1013-10	5/8	13/16	5/8			.8125	.8135	.6240	.6250
MSI-1013-12	5/8	13/16	3/4			.8125	.8135	.6240	.6250
MSI-1013-16	5/8	13/16	1			.8125	.8135	.6240	.6250
MSI-1113-12	11/16	13/16	3/4	.6894	.6921	.8125	.8135	.6865	.6875
MSI-1113-14	11/16	13/16	7/8			.8125	.8135	.6865	.6875
MSI-1113-16	11/16	13/16	1			.8125	.8135	.6865	.6875
MSI-1214-05	3/4	7/8	5/16	.7525	.7559	.8750	.8760	.7490	.7500
MSI-1214-06	3/4	7/8	3/8	.7525	.7559	.8750	.8760	.7490	.7500
MSI-1214-12	3/4	7/8	3/4			.8750	.8760	.7490	.7500
MSI-1214-16	3/4	7/8	1			.8750	.8760	.7490	.7500
MSI-1214-24	3/4	7/8	1 1/2			.8750	.8760	.7490	.7500
MSI-1216-06	3/4	1	3/8	.7525	.7559	1.0000	1.0010	.7490	.7500
MSI-1216-08	3/4	1	1/2			1.0000	1.0010	.7490	.7500
MSI-1216-10	3/4	1	5/8			1.0000	1.0010	.7490	.7500
MSI-1216-12	3/4	1	3/4			1.0000	1.0010	.7490	.7500

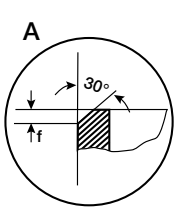
Bearing technology | Plain bearing | iglide® M250

Sleeve bearing (form S), inch

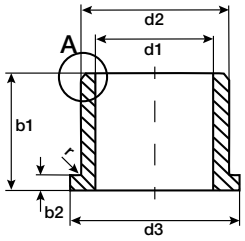
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
MSI-1216-16	3/4	1	1	.7525	.7559	1.0000	1.0010	.7490	.7500
MSI-1216-20	3/4	1	1 1/4			1.0000	1.0010	.7490	.7500
MSI-1216-24	3/4	1	1 1/2			1.0000	1.0010	.7490	.7500
MSI-1316-08	13/16	1	1/2	.8151	.8184	1.0000	1.0010	.8116	.8126
MSI-1416-12	7/8	1	3/4	.8775	.8809	1.0000	1.0010	.8740	.8750
MSI-1416-16	7/8	1	1			1.0000	1.0010	.8740	.8750
MSI-1416-24	7/8	1	1 1/2			1.0000	1.0010	.8740	.8750
MSI-1418-08	7/8	1 1/8	1/2	.8775	.8809	1.1250	1.1260	.8740	.8750
MSI-1418-12	7/8	1 1/8	3/4			1.1250	1.1260	.8740	.8750
MSI-1418-16	7/8	1 1/8	1			1.1250	1.1260	.8740	.8750
MSI-1418-24	7/8	1 1/8	1 1/2			1.1250	1.1260	.8740	.8750
MSI-1618-12	1	1 1/8	3/4	1.0025	1.0059	1.1250	1.1260	.9990	1.0000
MSI-1618-16	1	1 1/8	1			1.1250	1.1260	.9990	1.0000
MSI-1618-24	1	1 1/8	1 1/2			1.1250	1.1260	.9990	1.0000
MSI-1620-08	1	1 1/4	1/2	1.0025	1.0059	1.2500	1.2510	.9990	1.0000
MSI-1620-10	1	1 1/4	5/8			1.2500	1.2510	.9990	1.0000
MSI-1620-12	1	1 1/4	3/4			1.2500	1.2510	.9990	1.0000
MSI-1620-16	1	1 1/4	1			1.2500	1.2510	.9990	1.0000
MSI-1620-24	1	1 1/4	1 1/2			1.2500	1.2510	.9990	1.0000
MSI-1620-32	1	1 1/4	2			1.2500	1.2510	.9990	1.0000
MSI-1822-16	1 1/8	1 3/8	1	1.1275	1.1309	1.3750	1.3760	1.1240	1.1250
MSI-1822-24	1 1/8	1 3/8	1 1/2			1.3750	1.3760	1.1240	1.1250
MSI-2024-12	1 1/4	1 1/2	3/4	1.2531	1.2600	1.4995	1.5005	1.2490	1.2500
MSI-2024-16	1 1/4	1 1/2	1			1.4995	1.5005	1.2490	1.2500
MSI-2024-22	1 1/4	1 1/2	1 3/8			1.4995	1.5005	1.2490	1.2500
MSI-2024-24	1 1/4	1 1/2	1 1/2			1.4995	1.5005	1.2490	1.2500
MSI-2024-32	1 1/4	1 1/2	2			1.4995	1.5005	1.2490	1.2500
MSI-2024-40	1 1/4	1 1/2	2 1/2			1.4995	1.5005	1.2490	1.2500
MSI-2226-16	1 3/8	1 5/8	1	1.3782	1.3844	1.6245	1.6255	1.3740	1.3750
MSI-2428-12	1 1/2	1 3/4	3/4	1.5032	1.5100	1.7495	1.7505	1.4990	1.5000
MSI-2428-16	1 1/2	1 3/4	1			1.7495	1.7505	1.4990	1.5000
MSI-2428-24	1 1/2	1 3/4	1 1/2			1.7495	1.7505	1.4990	1.5000
MSI-2428-40	1 1/2	1 3/4	2 1/2			1.7495	1.7505	1.4990	1.5000
MSI-2630-16	1 5/8	1 7/8	1	1.6282	1.6350	1.8745	1.8755	1.6240	1.6250
MSI-2832-08	1 3/4	2	1/2	1.7531	1.7594	1.9995	2.0005	1.7490	1.7500
MSI-2832-12	1 3/4	2	3/4			1.9995	2.0005	1.7490	1.7500
MSI-2832-16	1 3/4	2	1			1.9995	2.0005	1.7490	1.7500
MSI-2832-24	1 3/4	2	1 1/2			1.9995	2.0005	1.7490	1.7500
MSI-2832-40	1 3/4	2	2 1/2			1.9995	2.0005	1.7490	1.7500
MSI-3236-16	2	2 1/4	1	2.0032	2.0100	2.2495	2.2505	1.9990	2.0000
MSI-3236-24	2	2 1/4	1 1/2			2.2495	2.2505	1.9990	2.0000
MSI-3236-32	2	2 1/4	2			2.2495	2.2505	1.9990	2.0000
MSI-3236-40	2	2 1/4	2 1/2			2.2495	2.2505	1.9990	2.0000
MSI-4852-16	3	3 1/4	1	3.0039	3.0114	3.2495	3.2505	2.9990	3.0000

Bearing technology | Plain bearing | iglide® M250

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 124**

Order key

Type			Dimensions		
M	F	I	-02	03	-02
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
MFI-0203-02	1/8	3/16	1/8	.3125	.032	.1262	.1280	.1880	.1885	.1241	.1250
MFI-0203-04	1/8	3/16	1/4	.3125	.032			.1880	.1885	.1241	.1250
MFI-0204-02	1/8	1/4	1/8	.360	.047			.2510	.2515	.1241	.1250
MFI-0204-03	1/8	1/4	3/16	.360	.047			.2510	.2515	.1241	.1250
MFI-0204-04	1/8	1/4	1/4	.360	.047	.1262	.1280	.2510	.2515	.1241	.1250
MFI-0204-06	1/8	1/4	3/8	.360	.047			.2510	.2515	.1241	.1250
MFI-0204-12	1/8	1/4	3/4	.360	.047			.2510	.2515	.1241	.1250
MFI-0304-04	3/16	1/4	1/4	.375	.032			.2510	.2515	.1866	.1875
MFI-0304-06	3/16	1/4	3/8	.375	.032	.1887	.1905	.2510	.2515	.1866	.1875
MFI-0304-08	3/16	1/4	1/2	.375	.032			.2510	.2515	.1866	.1875
MFI-0305-03	3/16	5/16	3/16	.370	.047			.3135	.3140	.1866	.1875
MFI-0305-04	3/16	5/16	1/4	.370	.047			.3135	.3140	.1866	.1875
MFI-0305-05	3/16	5/16	5/16	.370	.047	.1887	.1905	.3135	.3140	.1866	.1875
MFI-0305-06	3/16	5/16	3/8	.370	.047			.3135	.3140	.1866	.1875
MFI-0305-08	3/16	5/16	1/2	.370	.047			.3135	.3140	.1866	.1875
MFI-0405-02	1/4	5/16	1/8	.4375	.032			.3135	.3140	.2491	.2500
MFI-0405-03	1/4	5/16	3/16	.4375	.032			.3135	.3140	.2491	.2500
MFI-0405-04	1/4	5/16	1/4	.4375	.032			.3135	.3140	.2491	.2500
MFI-0405-06	1/4	5/16	3/8	.4375	.032	.2516	.2539	.3135	.3140	.2491	.2500
MFI-0405-07	1/4	5/16	7/16	.4375	.032			.3135	.3140	.2491	.2500
MFI-0405-08	1/4	5/16	1/2	.4375	.032			.3135	.3140	.2491	.2500
MFI-0405-12	1/4	5/16	3/4	.4375	.032			.3135	.3140	.2491	.2500
MFI-0406-02	1/4	3/8	1/8	.560	.047			.3760	.3765	.2491	.2500
MFI-0406-03	1/4	3/8	3/16	.560	.047			.3760	.3765	.2491	.2500
MFI-0406-04	1/4	3/8	1/4	.560	.047			.3760	.3765	.2491	.2500
MFI-0406-05	1/4	3/8	5/16	.560	.047	.2516	.2539	.3760	.3765	.2491	.2500
MFI-0406-06	1/4	3/8	3/8	.560	.047			.3760	.3765	.2491	.2500
MFI-0406-08	1/4	3/8	1/2	.560	.047			.3760	.3765	.2491	.2500
MFI-0406-10	1/4	3/8	5/8	.560	.047			.3760	.3765	.2491	.2500
MFI-0406-12	1/4	3/8	3/4	.560	.047			.3760	.3765	.2491	.2500
MFI-0506-02	5/16	3/8	1/8	.500	.032			.3760	.3765	.3116	.3125
MFI-0506-04	5/16	3/8	1/4	.500	.032			.3760	.3765	.3116	.3125
MFI-0506-06	5/16	3/8	3/8	.500	.032	.3141	.3164	.3760	.3765	.3116	.3125
MFI-0506-08	5/16	3/8	1/2	.500	.032			.3760	.3765	.3116	.3125
MFI-0506-15	5/16	3/8	15/16	.500	.062			.3760	.3765	.3116	.3125

Bearing technology | Plain bearing | iglide® M250

Flange bearing (form F), inch

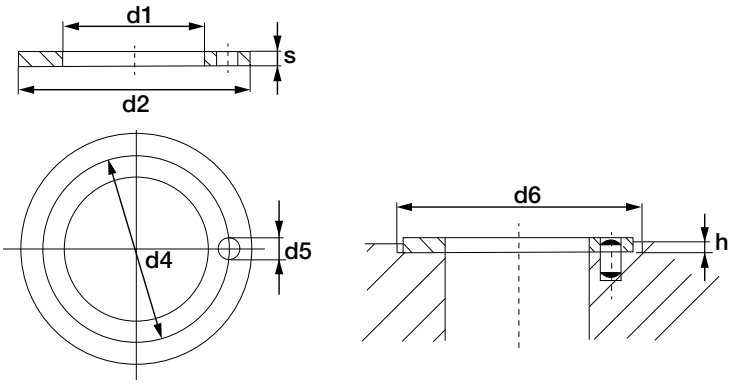
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
MFI-0507-03	5/16	7/16	3/16	.560	.062	.3141	.3164	.4385	.4390	.3116	.3125
MFI-0507-04	5/16	7/16	1/4	.560	.062			.4385	.4390	.3116	.3125
MFI-0507-05	5/16	7/16	5/16	.560	.062	.3141	.3164	.4385	.4390	.3116	.3125
MFI-0507-06	5/16	7/16	3/8	.560	.062			.4385	.4390	.3116	.3125
MFI-0507-08	5/16	7/16	1/2	.560	.062			.4385	.4390	.3116	.3125
MFI-0507-10	5/16	7/16	5/8	.560	.062			.4385	.4390	.3116	.3125
MFI-0507-12	5/16	7/16	3/4	.560	.062			.4385	.4390	.3116	.3125
MFI-0607-04	3/8	7/16	1/4	.5625	.032	.3766	.3789	.4385	.4390	.3741	.3750
MFI-0607-06	3/8	7/16	3/8	.5625	.032			.4385	.4390	.3741	.3750
MFI-0607-08	3/8	7/16	1/2	.5625	.032			.4385	.4390	.3741	.3750
MFI-0608-02	3/8	1/2	1/8	.625	.062	.3766	.3789	.5010	.5015	.3741	.3750
MFI-0608-03	3/8	1/2	3/16	.625	.062			.5010	.5015	.3741	.3750
MFI-0608-04	3/8	1/2	1/4	.625	.062			.5010	.5015	.3741	.3750
MFI-0608-05	3/8	1/2	5/16	.625	.062			.5010	.5015	.3741	.3750
MFI-0608-06	3/8	1/2	3/8	.625	.062			.5010	.5015	.3741	.3750
MFI-0608-08	3/8	1/2	1/2	.625	.062			.5010	.5015	.3741	.3750
MFI-0608-10	3/8	1/2	5/8	.625	.062			.5010	.5015	.3741	.3750
MFI-0608-12	3/8	1/2	3/4	.625	.062			.5010	.5015	.3741	.3750
MFI-0608-16	3/8	1/2	1	.625	.062			.5010	.5015	.3741	.3750
MFI-0608-17.5	3/8	1/2	1 3/32	.625	.062			.5010	.5015	.3741	.3750
MFI-0709-06	7/16	9/16	3/8	.687	.062	.4395	.4422	.5625	.5635	.4365	.4375
MFI-0709-07	7/16	9/16	7/16	.687	.062			.5625	.5635	.4365	.4375
MFI-0709-08	7/16	9/16	1/2	.687	.062			.5625	.5635	.4365	.4375
MFI-0810-02	1/2	5/8	1/8	.875	.062	.5020	.5047	.6250	.6260	.4990	.5000
MFI-0810-04	1/2	5/8	1/4	.875	.062			.6250	.6260	.4990	.5000
MFI-0810-05	1/2	5/8	5/16	.875	.062			.6250	.6260	.4990	.5000
MFI-0810-06	1/2	5/8	3/8	.875	.062			.6250	.6260	.4990	.5000
MFI-0810-08	1/2	5/8	1/2	.875	.062			.6250	.6260	.4990	.5000
MFI-0810-10	1/2	5/8	5/8	.875	.062			.6250	.6260	.4990	.5000
MFI-0810-12	1/2	5/8	3/4	.875	.062			.6250	.6260	.4990	.5000
MFI-0810-16	1/2	5/8	1	.875	.062			.6250	.6260	.4990	.5000
MFI-1012-06	5/8	3/4	3/8	1.000	.062	.6270	.6297	.7500	.7510	.6240	.6250
MFI-1012-08	5/8	3/4	1/2	1.000	.062			.7500	.7510	.6240	.6250
MFI-1012-10	5/8	3/4	5/8	1.000	.062			.7500	.7510	.6240	.6250
MFI-1012-12	5/8	3/4	3/4	1.000	.062			.7500	.7510	.6240	.6250
MFI-1012-16	5/8	3/4	1	1.000	.062			.7500	.7510	.6240	.6250
MFI-1012-24	5/8	3/4	1 1/2	1.000	.062			.7500	.7510	.6240	.6250
MFI-1013-08	5/8	13/16	1/2	1.063	.156	.6270	.6297	.8125	.8135	.6240	.6250
MFI-1013-10	5/8	13/16	5/8	1.063	.156			.8125	.8135	.6240	.6250
MFI-1013-12	5/8	13/16	3/4	1.063	.156	.6270	.6297	.8125	.8135	.6240	.6250
MFI-1013-16	5/8	13/16	1	1.063	.156			.8125	.8135	.6240	.6250
MFI-1214-06	3/4	7/8	3/8	1.125	.062	.7525	.7559	.8750	.8760	.7490	.7500
MFI-1214-08	3/4	7/8	1/2	1.125	.062			.8750	.8760	.7490	.7500
MFI-1214-12	3/4	7/8	3/4	1.125	.062			.8750	.8760	.7490	.7500
MFI-1214-16	3/4	7/8	1	1.125	.062			.8750	.8760	.7490	.7500
MFI-1214-24	3/4	7/8	1 1/2	1.125	.062			.8750	.8760	.7490	.7500

Product range

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
MFI-1216-08	3/4	1	1/2	1.250	.156	.7525	.7559	1.0000	1.0010	.7490	.7500
MFI-1216-10	3/4	1	5/8	1.250	.156			1.0000	1.0010	.7490	.7500
MFI-1216-12	3/4	1	3/4	1.250	.156			1.0000	1.0010	.7490	.7500
MFI-1216-16	3/4	1	1	1.250	.156			1.0000	1.0010	.7490	.7500
MFI-1216-24	3/4	1	1 1/2	1.250	.156			1.0000	1.0010	.7490	.7500
MFI-1216-32	3/4	1	2	1.250	.156			1.0000	1.0010	.7490	.7500
MFI-1416-12	7/8	1	3/4	1.250	.062	.8775	.8809	1.0000	1.0010	.8740	.8750
MFI-1416-16	7/8	1	1	1.250	.062			1.0000	1.0010	.8740	.8750
MFI-1416-24	7/8	1	1 1/2	1.250	.062			1.0000	1.0010	.8740	.8750
MFI-1418-08	7/8	1 1/8	1/2	1.375	.156	.8775	.8809	1.1250	1.1260	.8740	.8750
MFI-1418-12	7/8	1 1/8	3/4	1.375	.156			1.1250	1.1260	.8740	.8750
MFI-1418-16	7/8	1 1/8	1	1.375	.156			1.1250	1.1260	.8740	.8750
MFI-1418-24	7/8	1 1/8	1 1/2	1.375	.156			1.1250	1.1260	.8740	.8750
MFI-1618-03	1	1 1/8	3/16	1.375	.062	1.0025	1.0059	1.1250	1.1260	.9990	1.0000
MFI-1618-12	1	1 1/8	3/4	1.375	.062			1.1250	1.1260	.9990	1.0000
MFI-1618-16	1	1 1/8	1	1.375	.062			1.1250	1.1260	.9990	1.0000
MFI-1618-24	1	1 1/8	1 1/2	1.375	.062			1.1250	1.1260	.9990	1.0000
MFI-1620-08	1	1 1/4	1/2	1.500	.188	1.0025	1.0059	1.2500	1.2510	.9990	1.0000
MFI-1620-10	1	1 1/4	5/8	1.500	.188			1.2500	1.2510	.9990	1.0000
MFI-1620-12	1	1 1/4	3/4	1.500	.188			1.2500	1.2510	.9990	1.0000
MFI-1620-16	1	1 1/4	1	1.500	.188			1.2500	1.2510	.9990	1.0000
MFI-1620-20	1	1 1/4	1 1/2	1.250	.188			1.2500	1.2510	.9990	1.0000
MFI-1620-24	1	1 1/4	1 1/2	1.500	.188			1.2500	1.2510	.9990	1.0000
MFI-2024-07	1 1/4	1 1/2	7/16	1.750	.200	1.2531	1.2600	1.4995	1.5005	1.2490	1.2500
MFI-2024-12	1 1/4	1 1/2	3/4	1.750	.200			1.4995	1.5005	1.2490	1.2500
MFI-2024-16	1 1/4	1 1/2	1	1.750	.200			1.4995	1.5005	1.2490	1.2500
MFI-2024-24	1 1/4	1 1/2	1 1/2	1.750	.200			1.4995	1.5005	1.2490	1.2500
MFI-2226-12	1 3/8	1 5/8	3/4	1.875	.125	1.3759	1.3781	1.6245	1.6255	1.3740	1.3750
MFI-2226-16	1 3/8	1 5/8	1	1.875	.125			1.6245	1.6255	1.3740	1.3750
MFI-2428-12	1 1/2	1 3/4	3/4	2.000	.125	1.5032	1.5100	1.7495	1.7505	1.4990	1.5000
MFI-2428-16	1 1/2	1 3/4	1	2.000	.125			1.7495	1.7505	1.4990	1.5000
MFI-2428-24	1 1/2	1 3/4	1 1/2	2.000	.125	1.5032	1.5100	1.7495	1.7505	1.4990	1.5000
MFI-2630-16	1 5/8	1 7/8	1	2.125	.125	1.6282	1.6350	1.8745	1.8755	1.6240	1.6250
MFI-2832-12	1 3/4	2	3/4	2.250	.125	1.7531	1.7595	1.9995	2.0005	1.7490	1.7500
MFI-2832-16	1 3/4	2	1	2.250	.125			1.9995	2.0005	1.7490	1.7500
MFI-2832-24	1 3/4	2	1 1/2	2.250	.125			1.9995	2.0005	1.7490	1.7500
MFI-3236-16	2	2 1/4	1	2.500	.125	2.0032	2.0100	2.2500	2.2512	1.9990	2.0000
MFI-3236-24	2	2 1/4	1 1/2	2.500	.125			2.2500	2.2512	1.9990	2.0000
MFI-3236-32	2	2 1/4	2	2.500	.125			2.2500	2.2512	1.9990	2.0000

Bearing technology | Plain bearing | iglide® M250

Thrust washer bearing (form T), inch



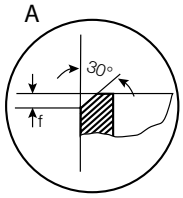
Order key

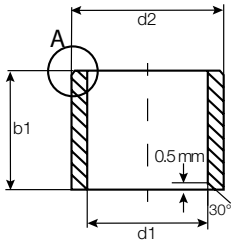
Type			Dimensions
M	T	I	- 04
iglide® material	Thrust washer	Inch	Inner Ø d1 (inch)

Part Number	d1(nominal)	d1		d2		s
		Min.	Max.	Min.	Max.	-0.0056
MTI-04	1/4	.2550	.2609	.6094	.6200	.0900
MTI-05	5/16	.3189	.3271	.6767	.6874	.0900
MTI-06	3/8	.3780	.3850	.7394	.7409	.0900
MTI-08	1/2	.5030	.5101	.8070	.8200	.0900
MTI-10	5/8	.6300	.6371	.9870	1.0000	.0940
MTI-12	3/4	.7600	.7675	1.0500	1.0630	.0940
MTI-16	1	1.0100	1.0200	1.4843	1.5000	.1250
MTI-20	1 1/4	1.2900	1.2998	2.1220	2.1400	.0980
MTI-24	1 1/2	1.5500	1.6000	2.5500	2.6000	.1250

Bearing technology | Plain bearing | iglide® M250

Sleeve bearing (form S), metric





[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 124**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
M	S	M	-01	03	-02
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
MSM-0103-02	1.0	3.0	2.0	1.020	1.080	3.000	3.010	0.975	1.000
MSM-0104-02	1.5	4.0	2.0	1.520	1.580	4.000	4.012	1.475	1.500
MSM-0205-01	2.0	5.0	1.0	2.020	2.080	5.000	5.012	1.975	2.000
MSM-0205-02	2.0	5.0	2.0			5.000	5.012	1.975	2.000
MSM-0205-03	2.0	5.0	3.0			5.000	5.012	1.975	2.000
MSM-0206-03	2.5	6.0	3.0	2.520	2.580	6.000	6.012	2.475	2.500
MSM-0305-03	3.0	5.0	3.0	3.020	3.080	5.000	5.012	2.975	3.000
MSM-0305-04	3.0	5.0	4.0			5.000	5.012	2.975	3.000
MSM-0306-03	3.0	6.0	3.0			6.000	6.012	2.975	3.000
MSM-0306-04	3.0	6.0	4.0			6.000	6.012	2.975	3.000
MSM-0405-04	4.0	5.5	4.0	4.030	4.105	5.500	5.512	3.970	4.000
MSM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
MSM-0407-03	4.0	7.0	3.0			7.000	7.015	3.970	4.000
MSM-0407-04	4.0	7.0	4.0			7.000	7.015	3.970	4.000
MSM-0407-06	4.0	7.0	6.0			7.000	7.015	3.970	4.000
MSM-0408-04	4.0	8.0	4.0			8.000	8.015	3.970	4.000
MSM-0408-06	4.0	8.0	6.0			8.000	8.015	3.970	4.000
MSM-0507-05	5.0	7.0	5.0	5.030	5.105	7.000	7.015	4.970	5.000
MSM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
MSM-0508-04	5.0	8.0	4.0			8.000	8.015	4.970	5.000
MSM-0508-05	5.0	8.0	5.0			8.000	8.015	4.970	5.000
MSM-0508-08	5.0	8.0	8.0			8.000	8.015	4.970	5.000
MSM-0509-05	5.0	9.0	5.0			9.000	9.015	4.970	5.000
MSM-0509-08	5.0	9.0	8.0			9.000	9.015	4.970	5.000
MSM-0608-06	6.0	8.0	6.0	6.030	6.105	8.000	8.015	5.970	6.000
MSM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
MSM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
MSM-0609-06	6.0	9.0	6.0			9.000	9.015	5.970	6.000
MSM-0610-02	6.0	10.0	2.5			10.000	10.015	5.970	6.000
MSM-0610-04	6.0	10.0	4.0			10.000	10.015	5.970	6.000
MSM-0610-06	6.0	10.0	6.0			10.000	10.015	5.970	6.000
MSM-0610-08	6.0	10.0	8.0			10.000	10.015	5.970	6.000
MSM-0610-10	6.0	10.0	10.0			10.000	10.015	5.970	6.000
MSM-0611-04	6.0	11.0	4.0			11.000	11.018	5.970	6.000

Bearing technology | Plain bearing | iglide® M250

Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
MSM-0612-06	6.0	12.0	6.0	6.030	6.105	12.000	12.018	5.970	6.000
MSM-0612-10	6.0	12.0	10.0			12.000	12.018	5.970	6.000
MSM-0710-05	7.0	10.0	5.0	7.040	7.130	10.000	10.015	6.964	7.000
MSM-0710-08	7.0	10.0	8.0			10.000	10.015	6.964	7.000
MSM-0710-10	7.0	10.0	10.0			10.000	10.015	6.964	7.000
MSM-0711-16	7.0	11.0	16.0			11.000	11.018	6.964	7.000
MSM-0810-06	8.0	10.0	6.0	8.040	8.130	10.000	10.015	7.964	8.000
MSM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
MSM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
MSM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
MSM-0811-06	8.0	11.0	6.0			11.000	11.018	7.964	8.000
MSM-0811-08	8.0	11.0	8.0			11.000	11.018	7.964	8.000
MSM-0811-12	8.0	11.0	12.0			11.000	11.018	7.964	8.000
MSM-0812-04	8.0	12.0	4.0			12.000	12.018	7.964	8.000
MSM-0812-06	8.0	12.0	6.0			12.000	12.018	7.964	8.000
MSM-0812-08	8.0	12.0	8.0			12.000	12.018	7.964	8.000
MSM-0812-10	8.0	12.0	10.0			12.000	12.018	7.964	8.000
MSM-0812-12	8.0	12.0	12.0			12.000	12.018	7.964	8.000
MSM-0814-06	8.0	14.0	6.0			14.000	14.018	7.964	8.000
MSM-0814-10	8.0	14.0	10.0			14.000	14.018	7.964	8.000
MSM-0912-14	9.0	12.0	14.0	9.040	9.130	12.000	12.018	8.964	9.000
MSM-1012-08	10.0	12.0	8.0	10.040	10.130	12.000	12.018	9.964	10.000
MSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
MSM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
MSM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
MSM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
MSM-1014-06	10.0	14.0	6.0			14.000	14.018	9.964	10.000
MSM-1014-08	10.0	14.0	8.0			14.000	14.018	9.964	10.000
MSM-1014-10	10.0	14.0	10.0			14.000	14.018	9.964	10.000
MSM-1014-16	10.0	14.0	16.0			14.000	14.018	9.964	10.000
MSM-1016-06	10.0	16.0	6.0			16.000	16.018	9.964	10.000
MSM-1016-08	10.0	16.0	8.0			16.000	16.018	9.964	10.000
MSM-1016-10	10.0	16.0	10.0			16.000	16.018	9.964	10.000
MSM-1016-16	10.0	16.0	16.0			16.000	16.018	9.964	10.000
MSM-1016-50	10.0	16.0	50.0			16.000	16.018	9.964	10.000
MSM-1214-10	12.0	14.0	10.0	12.050	12.160	14.000	14.018	11.957	12.000
MSM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
MSM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
MSM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
MSM-1216-15	12.0	16.0	15.0			16.000	16.018	11.957	12.000
MSM-1216-20	12.0	16.0	20.0			16.000	16.018	11.957	12.000
MSM-1218-08	12.0	18.0	8.0			18.000	18.018	11.957	12.000
MSM-1218-10	12.0	18.0	10.0			18.000	18.018	11.957	12.000
MSM-1218-15	12.0	18.0	15.0			18.000	18.018	11.957	12.000
MSM-1218-20	12.0	18.0	20.0			18.000	18.018	11.957	12.000
MSM-1315-10	13.0	15.0	10.0	13.050	13.160	15.000	15.018	12.957	13.000
MSM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
MSM-1416-085	14.0	16.0	8.5	14.050	14.160	16.000	16.018	13.957	14.000
MSM-1416-10	14.0	16.0	10.0			16.000	16.018	13.957	14.000
MSM-1416-15	14.0	16.0	15.0			16.000	16.018	13.957	14.000
MSM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
MSM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
MSM-1416-29	14.0	16.0	29.0			16.000	16.018	13.957	14.000
MSM-1418-20	14.0	18.0	20.0			18.000	18.018	13.957	14.000
MSM-1420-10	14.0	20.0	10.0			20.000	20.021	13.957	14.000
MSM-1420-15	14.0	20.0	15.0			20.000	20.021	13.957	14.000
MSM-1420-20	14.0	20.0	20.0			20.000	20.021	13.957	14.000
MSM-1517-10	15.0	17.0	10.0	15.050	15.160	17.000	17.018	14.957	15.000
MSM-1517-15	15.0	17.0	15.0			17.000	17.018	14.957	15.000
MSM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
MSM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
MSM-1521-10	15.0	21.0	10.0			21.000	21.021	14.957	15.000
MSM-1521-15	15.0	21.0	15.0			21.000	21.021	14.957	15.000
MSM-1521-20	15.0	21.0	20.0			21.000	21.021	14.957	15.000
MSM-1521-23	15.0	21.0	23.0			21.000	21.021	14.957	15.000
MSM-1618-12	16.0	18.0	12.0	16.050	16.160	18.000	18.018	15.957	16.000
MSM-1618-15	16.0	18.0	15.0			18.000	18.018	15.957	16.000
MSM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
MSM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
MSM-1620-20	16.0	20.0	20.0			20.000	20.021	15.957	16.000
MSM-1620-25	16.0	20.0	25.0			20.000	20.021	15.957	16.000
MSM-1620-30	16.0	20.0	30.0			20.000	20.021	15.957	16.000
MSM-1621-07	16.0	21.0	7.0			21.000	21.021	15.957	16.000
MSM-1622-12	16.0	22.0	12.0			22.000	22.021	15.957	16.000
MSM-1622-15	16.0	22.0	15.0			22.000	22.021	15.957	16.000
MSM-1622-16	16.0	22.0	16.0			22.000	22.021	15.957	16.000
MSM-1622-20	16.0	22.0	20.0			22.000	22.021	15.957	16.000
MSM-1622-25	16.0	22.0	25.0			22.000	22.021	15.957	16.000
MSM-1820-15	18.0	20.0	15.0	18.050	18.160	20.000	20.021	17.957	18.000
MSM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
MSM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
MSM-1824-12	18.0	24.0	12.0			24.000	24.021	17.957	18.000
MSM-1824-20	18.0	24.0	20.0			24.000	24.021	17.957	18.000
MSM-1824-30	18.0	24.0	30.0			24.000	24.021	17.957	18.000
MSM-1824-40	18.0	24.0	40.0			24.000	24.021	17.957	18.000
MSM-2023-10	20.0	23.0	10.0	20.065	20.195	23.000	23.021	19.948	20.000
MSM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
MSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
MSM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
MSM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
MSM-2025-14	20.0	25.0	14.0			25.000	25.021	19.948	20.000
MSM-2025-20	20.0	25.0	20.0			25.000	25.021	19.948	20.000
MSM-2025-30	20.0	25.0	30.0			25.000	25.021	19.948	20.000
MSM-2026-12	20.0	26.0	12.0			26.000	26.021	19.948	20.000

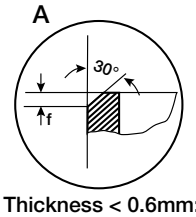
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
MSM-2026-15	20.0	26.0	15.0	20.065	20.195	26.000	26.021	19.948	20.000
MSM-2026-20	20.0	26.0	20.0			26.000	26.021	19.948	20.000
MSM-2026-30	20.0	26.0	30.0			26.000	26.021	19.948	20.000
MSM-2224-08	22.0	24.0	8.0	22.065	22.195	24.000	24.021	21.948	22.000
MSM-2225-15	22.0	25.0	15.0			25.000	25.021	21.948	22.000
MSM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
MSM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
MSM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
MSM-2226-15	22.0	26.0	15.0			26.000	26.021	21.948	22.000
MSM-2228-10	22.0	28.0	10.0			28.000	28.021	21.948	22.000
MSM-2228-15	22.0	28.0	15.0			28.000	28.021	21.948	22.000
MSM-2228-20	22.0	28.0	20.0			28.000	28.021	21.948	22.000
MSM-2228-30	22.0	28.0	30.0			28.000	28.021	21.948	22.000
MSM-2427-15	24.0	27.0	15.0	24.065	24.195	27.000	27.021	23.948	24.000
MSM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
MSM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
MSM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
MSM-2430-15	24.0	30.0	15.0			30.000	30.021	23.948	24.000
MSM-2430-20	24.0	30.0	20.0			30.000	30.021	23.948	24.000
MSM-2430-30	24.0	30.0	30.0			30.000	30.021	23.948	24.000
MSM-2528-12	25.0	28.0	12.0	25.065	25.195	28.000	28.021	24.948	25.000
MSM-2528-15	25.0	28.0	15.0			28.000	28.021	24.948	25.000
MSM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
MSM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
MSM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
MSM-2530-20	25.0	30.0	20.0			30.000	30.021	24.948	25.000
MSM-2530-30	25.0	30.0	30.0			30.000	30.021	24.948	25.000
MSM-2530-40	25.0	30.0	40.0			30.000	30.021	24.948	25.000
MSM-2532-10	25.0	32.0	10.0			32.000	32.025	24.948	25.000
MSM-2532-12	25.0	32.0	12.0			32.000	32.025	24.948	25.000
MSM-2532-20	25.0	32.0	20.0			32.000	32.025	24.948	25.000
MSM-2532-30	25.0	32.0	30.0			32.000	32.025	24.948	25.000
MSM-2532-35	25.0	32.0	35.0			32.000	32.025	24.948	25.000
MSM-2532-40	25.0	32.0	40.0			32.000	32.025	24.948	25.000
MSM-2630-20	26.0	30.0	20.0	26.065	26.195	30.000	30.021	25.948	26.000
MSM-2632-30	26.0	32.0	30.0			32.000	32.025	25.948	26.000
MSM-2734-20	27.0	34.0	20.0	27.065	27.195	34.000	34.025	26.948	27.000
MSM-2734-30	27.0	34.0	30.0			34.000	34.025	26.948	27.000
MSM-2734-40	27.0	34.0	40.0			34.000	34.025	26.948	27.000
MSM-2832-20	28.0	32.0	20.0	28.065	28.195	32.000	32.025	27.948	28.000
MSM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
MSM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
MSM-2833-20	28.0	33.0	20.0			33.000	33.025	27.948	28.000
MSM-2836-20	28.0	36.0	20.0			36.000	36.025	27.948	28.000
MSM-2836-30	28.0	36.0	30.0			36.000	36.025	27.948	28.000
MSM-2836-40	28.0	36.0	40.0			36.000	36.025	27.948	28.000
MSM-3034-20	30.0	34.0	20.0	30.065	30.195	34.000	34.025	29.948	30.000

Product range

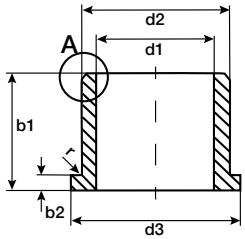
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
MSM-3034-25	30.0	34.0	25.0	30.065	30.195	34.000	34.025	29.948	30.000
MSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
MSM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
MSM-3035-20	30.0	35.0	20.0			35.000	35.025	29.948	30.000
MSM-3035-40	30.0	35.0	40.0			35.000	35.025	29.948	30.000
MSM-3038-03	30.0	38.0	3.0			38.000	38.025	29.948	30.000
MSM-3038-045	30.0	38.0	4.5			38.000	38.025	29.948	30.000
MSM-3038-17	30.0	38.0	17.0			38.000	38.025	29.948	30.000
MSM-3038-20	30.0	38.0	20.0			38.000	38.025	29.948	30.000
MSM-3038-30	30.0	38.0	30.0			38.000	38.025	29.948	30.000
MSM-3038-40	30.0	38.0	40.0			38.000	38.025	29.948	30.000
MSM-3040-40	30.0	40.0	40.0			40.000	40.025	29.948	30.000
MSM-3236-20	32.0	36.0	20.0	32.080	32.240	36.000	36.025	31.938	32.000
MSM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
MSM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
MSM-3240-20	32.0	40.0	20.0			40.000	40.025	31.938	32.000
MSM-3240-30	32.0	40.0	30.0			40.000	40.025	31.938	32.000
MSM-3240-40	32.0	40.0	40.0			40.000	40.025	31.938	32.000
MSM-3539-20	35.0	39.0	20.0	35.080	35.240	39.000	39.025	34.938	35.000
MSM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
MSM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
MSM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
MSM-3542-50	35.0	42.0	50.0			42.000	42.025	34.938	35.000
MSM-4044-20	40.0	44.0	20.0	40.080	40.240	44.000	44.025	39.938	40.000
MSM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
MSM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
MSM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
MSM-4046-20	40.0	46.0	20.0			46.000	46.025	39.938	40.000
MSM-4550-20	45.0	50.0	20.0	45.080	45.240	50.000	50.025	44.938	45.000
MSM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
MSM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
MSM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
MSM-5055-20	50.0	55.0	20.0	50.080	50.240	55.000	55.030	49.938	50.000
MSM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
MSM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
MSM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
MSM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
MSM-7580-60	75.0	80.0	60.0	75.100	75.290	80.000	80.030	74.926	75.000

Bearing technology | Plain bearing | iglide® M250

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 124**

Order key

Type			Dimensions		
M	F	M	-01	03	-02
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1[1]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
MFM-0103-02	1.0	3.0	5.0	2.0	1.00	1.020	1.080	3.000	3.010	0.975	1.000
MFM-0104-02	1.5	4.0	6.0	2.0	1.00	1.520	1.580	4.000	4.012	1.475	1.500
MFM-0205-03	2.0	5.0	8.0	3.0	1.50	2.020	2.080	5.000	5.012	1.975	2.000
MFM-0206-03	2.5	6.0	9.0	3.0	1.50	2.520	2.580	6.000	6.012	2.475	2.500
MFM-0306-04	3.0	6.0	9.0	4.0	1.50	3.020	3.080	6.000	6.012	2.975	3.000
MFM-0408-04	4.0	8.0	12.0	4.0	2.00			8.000	8.015	3.970	4.000
MFM-0408-06	4.0	8.0	12.0	6.0	2.00	4.030	4.105	8.000	8.015	3.970	4.000
MFM-0408-08	4.0	8.0	12.0	8.0	2.00			8.000	8.015	3.970	4.000
MFM-0509-05	5.0	9.0	13.0	5.0	2.00			9.000	9.015	4.970	5.000
MFM-0509-06	5.0	9.0	13.0	6.0	2.00	5.030	5.105	9.000	9.015	4.970	5.000
MFM-0509-08	5.0	9.0	13.0	8.0	2.00			9.000	9.015	4.970	5.000
MFM-0608-04	6.0	8.0	12.0	4.0	1.00			8.000	8.015	5.970	6.000
MFM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
MFM-0610-04	6.0	10.0	14.0	4.0	2.00			10.000	10.015	5.970	6.000
MFM-0610-06	6.0	10.0	14.0	6.0	2.00	6.030	6.105	10.000	10.015	5.970	6.000
MFM-0610-10	6.0	10.0	14.0	10.0	2.00			10.000	10.015	5.970	6.000
MFM-0611-04	6.0	11.0	14.0	4.0	2.00			11.000	11.018	5.970	6.000
MFM-0612-06	6.0	12.0	14.0	6.0	3.00			12.000	12.018	5.970	6.000
MFM-0612-10	6.0	12.0	14.0	10.0	3.00			12.000	12.018	5.970	6.000
MFM-0711-06	7.0	11.0	15.0	6.0	2.00	7.040	7.130	11.000	11.018	6.964	7.000
MFM-0711-08	7.0	11.0	15.0	8.0	2.00			11.000	11.018	6.964	7.000
MFM-0809-055	8.0	9.0	13.0	5.5	0.50			9.000	9.015	7.964	8.000
MFM-0810-05	8.0	10.0	15.0	5.5	1.00			10.000	10.015	7.964	8.000
MFM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
MFM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
MFM-0811-05	8.0	11.0	13.0	5.0	2.00			11.000	11.018	7.964	8.000
MFM-0811-08	8.0	11.0	13.0	8.0	2.00			11.000	11.018	7.964	8.000
MFM-0812-06	8.0	12.0	16.0	6.0	2.00	8.040	8.130	12.000	12.018	7.964	8.000
MFM-0812-08	8.0	12.0	16.0	8.0	2.00			12.000	12.018	7.964	8.000
MFM-0812-12	8.0	12.0	16.0	12.0	2.00			12.000	12.018	7.964	8.000
MFM-0814-06	8.0	14.0	18.0	6.0	3.00			14.000	14.018	7.964	8.000
MFM-081416-06	8.0	14.0	16.0	6.0	3.00			14.000	14.018	7.964	8.000
MFM-0814-10	8.0	14.0	18.0	10.0	3.00			14.000	14.018	7.964	8.000
MFM-081416-10	8.0	14.0	16.0	10.0	3.00			14.000	14.018	7.964	8.000

Product range

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
MFM-0914-06	9.0	14.0	19.0	6.0	2.00	9.040	9.130	14.000	14.018	8.964	9.000
MFM-0914-10	9.0	14.0	19.0	10.0	2.00			14.000	14.018	8.964	9.000
MFM-0914-14	9.0	14.0	19.0	14.0	2.00			14.000	14.018	8.964	9.000
MFM-1012-07	10.0	12.0	18.0	7.0	1.00	10.040	10.130	12.000	12.018	9.964	10.000
MFM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
MFM-1014-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
MFM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
MFM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
MFM-101419-08	10.0	14.0	19.0	8.0	2.00			14.000	14.018	9.964	10.000
MFM-1014-10	10.0	14.0	19.0	10.0	2.00			14.000	14.018	9.964	10.000
MFM-101419-12	10.0	14.0	19.0	12.0	1.50			14.000	14.018	9.964	10.000
MFM-101420-12	10.0	14.0	20.0	12.0	2.00			14.000	14.018	9.964	10.000
MFM-1014-14	10.0	14.0	17.5	14.0	1.00			14.000	14.018	9.964	10.000
MFM-1014-19	10.0	14.0	17.5	19.0	1.00			14.000	14.018	9.964	10.000
MFM-1014-24	10.0	14.0	17.5	24.0	1.00			14.000	14.018	9.964	10.000
MFM-1014-34	10.0	14.0	17.5	34.0	1.00			14.000	14.018	9.964	10.000
MFM-101620-06	10.0	16.0	20.0	6.0	3.00			16.000	16.018	9.964	10.000
MFM-1016-08	10.0	16.0	22.0	8.0	3.00			16.000	16.018	9.964	10.000
MFM-1016-10	10.0	16.0	22.0	10.0	3.00			16.000	16.018	9.964	10.000
MFM-101620-10	10.0	16.0	20.0	10.0	3.00			16.000	16.018	9.964	10.000
MFM-1016-16	10.0	16.0	22.0	16.0	3.00			16.000	16.018	9.964	10.000
MFM-1214-07	12.0	14.0	20.0	7.0	1.00	12.050	12.160	14.000	14.018	11.957	12.000
MFM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
MFM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
MFM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
MFM-1216-10	12.0	16.0	22.0	10.0	2.00			16.000	16.018	11.957	12.000
MFM-1216-20	12.0	16.0	22.0	20.0	2.00			16.000	16.018	11.957	12.000
MFM-1218-08	12.0	18.0	24.0	8.0	3.00			18.000	18.018	11.957	12.000
MFM-1218-10	12.0	18.0	22.0	10.0	3.00			18.000	18.018	11.957	12.000
MFM-1218-12	12.0	18.0	24.0	12.0	3.00			18.000	18.018	11.957	12.000
MFM-1218-15	12.0	18.0	22.0	15.0	3.00			18.000	18.018	11.957	12.000
MFM-1218-20	12.0	18.0	22.0	20.0	3.00			18.000	18.018	11.957	12.000
MFM-1315-14	13.0	15.0	20.0	14.0	2.00	13.050	13.160	15.000	15.018	12.957	13.000
MFM-131624-08	13.0	16.0	24.0	8.0	2.00			16.000	16.018	12.957	13.000
MFM-1416-12	14.0	16.0	22.0	12.0	1.00	14.050	14.160	16.000	16.018	13.957	14.000
MFM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
MFM-1420-07	14.0	20.0	25.0	7.0	3.00			20.000	20.021	13.957	14.000
MFM-1420-10	14.0	20.0	25.0	10.0	3.00			20.000	20.021	13.957	14.000
MFM-1420-15	14.0	20.0	25.0	15.0	3.00			20.000	20.021	13.957	14.000
MFM-1420-20	14.0	20.0	25.0	20.0	3.00			20.000	20.021	13.957	14.000

Bearing technology | Plain bearing | iglide® M250

Flange bearing (form F), metric

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
MFM-1517-09	15.0	17.0	23.0	9.0	1.00	15.050	15.160	17.000	17.018	14.957	15.000
MFM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
MFM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
MFM-1521-10	15.0	21.0	27.0	10.0	3.00			21.000	21.021	14.957	15.000
MFM-1521-15	15.0	21.0	27.0	15.0	3.00			21.000	21.021	14.957	15.000
MFM-1521-20	15.0	21.0	27.0	20.0	3.00			21.000	21.021	14.957	15.000
MFM-1521-25	15.0	21.0	27.0	25.0	3.00			21.000	21.021	14.957	15.000
MFM-1618-08/02	16.0	18.0	28.0	8.0	2.00	16.050	16.160	18.000	18.018	15.957	16.000
MFM-1618-12	16.0	18.0	24.0	12.0	1.00			18.000	18.018	15.957	16.000
MFM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
MFM-1622-12	16.0	22.0	28.0	12.0	3.00			22.000	22.021	15.957	16.000
MFM-1622-15	16.0	22.0	28.0	15.0	3.00			22.000	22.021	15.957	16.000
MFM-1622-20	16.0	22.0	28.0	20.0	3.00			22.000	22.021	15.957	16.000
MFM-1622-25	16.0	22.0	28.0	25.0	3.00			22.000	22.021	15.957	16.000
MFM-1820-12	18.0	20.0	26.0	12.0	1.00	18.050	18.160	20.000	20.021	17.957	18.000
MFM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
MFM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
MFM-182426-078	18.0	24.0	26.0	7.8	3.00			24.000	24.021	17.957	18.000
MFM-1824-08	18.0	24.0	30.0	8.0	3.00			24.000	24.021	17.957	18.000
MFM-1824-12	18.0	24.0	30.0	12.0	3.00			24.000	24.021	17.957	18.000
MFM-1824-18	18.0	24.0	30.0	18.0	3.00			24.000	24.021	17.957	18.000
MFM-1824-20	18.0	24.0	30.0	20.0	3.00			24.000	24.021	17.957	18.000
MFM-1824-30	18.0	24.0	30.0	30.0	3.00			24.000	24.021	17.957	18.000
MFM-192427-12	19.0	24.0	27.0	12.0	2.00	19.065	19.195	24.000	24.021	18.948	19.000
MFM-2023-11	20.0	23.0	30.0	11.5	1.50	20.065	20.195	23.000	23.021	19.948	20.000
MFM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
MFM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
MFM-202628-12	20.0	26.0	28.0	12.0	3.00			26.000	26.021	19.948	20.000
MFM-2026-15	20.0	26.0	32.0	15.0	3.00			26.000	26.021	19.948	20.000
MFM-2026-20	20.0	26.0	32.0	20.0	3.00			26.000	26.021	19.948	20.000
MFM-2026-30	20.0	26.0	32.0	30.0	3.00			26.000	26.021	19.948	20.000
MFM-2228-15	22.0	28.0	34.0	15.0	3.00	22.065	22.195	28.000	28.021	21.948	22.000
MFM-2228-20	22.0	28.0	34.0	20.0	3.00			28.000	28.021	21.948	22.000
MFM-2228-30	22.0	28.0	34.0	30.0	3.00			28.000	28.021	21.948	22.000
MFM-2430-15	24.0	30.0	36.0	15.0	3.00	24.065	24.195	30.000	30.021	23.948	24.000
MFM-2430-20	24.0	30.0	36.0	20.0	3.00			30.000	30.021	23.948	24.000
MFM-2430-30	24.0	30.0	36.0	30.0	3.00			30.000	30.021	23.948	24.000
MFM-2528-11	25.0	28.0	35.0	11.5	1.50	25.065	25.195	28.000	28.021	24.948	25.000
MFM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
MFM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
MFM-2532-12	25.0	32.0	38.0	12.0	4.00			32.000	32.025	24.948	25.000
MFM-2532-15	25.0	32.0	38.0	15.0	4.00			32.000	32.025	24.948	25.000
MFM-2532-20	25.0	32.0	38.0	20.0	4.00			32.000	32.025	24.948	25.000
MFM-2532-30	25.0	32.0	38.0	30.0	4.00			32.000	32.025	24.948	25.000
MFM-2532-40	25.0	32.0	38.0	40.0	4.00			32.000	32.025	24.948	25.000

Product range

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
MFM-2734-20	27.0	34.0	40.0	20.0	4.00	27.065	27.195	34.000	34.025	26.948	27.000
MFM-2734-30	27.0	34.0	40.0	30.0	4.00			34.000	34.025	26.948	27.000
MFM-2734-40	27.0	34.0	40.0	40.0	4.00			34.000	34.025	26.948	27.000
MFM-2836-20	28.0	36.0	42.0	20.0	4.00	28.065	28.195	36.000	36.025	27.948	28.000
MFM-2836-30	28.0	36.0	42.0	30.0	4.00			36.000	36.025	27.948	28.000
MFM-2836-40	28.0	36.0	42.0	40.0	4.00			36.000	36.025	27.948	28.000
MFM-3034-16	30.0	34.0	42.0	16.0	2.00	30.065	30.195	34.000	34.025	29.948	30.000
MFM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
MFM-3035-20	30.0	35.0	44.0	20.0	4.00			35.000	35.025	29.948	30.000
MFM-3038-20	30.0	38.0	44.0	20.0	4.00	30.065	30.195	38.000	38.025	29.948	30.000
MFM-3038-30	30.0	38.0	44.0	30.0	4.00			38.000	38.025	29.948	30.000
MFM-3038-40	30.0	38.0	44.0	40.0	4.00			38.000	38.025	29.948	30.000
MFM-3240-20	32.0	40.0	46.0	20.0	4.00	32.080	32.240	40.000	40.025	31.938	32.000
MFM-3240-30	32.0	40.0	46.0	30.0	4.00			40.000	40.025	31.938	32.000
MFM-3240-40	32.0	40.0	46.0	40.0	4.00			40.000	40.025	31.938	32.000
MFM-3539-16	35.0	39.0	47.0	16.0	2.00	35.080	35.240	39.000	39.025	34.938	35.000
MFM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
MFM-4044-30	40.0	44.0	52.0	30.0	2.00	40.080	40.240	44.000	44.025	39.938	40.000
MFM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
MFM-4550-50	45.0	50.0	58.0	50.0	2.00	45.080	45.240	50.000	50.025	44.938	45.000

Notes

Specialist for oscillating, rolling applications and more

Low coefficient of friction and wear on almost every shaft

iglide® P210

When to use it?

- When a universal plain bearing for use in a moist environment is required
- When a wear-resistant plain bearing for oscillating applications at medium loads is required
- When edge loads and shocks occur
- When the surface pressure of iglide® J is insufficient

When not to use?

- When a universal plain bearing with the largest possible range of dimensions is required
  iglide® G
- When a plain bearing for highly loaded pivoting applications is required
  iglide® Q, iglide® Q2
- When temperatures are higher than +212°F
  iglide® G, iglide® J350

Ø
4.0 – 50mm
1/8 - 2 1/4 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Specialist for oscillating, rolling applications and more

Low coefficient of friction and wear on almost every shaft

This versatile material has already proven its worth in many customer-specific solutions and as a bar stock material. Clip-on or preloaded designs as well as vehicle interior applications are possible. Now available in a standard size range from stock.

- Low moisture absorption
- Versatile: performance on many different shafts
- Suitable for high edge pressures
- Self-lubricating
- Maintenance-free

Typical application areas

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

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications

Wear resistance at +73°F	–	+
Wear resistance at +194°F	–	+
Wear resistance at +302°F	–	+
Low coefficient of friction	–	+
Low moisture absorption	–	+
Wear resistance under water	–	+
High media resistance	–	+
Resistant to edge pressures	–	+
Suitable for shock and impact loads	–	+
Resistant to dirt	–	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

General properties			Testing method
Density	g/cm³	1.40	
Color		yellow	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	0.5	
Coefficient of friction, dynamic, against steel	µ	0.07 – 0.19	
pv value, max. (dry)	psi · fpm	11,500	
Mechanical properties			
Flexural modulus	psi	362,594	DIN 53457
Flexural strength at +68°F	psi	10,153	DIN 53452
Compressive strength	psi	7,252	
Max. recommended surface pressure (+68°F)	psi	7,252	
Shore D hardness		75	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+212	
Max. application temperature short-term	°F	+320	
Min. application temperature	°F	–40	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	8	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

Table 01: Material properties

–40°F up to +266°F

7,252psi

HB

RoHS

ISO 3547-1

iglide® P210 plain bearings provide the user with versatile all-round bearings, which have proven to have above average service life, primarily in pivoting applications at medium loads of up to 2,901psi.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® P210 plain bearings is approximately 0.3% weight. The saturation limit in water is 0.5% weight. This low moisture absorption is well below the values of iglide® G.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® P210 have limited use under radioactive radiation. They are resistant to radiation up to an intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® P210 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® P210 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 iglide® P210 at radial loads. At the maximum recommended surface pressure of 7,252psi at room temperature the deformation is less than 3%.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Plain bearings made from iglide® P210 are maintenance-free, they are developed for low to medium surface speeds. The maximum values given in table 03 can only be achieved at a very low surface pressure. The maximum speed given is the speed at which an increase up to the continuous use temperature occurs due to friction.

▶ Surface speed, **Page 44**

Temperature

Due to its maximum long-term application temperature of +212°F, iglide® P210 is suitable for a wide range of applications. If even higher temperatures are required, iglide® G is also available with a max. long-term application temperature of +266°F. The temperatures prevailing in the bearing system also have an influence on the wear. The wear rises with increasing temperatures. For temperatures over +122°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® P210 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® P210. For rotational movements at radial loads below 145psi, iglide® P210 has generally very low wear. Wear is only significantly higher in combination with HR carbon steel shafts. Generally, rotational wear will be higher than for a pivoting application of equal load. This is only reversed at loads above 3,626psi (diagram 07).

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	591
short-term	**fpm**	394	276	787

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.07 - 0.19	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

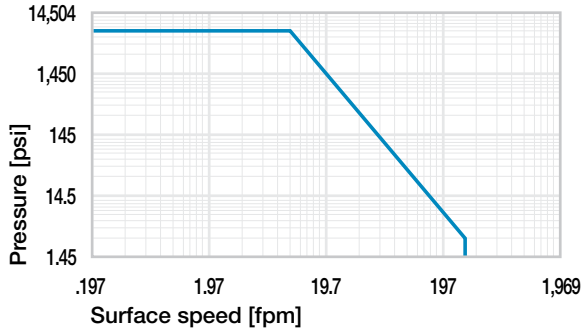


Diagram 01: Permissible pv values for iglide® P210 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

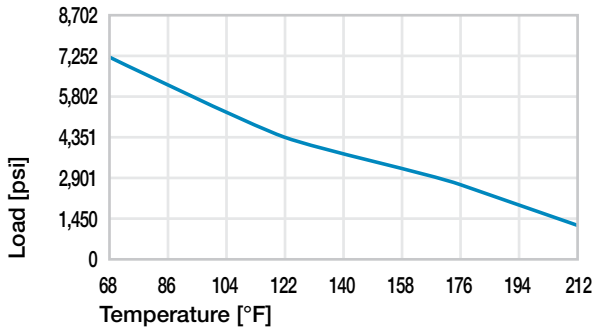


Diagram 02: Maximum recommended surface pressure as a function of temperature (7,252psi at +68°F)

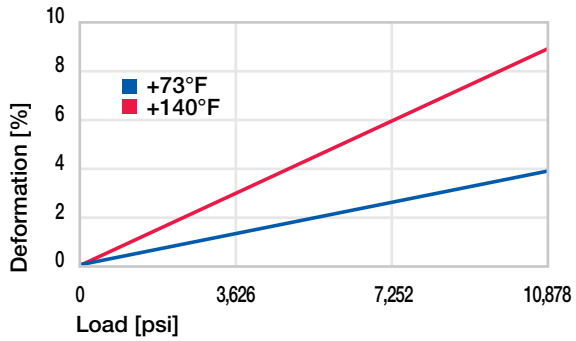


Diagram 03: Deformation under pressure and temperature

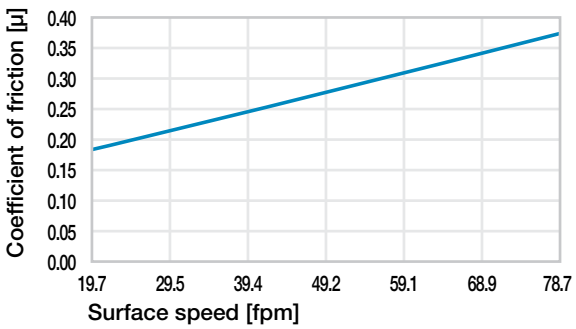


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

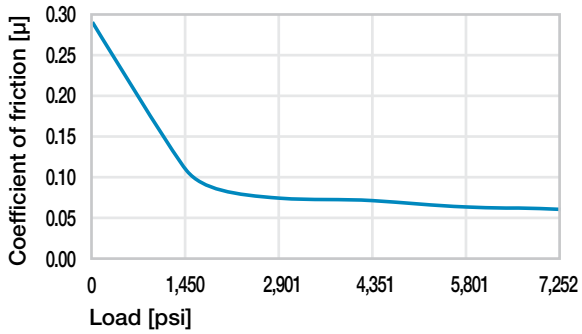


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

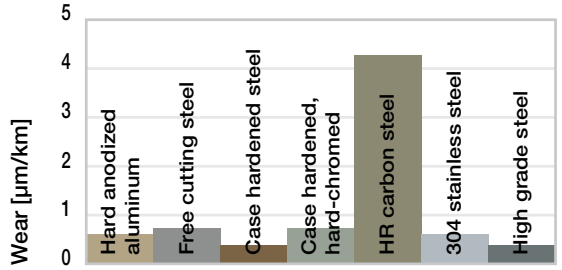


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

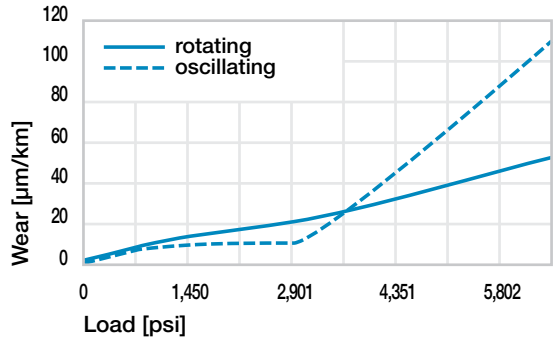
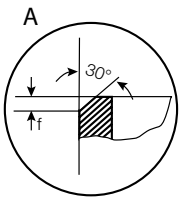


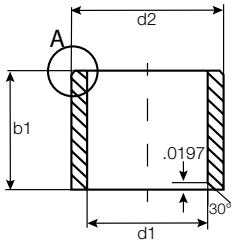
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® P210

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 146**

Order key

Type			Dimensions		
P210	S	I	-04	05	-04
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

*Based on steel housing bore

Chamfer in relation to d1

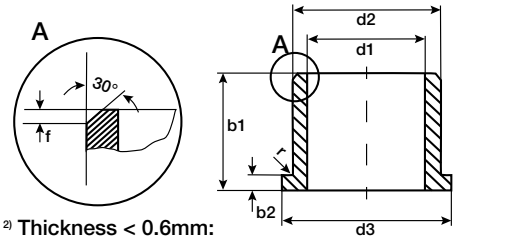
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
P210SI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
P210SI-0304-04	3/16	1/4	1/4	.1873	.1892	.2497	.2503	.1858	.1865
P210SI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
P210SI-0405-06	1/4	5/16	3/8	.2498	.2521	.3122	.3128	.2481	.2490
P210SI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
P210SI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
P210SI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
P210SI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
P210SI-0607-04	3/8	15/32	1/4	.3750	.3773	.4684	.4691	.3731	.3740
P210SI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
P210SI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
P210SI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
P210SI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
P210SI-0708-08	7/16	17/32	1/2	.4379	.4406	.5309	.5316	.4355	.4365
P210SI-0708-12	7/16	17/32	3/7			.5309	.5316	.4355	.4365
P210SI-0809-04	1/2	19/32	1/4	.5003	.5030	.5934	.5941	.4980	.4990
P210SI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
P210SI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
P210SI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
P210SI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
P210SI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
P210SI-0910-08	9/16	21/32	1/2	.5627	.5655	.6559	.6566	.5605	.5615
P210SI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
P210SI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
P210SI-1011-08	5/8	23/32	1/2	.6253	.6280	.7184	.7192	.6230	.6240
P210SI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
P210SI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
P210SI-1214-08	3/4	7/8	1/2	.7505	.7541	.8747	.8755	.7479	.7491
P210SI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
P210SI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
P210SI-1416-08	7/8	1	1/2	.8757	.8791	.9997	1.0050	.8729	.8741
P210SI-1416-12	7/8	1	3/4			.9997	1.0050	.8729	.8741
P210SI-1416-16	7/8	1	1			.9997	1.0050	.8729	.8741
P210SI-1618-08	1	1 1/8	1/2	1.0007	1.0041	1.1247	1.1255	.9979	.9991

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
P210SI-1618-12	1	1 1/8	3/4	1.0007	1.0041	1.1247	1.1255	.9979	.9991
P210SI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
P210SI-1820-12	1 1/8	1 9/32	3/4	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
P210SI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
P210SI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
P210SI-2022-12	1 1/4	1 13/32	3/4	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
P210SI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
P210SI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
P210SI-2426-16	1 1/2	1 21/32	1	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
P210SI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
P210SI-2629-16	1 5/8	1 25/32	1	1.6258	1.6297	1.7808	1.7818	1.6222	1.6238
P210SI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
P210SI-2831-16	1 3/4	1 15/16	1	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
P210SI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
P210SI-3033-16	1 7/8	2 1/16	1	1.8757	1.8796	2.0621	2.0633	1.8721	1.8737
P210SI-3033-32	1 7/8	2 1/16	2			2.0621	2.0633	1.8721	1.8737
P210SI-3235-16	2	2 3/16	1	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
P210SI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981
P210SI-3640-16	2 1/4	2 1/2	1	2.2524	2.2571	2.5000	2.5012	2.2471	2.2500

Bearing technology | Plain bearing | iglide® P210

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 146**

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

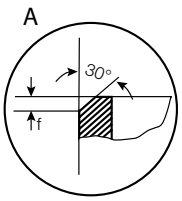
Order key

Type			Dimensions		
P210	F	I	-06	08	-04
iglide® material	Form F (flange)	Inch	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

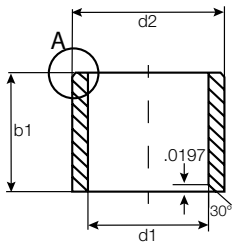
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
P210FI-0203-03	1/8	3/16	3/16	.312	.0320	.1251	.1269	.1873	.1878	.1236	.1243
P210FI-0304-04	3/16	1/4	1/4	.375	.0320	.1873	.1892	.2497	.2503	.1858	.1865
P210FI-0405-06	1/4	5/16	3/8	.430	.0320	.2498	.2521	.3122	.3128	.2481	.2490
P210FI-0405-08	1/4	5/16	1/2	.500	.0320			.3122	.3128	.2481	.2490
P210FI-0506-04	5/16	3/8	1/4	.500	.0320	.3125	.3148	.3747	.3753	.3106	.3115
P210FI-0506-06	5/16	3/8	3/8	.500	.0320			.3747	.3753	.3106	.3115
P210FI-0506-08	5/16	3/8	1/2	.500	.0320			.3747	.3753	.3106	.3115
P210FI-0607-04	3/8	15/32	1/4	.687	.0460	.3750	.3773	.4684	.4691	.3731	.3740
P210FI-0607-06	3/8	15/32	3/8	.687	.0460			.4684	.4691	.3731	.3740
P210FI-0607-08	3/8	15/32	1/2	.687	.0460			.4684	.4691	.3731	.3740
P210FI-0607-12	3/8	15/32	3/4	.687	.0460			.4684	.4691	.3731	.3740
P210FI-0708-08	7/16	17/32	1/2	.750	.0460	.4379	.4406	.5309	.5316	.4355	.4365
P210FI-0809-04	1/2	19/32	1/4	.875	.0460	.5003	.5030	.5934	.5941	.4980	.4990
P210FI-0809-06	1/2	19/32	3/8	.875	.0460			.5934	.5941	.4980	.4990
P210FI-0809-08	1/2	19/32	1/2	.875	.0460			.5934	.5941	.4980	.4990
P210FI-0809-12	1/2	19/32	3/4	.875	.0460			.5934	.5941	.4980	.4990
P210FI-0809-16	1/2	19/32	1	.875	.0460			.5934	.5941	.4980	.4990
P210FI-1011-08	5/8	23/32	1/2	.937	.0460	.6253	.6280	.7184	.7192	.6230	.6240
P210FI-1011-12	5/8	23/32	3/4	.937	.0460			.7184	.7192	.6230	.6240
P210FI-1011-16	5/8	23/32	1	.937	.0460			.7184	.7192	.6230	.6240
P210FI-1214-08	3/4	7/8	1/2	1.125	.0620	.7505	.7541	.8747	.8755	.7479	.7491
P210FI-1214-12	3/4	7/8	3/4	1.125	.0620			.8747	.8755	.7479	.7491
P210FI-1214-16	3/4	7/8	1	1.125	.0620			.8747	.8755	.7479	.7491
P210FI-1416-08	7/8	1	1/2	1.250	.0620	.8757	.8791	.9997	1.0005	.8729	.8741
P210FI-1416-12	7/8	1	3/4	1.250	.0620			.9997	1.0005	.8729	.8741
P210FI-1416-16	7/8	1	1	1.250	.0620			.9997	1.0005	.8729	.8741
P210FI-1618-08	1	1 1/8	1/2	1.375	.0620	1.0007	1.0041	1.1247	1.1255	.9979	.9991
P210FI-1618-12	1	1 1/8	3/4	1.375	.0620			1.1247	1.1255	.9979	.9991
P210FI-1618-16	1	1 1/8	1	1.375	.0620			1.1247	1.1255	.9979	.9991
P210FI-2022-16	1 1/4	1 13/32	1	1.687	.0780	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
P210FI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.0780			1.4058	1.4068	1.2472	1.2488
P210FI-2426-16	1 1/2	1 21/32	1	2.000	.0780	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
P210FI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.0780			1.6558	1.6568	1.4972	1.4988
P210FI-2831-32	1 3/4	1 15/16	2	2.375	.0930	1.7507	1.7547	1.9381	1.9371	1.7471	1.7487
P210FI-3235-32	2	2 3/16	2	2.625	.0930	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® P210

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, page 146

Order key

Type			Dimensions		
P210	S	M	-04	05	-04
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
P210SM-0405-04	4.0	5.5	4.0	4.020	4.068	5.500	5.512	3.970	4.000
P210SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
P210SM-0507-05	5.0	7.0	5.0	5.020	5.068	7.000	7.015	4.970	5.000
P210SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
P210SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
P210SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
P210SM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
P210SM-0810-08	8.0	10.0	8.0	8.025	8.083	10.000	10.015	7.964	8.000
P210SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
P210SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
P210SM-1012-08	10.0	12.0	8.0	10.025	10.083	12.000	12.018	9.964	10.000
P210SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
P210SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
P210SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
P210SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
P210SM-1214-04	12.0	14.0	4.0	12.032	12.102	14.000	14.018	11.957	12.000
P210SM-1214-10	12.0	14.0	10.0			14.000	14.018	11.957	12.000
P210SM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
P210SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
P210SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
P210SM-1315-10	13.0	15.0	10.0	13.032	13.102	15.000	15.018	12.957	13.000
P210SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
P210SM-1416-15	14.0	16.0	15.0	14.032	14.102	16.000	16.018	13.957	14.000
P210SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
P210SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
P210SM-1517-15	15.0	17.0	15.0	15.032	15.102	17.000	17.018	14.957	15.000
P210SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
P210SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
P210SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
P210SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
P210SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
P210SM-1820-15	18.0	20.0	15.0	18.032	18.102	20.000	20.021	17.957	18.000
P210SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
P210SM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000

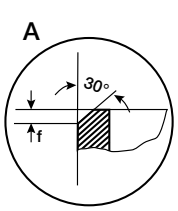
Bearing technology | Plain bearing | iglide® P210

Sleeve bearing (form S), metric

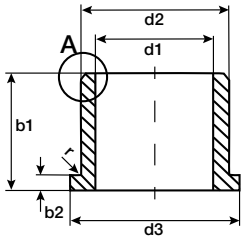
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
P210SM-2023-10	20.0	23.0	10.0	20.040	20.124	23.000	23.021	19.948	20.000
P210SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
P210SM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
P210SM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
P210SM-2023-30	20.0	23.0	30.0	20.040	20.124	23.000	23.021	19.948	20.000
P210SM-2225-15	22.0	25.0	15.0	22.040	22.124	25.000	25.021	21.948	22.000
P210SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
P210SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
P210SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
P210SM-2427-15	24.0	27.0	15.0	24.040	24.124	27.000	27.021	23.948	24.000
P210SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
P210SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
P210SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
P210SM-2528-15	25.0	28.0	15.0	25.040	25.124	28.000	28.021	24.948	25.000
P210SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
P210SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
P210SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
P210SM-2832-20	28.0	32.0	20.0	28.040	28.124	32.000	32.025	27.948	28.000
P210SM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
P210SM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
P210SM-3034-20	30.0	34.0	20.0	30.040	30.124	34.000	34.025	29.948	30.000
P210SM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
P210SM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
P210SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
P210SM-3236-20	32.0	36.0	20.0	32.050	32.150	36.000	36.025	31.938	32.000
P210SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
P210SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
P210SM-3539-20	35.0	39.0	20.0	35.050	35.150	39.000	39.025	34.938	35.000
P210SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
P210SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
P210SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
P210SM-4044-20	40.0	44.0	20.0	40.050	40.150	44.000	44.025	39.938	40.000
P210SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
P210SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
P210SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
P210SM-4550-20	45.0	50.0	20.0	45.050	45.150	50.000	50.025	44.938	45.000
P210SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
P210SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
P210SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
P210SM-5055-20	50.0	55.0	20.0	50.050	50.150	55.000	55.030	49.938	50.000
P210SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
P210SM-5055-40	50.0	55.0	40.0	50.050	50.150	55.000	55.030	49.938	50.000
P210SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
P210SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000

Bearing technology | Plain bearing | iglide® P210

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 146**

Order key

Type			Dimensions		
P210	F	M	-06	08	-04
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

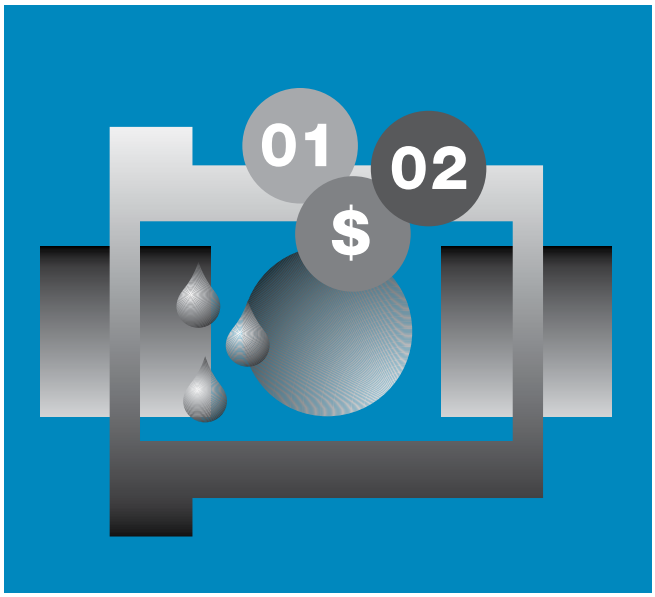
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Part Number	d1[1]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
P210FM-0405-06	4.0	5.5	9.5	6.0	0.8	4.020	4.068	5.500	5.512	3.970	4.000
P210FM-0608-04	6.0	8.0	12.0	4.0	1.0	6.020	6.068	8.000	8.015	5.970	6.000
P210FM-0608-06	6.0	8.0	12.0	6.0	1.0			8.000	8.015	5.970	6.000
P210FM-0608-08	6.0	8.0	12.0	8.0	1.0			8.000	8.015	5.970	6.000
P210FM-0810-05	8.0	10.0	15.0	5.5	1.0	8.025	8.083	10.000	10.015	7.964	8.000
P210FM-0810-07	8.0	10.0	15.0	7.5	1.0			10.000	10.015	7.964	8.000
P210FM-0810-09	8.0	10.0	15.0	9.5	1.0			10.000	10.015	7.964	8.000
P210FM-0810-10	8.0	10.0	15.0	10.0	1.0			10.000	10.015	7.964	8.000
P210FM-081016-15	8.0	10.0	16.0	15.0	1.5			10.000	10.015	7.964	8.000
P210FM-1012-07	10.0	12.0	18.0	7.0	1.0	10.025	10.083	12.000	12.018	9.964	10.000
P210FM-1012-09	10.0	12.0	18.0	9.0	1.0			12.000	12.018	9.964	10.000
P210FM-1012-10	10.0	12.0	18.0	10.0	1.0			12.000	12.018	9.964	10.000
P210FM-1012-12	10.0	12.0	18.0	12.0	1.0			12.000	12.018	9.964	10.000
P210FM-1012-17	10.0	12.0	18.0	17.0	1.0			12.000	12.018	9.964	10.000
P210FM-1214-07	12.0	14.0	20.0	7.0	1.0	12.032	12.102	14.000	14.018	11.957	12.000
P210FM-1214-09	12.0	14.0	20.0	9.0	1.0			14.000	14.018	11.957	12.000
P210FM-1214-12	12.0	14.0	20.0	12.0	1.0			14.000	14.018	11.957	12.000
P210FM-1214-17	12.0	14.0	20.0	17.0	1.0			14.000	14.018	11.957	12.000
P210FM-1416-12	14.0	16.0	22.0	12.0	1.0	14.032	14.102	16.000	16.018	13.957	14.000
P210FM-1416-17	14.0	16.0	22.0	17.0	1.0			16.000	16.018	13.957	14.000
P210FM-1517-09	15.0	17.0	23.0	9.0	1.0	15.032	15.102	17.000	17.018	14.957	15.000
P210FM-1517-12	15.0	17.0	23.0	12.0	1.0			17.000	17.018	14.957	15.000
P210FM-1517-17	15.0	17.0	23.0	17.0	1.0			17.000	17.018	14.957	15.000
P210FM-1618-12	16.0	18.0	24.0	12.0	1.0	16.032	16.102	18.000	18.018	15.957	16.000
P210FM-1618-17	16.0	18.0	24.0	17.0	1.0			18.000	18.018	15.957	16.000
P210FM-1820-12	18.0	20.0	26.0	12.0	1.0	18.032	18.102	20.000	20.021	17.957	18.000
P210FM-1820-17	18.0	20.0	26.0	17.0	1.0			20.000	20.021	17.957	18.000
P210FM-1820-22	18.0	20.0	26.0	22.0	1.0			20.000	20.021	17.957	18.000
P210FM-2023-11	20.0	23.0	30.0	11.5	1.5	20.040	20.124	23.000	23.021	19.948	20.000
P210FM-2023-16	20.0	23.0	30.0	16.5	1.5			23.000	23.021	19.948	20.000
P210FM-2023-21	20.0	23.0	30.0	21.5	1.5			23.000	23.021	19.948	20.000
P210FM-2528-11	25.0	28.0	35.0	11.5	1.5	25.040	25.124	28.000	28.021	24.948	25.000
P210FM-2528-16	25.0	28.0	35.0	16.5	1.5			28.000	28.021	24.948	25.000
P210FM-2528-21	25.0	28.0	35.0	21.5	1.5			28.000	28.021	24.948	25.000

Bearing technology | Plain bearing | iglide® P210

Flange bearing (form F), metric

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
P210FM-3034-16	30.0	34.0	42.0	16.0	2.0	30.040	30.124	34.000	34.025	29.948	30.000
P210FM-3034-26	30.0	34.0	42.0	26.0	2.0			34.000	34.025	29.948	30.000
P210FM-3539-16	35.0	39.0	47.0	16.0	2.0	35.050	35.150	39.000	39.025	34.938	35.000
P210FM-3539-26	35.0	39.0	47.0	26.0	2.0			39.000	39.025	34.938	35.000
P210FM-4044-30	40.0	44.0	52.0	30.0	2.0	40.050	40.150	44.000	44.025	39.938	40.000
P210FM-4044-40	40.0	44.0	52.0	40.0	2.0			44.000	44.025	39.938	40.000
P210FM-4550-50	45.0	50.0	58.0	50.0	2.5	45.050	45.150	50.000	50.025	44.938	45.000
P210FM-5055-10	50.0	55.0	63.0	10.0	2.0	50.050	50.150	55.000	55.025	49.938	50.000
P210FM-5055-50	50.0	55.0	63.0	50.0	2.0			55.000	55.025	49.938	50.000



The low-cost all-rounder

Well-balanced properties at a low price

iglide® P230

When to use it?

- When a cost-effective all-round bearing for high volumes is required
- When a low-cost bearing with low moisture absorption is required
- When low pv values occur

When not to use?

- When a cost-effective all-rounder for small quantities is required
  iglide® G
- When high wear resistance is required
  iglide® G, iglide® G1
- When continuous operating temperatures are higher than +230°F
  iglide® G, iglide® G1

Ø
– Contact igus®

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The low-cost all-rounder

Well-balanced properties at a low price

Developed for (large-scale) series application, iglide® P230 has a well-balanced properties compared to other iglide® low-cost materials.

- Good wear resistance
- High media resistance
- Cost-effective
- For low and medium loads
- For applications with low pv values

Typical application areas

- Industrial series-production applications
- Machine building and jig construction
- Two-wheeler applications (eg: bicycles, motorcycles, etc.)

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.57	
Color		beige	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.3	
Coefficient of friction, dynamic, against steel	µ	0.13 – 0.32	
pv value, max. (dry)	psi · fpm	8,600	
Mechanical properties			
Flexural modulus	psi	947,387	DIN 53457
Flexural strength at +68°F	psi	25,092	
Compressive strength	psi	14,649	
Max. recommended surface pressure (+68°F)	psi	8,702	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+230	
Max. application temperature short-term	°F	+356	
Min. application temperature	°F	–22	
Thermal conductivity	W/m · K	0.34	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	5	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	$>10^{12}$	DIN IEC 93
Surface resistance	Ω	$>10^{12}$	DIN 53482

Table 01: Material properties

–22°F up to +230°F

8,702psi

HB

RoHS

ISO 3547-1

iglide® P230 is a material with low moisture absorption and excellent thermal properties for use in cost-sensitive serial-production applications. Good wear resistance at low pv values and low to medium speeds and loads round off the all-round profile.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® P230 plain bearings is approximately 0.1% weight. The saturation limit in water is 0.3% weight. This low moisture absorption is well below the values of iglide® M250 or iglide® G.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® P230 bearings.

Radiation resistance

Plain bearings made from iglide® P230 have limited use under radioactive radiation. They are resistant to radiation up to an intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® P230 plain bearings have not yet been tested for their resistance to weathering. Please consult igus® if you're planning to use them outdoors.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® P230 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 iglide® P230 at radial loads. At the maximum recommended surface pressure of 8,702psi at room temperature the deformation is less than 3%. A plastic deformation can be negligible up to this value. It is however also dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® P230 was developed for low to average surface speeds. During continuous operation, a maximum speed of 197fpm (rotating) or 591fpm (linear) is permissible. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

Due to its maximum long-term application temperature of +230°F, iglide® P230 is suitable for a wide range of applications. If even higher temperatures are required, iglide® G (+266°F) or the new standard iglide® G1 (+356°F) are available. The temperatures prevailing in the bearing system also have an influence on the wear. The wear rises with increasing temperatures. For temperatures over +212°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

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

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® P230 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, the inner diameter automatically adjusts to the E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® P230. For rotational movement with 145psi radial load, wear on all shafts is low, with the "soft" shaft types resulting in a higher coefficient of wear. The comparison of pivoting and rotational movements (diagram 07) shows fewer differences than with many other iglide® materials. The limitation of iglide® P230 to low to medium loads becomes clear.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	591
short-term	**fpm**	394	276	787

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.13 – 0.32	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

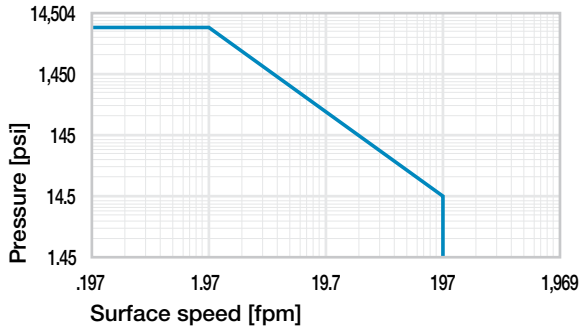


Diagram 01: Permissible pv values for iglide® P230 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

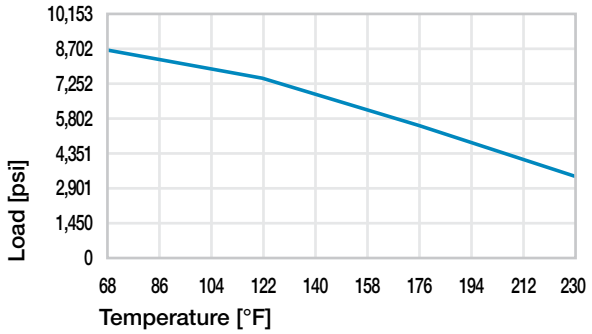


Diagram 02: Maximum recommended surface pressure as a function of temperature (8,702psi at +68°F)

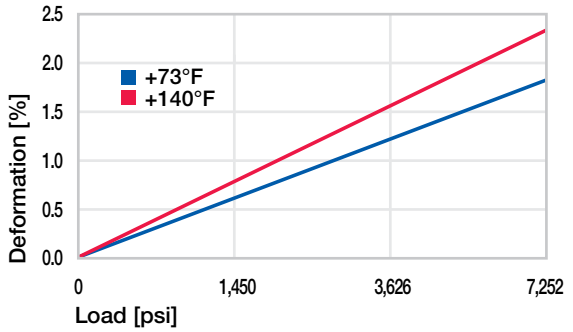


Diagram 03: Deformation under pressure and temperature

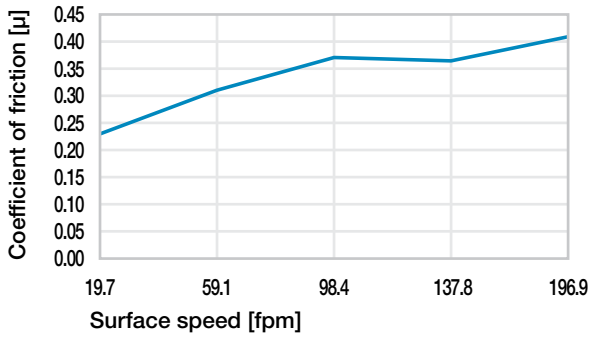


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

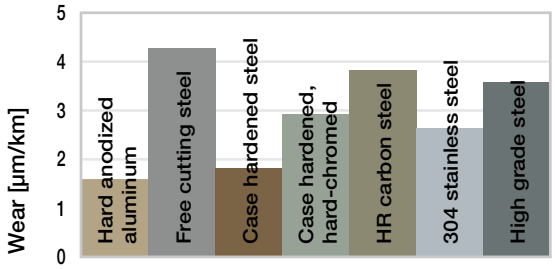


Diagram 05: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

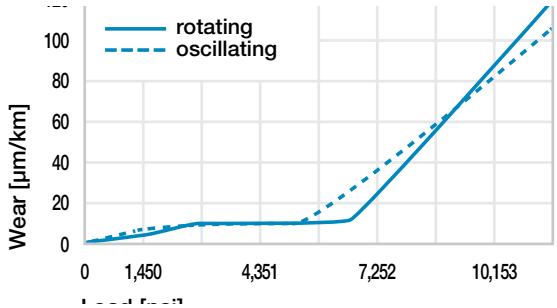
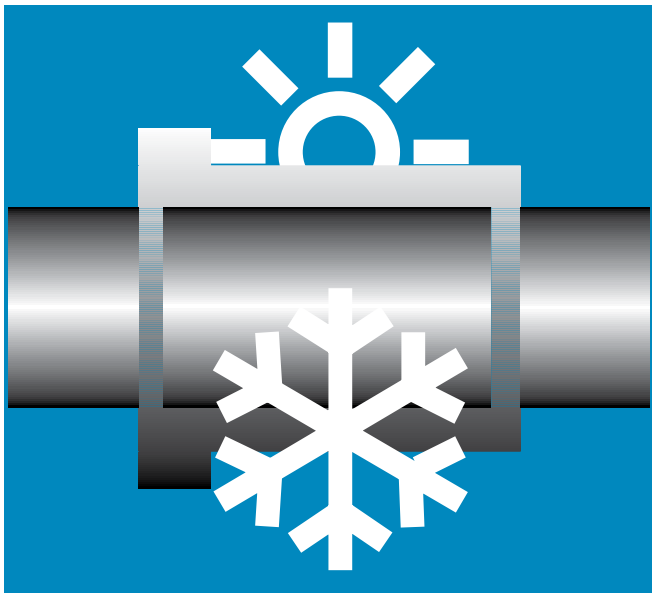


Diagram 06: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Notes



The cost-effective outdoor general purpose

No moisture absorption even with high ambient humidity

iglide® P

When to use it?

- When low moisture absorption is fundamental
- When a cost-effective plain bearing for high pressure loads is required
- When high precision in high humidity and moderately high temperatures are required

When not to use?

- When the maximum application temperature is above +248°F
  iglide® K
- When mechanical reaming of the bore is necessary
  iglide® M250
- When the highest wear resistance is required
  iglide® W300

Ø
3.0 – 95mm
1/8 - 2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The cost-effective outdoor general purpose

No moisture absorption even with high ambient humidity

Due to thermal stability and low water absorption, the iglide® P bearings are among the most dimensionally strong all-round bearings under varying environmental conditions. iglide® P plain bearings are recommended for pivoting and rotational movements at average loads.

- Low moisture absorption
- High wear resistance
- Suitable for high loads
- Cost-effective
- Self-lubricating
- Standard range from stock
- Maintenance-free

Typical application areas

- Solar technology
- Marine
- Doors and gates
- Railway technology
- Sports and leisure

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications		
Wear resistance at +73°F	–	+
Wear resistance at +194°F	–	+
Wear resistance at +302°F	–	+
Low coefficient of friction	–	+
Low moisture absorption	–	+
Wear resistance under water	–	+
High media resistance	–	+
Resistant to edge pressures	–	+
Suitable for shock and impact loads	–	+
Resistant to dirt	–	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.58	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	0.4	
Coefficient of friction, dynamic, against steel	µ	0.06 – 0.21	
pv value, max. (dry)	psi · fpm	11,100	
Mechanical properties			
Flexural modulus	psi	768,700	DIN 53457
Flexural strength at +68°F	psi	17,405	DIN 53452
Compressive strength	psi	9,572	
Max. recommended surface pressure (+68°F)	psi	7,252	
Shore D hardness		75	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+266	
Max. application temperature short-term	°F	+392	
Min. application temperature	°F	–40	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	4	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

Table 01: Material properties

–40°F up to +266°F

7,252psi

HB

RoHS

ISO 3547-1

The iglide® P plain bearings are a cost-effective, maintenance-free bearing solution for the user. Comparable to iglide® G, plain bearings made from iglide® P are suitable for use with rotational movements and average loads.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® P plain bearings is approximately 0.2% weight. The saturation limit in water is 0.4% weight. This low moisture absorption is well below the values of iglide® G.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® P have limited use under radioactive radiation. They are resistant to radiation up to an intensity of 5 · 10^2Gy.

Resistance to weathering

iglide® P plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® P 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 iglide® P at radial loads. At the maximum recommended surface pressure of 7,252psi the deformation is less than 4%.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Plain bearings made from iglide® P are maintenance-free, they are developed for low to medium surface speeds. The maximum values given in table 03 can only be achieved at a very low surface pressure. The maximum speed given is the speed at which an increase up to the continuous use temperature occurs due to friction.

▶ Surface speed, **Page 44**

Temperature

Even with its maximum long-term application temperature of +266°F, the values for iglide® P do not quite come up to those of iglide® G. The temperatures prevailing in the bearing system also have an influence on the wear. The wear rises with increasing temperatures. For temperatures over +194°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction declines just as the wear resistance with increasing load (diagrams 04 and 05). iglide® P plain bearings obtain a minimum coefficient of friction on shafts with a surface finish Ra from 0.1 – 0.2µm. Both smoother and rougher shaft surface finish cause the friction to clearly increase.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® P plain bearings are standard bearings for shafts with h tolerance (recommended minimum h9). The bearings are designed for press-fit into a steel housing machined to a H7 tolerance. After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® P. For rotational movements, the wear of iglide® P with case hardened steel and HR carbon steel shafts is very low. On the other hand, the bearings hard-chromed shafts result in higher wear than other shaft materials even in the low load range. For example at a load of 290psi, cold rolled steel is six times better than 304 stainless steel. For pivoting movement, hardened shafts and 304 stainless steel perform better than that of a softer unhardened carbon shafts.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	797	138	591
short-term	**fpm**	394	276	787

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.06 - 0.21	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

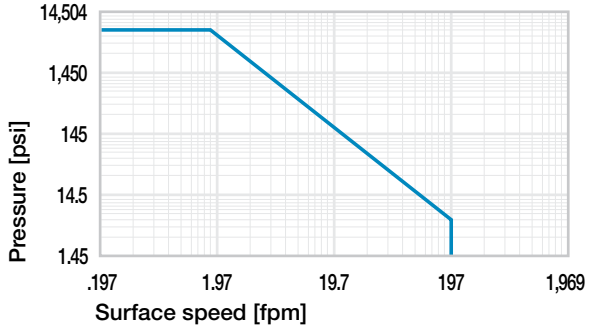


Diagram 01: Permissible pv values for iglide® P plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

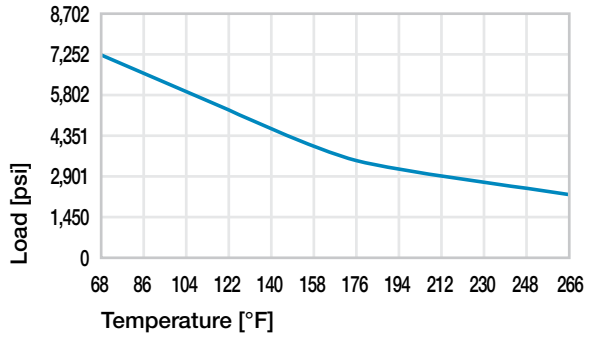


Diagram 02: Maximum recommended surface pressure as a function of temperature (7,252psi at +68°F)

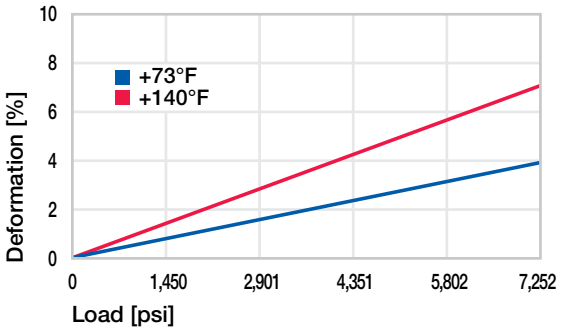


Diagram 03: Deformation under pressure and temperature

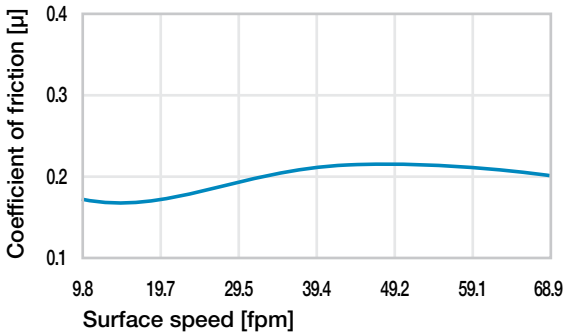


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

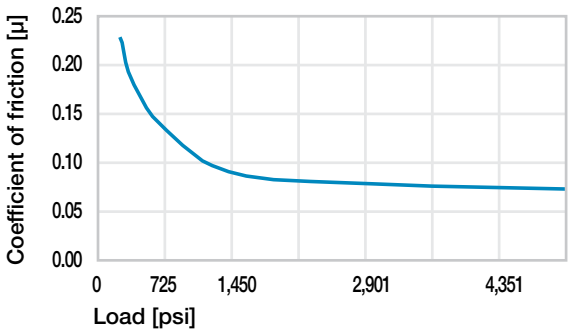


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

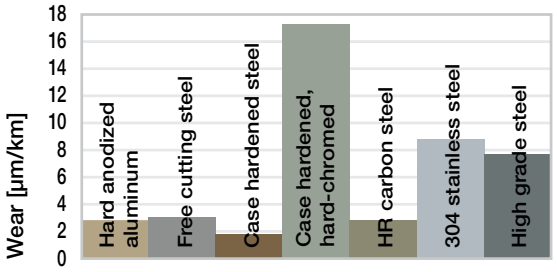


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

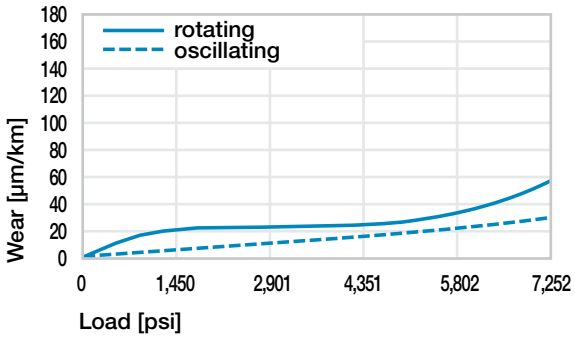
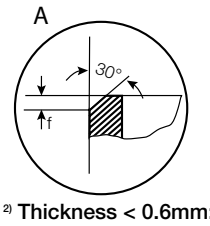
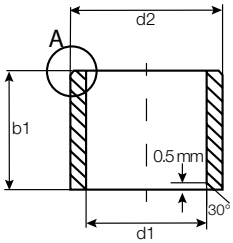


Diagram 07: Wear for oscillating and rotating applications with shaft material Cf53 hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® P

Sleeve bearing (form S), inch





[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 164**

Order key

Type			Dimensions		
P	S	I	-04	05	-04
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

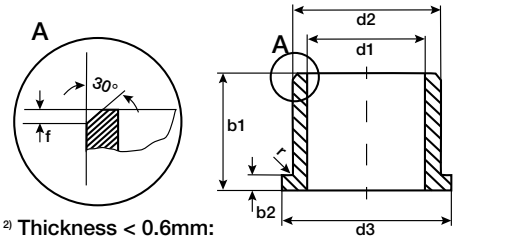
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
PSI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
PSI-0304-04	3/16	1/4	1/4	.1873	.1892	.2497	.2503	.1858	.1865
PSI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
PSI-0405-06	1/4	5/16	3/8	.2498	.2521	.3122	.3128	.2481	.2490
PSI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
PSI-0405-12	1/4	5/16	3/4			.3122	.3128	.2481	.2490
PSI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
PSI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
PSI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
PSI-0506-12	5/16	3/8	3/4			.3747	.3753	.3106	.3115
PSI-0607-04	3/8	15/32	1/4	.3750	.3773	.4684	.4691	.3731	.3740
PSI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
PSI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
PSI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
PSI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
PSI-0608-08	3/8	1/2	1/2	.3760	.3783	.5010	.5015	.3741	.3750
PSI-0708-08	7/16	17/32	1/2	.4379	.4406	.5309	.5316	.4355	.4365
PSI-0708-12	7/16	17/32	3/4			.5309	.5316	.4355	.4365
PSI-0809-04	1/2	19/32	1/4	.5003	.5030	.5934	.5941	.4980	.4990
PSI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
PSI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
PSI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
PSI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
PSI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
PSI-0910-08	9/16	21/32	1/2	.5627	.5655	.6559	.6566	.5605	.5615
PSI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
PSI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
PSI-1011-08	5/8	23/32	1/2	.6253	.6280	.7184	.7192	.6230	.6240
PSI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
PSI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
PSI-1214-06	3/4	7/8	3/8	.7507	.7541	.8747	.8755	.7479	.7491
PSI-1214-08	3/4	7/8	1/2			.8747	.8755	.7479	.7491
PSI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
PSI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
PSI-1416-08	7/8	1	1/2	.8757	.8791	.9997	1.0050	.8729	.8741
PSI-1416-12	7/8	1	3/4			.9997	1.0050	.8729	.8741
PSI-1416-16	7/8	1	1			.9997	1.0050	.8729	.8741
PSI-1618-08	1	1 1/8	1/2	1.0007	1.0041	1.1247	1.1255	.9979	.9991
PSI-1618-12	1	1 1/8	3/4			1.1247	1.1255	.9979	.9991
PSI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
PSI-1618-20	1	1 1/8	1 1/4			1.1247	1.1255	.9979	.9991
PSI-1618-24	1	1 1/8	1 1/2			1.1247	1.1255	.9979	.9991
PSI-1820-12	1 1/8	1 9/32	3/4	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
PSI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
PSI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
PSI-2022-12	1 1/4	1 13/32	3/4	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
PSI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
PSI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
PSI-2022-24	1 1/4	1 13/32	1 1/2			1.4058	1.4068	1.2472	1.2488
PSI-2224-20	1 3/8	1 17/32	1 1/4	1.3758	1.3798	1.5308	1.5318	1.3722	1.3738
PSI-2224-24	1 3/8	1 17/32	1 1/2			1.5308	1.5318	1.3722	1.3738
PSI-2426-16	1 1/2	1 21/32	1	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
PSI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
PSI-2629-16	1 5/8	1 25/32	1	1.6258	1.6297	1.7808	17818	1.6222	1.6238
PSI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	17818	1.6222	1.6238
PSI-2831-16	1 3/4	1 15/16	1	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
PSI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
PSI-3033-16	1 7/8	2 1/16	1	1.8757	1.8796	2.0621	2.0633	1.8721	1.8737
PSI-3033-32	1 7/8	2 1/16	2			2.0621	2.0633	1.8721	1.8737
PSI-3235-16	2	2 3/16	1	2.0011	2.0052	2.1871	2.1883	1.9969	1.9981
PSI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® P

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 164**

Order key

Type			Dimensions		
P	F	I	-04	05	-04
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

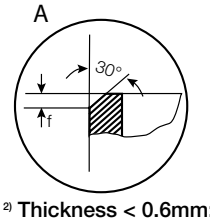
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
PFI-0203-03	1/8	3/16	3/16	.312	.032	.1251	.1269	.1873	.1878	.1236	.1243
PFI-0304-04	3/16	1/4	3/8	1/4	.032	.1873	.1892	.2497	.2503	.1858	.1865
PFI-0304-06	3/16	1/4	3/8	3/8	.032			.2497	.2503	.1858	.1865
PFI-0405-04	1/4	5/16	1/4	.500	.032			.3122	.3128	.2481	.2490
PFI-0405-05	1/4	5/16	5/16	.500	.032			.3122	.3128	.2481	.2490
PFI-0405-06	1/4	5/16	3/8	.500	.032	.2498	.2521	.3122	.3128	.2481	.2490
PFI-0405-08	1/4	5/16	1/2	.500	.032			.3122	.3128	.2481	.2490
PFI-0405-12	1/4	5/16	3/4	.500	.032			.3122	.3128	.2481	.2490
PFI-0506-04	5/16	3/8	1/4	.562	.032			.3747	.3753	.3106	.3115
PFI-0506-06	5/16	3/8	3/8	.562	.032			.3747	.3753	.3106	.3115
PFI-0506-08	5/16	3/8	1/2	.562	.032	.3125	.3148	.3747	.3753	.3106	.3115
PFI-0506-12	5/16	3/8	3/4	.562	.032			.3747	.3753	.3106	.3115
PFI-0607-04	3/8	15/32	1/4	.687	.046			.4684	.4691	.3731	.3740
PFI-0607-06	3/8	15/32	3/8	.687	.046			.4684	.4691	.3731	.3740
PFI-0607-08	3/8	15/32	1/2	.687	.046	.3750	.3773	.4684	.4691	.3731	.3740
PFI-0607-12	3/8	15/32	3/4	.687	.046			.4684	.4691	.3731	.3740
PFI-0708-08	7/16	17/32	3/4	.500	.046	.4379	.4406	.5309	.5316	.4355	.4365
PFI-0809-04	1/2	19/32	1/4	.875	.046			.5934	.5941	.4980	.4990
PFI-0809-06	1/2	19/32	3/8	.875	.046			.5934	.5941	.4980	.4990
PFI-0809-08	1/2	19/32	1/2	.875	.046			.5934	.5941	.4980	.4990
PFI-0809-10	1/2	19/32	5/8	.875	.046	.5003	.5030	.5934	.5941	.4980	.4990
PFI-0809-12	1/2	19/32	3/4	.875	.046			.5934	.5941	.4980	.4990
PFI-0809-16	1/2	19/32	1	.875	.046			.5934	.5941	.4980	.4990
PFI-0810-10	1/2	5/8	5/8	.875	.062	.5013	.5040	.6250	.6257	.4983	.5000
PFI-1011-06	5/8	23/32	3/8	.937	.046			.7184	.7192	.6230	.6240
PFI-1011-08	5/8	23/32	1/2	.937	.046			.7184	.7192	.6230	.6240
PFI-1011-12	5/8	23/32	3/4	.937	.046	.6253	.6280	.7184	.7192	.6230	.6240
PFI-1011-16	5/8	23/32	1	.937	.046			.7184	.7192	.6230	.6240
PFI-1214-08	3/4	7/8	1/2	1.125	.062			.8747	.8755	.7479	.7491
PFI-1214-12	3/4	7/8	3/4	1.125	.062	.7507	.7541	.8747	.8755	.7479	.7491
PFI-1214-16	3/4	7/8	1	1.125	.062			.8747	.8755	.7479	.7491
PFI-1416-08	7/8	1	1/2	1.250	.062			.9997	1.0005	.8729	.8741
PFI-1416-12	7/8	1	3/4	1.250	.062	.8757	.8791	.9997	1.0005	.8729	.8741
PFI-1416-16	7/8	1	1	1.250	.062			.9997	1.0005	.8729	.8741

Product range

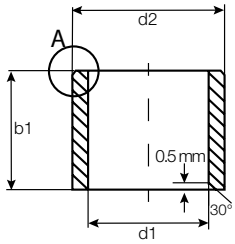
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
PFI-1618-08	1	1 1/8	1/2	1.375	.062	1.0007	1.0041	1.1247	1.1255	.9979	.9991
PFI-1618-12	1	1 1/8	3/4	1.375	.062			1.1247	1.1255	.9979	.9991
PFI-1618-16	1	1 1/8	1	1.375	.062			1.1247	1.1255	.9979	.9991
PFI-1618-24	1	1 1/8	1 1/2	1.375	.062			1.1247	1.1255	.9979	.9991
PFI-2022-16	1 1/4	1 13/32	1	1.687	.078	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
PFI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.078			1.4058	1.4068	1.2472	1.2488
PFI-2224-16	1 3/8	1 1/2	1	1.875	.078	1.3758	1.3798	1.5308	1.5318	1.3722	1.3738
PFI-2426-16	1 1/2	1 21/32	2	1.000	.078	1.5008	1.5408	1.6558	1.6568	1.4972	1.4988
PFI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.078			1.6558	1.6568	1.4972	1.4988
PFI-2831-32	1 3/4	1 15/16	2 3/8	2.000	.093	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
PFI-3235-32	2	2 3/16	2	2.625	.093	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® P

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 164**

Order key

Type			Dimensions		
P	S	M	- 04	05	- 04
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
PSM-0304-03	3.0	4.5	3.0	3.014	3.054	4.500	4.512	2.975	3.000
PSM-0304-05	3.0	4.5	5.0			4.500	4.512	2.975	3.000
PSM-0304-06	3.0	4.5	6.0			4.500	4.512	2.975	3.000
PSM-0405-04	4.0	5.5	4.0	4.020	4.068	5.500	5.512	3.970	4.000
PSM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
PSM-0507-05	5.0	7.0	5.0	5.020	5.068	7.000	7.015	4.970	5.000
PSM-0507-06	5.0	7.0	6.0			7.000	7.015	4.970	5.000
PSM-0507-08	5.0	7.0	8.0			7.000	7.015	4.970	5.000
PSM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
PSM-0608-05	6.0	8.0	5.0	6.020	6.068	8.000	8.012	5.970	6.000
PSM-0608-06	6.0	8.0	6.0			8.000	8.015	5.970	6.000
PSM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
PSM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
PSM-0810-06	8.0	10.0	6.0	8.025	8.083	10.000	10.015	7.964	8.000
PSM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
PSM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
PSM-0810-11	8.0	10.0	11.5			10.000	10.015	7.964	8.000
PSM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
PSM-0810-13	8.0	10.0	13.0			10.000	10.015	7.964	8.000
PSM-1012-05	10.0	12.0	5.0	10.025	10.083	12.000	12.018	9.964	10.000
PSM-1012-08	10.0	12.0	8.0			12.000	12.018	9.964	10.000
PSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
PSM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
PSM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
PSM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
PSM-1214-10	12.0	14.0	10.0	12.032	12.102	14.000	14.018	11.957	12.000
PSM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
PSM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
PSM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
PSM-1214-25	12.0	14.0	25.0			14.000	14.018	11.957	12.000
PSM-1215-06	12.0	15.0	6.0	12.032	12.102	15.000	15.018	11.957	12.000
PSM-1315-10	13.0	15.0	10.0	13.032	13.102	15.000	15.018	12.957	13.000
PSM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
PSM-1415-24	14.0	15.0	24.0	14.032	14.102	15.000	15.018	13.957	14.000
PSM-1416-10	14.0	16.0	10.0			16.000	16.018	13.957	14.000

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
PSM-1416-15	14.0	16.0	15.0	14.032	14.102	16.000	16.018	13.957	14.000
PSM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
PSM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
PSM-1517-15	15.0	17.0	15.0	15.032	15.102	17.000	17.018	14.957	15.000
PSM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
PSM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
PSM-1618-10	16.0	18.0	10.0	16.032	16.102	18.000	18.018	15.957	16.000
PSM-1618-12	16.0	18.0	12.0			18.000	18.018	15.957	16.000
PSM-1618-15	16.0	18.0	15.0			18.000	18.018	15.957	16.000
PSM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
PSM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
PSM-1618-42	16.0	18.0	42.0			18.000	18.018	15.957	16.000
PSM-1618-45	16.0	18.0	45.0			18.000	18.018	15.957	16.000
PSM-1820-15	18.0	20.0	15.0	18.032	18.102	20.000	20.021	17.957	18.000
PSM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
PSM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
PSM-1820-33	18.0	20.0	33.0			20.000	20.021	17.957	18.000
PSM-1823-35	18.0	23.0	35.0			23.000	23.021	17.957	18.000
PSM-2022-22	20.0	22.0	22.0	20.040	20.124	22.000	22.021	19.948	20.000
PSM-2022-30	20.0	22.0	30.0			22.000	22.021	19.948	20.000
PSM-2022-48	20.0	22.0	48.0			22.000	22.021	19.948	20.000
PSM-2022-51	20.0	22.0	51.0			22.000	22.021	19.948	20.000
PSM-2023-10	20.0	23.0	10.0			23.000	23.021	19.948	20.000
PSM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
PSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
PSM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
PSM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
PSM-2224-42	22.0	24.0	42.0	22.040	22.124	24.000	24.021	21.948	22.000
PSM-2224-45	22.0	24.0	45.0			24.000	24.021	21.948	22.000
PSM-2225-15	22.0	25.0	15.0			25.000	25.021	21.948	22.000
PSM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
PSM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
PSM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
PSM-2225-45	22.0	25.0	45.0			25.000	25.021	21.948	22.000
PSM-2325-37	23.0	25.0	37.0	23.040	23.124	25.000	25.021	22.948	23.000
PSM-2325-58	23.0	25.0	58.0			25.000	25.021	22.948	23.000
PSM-2325-68	23.0	25.0	68.0			25.000	25.021	22.948	23.000
PSM-2427-15	24.0	27.0	15.0	24.040	24.124	27.000	27.021	23.948	24.000
PSM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
PSM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
PSM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
PSM-2430-15	24.0	30.0	15.0			30.000	30.021	23.948	24.000
PSM-2528-15	25.0	28.0	15.0	25.040	25.124	28.000	28.021	24.948	25.000
PSM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
PSM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
PSM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
PSM-2528-35	25.0	28.0	35.0			28.000	28.021	24.948	25.000

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Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
PSM-2528-50	25.0	28.0	50.0	25.040	25.124	28.000	28.021	24.948	25.000
PSM-2630-25	26.0	30.0	25.0	26.040	26.124	30.000	30.021	25.948	26.000
PSM-2832-15	28.0	32.0	15.0	28.040	28.124	32.000	32.025	27.948	28.000
PSM-2832-20	28.0	32.0	20.0			32.000	32.025	27.948	28.000
PSM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
PSM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
PSM-3034-20	30.0	34.0	20.0	30.040	30.124	34.000	34.025	29.948	30.000
PSM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
PSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
PSM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
PSM-3034-45	30.0	34.0	45.0			34.000	34.025	29.948	30.000
PSM-3236-15	32.0	36.0	15.0	32.050	32.150	36.000	36.025	31.938	32.000
PSM-3236-20	32.0	36.0	20.0			36.000	36.025	31.938	32.000
PSM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
PSM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
PSM-3539-20	35.0	39.0	20.0	35.050	35.150	39.000	39.025	34.938	35.000
PSM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
PSM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
PSM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
PSM-4044-20	40.0	44.0	20.0	40.050	40.150	44.000	44.025	39.938	40.000
PSM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
PSM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
PSM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
PSM-4044-58	40.0	44.0	58.0			44.000	44.025	39.938	40.000
PSM-4550-20	45.0	50.0	20.0	45.050	45.150	50.000	50.025	44.938	45.000
PSM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
PSM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
PSM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
PSM-5055-20	50.0	55.0	20.0	50.050	50.150	55.000	55.030	49.938	50.000
PSM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
PSM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
PSM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
PSM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
PSM-6065-30	60.0	65.0	30.0	60.060	60.180	65.000	65.030	59.926	60.000
PSM-6065-40	60.0	65.0	40.0			65.000	65.030	59.926	60.000
PSM-6065-50	60.0	65.0	50.0			65.000	65.030	59.926	60.000
PSM-6065-60	60.0	65.0	60.0			65.000	65.030	59.926	60.000
PSM-6570-50	65.0	70.0	50.0	65.060	65.180	70.000	70.030	64.926	65.000
PSM-7580-80	75.0	80.0	80.0	75.060	75.180	80.000	80.030	74.926	75.000
PSM-8085-60	80.0	85.0	60.0	80.072	80.212	85.000	85.035	79.926	80.000
PSM-8085-100	80.0	85.0	100.0			85.000	85.035	79.926	80.000
PSM-9095-100	90.0	95.0	100.0	90.072	90.212	95.000	95.035	89.913	90.000
PSM-95100-100	95.0	100.0	100.0	95.072	95.212	100.000	100.035	94.913	95.000

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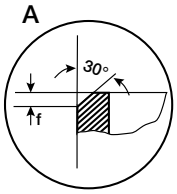
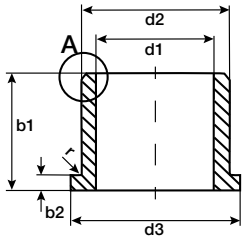
Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 164**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
P	F	M	-04	05	-04
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
PFM-0405-04	4.0	5.5	9.5	4.0	0.75	4.020	4.068	5.500	5.512	3.970	4.000
PFM-0506-03	5.0	6.0	10.0	3.0	0.50	5.020	5.068	6.000	6.012	4.970	5.000
PFM-0507-05	5.0	7.0	11.0	5.0	1.00			7.000	7.015	4.970	5.000
PFM-0608-04	6.0	8.0	12.0	4.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
PFM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
PFM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
PFM-0709-04	7.0	9.0	15.0	4.0	1.00	7.025	7.083	9.000	9.015	6.964	7.000
PFM-0810-05	8.0	10.0	15.0	5.5	1.00	8.025	8.083	10.000	10.015	7.964	8.000
PFM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
PFM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
PFM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
PFM-081012-10	8.0	10.0	12.0	10.0	1.00			10.000	10.015	7.964	8.000
PFM-0810-15	8.0	10.0	15.0	15.0	1.00			10.000	10.015	7.964	8.000
PFM-1012-05	10.0	12.0	18.0	5.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
PFM-1012-07	10.0	12.0	18.0	7.0	1.00			12.000	12.018	9.964	10.000
PFM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
PFM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
PFM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
PFM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
PFM-1214-07	12.0	14.0	20.0	7.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
PFM-1214-08	12.0	14.0	20.0	8.0	1.00			14.000	14.018	11.957	12.000
PFM-121418-08	12.0	14.0	18.0	8.0	1.00			14.000	14.018	11.957	12.000
PFM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
PFM-1214-10	12.0	14.0	20.0	10.0	1.00			14.000	14.018	11.957	12.000
PFM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
PFM-1214-15	12.0	14.0	20.0	15.0	1.00			14.000	14.018	11.957	12.000
PFM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
PFM-1416-04	14.0	16.0	22.0	4.0	1.00	14.032	14.102	16.000	16.018	13.957	14.000
PFM-1416-08	14.0	16.0	22.0	8.0	1.00			16.000	16.018	13.957	14.000
PFM-1416-12	14.0	16.0	22.0	12.0	1.00			16.000	16.018	13.957	14.000
PFM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
PFM-141624-25	14.0	16.0	24.0	25.0	1.00			16.000	16.018	13.957	14.000
PFM-1420-10	14.0	20.0	25.0	10.0	3.00			20.000	20.021	13.957	14.000

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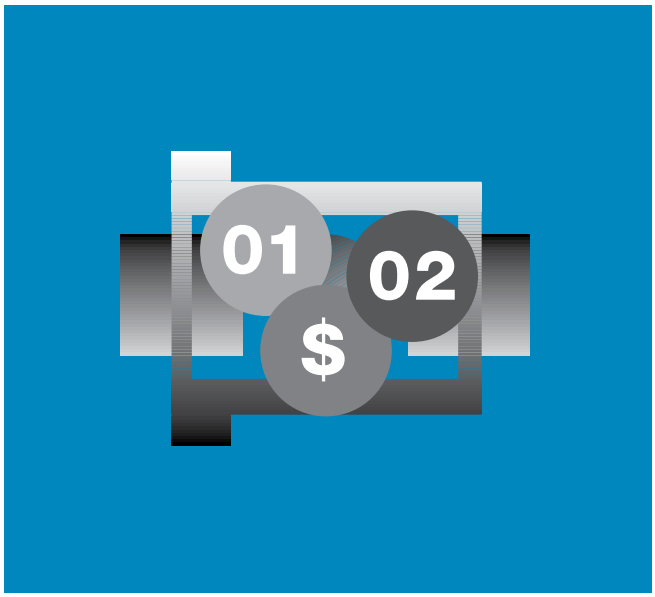
Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
PFM-1517-09	15.0	17.0	23.0	9.0	1.00	15.032	15.102	17.000	17.018	14.957	15.000
PFM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
PFM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
PFM-1517-22	15.0	17.0	23.0	22.0	1.00	15.032	15.102	17.000	17.018	14.957	15.000
PFM-151824-32	15.0	18.0	24.0	32.0	1.50			18.000	18.018	14.957	15.000
PFM-1618-08	16.0	18.0	24.0	8.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
PFM-1618-12	16.0	18.0	24.0	12.0	1.00			18.000	18.018	15.957	16.000
PFM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
PFM-1618-21	16.0	18.0	24.0	21.0	1.00			18.000	18.018	15.957	16.000
PFM-161824-40	16.0	18.0	24.0	40.0	1.00			18.000	18.018	15.957	16.000
PFM-1719-25	17.0	19.0	25.0	25.0	1.00	17.032	17.102	19.000	19.021	16.957	17.000
PFM-1820-12	18.0	20.0	26.0	12.0	1.00	18.032	18.102	20.000	20.021	17.957	18.000
PFM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
PFM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
PFM-2023-11	20.0	23.0	30.0	11.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000
PFM-202328-15	20.0	23.0	28.0	15.0	1.50			23.000	23.021	19.948	20.000
PFM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
PFM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
PFM-2023-30	20.0	23.0	30.0	30.0	1.50			23.000	23.021	19.948	20.000
PFM-2427-22	24.0	27.0	32.0	22.0	1.50	24.040	24.124	27.000	27.021	23.948	24.000
PFM-2528-11	25.0	28.0	35.0	11.5	1.50	25.040	25.124	28.000	28.021	24.948	25.000
PFM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
PFM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
PFM-3034-16	30.0	34.0	42.0	16.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
PFM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
PFM-3034-30	30.0	34.0	42.0	30.0	2.00			34.000	34.025	29.948	30.000
PFM-3034-37	30.0	34.0	42.0	37.0	2.00			34.000	34.025	29.948	30.000
PFM-3236-16	32.0	36.0	40.0	16.0	2.00	32.050	32.150	36.000	36.025	31.938	32.000
PFM-3539-058	35.0	39.0	47.0	5.8	2.00	35.050	35.150	39.000	39.025	34.938	35.000
PFM-3539-16	35.0	39.0	47.0	16.0	2.00			39.000	39.025	34.938	35.000
PFM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
PFM-4044-30	40.0	44.0	52.0	30.0	2.00	40.050	40.150	44.000	44.025	39.938	40.000
PFM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
PFM-4550-50	45.0	50.0	58.0	50.0	2.00	45.050	45.150	50.000	50.025	44.938	45.000
PFM-5055-50	50.0	55.0	63.0	50.0	2.00	50.050	50.150	55.000	55.030	49.938	50.000
PFM-6065-30	60.0	65.0	73.0	30.0	2.00	60.060	60.180	65.000	65.030	59.926	60.000
PFM-6065-40	60.0	65.0	73.0	40.0	2.00			65.000	65.030	59.926	60.000
PFM-6065-50	60.0	65.0	73.0	50.0	2.00			65.000	65.030	59.926	60.000
PFM-7075-50	70.0	75.0	83.0	50.0	2.00	70.060	70.180	75.000	75.030	69.926	70.000
PFM-8085-100	80.0	85.0	93.0	100.0	2.50	80.060	80.180	85.000	85.035	79.926	80.000
PFM-9095-100	90.0	95.0	103.0	100.0	2.50	90.072	90.212	95.000	95.035	89.913	90.000



Versatile and cost-effective

For medium temperatures and wet environments

iglide® K

When to use it?

- When a cost-effective all-round plain bearing is required
- For operations in wet environments
- When good wear resistance is required at medium loads

When not to use?

- When the highest wear resistance is required
  iglide® W300
- When high media resistance is required
  iglide® X6
- When a high-temperature bearing is required
  iglide® H

Ø
6.0 – 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Versatile and cost-effective

For medium temperatures and wet environments

iglide® K is the cost-effective general purpose bearing for medium temperatures, low moisture absorption and good environmental resistance.

- Low moisture absorption
- Wear-resistant
- Cost-effective
- Self-lubricating
- Maintenance-free

Typical application areas

- Printing industry
- Electronics industry
- Packaging
- Medical technology
- Polymer processing machines

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.52	
Color		yellow-beige	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.6	
Coefficient of friction, dynamic, against steel	µ	0.06 – 0.21	
pv value, max. (dry)	psi · fpm	8,600	
Mechanical properties			
Flexural modulus	psi	507,632	DIN 53457
Flexural strength at +68°F	psi	11,603	DIN 53452
Compressive strength	psi	8,702	
Max. recommended surface pressure (+68°F)	psi	7,252	
Shore D hardness		72	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+338	
Max. application temperature short-term	°F	+464	
Min. application temperature	°F	–40	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	3	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

Table 01: Material properties

–40°F up to +338°F

7,252psi

HB

RoHS

ISO 3547-1

iglide® K is characterized by its good wear characteristics at low moisture absorption and good thermal and mechanical specifications. This supports a very universal application spectrum.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® K plain bearings is approximately 0.1% weight. The saturation limit in water is 0.6% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® K bearings.

Radiation resistance

Plain bearings made from iglide® K are resistant up to a radiation intensity of 5 · 10^2Gy.

Resistance to Resistance to weathering

iglide® K plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® K 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 iglide® K at radial loads. At the maximum recommended surface pressure of 7,252psi the deformation is less than 3%. A possible deformation could be, among others, dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® K has been developed for low to medium surface speeds. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The temperatures prevailing in the bearing system also have an influence on the wear. With increasing temperatures, the wear increases and this effect is significant when temperatures rise over +212°F. For temperatures over +158°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® K 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table). In relation to the installation tolerance, the inner diameter changes with the absorption of humidity.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (inches)	Tolerance (h13) (inches)	
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The friction and wear are also highly dependent on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. For iglide® K a ground surface with an average surface finish Ra = 0.15 – 0.2μm is recommended. Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® K. It is important to note that with increasing loads, the recommended hardness of the shaft increases. The "soft" shafts tend to wear more easily and thus increase the wear of the overall system, if the loads exceed 290psi. The comparison of rotation and pivoting shows that the wear is almost identical at a pressure up to 725psi The higher the loads, the greater the difference (diagram 07).

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	591
short-term	**fpm**	394	276	787

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.06 - 0.21	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (mm)	Tolerance (h13) (mm)	
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

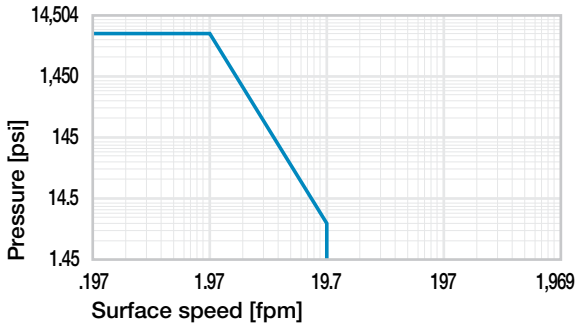


Diagram 01: Permissible pv values for iglide® K plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

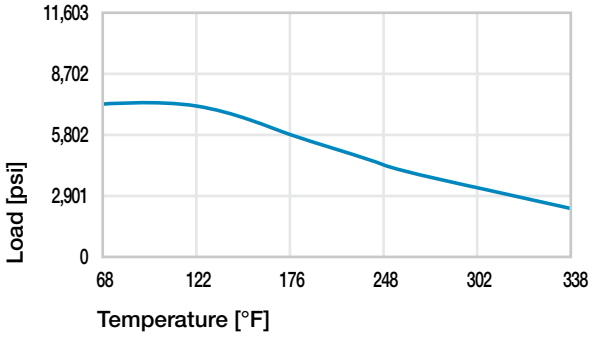


Diagram 02: Maximum recommended surface pressure as a function of temperature (7,252psi at +68°F)

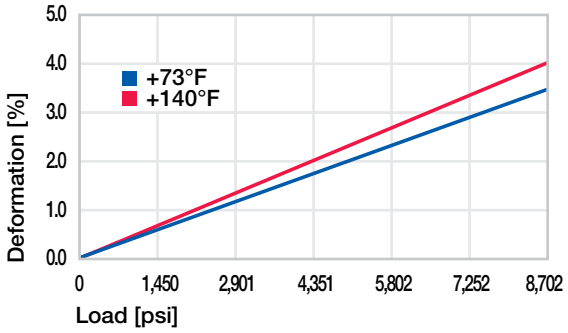


Diagram 03: Deformation under pressure and temperature

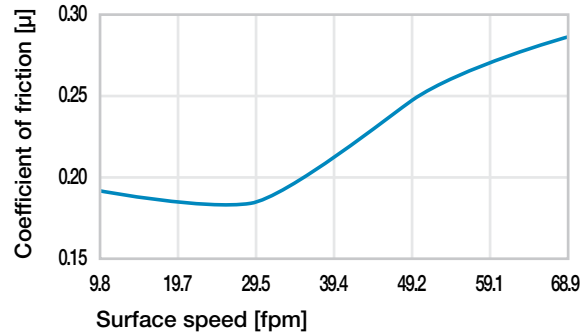


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

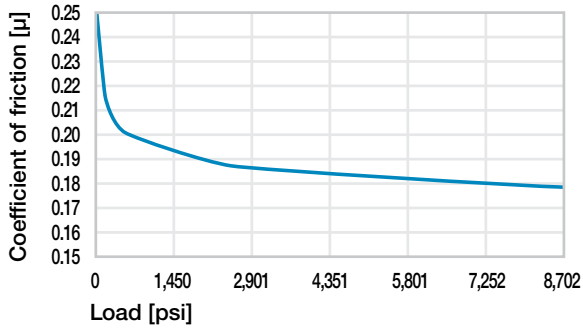


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

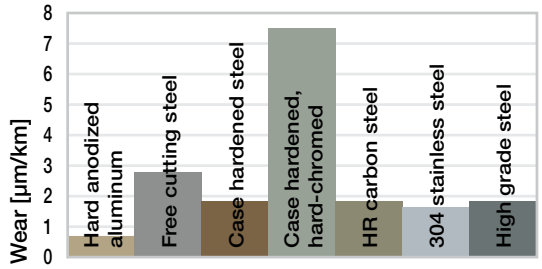


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

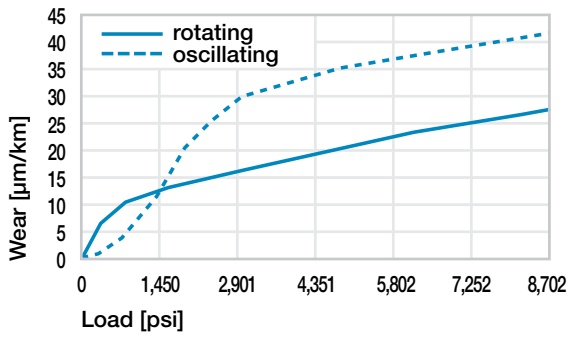
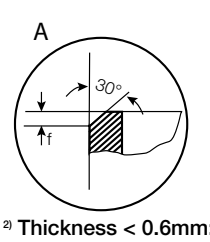
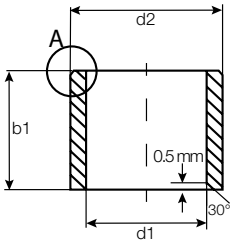


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® K

Sleeve bearing (form S), metric





[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 178**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

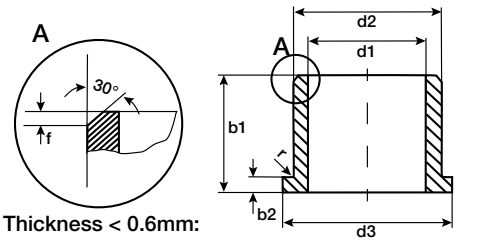
Order key

Type			Dimensions		
K	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
KSM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
KSM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
KSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
KSM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
KSM-1618-15	16.0	18.0	15.0			18.000	18.018	15.957	16.000
KSM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® K

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 178**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
K	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1[1]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
KFM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
KFM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
KFM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
KFM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
KFM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
KFM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes

Low cost material for high volume production

For applications with mainly static loads

iglide® GLW

When to use it?

- When an economical all-round performance bearing is required
- For high, primarily static loads
- For low to medium speeds

When not to use?

- When mechanical reaming of the bore is necessary
  iglide® M250
- For primarily dynamic loads
  iglide® G
- When the highest wear resistance is required
  iglide® W300
- When continuous operating temperatures are higher than +266°F
  iglide® K
- For underwater applications
  iglide® H2

Ø

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Low-cost material for high-volume production

For applications with mainly static loads

iglide® GLW plain bearings are preferred in applications with static load, where only occasional movement takes place.

- Applications with static loads
- Cost-effective
- Resistant to dirt
- Resistant to vibrations
- Self-lubricating
- Maintenance-free

Typical application areas

- Automation
- Automotive
- Industrial handling

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■□□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.36	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	1.3	DIN 53495
Max. moisture absorption	% weight	5.5	
Coefficient of friction, dynamic, against steel	µ	0.10 – 0.24	
pv value, max. (dry)	psi · fpm	8,600	
Mechanical properties			
Flexural modulus	psi	1,116,791	DIN 53457
Flexural strength at +68°F	psi	34,084	DIN 53452
Compressive strength	psi	10,733	
Max. recommended surface pressure (+68°F)	psi	11,603	
Shore D hardness		78	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+212	
Max. application temperature short-term	°F	+320	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	17	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{11}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

Table 01: Material properties

–40°F up to +212°F

11,603psi

HB

RoHS

ISO 3547-1

With plain bearings made from iglide® GLW, we can offer our customers an alternative to iglide® G for high-volume production applications. Featuring similar mechanical designed as iglide® G, iglide® GLW plain bearings are primarily recommended for static loads. With regard to these applications, in which the dynamic properties of iglide® G to a large extent are unimportant, iglide® GLW presents a cost-effective alternative.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® GLW plain bearings is approximately 1.3% weight. The saturation limit in water is 5.5% weight. This must be taken into account for these types of applications.

Vacuum

In vacuum, any present moisture is released as vapor.

Radiation resistance

Plain bearings made from iglide® GLW are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® GLW plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® GLW 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 iglide® GLW at radial loads. At the maximum recommended surface pressure of 11,603psi at room temperature the deformation is less than 3%. A plastic deformation can be negligible up to this value. It is however also dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® GLW has been developed for low to medium surface speeds. During continuous operation, a maximum speed of 157fpm (rotating) or 492fpm (linear) is permissible. The maximum values shown in table 03 can only be achieved at low pressures. In practice, these values are rarely reached, due to the increasing temperatures approaching or exceeding the maximum permitted value.

▶ Surface speed, **Page 44**

Temperature

The ambient temperatures strongly influence the properties of plain bearings. Diagram 02 shows this inverse relationship. The wear rises with increasing temperatures. For temperatures over +176°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® GLW 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. For iglide® GLW a ground surface with an average surface finish Ra = 0.1 – 0.2μm is recommended. Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® GLW. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	157	118	492
short-term	**fpm**	197	138	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.10 – 0.24	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

iglide® GLW plain bearings are manufactured to special order. For high volume applications, please request iglide® GLW plain bearings as an alternative to iglide® G.

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

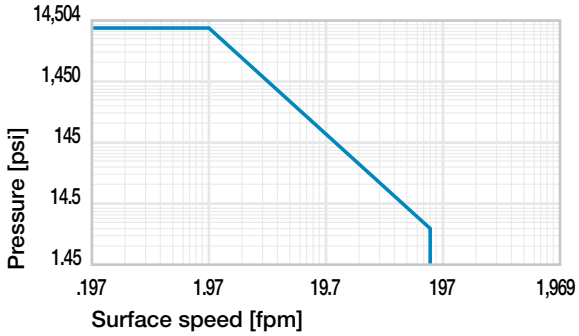


Diagram 01: Permissible pv values for iglide® GLW plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

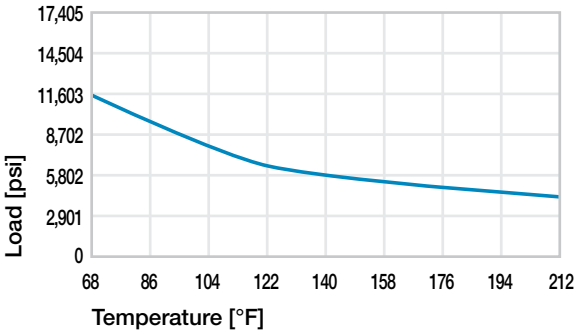


Diagram 02: Maximum recommended surface pressure as a function of temperature (11,603psi at +68°F)

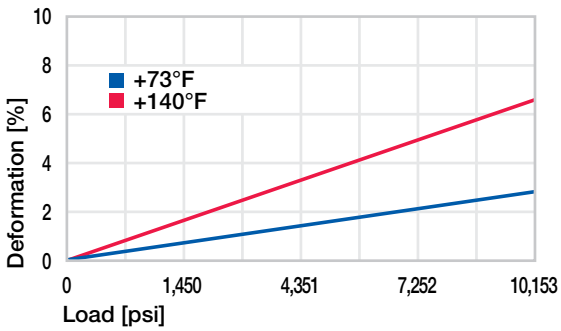


Diagram 03: Deformation under pressure and temperature

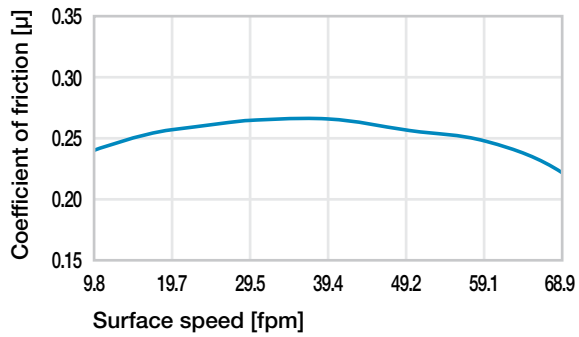


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

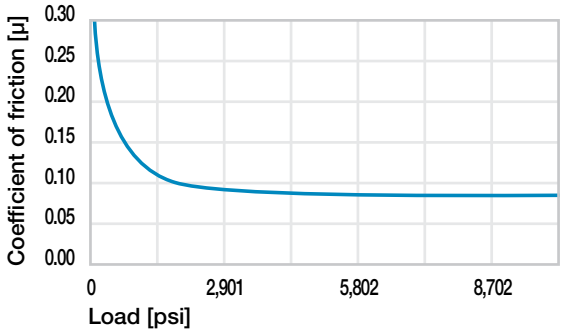


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

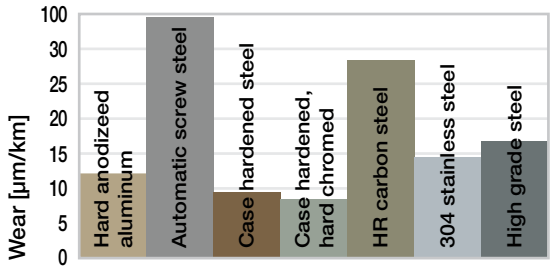


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

Materials for long service life

Materials for long service life

Every iglide® plain bearing is naturally optimized for wear, but the materials in this group are characterized by very low rates of wear and therefore the ability to provide a long service life.
Besides the absolute service life and price level, they differ, among other things, in terms of potential temperature, load ranges, and the suitability in conjunction with special shaft materials.

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

iglide® J
The versatile endurance runner

Temperature [°F] [123]	+194	– +
Surface pressure [psi] [124]	5,076	– +
Coefficient of friction [µ] [125]	0.16	– +
Wear [µm/km] [125]	0.29	– +
Price index		– +

iglide® W300 (formerly L280)
The classic endurance runner up to 4,351psi

Temperature [°F] [123]	+194	– +
Surface pressure [psi] [124]	8,702	– +
Coefficient of friction [µ] [125]	0.18	– +
Wear [µm/km] [125]	0.33	– +
Price index		– +

iglide® J3
The new endurance runner: specialist for pivoting applications and pulsating loads

Temperature [°F] [123]	+194	– +
Surface pressure [psi] [124]	6,527	– +
Coefficient of friction [µ] [125]	0.13	– +
Wear [µm/km] [125]	0.07	– +
Price index		– +

iglide® J3B
Proven long-life material in black

Temperature [°F] [123]	+194	– +
Surface pressure [psi] [124]	6,382	– +
Coefficient of friction [µ] [125]	0.17	– +
Wear [µm/km] [125]	0.07	– +
Price index		– +

iglide® J350
Endurance runner with high dimensional stability at high temperatures

Temperature [°F] [123]	+356	– +
Surface pressure [psi] [124]	8,702	– +
Coefficient of friction [µ] [125]	0.16	– +
Wear [µm/km] [125]	1.14	– +
Price index		– +

iglide® J260
Ideal for plastic shafts

Temperature [°F] [123]	+248	– +
Surface pressure [psi] [124]	5,802	– +
Coefficient of friction [µ] [125]	0.16	– +
Wear [µm/km] [125]	0.11	– +
Price index		– +

[123] max. long-term application temperature [124] max. recommended surface pressure at +68°F [125] best combination for p = 145psi, v = 59fpm, rotating

Endurance runner

iglide® W360
Endurance runner up to +356°F

Temperature [°F] [123]	+356	–	+
Surface pressure [psi] [124]	10,878	–	+
Coefficient of friction [µ] [125]	0.07	–	+
Wear [µm/km] [125]	0.24	–	+
Price index		–	+

iglide® L250
For fast rotating applications

Temperature [°F] [123]	+194	–	+
Surface pressure [psi] [124]	6,527	–	+
Coefficient of friction [µ] [125]	0.18	–	+
Wear [µm/km] [125]	0.20	–	+
Price index		–	+

iglide® L350
For high rotational speeds

Temperature [°F] [123]	+356	–	+
Surface pressure [psi] [124]	8,557	–	+
Coefficient of friction [µ] [125]	0.12	–	+
Wear [µm/km] [125]	1.50	–	+
Price index		–	+

iglide® L500
For extreme rotational speeds

Temperature [°F] [123]	+482	–	+
Surface pressure [psi] [124]	10,153	–	+
Coefficient of friction [µ] [125]	0.19	–	+
Wear [µm/km] [125]	1.00	–	+
Price index		–	+

iglide® R
Low-cost

Temperature [°F] [123]	+194	–	+
Surface pressure [psi] [124]	3,336	–	+
Coefficient of friction [µ] [125]	0.20	–	+
Wear [µm/km] [125]	0.95	–	+
Price index		–	+

iglide® D
Low-cost with silicone

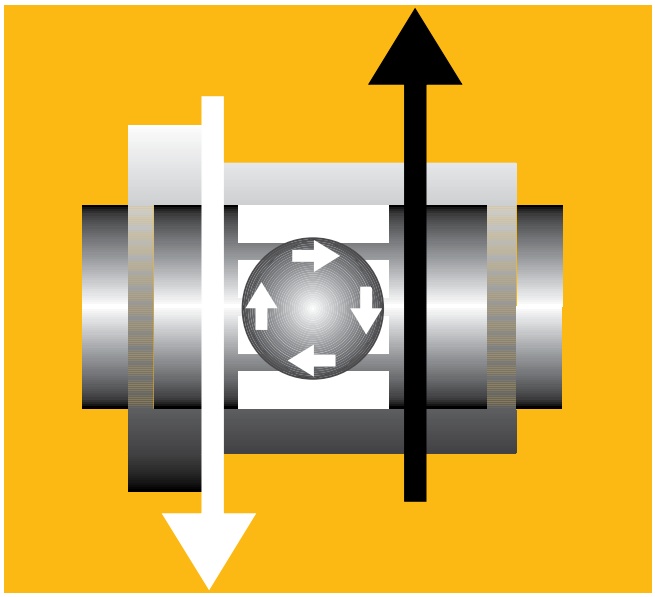
Temperature [°F] [123]	+194	–	+
Surface pressure [psi] [124]	3,336	–	+
Coefficient of friction [µ] [125]	0.25	–	+
Wear [µm/km] [125]	1.91	–	+

iglide® J200
Specialist for linear movement

Temperature [°F] [123]	+194	–	+
Surface pressure [psi] [124]	3,336	–	+
Coefficient of friction [µ] [125]	0.15	–	+
Wear [µm/km] [125]	1.30	–	+
Price index		–	+

iglide® E7
Ideal for pivoting movement

Temperature [°F] [123]	+158	–	+
Surface pressure [psi] [124]	2,611	–	+
Coefficient of friction [µ] [125]	0.13	–	+
Wear [µm/km] [125]	0.14	–	+
Price index		–	+



The versatile endurance runner

Wear resistance on (almost) all shafts, very low coefficient of friction

iglide® J

When to use it?

- For high speeds
- When highest wear resistance at low to medium pressures is required
- Low wear against different shafts
- When a low coefficient of friction in dry operation is requested
- For vibration dampening
- When good chemical resistance is required
- For best performance with soft shaft materials
- Low moisture absorption

When not to use?

- When high pressures occur
  iglide® G, iglide® W300
- When short-term temperatures higher than +248°F occur
  iglide® G, iglide® Z
- When a cost-effective plain bearing for occasional movements is necessary
  iglide® G

Ø
1.5 – 120mm
1/8 - 2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The versatile endurance runner

Wear resistance on (almost) all shafts, very low coefficient of friction

One main advantage of iglide® J plain bearings is the combination of a low coefficient of friction in dry operation and the low stickslip tendency. With a maximum recommended surface pressure of 5,076psi, iglide® J plain bearings are not suitable for extreme loads.

- Over 250 sizes available from stock
- High wear resistance
- Low coefficient of friction
- Vibration-dampening
- High chemical resistance
- Recommended for soft shafts
- Low moisture absorption

Typical application areas

- Automation
- Printing industry
- Beverage industry
- Aerospace engineering
- Cleanroom

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■■	+
Wear resistance at +194°F	–	■■■■■	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■■□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.49	
Color		yellow	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	1.3	
Coefficient of friction, dynamic, against steel	µ	0.06 – 0.18	
pv value, max. (dry)	psi · fpm	9,700	
Mechanical properties			
Flexural modulus	psi	348,091	DIN 53457
Flexural strength at +68°F	psi	10,588	DIN 53452
Compressive strength	psi	8,702	
Max. recommended surface pressure (+68°F)	psi	5,076	
Shore D hardness		74	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+248	
Min. application temperature	°F	–58	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	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

–58°F up to +194°F

5,076psi

HB

RoHS

ISO 3547-1

One main advantage of iglide® J plain bearings is the combination of a low coefficient of friction in dry operation and the low stick-slip tendency.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® J plain bearings is approximately 0.3% weight. The saturation limit in water is 1.3% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® J bearings.

Radiation resistance

Plain bearings made from iglide® J are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® J plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® J plain bearings decreases. Diagram 02 shows this inverse relationship. However, at the long-term maximum temperature of +194°F the permissible surface pressure is around 2,901psi. The maximum recommended surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this. With a maximum recommended surface pressure of 5,076psi, iglide® J plain bearings are not suitable for extreme loads. Diagram 03 shows the elastic deformation of iglide® J at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

The low coefficient of friction and the very low stick slip tendency of iglide® J plain bearings are particularly important at very low speeds. However, iglide® J can also be used for high speeds of over 197fpm. In both cases the static friction is very low and stick slip does not occur. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

iglide® J plain bearings can be used between -58°F and +194°F; the short-term maximum permissible temperature is +248F. Wear increases significantly at temperatures above +176°F. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® J 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. With increasing shaft surface finish, the coefficient of friction also increases. For iglide® J a ground surface with an average surface finish Ra = 0.1 – 0.3μm is recommended. Diagrams 06 and 07 show the test results of iglide® J plain bearings running against various shaft materials. When compared to most iglide® materials, iglide® J plain bearings have very low wear results at low loads compared with all shaft materials tested. Also, for increasing loads up to 725psi, the wear resistance of iglide® J is excellent. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	295	217	1575
short-term	**fpm**	591	413	1969

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.06 – 0.18	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

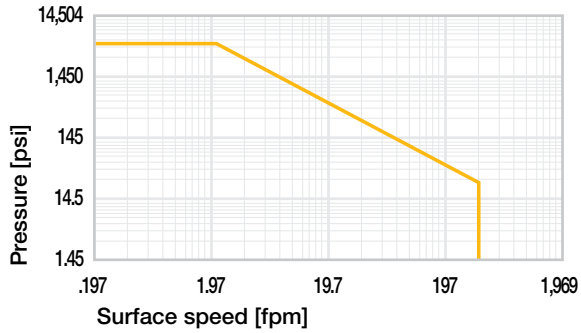


Diagram 01: Permissible pv values for iglide® J plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

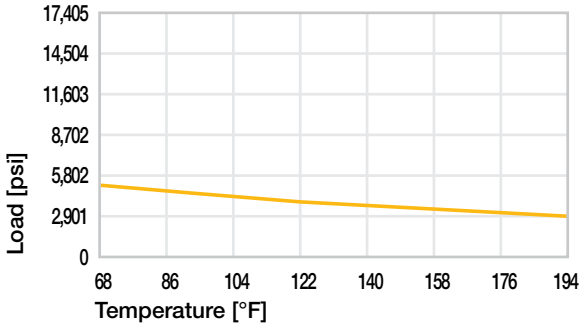


Diagram 02: Maximum recommended surface pressure as a function of temperature (5,076psi at +68°F)

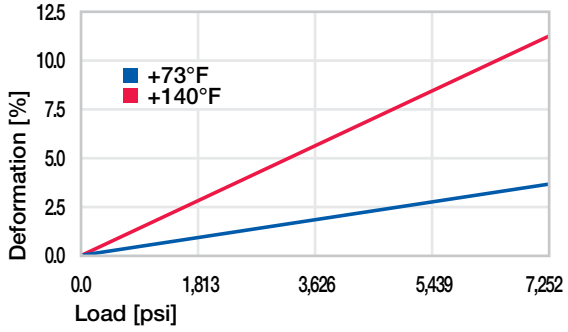


Diagram 03: Deformation under pressure and temperature

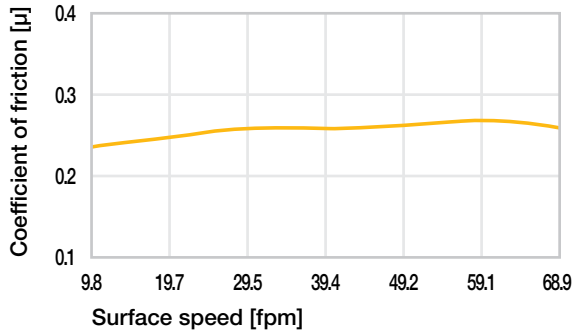


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

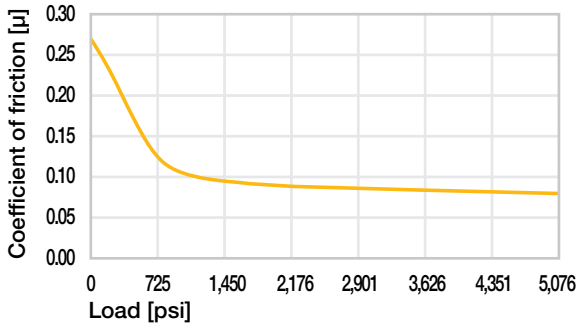


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

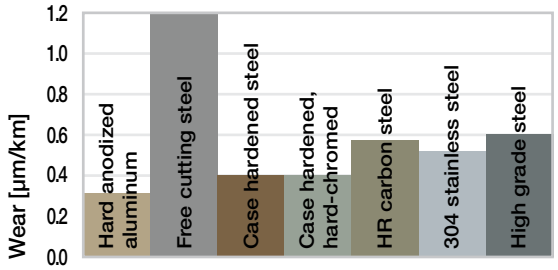


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

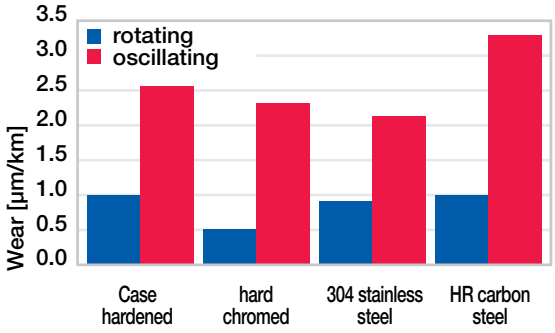


Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

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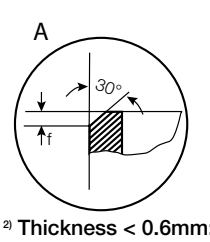
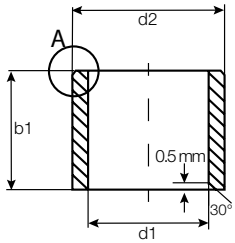
Sleeve bearing (form S), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 196**

Order key

Type			Dimensions		
J	S	I	-02	04	-04
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
JSI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
JSI-0204-04	1/8	1/4	1/4	.1262	.1280	.2510	.2515	.1241	.1250
JSI-0204-06	1/8	1/4	3/8			.2510	.2515	.1241	.1250
JSI-0304-04	3/16	1/4	1/4	.1886	.1905	.2500	.2506	.1858	.1865
JSI-0304-06	3/16	1/4	3/8			.2500	.2506	.1858	.1865
JSI-0304-08	3/16	1/4	1/2			.2500	.2506	.1858	.1865
JSI-0305-05	3/16	5/16	5/16	.1887	.1905	.3135	.3140	.1866	.1875
JSI-0305-06	3/16	5/16	3/8			.3135	.3140	.1866	.1875
JSI-0305-08	3/16	5/16	1/2			.3135	.3140	.1866	.1875
JSI-0405-04	1/4	5/16	1/4	.2516	.2539	.3135	.3140	.2491	.2500
JSI-0405-06	1/4	5/16	3/8			.3135	.3140	.2491	.2500
JSI-0405-08	1/4	5/16	1/2			.3122	.3128	.2491	.2500
JSI-0406-04	1/4	3/8	1/4	.2516	.2539	.3760	.3765	.2491	.2500
JSI-0406-08	1/4	3/8	1/2			.3760	.3765	.2491	.2500
JSI-0406-12	1/4	3/8	3/4			.3760	.3765	.2491	.2500
JSI-0406-16	1/4	3/8	1			.3760	.3765	.2491	.2500
JSI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
JSI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
JSI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
JSI-0506-12	5/16	3/8	3/4			.3747	.3753	.3106	.3115
JSI-0506-16	5/16	3/8	1			.3747	.3753	.3106	.3115
JSI-0507-06	5/16	7/16	3/8	.3141	.3164	.4385	.4390	.3116	.3125
JSI-0507-07	5/16	7/16	7/16			.4385	.4390	.3116	.3125
JSI-0507-08	5/16	7/16	1/2			.4385	.4390	.3116	.3125
JSI-0507-10	5/16	7/16	5/8			.4385	.4390	.3116	.3125
JSI-0507-16	5/16	7/16	1			.4385	.4390	.3116	.3125
JSI-0607-08	3/8	7/16	1/2	.3766	.3789	.4385	.4390	.3741	.3750
JSI-0607-04	3/8	15/32	1/4	.3750	.3773	.4684	.4691	.3731	.3740
JSI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
JSI-06075-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
JSI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
JSI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
JSI-0608-03	3/8	1/2	3/16	.3764	.3787	.5000	.5006	.3736	.3750
JSI-0608-06	3/8	1/2	3/8			.5000	.5006	.3736	.3750
JSI-0608-08	3/8	1/2	1/2			.5000	.5006	.3736	.3750

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
JSI-0608-10	3/8	1/2	5/8	.3764	.3787	.5000	.5006	.3736	.3750
JSI-0708-08	7/16	17/32	1/2	.4379	.4406	.5309	.5316	.4366	.4375
JSI-0708-12	7/16	17/32	3/4			.5309	.5316	.4366	.4375
JSI-0709-06	7/16	9/16	3/8			.5625	.5632	.4366	.4375
JSI-0809-04	1/2	19/32	1/4	.5003	.5030.	.5934	.5941	.4980	.4990
JSI-0809-06	1/2	19/32	3/8			.5934	.5941	.4983	.5000
JSI-0809-08	1/2	19/32	1/2			.5934	.5941	.4983	.5000
JSI-0809-10	1/2	19/32	5/8			.5934	.5941	.4983	.5000
JSI-0809-12	1/2	19/32	3/4			.5934	.5941	.4983	.5000
JSI-0809-16	1/2	19/32	1			.5934	.5941	.4983	.5000
JSI-0810-04	1/2	5/8	1/4	.5020	.5047	.6250	.6260	.4990	.5000
JSI-0810-08	1/2	5/8	1/2			.6250	.6260	.4990	.5000
JSI-0810-10	1/2	5/8	5/8			.6250	.6260	.4990	.5000
JSI-0810-12	1/2	5/8	3/4			.6250	.6260	.4990	.5000
JSI-0910-08	9/16	21/32	1/2	.5627	.5655	.6559	.6566	.5605	.5615
JSI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
JSI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
JSI-0910-26	9/16	21/32	1 5/8			.6559	.6566	.5605	.5615
JSI-1011-08	5/8	23/32	1/2	.6253	.6280	.7184	.7192	.6230	.6240
JSI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
JSI-1011-14	5/8	23/32	7/8			.7184	.7192	.6230	.6240
JSI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
JSI-1011-20	5/8	23/32	1 1/4			.7184	.7192	.6230	.6240
JSI-1012-04	5/8	3/4	1/4	.6270	.6297	.7500	.7510	.6240	.6250
JSI-1012-06	5/8	3/4	3/8			.7500	.7510	.6240	.6250
JSI-1012-08	5/8	3/4	1/2			.7500	.7510	.6240	.6250
JSI-1012-12	5/8	3/4	3/4			.7500	.7510	.6240	.6250
JSI-1012-16	5/8	3/4	1			.7500	.7510	.6240	.6250
JSI-1214-08	3/4	7/8	1/2	.7505	.7541	.8747	.8755	.7479	.7491
JSI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
JSI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
JSI-1216-12	3/4	1	3/4	.7525	.7559	1.000	1.0010	.7490	.7500
JSI-1216-16	3/4	1	1			1.000	1.0010	.7490	.7500
JSI-1315-15	13/16	15/16	15/16	.8141	.8174	.9375	.9383	.8105	.8125
JSI-1315-18	13/16	15/16	1 1/8	.8130	.8163	.9375	.9383	.8105	.8125
JSI-1416-08	7/8	1	1/2	.8757	.8791	.9997	1.0005	.8729	.8741
JSI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
JSI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741
JSI-1418-12	7/8	1 1/8	3/4	.8775	.8809	1.1250	1.1258	.8740	.8750
JSI-1418-24	7/8	1 1/8	1 1/2			1.1250	1.1258	.8740	.8750
JSI-1618-08	1	1 1/8	1/2	1.0007	1.0041	1.1247	1.1255	.9979	.9991
JSI-1618-12	1	1 1/8	3/4			1.1247	1.1255	.9979	.9991
JSI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
JSI-1618-24	1	1 1/8	1 1/2			1.1247	1.1255	.9979	.9991
JSI-1620-12	1	1 1/4	3/4	1.0025	1.0059	1.2500	1.2510	.9990	1.0000
JSI-1620-16	1	1 1/4	1			1.2500	1.2510	.9990	1.0000
JSI-1620-24	1	1 1/4	1 1/2			1.2500	1.2510	.9990	1.0000

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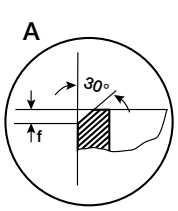
Sleeve bearing (form S), inch

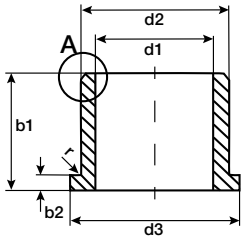
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
JSI-1820-12	1 1/8	1 9/32	3/4	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
JSI-1820-16	1 1/8	1 9/32	1	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
JSI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
JSI-1822-16	1 1/8	1 3/8	1	1.1276	1.1327	1.3750	1.3760	1.1240	1.1250
JSI-1822-28	1 1/8	1 3/8	1 3/4			1.3750	1.3760	1.1240	1.1250
JSI-2022-12	1 1/4	1 13/32	3/4	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
JSI-2022-14	1 1/4	1 13/32	7/8			1.4058	1.4068	1.2472	1.2488
JSI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
JSI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
JSI-2024-24	1 1/4	1 1/2	1 1/2	1.2532	1.2600	1.4995	1.5005	1.2490	1.2500
JSI-2426-16	1 1/2	1 21/32	1	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
JSI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
JSI-2426-32	1 1/2	1 5/8	2			1.6558	1.6568	1.4972	1.4988
JSI-2428-24	1 1/2	1 3/4	1 1/2	1.5032	1.5100	1.7495	1.7505	1.4990	1.5000
JSI-2629-16	1 5/8	1 25/32	1	1.6258	1.6297	1.7808	1.7818	1.6222	1.6238
JSI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
JSI-2831-16	1 3/4	1 15/16	1	1.7507	1.7547	1.9371	19381	1.7471	1.7487
JSI-2831-32	1 3/4	1 15/16	2			1.9371	19381	1.7471	1.7487
JSI-2832-20	1 3/4	2	1 1/4	1.7507	1.7547	2.0000	2.0010	1.7476	1.7500
JSI-2832-24	1 3/4	2	1 1/2			2.0000	2.0010	1.7476	1.7500
JSI-3033-16	1 7/8	2 1/16	1	1.8757	1.8796	2.0621	2.0633	1.8271	1.8737
JSI-3033-32	1 7/8	2 1/16	2			2.0621	2.0633	1.8271	1.8737
JSI-3235-16	2	2 3/16	1	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
JSI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981
JSI-3236-32	2	2 1/4	2	2.0007	2.0047	2.2500	2.2510	1.9976	2.0000

Bearing technology | Plain bearing | iglide® J

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 196**

Order key

Type			Dimensions		
J	F	I	-02	04	-04
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
JFI-0203-03	1/8	3/16	3/16	.312	.032	.1251	.1269	.1873	.1878	.1236	.1243
JFI-0204-02	1/8	1/4	1/8	.360	.047	.1262	.1280	.2510	.2515	.1241	.1250
JFI-0204-06	1/8	1/4	3/8	.360	.047			.2510	.2515	.1241	.1250
JFI-0304-02	3/16	1/4	1/8	.375	.032	.1887	.1905	.2497	.2503	.1858	.1865
JFI-0304-04	3/16	1/4	1/4	.375	.032	.1873	.1892	.2497	.2503	.1858	.1865
JFI-0304-06	3/16	1/4	3/8	.375	.032			.2497	.2503	.1858	.1865
JFI-0304-08	3/16	1/4	1/2	.375	.032			.2497	.2503	.1858	.1865
JFI-0305-06	3/16	5/16	3/8	.370	.047	.1887	.1905	.3135	.3140	.1866	.1875
JFI-0305-08	3/16	5/16	1/2	.370	.047			.3135	.3140	.1866	.1875
JFI-0405-04	1/4	5/16	1/4	.430	.032	.2516	.2539	.3122	.3128	.2481	.2490
JFI-0405-06	1/4	5/16	3/8	.430	.032			.3122	.3128	.2481	.2490
JFI-0405-08	1/4	5/16	1/2	.500	.032			.3122	.3128	.2481	.2490
JFI-0405-12	1/4	5/16	3/4	.430	.032			.3122	.3128	.2481	.2490
JFI-0406-03	1/4	3/8	3/16	.560	.047	.2516	.2539	.3760	.3765	.2491	.2500
JFI-0406-04	1/4	3/8	1/4	.560	.047			.3760	.3765	.2491	.2500
JFI-0406-08	1/4	3/8	1/2	.560	.047			.3760	.3765	.2491	.2500
JFI-0506-04	5/16	3/8	1/4	.500	.032	.3125	.3148	.3747	.3753	.3106	.3115
JFI-0506-06	5/16	3/8	3/8	.500	.032			.3747	.3753	.3106	.3115
JFI-0506-08	5/16	3/8	1/2	.500	.032			.3747	.3753	.3106	.3115
JFI-0507-08	5/16	7/16	1/2	.560	.062	.3141	.3164	.4385	.4390	.3116	.3125
JFI-0607-04	3/8	15/32	1/4	.687	.046	.3750	.3773	.4684	.4691	.3731	.3740
JFI-0607-06	3/8	15/32	3/8	.687	.046			.4684	.4691	.3731	.3740
JFI-0607-08	3/8	15/32	1/2	.687	.046			.4684	.4691	.3731	.3740
JFI-0607-12	3/8	15/32	3/4	.687	.046			.4684	.4691	.3731	.3740
JFI-0608-03	3/8	1/2	3/16	.625	.062	.3766	.3789	.5010	.5015	.3741	.3750
JFI-0608-04	3/8	1/2	1/4	.625	.062			.5010	.5015	.3741	.3750
JFI-0608-06	3/8	1/2	3/8	.625	.062			.5010	.5015	.3741	.3750
JFI-0608-08	3/8	1/2	1/2	.625	.062			.5010	.5015	.3741	.3750
JFI-0708-08	7/16	17/32	1/2	.750	.046	.4379	.4406	.5309	.5316	.4366	.4375
JFI-0708-12	7/16	17/32	3/4	.750	.046			.5309	.5316	.4366	.4375
JFI-0809-04	1/2	19/32	1/4	.875	.046	.5003	.5030	.5934	.5941	.4980	.4990
JFI-0809-06	1/2	19/32	3/8	.875	.046			.5934	.5941	.4980	.4990
JFI-0809-08	1/2	19/32	1/2	.875	.046			.5934	.5941	.4980	.4990
JFI-0809-12	1/2	19/32	3/4	.875	.046			.5934	.5941	.4980	.4990
JFI-0809-16	1/2	19/32	1	.875	.046			.5934	.5941	.4980	.4990

Bearing technology | Plain bearing | iglide® J

Flange bearing (form F), inch

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
JFI-0810-04	1/2	5/8	1/4	.875	.062	.5020	.5047	.6250	.6260	.4990	.5000
JFI-0810-08	1/2	5/8	1/2	.875	.062			.6250	.6260	.4990	.5000
JFI-0810-10	1/2	5/8	5/8	.875	.062			.6250	.6260	.4990	.5000
JFI-0810-12	1/2	5/8	3/4	.875	.062			.6250	.6260	.4990	.5000
JFI-0810-16	1/2	5/8	1	.875	.062			.6250	.6260	.4990	.5000
JFI-1011-06	5/8	23/32	3/8	.937	.046	.6253	.6280	.7184	.7192	.6233	.6250
JFI-1011-08	5/8	23/32	1/2	.937	.046			.7184	.7192	.6233	.6250
JFI-1011-12	5/8	23/32	3/4	.937	.046			.7184	.7192	.6233	.6250
JFI-1011-16	5/8	23/32	1	.937	.046			.7184	.7192	.6233	.6250
JFI-1011-24	5/8	28/32	1 1/2	1.000	.046	.6268	.6295	.7184	.7192	.6233	.6250
JFI-1012-06	5/8	3/4	3/8	1.000	.062	.6270	.6297	.7500	.7510	.6240	.6250
JFI-1012-08	5/8	3/4	1/2	1.000	.062			.7500	.7510	.6240	.6250
JFI-1012-12	5/8	3/4	3/4	1.000	.062			.7500	.7510	.6240	.6250
JFI-1012-16	5/8	3/4	1	1.000	.062			.7500	.7510	.6240	.6250
JFI-1214-08	3/4	7/8	1/2	1.125	.062	.7505	.7541	.8747	.8755	.7479	.7491
JFI-1214-09	3/4	7/8	9/16	1.125	.062			.8747	.8755	.7479	.7491
JFI-1214-10	3/4	7/8	5/8	1.125	.062			.8747	.8755	.7479	.7491
JFI-1214-12	3/4	7/8	3/4	1.125	.062			.8747	.8755	.7479	.7491
JFI-1214-16	3/4	7/8	1	1.125	.062			.8747	.8755	.7479	.7491
JFI-1214-24	3/4	7/8	1 1/2	1.125	.062			.8747	.8755	.7479	.7491
JFI-1216-12	3/4	1	3/4	1.250	.156	.7525	.7559	1.0000	1.0010	.7490	.7500
JFI-1216-16	3/4	1	1	1.250	.156			1.0000	1.0010	.7490	.7500
JFI-1416-08	7/8	1	1/2	1.250	.062	.8757	.8791	.9997	1.0005	.8729	.8741
JFI-1416-12	7/8	1	3/4	1.250	.062			.9997	1.0005	.8729	.8741
JFI-141618-11	7/8	1	11/16	1.125	.062	.8774	.8807	.9997	1.0005	.8740	.8750
JFI-1416-16	7/8	1	1	1.250	.062	.8757	.8791	.9997	1.0005	.8729	.8741
JFI-1418-24	7/8	1 1/8	1 1/2	1.375	.156	.8775	.8809	1.1250	1.1260	.8740	.8750
JFI-1618-08	1	1 1/8	1/2	1.375	.062	1.0007	1.0041	1.1247	1.1255	.9979	.9991
JFI-1618-12	1	1 1/8	3/4	1.375	.062			1.1247	1.1255	.9979	.9991
JFI-1618-16	1	1 1/8	1	1.375	.062			1.1247	1.1255	.9979	.9991
JFI-1620-12	1	1 1/4	3/4	1.500	.188	1.0025	1.0059	1.2500	1.2510	.9990	1.0000
JFI-1620-16	1	1 1/4	1	1.500	.188			1.2500	1.2510	.9990	1.0000
JFI-1620-24	1	1 1/4	1 1/2	1.500	.188			1.2500	1.2510	.9990	1.0000
JFI-1820-08	1 1/8	1 9/32	1/2	1.562	.078	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
JFI-2022-16	1 1/4	1 13/32	1	1.687	.078	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
JFI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.078			1.4058	1.4068	1.2472	1.2488
JFI-2024-16	1 1/4	1 1/2	1	1.750	.200	1.2531	1.2600	1.4995	1.5005	1.2490	1.2500
JFI-2024-24	1 1/4	1 1/2	1 1/2	1.750	.200			1.4995	1.5005	1.2490	1.2500
JFI-2426-16	1 1/2	1 21/32	1	2.000	.078	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
JFI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.078			1.6558	1.6568	1.4972	1.4988
JFI-2428-16	1 1/2	1 3/4	1	2.000	.125	1.5032	1.5100	1.7495	1.7505	1.4990	1.5000
JFI-2428-24	1 1/2	1 3/4	1 1/2	2.000	.125			1.7495	1.7505	1.4990	1.5000
JFI-2630-16	1 5/8	1 7/8	1	2.125	.125	1.6282	1.6350	1.8745	1.8755	1.6240	1.6250
JFI-2831-32	1 3/4	1 15/16	2	2.375	.093	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
JFI-3235-32	2	2 3/16	2	2.625	.093	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
JFI-3236-16	2	2 1/4	1	2.500	.125	2.0032	2.0100	2.2495	2.2505	1.9990	2.0000

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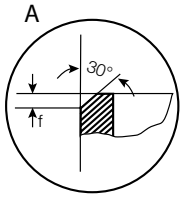
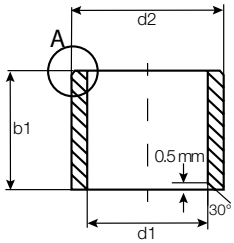
Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 196**

Order key

Type			Dimensions		
J	S	M	-01	04	-02
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
JSM-0104-02	1.5	4.0	2.0	1.514	1.554	4.000	4.012	1.475	1.500
JSM-0203-07	2.0	3.5	7.0	2.014	2.054	3.500	3.512	1.975	2.000
JSM-0205-02	2.0	5.0	2.5	2.020	2.080	5.000	5.012	1.975	2.000
JSM-0206-02	2.5	6.0	2.5	2.520	2.580	6.000	6.012	2.475	2.500
JSM-0304-05	3.0	4.5	5.0	3.014	3.054	4.500	4.512	2.975	3.000
JSM-0304-09	3.0	4.5	9.0			4.500	4.512	2.975	3.000
JSM-0305-03	3.0	5.0	3.0	3.020	3.080	5.000	5.012	2.975	3.000
JSM-0305-04	3.0	5.0	4.0	3.020	3.080	5.000	5.012	2.975	3.000
JSM-0307-14	3.0	7.0	14.0			7.000	7.015	2.975	3.000
JSM-0308-04	3.0	8.0	4.0			8.000	8.015	2.975	3.000
JSM-0308-05	3.0	8.0	5.0			8.000	8.015	2.975	3.000
JSM-0405-04	4.0	5.5	4.0	4.020	4.068	5.500	5.512	3.970	4.000
JSM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
JSM-0405-08	4.0	5.5	8.0			5.500	5.512	3.970	4.000
JSM-0507-046	5.0	7.0	4.6	5.020	5.068	7.000	7.015	4.970	5.000
JSM-0507-05	5.0	7.0	5.0			7.000	7.015	4.970	5.000
JSM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
JSM-0507-14	5.0	7.0	14.0			7.000	7.015	4.970	5.000
JSM-0507-15	5.0	7.0	15.0	5.020	5.080	7.000	7.015	4.970	5.000
JSM-0508-05	5.0	8.0	5.0	5.030	5.105	8.000	8.015	4.970	5.000
JSM-0607-03	6.0	7.0	3.0	6.010	6.058	7.000	7.015	5.970	6.000
JSM-0607-05	6.0	7.0	5.0			7.000	7.015	5.970	6.000
JSM-0607-08	6.0	7.0	8.0			7.000	7.015	5.970	6.000
JSM-0607-12.5	6.0	7.0	12.5			7.000	7.015	5.970	6.000
JSM-0607-14	6.0	7.0	14.0			7.000	7.015	5.970	6.000
JSM-0608-043	6.0	8.0	4.3	6.020	6.068	8.000	8.015	5.970	6.000
JSM-0608-06	6.0	8.0	6.0			8.000	8.015	5.970	6.000
JSM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
JSM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
JSM-0609-06	6.0	9.0	6.0	6.030	6.105	9.000	9.015	5.970	6.000
JSM-0610-10	6.0	10.0	10.0			10.000	10.015	5.970	6.000
JSM-0709-05	7.0	9.0	5.0	7.025	7.083	9.000	9.015	6.964	7.000
JSM-0709-07	7.0	9.0	7.0			9.000	9.015	6.964	7.000
JSM-0709-09	7.0	9.0	9.0			9.000	9.015	6.964	7.000
JSM-0709-125	7.0	9.0	12.5			9.000	9.015	6.964	7.000

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Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
JSM-0810-03	8.0	10.0	3.0	8.025	8.083	10.000	10.015	7.964	8.000
JSM-0810-04	8.0	10.0	4.0			10.000	10.015	7.964	8.000
JSM-0810-06	8.0	10.0	6.0			10.000	10.015	7.964	8.000
JSM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
JSM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
JSM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
JSM-0810-16	8.0	10.0	16.0			10.000	10.015	7.964	8.000
JSM-0812-10	8.0	12.0	10.0	8.040	8.130	12.000	12.018	7.964	8.000
JSM-0812-12	8.0	12.0	12.0			12.000	12.018	7.964	8.000
JSM-0911-06	9.0	11.0	6.0	9.025	9.083	11.000	11.018	8.964	9.000
JSM-0911-10	9.0	11.0	10.0			11.000	11.018	8.964	9.000
JSM-1012-05	10.0	12.0	5.0	10.025	10.083	12.000	12.018	9.964	10.000
JSM-1012-06	10.0	12.0	6.0			12.000	12.018	9.964	10.000
JSM-1012-08	10.0	12.0	8.0			12.000	12.018	9.964	10.000
JSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
JSM-1012-11	10.0	12.0	11.0			12.000	12.018	9.964	10.000
JSM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
JSM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
JSM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
JSM-1014-10	10.0	14.0	10.0	10.040	10.130	14.000	14.018	9.964	10.000
JSM-1014-16	10.0	14.0	16.0			14.000	14.018	9.964	10.000
JSM-1214-06	12.0	14.0	6.0	12.032	12.102	14.000	14.018	11.957	12.000
JSM-1214-08	12.0	14.0	8.0			14.000	14.018	11.957	12.000
JSM-1214-09	12.0	14.0	9.0			14.000	14.018	11.957	12.000
JSM-1214-10	12.0	14.0	10.0			14.000	14.018	11.957	12.000
JSM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
JSM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
JSM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
JSM-1216-12	12.0	16.0	12.0	12.050	12.160	16.000	16.018	11.957	12.000
JSM-1216-17	12.0	16.0	17.0			16.000	16.018	11.957	12.000
JSM-1315-10	13.0	15.0	10.0	13.032	13.102	15.000	15.018	12.957	13.000
JSM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
JSM-1316-185	13.0	16.0	18.5			16.000	16.018	12.957	13.000
JSM-1416-05	14.0	16.0	5.0	14.032	14.102	16.000	16.018	13.957	14.000
JSM-1416-08	14.0	16.0	8.0			16.000	16.018	13.957	14.000
JSM-1416-10	14.0	16.0	10.0			16.000	16.018	13.957	14.000
JSM-1416-15	14.0	16.0	15.0			16.000	16.018	13.957	14.000
JSM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
JSM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
JSM-1418-18	14.0	18.0	18.0			18.000	18.018	13.957	14.000
JSM-1420-20	14.0	20.0	20.0	14.050	14.160	20.000	20.021	13.957	14.000
JSM-1517-06	15.0	17.0	6.0	15.032	15.102	17.000	17.018	14.957	15.000
JSM-1517-10	15.0	17.0	10.0			17.000	17.018	14.957	15.000
JSM-1517-12	15.0	17.0	12.0			17.000	17.018	14.957	15.000
JSM-1517-15	15.0	17.0	15.0			17.000	17.018	14.957	15.000
JSM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
JSM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
JSM-1518-10	15.0	18.0	10.0			18.000	18.018	14.957	15.000

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
JSM-1618-10	16.0	18.0	10.0	16.032	16.102	18.000	18.018	15.957	16.000
JSM-1618-12	16.0	18.0	12.0			18.000	18.018	15.957	16.000
JSM-1618-15	16.0	18.0	15.0			18.000	18.018	15.957	16.000
JSM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
JSM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
JSM-1620-16	16.0	20.0	16.0	16.050	16.160	20.000	20.021	15.957	16.000
JSM-1622-16	16.0	22.0	16.0			22.000	22.021	15.957	16.000
JSM-1622-20	16.0	22.0	20.0			22.000	22.021	15.957	16.000
JSM-1719-06	17.0	19.0	6.0	17.032	17.102	19.000	19.021	16.957	17.000
JSM-1820-10	18.0	20.0	10.0	18.032	18.102	20.000	20.021	17.957	18.000
JSM-1820-15	18.0	20.0	15.0			20.000	20.021	17.957	18.000
JSM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
JSM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
JSM-1922-14	19.0	22.0	14.0	19.032	19.102	22.000	22.021	18.948	19.000
JSM-2022-20	20.0	22.0	20.0	20.040	20.124	22.000	22.021	19.948	20.000
JSM-2022-30	20.0	22.0	30.0			22.000	22.021	19.948	20.000
JSM-2023-10	20.0	23.0	10.0			23.000	23.021	19.948	20.000
JSM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
JSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
JSM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
JSM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
JSM-2026-06	20.0	26.0	6.0	20.065	20.195	26.000	26.021	19.948	20.000
JSM-2026-20	20.0	26.0	20.0			26.000	26.021	19.948	20.000
JSM-2026-25	20.0	26.0	25.0			26.000	26.021	19.948	20.000
JSM-2026-30	20.0	26.0	30.0			26.000	26.021	19.948	20.000
JSM-2124-12	21.0	24.0	12.0	21.040	21.124	24.000	24.021	20.948	21.000
JSM-2225-15	22.0	25.0	15.0	22.040	22.124	25.000	25.021	21.948	22.000
JSM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
JSM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
JSM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
JSM-2228-20	22.0	28.0	20.0	22.065	22.195	28.000	28.021	21.948	22.000
JSM-2326-12	23.0	26.0	12.0	23.040	23.124	26.000	26.021	22.948	23.000
JSM-2427-15	24.0	27.0	15.0	24.040	24.124	27.000	27.021	23.948	24.000
JSM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
JSM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
JSM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
JSM-2427-46	24.0	27.0	46.0			27.000	27.021	23.948	24.000
JSM-2528-12	25.0	28.0	12.0	25.040	25.124	28.000	28.021	24.948	25.000
JSM-2528-15	25.0	28.0	15.0			28.000	28.021	24.948	25.000
JSM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
JSM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
JSM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
JSM-2528-60	25.0	28.0	60.0			28.000	28.021	24.948	25.000
JSM-2530-40	25.0	30.0	40.0	25.065	25.195	30.000	30.021	24.948	25.000
JSM-2532-25	25.0	32.0	25.0			32.000	32.025	24.948	25.000
JSM-2532-32	25.0	32.0	32.0			32.000	32.025	24.948	25.000
JSM-2532-35	25.0	32.0	35.0			32.000	32.025	24.948	25.000

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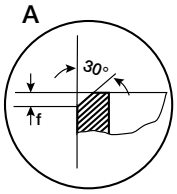
Sleeve bearing (form S), metric

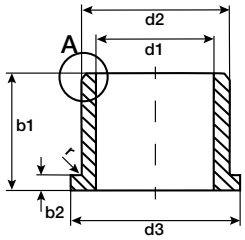
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
JSM-2630-20	26.0	30.0	20.0	26.065	26.195	30.000	30.021	25.948	26.000
JSM-2730-20	27.0	30.0	20.0	27.040	27.124	30.000	30.021	26.948	27.000
JSM-2832-20	28.0	32.0	20.0	28.065	28.195	32.000	32.025	27.948	28.000
JSM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
JSM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
JSM-3034-20	30.0	34.0	20.0	30.040	30.124	34.000	34.025	29.948	30.000
JSM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
JSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
JSM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
JSM-3038-40	30.0	38.0	40.0	30.065	30.195	38.000	38.025	29.948	30.000
JSM-3236-20	32.0	36.0	20.0	32.050	32.150	36.000	36.025	31.938	32.000
JSM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
JSM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
JSM-3237-25	32.0	37.0	25.0			37.000	37.025	31.938	32.000
JSM-3238-50	32.0	38.0	50.0	32.080	32.240	38.000	38.025	31.938	32.000
JSM-3539-20	35.0	39.0	20.0	35.050	35.150	39.000	39.025	34.938	35.000
JSM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
JSM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
JSM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
JSM-3640-45	36.0	40.0	45.0	36.050	36.150	40.000	40.025	35.938	36.000
JSM-4044-20	40.0	44.0	20.0	40.050	40.150	44.000	44.025	39.938	40.000
JSM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
JSM-4044-35	40.0	44.0	35.0			44.000	44.025	39.938	40.000
JSM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
JSM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
JSM-4246-73	42.0	46.0	73.0	42.080	42.240	46.000	46.025	41.938	42.000
JSM-4550-20	45.0	50.0	20.0	45.050	45.150	50.000	50.025	44.938	45.000
JSM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
JSM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
JSM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
JSM-5055-20	50.0	55.0	20.0	50.050	50.150	55.000	55.030	49.938	50.000
JSM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
JSM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
JSM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
JSM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
JSM-5560-60	55.0	60.0	60.0	55.060	55.180	60.000	60.030	54.926	55.000
JSM-6065-60	60.0	65.0	60.0	60.060	60.180	65.000	65.030	59.926	60.000
JSM-6570-50	65.0	70.0	50.0	65.060	65.180	70.000	70.030	64.926	65.000
JSM-7075-60	70.0	75.0	60.0	70.060	70.180	75.000	75.030	69.926	70.000
JSM-7580-60	75.0	80.0	60.0	75.060	75.180	80.000	80.030	74.926	75.000
JSM-8085-100	80.0	85.0	100.0	80.060	80.180	85.000	85.035	79.926	80.000
JSM-8086-60	80.0	86.0	60.0			86.000	86.035	79.926	80.000
JSM-100105-100	100.0	105.0	100.0	100.072	100.212	105.000	105.035	99.913	100.000
JSM-110115-60	110.0	115.0	60.0	110.072	110.212	115.000	115.035	109.913	110.000

Bearing technology | Plain bearing | iglide® J

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 196**

Order key

Type			Dimensions		
J	F	M	-03	04	-03
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1[1]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
JFM-0304-03	3.0	4.5	7.5	3.0	0.75			4.500	4.512	2.975	3.000
JFM-0304-045	3.0	4.5	7.5	4.5	0.75	3.014	3.054	4.500	4.512	2.975	3.000
JFM-0304-05	3.0	4.5	7.5	5.0	0.75			4.500	4.512	2.975	3.000
JFM-0306-10	3.0	6.0	9.0	10.0	1.50	3.020	3.080	6.000	6.012	2.975	3.000
JFM-0405-03	4.0	5.5	9.5	3.0	0.75	4.020	4.068	5.500	5.512	3.970	4.000
JFM-0405-06	4.0	5.5	9.5	6.0	0.75			5.500	5.512	3.970	4.000
JFM-0506-05	5.0	6.0	10.0	5.0	0.50			6.000	6.012	4.970	5.000
JFM-0507-03	5.0	7.0	11.0	3.0	1.00	5.020	5.068	7.000	7.015	4.970	5.000
JFM-0507-05	5.0	7.0	11.0	5.0	1.00			7.000	7.015	4.970	5.000
JFM-0608-04	6.0	8.0	12.0	4.0	1.00			8.000	8.015	5.970	6.000
JFM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
JFM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
JFM-0608-10	6.0	8.0	12.0	10.0	1.00			8.000	8.015	5.970	6.000
JFM-0610-10	6.0	10.0	14.0	10.0	2.00	6.030	6.105	10.000	10.015	5.970	6.000
JFM-0810-038	8.0	10.0	15.0	3.8	1.00			10.000	10.015	7.964	8.000
JFM-0810-05	8.0	10.0	15.0	5.0	1.00			10.000	10.015	7.964	8.000
JFM-0810-06	8.0	10.0	15.0	6.0	1.00			10.000	10.015	7.964	8.000
JFM-0810-07	8.0	10.0	15.0	7.0	1.00			10.000	10.015	7.964	8.000
JFM-0810-08	8.0	10.0	15.0	8.0	1.00			10.000	10.015	7.964	8.000
JFM-0810-09	8.0	10.0	15.0	9.5	1.00	8.025	8.083	10.000	10.015	7.964	8.000
JFM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
JFM-081012-16	8.0	10.0	12.0	16.0	1.00			10.000	10.015	7.964	8.000
JFM-0810125-10	8.0	10.0	12.5	10.0	1.00			10.000	10.015	7.964	8.000
JFM-081014-10	8.0	10.0	14.0	10.0	1.00			10.000	10.015	7.964	8.000
JFM-081016-11	8.0	10.0	16.0	11.0	2.00			10.000	10.015	7.964	8.000
JFM-0812-05	8.0	12.0	16.0	16.0	1.00	8.040	8.130	10.000	10.015	7.964	8.000
JFM-0812-06	8.0	12.0	16.0	6.0	2.00			12.000	12.018	7.964	8.000
JFM-0812-09	8.0	12.0	16.0	9.0	2.00	8.025	8.115	12.000	12.018	7.964	8.000
JFM-0812-12	8.0	12.0	16.0	12.0	1.00			12.000	12.018	7.964	8.000
JFM-0812-30	8.0	12.0	16.0	30.0	2.00			12.000	12.018	7.964	8.000
JFM-1012-05	10.0	12.0	18.0	5.0	1.00			12.000	12.018	9.964	10.000
JFM-1012-07	10.0	12.0	18.0	7.0	1.00			12.000	12.018	9.964	10.000
JFM-1012-09	10.0	12.0	18.0	9.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
JFM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
JFM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000

Bearing technology | Plain bearing | iglide® J

Flange bearing (form F), metric

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
JFM-1012-15	10.0	12.0	18.0	15.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
JFM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
JFM-1012-18	10.0	12.0	18.0	18.0	1.00			12.000	12.018	9.964	10.000
JFM-101215-035	10.0	12.0	15.0	3.5	1.00			12.000	12.018	9.964	10.000
JFM-1014-14	10.0	14.0	17.5	14.0	1.00			14.000	14.018	9.964	10.000
JFM-1016-10	10.0	16.0	22.0	10.0	3.00	10.040	10.130	16.000	16.018	9.964	10.000
JFM-1016-16	10.0	16.0	22.0	16.0	3.00			16.000	16.018	9.964	10.000
JFM-1113-05	11.0	13.0	18.0	5.0	1.00	11.032	11.102	13.000	13.018	10.957	11.000
JFM-1214-04	12.0	14.0	20.0	4.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
JFM-1214-05	12.0	14.0	20.0	5.0	1.00			14.000	14.018	11.957	12.000
JFM-1214-07	12.0	14.0	20.0	7.0	1.00			14.000	14.018	11.957	12.000
JFM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
JFM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
JFM-1214-15	12.0	14.0	20.0	15.0	1.00			14.000	14.018	11.957	12.000
JFM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
JFM-1214-20	12.0	14.0	20.0	20.0	1.00			14.000	14.018	11.957	12.000
JFM-121418-045	12.0	14.0	18.0	4.5	1.00			14.000	14.018	11.957	12.000
JFM-121418-10	12.0	14.0	18.0	10.0	1.00			14.000	14.018	11.957	12.000
JFM-1218-08	12.0	18.0	24.0	8.0	3.00	12.050	12.160	18.000	18.018	11.957	12.000
JFM-1218-12	12.0	18.0	24.0	12.0	3.00			18.000	18.018	11.957	12.000
JFM-1218-20	12.0	18.0	22.0	20.0	3.00			18.000	18.018	11.957	12.000
JFM-1416-03	14.0	16.0	22.0	3.0	1.00	14.032	14.102	16.000	16.018	13.957	14.000
JFM-1416-10	14.0	16.0	22.0	10.0	1.00			16.000	16.018	13.957	14.000
JFM-1416-12	14.0	16.0	22.0	12.0	1.00			16.000	16.018	13.957	14.000
JFM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
JFM-141822-20	14.0	18.0	22.0	20.0	2.00			18.000	18.018	13.957	14.000
JFM-141825-24	14.0	18.0	25.0	24.0	2.00			18.000	18.018	13.957	14.000
JFM-1420-20	14.0	20.0	25.0	20.0	3.00	14.050	14.160	20.000	20.021	13.957	14.000
JFM-1517-04	15.0	17.0	23.0	4.0	1.00	15.032	15.102	17.000	17.018	14.957	15.000
JFM-1517-055	15.0	17.0	23.0	5.5	1.00			17.000	17.018	14.957	15.000
JFM-1517-09	15.0	17.0	23.0	9.0	1.00			17.000	17.018	14.957	15.000
JFM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
JFM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
JFM-1521-20	15.0	21.0	27.0	20.0	3.00	15.050	15.160	21.000	21.021	14.957	15.000
JFM-1618-06	16.0	18.0	24.0	6.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
JFM-1618-12	16.0	18.0	24.0	12.0	1.00			18.000	18.018	15.957	16.000
JFM-1618-16	16.0	18.0	24.0	16.0	1.00			18.000	18.018	15.957	16.000
JFM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
JFM-1622-12	16.0	22.0	28.0	12.0	3.00	16.050	16.160	22.000	22.021	15.957	16.000
JFM-1622-15	16.0	22.0	28.0	15.0	3.00			22.000	22.021	15.957	16.000
JFM-1622-20	16.0	22.0	28.0	20.0	3.00			22.000	22.021	15.957	16.000
JFM-1622-25	16.0	22.0	28.0	25.0	3.00			22.000	22.021	15.957	16.000
JFM-1719-09	17.0	19.0	25.0	9.0	1.00	17.032	17.102	19.000	19.021	16.957	17.000
JFM-1719-21	17.0	19.0	25.0	21.0	1.00			19.000	19.021	16.957	17.000
JFM-1820-04	18.0	20.0	26.0	4.0	1.00	18.032	18.102	20.000	20.021	17.957	18.000
JFM-1820-12	18.0	20.0	26.0	12.0	1.00			20.000	20.021	17.957	18.000
JFM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
JFM-1820-22	18.0	20.0	26.0	22.0	1.00	18.032	18.102	20.000	20.021	17.957	18.000
JFM-1821-12	18.0	21.0	25.0	12.0	1.00			21.000	21.021	17.957	18.000
JFM-1922-23	19.0	22.0	26.0	23.0	1.00	19.032	19.102	22.000	22.021	18.948	19.000
JFM-1922-36	19.0	22.0	26.0	36.0	1.00			22.000	22.021	18.948	19.000
JFM-2023-11	20.0	23.0	30.0	11.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000
JFM-2023-15.5	20.0	23.0	30.0	15.5	1.50			23.000	23.021	19.948	20.000
JFM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
JFM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
JFM-2026-15	20.0	26.0	32.0	15.0	3.00	20.065	20.195	26.000	26.021	19.948	20.000
JFM-2026-20	20.0	26.0	32.0	20.0	3.00			26.000	26.021	19.948	20.000
JFM-2026-25	20.0	26.0	32.0	25.0	3.00			26.000	26.021	19.948	20.000
JFM-2026-30	20.0	26.0	32.0	30.0	3.00			26.000	26.021	19.948	20.000
JFM-222532-08	22.0	25.0	32.0	8.0	1.50	22.040	22.124	25.000	25.021	21.948	22.000
JFM-2430-30	24.0	30.0	36.0	30.0	3.00	24.040	24.124	30.000	30.021	23.948	24.000
JFM-2528-06	25.0	28.0	35.0	6.0	1.50	25.040	25.124	28.000	28.021	24.948	25.000
JFM-2528-11	25.0	28.0	35.0	11.5	1.50			28.000	28.021	24.948	25.000
JFM-2528-12	25.0	28.0	35.0	12.0	1.50			28.000	28.021	24.948	25.000
JFM-2528-14.5	25.0	28.0	35.0	14.5	1.50			28.000	28.021	24.948	25.000
JFM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
JFM-252839-05	25.0	28.0	39.0	5.0	1.50			28.000	28.021	24.948	25.000
JFM-252839-075	25.0	28.0	39.0	7.5	1.50			28.000	28.021	24.948	25.000
JFM-2532-20	25.0	32.0	38.0	20.0	4.00	25.065	25.195	32.000	32.025	24.948	25.000
JFM-2532-25	25.0	32.0	38.0	25.0	4.00			32.000	32.025	24.948	25.000
JFM-2532-40	25.0	32.0	38.0	40.0	2.00			32.000	32.021	24.948	25.000
JFM-283235-07	28.0	32.0	35.0	7.0	2.00	28.065	28.195	32.000	32.025	27.948	28.000
JFM-283239-20	28.0	32.0	39.0	20.0	2.00	28.040	28.124	32.000	32.025	27.948	28.000
JFM-303240-12	30.0	32.0	40.0	12.0	1.00	30.040	30.124	32.000	32.025	29.948	30.000
JFM-3034-16	30.0	34.0	42.0	16.0	2.00			34.000	34.025	29.948	30.000
JFM-3034-20	30.0	34.0	42.0	20.0	2.00			34.000	34.025	29.948	30.000
JFM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
JFM-3038-20	30.0	38.0	44.0	20.0	4.00	30.065	30.195	38.000	38.025	29.948	30.000
JFM-3038-30	30.0	38.0	44.0	30.0	4.00			38.000	38.025	29.948	30.000
JFM-3038-36	30.0	38.0	44.0	36.0	4.00			38.000	38.025	29.948	30.000
JFM-3539-12	35.0	39.0	47.0	12.0	2.00	35.050	35.150	39.000	39.025	34.938	35.000
JFM-3539-16	35.0	39.0	47.0	16.0	2.00			39.000	39.025	34.938	35.000
JFM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
JFM-4044-20	40.0	44.0	52.0	20.0	2.00	40.050	40.150	44.000	44.025	39.938	40.000
JFM-4044-30	40.0	44.0	52.0	30.0	2.00			44.000	44.025	39.938	40.000
JFM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
JFM-4550-12	45.0	50.0	58.0	12.0	2.00	45.050	45.150	50.000	50.025	44.938	45.000
JFM-4550-20	45.0	50.0	58.0	20.0	2.00			50.000	50.025	44.938	45.000
JFM-4550-50	45.0	50.0	58.0	50.0	2.00			50.000	50.025	44.938	45.000
JFM-5055-115	50.0	55.0	63.0	11.5	2.00	50.050	50.150	55.000	55.030	49.938	50.000
JFM-5055-50	50.0	55.0	63.0	50.0	2.00			55.000	55.030	49.938	50.000
JFM-5560-50	55.0	60.0	68.0	50.0	2.00	55.060	55.180	60.000	60.030	54.926	55.000
JFM-6065-37	60.0	65.0	73.0	37.0	2.00	60.060	60.180	65.000	65.030	59.926	60.000
JFM-6065-50	60.0	65.0	73.0	50.0	2.00			65.000	65.030	59.926	60.000

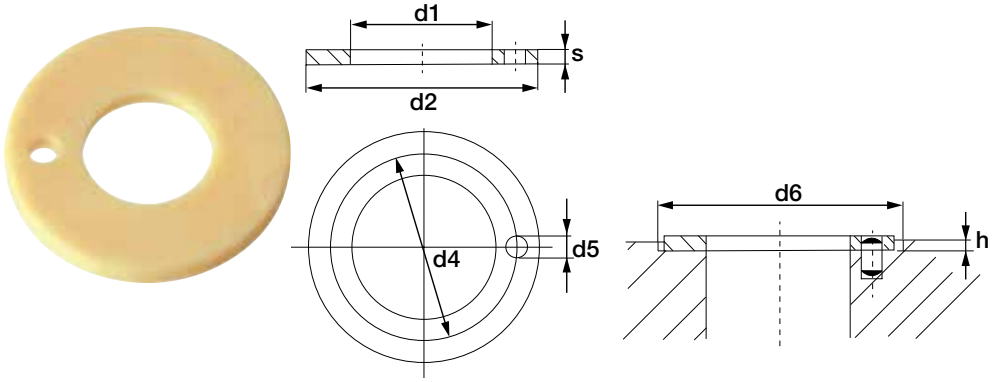
Bearing technology | Plain bearing | iglide® J

Flange bearing (form F), metric

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
JFM-6570-60	60.0	70.0	78.0	60.0	2.00	65.060	65.180	70.000	70.030	64.926	65.000
JFM-7075-50	70.0	75.0	83.0	50.0	2.00	70.060	70.180	75.000	75.030	69.926	70.000
JFM-9095-100	90.0	95.0	103.0	100.0	2.50	90.072	90.212	95.000	95.035	89.913	90.000
JFM-100105-100	100.0	105.0	113.0	100.0	2.50	100.072	100.212	105.000	105.035	99.913	100.000
JFM-110115-100	110.0	115.0	123.0	100.0	2.50	110.072	110.212	115.000	115.035	109.913	110.000
JFM-120125-100	120.0	125.0	133.0	100.0	2.50	120.072	120.212	125.000	125.040	119.913	120.000

Bearing technology | Plain bearing | iglide® J

Thrust washer bearing (form T), metric

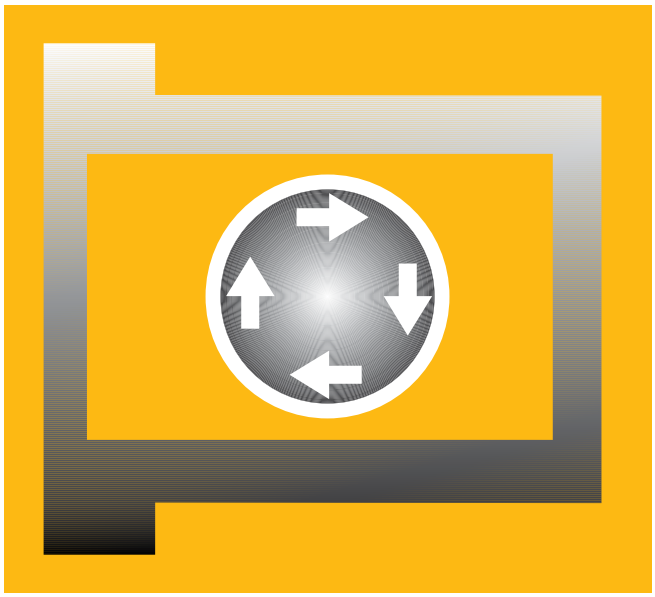


Order key

Type			Dimensions		
J	T	M	-05	12	-010
iglide® material	Thrust washer	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Thickness s (mm)

Part Number	d1	d2	s	d4	d5	h	d6
	+0.25	-0.25	-0.05	-0.12 +0.12	+0.375 +0.125	+0.2 -0.2	+0.12
JTM-0512-010	5.3	12	1.0	*	*	0.7	12
JTM-1224-015	12	24	1.5	18	1.5	1	24
JTM-1234-015	12	34	1.5	*	*	1	34
JTM-1420-015	14	20	1.5	*	*	1	20
JTM-2036-015	20	36	1.5	28	3	1	36
JTM-2842-020	28	42	2	35	3	1	42
JTM-3039-015	30	39	1.5	*	*	1	39
JTM-5670-010	56	70	1	*	*	0.7	70
JTM-139188-020	139	188	2	*	*	1.5	188

[1)] Design without fixing hole



The classic endurance runner up to 4,350psi

Excellent wear resistance on a large variety of shafts

iglide® W300

When to use it?

- When especially high service life is necessary
- When low coefficient of dynamic friction and high wear resistance are required
- For use on 304 stainless steel shafts
- For harsh environments and rough shafts
- Dirt-resistant

When not to use?

- For high loads starting at 7,250psi
  iglide® Q
- When continuous operating temperatures are higher than 194°F
  iglide® H, iglide® X
- For very wet environments
  iglide® P
- When a cost-effective plain bearing is required
  iglide® G

Bearing technology | Plain bearing | iglide® W300

Ø
2 – 120mm
1/8 - 2 1/4 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

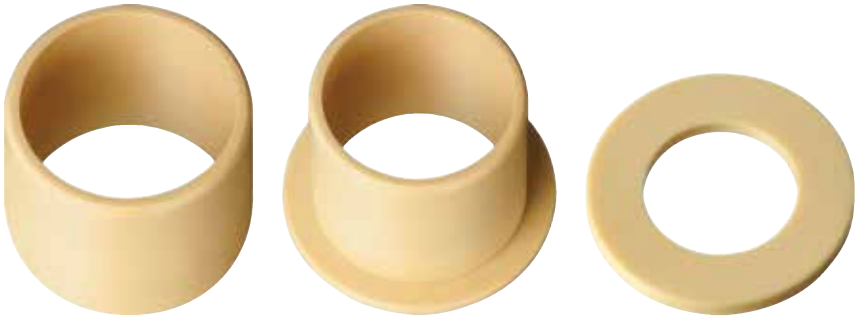
tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965



The classic endurance runner up to 4,350psi
Excellent wear resistance on (virtually) all shafts

iglide® W300 gives excellent wear resistance, even in harsh environments or when used with rough shafts. Of all iglide® materials, iglide® W300 is the most resistant to these conditions.

- Over 400 sizes available from stock
- Very long service life
- Low coefficient of friction
- Very wear-resistant
- Suitable for applications with soft shafts
- Self-lubricating
- Maintenance-free

Typical application areas

- Automation
- Printing industry
- Woodworking
- Mechatronics
- Test engineering and quality assurance
- Robotics

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■■	+
Wear resistance at +194°F	–	■■■■■	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■□□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■□□□	+
Resistant to edge pressures	–	■■■■■	+
Suitable for shock and impact loads	–	■■■■■	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

General properties			Testing method
Density	g/cm³	1.24	
Color		yellow	
Max. moisture absorption at +73°F and 50% r.h.	% weight	1.3	DIN 53495
Max. moisture absorption	% weight	6.5	
Coefficient of friction, dynamic, against steel	µ	0.08 – 0.23	
pv value, max. (dry)	psi · fpm	6,600	
Mechanical properties			
Flexural modulus	psi	507,632	DIN 53457
Flexural strength at +68°F	psi	18,130	DIN 53452
Compressive strength	psi	8,847	
Max. recommended surface pressure (+68°F)	psi	8,702	
Shore D hardness		77	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+356	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	9	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

–40°F up to +194°F

8,702psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

iglide® W300 gives excellent wear resistance, even in harsh environments or when used with rough shafts. This material is the most tolerant of these external effects out of all the iglide® range.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® W300 plain bearings is approximately 1.3% weight. The saturation limit in water is 6.5% weight. This must be taken into account for these types of applications.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® W300 are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® W300 plain bearings have limited resistance to weathering. The material properties are affected. Discoloration occurs. Practical tests under real application conditions are recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® W300 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.

iglide® W300 presents a very high compressive strength in spite of its high elasticity. Diagram 03 shows the elastic deformation of iglide® W300 at radial loads. At the maximum recommended surface pressure of 8,702psi the deformation is less than 3%.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Even at higher surface speeds, the coefficient of friction of iglide® W300 plain bearings remains the same. In relation to other materials, somewhat higher surface speeds can be attained, for example, up to 295fpm rotating and up to 1,181fpm linear in short term operation. The wear remains low when used for long periods at high speeds, due to exceptional wear resistance. Relatively high speeds can be obtained with iglide® W300 bearings on hardened shafts with the recommended surface finish.

▶ Surface speed, **Page 44**

Temperature

iglide® W300 plain bearings retain their exceptional wear resistance even up to the highest permissible application temperatures and at the same time resist becoming brittle at low temperatures. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Similar to wear resistance, the coefficient of friction μ also changes with the load. In contrast to other iglide® materials, the coefficient of friction of iglide® W300 remains consistently low at higher rotational speeds.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® W300 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. Smooth shafts have the danger of stick slip. Squeaking as an effect of stick slip is usually the result of shafts that are too smooth. Shaft surface finish of 0.4 – 0.5μm have proven to be the best. For iglide® W300, the wear resistance is still excellent with this surface finish as the friction adopts the minimum value. Diagram 06 shows results of testing different shafts. Hardened shafts are preferred for applications for higher loads. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	787
short-term	**fpm**	295	354	1181

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.08 – 0.23	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

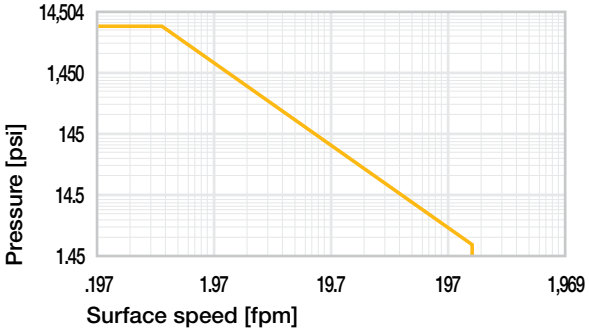


Diagram 01: Permissible pv values for iglide® W300 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

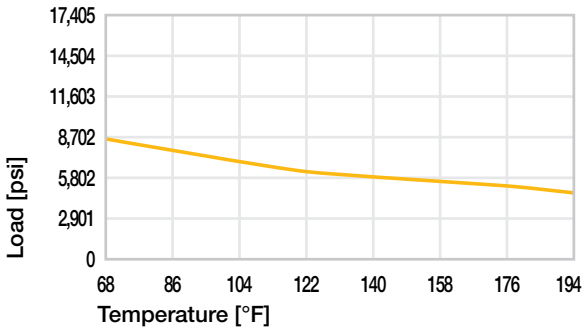


Diagram 02: Maximum recommended surface pressure as a function of temperature (8,702psi at +68°F)

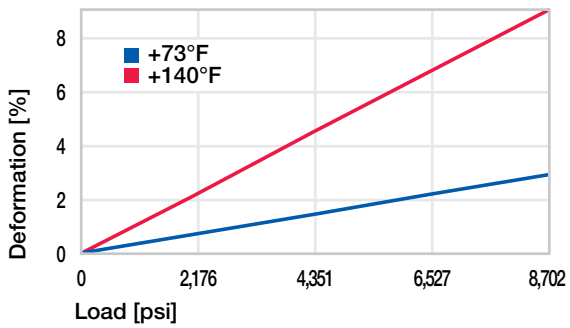


Diagram 03: Deformation under pressure and temperature

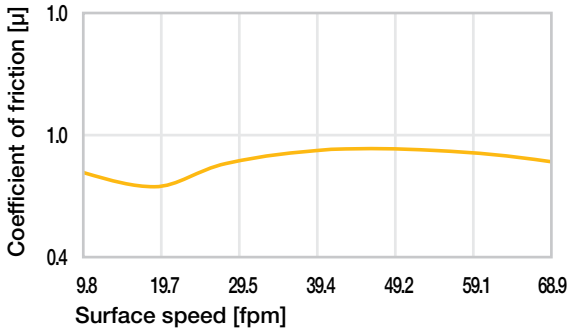


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

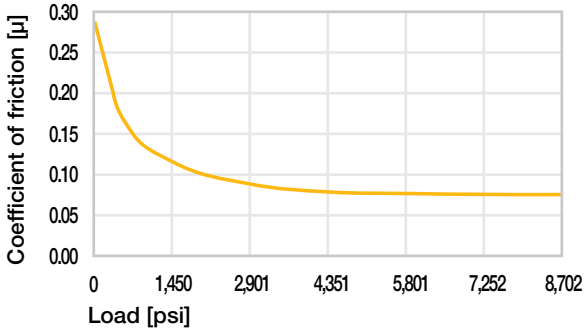


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

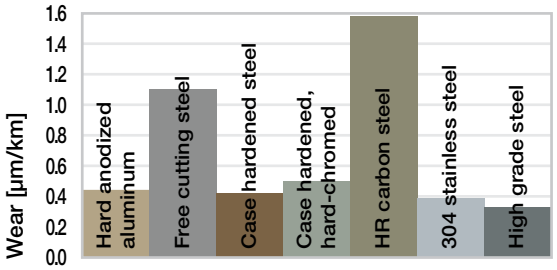


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

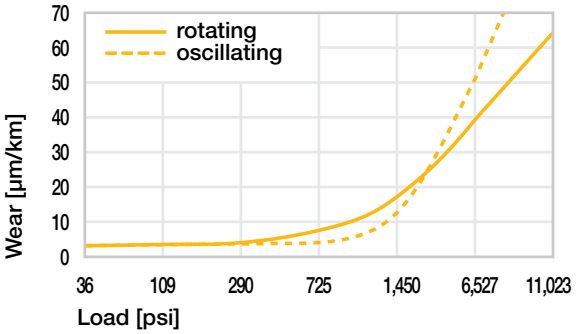
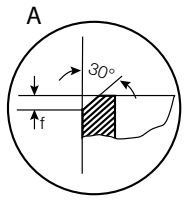


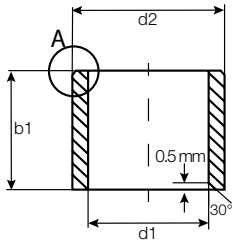
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® W300

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 214**

Order key

Type			Dimensions		
W	S	I	-02	03	-03
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
WSI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
WSI-0203-04	1/8	3/16	1/4			.1873	.1878	.1236	.1243
WSI-0203-06	1/8	3/16	3/8			.1873	.1878	.1236	.1243
WSI-0304-04	3/16	1/4	1/4	.1873	.1892	.2497	.2503	.1858	.1865
WSI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
WSI-0304-08	3/16	1/4	1/2			.2497	.2503	.1858	.1865
WSI-0405-03	1/4	5/16	3/16	.2498	.2521	.3122	.3128	.2481	.2490
WSI-0405-04	1/4	5/16	1/4			.3122	.3128	.2481	.2490
WSI-0405-05	1/4	5/16	5/16			.3122	.3128	.2481	.2490
WSI-0405-06	1/4	5/16	3/8			.3122	.3128	.2481	.2490
WSI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
WSI-0405-11	1/4	5/16	11/16			.3122	.3128	.2481	.2490
WSI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
WSI-0506-05	5/16	3/8	5/16			.3747	.3753	.3106	.3115
WSI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
WSI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
WSI-0506-12	5/16	3/8	3/4			.3747	.3753	.3106	.3115
WSI-0607-04	3/8	15/32	1/4	.3750	.3773	.4684	.4691	.3731	.3740
WSI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
WSI-0607-07	3/8	15/32	7/16			.4684	.4691	.3731	.3740
WSI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
WSI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
WSI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
WSI-0608-12	3/8	1/2	3/4	.3760	.3783	.5000	.5007	.3741	.3750
WSI-0708-04	7/16	17/32	1/4	.4379	.4406	.5309	.5316	.4355	.4365
WSI-0708-08	7/16	17/32	1/2			.5309	.5316	.4355	.4365
WSI-0708-12	7/16	17/32	3/4			.5309	.5316	.4355	.4365
WSI-0809-03	1/2	19/32	3/16	.5003	.5030	.5934	.5941	.4980	.4990
WSI-0809-04	1/2	19/32	1/4			.5934	.5941	.4980	.4990
WSI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
WSI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
WSI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
WSI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
WSI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
WSI-0810-08	1/2	5/8	1/2	.5013	.5040	.6250	.6260	.4990	.5000
WSI-0810-10	1/2	5/8	5/8			.6250	.6260	.4990	.5000
WSI-0810-12	1/2	5/8	3/4			.6250	.6260	.4990	.5000
WSI-0810-16	1/2	5/8	1			.6250	.6260	.4990	.5000
WSI-0910-08	9/16	21/32	1/2	.5627	.5655	.6563	.6570	.5605	.5615
WSI-0910-10	9/16	21/32	5/8			.6563	.6570	.5605	.5615
WSI-0910-12	9/16	21/32	3/4			.6563	.6570	.5605	.5615
WSI-1011-04	5/8	23/32	1/4	.6253	.6280	.7184	.7192	.6230	.6240
WSI-1011-06	5/8	23/32	3/8	.6253	.6280	.7184	.7192	.6230	.6240
WSI-1011-08	5/8	23/32	1/2			.7184	.7192	.6230	.6240
WSI-1011-10	5/8	23/32	5/8			.7184	.7192	.6230	.6240
WSI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
WSI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
WSI-1112-12	11/16	25/32	3/4	.6879	.6906	.7809	.7817	.6855	.6865
WSI-1214-08	3/4	7/8	1/2	.7507	.7541	.8747	.8755	.7479	.7491
WSI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
WSI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
WSI-1214-24	3/4	7/8	1 1/2			.8747	.8755	.7479	.7491
WSI-1315-15	13/16	15/16	15/16	.8141	.8174	.9375	.9383	.8105	.8125
WSI-1416-04	7/8	1	1/4	.8757	.8791	.9997	1.0005	.8729	.8741
WSI-1416-06	7/8	1	3/8			.9997	1.0005	.8729	.8741
WSI-1416-08	7/8	1	1/2			.9997	1.0005	.8729	.8741
WSI-1416-10	7/8	1	5/8			.9997	1.0005	.8729	.8741
WSI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
WSI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741
WSI-1416-24	7/8	1	1 1/2			.9997	1.0005	.8729	.8741
WSI-1618-06	1	1 1/8	3/8	1.0007	1.0041	1.1247	1.1255	.9979	.9991
WSI-1618-08	1	1 1/8	1/2			1.1247	1.1255	.9979	.9991
WSI-1618-12	1	1 1/8	3/4			1.1247	1.1255	.9979	.9991
WSI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
WSI-1618-20	1	1 1/8	1 1/4			1.1247	1.1255	.9979	.9991
WSI-1618-22	1	1 1/8	1 3/8			1.1247	1.1255	.9979	.9991
WSI-1618-24	1	1 1/8	1 1/2			1.1247	1.1255	.9979	.9991
WSI-1820-12	1 1/8	1 9/32	3/4	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
WSI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
WSI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
WSI-2022-12	1 1/4	1 13/32	3/4	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
WSI-2022-14	1 1/4	1 13/32	7/8	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
WSI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
WSI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
WSI-2022-24	1 1/4	1 13/32	1 1/2			1.4058	1.4068	1.2472	1.2488
WSI-2224-16	1 3/8	1 17/32	1	1.3758	1.3798	1.5308	1.5318	1.3722	1.3738
WSI-2224-24	1 3/8	1 17/32	1 1/2			1.5308	1.5318	1.3722	1.3738
WSI-2224-36	1 3/8	1 17/32	2 1/4			1.5308	1.5318	1.3722	1.3738
WSI-2426-12	1 1/2	1 21/32	3/4	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
WSI-2426-16	1 1/2	1 21/32	1			1.6558	1.6568	1.4972	1.4988
WSI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988

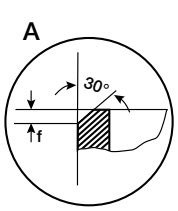
Bearing technology | Plain bearing | iglide® W300

Sleeve bearing (form S), inch

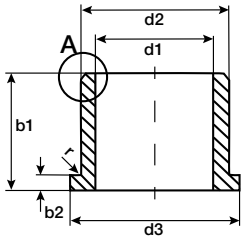
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
WSI-2426-44	1 1/2	1 21/32	2 3/4	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
WSI-2629-16	1 5/8	1 25/32	1	1.6258	1.6297	1.7808	1.7818	1.6222	1.6238
WSI-2629-20	1 5/8	1 25/32	1 1/4			1.7808	1.7818	1.6222	1.6238
WSI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
WSI-2831-16	1 3/4	1 15/16	1	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
WSI-2831-24	1 3/4	1 15/16	1 1/2			1.9371	1.9381	1.7471	1.7487
WSI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
WSI-2831-48	1 3/4	1 15/16	3			1.9371	1.9381	1.7471	1.7487
WSI-3033-16	1 7/8	2 1/16	1	1.8757	1.8796	2.0621	2.0633	1.8721	1.8737
WSI-3033-32	1 7/8	2 1/16	2			2.0621	2.0633	1.8721	1.8737
WSI-3235-16	2	2 3/16	1	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
WSI-3235-24	2	2 3/16	1 1/2			2.1871	2.1883	1.9969	1.9981
WSI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981
WSI-3639-32	2 1/4	2 7/16	2	2.2531	2.2577	2.4365	2.4377	2.2489	2.2507

Bearing technology | Plain bearing | iglide® W300

Flange bearing (form F), inch



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 214**

Order key

Type			Dimensions		
W	F	I	-02	03	-02
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
WFI-0203-03	1/8	3/16	3/16	.312	.032	.1251	.1269	.1873	.1878	.1236	.1243
WFI-0203-04	1/8	3/16	1/4	.312	.032			.1873	.1878	.1236	.1243
WFI-0203-06	1/8	3/16	3/8	.312	.032			.1873	.1878	.1236	.1243
WFI-0304-02	3/16	1/4	1/8	.375	.032	.1873	.1892	.2497	.2503	.1858	.1865
WFI-0304-04	3/16	1/4	1/4	.375	.032			.2497	.2503	.1858	.1865
WFI-0304-06	3/16	1/4	3/8	.375	.032			.2497	.2503	.1858	.1865
WFI-0304-08	3/16	1/4	1/2	.375	.032			.2497	.2503	.1858	.1865
WFI-0405-04	1/4	5/16	1/4	.500	.032	.2498	.2521	.3122	.3128	.2481	.2490
WFI-0405-05	1/4	5/16	5/16	.500	.032			.3122	.3128	.2481	.2490
WFI-0405-06	1/4	5/16	3/8	.500	.032			.3122	.3128	.2481	.2490
WFI-0405-08	1/4	5/16	1/2	.500	.032			.3122	.3128	.2481	.2490
WFI-0405-12	1/4	5/16	3/4	.500	.032			.3122	.3128	.2481	.2490
WFI-0506-04	5/16	3/8	1/4	.562	.032	.3125	.3148	.3747	.3753	.3106	.3115
WFI-0506-06	5/16	3/8	3/8	.562	.032			.3747	.3753	.3106	.3115
WFI-0506-08	5/16	3/8	1/2	.562	.032			.3747	.3753	.3106	.3115
WFI-0506-12	5/16	3/8	3/4	.562	.032			.3747	.3753	.3106	.3115
WFI-0607-04	3/8	15/32	1/4	.687	.046	.3750	.3773	.4684	.4691	.3731	.3740
WFI-0607-06	3/8	15/32	3/8	.687	.046			.4684	.4691	.3731	.3740
WFI-0607-08	3/8	15/32	1/2	.687	.046			.4684	.4691	.3731	.3740
WFI-0607-12	3/8	15/32	3/4	.687	.046			.4684	.4691	.3731	.3740
WFI-0607-14	3/8	15/32	7/8	.687	.046			.4684	.4691	.3731	.3740
WFI-0607-24	3/8	15/32	1 1/2	.687	.046			.4684	.4691	.3731	.3740
WFI-0708-04	7/16	17/32	1/4	.750	.046	.4379	.4406	.5309	.5316	.4355	.4365
WFI-0708-08	7/16	17/32	1/2	.750	.046			.5309	.5316	.4355	.4365
WFI-0809-04	1/2	19/32	1/4	.875	.046	.5003	.5030	.5934	.5941	.4980	.4990
WFI-0809-06	1/2	19/32	3/8	.875	.046			.5934	.5941	.4980	.4990
WFI-0809-08	1/2	19/32	1/2	.875	.046			.5934	.5941	.4980	.4990
WFI-0809-12	1/2	19/32	3/4	.875	.046			.5934	.5941	.4980	.4990
WFI-0809-16	1/2	19/32	1	.875	.046			.5934	.5941	.4980	.4990
WFI-1011-045	5/8	23/32	9/32	.937	.046	.6253	.6280	.7184	.7192	.6230	.6240
WFI-1011-08	5/8	23/32	1/2	.937	.046			.7184	.7192	.6230	.6240
WFI-1011-12	5/8	23/32	3/4	.937	.046			.7184	.7192	.6230	.6240
WFI-1011-16	5/8	23/32	1	.937	.046			.7184	.7192	.6230	.6240
WFI-1011-24	5/8	23/32	1 1/2	.937	.046			.7184	.7192	.6230	.6240

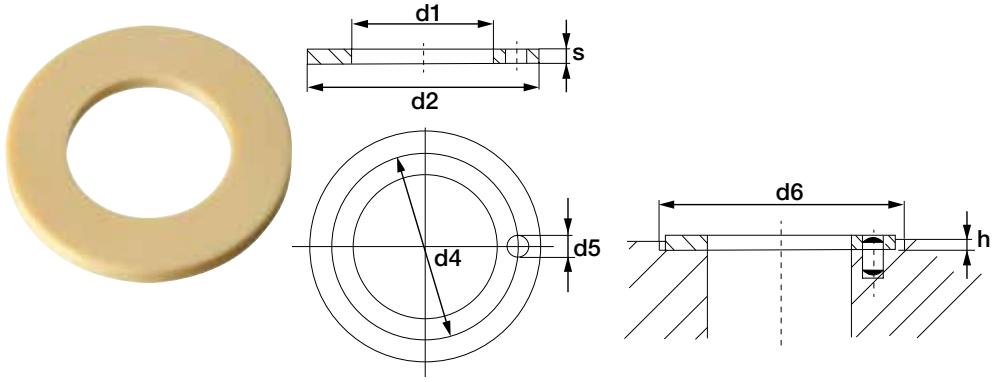
Bearing technology | Plain bearing | iglide® W300

Flange bearing (form F), inch

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
WFI-1214-08	3/4	7/8	1/2	1.125	.062			.8747	.8755	.7479	.7491
WFI-1214-10	3/4	7/8	5/8	1.125	.062			.8747	.8755	.7479	.7491
WFI-1214-12	3/4	7/8	3/4	1.125	.062	.7507	.7541	.8747	.8755	.7479	.7491
WFI-1214-16	3/4	7/8	1	1.125	.062			.8747	.8755	.7479	.7491
WFI-1214-24	3/4	7/8	1 1/2	1.125	.062			.8747	.8755	.7479	.7491
WFI-1416-04	7/8	1	1/4	1.250	.062			.9997	1.0005	.8729	.8741
WFI-1416-075	7/8	1	15/32	1.250	.062			.9997	1.0005	.8729	.8741
WFI-1416-08	7/8	1	1/2	1.250	.062			.9997	1.0005	.8729	.8741
WFI-1416-115	7/8	1	23/32	1.250	.062			.9997	1.0005	.8729	.8741
WFI-1416-12	7/8	1	3/4	1.250	.062			.9997	1.0005	.8729	.8741
WFI-1416-16	7/8	1	1	1.250	.062	.8757	.8791	.9997	1.0005	.8729	.8741
WFI-1416-20	7/8	1	1 1/4	1.250	.062			.9997	1.0005	.8729	.8741
WFI-1416-24	7/8	1	1 1/2	1.250	.062			.9997	1.0005	.8729	.8741
WFI-141618-08	7/8	1	1/2	1.125	.062			.9997	1.0005	.8729	.8741
WFI-141618-10	7/8	1	5/8	1.125	.062			.9997	1.0005	.8729	.8741
WFI-141620-11	7/8	1	11/16	1.250	.062			.9997	1.0005	.8729	.8741
WFI-1618-08	1	1 1/8	1/2	1.375	.062			1.1247	1.1255	.9979	.9991
WFI-1618-12	1	1 1/8	3/4	1.375	.062			1.1247	1.1255	.9979	.9991
WFI-1618-16	1	1 1/8	1	1.375	.062	1.0007	1.0041	1.1247	1.1255	.9979	.9991
WFI-1618-20	1	1 1/8	1 1/4	1.375	.062			1.1247	1.1255	.9979	.9991
WFI-1618-24	1	1 1/8	1 1/2	1.375	.062			1.1247	1.1255	.9979	.9991
WFI-1620-08	1	1 1/4	1/2	1.500	.188	1.0007	1.0041	1.2520	1.2559	.9979	.9991
WFI-1820-08	1 1/8	1 9/32	1/2	1.562	.078			1.2808	1.2818	1.1226	1.1238
WFI-1820-12	1 1/8	1 9/32	3/4	1.562	.078	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
WFI-1820-24	1 1/8	1 9/32	1 1/2	1.562	.078			1.2808	1.2818	1.1226	1.1238
WFI-2022-12	1 1/4	1 13/32	3/4	1.687	.078			1.4058	1.4068	1.2472	1.2488
WFI-2022-14	1 1/4	1 13/32	7/8	1.687	.078			1.4058	1.4068	1.2472	1.2488
WFI-2022-16	1 1/4	1 13/32	1	1.687	.078	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
WFI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.078			1.4058	1.4068	1.2472	1.2488
WFI-2022-24	1 1/4	1 13/32	1 1/2	1.687	.078			1.4058	1.4068	1.2472	1.2488
WFI-2224-16	1 3/8	1 17/32	1	1.875	.078	1.3758	1.3798	1.5308	1.5318	1.3722	1.3738
WFI-2426-12	1 1/2	1 21/32	3/4	2.000	.078			1.6558	1.6568	1.4972	1.4988
WFI-2426-16	1 1/2	1 21/32	1	2.000	.078	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
WFI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.078			1.6558	1.6568	1.4972	1.4988
WFI-2831-16	1 3/4	1 15/16	1	2.375	.093			1.9371	1.9381	1.7471	1.7487
WFI-2831-24	1 3/4	1 15/16	1 1/2	2.375	.093	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
WFI-2831-32	1 3/4	1 15/16	2	2.375	.093			1.9371	1.9381	1.7471	1.7487
WFI-3235-16	2	2 3/16	1	2.625	.093			2.1871	2.1883	1.9969	1.9981
WFI-3235-24	2	2 3/16	1 1/2	2.625	.093	2.0012	2.0059	2.1871	2.1883	1.9969	1.9981
WFI-3235-32	2	2 3/16	2	2.625	.093			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® W300

Thrust washer bearing (form T), inch



Order key

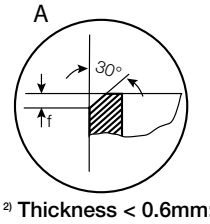
Type			Dimensions		
W	T	I	-06	10	- 01
iglide® material	Thrust washer	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Thickness s (inch)

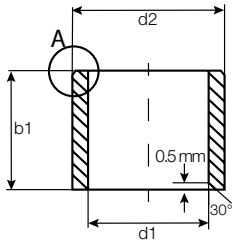
Part Number	d1	d2	s	d4	d5	h	d6
	+.010	-.010	-.0020	+-.005	+.015 +.005	+.008	+.005
WTI-0610-01	.375	.625	.0400	*	*	*	.625
WTI-0814-01	.500	.875	.0585	.692	.067	.040	.875
WTI-1018-01	.625	1.125	.0585	.880	.099	.040	1.125
WTI-1220-01	.750	1.250	.0585	1.005	.099	.040	1.250
WTI-1424-01	.875	1.500	.0585	1.192	.130	.040	1.500
WTI-1628-01	1.000	1.750	.0585	1.380	.130	.040	1.750
WTI-2034-01	1.250	2.125	.0585	1.692	.161	.040	2.125
WTI-2440-01	1.500	2.500	.0585	2.005	.192	.040	2.500
WTI-2844-01	1.750	2.750	.0585	2.255	.192	.040	2.750
WTI-3248-01	2.000	3.000	.0895	2.505	.192	.070	3.000

*Designed without fixation hole

Bearing technology | Plain bearing | iglide® W300

Sleeve bearing (form S), metric





[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 214**

Order key

Type			Dimensions		
W	S	M	-01	03	-02
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
WSM-0203-03	2.0	3.5	3.0	2.014	2.054	3.500	3.512	1.975	2.000
WSM-0204-018	2.0	4.0	1.8			4.000	4.012	1.975	2.000
WSM-0204-03	2.5	4.0	3.0	2.514	2.554	4.000	4.012	2.475	2.500
WSM-0304-03	3.0	4.5	3.0	3.014	3.054	4.500	4.512	2.975	3.000
WSM-0304-05	3.0	4.5	5.0			4.500	4.512	2.975	3.000
WSM-0304-06	3.0	4.5	6.0			4.500	4.512	2.975	3.000
WSM-0405-04	4.0	5.5	4.0	4.020	4.068	5.500	5.512	3.970	4.000
WSM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
WSM-0405-08	4.0	5.5	8.0			5.500	5.512	3.970	4.000
WSM-0405-10	4.0	5.5	10.0			5.500	5.512	3.970	4.000
WSM-0507-05	5.0	7.0	5.0	5.020	5.068	7.000	7.015	4.970	5.000
WSM-0507-08	5.0	7.0	8.0			7.000	7.015	4.970	5.000
WSM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
WSM-0607-14	6.0	7.0	14.0	6.010	6.058	7.000	7.015	5.970	6.000
WSM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
WSM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
WSM-0608-09	6.0	8.0	9.5			8.000	8.015	5.970	6.000
WSM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
WSM-0608-11	6.0	8.0	11.8			8.000	8.015	5.970	6.000
WSM-0608-13	6.0	8.0	13.8			8.000	8.015	5.970	6.000
WSM-0709-09	7.0	9.0	9.0	7.025	7.083	9.000	9.015	6.964	7.000
WSM-0709-12	7.0	9.0	12.0			9.000	9.015	6.964	7.000
WSM-0709-125	7.0	9.0	12.5			9.000	9.015	6.964	7.000
WSM-0810-06	8.0	10.0	6.0	8.025	8.083	10.000	10.015	7.964	8.000
WSM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
WSM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
WSM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
WSM-0810-13	8.0	10.0	13.8			10.000	10.015	7.964	8.000
WSM-0810-15	8.0	10.0	15.0			10.000	10.015	7.964	8.000
WSM-0810-16	8.0	10.0	16.0			10.000	10.015	7.964	8.000
WSM-0810-20	8.0	10.0	20.0			10.000	10.015	7.964	8.000
WSM-0810-21	8.0	10.0	21.0			10.000	10.015	7.964	8.000
WSM-0911-06	9.0	11.0	6.0	9.025	9.083	11.000	11.018	8.964	9.000
WSM-1012-04	10.0	12.0	4.0	10.025	10.083	12.000	12.018	9.964	10.000
WSM-1012-06	10.0	12.0	6.0			12.000	12.018	9.964	10.000

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
WSM-1012-08	10.0	12.0	8.0	10.025	10.083	12.000	12.018	9.964	10.000
WSM-1012-09	10.0	12.0	9.0			12.000	12.018	9.964	10.000
WSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
WSM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
WSM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
WSM-1012-17	10.0	12.0	17.0			12.000	12.018	9.964	10.000
WSM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
WSM-1012-25.5	10.0	12.0	25.5			12.000	12.018	9.964	10.000
WSM-1113-08	11.0	13.0	8.0	11.032	11.102	13.000	13.018	10.957	11.000
WSM-1214-04	12.0	14.0	4.0	12.032	12.102	14.000	14.018	11.957	12.000
WSM-1214-05	12.0	14.0	5.0			14.000	14.018	11.957	12.000
WSM-1214-06	12.0	14.0	6.0			14.000	14.018	11.957	12.000
WSM-1214-08	12.0	14.0	8.0			14.000	14.018	11.957	12.000
WSM-1214-10	12.0	14.0	10.0			14.000	14.018	11.957	12.000
WSM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
WSM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
WSM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
WSM-1214-25	12.0	14.0	25.0			14.000	14.018	11.957	12.000
WSM-1315-07	13.0	15.0	7.0	13.032	13.102	15.000	15.018	12.957	13.000
WSM-1315-10	13.0	15.0	10.0			15.000	15.018	12.957	13.000
WSM-1315-15	13.0	15.0	15.0			15.000	15.018	12.957	13.000
WSM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
WSM-1416-07	14.0	16.0	7.3	14.032	14.102	16.000	16.018	13.957	14.000
WSM-1416-10	14.0	16.0	10.0			16.000	16.018	13.957	14.000
WSM-1416-15	14.0	16.0	15.0			16.000	16.018	13.957	14.000
WSM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
WSM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
WSM-1416-33	14.0	16.0	33.0			16.000	16.018	13.957	14.000
WSM-1517-10	15.0	17.0	10.0	15.032	15.102	17.000	17.018	14.957	15.000
WSM-1517-15	15.0	17.0	15.0			17.000	17.018	14.957	15.000
WSM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
WSM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
WSM-1618-07	16.0	18.0	7.0	16.032	16.102	18.000	18.018	15.957	16.000
WSM-1618-08	16.0	18.0	8.0			18.000	18.018	15.957	16.000
WSM-1618-11	16.0	18.0	11.5			18.000	18.018	15.957	16.000
WSM-1618-12	16.0	18.0	12.0			18.000	18.018	15.957	16.000
WSM-1618-15	16.0	18.0	15.0			18.000	18.018	15.957	16.000
WSM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
WSM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
WSM-1618-30	16.0	18.0	30.0			18.000	18.018	15.957	16.000
WSM-1618-35	16.0	18.0	35.0			18.000	18.018	15.957	16.000
WSM-1618-42	16.0	18.0	42.0			18.000	18.018	15.957	16.000
WSM-1618-45	16.0	18.0	45.0			18.000	18.018	15.957	16.000
WSM-1820-12	18.0	20.0	12.0	18.032	18.102	20.000	20.021	17.957	18.000
WSM-1820-15	18.0	20.0	15.0			20.000	20.021	17.957	18.000
WSM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
WSM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000

Bearing technology | Plain bearing | iglide® W300

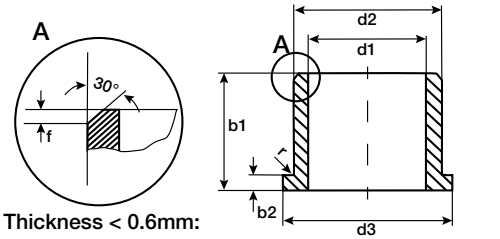
Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
WSM-1820-33	18.0	20.0	33.0	18.032	18.102	20.000	20.021	17.957	18.000
WSM-1820-35	18.0	20.0	35.0			20.000	20.021	17.957	18.000
WSM-1922-28	19.0	22.0	28.0	19.040	19.124	22.000	22.021	18.948	19.000
WSM-2022-11	20.0	22.0	11.5	20.040	20.124	22.000	22.021	19.948	20.000
WSM-2022-12	20.0	22.0	12.0			22.000	22.021	19.948	20.000
WSM-2022-15	20.0	22.0	15.0			22.000	22.021	19.948	20.000
WSM-2022-20	20.0	22.0	20.0			22.000	22.021	19.948	20.000
WSM-2022-30	20.0	22.0	30.0			22.000	22.021	19.948	20.000
WSM-2023-08	20.0	23.0	8.0			23.000	23.021	19.948	20.000
WSM-2023-10	20.0	23.0	10.0			23.000	23.021	19.948	20.000
WSM-2023-12	20.0	23.0	12.0			23.000	23.021	19.948	20.000
WSM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
WSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
WSM-2023-23	20.0	23.0	23.0			23.000	23.021	19.948	20.000
WSM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
WSM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
WSM-2224-15	22.0	24.0	15.0	22.040	22.124	24.000	24.021	21.948	22.000
WSM-2224-20	22.0	24.0	20.0			24.000	24.021	21.948	22.000
WSM-2224-30	22.0	24.0	30.0			24.000	24.021	21.948	22.000
WSM-2224-35	22.0	24.0	35.0			24.000	24.021	21.948	22.000
WSM-2224-45	22.0	24.0	45.0			24.000	24.021	21.948	22.000
WSM-2225-15	22.0	25.0	15.0			25.000	25.021	21.948	22.000
WSM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
WSM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
WSM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
WSM-2427-15	24.0	27.0	15.0	24.040	24.124	27.000	27.021	23.948	24.000
WSM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
WSM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
WSM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
WSM-2528-12	25.0	28.0	12.0	25.040	25.124	28.000	28.021	24.948	25.000
WSM-2528-14	25.0	28.0	14.0			28.000	28.021	24.948	25.000
WSM-2528-15	25.0	28.0	15.0			28.000	28.021	24.948	25.000
WSM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
WSM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
WSM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
WSM-2528-50	25.0	28.0	50.0			28.000	28.021	24.948	25.000
WSM-2630-16	26.0	30.0	16.0	26.040	26.124	30.000	30.021	25.948	26.000
WSM-2630-25	26.0	30.0	25.0			30.000	30.021	25.948	26.000
WSM-2830-10	28.0	30.0	10.0	28.040	28.124	30.000	30.021	27.948	28.000
WSM-2831-10	28.0	31.0	10.0			31.000	31.025	27.948	28.000
WSM-2832-20	28.0	32.0	20.0			32.000	32.025	27.948	28.000
WSM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
WSM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
WSM-3034-16	30.0	34.0	16.0	30.040	30.124	34.000	34.025	29.948	30.000
WSM-3034-20	30.0	34.0	20.0			34.000	34.025	29.948	30.000
WSM-3034-24	30.0	34.0	24.0			34.000	34.025	29.948	30.000
WSM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
WSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
WSM-3034-36	30.0	34.0	36.0	30.040	30.124	34.000	34.025	29.948	30.000
WSM-3034-38	30.0	34.0	38.0			34.000	34.025	29.948	30.000
WSM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
WSM-3034-45	30.0	34.0	45.0			34.000	34.025	29.948	30.000
WSM-3034-47	30.0	34.0	47.0			34.000	34.025	29.948	30.000
WSM-3236-20	32.0	36.0	20.0	32.050	32.150	36.000	36.025	31.938	32.000
WSM-3236-25	32.0	36.0	25.0			36.000	36.025	31.938	32.000
WSM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
WSM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
WSM-3539-20	35.0	39.0	20.0	35.050	35.150	39.000	39.025	34.938	35.000
WSM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
WSM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
WSM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
WSM-3540-07	35.0	40.0	7.0			40.000	40.025	34.938	35.000
WSM-4044-20	40.0	44.0	20.0	40.050	40.150	44.000	44.025	39.938	40.000
WSM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
WSM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
WSM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
WSM-4550-20	45.0	50.0	20.0	45.050	45.150	50.000	50.025	44.938	45.000
WSM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
WSM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
WSM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
WSM-5055-20	50.0	55.0	20.0	50.050	50.150	55.000	55.030	49.938	50.000
WSM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
WSM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
WSM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
WSM-5055-55	50.0	55.0	55.0			55.000	55.030	49.938	50.000
WSM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
WSM-5560-40	55.0	60.0	40.0	55.060	55.180	60.000	60.030	54.926	55.000
WSM-5560-60	55.0	60.0	60.0			60.000	60.030	54.926	55.000
WSM-6065-30	60.0	65.0	30.0	60.060	60.180	65.000	65.030	59.926	60.000
WSM-6065-60	60.0	65.0	60.0			65.000	65.030	59.926	60.000
WSM-6570-60	65.0	70.0	60.0	65.060	65.180	70.000	70.030	64.926	65.000
WSM-7075-60	70.0	75.0	60.0	70.060	70.180	75.000	75.030	69.926	70.000
WSM-7580-100	75.0	80.0	100.0	75.060	75.180	80.000	80.030	74.926	75.000
WSM-8085-20	80.0	85.0	20.0	80.060	80.180	85.000	85.035	79.926	80.000
WSM-8085-100	80.0	85.0	100.0			85.000	85.035	79.926	80.000
WSM-9095-100	90.0	95.0	100.0	90.072	90.212	95.000	95.035	89.913	90.000
WSM-100105-100	100.0	105.0	100.0	100.072	100.212	105.000	105.035	99.913	100.000

Bearing technology | Plain bearing | iglide® W300

Flange bearing (form F), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, page 214

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
W	F	M	-03	04	-03
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1[1]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
WFM-0204-03	2.5	4.0	6.5	3.0	0.75	2.514	2.554	4.000	4.012	2.475	2.500
WFM-0304-03	3.0	4.5	7.5	3.0	0.75	3.014	3.054	4.500	4.512	2.975	3.000
WFM-0304-05	3.0	4.5	7.5	5.0	0.75			4.500	4.512	2.975	3.000
WFM-0405-03	4.0	5.5	9.5	3.0	0.75	4.020	4.068	5.500	5.512	3.970	4.000
WFM-0405-04	4.0	5.5	9.5	4.0	0.75			5.500	5.512	3.970	4.000
WFM-0405-06	4.0	5.5	9.5	6.0	0.75			5.500	5.512	3.970	4.000
WFM-0506-08	5.0	6.0	10.0	8.0	0.50	5.010	5.040	6.000	6.012	4.970	5.000
WFM-0507-04	5.0	7.0	11.0	4.0	1.00	5.020	5.068	7.000	7.015	4.970	5.000
WFM-0507-05	5.0	7.0	11.0	5.0	1.00			7.000	7.015	4.970	5.000
WFM-0608-04	6.0	8.0	12.0	4.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
WFM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
WFM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
WFM-0608-10	6.0	8.0	12.0	10.0	1.00			8.000	8.015	5.970	6.000
WFM-0608-15	6.0	8.0	12.0	15.0	1.00			8.000	8.015	5.970	6.000
WFM-0709-10	7.0	9.0	15.0	10.0	1.00	7.025	7.083	9.000	9.015	6.964	7.000
WFM-0709-12	7.0	9.0	15.0	12.0	1.00			9.000	9.015	6.964	7.000
WFM-0810-02	8.0	10.0	15.0	2.7	1.00	8.025	8.083	10.000	10.015	7.964	8.000
WFM-0810-04	8.0	10.0	15.0	4.0	1.00			10.000	10.015	7.964	8.000
WFM-0810-05	8.0	10.0	15.0	5.5	1.00			10.000	10.015	7.964	8.000
WFM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
WFM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
WFM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
WFM-0810-23	8.0	10.0	15.0	23.0	1.00			10.000	10.015	7.964	8.000
WFM-0810-30	8.0	10.0	15.0	30.0	1.00			10.000	10.015	7.964	8.000
WFM-081015-05	8.0	10.0	15.0	5.0	1.00			10.000	10.015	7.964	8.000
WFM-1012-04	10.0	12.0	18.0	4.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
WFM-1012-05	10.0	12.0	18.0	5.0	1.00			12.000	12.018	9.964	10.000
WFM-1012-06	10.0	12.0	18.0	6.0	1.00			12.000	12.018	9.964	10.000
WFM-1012-07	10.0	12.0	18.0	7.0	1.00			12.000	12.018	9.964	10.000
WFM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
WFM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
WFM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
WFM-1012-15	10.0	12.0	18.0	15.0	1.00			12.000	12.018	9.964	10.000
WFM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
WFM-1214-04	12.0	14.0	20.0	4.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000

Product range

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
WFM-1214-044	12.0	14.0	20.0	4.4	1.00	12.032	12.102	14.000	14.018	11.957	12.000
WFM-1214-06	12.0	14.0	20.0	6.0	1.00			14.000	14.018	11.957	12.000
WFM-1214-07	12.0	14.0	20.0	7.0	1.00			14.000	14.018	11.957	12.000
WFM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
WFM-1214-10	12.0	14.0	20.0	10.0	1.00			14.000	14.018	11.957	12.000
WFM-1214-11	12.0	14.0	20.0	11.0	1.00			14.000	14.018	11.957	12.000
WFM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
WFM-1214-15	12.0	14.0	20.0	15.0	1.00			14.000	14.018	11.957	12.000
WFM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
WFM-1214-20	12.0	14.0	20.0	20.0	1.00			14.000	14.018	11.957	12.000
WFM-1315-06	13.0	15.0	22.0	6.0	1.00	13.032	13.102	15.000	15.018	12.957	13.000
WFM-1416-04	14.0	16.0	22.0	4.0	1.00	14.032	14.102	16.000	16.018	13.957	14.000
WFM-1416-05	14.0	16.0	22.0	5.0	1.00			16.000	16.018	13.957	14.000
WFM-1416-08	14.0	16.0	22.0	8.0	1.00			16.000	16.018	13.957	14.000
WFM-1416-12	14.0	16.0	22.0	12.0	1.00			16.000	16.018	13.957	14.000
WFM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
WFM-1416-29	14.0	16.0	22.0	29.0	1.00			16.000	16.018	13.957	14.000
WFM-1517-09	15.0	17.0	23.0	9.0	1.00	15.032	15.102	17.000	17.018	14.957	15.000
WFM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
WFM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
WFM-1517-20	15.0	17.0	23.0	20.0	1.00			17.000	17.018	14.957	15.000
WFM-1618-09	16.0	18.0	24.0	9.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
WFM-1618-12	16.0	18.0	24.0	12.0	1.00			18.000	18.018	15.957	16.000
WFM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
WFM-1719-12	17.0	19.0	25.0	12.0	1.00	17.032	17.102	19.000	19.021	16.957	17.000
WFM-1719-18	17.0	19.0	25.0	18.0	1.00			19.000	19.021	16.957	17.000
WFM-1719-25	17.0	19.0	25.0	25.0	1.00			19.000	19.021	16.957	17.000
WFM-1820-06	18.0	20.0	26.0	6.0	1.00	18.032	18.102	20.000	20.021	17.957	18.000
WFM-1820-12	18.0	20.0	26.0	12.0	1.00			20.000	20.021	17.957	18.000
WFM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
WFM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
WFM-2023-08	20.0	23.0	30.0	8.0	1.50	20.040	20.124	23.000	23.021	19.948	20.000
WFM-2023-085	20.0	23.0	30.0	8.5	1.50			23.000	23.021	19.948	20.000
WFM-2023-11	20.0	23.0	30.0	11.0	1.50			23.000	23.021	19.948	20.000
WFM-2023-14	20.0	23.0	30.0	14.5	1.50			23.000	23.021	19.948	20.000
WFM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
WFM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
WFM-2427-10	24.0	27.0	32.0	10.5	1.50	24.040	24.124	27.000	27.021	23.948	24.000
WFM-2528-11	25.0	28.0	35.0	11.5	1.50	25.040	25.124	28.000	28.021	24.948	25.000
WFM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
WFM-2528-21	25.0	28.0	35.0	21.0	1.50			28.000	28.021	24.948	25.000
WFM-2528-30	25.0	28.0	32.0	30.0	1.50			28.000	28.021	24.948	25.000
WFM-252831-13	25.0	28.0	31.0	13.5	1.50			28.000	28.021	24.948	25.000
WFM-2830-36	28.0	30.0	35.0	36.0	1.00	28.040	28.124	30.000	30.021	27.948	28.000
WFM-3034-10	30.0	34.0	42.0	10.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
WFM-3034-16	30.0	34.0	42.0	16.0	2.00			34.000	34.025	29.948	30.000
WFM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000

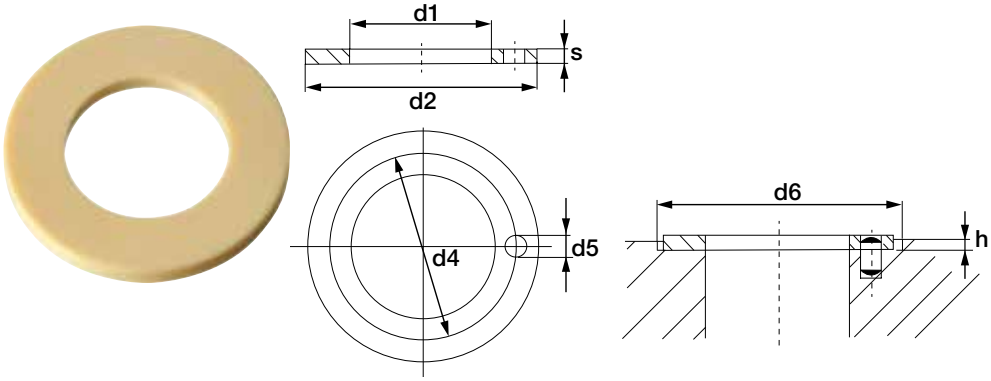
Bearing technology | Plain bearing | iglide® W300

Flange bearing (form F), metric

Part Number	d1[1)]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
WFM-3034-37	30.0	34.0	42.0	37.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
WFM-3236-16	32.0	36.0	40.0	16.0	2.00	32.050	32.150	36.000	36.025	31.938	32.000
WFM-3236-26	32.0	36.0	40.0	26.0	2.00			36.000	36.025	31.938	32.000
WFM-3539-09	35.0	39.0	47.0	9.0	2.00	35.050	35.150	39.000	39.025	34.938	35.000
WFM-3539-16	35.0	39.0	47.0	16.0	2.00			39.000	39.025	34.938	35.000
WFM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
WFM-353950-35	35.0	39.0	50.0	35.0	2.00			39.000	39.025	34.938	35.000
WFM-3842-22	38.0	42.0	50.0	22.0	2.00	38.050	38.150	42.000	42.025	37.938	38.000
WFM-4044-30	40.0	44.0	52.0	30.0	2.00	40.050	40.150	44.000	44.025	39.938	40.000
WFM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
WFM-4550-50	45.0	50.0	58.0	50.0	2.00	45.050	45.150	50.000	50.025	44.938	45.000
WFM-5055-40	50.0	55.0	63.0	40.0	2.00	50.050	50.150	55.000	55.030	49.938	50.000
WFM-5055-50	50.0	55.0	63.0	50.0	2.00			55.000	55.030	49.938	50.000
WFM-5560-60	55.0	60.0	68.0	60.0	2.00	55.060	55.180	60.000	60.030	54.926	55.000
WFM-5762-40	57.0	62.0	67.0	40.0	2.00	57.060	57.180	62.000	62.030	56.926	57.000
WFM-6065-60	60.0	65.0	73.0	60.0	2.00	60.060	60.180	65.000	65.030	59.926	60.000
WFM-6570-60	65.0	70.0	78.0	60.0	2.00	65.060	65.180	70.000	70.030	64.926	65.000
WFM-7075-100	70.0	75.0	83.0	100.0	2.50	70.060	70.180	75.000	75.030	69.926	70.000
WFM-7580-100	75.0	80.0	88.0	100.0	2.50	75.060	75.180	80.000	80.030	74.926	75.000
WFM-8085-100	80.0	85.0	93.0	100.0	2.50	80.060	80.180	85.000	85.035	79.926	80.000
WFM-9095-100	90.0	95.0	103.0	100.0	2.50	90.072	90.212	95.000	95.035	89.913	90.000
WFM-100105-100	100.0	105.0	113.0	100.0	2.50	100.072	100.212	105.000	105.035	99.913	100.000
WFM-120125-100	120.0	125.0	133.0	100.0	2.50	120.072	120.212	125.000	125.040	119.913	120.000

Bearing technology | Plain bearing | iglide® W300

Thrust washer bearing (form T), metric

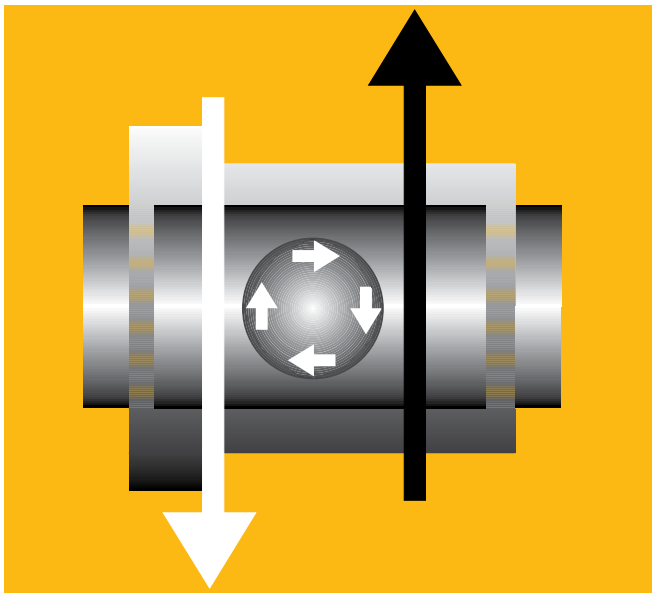


Order key

Type			Dimensions		
W	T	M	- 04 08	-	005
iglide® material	Thrust washer	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Thickness s (mm)

Part Number	d1	d2	s	d4	d5	h	d6
	+0.25	-0.25	-0.05	-0.12 +0.12	+0.375 +0.125	+0.2 -0.2	+0.12
WTM-0509-006	5	9.5	[4]	[4]	0.3	9.5	0.6
WTM-0620-015	6	20	13	1.5	1	20	1.5
WTM-0818-015	8	18	13	1.5	1	18	1.5
WTM-1018-010	10	18	[4]	[4]	0.7	18	1
WTM-1018-015	10	18	[4]	[4]	1	18	1.5
WTM-1224-015	12	24	18	1.5	1	24	1.5
WTM-1426-015	14	26	20	2	1	26	1.5
WTM-1524-015	15	24	19.5	1.5	1	24	1.5
WTM-1630-015	16	30	23	2	1	30	1.5
WTM-1832-015	18	32	25	2	1	32	1.5
WTM-1844-015	18	44	30	7	1	44	1.5
WTM-2036-015	20	36	28	3	1	36	1.5
WTM-2238-015	22	38	30	3	1	38	1.5
WTM-2442-015	24	42	33	3	1	42	1.5
WTM-2644-015	26	44	35	3	1	44	1.5
WTM-2840-015	28	40	38	4	1	48	1.5
WTM-2848-015	28	48	38	4	1	48	1.5
WTM-3254-015	32	54	43	4	1	54	1.5
WTM-3862-015	38	62	50	4	1	62	1.5
WTM-4266-015	42	66	54	4	1	66	1.5
WTM-4874-020	48	74	61	4	1.5	74	2
WTM-5278-020	52	78	65	4	1.5	78	2
WTM-6290-020	62	90	76	4	1.5	90	2
WTM-82110-020	82	110	[4]	[4]	1.5	110	2
WTM-102130-020	102	130	[4]	[4]	1.5	130	2
WTM-120150-020	120	150	[4]	[4]	1.5	150	2

Notes



The new endurance runner: specialist for pivoting applications and intermittent loads

Up to 1,450psi, up to three times more wear-resistant than iglide® J

iglide® J3

When to use it?

- When optimizing wear resistance compared to iglide® J
- When very low coefficients of friction in dry operation are required
- When high wear resistance at low loads is required
- When low moisture absorption is fundamental
- When good liquid media resistance is required

When not to use?

- When a wear-resistant plain bearing for linear motion is required
  iglide® J
- When continuous operating temperatures are higher than +194°F
  iglide® J260
- When radial surface pressure is higher than 6,527psi
  iglide® W300

Ø
2.0 – 50mm
1/8 - 2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

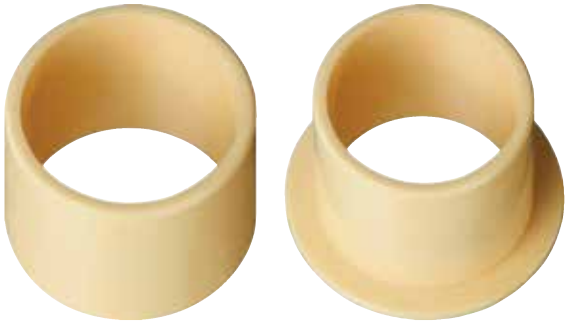
tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965



The new endurance runner: specialist for pivoting applications and intermittent loads

Up to 1,450psi, up to three times more wear-resistant than iglide® J

iglide® J3 is a material with improved wear resistance at low to medium loads and high speed. The service life is up to 300% longer than iglide® J – the proven top endurance runner material.

- Low coefficient of friction
- High media resistance
- Low moisture absorption
- PTFE-free
- Self-lubricating
- Maintenance-free

Typical application areas

- Automation
- Printing industry
- Beverage industry
- Packaging
- Aerospace engineering

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■■	+
Wear resistance at +194°F	–	■■■■■	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.42	
Color		yellow	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	1.3	
Coefficient of friction, dynamic, against steel	µ	0.06 – 0.20	
pv value, max. (dry)	psi · fpm	14,000	
Mechanical properties			
Flexural modulus	psi	391,602	DIN 53457
Flexural strength at +68°F	psi	10,153	DIN 53452
Compressive strength	psi	8,702	
Max. recommended surface pressure (+68°F)	psi	6,527	
Shore D hardness		73	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+248	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	13	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

Table 01: Material properties

-58°F up to +194°F

6,527psi

HB

RoHS

ISO 3547-1

With respect to its general mechanical and thermal specifications, iglide® J3 is directly comparable to our classic, iglide® J.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® J3 plain bearings is approximately 0.3% weight. The saturation limit in water is 1.3% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® J3 bearings.

Radiation resistance

Resistant to radiation up to an intensity of $1 \cdot 10^4$Gy.

Resistance to weathering

iglide® J3 plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® J3 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 iglide® J3 at radial loads. At the maximum recommended surface pressure of 6,527psi at room temperature the deformation is less than 6%. A possible deformation could be, among others, dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® J3 is also suitable for medium to high surface speeds. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The temperatures prevailing in the bearing system also have an influence on the wear. With increasing temperatures, the wear increases and this effect is significant when temperatures rise over +194°F. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® J3 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table). In relation to the installation tolerance, the inner diameter changes with the absorption of humidity.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. For iglide® J3 a ground surface with an average surface finish Ra = 0.1 – 0.3μm is recommended. The diagram 06 shows that iglide® J3 can be combined with various shaft materials. Diagram 07 shows rotating and pivoting applications in comparison. With higher load, the wear increases more for rotating than for pivoting movements.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	295	217	1575
short-term	**fpm**	591	413	1969

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.06 – 0.20	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

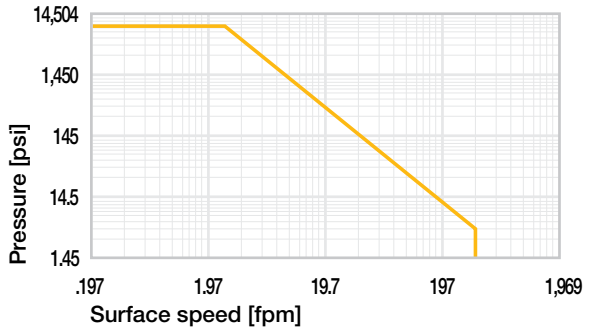


Diagram 01: Permissible pv values for iglide® J3 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

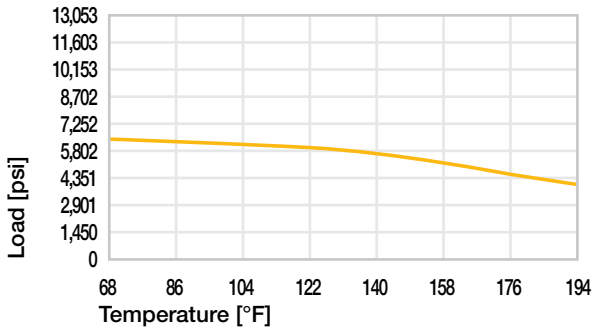


Diagram 02: Maximum recommended surface pressure as a function of temperature (6,527psi at +68°F)

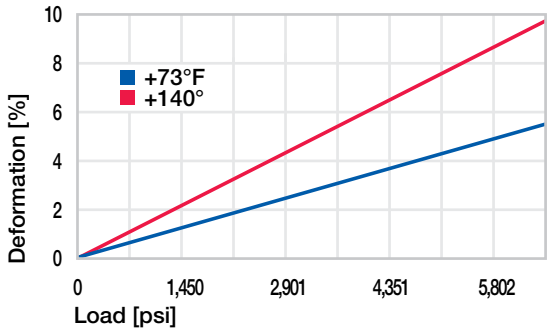


Diagram 03: Deformation under pressure and temperature

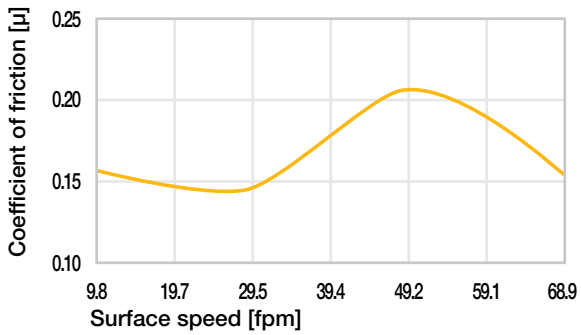


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

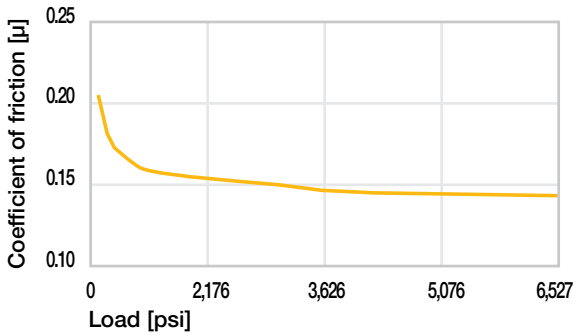


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

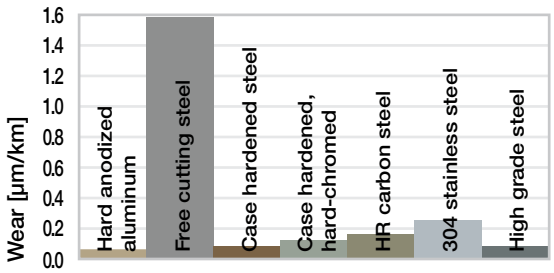


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

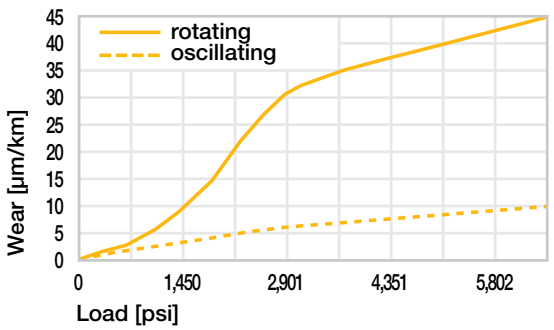
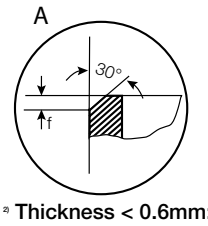


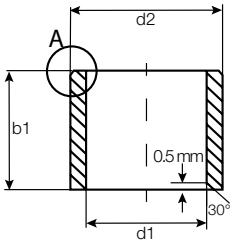
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® J3

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 234**

Order key

Type			Dimensions		
J3	S	I	-02	03	-03
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

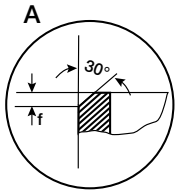
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
J3SI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
J3SI-0304-04	3/16	1/4	1/4	.1873	.1892	.2497	.2503	.1858	.1865
J3SI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
J3SI-0405-06	1/4	5/16	3/8	.2498	.2521	.3122	.3128	.2481	.2490
J3SI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
J3SI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
J3SI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
J3SI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
J3SI-0607-04	3/8	15/32	1/4	.3750	.3773	.4684	.4691	.3731	.3740
J3SI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
J3SI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
J3SI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
J3SI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
J3SI-0708-08	7/16	17/32	1/2	.4379	.4406	.5309	.5316	.4355	.4365
J3SI-0708-12	7/16	17/32	3/7			.5309	.5316	.4355	.4365
J3SI-0809-04	1/2	19/32	1/4	.5003	.5030	.5934	.5941	.4980	.4990
J3SI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
J3SI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
J3SI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
J3SI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
J3SI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
J3SI-0910-08	9/16	21/32	1/2	.5627	.5655	.6559	.6566	.5605	.5615
J3SI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
J3SI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
J3SI-1011-08	5/8	23/32	1/2	.6253	.6280	.7184	.7192	.6230	.6240
J3SI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
J3SI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
J3SI-1214-08	3/4	7/8	1/2	.7505	.7541	.8747	.8755	.7479	.7491
J3SI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
J3SI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
J3SI-1416-08	7/8	1	1/2	.8757	.8791	.9997	1.0050	.8729	.8741
J3SI-1416-12	7/8	1	3/4			.9997	1.0050	.8729	.8741
J3SI-1416-16	7/8	1	1			.9997	1.0050	.8729	.8741
J3SI-1618-08	1	1 1/8	1/2	1.0007	1.0041	1.1247	1.1255	.9979	.9991

Product range

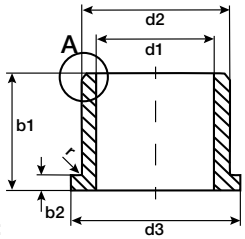
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
J3SI-1618-12	1	1 1/8	3/4	1.0007	1.0041	1.1247	1.1255	.9979	.9991
J3SI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
J3SI-1820-12	1 1/8	1 9/32	3/4	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
J3SI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
J3SI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
J3SI-2022-12	1 1/4	1 13/32	3/4	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
J3SI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
J3SI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
J3SI-2426-16	1 1/2	1 21/32	1	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
J3SI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
J3SI-2629-16	1 5/8	1 25/32	1	1.6258	1.6297	1.7808	1.7818	1.6222	1.6238
J3SI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
J3SI-2831-16	1 3/4	1 15/16	1	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
J3SI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
J3SI-3033-16	1 7/8	2 1/16	1	1.8757	1.8796	2.0621	2.0633	1.8721	1.8737
J3SI-3033-32	1 7/8	2 1/16	2			2.0621	2.0633	1.8721	1.8737
J3SI-3235-16	2	2 3/16	1	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
J3SI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® J3

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 234**

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

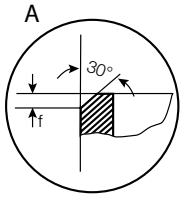
Order key

Type			Dimensions		
J3	F	I	-02	03	-02
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

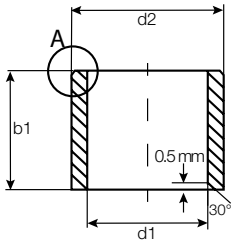
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
J3FI-0203-03	1/8	3/16	3/16	.312	.0320	.1251	.1269	.1873	.1878	.1236	.1243
J3FI-0304-04	3/16	1/4	1/4	.375	.0320	.1873	.1892	.2497	.2503	.1858	.1865
J3FI-0405-06	1/4	5/16	3/8	.430	.0320	.2498	.2521	.3122	.3128	.2481	.2490
J3FI-0405-08	1/4	5/16	1/2	.500	.0320			.3122	.3128	.2481	.2490
J3FI-0506-04	5/16	3/8	1/4	.500	.0320	.3125	.3148	.3747	.3753	.3106	.3115
J3FI-0506-06	5/16	3/8	3/8	.500	.0320			.3747	.3753	.3106	.3115
J3FI-0506-08	5/16	3/8	1/2	.500	.0320			.3747	.3753	.3106	.3115
J3FI-0607-04	3/8	15/32	1/4	.687	.0460	.3750	.3773	.4684	.4691	.3731	.3740
J3FI-0607-06	3/8	15/32	3/8	.687	.0460			.4684	.4691	.3731	.3740
J3FI-0607-08	3/8	15/32	1/2	.687	.0460			.4684	.4691	.3731	.3740
J3FI-0607-12	3/8	15/32	3/4	.687	.0460			.4684	.4691	.3731	.3740
J3FI-0708-08	7/16	17/32	1/2	.750	.0460	.4379	.4406	.5309	.5316	.4355	.4365
J3FI-0809-04	1/2	19/32	1/4	.875	.0460	.5003	.5030	.5934	.5941	.4980	.4990
J3FI-0809-06	1/2	19/32	3/8	.875	.0460			.5934	.5941	.4980	.4990
J3FI-0809-08	1/2	19/32	1/2	.875	.0460			.5934	.5941	.4980	.4990
J3FI-0809-12	1/2	19/32	3/4	.875	.0460			.5934	.5941	.4980	.4990
J3FI-0809-16	1/2	19/32	1	.875	.0460			.5934	.5941	.4980	.4990
J3FI-1011-08	5/8	23/32	1/2	.937	.0460	.6253	.6280	.7184	.7192	.6230	.6240
J3FI-1011-12	5/8	23/32	3/4	.937	.0460			.7184	.7192	.6230	.6240
J3FI-1011-16	5/8	23/32	1	.937	.0460			.7184	.7192	.6230	.6240
J3FI-1214-08	3/4	7/8	1/2	1.125	.0620	.7505	.7541	.8747	.8755	.7479	.7491
J3FI-1214-12	3/4	7/8	3/4	1.125	.0620			.8747	.8755	.7479	.7491
J3FI-1214-16	3/4	7/8	1	1.125	.0620			.8747	.8755	.7479	.7491
J3FI-1416-08	7/8	1	1/2	1.250	.0620	.8757	.8791	.9997	1.0050	.8729	.8741
J3FI-1416-12	7/8	1	3/4	1.250	.0620			.9997	1.0050	.8729	.8741
J3FI-1416-16	7/8	1	1	1.250	.0620			.9997	1.0050	.8729	.8741
J3FI-1618-08	1	1 1/8	1/2	1.375	.0620	1.0007	1.0041	1.1247	1.1255	.9979	.9991
J3FI-1618-12	1	1 1/8	3/4	1.375	.0620			1.1247	1.1255	.9979	.9991
J3FI-1618-16	1	1 1/8	1	1.375	.0620			1.1247	1.1255	.9979	.9991
J3FI-2022-16	1 1/4	1 13/32	1	1.687	.0780	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
J3FI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.0780			1.4058	1.4068	1.2472	1.2488
J3FI-2426-16	1 1/2	1 21/32	1	2.000	.0780	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
J3FI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.0780			1.6558	1.6568	1.4972	1.4988
J3FI-2831-32	1 3/4	1 15/16	2	2.375	.0930	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
J3FI-3235-32	2	2 3/16	2	2.625	.0930	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® J3

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, page 234

Order key

Type			Dimensions		
J3	S	M	-01	03	-02
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
J3SM-0304-05	3.0	4.5	5.0	3.014	3.054	4.500	4.512	2.975	3.000
J3SM-0405-04	4.0	5.5	4.0	4.020	4.068	5.500	5.512	3.970	4.000
J3SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
J3SM-0405-08	4.0	5.5	8.0			5.500	5.512	3.970	4.000
J3SM-0507-05	5.0	7.0	5.0	5.020	5.068	7.000	7.015	4.970	5.000
J3SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
J3SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
J3SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
J3SM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
J3SM-0810-08	8.0	10.0	8.0	8.025	8.083	10.000	10.015	7.964	8.000
J3SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
J3SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
J3SM-1012-08	10.0	12.0	8.0	10.025	10.083	12.000	12.018	9.964	10.000
J3SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
J3SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
J3SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
J3SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
J3SM-1214-10	12.0	14.0	10.0	12.032	12.102	14.000	14.018	11.957	12.000
J3SM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
J3SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
J3SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
J3SM-1315-10	13.0	15.0	10.0	13.032	13.102	15.000	15.018	12.957	13.000
J3SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
J3SM-1416-15	14.0	16.0	15.0	14.032	14.102	16.000	16.018	13.957	14.000
J3SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
J3SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
J3SM-1517-04	15.0	17.0	4.0	15.032	15.102	17.000	17.018	14.957	15.000
J3SM-1517-15	15.0	17.0	15.0			17.000	17.018	14.957	15.000
J3SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
J3SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
J3SM-1517-30	15.0	17.0	30.0			17.000	17.018	14.957	15.000
J3SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
J3SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
J3SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
J3SM-1820-15	18.0	20.0	15.0	18.032	18.102	20.000	20.021	17.957	18.000

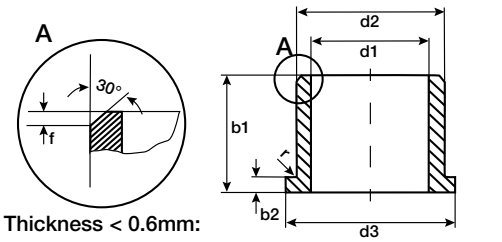
Bearing technology | Plain bearing | iglide® J3

Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
J3SM-1820-20	18.0	20.0	20.0	18.032	18.102	20.000	20.021	17.957	18.000
J3SM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
J3SM-1821-20	18.0	21.0	20.0	18.032	18.102	21.000	21.021	17.957	18.000
J3SM-1821-25	18.0	21.0	25.0			21.000	21.021	17.957	18.000
J3SM-2023-10	20.0	23.0	10.0	20.040	20.124	23.000	23.021	19.948	20.000
J3SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
J3SM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
J3SM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
J3SM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
J3SM-2225-15	22.0	25.0	15.0	22.040	221.124	25.000	25.021	21.948	22.000
J3SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
J3SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
J3SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
J3SM-2427-15	24.0	27.0	15.0	24.040	24.124	27.000	27.021	23.948	24.000
J3SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
J3SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
J3SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
J3SM-2528-15	25.0	28.0	15.0	25.040	25.124	28.000	28.021	24.948	25.000
J3SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
J3SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
J3SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
J3SM-2832-20	28.0	32.0	20.0	28.040	28.124	32.000	32.025	27.948	28.000
J3SM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
J3SM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
J3SM-3034-20	30.0	34.0	20.0	30.040	30.124	34.000	34.025	29.948	30.000
J3SM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
J3SM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
J3SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
J3SM-3236-20	32.0	36.0	20.0	32.050	32.150	36.000	36.025	31.938	32.000
J3SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
J3SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
J3SM-3539-20	35.0	39.0	20.0	35.050	35.150	39.000	39.025	34.938	35.000
J3SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
J3SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
J3SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
J3SM-4044-20	40.0	44.0	20.0	40.050	40.150	44.000	44.025	39.938	40.000
J3SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
J3SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
J3SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
J3SM-4550-20	45.0	50.0	20.0	45.050	45.150	50.000	50.025	44.938	45.000
J3SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
J3SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
J3SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
J3SM-5055-20	50.0	55.0	20.0	50.050	50.150	55.000	55.030	49.938	50.000
J3SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
J3SM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
J3SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
J3SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000

Bearing technology | Plain bearing | iglide® J3

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 234**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

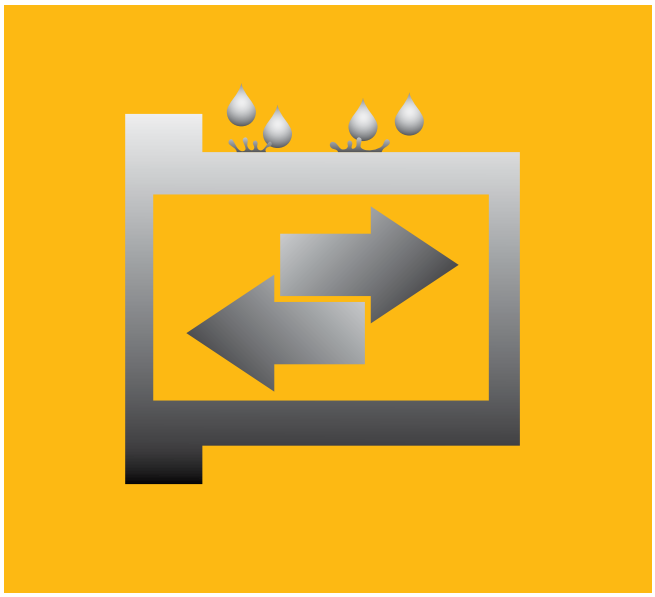
Type			Dimensions		
J3	F	M	-03	04	-03
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1 [014]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
J3FM-0203505-05	2.0	3.5	5.0	5.0	0.75	2.014	2.054	3.500	3.512	1.975	2.000
J3FM-0304-05	3.0	4.5	7.5	5.0	0.75	3.014	3.054	4.500	4.512	2.975	3.000
J3FM-0507-05	5.0	7.0	11.0	5.0	1.00	5.020	5.068	7.000	7.015	4.970	5.000
J3FM-0608-04	6.0	8.0	12.0	4.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
J3FM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
J3FM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
J3FM-0810-05	8.0	10.0	15.0	5.5	1.00	8.025	8.083	10.000	10.015	7.964	8.000
J3FM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
J3FM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
J3FM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
J3FM-081418-15	8.0	14.0	18.0	15.0	2.00	8.025	8.083	14.000	14.015	7.964	8.000
J3FM-1012-07	10.0	12.0	18.0	7.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
J3FM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
J3FM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
J3FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
J3FM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
J3FM-1214-07	12.0	14.0	20.0	7.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
J3FM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
J3FM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
J3FM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
J3FM-1416-12	14.0	16.0	22.0	12.0	1.00	14.032	14.102	16.000	16.018	13.957	14.000
J3FM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
J3FM-1517-09	15.0	17.0	23.0	9.0	1.00	15.032	15.102	17.000	17.018	14.957	15.000
J3FM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
J3FM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
J3FM-1618-12	16.0	18.0	24.0	12.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
J3FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
J3FM-1820-12	18.0	20.0	26.0	12.0	1.00	18.040	18.124	20.000	20.021	17.957	18.000
J3FM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
J3FM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
J3FM-1821-12	18.0	21.0	25.0	12.0	1.00			21.000	21.021	17.957	18.000
J3FM-2023-11	20.0	23.0	30.0	11.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000
J3FM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
J3FM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® J3

Flange bearing (form F), metric

Part Number	d1 014	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
J3FM-2528-11	25.0	28.0	35.0	11.5	1.50	25.050	25.150	28.000	28.021	24.948	25.000
J3FM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
J3FM-2528-21	25.0	28.0	35.0	21.5	1.50	25.050	25.150	28.000	28.021	24.948	25.000
J3FM-3034-16	30.0	34.0	42.0	16.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
J3FM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
J3FM-3539-16	35.0	39.0	47.0	16.0	2.00	35.050	35.150	39.000	39.025	34.938	35.000
J3FM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
J3FM-4044-30	40.0	44.0	52.0	30.0	2.00	40.050	40.150	44.000	44.025	39.938	40.000
J3FM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
J3FM-4550-50	45.0	50.0	58.0	50.0	2.00	45.050	45.150	50.000	50.025	44.938	45.000



Proven long-life material in black

Wear-resistant endurance runner up to 1,450psi

iglide® J3B

When to use it?

- When optimizing wear resistance compared to iglide® J
- When low moisture absorption is fundamental
- When good liquid media resistance is required
- When high wear resistance at low loads is required
- When very low coefficients of friction in dry operation are required

When not to use?

- When a wear-resistant plain bearing for linear motion is required
  iglide® J
- When continuous operating temperatures are higher than +194°F
  iglide® J260
- When radial surface pressure is higher than 6,527psi
  iglide® W300

Ø
6 – 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Proven long-life material in black

Wear-resistant endurance runner up to 1,450psi

The proven long-life material iglide® J3 is now available in black as well. The endurance runner is a specialist for pivoting and pulsating loads and also media-resistant.

- Aesthetically suitable
- Low coefficient of friction
- Is especially long-lasting in the most varied of applications
- Low moisture absorption

Typical application areas

- Furniture industry
- Sports and leisure
- Two-wheel technology

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■■	+
Wear resistance at +194°F	–	■■■■■	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.42	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	1.3	
Coefficient of friction, dynamic, against steel	µ	0.08 – 0.17	
pv value, max. (dry)	psi · fpm	14,300	
Mechanical properties			
Flexural modulus	psi	419,884	DIN 53457
Flexural strength at +68°F	psi	9,427	DIN 53452
Compressive strength	psi	8,120	
Max. recommended surface pressure (+68°F)	psi	6,382	
Shore D hardness		76	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+230	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.30	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	12.7	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

Table 01: Material properties

–58°F up to +194°F

6,382psi

HB

RoHS

ISO 3547-1

With respect to its general mechanical and thermal specifications, iglide® J3B is directly comparable to our classic, iglide® J.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® J3B plain bearings is approximately 0.3% weight. The saturation limit in water is 1.3% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® J3B bearings.

Radiation resistance

Resistant to radiation up to an intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® J3B plain bearings have not yet been tested for their resistance to weathering. Please consult igus® if you're planning to use them outdoors.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® J3B 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 iglide® J3B at radial loads. At the maximum recommended surface pressure of 6,382psi at room temperature the deformation is less than 6%. A possible deformation could be, among others, dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® J3B is also suitable for medium to high surface speeds. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. For iglide® J3B a ground surface with an average surface finish Ra = 0.1 – 0.3μm is recommended. Diagram 06 shows results of testing different shafts. Diagram 07 shows rotating and pivoting applications in comparison. With higher load, the wear increases more for rotating than for pivoting movements.

▶ Shaft materials, **Page 52**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

		Rotating	Oscillating	linear
long-term	**fpm**	295	217	1575
short-term	**fpm**	591	413	1969

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.08 – 0.17	0.09	0.04	0.04

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

Installation tolerances

iglide® J3B 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table). In relation to the installation tolerance, the inner diameter changes with the absorption of humidity.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Ø d1 [mm]	Housing H7 [mm]		Plain bearing E10 [mm]		Shaft h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

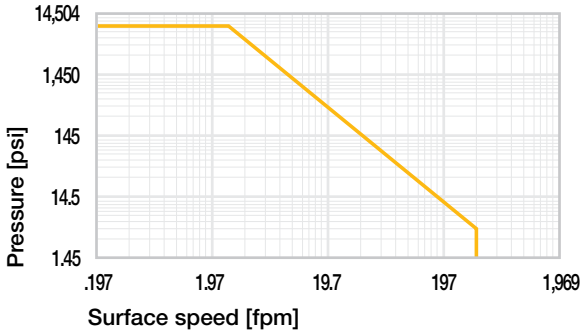


Diagram 01: Permissible pv values for iglide® J3B plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

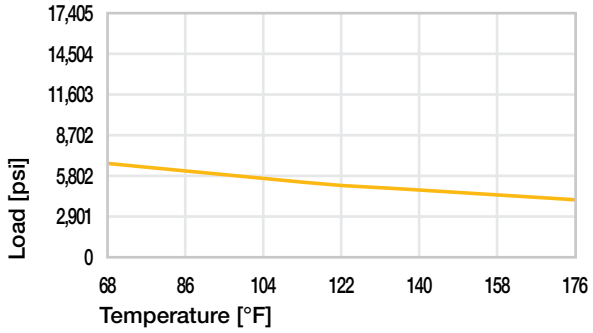


Diagram 02: Maximum recommended surface pressure as a function of temperature (6,382psi at +68°F)

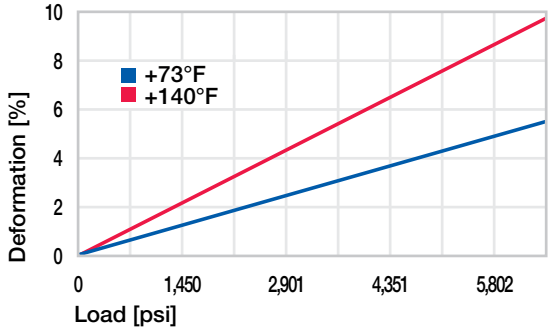


Diagram 03: Deformation under pressure and temperature

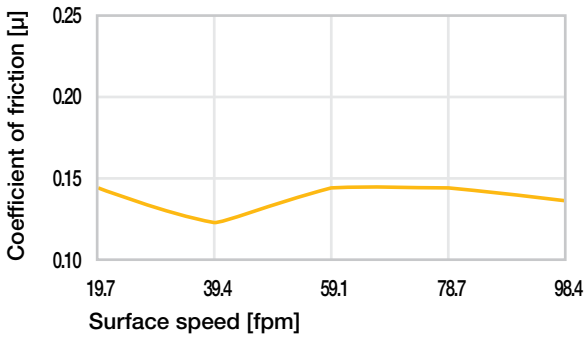


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

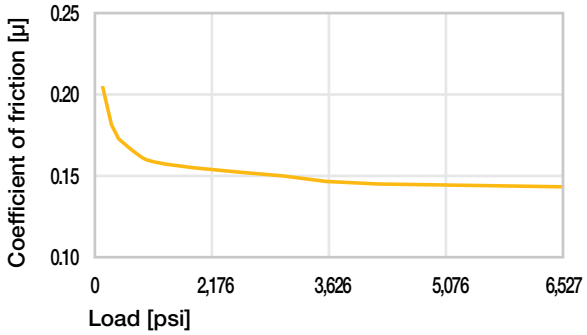


Diagram 05: Coefficient of friction as a function of the pressure, v = 1.97fpm

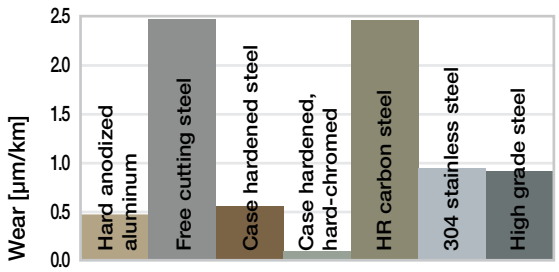


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

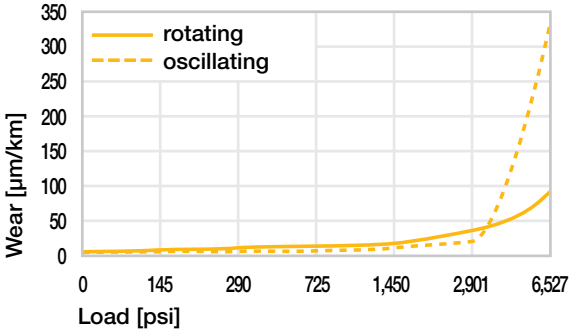
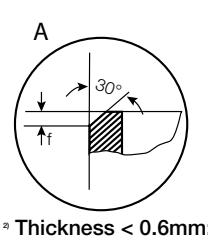


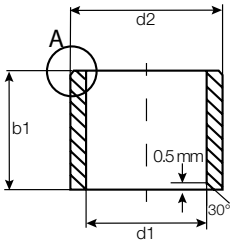
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® J3B

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 246**

Order key

Type			Dimensions		
J3B	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

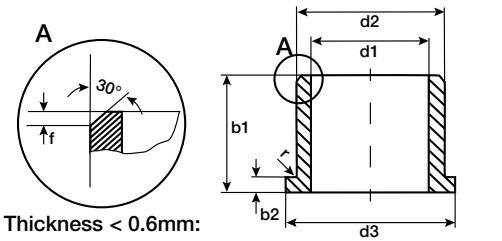
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
J3BSM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
J3BSM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
J3BSM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
J3BSM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
J3BSM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
J3BSM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® J3B

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 246**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

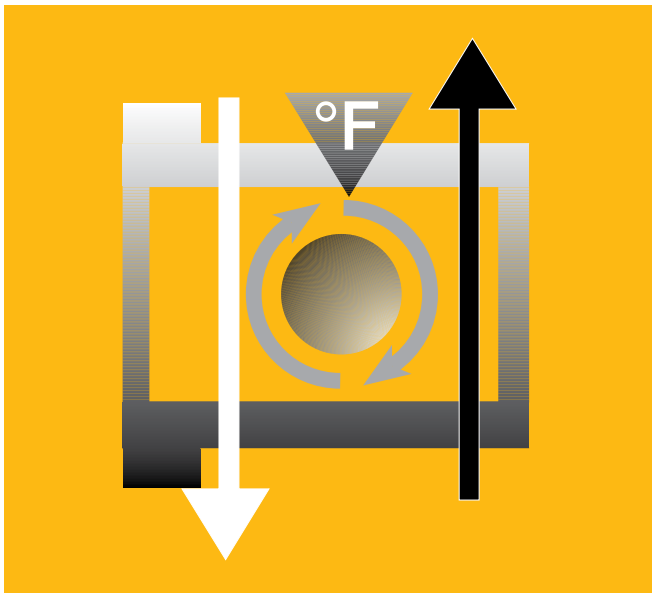
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
J3B	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
J3BFM-0608-06	6.0	8.0	12.0	8.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
J3BFM-0810-10	8.0	10.0	15.0	9.5	1.00	8.025	8.083	10.000	10.015	7.964	8.000
J3BFM-1012-10	10.0	12.0	18.0	9.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
J3BFM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
J3BFM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
J3BFM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes



Endurance runner: high dimensional stability at high temperatures

Can be used with various shafts and loads

iglide® J350

When to use it?

- When a wear-resistant bearing for rotational movement at medium and high loads is required
- When a cost-effective plain bearing for high temperatures is required
- When press-fit up to +302°F is necessary
- When the bearing is exposed to shock loading

When not to use?

- When continuous operating temperatures are higher than +356°F
  iglide® X
- When the lowest friction is required
  iglide® J
- When a cost-effective plain bearing with low friction is required
  iglide® D, iglide® R
- For high rotational speeds
  iglide® J

Ø
4 – 60mm
1/8 - 2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Endurance runner: high dimensional stability at high temperatures

Can be used with various shafts and loads

An outstanding plain bearing for rotating applications – and for a wide range of different shaft materials: with iglide® J350 plain bearings, the service life can often be increased for applications between 2 and 7,252psi. In addition, the high temperature resistance makes it a very versatile material.

- Recommended for steel shafts
- Continuous operating temperatures up to +356°F
- Suitable for medium and high loads
- Suitable for rotating applications
- Self-lubricating
- Maintenance-free

Typical application areas

- Automation
- Mechanical engineering
- Automotive
- Glass industry

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■□	+
Wear resistance at +194°F	–	■■■■■	+
Wear resistance at +302°F	–	■■■■□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.44	
Color		yellow	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	1.6	
Coefficient of friction, dynamic, against steel	µ	0.10 – 0.20	
pv value, max. (dry)	psi · fpm	13,000	
Mechanical properties			
Flexural modulus	psi	290,075	DIN 53457
Flexural strength at +68°F	psi	7,977	DIN 53452
Compressive strength	psi	8,702	
Max. recommended surface pressure (+68°F)	psi	8,702	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+356	
Max. application temperature short-term	°F	+428	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	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

-148°F up to +356°F

8,702psi

V-0

RoHS

ISO 3547-1

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

Moisture absorption

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

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® J350 bearings.

Radiation resistance

Plain bearings made from iglide® J350 are resistant up to a radiation intensity of 2 · 10^2Gy.

Resistance to weathering

iglide® J350 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® J350 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. iglide® J350 plain bearings are adequate for medium and high loads. Diagram 03 shows the elastic deformation of iglide® J350 at radial loads. It shows the material behavior submitted to a short-term load. The ambient temperatures are only noticeable at 8,702psi.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® J350 plain bearings are suitable for low and medium speeds in rotating and oscillating applications. The wear rates, however, are much better in the case of rotating applications. iglide® J350 is also excellent for linear movements.

▶ Surface speed, **Page 44**

Temperature

The temperatures prevailing in the bearing system also have an influence on the wear. The wear-rate of iglide® J350 bearings changes very little at high temperatures. In some cases, wear even decreases at +212°F. For temperatures over +284°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction of iglide® J350 in dry operation against steel is very good. They decrease significantly at higher surface speeds. This benefits the service life of the plain bearings in continuous operations with high surface speeds. Diagram 04 illustrates this relationship. Especially with loads higher than 290psi, the iglide® J350 plain bearings are clearly superior to other bearings in rotating applications.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® J350 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagrams 06 and 07 show the test results of iglide® J350 plain bearings running against various shaft materials. iglide® J350 plain bearings can be combined with various shaft materials. One shaft – bearing combination stands out when looking at the wear results of the test: iglide® 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-anodized aluminum shafts. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	256	197	787
short-term	**fpm**	591	453	1575

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.10 – 0.20	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

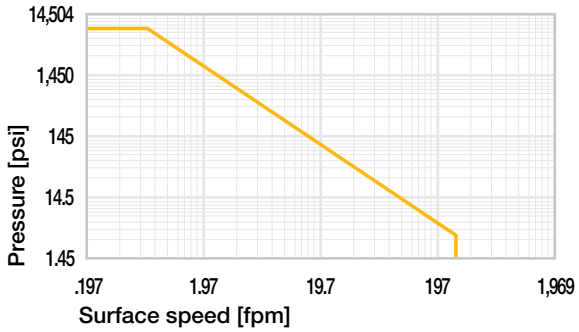


Diagram 01: Permissible pv values for iglide® J350 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

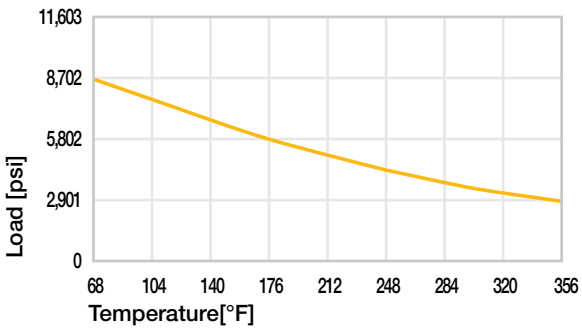


Diagram 02: Maximum recommended surface pressure as a function of temperature (8,702psi at +68°F)

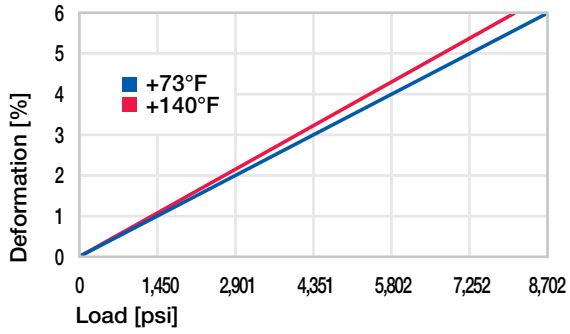


Diagram 03: Deformation under pressure and temperature

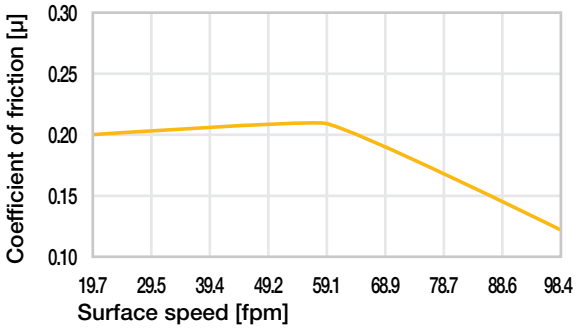


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

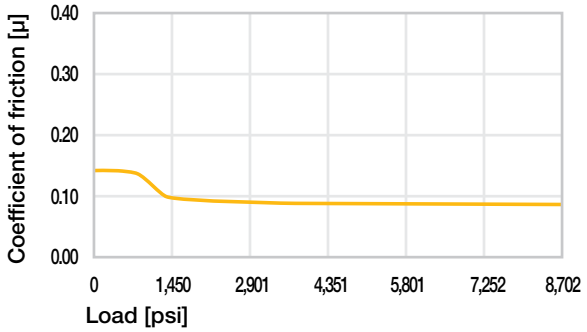


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

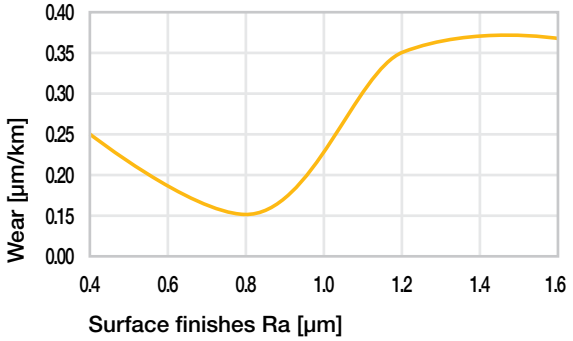


Diagram 06: Coefficient of friction as a function of the shaft surface (case hardened steel shaft)

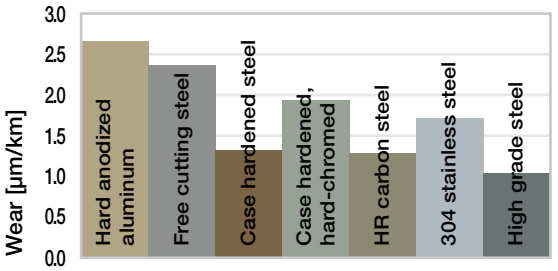
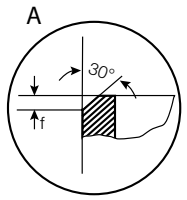


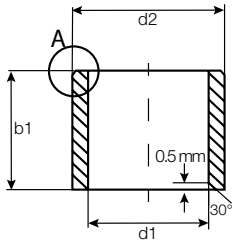
Diagram 07: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

Bearing technology | Plain bearing | iglide® J350

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 254**

Order key

Type			Dimensions		
J350	S	I	-04	05	-04
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

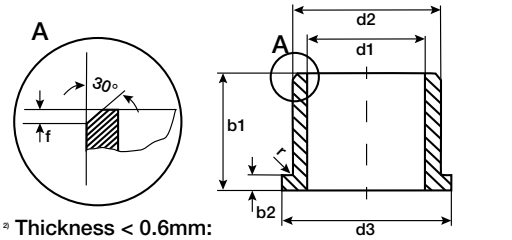
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
J350SI-0203-03	1/8	3/16	3/16	.1247	.1266	.1873	.1878	.1236	.1243
J350SI-0304-04	3/16	1/4	1/4	.1869	.1888	.2497	.2503	.1858	.1865
J350SI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
J350SI-0405-06	1/4	5/16	3/8	.2495	.2518	.3122	.3128	.2481	.2490
J350SI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
J350SI-0506-04	5/16	3/8	1/4	.3120	.3143	.3747	.3753	.3106	.3115
J350SI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
J350SI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
J350SI-0607-04	3/8	15/32	1/4	.3745	.3768	.4684	.4691	.3731	.3740
J350SI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
J350SI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
J350SI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
J350SI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
J350SI-0708-08	7/16	17/32	1/2	.4371	.4399	.5309	.5316	.4355	.4365
J350SI-0708-12	7/16	17/32	3/7			.5309	.5316	.4355	.4365
J350SI-0809-04	1/2	19/32	1/4	.4996	.5024	.5934	.5941	.4980	.4990
J350SI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
J350SI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
J350SI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
J350SI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
J350SI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
J350SI-0910-08	9/16	21/32	1/2	.5620	.5649	.6559	.6566	.5605	.5615
J350SI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
J350SI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
J350SI-1011-08	5/8	23/32	1/2	.6246	.6274	.7184	.7192	.6230	.6240
J350SI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
J350SI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
J350SI-1214-08	3/4	7/8	1/2	.7499	.7532	.8747	.8755	.7479	.7491
J350SI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
J350SI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
J350SI-1416-08	7/8	1	1/2	.8749	.8782	.9997	1.0005	.8729	.8741
J350SI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
J350SI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741
J350SI-1618-08	1	1 1/8	1/2	.9999	1.0032	1.1247	1.1255	.9979	.9991

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
J350SI-1618-12	1	1 1/8	3/4	.9999	1.0032	1.1247	1.1255	.9979	.9991
J350SI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
J350SI-1820-12	1 1/8	1 9/32	3/4	1.1246	1.1279	1.2808	1.2818	1.1226	1.1238
J350SI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
J350SI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
J350SI-2022-12	1 1/4	1 13/32	3/4	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
J350SI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
J350SI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
J350SI-2426-16	1 1/2	1 21/32	1	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
J350SI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
J350SI-2629-16	1 5/8	1 25/32	1	1.6248	1.6287	1.7808	1.7818	1.6222	1.6238
J350SI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
J350SI-2831-16	1 3/4	1 15/16	1	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
J350SI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
J350SI-3033-16	1 7/8	2 1/16	1	1.8770	1.8809	2.0625	2.0637	1.8721	1.8737
J350SI-3033-32	1 7/8	2 1/16	2			2.0625	2.0637	1.8721	1.8737
J350SI-3235-16	2	2 3/16	1	1.9993	2.0040	2.1871	2.1883	1.9969	1.9981
J350SI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® J350

Flange bearing (form F), inch



2) Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 254**

Order key

Type			Dimensions		
J350	F	I	-04	05	-04
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

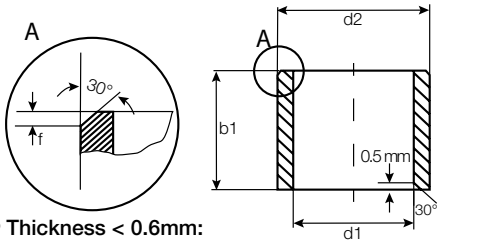
Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
J350FI-0203-03	1/8	3/16	3/16	.312	.0320	.1247	.1266	.1873	.1878	.1236	.1243
J350FI-0304-04	3/16	1/4	1/4	.375	.0320	.1869	.1888	.2497	.2503	.1858	.1865
J350FI-0405-06	1/4	5/16	3/8	.500	.0320	.2495	.2518	.3122	.3128	.2481	.2490
J350FI-0405-08	1/4	5/16	1/2	.500	.0320			.3122	.3128	.2481	.2490
J350FI-0506-04	5/16	3/8	1/4	.562	.0320			.3747	.3753	.3106	.3115
J350FI-0506-06	5/16	3/8	3/8	.562	.0320	.3120	.3143	.3747	.3753	.3106	.3115
J350FI-0506-08	5/16	3/8	1/2	.562	.0320			.3747	.3753	.3106	.3115
J350FI-0607-04	3/8	15/32	1/4	.687	.0460			.4684	.4691	.3731	.3740
J350FI-0607-06	3/8	15/32	3/8	.687	.0460	.3745	.3768	.4684	.4691	.3731	.3740
J350FI-0607-08	3/8	15/32	1/2	.687	.0460			.4684	.4691	.3731	.3740
J350FI-0607-12	3/8	15/32	3/4	.687	.0460			.4684	.4691	.3731	.3740
J350FI-0708-08	7/16	17/32	1/2	.750	.0460	.4371	.4399	.5309	.5316	.4355	.4365
J350FI-0809-04	1/2	19/32	1/4	.875	.0460			.5934	.5941	.4980	.4990
J350FI-0809-06	1/2	19/32	3/8	.875	.0460			.5934	.5941	.4980	.4990
J350FI-0809-08	1/2	19/32	1/2	.875	.0460	.4996	.5024	.5934	.5941	.4980	.4990
J350FI-0809-12	1/2	19/32	3/4	.875	.0460			.5934	.5941	.4980	.4990
J350FI-0809-16	1/2	19/32	1	.875	.0460			.5934	.5941	.4980	.4990
J350FI-1011-08	5/8	23/32	1/2	.937	.0460			.7184	.7192	.6230	.6240
J350FI-1011-12	5/8	23/32	3/4	.937	.0460	.6246	.6274	.7184	.7192	.6230	.6240
J350FI-1011-16	5/8	23/32	1	.937	.0460			.7184	.7192	.6230	.6240
J350FI-1214-08	3/4	7/8	1/2	1.125	.0620			.8747	.8755	.7479	.7491
J350FI-1214-12	3/4	7/8	3/4	1.125	.0620	.7499	.7532	.8747	.8755	.7479	.7491
J350FI-1214-16	3/4	7/8	1	1.125	.0620			.8747	.8755	.7479	.7491
J350FI-1416-08	7/8	1	1/2	1.250	.0620			.9997	1.0005	.8729	.8741
J350FI-1416-12	7/8	1	3/4	1.250	.0620	.8749	.8782	.9997	1.0005	.8729	.8741
J350FI-1416-16	7/8	1	1	1.250	.0620			.9997	1.0005	.8729	.8741
J350FI-1618-08	1	1 1/8	1/2	1.375	.0620			1.1247	1.1255	.9979	.9991
J350FI-1618-12	1	1 1/8	3/4	1.375	.0620	.9999	1.0032	1.1247	1.1255	.9979	.9991
J350FI-1618-16	1	1 1/8	1	1.375	.0620			1.1247	1.1255	.9979	.9991
J350FI-2022-16	1 1/4	1 13/32	1	1.687	.0780	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
J350FI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.0780			1.4058	1.4068	1.2472	1.2488
J350FI-2426-16	1 1/2	1 21/32	1	2.000	.0780	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
J350FI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.0780			1.6558	1.6568	1.4972	1.4988
J350FI-2831-32	1 3/4	1 15/16	2	2.375	.0930	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
J350FI-3235-32	2	2 3/16	2	2.625	.0930	1.9993	2.004	2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® J350

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, page 254

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
J350	S	M	-04	05	-04
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
J350SM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
J350SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
J350SM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
J350SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
J350SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
J350SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
J350SM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
J350SM-0810-06	8.0	10.0	6.0	8.013	8.071	10.000	10.015	7.964	8.000
J350SM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
J350SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
J350SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
J350SM-1012-08	10.0	12.0	8.0	10.013	10.071	12.000	12.018	9.964	10.000
J350SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
J350SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
J350SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
J350SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
J350SM-1214-10	12.0	14.0	10.0	12.016	12.086	14.000	14.018	11.957	12.000
J350SM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
J350SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
J350SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
J350SM-1315-10	13.0	15.0	10.0	13.016	13.086	15.000	15.018	12.957	13.000
J350SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
J350SM-1416-15	14.0	16.0	15.0	14.016	14.086	16.000	16.018	13.957	14.000
J350SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
J350SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
J350SM-1517-15	15.0	17.0	15.0	15.016	15.086	17.000	17.018	14.957	15.000
J350SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
J350SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
J350SM-1618-04	16.0	18.0	4.0	16.016	16.086	18.000	18.018	15.957	16.000
J350SM-1618-15	16.0	18.0	15.0			18.000	18.018	15.957	16.000
J350SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
J350SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
J350SM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
J350SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
J350SM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000

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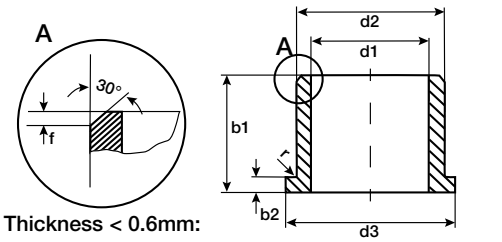
Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
J350SM-2023-10	20.0	23.0	10.0	20.020	20.104	23.000	23.021	19.948	20.000
J350SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
J350SM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
J350SM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
J350SM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
J350SM-2225-15	22.0	25.0	15.0	22.020	22.104	25.000	25.021	21.948	22.000
J350SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
J350SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
J350SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
J350SM-2427-15	24.0	27.0	15.0	24.020	24.104	27.000	27.021	23.948	24.000
J350SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
J350SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
J350SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
J350SM-2528-15	25.0	28.0	15.0	25.020	25.104	28.000	28.021	24.948	25.000
J350SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
J350SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
J350SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
J350SM-2528-45	25.0	28.0	45.0			28.000	28.021	24.948	25.000
J350SM-2832-20	28.0	32.0	20.0	28.020	28.104	32.000	32.025	27.948	28.000
J350SM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
J350SM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
J350SM-3034-20	30.0	34.0	20.0	30.020	30.104	34.000	34.025	29.948	30.000
J350SM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
J350SM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
J350SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
J350SM-3236-20	32.0	36.0	20.0	32.025	32.125	36.000	36.025	31.938	32.000
J350SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
J350SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
J350SM-3539-20	35.0	39.0	20.0	35.025	35.125	39.000	39.025	34.938	35.000
J350SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
J350SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
J350SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
J350SM-4044-20	40.0	44.0	20.0	40.025	40.125	44.000	44.025	39.938	40.000
J350SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
J350SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
J350SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
J350SM-4550-20	45.0	50.0	20.0	45.025	45.125	50.000	50.025	44.938	45.000
J350SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
J350SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
J350SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
J350SM-5055-20	50.0	55.0	20.0	50.025	50.125	55.000	55.030	49.938	50.000
J350SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
J350SM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
J350SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
J350SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000

Bearing technology | Plain bearing | iglide® J350

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 254**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

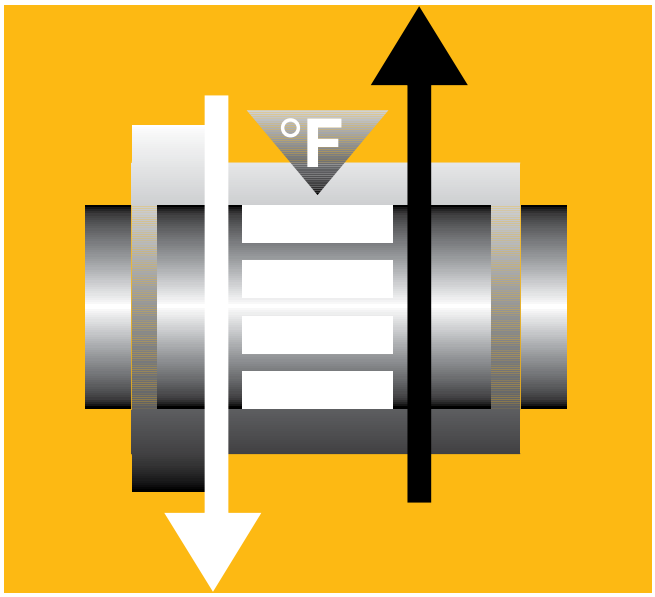
Type			Dimensions		
J350	F	M	-06	08	-04
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
J350FM-0608-04	6.0	8.0	12.0	4.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
J350FM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
J350FM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
J350FM-0810-05	8.0	10.0	15.0	5.5	1.00	8.013	8.071	10.000	10.015	7.964	8.000
J350FM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
J350FM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
J350FM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
J350FM-1012-07	10.0	12.0	18.0	7.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
J350FM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
J350FM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
J350FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
J350FM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
J350FM-1214-07	12.0	14.0	20.0	7.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
J350FM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
J350FM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
J350FM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
J350FM-1416-12	14.0	16.0	22.0	12.0	1.00	14.016	14.086	16.000	16.018	13.957	14.000
J350FM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
J350FM-1517-09	15.0	17.0	23.0	9.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
J350FM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
J350FM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
J350FM-1618-12	16.0	18.0	24.0	12.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
J350FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
J350FM-1820-12	18.0	20.0	26.0	12.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
J350FM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
J350FM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
J350FM-2023-11	20.0	23.0	30.0	11.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000
J350FM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
J350FM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
J350FM-2528-11	25.0	28.0	35.0	11.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
J350FM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
J350FM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
J350FM-3034-16	30.0	34.0	42.0	16.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
J350FM-3034-22	30.0	34.0	42.0	22.0	2.00			34.000	34.025	29.948	30.000

Bearing technology | Plain bearing | iglide® J350

Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
J350FM-3034-26	30.0	34.0	42.0	26.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
J350FM-3034-37	30.0	34.0	42.0	37.0	2.00			34.000	34.025	29.948	30.000
J350FM-3539-16	35.0	39.0	47.0	16.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
J350FM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
J350FM-4044-30	40.0	44.0	52.0	30.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000
J350FM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
J350FM-4550-50	45.0	50.0	58.0	50.0	2.00	45.025	45.125	50.000	50.025	44.938	45.000
J350FM-6065-50	60.0	65.0	73.0	50.0	2.00	60.030	60.150	65.000	65.030	59.526	60.000



Ideal for plastic shafts

Wear-resistant at medium temperatures and loads

iglide® J260

When to use it?

- When polymer shafts are used
- When the temperature rating of iglide® J is not sufficient
- When a plain bearing with low coefficient of friction is required
- When high wear resistance is required at medium loads
- When good liquid media resistance is required

When not to use?

- When high surface pressures occur
  iglide® Z
- When continuous operating temperatures are higher than +248°F
  iglide® J350
- When universal wear resistance is required
  iglide® J

Ø
6 – 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Ideal for plastic shafts

Wear-resistant at medium temperatures and loads

Time and again the iglide® J260 material proves its worth where the maximum service life and best coefficient of friction are required under special application conditions – particularly in combination with plastic shafts!

- For low and medium loads
- High media resistance
- Slightly higher temperature rating than iglide® J
- Long service life - even on polymer shafts and other special cases

Typical application areas

- Automation
- Plant construction
- Test engineering and quality assurance
- Robotics industry
- Electronics industry

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.35	
Color		yellow	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	0.4	
Coefficient of friction, dynamic, against steel	µ	0.06 – 0.20	
pv value, max. (dry)	psi · fpm	10,000	
Mechanical properties			
Flexural modulus	psi	319,083	DIN 53457
Flexural strength at +68°F	psi	8,702	DIN 53452
Compressive strength	psi	7,252	
Max. recommended surface pressure (+68°F)	psi	5,802	
Shore D hardness		77	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+248	
Max. application temperature short-term	°F	+284	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	13	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{10}	DIN 53482

-148°F up to +248°F

5,802psi

V-2

RoHS

ISO 3547-1

Table 01: Material properties

Similar to the classic, iglide® J, iglide® J260 is an endurance runner with outstanding wear behavior, but provides a higher long-term application temperature of +248F.

Moisture absorption

Under standard conditions, the moisture absorption of iglide® J260 plain bearings is approximately 0.2% weight. The saturation limit in water is 0.4% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® J260 bearings.

Radiation resistance

Resistant to radiation up to an intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® J260 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® J260 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 iglide® J260 at radial loads. At the maximum recommended surface pressure of 5,802psi at room temperature the deformation is less than 2.5%. A possible deformation could be, among others, dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® J260 has been developed for low to medium surface speeds. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The temperatures prevailing in the bearing system also have an influence on the wear. With increasing temperatures, the wear increases and this effect is significant when temperatures rise over +176°F. For temperatures over +176°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Similar to wear resistance, the coefficient of friction μ also changes with the load. The coefficient of friction decreases considerably with increasing pressures, whereas a slight increase in surface speed causes an increase of the coefficient of friction (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® J260 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (inches)	Tolerance (h13) (inches)	
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. For iglide® J260 a ground surface with an average surface finish Ra = 0.8μm is recommended. Diagram 06 shows the test results of iglide® J260 plain bearings running against various shaft materials. It is important to notice that with increasing loads, the recommended hardness of the shaft increases. The "soft" shafts tend to wear more easily and thus increase the wear of the overall system, if the loads exceed 290psi. The comparison of rotating and pivoting movements in diagram 07 makes it very clear that iglide® J260 plain bearings are most suited for rotating operation.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	591
short-term	**fpm**	394	276	787

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.06 – 0.20	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (mm)	Tolerance (h13) (mm)	
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

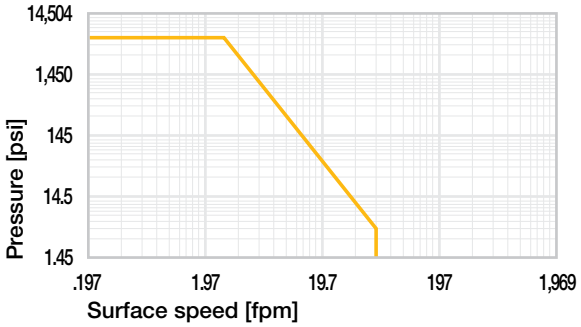


Diagram 01: Permissible pv values for iglide® J260 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

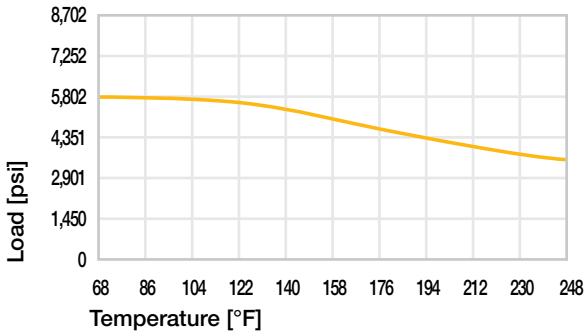


Diagram 02: Maximum recommended surface pressure as a function of temperature (5,802psi at +68°F)

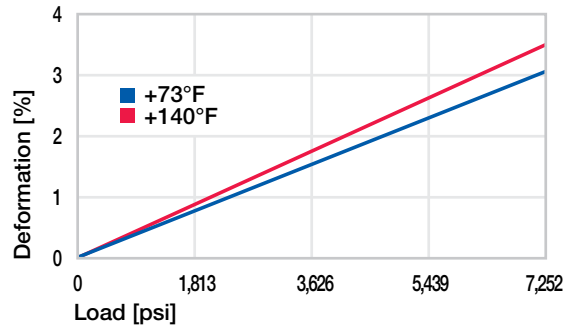


Diagram 03: Deformation under pressure and temperature

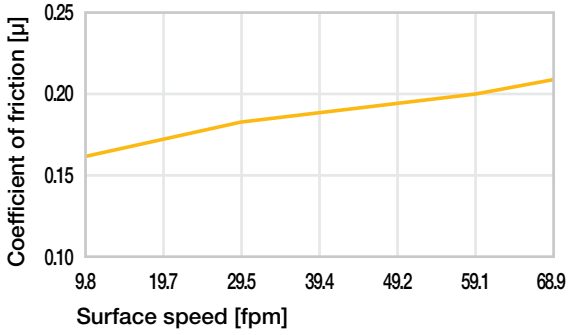


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

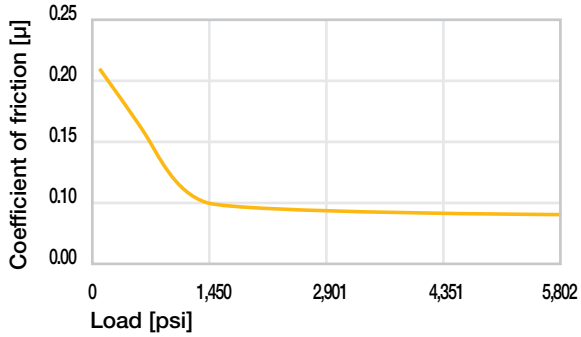


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

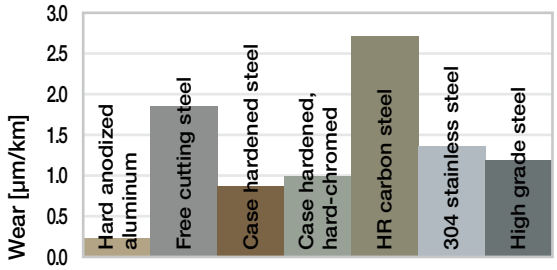


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

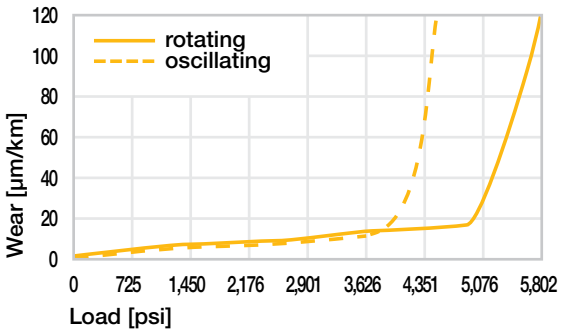
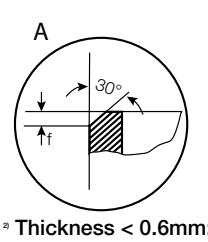


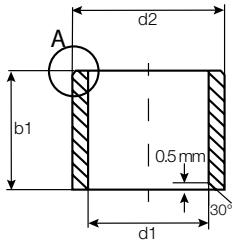
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® J260

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 266**

Order key

Type			Dimensions		
J260	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

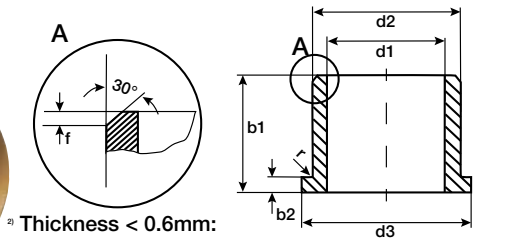
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
J260SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
J260SM-0810-06	8.0	10.0	6.0	8.025	8.083	10.000	10.015	7.964	8.000
J260SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
J260SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
J260SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
J260SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
J260SM-1618-135	16.0	18.0	13.5	16.032	16.102	18.000	18.018	15.957	16.000
J260SM-1618-15	16.0	18.0	15.0			18.000	18.018	15.957	16.000
J260SM-1820-12	18.0	20.0	12.0	18.032	18.102	20.000	20.021	17.957	18.000
J260SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
J260SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® J260

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 266**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

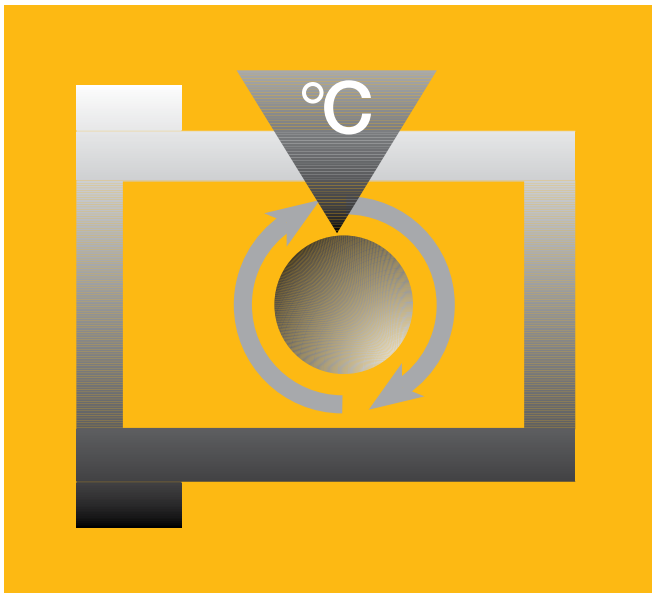
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
J260	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
J260FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
J260FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
J260FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
J260FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
J260FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
J260FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes



Endurance runner up to +356°F

For applications that are clean and dry

iglide® W360

When to use it?

- When an extremely wear-resistant plain bearing is required for medium loads
- When a low coefficient of friction at higher temperatures is required
- When continuous operating temperatures are higher than +194°F

When not to use?

- When a wear-resistant plain bearing is sought for the standard temperature range and low to medium loads
  iglide® J
- When the maximum temperature resistance and high wear resistance is required
  iglide® Z, iglide® J350, iglide® V400
- When the highest wear resistance under water is required
  iglide® UW, iglide® H370

Ø
6 – 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

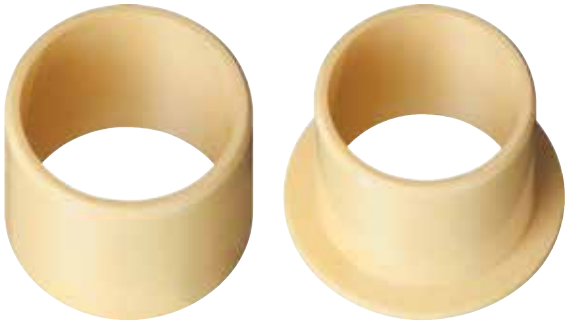
tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965



Endurance runner up to +356°F

For applications that are clean and dry

iglide® W360

iglide® W360 combines outstanding endurance running properties with excellent temperature resistance, reduced moisture absorption and good value for money – a real all-rounder in the endurance field.

- High wear resistance
- Temperature-resistant up to +356°F
- Suitable for wet environments
- Good price-performance ratio
- Self-lubricating
- Maintenance-free

Typical application areas

- Material handling
- Automation
- Two-wheel technology

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.34	
Color		yellow	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	1.6	
Coefficient of friction, dynamic, against steel	µ	0.07 – 0.21	
pv value, max. (dry)	psi · fpm	10,000	
Mechanical properties			
Flexural modulus	psi	555,350	DIN 53457
Flexural strength at +68°F	psi	17,259	DIN 53452
Compressive strength	psi	10,878	
Max. recommended surface pressure (+68°F)	psi	10,878	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+356	
Max. application temperature short-term	°F	+392	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	6	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

-40°F up to +356°F

10,878psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

Low moisture absorption and high temperature resistance result in an extremely broad range of uses for this extremely wear-resistant material.

Moisture absorption

The moisture absorption of iglide® W360 is low and can be disregarded when used in a humid environment. With a full saturation of 1.6% weight, however, underwater use is only possible to a very restricted extent.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® W360 bearings.

Radiation resistance

Plain bearings made from iglide® W360 are resistant up to a radiation intensity of 2 · 10^2Gy.

Resistance to weathering

iglide® W360 plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® W360 plain bearings decreases. Diagram 02 shows this inverse relationship. However, at the long-term maximum temperature of +356°F the permissible surface pressure is around 1,450psi. The maximum recommended surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this. iglide® W360 plain bearings are suitable for a broad range of loads. Diagram 03 shows the deformation under temperature. It shows the material behavior submitted to a short-term load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® W360 plain bearings are suitable for low and medium speeds in rotating and oscillating applications. The wear rates, however, are much better in the case of rotating applications. iglide® W360 is also excellent for linear movements.

▶ Surface speed, **Page 44**

Temperature

The temperature resistance makes iglide® W360 a universal material for plain bearings in different industries. Short-term application temperatures up to +392°F are permitted. For temperatures over +194°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction of iglide® W360 in dry operation against steel is very good. They constantly remain at a low level regardless of the speed. Diagram 04 illustrates this relationship. As the load increases, the coefficient of friction decreases. The correlation is especially strong up to approximately 2,176psi (diagram 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® W360 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 E10 tolerances.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

In the case of iglide® W360, the shaft's surface finish has practically no effect on the coefficient of friction in the range of up to 232psi (diagram 06). Diagram 07 shows results of testing different shafts. iglide® W360 plain bearings are suitable for all sliding surfaces. During rotation with a load of 145psi, all hard anodized aluminum, case hardened and stainless steel shafts stand out. A similar picture also exists with other loads or pivoting movements. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	236	177	591
short-term	**fpm**	531	394	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.07 – 0.21	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

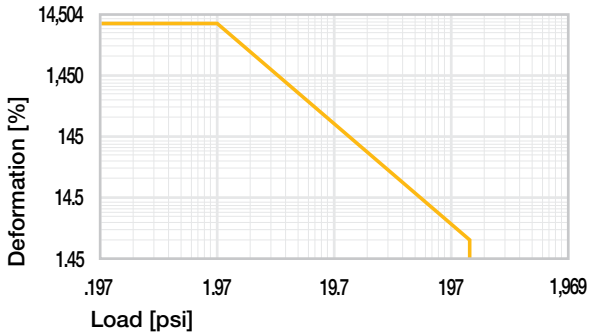


Diagram 01: Permissible pv values for iglide® W360 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

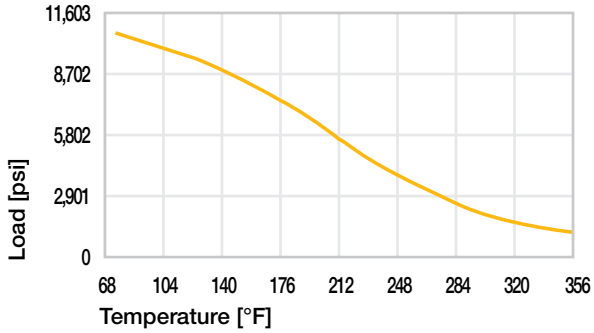


Diagram 02: Maximum recommended surface pressure as a function of temperature (10,878psi at +68°F)

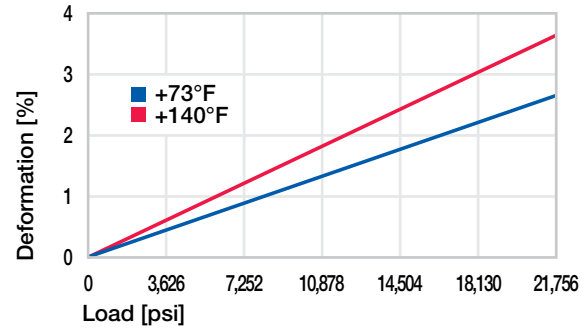


Diagram 03: Deformation under pressure and temperature

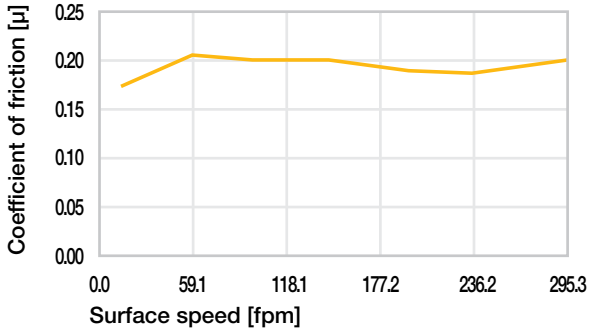


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

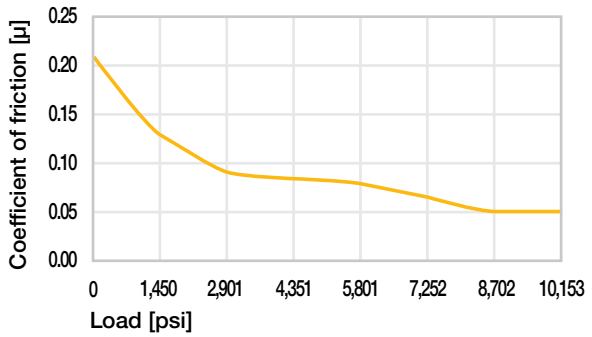


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

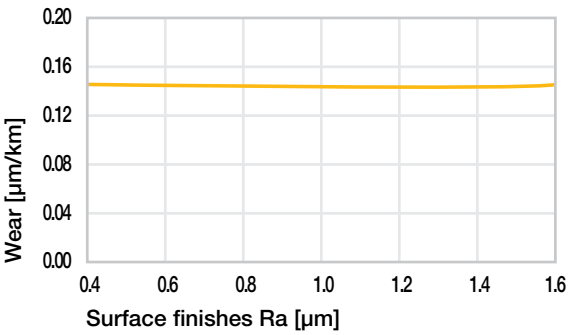


Diagram 06: Coefficient of friction as a function of the shaft surface (case hardened shaft)

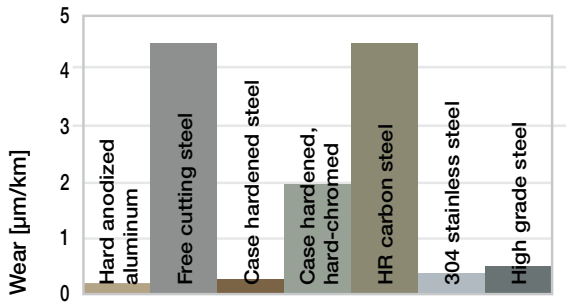
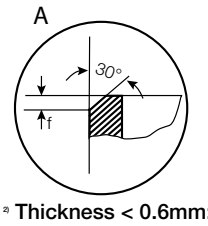


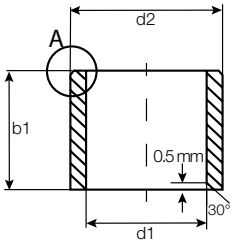
Diagram 07: Wear, rotating with different shaft materials, p = 145psi, v = 59fpm

Bearing technology | Plain bearing | iglide® W360

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 274**

Order key

Type			Dimensions		
W360	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

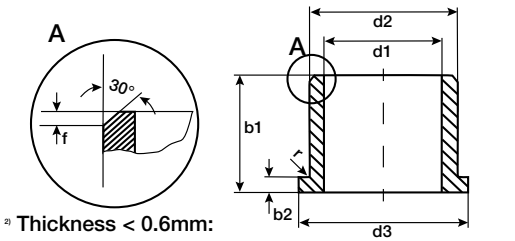
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
W360SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
W360SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
W360SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
W360SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
W360SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
W360SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® W360

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 274**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

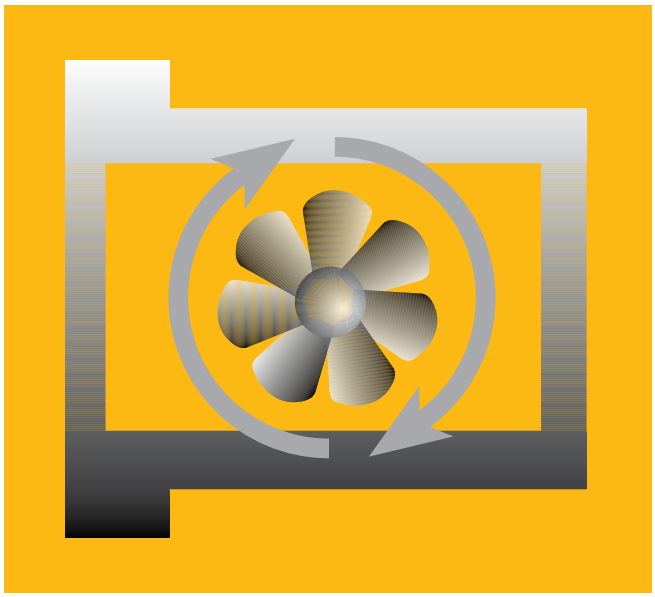
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
W360	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
W360FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
W360FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
W360FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
W360FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
W360FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
W360FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes



For fast rotating applications

Low coefficient of friction under low load

iglide® L250

When to use it?

- For rotating applications at high speed
- When the highest service life is required
- For low load applications
- When a low noise level is required
- For very low coefficient of friction

When not to use?

- When high pressure occurs
  iglide® Q, iglide® W300
- When continuous operating temperatures are higher than +194°F
  iglide® V400
- When low moisture absorption is required
  iglide® H1, iglide® J

Bearing technology | Plain bearing | iglide® L250

Ø
6 – 20mm

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

For fast rotating applications
Low coefficient of friction under low load

Plain bearings for high speed rotation applications, especially for fans and motors.

- Suitable for high rotating speeds
- Very low coefficients of friction
- Very wear-resistant
- Self-lubricating
- Maintenance-free

Typical application areas

- Automotive industry
- Electronics industry
- Mechatronics
- Optical industry
- Test engineering and quality assurance

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.50	
Color		beige	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.7	DIN 53495
Max. moisture absorption	% weight	3.9	
Coefficient of friction, dynamic, against steel	µ	0.08 – 0.19	
pv value, max. (dry)	psi · fpm	11,500	
Mechanical properties			
Flexural modulus	psi	282,824	DIN 53457
Flexural strength at +68°F	psi	9,718	DIN 53452
Compressive strength	psi	6,817	
Max. recommended surface pressure (+68°F)	psi	6,527	
Shore D hardness		68	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+356	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	10	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{10}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

-40°F up to +194°F

6,527psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

iglide® L250 is a bearing material for high rotation speeds and low coefficient of friction. The iglide® L250 material can feature these advantages particularly with low loads. Applications which feature these advantages are fans, small motors, fast-running sensors or the magnet technology.

Moisture absorption

With regard to applications where the smallest bearing clearances are concerned, please take the moisture absorption into consideration.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® L250 bearings.

Radiation resistance

Plain bearings made from iglide® L250 are resistant up to a radiation intensity of $3 \cdot 10^4$Gy. Higher radiation weakens the material and may result in a significant decrease in mechanical properties.

Resistance to weathering

iglide® L250 plain bearings have limited resistance to weathering. The material properties are affected. Discoloration occurs. Practical tests under real application conditions are recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® L250 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 iglide® L250 at radial loads. At the maximum recommended surface pressure of 6,527psi at room temperature the deformation is less than 3%. A plastic deformation can be negligible up to this value. It is however also dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® L250 has been developed especially for high surface speeds with low loads. Besides the physical limit, which is pre-set by the heating of the bearing, the coefficient of wear also acts limiting if rapidly high glide paths emerge at high peripheral speeds and the permitted wear limit is thus reached earlier. The maximum speeds are shown in table 03.

▶ Surface speed, **Page 44**

Temperature

The iglide® L250 plain bearings can be used in short-term temperatures up to +356°F. Note that a mechanical securing of the bearing is recommended from temperatures of +131°F. Higher temperatures can also cause the plain bearing to lose its press-fit and move in the hole.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

In the best pairing (with 304 stainless steel shafts), coefficient of friction of 0.14µ is already reached with low loads. Coefficient of friction under 0.1 was measured already below 1,450psi (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

Shaft materials

As seen in diagram 06, many shafts are recommendable for low loads and low rotations. The low coefficient of friction is additionally retained over a wide range of recommendable shaft surfaces finish. For loads higher than 145psi, particular attention should be paid to the shaft material used.

▶ Shaft materials, **Page 52**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	394
short-term	**fpm**	295	217	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.08 – 0.19	0.09	0.04	0.04

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

Installation tolerances

iglide® L250 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Ø d1 [mm]	Housing H7 [mm]		Plain bearing E10 [mm]		Shaft h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (inches)	Tolerance (h13) (inches)	
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (mm)	Tolerance (h13) (mm)	
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

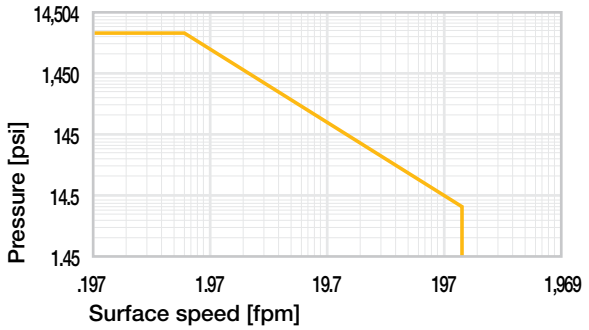


Diagram 01: Permissible pv values for iglide® L250 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

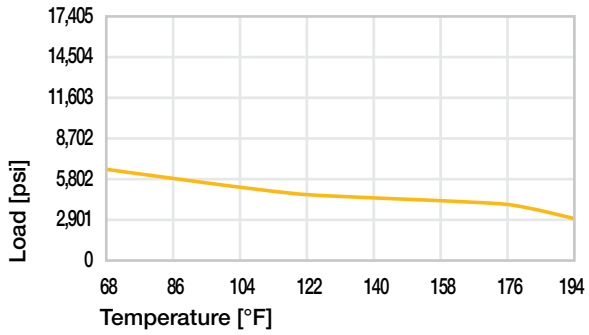


Diagram 02: Maximum recommended surface pressure as a function of temperature (6,527psi at +68°F)

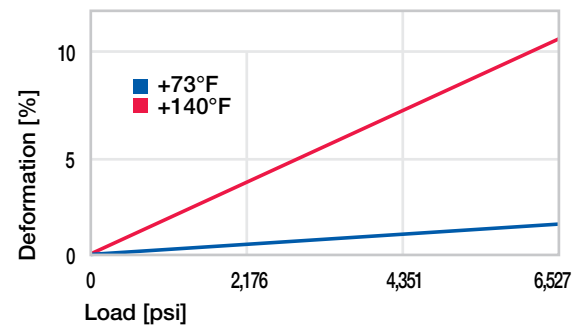


Diagram 03: Deformation under pressure and temperature

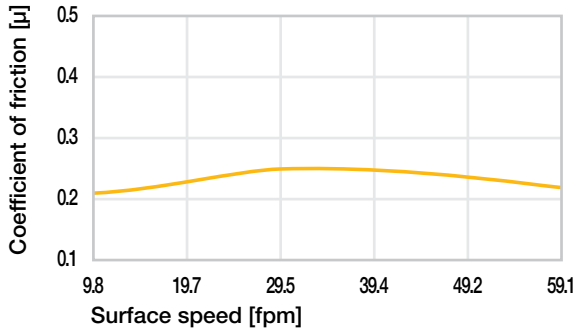


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

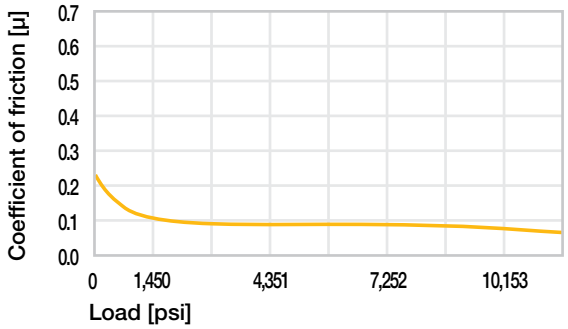


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

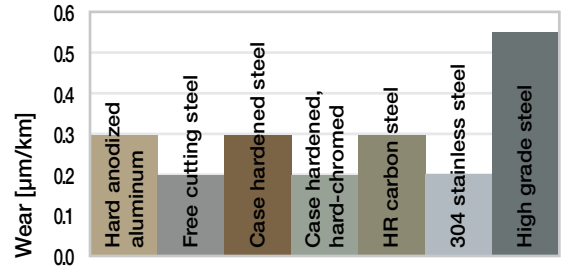


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

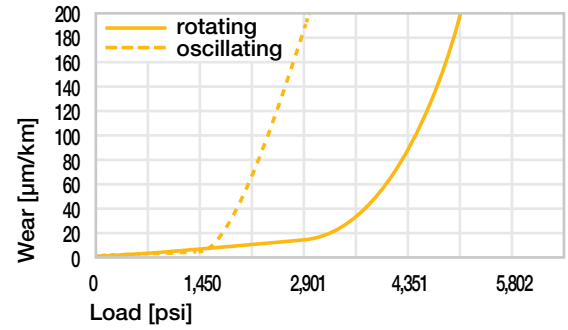
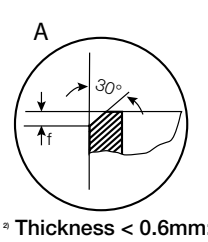


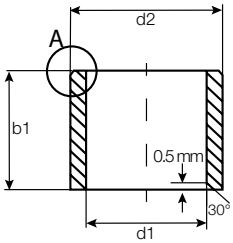
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® L250

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page XXX**

Order key

Type			Dimensions		
L250	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

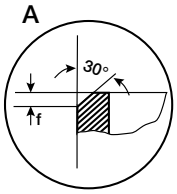
Chamfer in relation to d1

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

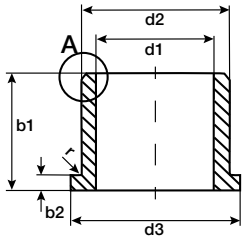
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
L250SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
L250SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
L250SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
L250SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
L250SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
L250SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® L250

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page XXX**

Order key

Type			Dimensions		
L250	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

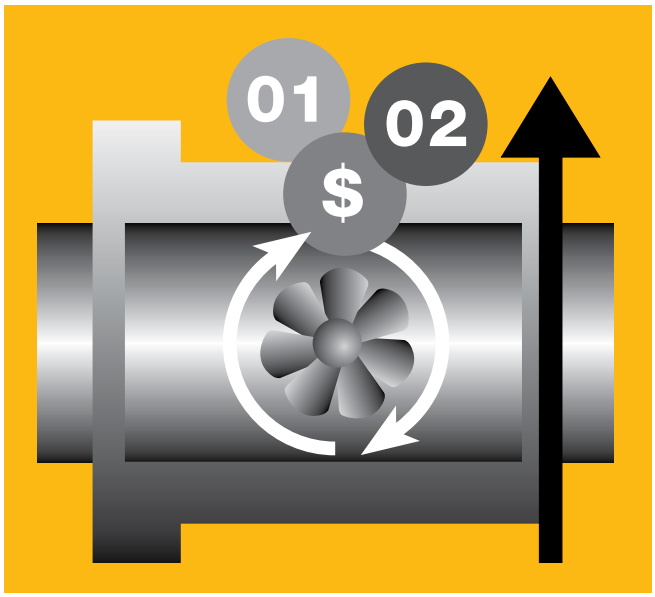
*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
L250FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
L250FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
L250FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
L250FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
L250FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
L250FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes



For high rotational speeds
High performance at a lower cost
iglide® L350

When to use it?

- For rotating applications at high speed
- When the highest service life is required
- For high pv values with low loads
- At operating temperatures up to +356°F long-term, short-term up to max. +410°F

When not to use?

- When a universal bearing for high temperatures is required
  iglide® X
- When medium to high pressures occur
  iglide® G, iglide® Q
- For oscillating applications
  iglide® W300, iglide® J350

Ø
3 – 10mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

For high rotational speeds
High performance at lower cost

iglide® L350 is extremely long-lasting. Developed for the best coefficient of wear and friction at speeds of 295fpm and higher, this material outperforms classic plain bearings in high-speed rotation operation.

- Up to 689fpm rotating
- Temperature-resistant up to +410°F in continuous use
- Low moisture absorption
- Good price-performance ratio
- Extremely wear-resistant
- Self-lubricating and maintenance-free
- Standard range from stock

Typical application areas

- Electric motors
- Fans
- Household appliances

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■■□	+
Wear resistance at +302°F	–	■■■■□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.54	
Color		dark grey	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.4	DIN 53495
Max. moisture absorption	% weight	1.4	
Coefficient of friction, dynamic, against steel	µ	0.07 – 0.18	
pv value, max. (dry)	psi · fpm	85,700	
Mechanical properties			
Flexural modulus	psi	2,303,489	DIN 53457
Flexural strength at +68°F	psi	30,458	DIN 53452
Compressive strength	psi	30,458	
Max. recommended surface pressure (+68°F)	psi	8,557	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+356	
Max. application temperature short-term	°F	+410	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.61	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	7	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^5	DIN IEC 93
Surface resistance	Ω	> 10^5	DIN 53482

-148°F up to +356°F

8,557psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

With iglide® L350, another self-lubricating and maintenance-free material is now available, which is designed for continuous high speeds. Due to the low thermal expansion and low moisture absorption, bearings can be manufactured with minimal potential to expand. iglide® L350 is especially suitable for use in fans, blowers or electric motors – and the costs are also lower.

Moisture absorption

The very low moisture absorption of 0.4% weight in standard climatic conditions and 1.4% weight at maximum water absorption also enables continuous operation in high humidity or in liquid media.

Vacuum

In a vacuum environment, the moisture content is released as vapor. Due to its low moisture absorption, use in a vacuum is possible.

Radiation resistance

Plain bearings made from iglide® L350 are resistant up to a radiation intensity of 2 · 10^2Gy. Higher radiation affects the material and may result in a significant decrease in mechanical properties.

Resistance to weathering

iglide® L350 plain bearings have not yet been tested for their resistance to weathering. Please consult igus® if you're planning to use them outdoors.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® L350 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 iglide® L350 at radial loads. At the maximum recommended surface pressure of 8,557psi at room temperature the deformation is less than 2.5%. Plastic deformation can be negligible up to this value. It is however also dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® L350 has been developed especially for high surface speeds with low loads. Due to the high temperature resistance of iglide® L350, the limit of the bearing has been increased significantly. In addition, the extremely low wear allows the high acceleration speeds to be reached and maintained. The maximum speeds are shown in table 03.

▶ Surface speed, **Page 44**

Temperature

The iglide® L350 plain bearings can be used in temperatures up to +410°F for the short-term. Note that a mechanical securing of the bearing is recommended from temperatures of +284°F. Higher temperatures can sometimes cause the plain bearings to lose their press-fit and move in the housing.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The very low coefficient of friction remains, even at high speeds. Diagram 04 shows this relationship on a steel shaft at 108psi surface pressure.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

Shaft materials

Diagram 05 compares the wear of a sintered bearing with that of bearings made of the materials iglide® L500 and L350. At a surface speed of 295fpm or more, the wear of the sintered bearing increases exponentially whereas the wear of the iglide® plain bearings almost remains the same up to a speed of more than 591fpm.

▶ Shaft materials, **Page 52**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

		Rotating	Oscillating	linear
long-term	**fpm**	591	295	787
short-term	**fpm**	787	591	1181

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.07 – 0.18	0.06	0.04	0.03

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

Installation tolerances

iglide® L350 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Ø d1 [mm]	Housing H7 [mm]		Plain bearing F10 [mm]		Shaft h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Inch Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (inches)	Tolerance (h13) (inches)	
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (mm)	Tolerance (h13) (mm)	
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

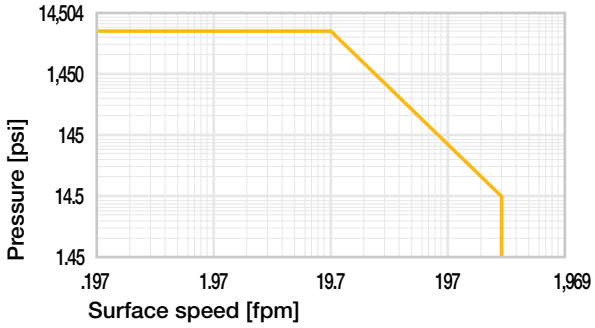


Diagram 01: Permissible pv values for iglide® L350 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

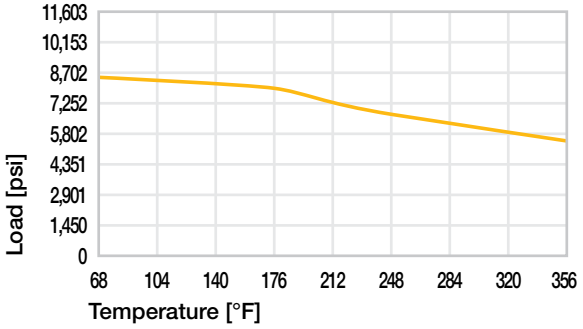


Diagram 02: Maximum recommended surface pressure as a function of temperature (8,557psi at +68°F)

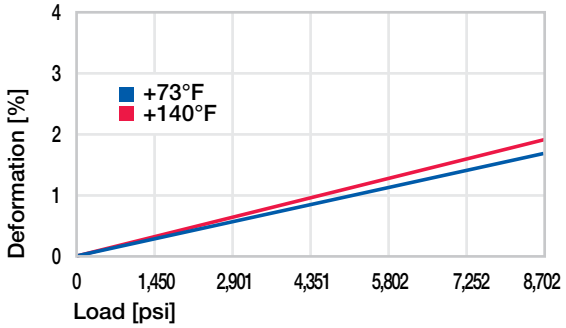


Diagram 03: Deformation under pressure and temperature

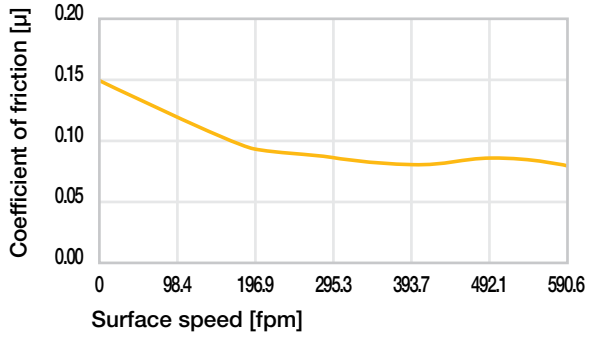


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

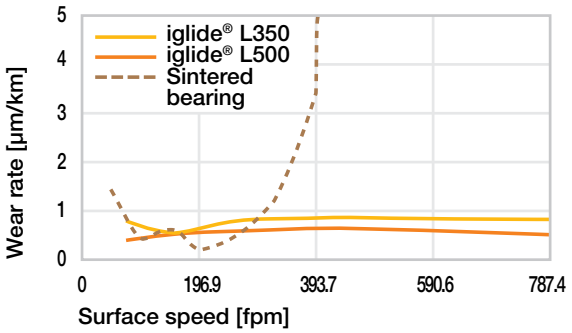


Diagram 05: Rotating wear against case hardened steel, p = 0.2725psi, T = +73°F

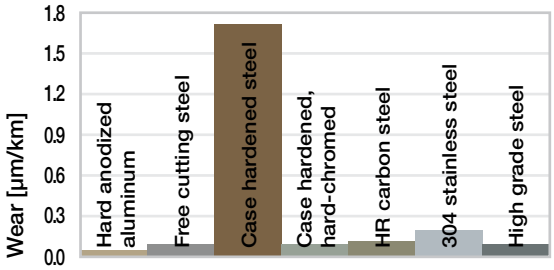


Diagram 06: Wear, rotating with different shaft materials, p = 145psi, v = 59fpm

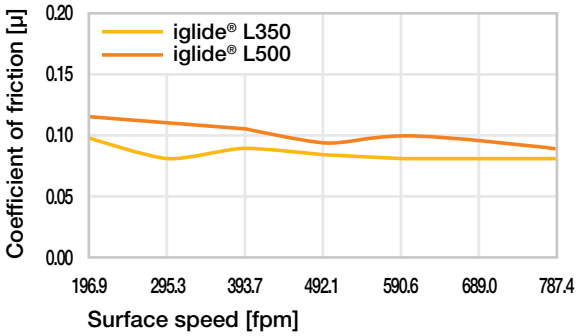
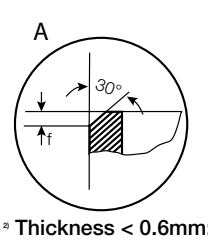


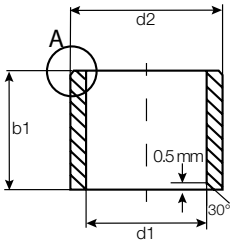
Diagram 07: Rotating coefficient of friction - “High speed” against case hardened steel, p = 145psi (except for iglide® L250), T = +73°F

Bearing technology | Plain bearing | iglide® L350

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 290**

Order key

Type			Dimensions		
L350	S	M	-03	04	-03
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

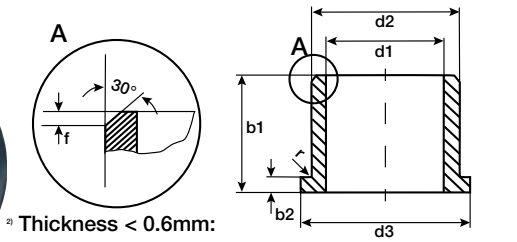
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
L350SM-0304-03	3.0	4.5	3.0	3.006	3.046	4.500	4.512	2.975	3.000
L350SM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
L350SM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
L350SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
L350SM-0810-10	8.0	10.0	10.0	8.013	8.071	10.000	10.015	7.964	8.000
L350SM-1012-10	10.0	12.0	10.0	10.013	10.071	12.000	12.018	9.964	10.000

Bearing technology | Plain bearing | iglide® L350

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 290**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

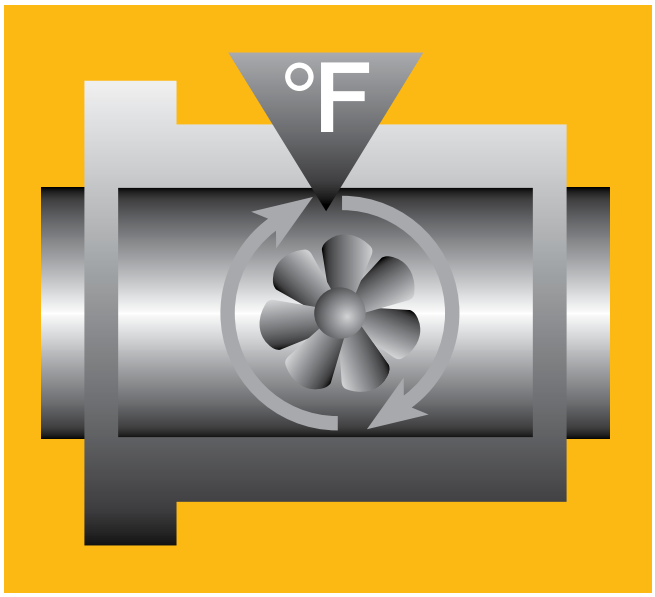
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
L350	F	M	-03	04	-05
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
L350FM-0304-05	3.0	4.5	7.5	5.0	0.75	3.006	3.046	4.500	4.512	2.975	3.000
L350FM-0405-06	4.0	5.5	9.5	6.0	0.75	4.010	4.058	5.500	5.512	3.970	4.000
L350FM-0507-07	5.0	7.0	11.0	7.0	1.00	5.010	5.058	7.000	7.015	4.970	5.000
L350FM-0608-08	6.0	8.0	12.0	8.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
L350FM-0810-09	8.0	10.0	15.0	9.0	1.00	8.013	8.071	10.000	10.015	7.964	8.000
L350FM-1012-09	10.0	12.0	18.0	9.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000

Notes



For extreme rotational speeds

Temperature- and media-resistant **iglide® L500**

When to use it?

- For rotating applications at high speed
- When the highest service life is required
- For high pv values with low loads
- At continuous operating temperatures up to +482°F (short-term up to max. +662°F)

When not to use?

- When a universal plain bearing for high temperatures is required
  iglide® X
- When medium to high pressures occur
  iglide® G, iglide® Q
- For oscillating applications
  iglide® W300, iglide® J350

Ø
3 – 10mm

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

For extreme rotational speeds
Temperature- and media-resistant

Specially developed for fast continuous operation under low loads, iglide® L500, inter alia, is intended for fan and electric motor applications.

- Temperature-resistant up to +482°F
- For rotational movements with surface speeds up to 984fpm
- Very wear-resistant
- Low moisture absorption
- Low thermal expansion
- Self-lubricating
- Maintenance-free

Typical application areas

- Cooling fans
- Electric motors
- Fans, etc.

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■■□	+
Wear resistance at +302°F	–	■■■■■	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.53	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.3	
Coefficient of friction, dynamic, against steel	µ	0.08 – 0.15	
pv value, max. (dry)	psi · fpm	114,000	
Mechanical properties			
Flexural modulus	psi	1,742,628	DIN 53457
Flexural strength at +68°F	psi	29,153	DIN 53452
Compressive strength	psi	10,153	
Max. recommended surface pressure (+68°F)	psi	10,153	
Shore D hardness		81	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+482	
Max. application temperature short-term	°F	+599	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.45	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	6	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{10}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

–148°F up to +482°F

10,153psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

iglide® L500 is a plain bearing material for high speeds and fast sliding movements with low loads. Due to the low thermal expansion and low moisture absorption, bearings can be manufactured with minimal potential to expand. Applications which feature these advantages are fans, small motors, fast-running sensors or the magnet technology.

Moisture absorption

The very low moisture absorption of 0.1% weight in standard climatic conditions and 0.3% weight at maximum water absorption also enables continuous operation in high humidity or in liquid media.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

Plain bearings made from iglide® L500 are resistant up to a radiation intensity of $3 \cdot 10^2$Gy. Higher radiation weakens the material and may result in a significant decrease in mechanical properties.

Resistance to weathering

iglide® L500 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® L500 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 iglide® L500 at radial loads. At the maximum recommended surface pressure of 10,153 at room temperature the deformation is less than 2.5%. A plastic deformation can be negligible up to this value. It is however also dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® L500 has been developed especially for high surface speeds with low loads. Due to the high temperature resistance of iglide® L500, the limit of the bearing has been increased significantly. In addition, the extremely low wear allows the high acceleration speeds to be reached and maintained. The maximum speeds are shown in table 03.

▶ Surface speed, **Page 44**

Temperature

The iglide® L500 plain bearings can be used in short-term temperatures up to +599°F. For temperatures over +275F an additional securing is required. Higher temperatures can also cause the plain bearing to lose its press-fit and move in the hole.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The excellent coefficient of friction level of iglide® L500 in dry operation decreases considerably with speed. Diagram 04 shows this with respect to a steel shaft. As the load increases, the coefficient of friction decreases, especially in the range up to 2,901psi (diagram 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

Chemicals	Resistance
Alcohols	+
Diluted acids	+
Diluted alkalines	+
Fuels	+
Greases, oils without additives	+
Hydrocarbons	+
Strong acids	+
Strong alkalines	+

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® L500 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 07 shows the result of a comparison test between iglide® L500 and a sintered bearing. The wear of the sintered bearing increases exponentially above 295fpm, while the iglide® L500 plain bearing retains a near constant wear rate up to and above 787fpm.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	787	295	984
short-term	**fpm**	984	591	1575

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.08 – 0.15	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

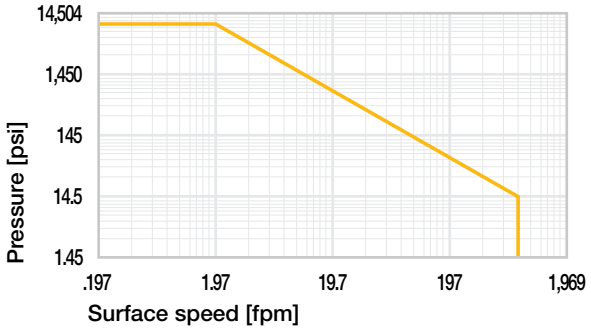


Diagram 01: Permissible pv values for iglide® L500 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

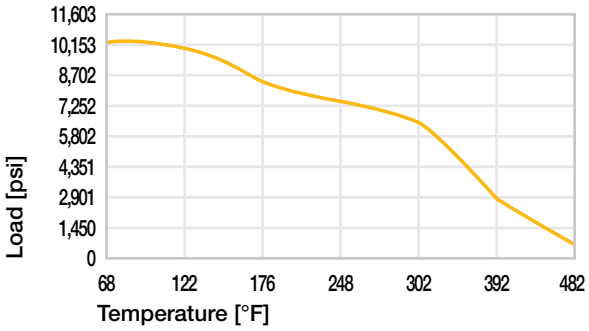


Diagram 02: Maximum recommended surface pressure as a function of temperature (10,153 at +68°F)

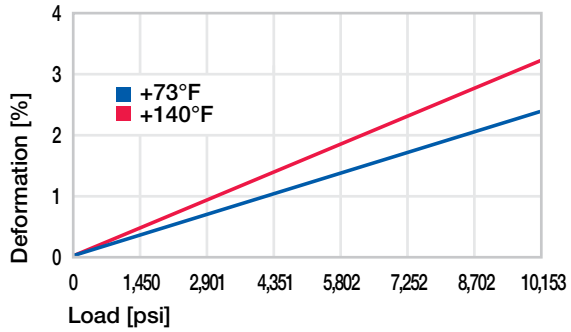


Diagram 03: Deformation under pressure and temperature

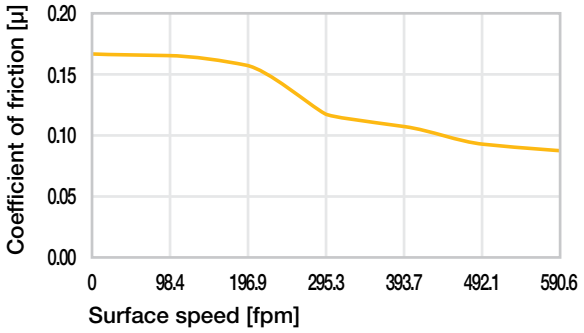


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

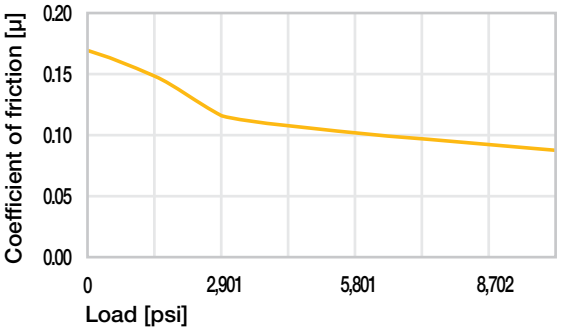


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

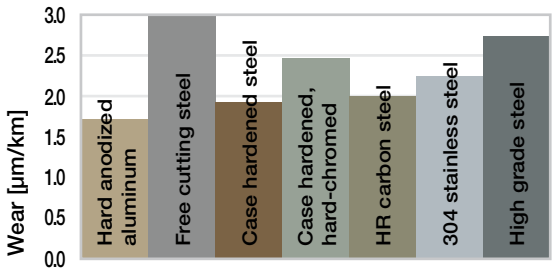


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

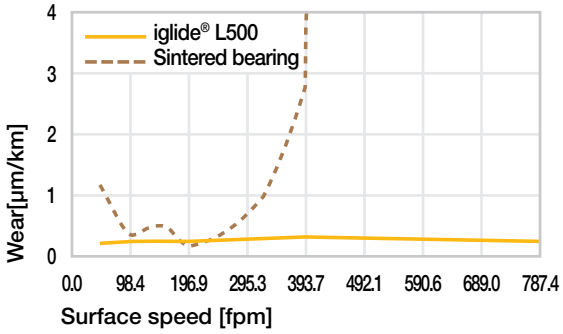
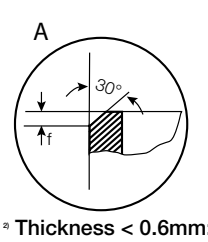


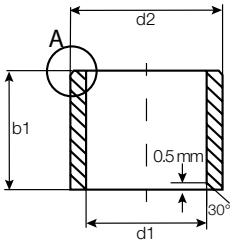
Diagram 07: Rotating wear against case hardened steel, p = 0.2725psi,
T = +73°F

Bearing technology | Plain bearing | iglide® L500

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 298**

Order key

Type			Dimensions		
L500	S	M	-03	04	-03
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

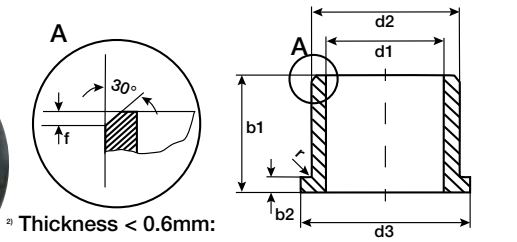
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
L500SM-0304-03	3.0	4.5	3.0	3.006	3.046	4.500	4.512	2.975	3.000
L500SM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
L500SM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
L500SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
L500SM-0810-10	8.0	10.0	10.0	8.013	8.071	10.000	10.015	7.964	8.000
L500SM-1012-10	10.0	12.0	10.0	10.013	10.071	12.000	12.018	9.964	10.000

Bearing technology | Plain bearing | iglide® L500

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 298**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

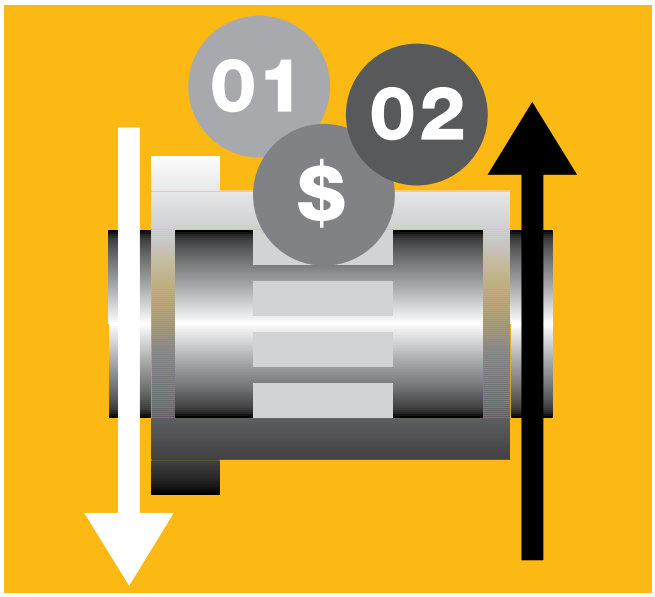
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
L500	F	M	-03	04	-05
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
L500FM-0304-05	3.0	4.5	7.5	5.0	0.75	3.006	3.046	4.500	4.512	2.975	3.000
L500FM-0405-04	4.0	5.0	9.5	4.0	0.75	4.010	4.058	5.000	5.012	3.970	4.000
L500FM-0507-07	5.0	7.0	11.0	7.0	1.00	5.010	5.058	7.000	7.015	4.970	5.000
L500FM-0608-08	6.0	8.0	12.0	8.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
L500FM-0810-09	8.0	10.0	15.0	9.5	1.00	8.013	8.071	10.000	10.015	7.964	8.000
L500FM-1012-09	10.0	12.0	18.0	9.5	1.00	10.013	10.071	12.000	12.018	9.964	10.000

Notes



Low-cost
Abrasion-resistant
iglide® R

When to use it?

- When high wear resistance at low loads is required
- When a cost-effective plain bearing is required
- When very low coefficients of friction in dry operation are required
- When high edge loads occur
- When you are looking for low water absorption
- When PTFE and silicone are not allowed in your application

When not to use?

- When high pressures occurs
  iglide® G
- When continuous operating temperatures are higher than 194°F
  iglide® G, iglide® P
- When the best wear resistance is required
  iglide® J

Ø
2 – 35mm
1/8 - 2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Low-cost
Abrasion resistant

Low-cost material with low coefficient of friction and good wear resistance at low to medium loads.

- High wear resistance
- Low coefficient of friction
- Cost-effective
- Low moisture absorption
- Self-lubricating
- Maintenance-free

Typical application areas

- Sports and leisure
- Turf care
- Furniture industry
- Medical equipment

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.39	
Color		dark red	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	1.1	
Coefficient of friction, dynamic, against steel	µ	0.09 – 0.25	
pv value, max. (dry)	psi · fpm	8,700	
Mechanical properties			
Flexural modulus	psi	282,824	DIN 53457
Flexural strength at +68°F	psi	10,153	DIN 53452
Compressive strength	psi	9,863	
Max. recommended surface pressure (+68°F)	psi	3,336	
Shore D hardness		77	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+230	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	11	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

-58°F up to +194°F

3,336psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

The development of iglide® R as a bearing material focused on high performance and very low cost. Especially in the dry operation low coefficient of friction and wear were to be achieved. Plain bearings made from iglide® R are supported by a combination of solid lubricants. The PTFE and silicone-free material achieves extremely low coefficient of friction in dry operation and runs largely free of stick-slip effects.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® R plain bearings is approximately 0.2% weight. The saturation limit in water is 1.1% weight. This must be taken into account for these types of applications.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® R are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® R plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® R 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 iglide® R at radial loads. At the maximum recommended surface pressure of 3,336psi the deformation is about 4% at room temperature. Pplastic deformation can be negligible up to this value. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® R plain bearings are suitable for high surface speeds. Speeds of up to 984fpm are permitted in linear motions. The maximum values shown in table 03 can only be achieved at low pressures. The specified values show the speed at which due to friction an increase in temperature up to the long-term permitted value can occur.

▶ Surface speed, **Page 44**

Temperature

With increasing temperatures, the compressive strength of iglide® R plain bearings decreases. Diagram 02 shows this inverse relationship. The temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +122°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Similar to wear resistance, the coefficient of friction μ also changes with the surface speed and load (diagrams 04 and 05). iglide® R is especially suitable for applications in which high pv values are induced mainly through the high surface speed rather than surface pressure. Less distinct is the dependency of the coefficient of friction of the iglide® R plain bearings on the shaft surface.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® R 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagrams 06 and 07 show the test results of iglide® R plain bearings running against various shaft materials. At 59fpm and 145psi, the high grade steel and case hardened steel shafts are the best materials. With increasing loads the iglide® R bearings feature the best wear behavior with case hardened steel and 304 stainless steel shafts. In oscillating motions, the hard-chromed shaft proves to be the ideal mating surface. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	157	118	689
short-term	**fpm**	236	197	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.09 – 0.25	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

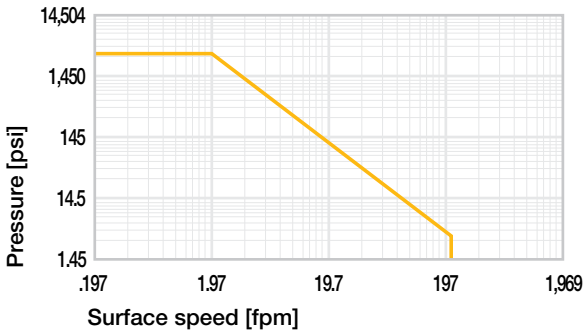


Diagram 01: Permissible pv values for iglide® R plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

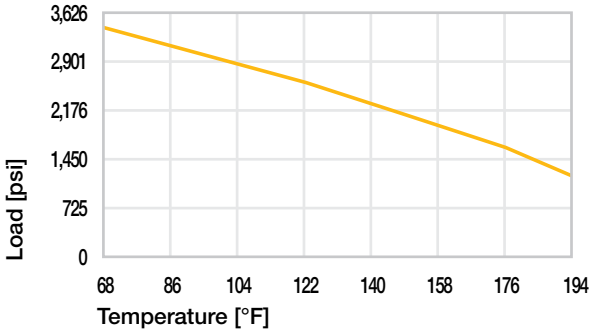


Diagram 02: Maximum recommended surface pressure as a function of temperature (3,336psi at +68°F)

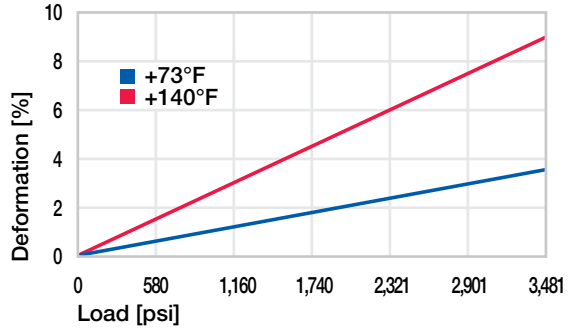


Diagram 03: Deformation under pressure and temperature

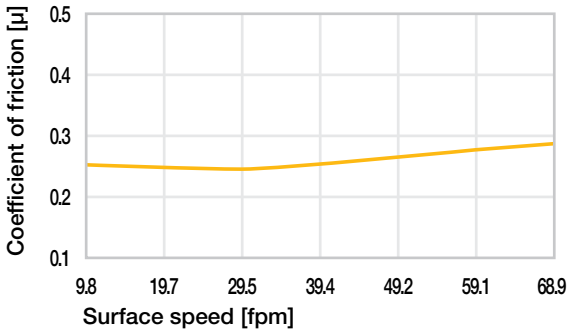


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

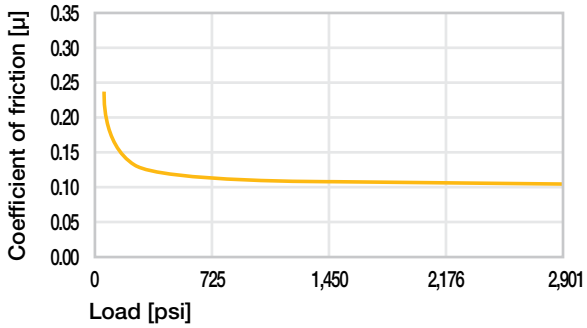


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

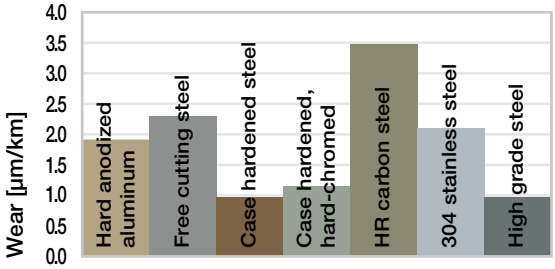


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

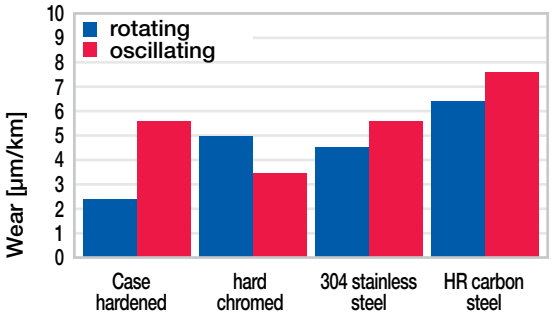
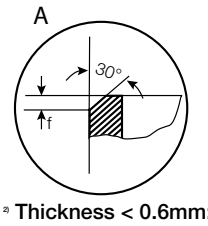


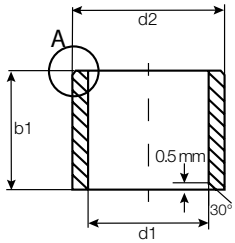
Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Bearing technology | Plain bearing | iglide® R

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 306**

Order key

Type			Dimensions		
R	S	I	-02	04	-04
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

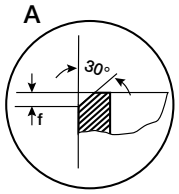
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
RSI-0204-04	1/8	1/4	1/4	.1262	.1280	.2510	.2515	.1241	.1250
RSI-0305-03	3/16	5/16	3/16	.1886	.1915	.3122	.3128	.1862	.1874
RSI-0305-04	3/16	5/16	1/4			.3122	.3128	.1862	.1874
RSI-0305-06	3/16	5/16	3/8			.3122	.3128	.1862	.1874
RSI-0305-08	3/16	5/16	1/2			.3122	.3128	.1862	.1874
RSI-0406-04	1/4	3/8	1/4	.2516	.2551	.3760	.3766	.2486	.2500
RSI-0406-05	1/4	3/8	5/16			.3760	.3766	.2486	.2500
RSI-0406-06	1/4	3/8	3/8			.3760	.3766	.2486	.2500
RSI-0406-10	1/4	3/8	5/8			.3760	.3766	.2486	.2500
RSI-0406-12	1/4	3/8	3/4			.3760	.3766	.2486	.2500
RSI-0506-08	5/16	3/8	1/2	.3125	.3148	.3747	.3753	.3106	.3115
RSI-0506-12	5/16	3/8	3/4			.3747	.3753	.3106	.3115
RSI-0507-04	5/16	7/16	1/4	.3142	.3177	.4386	.4393	.3112	.3126
RSI-0507-05	5/16	7/16	5/16			.4386	.4393	.3112	.3126
RSI-0507-06	5/16	7/16	3/8			.4386	.4393	.3112	.3126
RSI-0507-08	5/16	7/16	1/2			.4386	.4393	.3112	.3126
RSI-0507-10	5/16	7/16	5/8			.4386	.4393	.3112	.3126
RSI-0507-12	5/16	7/16	3/4			.4386	.4393	.3112	.3126
RSI-0608-04	3/8	1/2	1/4	.3764	.3799	.5010	.5017	.3734	.3748
RSI-0608-06	3/8	1/2	3/8			.5010	.5017	.3734	.3748
RSI-0608-08	3/8	1/2	1/2			.5010	.5017	.3734	.3748
RSI-0608-10	3/8	1/2	5/8			.5010	.5017	.3734	.3748
RSI-0608-12	3/8	1/2	3/4			.5010	.5017	.3734	.3748
RSI-0608-16	3/8	1/2	1			.5010	.5017	.3734	.3748
RSI-0708-08	7/8	17/32	1/2	.4379	.4406	.5309	.5316	.4366	.4375
RSI-0810-04	1/2	5/8	1/4	.5020	.5063	.6250	.6257	.4983	.5000
RSI-0810-06	1/2	5/8	3/8			.6250	.6257	.4983	.5000
RSI-0810-08	1/2	5/8	1/2			.6250	.6257	.4983	.5000
RSI-0810-10	1/2	5/8	5/8			.6250	.6257	.4983	.5000
RSI-0810-12	1/2	5/8	3/4			.6250	.6257	.4983	.5000
RSI-0810-16	1/2	5/8	1			.6250	.6257	.4983	.5000
RSI-0812-12	1/2	3/4	3/4	.5020	.5047	.7500	.7508	.4983	.5000
RSI-0812-16	1/2	3/4	1			.7500	.7508	.4983	.5000

Product range

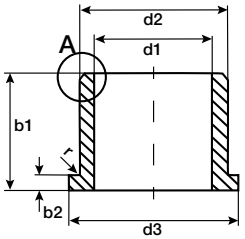
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
RSI-1012-04	5/8	3/4	1/4	.6268	.6311	.7500	.7508	.6231	.6248
RSI-1012-06	5/8	3/4	3/8			.7500	.7508	.6231	.6248
RSI-1012-08	5/8	3/4	1/2			.7500	.7508	.6231	.6248
RSI-1012-10	5/8	3/4	5/8			.7500	.7508	.6231	.6248
RSI-1012-12	5/8	3/4	3/4			.7500	.7508	.6231	.6248
RSI-1012-16	5/8	3/4	1			.7500	.7508	.6231	.6248
RSI-1214-06	3/4	7/8	3/8	.7526	.7577	.8748	.8756	.7480	.7500
RSI-1214-16	3/4	7/8	1			.8748	.8756	.7480	.7500
RSI-1216-12	3/4	1	3/4	.7526	.7577	1.0000	1.0008	.7480	.7500
RSI-1216-16	3/4	1	1			1.0000	1.0008	.7480	.7500
RSI-1216-20	3/4	1	1 1/4			1.0000	1.0008	.7480	.7500
RSI-1216-24	3/4	1	1 1/2			1.0000	1.0008	.7480	.7500
RSI-1416-12	7/8	1	3/4	.8766	.8799	1.0000	1.0008	.8730	.8750
RSI-1416-16	7/8	1	1			1.0000	1.0008	.8730	.8750
RSI-1416-24	7/8	1	1 1/2			1.0000	1.0008	.8730	.8750
RSI-1418-10	7/8	1 1/8	5/8	.8774	.8825	1.1250	1.1258	.8728	.8748
RSI-1418-12	7/8	1 1/8	3/4			1.1250	1.1258	.8728	.8748
RSI-1418-16	7/8	1 1/8	1			1.1250	1.1258	.8728	.8748
RSI-1418-24	7/8	1 1/8	1 1/2			1.1250	1.1258	.8728	.8748
RSI-1618-12	1	1 1/8	3/4	1.0026	1.0077	1.1250	1.1258	.9980	1.0000
RSI-1618-22	1	1 1/8	1 3/8			1.1250	1.1258	.9980	1.0000
RSI-1620-10	1	1 1/4	5/8	1.0026	1.0077	1.2500	1.2510	.9980	1.0000
RSI-1620-12	1	1 1/4	3/4			1.2500	1.2510	.9980	1.0000
RSI-1620-16	1	1 1/4	1			1.2500	1.2510	.9980	1.0000
RSI-1620-20	1	1 1/4	1 1/4			1.2500	1.2510	.9980	1.0000
RSI-1620-24	1	1 1/4	1 1/2			1.2500	1.2510	.9980	1.0000
RSI-2024-16	1 1/4	1 1/2	1	1.2531	1.2594	1.5000	1.5010	1.2476	1.2500
RSI-2024-24	1 1/4	1 1/2	1 1/2			1.5000	1.5010	1.2476	1.2500
RSI-3236-16	2	2 1/4	1	2.0039	2.0114	2.2500	2.2512	1.9971	2.0000
RSI-3236-32	2	2 1/4	2			2.2500	2.2512	1.9971	2.0000

Bearing technology | Plain bearing | iglide® R

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 306**

Order key

Type			Dimensions		
R	F	I	-03	05	-03
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

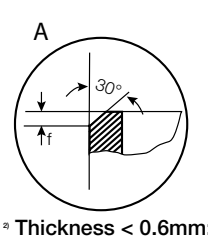
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
RFI-0305-03	3/16	5/16	3/16	.370	.047	.1886	.1915	.3125	.3131	.1862	.1874
RFI-0305-04	3/16	5/16	1/4	.370	.047			.3125	.3131	.1862	.1874
RFI-0305-06	3/16	5/16	3/8	.370	.047			.3125	.3131	.1862	.1874
RFI-0305-08	3/16	5/16	1/2	.370	.047			.3125	.3131	.1862	.1874
RFI-0406-04	1/4	3/8	1/4	.560	.047	.2516	.2551	.3750	.3756	.2486	.2500
RFI-0406-05	1/4	3/8	5/16	.560	.047			.3750	.3756	.2486	.2500
RFI-0406-06	1/4	3/8	3/8	.560	.047			.3750	.3756	.2486	.2500
RFI-0406-08	1/4	3/8	1/2	.560	.047			.3750	.3756	.2486	.2500
RFI-0406-10	1/4	3/8	5/8	.560	.047			.3750	.3756	.2486	.2500
RFI-0406-12	1/4	3/8	3/4	.560	.047			.3750	.3756	.2486	.2500
RFI-0507-04	5/16	7/16	1/4	.560	.062	.3142	.3177	.4374	.4381	.3112	.3126
RFI-0507-05	5/16	7/16	5/16	.560	.062			.4374	.4381	.3112	.3126
RFI-0507-06	5/16	7/16	3/8	.560	.062			.4374	.4381	.3112	.3126
RFI-0507-08	5/16	7/16	1/2	.560	.062			.4374	.4381	.3112	.3126
RFI-0507-10	5/16	7/16	5/8	.560	.062			.4374	.4381	.3112	.3126
RFI-0507-12	5/16	7/16	3/4	.560	.062			.4374	.4381	.3112	.3126
RFI-0607-04	3/8	15/32	1/4	.687	.046	.3766	.3801	.4687	.4694	.3736	.3750
RFI-0608-04	3/8	1/2	1/4	.625	.062	.3766	.3801	.5010	.5017	.3736	.3750
RFI-0608-06	3/8	1/2	3/8	.625	.062			.5010	.5017	.3736	.3750
RFI-0608-08	3/8	1/2	1/2	.625	.062			.5010	.5017	.3736	.3750
RFI-0608-10	3/8	1/2	5/8	.625	.062			.5010	.5017	.3736	.3750
RFI-0608-12	3/8	1/2	3/4	.625	.062			.5010	.5017	.3736	.3750
RFI-0608-16	3/8	1/2	1	.625	.062			.5010	.5017	.3736	.3750
RFI-0708-04	7/16	17/32	1/4	.750	.046	.4386	.4429	.5309	.5316	.4349	.4366
RFI-0708-08	7/16	17/32	1/2	.750	.046			.5309	.5316	.4349	.4366
RFI-0809-03	1/2	19/32	3/16	.875	.046	.5020	.5063	.5937	.5944	.4980	.4990
RFI-0809-04	1/2	19/32	1/4	.875	.046			.5937	.5944	.4980	.4990
RFI-0809-08	1/2	19/32	1/2	.875	.046			.5937	.5944	.4980	.4990
RFI-0810-04	1/2	5/8	1/4	.875	.062	.5020	.5063	.6250	.6257	.4983	.5000
RFI-0810-06	1/2	5/8	3/8	.875	.062			.6250	.6257	.4983	.5000
RFI-0810-08	1/2	5/8	1/2	.875	.062			.6250	.6257	.4983	.5000
RFI-0810-10	1/2	5/8	5/8	.875	.062			.6250	.6257	.4983	.5000
RFI-0810-12	1/2	5/8	3/4	.875	.062			.6250	.6257	.4983	.5000
RFI-0810-16	1/2	5/8	1	.875	.062			.6250	.6257	.4983	.5000

Product range

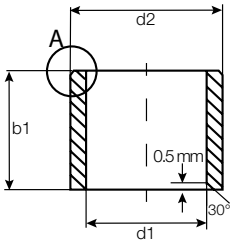
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
RFI-0812-0210	1/2	3/4	7/32	1.000	.125	.5020	.5047	.7500	.7508	.4983	.5000
RFI-0812-08	1/2	3/4	1/2	1.000	.125			.7500	.7508	.4983	.5000
RFI-0812-12	1/2	3/4	3/4	1.000	.125			.7500	.7508	.4983	.5000
RFI-0812-16	1/2	3/4	1	1.000	.125			.7500	.7508	.4983	.5000
RFI-1012-06	5/8	3/4	3/8	1.000	.062	.6270	.6313	.7500	.7508	.6233	.6250
RFI-1012-08	5/8	3/4	1/2	1.000	.062			.7500	.7508	.6233	.6250
RFI-1012-10	5/8	3/4	5/8	1.000	.062			.7500	.7508	.6233	.6250
RFI-1012-12	5/8	3/4	3/4	1.000	.062			.7500	.7508	.6233	.6250
RFI-1012-16	5/8	3/4	1	1.000	.062			.7500	.7508	.6233	.6250
RFI-1214-07	3/4	7/8	7/16	1.125	.062	.7516	.7549	.8748	.8756	.7480	.7500
RFI-1214-08	3/4	7/8	7/16	1.125	.062			.8748	.8756	.7480	.7500
RFI-1214-12	3/4	7/8	7/16	1.125	.062			.8748	.8756	.7480	.7500
RFI-1214-16	3/4	7/8	7/16	1.125	.062			.8748	.8756	.7480	.7500
RFI-1216-08	3/4	1	1/2	1.250	.156	.7526	.7577	1.0000	1.0008	.7480	.7500
RFI-1216-12	3/4	1	3/4	1.250	.156			1.0000	1.0008	.7480	.7500
RFI-1216-16	3/4	1	1	1.250	.156			1.0000	1.0008	.7480	.7500
RFI-1216-20	3/4	1	1 1/4	1.250	.156			1.0000	1.0008	.7480	.7500
RFI-1216-24	3/4	1	1 1/2	1.250	.156			1.0000	1.0008	.7480	.7500
RFI-1416-07	7/8	1	7/16	1.250	.062	.8756	.8789	.9997	1.0005	.8720	.8740
RFI-1416-12	7/8	1	3/4	1.250	.062			.9997	1.0005	.8720	.8740
RFI-1416-20	7/8	1	1 1/4	1.250	.062			.9997	1.0005	.8720	.8740
RFI-1418-10	7/8	1 1/8	5/8	1.375	.156	.8774	.8825	1.1250	1.1258	.8728	.8748
RFI-1418-12	7/8	1 1/8	3/4	1.375	.156			1.1250	1.1258	.8728	.8748
RFI-1418-16	7/8	1 1/8	1	1.375	.156			1.1250	1.1258	.8728	.8748
RFI-1418-24	7/8	1 1/8	1 1/2	1.375	.156			1.1250	1.1258	.8728	.8748
RFI-1618-08	1	1 1/8	1/2	1.375	.062	1.0026	1.0077	1.1250	1.1258	.9980	1.0000
RFI-1618-12	1	1 1/8	3/4	1.375	.062			1.1250	1.1258	.9980	1.0000
RFI-1618-20	1	1 1/8	1 1/4	1.375	.062			1.1250	1.1258	.9980	1.0000
RFI-1620-10	1	1 1/4	5/8	1.500	.188	1.0026	1.0077	1.2500	1.2510	.9980	1.0000
RFI-1620-12	1	1 1/4	3/4	1.500	.188			1.2500	1.2510	.9980	1.0000
RFI-1620-16	1	1 1/4	1	1.500	.188			1.2500	1.2510	.9980	1.0000
RFI-1620-20	1	1 1/4	1 1/4	1.500	.188			1.2500	1.2510	.9980	1.0000
RFI-1620-24	1	1 1/4	1 1/2	1.500	.188			1.2500	1.2510	.9980	1.0000
RFI-2022-09	1 1/4	1 13/32	9/16	1.687	.078	1.2508	1.2547	1.4098	1.4108	1.2464	1.2488
RFI-2024-16	1 1/4	1 1/2	1	1.750	.200	1.2531	1.2594	1.5039	1.5049	1.2476	1.2500
RFI-2428-12	1 1/2	1 3/4	3/4	2.000	.125	1.5031	1.5094	1.7575	1.7585	1.4976	1.5000
RFI-3236-12	2	2 1/4	3/4	2.500	.125	2.0039	2.0114	2.2579	2.2591	1.9971	2.0000
RFI-3236-24	2	2 1/4	1 1/2	2.500	.125			2.2579	2.2591	1.9971	2.0000
RFI-3236-32	2	2 1/4	2	2.500	.125			2.2579	2.2591	1.9971	2.0000

Bearing technology | Plain bearing | iglide® R

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 306**

Order key

Type			Dimensions		
R	S	M	-02	03	-07
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

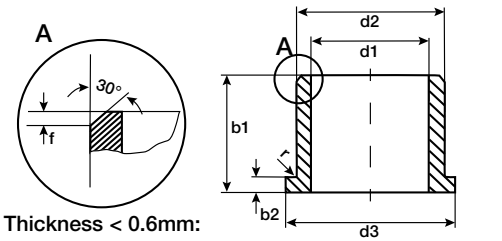
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
RSM-0203-07	2.0	3.6	7.0	2.014	2.054	3.600	3.612	1.975	2.000
RSM-0405-04	4.0	5.5	4.0	4.020	4.068	5.500	5.512	3.970	4.000
RSM-0507-05	5.0	7.0	5.0	5.020	5.068	7.000	7.015	4.970	5.000
RSM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
RSM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
RSM-1012-05	10.0	12.0	5.0	10.025	10.083	12.000	12.018	9.964	10.000
RSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
RSM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
RSM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
RSM-1416-15	14.0	16.0	15.0	14.032	14.102	16.000	16.018	13.957	14.000
RSM-1517-15	15.0	17.0	15.0	15.032	15.102	17.000	17.018	14.957	15.000
RSM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
RSM-1820-25	18.0	20.0	25.0	18.032	18.102	20.000	20.021	17.957	18.000
RSM-2023-15	20.0	23.0	15.0	20.040	20.124	23.000	23.021	19.948	20.000
RSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
RSM-2528-25	25.0	28.0	25.0	25.040	25.124	28.000	28.021	24.948	25.000
RSM-2832-12	28.0	32.0	12.0	28.040	28.124	32.000	32.025	27.948	28.000
RSM-3034-25	30.0	34.0	25.0	30.040	30.124	34.000	34.025	29.948	30.000
RSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
RSM-3539-30	35.0	39.0	30.0	35.050	35.150	39.000	39.025	34.938	35.000

Bearing technology | Plain bearing | iglide® R

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 306**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

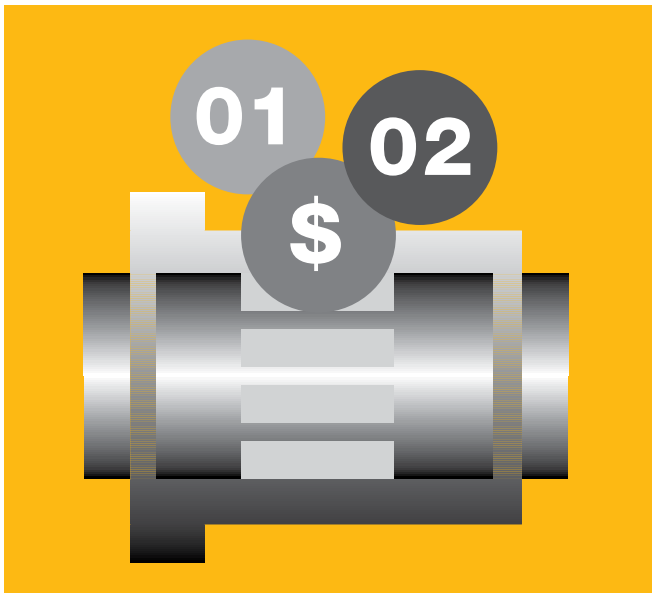
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
R	F	M	-04	05	-03
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
RFM-0405-03	4.0	5.5	9.0	3.0	0.8	4.020	4.068	5.500	5.512	3.970	4.000
RFM-0405-04	4.0	5.5	9.5	4.0	0.8			5.500	5.512	3.970	4.000
RFM-0507-05	5.0	7.0	11.0	5.0	1.0	5.020	5.068	7.000	7.015	4.970	5.000
RFM-0608-06	6.0	8.0	12.0	6.0	1.0	6.020	6.068	8.000	8.015	5.970	6.000
RFM-0810-05	8.0	10.0	15.0	5.0	1.0	8.025	8.083	10.000	10.015	7.964	8.000
RFM-0810-10	8.0	10.0	15.0	10.0	1.0			10.000	10.015	7.964	8.000
RFM-1012-10	10.0	12.0	18.0	10.0	1.0	10.025	10.083	12.000	12.018	9.964	10.000
RFM-1012-18	10.0	12.0	18.0	18.0	1.0			12.000	12.018	9.964	10.000
RFM-1214-10	12.0	14.0	20.0	10.0	1.0	12.032	12.102	14.000	14.018	11.957	12.000
RFM-1214-12	12.0	14.0	20.0	12.0	1.0			14.000	14.018	11.957	12.000
RFM-1416-17	14.0	16.0	22.0	17.0	1.0	14.032	14.102	16.000	16.018	13.957	14.000
RFM-1517-17	15.0	17.0	23.0	17.0	1.0	15.032	15.102	17.000	17.018	14.957	15.000
RFM-1618-17	16.0	18.0	24.0	17.0	1.0	16.032	16.102	18.000	18.018	15.957	16.000
RFM-1820-17	18.0	20.0	26.0	17.0	1.0	18.032	18.102	20.000	20.021	17.957	18.000
RFM-2023-21	20.0	23.0	30.0	21.5	1.5	20.040	20.124	23.000	23.021	19.948	20.000
RFM-222529-045	22.0	25.0	29.0	4.5	1.5	22.040	22.124	25.000	25.021	21.948	22.000
RFM-2528-21	25.0	28.0	35.0	21.5	1.5	25.040	25.124	28.000	28.021	24.948	25.000

Notes



Low-cost with silicone
Abrasion-resistant
iglide® D

When to use it?

- When low coefficient of friction is required
- For high speeds
- For low load
- When a cost-effective plain bearing is required

When not to use?

- When high pressure occurs
  iglide® G
- When the part should be free of silicone
  iglide® J, iglide® R
- When universal chemical resistance is required
  iglide® X
- When continuous operating temperatures are higher than +194°F
  iglide® G, iglide® P

Ø
–

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Low-cost with silicone
Abrasion-resistant

Low-cost-material with low coefficient of friction and good wear resistance at low loads.

- Low coefficient of friction
- For low loads
- Cost-effective
- Vibration-dampening
- Very low moisture absorption
- Self-lubricating
- Suitable for high surface speeds

Typical application areas

- Marine applications
- Model making
- Furniture industry
- Mechatronics

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.40	
Color		green	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	1.1	
Coefficient of friction, dynamic, against steel	µ	0.08 – 0.26	
pv value, max. (dry)	psi · fpm	8,700	
Mechanical properties			
Flexural modulus	psi	290,075	DIN 53457
Flexural strength at +68°F	psi	10,443	DIN 53452
Compressive strength	psi	10,153	
Max. recommended surface pressure (+68°F)	psi	3,336	
Shore D hardness		78	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+230	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	11	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{14}	DIN IEC 93
Surface resistance	Ω	> 10^{14}	DIN 53482

-50°F up to +194°F

3,336psi

HB

RoHS

Table 01: Material properties

During the development process of iglide® D as a bearing material, high performance and low price were the top requirements. In particular, low coefficient of friction was required at high speeds in dry operation. This material containing silicone achieves low coefficient of friction in dry operation and runs with virtually no stick-slip.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® D plain bearings is approximately 0.3% weight. The saturation limit in water is 1.1% weight. This low moisture absorption allows its use in wet environments.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® D are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® D plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® D 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. iglide® D plain bearings were specially developed for low radial loads. Diagram 03 shows the elastic deformation of iglide® D at radial loads. At the maximum recommended surface pressure of 3,336psi the deformation is less than 3%. A plastic deformation can be negligible up to this value. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® D plain bearings are suitable for high surface speeds. Speeds of up to 1,969fpm are permitted in linear motions. The maximum values shown in table 03 can only be achieved at low pressures. The specified values show the speed at which due to friction an increase in temperature up to the long-term permitted value can occur.

▶ Surface speed, **Page 44**

Temperature

With increasing temperatures, the compressive strength of iglide® D plain bearings decreases. Diagram 02 shows this inverse relationship. The temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +122°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Similar to wear resistance, the coefficient of friction μ also changes with the surface speed and load (diagrams 04 and 05). In the Ra range between 0.4 – 0.6μm, the coefficient of friction attains its optimum value.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® D 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagrams 06 and 07 show the test results of iglide® D plain bearings running against various shaft materials. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	fpm	295	217	1575
short-term	fpm	591	413	1969

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.08 – 0.26	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

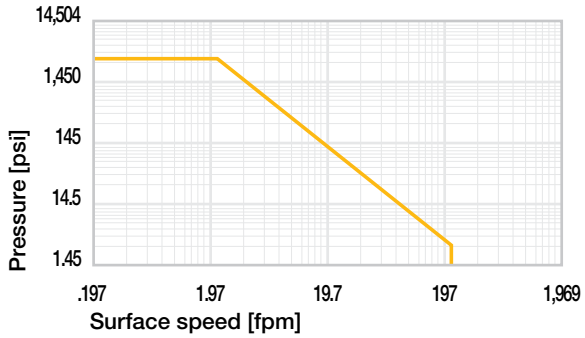


Diagram 01: Permissible pv values for iglide® D plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

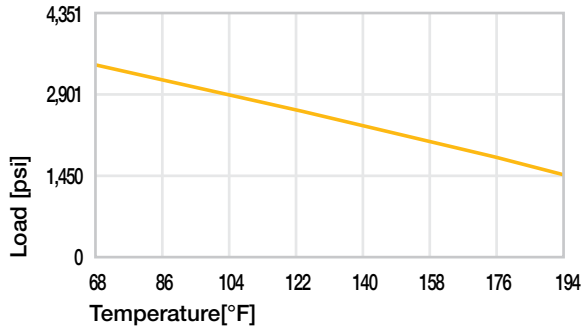


Diagram 02: Maximum recommended surface pressure as a function of temperature (3,336psi at +68°F)

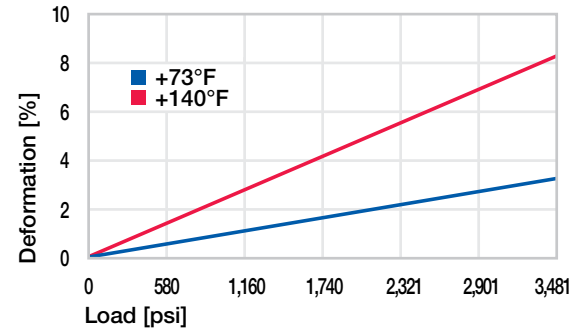


Diagram 03: Deformation under pressure and temperature

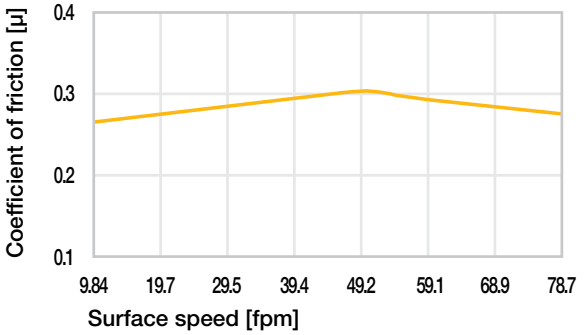


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

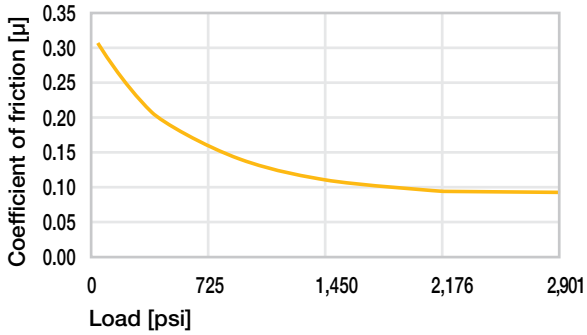


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

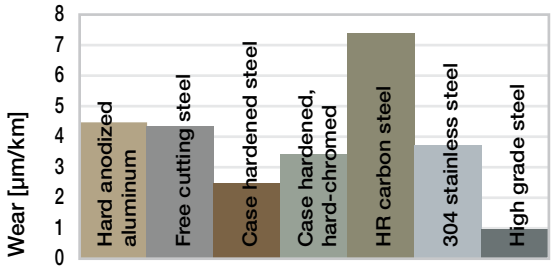


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

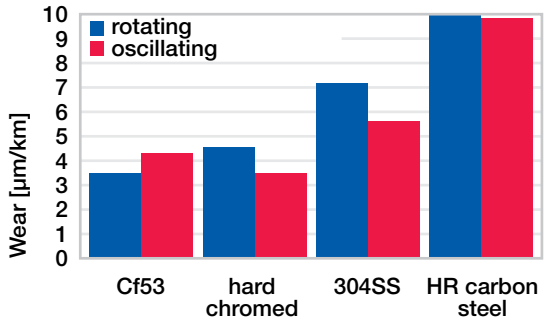
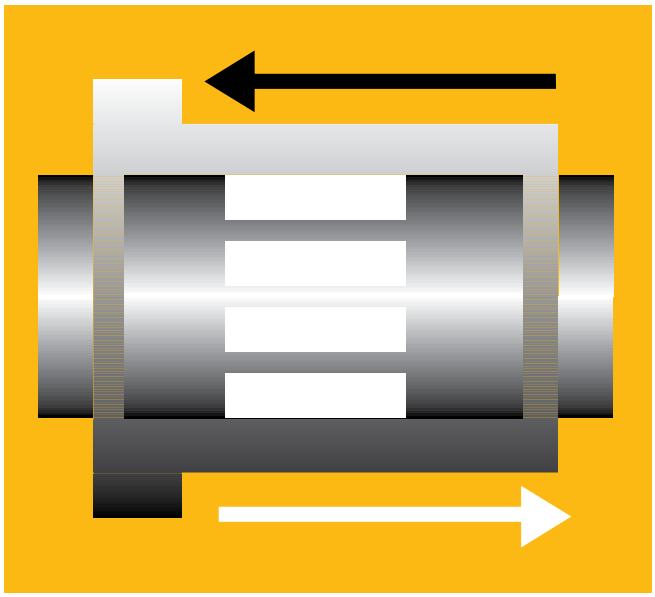


Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Notes



Specialist for linear movement

Low wear with low coefficient of friction

iglide® J200

When to use it?

- For applications with hard-anodized shafts
- When low coefficient of friction is required
- When long service life at low loads is required

When not to use?

- For steel shafts
  iglide® J, iglide® W300
- When continuous operating temperatures are higher than 194°F
  iglide® V400
- When a cost-effective universal plain bearing is required
  iglide® G, iglide® P

Ø
–

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Specialist for linear movement
Low wear with low coefficient of friction

The specialist for low coefficient of friction and minimal wear with hard-anodized aluminum shafts.

- Recommended for hard-anodized aluminum shafts
- Low coefficient of friction
- High wear resistance
- For low and medium loads
- Self-lubricating
- Maintenance-free

Typical application areas

- Automation
- Linear technology
- Actuator

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.72	
Color		matte grey	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	0.7	
Coefficient of friction, dynamic, against steel	µ	0.11 – 0.17	
pv value, max. (dry)	psi · fpm	8,600	
Mechanical properties			
Flexural modulus	psi	406,106	DIN 53457
Flexural strength at +68°F	psi	8,412	DIN 53452
Compressive strength	psi	6,237	
Max. recommended surface pressure (+68°F)	psi	3,336	
Shore D hardness		70	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+248	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	8	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{8}	DIN IEC 93
Surface resistance	Ω	> 10^{8}	DIN 53482

Table 01: Material properties

-58°F up to +194°F

3,336psi

HB

RoHS

iglide® J200 is the result of the development of extremely low friction plain bearing materials. When using plain bearings in linear motion, friction can be critical. Many materials can give low coefficient of friction under high loads, but iglide® J200 can give excellent friction values even at low loads.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® J200 plain bearings is approximately 0.2% weight. The saturation limit in water is 0.7% weight. These values are so low that moisture expansion only needs to be considered only in extreme cases.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® J200 are resistant up to a radiation intensity of 3 · 10^{2}Gy.

Resistance to weathering

iglide® J200 plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® J200 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. At the maximum permissible load of 3,336psi, the deformation is approximately 3.5% (diagram 03). A plastic deformation can be negligible up to this value. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® J200 attains high surface speeds due to its excellent coefficient of friction. Continuous rotation speeds of 197fpm are possible. The permitted speeds are clearly higher yet in linear movements or in short-term operation. Speeds of over 2,953fpm have been successfully tested in linear applications.

▶ Surface speed, **Page 44**

Temperature

The maximum permissible temperature of +248F should not be exceeded. Therefore the ambient temperature generated by friction has to be added. From +140°F onward, the bearing should be mechanically retained, to avoid the bearing moving out of the hole. The wear resistance also decreases exponentially from +158°F upwards.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Among all the iglide® materials, iglide® J200 exhibits the lowest coefficient of friction. The average coefficient of friction of all measurements, even with different shaft materials, is 0.11µ. The use of hard-anodized aluminum as a shaft material is also of importance. The comparison with the rest of the iglide® materials shows that iglide® J200 plain bearings are suitable for rather low loads. The influence of surface speed and load on the coefficient of friction is small. The change of the coefficient of friction at high loads is in the normal range (diagrams 04 and 05). Surface finishes (Ra) of the shaft between 0.2 – 0.4µm are ideal. The influence of the shaft material on the wear resistance is significant. Even at low loads, we recommend to have a closer look into the wear database.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® J200 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

The shaft material has a great impact on the wear resistance. In fact, all shaft materials (smooth or hardened) are suitable for use with iglide® J200, but the best results are achieved with hard-anodized aluminum. In particular when used in linear motion, this running surface has proven its value.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	fpm	197	138	1969
short-term	fpm	295	217	2953

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.11 – 0.17	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

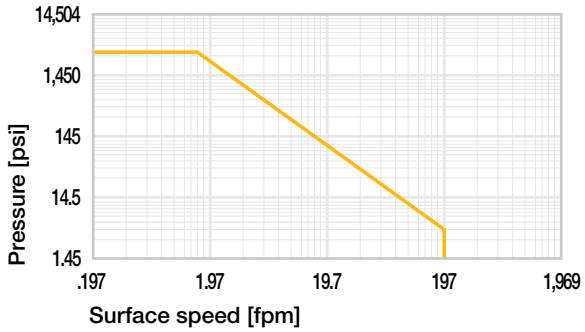


Diagram 01: Permissible pv values for iglide® J200 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

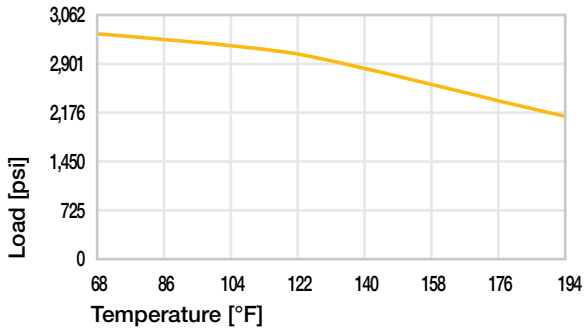


Diagram 02: Maximum recommended surface pressure as a function of temperature (3,336psi at +68°F)

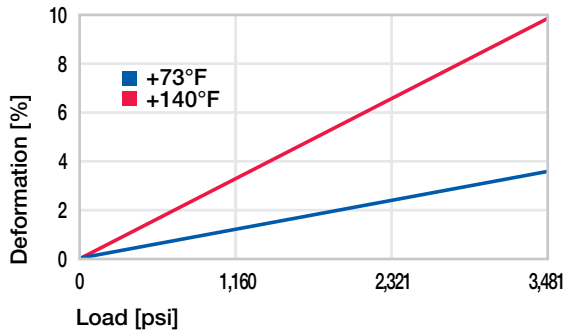


Diagram 03: Deformation under pressure and temperature

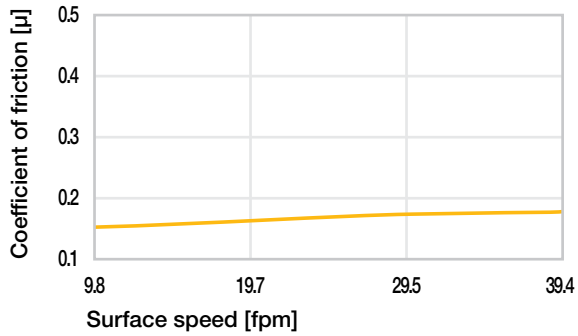


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

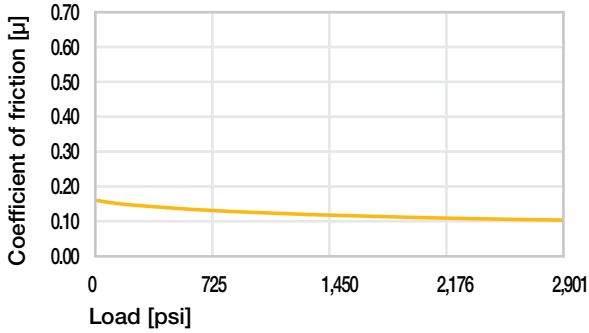


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

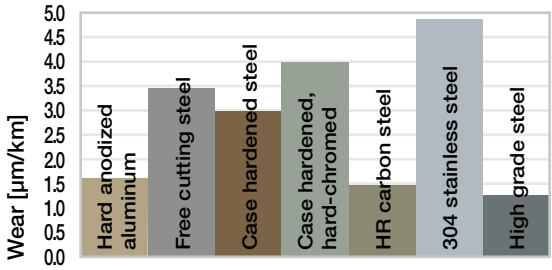


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

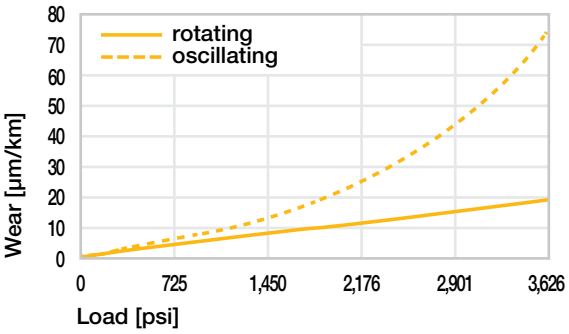
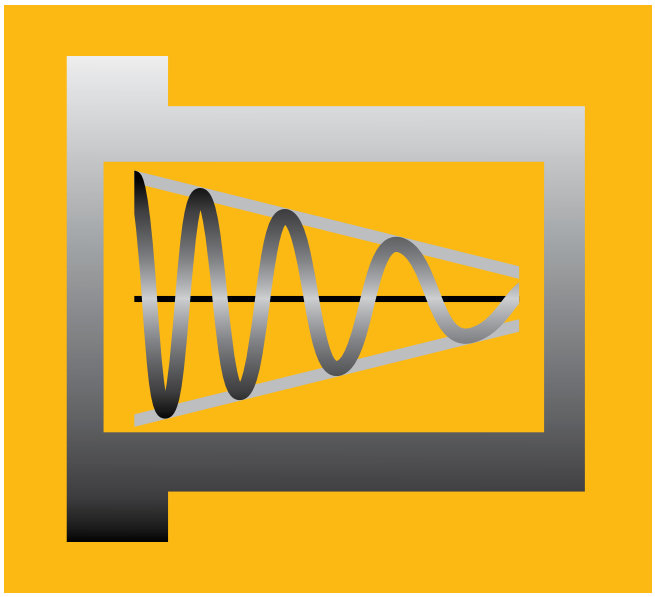


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Notes



Ideal for pivoting movement

Vibration-dampening with low coefficient of friction for low or medium loads

iglide® E7

When to use it?

- When good dampening properties and quiet operation are required
- When a low coefficient of friction in a pivoting movement is required
- When a tough material is required

When not to use?

- When high pressure occurs
  iglide® G, iglide® Z
- When continuous operating temperatures are higher than 158°F
  iglide® J350
- When universal wear resistance is required
  iglide® J

Ø
6 – 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Ideal for pivoting movement

Vibration-dampening with low coefficient of friction for low or medium loads

iglide® E7, well-known from drylin® linear technology, is also available as a plain bearing. Plain bearings made of the material offer excellent coefficient of friction and wear with low to medium loads.

- Noise-dampening
- Very low coefficients of friction
- Self-lubricating
- Corrosion-free

Typical application areas

- Packaging industry
- Textile industry
- Furniture/Industrial design

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■■	+
Wear resistance at +194°F	–	■■■■■	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■■□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.05	
Color		dark grey	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.1	
Coefficient of friction, dynamic, against steel	µ	0.09 – 0.23	
pv value, max. (dry)	psi · fpm	6,280	
Mechanical properties			
Flexural modulus	psi	214,221	DIN 53457
Flexural strength at +68°F	psi	3,191	DIN 53452
Compressive strength	psi	2,611	
Max. recommended surface pressure (+68°F)	psi	2,611	
Shore D hardness		61	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+158	
Max. application temperature short-term	°F	+194	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	25	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	>10^{9}	DIN IEC 93
Surface resistance	Ω	>10^{9}	DIN 53482

Table 01: Material properties

-58°F up to +158°F

2,611psi

The material E7 offers good vibration-dampening properties. With low coefficient of friction at low and medium loads, the material is a suitable partner for almost all shaft materials.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® E7 plain bearings is approximately 0.1% weight. The saturation limit in water is 0.1% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

Plain bearings made from iglide® E7 are resistant up to a radiation intensity of 3 · 10^{2}Gy.

Resistance to weathering

iglide® E7 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® E7 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. At the maximum permissible load of 2,611psi, the deformation is approximately 6% (diagram 03). A plastic deformation can be negligible up to this value. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® E7 attains high surface speeds due to its excellent coefficient of friction. Continuous rotation speeds of 98fpm are possible. The permitted speeds are clearly higher yet in linear movements or in short-term operation. Speeds of over 591fpm have been successfully tested in linear applications.

▶ Surface speed, **Page 44**

Temperature

The maximum permissible temperature of +194°F should not be exceeded. Therefore the ambient temperature generated by friction has to be added. From +86°F onward, the bearing should be mechanically retained, so as to avoid the bearing moving out of the hole. The wear resistance also decreases exponentially from +194°F upwards.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Among all the iglide® materials, iglide® E7 exhibits the lowest coefficient of friction. The average coefficient of friction of all measurements, even with different shaft materials, is 0.11µ. The use of hard-anodized aluminum as a shaft material is also of importance. The comparison with the rest of the iglide® materials shows that iglide® E7 plain bearings are suitable for rather low loads. The influence of surface speed and load on the coefficient of friction is small. The change of the coefficient of friction at high loads is in the normal range (diagrams 04 and 05). Surface finishes (Ra) of the shaft between 0.8µm are ideal. The influence of the shaft material on the wear resistance is significant. Even at low loads, we recommend to have a closer look into the wear database.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® E7 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

The shaft material has a great impact on the wear resistance. In fact, all shaft materials (smooth or hardened) are suitable for use with iglide® E7, but the best results are achieved with hard-anodized aluminum. In particular when used in linear motion, this running surface has proven its value.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	98	79	394
short-term	**fpm**	157	118	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.09 – 0.23	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	**H7 [mm]**		**E10 [mm]**		**h9 [mm]**	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

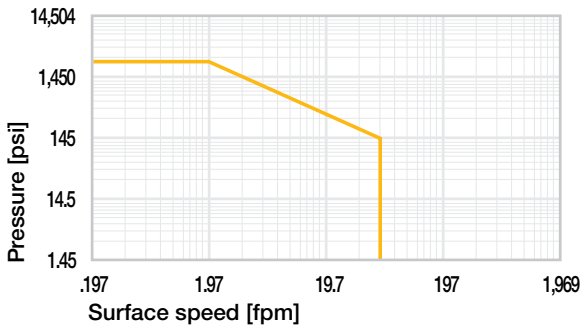


Diagram 01: Permissible pv values for iglide® E7 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

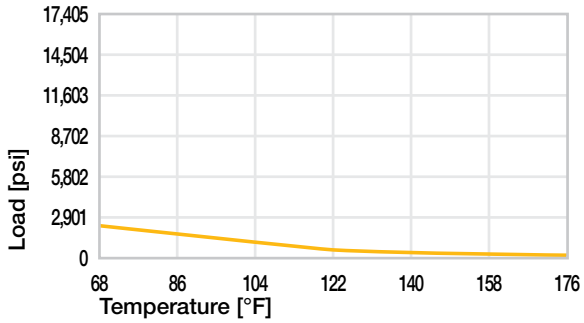


Diagram 02: Maximum recommended surface pressure as a function of temperature (2,611psi at +68°F)

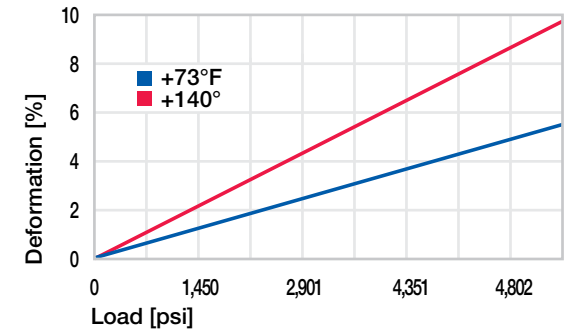


Diagram 03: Deformation under pressure and temperature

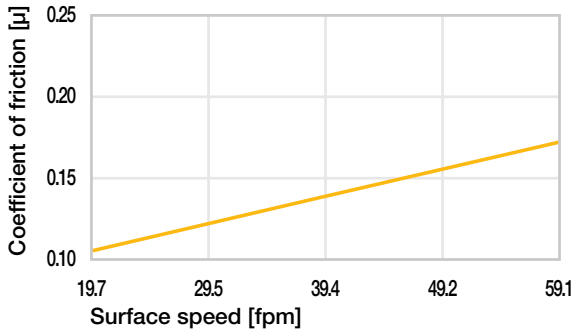


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

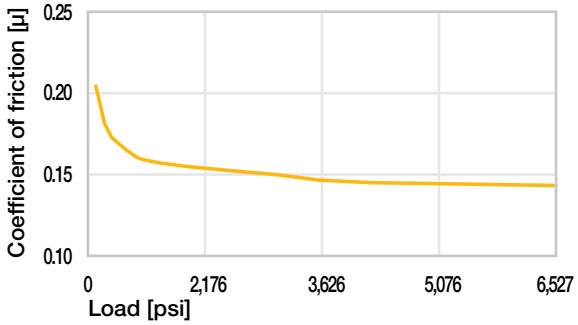


Diagram 05: Coefficient of friction as a function of the pressure, v = 1.97fpm

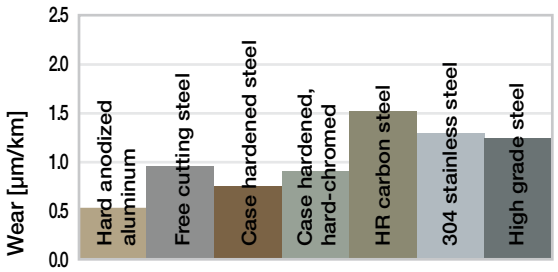


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

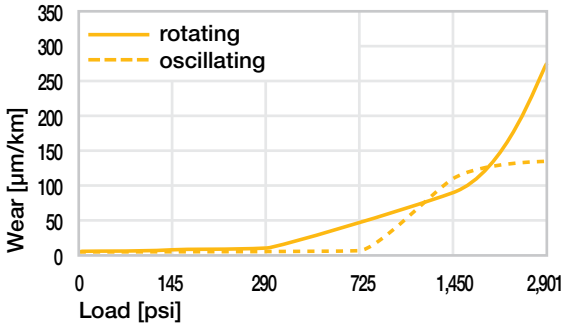
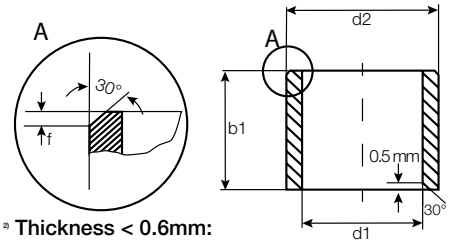


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® E7

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 330**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

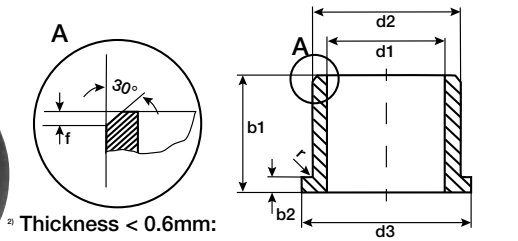
Order key

Type			Dimensions		
E7	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
E7SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
E7SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
E7SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
E7SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
E7SM-1618-15	16.0	18.0	15.0	14.032	14.102	18.000	18.018	15.957	16.000
E7SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® E7

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 330**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
E7	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
E7FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
E7FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
E7FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
E7FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
E7FM-1618-17	16.0	18.0	24.0	17.0	1.00	14.032	14.102	18.000	18.018	15.957	16.000
E7FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Plain bearing materials for high temperatures

Plain bearing materials for high temperatures

Here you will find high-temperature specialists for continuous operating temperatures up to +482°F (exception: iglide® V400 with +392°F and HSD350 with +356°F).
In the meantime, the iglide® X6 surpasses the standard iglide® X here in many rotating and pivoting applications.
iglide® Z has also been long established as standard with extremely low wear rates under high loads and/or temperatures. iglide® V400 is characterized as a problem solver in many special cases, and iglide® UW500 is the specialist for hot liquids.

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

iglide® X (formerly T500)
The chemical and temperature specialist

Temperature [°F] [123]	+482	–	+
Surface pressure [psi] [124]	21,756	–	+
Coefficient of friction [µ] [125]	0.31	–	+
Wear [µm/km] [125]	6.30	–	+
Price index		–	+

iglide® Z
Long service life under extreme conditions

Temperature [°F] [123]	+482	–	+
Surface pressure [psi] [124]	21,756	–	+
Coefficient of friction [µ] [125]	0.18	–	+
Wear [µm/km] [125]	1.00	–	+
Price index		–	+

iglide® X6
The high temperature specialist up to +482°F

Temperature [°F] [123]	+482	–	+
Surface pressure [psi] [124]	21,756	–	+
Coefficient of friction [µ] [125]		–	+
Wear [µm/km] [125]		–	+
Price index		–	+

iglide® V400
For soft shafts and high temperatures

Temperature [°F] [123]	+392	–	+
Surface pressure [psi] [124]	6,527	–	+
Coefficient of friction [µ] [125]	0.19	–	+
Wear [µm/km] [125]	0.30	–	+
Price index		–	+

[123] max. long-term application temperature [124] max. recommended surface pressure at +68°F [125] best combination for p = 145psi, v = 59fpm, rotating

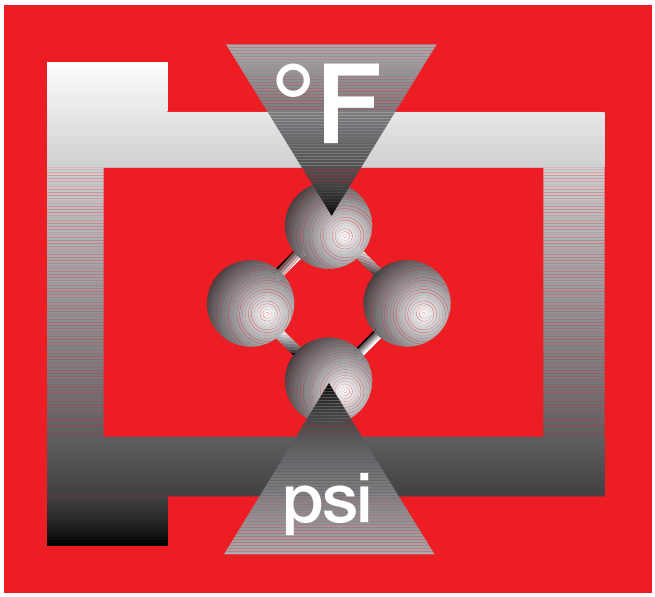
General purpose

iglide® HSD350
All-rounder for steam sterilization

Temperature [°F] [123]	+356	–	+
Surface pressure [psi] [124]	4,351	–	+
Coefficient of friction [µ] [125]	1.15	–	+
Wear [µm/km] [125]	2.00	–	+
Price index		–	+

iglide® UW500
For hot liquids

Temperature [°F] [123]	+482	–	+
Surface pressure [psi] [124]	20,305	–	+
Coefficient of friction [µ] [125]	0.33	–	+
Wear [µm/km] [125]	2.20	–	+
Price index		–	+



The chemical and temperature specialist

Up to 21,756psi

iglide® X

When to use it?

- For pressure loads up to 21,756psi
- For linear movements with stainless steel at high temperatures
- Universal chemical resistance
- For temperature resistance from -148°F to +482°F (short-term up to +599°F)
- For very low moisture absorption
- For high wear resistance over the entire temperature range

When not to use?

- For very low wear at high loads
  iglide® Q, iglide® Z
- When a cost-effective plain bearing for underwater use is required
  iglide® H, iglide® H370
- For edge loads
  iglide® Z

Ø
2 – 120mm
1/8 - 2 3/4 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The chemical and temperature specialist
Up to 21,756psi

iglide® X is defined by its combination of very high temperature resistance with high compressive strength, along with high resistance to chemicals. iglide® X is designed for higher speeds than other iglide® bearings.

- Continuous operating temperature from -148°F to +482°F
- Extremely high chemical resistance
- High compressive strength
- Very low moisture absorption
- High wear resistance

Typical application areas

- Beverage industry
- Woodworking
- Plastic processing industry
- Aerospace engineering
- Cleanroom

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■■■■	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■■	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■□□□	+
Suitable for shock and impact loads	–	■■□□□	+
Resistant to dirt	–	■■□□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.44	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.5	
Coefficient of friction, dynamic, against steel	µ	0.09 – 0.27	
pv value, max. (dry)	psi · fpm	37,700	
Mechanical properties			
Flexural modulus	psi	1,174,806	DIN 53457
Flexural strength at +68°F	psi	24,656	DIN 53452
Compressive strength	psi	14,504	
Max. recommended surface pressure (+68°F)	psi	21,756	
Shore D hardness		85	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+482	
Max. application temperature short-term	°F	+599	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.60	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	5	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	< 10^{5}	DIN IEC 93
Surface resistance	Ω	< 10^{3}	DIN 53482

-148°F up to +482°F

21,756psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

iglide® X has an excellent combination of high temperature resistance, high compressive strength, and excellent resistance to chemicals. The aspect of temperature resistance and pressure susceptibility is also reflected in the pv graph.

Moisture absorption

The moisture absorption of iglide® X plain bearings is very low. It is approximately 0.1% weight under standard climatic conditions. The maximum moisture absorption is 0.5% weight.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

Plain bearings made from iglide® X are resistant up to a radiation intensity of 1 · 10^{5}Gy.

Resistance to weathering

iglide® X plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® X 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 iglide® X at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® X is designed for higher speeds than other iglide® bearings. This is enabled by its high temperature resistance and excellent thermal conductivity. This is also made clear by the max. pv value of 191psi. However, in this case, only the smallest radial loads may act on the bearings.
At the given speeds, friction can cause a temperature increase to maximum permissible levels.

▶ Surface speed, **Page 44**

Temperature

In the case of a permissible long-term application temperature of +482°F, iglide® X will even withstand +599°F for short periods. As in the case of all thermoplastics, the compression strength of iglide® X decreases when temperatures rise. For temperatures over +275°F an additional securing is required. At temperatures over +338°F the axial security of the bearing in the housing needs to be tested. Please contact us if you have questions on bearing use.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® X 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f)
Length (inches)	Tolerance (h13) (inches)	Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. For iglide® X a ground surface with an average surface finish Ra = 0.6 – 0.8μm is recommended. Diagrams 06 and 07 show the test results of iglide® X plain bearings running against various shaft materials. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	295	217	984
short-term	**fpm**	689	492	1969

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.09 – 0.27	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Metric Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f)
Length (mm)	Tolerance (h13) (mm)	Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

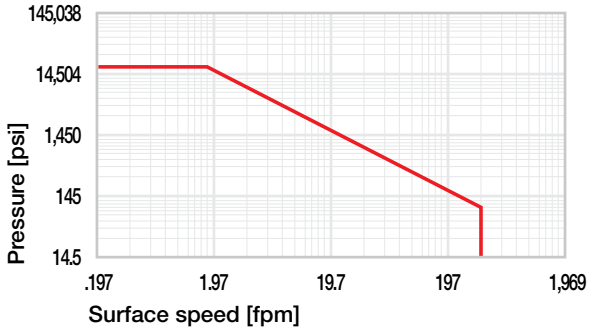


Diagram 01: Permissible pv values for iglide® X plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

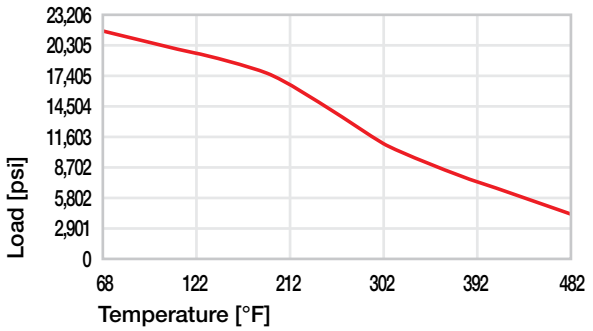


Diagram 02: Maximum recommended surface pressure as a function of temperature (21,756psi at +68°F)

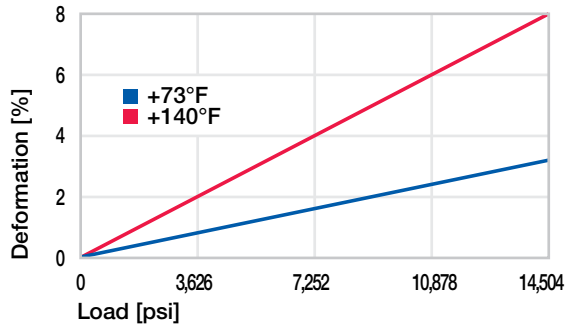


Diagram 03: Deformation under pressure and temperature

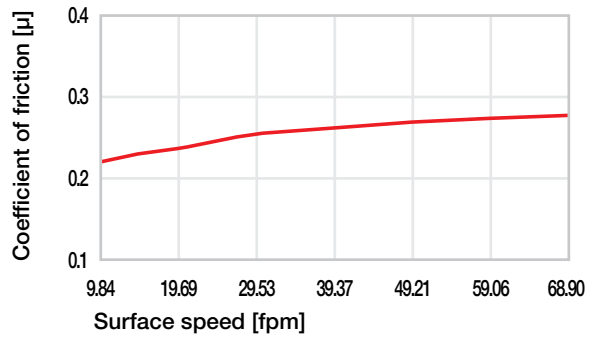


Diagram 04: Coefficient of friction as a function of the surface speed, p = 109psi

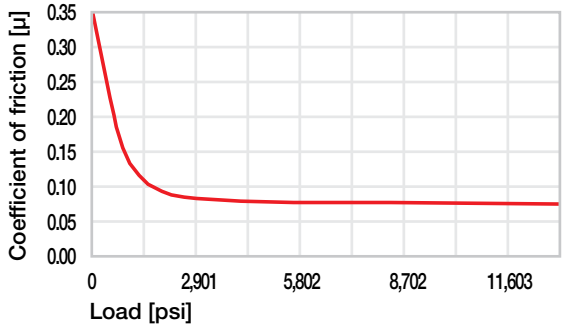


Diagram 05: Coefficient of friction as a function of the pressure, v = 1.97fpm

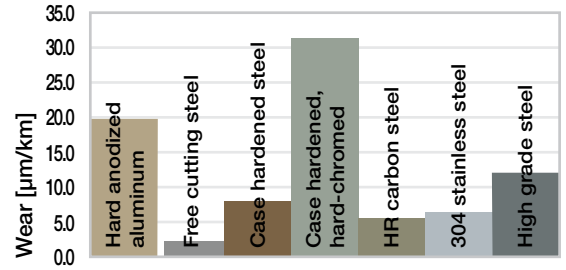


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

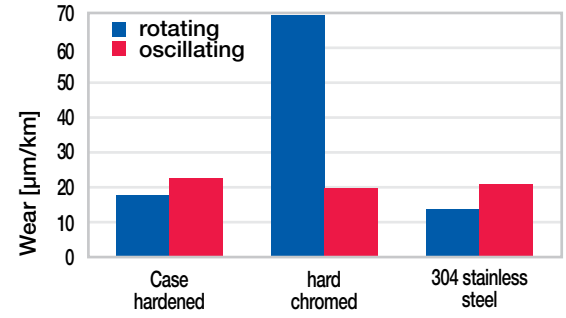
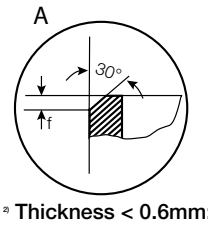


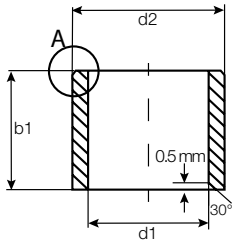
Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Bearing technology | Plain bearing | iglide® X

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 342**

Order key

Type			Dimensions		
X	S	I	-02	03	-03
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

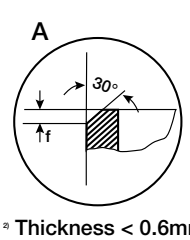
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
XSI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
XSI-0203-05	1/8	3/16	5/16			.1873	.1878	.1236	.1243
XSI-0203-06	1/8	3/16	3/8			.1873	.1878	.1236	.1243
XSI-0304-03	3/16	1/4	3/16	.1873	.1892	.2497	.2503	.1858	.1865
XSI-0304-04	3/16	1/4	1/4			.2497	.2503	.1858	.1865
XSI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
XSI-0304-08	3/16	1/4	1/2			.2497	.2503	.1858	.1865
XSI-0405-04	1/4	5/16	1/4	.2498	.2521	.3122	.3128	.2481	.2490
XSI-0405-06	1/4	5/16	3/8			.3122	.3128	.2481	.2490
XSI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
XSI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
XSI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
XSI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
XSI-0607-04	3/8	15/32	1/4	.3750	.3773	.4684	.4691	.3731	.3740
XSI-0607-05	3/8	15/32	5/16			.4684	.4691	.3731	.3740
XSI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
XSI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
XSI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
XSI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
XSI-0708-04	7/16	17/32	1/4	.4379	.4406	.5309	.5316	.4355	.4365
XSI-0708-06	7/16	17/32	3/8			.5309	.5316	.4355	.4365
XSI-0708-08	7/16	17/32	1/2			.5309	.5316	.4355	.4365
XSI-0708-10	7/16	17/32	5/8			.5309	.5316	.4355	.4365
XSI-0708-12	7/16	17/32	3/4			.5309	.5316	.4355	.4365
XSI-0709-06	7/16	9/16	3/8	.4379	.4406	.5631	.5659	.4355	.4365
XSI-0809-04	1/2	19/32	1/4	.5003	.5030	.5934	.5941	.4980	.4990
XSI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
XSI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
XSI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
XSI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
XSI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
XSI-0910-08	9/16	21/32	1/2	.5627	.5655	.6559	.6566	.5605	.5615
XSI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
XSI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615

Product range

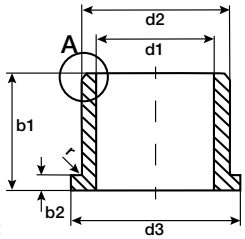
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
XSI-1011-04	5/8	23/32	1/4	.6253	.6280	.7184	.7192	.6230	.6240
XSI-1011-06	5/8	23/32	3/8			.7184	.7192	.6230	.6240
XSI-1011-08	5/8	23/32	1/2			.7184	.7192	.6230	.6240
XSI-1011-10	5/8	23/32	5/8			.7184	.7192	.6230	.6240
XSI-1011-12	5/8	23/32	3/4	.6253	.6280	.7184	.7192	.6230	.6240
XSI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
XSI-1112-04	11/16	25/32	1/4	.6879	.6906	.7809	.7817	.6855	.6865
XSI-1112-14	11/16	25/32	7/8			.7809	.7817	.6855	.6865
XSI-1214-06	3/4	7/8	3/8	.7507	.7541	.8747	.8755	.7479	.7491
XSI-1214-08	3/4	7/8	1/2			.8747	.8755	.7479	.7491
XSI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
XSI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
XSI-1416-08	7/8	1	1/2	.8757	.8791	.9997	1.0005	.8729	.8741
XSI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
XSI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741
XSI-1416-24	7/8	1	1 1/2			.9997	1.0005	.8729	.8741
XSI-1618-08	1	1 1/8	1/2	1.0007	1.0041	1.1247	1.1255	.9979	.9991
XSI-1618-12	1	1 1/8	3/4			1.1247	1.1255	.9979	.9991
XSI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
XSI-1618-24	1	1 1/8	1 1/2			1.1247	1.1255	.9979	.9991
XSI-1820-12	1 1/8	1 9/32	3/4	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
XSI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
XSI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
XSI-2022-10	1 1/4	1 13/32	5/8	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
XSI-2022-12	1 1/4	1 13/32	3/4			1.4058	1.4068	1.2472	1.2488
XSI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
XSI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
XSI-2426-12	1 1/2	1 21/32	3/4	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
XSI-2426-16	1 1/2	1 21/32	1			1.6558	1.6568	1.4972	1.4988
XSI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
XSI-2629-16	1 5/8	1 25/32	1	1.6248	1.6297	1.7808	1.7818	1.6222	1.6238
XSI-2629-20	1 5/8	1 13/16	1 1/4			1.7808	1.7818	1.6222	1.6238
XSI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
XSI-2831-16	1 3/4	1 15/16	1	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
XSI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
XSI-3033-16	1 7/8	2 1/16	1	1.8770	1.8809	2.0625	2.0637	1.8721	1.8737
XSI-3033-32	1 7/8	2 1/16	2			2.0625	2.0637	1.8721	1.8737
XSI-3235-16	2	2 3/16	1	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
XSI-3235-24	2	2 3/16	1 1/2			2.1871	2.1883	1.9969	1.9981
XSI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981
XSI-3639-32	2 1/4	2 7/16	2	2.2531	2.2577	2.4365	2.4377	2.2489	2.2507
XSI-4447-32	2 3/4	2 15/16	2	2.7523	2.7570	2.9358	2.9370	2.7490	2.7500

Bearing technology | Plain bearing | iglide® X

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 342**

Order key

Type			Dimensions		
X	F	I	-02	03	-02
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

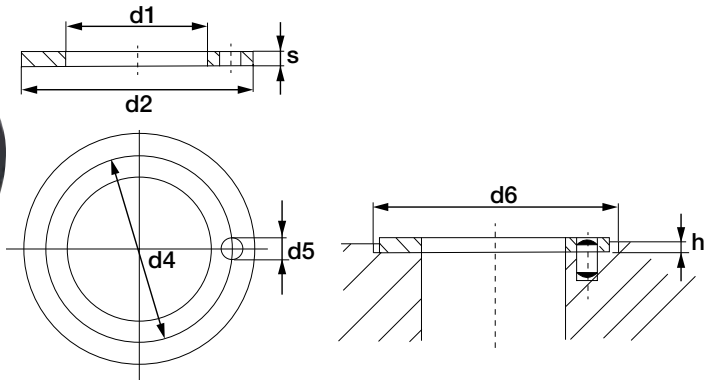
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
XFI-0203-03	1/8	3/16	3/16	.312	.032	.1251	.1269	.1873	.1878	.1236	.1243
XFI-0203-06	1/8	3/16	3/8	.312	.032			.1873	.1878	.1236	.1243
XFI-0304-04	3/16	1/4	1/4	.375	.032	.1873	.1892	.2497	.2503	.1858	.1865
XFI-0304-06	3/16	1/4	3/8	.375	.032			.2497	.2503	.1858	.1865
XFI-0304-08	3/16	1/4	1/2	.375	.032			.2497	.2503	.1858	.1865
XFI-0405-03	1/4	5/16	3/16	.500	.032	.2498	.2521	.3122	.3128	.2481	.2490
XFI-0405-04	1/4	5/16	1/4	.500	.032			.3122	.3128	.2481	.2490
XFI-0405-06	1/4	5/16	3/8	.500	.032			.3122	.3128	.2481	.2490
XFI-0405-08	1/4	5/16	1/2	.500	.032			.3122	.3128	.2481	.2490
XFI-0405-12	1/4	5/16	3/4	.500	.032			.3122	.3128	.2481	.2490
XFI-0506-04	5/16	3/8	1/4	.562	.032	.3125	.3148	.3747	.3753	.3106	.3115
XFI-0506-06	5/16	3/8	3/8	.562	.032			.3747	.3753	.3106	.3115
XFI-0506-08	5/16	3/8	1/2	.562	.032			.3747	.3753	.3106	.3115
XFI-0607-04	3/8	15/32	1/4	.687	.046	.3750	.3773	.4684	.4691	.3731	.3740
XFI-0607-06	3/8	15/32	3/8	.687	.046			.4684	.4691	.3731	.3740
XFI-0607-08	3/8	15/32	1/2	.687	.046			.4684	.4691	.3731	.3740
XFI-0607-12	3/8	15/32	3/4	.687	.046			.4684	.4691	.3731	.3740
XFI-0708-08	7/16	17/32	1/2	.750	.046	.4379	.4406	.5309	.5316	.4355	.4365
XFI-0809-04	1/2	19/32	1/4	.875	.046	.5003	.5030	.5934	.5941	.4980	.4990
XFI-0809-06	1/2	19/32	3/8	.875	.046			.5934	.5941	.4980	.4990
XFI-0809-08	1/2	19/32	1/2	.875	.046			.5934	.5941	.4980	.4990
XFI-0809-12	1/2	19/32	3/4	.875	.046			.5934	.5941	.4980	.4990
XFI-0809-16	1/2	19/32	1	.875	.046			.5934	.5941	.4980	.4990
XFI-1011-08	5/8	23/32	1/2	.937	.046	.6253	.6280	.7184	.7192	.6230	.6240
XFI-1011-12	5/8	23/32	3/4	.937	.046			.7184	.7192	.6230	.6240
XFI-1011-16	5/8	23/32	1	.937	.046			.7184	.7192	.6230	.6240
XFI-1011-24	5/8	23/32	1 1/2	.937	.046			.7184	.7192	.6230	.6240
XFI-1214-08	3/4	7/8	1/2	1.125	.062	.7507	.7541	.8747	.8755	.7479	.7491
XFI-1214-12	3/4	7/8	3/4	1.125	.062			.8747	.8755	.7479	.7491
XFI-1214-16	3/4	7/8	1	1.125	.062			.8747	.8755	.7479	.7491
XFI-1214-28	3/4	7/8	1 3/4	1.125	.062			.8747	.8755	.7479	.7491
XFI-1416-08	7/8	1	1/2	1.250	.062	.8757	.8791	.9997	1.0005	.8729	.8741
XFI-1416-12	7/8	1	3/4	1.250	.062			.9997	1.0005	.8729	.8741
XFI-1416-16	7/8	1	1	1.250	.062			.9997	1.0005	.8729	.8741

Product range

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
XFI-1618-08	1	1 1/8	1/2	1.375	.062	1.0007	1.0041	1.1247	1.1255	.9979	.9991
XFI-1618-12	1	1 1/8	3/4	1.375	.062			1.1247	1.1255	.9979	.9991
XFI-1618-16	1	1 1/8	1	1.375	.062			1.1247	1.1255	.9979	.9991
XFI-1618-24	1	1 1/8	1 1/2	1.375	.062			1.1247	1.1255	.9979	.9991
XFI-1719-06	1 1/16	1 3/16	3/8	1.500	.062	1.0633	1.0666	1.1875	1.1883	1.0604	1.0616
XFI-1820-12	1 1/8	1 9/32	3/4	1.562	.078	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
XFI-2022-16	1 1/4	1 13/32	1	1.687	.078	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
XFI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.078			1.4058	1.4068	1.2472	1.2488
XFI-2022-32	1 1/4	1 13/32	2	1.687	.078			1.4058	1.4068	1.2472	1.2488
XFI-2426-12	1 1/2	1 21/32	3/4	2.000	.078	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
XFI-2426-16	1 1/2	1 21/32	1	2.000	.078			1.6558	1.6568	1.4972	1.4988
XFI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.078			1.6558	1.6568	1.4972	1.4988
XFI-2831-16	1 3/4	1 15/16	1	2.375	.093	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
XFI-2831-32	1 3/4	1 15/16	2	2.375	.093			1.9371	1.9381	1.7471	1.7487
XFI-3235-32	2	2 3/16	2	2.625	.093	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
XFI-4447-32	2 3/4	2 15/16	2	3.375	.093	2.7523	2.7570	2.9358	2.9370	2.7490	2.7500

Bearing technology | Plain bearing | iglide® X

Thrust washer bearing (form T), inch



Order key

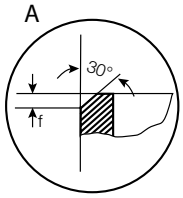
Type			Dimensions		
X	T	I	-06	10	- 01
iglide® material	Thrust washer	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Thickness s (inch)

Part Number	d1	d2	s	d4	d5	h	d6
	+.010	-.010	-.0020	+-.005	+.015 +.005	+.008	+.005
XTI-0814-01	.500	.875	.0585	.692	.067	.040	.875
XTI-1018-01	.625	1.125	.0585	.880	.099	.040	1.125
XTI-1220-01	.750	1.250	.0585	1.005	.099	.040	1.250
XTI-1422-01	.875	1.375	.0585	1.125	.130	.040	1.375
XTI-1424-01	.875	1.500	.0585	1.192	.130	.040	1.500
XTI-1628-01	1.000	1.750	.0585	1.380	.130	.040	1.750
XTI-1826-01	1.125	1.625	.0585	**	**	.040	1.625
XTI-2034-01	1.250	2.125	.0585	1.692	.161	.040	2.125
XTI-2844-01	1.750	2.750	.0585	2.255	.192	.040	2.750
XTI-3248-01	2.000	3.000	.0895	2.505	.192	.070	3.000

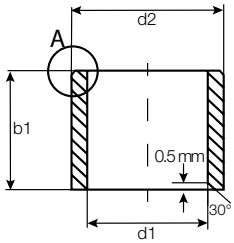
*Designed without fixation hole

Bearing technology | Plain bearing | iglide® X

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 342**

Order key

Type			Dimensions		
X	S	M	-01	03	-02
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
XSM-0203-03	2.0	3.5	3.0	2.006	2.046	3.500	3.512	1.975	2.000
XSM-0304-03	3.0	4.5	3.0	3.006	3.046	4.500	4.512	2.975	3.000
XSM-0304-06	3.0	4.5	6.0			4.500	4.512	2.975	3.000
XSM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
XSM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
XSM-0405-09	4.0	5.5	9.0			5.500	5.512	3.970	4.000
XSM-0405-10	4.0	5.5	10.0			5.500	5.512	3.970	4.000
XSM-0507-035	5.0	7.0	3.5	5.010	5.058	7.000	7.015	4.970	5.000
XSM-0507-05	5.0	7.0	5.0			7.000	7.015	4.970	5.000
XSM-0507-08	5.0	7.0	8.0			7.000	7.015	4.970	5.000
XSM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
XSM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
XSM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
XSM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
XSM-0608-13	6.0	8.0	13.8			8.000	8.015	5.970	6.000
XSM-0610-08	6.0	10.0	8.0	6.010	6.058	10.000	10.015	5.970	6.000
XSM-0610-20	6.0	10.0	20.0			10.000	10.015	5.970	6.000
XSM-0709-10	7.0	9.0	10.0	7.013	7.071	9.000	9.015	6.964	7.000
XSM-0709-12	7.0	9.0	12.0			9.000	9.015	6.964	7.000
XSM-0810-06	8.0	10.0	6.0	8.013	8.071	10.000	10.015	7.964	8.000
XSM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
XSM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
XSM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
XSM-0810-15	8.0	10.0	15.0			10.000	10.015	7.964	8.000
XSM-1012-035	10.0	12.0	3.5	10.013	10.071	12.000	12.018	9.964	10.000
XSM-1012-06	10.0	12.0	6.0			12.000	12.018	9.964	10.000
XSM-1012-08	10.0	12.0	8.0			12.000	12.018	9.964	10.000
XSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
XSM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
XSM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
XSM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
XSM-1214-035	12.0	14.0	3.5	12.016	12.086	14.000	14.018	11.957	12.000
XSM-1214-06	12.0	14.0	6.0			14.000	14.018	11.957	12.000
XSM-1214-08	12.0	14.0	8.0			14.000	14.018	11.957	12.000
XSM-1214-10	12.0	14.0	10.0			14.000	14.018	11.957	12.000

Bearing technology | Plain bearing | iglide® X

Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
XSM-1214-12	12.0	14.0	12.0	12.016	12.086	14.000	14.018	11.957	12.000
XSM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
XSM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
XSM-1214-25	12.0	14.0	25.0			14.000	14.018	11.957	12.000
XSM-1315-10	13.0	15.0	10.0	13.016	13.086	15.000	15.018	12.957	13.000
XSM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
XSM-1416-12	14.0	16.0	12.0	14.016	14.086	16.000	16.018	13.957	14.000
XSM-1416-15	14.0	16.0	15.0			16.000	16.018	13.957	14.000
XSM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
XSM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
XSM-1517-07	15.0	17.0	7.0	15.016	15.086	17.000	17.018	14.957	15.000
XSM-1517-10	15.0	17.0	10.0			17.000	17.018	14.957	15.000
XSM-1517-15	15.0	17.0	15.0			17.000	17.018	14.957	15.000
XSM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
XSM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
XSM-1618-10	16.0	18.0	10.0	16.016	16.086	18.000	18.018	15.957	16.000
XSM-1618-12	16.0	18.0	12.0			18.000	18.018	15.957	16.000
XSM-1618-15	16.0	18.0	15.0			18.000	18.018	15.957	16.000
XSM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
XSM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
XSM-1618-35	16.0	18.0	35.0			18.000	18.018	15.957	16.000
XSM-1719-20	17.0	19.0	20.0	17.016	17.086	19.000	19.021	16.957	17.000
XSM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
XSM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
XSM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
XSM-2022-140	20.0	22.0	14.0	20.020	20.104	22.000	22.021	19.948	20.000
XSM-2022-145	20.0	22.0	14.5			22.000	22.021	19.948	20.000
XSM-2022-17	20.0	22.0	17.0			22.000	22.021	19.948	20.000
XSM-2022-18	20.0	22.0	18.0			22.000	22.021	19.948	20.000
XSM-2022-20	20.0	22.0	20.0			22.000	22.021	19.948	20.000
XSM-2023-07	20.0	23.0	7.0			23.000	23.021	19.948	20.000
XSM-2023-10	20.0	23.0	10.0			23.000	23.021	19.948	20.000
XSM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
XSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
XSM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
XSM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
XSM-2225-15	22.0	25.0	15.0	22.020	22.104	25.000	25.021	21.948	22.000
XSM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
XSM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
XSM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
XSM-2426-20	24.0	26.0	20.0	24.020	24.104	26.000	26.021	23.948	24.000
XSM-2427-06	24.0	27.0	6.0			27.000	27.021	23.948	24.000
XSM-2427-15	24.0	27.0	15.0			27.000	27.021	23.948	24.000
XSM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
XSM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
XSM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
XSM-2528-077	25.0	28.0	7.7	25.020	25.104	28.000	28.021	24.948	25.000
XSM-2528-09	25.0	28.0	9.0			28.000	28.021	24.948	25.000
XSM-2528-12	25.0	28.0	12.0			28.000	28.021	24.948	25.000
XSM-2528-13	25.0	28.0	13.0	25.020	25.104	28.000	28.021	24.948	25.000
XSM-2528-15	25.0	28.0	15.0			28.000	28.021	24.948	25.000
XSM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
XSM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
XSM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
XSM-2528-35	25.0	28.0	35.0			28.000	28.021	24.948	25.000
XSM-2628-10	26.0	28.0	10.0	26.020	26.104	28.000	28.021	25.948	26.000
XSM-2730-05	27.0	30.0	5.7	27.020	27.104	30.000	30.021	26.948	27.000
XSM-2832-20	28.0	32.0	20.0	28.020	28.104	32.000	32.025	27.948	28.000
XSM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
XSM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
XSM-2832-69	28.0	32.0	69.0			32.000	32.025	27.948	28.000
XSM-3034-10	30.0	34.0	10.0	30.020	30.104	34.000	34.025	29.948	30.000
XSM-3034-15	30.0	34.0	15.0			34.000	34.025	29.948	30.000
XSM-3034-20	30.0	34.0	20.0			34.000	34.025	29.948	30.000
XSM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
XSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
XSM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
XSM-3236-20	32.0	36.0	20.0	32.025	32.125	36.000	36.025	31.938	32.000
XSM-3236-25	32.0	36.0	25.0			36.000	36.025	31.938	32.000
XSM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
XSM-3236-35	32.0	36.0	35.0			36.000	36.025	31.938	32.000
XSM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
XSM-3236-54	32.0	36.0	54.0			36.000	36.025	31.938	32.000
XSM-3539-20	35.0	39.0	20.0	35.025	35.125	39.000	39.025	34.938	35.000
XSM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
XSM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
XSM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
XSM-4044-20	40.0	44.0	20.0	40.025	40.125	44.000	44.025	39.938	40.000
XSM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
XSM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
XSM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
XSM-4550-20	45.0	50.0	20.0	45.025	45.125	50.000	50.025	44.938	45.000
XSM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
XSM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
XSM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
XSM-5055-20	50.0	55.0	20.0	50.025	50.125	55.000	55.030	49.938	50.000
XSM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
XSM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
XSM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
XSM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
XSM-5560-50	55.0	60.0	50.0	55.030	55.150	60.000	60.030	54.926	55.000
XSM-6065-45	60.0	65.0	45.0	60.030	60.150	65.000	65.030	59.926	60.000
XSM-6065-60	60.0	65.0	60.0			65.000	65.030	59.926	60.000

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Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
XSM-6570-50	65.0	70.0	50.0	65.030	65.150	70.000	70.030	64.926	65.000
XSM-7075-70	70.0	75.0	70.0	70.030	70.150	75.000	75.030	69.926	70.000
XSM-7580-60	75.0	80.0	60.0	75.030	75.150	80.000	80.030	74.926	75.000
XSM-8085-100	80.0	85.0	100.0	80.030	80.150	85.000	85.035	79.926	80.000
XSM-9095-100	90.0	95.0	100.0	90.036	90.176	95.000	95.035	89.913	90.000
XSM-100105-100	100.0	105.0	100.0	100.036	100.176	105.000	105.035	99.913	100.000
XSM-110115-100	110.0	115.0	100.0	110.036	110.176	115.000	115.035	109.913	110.000
XSM-120125-100	120.0	125.0	100.0	120.036	120.176	125.000	125.040	119.913	120.000

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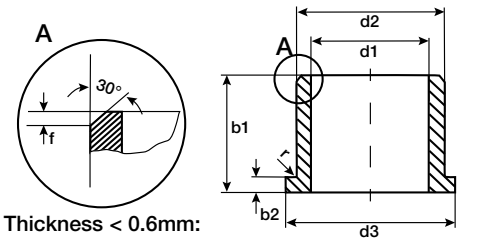
Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 342**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
X	F	M	-03	04	-03
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
XFM-020406-03	2.0	4.0	6.0	3.0	1.00	2.006	2.046	4.000	4.012	1.975	2.000
XFM-0304-05	3.0	4.5	7.5	5.0	0.75	3.006	3.046	4.500	4.512	2.975	3.000
XFM-0405-04	4.0	5.5	9.5	4.0	0.75	4.010	4.058	5.500	5.512	3.970	4.000
XFM-0405-06	4.0	5.5	9.5	6.0	0.75			5.500	5.512	3.970	4.000
XFM-040508-06	4.0	5.5	8.0	6.0	0.75			5.500	5.512	3.970	4.000
XFM-0507-05	5.0	7.0	11.0	5.0	1.00	5.010	5.058	7.000	7.015	4.970	5.000
XFM-0608-04	6.0	8.0	12.0	4.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
XFM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
XFM-0608-10	6.0	8.0	12.0	10.0	1.00			8.000	8.015	5.970	6.000
XFM-060812-10	6.0	8.0	12.0	10.0	1.00			8.000	8.015	5.970	6.000
XFM-060812-20	6.0	8.0	12.0	20.0	1.00			8.000	8.015	5.970	6.000
XFM-081012-04	8.0	10.0	12.0	4.0	1.00	8.013	8.071	10.000	10.015	7.964	8.000
XFM-0810-05	8.0	10.0	15.0	5.5	1.00			10.000	10.015	7.964	8.000
XFM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
XFM-0810-08	8.0	10.0	15.0	8.0	1.00			10.000	10.015	7.964	8.000
XFM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
XFM-081014-31	8.0	10.0	14.0	31.5	1.00			10.000	10.015	7.964	8.000
XFM-0911-18	9.0	11.0	15.0	18.0	0.50	9.013	9.071	11.000	11.018	8.964	9.000
XFM-1012-05	10.0	12.0	18.0	5.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
XFM-1012-06	10.0	12.0	18.0	6.0	1.00			12.000	12.018	9.964	10.000
XFM-1012-07	10.0	12.0	18.0	7.0	1.00			12.000	12.018	9.964	10.000
XFM-1012-08	10.0	12.0	15.0	8.0	1.00			12.000	12.018	9.964	10.000
XFM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
XFM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
XFM-1012-15	10.0	12.0	18.0	15.0	1.00			12.000	12.018	9.964	10.000
XFM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
XFM-1012-18	10.0	12.0	18.0	18.0	1.00			12.000	12.018	9.964	10.000
XFM-1012-22	10.0	12.0	15.0	22.0	1.00			12.000	12.018	9.964	10.000
XFM-1012-25	10.0	12.0	18.0	25.0	1.00			12.000	12.018	9.964	10.000

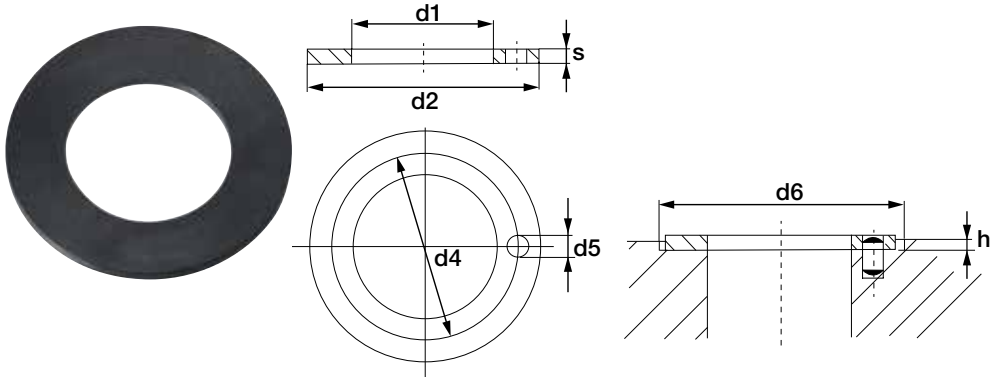
Bearing technology | Plain bearing | iglide® X

Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
XFM-121418-039	12.0	14.0	18.0	3.9	1.00	12.016	12.086	14.000	14.018	11.957	12.000
XFM-1214-055	12.0	14.0	20.0	5.5	1.00			14.000	14.018	11.957	12.000
XFM-121418-059	12.0	14.0	18.0	5.9	1.00			14.000	14.018	11.957	12.000
XFM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
XFM-1214-12	12.0	14.0	20.0	12.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
XFM-1214-15	12.0	14.0	20.0	15.0	1.00			14.000	14.018	11.957	12.000
XFM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
XFM-1416-10	14.0	16.0	22.0	10.0	1.00	14.016	14.086	16.000	16.018	13.957	14.000
XFM-1416-12	14.0	16.0	22.0	12.0	1.00			16.000	16.018	13.957	14.000
XFM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
XFM-1517-06	15.0	17.0	23.0	6.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
XFM-1517-09	15.0	17.0	23.0	9.0	1.00			17.000	17.018	14.957	15.000
XFM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
XFM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
XFM-1618-12	16.0	18.0	24.0	12.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
XFM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
XFM-1820-12	18.0	20.0	26.0	12.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
XFM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
XFM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
XFM-2023-065	20.0	23.0	30.0	6.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000
XFM-2023-075	20.0	23.0	30.0	7.5	1.50			23.000	23.021	19.948	20.000
XFM-2023-11	20.0	23.0	30.0	11.5	1.50			23.000	23.021	19.948	20.000
XFM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
XFM-2023-21	20.0	23.0	30.0	21.0	1.50			23.000	23.021	19.948	20.000
XFM-252833-08	25.0	28.0	33.0	8.0	1.00	25.020	25.104	28.000	28.021	24.948	25.000
XFM-2528-11	25.0	28.0	35.0	11.5	1.50			28.000	28.021	24.948	25.000
XFM-2528-13	25.0	28.0	35.0	13.5	1.50			28.000	28.021	24.948	25.000
XFM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
XFM-2528-21	25.0	28.0	35.0	21.0	1.50			28.000	28.021	24.948	25.000
XFM-2730-20	27.0	30.0	38.0	20.0	1.50	27.020	27.104	30.000	30.021	26.948	27.000
XFM-2834-44	28.0	34.0	42.0	44.0	2.00	28.020	28.104	34.000	34.021	27.948	28.000
XFM-3034-16	30.0	34.0	42.0	16.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
XFM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
XFM-3034-40	30.0	34.0	42.0	40.0	2.00			34.000	34.025	29.948	30.000
XFM-3236-15	32.0	36.0	45.0	15.0	2.00	32.025	32.125	36.000	36.025	31.938	32.000
XFM-3236-26	32.0	36.0	45.0	26.0	2.00			36.000	36.025	31.938	32.000
XFM-3539-16	35.0	39.0	47.0	16.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
XFM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
XFM-4044-22	40.0	44.0	52.0	22.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000
XFM-4044-30	40.0	44.0	52.0	30.0	2.00			44.000	44.025	39.938	40.000
XFM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
XFM-4550-50	45.0	50.0	58.0	50.0	2.00	45.025	45.125	50.000	50.025	44.938	45.000
XFM-5055-40	50.0	55.0	63.0	40.0	2.00	50.0250	50.125	55.000	55.030	49.938	50.000
XFM-6065-40	60.0	65.0	73.0	40.0	2.00	60.030	60.150	65.000	65.030	59.926	60.000
XFM-7075-40	70.0	75.0	83.0	40.0	2.00	70.030	70.150	75.000	75.030	69.926	70.000
XFM-7580-50	75.0	80.0	88.0	50.0	2.00	75.030	75.150	80.000	80.030	74.926	75.000

Bearing technology | Plain bearing | iglide® X

Thrust washer bearing (form T), metric

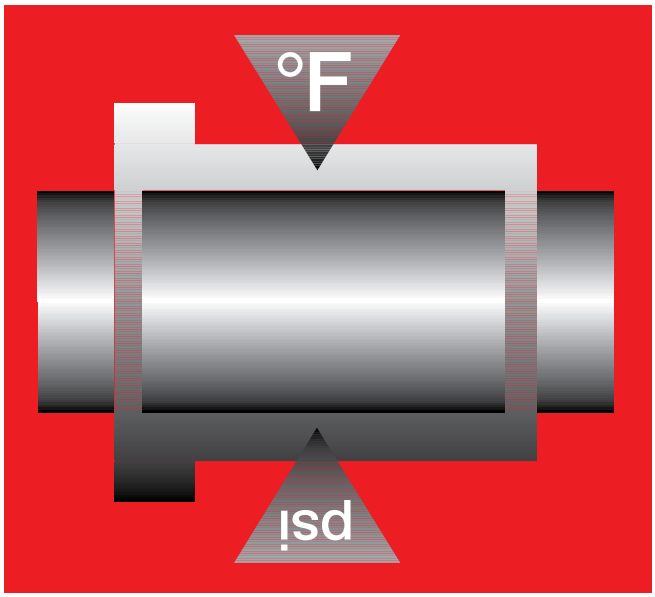


Order key

Type			Dimensions		
X	T	M	- 04	08 -	005
iglide® material	Thrust washer	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Thickness s (mm)

Part Number	d1	d2	s	d4	d5	h	d6
	+0.25	-0.25	-0.05	-0.12 +0.12	+0.375 +0.125	+0.2 -0.2	+0.12
XTM-0620-015	6	20	1.5	13	1.5	1	20
XTM-0818-015	8	18	1.5	13	1.5	1	18
XTM-0829-015	8	29	1.5	[4]	[4]	1	29
XTM-0830-015	8	30	1.5	[4]	[4]	1	30
XTM-1018-010	10	18	1	[4]	[4]	0.7	18
XTM-1224-015	12	24	1.5	18	1.5	1	24
XTM-1426-015	14	26	1.5	20	2	1	26
XTM-1522-008	15	22	0.8	[4]	[4]	0.5	22
XTM-1524-015	15	24	1.5	19.5	1.5	1	24
XTM-1630-015	16	30	1.5	22	2	1	30
XTM-1832-015	18	32	1.5	25	2	1	32
XTM-2036-015	20	36	1.5	28	3	1	36
XTM-2238-015	22	38	1.5	30	3	1	38
XTM-2442-015	24	42	1.5	33	3	1	42
XTM-2644-015	26	44	1.5	35	3	1	44
XTM-2848-015	28	48	1.5	38	4	1	48
XTM-3254-015	32	54	1.5	43	4	1	54
XTM-3862-015	38	62	1.5	50	4	1	62
XTM-4266-015	42	66	1.5	54	4	1	66
XTM-4874-020	48	74	2	61	4	1.5	74
XTM-5278-020	52	78	2	65	4	1.5	78
XTM-6290-020	62	90	2	76	4	1.5	90

Notes



Long service life under extreme conditions

Resistant to wear and impact even at high loads and temperatures

iglide® Z

When to use it?

- For temperatures up to +482°F long-term or 590°F short-term
- When low wear is required especially under high radial loads
- For high surface speeds
- For edge pressure in connection with high surface pressures

When not to use?

- For low loads and temperatures
  iglide® P
- When a cost-effective all-round plain bearing is required
  iglide® G
- When electrically conductive plain bearings are required
  iglide® F, iglide® H, iglide® H370

Ø
4 – 120mm
1/8 - 2 1/4 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Long service life under extreme conditions

Resistant to wear and impact even at high loads and temperatures

Extremely high compressive strength coupled with high flexibility enables iglide® Z bearings to attain their prominent properties in association with soft shafts, edge loads and impacts. At the same time the bearings suitable for temperatures up to +482°F.

- Excellent wear resistance especially with high loads
- High temperature resistance
- Suitable for very high loads
- Suitable for high surface speeds
- Suitable for high edge pressures
- Self-lubricating
- Maintenance-free

Typical application areas

- Construction machinery industry
- Mechanical engineering
- Textile industry
- Aerospace engineering
- Glass industry

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■□	+
Wear resistance at +194°F	–	■■■■□	+
Wear resistance at +302°F	–	■■■■□	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■■	+
Suitable for shock and impact loads	–	■■■■■	+
Resistant to dirt	–	■■■■■	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.40	
Color		brown	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	1.1	
Coefficient of friction, dynamic, against steel	µ	0.06 – 0.14	
pv value, max. (dry)	psi · fpm	24,000	
Mechanical properties			
Flexural modulus	psi	348,091	DIN 53457
Flexural strength at +68°F	psi	13,779	DIN 53452
Compressive strength	psi	9,427	
Max. recommended surface pressure (+68°F)	psi	21,756	
Shore D hardness		81	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+482	
Max. application temperature short-term	°F	+590	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.62	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	4	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{11}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

Table 01: Material properties

-148°F up to +482°F

21,756psi

V-0

RoHS

ISO 3547-1

In addition to iglide® X, iglide® Z is among the best-selling iglide® high-temperature materials. Specifically worth noting is the outstanding wear behavior under extreme conditions (high loads and temperatures).

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® Z plain bearings is approximately 0.3% weight. The saturation limit in water is 1.1% weight.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® Z bearings.

Radiation resistance

Plain bearings made from iglide® Z are resistant up to a radiation intensity of $1 \cdot 10^5$Gy.

Resistance to weathering

iglide® Z plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® Z 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. iglide® Z is suitable for both medium and – due to its high heat resistance – high speeds. Diagram 03 shows the elastic deformation of iglide® Z at radial loads. At the maximum recommended surface pressure of 21,756psi the deformation is about 5.5% at room temperature.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® Z is a high temperature bearing material, which is suitable for applications involving very high specific loads. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The iglide® Z plain bearings can be used in short-term temperatures up to +590°F. The temperatures prevailing in the bearing system also have an influence on the wear. The wear rises with increasing temperatures. At high temperatures iglide® Z is also the most wear-resistant material in dry operation. For temperatures over +293°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction declines just as the wear resistance with increasing load (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® Z 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows wear rates in the lower load range, which are very similar to those of other wear-resistant iglide® materials. However, in the upper load range iglide® Z outperforms all other materials in wear resistance. Provided a case hardened and ground steel shaft is used, the wear is still only 15µm/km at 6,527psi. At low loads iglide® Z plain bearings wear less in pivoting applications than in rotating applications. 304 stainless steel and hard-chromed shafts are of interest here.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	295	217	984
short-term	**fpm**	689	492	1181

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.06 – 0.14	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

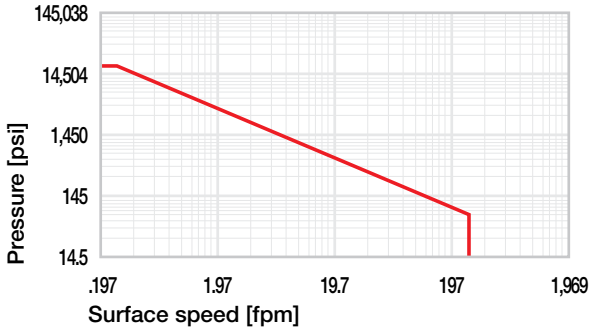


Diagram 01: Permissible pv values for iglide® Z plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

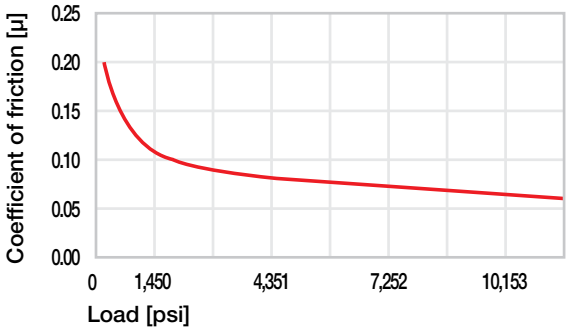


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

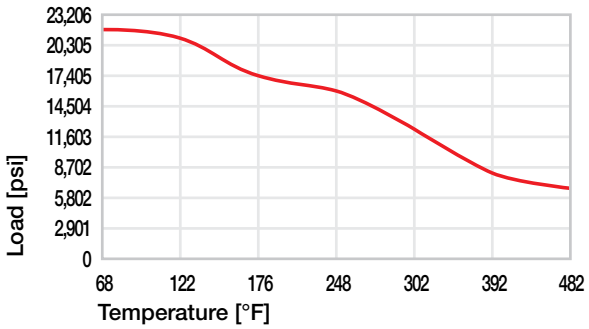


Diagram 02: Maximum recommended surface pressure as a function of temperature (21,756psi at +68°F)

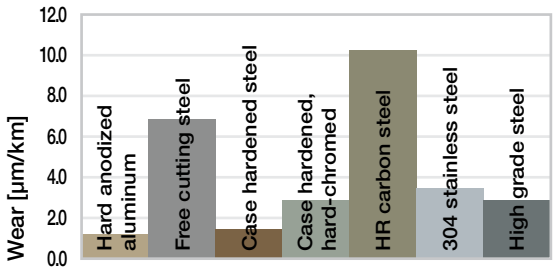


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

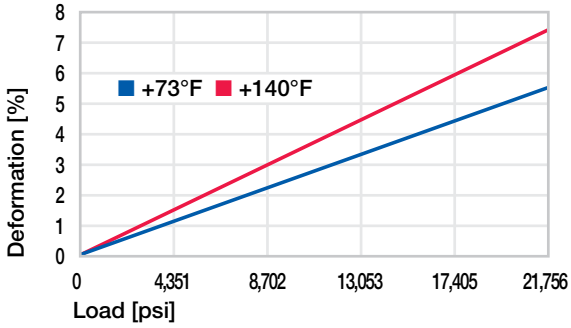


Diagram 03: Deformation under pressure and temperature

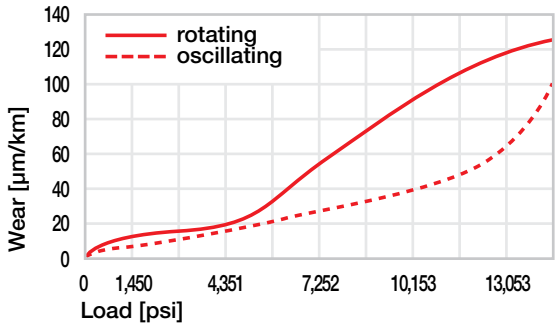


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

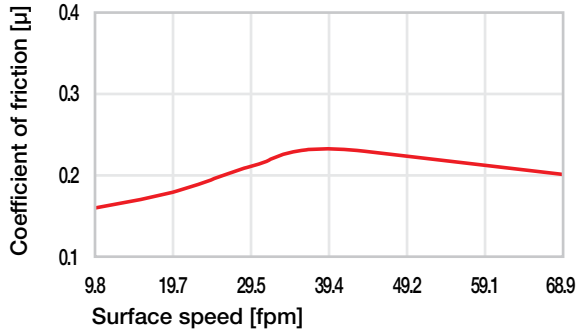
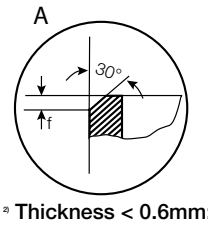


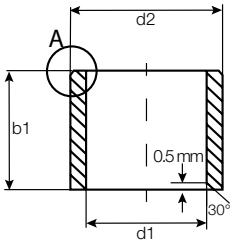
Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

Bearing technology | Plain bearing | iglide® Z

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 360**

Order key

Type			Dimensions		
Z	S	I	-02	03	-03
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

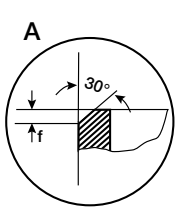
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
ZSI-0203-03	1/8	3/16	3/16	.1247	.1266	.1873	.1878	.1236	.1243
ZSI-0304-04	3/16	1/4	1/4	.1869	.1888	.2497	.2503	.1858	.1865
ZSI-0304-06	3/16	1/4	3/16	.1869	.1888	.2497	.2503	.1858	.1865
ZSI-0405-06	1/4	5/16	3/8	.2495	.2518	.3122	.3128	.2481	.2490
ZSI-0405-08	1/4	5/16	1/2	.2495	.2518	.3122	.3128	.2481	.2490
ZSI-0506-04	5/16	3/8	1/4	.3120	.3143	.3747	.3753	.3106	.3115
ZSI-0506-06	5/16	3/8	3/8	.3120	.3143	.3747	.3753	.3106	.3115
ZSI-0506-08	5/16	3/8	1/2	.3120	.3143	.3747	.3753	.3106	.3115
ZSI-0607-04	3/8	15/32	1/4	.3745	.3768	.4684	.4691	.3731	.3740
ZSI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
ZSI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
ZSI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
ZSI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
ZSI-0708-08	7/16	17/32	1/2	.4371	.4399	.5309	.5316	.4355	.4365
ZSI-0708-12	7/16	17/32	3/4			.5309	.5316	.4355	.4365
ZSI-0809-04	1/2	19/32	1/4	.4996	.5024	.5934	.5941	.4980	.4990
ZSI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
ZSI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
ZSI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
ZSI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
ZSI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
ZSI-0810-12	1/2	5/8	3/4	.5006	.5034	.6248	.6260	.4990	.5000
ZSI-0910-08	9/16	21/32	1/2	.5620	.5649	.6559	.6566	.5605	.5615
ZSI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
ZSI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
ZSI-1011-08	5/8	23/32	1/2	.6246	.6274	.7184	.7192	.6230	.6240
ZSI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
ZSI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
ZSI-1214-08	3/4	7/8	1/2	.7499	.7532	.8747	.8755	.7479	.7491
ZSI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
ZSI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
ZSI-1416-08	7/8	1	1/2	.8749	.8782	.9997	1.0005	.8729	.8741
ZSI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
ZSI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741

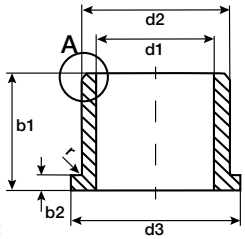
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
ZSI-1618-08	1	1 1/8	1/2	.9999	1.0032	1.1247	1.1255	.9979	.9991
ZSI-1618-12	1	1 1/8	3/4			1.1247	1.1255	.9979	.9991
ZSI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
ZSI-1618-24	1	1 1/8	1 1/2			1.1247	1.1255	.9979	.9991
ZSI-1820-12	1 1/8	1 9/32	3/4	1.1246	1.1279	1.2807	1.2818	1.1226	1.1238
ZSI-1820-16	1 1/8	1 9/32	1			1.2807	1.2818	1.1226	1.1238
ZSI-1820-20	1 1/8	1 9/32	1 1/4			1.2807	1.2818	1.1226	1.1238
ZSI-1820-24	1 1/8	1 9/32	1 1/2			1.2807	1.2818	1.1226	1.1238
ZSI-2022-12	1 1/4	1 13/32	3/4	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
ZSI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
ZSI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
ZSI-2426-16	1 1/2	1 21/32	1	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
ZSI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
ZSI-2629-16	1 5/8	1 25/32	1	1.6248	1.6287	1.7808	1.7818	1.6222	1.6238
ZSI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
ZSI-2831-16	1 3/4	1 15/16	1	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
ZSI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
ZSI-3033-16	1 7/8	2 1/16	1	1.8770	1.8809	2.0625	2.0637	1.8721	1.8737
ZSI-3033-32	1 7/8	2 1/16	2			2.0625	2.0637	1.8721	1.8737
ZSI-3235-16	2	2 3/16	1	1.9993	2.0040	2.1870	2.1883	1.9969	1.9981
ZSI-3235-32	2	2 3/16	2			2.1870	2.1883	1.9969	1.9981
ZSI-3639-32	2 1/4	2 7/16	2	2.2519	2.2566	2.4366	2.4377	2.2489	2.2507

Bearing technology | Plain bearing | iglide® Z

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 360**

Order key

Type			Dimensions		
Z	F	I	-03	04	-06
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

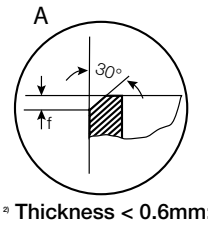
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
ZFI-0203-03	1/8	3/16	3/16	.312	.032	.1247	.1266	.1873	.1878	.1236	.1243
ZFI-0304-04	3/16	1/4	1/4	.375	.032	.1869	.1888	.2497	.2503	.1858	.1865
ZFI-0304-06	3/16	1/4	3/8	.375	.032			.2497	.2503	.1858	.1865
ZFI-0405-06	1/4	5/16	3/8	.430	.032	.2495	.2518	.3122	.3128	.2481	.2490
ZFI-0405-08	1/4	5/16	1/2	.500	.032			.3122	.3128	.2481	.2490
ZFI-0506-04	5/16	3/8	1/4	.500	.032	.3120	.3143	.3747	.3753	.3106	.3115
ZFI-0506-06	5/16	3/8	3/8	.500	.032			.3747	.3753	.3106	.3115
ZFI-0506-08	5/16	3/8	1/2	.500	.032			.3747	.3753	.3106	.3115
ZFI-0607-04	3/8	15/32	1/4	.687	.046	.3745	.3768	.4684	.4691	.3731	.3740
ZFI-0607-06	3/8	15/32	3/8	.687	.046			.4684	.4691	.3731	.3740
ZFI-0607-08	3/8	15/32	1/2	.687	.046			.4684	.4691	.3731	.3740
ZFI-0607-12	3/8	15/32	3/4	.687	.046			.4684	.4691	.3731	.3740
ZFI-0708-08	7/16	17/32	1/2	.750	.046	.4371	.4399	.5309	.5316	.4355	.4365
ZFI-0809-04	1/2	19/32	1/4	.875	.046	.4996	.5024	.5934	.5941	.4980	.4990
ZFI-0809-06	1/2	19/32	3/8	.875	.046			.5934	.5941	.4980	.4990
ZFI-0809-08	1/2	19/32	1/2	.875	.046			.5934	.5941	.4980	.4990
ZFI-0809-12	1/2	19/32	3/4	.875	.046			.5934	.5941	.4980	.4990
ZFI-0809-16	1/2	19/32	1	.875	.046			.5934	.5941	.4980	.4990
ZFI-1011-08	5/8	23/32	1/2	.937	.046	.6246	.6274	.7184	.7192	.6230	.6240
ZFI-1011-12	5/8	23/32	3/4	.937	.046			.7184	.7192	.6230	.6240
ZFI-1011-16	5/8	23/32	1	.937	.046			.7184	.7192	.6230	.6240
ZFI-1012-08	5/8	3/4	1/2	1.000	.062	.6256	.6284	.7500	.7508	.6240	.6250
ZFI-1012-16	5/8	3/4	1	1.000	.062			.7500	.7508	.6240	.6250
ZFI-1214-08	3/4	7/8	1/2	1.125	.062	.7499	.7532	.8747	.8755	.7479	.7491
ZFI-1214-12	3/4	7/8	3/4	1.125	.062			.8747	.8755	.7479	.7491
ZFI-1214-16	3/4	7/8	1	1.125	.062			.8747	.8755	.7479	.7491
ZFI-1416-08	7/8	1	1/2	1.250	.062	.8749	.8782	.9997	1.0005	.8729	.8741
ZFI-1416-12	7/8	1	3/4	1.250	.062			.9997	1.0005	.8729	.8741
ZFI-1416-16	7/8	1	1	1.250	.062			.9997	1.0005	.8729	.8741
ZFI-1618-08	1	1 1/8	1/2	1.375	.062	.9999	1.0032	1.1247	1.1255	.9979	.9991
ZFI-1618-12	1	1 1/8	3/4	1.375	.062			1.1247	1.1255	.9979	.9991
ZFI-1618-16	1	1 1/8	1	1.375	.062			1.1247	1.1255	.9979	.9991
ZFI-1618-24	1	1 1/8	1 1/2	1.375	.062			1.1247	1.1255	.9979	.9991
ZFI-1820-12	1 1/8	1 9/32	3/4	1.562	.078	1.1246	1.1279	1.2807	1.2818	1.1226	1.1238
ZFI-1820-24	1 1/8	1 9/32	1 1/2	1.562	.078			1.2807	1.2818	1.1226	1.1238

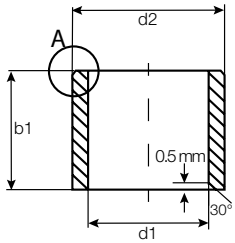
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
ZFI-2022-16	1 1/4	1 13/32	1	1.687	.078	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
ZFI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.078			1.4058	1.4068	1.2472	1.2488
ZFI-2022-24	1 1/4	1 13/32	1 1/2	1.687	.078			1.4058	1.4068	1.2472	1.2488
ZFI-2426-16	1 1/2	1 21/32	1	2.000	.078	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
ZFI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.078			1.6558	1.6568	1.4972	1.4988
ZFI-2831-32	1 3/4	1 15/16	2	2.375	.093	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
ZFI-3235-32	2	2 3/16	2	2.625	.093	1.9993	2.0040	2.1870	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® Z

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 360**

Order key

Type			Dimensions		
Z	S	M	-04	05	-08
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
ZSM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
ZSM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
ZSM-0405-08	4.0	5.0	8.0			5.000	5.012	3.970	4.000
ZSM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
ZSM-0507-09	5.0	7.0	9.0			7.000	7.015	4.970	5.000
ZSM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
ZSM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
ZSM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
ZSM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
ZSM-0608-12	6.0	8.0	12.0			8.000	8.015	5.970	6.000
ZSM-0610-06	6.0	10.0	6.0			10.000	10.015	5.970	6.000
ZSM-0810-06	8.0	10.0	6.0	8.013	8.071	10.000	10.015	7.964	8.000
ZSM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
ZSM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
ZSM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
ZSM-1012-08	10.0	12.0	8.0	10.013	10.071	12.000	12.018	9.964	10.000
ZSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
ZSM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
ZSM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
ZSM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
ZSM-1214-08	12.0	14.0	8.0	12.016	12.086	14.000	14.018	11.957	12.000
ZSM-1214-10	12.0	14.0	10.0			14.000	14.018	11.957	12.000
ZSM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
ZSM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
ZSM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
ZSM-1315-10	13.0	15.0	10.0	13.016	13.086	15.000	15.018	12.957	13.000
ZSM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
ZSM-1416-15	14.0	16.0	15.0	14.016	14.086	16.000	16.018	13.957	14.000
ZSM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
ZSM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
ZSM-1517-15	15.0	17.0	15.0	15.016	15.086	17.000	17.018	14.957	15.000
ZSM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
ZSM-1517-22	15.0	17.0	22.0			17.000	17.018	14.957	15.000
ZSM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
ZSM-1618-12	16.0	18.0	12.0	16.016	16.086	18.000	18.018	15.957	16.000

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
ZSM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
ZSM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
ZSM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
ZSM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
ZSM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
ZSM-1820-24	18.0	20.0	24.0			20.000	20.021	17.957	18.000
ZSM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
ZSM-2023-10	20.0	23.0	10.0	20.020	20.104	23.000	23.021	19.948	20.000
ZSM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
ZSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
ZSM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
ZSM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
ZSM-2023-35	20.0	23.0	35.0			23.000	23.021	19.948	20.000
ZSM-2224-30	22.0	24.0	30.0	22.020	22.104	24.000	24.021	21.948	22.000
ZSM-2225-15	22.0	25.0	15.0			25.000	25.021	21.948	22.000
ZSM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
ZSM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
ZSM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
ZSM-2427-15	24.0	27.0	15.0	24.020	24.104	27.000	27.021	23.948	24.000
ZSM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
ZSM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
ZSM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
ZSM-2528-15	25.0	28.0	15.0	25.020	25.104	28.000	28.021	24.948	25.000
ZSM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
ZSM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
ZSM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
ZSM-2528-48	25.0	28.0	48.0			28.000	28.021	24.948	25.000
ZSM-2530-20	25.0	30.0	20.0			30.000	30.021	24.948	25.000
ZSM-2630-34	26.0	30.0	34.0	26.020	26.104	30.000	30.021	25.948	26.000
ZSM-2832-20	28.0	32.0	20.0	28.020	28.104	32.000	32.025	27.948	28.000
ZSM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
ZSM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
ZSM-2834-29	28.0	34.0	29.0			34.000	34.025	27.948	28.000
ZSM-3034-20	30.0	34.0	20.0	30.020	30.104	34.000	34.025	29.948	30.000
ZSM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
ZSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
ZSM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
ZSM-3235-44	32.0	35.0	44.0	32.025	32.125	35.000	35.025	31.938	32.000
ZSM-3236-20	32.0	36.0	20.0			36.000	36.025	31.938	32.000
ZSM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
ZSM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
ZSM-3539-20	35.0	39.0	20.0	35.025	35.125	39.000	39.025	34.938	35.000
ZSM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
ZSM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
ZSM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
ZSM-4044-15	40.0	44.0	15.0	40.025	40.125	44.000	44.025	39.938	40.000
ZSM-4044-20	40.0	44.0	20.0			44.000	44.025	39.938	40.000

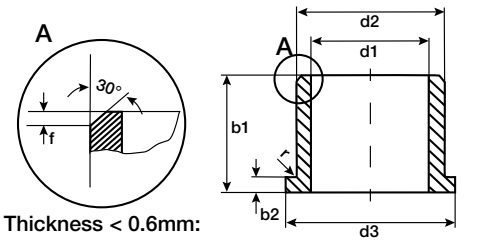
Bearing technology | Plain bearing | iglide® Z

Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
ZSM-4044-30	40.0	44.0	30.0	40.025	40.125	44.000	44.025	39.938	40.000
ZSM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
ZSM-4044-47	40.0	44.0	47.0			44.000	44.025	39.938	40.000
ZSM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
ZSM-4550-20	45.0	50.0	20.0	45.025	45.125	50.000	50.025	44.938	45.000
ZSM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
ZSM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
ZSM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
ZSM-5055-20	50.0	55.0	20.0	50.025	50.125	55.000	55.030	49.938	50.000
ZSM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
ZSM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
ZSM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
ZSM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
ZSM-5560-60	55.0	60.0	60.0	55.030	55.150	60.000	60.030	54.926	55.000
ZSM-6065-60	60.0	65.0	60.0	60.030	60.150	65.000	65.030	59.926	60.000
ZSM-7075-70	70.0	75.0	70.0	70.030	70.150	75.000	75.030	69.926	70.000
ZSM-8085-60	80.0	85.0	60.0	80.030	80.150	85.000	85.035	79.926	80.000
ZSM-8085-80	80.0	85.0	80.0			85.000	85.035	79.926	80.000
ZSM-8590-60	85.0	90.0	60.0	85.036	85.176	90.000	90.035	84.913	85.000
ZSM-8590-100	85.0	90.0	100.0			90.000	90.035	84.913	85.000
ZSM-95100-60	95.0	100.0	60.0	95.036	95.176	100.000	100.035	94.913	95.000
ZSM-100105-100	100.0	105.0	100.0	100.072	100.212	105.000	105.035	99.913	100.000
ZSM-120125-100	120.0	125.0	100.0	120.043	120.203	125.000	125.040	119.913	120.000

Bearing technology | Plain bearing | iglide® Z

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 360**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
Z	F	M	-04	05	-04
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
ZFM-0405-04	4.0	5.0	9.0	4.0	0.75	4.010	4.058	5.000	5.012	3.970	4.000
ZFM-0507-05	5.0	7.0	11.0	5.0	1.00	5.010	5.058	7.000	7.015	4.970	5.000
ZFM-0608-04	6.0	8.0	12.0	4.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
ZFM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
ZFM-0810-05	8.0	10.0	15.0	5.0	1.00	8.013	8.071	10.000	10.015	7.964	8.000
ZFM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
ZFM-0810-09	8.0	10.0	15.0	9.0	1.00			10.000	10.015	7.964	8.000
ZFM-091117-20	9.0	11.0	17.0	20.0	0.50	9.013	9.071	11.000	11.018	8.964	9.000
ZFM-1012-05	10.0	12.0	18.0	5.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
ZFM-1012-07	10.0	12.0	18.0	7.0	1.00			12.000	12.018	9.964	10.000
ZFM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
ZFM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
ZFM-1012-15	10.0	12.0	18.0	15.0	1.00			12.000	12.018	9.964	10.000
ZFM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
ZFM-101315-05	10.0	13.0	15.0	5.5	1.50			13.000	13.018	9.964	10.000
ZFM-1214-07	12.0	14.0	20.0	7.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
ZFM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
ZFM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
ZFM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
ZFM-1214-20	12.0	14.0	20.0	20.0	1.00			14.000	14.018	11.957	12.000
ZFM-1416-12	14.0	16.0	22.0	12.0	1.00	14.016	14.086	16.000	16.018	13.957	14.000
ZFM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
ZFM-1517-09	15.0	17.0	23.0	9.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
ZFM-1517-11	15.0	17.0	23.0	11.0	1.00			17.000	17.018	14.957	15.000
ZFM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
ZFM-1517-15	15.0	17.0	23.0	15.0	1.00			17.000	17.018	14.957	15.000
ZFM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
ZFM-151723-23	15.0	17.0	23.0	23.0	1.00			17.000	17.018	14.957	15.000
ZFM-1618-12	16.0	18.0	24.0	12.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
ZFM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
ZFM-1820-04	18.0	20.0	26.0	4.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
ZFM-1820-12	18.0	20.0	26.0	12.0	1.00			20.000	20.021	17.957	18.000
ZFM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
ZFM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000

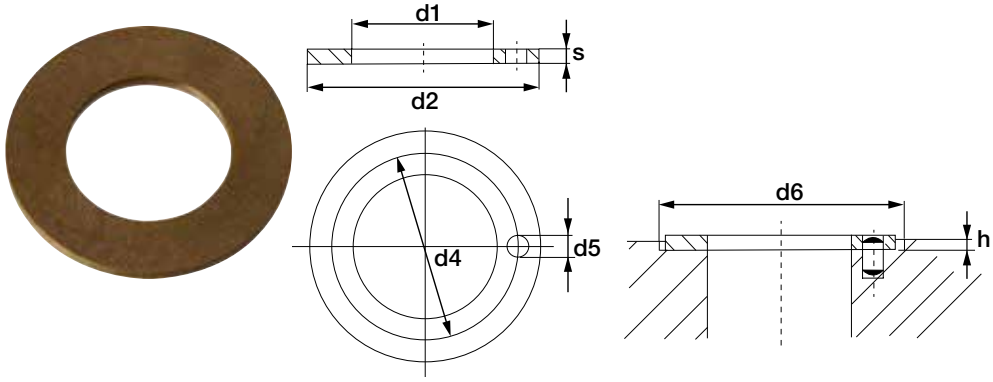
Bearing technology | Plain bearing | iglide® Z

Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
ZFM-2022-21	20.0	22.0	30.0	21.0	1.00	20.020	20.104	22.000	22.021	19.948	20.000
ZFM-2023-11	20.0	23.0	30.0	11.5	1.50			23.000	23.021	19.948	20.000
ZFM-2023-155	20.0	23.0	30.0	15.5	1.50			23.000	23.021	19.948	20.000
ZFM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
ZFM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
ZFM-2023-31	20.0	23.0	30.0	31.5	1.50			23.000	23.021	19.948	20.000
ZFM-2528-11	25.0	28.0	35.0	11.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
ZFM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
ZFM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
ZFM-2528-31	25.0	28.0	35.0	31.5	1.50			28.000	28.021	24.948	25.000
ZFM-3034-13	30.0	34.0	42.0	13.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
ZFM-3034-16	30.0	34.0	42.0	16.0	2.00			34.000	34.025	29.948	30.000
ZFM-3034-20	30.0	34.0	42.0	20.0	2.00			34.000	34.025	29.948	30.000
ZFM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
ZFM-3034-37	30.0	34.0	42.0	37.0	2.00			34.000	34.025	29.948	30.000
ZFM-3539-16	35.0	39.0	47.0	16.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
ZFM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
ZFM-4044-20	40.0	44.0	52.0	20.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000
ZFM-4044-30	40.0	44.0	52.0	30.0	2.00			44.000	44.025	39.938	40.000
ZFM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
ZFM-4550-50	45.0	50.0	58.0	50.0	2.00	45.025	45.125	50.000	50.025	44.938	45.000
ZFM-5055-20	50.0	55.0	63.0	20.0	2.00	50.025	50.125	55.000	55.030	49.938	50.000
ZFM-5055-50	50.0	55.0	63.0	50.0	2.00			55.000	55.030	49.938	50.000
ZFM-6065-50	60.0	65.0	73.0	50.0	2.00	60.030	60.150	65.000	65.030	59.926	60.000
ZFM-7580-50	75.0	80.0	88.0	50.0	2.50	75.030	75.150	80.000	80.030	74.926	75.000
ZFM-758094-65	75.0	80.0	94.0	65.0	2.00			80.000	80.030	74.926	75.000

Bearing technology | Plain bearing | iglide® Z

Thrust washer bearing (form T), metric

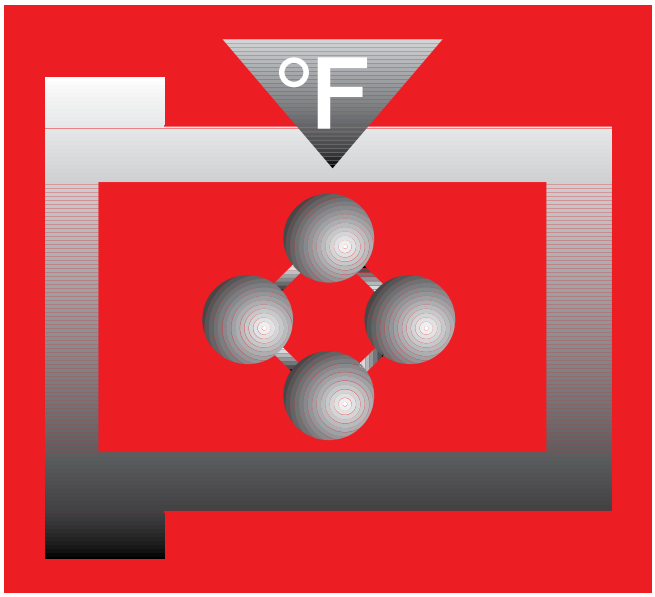


Order key

Type			Dimensions		
Z	T	M	-04	30	-015
iglide® material	Thrust washer	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Thickness s (mm)

Part Number	d1	d2	s	d4	d5	h	d6
	+0.25	-0.25	-0.05	-0.12 +0.12	+0.375 +0.125	+0.2 -0.2	+0.12
ZTM-1430-015[146]	14	30	1.5	25	2	1	30
ZTM-1527-015	15	27	1.5	[4]	[4]	1	27
ZTM-1535-015	15	35	1.5	[4]	[4]	1	35
ZTM-1540-015	15	40	1.5	[4]	[4]	1	35
ZTM-1623-015	16	23	1.5	[4]	[4]	1	23
ZTM-2036-015	20	36	1.5	28	3	1	36
ZTM-2238-015	22	38	1.5	30	3	1	38
ZTM-2250-005	22	50	0.5	30	3	1	38
ZTM-2250-015	22	50	1.5	30	3	1	38
ZTM-2838-015	28	38	1.5	[4]	[4]	1	38
ZTM-3254-015	32	54	1.5	43	4	1	54
ZTM-6290-020	62	90	2	[4]	[4]	1.5	90

Notes



The high temperature specialist up to +482°F

Up to 6X more wear-resistant than iglide® X

iglide® X6

When to use it?

- When temperatures are higher than +302°F
- When the wear resistance of iglide® X in pivoting and rotating applications is not sufficient
- When the press-fit should be improved over iglide® X
- When high media resistance is required
- When a bearing which is free of PTFE is required

When not to use?

- When a cost-effective universal plain bearing is required
  iglide® G
- When a plain bearing for underwater use is required
  iglide® UW500, iglide® H370
- When a wear-resistant high-temperature plain bearing for linear motion is required
  iglide® Z

Ø
3 – 50mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The high temperature specialist up to +482°F

Up to six times more wear resistant than iglide® X

Due to nanotechnology, iglide® X6 shows up to six longer service life than iglide® X in many pivoting and rotating applications – even at temperatures over +212°F.

- Continuous operating temperatures up to +482°F
- Up to 50% better press-fit than iglide® X
- High compressive strength
- Extremely high chemical resistance
- PTFE-free
- Self-lubricating
- Maintenance-free

Typical application areas

- Glass industry
- Food industry
- Fluid technology
- Textile industry
- Mechanical engineering

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■■□	+
Wear resistance at +302°F	–	■■■■■	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■□□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.53	
Color		dark blue	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.5	
Coefficient of friction, dynamic, against steel	µ	0.09 – 0.25	
pv value, max. (dry)	psi · fpm	38,350	
Mechanical properties			
Flexural modulus	psi	2,320,604	DIN 53457
Flexural strength at +68°F	psi	42,061	DIN 53452
Compressive strength	psi	27,557	
Max. recommended surface pressure (+68°F)	psi	21,756	
Shore D hardness		89	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+482	
Max. application temperature short-term	°F	+599	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.55	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	1.1	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	$< 10^{5}$	DIN IEC 93
Surface resistance	Ω	$< 10^{3}$	DIN 53482

-148°F up to +482°F

21,756psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

With respect to its general mechanical and thermal specifications, iglide® X6 is directly comparable to our high-temperature classic, iglide® X, and may even provide advantages, such as its wear behavior.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® X6 plain bearings is approximately 0.1% weight. The saturation limit in water is 0.5% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

Resistant to radiation up to an intensity of $2 \cdot 10^{5}$Gy.

Resistance to weathering

iglide® X6 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® X6 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 iglide® X6 at radial loads. At the maximum recommended surface pressure of 21,756psi the deformation is less than 2%. A possible deformation could be, among others, dependant on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

The high temperature resistance and good thermal conductivity values mean that iglide® X6 is suitable for high-speed applications. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The ambient temperatures strongly influence the properties of plain bearings. With regard to temperature resistance, iglide® X6 is among the highest in the iglide® range. In many tests it has shown a six times higher wear resistance compared to the established high-temperature specialist iglide® X. For temperatures over +329°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Similar to wear resistance, the coefficient of friction μ also changes with the load. The coefficient of friction of iglide® X6 declines with higher pressure and is practically constant for pressures above 4,351psi. A higher speed of the shaft also results in a lower coefficient of friction (diagram 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

Chemicals	Resistance
Alcohols	+
Diluted acids	+
Diluted alkalines	+
Fuels	+
Greases, oils without additives	+
Hydrocarbons	+
Strong acids	+
Strong alkalines	+

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® X6 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table). In relation to the installation tolerance, the inner diameter changes with the absorption of humidity.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. The best case for iglide® X6 is a ground surface with an average surface finish Ra = 0.4 – 0.7μm. Diagram 06 shows the test results of iglide® X6 plain bearings running against various shaft materials. The best performance is achieved with the plain shaft materials free cutting steel and plain steel 1.0037. At higher loads, we recommend harder steel qualities. Non-hardened steel shafts can be worn by the bearing at pressures over 290psi. The wear database shows that iglide® X6 is more suitable for rotating than for pivoting applications (diagram 07). If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	295	217	984
short-term	**fpm**	689	492	1969

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.09 – 0.25	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

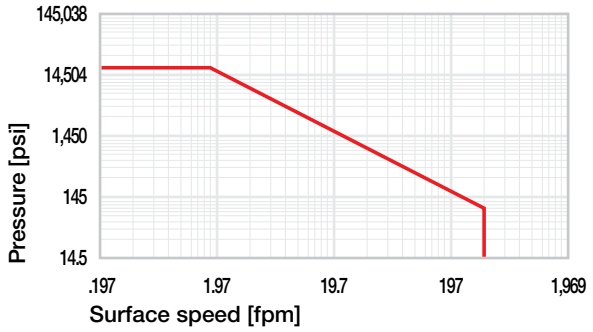


Diagram 01: Permissible pv values for iglide® X6 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

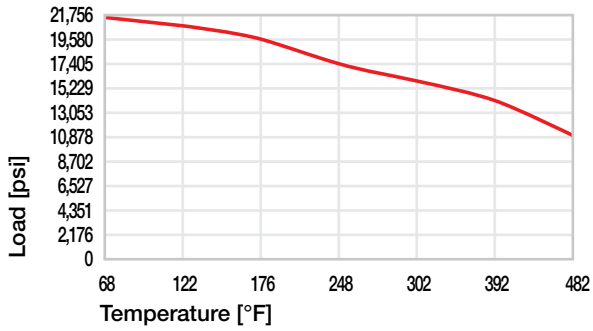


Diagram 02: Maximum recommended surface pressure as a function of temperature (21,756psi at +68°F)

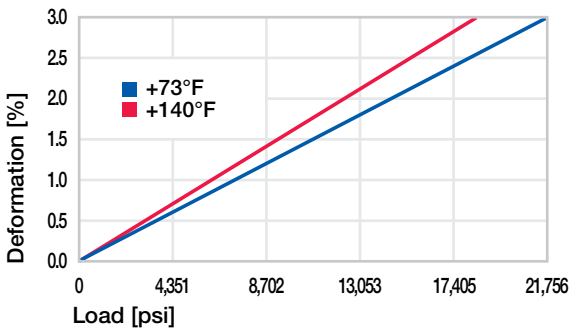


Diagram 03: Deformation under pressure and temperature

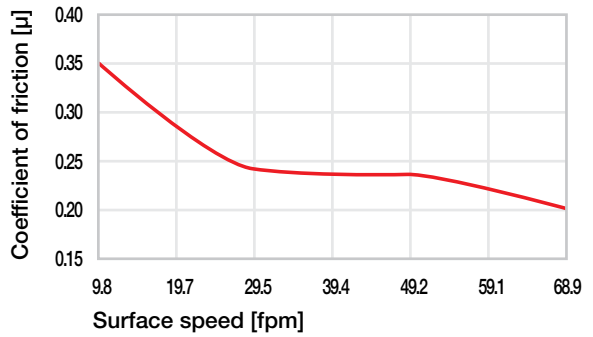


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

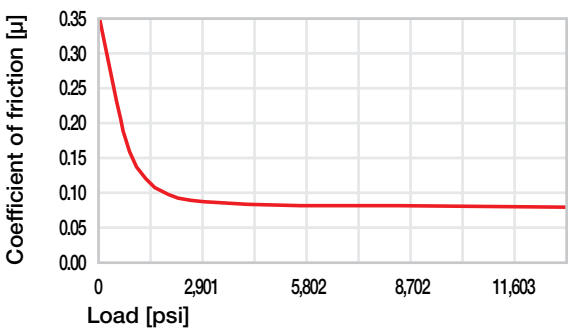


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

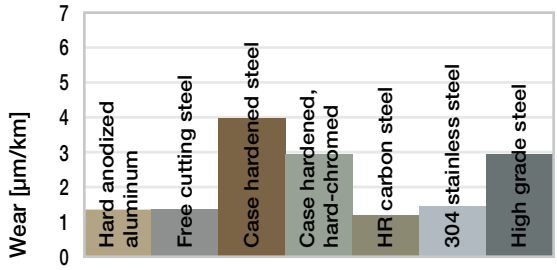


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

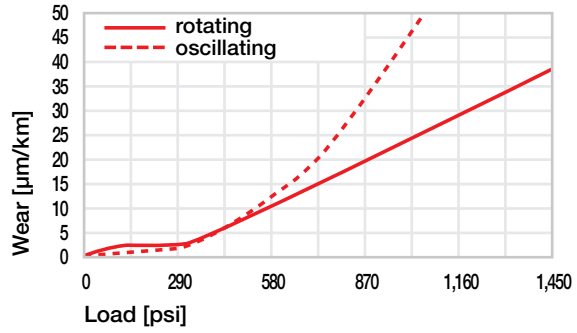
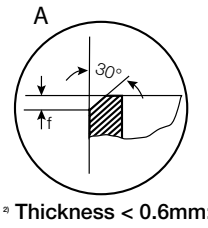


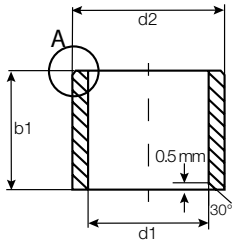
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® X6

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 376**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

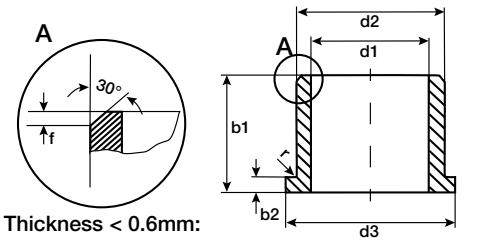
Order key

Type			Dimensions		
X6	S	M	-03	04	-03
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
X6SM-0304-03	3.0	4.5	3.0	3.006	3.046	4.500	4.512	2.975	3.000
X6SM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
X6SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
X6SM-0810-10	8.0	10.0	10.0	8.013	8.071	10.000	10.015	7.964	8.000
X6SM-1012-10	10.0	12.0	10.0	10.013	10.071	12.000	12.018	9.964	10.000
X6SM-1214-12	12.0	14.0	12.0	12.016	12.086	14.000	14.018	11.957	12.000
X6SM-1416-22	14.0	16.0	22.0	14.016	14.086	16.000	16.018	13.957	14.000
X6SM-1618-12	16.0	18.0	12.0	16.016	16.086	18.000	18.018	15.957	16.000
X6SM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
X6SM-2022-38	20.0	22.0	38.0	20.020	20.104	22.000	22.021	19.948	20.000
X6SM-2023-15	20.0	23.0	15.0	20.020	20.104	23.000	23.021	19.948	20.000
X6SM-2023-20	20.0	23.0	20.0	20.020	20.104	23.000	23.021	19.948	20.000
X6SM-2528-30	25.0	28.0	30.0	25.020	25.104	28.000	28.021	24.948	25.000
X6SM-3034-30	30.0	34.0	30.0	30.020	30.104	34.000	34.025	29.948	30.000
X6SM-3539-40	35.0	39.0	40.0	35.025	35.125	39.000	39.025	34.938	35.000
X6SM-4044-40	40.0	44.0	40.0	40.025	40.125	44.000	44.025	39.938	40.000
X6SM-5055-40	50.0	55.0	40.0	50.025	50.125	55.000	55.030	49.938	50.000

Bearing technology | Plain bearing | iglide® X6

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 376**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
X6	F	M	-03	04	-05
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
X6FM-0304-05	3.0	4.5	7.5	5.0	0.75	3.006	3.046	4.500	4.512	2.975	3.000
X6FM-0507-05	5.0	7.0	11.0	5.0	1.00	5.010	5.058	7.000	7.015	4.970	5.000
X6FM-0608-04	6.0	8.0	12.0	4.0	1.00	6.010	6.058	8.000	8.012	5.970	6.000
X6FM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
X6FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.013	8.071	10.000	10.015	7.964	8.000
X6FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
X6FM-1012-25	10.0	12.0	18.0	25.0	1.00			12.000	12.018	9.964	10.000
X6FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
X6FM-1618-12	16.0	18.0	24.0	12.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
X6FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
X6FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000
X6FM-2528-21	25.0	28.0	35.0	21.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
X6FM-3034-40	30.0	34.0	42.0	40.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
X6FM-3539-26	35.0	39.0	47.0	26.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
X6FM-4044-40	40.0	44.0	52.0	40.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000

Notes

For soft shafts and high temperatures

Wear and media-resistant

iglide® V400

When to use it?

- When extreme wear resistance is required with soft shafts
- When the highest wear resistance at temperatures above +212°F is required
- When vibrations and edge loads are present
- When the bearing should be resistant to chemicals

When not to use?

- For hardened shafts
  iglide® W300
- For applications at normal temperatures
  iglide® G, iglide® J, iglide® W300
- When a cost-effective universal plain bearing is required
  iglide® G

Ø
6 – 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

For soft shafts and high temperatures
Wear and media-resistant

Highly wear-resistant bearings for soft shafts and temperatures up to +392°F with low moisture absorption and excellent resistance to chemicals.

- Excellent wear resistance with soft shaft materials and for temperatures up to +392°F
- High chemical resistance
- High elasticity
- Self-lubricating
- Maintenance-free

Typical application areas

- Plant construction
- Automotive industry
- Automation
- Aerospace engineering
- Mechatronics

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■■□	+
Wear resistance at +302°F	–	■■■■■	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■□□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.51	
Color		cream	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.2	
Coefficient of friction, dynamic, against steel	µ	0.15 – 0.20	
pv value, max. (dry)	psi · fpm	14,000	
Mechanical properties			
Flexural modulus	psi	652,670	DIN 53457
Flexural strength at +68°F	psi	13,779	DIN 53452
Compressive strength	psi	6,817	
Max. recommended surface pressure (+68°F)	psi	6,527	
Shore D hardness		74	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+392	
Max. application temperature short-term	°F	+464	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	3	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

Table 01: Material properties

-58°F up to +392°F

6,527psi

V-0

RoHS

ISO 3547-1

iglide® V400 plain bearings are not suitable for high pressures or static high loads. However they are characterized by a high wear resistance all the way up to the maximum recommended surface pressure.

Moisture absorption

The moisture absorption of iglide® V400 plain bearings is only 0.2% weight after saturation in water.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® V400 are resistant up to a radiation intensity of 2 · 10^4Gy. Higher radiation affects their mechanical properties.

Resistance to weathering

iglide® V400 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® V400 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.

Moreover the limit of the permitted loads at +212°F is still very high with 2,901psi. The high flexibility is shown in diagram 03.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® V400 also permits high surface speeds due to the high temperature resistance. The very favorable coefficient of friction of the bearing enables maximum surface speeds up to 256fpm. In linear applications, the permissible speeds are even higher and can be up to 591fpm .

▶ Surface speed, **Page 44**

Temperature

The maximum long-term application temperature is +392°F. For temperatures over +212°F an additional securing is required. Then, however, the wear resistance of the bearings is very good and adopts a leading position among all iglide® materials. With increasing temperatures, the compressive strength of iglide® V400 plain bearings decreases. Diagram 02 shows this inverse relationship.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction is dependent on the bearing's stressing capacity (diagrams 04 and 05). The coefficient of friction of iglide® V400 is very constant. No other iglide® plain bearing material exhibits a lower variance in the coefficients of friction, even when the shaft material is altered.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

Chemicals	Resistance
Alcohols	+
Diluted acids	+
Diluted alkalines	+
Fuels	+
Greases, oils without additives	+
Hydrocarbons	+
Strong acids	+
Strong alkalines	–

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® V400 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

The influence of the shaft material on the wear resistance is bigger than on the friction. Here, even at low loads (108psi), significant differences occur, as shown in diagram 06. With regard to wear, iglide® V400 plain bearings show better values in rotating applications than in pivoting movements (diagram 07).

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	177	118	394
short-term	**fpm**	256	177	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.15 – 0.20	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

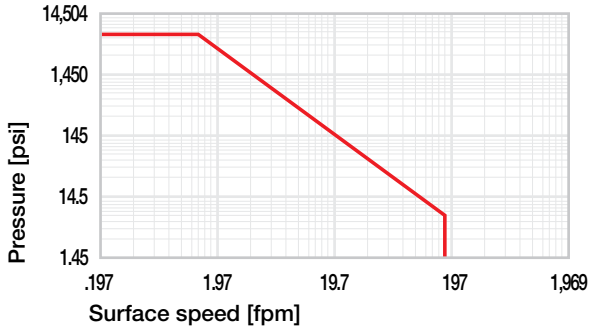


Diagram 01: Permissible pv values for iglide® V400 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

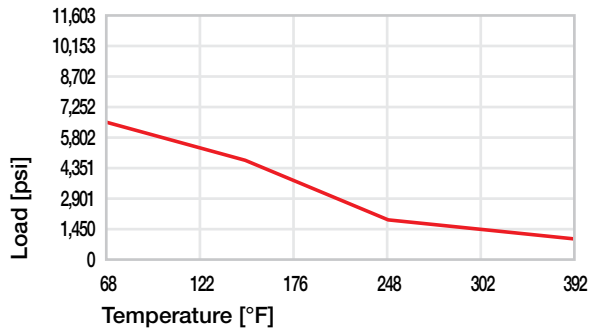


Diagram 02: Maximum recommended surface pressure as a function of temperature (6,527psi at +68°F)

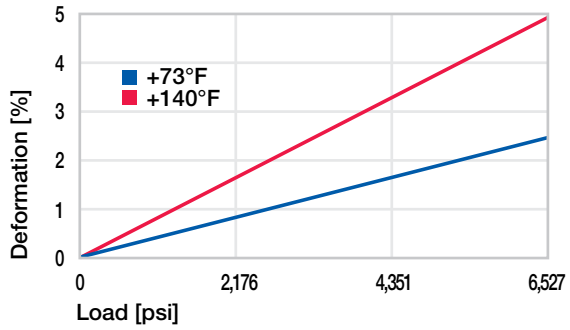


Diagram 03: Deformation under pressure and temperature

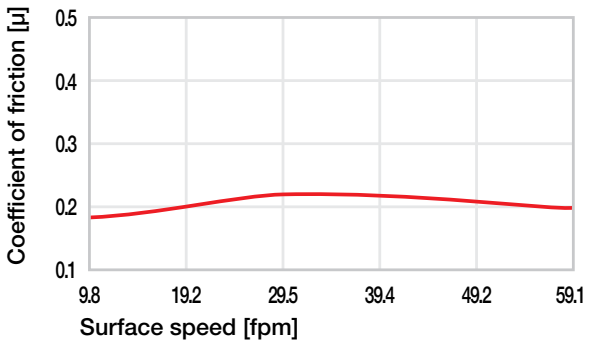


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

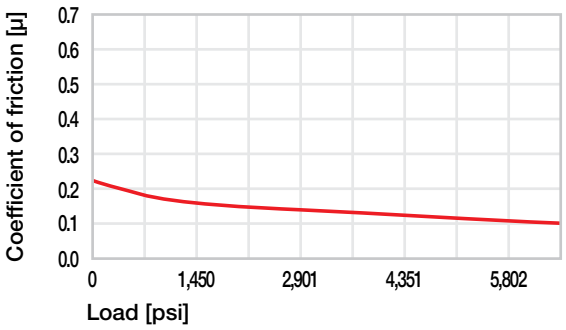


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

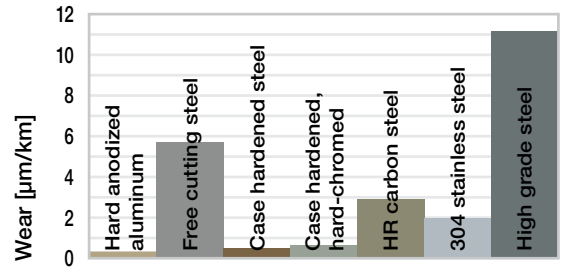


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

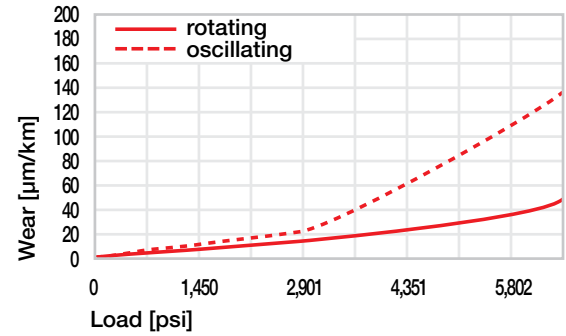
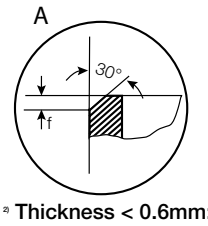


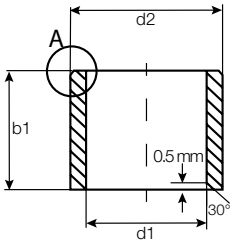
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® V400

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 384**

Order key

Type			Dimensions		
V	S	M	-01	03	-02
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

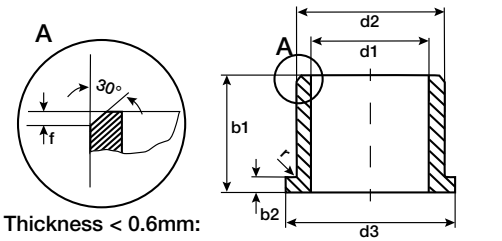
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
VSM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
VSM-0810-10	8.0	10.0	10.0	8.013	8.071	10.000	10.015	7.964	8.000
VSM-1012-10	10.0	12.0	10.0	10.013	10.071	12.000	12.018	9.964	10.000
VSM-1214-12	12.0	14.0	12.0	12.016	12.086	14.000	14.018	11.957	12.000
VSM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
VSM-2023-20	20.0	23.0	20.0	20.020	20.104	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® V400

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 384**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

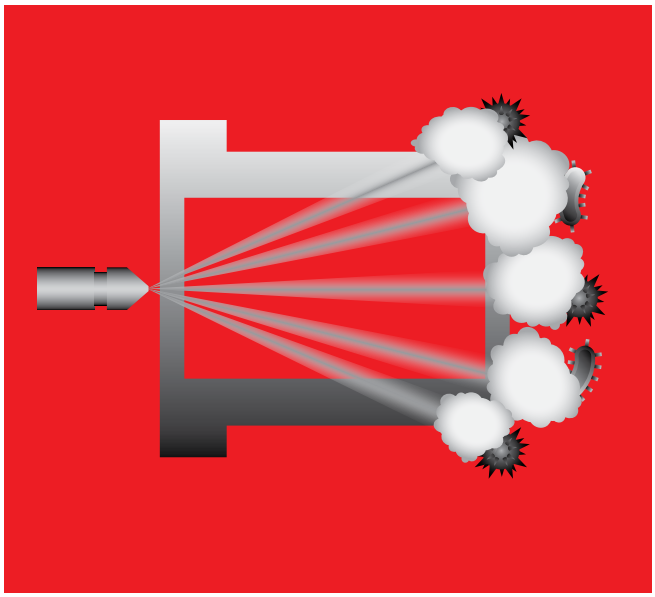
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
V	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
VFM-0608-06	6.0	8.0	12.0	6.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
VFM-0810-10	8.0	10.0	15.0	10.0	1.00	8.013	8.071	10.000	10.015	7.964	8.000
VFM-1012-10	10.0	12.0	18.0	10.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
VFM-1214-12	12.0	14.0	20.0	12.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
VFM-1618-17	16.0	18.0	24.0	17.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
VFM-1820-20	18.0	20.0	26.0	20.0	1.00	18.020	18.104	20.000	20.021	17.957	18.000
VFM-2023-21	20.0	23.0	30.0	21.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000

Notes



All-rounder for steam sterilization

Low-cost, media-resistant and hygienic **iglide® HSD350**

When to use it?

- If the bearing point is regularly sterilized with hot steam
- When a low-cost material is required at the same time
- When good chemical resistance is required
- Low moisture absorption

When not to use?

- When high pressures occur
  iglide® G, iglide® W300
- When continuous operating temperatures are higher than +356°F
  iglide® G, iglide® Z
- When a cost-effective bearing for occasional movements is necessary
  iglide® G

Ø
6 - 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

All-rounder for steam sterilization

Low-cost, media-resistant and hygienic

The new material enables continuous operation where hygiene is important, including regular sterilization, with an outstanding price-performance ratio.

- Temperature-resistant up to +356°F
- Suitable for wet environments
- High media resistance
- Corrosion-free
- Self-lubricating
- Sterilizable
- Maintenance-free

Typical application areas

- Filling technology
- Medical and laboratory technology

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■□	+
Wear resistance at +194°F	–	■■■■□	+
Wear resistance at +302°F	–	■■■□□	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■■□□	+
Wear resistance under water	–	■■■□□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.39	
Color		beige	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.6	DIN 53495
Max. moisture absorption	% weight	1.2	
Coefficient of friction, dynamic, against steel	µ	0.07 – 0.23	
pv value, max. (dry)	psi · fpm	8,570	
Mechanical properties			
Flexural modulus	psi	311,831	DIN 53457
Flexural strength at +68°F	psi	9,718	DIN 53452
Compressive strength	psi	6,382	
Max. recommended surface pressure (+68°F)	psi	4,351	
Shore D hardness		77	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+356	
Max. application temperature short-term	°F	+410	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	7	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{14}	DIN 53482

Table 01: Material properties

–40°F up to +356°F

4,351psi

V-0

RoHS

ISO 3547-1

iglide® HSD350 was specially developed for use in applications where decontamination by steam (e.g. in autoclaves) is necessary. iglide® HSD350 offers an excellent price-performance ratio.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® HSD350 plain bearings is approximately 0.6% weight. The saturation limit in water is 1.2% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, the moisture content is released as vapor. Due to its low moisture absorption, use in a vacuum is possible.

Radiation resistance

Plain bearings made from iglide® HSD350 are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® HSD350 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® HSD350 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 iglide® HSD350 at radial loads. At the maximum recommended surface pressure of 4,351psi the deformation is less than 2%. A possible deformation could be, among others, dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Due to its rather good thermal conductivity and thermal resistance, iglide® HSD350 is suitable for speeds in the medium range. The permissible surface speed decreases with increasing surface pressure.

▶ Surface speed, **Page 44**

Temperature

The ambient temperatures strongly influence the properties of plain bearings. According to its field of application as autoclavable material, iglide® HSD350 offers good thermal resistance. For temperatures over +2656°F an axial securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction increases constantly and slowly over the speed, but remains below 0.3µ up to a speed of 394fpm.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® HSD350 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table). In relation to the installation tolerance, the inner diameter changes with the absorption of humidity.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

Diagrams 06 and 07 display a summary of the test results with different shaft materials conducted with plain bearings made from iglide® HSD350. At 59fpm and 145psi surface pressure, a wide variety of shafts are suitable and provide good wear results. Hard-anodized aluminum, free cutting steel, case hardened, hard-chromed steel, 304 stainless steel and high grade steel exhibit low wear. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	fpm	217	157	591
short-term	fpm	236	197	630

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.07 – 0.23	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

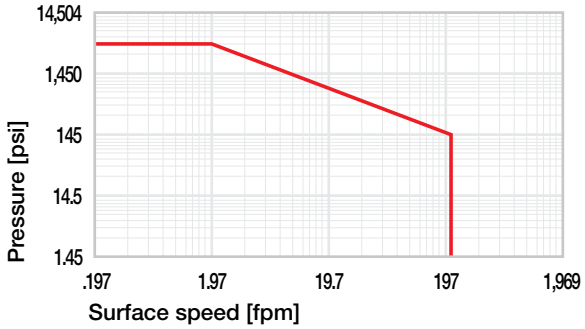


Diagram 01: Permissible pv values for iglide® HSD350 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

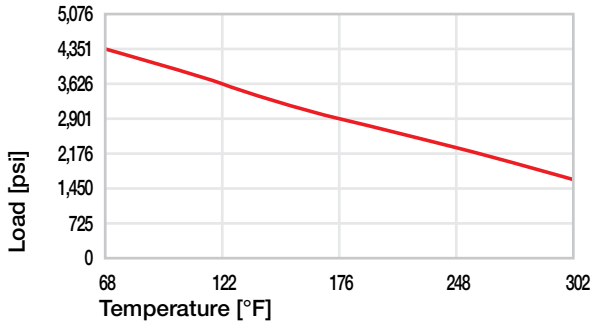


Diagram 02: Maximum recommended surface pressure as a function of temperature (4,351psi at +68°F)

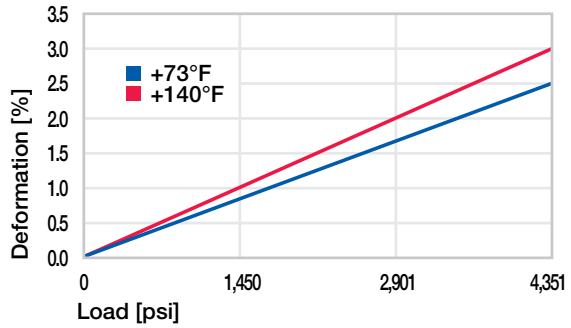


Diagram 03: Deformation under pressure and temperature

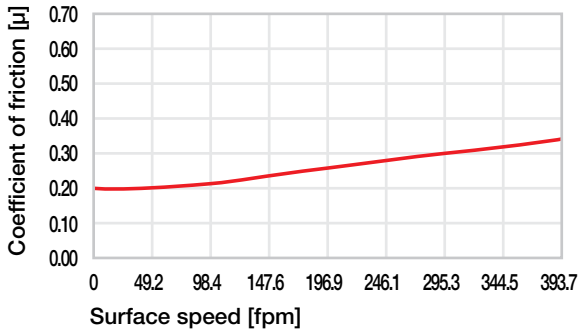


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

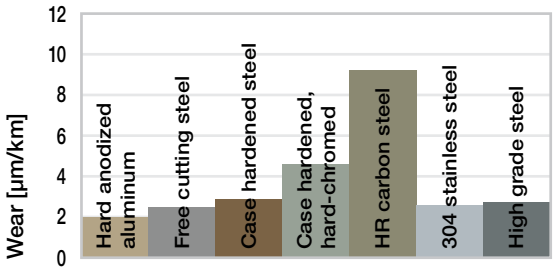


Diagram 05: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

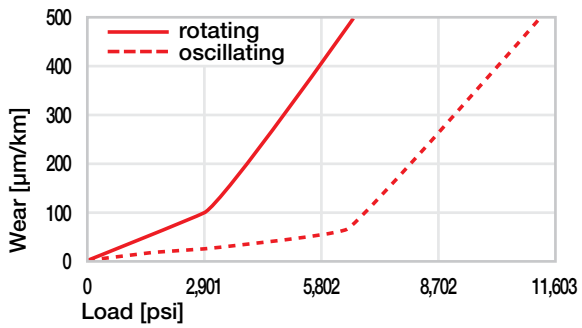
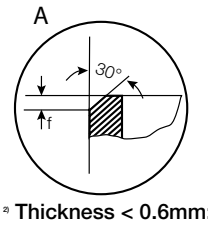


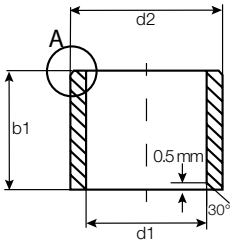
Diagram 06: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® HSD350

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 392**

Order key

Type			Dimensions		
HSD350	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

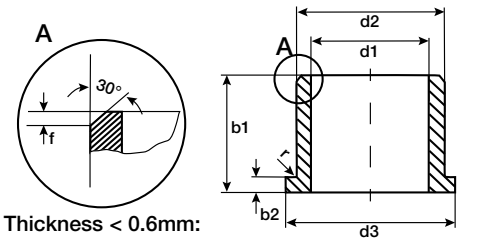
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
HSD350SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
HSD350SM-0810-10	8.0	10.0	10.0	8.013	8.071	10.000	10.015	7.964	8.000
HSD350SM-1012-10	10.0	12.0	10.0	10.013	10.071	12.000	12.018	9.964	10.000
HSD350SM-1214-12	12.0	14.0	12.0	12.016	12.086	14.000	14.018	11.957	12.000
HSD350SM-1618-15	16.0	18.0	15.0	14.016	14.086	18.000	18.018	15.957	16.000
HSD350SM-2023-20	20.0	23.0	20.0	20.020	20.104	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® HSD350

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 392**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

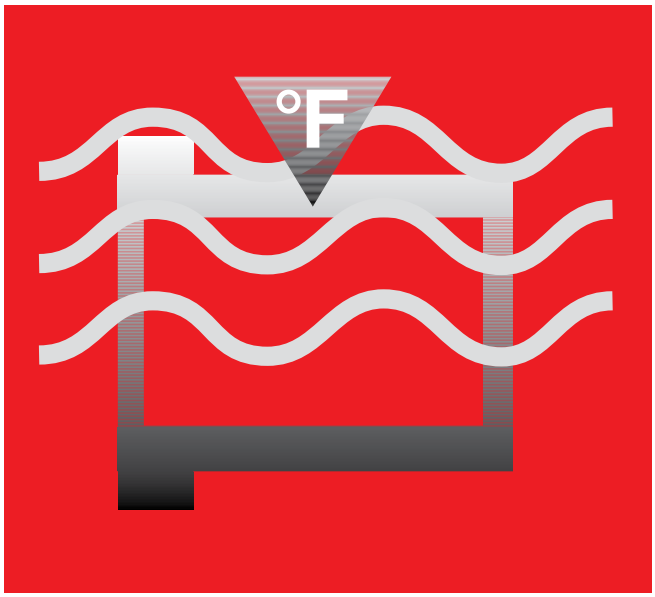
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
HSD350	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
HSD350FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
HSD350FM-0810-09	8.0	10.0	15.0	10.0	1.00	8.013	8.071	10.000	10.015	7.964	8.000
HSD350FM-1012-09	10.0	12.0	18.0	9.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
HSD350FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
HSD350FM-1618-17	16.0	18.0	24.0	17.0	1.00	14.016	14.086	18.000	18.018	15.957	16.000
HSD350FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000

Notes



For hot liquids

Continuous wear resistance in liquids

iglide® UW500

When to use it?

- When plain bearings need to be used in liquids
- For high speeds
- For high temperatures
- When a high chemical resistance is required

When not to use?

- When a cost-effective underwater plain bearing for the standard temperature range is required
  iglide® UW
- When a cost-effective underwater plain bearing is required for rare operations
  iglide® H
- When a cost-effective universal plain bearing is required
  iglide® G

Ø
Contact igus®

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

For hot liquids

Continuous wear resistance in liquids

iglide® UW500 was developed for underwater applications at higher temperatures up to +482°F. In addition, the plain bearings will run in chemicals which would act as a lubricant.

- High temperature resistance
- Suitable for high surface speeds
- Self-lubricating
- Suitable for underwater applications
- Maintenance-free

Typical application areas

- Plant construction
- Pumps
- Chemical industry

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■■□	+
Wear resistance at +302°F	–	■■■■■	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■■	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■□□□	+
Resistant to dirt	–	■■□□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.49	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.5	
Coefficient of friction, dynamic, against steel	µ	0.20 – 0.36	
pv value, max. (dry)	psi · fpm	9,990	
Mechanical properties			
Flexural modulus	psi	2,320,604	DIN 53457
Flexural strength at +68°F	psi	37,710	DIN 53452
Compressive strength	psi	20,305	
Max. recommended surface pressure (+68°F)	psi	20,305	
Shore D hardness		86	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+482	
Max. application temperature short-term	°F	+572	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.60	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	4	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	< 10^{9}	DIN IEC 93
Surface resistance	Ω	< 10^{9}	DIN 53482

-148°F up to +482°F

20,305psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

The plain bearings made from iglide® UW500 were developed for underwater applications with high temperatures. Examples for this are water pumps in automotive engineering, but also the field of medical engineering and related sectors. Unless the underwater operation is explicitly stated, the information in this chapter describes iglide® UW500 in dry operation.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® UW500 plain bearings is below 0.1% weight. The maximum moisture absorption is 0.5% weight. iglide® UW500 plain bearings can be used for underwater applications.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

Plain bearings made from iglide® UW500 are resistant up to a radiation intensity of $1 \cdot 10^{5}$Gy. They resist to hard gamma radiation (1,000Mrad) and alpha or beta radiation (10,000Mrad).

Resistance to weathering

iglide® UW500 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® UW500 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 iglide® UW500 at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® UW500 plain bearings can be used in applications involving dry operation as well as in liquids in a wide variety of applications. Due to hydrodynamic lubrication at high speeds, surface speeds far above 295fpm can be achieved.

▶ Surface speed, **Page 44**

Temperature

iglide® UW500 can be used in applications where there are continuous temperatures of +302°F. If the bearings are mechanically secured, these temperatures can be even higher than +392°F. iglide® UW500 belongs to the most temperature-resistant iglide® materials. For temperatures over +302°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Diagrams 04 and 05 show the coefficient of friction of iglide® UW500 plain bearings as a function of surface speed and pressure. The friction and wear are also dependent, to a large degree, on the shaft material. Ideal are ground surfaces with an average surface finish of 0.1 – 0.4µm.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

Chemicals	Resistance
Alcohols	+
Diluted acids	+
Diluted alkalines	+
Fuels	+
Greases, oils without additives	+
Hydrocarbons	+
Strong acids	+
Strong alkalines	+

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® UW500 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® UW500.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	157	118	394
short-term	**fpm**	295	217	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.20 – 0.36	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

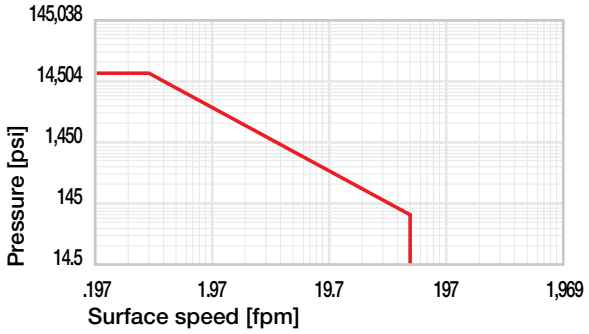


Diagram 01: Permissible pv values for iglide® UW500 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

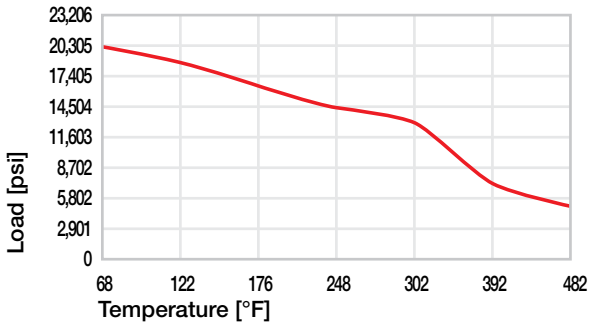


Diagram 02: Maximum recommended surface pressure as a function of temperature (20,305psi at +68°F)

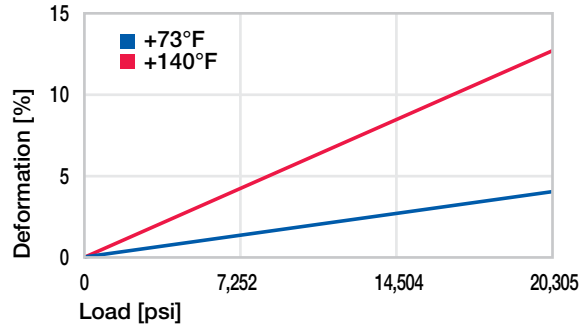


Diagram 03: Deformation under pressure and temperature

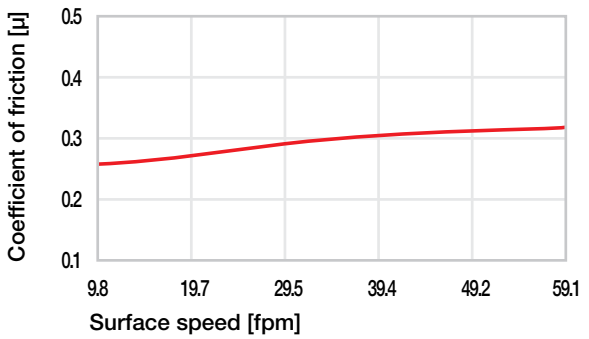


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

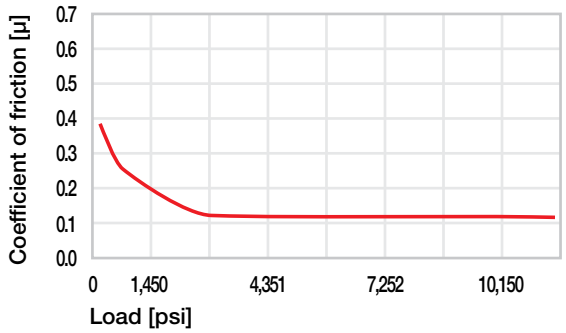


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

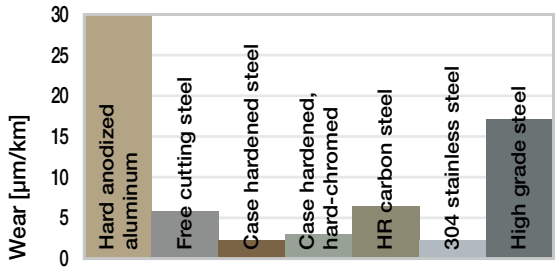


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

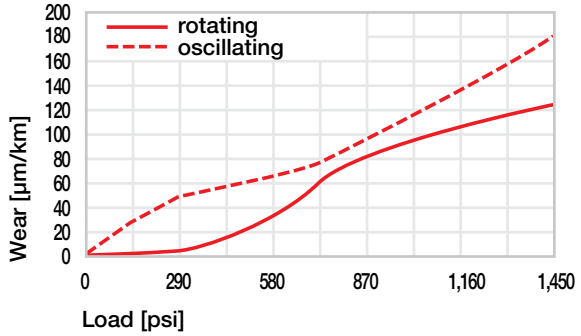
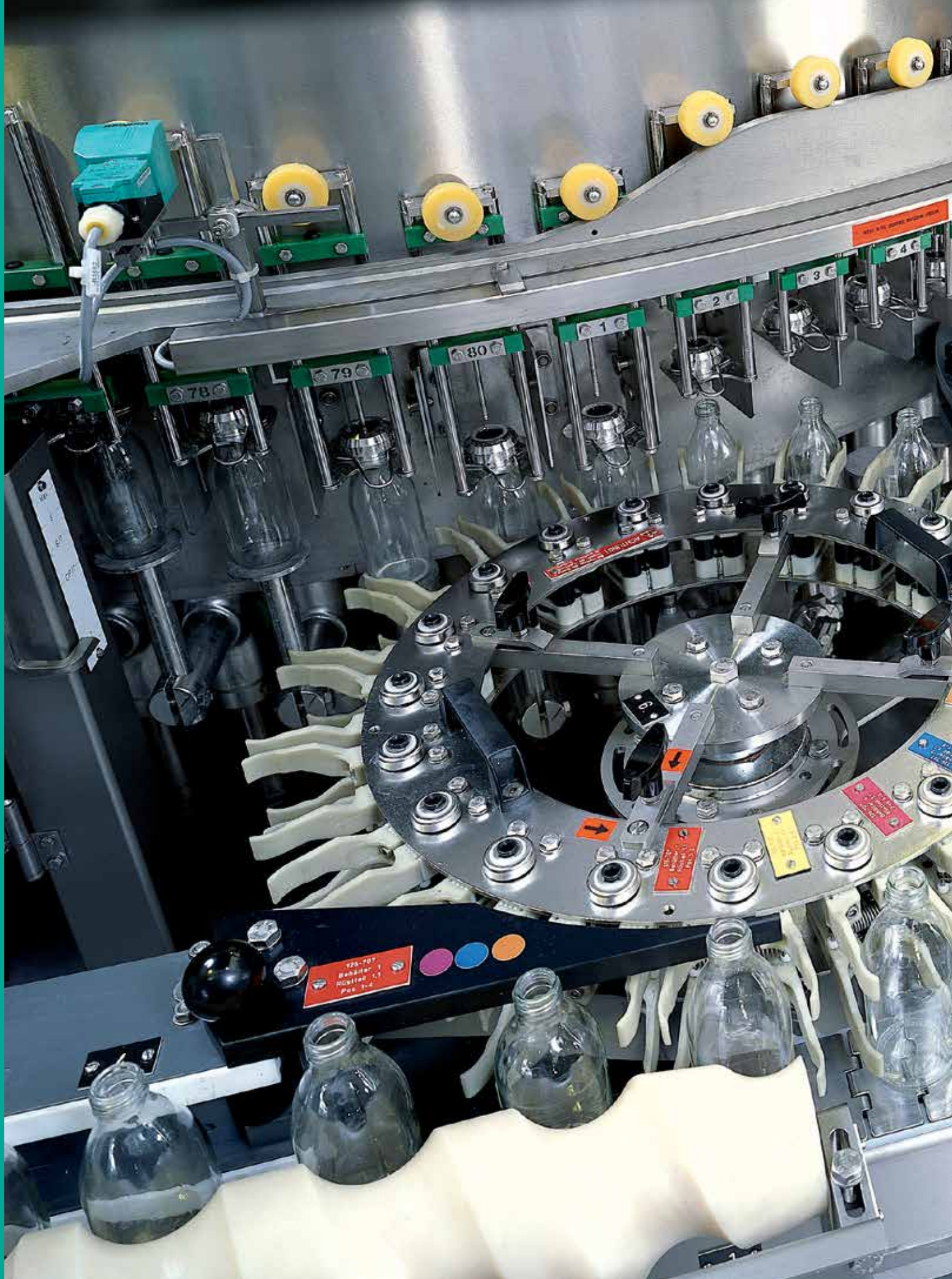
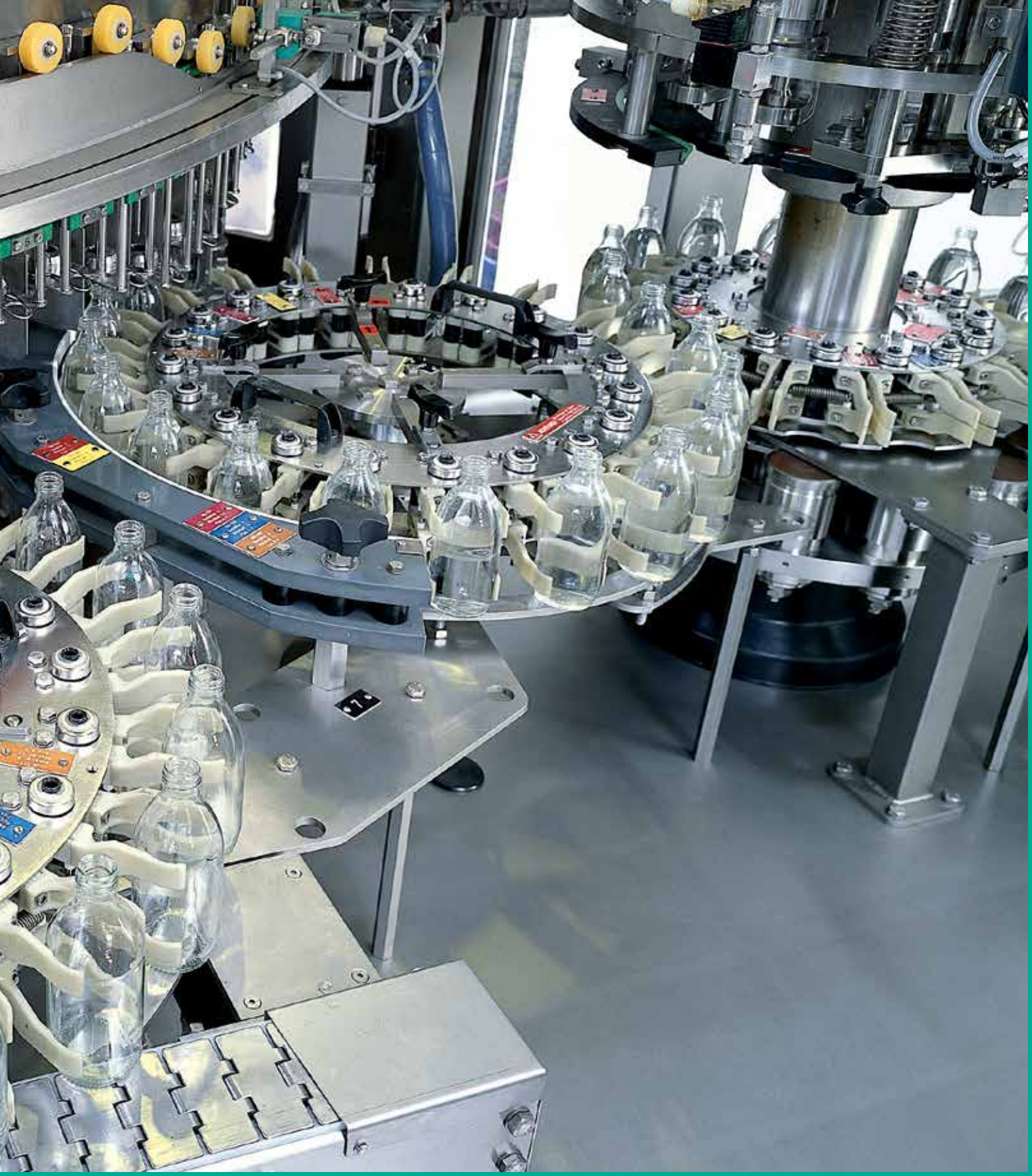


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load


78
79
80
1
2
3
4



Plain bearing materials with excellent media resistance

Plain bearing materials with excellent media resistance

Almost at the same level as the previous group in terms of temperatures, the “iglide® H family” is characterized by a high media resistance and a wide range of applications in wet areas.
iglide® H370 is the specialist for underwater applications, iglide® H2 is the media-resistant, low-cost bearing solution for high-volume production with low running performance and iglide® H1, the endurance runner of this group.

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

iglide® H1
Endurance runner with high media reisistance

Temperature [°F] [123]	+392	– +
Surface pressure [psi] [124]	11,603	– +
Coefficient of friction [µ] [125]	0.17	– +
Wear [µm/km] [125]	0.29	– +
Price index		– +

iglide® H370
Long service life under water

Temperature [°F] [123]	+392	– +
Surface pressure [psi] [124]	10,878	– +
Coefficient of friction [µ] [125]	0.17	– +
Wear [µm/km] [125]	1.20	– +
Price index		– +

iglide® H
The classic with high resistance to media and temperature

Temperature [°F] [123]	+392	– +
Surface pressure [psi] [124]	13,053	– +
Coefficient of friction [µ] [125]	0.17	– +
Wear [µm/km] [125]	2.10	– +
Price index		– +

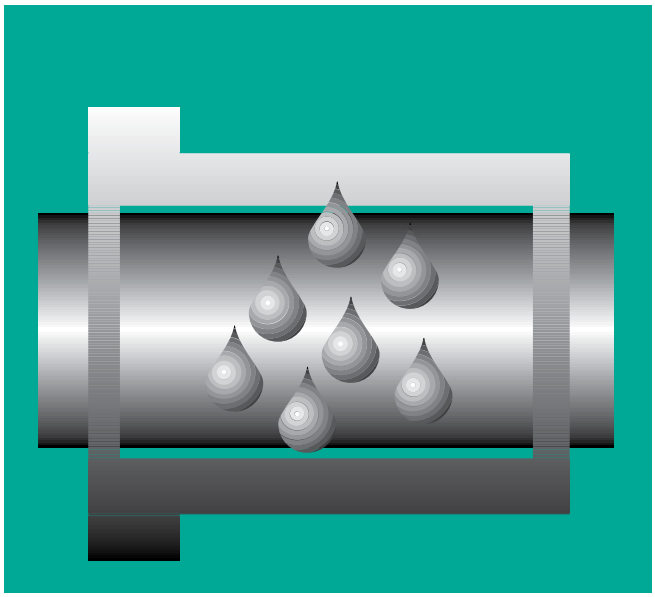
iglide® C500
High temperature endurance runner

Temperature [°F] [123]	+482	– +
Surface pressure [psi] [124]	11,603	– +
Coefficient of friction [µ] [125]	0.19	– +
Wear [µm/km] [125]	0.48	– +
Price index		– +

[123] max. long-term application temperature [124] max. recommended surface pressure at +68°F [125] best combination for p = 145psi, v = 59fpm, rotating

iglide® H2
The low-cost specialist for chemicals and temperatures

Temperature [°F] [123]	+392	–	+
Surface pressure [psi] [124]	15,954	–	+
Coefficient of friction [µ] [125]	0.32	–	+
Wear [µm/km] [125]	4.80	–	+
Price index		–	+



Endurance runner with high media resistance

Excellent coefficient of friction and wear

iglide® H1

When to use it?

- When extreme service life is required under the influence of temperature and humidity
- When low coefficient of friction at high temperature is important
- When normal aggressive cleaning is required (splashes, steam blasting)
- For engine compartment applications

When not to use?

- When high surface pressures occur
  iglide® Z
- When the best universal chemical resistance is required
  iglide® X
- When a cost-effective high-temperature plain bearing is required, not the ideal wear resistance
  iglide® H2
- When an FDA-compliant plain bearing with high temperature resistance is required
  iglide® A500

Ø
3 – 70mm
1/8 - 2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Endurance runner with high media resistance
Excellent coefficient of friction and wear

iglide® H1 is the first choice when long service life is required in extreme environmental conditions. Extreme wear resistance is coupled with excellent resistance to temperature and media – not only in the packaging and food industries or the automotive industry.

- High wear resistance in extreme ambient conditions
- Very low coefficients of friction
- High temperature resistance
- Self-lubricating
- High chemical resistance
- Maintenance-free

Typical application areas

- Beverage industry
- Automation
- Packaging
- Textile industry
- Automotive

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■■	+
Wear resistance at +194°F	–	■■■■■	+
Wear resistance at +302°F	–	■■■■■	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■□□□	+
Suitable for shock and impact loads	–	■■□□□	+
Resistant to dirt	–	■■□□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.53	
Color		cream	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.3	
Coefficient of friction, dynamic, against steel	µ	0.06 – 0.20	
pv value, max. (dry)	psi · fpm	22,800	
Mechanical properties			
Flexural modulus	psi	406,106	DIN 53457
Flexural strength at +68°F	psi	7,977	DIN 53452
Compressive strength	psi	11,313	
Max. recommended surface pressure (+68°F)	psi	11,603	
Shore D hardness		77	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+392	
Max. application temperature short-term	°F	+464	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	6	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	10^{12}	DIN IEC 93
Surface resistance	Ω	10^{11}	DIN 53482

-40°F up to +392°F

11,603psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

iglide® H1 plain bearings have been specially developed for use under extreme environmental conditions. Their strengths are the extremely high wear resistance and the excellent coefficient of friction even in applications in which the bearing is exposed to extreme temperatures and/or aggressive chemicals. iglide® H1 plain bearings can be used completely free of lubrication; in wet area applications, the surrounding medium acts as additional lubricant.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® H1 plain bearings is approximately 0.1% weight. The saturation limit in water is 0.3% weight. Therefore iglide® H1 is very well suited for use in wet environments.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

Resistant to radiation up to an intensity of $2 \cdot 10^2$Gy.

Resistance to weathering

iglide® H1 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® H1 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 iglide® H1 at radial loads. Among the iglide® H materials, iglide® H1 material has the greatest flexibility. This must be considered for applications with high surface pressure or edge loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Due to their excellent coefficient of friction, rotating surface speeds of up to 394fpm are possible with iglide® H1 plain bearings in dry operation. Linear speeds up to 984fpm can be attained. The speeds stated in table 03 are limit values for the lowest bearing loads. With higher loads, the permitted speed drops with the extent of the load due to the limitations by the pv value.

▶ Surface speed, **Page 44**

Temperature

iglide® H1 is a very temperature-stable material. The temperatures prevailing in the bearing system also have an influence on the wear. The wear rises with increasing temperatures. In the case of iglide® H1 in particular, however, this increase is very low. For temperatures over +176°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction alters similarly to the wear resistance with increasing load and surface speed (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® H1 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagrams 06 and 07 show the test results of iglide® H1 plain bearings running against various shaft materials. The iglide® H1 plain bearings display excellent wear behavior in combination with a wide variety of shaft materials both in rotating and pivoting applications. On the 304 stainless steel shafts in particular, iglide® H1 attains very low wear rates both in rotating and pivoting operations. Even on hard-anodized aluminum shafts, iglide® H1 plain bearings attain high service life in rotating applications with low to medium loads.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	394	197	984
short-term	**fpm**	492	295	1378

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.06 – 0.20	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Metric Size Bearings		
Length Tolerance (b1)		
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> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

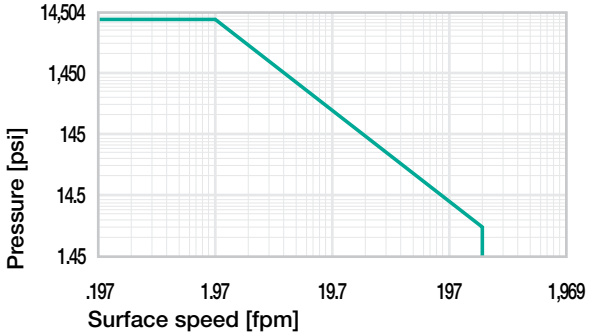


Diagram 01: Permissible pv values for iglide® H1 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

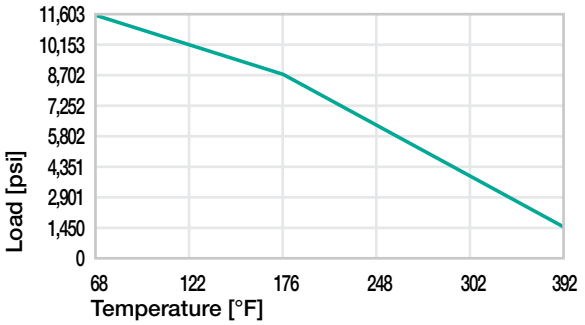


Diagram 02: Maximum recommended surface pressure as a function of temperature (11,603psi at +68°F)

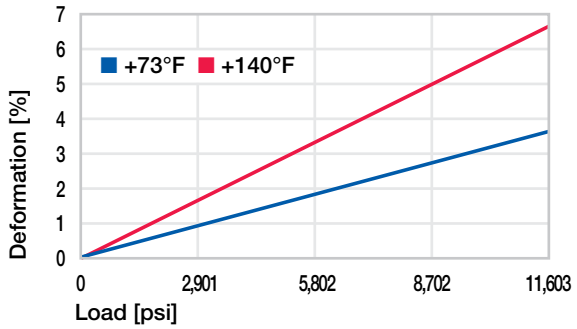


Diagram 03: Deformation under pressure and temperature

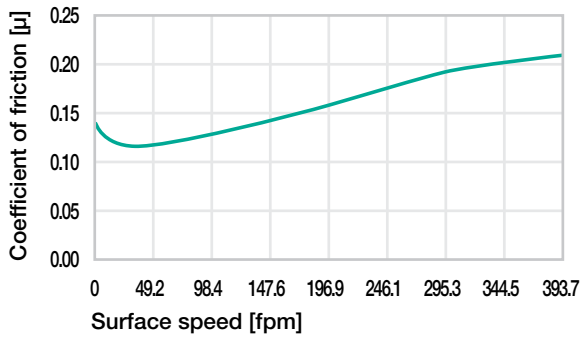


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

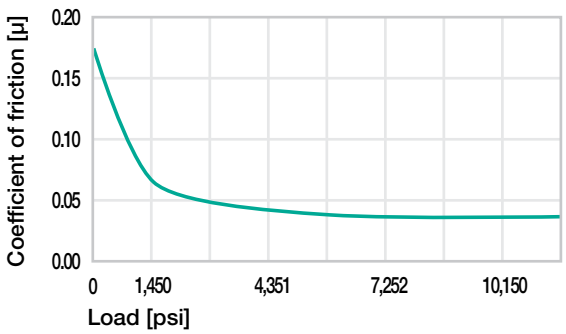


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

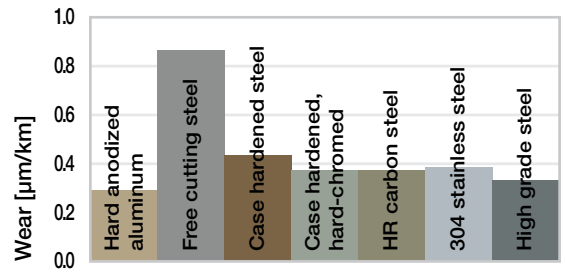


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

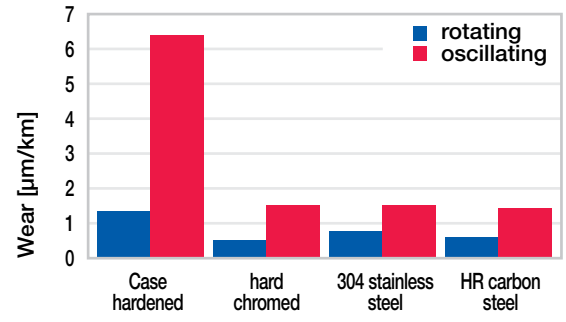
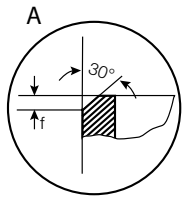


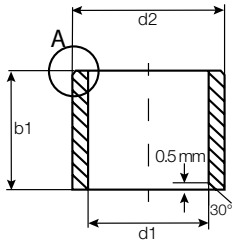
Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Bearing technology | Plain bearing | iglide® H1

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 410**

Order key

Type			Dimensions		
H1	S	I	-02	03	-03
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

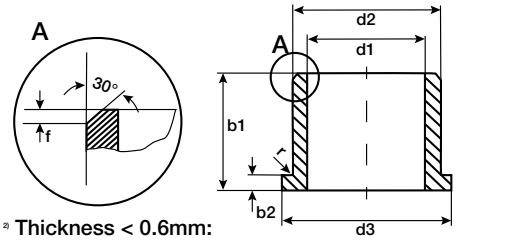
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
H1SI-0203-03	1/8	3/16	3/16	.1247	.1266	.1873	.1878	.1236	.1243
H1SI-0304-04	3/16	1/4	1/4	.1869	.1888	.2497	.2503	.1858	.1865
H1SI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
H1SI-0405-06	1/4	5/16	3/8	.2495	.2518	.3122	.3128	.2481	.2490
H1SI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
H1SI-0506-04	5/16	3/8	1/4	.3120	.3143	.3747	.3753	.3106	.3115
H1SI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
H1SI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
H1SI-0607-04	3/8	15/32	1/4	.3745	.3768	.4684	.4691	.3731	.3740
H1SI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
H1SI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
H1SI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
H1SI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
H1SI-0708-08	7/16	17/32	1/2	.4371	.4399	.5309	.5316	.4355	.4365
H1SI-0708-12	7/16	17/32	34			.5309	.5316	.4355	.4365
H1SI-0809-04	1/2	19/32	1/4	.4996	.5024	.5934	.5941	.4980	.4990
H1SI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
H1SI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
H1SI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
H1SI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
H1SI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
H1SI-0810-12	1/2	5/8	3/4	.5034	.5006	.6250	.6260	.4990	.5000
H1SI-0910-08	9/16	21/32	1/2	.5620	.5649	.6559	.6566	.5605	.5615
H1SI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
H1SI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
H1SI-1011-08	5/8	23/32	1/2	.6246	.6274	.7184	.7192	.6230	.6240
H1SI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
H1SI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
H1SI-1214-08	3/4	7/8	1/2	.7499	.7532	.8747	.8755	.7479	.7491
H1SI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
H1SI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
H1SI-1416-08	7/8	1	1/2	.8749	.8782	.9997	1.0005	.8729	.8741
H1SI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
H1SI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741
H1SI-1618-08	1	1 1/8	1/2	.9999	1.0032	1.1247	1.1255	.9979	.9991

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
H1SI-1618-12	1	1 1/8	3/4	.9999	1.0032	1.1247	1.1255	.9979	.9991
H1SI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
H1SI-1820-12	1 1/8	1 9/32	3/4	1.1246	1.1279	1.2808	1.2818	1.1226	1.1238
H1SI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
H1SI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
H1SI-2022-12	1 1/4	1 13/32	3/4	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
H1SI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
H1SI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
H1SI-2426-16	1 1/2	1 21/32	1	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
H1SI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
H1SI-2629-16	1 5/8	1 25/32	1	1.6248	1.6287	1.7808	1.7818	1.6222	1.6238
H1SI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
H1SI-2831-16	1 3/4	1 15/16	1	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
H1SI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
H1SI-3033-16	1 7/8	2 1/16	1	1.8770	1.8809	2.0625	2.0637	1.8721	1.8737
H1SI-3033-32	1 7/8	2 1/16	2			2.0625	2.0637	1.8721	1.8737
H1SI-3235-16	2	2 3/16	1	1.9993	2.0040	2.1871	2.1883	1.9969	1.9981
H1SI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® H1

Flange bearing (form F), inch



2) Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 410**

Order key

Type			Dimensions		
H1	F	I	-02	03	-02
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

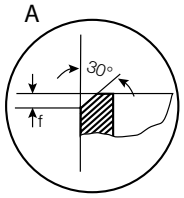
Chamfer in relation to d1

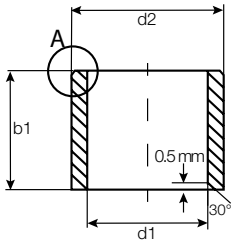
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
H1FI-0203-03	1/8	3/16	3/16	.312	.0320	.1247	.1266	.1873	.1878	.1236	.1243
H1FI-0304-04	3/16	1/4	1/4	.375	.0320	.1869	.1888	.2497	.2503	.1858	.1865
H1FI-0405-06	1/4	5/16	3/8	.430	.0320	.2495	.2518	.3122	.3128	.2481	.2490
H1FI-0405-08	1/4	5/16	1/2	.500	.0320			.3122	.3128	.2481	.2490
H1FI-0506-04	5/16	3/8	1/4	.500	.0320	.3120	.3143	.3747	.3753	.3106	.3115
H1FI-0506-06	5/16	3/8	3/8	.500	.0320			.3747	.3753	.3106	.3115
H1FI-0506-08	5/16	3/8	1/2	.500	.0320			.3747	.3753	.3106	.3115
H1FI-0607-04	3/8	15/32	1/4	.687	.0460	.3745	.3768	.4684	.4691	.3731	.3740
H1FI-0607-06	3/8	15/32	3/8	.687	.0460			.4684	.4691	.3731	.3740
H1FI-0607-08	3/8	15/32	1/2	.687	.0460			.4684	.4691	.3731	.3740
H1FI-0607-12	3/8	15/32	3/4	.687	.0460			.4684	.4691	.3731	.3740
H1FI-0708-08	7/16	17/32	1/2	.750	.0460	.4371	.4399	.5309	.5316	.4355	.4365
H1FI-0809-04	1/2	19/32	1/4	.875	.0460	.4996	.5024	.5934	.5941	.4980	.4990
H1FI-0809-06	1/2	19/32	3/8	.875	.0460			.5934	.5941	.4980	.4990
H1FI-0809-08	1/2	19/32	1/2	.875	.0460			.5934	.5941	.4980	.4990
H1FI-0809-12	1/2	19/32	3/4	.875	.0460			.5934	.5941	.4980	.4990
H1FI-0809-16	1/2	19/32	1	.875	.0460			.5934	.5941	.4980	.4990
H1FI-1011-08	5/8	23/32	1/2	.937	.0460	.6246	.6274	.7184	.7192	.6230	.6240
H1FI-1011-12	5/8	23/32	3/4	.937	.0460			.7184	.7192	.6230	.6240
H1FI-1011-16	5/8	23/32	1	.937	.0460			.7184	.7192	.6230	.6240
H1FI-1214-08	3/4	7/8	1/2	1.125	.0620	.7499	.7532	.8747	.8755	.7479	.7491
H1FI-1214-12	3/4	7/8	3/4	1.125	.0620			.8747	.8755	.7479	.7491
H1FI-1214-16	3/4	7/8	1	1.125	.0620			.8747	.8755	.7479	.7491
H1FI-1416-08	7/8	1	1/2	1.250	.0620	.8749	.8782	.9997	1.0005	.8729	.8741
H1FI-1416-12	7/8	1	3/4	1.250	.0620			.9997	1.0005	.8729	.8741
H1FI-1416-16	7/8	1	1	1.250	.0620			.9997	1.0005	.8729	.8741
H1FI-1618-08	1	1 1/8	1/2	1.375	.0620	.9999	1.0032	1.1247	1.1255	.9979	.9991
H1FI-1618-12	1	1 1/8	3/4	1.375	.0620			1.1247	1.1255	.9979	.9991
H1FI-1618-16	1	1 1/8	1	1.375	.0620			1.1247	1.1255	.9979	.9991
H1FI-2022-16	1 1/4	1 13/32	1	1.687	.0780	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
H1FI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.0780			1.4058	1.4068	1.2472	1.2488
H1FI-2426-16	1 1/2	1 21/32	1	2.000	.0780	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
H1FI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.0780			1.6558	1.6568	1.4972	1.4988
H1FI-2831-32	1 3/4	1 15/16	2	2.375	.0930	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
H1FI-3235-32	2	2 3/16	2	2.625	.0930	1.9993	2.0040	2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® H1

Sleeve bearing (form S), metric





[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, page 410

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
H1	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
H1SM-0304-05	3.0	4.5	5.0	3.006	3.046	4.500	4.512	2.975	3.000
H1SM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
H1SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
H1SM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
H1SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
H1SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
H1SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
H1SM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
H1SM-0810-08	8.0	10.0	8.0	8.013	8.071	10.000	10.015	7.964	8.000
H1SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
H1SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
H1SM-0810-15	8.0	10.0	15.0			10.000	10.015	7.964	8.000
H1SM-1012-08	10.0	12.0	8.0	10.013	10.071	12.000	12.018	9.964	10.000
H1SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
H1SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
H1SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
H1SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
H1SM-1214-10	12.0	14.0	10.0	12.016	12.086	14.000	14.018	11.957	12.000
H1SM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
H1SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
H1SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
H1SM-1315-10	13.0	15.0	10.0	13.016	13.086	15.000	15.018	12.957	13.000
H1SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
H1SM-1416-15	14.0	16.0	15.0	14.016	14.086	16.000	16.018	13.957	14.000
H1SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
H1SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
H1SM-1517-15	15.0	17.0	15.0	15.016	15.086	17.000	17.018	14.957	15.000
H1SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
H1SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
H1SM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
H1SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
H1SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
H1SM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
H1SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
H1SM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000

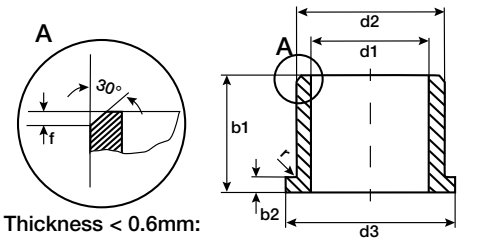
Bearing technology | Plain bearing | iglide® H1

Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
H1SM-2023-10	20.0	23.0	10.0	20.020	20.104	23.000	23.021	19.948	20.000
H1SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
H1SM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
H1SM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
H1SM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
H1SM-2225-15	22.0	25.0	15.0	22.020	22.104	25.000	25.021	21.948	22.000
H1SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
H1SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
H1SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
H1SM-2427-15	24.0	27.0	15.0	24.020	24.104	27.000	27.021	23.948	24.000
H1SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
H1SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
H1SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
H1SM-2528-15	25.0	28.0	15.0	25.020	25.104	28.000	28.021	24.948	25.000
H1SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
H1SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
H1SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
H1SM-2832-20	28.0	32.0	20.0	28.020	28.104	32.000	32.025	27.948	28.000
H1SM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
H1SM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
H1SM-3034-30	30.0	34.0	30.0	30.020	30.104	34.000	34.025	29.948	30.000
H1SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
H1SM-3236-20	32.0	36.0	20.0	32.025	32.125	36.000	36.025	31.938	32.000
H1SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
H1SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
H1SM-3539-20	35.0	39.0	20.0	35.025	35.125	39.000	39.025	34.938	35.000
H1SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
H1SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
H1SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
H1SM-4044-20	40.0	44.0	20.0	40.025	40.125	44.000	44.025	39.938	40.000
H1SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
H1SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
H1SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
H1SM-4550-20	45.0	50.0	20.0	45.025	45.125	50.000	50.025	44.938	45.000
H1SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
H1SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
H1SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
H1SM-5055-20	50.0	55.0	20.0	50.025	50.125	55.000	55.030	49.938	50.000
H1SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
H1SM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
H1SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
H1SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
H1SM-5560-50	55.0	60.0	50.0	55.030	55.150	60.000	60.030	54.926	55.000
H1SM-7075-50	70.0	75.0	50.0	70.030	70.150	75.000	75.030	69.926	70.000

Bearing technology | Plain bearing | iglide® H1

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 410**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

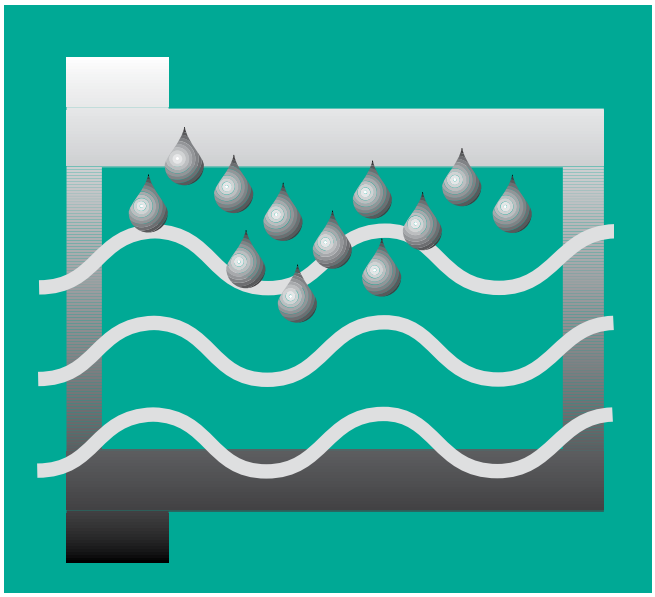
Type			Dimensions				
H1	F	M	- 06	08	- 06		
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)		

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
H1FM-0304-05	3.0	4.5	7.5	5.0	0.75	3.006	3.046	4.500	4.512	2.975	3.000
H1FM-0405-06	4.0	5.5	9.5	6.0	0.75	4.010	4.058	5.500	5.512	3.970	4.000
H1FM-0507-05	5.0	7.0	11.0	5.0	1.00	5.010	5.058	7.000	7.015	4.970	5.000
H1FM-0608-04	6.0	8.0	12.0	4.0	1.00	6.013	6.071	8.000	8.015	5.970	6.000
H1FM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
H1FM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
H1FM-0608-10	6.0	8.0	12.0	10.0	1.00			8.000	8.015	5.970	6.000
H1FM-0810-05	8.0	10.0	15.0	5.5	1.00	8.013	8.071	10.000	10.015	7.964	8.000
H1FM-0810-065	8.0	10.0	15.0	6.5	1.00			10.000	10.015	7.964	8.000
H1FM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
H1FM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
H1FM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
H1FM-1012-07	10.0	12.0	18.0	7.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
H1FM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
H1FM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
H1FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
H1FM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
H1FM-1214-07	12.0	14.0	20.0	7.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
H1FM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
H1FM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
H1FM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
H1FM-1214-20	12.0	14.0	20.0	20.0	1.00			14.000	14.018	11.957	12.000
H1FM-1416-12	14.0	16.0	22.0	12.0	1.00	14.016	14.086	16.000	16.018	13.957	14.000
H1FM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
H1FM-1517-09	15.0	17.0	23.0	9.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
H1FM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
H1FM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
H1FM-1618-12	16.0	18.0	24.0	12.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
H1FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
H1FM-1618-25	16.0	18.0	24.0	25.0	1.00			18.000	18.018	15.957	16.000

Bearing technology | Plain bearing | iglide® H1

Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
H1FM-1820-12	18.0	20.0	26.0	12.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
H1FM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
H1FM-1820-22	18.0	20.0	26.0	22.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
H1FM-2023-11	20.0	23.0	30.0	11.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000
H1FM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
H1FM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
H1FM-2023-30	20.0	23.0	30.0	30.0	1.50			23.000	23.021	19.948	20.000
H1FM-2528-11	25.0	28.0	35.0	11.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
H1FM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
H1FM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
H1FM-3034-16	30.0	34.0	42.0	16.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
H1FM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
H1FM-3539-16	35.0	39.0	47.0	16.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
H1FM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
H1FM-4044-30	40.0	44.0	52.0	30.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000
H1FM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
H1FM-4550-50	45.0	50.0	58.0	50.0	2.00	45.025	45.125	50.000	50.025	44.938	45.000



Long service under water

High media resistance

iglide® H370

When to use it?

- For underwater applications
- When high temperature resistance is required
- When high mechanical loading and wear resistance is required
- When good chemical resistance is required

When not to use?

- When mechanical reaming of the bore is necessary
  iglide® M250
- When high wear resistance in temperatures is required
  iglide® H1
- For use in dirty surroundings
  iglide® Z
- When a cost-effective, large-volume solution is required
  iglide® H2

Bearing technology | Plain bearing | iglide® H370

Ø
3 – 75mm
1/8 - 2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Long service under water
High media resistance

iglide® H370 is the right solution for underwater applications. The bearings handle extremely high loads, are resistant to chemicals and can be used at temperatures up to +392°F.

- Suitable for underwater applications
- Temperature-resistant from -40°F to +392°F
- High chemical resistance
- Self-lubricating
- Maintenance-free

Typical application areas

- Marine
- Fluid technology
- Packaging
- Plant construction
- Underwater applications

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■■■□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■■	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■□□□	+
Resistant to dirt	–	■■□□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.66	
Color		grey	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.1	
Coefficient of friction, dynamic, against steel	µ	0.07 – 0.17	
pv value, max. (dry)	psi · fpm	21,100	
Mechanical properties			
Flexural modulus	psi	1,609,919	DIN 53457
Flexural strength at +68°F	psi	19,580	DIN 53452
Compressive strength	psi	11,458	
Max. recommended surface pressure (+68°F)	psi	10,878	
Shore D hardness		82	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+392	
Max. application temperature short-term	°F	+464	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.50	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	5	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	$< 10^{5}$	DIN IEC 93
Surface resistance	Ω	$< 10^{5}$	DIN 53482

-40°F up to +392°F

10,878psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

iglide® H370 is an advanced development of the iglide® H series. The material is characterized by particularly low moisture absorption and clearly enhanced wear resistance. With regard to the mechanical and thermal characteristic values, iglide® H370 shows the same features as iglide® H.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® H370 plain bearings is below 0.1% weight. The saturation limit in water is also below 0.1% weight. For this reason, iglide® H370 plain bearings are often used for underwater applications.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

iglide® H370 withstands neutron and gamma particle radiation. Plain bearings made from iglide® H370 are resistant up to a radiation intensity of $2 \cdot 10^{2}$Gy.

Resistance to weathering

iglide® H370 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® H370 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 iglide® H370 at radial loads. At the maximum recommended surface pressure of 10,878psi at room temperature the deformation is less than 2.5%.

▶ Surface pressure, **Page 50**

Permissible surface speeds

The maximum permitted surface speed is dependent on whether the temperature at the bearing point becomes too high or not. iglide® H370 is suitable for surface speeds of 236fpm (rotating) and 787fpm (linear) respectively. The maximum values stated in table 03 are valid only with minimum pressure loads and are often not attained in practice.

▶ Surface speed, **Page 44**

Temperature

With increasing temperatures, the compressive strength of iglide® H370 plain bearings decreases. The temperatures prevailing in the bearing system also have an influence on the wear. The wear rises with increasing temperatures. For temperatures over +212°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction alters only little, like the wear resistance with increasing load and surface speed (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 iglide® H370 plain bearings running against various shaft materials. For loads up to 290psi in rotating applications, the hard-chromed shaft is the best material for the iglide® H370 plain bearings. The high coefficient of wear with 304 stainless steel shafts, which due to their extremely ground surfaces are prone to the stick-slip effect, is striking. Despite same values in the lowest range, the HR carbon steel shaft shows already better values than case hardened steel with loads of 290psi. On the other hand, the 304 stainless steel shaft shows a clear advantage in pivoting movements.

▶ Shaft materials, **Page 52**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

		Rotating	Oscillating	linear
long-term	**fpm**	236	157	787
short-term	**fpm**	295	217	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.07 – 0.17	0.09	0.04	0.04

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

Installation tolerances

iglide® H370 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Ø d1 [mm]	Housing H7 [mm]		Plain bearing F10 [mm]		Shaft h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

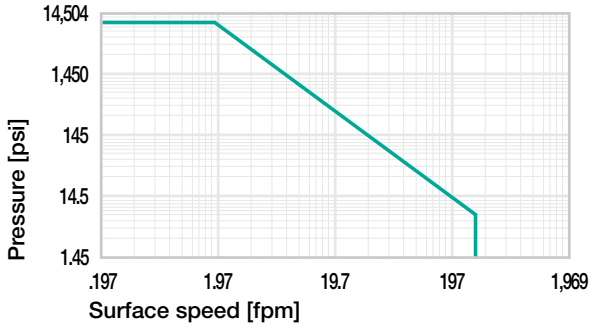


Diagram 01: Permissible pv values for iglide® H370 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

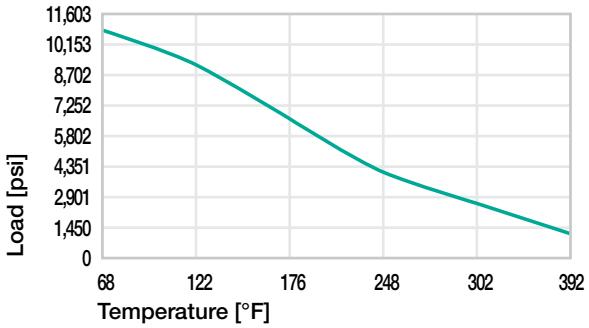


Diagram 02: Maximum recommended surface pressure as a function of temperature (10,878psi at +68°F)

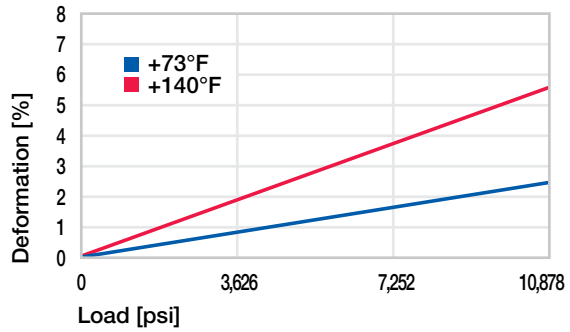


Diagram 03: Deformation under pressure and temperature

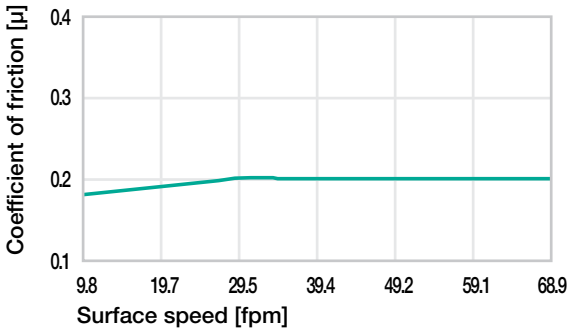


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

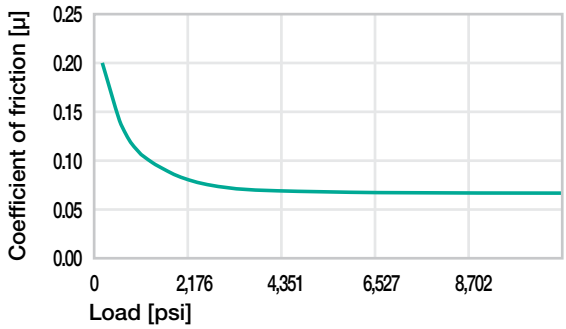


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

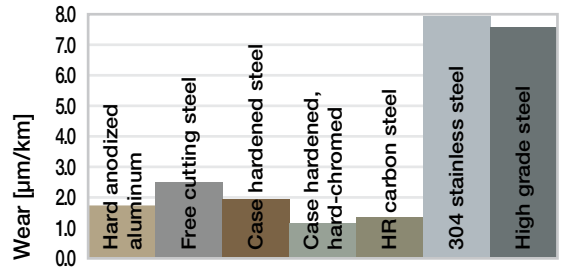


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

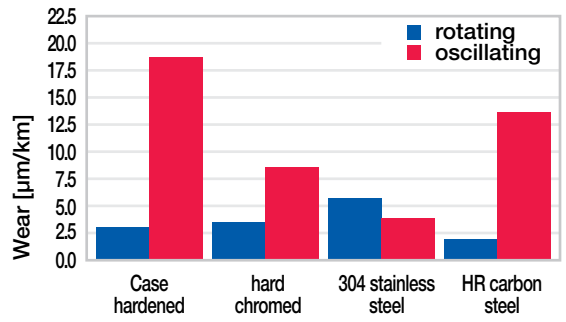
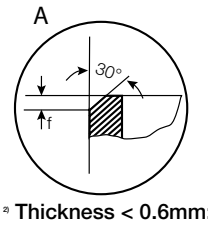


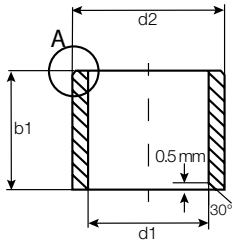
Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Bearing technology | Plain bearing | iglide® H370

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 422**

Order key

Type			Dimensions		
H370	S	I	-06	08	-06
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

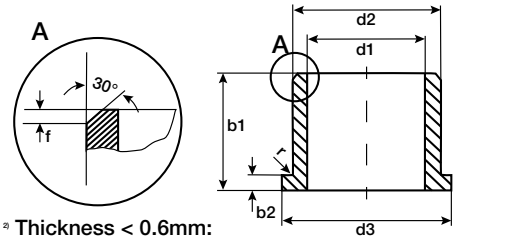
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
H370SI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
H370SI-0304-04	3/16	1/4	1/4	.1869	.1888	.2497	.2503	.1858	.1865
H370SI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
H370SI-0405-04	1/4	5/16	1/4	.2498	.2521	.3122	.3128	.2481	.2490
H370SI-0405-06	1/4	5/16	3/8			.3122	.3128	.2481	.2490
H370SI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
H370SI-0506-04	5/16	3/8	1/4	.3120	.3143	.3747	.3753	.3106	.3115
H370SI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
H370SI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
H370SI-0607-04	3/8	15/32	1/4	.3745	.3768	.4684	.4691	.3731	.3740
H370SI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
H370SI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
H370SI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
H370SI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
H370SI-0708-08	7/16	17/32	1/2	.4371	.4399	.5309	.5316	.4355	.4365
H370SI-0708-12	7/16	17/32	3/4			.5309	.5316	.4355	.4365
H370SI-0809-04	1/2	19/32	1/4	.4996	.5024	.5934	.5941	.4980	.4990
H370SI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
H370SI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
H370SI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
H370SI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
H370SI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
H370SI-0910-08	9/16	21/32	1/2	.5620	.5649	.6559	.6566	.5602	.5615
H370SI-0910-10	9/16	21/32	5/8			.6559	.6566	.5602	.5615
H370SI-0910-12	9/16	21/32	3/4			.6559	.6566	.5602	.5615
H370SI-1011-08	5/8	23/32	1/2	.6246	.6274	.7184	.7192	.6230	.6240
H370SI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
H370SI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
H370SI-1214-08	3/4	7/8	1/2	.7499	.7532	.8747	.8755	.7479	.7491
H370SI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
H370SI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
H370SI-1416-08	7/8	1	1/2	.8749	.8782	.9997	1.0005	.8729	.8741
H370SI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
H370SI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
H370SI-1618-08	1	1 1/8	1/2	.9999	1.0032	1.1247	1.1255	.9979	.9991
H370SI-1618-12	1	1 1/8	3/4			1.1247	1.1255	.9979	.9991
H370SI-1618-16	1	1 1/8	1	.9999	1.0032	1.1247	1.1255	.9979	.9991
H370SI-1820-12	1 1/8	1 9/32	3/4	1.1246	1.1279	1.2808	1.2818	1.1226	1.1238
H370SI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
H370SI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
H370SI-2022-12	1 1/4	1 13/32	3/4	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
H370SI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
H370SI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
H370SI-2426-16	1 1/2	1 21/32	1	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
H370SI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
H370SI-2629-16	1 5/8	1 25/32	1	1.6248	1.6287	1.7808	1.7818	1.6222	1.6238
H370SI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
H370SI-2831-16	1 3/4	1 15/16	1	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
H370SI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
H370SI-3033-16	1 7/8	2 1/16	1	1.8747	1.8786	2.0621	2.0633	1.8721	1.8737
H370SI-3033-32	1 7/8	2 1/16	2			2.0621	2.0633	1.8721	1.8737
H370SI-3235-16	2	2 3/16	1	1.9993	2.0040	2.1871	2.1883	1.9969	1.9981
H370SI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® H370

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 422**

Order key

Type			Dimensions		
H370	F	I	-06	08	-06
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

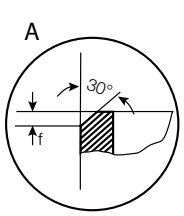
Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

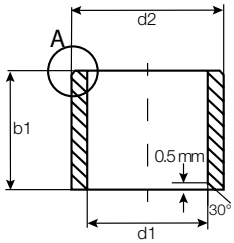
Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
H370FI-0203-03	1/8	3/16	3/16	.312	.032	.1247	.1269	.1873	.1878	.1236	.1243
H370FI-0304-04	3/16	1/4	1/4	.375	.032	.1869	.1888	.2497	.2503	.1858	.1865
H370FI-0405-04	1/4	5/16	1/4	.500	.032	.2498	.2521	.3122	.3128	.2481	.2490
H370FI-0405-06	1/4	5/16	3/8	.430	.032			.3122	.3128	.2481	.2490
H370FI-0405-08	1/4	5/16	1/2	.500	.032			.3122	.3128	.2481	.2490
H370FI-0506-04	5/16	3/8	1/4	.500	.032	.3120	.3143	.3747	.3753	.3106	.3115
H370FI-0506-06	5/16	3/8	3/8	.562	.032			.3747	.3753	.3106	.3115
H370FI-0506-08	5/16	3/8	1/2	.500	.032			.3747	.3753	.3106	.3115
H370FI-0607-04	3/8	15/32	1/4	.687	.046	.3745	.3768	.4684	.4691	.3731	.3740
H370FI-0607-06	3/8	15/32	3/8	.687	.046			.4684	.4691	.3731	.3740
H370FI-0607-08	3/8	15/32	1/2	.687	.046			.4684	.4691	.3731	.3740
H370FI-0607-12	3/8	15/32	3/4	.687	.046			.4684	.4691	.3731	.3740
H370FI-0708-08	7/16	17/32	1/2	.750	.046	.4371	.4399	.5309	.5316	.4355	.4365
H370FI-0809-04	1/2	19/32	1/4	.875	.046	.4996	.5024	.5934	.5941	.4980	.4990
H370FI-0809-06	1/2	19/32	3/8	.875	.046			.5934	.5941	.4980	.4990
H370FI-0809-08	1/2	19/32	1/2	.875	.046			.5934	.5941	.4980	.4990
H370FI-0809-12	1/2	19/32	3/4	.875	.046			.5934	.5941	.4980	.4990
H370FI-0809-16	1/2	19/32	1	.875	.046			.5934	.5941	.4980	.4990
H370FI-1011-08	5/8	23/32	1/2	.937	.046	.6246	.6274	.7184	.7192	.6230	.6240
H370FI-1011-12	5/8	23/32	3/4	1.000	.046			.7184	.7192	.6230	.6240
H370FI-1011-16	5/8	23/32	1	.937	.046			.7184	.7192	.6230	.6240
H370FI-1214-08	3/4	7/8	1/2	1.125	.062	.7499	.7532	.8747	.8755	.7479	.7491
H370FI-1214-12	3/4	7/8	3/4	1.125	.062			.8747	.8755	.7479	.7491
H370FI-1214-16	3/4	7/8	1	1.125	.062			.8747	.8755	.7479	.7491
H370FI-1416-08	7/8	1	1/2	1.250	.062	.8749	.8782	.9997	1.0005	.8729	.8741
H370FI-1416-12	7/8	1	3/4	1.250	.062			.9997	1.0005	.8729	.8741
H370FI-1416-16	7/8	1	1	1.250	.062			.9997	1.0005	.8729	.8741
H370FI-1618-08	1	1 1/8	1/2	1.375	.062	.9999	1.0032	1.1247	1.1255	.9979	.9991
H370FI-1618-12	1	1 1/8	3/4	1.375	.062			1.1247	1.1255	.9979	.9991
H370FI-1618-16	1	1 1/8	1	1.375	.062			1.1247	1.1255	.9979	.9991
H370FI-2022-16	1 1/4	1 13/32	1	1.687	.078	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
H370FI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.078			1.4058	1.4068	1.2472	1.2488
H370FI-2426-16	1 1/2	1 21/32	1	2.000	.078	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
H370FI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.078			1.6558	1.6568	1.4972	1.4988
H370FI-2831-32	1 3/4	1 15/16	2	2.375	.093	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
H370FI-3235-32	2	2 3/16	2	2.625	.093	1.9993	2.0040	2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® H370

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 422**

Order key

Type			Dimensions		
H370	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
H370SM-0304-03	3.0	4.5	3.0	3.006	3.046	4.500	4.512	2.975	3.000
H370SM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
H370SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
H370SM-0405-12	4.0	5.5	12.0			5.500	5.512	3.970	4.000
H370SM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
H370SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
H370SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
H370SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
H370SM-0810-08	8.0	10.0	8.0	8.013	8.071	10.000	10.015	7.964	8.000
H370SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
H370SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
H370SM-0810-15	8.0	10.0	15.0			10.000	10.015	7.964	8.000
H370SM-1012-08	10.0	12.0	8.0	10.013	10.071	12.000	12.018	9.964	10.000
H370SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
H370SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
H370SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
H370SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
H370SM-1214-10	12.0	14.0	10.0	12.016	12.086	14.000	14.018	11.957	12.000
H370SM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
H370SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
H370SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
H370SM-1315-10	13.0	15.0	10.0	13.016	13.086	15.000	15.018	12.957	13.000
H370SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
H370SM-1416-15	14.0	16.0	15.0	14.016	14.086	16.000	16.018	13.957	14.000
H370SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
H370SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
H370SM-1517-15	15.0	17.0	15.0	15.016	15.086	17.000	17.018	14.957	15.000
H370SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
H370SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
H370SM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
H370SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
H370SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
H370SM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
H370SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
H370SM-1820-25	18.0	20.0	25.0	18.016	18.086	20.000	20.021	17.957	18.000

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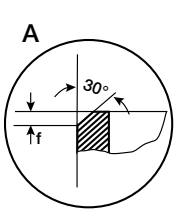
Sleeve bearing (form S), metric

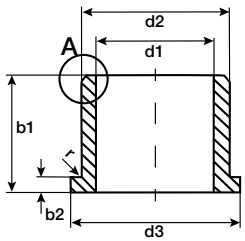
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
H370SM-2023-10	20.0	23.0	10.0	20.020	20.104	23.000	23.021	19.948	20.000
H370SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
H370SM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
H370SM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
H370SM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
H370SM-2225-15	22.0	25.0	15.0	22.020	22.104	25.000	25.021	21.948	22.000
H370SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
H370SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
H370SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
H370SM-2427-15	24.0	27.0	15.0	24.020	24.104	27.000	27.021	23.948	24.000
H370SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
H370SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
H370SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
H370SM-2528-15	25.0	28.0	15.0	25.020	25.104	28.000	28.021	24.948	25.000
H370SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
H370SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
H370SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
H370SM-2730-30	27.0	30.0	30.0	27.020	27.104	30.000	30.020	26.948	27.000
H370SM-2832-20	28.0	32.0	20.0	28.020	28.104	32.000	32.025	27.948	28.000
H370SM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
H370SM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
H370SM-3034-20	30.0	34.0	20.0	30.020	30.104	34.000	34.025	29.948	30.000
H370SM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
H370SM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
H370SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
H370SM-3236-20	32.0	36.0	20.0	32.025	32.125	36.000	36.025	31.938	32.000
H370SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
H370SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
H370SM-3539-20	35.0	39.0	20.0	35.025	35.125	39.000	39.025	34.938	35.000
H370SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
H370SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
H370SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
H370SM-4044-20	40.0	44.0	20.0	40.025	40.125	44.000	44.025	39.938	40.000
H370SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
H370SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
H370SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
H370SM-4550-20	45.0	50.0	20.0	45.025	45.125	50.000	50.025	44.938	45.000
H370SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
H370SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
H370SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
H370SM-5055-20	50.0	55.0	20.0	50.025	50.125	55.000	55.030	49.938	50.000
H370SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
H370SM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
H370SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
H370SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
H370SM-5560-26	55.0	60.0	26.0	55.030	55.150	60.000	60.030	54.926	55.000
H370SM-6065-60	60.0	65.0	60.0	60.030	60.150	65.000	65.030	59.926	60.000
H370SM-7580-60	75.0	80.0	60.0	75.030	75.150	80.000	80.030	74.926	75.000

Bearing technology | Plain bearing | iglide® H370

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 422**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

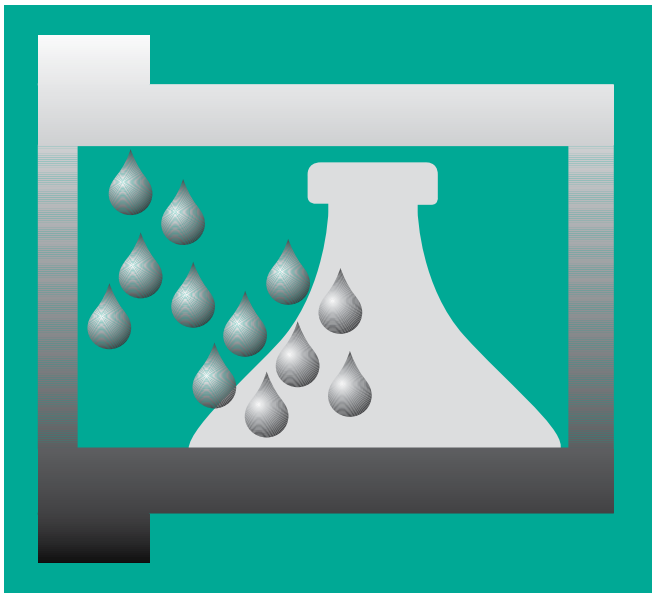
Type			Dimensions				
H370	F	M	-06	08	-06		
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)		

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
H370FM-0405-04	4.0	5.5	9.5	4.0	0.75	4.010	4.058	5.500	5.512	3.970	4.000
H370FM-0507-05	5.0	7.0	11.0	5.0	1.00	5.010	5.058	7.000	7.015	4.970	5.000
H370FM-0608-04	6.0	8.0	12.0	4.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
H370FM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
H370FM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
H370FM-0810-05	8.0	10.0	15.0	5.5	1.00	8.013	8.071	10.000	10.015	7.964	8.000
H370FM-0810-06	8.0	10.0	15.0	6.0	1.00			10.000	10.015	7.964	8.000
H370FM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
H370FM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
H370FM-081012-09	8.0	10.0	12.0	9.0	1.00			10.000	10.015	7.964	8.000
H370FM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
H370FM-0810-15	8.0	10.0	15.0	15.0	1.00			10.000	10.015	7.964	8.000
H370FM-1012-07	10.0	12.0	18.0	7.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
H370FM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
H370FM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
H370FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
H370FM-1012-145	10.0	12.0	18.0	14.5	1.00			12.000	12.018	9.964	10.000
H370FM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
H370FM-1012-20	10.0	12.0	18.0	20.0	1.00			12.000	12.018	9.964	10.000
H370FM-1214-07	12.0	14.0	20.0	7.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
H370FM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
H370FM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
H370FM-1214-15	12.0	14.0	20.0	15.0	1.00			14.000	14.018	11.957	12.000
H370FM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
H370FM-1214-20	12.0	14.0	20.0	20.0	1.00			14.000	14.018	11.957	12.000
H370FM-1416-12	14.0	16.0	22.0	12.0	1.00	14.016	14.086	16.000	16.018	13.957	14.000
H370FM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
H370FM-1517-09	15.0	17.0	23.0	9.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
H370FM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
H370FM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000

Bearing technology | Plain bearing | iglide® H370

Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
H370FM-1618-10	16.0	18.0	24.0	10.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
H370FM-1618-12	16.0	18.0	24.0	12.0	1.00			18.000	18.018	15.957	16.000
H370FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
H370FM-1618-25	16.0	18.0	24.0	25.0	1.00			18.000	18.018	15.957	16.000
H370FM-161822-10	16.0	18.0	22.0	10.0	1.00			18.000	18.018	15.957	16.000
H370FM-1820-12	18.0	20.0	26.0	12.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
H370FM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
H370FM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
H370FM-2023-11	20.0	23.0	30.0	11.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000
H370FM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
H370FM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
H370FM-2023-30	20.0	23.0	30.0	30.0	1.50			23.000	23.021	19.948	20.000
H370FM-222532-215	22.0	25.0	32.0	21.5	1.50	22.020	22.104	25.000	25.021	21.948	22.000
H370FM-2528-11	25.0	28.0	35.0	11.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
H370FM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
H370FM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
H370FM-2528-30	25.0	28.0	35.0	30.0	1.50			28.000	28.021	24.948	25.000
H370FM-3034-16	30.0	34.0	42.0	16.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
H370FM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
H370FM-3034-40	30.0	34.0	42.0	40.0	2.00			34.000	34.025	29.948	30.000
H370FM-3539-16	35.0	39.0	47.0	16.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
H370FM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
H370FM-4044-30	40.0	44.0	52.0	30.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000
H370FM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
H370FM-4550-50	45.0	50.0	58.0	50.0	2.00	45.025	45.125	50.000	50.025	44.938	45.000
H370FM-5055-50	50.0	55.0	63.0	50.0	2.00	50.025	50.125	55.000	55.030	49.938	50.000
H370FM-6065-50	60.0	65.0	73.0	50.0	2.00	60.030	60.150	65.000	65.030	59.926	60.000
H370FM-7075-50	70.0	75.0	83.0	50.0	2.00	70.030	70.150	75.000	75.030	69.926	70.000



The classic with high resistance to media and temperature

Up to +392°F

iglide® H

When to use it?

- For underwater applications
- When high temperature resistance is required
- For high mechanical loading
- For applications in contact with chemicals

When not to use?

- When extremely high wear resistance under water is required
  iglide® H370
- When the best universal resistance to chemicals is required
  iglide® X
- For the maximum compressive strength at higher temperatures
  iglide® X, iglide® Z

Ø
3 – 70mm

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The classic with high resistance to media and temperature

Up to +392°F

Suitable for temperatures up to +392°F. Very low coefficient of friction when used with hardened shafts.

- Suitable for underwater applications
- High temperature resistance
- Resistant to chemicals
- Self-lubricating
- Maintenance-free

Typical application areas

- Offshore
- Marine
- Beverage industry
- Medical technology
- Mechatronics

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■■■□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■□□□	+
Suitable for shock and impact loads	–	■■□□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.71	
Color		grey	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.3	
Coefficient of friction, dynamic, against steel	µ	0.07 – 0.20	
pv value, max. (dry)	psi · fpm	39,000	
Mechanical properties			
Flexural modulus	psi	1,812,972	DIN 53457
Flexural strength at +68°F	psi	25,382	DIN 53452
Compressive strength	psi	11,748	
Max. recommended surface pressure (+68°F)	psi	13,053	
Shore D hardness		87	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+392	
Max. application temperature short-term	°F	+464	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.60	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	4	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	$< 10^{5}$	DIN IEC 93
Surface resistance	Ω	$< 10^{2}$	DIN 53482

Table 01: Material properties

-40°F up to +392°F

13,053psi

V-0

RoHS

ISO 3547-1

iglide® H is a fiber-reinforced thermoplastic material especially developed for applications in high atmospheric humidity or under water. Plain bearings made from iglide® H can be used completely free of lubrication; in wet applications, the surrounding media acts as additional lubricant.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® H plain bearings is below 0.1% weight. The saturation limit in water is 0.3% weight. iglide® H is very well suited for use in wet environments.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

iglide® H withstands neutron and gamma particle radiation. Plain bearings made from iglide® H are resistant up to a radiation intensity of $2 \cdot 10^{2}$Gy.

Resistance to weathering

iglide® H plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® H 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 iglide® H at radial loads. At the maximum recommended surface pressure of 13,053psi the deformation is about 2.5% at room temperature.

▶ Surface pressure, **Page 50**

Permissible surface speeds

The maximum permitted surface speed is dependent on whether the temperature at the bearing point becomes too high or not. iglide® H is suitable for maximum surface speeds of 197fpm (rotating) and 591fpm (linear) in dry operation. Linear movements enable higher surface speeds, as a large area of the shaft contributes to the cooling.

▶ Surface speed, **Page 44**

Temperature

With increasing temperatures, the compressive strength of iglide® H plain bearings decreases. Diagram 02 shows this inverse relationship. The temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +248F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Both the wear resistance and the coefficient of friction change depending on the load. Interestingly, the coefficient of friction μ lowers slightly with the increase of surface speed at constant load (see diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® H 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagrams 06 and 07 show the test results of iglide® H plain bearings running against various shaft materials. The iglide® H plain bearings give different results when used in rotating and pivoting applications on different shaft materials. The case hardened steel and HR carbon steel shafts give the best wear values in rotating applications, whereas the 304 stainless steel shafts (which are not so good for rotation) give the best results in pivoting applications. Hard-chromed shafts only give an advantage at low pressures when used with iglide® H bearings.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	591
short-term	**fpm**	295	217	787

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.07 – 0.20	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	+0.000	+0.100

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

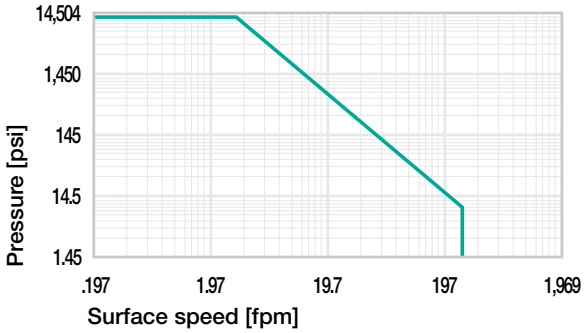


Diagram 01: Permissible pv values for iglide® H plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

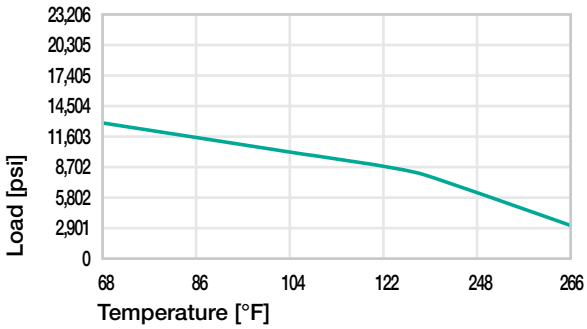


Diagram 02: Maximum recommended surface pressure as a function of temperature (13,053psi at +68°F)

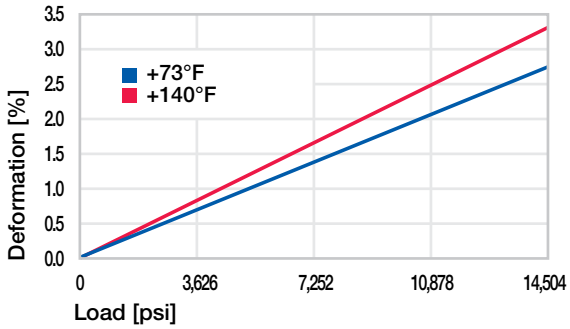


Diagram 03: Deformation under pressure and temperature

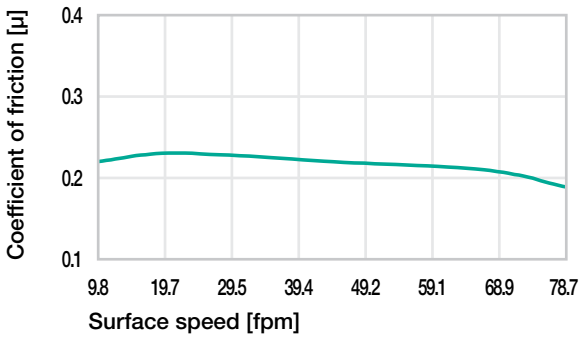


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

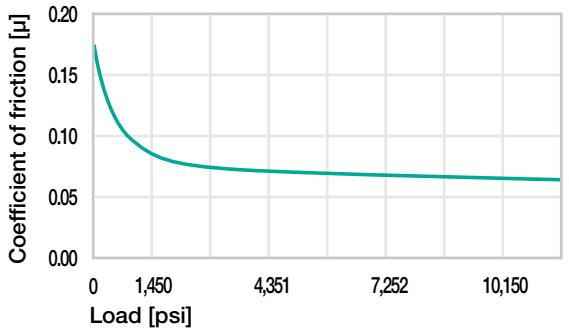


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

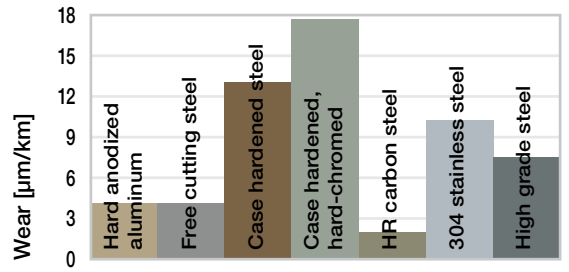


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

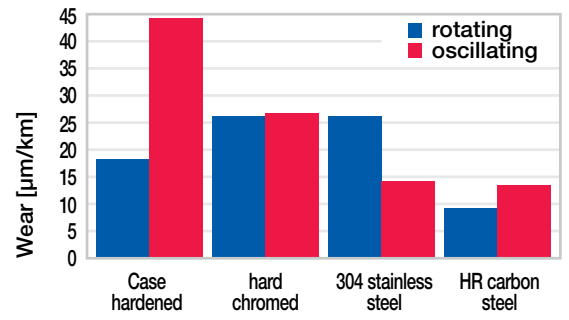
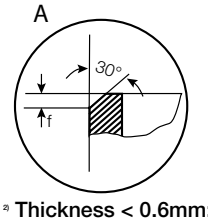


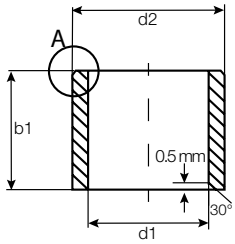
Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Bearing technology | Plain bearing | iglide® H

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 434**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

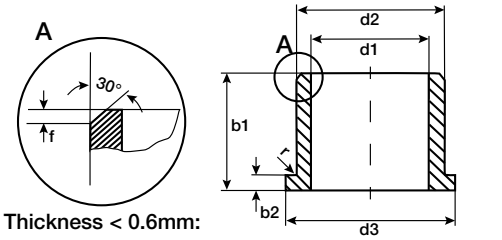
Order key

Type			Dimensions		
H	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
HSM-0304-03	3.0	4.5	3.0	3.006	3.046	4.500	4.512	2.975	3.000
HSM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
HSM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
HSM-0608-03	6.0	8.0	3.0	6.010	6.058	8.000	8.015	5.970	6.000
HSM-0608-06	6.0	8.0	6.0			8.000	8.015	5.970	6.000
HSM-0810-08	8.0	10.0	8.0	8.013	8.071	10.000	10.015	7.964	8.000
HSM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
HSM-1012-06	10.0	12.0	6.0	10.013	10.071	12.000	12.018	9.964	10.000
HSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
HSM-1214-10	12.0	14.0	10.0	12.016	12.086	14.000	14.018	11.957	12.000
HSM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
HSM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
HSM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
HSM-1416-20	14.0	16.0	20.0	14.016	14.086	16.000	16.018	13.957	14.000
HSM-1517-15	15.0	17.0	15.0	15.016	15.086	17.000	17.018	14.957	15.000
HSM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
HSM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
HSM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
HSM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
HSM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
HSM-2023-20	20.0	23.0	20.0	20.020	20.104	23.000	23.021	19.948	20.000
HSM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
HSM-2225-20	22.0	25.0	20.0	22.020	22.104	25.000	25.021	21.948	22.000
HSM-2528-15	25.0	28.0	15.0	25.020	25.104	28.000	28.021	24.948	25.000
HSM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
HSM-3034-20	30.0	34.0	20.0	30.020	30.104	34.000	34.025	29.948	30.000
HSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
HSM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
HSM-3236-30	32.0	36.0	30.0	32.025	32.125	36.000	36.025	31.938	32.000
HSM-3539-40	35.0	39.0	40.0	35.025	35.125	39.000	39.025	34.938	35.000
HSM-4044-20	40.0	44.0	20.0	40.025	40.125	44.000	44.025	39.938	40.000
HSM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
HSM-4550-30	45.0	50.0	30.0	45.025	45.125	50.000	50.025	44.938	45.000
HSM-5055-40	50.0	55.0	40.0	50.025	45.125	55.000	55.030	49.938	50.000
HSM-5560-26	55.0	60.0	26.0	55.030	55.150	60.000	60.030	54.926	55.000
HSM-6065-60	60.0	65.0	60.0	60.030	60.150	65.000	65.030	59.926	60.000
HSM-7075-50	70.0	75.0	50.0	70.030	70.150	75.000	75.030	69.926	70.000

Bearing technology | Plain bearing | iglide® H

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 434**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

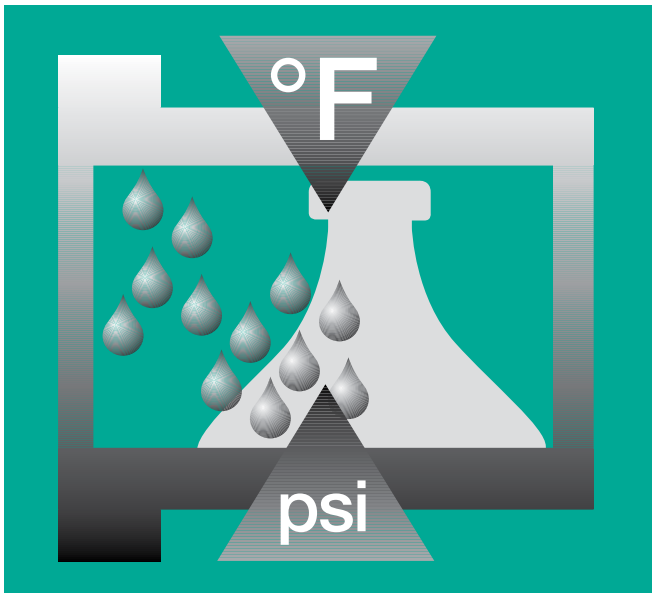
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
H	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
HFM-0405-04	4.0	5.5	9.5	4.0	0.75	4.010	4.058	5.500	5.512	3.970	4.000
HFM-0507-05	5.0	7.0	11.0	5.0	1.00	5.010	5.058	7.000	7.015	4.970	5.000
HFM-0507-08	5.0	7.0	11.0	8.0	1.00			7.000	7.015	4.970	5.000
HFM-0608-04	6.0	8.0	12.0	4.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
HFM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
HFM-0608-10	6.0	8.0	12.0	10.0	1.00			8.000	8.015	5.970	6.000
HFM-0810-07	8.0	10.0	15.0	7.0	1.00	8.013	8.071	10.000	10.015	7.964	8.000
HFM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
HFM-0810-15	8.0	10.0	15.0	15.0	1.00			10.000	10.015	7.964	8.000
HFM-1012-04	10.0	12.0	18.0	4.0	1.00	10.031	10.071	12.000	12.018	9.964	10.000
HFM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
HFM-1012-15	10.0	12.0	18.0	15.0	1.00			12.000	12.018	9.964	10.000
HFM-1012-20	10.0	12.0	18.0	20.0	1.00			12.000	12.018	9.964	10.000
HFM-1214-07	12.0	14.0	20.0	7.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
HFM-1214-10	12.0	14.0	20.0	10.0	1.00			14.000	14.018	11.957	12.000
HFM-1214-15	12.0	14.0	20.0	15.0	1.00			14.000	14.018	11.957	12.000
HFM-1416-12	14.0	16.0	22.0	12.0	1.00	14.016	14.086	16.000	16.018	13.957	14.000
HFM-1517-17	15.0	17.0	23.0	17.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
HFM-1618-13	16.0	18.0	24.0	13.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
HFM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
HFM-1820-17	18.0	20.0	26.0	17.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
HFM-2023-07	20.0	23.0	30.0	7.0	1.50	20.020	20.104	23.000	23.021	19.948	20.000
HFM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
HFM-2023-30	20.0	23.0	30.0	30.0	1.50			23.000	23.021	19.948	20.000
HFM-2528-30	25.0	28.0	35.0	30.0	1.50	25.020	25.104	28.000	28.021	24.948	25.000
HFM-2730-20	27.0	30.0	38.0	20.0	1.50	27.020	27.104	30.000	30.021	26.948	27.000
HFM-3034-40	30.0	34.0	42.0	40.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
HFM-3438-13	34.0	38.0	46.0	13.0	2.00	34.025	34.125	38.000	38.025	33.938	34.000
HFM-3539-26	35.0	39.0	47.0	26.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
HFM-4044-40	40.0	44.0	52.0	40.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000
HFM-4550-50	45.0	50.0	58.0	50.0	2.00	45.025	45.125	50.000	50.025	44.938	45.000
HFM-5055-50	50.0	55.0	63.0	50.0	2.00	50.025	50.125	55.000	55.030	49.938	50.000
HFM-6065-50	60.0	65.0	73.0	50.0	2.00	60.030	60.150	65.000	65.030	59.926	60.000
HFM-7075-50	70.0	75.0	83.0	50.0	2.00	70.030	70.150	75.000	75.030	69.926	70.000

Notes



High temperature endurance runner

Extreme wear and media resistance up to +482°F

iglide® C500

When to use it?

- When an extremely media-resistant plain bearing with high flexibility is required
- When a wear-resistant and media-resistant plain bearing is required

When not to use?

- When an FDA-compliant high-temperature plain bearing is required
  iglide® A500
- When a media-resistant, high-temperature plain bearing with the largest possible range of dimensions is required
  iglide® X

Ø
6 – 40mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

High temperature endurance runner

Extreme wear and media resistance up to +482°F

iglide® C500 can be used up to +482°F and is extremely media-resistant (even in cleaning processes using hydrogen peroxide). It is also wear-resistant and has low coefficient of friction. Also suitable for various special designs. The color represents extreme environmental conditions.

- High temperature resistance
- Resistant to water vapor
- Low coefficient of friction
- Self-lubricating
- High wear resistance
- High media resistance
- Maintenance-free

Typical application areas

- Plant construction
- Valves
- Chemical industry
- Process technology

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■□	+
Wear resistance at +194°F	–	■■■■□	+
Wear resistance at +302°F	–	■■■■■	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.37	
Color		magenta	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	0.5	
Coefficient of friction, dynamic, against steel	µ	0.07 – 0.19	
pv value, max. (dry)	psi · fpm	20,000	
Mechanical properties			
Flexural modulus	psi	478,625	DIN 53457
Flexural strength at +68°F	psi	14,504	DIN 53452
Compressive strength	psi	15,954	
Max. recommended surface pressure (+68°F)	psi	11,603	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+250	
Max. application temperature short-term	°F	+300	
Min. application temperature	°F	–100	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	9	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{14}	DIN IEC 93
Surface resistance	Ω	> 10^{13}	DIN 53482

-148°F up to +482°F

11,603psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

iglide® C500 is a member of the family of extremely media and temperature-resistant iglide® materials X, X6 and A500. This material is characterized by improved wear resistance and increased design freedom.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® C500 plain bearings is below 0.3% weight. The saturation limit in water is also below 0.5% weight.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

iglide® C500 withstands neutron and gamma particle radiation without detectable losses of its excellent mechanical properties. Plain bearings made from iglide® C500 are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® C500 plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® C500 plain bearings decreases. Diagram 02 shows this inverse relationship. However, at an operation temperature of +392°F the permissible surface pressure is close to 2,901psi. 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 iglide® C500 at radial loads. At the maximum recommended surface pressure of 11,603psi the deformation is less than 4.5%.
▶ Surface pressure, **Page 50**

Permissible surface speeds

The maximum recommended surface speed is based on the friction heat generated at the bearing surface. The temperature should only be permitted to increase to a value that will ensure a sustainable use of the bearing with respect to wear and dimensional integrity. The maximum values stated in table 03 are valid only with minimum pressure loads and are often not attained in practice.
▶ Surface speed, **Page 44**

Temperature

iglide® C500 belongs to the most temperature-resistant iglide® materials. As in the case of all thermoplastics, the compression strength of iglide® C500 decreases when temperatures rise. The temperatures prevailing in the bearing system also have an influence on the wear. The wear rises with increasing temperatures. For temperatures over +266°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction and wear in iglide® C500 are more favorable than in the other high temperature materials iglide® X and A500. The coefficient of friction increases moderately as the sliding speed increases. The coefficient of friction initially drops rapidly to less than 0.1 under loads of up to approximately 2,901psi, and then only marginally increases as loads continue to increase. The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. Ideal are ground surfaces with an average surface finish of Ra = 0.6 – 0.8µm.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

Chemicals	Resistance
Alcohols	+
Diluted acids	+
Diluted alkalines	+
Fuels	+
Greases, oils without additives	+
Hydrocarbons	+
Strong acids	+
Strong alkalines	+

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Shaft materials

Diagram 06 shows the test results of iglide® C500 plain bearings running against various shaft materials. Using the example of a rotating motion at 145psi and a speed of 59fpm, it becomes apparent that iglide® C500 has consistent wear characteristics across a variety of shaft types. This wear rate spikes in combination with free cutting steel, and, notably so, reduces in combination with HC aluminum. The wear under rotational loads is higher, specifically with increasing radial loads as compared to pivoting movements (diagram 07).

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	fpm	177	138	472
short-term	fpm	217	197	551

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.07 – 0.19	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	–0.100	+0.000

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

Installation tolerances

iglide® C500 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 F10 tolerances.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

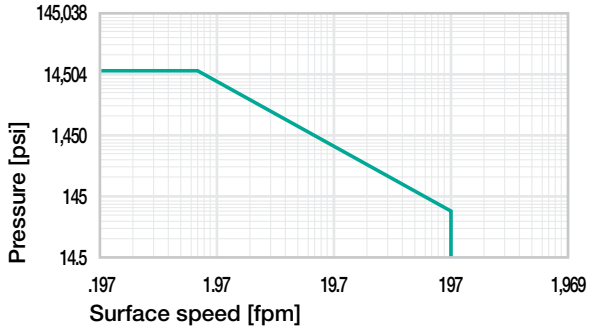


Diagram 01: Permissible pv values for iglide® C500 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

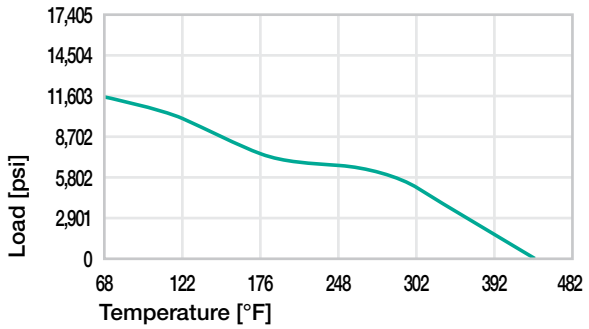


Diagram 02: Maximum recommended surface pressure as a function of temperature (11,603psi at +68°F)

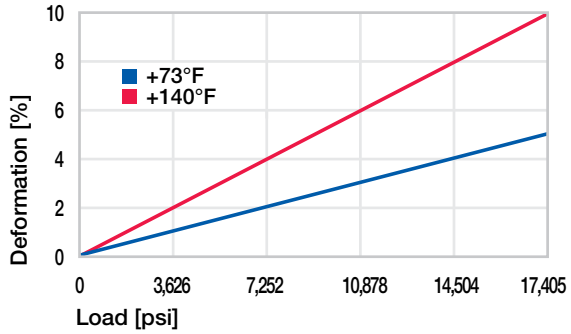


Diagram 03: Deformation under pressure and temperature

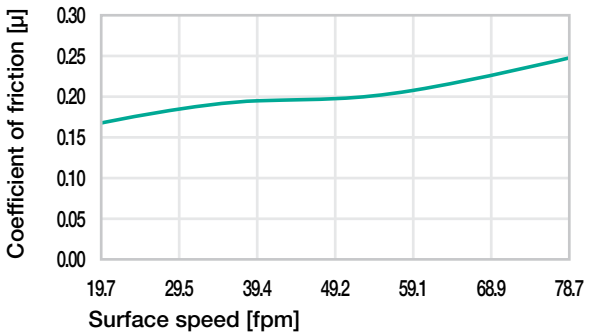


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

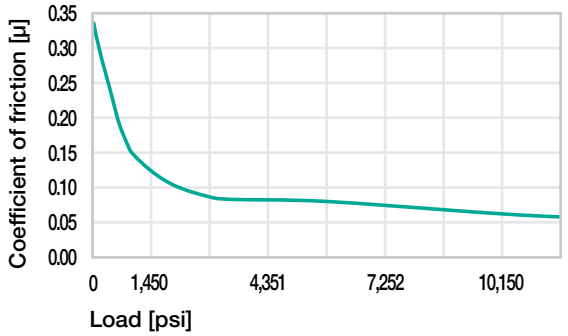


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

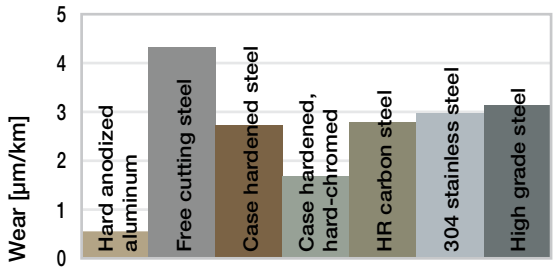


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

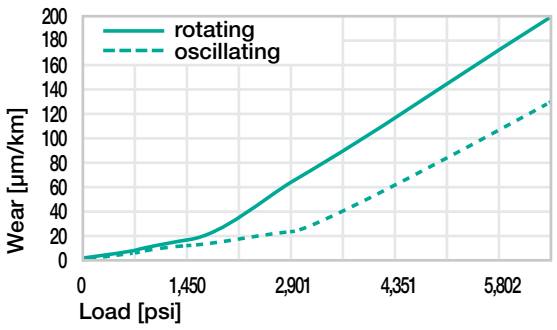
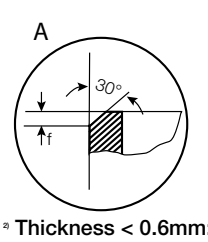


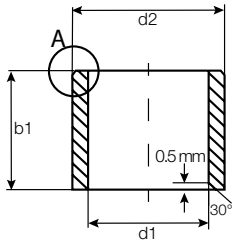
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® C500

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 442**

Order key

Type			Dimensions		
C500	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

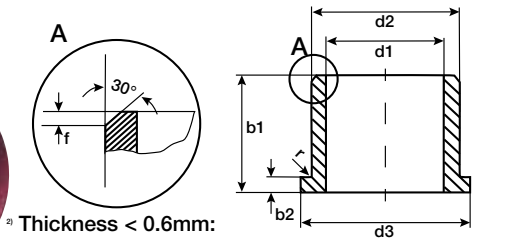
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
C500SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
C500SM-0810-10	8.0	10.0	10.0	8.013	8.071	10.000	10.015	7.964	8.000
C500SM-1012-10	10.0	12.0	10.0	10.013	10.071	12.000	12.018	9.964	10.000
C500SM-1214-12	12.0	14.0	12.0	12.016	12.086	14.000	14.018	11.957	12.000
C500SM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
C500SM-2023-20	20.0	23.0	20.0	20.020	20.104	23.000	23.021	19.948	20.000
C500SM-4044-30	40.0	44.0	30.0	40.025	40.125	44.000	44.025	39.938	40.000

Bearing technology | Plain bearing | iglide® C500

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 442**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

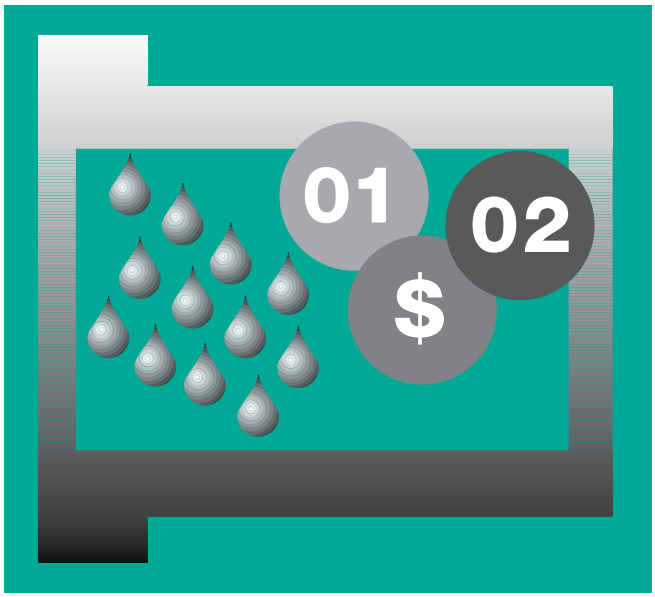
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
C500	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
C500FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
C500FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.013	8.071	10.000	10.015	7.964	8.000
C500FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
C500FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
C500FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
C500FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000

Notes



The low-cost specialist for chemicals and temperatures

Up to +392°F, most capable under static load

iglide® H2

When to use it?

- For underwater applications
- When a cost-effective plain bearing for high temperatures is required
- For applications with fuels, oils, etc.

When not to use?

- When the highest wear resistance is required
  iglide® H1, iglide® H4, iglide® W300
- When vibration dampening is necessary
  iglide® B, iglide® M250
- When neither increased temperatures nor media contact occur
  iglide® GLW

Ø
Contact igus®

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The low-cost specialist for chemicals and temperatures

Up to +392°F, most capable under static load

- For applications with high temperature requirements.
- Can be conditionally used in dry operation; excellent properties with additional lubrication.
- Suitable for underwater applications
- Cost-effective
- Resistant to chemicals
- High temperature resistance
- Self-lubricating
- Maintenance-free

Typical application areas

- Automotive industry
- Actuator
- Bicycle industry

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■□□□□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■□□□□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■□□□□	+
Suitable for shock and impact loads	–	■□□□□	+
Resistant to dirt	–	■■□□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.72	
Color		brown	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.2	
Coefficient of friction, dynamic, against steel	µ	0.07 – 0.30	
pv value, max. (dry)	psi · fpm	16,600	
Mechanical properties			
Flexural modulus	psi	1,493,889	DIN 53457
Flexural strength at +68°F	psi	30,458	DIN 53452
Compressive strength	psi	15,809	
Max. recommended surface pressure (+68°F)	psi	15,954	
Shore D hardness		88	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+392	
Max. application temperature short-term	°F	+464	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	4	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	$> 10^{15}$	DIN IEC 93
Surface resistance	Ω	$> 10^{14}$	DIN 53482

Table 01: Material properties

–40°F up to +392°F

15,954psi

V-0

RoHS

iglide® H2 bearings are meant for applications where cost-effective bearings are a priority. It is the first time that it is possible to offer such a high-performance bearing for high volume applications with these technical advantages at such a low price: temperatures up to +392°F, permitted surface pressure up to 15,954psi, and excellent chemical resistance. The iglide® H2 plain bearings are self-lubricating and suitable for all motions.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® H2 plain bearings is below 0.1% weight. The saturation limit in water is 0.2% weight. iglide® H2 is an ideal material for wet environments.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

iglide® H2 withstands neutron and gamma particle radiation. Plain bearings made from iglide® H2 are resistant up to a radiation intensity of $2 \cdot 10^2$Gy.

Resistance to weathering

iglide® H2 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® H2 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 iglide® H2 at radial loads. At the maximum recommended surface pressure of 15,954psi at room temperature the deformation is less than 3%. The values for tensile and compressive strength are higher than those of iglide® H at room temperature.

▶ Surface pressure, **Page 50**

Permissible surface speeds

During the development of iglide® H2, costs and mechanical stability were the main considerations. The permitted surface speeds of this bearing are rather low, which is suitable for an application with slow movements or in intermittent service.

▶ Surface speed, **Page 44**

Temperature

iglide® H2 is an extremely temperature-resistant material. The short-term maximum permissible temperature is +464°F and allows the use of iglide® H2 plain bearings in applications where the bearings are not subjected to any additional load such as a paint drying process. The temperatures prevailing in the bearing system also have an influence on the wear. The wear rises with increasing temperatures. For temperatures over +230°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction of iglide® H2 plain bearings change with different surface speeds, loads and surface finishes, as indicated in the diagrams 04 and 05.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® H2 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Regarding the wear resistance of combinations with iglide® H2, it must be indicated once again that this bearing was developed for high mechanical stability in static conditions. The wear resistance however does not reach, with any of the bearing-shaft combinations, the values of iglide® H370 with the corresponding shaft. When the iglide® H2 bearings are used, they should not be combined with hard-chromed shafts. Shafts made from case hardened steel and 304 stainless steel are essentially better, as is found in diagrams 06 and 07.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	fpm	177	118	492
short-term	fpm	197	138	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.07 – 0.30	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

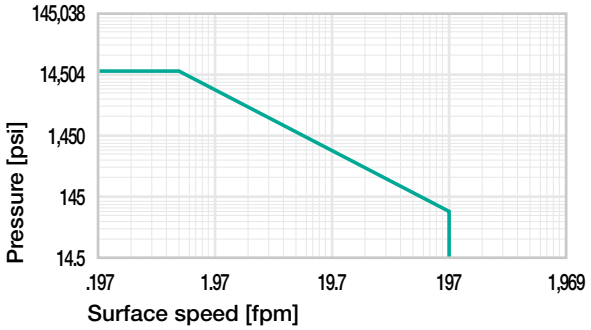


Diagram 01: Permissible pv values for iglide® H2 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

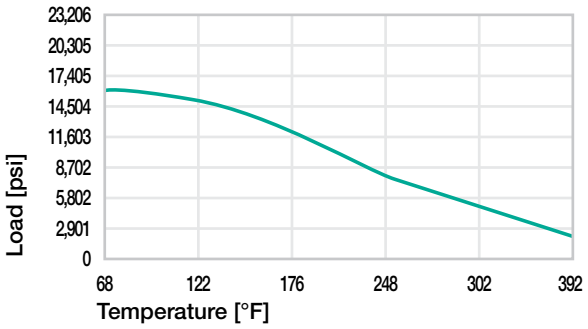


Diagram 02: Maximum recommended surface pressure as a function of temperature (15,954psi at +68°F)

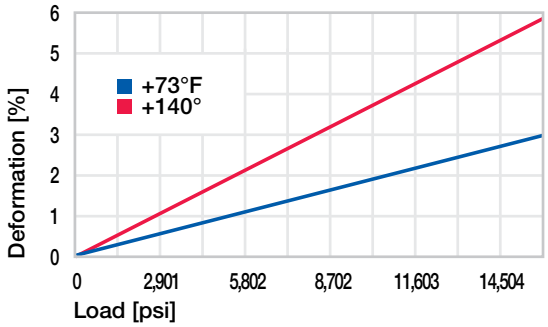


Diagram 03: Deformation under pressure and temperature

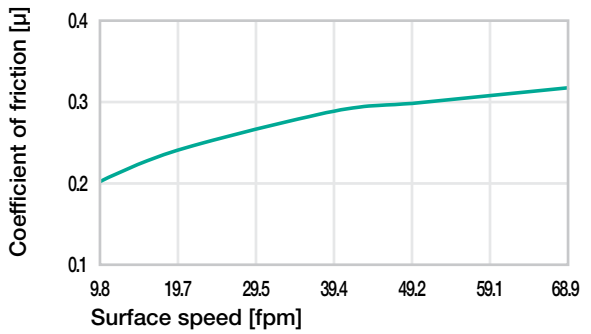


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

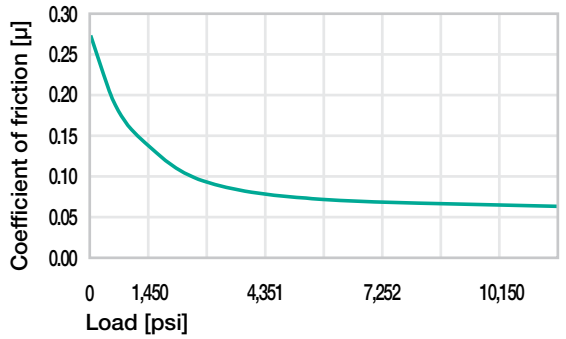


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

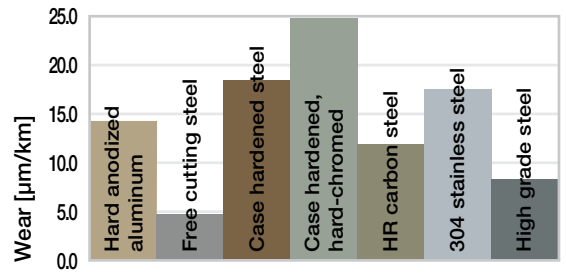


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

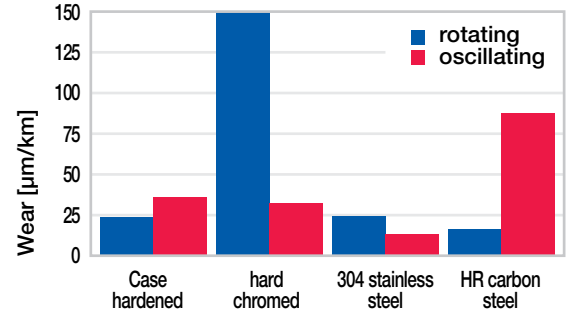
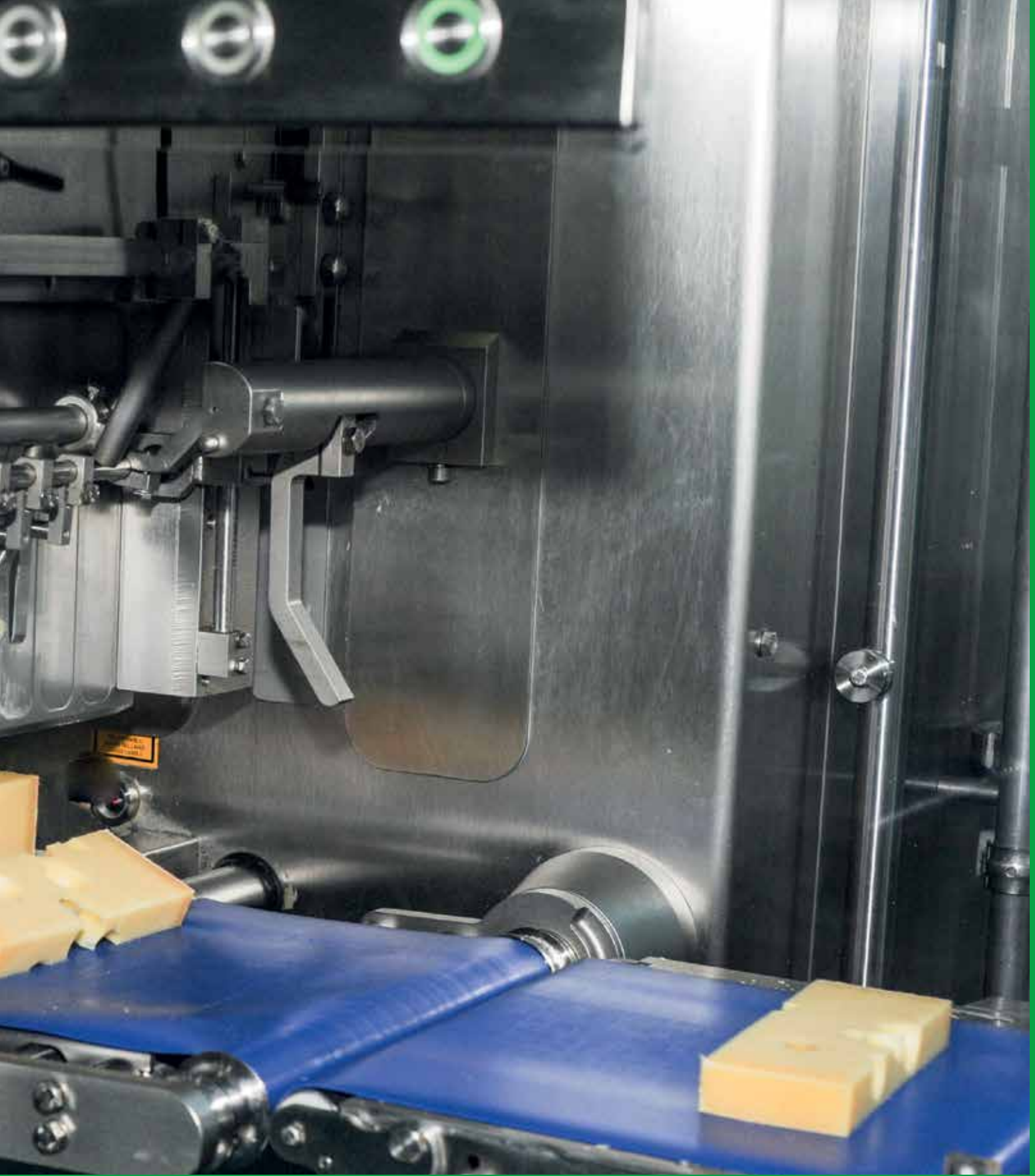


Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi



Plain bearing materials for contact with food

Plain bearing materials for contact with food

Self-lubricating iglide® materials don't require any external oil or grease, making them ideal for use in hygienic environments, like food processing facilities. There are also a number of iglide® materials, like iglide® A181, A350 and A160 that are compliant with both FDA and (EU) No. 10/2011 regulations.

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

iglide® A181
The universal bearing for food contact

Temperature [°F] [123]	+194	–	+
Surface pressure [psi] [124]	4,496	–	+
Coefficient of friction [µ] [125]	0.18	–	+
Wear [µm/km] [125]	0.48	–	+
Price index		–	+

iglide® A350
The endurance runner at higher temperatures in the food sector

Temperature [°F] [123]	+356	–	+
Surface pressure [psi] [124]	8,702	–	+
Coefficient of friction [µ] [125]	0.17	–	+
Wear [µm/km] [125]	1.79	–	+
Price index		–	+

iglide® A500
The media and temperature specialist in the food sector

Temperature [°F] [123]	+482	–	+
Surface pressure [psi] [124]	17,405	–	+
Coefficient of friction [µ] [125]	0.36	–	+
Wear [µm/km] [125]	4.10	–	+
Price index		–	+

iglide® A180
The all-rounder for food

Temperature [°F] [123]	+194	–	+
Surface pressure [psi] [124]	4,061	–	+
Coefficient of friction [µ] [125]	0.17	–	+
Wear [µm/km] [125]	0.50	–	+
Price index		–	+

[123] max. long-term application temperature [124] max. recommended surface pressure at +68°F [125] best combination for p = 145psi, v = 59fpm, rotating

General purpose

iglide® A200
The "food-classic" for low duty

Temperature [°F] [123]	+176	–	+
Surface pressure [psi] [124]	2,611	–	+
Coefficient of friction [µ] [125]	0.45	–	+
Wear [µm/km] [125]	1.62	–	+
Price index		–	+

iglide® A160
"Food" bearing with media resistance up to +194°F

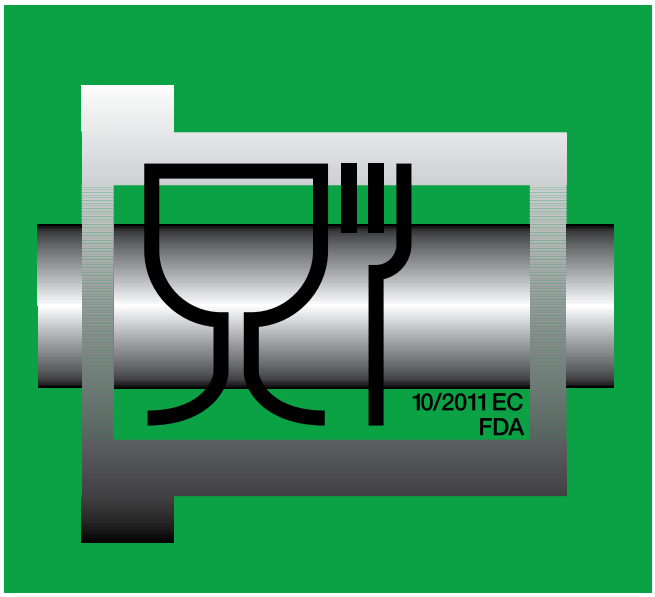
Temperature [°F] [123]	+194	–	+
Surface pressure [psi] [124]	2,176	–	+
Coefficient of friction [µ] [125]	0.09	–	+
Wear [µm/km] [125]	0.33	–	+
Price index		–	+

iglide® UW160
Suitable for contact with drinking water

Temperature [°F] [123]	+194	–	+
Surface pressure [psi] [124]	2,176	–	+
Coefficient of friction [µ] [125]	0.17	–	+
Wear [µm/km] [125]	2.00	–	+
Price index		–	+

iglide® T220
For the tobacco industry

Temperature [°F] [123]	+212	–	+
Surface pressure [psi] [124]	5,802	–	+
Coefficient of friction [µ] [125]	0.36	–	+
Wear [µm/km] [125]	0.80	–	+



The universal bearing for food contact

Compliant with Regulation (EU) No. 10/2011 and FDA guidelines

iglide® A181

When to use it?

- When FDA compliance is required
- When a material compliant in accordance with Regulation (EU) No. 10/2011 is required
- When a universal material suitable for direct contact with food is required

When not to use?

- When Regulation (EU) No. 10/2011 and FDA compliance are not required
  iglide® J
- When continuous operating temperatures are higher than +194°F
  iglide® A350
- When a cost-effective universal plain bearing is required
  iglide® G, iglide® P

Ø
4 – 50mm
1/8 - 2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The universal bearing for food contact

Compliant with Regulation (EU) No. 10/2011 and FDA guidelines

The iglide® A181 material is compliant with Regulation (EU) No. 10/2011 and also with FDA specifications. The blue color also facilitates the often required “optical detectability” in the food industry.

- Compliant with Regulation (EU) No. 10/2011
- FDA-compliant
- Universal installation
- High media resistance
- Wear-resistant
- Self-lubricating
- Maintenance-free

Typical application areas

- Food industry
- Beverage technology
- Medical technology

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■■□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■■	+
Suitable for shock and impact loads	–	■■■■■	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.38	
Color		blue	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	1.3	
Coefficient of friction, dynamic, against steel	µ	0.10 – 0.21	
pv value, max. (dry)	psi · fpm	8,750	
Mechanical properties			
Flexural modulus	psi	277,457	DIN 53457
Flexural strength at +68°F	psi	6,962	DIN 53452
Compressive strength	psi	8,702	
Max. recommended surface pressure (+68°F)	psi	4,496	
Shore D hardness		76	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+230	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	11	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

-58°F up to +194°F

4,496psi

HB

FOOD

RoHS

ISO 3547-1

Table 01: Material properties

Due to their technical specifications and their conformity with the relevant regulations, iglide® A181 plain bearings are great for applications in food technology. Compared to iglide® A180 with regard to the mechanical properties, temperature and media resistance, iglide® A181 is more suitable with respect to the wear resistance in most cases.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® A181 plain bearings is approximately 0.2% weight. The saturation limit in water is 1.3% weight. This must be taken into account for these types of applications.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® A181 bearings.

Radiation resistance

Plain bearings made from iglide® A181 are resistant up to a radiation intensity of $2 \cdot 10^2$Gy.

Resistance to weathering

iglide® A181 plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® A181 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 iglide® A181 at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® A181 was developed for low surface speeds. Maximum speeds of up to 157fpm (rotating) and 689fpm (linear), respectively, are permissible during continuous dry operation. 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 long-term upper temperature limit of +194°F permits the broad use in applications with direct contact with food. As shown in diagram 02, with increasing temperatures, the compressive strength decreases. When considering temperatures, the additional frictional heat in the bearing system must be taken into account. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Similar to wear resistance, the coefficient of friction μ also changes with the surface speed and load (diagrams 04 and 05). For iglide® A181 plain bearings, the alteration of the coefficient of friction μ depends on surface speed and the shaft surface finish.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® A181 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 E10 tolerances.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® A181. Particular attention is paid in the food industry to the corrosion-resistant shaft types. Diagram 06 shows that very low wear rates can be achieved in combination with these shafts. As with many of the iglide® materials, wear rate increases with otherwise identical parameters in rotation (diagram 07).

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	fpm	157	118	689
short-term	fpm	236	197	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.10 – 0.21	0.08	0.03	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

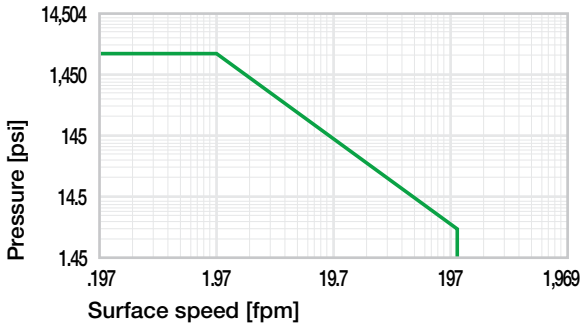


Diagram 01: Permissible pv values for iglide® A181 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

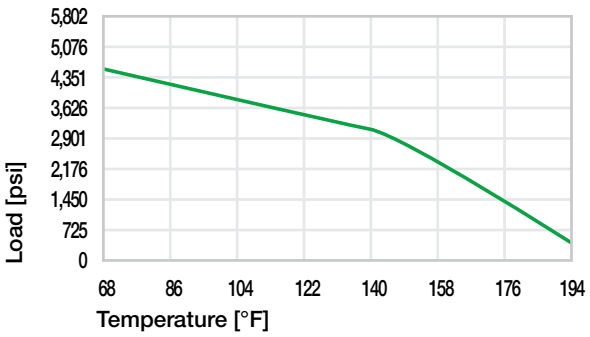


Diagram 02: Maximum recommended surface pressure as a function of temperature (4,496psi at +68°F)

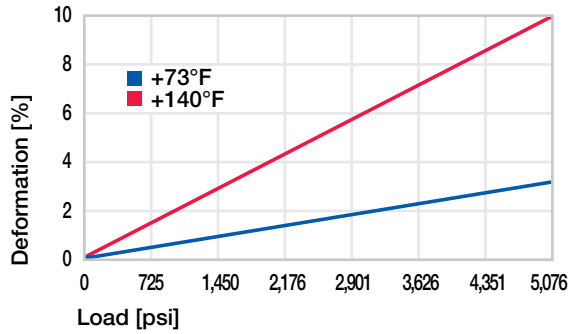


Diagram 03: Deformation under pressure and temperature

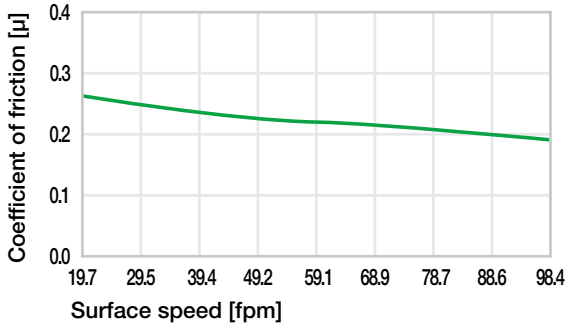


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

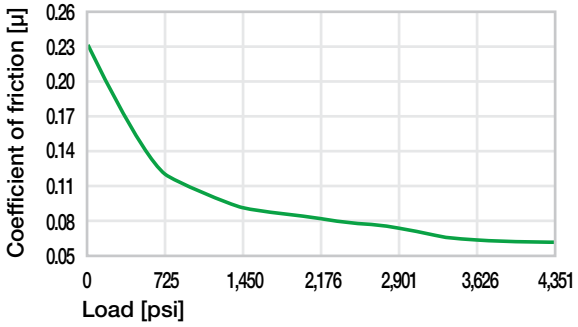


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

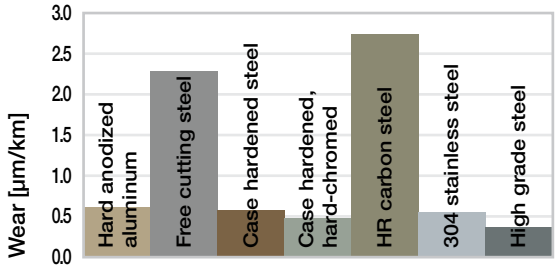


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

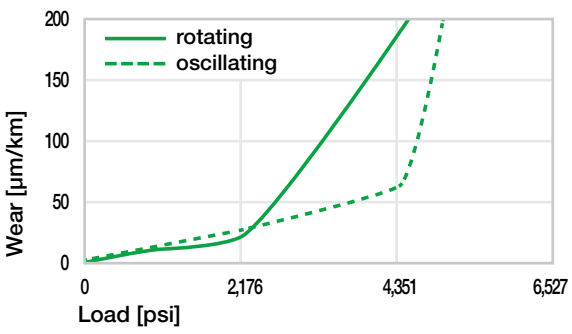
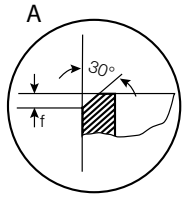


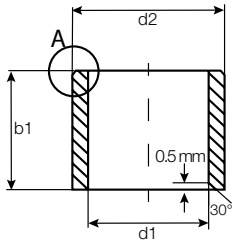
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® A181

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 460**

Order key

Type			Dimensions		
A181	S	I	-06	08	-06
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

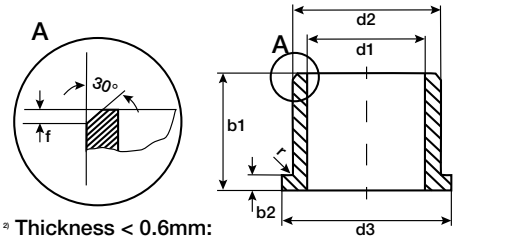
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
A181SI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
A181SI-0304-04	3/16	1/4	1/4	.1873	.1892	.2497	.2503	.1858	.1865
A181SI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
A181SI-0405-06	1/4	5/16	3/8	.2498	.2521	.3122	.3128	.2481	.2490
A181SI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
A181SI-0406-06	1/4	3/8	3/8	.2516	.2539	.3760	.3765	.2491	.2500
A181SI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
A181SI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
A181SI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
A181SI-0607-04	3/8	15/32	1/4	.3750	.3773	.4684	.4691	.3731	.3740
A181SI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
A181SI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
A181SI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
A181SI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
A181SI-0708-08	7/16	17/32	1/2	.4379	.4406	.5309	.5316	.4355	.4365
A181SI-0708-12	7/16	17/32	3/7			.5309	.5316	.4355	.4365
A181SI-0809-04	1/2	19/32	1/4	.5003	.5030	.5934	.5941	.4980	.4990
A181SI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
A181SI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
A181SI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
A181SI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
A181SI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
A181SI-0910-08	9/16	21/32	1/2	.5627	.5655	.6559	.6566	.5605	.5615
A181SI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
A181SI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
A181SI-1011-08	5/8	23/32	1/2	.6253	.6280	.7184	.7192	.6230	.6240
A181SI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
A181SI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
A181SI-1214-08	3/4	7/8	1/2	.7505	.7541	.8747	.8755	.7479	.7491
A181SI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
A181SI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
A181SI-1416-08	7/8	1	1/2	.8757	.8791	.9997	1.0005	.8729	.8741
A181SI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
A181SI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
A181SI-1618-08	1	1 1/8	1/2	1.0007	1.0041	1.1247	1.1255	.9979	.9991
A181SI-1618-12	1	1 1/8	3/4	1.0007	1.0041	1.1247	1.1255	.9979	.9991
A181SI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
A181SI-1820-12	1 1/8	1 9/32	3/4	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
A181SI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
A181SI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
A181SI-2022-12	1 1/4	1 13/32	3/4	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
A181SI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
A181SI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
A181SI-2426-16	1 1/2	1 21/32	1	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
A181SI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
A181SI-2629-16	1 5/8	1 25/32	1	1.6258	1.6297	1.7808	1.7818	1.6222	1.6238
A181SI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
A181SI-2831-16	1 3/4	1 15/16	1	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
A181SI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
A181SI-3033-16	1 7/8	2 1/16	1	1.8757	1.8796	2.0621	2.0633	1.8721	1.8737
A181SI-3033-32	1 7/8	2 1/16	2			2.0621	2.0633	1.8721	1.8737
A181SI-3235-16	2	2 3/16	1	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
A181SI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® A181

Flange bearing (form F), inch



2) Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 460**

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

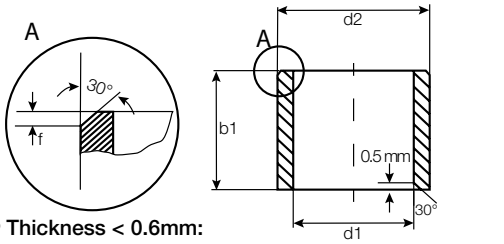
Order key

Type			Dimensions		
A181	F	I	-06	08	-06
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
A181FI-0203-03	1/8	3/16	3/16	.312	.0320	.1251	.1269	.1873	.1878	.1236	.1243
A181FI-0304-04	3/16	1/4	1/4	.375	.0320	.1873	.1892	.2497	.2503	.1858	.1865
A181FI-0405-06	1/4	5/16	3/8	.430	.0320	.2498	.2521	.3122	.3128	.2481	.2490
A181FI-0405-08	1/4	5/16	1/2	.500	.0320			.3122	.3128	.2481	.2490
A181FI-0506-04	5/16	3/8	1/4	.500	.0320	.3125	.3148	.3747	.3753	.3106	.3115
A181FI-0506-06	5/16	3/8	3/8	.500	.0320			.3747	.3753	.3106	.3115
A181FI-0506-08	5/16	3/8	1/2	.500	.0320			.3747	.3753	.3106	.3115
A181FI-0607-04	3/8	15/32	1/4	.687	.0460	.3750	.3773	.4684	.4691	.3731	.3740
A181FI-0607-06	3/8	15/32	3/8	.687	.0460			.4684	.4691	.3731	.3740
A181FI-0607-08	3/8	15/32	1/2	.687	.0460			.4684	.4691	.3731	.3740
A181FI-0607-12	3/8	15/32	3/4	.687	.0460			.4684	.4691	.3731	.3740
A181FI-0708-08	7/16	17/32	1/2	.750	.0460	.4379	.4406	.5309	.5316	.4355	.4365
A181FI-0809-04	1/2	19/32	1/4	.875	.0460	.5003	.5030	.5934	.5941	.4980	.4990
A181FI-0809-06	1/2	19/32	3/8	.875	.0460			.5934	.5941	.4980	.4990
A181FI-0809-08	1/2	19/32	1/2	.875	.0460			.5934	.5941	.4980	.4990
A181FI-0809-12	1/2	19/32	3/4	.875	.0460			.5934	.5941	.4980	.4990
A181FI-0809-16	1/2	19/32	1	.875	.0460			.5934	.5941	.4980	.4990
A181FI-1011-08	5/8	23/32	1/2	.937	.0460	.6253	.6280	.7184	.7192	.6230	.6240
A181FI-1011-12	5/8	23/32	3/4	.937	.0460			.7184	.7192	.6230	.6240
A181FI-1011-16	5/8	23/32	1	.937	.0460			.7184	.7192	.6230	.6240
A181FI-1214-08	3/4	7/8	1/2	1.125	.0620	.7505	.7541	.8747	.8755	.7479	.7491
A181FI-1214-12	3/4	7/8	3/4	1.125	.0620			.8747	.8755	.7479	.7491
A181FI-1214-16	3/4	7/8	1	1.125	.0620			.8747	.8755	.7479	.7491
A181FI-1416-08	7/8	1	1/2	1.250	.0620	.8757	.8791	.9997	1.0005	.8729	.8741
A181FI-1416-12	7/8	1	3/4	1.250	.0620			.9997	1.0005	.8729	.8741
A181FI-1416-16	7/8	1	1	1.250	.0620			.9997	1.0005	.8729	.8741
A181FI-1618-08	1	1 1/8	1/2	1.375	.0620	1.0007	1.0041	1.1247	1.1255	.9979	.9991
A181FI-1618-12	1	1 1/8	3/4	1.375	.0620			1.1247	1.1255	.9979	.9991
A181FI-1618-16	1	1 1/8	1	1.375	.0620			1.1247	1.1255	.9979	.9991
A181FI-2022-16	1 1/4	1 13/32	1	1.687	.0780	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
A181FI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.0780			1.4058	1.4068	1.2472	1.2488
A181FI-2426-16	1 1/2	1 21/32	1	2.000	.0780	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
A181FI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.0780			1.6558	1.6568	1.4972	1.4988
A181FI-2831-32	1 3/4	1 15/16	2	2.375	.0930	1.7507	1.7547	1.9381	1.9371	1.7471	1.7487
A181FI-3235-32	2	2 3/16	2	2.625	.0930	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® A181

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, page 460

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
A181	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
A181SM-0405-04	4.0	5.5	4.0	4.020	4.068	5.500	5.512	3.970	4.000
A181SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
A181SM-0507-05	5.0	7.0	5.0	5.020	5.068	7.000	7.015	4.970	5.000
A181SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
A181SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
A181SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
A181SM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
A181SM-0810-08	8.0	10.0	8.0	8.025	8.083	10.000	10.015	7.964	8.000
A181SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
A181SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
A181SM-1012-08	10.0	12.0	8.0	10.025	10.083	12.000	12.018	9.964	10.000
A181SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
A181SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
A181SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
A181SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
A181SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
A181SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
A181SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
A181SM-1315-10	13.0	15.0	10.0	13.032	13.102	15.000	15.018	12.957	13.000
A181SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
A181SM-1416-15	14.0	16.0	15.0	14.032	14.102	16.000	16.018	13.957	14.000
A181SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
A181SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
A181SM-1517-15	15.0	17.0	15.0	15.032	15.102	17.000	17.018	14.957	15.000
A181SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
A181SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
A181SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
A181SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
A181SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
A181SM-1820-15	18.0	20.0	15.0	18.032	18.102	20.000	20.021	17.957	18.000
A181SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
A181SM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
A181SM-2023-10	20.0	23.0	10.0	20.040	20.124	23.000	23.021	19.948	20.000
A181SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
A181SM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000

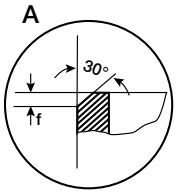
Bearing technology | Plain bearing | iglide® A181

Sleeve bearing (form S), metric

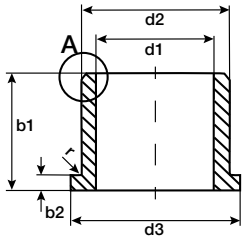
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
A181SM-2023-25	20.0	23.0	25.0	20.040	20.124	23.000	23.021	19.948	20.000
A181SM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
A181SM-2225-15	22.0	25.0	15.0	22.040	22.124	25.000	25.021	21.948	22.000
A181SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
A181SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
A181SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
A181SM-2427-15	24.0	27.0	15.0	24.040	24.124	27.000	27.021	23.948	24.000
A181SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
A181SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
A181SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
A181SM-2528-15	25.0	28.0	15.0	25.040	25.124	28.000	28.021	24.948	25.000
A181SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
A181SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
A181SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
A181SM-2832-20	28.0	32.0	20.0	28.040	28.124	32.000	32.025	27.948	28.000
A181SM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
A181SM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
A181SM-3034-20	28.0	32.0	20.0	30.040	30.124	32.000	32.025	27.948	28.000
A181SM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
A181SM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
A181SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
A181SM-3236-20	32.0	36.0	20.0	32.050	32.150	36.000	36.025	31.938	32.000
A181SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
A181SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
A181SM-3539-20	35.0	39.0	20.0	35.050	35.150	39.000	39.025	34.938	35.000
A181SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
A181SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
A181SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
A181SM-4044-20	40.0	44.0	20.0	40.050	40.150	44.000	44.025	39.938	40.000
A181SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
A181SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
A181SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
A181SM-4550-20	45.0	50.0	20.0	45.050	45.150	50.000	50.025	44.938	45.000
A181SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
A181SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
A181SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
A181SM-5055-20	50.0	55.0	20.0	50.050	50.150	55.000	55.030	49.938	50.000
A181SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
A181SM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
A181SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
A181SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000

Bearing technology | Plain bearing | iglide® A181

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 460**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

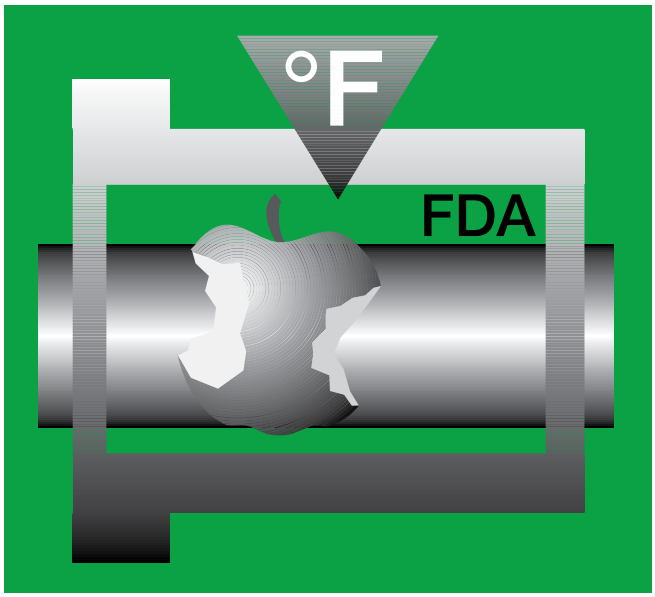
Type			Dimensions		
A181	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
A181FM-0608-04	6.0	8.0	12.0	4.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
A181FM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
A181FM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
A181FM-0810-05	8.0	10.0	15.0	5.5	1.00	8.025	8.083	10.000	10.015	7.964	8.000
A181FM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
A181FM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
A181FM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
A181FM-1012-07	10.0	12.0	18.0	7.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
A181FM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
A181FM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
A181FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
A181FM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
A181FM-1214-07	12.0	14.0	20.0	7.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
A181FM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
A181FM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
A181FM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
A181FM-1416-12	14.0	16.0	22.0	12.0	1.00	14.032	14.102	16.000	16.018	13.957	14.000
A181FM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
A181FM-1517-09	15.0	17.0	23.0	9.0	1.00	15.032	15.102	17.000	17.018	14.957	15.000
A181FM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
A181FM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
A181FM-1618-12	16.0	18.0	24.0	12.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
A181FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
A181FM-1820-12	18.0	20.0	26.0	12.0	1.00	18.032	18.102	20.000	20.021	17.957	18.000
A181FM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
A181FM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
A181FM-2023-11	20.0	23.0	30.0	11.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000
A181FM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
A181FM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
A181FM-2528-11	25.0	28.0	35.0	11.5	1.50	25.040	25.124	28.000	28.021	24.948	25.000
A181FM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000

Bearing technology | Plain bearing | iglide® A181

Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
A181FM-2528-21	25.0	28.0	35.0	21.5	1.50	25.040	25.124	28.000	28.021	24.948	25.000
A181FM-3034-16	30.0	34.0	42.0	16.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
A181FM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
A181FM-3539-16	35.0	39.0	47.0	16.0	2.00	35.040	35.124	39.000	39.025	34.938	35.000
A181FM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
A181FM-4044-30	40.0	44.0	52.0	30.0	2.00	40.040	40.124	44.000	44.025	39.938	40.000
A181FM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
A181FM-4550-50	45.0	50.0	58.0	50.0	2.50	45.040	45.124	50.000	50.025	44.938	45.000



The endurance runner at higher temperatures in the food sector

Compliant with Regulation (EU) No. 10/2011 and FDA guidelines

iglide® A350

When to use it?

- When FDA compliance is required
- When wear resistance and FDA-compliance are necessary at high loads
- When the bearing is used in acidic environments

When not to use?

- When continuous operating temperatures are higher than +356°F
  iglide® A500
- When the maximum wear resistance is necessary
  iglide® J
- When a cost-effective FDA-compliant plain bearing is required
  iglide® A160, iglide® A181
- For high speeds
  iglide® J

Ø
4 – 50mm
1/8 - 2 in.

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The endurance runner at higher temperatures in the food sector

Compliant with Regulation (EU) No. 10/2011 and FDA guidelines

A universal plain bearing for use in the area of food and pharmaceutical industries. Composition of FDA-compliant materials allows the use in areas where other plain bearings cannot be used due to the contact with food. With good tribological and mechanical properties, iglide® A350 plain bearings are suitable for all-round use in and around food machinery.

- Compliant with Regulation (EU) No. 10/2011
- FDA-compliant
- Temperature-resistant up to +356°F
- Suitable for medium and high loads
- Suitable for pivoting applications
- Self-lubricating
- Standard range from stock
- Suitable for rotating applications
- Maintenance-free

Typical application areas

- Food industry
- Beverage technology
- Medical technology

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■■□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.42	
Color		blue	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.6	DIN 53495
Max. moisture absorption	% weight	1.9	
Coefficient of friction, dynamic, against steel	µ	0.10 – 0.20	
pv value, max. (dry)	psi · fpm	11,400	
Mechanical properties			
Flexural modulus	psi	290,075	DIN 53457
Flexural strength at +68°F	psi	15,954	DIN 53452
Compressive strength	psi	11,313	
Max. recommended surface pressure (+68°F)	psi	8,702	
Shore D hardness		76	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+356	
Max. application temperature short-term	°F	+410	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	8	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{11}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

-148°F up to +356°F

8,702psi

V-0

FOOD

RoHS

ISO 3547-1

Table 01: Material properties

iglide® A350 plain bearings are made for practically all loads in food and packaging machinery. Even high loads, often seen in lifting equipment, are taken easily and the bearings work flawlessly without any external lubrication.

Moisture absorption

The moisture absorption of iglide® A350 is low and can be ignored when using standard plain bearings. Even when saturated with water, iglide® A350 does not absorb more than 1.9% weight of water (by weight).

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® A350 bearings.

Radiation resistance

Plain bearings made from iglide® A350 are resistant up to a radiation intensity of 2 · 10^2Gy.

Resistance to weathering

iglide® A350 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® A350 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 iglide® A350 at radial loads. At the maximum recommended surface pressure of 8,702psi at room temperature the deformation is less than 5%.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® A350 plain bearings are suitable for low and medium speeds in rotating and oscillating applications. iglide® A350 is also excellent for linear movements. In the case of high surface speeds it should be tested whether iglide® J or iglide® L250 can be used, as the wear rate of these bearings is lower.

▶ Surface speed, **Page 44**

Temperature

Its temperature resistance makes iglide® A350 the ideal material for plain bearing used in the food area. For temperatures over +284°F an additional securing is required. The wear rate of iglide® A350 plain bearings rises only little with higher temperatures. Tests have shown good wear results at +212°F on all tested shaft materials.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction of iglide® A350 on a steel shaft is in the mid range (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® A350 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The corrosion-resistant steels are rather considered a natural choice for use in the food industry. The trials were therefore carried out especially on such materials. It has been shown that there is no clear favorite and 304 stainless steel, high grade steel and hard-chromed steel are all suitable. Hard-anodized aluminum is also well suited for both linear and rotational movements.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	157	492
short-term	**fpm**	236	177	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.10 – 0.20	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

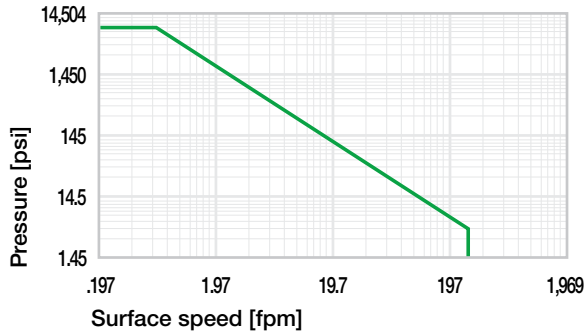


Diagram 01: Permissible pv values for iglide® A350 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

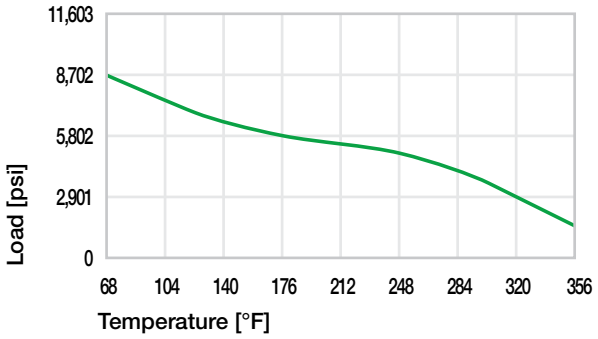


Diagram 02: Maximum recommended surface pressure as a function of temperature (8,702psi at +68°F)

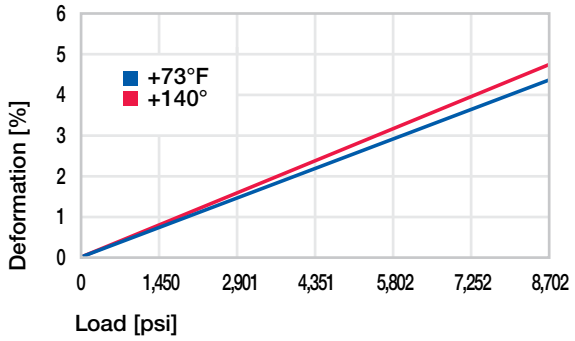


Diagram 03: Deformation under pressure and temperature

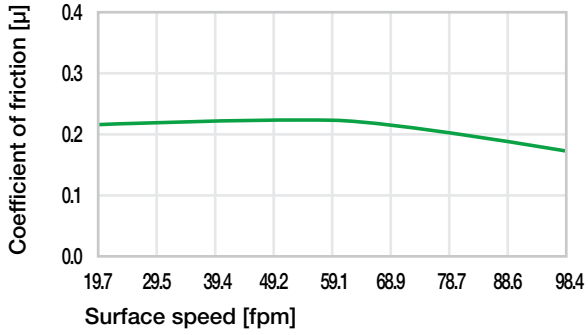


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

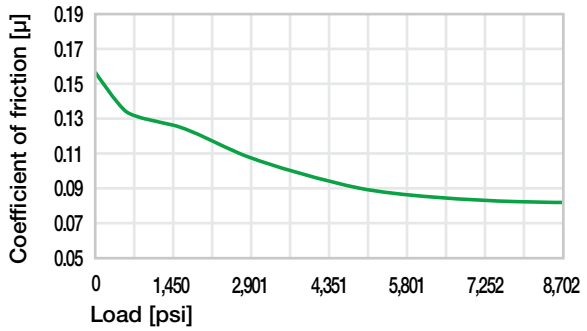


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

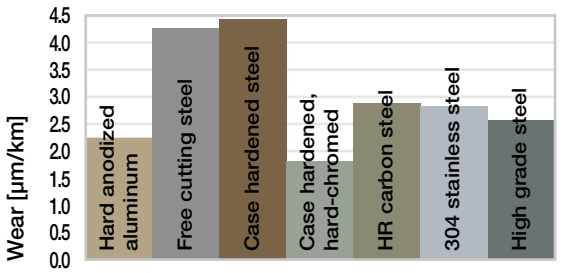


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

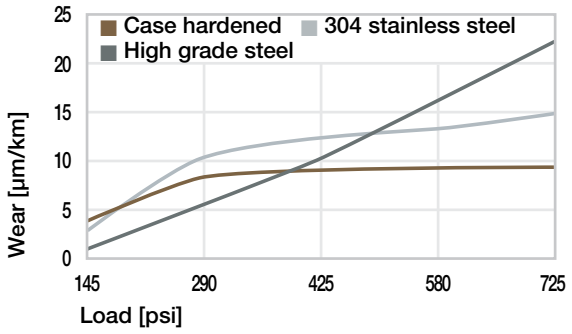
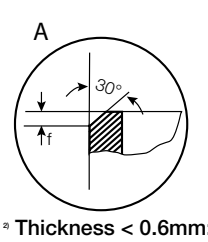


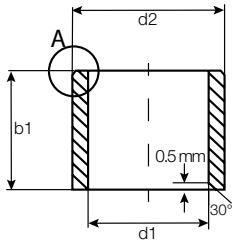
Diagram 07: Wear, rotating with different shaft materials, as a function of the load

Bearing technology | Plain bearing | iglide® A350

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 472**

Order key

Type			Dimensions		
A350	S	I	-06	08	-06
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

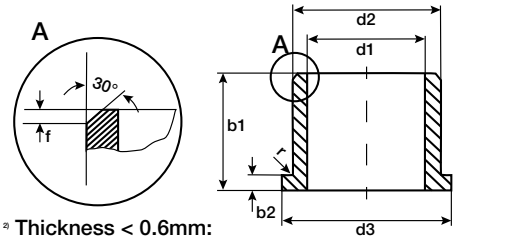
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
A350SI-0203-03	1/8	3/16	3/16	.1247	.1266	.1873	.1878	.1236	.1243
A350SI-0304-04	3/16	1/4	1/4	.1869	.1888	.2497	.2503	.1858	.1865
A350SI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
A350SI-0405-06	1/4	5/16	3/8	.2495	.2518	.3122	.3128	.2481	.2490
A350SI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
A350SI-0506-04	5/16	3/8	1/4	.3120	.3143	.3747	.3753	.3106	.3115
A350SI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
A350SI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
A350SI-0607-04	3/8	15/32	1/4	.3745	.3768	.4684	.4691	.3731	.3740
A350SI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
A350SI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
A350SI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
A350SI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
A350SI-0708-08	7/16	17/32	1/2	.4371	.4399	.5309	.5316	.4355	.4365
A350SI-0708-12	7/16	17/32	3/7			.5309	.5316	.4355	.4365
A350SI-0809-04	1/2	19/32	1/4	.4996	.5024	.5934	.5941	.4980	.4990
A350SI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
A350SI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
A350SI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
A350SI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
A350SI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
A350SI-0910-08	9/16	21/32	1/2	.5620	.5649	.6559	.6566	.5605	.5615
A350SI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
A350SI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
A350SI-1011-08	5/8	23/32	1/2	.6246	.6274	.7184	.7192	.6230	.6240
A350SI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
A350SI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
A350SI-1214-08	3/4	7/8	1/2	.7499	.7532	.8747	.8755	.7479	.7491
A350SI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
A350SI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
A350SI-1416-08	7/8	1	1/2	.8749	.8782	.9997	1.0005	.8729	.8741
A350SI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
A350SI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741
A350SI-1618-08	1	1 1/8	1/2	.9999	1.0032	1.1247	1.1255	.9979	.9991

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
A350SI-1618-12	1	1 1/8	3/4	.9999	1.0032	1.1247	1.1255	.9979	.9991
A350SI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
A350SI-1820-12	1 1/8	1 9/32	3/4	1.1246	1.1279	1.2808	1.2818	1.1226	1.1238
A350SI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
A350SI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
A350SI-2022-12	1 1/4	1 13/32	3/4	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
A350SI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
A350SI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
A350SI-2426-16	1 1/2	1 21/32	1	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
A350SI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
A350SI-2629-16	1 5/8	1 25/32	1	1.6248	1.6287	1.7808	1.7818	1.6222	1.6238
A350SI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
A350SI-2831-16	1 3/4	1 15/16	1	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
A350SI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
A350SI-3033-16	1 7/8	2 1/16	1	1.8770	1.8809	2.0625	2.0637	1.8721	1.8737
A350SI-3033-32	1 7/8	2 1/16	2			2.0625	2.0637	1.8721	1.8737
A350SI-3235-16	2	2 3/16	1	1.9993	2.0040	2.1871	2.1883	1.9969	1.9981
A350SI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® A350

Flange bearing (form F), inch



2) Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 472**

Order key

Type			Dimensions		
A350	F	I	-06	08	-06
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

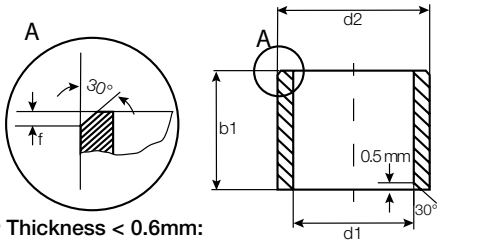
Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
A350FI-0203-03	1/8	3/16	3/16	.312	.0320	.1247	.1266	.1873	.1878	.1236	.1243
A350FI-0304-04	3/16	1/4	1/4	.375	.0320	.1869	.1888	.2497	.2503	.1858	.1865
A350FI-0405-06	1/4	5/16	3/8	.430	.0320	.2495	.2518	.3122	.3128	.2481	.2490
A350FI-0405-08	1/4	5/16	1/2	.500	.0320			.3122	.3128	.2481	.2490
A350FI-0506-04	5/16	3/8	1/4	.500	.0320	.3120	.3143	.3747	.3753	.3106	.3115
A350FI-0506-06	5/16	3/8	3/8	.500	.0320			.3747	.3753	.3106	.3115
A350FI-0506-08	5/16	3/8	1/2	.500	.0320			.3747	.3753	.3106	.3115
A350FI-0607-04	3/8	15/32	1/4	.687	.0460	.3745	.3768	.4684	.4691	.3731	.3740
A350FI-0607-06	3/8	15/32	3/8	.687	.0460			.4684	.4691	.3731	.3740
A350FI-0607-08	3/8	15/32	1/2	.687	.0460			.4684	.4691	.3731	.3740
A350FI-0607-12	3/8	15/32	3/4	.687	.0460			.4684	.4691	.3731	.3740
A350FI-0708-08	7/16	17/32	1/2	.750	.0460	.4371	.4399	.5309	.5316	.4355	.4365
A350FI-0809-04	1/2	19/32	1/4	.875	.0460	.4996	.5024	.5934	.5941	.4980	.4990
A350FI-0809-06	1/2	19/32	3/8	.875	.0460			.5934	.5941	.4980	.4990
A350FI-0809-08	1/2	19/32	1/2	.875	.0460			.5934	.5941	.4980	.4990
A350FI-0809-12	1/2	19/32	3/4	.875	.0460			.5934	.5941	.4980	.4990
A350FI-0809-16	1/2	19/32	1	.875	.0460			.5934	.5941	.4980	.4990
A350FI-1011-08	5/8	23/32	1/2	.937	.0460	.6246	.6274	.7184	.7192	.6230	.6240
A350FI-1011-12	5/8	23/32	3/4	.937	.0460			.7184	.7192	.6230	.6240
A350FI-1011-16	5/8	23/32	1	.937	.0460			.7184	.7192	.6230	.6240
A350FI-1214-08	3/4	7/8	1/2	1.125	.0620	.7499	.7532	.8747	.8755	.7479	.7491
A350FI-1214-12	3/4	7/8	3/4	1.125	.0620			.8747	.8755	.7479	.7491
A350FI-1214-16	3/4	7/8	1	1.125	.0620			.8747	.8755	.7479	.7491
A350FI-1416-08	7/8	1	1/2	1.250	.0620	.8749	.8782	.9997	1.0005	.8729	.8741
A350FI-1416-12	7/8	1	3/4	1.250	.0620			.9997	1.0005	.8729	.8741
A350FI-1416-16	7/8	1	1	1.250	.0620			.9997	1.0005	.8729	.8741
A350FI-1618-08	1	1 1/8	1/2	1.375	.0620	.9999	1.0032	1.1247	1.1255	.9979	.9991
A350FI-1618-12	1	1 1/8	3/4	1.375	.0620			1.1247	1.1255	.9979	.9991
A350FI-1618-16	1	1 1/8	1	1.375	.0620			1.1247	1.1255	.9979	.9991
A350FI-2022-16	1 1/4	1 13/32	1	1.687	.0780	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
A350FI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.0780			1.4058	1.4068	1.2472	1.2488
A350FI-2426-16	1 1/2	1 21/32	1	2.000	.0780	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
A350FI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.0780			1.6558	1.6568	1.4972	1.4988
A350FI-2831-32	1 3/4	1 15/16	2	2.375	.0930	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
A350FI-3235-32	2	2 3/16	2	2.625	.0930	1.9993	2.004	2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® A350

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, page 472

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
A350	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
A350SM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
A350SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
A350SM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
A350SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
A350SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
A350SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
A350SM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
A350SM-0810-08	8.0	10.0	8.0	8.013	8.071	10.000	10.015	7.964	8.000
A350SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
A350SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
A350SM-1012-08	10.0	12.0	8.0	10.013	10.071	12.000	12.018	9.964	10.000
A350SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
A350SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
A350SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
A350SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
A350SM-1214-10	12.0	14.0	10.0	12.016	12.086	14.000	14.018	11.957	12.000
A350SM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
A350SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
A350SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
A350SM-1315-10	13.0	15.0	10.0	13.016	13.086	15.000	15.018	12.957	13.000
A350SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
A350SM-1416-12	14.0	16.0	12.0	14.016	14.086	16.000	16.018	13.957	14.000
A350SM-1416-15	14.0	16.0	15.0			16.000	16.018	13.957	14.000
A350SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
A350SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
A350SM-1517-15	15.0	17.0	15.0	15.016	15.086	17.000	17.018	14.957	15.000
A350SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
A350SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
A350SM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
A350SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
A350SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
A350SM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
A350SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
A350SM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000

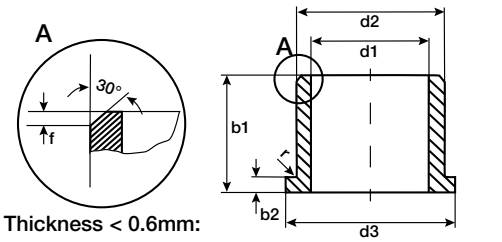
Bearing technology | Plain bearing | iglide® A350

Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
A350SM-2023-10	20.0	23.0	10.0	20.020	20.104	23.000	23.021	19.948	20.000
A350SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
A350SM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
A350SM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
A350SM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
A350SM-2225-15	22.0	25.0	15.0	22.020	22.104	25.000	25.021	21.948	22.000
A350SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
A350SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
A350SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
A350SM-2427-15	24.0	27.0	15.0	24.020	24.104	27.000	27.021	23.948	24.000
A350SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
A350SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
A350SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
A350SM-2428-30	24.0	28.0	30.0			28.000	28.021	23.948	24.000
A350SM-2528-15	25.0	28.0	15.0	25.020	25.104	28.000	28.021	24.948	25.000
A350SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
A350SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
A350SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
A350SM-2832-20	28.0	32.0	20.0	28.020	28.104	32.000	32.025	27.948	28.000
A350SM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
A350SM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
A350SM-3034-20	30.0	34.0	20.0	30.020	30.104	34.000	34.025	29.948	30.000
A350SM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
A350SM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
A350SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
A350SM-3236-20	32.0	36.0	20.0	32.025	32.125	36.000	36.025	31.938	32.000
A350SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
A350SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
A350SM-3539-20	35.0	39.0	20.0	35.025	35.125	39.000	39.025	34.938	35.000
A350SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
A350SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
A350SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
A350SM-4044-20	40.0	44.0	20.0	40.025	40.125	44.000	44.025	39.938	40.000
A350SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
A350SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
A350SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
A350SM-4550-20	45.0	50.0	20.0	45.025	45.125	50.000	50.025	44.938	45.000
A350SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
A350SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
A350SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
A350SM-5055-20	50.0	55.0	20.0	50.025	50.125	55.000	55.030	49.938	50.000
A350SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
A350SM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
A350SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
A350SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000

Bearing technology | Plain bearing | iglide® A350

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 472**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

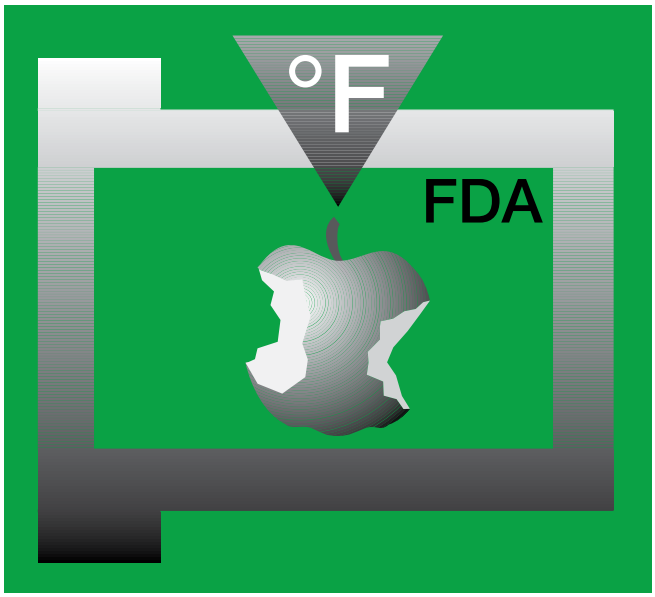
Type			Dimensions		
A350	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
A350FM-0507-05	5.0	7.0	11.0	5.0	1.00	5.010	5.058	7.000	7.015	4.970	5.000
A350FM-0608-04	6.0	8.0	12.0	4.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
A350FM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
A350FM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
A350FM-0810-05	8.0	10.0	15.0	5.5	1.00	8.013	8.071	10.000	10.015	7.964	8.000
A350FM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
A350FM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
A350FM-0810-10	10.0	10.0	15.0	10.0	1.00			10.000	10.015	9.964	10.000
A350FM-1012-07	10.0	12.0	18.0	7.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
A350FM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
A350FM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
A350FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
A350FM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
A350FM-1214-07	12.0	14.0	20.0	7.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
A350FM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
A350FM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
A350FM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
A350FM-1416-12	14.0	16.0	22.0	12.0	1.00	14.016	14.086	16.000	16.018	13.957	14.000
A350FM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
A350FM-1517-09	15.0	17.0	23.0	9.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
A350FM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
A350FM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
A350FM-1618-12	16.0	18.0	24.0	12.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
A350FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
A350FM-1820-12	18.0	20.0	26.0	12.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
A350FM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
A350FM-2023-11	20.0	23.0	30.0	11.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000
A350FM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
A350FM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
A350FM-2528-11	25.0	28.0	35.0	11.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
A350FM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000

Bearing technology | Plain bearing | iglide® A350

Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
A350FM-2528-21	25.0	28.0	35.0	21.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
A350FM-3034-16	30.0	34.0	42.0	16.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
A350FM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
A350FM-3539-16	35.0	39.0	47.0	16.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
A350FM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
A350FM-4044-30	40.0	44.0	52.0	30.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000
A350FM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
A350FM-4550-50	45.0	50.0	58.0	50.0	2.00	45.025	45.125	50.000	50.025	44.938	45.000



The media and temperature specialist in the food sector

Compliant with Regulation (EU) No. 10/2011 and FDA guidelines

iglide® A500

When to use it?

- When FDA compliance is required
- When a high chemical resistance is required
- Abrasion-resistant
- Temperature-resistant from -148°F to +482°F

When not to use?

- When the highest wear resistance is required
  iglide® X6, iglide® Z
- When no resistance to temperature or chemicals is required
  iglide® A180, iglide® A200
- When a cost-effective universal plain bearing is required
  iglide® G, iglide® P

Ø
4 – 50mm
1/8 - 2 in.

Material available as:

The media and temperature specialist in the food sector

Compliant with Regulation (EU) No. 10/2011 and FDA guidelines

Plain bearings made from iglide® A500 can be exposed to extremely high temperatures and are suitable for direct contact with food.

- Compliant with Regulation (EU) No. 10/2011
- FDA-compliant
- Temperature-resistant from -148°F to +482°F
- High chemical resistance
- Self-lubricating
- Maintenance-free

Typical application areas

- Food processing equipment
- Beverage technology
- Packaging
- Medical

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■■■□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Technical data

General properties			Testing method
Density	g/cm³	1.28	
Color		brown	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	0.5	
Coefficient of friction, dynamic, against steel	µ	0.26 – 0.41	
pv value, max. (dry)	psi · fpm	8,000	
Mechanical properties			
Flexural modulus	psi	522,136	DIN 53457
Flexural strength at +68°F	psi	20,305	DIN 53452
Compressive strength	psi	17,114	
Max. recommended surface pressure (+68°F)	psi	17,405	
Shore D hardness		83	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+482	
Max. application temperature short-term	°F	+572	
Min. application temperature	°F	-148	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	9	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{14}	DIN IEC 93
Surface resistance	Ω	> 10^{13}	DIN 53482

Table 01: Material properties

-148°F up to +482°F

17,405psi

V-1

FOOD

RoHS

ISO 3547-1

Plain bearings made from iglide® A500 can be used at high temperatures and are permitted for use in direct contact with food (FDA-compliant). They exhibit an exceptionally good chemical resistance and are suitable for heavy-duty use in and around machinery for the food industry. Though iglide® A500 is a soft material, it possesses an excellent compressive strength even at high temperatures.

Moisture absorption

The moisture absorption of iglide® A500 plain bearings is only 0.5% weight after saturation in water.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® A500 are resistant up to a radiation intensity of $2 \cdot 10^5$Gy.

Resistance to weathering

iglide® A500 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 iglide® A500 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 02 shows the maximum recommended surface pressure of the bearing as a function of the temperature. The combination of high stability and high flexibility acts very positively during vibrations and edge loads. As the wear of the plain bearing rapidly escalates from pressures of 1,450psi to 2,900psi, we recommend a particularly accurate testing of the application above these limits.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® A500 also permits high surface speeds due to the high temperature resistance. The coefficient of friction rises however by these high speeds leading to a higher heating up of the bearing. Tests show that plain bearings made from iglide® A500 are more wear-resistant in pivoting movements, and the permitted pv values are also higher in pivoting applications.

▶ Surface speed, **Page 44**

Temperature

The iglide® A500 plain bearings can be used in short-term temperatures up to +572°F. With increasing temperatures, the compressive strength of iglide® A500 plain bearings decreases. Diagram 02 shows this inverse relationship. The temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +266°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction is dependent on the load that acts on the bearing (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

Chemicals	Resistance
Alcohols	+
Diluted acids	+
Diluted alkalines	+
Fuels	+
Greases, oils without additives	+
Hydrocarbons	+
Strong acids	+
Strong alkalines	+

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® A500 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® A500. The combination of iglide® A500 and hard-chromed shafts clearly stands out in rotating application. Up to about 290psi, the wear of this combination remains largely independent of load. In oscillating applications with case hardened steel shafts, the wear resistance is better than in rotations under equal load. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	118	79	197
short-term	**fpm**	197	138	394

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.26 – 0.41	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

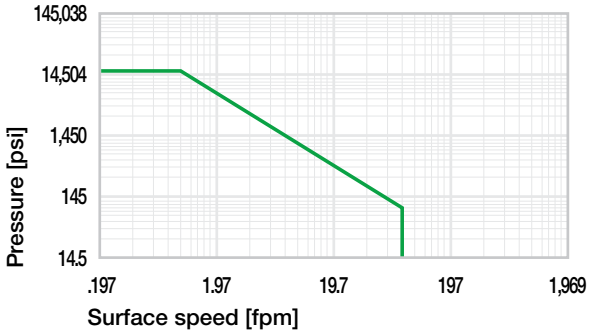


Diagram 01: Permissible pv values for iglide® A500 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

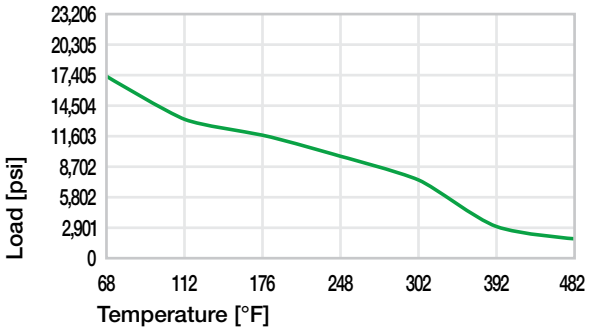


Diagram 02: Maximum recommended surface pressure as a function of temperature (17,405psi at +68°F)

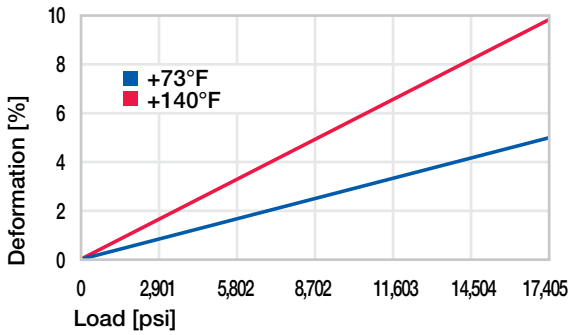


Diagram 03: Deformation under pressure and temperature

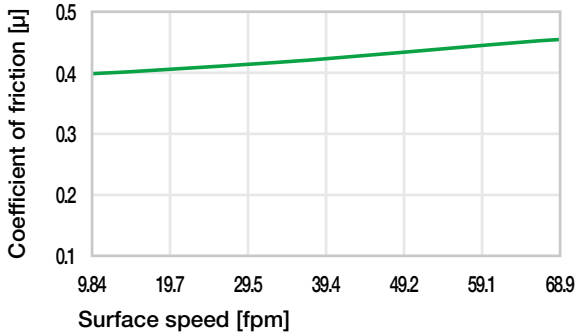


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

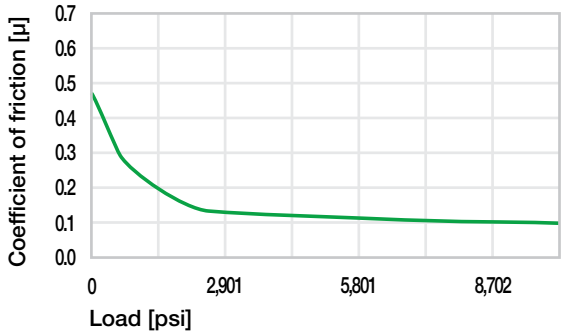


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

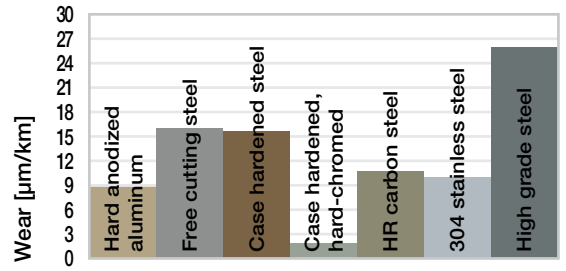


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

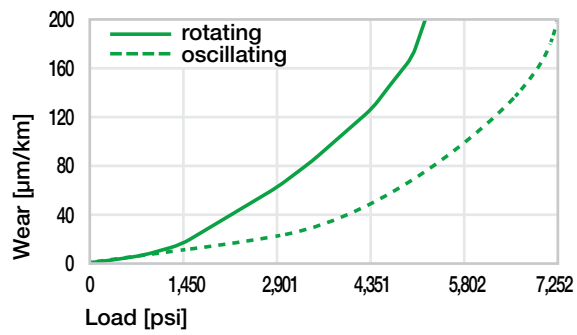
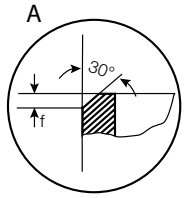


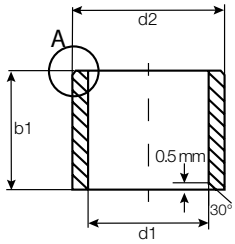
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® A500

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 484**

Order key

Type			Dimensions		
A500	S	I	-06	08	-06
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

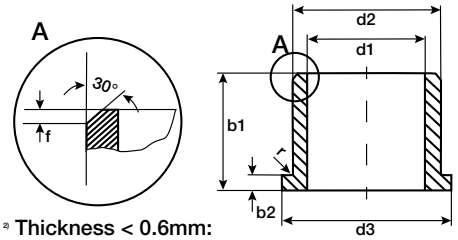
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
A500SI-0203-03	1/8	3/16	3/16	.1247	.1266	.1873	.1878	.1236	.1243
A500SI-0304-04	3/16	1/4	1/4	.1869	.1888	.2497	.2503	.1858	.1865
A500SI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
A500SI-0405-06	1/4	5/16	3/8	.2495	.2518	.3122	.3128	.2481	.2490
A500SI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
A500SI-0506-04	5/16	3/8	1/4	.3120	.3143	.3747	.3753	.3106	.3115
A500SI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
A500SI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
A500SI-0607-04	3/8	15/32	1/4	.3745	.3768	.4684	.4691	.3731	.3740
A500SI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
A500SI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
A500SI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
A500SI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
A500SI-0708-08	7/16	17/32	1/2	.4371	.4399	.5309	.5316	.4355	.4365
A500SI-0708-12	7/16	17/32	3/7			.5309	.5316	.4355	.4365
A500SI-0809-04	1/2	19/32	1/4	.4996	.5024	.5934	.5941	.4980	.4990
A500SI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
A500SI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
A500SI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
A500SI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
A500SI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
A500SI-0910-08	9/16	21/32	1/2	.5620	.5649	.6559	.6566	.5605	.5615
A500SI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
A500SI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
A500SI-1011-08	5/8	23/32	1/2	.6246	.6274	.7184	.7192	.6230	.6240
A500SI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
A500SI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
A500SI-1214-08	3/4	7/8	1/2	.7499	.7532	.8747	.8755	.7479	.7491
A500SI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
A500SI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
A500SI-1416-08	7/8	1	1/2	.8749	.8782	.9997	1.0005	.8729	.8741
A500SI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
A500SI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741
A500SI-1618-08	1	1 1/8	1/2	.9999	1.0032	1.1247	1.1255	.9979	.9991

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
A500SI-1618-12	1	1 1/8	3/4	.9999	1.0032	1.1247	1.1255	.9979	.9991
A500SI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
A500SI-1820-12	1 1/8	1 9/32	3/4	1.1246	1.1279	1.2808	1.2818	1.1226	1.1238
A500SI-1820-16	1 1/8	1 9/32	1			1.2808	1.2818	1.1226	1.1238
A500SI-1820-20	1 1/8	1 9/32	1 1/4			1.2808	1.2818	1.1226	1.1238
A500SI-2022-12	1 1/4	1 13/32	3/4	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
A500SI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
A500SI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
A500SI-2426-16	1 1/2	1 21/32	1	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
A500SI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
A500SI-2629-16	1 5/8	1 25/32	1	1.6248	1.6287	1.7808	1.7818	1.6222	1.6238
A500SI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
A500SI-2831-16	1 3/4	1 15/16	1	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
A500SI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
A500SI-3033-16	1 7/8	2 1/16	1	1.8770	1.8809	2.0625	2.0637	1.8721	1.8737
A500SI-3033-32	1 7/8	2 1/16	2			2.0625	2.0637	1.8721	1.8737
A500SI-3235-16	2	2 3/16	1	1.9993	2.0040	2.1871	2.1883	1.9969	1.9981
A500SI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® A500

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 484**

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

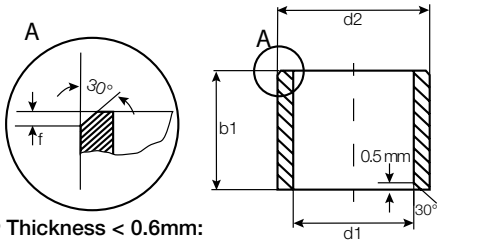
Order key

Type			Dimensions		
A500	F	I	-06	08	-06
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

Part Number	d1	d2	b1	d3	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
A500FI-0203-03	1/8	3/16	3/16	.312	.0320	.1247	.1266	.1873	.1878	.1236	.1243
A500FI-0304-04	3/16	1/4	1/4	.375	.0320	.1869	.1888	.2497	.2503	.1858	.1865
A500FI-0405-06	1/4	5/16	3/8	.430	.0320	.2495	.2518	.3122	.3128	.2481	.2490
A500FI-0405-08	1/4	5/16	1/2	.500	.0320			.3122	.3128	.2481	.2490
A500FI-0506-04	5/16	3/8	1/4	.500	.0320	.3120	.3143	.3747	.3753	.3106	.3115
A500FI-0506-06	5/16	3/8	3/8	.500	.0320			.3747	.3753	.3106	.3115
A500FI-0506-08	5/16	3/8	1/2	.500	.0320			.3747	.3753	.3106	.3115
A500FI-0607-04	3/8	15/32	1/4	.687	.0460	.3745	.3768	.4684	.4691	.3731	.3740
A500FI-0607-06	3/8	15/32	3/8	.687	.0460			.4684	.4691	.3731	.3740
A500FI-0607-08	3/8	15/32	1/2	.687	.0460			.4684	.4691	.3731	.3740
A500FI-0607-12	3/8	15/32	3/4	.687	.0460			.4684	.4691	.3731	.3740
A500FI-0708-08	7/16	17/32	1/2	.750	.0460	.4371	.4399	.5309	.5316	.4355	.4365
A500FI-0809-04	1/2	19/32	1/4	.875	.0460	.4996	.5024	.5934	.5941	.4980	.4990
A500FI-0809-06	1/2	19/32	3/8	.875	.0460			.5934	.5941	.4980	.4990
A500FI-0809-08	1/2	19/32	1/2	.875	.0460			.5934	.5941	.4980	.4990
A500FI-0809-12	1/2	19/32	3/4	.875	.0460			.5934	.5941	.4980	.4990
A500FI-0809-16	1/2	19/32	1	.875	.0460			.5934	.5941	.4980	.4990
A500FI-1011-08	5/8	23/32	1/2	.937	.0460	.6246	.6274	.7184	.7192	.6230	.6240
A500FI-1011-12	5/8	23/32	3/4	.937	.0460			.7184	.7192	.6230	.6240
A500FI-1011-16	5/8	23/32	1	.937	.0460			.7184	.7192	.6230	.6240
A500FI-1214-08	3/4	7/8	1/2	1.125	.0620	.7499	.7532	.8747	.8755	.7479	.7491
A500FI-1214-12	3/4	7/8	3/4	1.125	.0620			.8747	.8755	.7479	.7491
A500FI-1214-16	3/4	7/8	1	1.125	.0620			.8747	.8755	.7479	.7491
A500FI-1416-08	7/8	1	1/2	1.250	.0620	.8749	.8782	.9997	1.0005	.8729	.8741
A500FI-1416-12	7/8	1	3/4	1.250	.0620			.9997	1.0005	.8729	.8741
A500FI-1416-16	7/8	1	1	1.250	.0620			.9997	1.0005	.8729	.8741
A500FI-1618-08	1	1 1/8	1/2	1.375	.0620	.9999	1.0032	1.1247	1.1255	.9979	.9991
A500FI-1618-12	1	1 1/8	3/4	1.375	.0620			1.1247	1.1255	.9979	.9991
A500FI-1618-16	1	1 1/8	1	1.375	.0620			1.1247	1.1255	.9979	.9991
A500FI-2022-16	1 1/4	1 13/32	1	1.687	.0780	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
A500FI-2022-20	1 1/4	1 13/32	1 1/4	1.687	.0780			1.4058	1.4068	1.2472	1.2488
A500FI-2426-16	1 1/2	1 21/32	1	2.000	.0780	1.4998	1.5037	1.6558	1.6568	1.4972	1.4988
A500FI-2426-24	1 1/2	1 21/32	1 1/2	2.000	.0780			1.6558	1.6568	1.4972	1.4988
A500FI-2831-32	1 3/4	1 15/16	2	2.375	.0930	1.7497	1.7536	1.9371	1.9381	1.7471	1.7487
A500FI-3235-32	2	2 3/16	2	2.625	.0930	1.9993	2.004	2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® A500

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, page 484

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions					
A500	S	M	-	06	08	-	06	
iglide® material	Form S (sleeve)	Metric		Inner Ø d1 (mm)	Outer Ø d2 (mm)		Length b1 (mm)	

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
A500SM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
A500SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
A500SM-0507-05	5.0	7.0	5.0	5.010	5.058	7.000	7.015	4.970	5.000
A500SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
A500SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
A500SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
A500SM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
A500SM-0810-06	8.0	10.0	6.0	8.013	8.071	10.000	10.015	7.964	8.000
A500SM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
A500SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
A500SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
A500SM-1012-08	10.0	12.0	8.0	10.013	10.071	12.000	12.018	9.964	10.000
A500SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
A500SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
A500SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
A500SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
A500SM-1214-10	12.0	14.0	10.0	12.016	12.086	14.000	14.018	11.957	12.000
A500SM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
A500SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
A500SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
A500SM-1215-15	12.0	15.0	15.0			15.000	15.018	11.957	12.000
A500SM-1315-10	13.0	15.0	10.0	13.016	13.086	15.000	15.018	12.957	13.000
A500SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
A500SM-1416-15	14.0	16.0	15.0	14.016	14.086	16.000	16.018	13.957	14.000
A500SM-1416-16	14.0	16.0	16.0			16.000	16.018	13.957	14.000
A500SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
A500SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
A500SM-1517-15	15.0	17.0	15.0	15.016	15.086	17.000	17.018	14.957	15.000
A500SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
A500SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
A500SM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
A500SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
A500SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
A500SM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
A500SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000

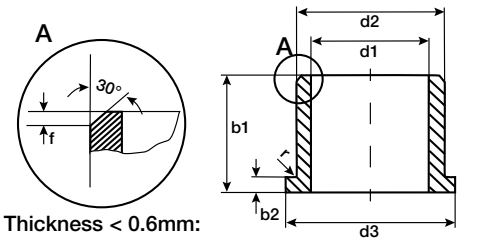
Bearing technology | Plain bearing | iglide® A500

Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
A500SM-1820-25	18.0	20.0	25.0	18.016	18.086	20.000	20.021	17.957	18.000
A500SM-2023-10	20.0	23.0	10.0	20.020	20.104	23.000	23.021	19.948	20.000
A500SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
A500SM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
A500SM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
A500SM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
A500SM-2225-15	22.0	25.0	15.0	22.020	22.104	25.000	25.021	21.948	22.000
A500SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
A500SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
A500SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
A500SM-2427-15	24.0	27.0	15.0	24.020	24.104	27.000	27.021	23.948	24.000
A500SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
A500SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
A500SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
A500SM-2528-15	25.0	28.0	15.0	25.020	25.104	28.000	28.021	24.948	25.000
A500SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
A500SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
A500SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
A500SM-2832-20	28.0	32.0	20.0	28.020	28.104	32.000	32.025	27.948	28.000
A500SM-2832-25	28.0	32.0	25.0			32.000	32.025	27.948	28.000
A500SM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000
A500SM-3034-20	30.0	34.0	20.0	30.020	30.104	34.000	34.025	29.948	30.000
A500SM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
A500SM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
A500SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
A500SM-3236-20	32.0	36.0	20.0	32.025	32.125	36.000	36.025	31.938	32.000
A500SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
A500SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
A500SM-3539-20	35.0	39.0	20.0	35.025	35.125	39.000	39.025	34.938	35.000
A500SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
A500SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
A500SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
A500SM-4044-20	40.0	44.0	20.0	40.025	40.125	44.000	44.025	39.938	40.000
A500SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
A500SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
A500SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
A500SM-4550-20	45.0	50.0	20.0	45.025	45.125	50.000	50.025	44.938	45.000
A500SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
A500SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
A500SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
A500SM-5055-20	50.0	55.0	20.0	50.025	50.125	55.000	55.030	49.938	50.000
A500SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
A500SM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
A500SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
A500SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000

Bearing technology | Plain bearing | iglide® A500

Flange bearing (form F), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, page 484

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

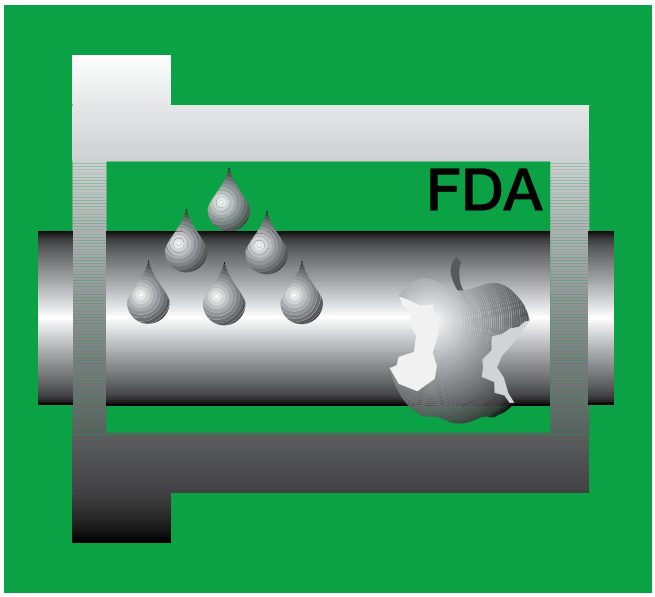
Type			Dimensions				
A500	F	M	-06	08	-06		
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)		

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
A500FM-0405-04	4.0	5.5	9.5	4.0	2.00	4.010	4.058	5.500	5.512	3.970	4.000
A500FM-0408-06	4.0	8.0	12.0	6.0	2.00			8.000	8.015	3.970	4.000
A500FM-0608-04	6.0	8.0	12.0	4.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
A500FM-0608-06	6.0	8.0	12.0	6.0	1.00			8.000	8.015	5.970	6.000
A500FM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
A500FM-0810-05	8.0	10.0	15.0	5.5	1.00	8.013	8.071	10.000	10.015	7.964	8.000
A500FM-0810-07	8.0	10.0	15.0	7.5	1.00			10.000	10.015	7.964	8.000
A500FM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
A500FM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
A500FM-1012-07	10.0	12.0	18.0	7.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
A500FM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
A500FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
A500FM-1012-15	10.0	12.0	18.0	15.0	1.00			12.000	12.018	9.964	10.000
A500FM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
A500FM-1214-07	12.0	14.0	20.0	7.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
A500FM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
A500FM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
A500FM-1214-13	12.0	14.0	20.0	13.0	1.00			14.000	14.018	11.957	12.000
A500FM-1214-15	12.0	14.0	20.0	15.0	1.00			14.000	14.018	11.957	12.000
A500FM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
A500FM-1416-12	14.0	16.0	22.0	12.0	1.00	14.016	14.086	16.000	16.018	13.957	14.000
A500FM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
A500FM-1517-09	15.0	17.0	23.0	9.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
A500FM-1517-12	15.0	17.0	23.0	12.0	1.00			17.000	17.018	14.957	15.000
A500FM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
A500FM-1618-12	16.0	18.0	24.0	12.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
A500FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
A500FM-1820-12	18.0	20.0	26.0	12.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
A500FM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
A500FM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
A500FM-2023-11	20.0	23.0	30.0	11.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000
A500FM-2023-16	20.0	23.0	30.0	16.5	1.50			23.000	23.021	19.948	20.000
A500FM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® A500

Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
A500FM-2528-11	25.0	28.0	35.0	11.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
A500FM-2528-16	25.0	28.0	35.0	16.5	1.50			28.000	28.021	24.948	25.000
A500FM-2528-21	25.0	28.0	35.0	21.5	1.50			28.000	28.021	24.948	25.000
A500FM-3034-16	30.0	34.0	42.0	16.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
A500FM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
A500FM-3034-40	30.0	34.0	42.0	40.0	2.00			34.000	34.025	29.948	30.000
A500FM-3539-16	35.0	39.0	47.0	16.0	2.00	35.025	35.125	39.000	39.025	34.938	35.000
A500FM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
A500FM-3539-40	35.0	39.0	47.0	40.0	2.00			39.000	39.025	34.938	35.000
A500FM-4044-30	40.0	44.0	52.0	30.0	2.00	40.025	40.125	44.000	44.025	39.938	40.000
A500FM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
A500FM-4550-50	45.0	50.0	58.0	50.0	2.00	45.025	45.125	50.000	50.025	44.938	45.000



The all-rounder for food
FDA-compliant
iglide® A180

When to use it?

- When the bearings have direct contact with food
- When FDA compliance is required
- When a low noise level is required
- When low moisture absorption is fundamental

When not to use?

- When the maximum wear resistance is necessary
  iglide® J
- When continuous operating temperatures are higher than +176°F
  iglide® A350, iglide® A500
- When a cost-effective universal plain bearing is required
  iglide® G, iglide® P

Bearing technology | Plain bearing | iglide® A180

Ø
6 – 35mm

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The all-rounder for food
FDA-compliant

FDA-compliant material for applications with low to medium loads in immediate environments of (or contact with) food or drugs, as well as humidity.

- FDA-compliant
- Compliant with Regulation (EU) No. 10/2011
- High media resistance
- Suitable for wet environments
- High wear resistance
- Self-lubricating
- Maintenance-free

Typical application areas

- Food industry
- Beverage technology
- Medical technology

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.46	
Color		white	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	1.3	
Coefficient of friction, dynamic, against steel	μ	0.05 – 0.23	
pv value, max. (dry)	psi · fpm	8,850	
Mechanical properties			
Flexural modulus	psi	333,587	DIN 53457
Flexural strength at +68°F	psi	12,763	DIN 53452
Compressive strength	psi	11,313	
Max. recommended surface pressure (+68°F)	psi	4,061	
Shore D hardness		76	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+230	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	11	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

-58°F up to +194°F

4,061psi

HB

FOOD

RoHS

ISO 3547-1

Table 01: Material properties

Plain bearings made from iglide® A180 are suitable for application in direct contact with food. Hence they are the ideal solution for bearing locations on machines for the food and packaging industries, the medical equipment manufacturing, for small equipment for households, etc. The iglide® A180 distinguishes itself also in wet cleaning or where process-dependent contact with wet media is the business of the day by its extremely low humidity absorption.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® A180 plain bearings is approximately 0.2% weight. The saturation limit in water is 1.3% weight. This must be taken into account for these types of applications.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® A180 bearings.

Radiation resistance

Plain bearings made from iglide® A180 are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® A180 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 iglide® A180 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 iglide® A180 at radial loads. At the maximum recommended surface pressure of 4,061psi the deformation is less than 2.5%. A plastic deformation can be negligible up to this value. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® A180 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 iglide® A180 plain bearings can be used in short-term temperatures up to +230°F. With increasing temperatures, the compressive strength of iglide® A180 plain bearings decreases. Diagram 02 shows this inverse relationship. The temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

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

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® A180 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows the test results of iglide® A180 plain bearings running against various shaft materials. The combination "iglide® A180/hard-anodized aluminum" clearly stands out. It attains good to excellent wear rates also with other shafts. With case hardened steel shafts, the higher wear in pivoting applications is exemplary compared to rotating applications (diagram 07).

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	fpm	157	118	689
short-term	fpm	236	197	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.05 – 0.23	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

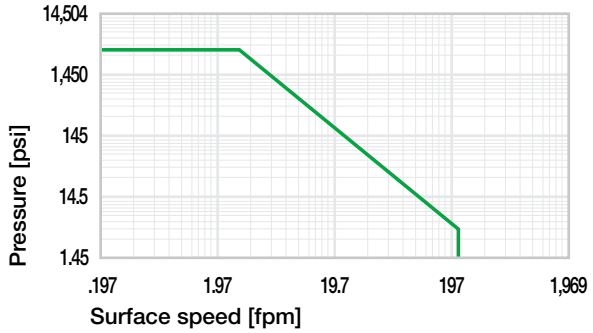


Diagram 01: Permissible pv values for iglide® A180 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

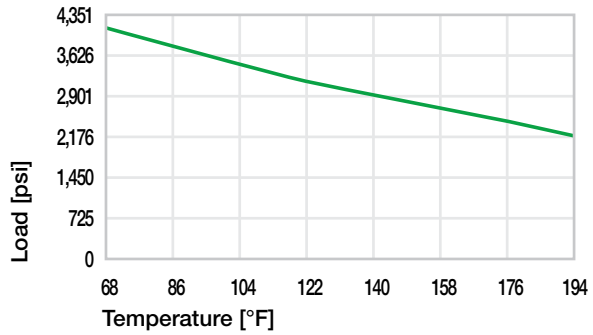


Diagram 02: Maximum recommended surface pressure as a function of temperature (4,061psi at +68°F)

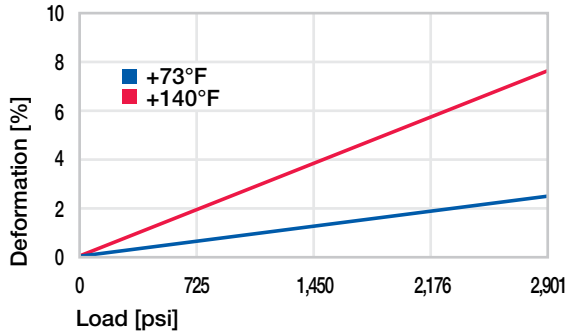


Diagram 03: Deformation under pressure and temperature

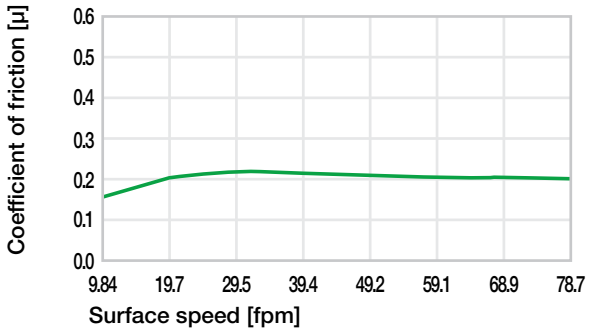


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

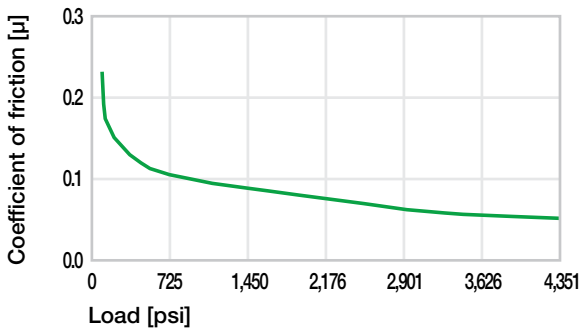


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

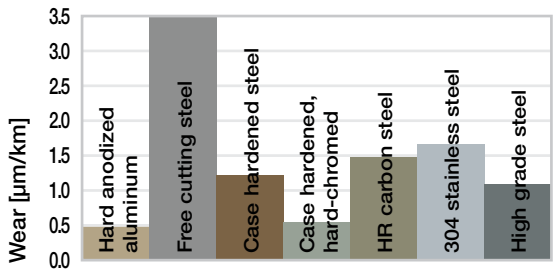


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

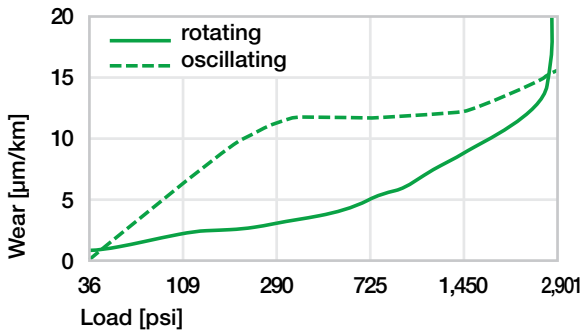
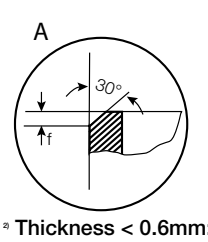


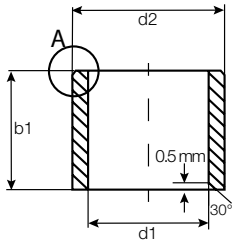
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® A180

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 496**

Order key

Type			Dimensions		
A180	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

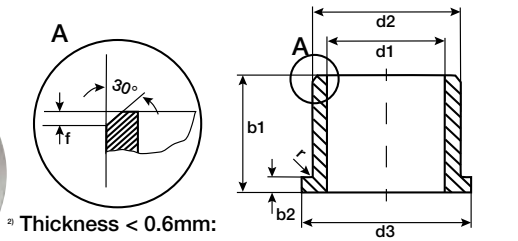
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
A180SM-0608-10	6.0	8.0	10.0	6.020	6.068	8.000	8.015	5.970	6.000
A180SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
A180SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
A180SM-1214-15	12.0	14.0	15.0	12.032	12.102	14.000	14.018	11.957	12.000
A180SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
A180SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000
A180SM-2528-30	25.0	28.0	30.0	25.040	25.124	28.000	28.021	24.948	25.000
A180SM-3034-20	30.0	34.0	20.0	30.040	30.124	34.000	34.025	29.948	30.000

Bearing technology | Plain bearing | iglide® A180

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 496**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
A180	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
A180FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
A180FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
A180FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
A180FM-1214-15	12.0	14.0	20.0	15.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
A180FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
A180FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000
A180FM-2528-21	25.0	28.0	35.0	21.5	1.50	25.040	25.124	28.000	28.021	24.948	25.000
A180FM-3034-26	30.0	34.0	42.0	26.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
A180FM-3539-26	35.0	39.0	47.0	26.0	2.00	35.050	35.150	39.000	39.025	34.938	35.000

Notes

The “food-classic” for light duty
FDA-compliant
iglide® A200

When to use it?

- Suitable for food contact
- 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
  iglide® W300
- When continuous operating temperatures are higher than +176°F
  iglide® A350, iglide® A500
- When a cost-effective universal plain bearing is required
  iglide® G
- For operations in wet environments
  iglide® A180

Ø
1 – 32mm
1/8 - 1 3/4 in.

Material available as:

The “food-classic” for light duty
FDA-compliant

FDA-compliant material for applications with low to medium loads in contact with food or drugs.

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

Typical application areas

- Food industry

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■□□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■□□□	+
Resistant to edge pressures	–	■■■■■	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Technical data

General properties			Testing method
Density	g/cm³	1.14	
Color		white	
Max. moisture absorption at +73°F 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)	psi · fpm	2,570	
Mechanical properties			
Flexural modulus	psi	362,594	DIN 53457
Flexural strength at +68°F	psi	16,824	DIN 53452
Compressive strength	psi	7,832	
Max. recommended surface pressure (+68°F)	psi	2,611	
Shore D hardness		81	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+176	
Max. application temperature short-term	°F	+338	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	10	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

-40°F up to +176°F

2,611psi

V-2

FOOD

RoHS

ISO 3547-1

Table 01: Material properties

Plain bearings made from iglide® A200 are suitable for applications in direct contact with food due to their self-lubricating and maintenance-free properties. iglide® A200's embedded solid lubricants eliminate the need for external oil and grease and prevent debris from sticking to the system. This plain bearing also enables quiet, dry-running operation and has been specially engineered to offer high abrasion resistance.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® 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 vapor. The use in vacuum is only possible to a limited extent.

Radiation resistance

Plain bearings made from iglide® A200 are resistant up to a radiation intensity of $1 \cdot 10^4$Gy.

Resistance to weathering

iglide® 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 iglide® 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 iglide® A200 at radial loads. At the maximum recommended surface pressure of 2,611psi 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 50**

Permissible surface speeds

iglide® 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 iglide® A200 plain bearings can be used in short-term temperatures up to +338°F. The temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +122°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® 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**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagrams 06 and 07 show the test results of iglide® A200 plain bearings running against various shaft materials. In pivoting applications below a load of 290psi, the wear of iglide® 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**

		Rotating	Oscillating	linear
long-term	**fpm**	157	118	394
short-term	**fpm**	295	217	591

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 = 1µm, 50HRC)

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [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 metric tolerances for plain bearings according to ISO 3547-1 after press-fit

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

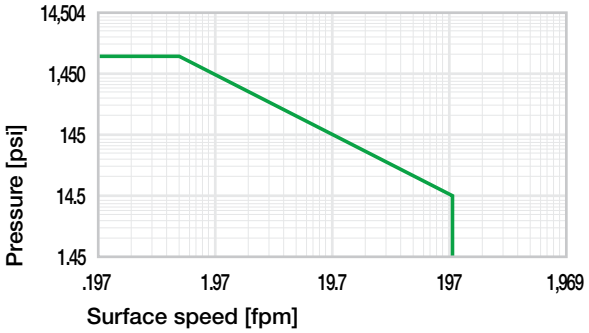


Diagram 01: Permissible pv values for iglide® A200 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

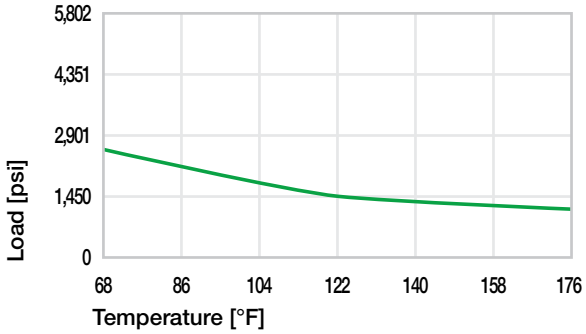


Diagram 02: Maximum recommended surface pressure as a function of temperature (2,611psi at +68°F)

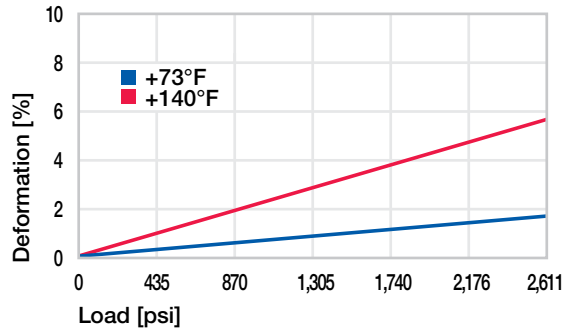


Diagram 03: Deformation under pressure and temperature

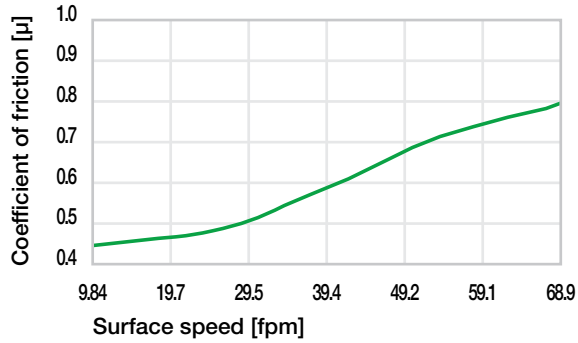


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

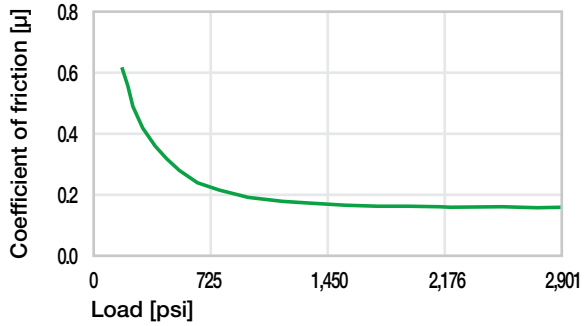


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

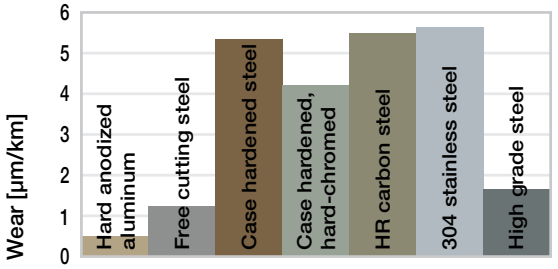


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

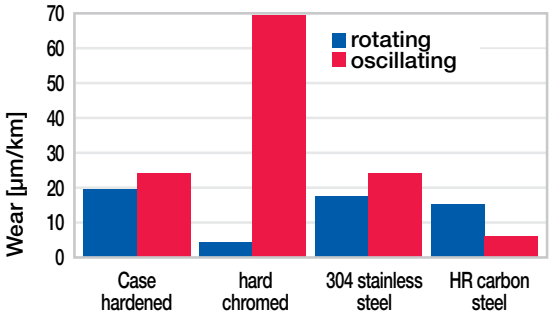
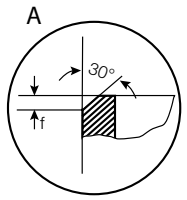
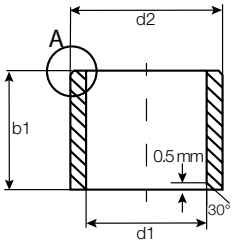


Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Bearing technology | Plain bearing | iglide® A200

Sleeve bearing (form S), inch





[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 504**

Order key

Type			Dimensions		
A	S	I	-06	08	-08
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

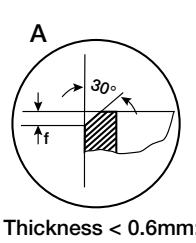
Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

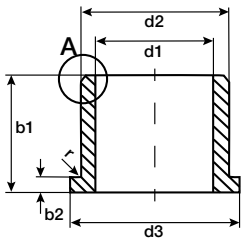
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
ASI-0204-04	1/8	1/4	1/4	.1262	.1280	.2510	.2515	.1241	.1250
ASI-0305-04	3/16	5/16	1/4	.1887	.1905	.3135	.3140	.1866	.1875
ASI-0406-04	1/4	3/8	1/4	.2516	.2539	.3760	.3765	.2491	.2500
ASI-0406-06	1/4	3/8	3/8			.3760	.3765	.2491	.2500
ASI-0406-08	1/4	3/8	1/2			.3760	.3765	.2491	.2500
ASI-0507-08	5/16	15/32	1/2	.3141	.3164	.4385	.4390	.3116	.3125
ASI-0608-04	3/8	1/2	1/4	.3766	.3789	.5010	.5015	.3741	.3750
ASI-0608-08	3/8	1/2	1/2			.5010	.5015	.3741	.3750
ASI-0810-08	1/2	5/8	1/2	.5020	.5047	.6250	.6260	.4990	.5000
ASI-0810-12	1/2	5/8	3/4			.6250	.6260	.4990	.5000
ASI-1013-05	5/8	13/16	5/16	.6270	.6297	.8125	.8135	.6240	.6250
ASI-1013-12	5/8	13/16	3/4			.8125	.8135	.6240	.6250
ASI-1216-12	3/4	1	3/4	.7525	.7559	1.0000	1.0010	.7490	.7500
ASI-1216-16	3/4	1	1			1.0000	1.0010	.7490	.7500
ASI-1418-16	7/8	1 1/8	1	.8775	.8809	1.1250	1.1260	.8740	.8750
ASI-1620-12	1	1 9/32	3/4	1.0025	1.0059	1.2500	1.2510	.9990	1.0000
ASI-1620-16	1	1 9/32	1			1.2500	1.2510	.9990	1.0000
ASI-2024-16	1 1/4	1 17/32	1	1.2531	1.2600	1.4995	1.5005	1.249	1.2500
ASI-2428-24	1 1/2	1 3/4	1 1/2	1.5032	1.5100	1.7495	1.7505	1.499	1.5000

Bearing technology | Plain bearing | iglide® A200

Flange bearing (form F), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 504**

Order key

Type			Dimensions		
A	F	I	-06	08	-08
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

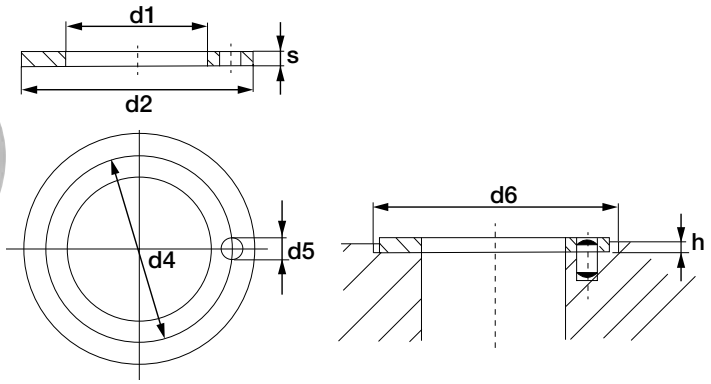
Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
AFI-0204-04	1/8	1/4	.3600	1/4	.0470	.1262	.1280	.2510	.2515	.1241	.1250
AFI-0305-04	3/16	5/16	.3700	1/4	.0470	.1887	.1905	.3135	.3140	.1866	.1875
AFI-0406-04	1/4	3/8	.5600	1/4	.0470	.2516	.2539	.3760	.3765	.2491	.2500
AFI-0406-06	1/4	3/8	.5600	3/8	.0470			.3760	.3765	.2491	.2500
AFI-0507-08	5/16	7/16	.5600	1/2	.0620	.3141	.3164	.4385	.4390	.3116	.3125
AFI-0608-04	3/8	1/2	.6250	1/4	.0620	.3766	.3789	.5010	.5015	.3741	.3750
AFI-0608-08	3/8	1/2	.6250	1/2	.0620			.5010	.5015	.3741	.3750
AFI-0810-08	1/2	5/8	.8750	1/2	.0620	.5020	.5047	.6250	.6257	.4983	.5000
AFI-0810-12	1/2	5/8	.8750	3/4	.0620			.6250	.6257	.4983	.5000
AFI-1013-16	5/8	13/16	1.0630	1	.1560	.6270	.6297	.8125	.8135	.6240	.6250
AFI-1216-12	3/4	1	1.2500	3/4	.1560	.7525	.7559	1.0000	1.0010	.7490	.7500
AFI-1216-16	3/4	1	1.2500	1	.1560			1.0000	1.0010	.7490	.7500
AFI-1418-24	7/8	1 1/8	1.3750	1 1/2	.1560	.8775	.8809	1.1250	1.1260	.8740	.8750
AFI-1620-16	1	1 9/32	1.5000	1	.1880	1.0025	1.0059	1.2500	1.2510	.9990	1.0000
AFI-1620-24	1	1 9/32	1.5000	1 1/2	.1880			1.2500	1.2510	.9990	1.0000
AFI-2024-16	1 1/4	1 17/32	1.7500	1	.2000	1.2531	1.2600	1.4995	1.5005	1.2490	1.2500
AFI-2024-24	1 1/4	1 17/32	1.7500	1 1/2	.2000			1.4995	1.5005	1.2490	1.2500
AFI-2428-16	1 1/2	1 3/4	2.0000	1	.1250	1.5032	1.5100	1.7495	1.7505	1.4990	1.5000
AFI-2428-24	1 1/2	1 3/4	2.0000	1 1/2	.1250			1.7495	1.7505	1.4990	1.5000
AFI-2832-16	1 3/4	2	2.2500	1	.1250	1.7532	1.7560	1.9995	2.0005	1.7490	1.7500

Bearing technology | Plain bearing | iglide® A200

Thrust washer bearing (form T), inch



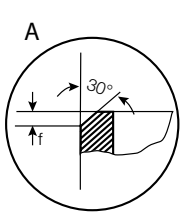
Order key

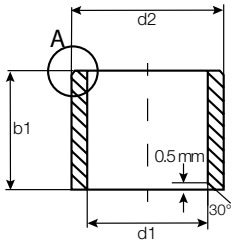
Type			Dimensions
A	T	I	- 04
iglide® material	Thrust washer	Inch	Inner Ø d1 (inch)

Part No.	d1	d1		d2		s
	(nominal)	Min.	Max.	Min.	Max.	
ATI-04	1/4	.2551	.2610	.6094	.6201	.0902
ATI-06	3/8	.3813	.3943	.7370	.7500	.0902
ATI-08	1/2	.5031	.5102	.8071	.8201	.0902
ATI-12	3/4	.7598	.7673	1.0500	1.0654	.0941
ATI-16	1	1.0197	1.0268	1.4843	1.5000	.1252

Bearing technology | Plain bearing | iglide® A200

Sleeve bearing (form S), metric





[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 504**

Order key

Type			Dimensions		
A	S	M	-06	08	-10
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
ASM-0103-02	1.0	3.0	2.0	1.520	1.580	3.000	3.010	0.975	1.000
ASM-0104-02	1.5	4.0	2.0			4.000	4.012	1.475	1.500
ASM-0205-02	2.0	5.0	2.0	2.020	2.080	5.000	5.012	1.975	2.000
ASM-0205-03	2.0	5.0	3.0			5.000	5.012	1.975	2.000
ASM-0206-03	2.5	6.0	3.0	2.520	2.580	6.000	6.012	2.475	2.500
ASM-0305-03	3.0	5.0	3.0	3.020	3.080	5.000	5.012	2.975	3.000
ASM-0305-04	3.0	5.0	4.0			5.000	5.012	2.975	3.000
ASM-0306-03	3.0	6.0	3.0			6.000	6.012	2.975	3.000
ASM-0306-04	3.0	6.0	4.0			6.000	6.012	2.975	3.000
ASM-0407-03	4.0	7.0	3.0	4.030	4.105	7.000	7.015	3.970	4.000
ASM-0407-04	4.0	7.0	4.0			7.000	7.015	3.970	4.000
ASM-0407-06	4.0	7.0	6.0			7.000	7.015	3.970	4.000
ASM-0408-06	4.0	8.0	6.0			8.000	8.015	3.970	4.000
ASM-0508-04	5.0	8.0	4.0	5.030	5.105	8.000	8.015	4.970	5.000
ASM-0508-05	5.0	8.0	5.0			8.000	8.015	4.970	5.000
ASM-0508-08	5.0	8.0	8.0			8.000	8.015	4.970	5.000
ASM-0509-05	5.0	9.0	5.0			9.000	9.015	4.970	5.000
ASM-0509-08	5.0	9.0	8.0			9.000	9.015	4.970	5.000
ASM-0608-10	6.0	8.0	10.0	6.030	6.105	8.000	8.015	5.970	6.000
ASM-0609-06	6.0	9.0	6.0			9.000	9.015	5.970	6.000
ASM-0610-04	6.0	10.0	4.0			10.000	10.015	5.970	6.000
ASM-0610-06	6.0	10.0	6.0			10.000	10.015	5.970	6.000
ASM-0610-10	6.0	10.0	10.0			10.000	10.015	5.970	6.000
ASM-0612-06	6.0	12.0	6.0			12.000	12.018	5.970	6.000
ASM-0612-10	6.0	12.0	10.0			12.000	12.018	5.970	6.000
ASM-0710-05	7.0	10.0	5.0	7.040	7.130	10.000	10.015	6.964	7.000
ASM-0710-08	7.0	10.0	8.0			10.000	10.015	6.964	7.000
ASM-0810-06	8.0	10.0	6.0	8.040	8.130	10.000	10.015	7.964	8.000
ASM-0810-08	8.0	10.0	8.0			10.000	10.015	7.964	8.000
ASM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
ASM-0811-08	8.0	11.0	8.0			11.000	11.018	7.964	8.000
ASM-0811-12	8.0	11.0	12.0			11.000	11.018	7.964	8.000
ASM-0812-06	8.0	12.0	6.0			12.000	12.018	7.964	8.000
ASM-0812-08	8.0	12.0	8.0			12.000	12.018	7.964	8.000
ASM-0812-10	8.0	12.0	10.0			12.000	12.018	7.964	8.000

Bearing technology | Plain bearing | iglide® A200

Sleeve bearing (form S), metric

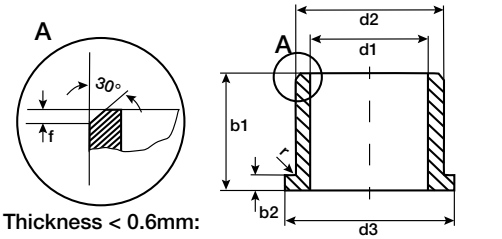
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
ASM-0812-12	8.0	12.0	12.0	8.040	8.130	12.000	12.018	7.964	8.000
ASM-0814-06	8.0	14.0	6.0			14.000	14.018	7.964	8.000
ASM-0814-10	8.0	14.0	10.0			14.000	14.018	7.964	8.000
ASM-0912-14	9.0	12.0	14.0	9.040	9.130	12.000	12.018	8.964	9.000
ASM-1012-10	10.0	12.0	10.0	10.040	10.130	12.000	12.018	9.964	10.000
ASM-1014-06	10.0	14.0	6.0			14.000	14.018	9.964	10.000
ASM-1014-08	10.0	14.0	8.0			14.000	14.018	9.964	10.000
ASM-1014-10	10.0	14.0	10.0			14.000	14.018	9.964	10.000
ASM-1014-16	10.0	14.0	16.0			14.000	14.018	9.964	10.000
ASM-1016-06	10.0	16.0	6.0			16.000	16.018	9.964	10.000
ASM-1016-10	10.0	16.0	10.0			16.000	16.018	9.964	10.000
ASM-1016-16	10.0	16.0	16.0			16.000	16.018	9.964	10.000
ASM-1214-20	12.0	14.0	20.0	12.050	12.160	14.000	14.018	11.957	12.000
ASM-1216-15	12.0	16.0	15.0			16.000	16.018	11.957	12.000
ASM-1216-20	12.0	16.0	20.0			16.000	16.018	11.957	12.000
ASM-1218-08	12.0	18.0	8.0			18.000	18.018	11.957	12.000
ASM-1218-10	12.0	18.0	10.0			18.000	18.018	11.957	12.000
ASM-1218-15	12.0	18.0	15.0			18.000	18.018	11.957	12.000
ASM-1218-20	12.0	18.0	20.0			18.000	18.018	11.957	12.000
ASM-1416-10	14.0	16.0	10.0	14.050	14.160	16.000	16.018	13.957	14.000
ASM-1416-15	14.0	16.0	15.0			16.000	16.018	13.957	14.000
ASM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
ASM-1420-10	14.0	20.0	10.0			20.000	20.021	13.957	14.000
ASM-1420-15	14.0	20.0	15.0			20.000	20.021	13.957	14.000
ASM-1420-20	14.0	20.0	20.0			20.000	20.021	13.957	14.000
ASM-1517-10	15.0	17.0	10.0	15.050	15.160	17.000	17.018	14.957	15.000
ASM-1517-15	15.0	17.0	15.0			17.000	17.018	14.957	15.000
ASM-1521-10	15.0	21.0	10.0			21.000	21.021	14.957	15.000
ASM-1521-15	15.0	21.0	15.0			21.000	21.021	14.957	15.000
ASM-1521-20	15.0	21.0	20.0			21.000	21.021	14.957	15.000
ASM-1618-12	16.0	18.0	12.0	16.050	16.160	18.000	18.018	15.957	16.000
ASM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
ASM-1620-20	16.0	20.0	20.0			20.000	20.021	15.957	16.000
ASM-1620-25	16.0	20.0	25.0			20.000	20.021	15.957	16.000
ASM-1622-12	16.0	22.0	12.0			22.000	22.021	15.957	16.000
ASM-1622-15	16.0	22.0	15.0			22.000	22.021	15.957	16.000
ASM-1622-16	16.0	22.0	16.0			22.000	22.021	15.957	16.000
ASM-1622-20	16.0	22.0	20.0			22.000	22.021	15.957	16.000
ASM-1622-25	16.0	22.0	25.0			22.000	22.021	15.957	16.000
ASM-1824-12	18.0	24.0	12.0	18.050	18.160	24.000	24.021	17.957	18.000
ASM-1824-20	18.0	24.0	20.0			24.000	24.021	17.957	18.000
ASM-1824-30	18.0	24.0	30.0			24.000	24.021	17.957	18.000
ASM-2023-15	20.0	23.0	15.0	20.065	20.195	23.000	23.021	19.948	20.000
ASM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
ASM-2025-15	20.0	25.0	15.0			25.000	25.021	19.948	20.000

Product range

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
ASM-2025-20	20.0	25.0	20.0	20.065	20.195	25.000	25.021	19.948	20.000
ASM-2025-30	20.0	25.0	30.0			25.000	25.021	19.948	20.000
ASM-2026-15	20.0	26.0	15.0			26.000	26.021	19.948	20.000
ASM-2026-20	20.0	26.0	20.0			26.000	26.021	19.948	20.000
ASM-2026-30	20.0	26.0	30.0			26.000	26.021	19.948	20.000
ASM-2226-15	22.0	26.0	15.0	22.065	22.195	26.000	26.021	21.948	22.000
ASM-2228-10	22.0	28.0	10.0			28.000	28.021	21.948	22.000
ASM-2228-15	22.0	28.0	15.0			28.000	28.021	21.948	22.000
ASM-2228-20	22.0	28.0	20.0			28.000	28.021	21.948	22.000
ASM-2228-30	22.0	28.0	30.0			28.000	28.021	21.948	22.000
ASM-2430-15	24.0	30.0	15.0	24.065	24.195	30.000	30.021	23.948	24.000
ASM-2430-20	24.0	30.0	20.0			30.000	30.021	23.948	24.000
ASM-2430-30	24.0	30.0	30.0			30.000	30.021	23.948	24.000
ASM-2528-12	25.0	28.0	12.0	25.065	25.195	28.000	28.021	24.948	25.000
ASM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
ASM-2530-20	25.0	30.0	20.0			30.000	30.021	24.948	25.000
ASM-2530-30	25.0	30.0	30.0			30.000	30.021	24.948	25.000
ASM-2530-40	25.0	30.0	40.0			30.000	30.021	24.948	25.000
ASM-2532-20	25.0	32.0	20.0			32.000	32.025	24.948	25.000
ASM-2532-30	25.0	32.0	30.0			32.000	32.025	24.948	25.000
ASM-2532-40	25.0	32.0	40.0			32.000	32.025	24.948	25.000
ASM-2630-20	26.0	30.0	20.0	26.065	26.195	30.000	30.021	25.948	26.000
ASM-2632-30	26.0	32.0	30.0			32.000	32.025	25.948	26.000
ASM-2734-20	27.0	34.0	20.0	27.065	27.195	34.000	34.025	26.948	27.000
ASM-2734-30	27.0	34.0	30.0			34.000	34.025	26.948	27.000
ASM-2734-40	27.0	34.0	40.0			34.000	34.025	26.948	27.000
ASM-2833-20	28.0	33.0	20.0	28.065	28.195	33.000	33.025	27.948	28.000
ASM-2836-20	28.0	36.0	20.0			36.000	36.025	27.948	28.000
ASM-2836-30	28.0	36.0	30.0			36.000	36.025	27.948	28.000
ASM-2836-40	28.0	36.0	40.0			36.000	36.025	27.948	28.000
ASM-3038-20	30.0	38.0	20.0	30.065	30.195	38.000	38.025	29.948	30.000
ASM-3038-30	30.0	38.0	30.0			38.000	38.025	29.948	30.000
ASM-3038-40	30.0	38.0	40.0			38.000	38.025	29.948	30.000
ASM-3240-20	32.0	40.0	20.0	32.080	32.240	40.000	40.025	31.938	32.000
ASM-3240-30	32.0	40.0	30.0			40.000	40.025	31.938	32.000
ASM-3240-40	32.0	40.0	40.0			40.000	40.025	31.938	32.000

Bearing technology | Plain bearing | iglide® A200

Flange bearing (form F), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, page 504

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
A	F	M	-06	10	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
AFM-0103-02	1.0	3.0	5.0	2.0	1.00	1.020	1.080	3.000	3.010	0.975	1.000
AFM-0104-02	1.5	4.0	6.0	2.0	1.00	1.520	1.580	4.000	4.012	1.475	1.500
AFM-0205-03	2.0	5.0	8.0	3.0	1.50	2.020	2.080	5.000	5.012	1.975	2.000
AFM-0206-03	2.5	6.0	9.0	3.0	1.50	2.520	2.580	6.000	6.012	2.475	2.500
AFM-0306-04	3.0	6.0	9.0	4.0	1.50	3.020	3.080	6.000	6.012	2.975	3.000
AFM-0408-04	4.0	8.0	12.0	4.0	2.00	4.030	4.105	8.000	8.015	3.970	4.000
AFM-0408-06	4.0	8.0	12.0	6.0	2.00			8.000	8.015	3.970	4.000
AFM-0507-05	5.0	7.0	11.0	5.0	1.00	5.030	5.105	7.000	7.015	4.970	5.000
AFM-0509-05	5.0	9.0	13.0	5.0	2.00			9.000	9.015	4.970	5.000
AFM-0509-06	5.0	9.0	13.0	6.0	2.00			9.000	9.015	4.970	5.000
AFM-0509-08	5.0	9.0	13.0	8.0	2.00			9.000	9.015	4.970	5.000
AFM-0610-04	6.0	10.0	14.0	4.0	2.00	6.030	6.105	10.000	10.015	5.970	6.000
AFM-0610-06	6.0	10.0	14.0	6.0	2.00			10.000	10.015	5.970	6.000
AFM-0610-10	6.0	10.0	14.0	10.0	2.00			10.000	10.015	5.970	6.000
AFM-0612-06	6.0	12.0	14.0	6.0	3.00			12.000	12.018	5.970	6.000
AFM-0612-10	6.0	12.0	14.0	10.0	3.00			12.000	12.018	5.970	6.000
AFM-0711-08	7.0	11.0	15.0	8.0	2.00	7.040	7.130	11.000	11.018	6.964	7.000
AFM-0811-08	8.0	11.0	13.0	8.0	2.00	8.040	8.130	11.000	11.018	7.964	8.000
AFM-0812-06	8.0	12.0	16.0	6.0	2.00			12.000	12.018	7.964	8.000
AFM-0812-08	8.0	12.0	16.0	8.0	2.00			12.000	12.018	7.964	8.000
AFM-0812-12	8.0	12.0	16.0	12.0	2.00			12.000	12.018	7.964	8.000
AFM-0812-22	8.0	12.0	16.0	22.0	2.00			12.000	12.018	7.964	8.000
AFM-0814-06	8.0	14.0	18.0	6.0	3.00			14.000	14.018	7.964	8.000
AFM-0814-10	8.0	14.0	18.0	10.0	3.00			14.000	14.018	7.964	8.000
AFM-0914-06	9.0	14.0	19.0	6.0	2.00	9.040	9.130	14.000	14.018	8.964	9.000
AFM-0914-10	9.0	14.0	19.0	10.0	2.00			14.000	14.018	8.964	9.000
AFM-0914-14	9.0	14.0	19.0	14.0	2.00			14.000	14.018	8.964	9.000
AFM-1016-06	10.0	16.0	22.0	6.0	3.00	10.040	10.130	16.000	16.018	9.964	10.000
AFM-1016-08	10.0	16.0	22.0	8.0	3.00			16.000	16.018	9.964	10.000
AFM-1016-10	10.0	16.0	22.0	10.0	3.00			16.000	16.018	9.964	10.000
AFM-1016-16	10.0	16.0	22.0	16.0	3.00			16.000	16.018	9.964	10.000
AFM-101620-10	10.0	16.0	20.0	10.0	3.00			16.000	16.018	9.964	10.000
AFM-1214-12	12.0	14.0	20.0	12.0	1.00	12.050	12.160	14.000	14.018	11.957	12.000
AFM-1218-08	12.0	18.0	24.0	8.0	3.00			18.000	18.018	11.957	12.000
AFM-1218-10	12.0	18.0	22.0	10.0	3.00			18.000	18.018	11.957	12.000

Product range

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
AFM-1218-12	12.0	18.0	24.0	12.0	3.00	12.050	12.160	18.000	18.018	11.957	12.000
AFM-1218-15	12.0	18.0	22.0	15.0	3.00			18.000	18.018	11.957	12.000
AFM-1218-20	12.0	18.0	22.0	20.0	3.00			18.000	18.018	11.957	12.000
AFM-1420-10	14.0	20.0	25.0	10.0	3.00	14.050	14.160	20.000	20.021	13.957	14.000
AFM-1420-15	14.0	20.0	25.0	15.0	3.00			20.000	20.021	13.957	14.000
AFM-1420-20	14.0	20.0	25.0	20.0	3.00			20.000	20.021	13.957	14.000
AFM-1521-10	15.0	21.0	27.0	10.0	3.00	15.050	15.150	21.000	21.021	14.957	15.000
AFM-1521-15	15.0	21.0	27.0	15.0	3.00			21.000	21.021	14.957	15.000
AFM-1521-20	15.0	21.0	27.0	20.0	3.00			21.000	21.021	14.957	15.000
AFM-1521-25	15.0	21.0	27.0	25.0	3.00			21.000	21.021	14.957	15.000
AFM-1622-12	16.0	22.0	28.0	12.0	3.00	16.050	16.160	22.000	22.021	15.957	16.000
AFM-1622-15	16.0	22.0	28.0	15.0	3.00			22.000	22.021	15.957	16.000
AFM-1622-20	16.0	22.0	28.0	20.0	3.00			22.000	22.021	15.957	16.000
AFM-1622-25	16.0	22.0	28.0	25.0	3.00			22.000	22.021	15.957	16.000
AFM-1824-12	18.0	24.0	30.0	12.0	3.00	18.050	18.160	24.000	24.021	17.957	18.000
AFM-1824-18	18.0	24.0	30.0	18.0	3.00			24.000	24.021	17.957	18.000
AFM-1824-20	18.0	24.0	30.0	20.0	3.00			24.000	24.021	17.957	18.000
AFM-1824-30	18.0	24.0	30.0	30.0	3.00			24.000	24.021	17.957	18.000
AFM-2026-15	20.0	26.0	32.0	15.0	3.00	20.065	20.195	26.000	26.021	19.948	20.000
AFM-2026-20	20.0	26.0	32.0	20.0	3.00			26.000	26.021	19.948	20.000
AFM-2026-30	20.0	26.0	32.0	30.0	3.00			26.000	26.021	19.948	20.000
AFM-2228-15	22.0	28.0	34.0	15.0	3.00	22.065	22.195	28.000	28.021	21.948	22.000
AFM-2228-20	22.0	28.0	34.0	20.0	3.00			28.000	28.021	21.948	22.000
AFM-2228-30	22.0	28.0	34.0	30.0	3.00			28.000	28.021	21.948	22.000
AFM-2430-15	24.0	30.0	36.0	15.0	3.00	24.065	24.195	30.000	30.021	23.948	24.000
AFM-2430-20	24.0	30.0	36.0	20.0	3.00			30.000	30.021	23.948	24.000
AFM-2430-30	24.0	30.0	36.0	30.0	3.00			30.000	30.021	23.948	24.000
AFM-2532-20	25.0	32.0	38.0	20.0	4.00	25.065	25.195	32.000	32.025	24.948	25.000
AFM-2532-30	25.0	32.0	38.0	30.0	4.00			32.000	32.025	24.948	25.000
AFM-2532-40	25.0	32.0	38.0	40.0	4.00			32.000	32.025	24.948	25.000
AFM-2734-20	27.0	34.0	40.0	20.0	4.00	27.065	27.195	34.000	34.025	26.948	27.000
AFM-2734-30	27.0	34.0	40.0	30.0	4.00			34.000	34.025	26.948	27.000
AFM-2734-40	27.0	34.0	40.0	40.0	4.00			34.000	34.025	26.948	27.000
AFM-2836-20	28.0	36.0	42.0	20.0	4.00	28.065	28.195	36.000	36.025	27.948	28.000
AFM-2836-30	28.0	36.0	42.0	30.0	4.00			36.000	36.025	27.948	28.000
AFM-2836-40	28.0	36.0	42.0	40.0	4.00			36.000	36.025	27.948	28.000
AFM-3038-20	30.0	38.0	44.0	20.0	4.00	30.065	30.195	38.000	38.025	29.948	30.000
AFM-3038-30	30.0	38.0	44.0	30.0	4.00			38.000	38.025	29.948	30.000
AFM-3038-40	30.0	38.0	44.0	40.0	4.00			38.000	38.025	29.948	30.000
AFM-3240-20	32.0	40.0	46.0	20.0	4.00	32.080	32.240	40.000	40.025	31.938	32.000
AFM-3240-30	32.0	40.0	46.0	30.0	4.00			40.000	40.025	31.938	32.000
AFM-3240-40	32.0	40.0	46.0	40.0	4.00			40.000	40.025	31.938	32.000

Notes

“Food” bearing with media resistance up to +194°F

Compliant with Regulation (EU) No. 10/2011 and FDA guidelines

iglide® A160

When to use it?

- When a plain bearing with maximum media resistance is required
- When a cost-effective plain bearing with high media resistance is required
- When a material compliant in accordance with Regulation (EU) No. 10/2011 is required

When not to use?

- When a universal material for the food industry is required
  iglide® A180, iglide® A181
- When a media-resistant plain bearing is required for applications at more than +194°F
  iglide® A500, iglide® X,
- When a low-cost material with high wear resistance is required for dry operation
  iglide® R

Bearing technology | Plain bearing | iglide® A160

Ø
6 – 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

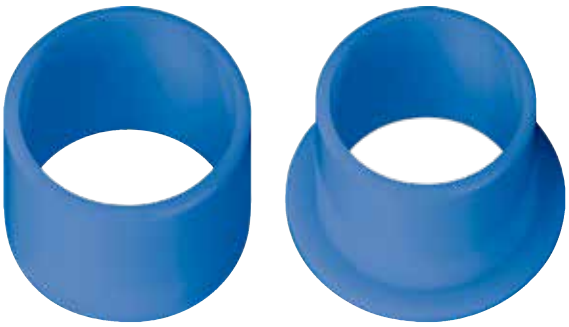
tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965



“Food” bearing with media resistance up to +194°F

Compliant with Regulation (EU) No. 10/2011 and FDA guidelines

iglide® A160 offers maximum media resistance in the medium temperature range and is therefore a true low-cost iglide®. The profile of properties is completed by the suitability for applications in the food industry.

- Compliant with Regulation (EU) No. 10/2011
- FDA-compliant
- High media resistance
- Cost-effective
- Self-lubricating
- Maintenance-free

Typical application areas

- Food industry
- Beverage technology
- Medical technology

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.00	
Color		blue	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.1	
Coefficient of friction, dynamic, against steel	μ	0.09 – 0.19	
pv value, max. (dry)	psi · fpm	7,140	
Mechanical properties			
Flexural modulus	psi	166,938	DIN 53457
Flexural strength at +68°F	psi	2,756	DIN 53452
Compressive strength	psi	5,366	
Max. recommended surface pressure (+68°F)	psi	2,176	
Shore D hardness		60	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+212	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.30	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	11	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

-58°F up to +194°F

2,176psi

HB

FOOD

RoHS

ISO 3547-1

Table 01: Material properties

iglide® A160 plain bearings are characterized by extreme media resistance at a low cost. Tribologically optimized, the material can be used in temperatures up to +194°F and also conforms to demands of the food processing sector. The profile of properties is completed by the "optical detectability", i.e. the blue colour, often required in the industry.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® A160 plain bearings is approximately 0.1% weight. The saturation limit submerged in water is also approximately 0.1% weight.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® A160 bearings.

Radiation resistance

Plain bearings made from iglide® A160 are resistant up to a radiation intensity of $1 \cdot 10^5$Gy.

Resistance to weathering

iglide® A160 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® A160 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 iglide® A160 at radial loads. Plastic deformation is minimal up to a radial load of 2,176psi. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® A160 was developed for low surface speeds. Maximum speeds of up to 98fpm (rotating) and 394fpm (linear), respectively, are permissible during continuous dry operation. 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 temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Coefficient of friction and wear resistance are dependent on the application parameters (diagrams 04 and 05). For iglide® A160 plain bearings, altering the coefficient of friction μ as a function of surface speed has less effect. The coefficient of friction decreases with increasing load. Surface finishes (Ra) of the shaft between 0.6 – 0.7μm are ideal.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® A160 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 E10 tolerances.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® A160. For rotational applications with low loads, the most interesting, media and corrosion-resistant shaft materials 304 stainless steel, high grade steel and hard-chromed steel reveal themselves as particularly good counter partners. On high grade steel shafts, however, the wear increases the fastest with the load (diagram 06). With case hardened steel shafts, the wear in pivoting applications is exemplary compared to rotating applications. In rotation the wear, as with many other iglide® materials, is higher than when pivoting (diagram 07).

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	98	79	394
short-term	**fpm**	138	118	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.09 – 0.19	0.08	0.03	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

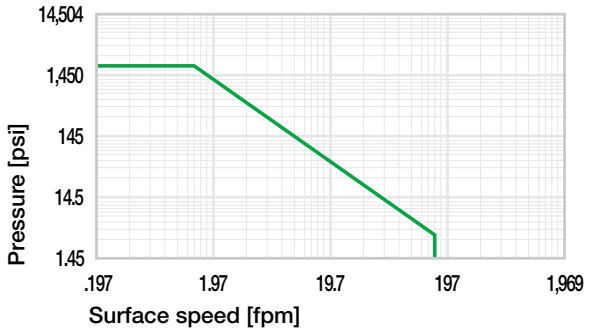


Diagram 01: Permissible pv values for iglide® A160 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

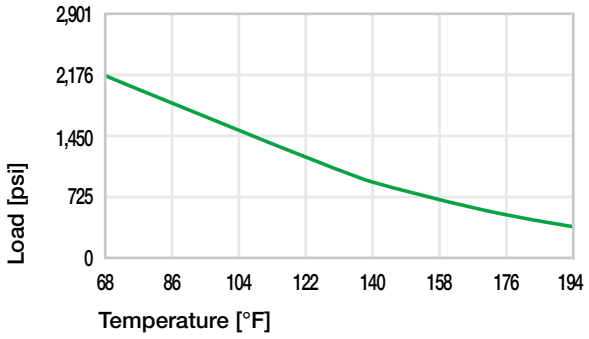


Diagram 02: Maximum recommended surface pressure as a function of temperature (2,176psi at +68°F)

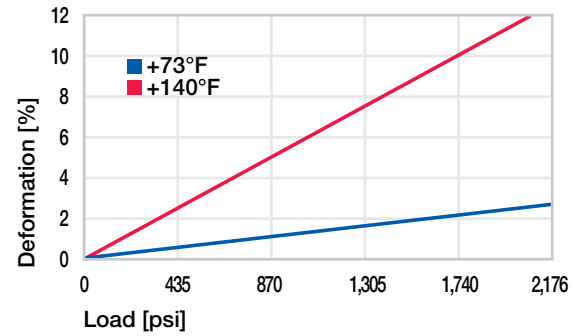


Diagram 03: Deformation under pressure and temperature

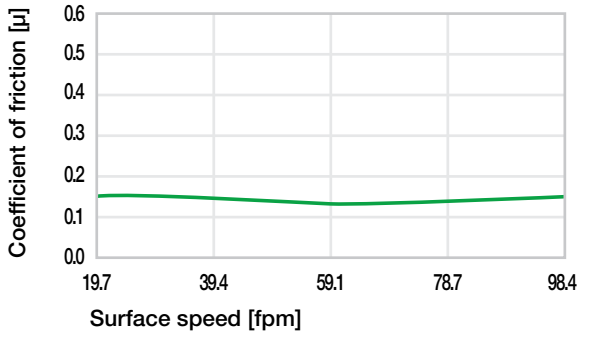


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

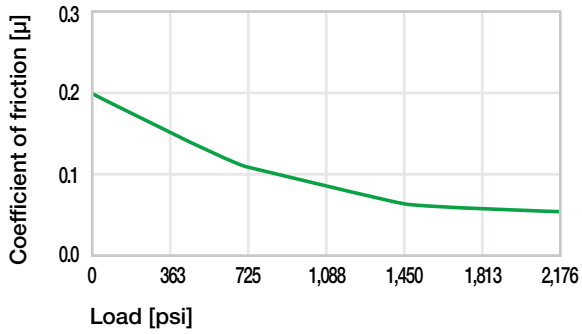


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

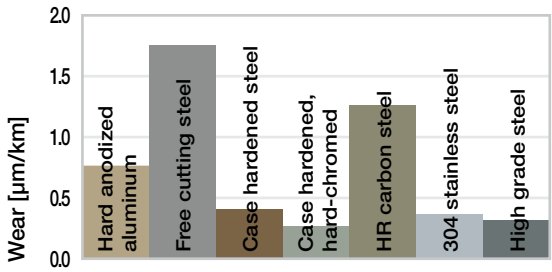


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

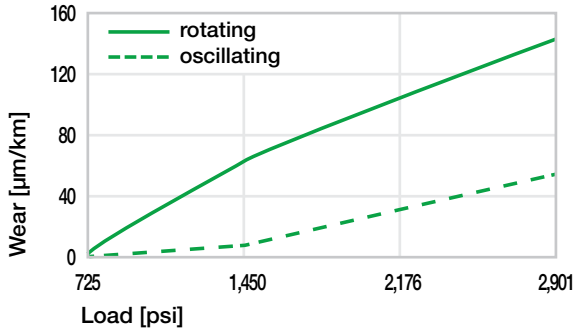
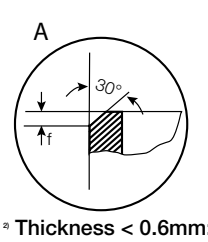


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® A160

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 518**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

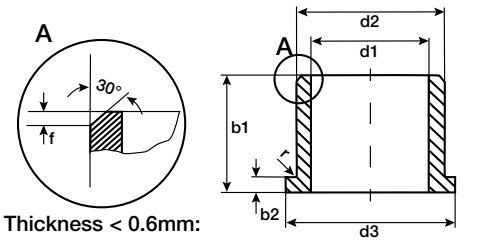
Order key

Type			Dimensions		
A160	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
A160SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
A160SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
A160SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
A160SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
A160SM-1517-10	15.0	17.0	10.0	15.032	15.102	17.000	17.018	14.957	15.000
A160SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
A160SM-2022-20	20.0	22.0	20.0	20.040	20.124	22.000	22.021	19.948	20.000
A160SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® A160

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 518**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
A160	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
A160FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
A160FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
A160FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
A160FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
A160FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
A160FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes

Suitable for contact with drinking water

KTW-compliant

iglide® UW160

When to use it?

- When a KTW-compliant material is required
- When a wear-resistant material for continuous operation in liquid is required

When not to use?

- When a recurring media-resistant plain bearing with intermittent dry operation is required
  iglide® A160
- When a media and temperature-resistant universal plain bearing is required
  iglide® X
- When a standard plain bearing is required for use in a moist environment
  iglide® P

Ø
3 – 10mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Suitable for contact with drinking water
KTW-compliant

iglide® UW160 is tribologically optimized for continuous operation in liquid media. Its superior media resistance not only permits uses with potable water contact.

- Suitable for applications in liquids
- Suitable for contact with drinking water (KTW-compliant)
- High media resistance
- Self-lubricating
- Maintenance-free

Typical application areas

- Fluid technology
- Pumps
- Water meters

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■■	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.04	
Color		grey	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.1	
Coefficient of friction, dynamic, against steel	µ	0.17 – 0.31	
pv value, max. (dry)	psi · fpm	6,280	
Mechanical properties			
Flexural modulus	psi	195,656	DIN 53457
Flexural strength at +68°F	psi	3,191	DIN 53452
Compressive strength	psi	4,641	
Max. recommended surface pressure (+68°F)	psi	2,176	
Shore D hardness		60	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+212	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.50	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	18	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

Table 01: Material properties

-58°F up to +194°F

2,176psi

HB

RoHS

ISO 3547-1

iglide® UW160 was developed for maximum wear resistance when continuoous operation in media exists. In such applications, low radial loads and medium temperatures usually occur. The suitability for contact with drinking water and very good durability complete the profile of properties.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® UW160 plain bearings is approximately 0.1% weight. The saturation limit in water is 0.1% weight.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® UW160 bearings.

Radiation resistance

Plain bearings made from iglide® UW160 are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® UW160 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® UW160 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 iglide® UW160 at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

The maximum recommended surface speed is based on the friction heat generated at the bearing surface. The temperature should only be permitted to increase to a value that will ensure a sustainable use of the bearing with respect to wear and dimensional integrity. The maximum values specified in table 03 are for the dry operation. In media-based application, sometimes significantly higher speeds are achieved due to reduced heat generation depending on the installation.

▶ Surface speed, **Page 44**

Temperature

iglide® UW160 was developed for use in liquid media in the normal and medium temperature range. As in the case of all thermoplastics, the compression strength of iglide® UW160 decreases when temperatures rise. The temperatures prevailing in the bearing system also have an influence on the wear. The wear rises with increasing temperatures. For temperatures over +158°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Similar to wear resistance, the coefficient of friction μ also changes with the surface speed and load (diagrams 04 and 05). The influence of surface speed and surface finish of the shaft on the friction coefficient is low, but with increasing radial load the coefficient of friction decreases significantly, mainly in the range of up to 1,088psi.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]

Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® UW160 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 E10 tolerances.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® UW160. In the example of a rotational movement with radial loads of 145psi and a speed of 59fpm, it becomes clear that iglide® UW160 achieves good coefficient of wear with the most varied shafts. It is also clear that there are better iglide® materials for dry operation. As with many other iglide® materials in dry operation, diagram 07 shows the significantly higher wear in rotation than in pivoting with otherwise identical parameters.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	98	79	394
short-term	**fpm**	138	118	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.17 – 0.31	0.08	0.03	0.03

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

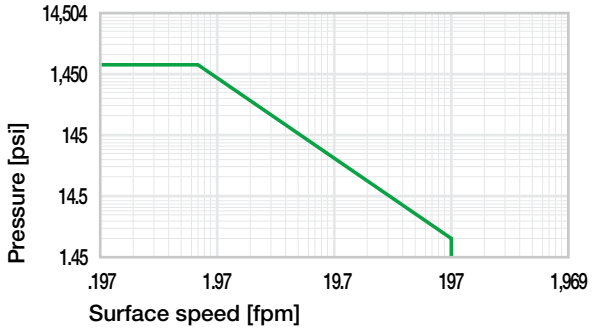


Diagram 01: Permissible pv values for iglide® UW160 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

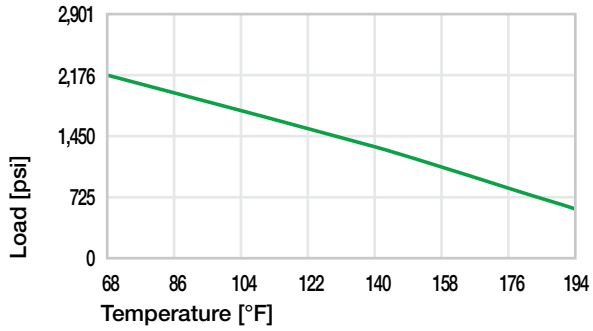


Diagram 02: Maximum recommended surface pressure as a function of temperature (2,176psi at +68°F)

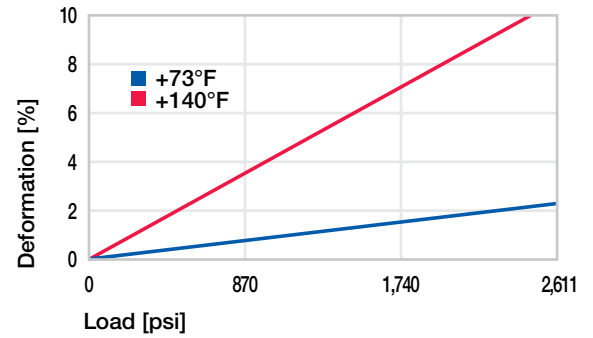


Diagram 03: Deformation under pressure and temperature

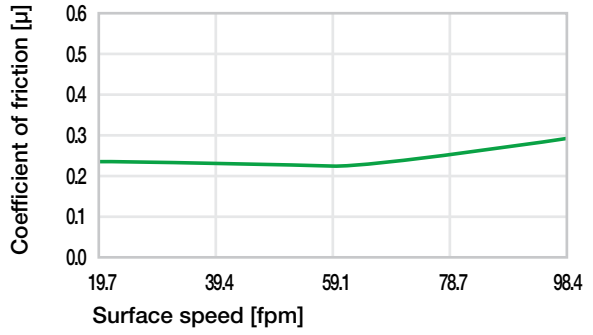


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

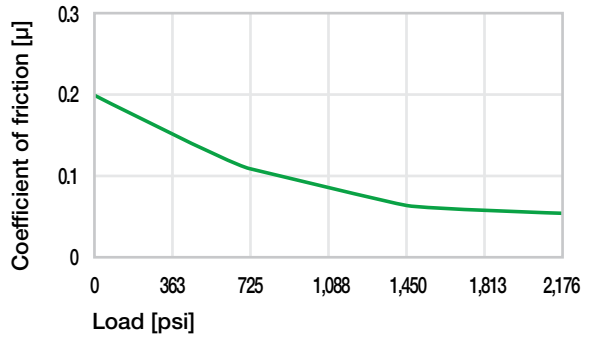


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

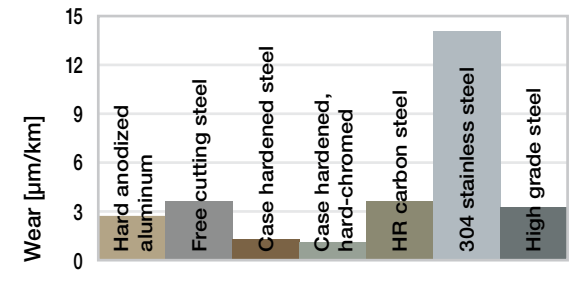


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

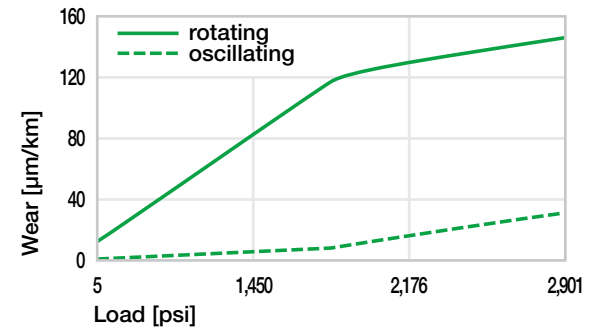
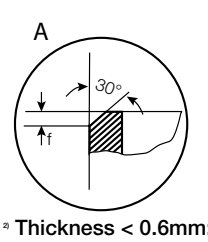


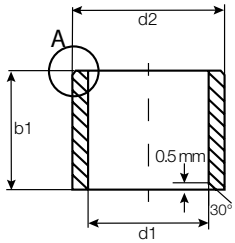
Diagram 07: Wear for oscillating and rotating applications with shaft material Case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® UW160

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 526**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

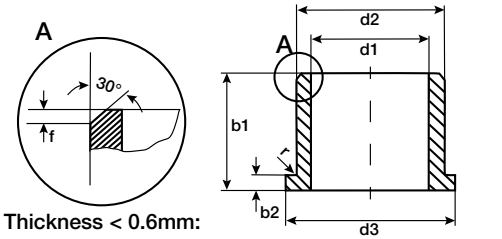
Order key

Type			Dimensions		
UW160	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
UW160SM-0304-03	3.0	4.0	3.0	3.014	3.054	4.000	4.012	2.975	3.000
UW160SM-0405-04	4.0	5.0	4.0	4.014	4.054	5.000	5.012	3.970	4.000
UW160SM-0507-05	5.0	7.0	5.0	5.020	5.068	7.000	7.015	4.970	5.000
UW160SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
UW160SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
UW160SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000

Bearing technology | Plain bearing | iglide® UW160

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 526**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
UW160	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
UW160FM-0304-05	3.0	4.5	7.5	5.0	0.75	3.014	3.054	4.500	4.512	2.975	3.000
UW160FM-0405-06	4.0	5.5	9.5	6.0	0.75	4.014	4.054	5.500	5.512	3.970	4.000
UW160FM-0507-07	5.0	7.0	11.0	7.0	1.00	5.020	5.068	7.000	7.015	4.970	5.000
UW160FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
UW160FM-0810-10	8.0	10.0	14.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
UW160FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000

Notes

For the tobacco industry

FDA-compliant

iglide® T220

When to use it?

- When you need a bearing free from non-permitted materials in the tobacco industry
- When FDA compliance is required

When not to use?

- When high surface pressures occur
  iglide® Z
- When a cost-effective all-round plain bearing is required
  iglide® G, iglide® M250
- When the highest wear resistance at low pressures is required
  iglide® J

Ø
Contact igus®

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

For the tobacco industry
FDA-compliant

Plain bearings that consist of only materials “recommended” for the tobacco industry. They are free from additives such as PTFE.

- Free from banned ingredients as requested by main manufacturers of tobacco products
- FDA-compliant
- Self-lubricating
- Maintenance-free

Typical application areas

- Tobacco industry

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.28	
Color		white	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	0.5	
Coefficient of friction, dynamic, against steel	µ	0.20 – 0.32	
pv value, max. (dry)	psi · fpm	7,990	
Mechanical properties			
Flexural modulus	psi	261,068	DIN 53457
Flexural strength at +68°F	psi	9,427	DIN 53452
Compressive strength	psi	7,977	
Max. recommended surface pressure (+68°F)	psi	5,802	
Shore D hardness		76	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+212	
Max. application temperature short-term	°F	+320	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	11	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{10}	DIN IEC 93
Surface resistance	Ω	> 10^{10}	DIN 53482

-40°F up to +212°F

5,802psi

HB

FOOD

RoHS

ISO 3547-1

Table 01: Material properties

iglide® T220 is a special material for applications in the tobacco processing industry. It fulfills the demands of the tobacco industry (engineering database). The material is free of undesirable or banned ingredients, as requested by reputed manufacturers from 2004 onward.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® T220 plain bearings is approximately 0.3% weight. The saturation limit in water is 0.5% weight. These values are so low that consideration of expansion by moisture absorption is only required under extreme circumstances.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® T220 bearings.

Radiation resistance

Plain bearings made from iglide® T220 are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® T220 plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® T220 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. iglide® T220 plain bearings can be stressed up to the permitted limit of 5,802psi, the elastic deformation is less than 2% at room temperature. The permitted load is limited by higher temperatures (diagram 03).

▶ Surface pressure, **Page 50**

Permissible surface speeds

The maximum speeds of iglide® T220 plain bearings when rotating continuously is 79fpm. The friction and the associated temperature increase limit the permissible speeds. From this it follows that intermittent service or in linear movements, higher speeds can be attained.

▶ Surface speed, **Page 44**

Temperature

The flexibility of the bearings depends on the temperature. Even temperatures as low as +140°F lead to a considerable increase in flexibility. For temperatures over +122°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

By the observance of the tobacco processing industry specifications, the coefficient of friction and wear of iglide® T220 plain bearings remain behind those of the best iglide® plain bearings. The coefficient of friction decreases with the load and increases only slightly with higher speeds.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® T220 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows the test results of iglide® T220 plain bearings running against various shaft materials. Diagram 07 shows that the bearings react with a heavy increase in wear when the load is increased. Therefore care should be taken to maintain the loads under 725psi through adequate dimensioning of the bearing.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	79	59	197
short-term	**fpm**	197	138	394

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.20 – 0.32	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

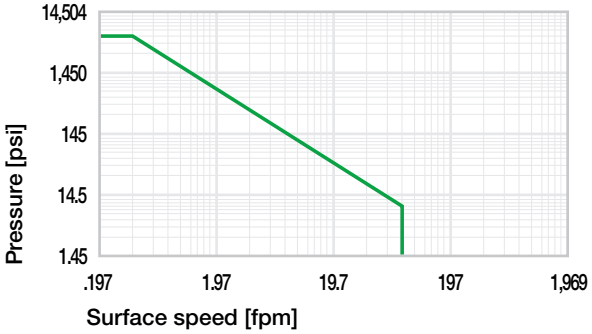


Diagram 01: Permissible pv values for iglide® T220 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

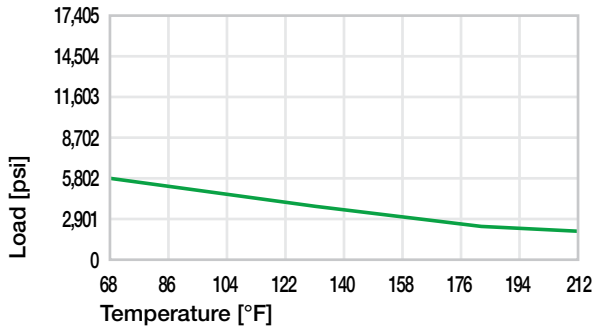


Diagram 02: Maximum recommended surface pressure as a function of temperature (5,802psi at +68°F)

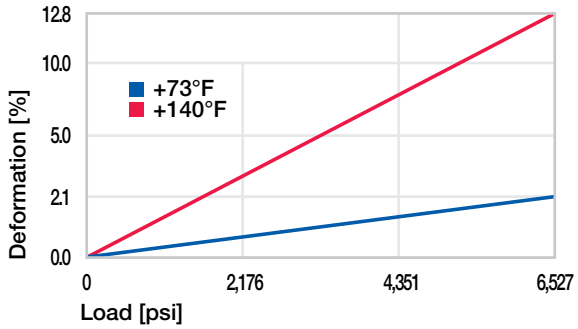


Diagram 03: Deformation under pressure and temperature

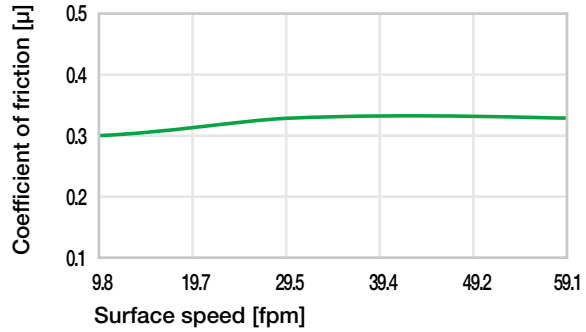


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

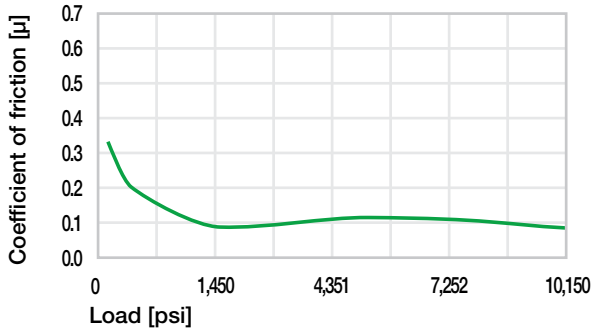


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

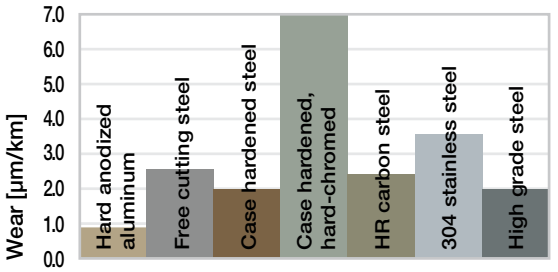


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

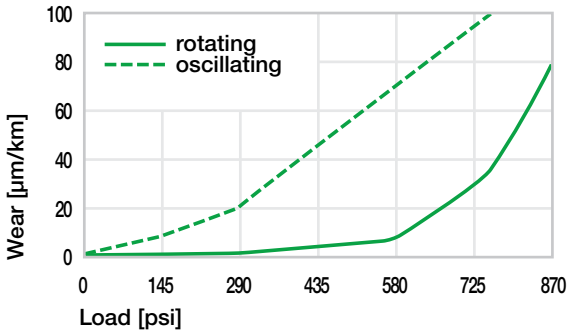
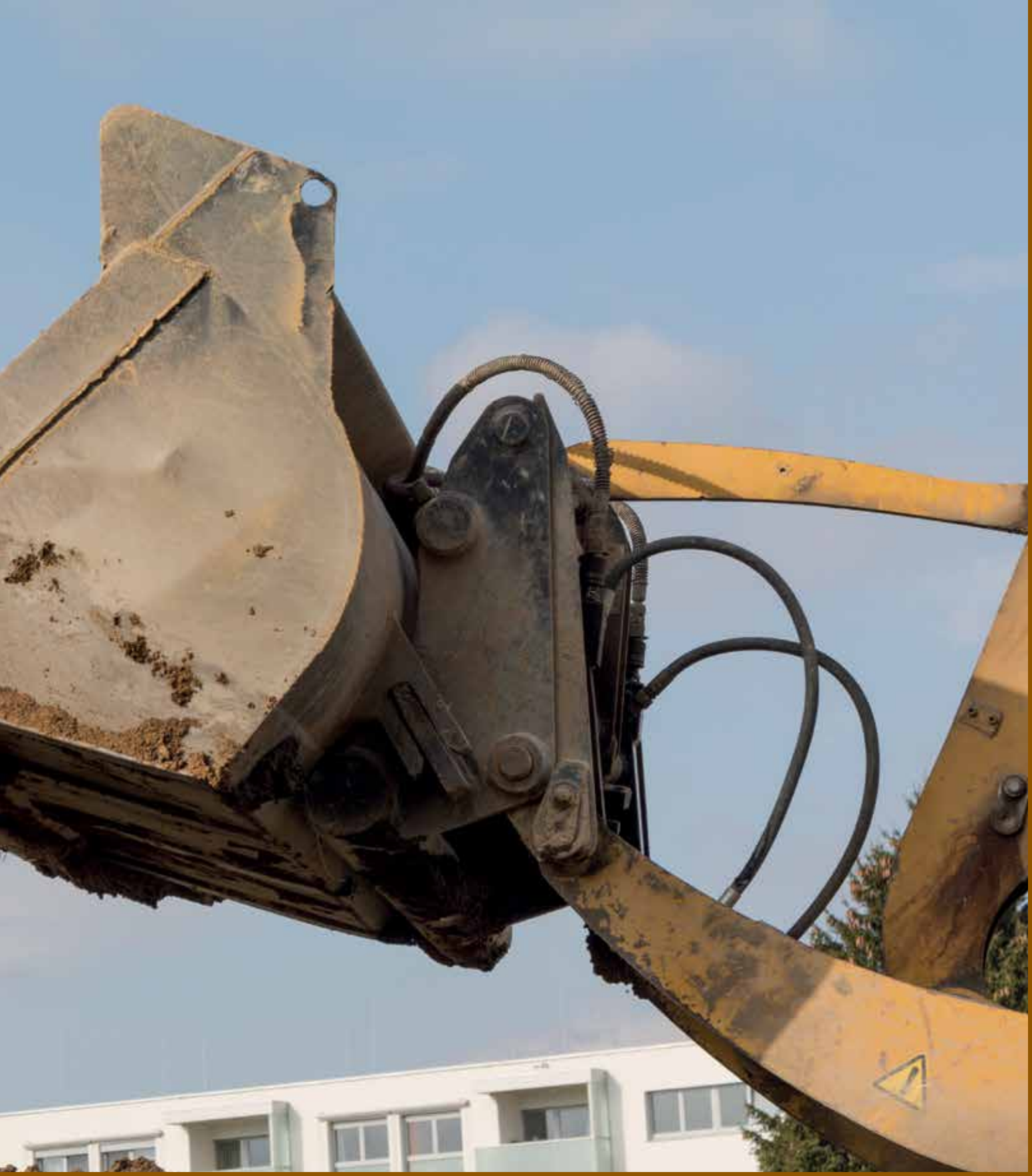


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load



Plain bearing materials for heavy-duty applications

Plain bearing materials for heavy-duty applications

The iglide® plain bearings for high loads combine high wear resistance and the ability to withstand high (static) loads, impacts and edge loads.
Within these properties they all have their own special strengths. High load means radial surface pressure starting from 4,351psi up to more than 14,504psi (14,504psi means 1,000kg on a 10 x 10mm plain bearing).

Online product finder
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Online service life calculation
www.igus.com/iglide-expert

iglide® Q2
The durable heavy-duty bearing

		–	+
Temperature [°F] [123]	+266	–	+
Surface pressure [psi] [124]	17,405	–	+
Coefficient of friction [µ] [125]	0.17	–	+
Wear [µm/km] [125]	1.50	–	+
Price index		–	+

iglide® Q2E
Cost-effective heavy-duty bearing

		–	+
Temperature [°F] [123]	+212	–	+
Surface pressure [psi] [124]	19,580	–	+
Coefficient of friction [µ] [125]	0.17	–	+
Wear [µm/km] [125]	1.50	–	+
Price index		–	+

iglide® Q
The peak of stability

		–	+
Temperature [°F] [123]	+275	–	+
Surface pressure [psi] [124]	14,504	–	+
Coefficient of friction [µ] [125]	0.19	–	+
Wear [µm/km] [125]	1.90	–	+
Price index		–	+

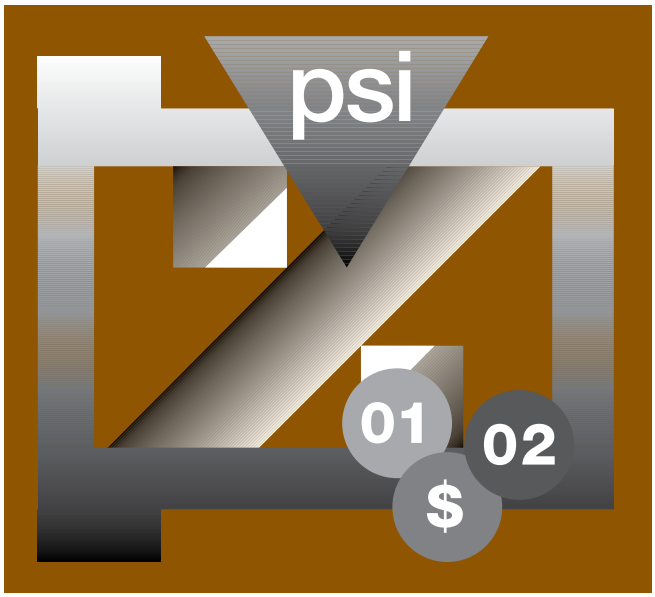
iglide® Q290
Heavy-duty on soft shafts

		–	+
Temperature [°F] [123]	+284	–	+
Surface pressure [psi] [124]	7,977	–	+
Coefficient of friction [µ] [125]	0.12	–	+
Wear [µm/km] [125]	0.48	–	+
Price index		–	+

[123] max. long-term application temperature [124] max. recommended surface pressure at +68°F [125] best combination for p = 145psi, v = 59fpm, rotating

iglide® TX1
The heavy-duty bearing for up to 29,008psi static and 20,305psi dynamic

Temperature [°F] [123]	+248	–	+
Surface pressure [psi] [124]	29,008	–	+
Coefficient of friction [µ] [125]	0.37	–	+
Wear [µm/km] [125]	7.10	–	+
Price index		–	+



The durable heavy-duty bearing

Combined wear resistance and compressive strength at high loads

iglide® Q2

When to use it?

- When high dynamic loads occur
- When dirt occurs in addition to high shock and impact loads
- For highly loaded pivoting movements

When not to use?

- When only static loads occur
  iglide® X, iglide® H2
- When high pv values occur in conjunction with high speeds
  iglide® Z
- When a cost-effective general purpose plain bearing is required
  iglide® G
- When soft shafts are in use
  iglide® W300

Ø
4 – 120mm
1/8 - 2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The durable heavy-duty bearing

Combined wear resistance and compressive strength at high loads

Where previous iglide® bearing solutions are limited within the scope of extreme loads and strong impact forces, the iglide® Q2 starts. Made for heavy-duty pivoting applications under extreme conditions.

- Wear-resistant
- Good price-performance ratio
- Self-lubricating
- Maintenance-free
- High rigidity
- Suitable for high loads

Typical application areas

- Agricultural engineering
- Utility and construction vehicles
- Mechanical engineering

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■■■	+
Suitable for shock and impact loads	–	■■■■■	+
Resistant to dirt	–	■■■■■	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

General properties			Testing method
Density	g/cm³	1.46	
Color		beige-brown	
Max. moisture absorption at +73°F and 50% r.h.	% weight	1.1	DIN 53495
Max. moisture absorption	% weight	4.6	
Coefficient of friction, dynamic, against steel	µ	0.22 – 0.42	
pv value, max. (dry)	psi · fpm	20,000	
Mechanical properties			
Flexural modulus	psi	1,213,966	DIN 53457
Flexural strength at +68°F	psi	34,809	DIN 53452
Compressive strength	psi	18,855	
Max. recommended surface pressure (+68°F)	psi	17,405	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+266	
Max. application temperature short-term	°F	+392	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	8	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

–40°F up to +266°F

17,405psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

iglide® Q2 plain bearings represent high load capacities and good abrasion resistance at high loads. The price-performance ratio is outstanding. Solid lubricants reduce the coefficient of friction and improve the resistance to wear, which was markedly improved as compared to other iglide® plain bearings, especially for heavily loaded pivoting applications.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® Q2 plain bearings is approximately 1.1% weight. The saturation limit in water is 4.6% weight. This must be taken into account for these types of applications.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® Q2 are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® Q2 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® Q2 plain bearings decreases. Diagram 02 shows this inverse relationship. However, at the long-term maximum temperature of +266°F the permissible surface pressure is around 2,901psi. 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 iglide® Q2 at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Typical applications for iglide® Q2 plain bearings are pivoting movements under high loads at comparatively low speeds. However, relatively high speeds are still attainable. The speeds stated in table 03 are limit values for the lowest bearing loads. With higher loads, the permitted speed drops with the extent of the load due to the limitations by the pv value.

▶ Surface speed, **Page 44**

Temperature

iglide® Q2 is a very temperature-stable material. The long-term upper temperature limit of +266°F permits the broad use in applications typical for the agricultural, utility vehicle or construction equipment sectors. With increasing temperatures, the compressive strength of iglide® Q2 plain bearings decreases. For temperatures over +158°F an additional securing is required. When considering temperatures, the additional frictional heat in the bearing system must be taken into account.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

iglide® Q2 has a low coefficient of friction. Please note that a sliding surface with a rough surface finish will increase the friction. The highest coefficient of friction occur at Ra = 1µm. Surface finishes (Ra) of the shaft between 0.1 – 0.4µm are ideal. Furthermore, the coefficient of friction of iglide® Q2 plain bearings largely depends on the speed and load. As the surface speed increases, the coefficient of friction will quickly increase as well. However, as the load is reduced, the coefficient of friction initially drops significantly, then moderately.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® Q2 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

In high load applications, we generally recommend the use of hardened shafts. Furthermore, even at low to medium loads, iglide® Q2 will attain increased service life with “hard” shafts as compared to “soft” shafts. But for low load applications, the results are outstanding with free cutting steel as well. For high loads, the wear in pivoting applications is much lower than for rotation. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	787
short-term	**fpm**	394	276	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.22 – 0.42	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040” - .236”
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236” - .472”
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472” - 1.18”
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18”
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

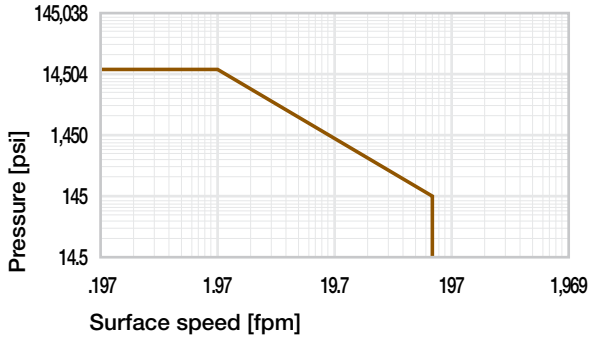


Diagram 01: Permissible pv values for iglide® Q2 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

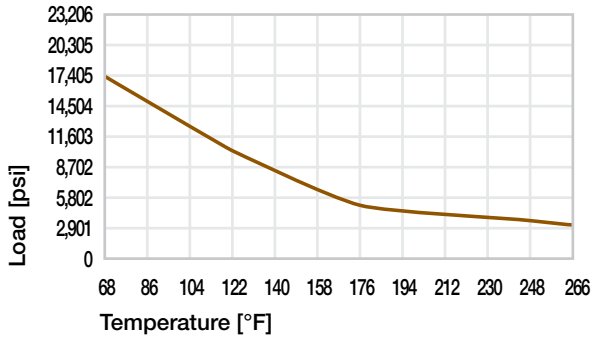


Diagram 02: Maximum recommended surface pressure of as a function of temperature (17,405psi at +68°F)

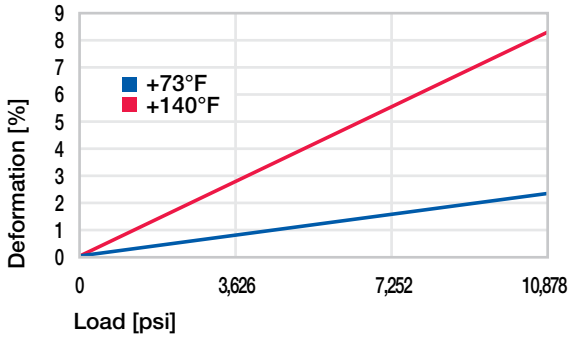


Diagram 03: Deformation under pressure and temperature

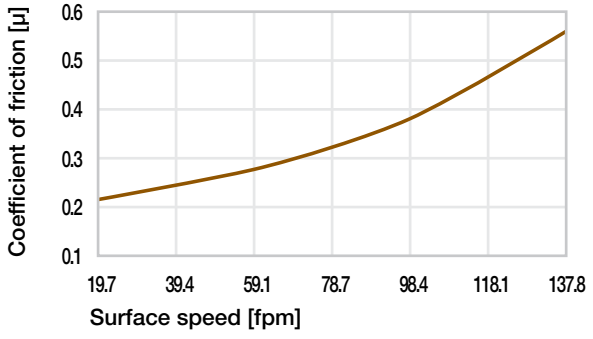


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

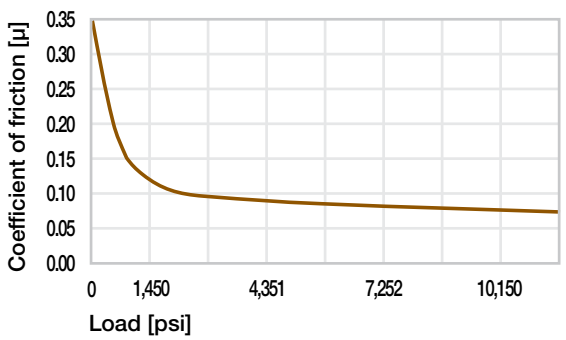


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

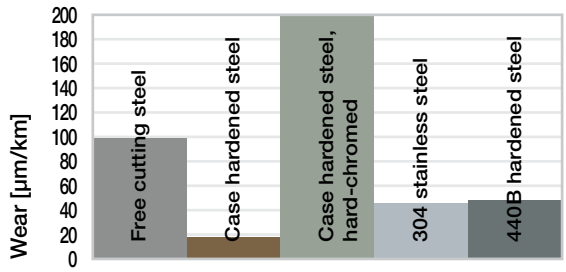


Diagram 06: Wear, pivoting with different shaft materials, pressure p = 4725psi, v = 1.97fpm

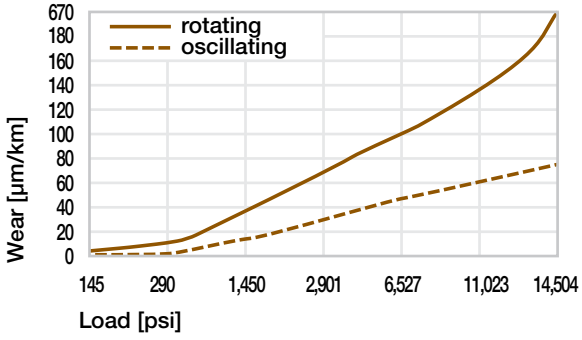
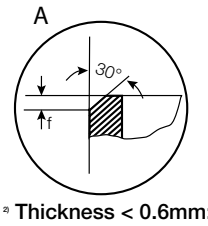


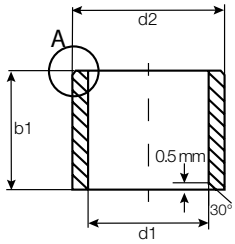
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® Q2

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 544**

Order key

Type			Dimensions		
Q2	S	I	-06	08	-06
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

Chamfer in relation to d1

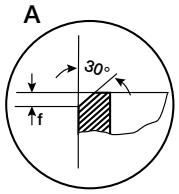
d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

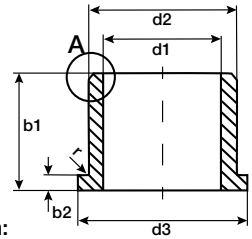
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
Q2SI-0203-03	1/8	3/16	3/16	.1251	.1269	.1873	.1878	.1236	.1243
Q2SI-0304-04	3/16	1/4	1/4	.1873	.1892	.2497	.2503	.1858	.1865
Q2SI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
Q2SI-0405-06	1/4	5/16	3/8	.2498	.2521	.3122	.3128	.2481	.2490
Q2SI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
Q2SI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
Q2SI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
Q2SI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
Q2SI-0607-04	3/8	15/32	1/4	.3750	.3773	.4684	.4691	.3731	.3740
Q2SI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
Q2SI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
Q2SI-0607-10	3/8	15/32	5/8			.4684	.4691	.3731	.3740
Q2SI-0607-12	3/8	15/32	3/4			.4684	.4691	.3731	.3740
Q2SI-0708-08	7/16	17/32	1/2	.4379	.4406	.5309	.5316	.4355	.4365
Q2SI-0708-12	7/16	17/32	3/4			.5309	.5316	.4355	.4365
Q2SI-0809-04	1/2	19/32	1/4	.5003	.5030	.5934	.5941	.4980	.4990
Q2SI-0809-06	1/2	19/32	3/8			.5934	.5941	.4980	.4990
Q2SI-0809-08	1/2	19/32	1/2			.5934	.5941	.4980	.4990
Q2SI-0809-10	1/2	19/32	5/8			.5934	.5941	.4980	.4990
Q2SI-0809-12	1/2	19/32	3/4			.5934	.5941	.4980	.4990
Q2SI-0809-16	1/2	19/32	1			.5934	.5941	.4980	.4990
Q2SI-0910-08	9/16	21/32	1/2	.5627	.5655	.6559	.6566	.5605	.5615
Q2SI-0910-10	9/16	21/32	5/8			.6559	.6566	.5605	.5615
Q2SI-0910-12	9/16	21/32	3/4			.6559	.6566	.5605	.5615
Q2SI-1011-08	5/8	23/32	1/2	.6253	.6288	.7184	.7192	.6230	.6240
Q2SI-1011-12	5/8	23/32	3/4			.7184	.7192	.6230	.6240
Q2SI-1011-16	5/8	23/32	1			.7184	.7192	.6230	.6240
Q2SI-1214-08	3/4	7/8	1/2	.7505	.7541	.8747	.8755	.7479	.7491
Q2SI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
Q2SI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
Q2SI-1216-16	3/4	1	1	.7508	.7541	1.000	1.0010	.7479	.7491
Q2SI-1216-21	3/4	1	1 5/16			1.000	1.0010	.7479	.7491
Q2SI-1216-30	3/4	1	1 7/8			1.000	1.0010	.7479	.7491

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
Q2SI-1416-08	7/8	1	1/2	.8757	.8791	.9997	1.0005	.8729	.8741
Q2SI-1416-12	7/8	1	3/4			.9997	1.0005	.8729	.8741
Q2SI-1416-16	7/8	1	1			.9997	1.0005	.8729	.8741
Q2SI-1618-08	1	1 1/8	1/2	1.0007	1.0041	1.1247	1.1255	.9979	.9991
Q2SI-1618-12	1	1 1/8	3/4			1.1247	1.1255	.9979	.9991
Q2SI-1618-16	1	1 1/8	1			1.1247	1.1255	.9979	.9991
Q2SI-1618-20	1	1 1/8	1 1/4			1.1247	1.1255	.9979	.9991
Q2SI-1618-24	1	1 1/8	1 1/2			1.1247	1.1255	.9979	.9991
Q2SI-1620-08	1	1 1/4	1/2	1.0008	1.0041	1.2500	1.2510	.9979	.9991
Q2SI-1620-12	1	1 1/4	3/4			1.2500	1.2510	.9979	.9991
Q2SI-1620-16	1	1 1/4	1			1.2500	1.2510	.9979	.9991
Q2SI-1620-24	1	1 1/4	1 1/2			1.2500	1.2510	.9979	.9991
Q2SI-1820-12	1 1/8	1 9/32	3/4	1.1246	1.1279	1.2808	1.2818	1.1226	1.1238
Q2SI-1820-16	1 1/8	1 1/4	1			1.2808	1.2818	1.1226	1.1238
Q2SI-1820-20	1 1/8	1 1/4	1 1/4			1.2808	1.2818	1.1226	1.1238
Q2SI-2022-12	1 1/4	1 13/32	3/4	1.2498	1.2537	1.4058	1.4068	1.2472	1.2488
Q2SI-2022-16	1 1/4	1 13/32	1			1.4058	1.4068	1.2472	1.2488
Q2SI-2022-20	1 1/4	1 13/32	1 1/4			1.4058	1.4068	1.2472	1.2488
Q2SI-2024-16	1 1/4	1 1/2	1	1.2520	1.2559	1.5000	1.5010	1.2476	1.2500
Q2SI-2426-16	1 1/2	1 21/32	1	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
Q2SI-2426-24	1 1/2	1 21/32	1 1/2			1.6558	1.6568	1.4972	1.4988
Q2SI-2428-24	1 1/2	1 3/4	1 1/2	1.5008	1.5048	1.7495	1.7505	1.4972	1.4988
Q2SI-2629-16	1 5/8	1 25/32	1	1.6258	1.6297	1.7808	1.7818	1.6222	1.6238
Q2SI-2629-24	1 5/8	1 25/32	1 1/2			1.7808	1.7818	1.6222	1.6238
Q2SI-2831-16	1 3/4	1 15/16	1	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
Q2SI-2831-32	1 3/4	1 15/16	2			1.9371	1.9381	1.7471	1.7487
Q2SI-3033-16	1 7/8	2	1	1.8757	1.8796	2.0621	2.0633	1.8739	1.8787
Q2SI-3033-32	1 7/8	2	2			2.0621	2.0633	1.8739	1.8787
Q2SI-3235-16	2	2 3/16	1	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
Q2SI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981
Q2SI-3236-32	2	2 1/4	2	2.0012	2.0059	2.2495	2.2505	1.9969	1.9981
Q2SI-3236-36	2	2 1/4	2 1/4	2.0012	2.0059	2.2495	2.2505	1.9969	1.9981

Bearing technology | Plain bearing | iglide® Q2

Flange bearing (form F), inch





[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 544**

Order key

Type			Dimensions		
Q2	F	I	-06	08	-06
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

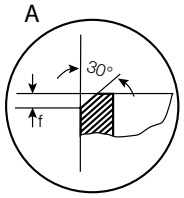
Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

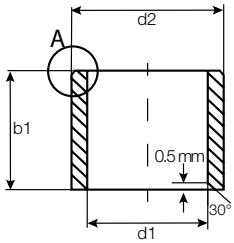
Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
Q2FI-0203-03	1/8	3/16	3/16	.312	.032	.1251	.1269	.1873	.1878	.1236	.1243
Q2FI-0304-04	3/16	1/4	1/4	.375	.032	.1873	.1892	.2497	.2503	.1858	.1865
Q2FI-0405-06	1/4	5/16	.500	3/8	.032	.2498	.2521	.3122	.3128	.2481	.2490
Q2FI-0405-08	1/4	5/16	.500	1/2	.032			.3122	.3128	.2481	.2490
Q2FI-0506-04	1/4	5/16	.500	1/4	.032	.3125	.3148	.3747	.3753	.3106	.3115
Q2FI-0506-06	1/4	5/16	.500	3/8	.032			.3747	.3753	.3106	.3115
Q2FI-0506-08	5/16	3/8	.562	1/2	.032			.3747	.3753	.3106	.3115
Q2FI-0607-04	3/8	15/32	.687	1/4	.046	.3750	.3773	.4684	.4691	.3731	.3740
Q2FI-0607-06	3/8	15/32	.687	3/8	.046			.4684	.4691	.3731	.3740
Q2FI-0607-08	3/8	15/32	.687	1/2	.046			.4684	.4691	.3731	.3740
Q2FI-0607-12	3/8	15/32	.687	3/4	.046			.4684	.4691	.3731	.3740
Q2FI-0708-08	7/16	17/32	.750	1/2	.046	.4379	.4406	.5309	.5316	.4355	.4365
Q2FI-0809-04	1/2	19/32	.875	1/4	.046	.5003	.5030	.5934	.5941	.4980	.4990
Q2FI-0809-06	1/2	19/32	.875	3/8	.046			.5934	.5941	.4980	.4990
Q2FI-0809-08	1/2	19/32	.875	1/2	.046			.5934	.5941	.4980	.4990
Q2FI-0809-12	1/2	19/32	.875	3/4	.046			.5934	.5941	.4980	.4990
Q2FI-0809-16	1/2	19/32	.875	1	.046			.5934	.5941	.4980	.4990
Q2FI-1011-08	5/8	23/32	.937	1/2	.046	.6253	.6280	.7184	.7192	.6230	.6240
Q2FI-1011-12	5/8	23/32	.937	3/4	.046			.7184	.7192	.6230	.6240
Q2FI-1011-16	5/8	23/32	.937	1	.046			.7184	.7192	.6230	.6240
Q2FI-1214-08	3/4	7/8	1.125	1/2	.062	.7505	.7541	.8747	.8755	.7479	.7491
Q2FI-1214-12	3/4	7/8	1.125	3/4	.062			.8747	.8755	.7479	.7491
Q2FI-1214-16	3/4	7/8	1.125	1	.062			.8747	.8755	.7479	.7491
Q2FI-1416-08	7/8	1	1.250	1/2	.062	.8757	.8791	.9997	1.0005	.8729	.8741
Q2FI-1416-12	7/8	1	1.250	3/4	.062			.9997	1.0005	.8729	.8741
Q2FI-1416-16	7/8	1	1.250	1	.062			.9997	1.0005	.8729	.8741
Q2FI-1618-08	1	1 1/8	1.375	1/2	.062	1.0007	1.0041	1.1247	1.1255	.9979	.9991
Q2FI-1618-12	1	1 1/8	1.375	3/4	.062			1.1247	1.1255	.9979	.9991
Q2FI-1618-16	1	1 1/8	1.375	1	.062			1.1247	1.1255	.9979	.9991
Q2FI-2022-16	1 1/4	1 13/32	1.687	1	.078	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
Q2FI-2022-20	1 1/4	1 13/32	1.687	1 1/4	.078			1.4058	1.4068	1.2472	1.2488
Q2FI-2426-16	1 1/2	1 21/32	2.000	1	.078	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
Q2FI-2426-24	1 1/2	1 21/32	2.000	1 1/2	.078			1.6558	1.6568	1.4972	1.4988
Q2FI-2831-32	1 3/4	1 15/16	2.375	2	.093	1.7507	1.7547	1.9371	1.9381	1.7471	1.7487
Q2FI-3235-16	2	2 3/16	2.625	1	.093	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
Q2FI-3235-32	2	2 3/16	2.625	2	.093			2.1871	2.1883	1.9969	1.9981

Bearing technology | Plain bearing | iglide® Q2

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, page 544

Order key

Type			Dimensions		
Q2	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
Q2SM-0405-04	4.0	5.5	4.0	4.020	4.068	5.500	5.512	3.970	4.000
Q2SM-0405-06	4.0	5.5	6.0			5.500	5.512	3.970	4.000
Q2SM-0507-05	5.0	7.0	5.0	5.020	5.068	7.000	7.015	4.970	5.000
Q2SM-0507-10	5.0	7.0	10.0			7.000	7.015	4.970	5.000
Q2SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
Q2SM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
Q2SM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
Q2SM-0810-08	8.0	10.0	8.0	8.025	8.083	10.000	10.015	7.964	8.000
Q2SM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
Q2SM-0810-12	8.0	10.0	12.0			10.000	10.015	7.964	8.000
Q2SM-1012-08	10.0	12.0	8.0	10.025	10.083	12.000	12.018	9.964	10.000
Q2SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
Q2SM-1012-12	10.0	12.0	12.0			12.000	12.018	9.964	10.000
Q2SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
Q2SM-1012-20	10.0	12.0	20.0			12.000	12.018	9.964	10.000
Q2SM-1214-10	12.0	14.0	10.0	12.032	12.102	14.000	14.018	11.957	12.000
Q2SM-1214-12	12.0	14.0	12.0			14.000	14.018	11.957	12.000
Q2SM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
Q2SM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
Q2SM-1315-10	13.0	15.0	10.0	13.032	13.102	15.000	15.018	12.957	13.000
Q2SM-1315-20	13.0	15.0	20.0			15.000	15.018	12.957	13.000
Q2SM-1416-15	14.0	16.0	15.0	14.032	14.102	16.000	16.018	13.957	14.000
Q2SM-1416-20	14.0	16.0	20.0			16.000	16.018	13.957	14.000
Q2SM-1416-25	14.0	16.0	25.0			16.000	16.018	13.957	14.000
Q2SM-1517-15	15.0	17.0	15.0	15.032	15.102	17.000	17.018	14.957	15.000
Q2SM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
Q2SM-1517-25	15.0	17.0	25.0			17.000	17.018	14.957	15.000
Q2SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
Q2SM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
Q2SM-1618-25	16.0	18.0	25.0			18.000	18.018	15.957	16.000
Q2SM-1820-15	18.0	20.0	15.0	18..032	18.102	20.000	20.021	17.957	18.000
Q2SM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
Q2SM-1820-25	18.0	20.0	25.0			20.000	20.021	17.957	18.000
Q2SM-2023-10	20.0	23.0	10.0	20.040	20.124	23.000	23.021	19.948	20.000
Q2SM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000

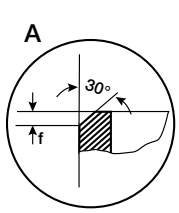
Bearing technology | Plain bearing | iglide® Q2

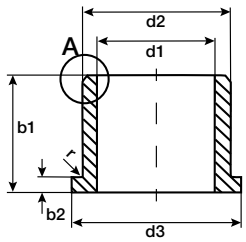
Sleeve bearing (form S), metric

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
Q2SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000
Q2SM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
Q2SM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
Q2SM-2225-15	22.0	25.0	15.0	22.040	22.124	25.000	25.021	21.948	22.000
Q2SM-2225-20	22.0	25.0	20.0			25.000	25.021	21.948	22.000
Q2SM-2225-25	22.0	25.0	25.0			25.000	25.021	21.948	22.000
Q2SM-2225-30	22.0	25.0	30.0			25.000	25.021	21.948	22.000
Q2SM-2427-15	24.0	27.0	15.0	24.040	24.124	27.000	27.021	23.948	24.000
Q2SM-2427-20	24.0	27.0	20.0			27.000	27.021	23.948	24.000
Q2SM-2427-25	24.0	27.0	25.0			27.000	27.021	23.948	24.000
Q2SM-2427-30	24.0	27.0	30.0			27.000	27.021	23.948	24.000
Q2SM-2528-15	25.0	28.0	15.0	25.040	25.124	28.000	28.021	24.948	25.000
Q2SM-2528-20	25.0	28.0	20.0			28.000	28.021	24.948	25.000
Q2SM-2528-25	25.0	28.0	25.0			28.000	28.021	24.948	25.000
Q2SM-2528-30	25.0	28.0	30.0			28.000	28.021	24.948	25.000
Q2SM-2832-30	28.0	32.0	30.0	28.040	28.124	32.000	32.025	27.948	28.000
Q2SM-3034-20	30.0	34.0	20.0	30.040	30.124	34.000	34.025	29.948	30.000
Q2SM-3034-25	30.0	34.0	25.0			34.000	34.025	29.948	30.000
Q2SM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
Q2SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
Q2SM-3035-40	30.0	35.0	40.0			35.000	35.025	29.948	30.000
Q2SM-3236-20	32.0	36.0	20.0	32.050	32.150	36.000	36.025	31.938	32.000
Q2SM-3236-30	32.0	36.0	30.0			36.000	36.025	31.938	32.000
Q2SM-3236-40	32.0	36.0	40.0			36.000	36.025	31.938	32.000
Q2SM-3240-40	32.0	40.0	40.0			40.000	40.025	31.938	32.000
Q2SM-3539-20	35.0	39.0	20.0	35.050	35.150	39.000	39.025	34.938	35.000
Q2SM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
Q2SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
Q2SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
Q2SM-4044-20	40.0	44.0	20.0	40.050	40.150	44.000	44.025	39.938	40.000
Q2SM-4044-30	40.0	44.0	30.0			44.000	44.025	39.938	40.000
Q2SM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
Q2SM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
Q2SM-4550-20	45.0	50.0	20.0	45.050	45.150	50.000	50.025	44.938	45.000
Q2SM-4550-30	45.0	50.0	30.0			50.000	50.025	44.938	45.000
Q2SM-4550-40	45.0	50.0	40.0			50.000	50.025	44.938	45.000
Q2SM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
Q2SM-5055-20	50.0	55.0	20.0	50.050	50.150	55.000	55.030	49.938	50.000
Q2SM-5055-30	50.0	55.0	30.0			55.000	55.030	49.938	50.000
Q2SM-5055-40	50.0	55.0	40.0			55.000	55.030	49.938	50.000
Q2SM-5055-50	50.0	55.0	50.0			55.000	55.030	49.938	50.000
Q2SM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
Q2SM-6065-60	60.0	65.0	60.0	60.060	60.180	65.000	65.030	59.926	60.000
Q2SM-6570-60	65.0	70.0	60.0	65.060	65.180	70.000	70.030	64.926	65.000
Q2SM-7075-60	70.0	75.0	60.0	70.060	70.180	75.000	75.030	69.926	70.000
Q2SM-7580-40	75.0	80.0	40.0	75.060	75.180	80.000	80.030	74.926	75.000

Bearing technology | Plain bearing | iglide® Q2

Flange bearing (form F), metric





[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 544**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

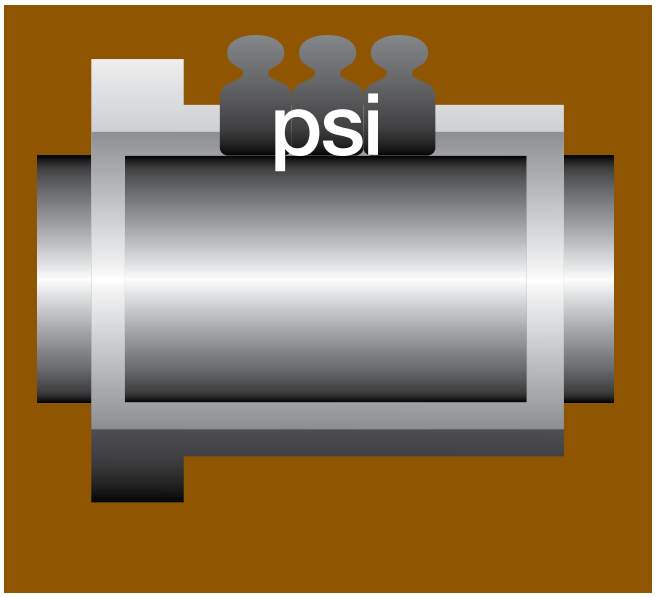
Type			Dimensions		
Q2	F	M	-06 08	-	06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
Q2FM-0507-05	5.0	7.0	11.0	5.0	1.00	5.020	5.068	7.000	7.015	4.970	5.000
Q2FM-0608-04	6.0	8.0	12.0	4.0	1.00			8.000	8.015	5.970	6.000
Q2FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
Q2FM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
Q2FM-0810-03	8.0	10.0	15.0	3.0	1.00			10.000	10.015	7.964	8.000
Q2FM-0810-05	8.0	10.0	15.0	5.5	1.00			10.000	10.015	7.964	8.000
Q2FM-0810-07	8.0	10.0	15.0	7.5	1.00	8.025	8.083	10.000	10.015	7.964	8.000
Q2FM-0810-09	8.0	10.0	15.0	9.5	1.00			10.000	10.015	7.964	8.000
Q2FM-0810-10	8.0	10.0	15.0	10.0	1.00			10.000	10.015	7.964	8.000
Q2FM-1012-07	10.0	12.0	18.0	7.0	1.00			12.000	12.018	9.964	10.000
Q2FM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
Q2FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
Q2FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
Q2FM-1012-17	10.0	12.0	18.0	17.0	1.00			12.000	12.018	9.964	10.000
Q2FM-1214-07	12.0	14.0	20.0	7.0	1.00			14.000	14.018	11.957	12.000
Q2FM-1214-09	12.0	14.0	20.0	9.0	1.00			14.000	14.018	11.957	12.000
Q2FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
Q2FM-1214-17	12.0	14.0	20.0	17.0	1.00			14.000	14.018	11.957	12.000
Q2FM-1416-05	14.0	16.0	22.0	5.0	1.00			16.000	16.018	13.957	14.000
Q2FM-1416-12	14.0	16.0	22.0	12.0	1.00	14.032	14.102	16.000	16.018	13.957	14.000
Q2FM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
Q2FM-1517-09	15.0	17.0	23.0	9.0	1.00			17.000	17.018	14.957	15.000
Q2FM-1517-12	15.0	17.0	23.0	12.0	1.00	15.032	15.102	17.000	17.018	14.957	15.000
Q2FM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
Q2FM-1618-12	16.0	18.0	24.0	12.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
Q2FM-1618-17	16.0	18.0	24.0	17.0	1.00			18.000	18.018	15.957	16.000
Q2FM-1820-12	18.0	20.0	26.0	12.0	1.00			20.000	20.021	17.957	18.000
Q2FM-1820-17	18.0	20.0	26.0	17.0	1.00	18.032	18.102	20.000	20.021	17.957	18.000
Q2FM-1820-22	18.0	20.0	26.0	22.0	1.00			20.000	20.021	17.957	18.000
Q2FM-2023-11	20.0	23.0	30.0	11.5	1.50			23.000	23.021	19.948	20.000
Q2FM-2023-12	20.0	23.0	30.0	12.0	1.50			23.000	23.021	19.948	20.000
Q2FM-2023-16	20.0	23.0	30.0	16.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000
Q2FM-2023-21	20.0	23.0	30.0	21.5	1.50			23.000	23.021	19.948	20.000
Q2FM-2528-11	25.0	28.0	35.0	11.5	1.50			28.000	28.021	24.948	25.000
Q2FM-2528-16	25.0	28.0	35.0	16.5	1.50	25.040	25.124	28.000	28.021	24.948	25.000

Bearing technology | Plain bearing | iglide® Q2

Flange bearing (form F), metric

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
Q2FM-2528-21	25.0	28.0	35.0	21.5	1.50	25.040	25.124	28.000	28.021	24.948	25.000
Q2FM-3034-16	30.0	34.0	42.0	16.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
Q2FM-3034-26	30.0	34.0	42.0	26.0	2.00			34.000	34.025	29.948	30.000
Q2FM-3034-37	30.0	34.0	42.0	37.0	2.00			34.000	34.025	29.948	30.000
Q2FM-3034-40	30.0	34.0	42.0	40.0	2.00			34.000	34.025	29.948	30.000
Q2FM-3539-16	35.0	39.0	47.0	16.0	2.00	35.050	35.150	39.000	39.025	34.938	35.000
Q2FM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
Q2FM-3539-40	35.0	39.0	47.0	40.0	2.00			39.000	39.025	34.938	35.000
Q2FM-4044-30	40.0	44.0	52.0	30.0	2.00	40.050	40.150	44.000	44.025	39.938	40.000
Q2FM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
Q2FM-4550-50	45.0	50.0	58.0	50.0	2.00	45.050	45.150	50.000	50.025	44.938	45.000
Q2FM-5055-10	50.0	55.0	63.0	10.0	2.00	50.050	50.150	55.000	55.030	49.938	50.000
Q2FM-5055-50	50.0	55.0	63.0	50.0	2.00			55.000	55.030	49.938	50.000
Q2FM-6065-60	60.0	65.0	73.0	60.0	2.00	60.060	60.180	65.000	65.030	59.926	60.000
Q2FM-8085-100	80.0	85.0	93.0	100.0	2.50	80.060	80.180	85.000	85.035	79.926	80.000
Q2FM-100105125-90	100.0	105.0	125.0	90.0	2.50	100.072	100.212	105.000	105.035	99.913	100.000
Q2FM-120125145-90	120.0	125.0	145.0	90.0	2.50	120.085	120.245	125.000	125.040	119.913	120.000



Cost-effective heavy-duty bearing

Robust and dimensionally stable

iglide® Q2E

When to use it?

- When a wear-resistant plain bearing at loads up to 18,855psi is required
- When a robust and dirt-resistant plain bearing is required
- When a plain bearing with dimensional stability is required.

When not to use?

- When a plain bearing with the highest possible media resistance is required
  iglide® X
- With high rotational speeds
  iglide® J, iglide® L250
- When a universal standard plain bearing for occasional movements is required
  iglide® G

Ø
20 – 60mm
3/4 - 2 1/2 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Cost-effective heavy-duty bearing
Robust and dimensionally stable

With extreme loads, even high-tech polymers reach their limits. Therefore iglide® Q2E offers a completely new multi-component design and is able to carry extreme loads. In addition, thanks to optimized injection molding technology, it is more cost-effective than comparable fiber composites.

- Self-lubricating
- Wear-resistant up to 18,855psi dynamic load
- Resistant to dirt
- Corrosion-free

Typical application areas

- Agricultural machinery
- Construction machinery industry
- Utility and construction vehicles
- Hoisting technology

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■■■	+
Suitable for shock and impact loads	–	■■■■■	+
Resistant to dirt	–	■■■■■	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.46 – 1.69	
Color		beige-brown	
Max. moisture absorption at +73°F and 50% r.h.	% weight	1.5	DIN 53495
Max. moisture absorption	% weight	5.0	
Coefficient of friction, dynamic, against steel	µ	0.22 – 0.42	
pv value, max. (dry)	psi · fpm	20,000	
Mechanical properties			
Flexural modulus	psi	n.s.	DIN 53457
Flexural strength at +68°F	psi	34,084	DIN 53452
Compressive strength	psi	n.s.	
Max. recommended surface pressure (+68°F)	psi	19,580	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+212	
Max. application temperature short-term	°F	+284	
Min. application temperature	°F	-22	
Thermal conductivity	W/m · K	n.s.	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	n.s.	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

Table 01: Material properties

–22°F up to +212°F

19,580psi

HB

The iglide® Q2E plain bearings defy dirt at the heaviest loads due to their robust design.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® Q2E plain bearings is approximately 1.5% weight. The saturation limit in water is 5.0% weight. This must be taken into account for these types of applications.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® Q2E are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® Q2E plain bearings have not yet been tested for their resistance to weathering. Please consult igus® if you're planning to use them outdoors.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® Q2E 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 iglide® Q2E at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Typical applications for iglide® Q2E plain bearings are pivoting movements under high loads at comparatively low speeds. However, relatively high speeds are still attainable. The speeds stated in table 03 are limit values for the lowest bearing loads. With higher loads, the permitted speed drops with the extent of the load due to the limitations by the pv value.

▶ Surface speed, **Page 44**

Temperature

iglide® Q2E is a very temperature-stable material. The long-term upper temperature limit of +212°F permits the broad use in applications typical for the agricultural, utility vehicle or construction equipment sectors. With increasing temperatures, the compressive strength of iglide® Q2E plain bearings decreases. For temperatures over +167°F an additional securing is required. When considering temperatures, the additional frictional heat in the bearing system must be taken into account.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction alters similarly to the wear resistance with increasing load and surface speed (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® Q2E 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. The tolerances are based on class E11. After installing in a nominal size housing, the inner diameter of the bearings is adjusted according to the specifications in the product range.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (inches)	Tolerance (h13) (inches)	
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

In high load applications, we generally recommend the use of hardened shafts. Furthermore, even at low to medium loads, iglide® Q2E will attain increased service life with "hard" shafts as compared to "soft" shafts. But for low load applications, the results are outstanding with free cutting steel as well. For high loads, the wear in pivoting applications is much lower than for rotation. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	787
short-term	**fpm**	394	276	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.22 – 0.42	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E11 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.074	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.095	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.115	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.142	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.170	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.210	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.250	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.292	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.335	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (mm)	Tolerance (h13) (mm)	
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

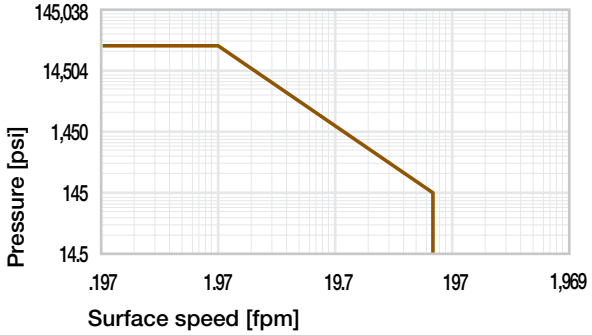


Diagram 01: Permissible pv values for iglide® Q2E plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

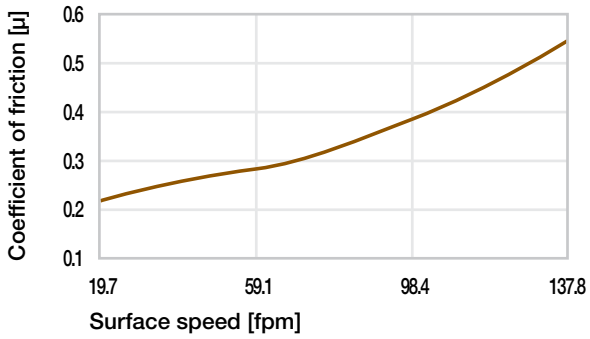


Diagram 02: Coefficient of friction as a function of the surface speed, p = 108psi

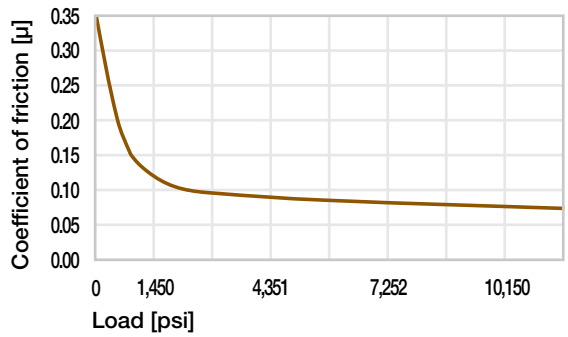


Diagram 03: Coefficient of friction as a function of the pressure, v = 1.97fpm

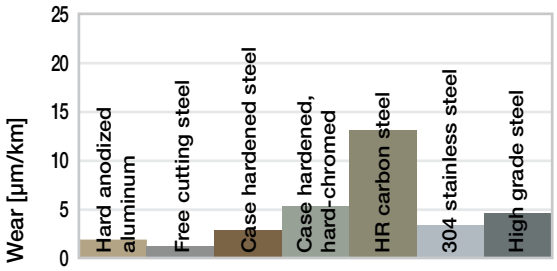


Diagram 04: Wear, pivoting with different shaft materials, pressure p = 145psi, v = 59fpm

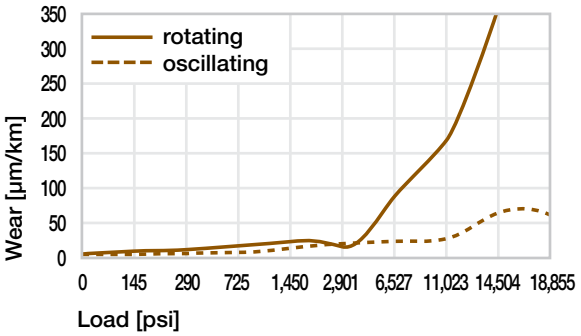
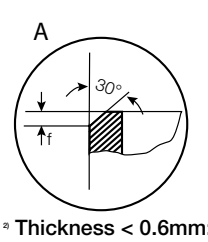


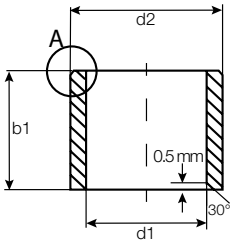
Diagram 05: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® Q2E

Sleeve bearing (form S), inch



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 556**

Order key

Type			Dimensions		
Q2E	S	I	-12	16	-16
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

*Based on steel housing bore

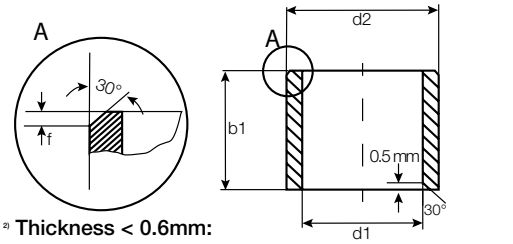
Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
Q2ESI-1216-16	3/4	1	1	0.7516	0.7569	1.0000	1.0008	0.7480	0.7500
Q2ESI-1620-16	1	1 1/4	1	1.0016	1.0069	1.2500	1.2510	0.9980	1.0000
Q2ESI-2024-16	1 1/4	1 1/2	1	1.2520	1.2579	1.5000	1.5010	1.2476	1.2500
Q2ESI-2428-16	1 1/2	1 3/4	1	1.5020	1.5079	1.7500	1.7510	1.4976	1.5000
Q2ESI-3236-16	2	2 1/4	1	2.0024	2.0091	2.2500	2.2510	1.9971	2.0000
Q2ESI-4044-16	2 1/2	2 3/4	1	2.5024	2.5091	2.7500	2.7510	2.4971	2.5000

Bearing technology | Plain bearing | iglide® Q2E

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, page 556

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

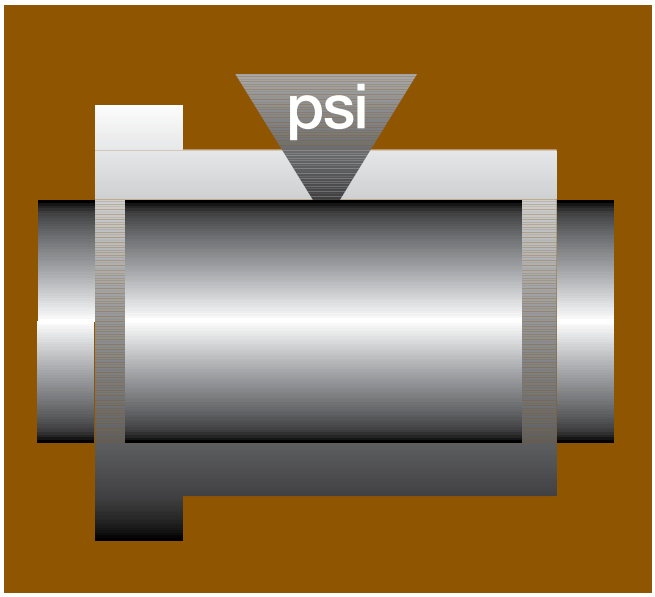
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
Q2E	S	M	-20	25	-20
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
Q2ESM-2025-20	20.0	25.0	20.0	20.040	20.164	25.000	25.021	19.948	20.000
Q2ESM-2530-30	25.0	30.0	30.0	25.040	25.164	30.000	30.021	24.948	25.000
Q2ESM-3035-30	30.0	35.0	30.0	30.050	30.190	35.000	35.025	29.948	30.000
Q2ESM-3540-40	35.0	40.0	40.0	35.050	35.190	40.000	40.025	34.938	35.000
Q2ESM-4045-40	40.0	45.0	40.0	40.050	40.190	45.000	45.025	39.938	40.000
Q2ESM-4550-50	45.0	50.0	50.0	45.050	45.190	50.000	50.025	44.938	45.000
Q2ESM-5055-50	50.0	55.0	50.0	50.060	50.220	55.000	55.030	49.938	50.000
Q2ESM-6065-60	60.0	65.0	60.0	60.060	60.220	65.000	65.030	59.926	60.000

Notes



The peak of stability

Long service life at medium to high loads

iglide® Q

When to use it?

- For oscillating applications
- For excellent wear resistance, especially for extreme loads
- For extreme pv values
- When dirt-resistant bearings is required

When not to use?

- For underwater applications
  iglide® H370
- When continuous operating temperatures are higher than 275°F
  iglide® H, iglide® X, iglide® Z
- In situations involving high edge loads or strong impact loads
  iglide® X

Ø
6 – 90mm
1/8 - 3 in.

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The peak of stability

Long service life at medium to high loads

iglide® Q is the cost-effective solution for heavy-duty cycles with extreme loads. Plain bearings made from this material can be used in all types of motion, but is best suited for oscillations.

- Very wear-resistant
- Very high pv values
- Low coefficient of friction
- Resistant to dirt
- Self-lubricating
- Standard range from stock
- Maintenance-free

Typical application areas

- Construction machinery industry
- Sheet metal industry
- Agricultural machines
- Railway technology
- Doors and gates

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.40	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.9	DIN 53495
Max. moisture absorption	% weight	4.9	
Coefficient of friction, dynamic, against steel	μ	0.05 – 0.15	
pv value, max. (dry)	psi · fpm	15,700	
Mechanical properties			
Flexural modulus	psi	652,670	DIN 53457
Flexural strength at +68°F	psi	17,405	DIN 53452
Compressive strength	psi	12,908	
Max. recommended surface pressure (+68°F)	psi	14,504	
Shore D hardness		83	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+275	
Max. application temperature short-term	°F	+311	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.23	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	5	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	$> 10^{15}$	DIN IEC 93
Surface resistance	Ω	$> 10^{12}$	DIN 53482

-40°F up to +275°F

14,504psi

HB

RoHS-I

ISO 3547-1

Table 01: Material properties

iglide® Q plain bearings were developed especially for extreme loads. Under high loads, iglide® Q figures among the iglide® materials that display the best wear resistance. From a radial pressure of 3,626psi, it outperforms even bearings made from the extremely abrasion-resistant iglide® W300. Specific solid lubricants, precisely integrated into the material, ensure that the maintenance-free dry operation is guaranteed under any load.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® Q plain bearings is approximately 0.9% weight. The saturation limit in water is 4.9% weight. This must be taken into account for these types of applications.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® Q bearings.

Radiation resistance

Plain bearings made from iglide® Q are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® Q plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® Q 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. iglide® Q is a material used when high pv values are reached with high loads. Diagram 03 shows the elastic deformation of iglide® Q at radial loads. At the maximum recommended surface pressure of 14,504psi the deformation is less than 3%.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Under extreme radial loads, the iglide® Q plain bearings can reach the maximum pv values which are possible during dry operation with plain bearings. Although iglide® Q plain bearings have the greatest advantages under high loads and at low speeds, high surface speeds are also attainable due to the excellent coefficient of friction of these bearings. 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.

▶ Surface speed, **Page 44**

Temperature

Plain bearings made from iglide® Q retain their excellent wear resistance even at high temperatures. For temperatures over +122°F an additional securing is required. It should also be noted that the coefficient of friction increases considerably at temperatures above approximately +212°F.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Many plastic bearings feature decreasing coefficient of friction with increasing pressure in dry operation. iglide® Q goes further than most, under high pressures the material gives excellent low coefficient of friction (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® Q plain bearings are standard bearings for shafts with h tolerance (recommended minimum h9). After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® Q. The strengths offered by iglide® heavy-duty materials become clear from 4,351psi. iglide® Q stands out in particular. Other heavy-duty materials such as iglide® Q2 and TX1 only offer the best performances in terms of wear when subjected to even higher loads. iglide® Q offers strikingly good wear properties on many different shaft materials.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	984
short-term	**fpm**	394	276	1181

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.05 – 0.15	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

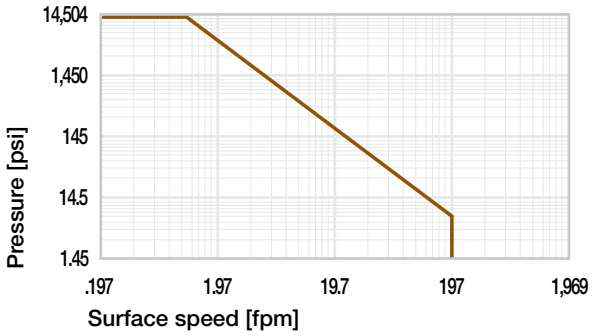


Diagram 01: Permissible pv values for iglide® Q plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

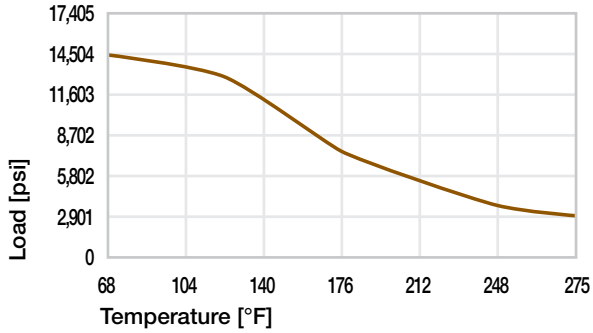


Diagram 02: Maximum recommended surface pressure of as a function of temperature (14,504psi at +68°F)

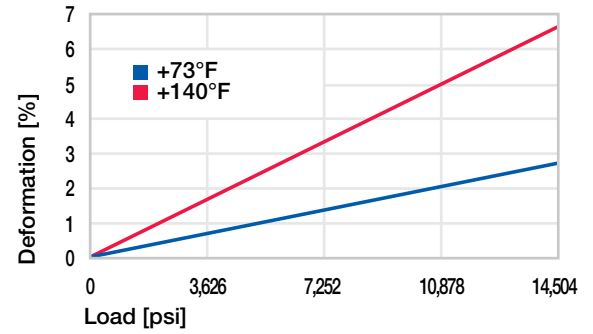


Diagram 03: Deformation under pressure and temperature

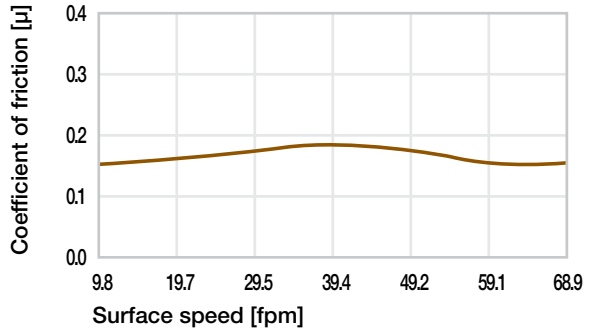


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

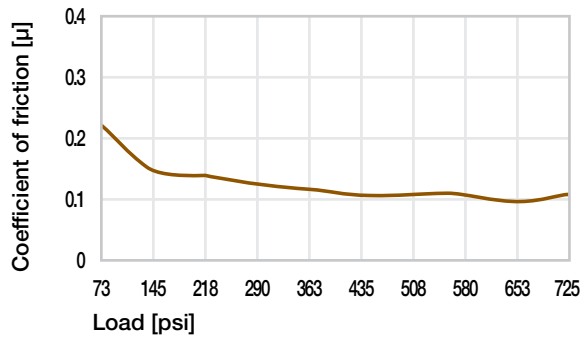


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

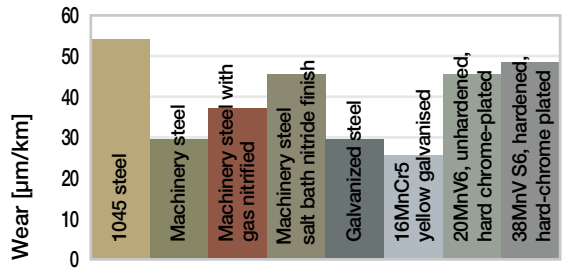


Diagram 06: wear, oscillating with different shaft materials, pressure p = 4,351psi, v = 1.97fpm

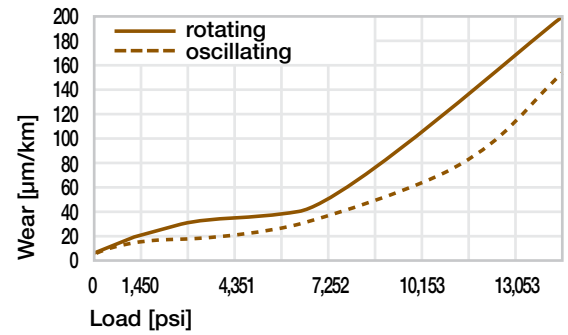
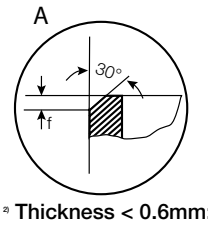
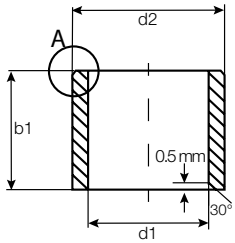


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® Q

Sleeve bearing (form S), inch





[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 564**

*Based on steel housing bore

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

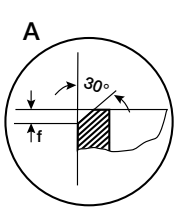
Order key

Type			Dimensions		
Q	S	I	-06	08	-06
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

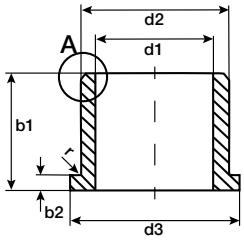
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
				Min.	Max.	Min.	Max.	Min.	Max.
QSI-0203-04	1/8	3/16	1/4	.1251	.1269	.1873	.1878	.1236	.1243
QSI-0304-04	3/16	1/4	1/4	.1873	.1892	.2497	.2503	.1858	.1865
QSI-0304-06	3/16	1/4	3/8			.2497	.2503	.1858	.1865
QSI-0405-04	1/4	5/16	1/4	.2498	.2521	.3122	.3128	.2481	.2490
QSI-0405-06	1/4	5/16	3/8			.3122	.3128	.2481	.2490
QSI-0405-08	1/4	5/16	1/2			.3122	.3128	.2481	.2490
QSI-0506-04	5/16	3/8	1/4	.3125	.3148	.3747	.3753	.3106	.3115
QSI-0506-06	5/16	3/8	3/8			.3747	.3753	.3106	.3115
QSI-0506-08	5/16	3/8	1/2			.3747	.3753	.3106	.3115
QSI-0607-04	3/8	15/32	1/4	.3750	.3773	.4684	.4691	.3731	.3740
QSI-0607-06	3/8	15/32	3/8			.4684	.4691	.3731	.3740
QSI-0607-08	3/8	15/32	1/2			.4684	.4691	.3731	.3740
QSI-0708-08	7/16	17/32	1/2	.4379	.4406	.5309	.5316	.4355	.4365
QSI-0809-12	1/2	19/32	3/4	.5003	.5030	.5934	.5941	.4980	.4990
QSI-1011-12	5/8	23/32	3/4	.6253	.6280	.7184	.7192	.6230	.6240
QSI-1214-08	3/4	7/8	1/2	.7507	.7541	.8747	.8755	.7479	.7491
QSI-1214-12	3/4	7/8	3/4			.8747	.8755	.7479	.7491
QSI-1214-16	3/4	7/8	1			.8747	.8755	.7479	.7491
QSI-1416-16	7/8	1	1	.8757	.8791	.9997	1.0005	.8729	.8741
QSI-1618-16	1	1 1/8	1	1.0007	1.0041	1.1247	1.1255	.9979	.9991
QSI-1618-24	1	1 1/8	1 1/2			1.1247	1.1255	.9979	.9991
QSI-1820-24	1 1/8	1 9/32	1 1/2	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
QSI-2022-20	1 1/4	1 13/32	1 1/4	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
QSI-2022-24	1 1/4	1 13/32	1 1/2			1.4058	1.4068	1.2472	1.2488
QSI-2426-24	1 1/2	1 21/32	1 1/2	1.5008	1.5408	1.6558	1.6568	1.4972	1.4988
QSI-2629-20	1 5/8	1 25/32	1 1/4	1.6258	1.6297	1.7808	1.7818	1.6222	1.6238
QSI-2831-32	1 3/4	1 15/16	2	1.7508	1.7547	1.9371	1.9381	1.7471	1.7487
QSI-3235-12	2	2 3/16	3/4	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
QSI-3235-16	2	2 3/16	1			2.1871	2.1883	1.9969	1.9981
QSI-3235-24	2	2 3/16	1 1/2			2.1871	2.1883	1.9969	1.9981
QSI-3235-32	2	2 3/16	2			2.1871	2.1883	1.9969	1.9981
QSI-3235-40	2	2 3/16	2 1/2			2.1871	2.1883	1.9969	1.9981
QSI-3639-32	2 1/4	2 7/16	2	2.2531	2.2577	2.4365	2.4377	2.2489	2.2507
QSI-4043-16	2 1/2	2 11/16	1.0	2.5035	2.5082	2.6869	2.6881	2.4993	2.5011
QSI-4043-32	2 1/2	2 11/16	2.0			2.6869	2.6881	2.4993	2.5011
QSI-4851-16	3.0	3 3/16	1.0	3.0023	3.0070	3.1858	3.1872	2.9982	3.0000
QSI-4851-32	3.0	3 3/16	2.0			3.1858	3.1872	2.9982	3.0000
QSI-4851-48	3.0	3 3/16	3.0			3.1858	3.1872	2.9982	3.0000

Bearing technology | Plain bearing | iglide® Q

Flange bearing (form F), inch



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, page 564

Chamfer in relation to d1

d1 [inch]	Ø .040-.236	Ø >.236–.472	Ø >.472–1.18	Ø > 1.18
f [inch]	.012	.019	.031	.047

*Based on steel housing bore

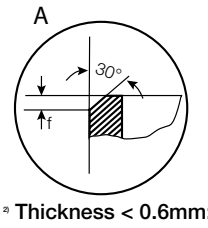
Order key

Type			Dimensions		
Q	F	I	-06	08	-06
iglide® material	Form F (flange)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

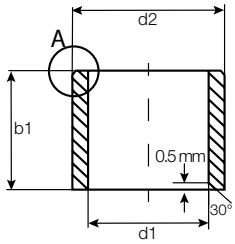
Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
					-.0055	Min.	Max.	Min.	Max.	Min.	Max.
QFI-0203-04	1/8	3/16	.312	1/4	.032	.1251	.1269	.1873	.1878	.1236	.1243
QFI-0304-06	3/16	1/4	.375	3/8	.032	.1873	.1892	.2497	.2503	.1858	.1865
QFI-0405-06	1/4	5/16	.500	3/8	.032	.2498	.2521	.3122	.3128	.2481	.2490
QFI-0405-08	1/4	5/16	.500	1/2	.032			.3122	.3128	.2481	.2490
QFI-0506-08	5/16	3/8	.562	1/2	.032	.3125	.3148	.3747	.3753	.3106	.3115
QFI-0607-04	3/8	15/32	.687	1/4	.046	.3750	.3773	.4684	.4691	.3731	.3740
QFI-0607-08	3/8	15/32	.687	1/2	.046			.4684	.4691	.3731	.3740
QFI-0809-04	1/2	19/32	.875	1/4	.046	.5003	.5030	.5934	.5941	.4980	.4990
QFI-0809-08	1/2	19/32	.875	1/2	.046			.5934	.5941	.4980	.4990
QFI-0809-12	1/2	19/32	.875	3/4	.046			.5934	.5941	.4980	.4990
QFI-1011-12	5/8	23/32	.937	3/4	.046	.6253	.6280	.7184	.7192	.6230	.6240
QFI-1012-08	5/8	3/4	1.000	1/2	.062	.6263	.6290	.7500	.7510	.6240	.6250
QFI-1214-08	3/4	7/8	1.125	1/2	.062	.7507	.7541	.8747	.8755	.7479	.7491
QFI-1214-12	3/4	7/8	1.125	3/4	.062			.8747	.8755	.7479	.7491
QFI-1214-16	3/4	7/8	1.125	1	.062			.8747	.8755	.7479	.7491
QFI-1416-12	7/8	1	1.250	3/4	.062	.8757	.8791	.9997	1.0005	.8729	.8741
QFI-1416-16	7/8	1	1.250	1	.062			.9997	1.0005	.8729	.8741
QFI-1618-08	1	1 1/8	1.375	1/2	.062	1.0007	1.0041	1.1247	1.1255	.9979	.9991
QFI-1618-16	1	1 1/8	1.375	1	.062			1.1247	1.1255	.9979	.9991
QFI-1618-24	1	1 1/8	1.375	1 1/2	.062			1.1247	1.1255	.9979	.9991
QFI-1820-12	1 1/8	1 9/32	1.562	3/4	.078	1.1254	1.1288	1.2808	1.2818	1.1226	1.1238
QFI-1820-24	1 1/8	1 9/32	1.562	1 1/2	.078			1.2808	1.2818	1.1226	1.1238
QFI-2022-20	1 1/4	1 13/32	1.687	1 1/4	.078	1.2508	1.2548	1.4058	1.4068	1.2472	1.2488
QFI-2022-24	1 1/4	1 13/32	1.687	1 1/2	.078			1.4058	1.4068	1.2472	1.2488
QFI-2426-04	1 1/2	1 21/32	2.000	1/4	.078	1.5008	1.5048	1.6558	1.6568	1.4972	1.4988
QFI-2426-24	1 1/2	1 21/32	2.000	1 1/2	.078			1.6558	1.6568	1.4972	1.4988
QFI-2831-32	1 3/4	1 15/16	2.375	2	.093	1.7508	1.7547	1.9371	1.9381	1.7471	1.7487
QFI-3235-32	2	2 3/16	2.625	2	.093	2.0011	2.0057	2.1871	2.1883	1.9969	1.9981
QFI-3639-32	2 1/4	2 7/16	2.750	2	.093	2.2531	2.2577	2.4365	2.4377	2.2489	2.2507

Bearing technology | Plain bearing | iglide® Q

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 564**

Order key

Type			Dimensions		
Q	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

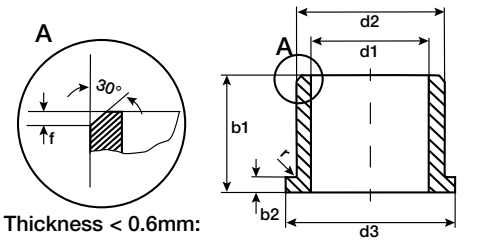
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
QSM-0608-10	6.0	8.0	10.0	6.020	6.068	8.000	8.015	5.970	6.000
QSM-0810-08	8.0	10.0	8.0	8.025	8.083	10.000	10.015	7.964	8.000
QSM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
QSM-1214-10	12.0	14.0	10.0	12.032	12.102	14.000	14.018	11.957	12.000
QSM-1214-20	12.0	14.0	20.0			14.000	14.018	11.957	12.000
QSM-1618-08	16.0	18.0	8.0	16.032	16.102	18.000	18.018	15.957	16.000
QSM-1618-12	16.0	18.0	12.5			18.000	18.018	15.957	16.000
QSM-1618-20	16.0	18.0	20.0			18.000	18.018	15.957	16.000
QSM-1820-20	18.0	20.0	20.0	18.032	18.102	20.000	20.021	17.957	18.000
QSM-2022-15	20.0	22.0	15.0	20.040	20.124	22.000	22.021	19.948	20.000
QSM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
QSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
QSM-2023-25	20.0	23.0	25.0			23.000	23.021	19.948	20.000
QSM-2023-30	20.0	23.0	30.0			23.000	23.021	19.948	20.000
QSM-2528-25	25.0	28.0	25.0	25.040	25.124	28.000	28.021	24.948	25.000
QSM-2528-48	25.0	28.0	48.0			28.000	28.021	24.948	25.000
QSM-3034-20	30.0	34.0	20.0	30.040	30.124	34.000	34.025	29.948	30.000
QSM-3034-35	30.0	34.0	35.0			34.000	34.025	29.948	30.000
QSM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
QSM-3539-15	35.0	39.0	15.0	35.050	35.150	39.000	39.025	34.938	35.000
QSM-3539-30	35.0	39.0	30.0			39.000	39.025	34.938	35.000
QSM-3539-35	35.0	39.0	35.0			39.000	39.025	34.938	35.000
QSM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
QSM-4044-30	40.0	44.0	30.0	40.050	40.150	44.000	44.025	39.938	40.000
QSM-4044-40	40.0	44.0	40.0			44.000	44.025	39.938	40.000
QSM-4044-47	40.0	44.0	47.0			44.000	44.025	39.938	40.000
QSM-4550-252	45.0	50.0	25.2	45.050	45.150	50.000	50.025	44.938	45.000
QSM-4550-50	45.0	50.0	50.0			50.000	50.025	44.938	45.000
QSM-5055-50	50.0	55.0	50.0	50.050	50.150	55.000	55.030	49.938	50.000
QSM-5055-60	50.0	55.0	60.0			55.000	55.030	49.938	50.000
QSM-5055-80	50.0	55.0	80.0			55.000	55.030	49.938	50.000
QSM-5560-50	55.0	60.0	50.0	55.060	55.180	60.000	60.030	54.926	55.000
QSM-6065-50	60.0	65.0	50.0	60.060	60.180	65.000	65.030	59.926	60.000
QSM-6570-34	65.0	70.0	34.0	65.060	65.180	70.000	70.030	64.926	65.000
QSM-7075-50	70.0	75.0	50.0	70.060	70.180	75.000	75.030	69.926	70.000
QSM-7580-40	75.0	80.0	40.0	75.060	75.180	80.000	80.030	74.926	75.000
QSM-8085-60	80.0	85.0	60.0	80.060	80.180	85.000	85.035	79.926	80.000
QSM-9095-50	90.0	95.0	50.0	90.072	90.212	95.000	95.035	89.913	90.000

Bearing technology | Plain bearing | iglide® Q

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 564**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

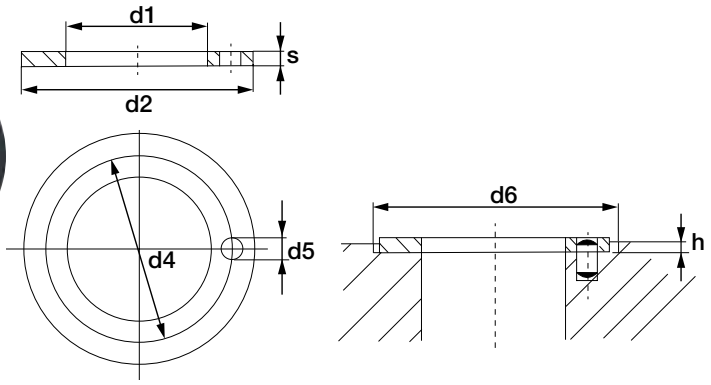
Order key

Type			Dimensions					
Q	F	M	-	06	08	-	06	
iglide® material	Form F (flange)	Metric		Inner Ø d1 (mm)	Outer Ø d2 (mm)		Length b1 (mm)	

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
QFM-0608-03	6.0	8.0	12.0	3.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
QFM-0608-04	6.0	8.0	12.0	4.0	1.00			8.000	8.015	5.970	6.000
QFM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
QFM-0810-05	8.0	10.0	15.0	5.5	1.00	8.025	8.083	10.000	10.015	7.964	8.000
QFM-0810-06	8.0	10.0	15.0	6.0	1.00			10.000	10.015	7.964	8.000
QFM-101215-035	10.0	12.0	15.0	3.5	1.00	10.025	10.083	12.000	12.018	9.964	10.000
QFM-1012-06	10.0	12.0	18.0	6.0	1.00			12.000	12.018	9.964	10.000
QFM-101215-08	10.0	12.0	15.0	8.0	1.00			12.000	12.018	9.964	10.000
QFM-1012-10	10.0	12.0	18.0	10.0	1.00			12.000	12.018	9.964	10.000
QFM-1214-08	12.0	14.0	20.0	8.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
QFM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
QFM-1214-20	12.0	14.0	20.0	20.0	1.00			14.000	14.018	11.957	12.000
QFM-1416-12	14.0	16.0	22.0	12.0	1.00	14.032	14.102	16.000	16.018	13.957	14.000
QFM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
QFM-182026-051	18.0	20.0	26.0	5.1	1.00	18.032	18.102	20.000	20.021	17.957	18.000
QFM-1820-12	18.0	20.0	26.0	12.0	1.00			20.000	20.021	17.957	18.000
QFM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000
QFM-2528-21	25.0	28.0	35.0	21.5	1.50	25.040	25.124	28.000	28.021	24.948	25.000
QFM-2629-05	26.0	29.0	35.0	5.0	1.50	26.040	26.124	29.000	29.021	25.948	26.000
QFM-2730-20	27.0	30.0	38.0	20.0	1.50	27.040	27.124	30.000	30.021	26.948	27.000
QFM-3034-37	30.0	34.0	42.0	37.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
QFM-3539-26	35.0	39.0	47.0	26.0	2.00	35.050	35.150	39.000	39.025	34.938	35.000
QFM-353950-35	35.0	39.0	50.0	35.0	2.00			39.000	39.025	34.938	35.000
QFM-4044-14	40.0	44.0	52.0	14.0	2.00	40.050	40.150	44.000	44.025	39.938	40.000
QFM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
QFM-5055-10	50.0	55.0	63.0	10.0	2.00	50.050	50.150	55.000	55.030	49.938	50.000
QFM-5055-50	50.0	55.0	63.0	50.0	2.00			55.000	55.030	49.938	50.000
QFM-6065-50	60.0	65.0	78.0	50.0	2.00	60.060	60.180	65.000	65.030	59.926	60.000
QFM-7075-50	70.0	75.0	83.0	50.0	2.00	70.060	70.180	75.000	75.030	69.926	70.000

Bearing technology | Plain bearing | iglide® Q

Thrust washer bearing (form T), metric



Order key

Type			Dimensions		
Q	T	M	- 04	08	- 005
iglide® material	Thrust washer	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Thickness s (mm)

Part Number	d1	d2	s	d4	d5	h	d6
	+.010	-.010	-.0020	+-.005	+.015 +.005	+.008	+.005
QTM-2842-015	28.0	42.0	1.5	35.0	4.0	1.0	42.0
QTM-3254-015	32.0	54.0	1.5	43.0	4.0	1.0	54.0
QTM-3862-015	38.0	62.0	1.5	50.0	4.0	1.0	62.0
QTM-5278-020	52.0	78.0	2.0	65.0	4.0	1.5	78.0

*Designed without fixation hole

Heavy-duty on soft shafts

For medium to high loads, especially on soft shafts

iglide® Q290

When to use it?

- When a long-lasting plain bearing is required for tough operating conditions with medium to high loads on soft shafts (agricultural equipment, construction machinery, etc.)

When not to use?

- When permanent static loads higher than 7,977psi occur
  iglide® G, iglide® Q, iglide® Q2
- When a verey wear-resistant plain bearing is required on soft shafts for minor loads
  iglide® J, iglide® J3
- When continuous operating temperatures are higher than 284°F
  iglide® J350, iglide® Z

Bearing technology | Plain bearing | iglide® Q290

Ø
20 – 80mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Heavy-duty on soft shafts

For medium to high loads, especially on soft shafts

iglide® Q290 shows outstanding service life in tough pivoting applications, as they are frequently found in agricultural machinery, especially on “soft” coated shafts (e.g. galvanized). The wear on the shafts is minimal.

- Recommended for soft shafts
- Suitable for high edge pressures
- Temperature-resistant up to +284°F
- Good price-performance ratio
- Self-lubricating
- Maintenance-free

Typical application areas

- Agricultural engineering
- Utility and construction vehicles

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■□□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■■■	+
Suitable for shock and impact loads	–	■■■■■	+
Resistant to dirt	–	■■■■■	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.27	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	3	DIN 53495
Max. moisture absorption	% weight	9.3	
Coefficient of friction, dynamic, against steel	µ	0.14 – 0.26	
pv value, max. (dry)	psi · fpm	20,000	
Mechanical properties			
Flexural modulus	psi	445,846	DIN 53457
Flexural strength at +68°F	psi	14,069	DIN 53452
Compressive strength	psi	9,863	
Max. recommended surface pressure (+68°F)	psi	7,977	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+284	
Max. application temperature short-term	°F	+356	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	7	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

-40°F up to +284°F

7,977psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

iglide® Q290 plain bearings do not have the highest static load capacity within the iglide® product range, instead the material shows its strengths at medium to high dynamic loads: outstanding service life is achieved for tough pivoting applications, e.g. in agricultural or construction machinery, and especially on “soft” shafts.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® Q290 plain bearings is 3% weight. The saturation limit in water is 9.3% weight.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® Q290 are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® Q290 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 iglide® Q290 plain bearings decreases. Diagram 02 shows this inverse relationship. At the short-term permitted application temperature of +356°F, the permitted surface pressure is still 1,450psi. 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 iglide® Q290 at radial loads. These high elastic deformation values, even for loads of more than 7,252psi, contribute significantly to the long service life under tough environmental conditions such as edge loads, collisions and impacts.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Typical applications for iglide® Q290 plain bearings include medium to high-load pivoting movements at comparatively slow speeds. However, relatively high speeds are still attainable. The speeds shown in table 03 are threshold values for low bearing loads. They do not provide any indication of the wear resistance under these parameters.

▶ Surface speed, **Page 44**

Temperature

The long-term upper temperature limit of +284°F permits the broad use in applications typical for the agricultural, utility vehicle or construction equipment sectors. For temperatures over +176°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Please note that a sliding surface with a rough surface finish will increase the friction. The coefficient of friction of iglide® Q290 increases as the speed increases (diagram 04). In contrast, the coefficient of friction drops continually with the radial load, as illustrated by diagram 05.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® Q290 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

Generally, the use of hardened shafts is recommended for higher loads starting at approximately 1,450psi. This is, however, often not the case in practice, especially in connection with corrosion-resistant coating methods. Thus, the iglide® Q290 material has a lot of importance in such applications. Diagram 08 shows this very clearly in connection with galvanized shafts. The special suitability for pivoting applications is shown in diagram 07.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	157	118	197
short-term	**fpm**	394	276	394

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.14 – 0.26	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

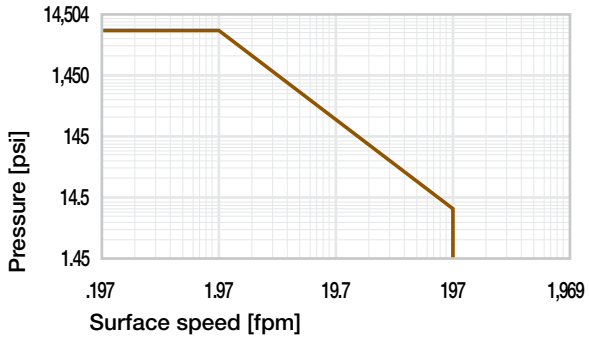


Diagram 01: Permissible pv values for iglide® Q290 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

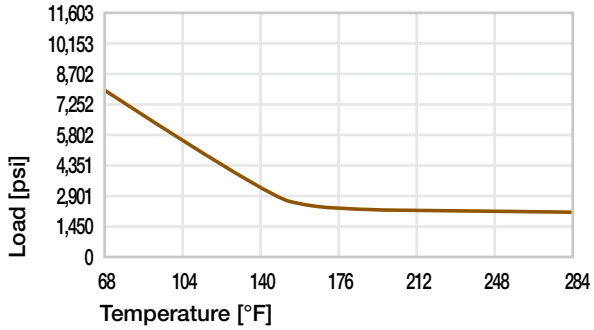


Diagram 02: Maximum recommended surface pressure of as a function of temperature (7,977psi at +68°F)

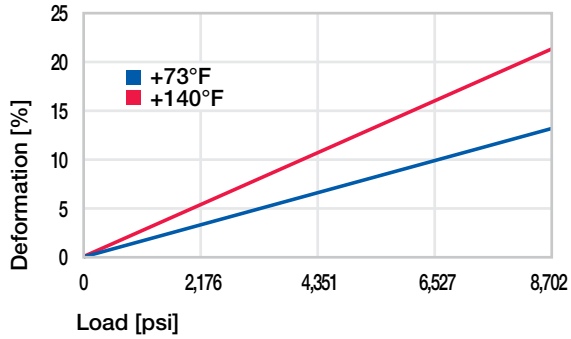


Diagram 03: Deformation under pressure and temperature

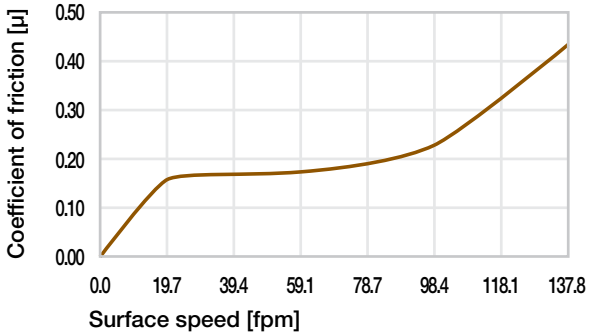


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

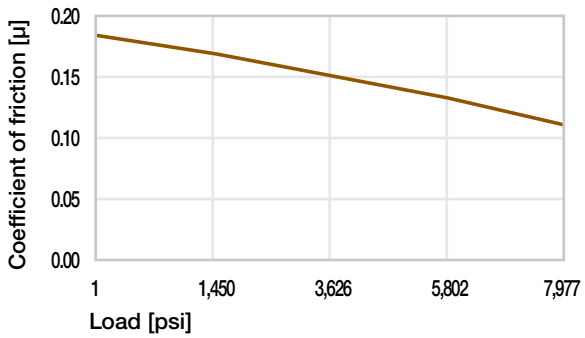


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm against chrome plated case hardened steel

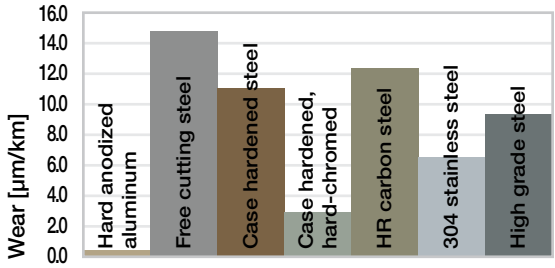


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

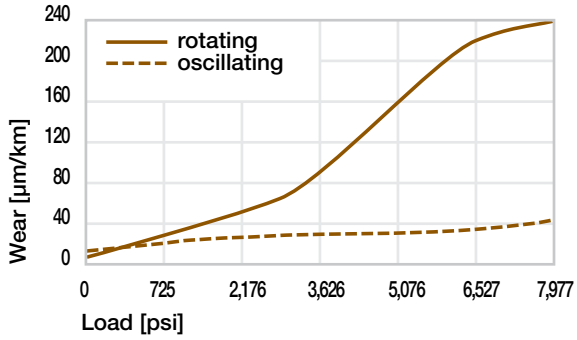


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

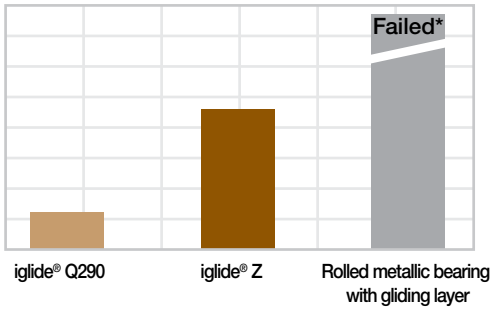
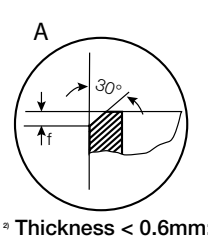


Diagram 08: Wear, pivoting applications on galvanized shafts, p >7,252psi, v = 1.97fpm

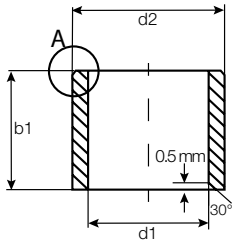
* Shaft St52 galvanized. Cycle frequency 60,000. Tested with bearing diameter 20mm and 20mm length. The force in the test was 30,400N

Bearing technology | Plain bearing | iglide® Q290

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 574**

Order key

Type			Dimensions		
Q290	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
Q290SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000
Q290SM-2528-30	25.0	28.0	30.0	25.040	25.124	28.000	28.021	24.948	25.000
Q290SM-3034-30	30.0	34.0	30.0	30.040	30.124	34.000	34.025	29.948	30.000
Q290SM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
Q290SM-3539-30	35.0	39.0	30.0	35.050	35.150	39.000	39.025	34.938	35.000
Q290SM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
Q290SM-3539-50	35.0	39.0	50.0			39.000	39.025	34.938	35.000
Q290SM-4044-40	40.0	44.0	40.0	40.050	40.150	44.000	44.025	39.938	40.000
Q290SM-5055-50	50.0	55.0	50.0	50.050	50.150	55.000	55.030	49.938	50.000
Q290SM-6065-60	60.0	65.0	60.0	60.060	60.180	65.000	65.030	59.926	60.000
Q290SM-6570-60	65.0	70.0	60.0	65.060	65.180	70.000	70.030	64.926	65.000
Q290SM-7075-60	70.0	75.0	60.0	70.060	70.180	75.000	75.030	69.926	70.000
Q290SM-8085-100	80.0	85.0	100.0	80.060	80.180	85.000	85.035	79.926	80.000

The heavy-duty bearing for up to 29,008psi static and 20,305psi dynamic

For pivoting applications under extreme loads

iglide® TX1

When to use it?

- When very high permanent static loads occur
- For highly loaded pivoting movements
- When not only high loads but also high temperatures and media resistance are required

When not to use?

- When loads of far less than 14,504psi occur
  iglide® G, iglide® Q2, iglide® Q
- For rotational movements during continuous operation
  iglide® W300, iglide® Z, iglide® G
- For high-temperature applications with average load levels
  iglide® X, iglide® J350, iglide® H

Ø
20 – 80mm
3/4 - 5 in.

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The heavy-duty bearing for up to 29,008psi static and 20,305psi dynamic

For pivoting applications under extreme loads

Outstanding rigidity and durability especially under high radial loads during pivoting operations characterize the plain bearings in the new iglide® TX1 series. Thanks to the closed-loop wound structure, excellent dimensional stability is achieved in cases of major jolts and impacts.

- Suitable for static loads up to 29,008psi
- Wear-resistant
- High media resistance
- Self-lubricating
- Suitable for dynamic loads up to 20,305psi
- Maintenance-free
- High rigidity

Typical application areas

- Agricultural engineering
- Utility and construction vehicles
- Heavy equipment

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	2.10	
Color		grey-green	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	0.5	
Coefficient of friction, dynamic, against steel	µ	0.09 – 0.37	
pv value, max. (dry)	psi · fpm	25,400	
Mechanical properties			
Flexural modulus	psi	1,740,453	DIN 53457
Flexural strength at +68°F	psi	7,977	DIN 53452
Compressive strength	psi	31,908	
Max. recommended surface pressure (+68°F)	psi	29,008	
Shore D hardness		94	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+248	
Max. application temperature short-term	°F	+338	
Min. application temperature	°F	-76	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	3	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 1 x 10^{11}	DIN IEC 93
Surface resistance	Ω	> 1 x 10^{13}	DIN 53482

-76°F up to +248°F

29,008psi

Table 01: Material properties

iglide® TX1 plain bearings represent excellent load bearing capacity under high radial loads coupled with good abrasion resistance. The special design not only ensures excellent dimensional stability due to the long-fiber winding but also allows lubrication and maintenance-free operation thanks to solid lubricants. High dirt and media resistance round off the list of properties.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® TX1 plain bearings is 0.2% weight. The saturation limit in water is 0.5% weight.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® TX1 are resistant up to a radiation intensity of 2 · 10^2Gy.

Resistance to weathering

iglide® TX1 plain bearings have not yet been tested for their resistance to weathering. Please consult igus® if you're planning to use them outdoors.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® TX1 plain bearings decreases. Diagram 02 shows this inverse relationship. At the short-term permitted application temperature of +338°F, the permitted surface pressure is still 14,504psi. 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 iglide® TX1 at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Typical applications for iglide® TX1 plain bearings are pivoting movements under high loads at comparatively low speeds. However, relatively high speeds are still attainable. The speeds shown in table 03 are threshold values for low bearing loads. They do not provide any indication of the wear resistance under these parameters.

▶ Surface speed, **Page 44**

Temperature

iglide® TX1 is a very temperature-stable material. The long-term upper temperature limit of +248°F permits the broad use in applications typical for the agricultural, utility vehicle or construction equipment sectors. The press-in and press-out forces of iglide® TX1 plain bearings are very high over the entire temperature range. As a result, additional axial securing is usually not necessary. Although these forces remain very high, a certain decrease can be observed at temperatures above +212°F and, in some cases axial securing is therefore recommended above this temperature. When considering temperatures, the additional frictional heat in the bearing system must be taken into account.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Please note that a sliding surface with a rough surface finish will increase the friction. Shafts that are too smooth also increase the coefficient of friction of the bearing. Surface finishes (Ra) of the shaft between 0.4 – 0.7µm are ideal. Furthermore, the coefficient of friction of iglide® TX1 plain bearings largely depends on the speed and load. As the surface speed increases, the coefficient of friction will quickly increase as well. With increasing load, the coefficient of friction however decreases continuously.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® TX1 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 tolerances as stated.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

In high load applications, we generally recommend the use of hardened shafts. This particularly applies when using iglide® TX1. However, acceptable wear rates are also achieved on soft shafts with heavy-duty pivoting of less than 14,504psi. The comparison of the wear rate during rotation and pivoting shown in Diagram 07 highlights that the strength of iglide® TX1 lies in heavy-duty pivoting.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	79	39	197
short-term	**fpm**	177	98	394

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.09 – 0.37	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		[mm]		h9 [mm]	
20 – 40	+0.000	+0.021	+0.020	+0.150	–0.052	+0.000
> 40 – 70	+0.000	+0.025	+0.025	+0.175	–0.062	+0.000
> 70 – 80	+0.000	+0.030	+0.050	+0.200	–0.074	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

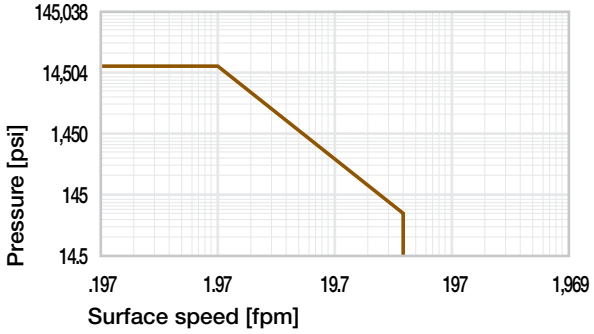


Diagram 01: Permissible pv values for iglide® TX1 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

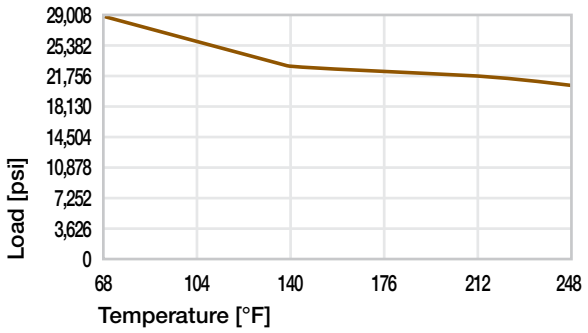


Diagram 02: Maximum recommended surface pressure of as a function of temperature (29,008psi at +68°F)

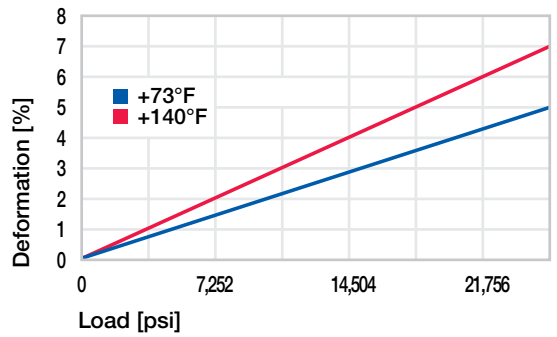


Diagram 03: Deformation under pressure and temperature

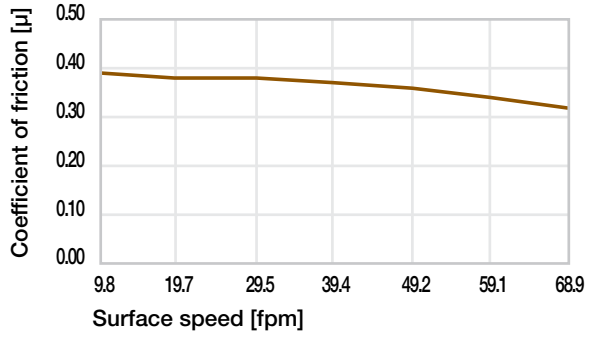


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

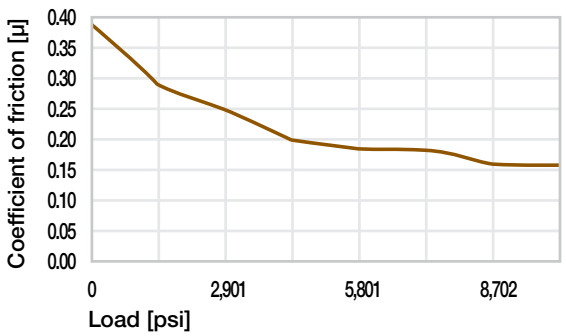


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

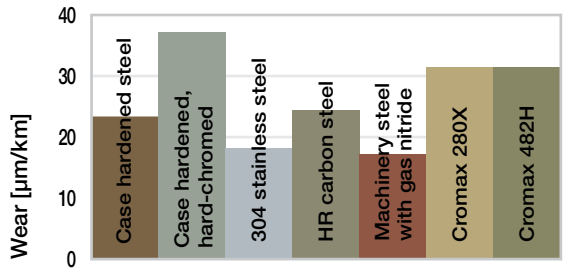


Diagram 06: Wear, rotating with different shaft materials, p = 11,023psi, v = 1.97fpm

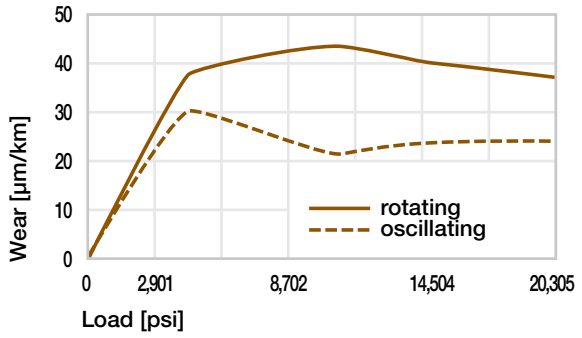
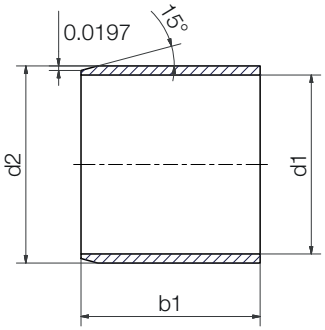


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® TX1

Sleeve bearing (form S), inch



Order key

Type			Dimensions		
TX1	S	I	-20	24	-16
iglide® material	Form S (sleeve)	Inch	Inner Ø d1 (inch)	Outer Ø d2 (inch)	Length b1 (inch)

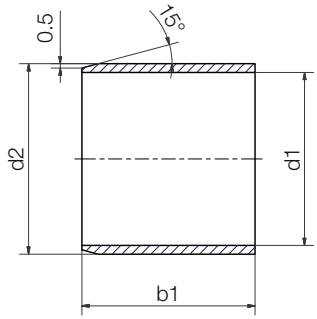
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
TX1SI-1214-16	3/4	7/8	3/4	.7514	.7584	.8750	.8770	.7480	0.7500
TX1SI-1216-12	3/4	1	3/4			1.0000	1.0020	.7480	0.7500
TX1SI-1618-08	1	1 1/8	1/2	1.0015	1.0085	1.1250	1.1252	.9880	1.0000
TX1SI-1618-12	1	1 1/8	3/4			1.1250	1.1252	.9880	1.0000
TX1SI-1618-16	1	1 1/8	1			1.1250	1.1252	.9880	1.0000
TX1SI-1618-32	1	1 1/8	2			1.1250	1.1252	.9880	1.0000
TX1SI-1620-08	1	1 1/4	1/2			1.2500	1.2520	.9880	1.0000
TX1SI-1620-12	1	1 1/4	3/4			1.2500	1.2520	.9880	1.0000
TX1SI-1620-16	1	1 1/4	1			1.2500	1.2520	.9880	1.0000
TX1SI-1620-20	1	1 1/4	1 1/4			1.2500	1.2520	.9880	1.0000
TX1SI-1620-24	1	1 1/4	1 1/2			1.2500	1.2520	.9880	1.0000
TX1SI-1620-32	1	1 1/4	2			1.2500	1.2520	.9880	1.0000
TX1SI-1820-24	1 1/8	1 1/4	1 1/2	1.1266	1.1336	1.2500	1.2520	1.1230	1.1250
TX1SI-2022-24	1 1/4	1 3/8	1 1/2	1.2516	1.2586	1.3750	1.3770	1.2480	1.2500
TX1SI-2024-12	1 1/4	1 1/2	1 1/2			1.5000	1.5020	1.2480	1.2500
TX1SI-2024-16	1 1/4	1 1/2	1 1/2			1.5000	1.5020	1.2480	1.2500
TX1SI-2024-24	1 1/4	1 1/2	1 1/2			1.5000	1.5020	1.2480	1.2500
TX1SI-2024-32	1 1/4	1 1/2	2 1/4			1.5000	1.5020	1.2480	1.2500
TX1SI-2024-36	1 1/4	1 1/2	2 1/4			1.5000	1.5020	1.2480	1.2500
TX1SI-2428-12	1 1/2	1 3/4	3/4	1.5018	1.5098	1.7500	1.7520	1.4980	1.5000
TX1SI-2428-16	1 1/2	1 3/4	1			1.7500	1.7520	1.4980	1.5000
TX1SI-2428-20	1 1/2	1 3/4	1 1/4			1.7500	1.7520	1.4980	1.5000
TX1SI-2428-24	1 1/2	1 3/4	1 1/2			1.7500	1.7520	1.4980	1.5000
TX1SI-2428-32	1 1/2	1 3/4	2			1.7500	1.7520	1.4980	1.5000
TX1SI-2831-32	1 3/4	1 15/16	2	1.7519	1.7599	1.9380	1.9400	1.7480	1.7500
TX1SI-2832-16	1 3/4	2	1			2.0000	2.0002	1.7480	1.7500
TX1SI-2832-32	1 3/4	2	2			2.0000	2.0002	1.7480	1.7500
TX1SI-3236-12	2	2 1/4	3/4	2.0020	2.0100	2.2500	2.2520	1.9980	2.0000
TX1SI-3236-16	2	2 1/4	1			2.2500	2.2520	1.9980	2.0000
TX1SI-3236-20	2	2 1/4	1 1/4			2.2500	2.2520	1.9980	2.0000
TX1SI-3236-24	2	2 1/4	1 1/2			2.2500	2.2520	1.9980	2.0000
TX1SI-3236-32	2	2 1/4	2			2.2500	2.2520	1.9980	2.0000
TX1SI-3240-32	2	2 1/2	2			2.5000	2.5030	1.9980	2.0000
TX1SI-3240-48	2	2 1/2	3			2.5000	2.5030	1.9980	2.0000
TX1SI-4044-16	2 1/2	2 3/4	1	2.5043	2.5113	2.7500	2.7530	2.4980	2.5000
TX1SI-4044-24	2 1/2	2 3/4	1 1/2			2.7500	2.7530	2.4980	2.5000
TX1SI-4044-32	2 1/2	2 3/4	2 1/2			2.7500	2.7530	2.4980	2.5000

Bearing technology | Plain bearing | iglide® TX1

Sleeve bearing (form S), inch (continued)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
TX1SI-4044-40	2 1/2	2 3/4	2 1/2	2.5043	2.5113	2.7500	2.7530	2.4980	2.5000
TX1SI-4048-32	2 1/2	3	2			2.7500	2.7530	2.4980	2.5000
TX1SI-4448-20	2 3/4	3	1 1/4	2.7524	2.7614	3.0000	3.0030	2.7470	2.7500
TX1SI-4852-48	3	3 1/4	3	3.0025	3.0115	3.2500	3.2530	2.9970	3.0000
TX1SI-4856-48	3	3 1/2	3			3.5000	3.5030	2.9970	3.0000
TX1SI-4856-64	3	3 1/2	4			3.5000	3.5030	2.9970	3.0000
TX1SI-5256-56	3 1/4	3 1/2	3 1/2	3.2526	3.2616	3.5000	3.5030	3.2470	3.2500
TX1SI-6468-48	4	4 1/4	3	4.0030	4.0120	4.2500	4.5030	3.9970	4.0000
TX1SI-6472-48	4	4 1/2	3			4.5000	4.5030	3.9970	4.0000
TX1SI-6472-64	4	4 1/2	4			4.5000	4.5030	3.9970	4.0000
TX1SI-6472-80	4	4 1/2	5			4.5000	4.5030	3.9970	4.0000
TX1SI-8094-48	5	5 7/8	3	5.0035	5.0157	5.8750	5.8780	4.9770	5.0000
TX1SI-8094-64	5	5 7/8	4			5.8750	5.8780	4.9770	5.0000

Sleeve bearing (form S), metric



Order key

Type: TX1 S M

Dimensions: -20 25 -20

TX1	S	M	-20	25	-20
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
TX1SM-2025-20	20.0	25.0	20.0	20.020	20.150	25.000	25.021	19.948	20.000
TX1SM-2025-30	20.0	25.0	30.0			25.000	25.021	19.948	20.000
TX1SM-2025-40	20.0	25.0	40.0			25.000	25.021	19.948	20.000
TX1SM-2030-30	20.0	30.0	30.0			30.000	30.021	19.948	20.000
TX1SM-2530-20	25.0	30.0	20.0	25.020	25.150	30.000	30.021	24.948	25.000
TX1SM-2530-30	25.0	30.0	30.0			30.000	30.021	24.948	25.000
TX1SM-2530-40	25.0	30.0	40.0			30.000	30.021	24.948	25.000
TX1SM-3035-30	30.0	35.0	30.0	30.020	30.150	35.000	35.025	29.948	30.000
TX1SM-3035-40	30.0	35.0	40.0			35.000	35.025	29.948	30.000
TX1SM-3040-40	30.0	40.0	40.0			40.000	40.025	29.948	30.000
TX1SM-4045-40	40.0	45.0	40.0	40.020	40.150	45.000	45.025	39.938	40.000
TX1SM-4050-50	40.0	50.0	50.0	40.025	40.175	50.000	50.025	39.938	40.000
TX1SM-5055-50	50.0	55.0	50.0	50.025	50.175	55.000	55.030	49.938	50.000
TX1SM-5060-60	50.0	60.0	60.0			60.000	60.030	49.938	50.000
TX1SM-6065-60	60.0	65.0	60.0	60.025	60.175	65.000	65.030	59.926	60.000
TX1SM-6070-80	60.0	70.0	80.0			70.000	70.030	59.926	60.000
TX1SM-7075-60	70.0	75.0	60.0	70.025	70.175	75.000	75.030	69.926	70.000
TX1SM-7080-100	70.0	80.0	100.0	70.050	70.200	80.000	80.030	69.926	70.000
TX1SM-8085-100	80.0	85.0	100.0	80.050	80.200	85.000	85.035	79.926	80.000
TX1SM-8090-100	80.0	90.0	100.0			90.000	90.035	79.926	80.000

Plain bearing materials for special application areas

Plain bearing materials for special applications areas

This group brings together the iglide® materials for very special cases. Those who have not yet found a suitable bearing, will find it here.
Electrical conductivity, free from PTFE and silicone or fast rotation under water: one iglide® material for all requirements.

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

 **iglide® F** **Electrically conductive**	Temperature [°F] [123]	+284	– +
	Surface pressure [psi] [124]	15,229	– +
	Coefficient of friction [µ] [125]	0.37	– +
	Wear [µm/km] [125]	1.00	– +
	Price index		– +
 **iglide® F2** **ESD-compatible all-rounder:**	Temperature [°F] [123]	+248	– +
	Surface pressure [psi] [124]	6,817	– +
	Coefficient of friction [µ] [125]	0.16	– +
	Wear [µm/km] [125]	1.53	– +
	Price index		– +
 **iglide® H4** **The automotive standard**	Temperature [°F] [123]	+392	– +
	Surface pressure [psi] [124]	9,427	– +
	Coefficient of friction [µ] [125]	0.21	– +
	Wear [µm/km] [125]	2.10	– +
	Price index		– +
 **iglide® UW** **For fast rotation under water**	Temperature [°F] [123]	+194	– +
	Surface pressure [psi] [124]	5,802	– +
	Coefficient of friction [µ] [125]	0.24	– +
	Wear [µm/km] [125]	1.80	– +
	Price index		– +
 **iglide® J UV** **For continuous direct sunlight**	Temperature [°F] [123]	+194	– +
	Surface pressure [psi] [124]	5,076	– +
	Coefficient of friction [µ] [125]	0.19	– +
	Wear [µm/km] [125]	0.13	– +
	Price index		– +

[123] max. long-term application temperature [124] max. recommended surface pressure at +68°F [125] best combination for p = 145psi, v = 59fpm, rotating

General purpose

iglide® N54
The biopolymer

Temperature [°F] [123]	+176	– +
Surface pressure [psi] [124]	5,521	– +
Coefficient of friction [µ] [125]	0.14	– +
Wear [µm/km] [125]	0.20	– +
Price index		– +

iglide® G V0
Low-cost all-rounder for fire protection

Temperature [°F] [123]	+266	– +
Surface pressure [psi] [124]	10,878	– +
Coefficient of friction [µ] [125]	0.20	– +
Wear [µm/km] [125]	2.10	– +
Price index		– +

iglide® J2
Versatile and cost-effective

Temperature [°F] [123]	+194	– +
Surface pressure [psi] [124]	6,672	– +
Coefficient of friction [µ] [125]	0.18	– +
Wear [µm/km] [125]	5.00	– +
Price index		– +

iglide® AB
The first antibacterial iglide® plain bearing

Temperature [°F] [123]	+158	– +
Surface pressure [psi] [124]	3,626	– +
Coefficient of friction [µ] [125]	0.18	– +
Wear [µm/km] [125]	1.00	– +
Price index		– +

iglide® RW370
For the rail industry, complies with DIN EN 45545 HL3, R22/R23

Temperature [°F] [123]	+338	– +
Surface pressure [psi] [124]	10,878	– +
Coefficient of friction [µ] [125]	0.13	– +
Wear [µm/km] [125]	1.15	– +
Price index		– +

iglide® B
The variable one

Temperature [°F] [123]	+212	– +
Surface pressure [psi] [124]	5,802	– +
Coefficient of friction [µ] [125]	0.27	– +
Wear [µm/km] [125]	1.72	– +
Price index		– +

iglide® C
Free from PTFE and silicone

Temperature [°F] [123]	+194	– +
Surface pressure [psi] [124]	5,802	– +
Coefficient of friction [µ] [125]	0.23	– +
Wear [µm/km] [125]	1.73	– +
Price index		– +

Electrically conductive
Pressure-resistant
iglide® F

When to use it?

- When the bearing should be electrically conductive
- For high static loads

When not to use?

- When mechanical reaming of the bore is necessary
  iglide® M250
- When the highest wear resistance is required
  iglide® W300
- When very low coefficient of friction in dry operation is required
  iglide® J
- For underwater applications
  iglide® H370
- When a universal plain bearing is required
  iglide® G

Ø
2 – 70mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Electrically conductive
Pressure-resistant

Outstanding rigidity and hardness as well as high conductivity: iglide® F plain bearings can only be used in dry operations to a limited extent, but offer their fully mechanical benefits when lubricated with oil and grease.

- Electrically conductive
- High compressive strength
- High temperature resistance
- High pv values
- High chemical resistance

Typical application areas

- Textile industry
- Automotive industry

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■□□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.25	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	1.8	DIN 53495
Max. moisture absorption	% weight	8.4	
Coefficient of friction, dynamic, against steel	µ	0.10 – 0.39	
pv value, max. (dry)	psi · fpm	9,710	
Mechanical properties			
Flexural modulus	psi	1,682,438	DIN 53457
Flexural strength at +68°F	psi	37,710	DIN 53452
Compressive strength	psi	14,214	
Max. recommended surface pressure (+68°F)	psi	15,229	
Shore D hardness		84	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+284	
Max. application temperature short-term	°F	+356	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.65	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	12	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	< 10^3	DIN IEC 93
Surface resistance	Ω	< 10^2	DIN 53482

-40°F up to +284°F

15,229psi

HB

RoHS-I

ISO 3547-1

Table 01: Material properties

When plain bearings need to be electrically conductive, especially in applications that should keep out static, iglide® F is the right choice. Moreover, the iglide® F plain bearings are extremely pressure-resistant. At room temperature, they could be statically loaded up to 15,229psi.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® F plain bearings is approximately 1.8% weight. The saturation limit in water is 8.4% weight. This must be taken into account for these types of applications.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® F bearings.

Radiation resistance

Plain bearings made from iglide® F are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® F plain bearings have limited resistance to weathering. The material properties are affected. Discoloration occurs. Practical tests under real application conditions are recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® F plain bearings decreases. Diagram 02 shows this inverse relationship. However, at the long-term maximum temperature of +284°F the permissible surface pressure is around 7,252psi. 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 iglide® F at radial loads. At the maximum recommended surface pressure of 15,229psi at room temperature the deformation is less than 3%. A plastic deformation can be negligible up to this value. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

The maximum permitted surface speeds are based on the operation period and the type of motion. A plain bearing is the most stressed in long-term rotating motions. Here the maximum speed for the iglide® F plain bearing is 157fpm. The speeds stated in table 03 are limit values for the lowest bearing loads. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The ambient temperatures strongly influence the properties of plain bearings. With increasing temperatures, the compressive strength of iglide® F plain bearings decreases. The wear also increases. For temperatures over +221°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

In dry operation, the coefficient of friction of iglide® F plain bearings is not as favourable as those of many other iglide® materials. However iglide® plain bearings can be lubricated without any problems, and iglide® F bearings attain excellent results among the lubricated iglide® bearings.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® F plain bearings are standard bearings for shafts with h tolerance (recommended minimum h9). 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**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (inches)	Tolerance (h13) (inches)	
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagrams 06 and 07 show the test results of iglide® F plain bearings running against various shaft materials. In the lowest load range, the hard-chromed shafts prove to be the most suitable shaft in rotating applications with iglide® F bearings.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	fpm	157	118	591
short-term	fpm	295	217	1181

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.10 – 0.39	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [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 metric tolerances for plain bearings according to ISO 3547-1 after press-fit

For Metric Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (mm)	Tolerance (h13) (mm)	
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

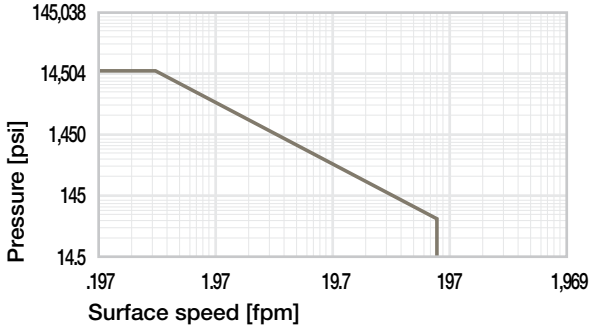


Diagram 01: Permissible pv values for iglide® F plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

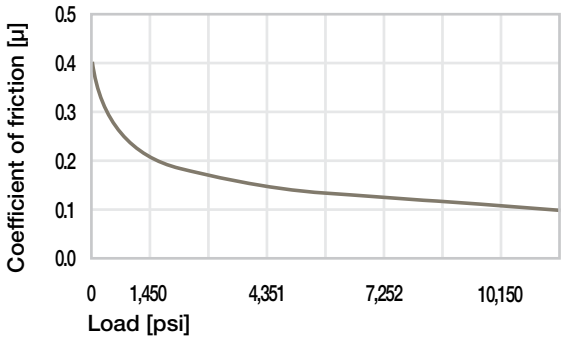


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

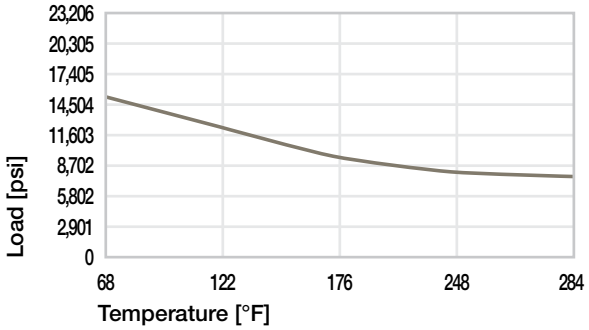


Diagram 02: Maximum recommended surface pressure as a function of temperature (15,229psi at +68°F)

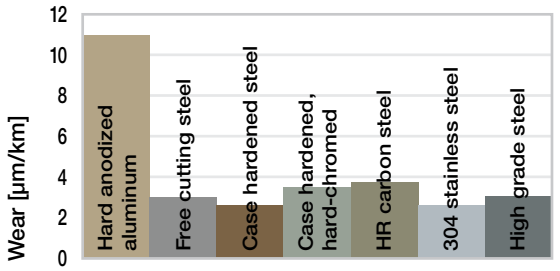


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

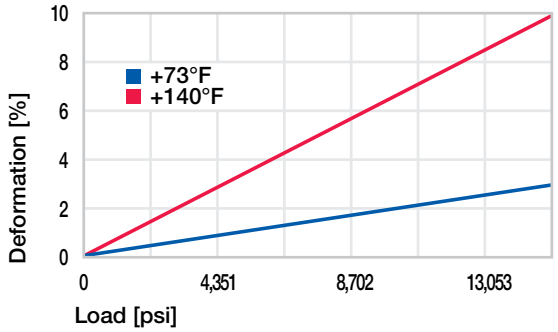


Diagram 03: Deformation under pressure and temperature

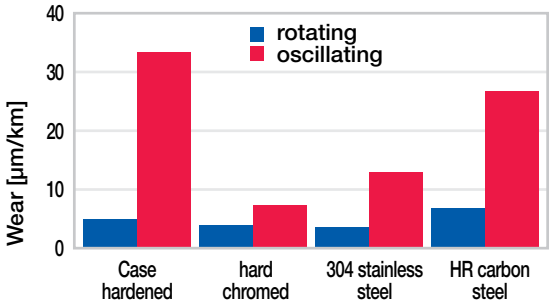


Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

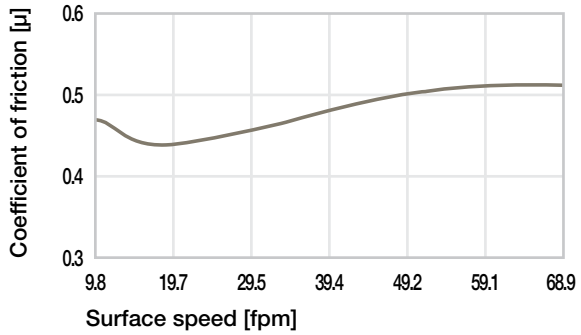
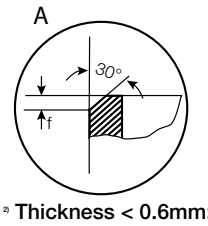


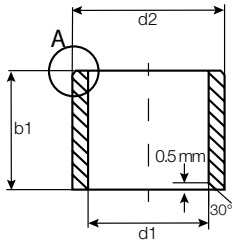
Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

Bearing technology | Plain bearing | iglide® F

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°



For tolerance values, **page 592**

Order key

Type			Dimensions		
F	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

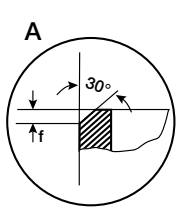
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
FSM-0203-03	2.0	3.5	3.0	2.020	2.080	3.500	3.512	1.975	2.000
FSM-0304-03	3.0	4.5	3.0	3.020	3.080	4.500	4.512	2.975	3.000
FSM-0405-04	4.0	5.5	4.0	4.030	4.105	5.500	5.512	3.970	4.000
FSM-0507-05	5.0	7.0	5.0	5.030	5.105	7.000	7.015	4.970	5.000
FSM-0507-08	5.0	7.0	8.0			7.000	7.015	4.970	5.000
FSM-0608-06	6.0	8.0	6.0	6.030	6.105	8.000	8.015	5.970	6.000
FSM-0608-08	6.0	8.0	8.0			8.000	8.015	5.970	6.000
FSM-0608-10	6.0	8.0	10.0			8.000	8.015	5.970	6.000
FSM-0608-13	6.0	8.0	13.8			8.000	8.015	5.970	6.000
FSM-0709-10	7.0	9.0	10.0	7.040	7.130	9.000	9.015	6.964	7.000
FSM-0709-12	7.0	9.0	12.0			9.000	9.015	6.964	7.000
FSM-0810-08	8.0	10.0	8.0	8.040	8.130	10.000	10.015	7.964	8.000
FSM-0810-10	8.0	10.0	10.0			10.000	10.015	7.964	8.000
FSM-0810-15	8.0	10.0	15.0			10.000	10.015	7.964	8.000
FSM-1012-06	10.0	12.0	6.0	10.040	10.130	12.000	12.018	9.964	10.000
FSM-1012-09	10.0	12.0	9.0			12.000	12.018	9.964	10.000
FSM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
FSM-1214-10	12.0	14.0	10.0	12.050	12.160	14.000	14.018	11.957	12.000
FSM-1214-15	12.0	14.0	15.0			14.000	14.018	11.957	12.000
FSM-1315-20	13.0	15.0	20.0	13.050	13.160	15.000	15.018	12.957	13.000
FSM-1416-15	14.0	16.0	15.0	14.050	14.160	16.000	16.018	13.957	14.000
FSM-1517-15	15.0	17.0	15.0	15.050	15.160	17.000	17.018	14.957	15.000
FSM-1517-20	15.0	17.0	20.0			17.000	17.018	14.957	15.000
FSM-1618-15	16.0	18.0	15.0	16.050	16.160	18.000	18.018	15.957	16.000
FSM-1820-12	18.0	20.0	12.0	18.050	18.160	20.000	20.021	17.957	18.000
FSM-1820-15	18.0	20.0	15.0			20.000	20.021	17.957	18.000
FSM-1820-20	18.0	20.0	20.0			20.000	20.021	17.957	18.000
FSM-2022-14	20.0	22.0	14.5	20.065	20.195	22.000	22.021	19.948	20.000
FSM-2022-20	20.0	22.0	20.0			22.000	22.021	19.948	20.000
FSM-2023-15	20.0	23.0	15.0			23.000	23.021	19.948	20.000
FSM-2023-20	20.0	23.0	20.0			23.000	23.021	19.948	20.000
FSM-2225-15	22.0	25.0	15.0	22.065	22.195	25.000	25.021	21.948	22.000
FSM-2528-20	25.0	28.0	20.0	25.065	25.195	28.000	28.021	24.948	25.000
FSM-2832-20	28.0	32.0	20.0	28.065	28.195	32.000	32.025	27.948	28.000
FSM-2832-30	28.0	32.0	30.0			32.000	32.025	27.948	28.000

Product range

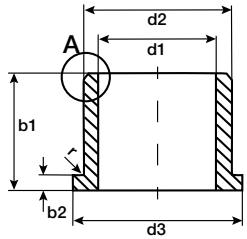
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
FSM-3034-20	30.0	34.0	20.0	30.065	30.195	34.000	34.025	29.948	30.000
FSM-3034-30	30.0	34.0	30.0			34.000	34.025	29.948	30.000
FSM-3034-40	30.0	34.0	40.0			34.000	34.025	29.948	30.000
FSM-3236-30	32.0	36.0	30.0	32.080	32.240	36.000	36.025	31.938	32.000
FSM-3539-30	35.0	39.0	30.0	35.080	35.240	39.000	39.025	34.938	35.000
FSM-3539-40	35.0	39.0	40.0			39.000	39.025	34.938	35.000
FSM-4044-30	40.0	44.0	30.0	40.080	40.240	44.000	44.025	39.938	40.000
FSM-4044-50	40.0	44.0	50.0			44.000	44.025	39.938	40.000
FSM-4550-50	45.0	50.0	50.0	45.080	45.240	50.000	50.025	44.938	45.000
FSM-5055-40	50.0	55.0	40.0	50.080	50.240	55.000	55.030	49.938	50.000
FSM-5560-50	55.0	60.0	50.0	55.100	55.290	60.000	60.030	54.926	55.000
FSM-6065-60	60.0	65.0	60.0	60.100	60.290	65.000	65.030	59.926	60.000

Bearing technology | Plain bearing | iglide® F

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, page 592

Order key

Type			Dimensions		
F	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
FFM-0405-04	4.0	5.5	9.5	4.0	0.75	4.030	4.105	5.500	5.512	3.970	4.000
FFM-0405-06	4.0	5.5	9.5	6.0	0.75			5.500	5.512	3.970	4.000
FFM-0507-05	5.0	7.0	11.0	5.0	1.00	5.030	5.105	7.000	7.015	4.970	5.000
FFM-0608-06	6.0	8.0	12.0	6.0	1.00	6.030	6.105	8.000	8.015	5.970	6.000
FFM-0608-08	6.0	8.0	12.0	8.0	1.00			8.000	8.015	5.970	6.000
FFM-0810-06	8.0	10.0	15.0	6.0	1.00	8.040	8.130	10.000	10.015	7.964	8.000
FFM-0810-09	8.0	10.0	15.0	9.0	1.00			10.000	10.015	7.964	8.000
FFM-1012-06	10.0	12.0	18.0	6.0	1.00	10.040	10.130	12.000	12.018	9.964	10.000
FFM-1012-08	10.0	12.0	18.0	8.0	1.00			12.000	12.018	9.964	10.000
FFM-1012-09	10.0	12.0	18.0	9.0	1.00			12.000	12.018	9.964	10.000
FFM-1012-15	10.0	12.0	18.0	15.0	1.00			12.000	12.018	9.964	10.000
FFM-1012-18	10.0	12.0	18.0	18.0	1.00			12.000	12.018	9.964	10.000
FFM-1214-09	12.0	14.0	20.0	9.0	1.00	12.050	12.160	14.000	14.018	11.957	12.000
FFM-1214-12	12.0	14.0	20.0	12.0	1.00			14.000	14.018	11.957	12.000
FFM-1416-12	14.0	16.0	22.0	12.0	1.00	14.050	14.160	16.000	16.018	13.957	14.000
FFM-1416-17	14.0	16.0	22.0	17.0	1.00			16.000	16.018	13.957	14.000
FFM-1517-12	15.0	17.0	23.0	12.0	1.00	15.050	15.160	17.000	17.018	14.957	15.000
FFM-1517-17	15.0	17.0	23.0	17.0	1.00			17.000	17.018	14.957	15.000
FFM-1618-17	16.0	18.0	24.0	17.0	1.00	16.050	16.160	18.000	18.018	15.957	16.000
FFM-1820-12	18.0	20.0	26.0	12.0	1.00	18.050	18.160	20.000	20.021	17.957	18.000
FFM-1820-17	18.0	20.0	26.0	17.0	1.00			20.000	20.021	17.957	18.000
FFM-2023-21	20.0	23.0	30.0	21.0	1.50	20.065	20.195	23.000	23.021	19.948	20.000
FFM-2528-21	25.0	28.0	35.0	21.0	1.50	25.065	25.195	28.000	28.021	24.948	25.000
FFM-3034-26	30.0	34.0	42.0	26.0	2.00	30.065	30.195	34.000	34.025	29.948	30.000
FFM-3236-26	32.0	36.0	45.0	26.0	2.00	32.080	32.240	36.000	36.025	31.938	32.000
FFM-3539-06	35.0	39.0	47.0	6.0	2.00	35.080	35.240	39.000	39.025	34.938	35.000
FFM-3539-16	35.0	39.0	47.0	16.0	2.00			39.000	39.025	34.938	35.000
FFM-3539-26	35.0	39.0	47.0	26.0	2.00			39.000	39.025	34.938	35.000
FFM-4044-30	40.0	44.0	52.0	30.0	2.00	40.080	40.240	44.000	44.025	39.938	40.000
FFM-4044-40	40.0	44.0	52.0	40.0	2.00			44.000	44.025	39.938	40.000
FFM-4550-50	45.0	50.0	58.0	50.0	2.00	45.080	45.240	50.000	50.025	44.938	45.000
FFM-5055-10	50.0	55.0	63.0	10.0	2.00	50.080	50.240	55.000	55.030	49.938	50.000
FFM-5055-40	50.0	55.0	63.0	40.0	2.00			55.000	55.030	49.938	50.000
FFM-6065-40	60.0	65.0	73.0	40.0	2.00	60.100	60.290	65.000	65.030	59.926	60.000
FFM-7075-40	70.0	75.0	83.0	40.0	2.00	70.100	70.290	75.000	75.030	69.926	70.000

ESD-compatible all-rounder:
Electrically conductive
iglide® F2

When to use it?

- When the bearing should be electrically discharging
- When a universal plain bearing is required

When not to use?

- When a universal plain bearing without electrostatic discharge capacity is required
  iglide® G, iglide® P
- For underwater use
  iglide® H370
- When the highest wear resistance is required
  iglide® J, iglide® W300

Ø
5 – 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

ESD-compatible all-rounder:
Electrically conductive

iglide® F2 helps to prevent the build-up of electrostatic charges. Good resistance to media and temperature, suitable even in wet conditions due to low moisture absorption and good universal coefficient of wear pave the way for a wide range of applications.

- Used to prevent electro-static charges
- Suitable for wet environments
- Self-lubricating
- Maintenance-free

Typical application areas

- Mechanical engineering
- Jig construction
- Industrial handling

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.52	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	0.4	
Coefficient of friction, dynamic, against steel	µ	0.16 – 0.22	
pv value, max. (dry)	psi · fpm	8,850	
Mechanical properties			
Flexural modulus	psi	1,075,890	DIN 53457
Flexural strength at +68°F	psi	13,489	DIN 53452
Compressive strength	psi	8,847	
Max. recommended surface pressure (+68°F)	psi	6,817	
Shore D hardness		72	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+248	
Max. application temperature short-term	°F	+329	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.61	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	5	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm		DIN IEC 93
Surface resistance	Ω		DIN 53482

-40°F up to +248°F

6,817psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

The prevention of electrostatic charge is an important requirement in many application areas. At the same time other technical application parameters such as wear resistance, media and temperature resistance, suitability in a wet environment etc. cannot be neglected. iglide® F2 with its wide range of properties constitutes another universal bearing for numerous “ESD-suitable” applications.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® F2 plain bearings is approximately 0.2% weight. The saturation limit in water is 0.4% weight.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® F2 bearings.

Radiation resistance

Plain bearings made from iglide® F2 are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® F2 plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® F2 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 iglide® F2 at radial loads. A plastic deformation can be negligible up to this value. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

The maximum permitted surface speeds are based on the operation period and the type of motion. A plain bearing is the most stressed in long-term rotating motions. Here the maximum speed for the iglide® F2 plain bearing is 157fpm.In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The ambient temperatures strongly influence the properties of plain bearings. With increasing temperatures, the compressive strength of iglide® F2 plain bearings decreases. Diagram 02 shows this inverse relationship. For temperatures over +158°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Coefficient of friction and wear resistance are dependent on the application parameters (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® F2 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 E10 tolerances.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 shows the test results of iglide® F2 plain bearings running against various shaft materials. In the lower region of the load, free cutting steel and hard-anodized aluminum shafts, as well as HR carbon steel and hard-chromed steel shafts prove to be the most favorable in rotating applications with iglide® F2 plain bearings with respect to wear. Diagram 07 shows significantly less wear in rotation compared to pivoting movements over the entire load range.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	157	138	591
short-term	**fpm**	276	217	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.16 – 0.22	0.01	0.05	0.03

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

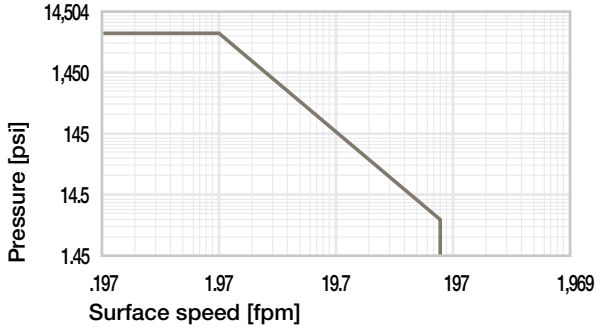


Diagram 01: Permissible pv values for iglide® F2 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

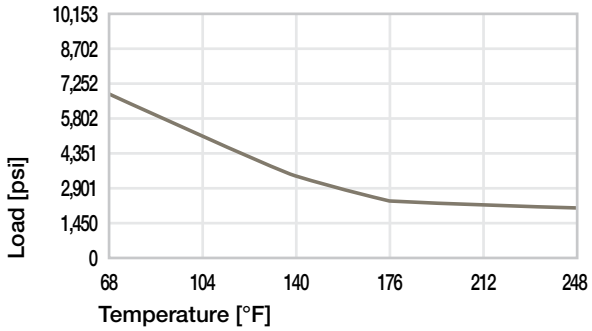


Diagram 02: Maximum recommended surface pressure as a function of temperature (6,817psi at +68°F)

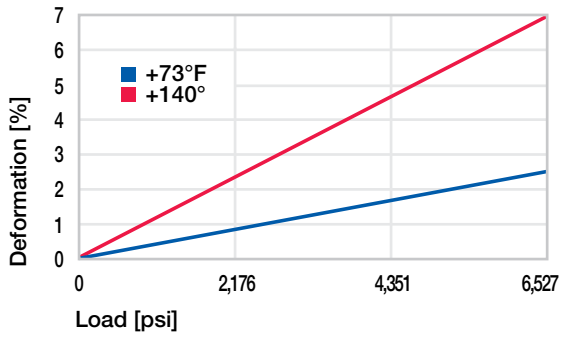


Diagram 03: Deformation under pressure and temperature

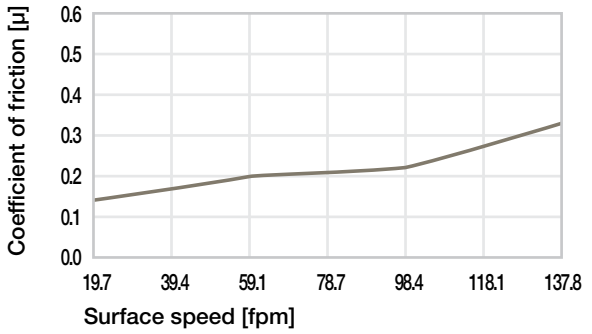


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

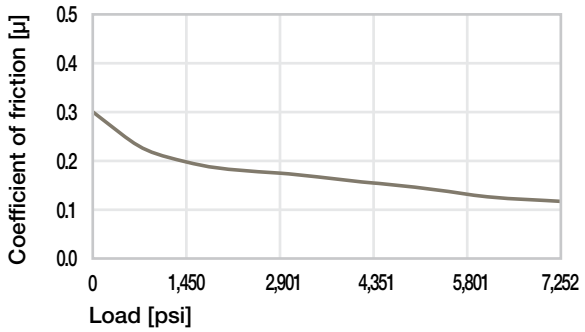


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

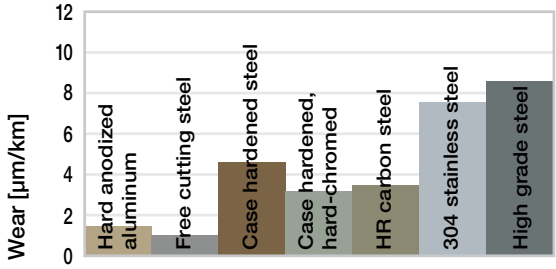


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

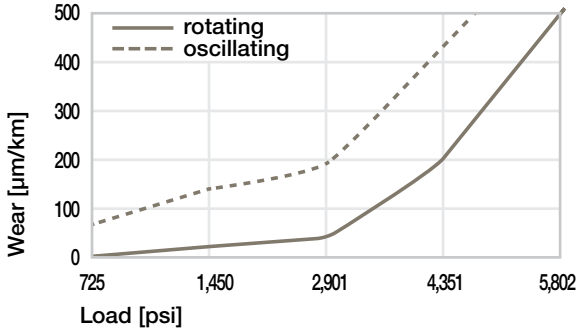
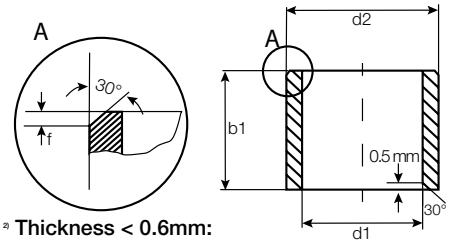


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® F2

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 600**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

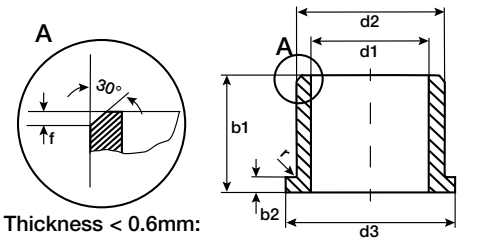
Order key

Type			Dimensions		
F2	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
F2SM-0507-10	5.0	7.0	10.0	5.020	5.068	7.000	7.015	4.970	5.000
F2SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
F2SM-0709-10	7.0	9.0	10.0	7.025	7.083	9.000	9.015	6.964	7.000
F2SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
F2SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
F2SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
F2SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
F2SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
F2SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® F2

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 600**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

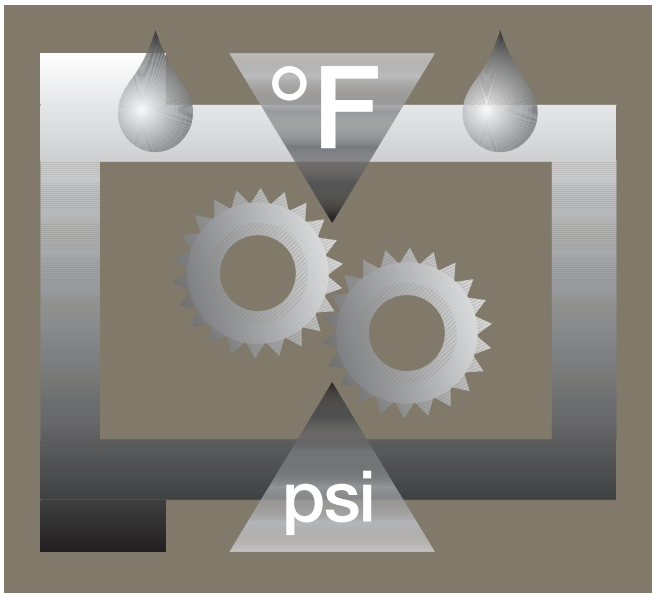
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
F2	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
F2FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
F2FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
F2FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
F2FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
F2FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
F2FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes



The automotive standard

Up to +392°F, media-resistant **iglide® H4**

When to use it?

- For application with fuels, oils, etc.
- When high wear resistance is required
- For low coefficient of friction
- For high temperature resistance from -40°F to +392°F
- For high chemical resistance

When not to use?

- For underwater use
  iglide® H370
- When a cost-effective universal plain bearing is required
  iglide® G
- When a temperature and media-resistant plain bearing for static applications is
  iglide® H2

Ø
4 – 40mm

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The automotive standard
Up to +392°F, media-resistant

Cost-effective high-temperature material with good dry-operation properties and “engine compartment resistance”.

- Low coefficient of friction
- High wear resistance
- Temperature-resistant from -40°F to +392°F
- High chemical resistance
- Self-lubricating
- Maintenance-free

Typical application areas

- Automotive industry
- Automation
- Packaging

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■■□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■■	+
Wear resistance under water	–	■■■■□	+
High media resistance	–	■■■■■	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.79	
Color		brown	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.1	DIN 53495
Max. moisture absorption	% weight	0.2	
Coefficient of friction, dynamic, against steel	µ	0.08 – 0.25	
pv value, max. (dry)	psi · fpm	20,000	
Mechanical properties			
Flexural modulus	psi	1,087,783	DIN 53457
Flexural strength at +68°F	psi	17,405	DIN 53452
Compressive strength	psi	7,252	
Max. recommended surface pressure (+68°F)	psi	9,427	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+392	
Max. application temperature short-term	°F	+464	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	5	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm		DIN IEC 93
Surface resistance	Ω		DIN 53482

–40°F up to +392°F

9,427psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

iglide® H4 plain bearings stand for high carrying capacity, good abrasion resistance and good temperature resistance, besides the obvious economic factors. Temperatures up to +392°F, permitted surface pressure up to 9,427psi, and excellent chemical resistance are only some of the essential attributes. Solid lubricants lower the coefficient of friction and support the wear resistance, which was considerably improved compared to the likewise cost-effective iglide® H2 plain bearings. iglide® H4 bearings are self-lubricating and suitable for all motions.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® H4 plain bearings is below 0.1% weight. The saturation limit in water is 0.2% weight. iglide® H4 is therefore an ideal material for wet environments.

Vacuum

In vacuum, any present moisture is released as vapor. The use in vacuum is generally possible.

Radiation resistance

Plain bearings made from iglide® H4 are resistant up to a radiation intensity of $2 \cdot 10^2$Gy.

Resistance to weathering

iglide® H4 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® H4 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 iglide® H4 at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

In contrast to the similarly cost-effective iglide® H2 plain bearings, iglide® H4 has an essentially favorable coefficient of friction. This accounts for the higher permitted surface speeds that can be attained with these bearings. The speeds stated in table 03 are limit values for the lowest bearing loads. With higher loads, the permitted speed drops with the extent of the load due to the limitations by the pv value.

▶ Surface speed, **Page 44**

Temperature

iglide® H4 is a temperature-resistant material. With increasing temperatures, the compressive strength of iglide® H4 plain bearings decreases. When considering temperatures, the additional frictional heat in the bearing system must be taken into account. For temperatures over +230°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction of the iglide® H4 plain bearings is very low (diagrams 04 and 05). Please note that a sliding surface with a rough surface finish will increase the friction.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® H4 plain bearings are standard bearings for shafts with h tolerance (recommended minimum h9). 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**
▶ Tolerance table, **Page 58**

Shaft materials

With many of the suitable shaft materials, iglide® H4 is the economical alternative to many other high-temperature bearings. The important thing is however the selection of the suitable shaft material. It cannot be generally stated that iglide® H4 is suitable for use with hard or soft shafts. Tests have however shown that pivoting applications yield better wear data. In rotating applications, the wear increases markedly from 1,450psi.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	197
short-term	**fpm**	295	217	394

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.08 – 0.25	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

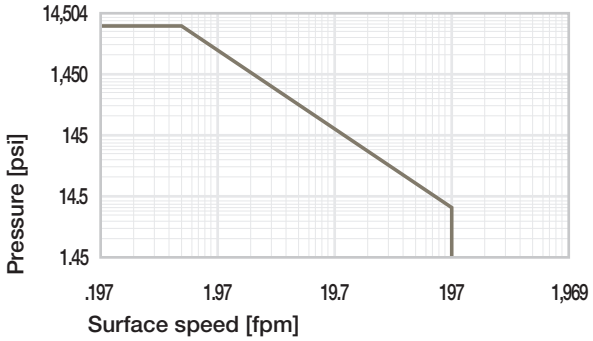


Diagram 01: Permissible pv values for iglide® H4 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

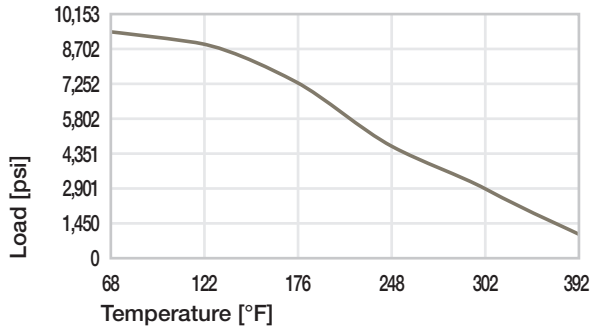


Diagram 02: Maximum recommended surface pressure as a function of temperature (9,427psi at +68°F)

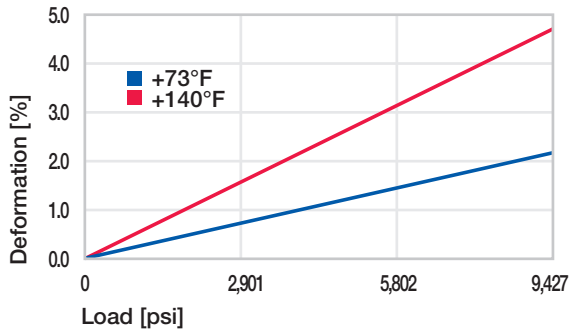


Diagram 03: Deformation under pressure and temperature

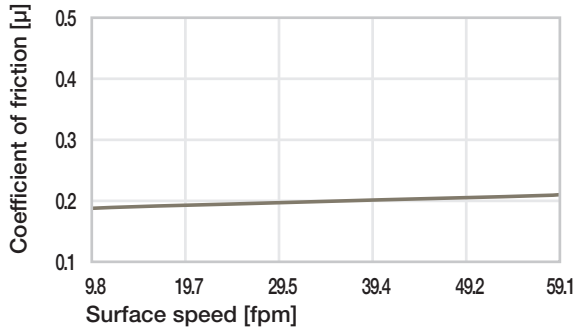


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

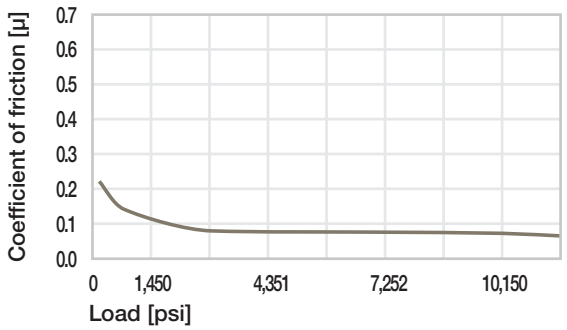


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

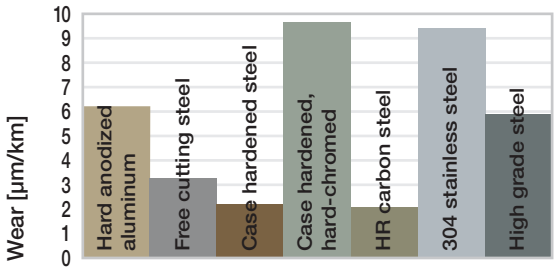


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

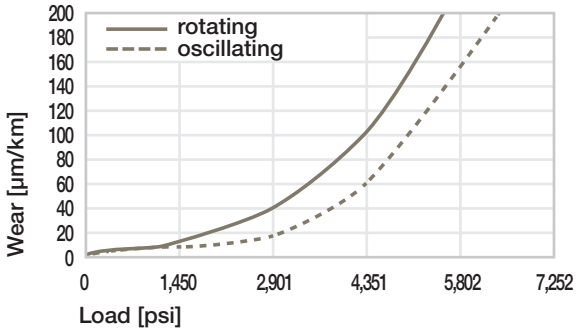
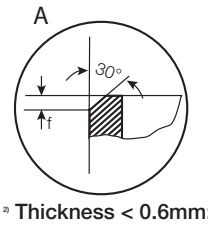


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® H4

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm: Chamfer = 20°

For tolerance values, **page 608**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

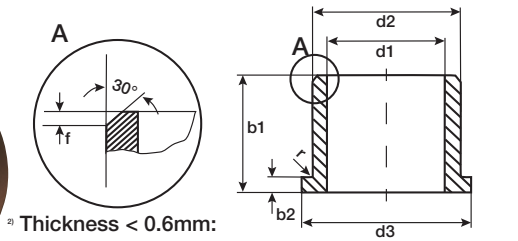
Order key

Type			Dimensions		
H4	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
H4SM-0405-04	4.0	5.5	4.0	4.010	4.058	5.500	5.512	3.970	4.000
H4SM-0608-08	6.0	8.0	8.0	6.010	6.058	8.000	8.015	5.970	6.000
H4SM-0810-10	8.0	10.0	10.0	8.013	8.071	10.000	10.015	7.964	8.000
H4SM-0810-20	8.0	10.0	20.0			10.000	10.015	7.964	8.000
H4SM-1618-20	16.0	18.0	20.0	16.016	16.086	18.000	18.018	15.957	16.000
H4SM-1820-15	18.0	20.0	15.0	18.016	18.086	20.000	20.021	17.957	18.000
H4SM-2022-15	20.0	22.0	15.0	20.020	20.104	22.000	22.021	19.948	20.000
H4SM-3943-40	39.0	43.0	40.0	39.025	39.125	43.000	43.025	38.938	39.000

Bearing technology | Plain bearing | iglide® H4

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 608**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

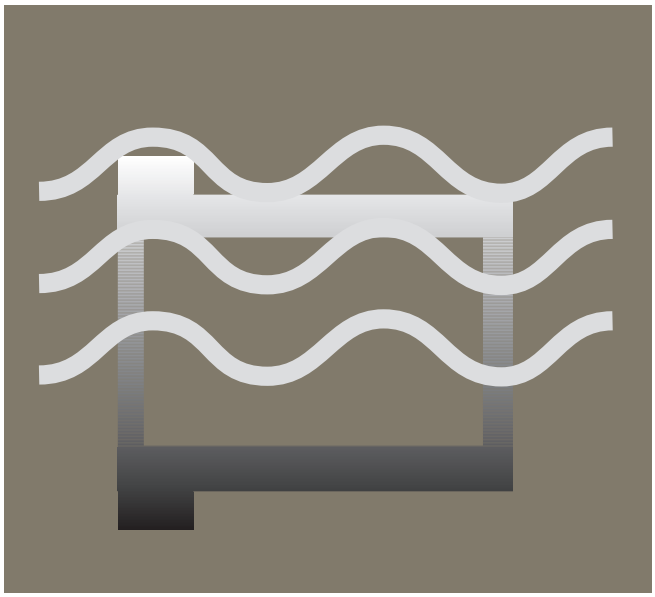
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
H4	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
H4FM-0405-04	4.0	5.5	9.5	4.0	0.75	4.010	4.058	5.500	5.512	3.970	4.000
H4FM-0608-08	6.0	8.0	12.0	8.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
H4FM-060810-20	6.0	10.0	12.0	20.0	1.00			10.000	10.015	5.970	6.000
H4FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.013	8.071	10.000	10.015	7.964	8.000
H4FM-1012-05	10.0	12.0	18.0	5.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
H4FM-1012-12	10.0	12.0	18.0	12.0	1.00			12.000	12.018	9.964	10.000
H4FM-101218-25	10.0	12.0	18.0	25.0	1.00			12.000	12.018	9.964	10.000
H4FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
H4FM-1517-12	15.0	17.0	23.0	12.0	1.00	15.016	15.086	17.000	17.018	14.957	15.000
H4FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
H4FM-1820-17	18.0	20.0	26.0	17.0	1.00	18.016	18.086	20.000	20.021	17.957	18.000
H4FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000
H4FM-2528-21	25.0	28.0	35.0	21.5	1.50	25.020	25.104	28.000	28.021	24.948	25.000
H4FM-3034-30	30.0	34.0	40.0	30.0	2.00	30.020	30.104	34.000	34.025	29.948	30.000
H4FM-4044-40	40.0	44.0	52.0	40.0	2.00	40.030	40.150	44.000	44.025	39.938	40.000

Notes



For fast rotation under water

Extreme wear resistance in liquid under continuous operation

iglide® UW

When to use it?

- For underwater applications or in applications with liquid media
- For low loads
- For high rotational speeds
- For extreme wear resistance when used continuously in liquid media

When not to use?

- When continuous operating temperatures are higher than 194°F
  iglide® UW500
- When high loads occur
  iglide® H370, iglide® UW500, iglide® X
- When only dry operation is feasible
  iglide® J

Ø
3 – 20mm

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

For fast rotation under water

Extreme wear resistance in liquid under continuous operation

The best iglide® plain bearing for underwater applications. Extremely wear-resistant under water, tested and maintenance-free. The first choice for pump applications.

- Suitable for underwater applications
- For fast and constant rotation
- Long service life
- Self-lubricating
- Maintenance-free

Typical application areas

- Fluid technology
- Pumps

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■■■■	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■□□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

General properties			Testing method
Density	g/cm³	1.52	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	0.8	
Coefficient of friction, dynamic, against steel	µ	0.15 – 0.35	
pv value, max. (dry)	psi · fpm	3,140	
Mechanical properties			
Flexural modulus	psi	1,392,362	DIN 53457
Flexural strength at +68°F	psi	13,053	DIN 53452
Compressive strength	psi	10,153	
Max. recommended surface pressure (+68°F)	psi	5,802	
Shore D hardness		78	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+230	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.60	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	6	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	< 10^5	DIN IEC 93
Surface resistance	Ω	< 10^5	DIN 53482

–58°F up to +194°F

5,802psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

iglide® UW was developed for underwater applications where the maximum temperatures are lower than +212°F. For application temperatures above this limit, the plain bearings made from iglide® UW500 are available. Though iglide® UW was developed for application in liquids, it is also suitable for dry operation. This one is particularly important in applications that call for both dry and wet operations. These applications can be seen often in practice. The features of the bearings made from iglide® UW described in this section apply to the dry operation. Unless it is expressly mentioned otherwise.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® UW plain bearings is approximately 0.2% weight. The saturation limit in water is 0.8% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® UW are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® UW plain bearings have limited resistance to weathering. The material properties are affected. Discoloration occurs. Practical tests under real application conditions are recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® UW 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 iglide® UW at radial loads. At the maximum recommended surface pressure of 5,802psi the deformation is less than 1%.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® UW is very good in both wet and dry operation. Due to hydrodynamic lubrication at high speeds, surface speeds far above 394fpm can be achieved. In dry operation the iglide® UW plain bearings can be used up to 295fpm short-term.

▶ Surface speed, **Page 44**

Temperature

As stated earlier, iglide® UW plain bearings are required for use in the low temperature range. As the liquid usually dissipates heat in underwater applications the temperature of the liquid is very important. For temperatures over +176°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The surface finish of the shafts should not be extremely smooth in order to prevent a high adhesion effect and the related increase of the coefficient of friction. Please contact us for the specifications of shaft surface finishes in underwater applications.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® UW plain bearings are standard bearings for shafts with h tolerance (recommended minimum h9). After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

Diagrams 06 and 07 show the test results of iglide® UW plain bearings running against various shaft materials. For low loads with rotation, the combinations achieve the best coefficient of wear with high grade steel and 304 stainless steel. The conditions shift with increasing loads. It is also important to note that the wear rate increases significantly from loads > 725psi.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	98	79	394
short-term	**fpm**	295	217	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.15 – 0.35	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

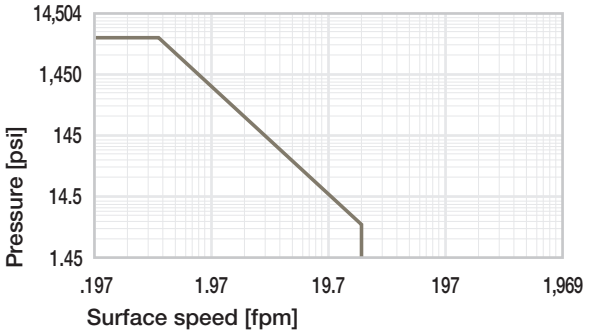


Diagram 01: Permissible pv values for iglide® UW plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

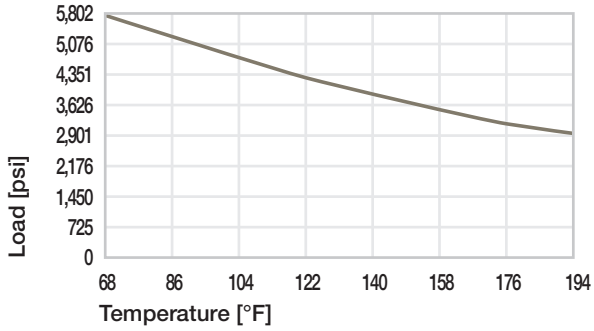


Diagram 02: Maximum recommended surface pressure as a function of temperature (5,802psi at +68°F)

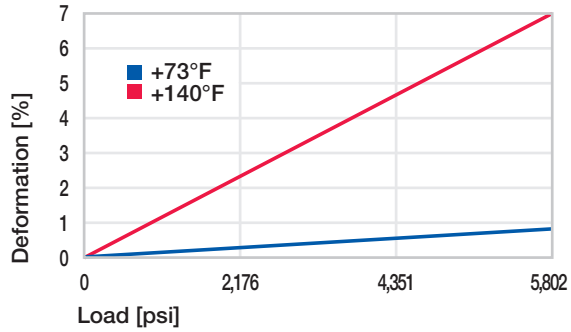


Diagram 03: Deformation under pressure and temperature

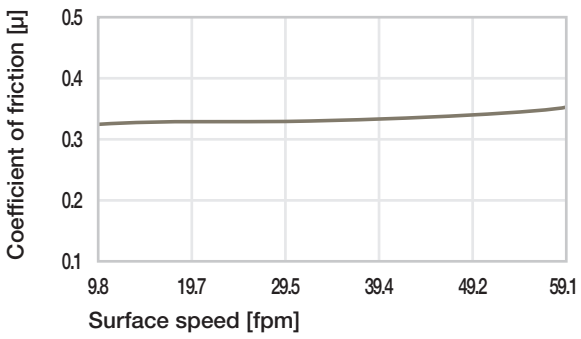


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

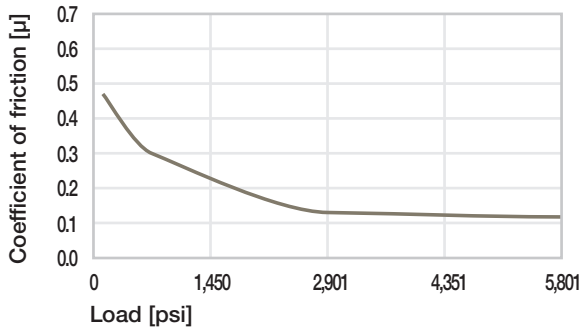


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

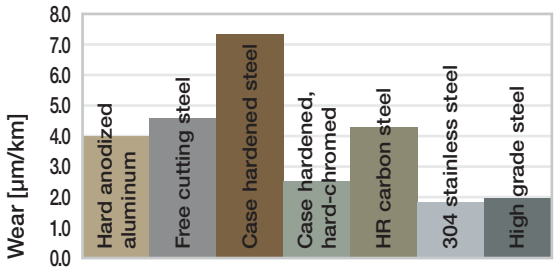


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

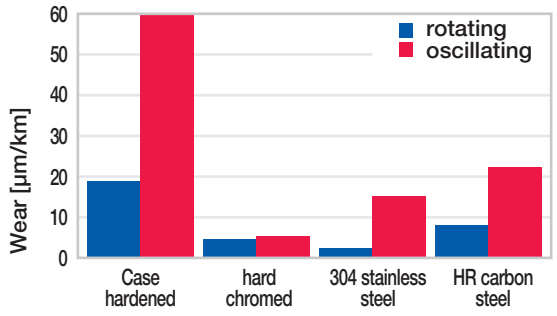
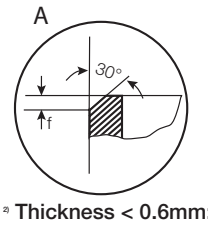


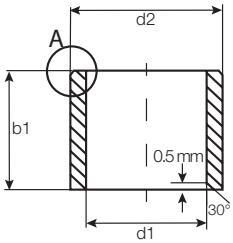
Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Bearing technology | Plain bearing | iglide® UW

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 616**

Order key

Type			Dimensions		
UW	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

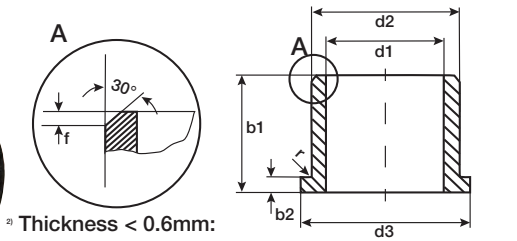
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
UWSM-0304-05	3.0	4.5	5.0	3.014	3.054	4.500	4.512	2.975	3.000
UWSM-0405-06	4.0	5.5	6.0	4.020	4.068	5.500	5.512	3.970	4.000
UWSM-0507-08	5.0	7.0	8.0	5.020	5.068	7.000	7.015	4.970	5.000
UWSM-0608-08	6.0	8.0	8.0	6.020	6.068	8.000	8.015	5.970	6.000
UWSM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
UWSM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
UWSM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
UWSM-1618-12	16.0	18.0	12.0	16.032	16.102	18.000	18.018	15.957	16.000
UWSM-1820-15	18.0	20.0	15.0	18.032	18.102	20.000	20.021	17.957	18.000

Bearing technology | Plain bearing | iglide® UW

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 616**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

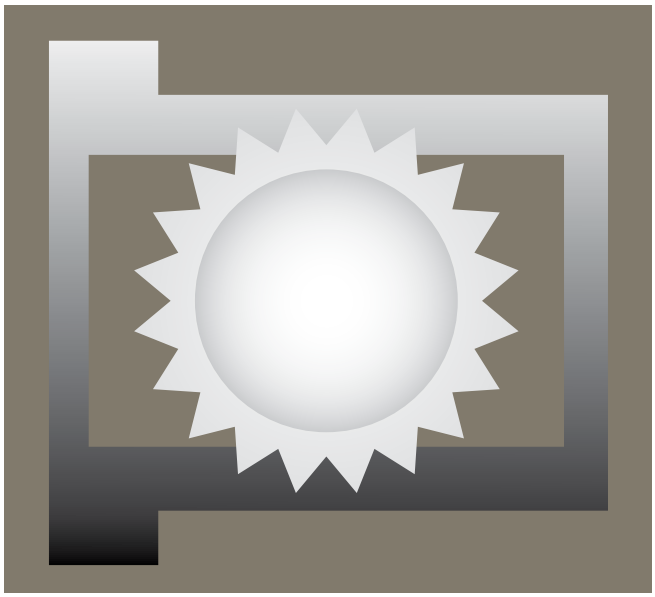
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
UW	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
UWFM-0304-05	3.0	4.5	7.5	5.0	0.75	3.014	3.054	4.500	4.512	2.975	3.000
UWFM-0405-06	4.0	5.5	9.5	6.0	0.75	4.020	4.068	5.500	5.512	3.970	4.000
UWFM-0507-05	5.0	7.0	11.0	5.0	1.00	5.020	5.068	7.000	7.015	4.970	5.000
UWFM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
UWFM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
UWFM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
UWFM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
UWFM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
UWFM-2023-21	20.0	23.0	30.0	21.5	1.50	18.032	18.102	23.000	23.021	19.948	20.000

Notes



For continuous direct sunlight exposure

Permanently UV-resistant with properties comparable to iglide® J

iglide® J UV

When to use it?

- When high UV resistance is required
- When a wear-resistant material is required
- When an optimization of the long-term mechanical properties is required

When not to use?

- When high pressures occur
  iglide® G
- When short-term temperatures higher than +248°F occur
  iglide® G, iglide® X
- When a cost-effective plain bearing for occasional movements is necessary
  iglide® G

Ø
6 – 20mm

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

For continuous direct sunlight exposure

Permanently UV-resistant with properties comparable to iglide® J

Today, plain bearings appear for special uses, in some instances they are exposed to UV radiation for long periods of time. igus® has therefore developed a new material: iglide® J UV.

- UV-stabilized
- Long-term mechanical properties improved
- High wear resistance

Typical application areas

- Solar technology
- Outdoor applications

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■■■	+
Wear resistance at +194°F	–	■■■■■	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■■■	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■■□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.49	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	1.3	
Coefficient of friction, dynamic, against steel	µ	0.08 – 0.19	
pv value, max. (dry)	psi · fpm	8,570	
Mechanical properties			
Flexural modulus	psi	348,091	DIN 53457
Flexural strength at +68°F	psi	10,443	DIN 53452
Compressive strength	psi	k. A.	
Max. recommended surface pressure (+68°F)	psi	5,076	
Shore D hardness		74	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+248	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.30	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	10	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{13}	DIN 53482

-58°F up to +194°F

5,076psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

One main advantage of iglide® J UV plain bearings is the low coefficient of friction in dry operation. The material is resistant to UV radiation and retains its sliding properties.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® J UV plain bearings is approximately 0.3% weight. The saturation limit in water is 1.3% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® J UV bearings.

Radiation resistance

Plain bearings made from iglide® J UV are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® J UV plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® J UV 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. With a maximum recommended surface pressure of 5,076psi, iglide® J UV plain bearings are not suitable for extreme loads. Diagram 03 shows the elastic deformation of iglide® J UV at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

The low coefficient of friction and the very low stick slip tendency of iglide® J UV plain bearings are particularly important at very low speeds. However, iglide® J UV can also be used for high speeds of over 197fpm. In both cases the static friction is very low and stick slip does not occur. The maximum values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

In the case of a permissible long-term application temperature of +194°F, iglide® J UV will even withstand +248°F for short periods. The wear rises with increasing temperatures. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

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

The friction and wear are also dependent, to a large degree, on the shaft material. With increasing shaft surface finish, the coefficient of friction also increases. For iglide® J UV a ground surface with an average surface finish Ra = 0.8μm is recommended. Diagrams 06 and 07 show the test results of iglide® J UV plain bearings running against various shaft materials. When compared to most iglide® materials, iglide® J UV plain bearings have very low wear results at low loads compared with all shaft materials tested. Also, for increasing loads up to 725psi, the wear resistance of iglide® J UV is excellent. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

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

All information given at room temperature [+68°F]

Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

		Rotating	Oscillating	linear
long-term	**fpm**	295	217	1575
short-term	**fpm**	433	335	2362

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.08 – 0.19	0.09	0.04	0.04

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

Installation tolerances

iglide® J UV 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

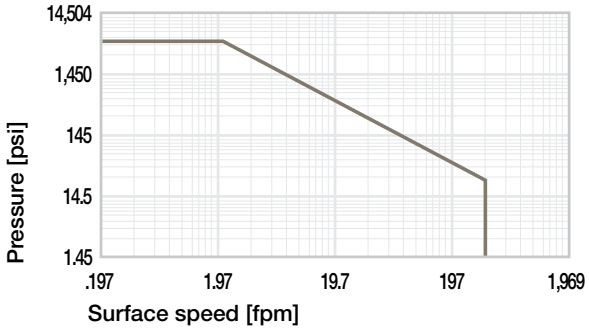


Diagram 01: Permissible pv values for iglide® J UV plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

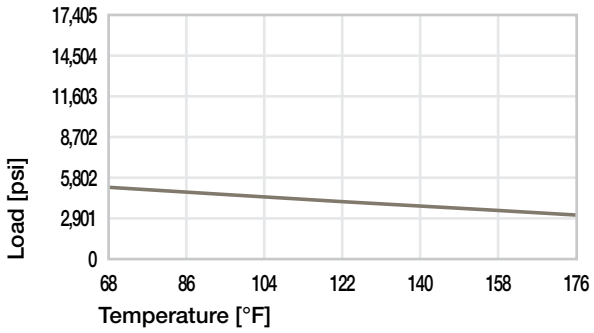


Diagram 02: Maximum recommended surface pressure as a function of temperature (5,076psi at +68°F)

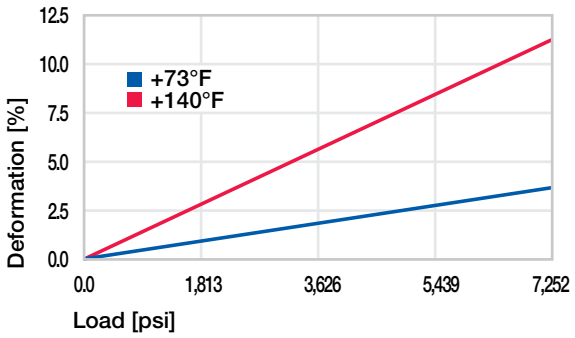


Diagram 03: Deformation under pressure and temperature

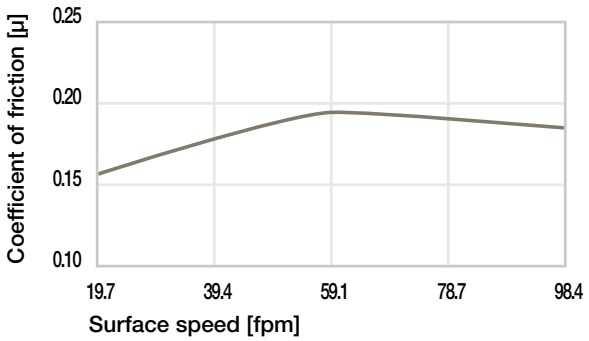


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

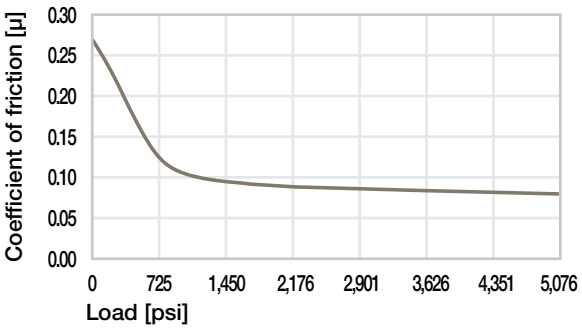


Diagram 05: Coefficient of friction as a function of the pressure, v = 1.97fpm

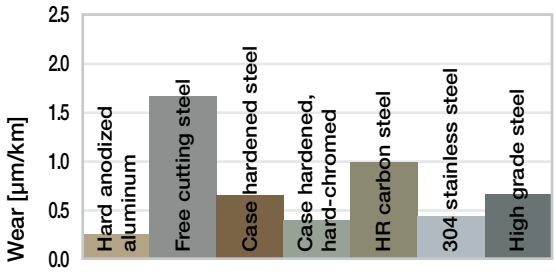


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

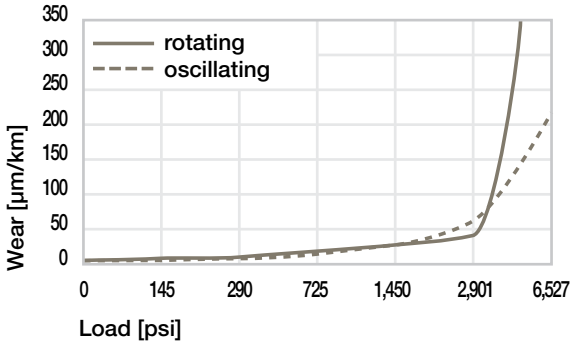
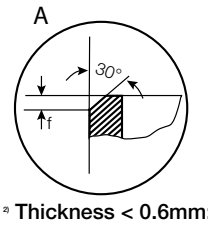


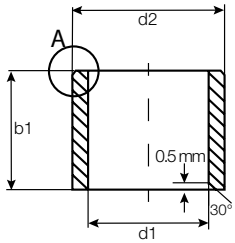
Diagram 07: Wear for rotating and oscillating applications with different shaft materials, p = 290psi

Bearing technology | Plain bearing | iglide® J UV

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 624**

Order key

Type			Dimensions		
JUV	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

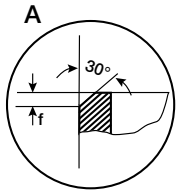
Chamfer in relation to d1

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

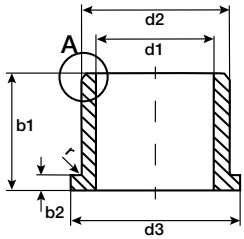
Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
JUVSM-0608-08	6.0	8.0	8.0	6.020	6.068	8.000	8.015	5.970	6.000
JUVSM-0810-12	8.0	10.0	12.0	8.020	8.068	10.000	10.015	7.964	8.000
JUVSM-1012-12	10.0	12.0	12.0	10.025	10.083	12.000	12.018	9.964	10.000
JUVSM-1214-12	12.0	14.0	12.0	12.030	12.102	14.000	14.018	11.957	12.000
JUVSM-1618-15	16.0	18.0	15.0	16.030	16.102	18.000	18.018	15.957	16.000
JUVSM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® J UV

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 624**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
JUV	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
JUVFM-0608-08	6.0	8.0	12.0	8.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
JUVFM-0810-09	8.0	10.0	15.0	9.5	1.00	8.020	8.068	10.000	10.015	7.964	8.000
JUVFM-1012-12	10.0	12.0	18.0	12.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
JUVFM-1214-12	12.0	14.0	20.0	12.0	1.00	12.030	12.102	14.000	14.018	11.957	12.000
JUVFM-1618-17	16.0	18.0	24.0	17.0	1.00	16.030	16.102	18.000	18.018	15.957	16.000
JUVFM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes

The biopolymer
Based on renewable resources
iglide® N54

When to use it?

- For applications with infrequent movement at low to medium loads
- At static loads
- When the environmental impact of a product needs to be optimized

When not to use?

- When a universal standard plain bearing is required
  iglide® G
- When dealing with high motion frequencies and continuous operation
  iglide® J
- When dealing with high temperatures
  iglide® J350

Bearing technology | Plain bearing | iglide® N54

Ø
6 – 20mm

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The biopolymer
Based on renewable resources

Based on 54% renewable resources, this material also meets high technical requirements.

- Based on renewable resources
- Universal installation
- Self-lubricating
- Maintenance-free

Typical application areas

- Consumer products
- General mechanical engineering
- Furniture industry
- Industrial design

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■□□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■□□□	+
Resistant to edge pressures	–	■■□□□	+
Suitable for shock and impact loads	–	■■□□□	+
Resistant to dirt	–	■■□□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.13	
Color		green	
Max. moisture absorption at +73°F and 50% r.h.	% weight	1.6	DIN 53495
Max. moisture absorption	% weight	3.6	
Coefficient of friction, dynamic, against steel	µ	0.15 – 0.23	
pv value, max. (dry)	psi · fpm	14,300	
Mechanical properties			
Flexural modulus	psi	261,068	DIN 53457
Flexural strength at +68°F	psi	10,153	DIN 53452
Compressive strength	psi	4,351	
Max. recommended surface pressure (+68°F)	psi	5,221	
Shore D hardness		74	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+176	
Max. application temperature short-term	°F	+248	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	9	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

-40°F up to +176°F

5,221psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

iglide® N54 is the first iglide® material based largely on biopolymers. In addition to the proven Self-lubricating properties of all iglide® materials, this is one further contribution to positive environmental stewardship. The low coefficient of friction in conjunction with long service life ensure that this material has a permanent place in the iglide® product range.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® N54 plain bearings is below 1.6% weight. The saturation limit in water is 3.6% weight.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® N54 have limited use under radioactive radiation. They are resistant to radiation up to an intensity of 1 · 10^4Gy.

Resistance to weathering

iglide® N54 plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® N54 plain bearings decreases. Diagram 02 shows this inverse relationship. However, at the long-term maximum temperature of +176°F the permissible surface pressure is around 1,450psi. 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 iglide® N54 at radial loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Although the typical applications of iglide® N54 plain bearings are generally in the area of intermittent operation, the maximum attainable speeds can be quite high, depending on the type of motion. The speeds stated in table 03 are limit values for the lowest bearing loads. With higher loads, the permitted speed drops with the extent of the load due to the limitations by the pv value.

▶ Surface speed, **Page 44**

Temperature

The short-term permissible temperature limit is +248°F, which allows the use of iglide® N54 plain bearings in all applications involving elevated ambient temperatures. With increasing temperatures, the compressive strength of iglide® N54 plain bearings decreases. When considering temperatures, the additional frictional heat in the bearing system must be taken into account. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

iglide® N54 has a low coefficient of friction. Please note that a sliding surface with a rough surface finish will increase the friction. Surface finishes (Ra) of the shaft between 0.1 – 0.4µm are ideal. The coefficient of friction of iglide® N54 plain bearings is only marginally dependent on the surface speed. The influence of the load is greater; an increase in load lowers the coefficient of friction to as low as 0.8.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® N54 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 E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

It is important to select a suitable shaft material. As a rule, iglide® N54 is suitable for use with hard or soft shafts, but “hard” shaft surfaces tend to give better service life. Starting at loads of 145psi, wear increases measurably and continuously. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	157	118	197
short-term	**fpm**	295	217	394

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.15 – 0.23	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040” - .236”
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236” - .472”
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472” - 1.18”
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18”
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

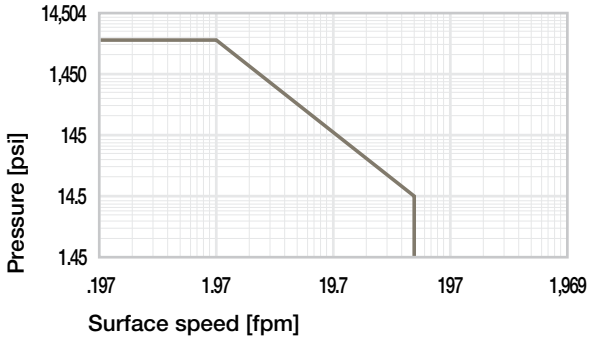


Diagram 01: Permissible pv values for iglide® N54 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

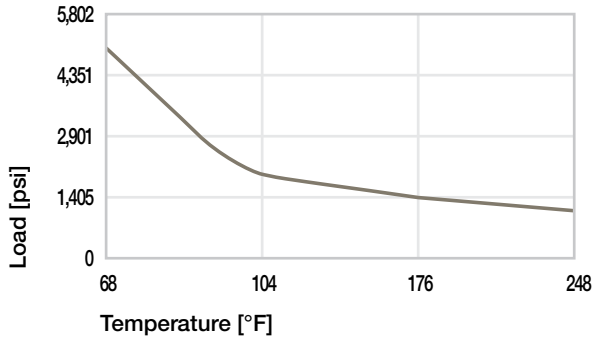


Diagram 02: Maximum recommended surface pressure as a function of temperature (5,221psi at +68°F)

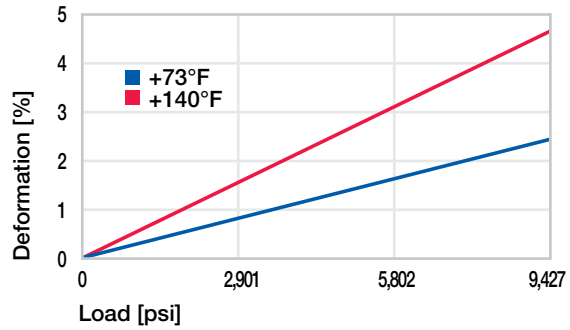


Diagram 03: Deformation under pressure and temperature

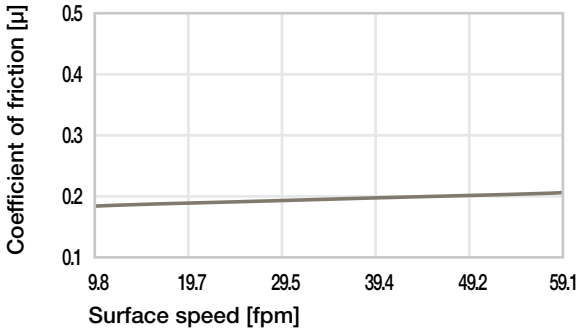


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

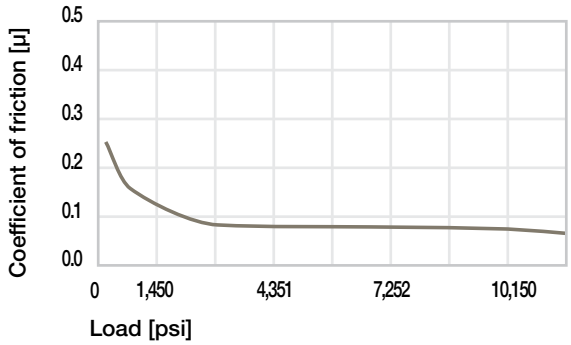


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

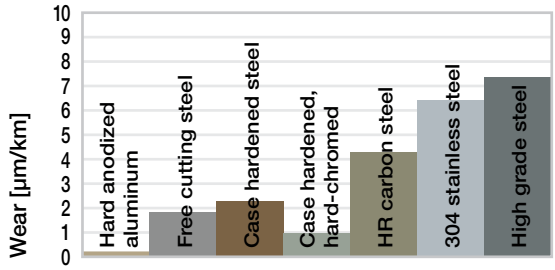


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

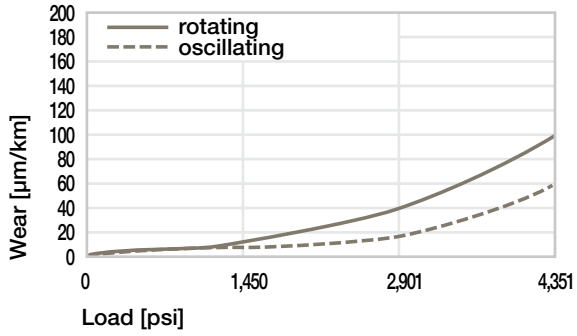
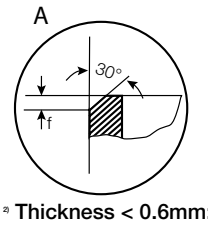


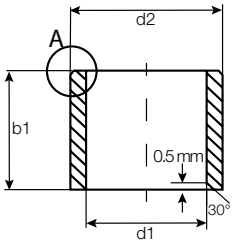
Diagram 07: Wear for oscillating and rotating applications with shaft material Case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® N54

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 632**

Order key

Type			Dimensions		
N54	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

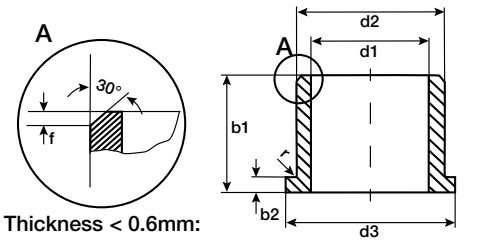
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
N54SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
N54SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
N54SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
N54SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
N54SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
N54SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® N54

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 632**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

Order key

Type			Dimensions		
N54	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
N54FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
N54FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
N54FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
N54FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
N54FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
N54FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes

Low-cost all-rounder for fire protection

UL94 V0 rating

iglide® G V0

When to use it?

- When a UL94 V0 classified plain bearing for normal environmental conditions is required
- When an economic UL94 V0 classified plain bearing is required

When not to use?

- When a UL94 V0 classified plain bearing for high-temperature applications is required
  iglide® X
- When a standard plain bearing without having to meet special fire codes is required
  iglide® G

Ø
6 – 40mm

● Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Low-cost all-rounder for fire protection
UL94 V0 rating

The material achieves the UL94 V0 rating and is therefore ideally suited for applications with stringent fire protection regulations (vehicle and aircraft interiors, building interior systems, etc.). Other properties are similar to the all-rounder material iglide® G.

- UL94 V0-compliant
- High wear resistance
- Universal installation
- Self-lubricating
- Maintenance-free

Typical application areas

- Passenger seats
- Elevators
- Escalators
- Switch cabinets
- Hinges

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.53	
Color		black	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.7	DIN 53495
Max. moisture absorption	% weight	4.0	
Coefficient of friction, dynamic, against steel	µ	0.07 – 0.20	
pv value, max. (dry)	psi · fpm	14,300	
Mechanical properties			
Flexural modulus	psi	1,145,798	DIN 53457
Flexural strength at +68°F	psi	20,305	DIN 53452
Compressive strength	psi	14,504	
Max. recommended surface pressure (+68°F)	psi	10,878	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+266	
Max. application temperature short-term	°F	+410	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	9	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{12}	DIN IEC 93
Surface resistance	Ω	> 10^{11}	DIN 53482

-40°F up to +266°F

10,878psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

iglide® GV0 is the first iglide® material with a UL94 V0 rating for universal use in the normal temperature range. All other iglide® materials with V0 rating are part of the high-temperature segment. The general mechanical and thermal properties are largely comparable to the all-rounder, iglide® G.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® G V0 plain bearings is approximately 0.7% weight. The saturation limit in water is 4.0% weight. This must be taken into account for these types of applications.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® G V0 bearings.

Radiation resistance

Plain bearings made from iglide® G V0 are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® G V0 plain bearings are resistant to weathering. The material properties are slightly affected. Discoloration occurs.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® G V0 plain bearings decreases. Diagram 02 shows this inverse relationship. However, at the long-term maximum temperature of +266°F the permissible surface pressure is around 5,076psi. 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 iglide® G V0 at radial loads. The plastic deformation is minimal up to a pressure of approximately 14,504psi. However, it is also dependent on the service time.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® G V0 has been developed for low to medium surface speeds. The maximum values shown in table 03 can only be achieved at low pressures. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The ambient temperatures strongly influence the properties of plain bearings. The short-term maximum permissible temperature is +410°F and allows the use of iglide® G V0 plain bearings in applications where the bearings are not subjected to any additional load such as a paint drying process. The temperatures prevailing in the bearing system also have an influence on the wear. With increasing temperatures, the wear increases and this effect is significant when temperatures rise over +248F. For temperatures over +212°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Similar to wear resistance, the coefficient of friction μ also changes with the load. The coefficient of friction decreases considerably with increasing loads, whereas a slight increase in surface speed causes an increase of the coefficient of friction. This relationship explains the excellent results of iglide® G V0 plain bearings for high loads and low speeds (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® G V0 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 E10 tolerances.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (inches)	Tolerance (h13) (inches)	
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. For iglide® G V0 a ground surface with an average surface finish Ra = 0.6 – 0.8μm is recommended. Diagram 06 shows results of testing different shaft materials with plain bearings made from iglide® G V0. It is important to notice that with increasing loads, the recommended hardness of the shaft increases. The "soft" shafts tend to wear more easily and thus the wear of the overall system increases. If the loads exceed 290psi it is important to recognize that the wear rate (the gradient of the curves) clearly decreases with the hard shaft materials. The comparison of rotation and pivoting shows that iglide® G V0 provides advantages in pivoting movements (diagram 07). If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	787
short-term	**fpm**	394	276	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.07 – 0.20	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (mm)	Tolerance (h13) (mm)	
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

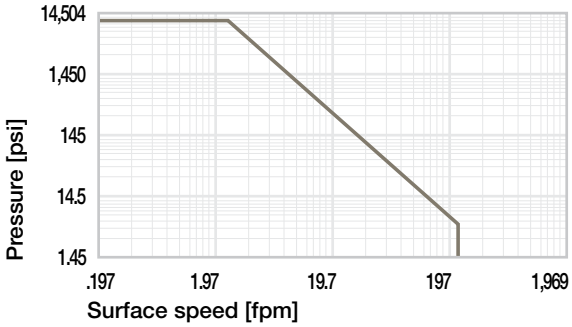


Diagram 01: Permissible pv values for iglide® G V0 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

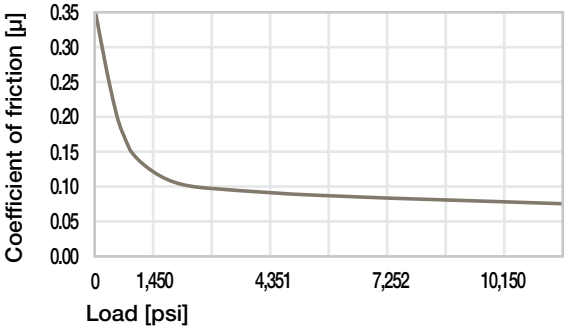


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

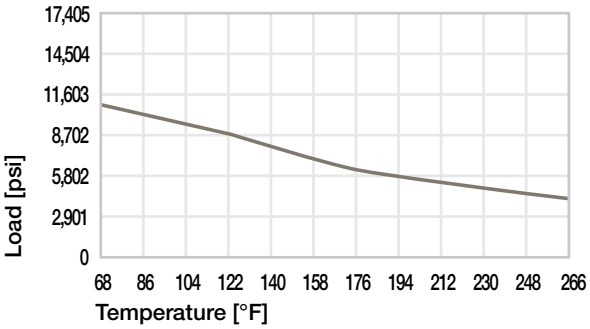


Diagram 02: Maximum recommended surface pressure as a function of temperature (10,878psi at +68°F)

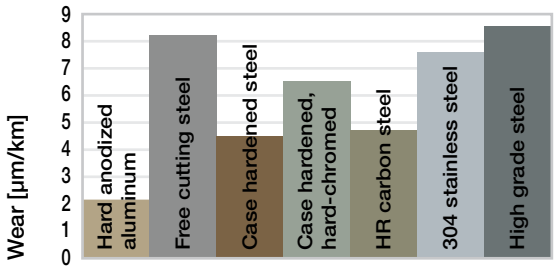


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

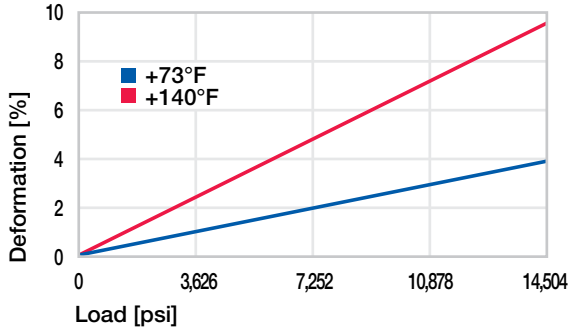


Diagram 03: Deformation under pressure and temperature

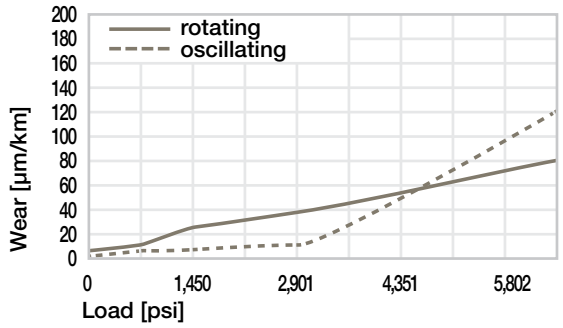


Diagram 07: Wear for oscillating and rotating applications with shaft material Case hardened and ground steel, as a function of the load

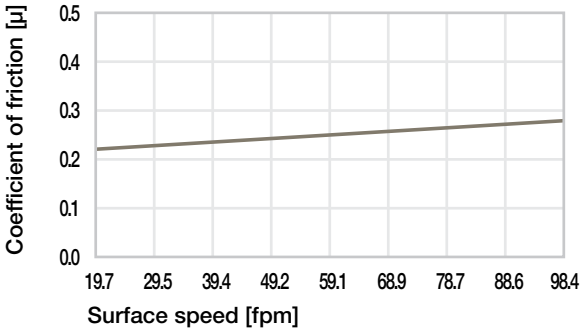
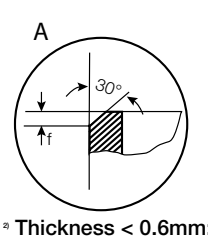


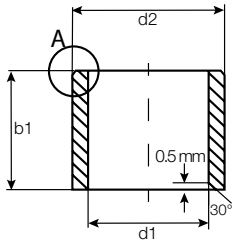
Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

Bearing technology | Plain bearing | iglide® G V0

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 640**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

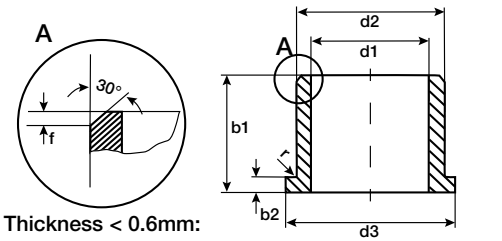
Order key

Type				Dimensions		
G V0	S	M	-	06 08	-	06
iglide® material	Form S (sleeve)	Metric		Inner Ø d1 (mm)		Outer Ø d2 (mm) / Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
GV0SM-0608-06	6.0	8.0	6.0	6.020	6.058	8.000	8.015	5.970	6.000
GV0SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
GV0SM-1012-08	10.0	12.0	8.0	10.025	10.083	12.000	12.018	9.964	10.000
GV0SM-1012-09	10.0	12.0	9.0			12.000	12.018	9.964	10.000
GV0SM-1012-10	10.0	12.0	10.0			12.000	12.018	9.964	10.000
GV0SM-1012-15	10.0	12.0	15.0			12.000	12.018	9.964	10.000
GV0SM-1012-17	10.0	12.0	17.0			12.000	12.018	9.964	10.000
GV0SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
GV0SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
GV0SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000
GV0SM-2528-20	25.0	28.0	20.0	25.040	25.124	28.000	28.021	24.948	25.000
GV0SM-3034-30	30.0	34.0	30.0	30.040	30.124	34.000	34.025	29.948	30.000
GV0SM-3539-40	35.0	39.0	40.0	35.050	35.150	39.000	39.025	34.938	35.000
GV0SM-4044-40	40.0	44.0	40.0	40.050	40.150	44.000	44.025	39.938	40.000

Bearing technology | Plain bearing | iglide® G V0

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 640**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

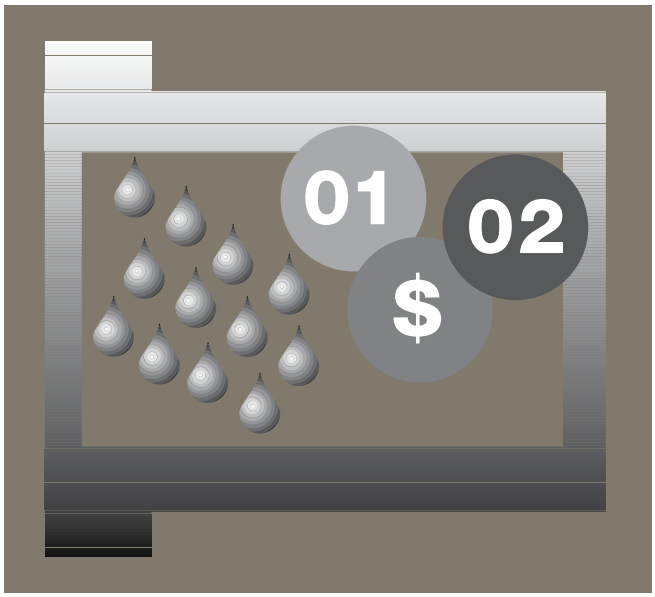
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
G V0	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1[1]	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
GV0FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.058	8.000	8.015	5.970	6.000
GV0FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
GV0FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
GV0FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
GV0FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
GV0FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000
GV0FM-2528-21	25.0	28.0	35.0	21.0	1.50	25.040	25.124	28.000	28.021	24.948	25.000
GV0FM-3034-37	30.0	34.0	42.0	37.0	2.00	30.040	30.124	34.000	34.025	29.948	30.000
GV0FM-3539-36	35.0	39.0	47.0	36.0	2.00	35.050	35.150	39.000	39.025	34.938	35.000
GV0FM-4044-40	40.0	44.0	52.0	40.0	2.00	40.050	40.150	44.000	44.025	39.938	40.000

Notes



Versatile and cost-effective

For applications with infrequent movement or continuous lubrication

iglide® J2

When to use it?

- When low moisture absorption and good media resistance is required for static load
- When a cost-effective plain bearing is required for use in a wet environment with low pv values
- When there is basic lubrication of the plain bearing

When not to use?

- When a wear-resistant plain bearing is required for continuous dry operation
  iglide® J3
- When low moisture and media resistance play a minor role
  iglide® M250
- When a resistance to high temperatures and chemicals is required
  iglide® X

Bearing technology | Plain bearing | iglide® J2

Ø
6 - 25mm

Material available as:

Versatile and cost-effective

For applications with infrequent movement or continuous lubrication

iglide® J2 has good universal media resistance, comparable to that of iglide® J and similar materials. The mechanical specifications in sporadically moved applications are better although, in comparison, clear compromises have to be made with regard to friction and wear. Like all iglide® materials, iglide® J2 is PFOA-free.

- Robust
- Cost-effective
- High media resistance
- Self-lubricating
- Maintenance-free

Typical application areas

- Jig construction
- Industrial handling

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■■□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■□□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Bar stock, round bar **Page 761**

Bar stock, plate **Page 783**

tribo-tape liner **Page 791**

Piston rings **Page 685**

Two hole flange bearings **Page 709**

Molded special parts **Page 721**

igubal® spherical balls **Page 965**

Technical data

General properties			Testing method
Density	g/cm³	1.44	
Color		light yellow	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.2	DIN 53495
Max. moisture absorption	% weight	1.3	
Coefficient of friction, dynamic, against steel	µ	0.11 – 0.27	
pv value, max. (dry)	psi · fpm	6,570	
Mechanical properties			
Flexural modulus	psi	522,861	DIN 53457
Flexural strength at +68°F	psi	14,649	DIN 53452
Compressive strength	psi	11,168	
Max. recommended surface pressure (+68°F)	psi	6,672	
Shore D hardness		74	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+230	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	7	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{13}	DIN IEC 93
Surface resistance	Ω	> 10^{12}	DIN 53482

-58°F up to +194°F

6,672psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

With respect to its general mechanical and thermal specifications, iglide® J2 is directly comparable to our classic, iglide® J. Therefore the iglide® J2 is superior to iglide® J with respect to the mechanical properties, such as maximum recommended surface pressure. However, wear resistance is reduced in dry operation.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® J2 plain bearings is approximately 0.2% weight. The saturation limit in water is 1.3% weight. These values are so low that a moisture expansion need to be considered only in extreme cases.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® J2 bearings.

Radiation resistance

Plain bearings made from iglide® J2 are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® J2 plain bearings have limited resistance to weathering. The material properties are affected. Discoloration occurs. Practical tests under real application conditions are recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® J2 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 iglide® J2 at radial loads. A possible deformation could be, among others, dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® J2 is mainly suitable for low surface speeds in dry operation, but the specified values shown in table 03 can only be achieved at very low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The temperatures prevailing in the bearing system also have an influence on the wear. With increasing temperatures, the wear increases and this effect is significant when temperatures rise over +194°F. For temperatures over +140°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Coefficient of friction and wear resistance are dependent on the application parameters (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® J2 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 E10 tolerances. In relation to the installation tolerance, the inner diameter changes with the absorption of humidity.

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. Diagram 06 shows results of testing different shafts. Diagram 06 shows that iglide® J2 delivers good coefficient of wear especially with free cutting steel in rotation at 145psi. In dry operation, the coefficient of wear is sometimes significantly higher on other shafts. Unlike many other iglide® materials, the wear rate in pivoting is slightly higher compared to the rate in rotation with otherwise identical parameters (diagram 07).

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	157	138	591
short-term	**fpm**	374	217	984

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.11 – 0.27	0.08	0.07	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (inches)	Tolerance (h13) (inches)	
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		Length of Chamfer (f) Based on d1
Length (mm)	Tolerance (h13) (mm)	
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

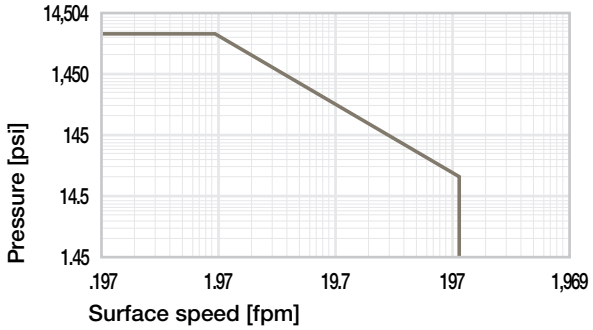


Diagram 01: Permissible pv values for iglide® J2 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

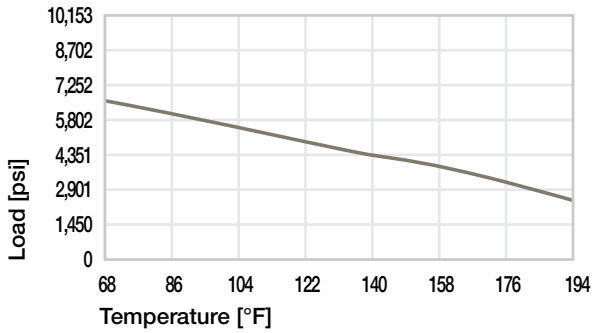


Diagram 02: Maximum recommended surface pressure as a function of temperature (6,672psi at +68°F)

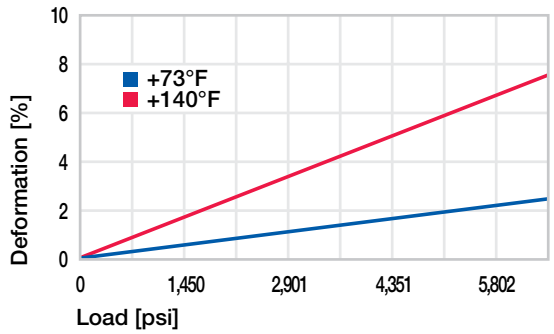


Diagram 03: Deformation under pressure and temperature

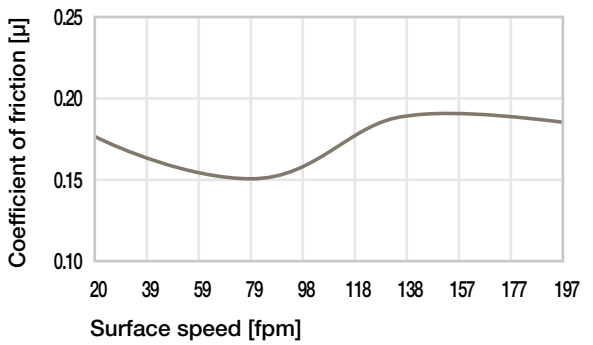


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

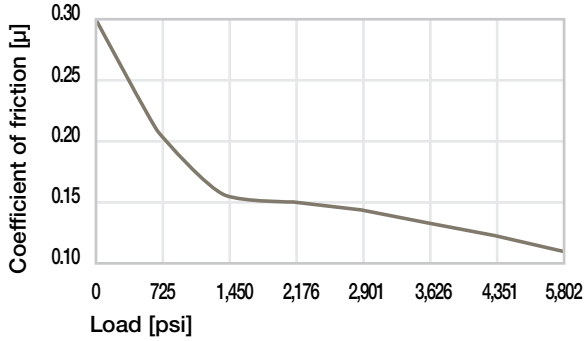


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

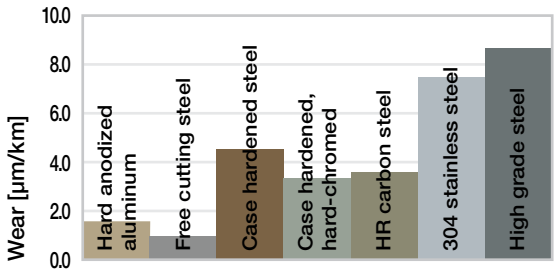


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

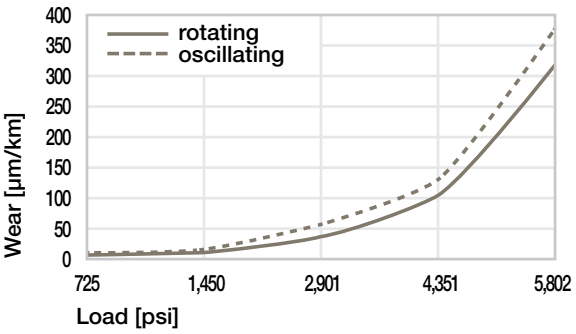
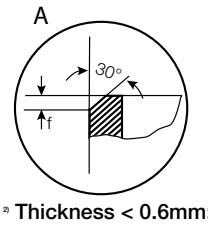


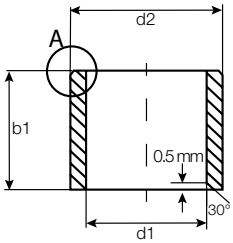
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® J2

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 648**

Order key

Type			Dimensions		
J2	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

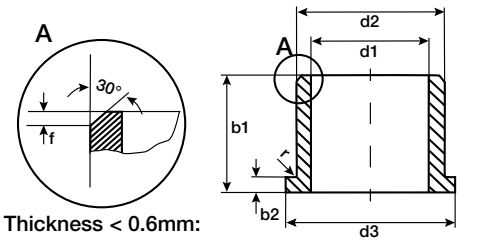
Chamfer in relation to d1

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

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
J2SM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
J2SM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
J2SM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
J2SM-1214-12	12.0	14.0	12.0	12.032	12.102	14.000	14.018	11.957	12.000
J2SM-1618-15	16.0	18.0	15.0	16.032	16.102	18.000	18.018	15.957	16.000
J2SM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000
J2SM-2528-20	25.0	28.0	20.0	25.040	25.124	28.000	28.021	24.948	25.000

Bearing technology | Plain bearing | iglide® J2

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 648**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

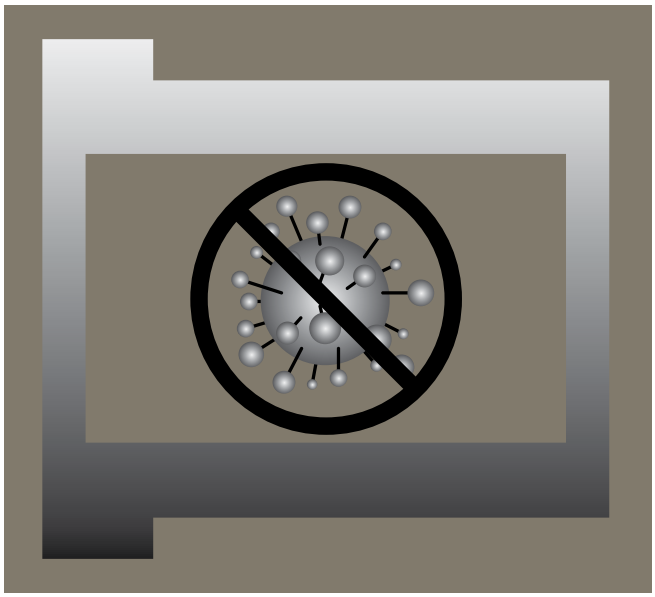
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
J2	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
J2FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
J2FM-0810-10	8.0	10.0	15.0	10.0	1.00	8.025	8.083	10.000	10.015	7.964	8.000
J2FM-1012-10	10.0	12.0	18.0	10.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
J2FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
J2FM-1618-17	16.0	18.0	24.0	17.0	1.00	16.032	16.102	18.000	18.018	15.957	16.000
J2FM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes



The first antibacterial iglide® plain bearing

According to ISO 22 196:2011

iglide® AB

When to use it?

- When bearing points must meet high hygienic standards
- When a universal plain bearing for manual applications is required
- When a plain bearing for low to medium loads is required

When not to use?

- When a wear-resistant plain bearing is required for continuous dry operation
  iglide® J3
- When a plain bearing that conforms with Regulation (EU) No. 10/2011 and/or FDA requirements
  iglide® A181, iglide® A350
- When a plain bearing with the highest possible media resistance is required
  iglide® X

Ø
6 – 20mm

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
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Piston rings
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Two hole flange bearings
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Molded special parts
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igubal® spherical balls
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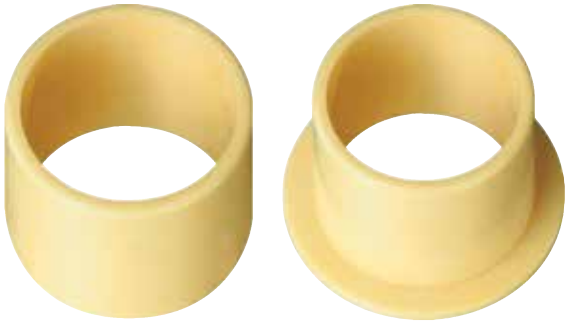


The first antibacterial iglide® plain bearing
According to ISO 22 196:2011

Plain bearings made from iglide® AB help to reduce the bacteria in bearing points that are difficult to access.

- Antibacterial
- Universal installation
- High media resistance
- Self-lubricating
- Maintenance-free

Typical application areas

- Medical technology
- Laboratory technology
- Ventilation systems
- Sanitary furniture and equipment
- Bearings of patient and care furniture

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■■□□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

General properties			Testing method
Density	g/cm³	1.11	
Color		yellow	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.8	DIN 53495
Max. moisture absorption	% weight	1.6	
Coefficient of friction, dynamic, against steel	µ	0.18 – 0.31	
pv value, max. (dry)	psi · fpm	7,140	
Mechanical properties			
Flexural modulus	psi	268,320	DIN 53457
Flexural strength at +68°F	psi	7,252	DIN 53452
Compressive strength	psi	5,802	
Max. recommended surface pressure (+68°F)	psi	3,626	
Shore D hardness		70	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+158	
Max. application temperature short-term	°F	+284	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	10	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	$>10^{12}$	DIN IEC 93
Surface resistance	Ω	$>10^{12}$	DIN 53482

-40°F up to +158°F

3,626psi

HB

RoHS

ISO 3547-1

Table 01: Material properties

iglide® AB was specially developed for applications in areas with hygienic requirements. These types of applications often involve manually actuated pivoting units (doors, furniture in the medical sector, etc.). The material reduces the level of bacterial contamination but – like all "anti-bacterial" materials – is not a substitute for adequate hygienic measures.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® AB plain bearings is approximately 0.8% weight. The saturation limit in water is 1.6% weight.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® AB bearings.

Radiation resistance

Plain bearings made from iglide® AB are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® AB plain bearings have limited resistance to weathering. The material properties are affected. Discoloration occurs. Practical tests under real application conditions are recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® AB 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 iglide® AB at radial loads. A possible deformation could be, among others, dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® AB is mainly suitable for low surface speeds in dry operation, but the specified values shown in table 03 can only be achieved at very low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The temperatures prevailing in the bearing system also have an influence on the wear. With increasing temperatures, the wear increases and this effect is significant when temperatures rise over +140°F. For temperatures over +122°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

Coefficient of friction and wear resistance are dependent on the application parameters (diagrams 04 and 05).

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® AB 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 E10 tolerances. In relation to the installation tolerance, the inner diameter changes with the absorption of humidity. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

Shaft materials

The friction and wear are also dependent, to a large degree, on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. Diagram 06 shows results of testing different shafts. When rotating at a load of 145psi, the wear on all tested shafts is very similar. Only the hard-anodized aluminum shafts cause a noticeable increase in the wear. As illustrated in diagram 07, the wear rate from pivoting and rotational movements at loads in increasing levels is also quite similar if the remaining parameters are identical.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	138	98	197
short-term	**fpm**	197	138	354

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.18 – 0.31	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		E10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.014	+0.054	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.020	+0.068	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.025	+0.083	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.032	+0.102	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.040	+0.124	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.050	+0.150	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.060	+0.180	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.072	+0.212	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.085	+0.245	–0.100	+0.000

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

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

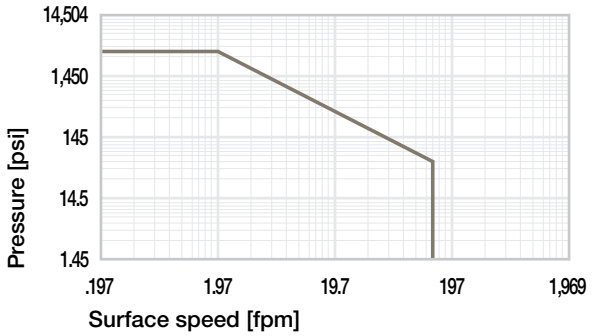


Diagram 01: Permissible pv values for iglide® AB plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

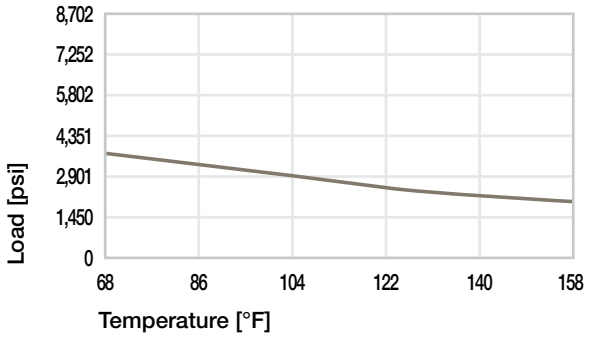


Diagram 02: Maximum recommended surface pressure as a function of temperature (3,626psi at +68°F)

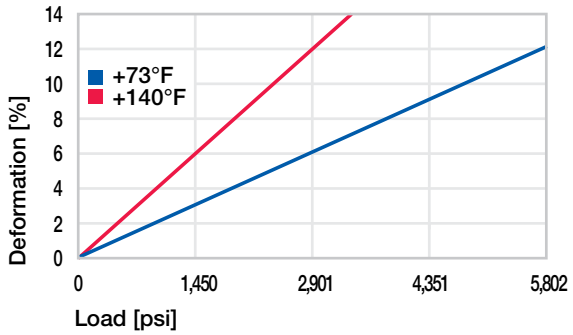


Diagram 03: Deformation under pressure and temperature

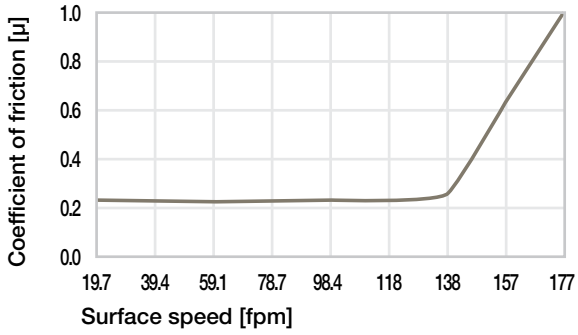


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

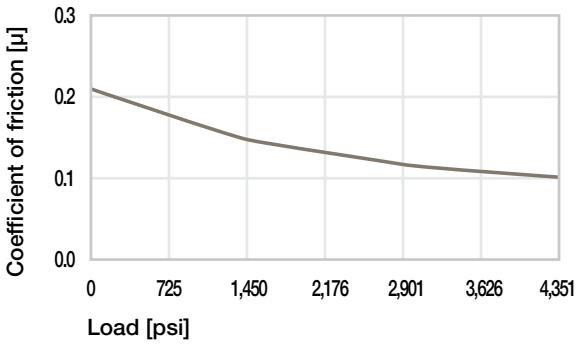


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

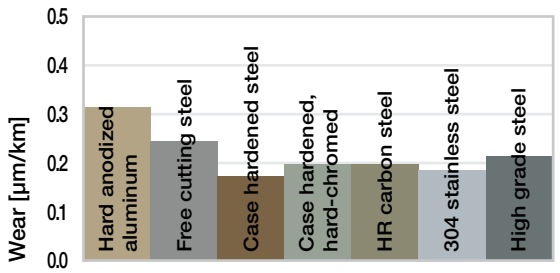


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

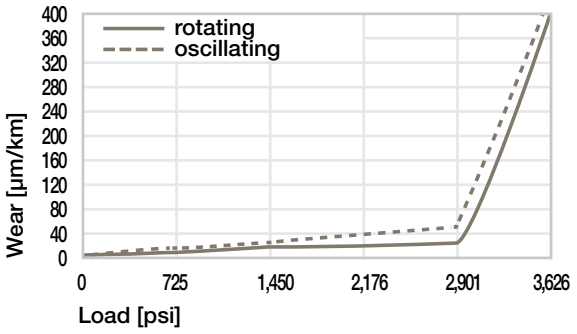
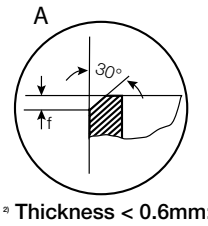


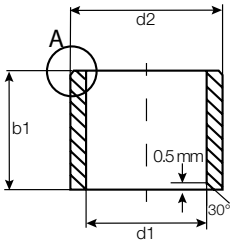
Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® AB

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 656**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

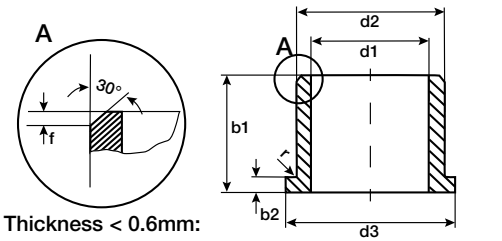
Order key

Type			Dimensions		
AB	S	M	-06	08	-06
iglide® material	Form S (sleeve)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
ABSM-0608-06	6.0	8.0	6.0	6.020	6.068	8.000	8.015	5.970	6.000
ABSM-0810-10	8.0	10.0	10.0	8.025	8.083	10.000	10.015	7.964	8.000
ABSM-1012-10	10.0	12.0	10.0	10.025	10.083	12.000	12.018	9.964	10.000
ABSM-1214-15	12.0	14.0	15.0	12.032	12.102	14.000	14.018	11.957	12.000
ABSM-1517-15	15.0	17.0	15.0	15.032	15.102	17.000	17.018	14.957	15.000
ABSM-2023-20	20.0	23.0	20.0	20.040	20.124	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® AB

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 656**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

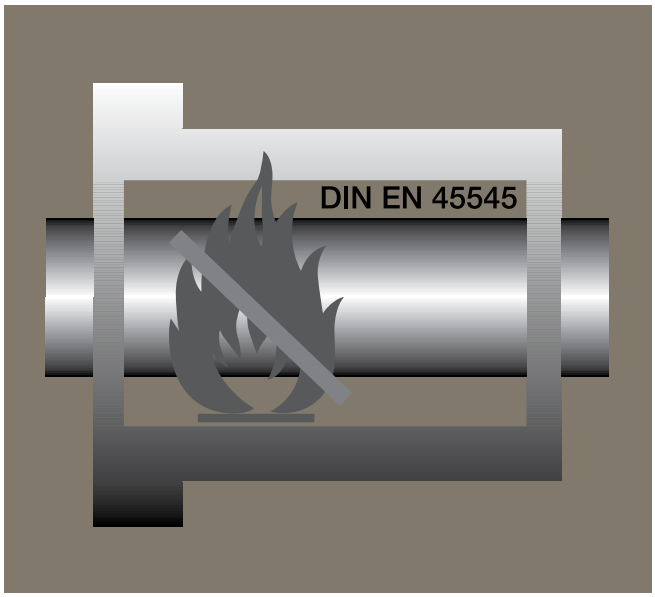
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
AB	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
ABFM-0608-08	6.0	8.0	12.0	8.0	1.00	6.020	6.068	8.000	8.015	5.970	6.000
ABFM-0810-09	8.0	10.0	15.0	9.5	1.00	8.025	8.083	10.000	10.015	7.964	8.000
ABFM-1012-12	10.0	12.0	18.0	12.0	1.00	10.025	10.083	12.000	12.018	9.964	10.000
ABFM-1214-12	12.0	14.0	20.0	12.0	1.00	12.032	12.102	14.000	14.018	11.957	12.000
ABFM-1517-12	15.0	17.0	23.0	12.0	1.00	15.032	15.102	17.000	17.018	14.957	15.000
ABFM-2023-21	20.0	23.0	30.0	21.5	1.50	20.040	20.124	23.000	23.021	19.948	20.000

Notes



For the rail industry, complies with DIN EN 45545 HL3, R22/R23

Wear-resistant for rail technology

iglide® RW370

When to use it?

- For applications in rail technology where suitability according to DIN EN 45545 is required
- For high wear resistance at low to medium pressures
- When a low coefficient of friction in dry operation is requested
- Low moisture absorption

When not to use?

- When high pressure loads occur and suitability according to DIN EN 45545 is not required
  iglide® G, iglide® W300
- When short-term temperatures higher than +374°F occur
  iglide® G, iglide® Z
- When a cost-effective plain bearing for occasional movements is necessary
  iglide® G

Ø
6 – 20mm

Material available as:

For the rail industry, complies with DIN EN 45545 HL3, R22/R23

Wear-resistant for rail technology

The first iglide® material that fulfills the European fire safety standard for rail vehicles is suitable for many wear-stressed applications in railway technology due to its very complete property profile.

- Complies with the European fire protection standard DIN EN 45545 HL3 requirement set R22/R23
- Flame-retardant
- High wear resistance
- Low coefficient of friction
- Lubrication and maintenance-free

Typical application areas

- Door guides and hinges
- Rotating joint
- Entrance staircases
- Seat table mechanisms

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■■□□	+
Wear resistance at +194°F	–	■■■□□	+
Wear resistance at +302°F	–	■■■□□	+
Low coefficient of friction	–	■■■■□	+
Low moisture absorption	–	■■■■□	+
Wear resistance under water	–	■■□□□	+
High media resistance	–	■■■□□	+
Resistant to edge pressures	–	■■■■□	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Bar stock, round bar **Page 761**

Bar stock, plate **Page 783**

tribo-tape liner **Page 791**

Piston rings **Page 685**

Two hole flange bearings **Page 709**

Molded special parts **Page 721**

igubal® spherical balls **Page 965**

Technical data

General properties			Testing method
Density	g/cm³	1.34	
Color		beige	
Max. moisture absorption at +73°F and 50% r.h.	% weight	0.25	DIN 53495
Max. moisture absorption	% weight	1.2	
Coefficient of friction, dynamic, against steel	µ	0.13 – 0.17	
pv value, max. (dry)	psi · fpm	34,300	
Mechanical properties			
Flexural modulus	psi	434,678	DIN 53457
Flexural strength at +68°F	psi	14,504	DIN 53452
Compressive strength	psi	18,710	
Max. recommended surface pressure (+68°F)	psi	10,878	
Shore D hardness		80	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+338	
Max. application temperature short-term	°F	+374	
Min. application temperature	°F	-58	
Thermal conductivity	W/m · K	0.22	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	5	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	$>10^{12}$	DIN IEC 93
Surface resistance	Ω	$>10^{12}$	DIN 53482

-58°F up to +338°F

10,878psi

V-0

RoHS

ISO 3547-1

Table 01: Material properties

iglide® RW370 was specially developed for the fire protection requirements in railway technology. It fulfills the specification of DIN EN 45545. Plain bearings made of iglide® RW370 are used primarily in door systems, seat adjustments and joints, as well as hinges.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® RW370 plain bearings is below 0.25% weight. The saturation limit in water is 1.2% weight.

Vacuum

In vacuum, the moisture content is released as vapor. Due to its low moisture absorption, use in a vacuum is possible.

Radiation resistance

Plain bearings made from iglide® RW370 are resistant up to a radiation intensity of $3 \cdot 10^2$Gy.

Resistance to weathering

iglide® RW370 plain bearings are continuously resistant to weathering. The material properties are only slightly affected. Possible discolorations are only superficial.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® RW370 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 iglide® RW370 at radial loads. A possible deformation could be, among others, dependent on the duty cycle of the load.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Although the typical applications of iglide® RW370 plain bearings are generally in the area of intermittent operation, the maximum attainable speeds can be quite high, depending on the type of motion. The speeds stated in table 03 are limit values for the lowest bearing loads. With higher loads, the permitted speed drops with the extent of the load due to the limitations by the pv value.

▶ Surface speed, **Page 44**

Temperature

The short-term permissible temperature limit is +374°F, which allows the use of iglide® RW370 plain bearings in all applications involving elevated ambient temperatures. With increasing temperatures, the compressive strength of iglide® RW370 plain bearings decreases. When considering temperatures, the additional frictional heat in the bearing system must be taken into account. For temperatures over +248F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The excellent coefficient of friction level of iglide® RW370 in dry operation decreases with speed, to a value of 1.197fpm. Diagram 04 shows this with respect to a steel shaft. Above a speed of 1.2984fpm the coefficient of friction increases significantly as the load limit of the material is reached.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® RW370 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

▶ Testing methods, **Page 57**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagrams 06 and 07 display a summary of the results of tests with different shaft materials conducted with plain bearings made from iglide® RW370. At a surface pressure of 59fpm and 145psi, shafts made of hard-anodized aluminum and hard-chromed case hardened steel are the most suitable glide surfaces. Shafts made from 304 stainless steel or high grade steel also show good results. If the shaft material you plan on using is not shown in these test results, please contact us.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	fpm	177	118	492
short-term	fpm	197	157	512

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.13 – 0.17	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [mm]		F10 [mm]		h9 [mm]	
0 – 3	+0.000	+0.010	+0.006	+0.046	–0.025	+0.000
> 3 – 6	+0.000	+0.012	+0.010	+0.058	–0.030	+0.000
> 6 – 10	+0.000	+0.015	+0.013	+0.071	–0.036	+0.000
> 10 – 18	+0.000	+0.018	+0.016	+0.086	–0.043	+0.000
> 18 – 30	+0.000	+0.021	+0.020	+0.104	–0.052	+0.000
> 30 – 50	+0.000	+0.025	+0.025	+0.125	–0.062	+0.000
> 50 – 80	+0.000	+0.030	+0.030	+0.150	–0.074	+0.000
> 80 – 120	+0.000	+0.035	+0.036	+0.176	–0.087	+0.000
> 120 – 180	+0.000	+0.040	+0.043	+0.203	–0.100	+0.000

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

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

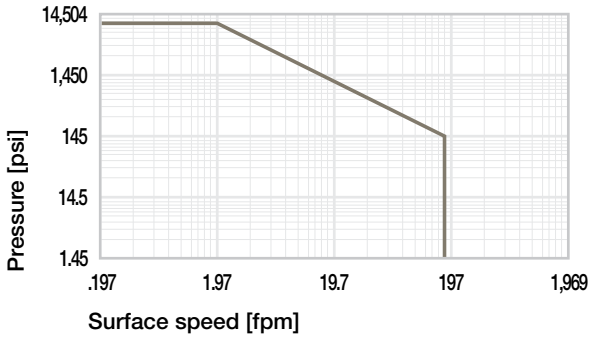


Diagram 01: Permissible pv values for iglide® RW370 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

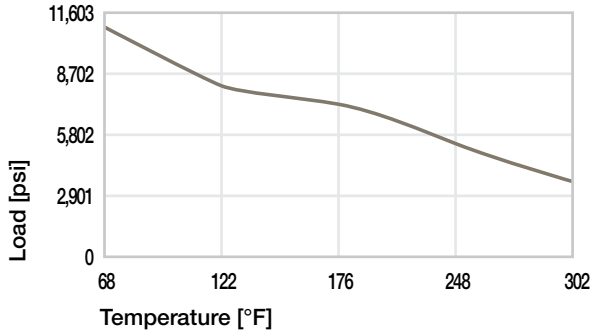


Diagram 02: Maximum recommended surface pressure as a function of temperature (10,878psi at +68°F)

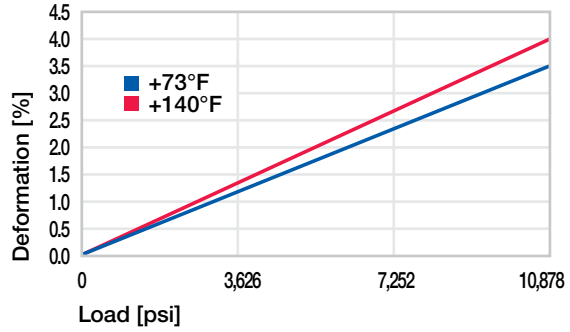


Diagram 03: Deformation under pressure and temperature

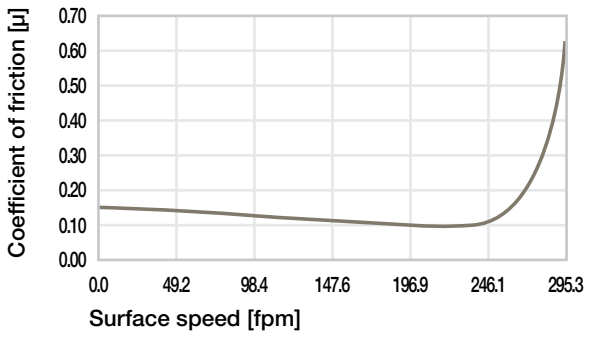


Diagram 04: Coefficient of friction as a function of the surface speed, p = 145psi

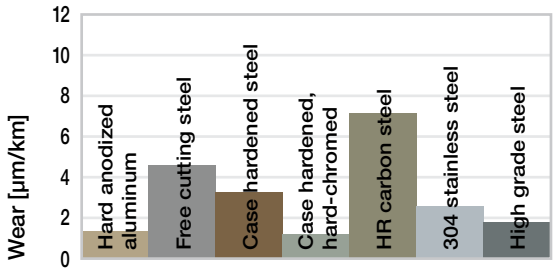


Diagram 05: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

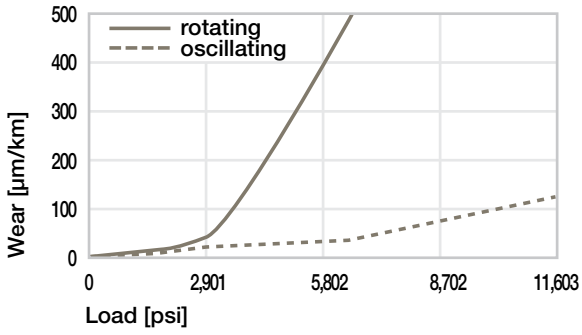
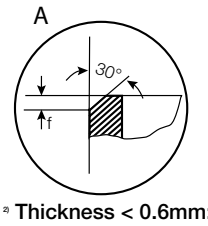


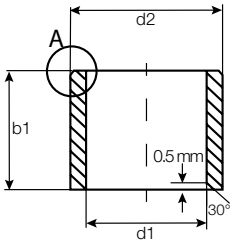
Diagram 06: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Bearing technology | Plain bearing | iglide® RW370

Sleeve bearing (form S), metric



[2] Thickness < 0.6mm:
Chamfer = 20°



For tolerance values, **page 664**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

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

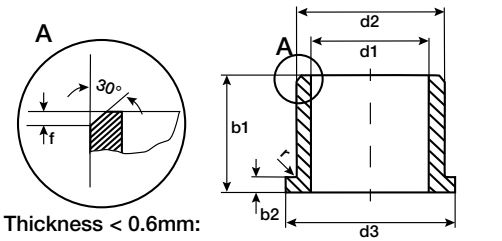
Order key

Type				Dimensions		
RW370	S	M	-	06	08	- 06
iglide® material	Form S (sleeve)	Metric		Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	b1	I.D. After Pressfit*		Housing Bore		Shaft Size	
			h13	Min.	Max.	Min.	Max.	Min.	Max.
RW370SM-0608-06	6.0	8.0	6.0	6.010	6.058	8.000	8.015	5.970	6.000
RW370SM-0810-10	8.0	10.0	10.0	8.013	8.071	10.000	10.015	7.964	8.000
RW370SM-1012-10	10.0	12.0	10.0	10.013	10.071	12.000	12.018	9.964	10.000
RW370SM-1214-12	12.0	14.0	12.0	12.016	12.086	14.000	14.018	11.957	12.000
RW370SM-1618-15	16.0	18.0	15.0	16.016	16.086	18.000	18.018	15.957	16.000
RW370SM-2023-20	20.0	23.0	20.0	20.020	20.104	23.000	23.021	19.948	20.000

Bearing technology | Plain bearing | iglide® RW370

Flange bearing (form F), metric



[2] Thickness < 0.6mm:
Chamfer = 20°

For tolerance values, **page 664**

Dimensions according to ISO 3547-1 and special dimensions

*Based on steel housing bore

Chamfer in relation to d1

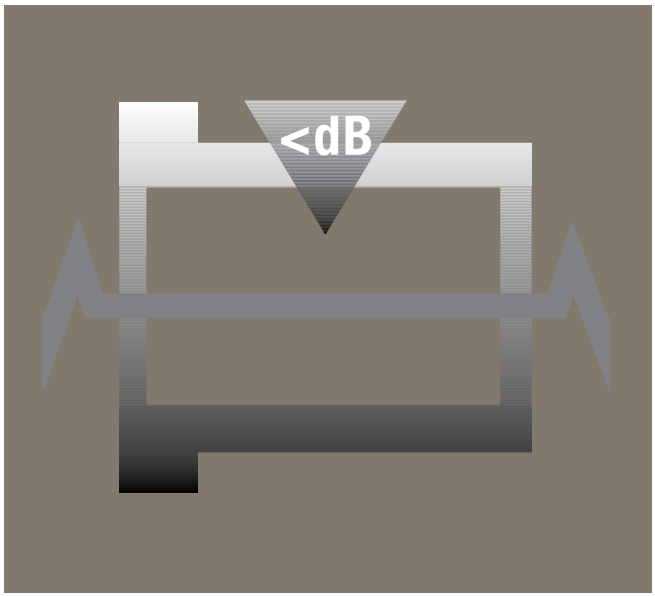
d1 [mm]	Ø 1–6	Ø >6–12	Ø >12–30	Ø > 30
f [mm]	0.3	0.5	0.8	1.2

Order key

Type			Dimensions		
RW370	F	M	-06	08	-06
iglide® material	Form F (flange)	Metric	Inner Ø d1 (mm)	Outer Ø d2 (mm)	Length b1 (mm)

Part Number	d1	d2	d3	b1	b2	I.D. After Pressfit*		Housing Bore		Shaft Size	
			d13	h13	-0.14	Min.	Max.	Min.	Max.	Min.	Max.
RW370FM-0608-06	6.0	8.0	12.0	6.0	1.00	6.010	6.058	8.000	8.015	5.970	6.000
RW370FM-0810-09	8.0	10.0	15.0	9.5	1.00	8.013	8.071	10.000	10.015	7.964	8.000
RW370FM-1012-09	10.0	12.0	18.0	9.0	1.00	10.013	10.071	12.000	12.018	9.964	10.000
RW370FM-1214-12	12.0	14.0	20.0	12.0	1.00	12.016	12.086	14.000	14.018	11.957	12.000
RW370FM-1517-12	16.0	18.0	24.0	12.0	1.00	16.016	16.086	18.000	18.018	15.957	16.000
RW370FM-2023-20	20.0	23.0	30.0	21.5	1.50	20.020	20.104	23.000	23.021	19.948	20.000

Notes



The variable one

For simple bearing applications

iglide® B

When to use it?

- When maximum vibration dampening is required
- When sealing function has to be integrated
- When high edge loads occur

When not to use?

- In applications with high atmospheric humidity
  iglide® J
- When a cost-effective universal plain bearing is required
  iglide® R
- When the highest wear resistance is required
  iglide® J

Ø
Contact igus®

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

The variable one
For simple bearing applications

Vibration dampening is the predominant feature of the iglide® B material, which are also well-suited for edge loads at low pressure.

- Elimination of noise
- High flexibility
- Sealing function possible
- Self-lubricating
- Maintenance-free

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■■□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■□□□	+
Resistant to edge pressures	–	■■■■■	+
Suitable for shock and impact loads	–	■■■■□	+
Resistant to dirt	–	■■■■□	+

Online product finder
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Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.15	
Color		grey	
Max. moisture absorption at +73°F and 50% r.h.	% weight	1	DIN 53495
Max. moisture absorption	% weight	6.3	
Coefficient of friction, dynamic, against steel	µ	0.18 – 0.28	
pv value, max. (dry)	psi · fpm	4,280	
Mechanical properties			
Flexural modulus	psi	261,068	DIN 53457
Flexural strength at +68°F	psi	7,977	DIN 53452
Compressive strength	psi	2,901	
Max. recommended surface pressure (+68°F)	psi	5,802	
Shore D hardness		69	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+212	
Max. application temperature short-term	°F	+266	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	12	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{10}	DIN IEC 93
Surface resistance	Ω	> 10^{9}	DIN 53482

Table 01: Material properties

–40°F up to +212°F

5,802psi

HB

The compressive strength of the iglide® B plain bearings is on the one hand low, but on the other, is an important property of the bearing. They are mainly used where vibration dampening and acoustic separation are required.

Moisture absorption

Under standard climatic conditions, the moisture absorption of iglide® B plain bearings is approximately 1% weight. The saturation limit in water is 6.3% weight. This must be taken into account for these types of applications.

Vacuum

In vacuum, any present moisture is released as vapor. Use in vacuum is only possible with dehumidified iglide® B bearings.

Radiation resistance

Plain bearings made from iglide® B are resistant up to a radiation intensity of 3 · 10^2Gy.

Resistance to weathering

iglide® B plain bearings have limited resistance to weathering. The material properties are affected. Discoloration occurs. Practical tests under real application conditions are recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® B 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 iglide® B at radial loads. At the maximum recommended surface pressure of 5,802psi the deformation is about 5.3% at room temperature.

▶ Surface pressure, **Page 50**

Permissible surface speeds

iglide® B plain bearings can be continuously used up to 138fpm in rotating applications. The frictional heat provides the speed limits. In practice, though, this level is rarely reached due to varying application conditions.

▶ Surface speed, **Page 44**

Temperature

The maximum long-term application temperature is +212°F. For temperatures over +122°F an additional securing is required. The wear resistance also decreases exponentially from +158°F upwards.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction increases slightly with the speed and decreases with the load. Surface finishes (Ra) of the shaft between 0.4 – 0.6µm are ideal. As far as the bearing load is not too high, the attained coefficient of wear is pretty good. An increase in load results in a disproportionate increase in abrasion.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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

All information given at room temperature [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® B 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**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

The influence of the shaft is not very large on the wear resistance. Diagrams 06 and 07 clarify that very similar wear data are attained with different shaft materials.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	138	98	394
short-term	**fpm**	197	138	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction µ	0.18 – 0.28	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [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 metric tolerances for plain bearings according to ISO 3547-1 after press-fit

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

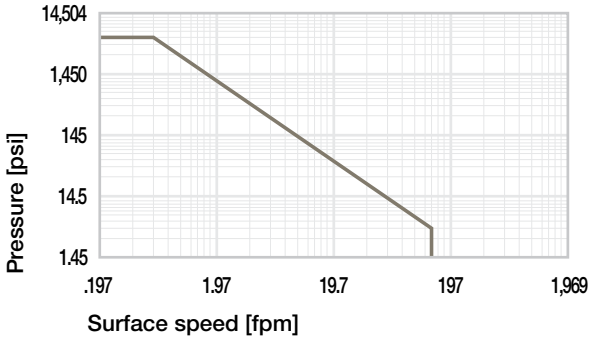


Diagram 01: Permissible pv values for iglide® B plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

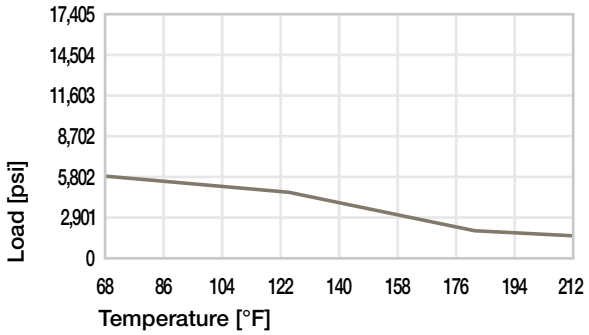


Diagram 02: Maximum recommended surface pressure as a function of temperature (5,802psi at +68°F)

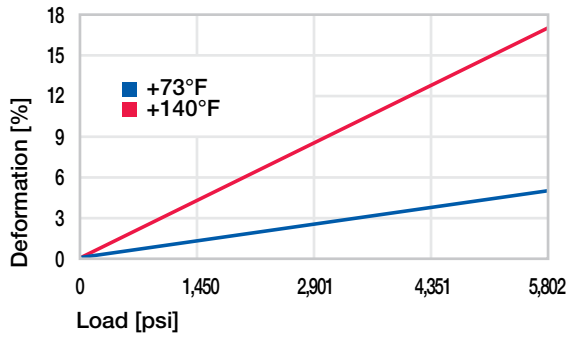


Diagram 03: Deformation under pressure and temperature

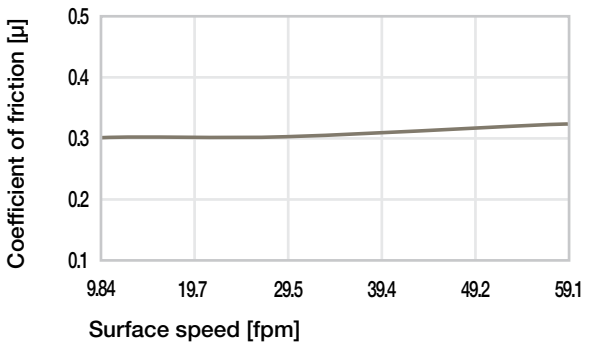


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

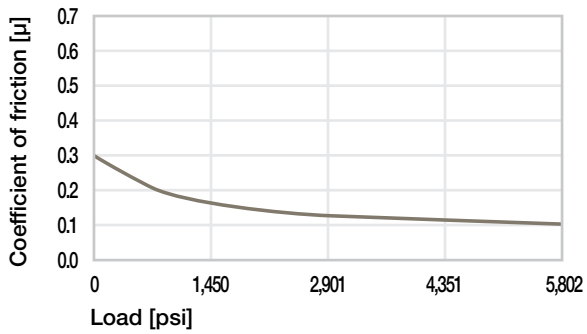


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

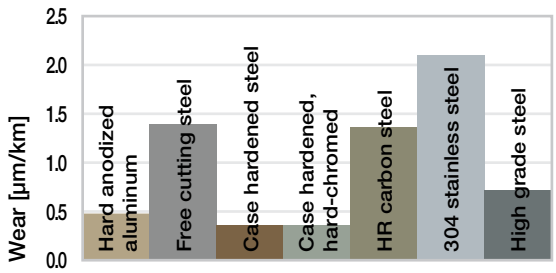


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

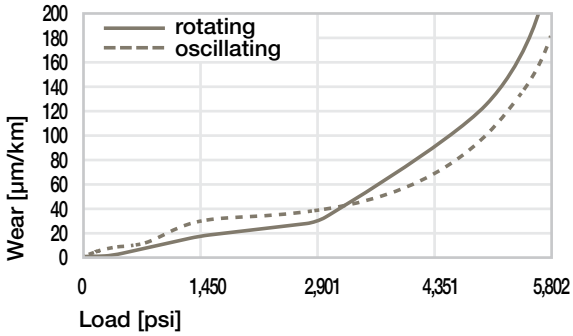
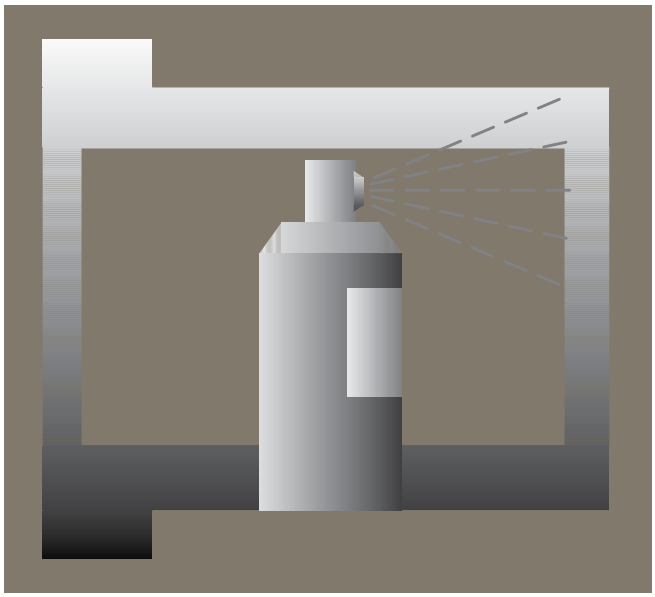


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

Notes



Free from PTFE and silicone

For simple applications

iglide® C

When to use it?

- When PTFE and silicone are not allowed in your application
- For applications with low speed
- When dirt-resistant bearings is required
- When maintenance-free, self-lubricating bearings are required

When not to use?

- When the highest wear resistance is required
  iglide® W300
- When lowest coefficient of friction is required
  iglide® J, iglide® L250
- When a cost-effective option is requested
  iglide® M250
- When low moisture absorption is required
  iglide® R

Ø
Contact igus®

Material available as:

Bar stock, round bar
Page 761

Bar stock, plate
Page 783

tribo-tape liner
Page 791

Piston rings
Page 685

Two hole flange bearings
Page 709

Molded special parts
Page 721

igubal® spherical balls
Page 965

Free from PTFE and silicone
For simple applications

Although iglide® C eliminates the use of PTFE and silicone as lubricants, the bearings still have excellent wear resistance under low loads.

- Maintenance-free dry operation
- High wear resistance
- Self-lubricating
- Maintenance-free

Available from stock
Detailed information about delivery time online.

Online ordering
Including delivery times, prices, online tools

Descriptive technical specifications			
Wear resistance at +73°F	–	■■□□□	+
Wear resistance at +194°F	–	■□□□□	+
Wear resistance at +302°F	–	■□□□□	+
Low coefficient of friction	–	■■□□□	+
Low moisture absorption	–	■■□□□	+
Wear resistance under water	–	■□□□□	+
High media resistance	–	■■□□□	+
Resistant to edge pressures	–	■■■□□	+
Suitable for shock and impact loads	–	■■■□□	+
Resistant to dirt	–	■■■□□	+

Online product finder
www.igus.com/iglidefinder

Online service life calculation
www.igus.com/iglide-expert

Technical data

General properties			Testing method
Density	g/cm³	1.10	
Color		off white	
Max. moisture absorption at +73°F and 50% r.h.	% weight	1	DIN 53495
Max. moisture absorption	% weight	6.9	
Coefficient of friction, dynamic, against steel	µ	0.17 – 0.25	
pv value, max. (dry)	psi · fpm	2,860	
Mechanical properties			
Flexural modulus	psi	275,572	DIN 53457
Flexural strength at +68°F	psi	8,702	DIN 53452
Compressive strength	psi	4,351	
Max. recommended surface pressure (+68°F)	psi	5,802	
Shore D hardness		72	DIN 53505
Physical and thermal properties			
Max. application temperature long-term	°F	+194	
Max. application temperature short-term	°F	+266	
Min. application temperature	°F	-40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +73°F)	$K^{-1} \cdot 10^{-5}$	15	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10^{10}	DIN IEC 93
Surface resistance	Ω	> 10^{9}	DIN 53482

Table 01: Material properties

–40°F up to +194°F

5,802psi

HB

Plain bearings made from iglide® C were developed especially for applications where the use of PTFE and silicone is not possible. Such applications can be found in electronics, tobacco and beverages industry and in many painting processes. Keywords like paint compatibility and silicone-free make the further use of this material reasonable.

Moisture absorption

The moisture absorption of iglide® C plain bearings is approximately 6.9% weight when saturated in water. This must be taken into account for these types of applications.

Vacuum

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

Radiation resistance

Plain bearings made from iglide® C are resistant up to a radiation intensity of 2 · 10^4Gy.

Resistance to weathering

iglide® C plain bearings have limited resistance to weathering. The material properties are affected. Discoloration occurs. Practical tests under real application conditions are recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglide® C 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 iglide® C at radial loads. The high flexibility makes the bearing suitable for vibrations and edge loads.

▶ Surface pressure, **Page 50**

Permissible surface speeds

Although important solid lubricants were intentionally avoided in the development of iglide® C, the plain bearings are very wear-resistant and therefore also suitable for continuous movements at medium surface speeds. Despite it being possible to temporarily attain rotational speeds of up to 295fpm, the main applications should nevertheless involve speeds of less than 98fpm.

▶ Surface speed, **Page 44**

Temperature

The iglide® C plain bearings can be used in short-term temperatures up to +266°F. However no real loads are possible at this temperature. It therefore makes sense to limit the temperature to around +176°F to +194°F. For temperatures over +40°F an additional securing is required.

▶ Application temperatures, **Page 48**
▶ Additional securing, **Page 48**

Friction and wear

The coefficient of friction of the iglide® C plain bearing is dependent to a large degree on the surface finish of the shaft. The wear of the bearing is very good in applications with rotating or pivoting movements with low loads.

▶ Coefficient of friction and surfaces, **Page 47**
▶ Wear resistance, **Page 50**

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 [+68°F]
Table 02: Chemical resistance

▶ Chemical table, **Page 1762**

Installation tolerances

iglide® C 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**
▶ Tolerance table, **Page 58**

For Inch Size Bearings		
Length Tolerance (b1)		
Length (inches)	Tolerance (h13) (inches)	Length of Chamfer (f) Based on d1
0.1181 to 0.2362	-0.0000 /-0.0071	f = .012 → d_1 .040" - .236"
0.2362 to 0.3937	-0.0000 /-0.0087	f = .019 → d_1 > .236" - .472"
0.3937 to 0.7086	-0.0000 /-0.0106	f = .031 → d_1 > .472" - 1.18"
0.7086 to 1.1811	-0.0000 /-0.0130	f = .047 → d_1 > 1.18"
1.1811 to 1.9685	-0.0000 /-0.0154	
1.9685 to 3.1496	-0.0000 /-0.0181	

Shaft materials

Diagram 06 clearly shows how important the most "suitable" shaft can be. Although all shown results of these rotation experiments can be understood as very good, the difference is sometimes significant. This difference increases still further with increasing loads.

▶ Shaft materials, **Page 52**

		Rotating	Oscillating	linear
long-term	**fpm**	197	138	394
short-term	**fpm**	295	217	591

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction μ	0.17 – 0.25	0.09	0.04	0.04

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

	Housing		Plain bearing		Shaft	
Ø d1 [mm]	H7 [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 metric tolerances for plain bearings according to ISO 3547-1 after press-fit

For Metric Size Bearings		
Length Tolerance (b1)		
Length (mm)	Tolerance (h13) (mm)	Length of Chamfer (f) Based on d1
1 to 3	-0 /-140	f = 0.3 → d_1 1 - 6 mm
> 3 to 6	-0 /-180	f = 0.5 → d_1 > 6 - 12 mm
> 6 to 10	-0 /-220	f = 0.8 → d_1 > 12 - 30 mm
>10 to 18	-0 /-270	f = 1.2 → d_1 > 30 mm
>18 to 30	-0 /-330	
>30 to 50	-0 /-390	
>50 to 80	-0 /-460	

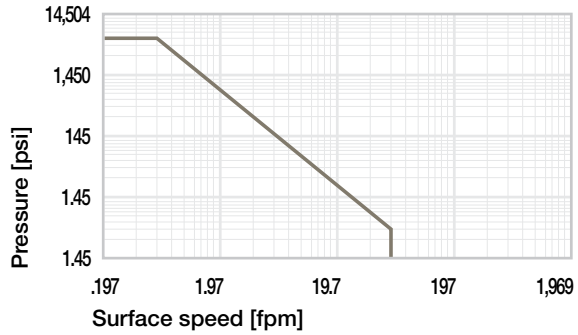


Diagram 01: Permissible pv values for iglide® C plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +68°F, mounted in a steel housing

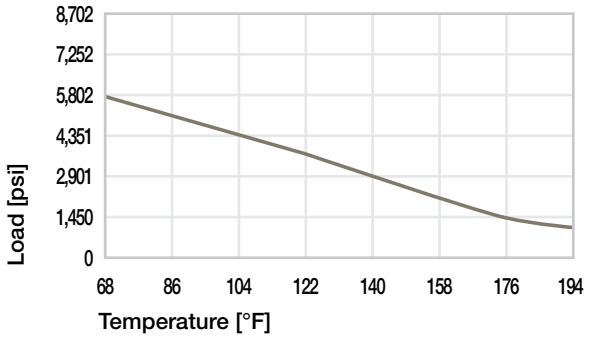


Diagram 02: Maximum recommended surface pressure as a function of temperature (5,802psi at +68°F)

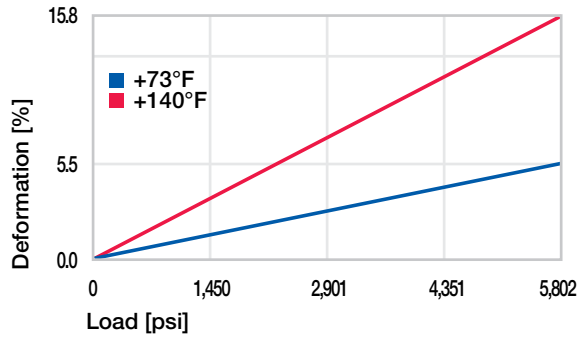


Diagram 03: Deformation under pressure and temperature

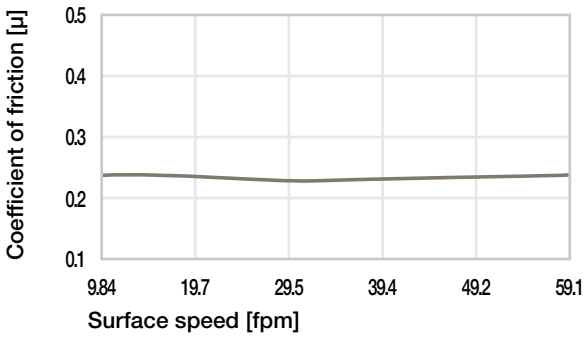


Diagram 04: Coefficient of friction as a function of the surface speed, p = 108psi

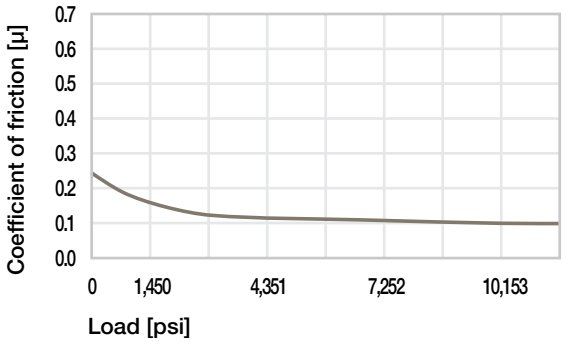


Diagram 05: Coefficient of friction as a function of the load, v = 1.97fpm

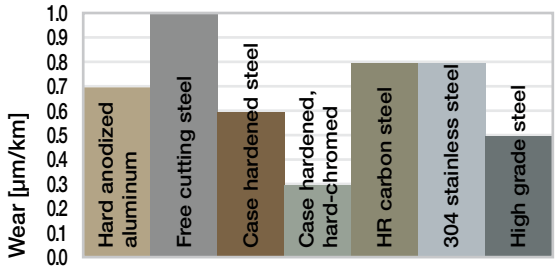


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 145psi, v = 59fpm

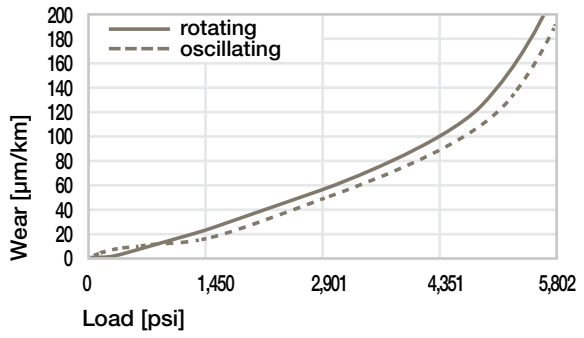


Diagram 07: Wear for oscillating and rotating applications with shaft material case hardened and ground steel, as a function of the load

iglide®...

More products

...plastics

iglide® more products - Product overview

iglide® Piston rings and clip bearings

An alternative to PTFE tapes
Piston rings

▶ Page 685

Easy to install, secure fit
Clip bearings

▶ Page 694

Easy to install due to split design:
Split bearings

▶ Page 696

With anti-rotation feature

▶ Page 698

iglide® Clip bearings

Press in and fold down
Flanged bearings

▶ Page 700

Press and plug
Double flange bearing

▶ Page 701

snap into place
Special solution
Clip On

▶ Page 702

iglide® solutions for special applications

For precise conveying
Knife edge rollers

▶ Page 703

Secured by screws
Two hole
flange bearings

▶ Page 709

Zero clearance:
Clearance-free pre-loaded plain bearings

▶ Page 713

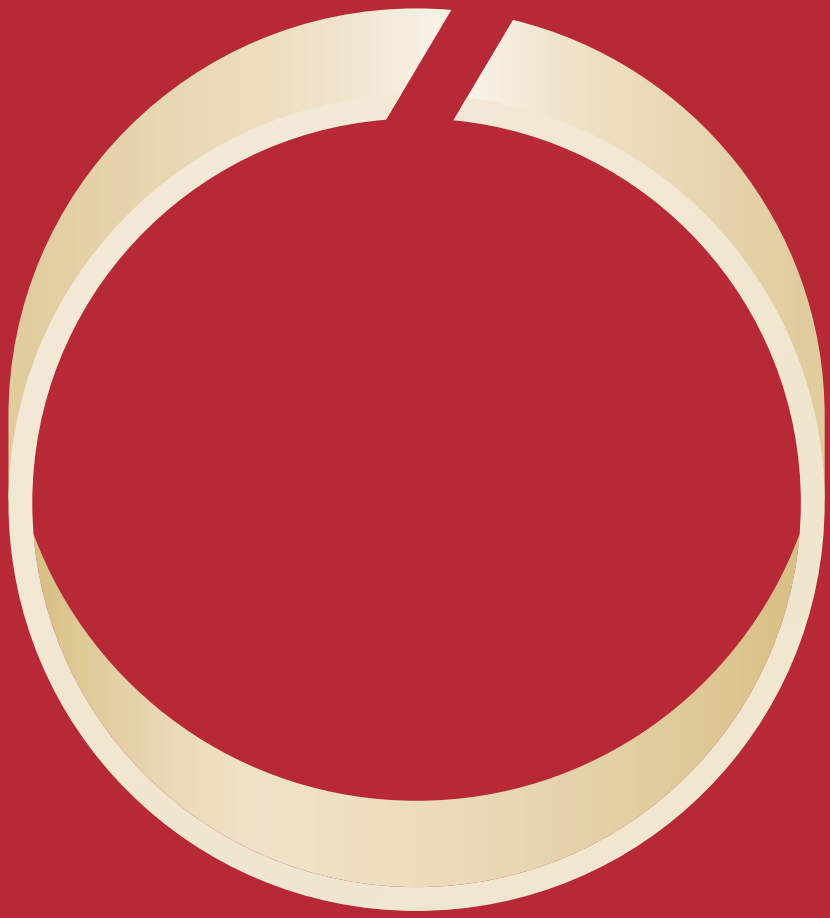
Cushion and dampen
Polymer disc springs

▶ Page 717

igus® Service

Quick and individual:
Customized -
print to mold

▶ Page 721



iglide® piston rings

- Easy installation
- Cost-effective
- More wear-resistant than PTFE-strips
- High load capacity
- Standard range available stock

iglide® piston rings | Advantages

Easy and economic: iglide® piston rings

Easy installation

Cost-effective

More wear-resistant than PTFE-strip

High load capacity

Wear-resistant and maintenance-free

Self-lubricating

iglide® piston rings

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

When to use it?

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

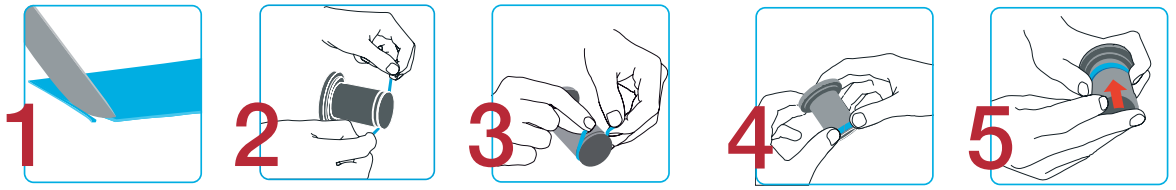
More Information about iglide® material and technical data **iglide® J ▶ Page 193**

max. +194°F
min. –58°F

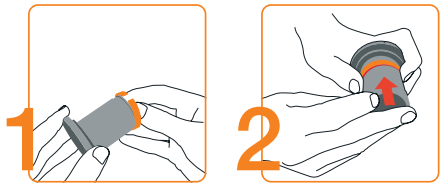
Ø 6–70 mm
more dimensions on request

Available from stock
Detailed information about delivery time online.

Alternative solutions:



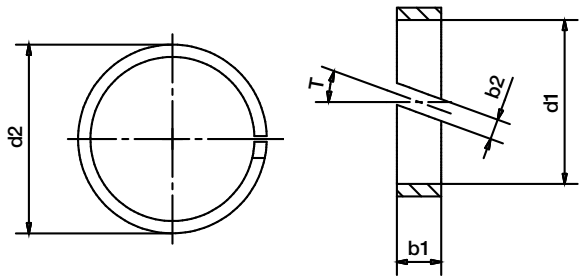
with iglide®:



iglide® piston rings | Product range

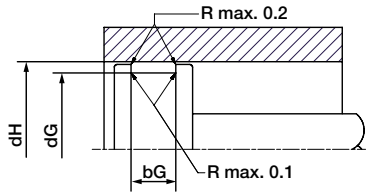
iglide® J piston rings, from stock

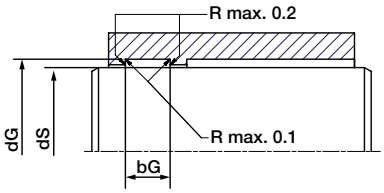
iglide® J is our all-around material when it comes to an outstanding running performance and low coefficient of friction on the broadest range of shafts. The flexibility of iglide® J enables the typical assembly of piston rings using the push over/clip on method. Good media resistance rounds off the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



Order key

Type		Dimensions					
J	PR	M	-06	08	-00	-010	-060
iglide® material	Piston ring	Metric	Inner-Ø [mm]	Outer Ø [mm]	Cut angle	b2 cut width	Length [mm]





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

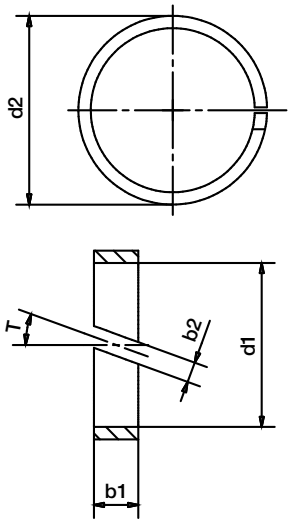
Dimensions [mm]

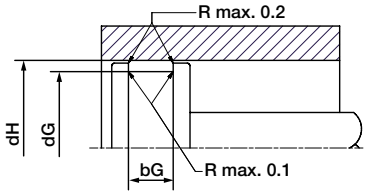
Part No.	d1	d2	T [°]	b2 ±0.5	b1 h13
JPRM-0608-00-010-060	6	8	0	1.0	6
JPRM-0810-00-010-100	8	10	0	1.0	10
JPRM-1012-20-025-054	10	12	20	2.5	5.4
JPRM-1214-20-025-054	12	14	20	2.5	5.4
JPRM-1315-20-025-054	13	15	20	2.5	5.4
JPRM-1416-20-010-100	14	16	20	1.0	10
JPRM-1416-20-010-054	14	16	20	2.5	5.4
JPRM-1618-00-025-054	16	18	20	2.5	5.4
JPRM-1618-20-025-054	16	18	20	2.5	5.4
JPRM-1722-25-025-054	17	22	25	2.5	5.4
JPRM-2023-20-025-054	20	23	20	2.5	5.4
JPRM-2528-20-025-054	25	28	20	2.5	5.4
JPRM-2832-20-010-100	28	32	20	1.0	10

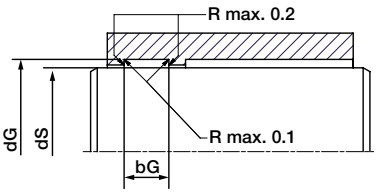
Part No.	d1	d2	T [°]	b2 ±0.5	b1 h13
JPRM-2832-20-010-200	28	32	20	1.0	20
JPRM-2833-25-025-054	28	33	25	2.5	5.4
JPRM-3034-20-025-054	30	34	20	2.5	5.4
JPRM-3539-20-025-054	35	39	20	2.5	5.4
JPRM-3540-25-025-054	35	40	25	2.5	5.4
JPRM-4044-20-025-054	40	44	20	2.5	5.4
JPRM-4550-20-025-054	45	50	20	2.5	5.4
JPRM-4550-00-020-100	45	50	0	2.0	10
JPRM-5055-20-025-054	50	55	20	2.5	5.4
JPRM-5055-00-020-100	50	55	0	2.0	10
JPRM-5863-25-025-095	58	63	25	2.5	9.5
JPRM-6065-20-025-054	60	65	20	2.5	5.4
JPRM-7075-20-025-054	70	75	20	2.5	5.4

iglide® piston rings | Product range

In addition to the stock range of iglide® J piston rings, you can also select your desired piston ring using the entire iglide® bearing range. Choose the material best suited to your application. Your piston ring will be delivered within 10 days – to your requirements.







Order key

Type			Dimensions				
☐ PR	M	-	06 08	- 00	- 010	- 060	
iglide® material	Piston ring	Metric	Inner-Ø [mm]	Outer Ø [mm]	Cut angle	b2 cut width	Length [mm]

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

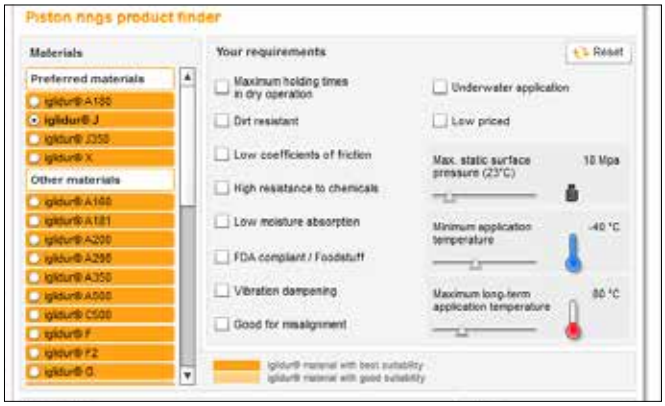
Our material recommendations for special requirements:

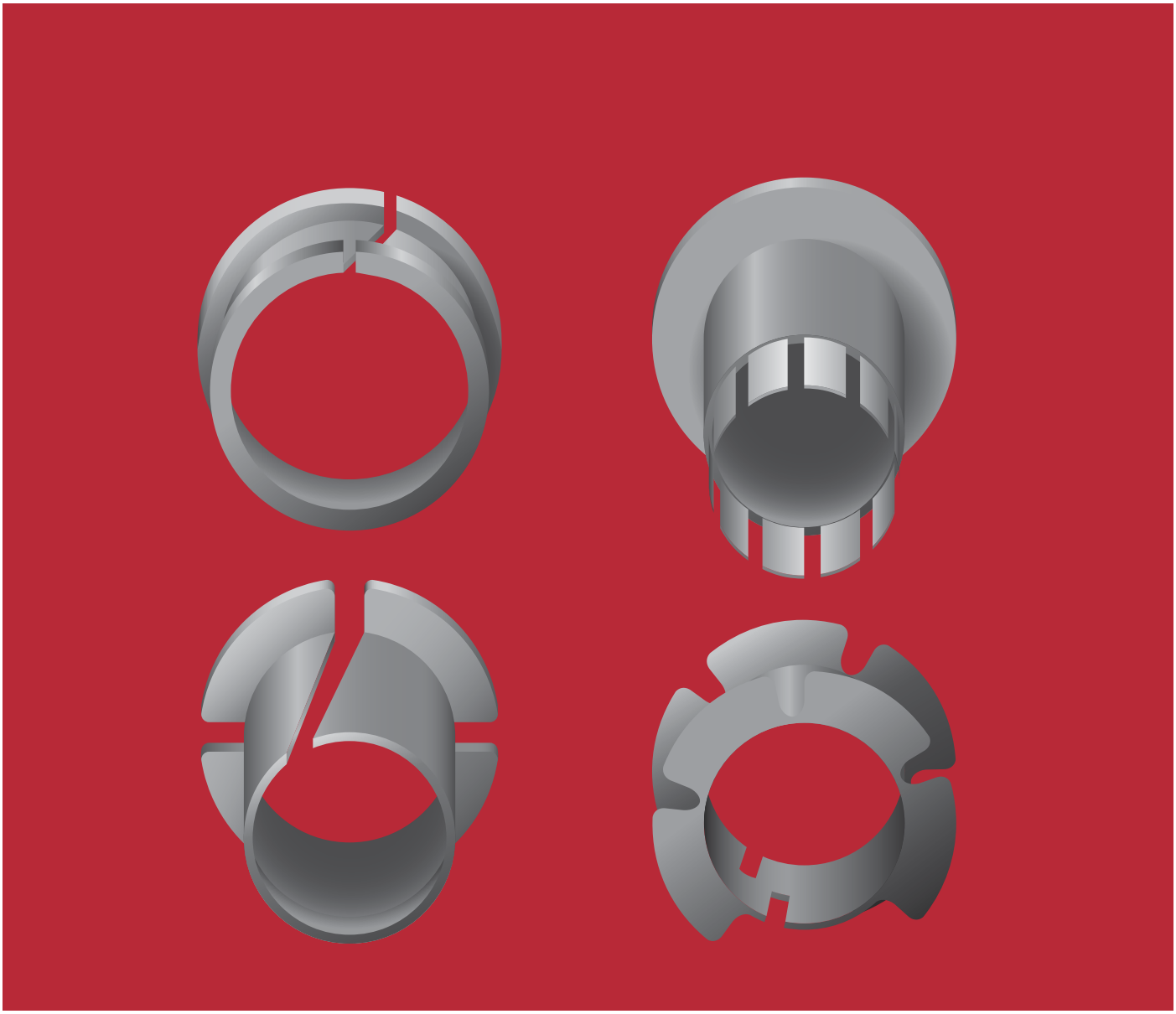
- **iglide® A181: FDA-compliant ▶ Page 457**
- **iglide® A180: FDA compliant ▶ Page 493**
- **iglide® J350: > +194 °F ▶ Page 251**
- **iglide® H1: Temperature up to +392 °F ▶ Page 407**

iglide® piston rings product finder

Material selection and individual dimensions made easy. With just a few clicks, the piston ring finder can find the optimum iglide® material and select the appropriate dimensions from the standard catalog range in order to define a piston ring in a customized width.

In addition to mechanical processing of existing iglide® bearings to piston rings, we also develop custom-made piston ring solutions for your production volume requirements. Please contact us. We will support you with your design and create an appropriate proposal.





iglide® – clip bearings

- Easy installation
- Abrasion-resistant
- Predictable service life
- Custom options possible
- Self-lubricating and maintenance-free
- Standard range from stock

iglide® clip bearings | Advantages

Solutions for stamped sheet metal

iglide® clip bearing:
Captured with double flange
▶ Page 694

iglide® Clip2 bearings:
Easy assembly due to lateral slot,
also available with anti-rotation feature
▶ Page 696

iglide® flanged clip bearings:
Press in and fold down
▶ Page 700

iglide® double flanged clip bearings:
Press and plug
▶ Page 701

Custom solution
iglide® snap on:
Snap into place
▶ Page 702

iglide® clip bearings

iglide® clip bearings are designed specifically for fitting shafts through sheet metal. For this reason, the bearings have flanges located on both ends. The bearings are secured in the sheet metal plate on both sides after fitting.
The clip bearings have an angled slot which allows the bearings to be fitted from one side. After fitting, the bearing expands and forms a lining for the hole in the metal plate. The shaft prevents the clip bearing from falling out the housing. Even during linear movement, the bearing cannot slide out of the housing.

- Lateral slot for easy installation
- Self-lubricating and maintenance-free
- Easily adapts to punched holes
- Good abrasion resistance
- Quiet
- For rotating and linear movements

Typical industries and applications
- Automotive industry
- Mechanical engineering
- Jigs and fixtures, etc.

Service life calculation
▶ www.igus.com/iglide-expert

max. +176 °F
min. -40 °F

Material: iglide® M250
6 types
Ø 3–25 mm
more dimensions on request

Ø 3/16 to 1 1/4 inches
more dimensions on request

Available from stock
Detailed information about delivery time online.

iglide® clip bearings | Product overview

iglide® clip bearing

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

▶ Page 694

iglide® split bearings (Clips2)

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

▶ Page 696

iglide® flanged clip bearings

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

▶ Page 700

iglide® double flanged clip bearings

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

▶ Page 701

Special solution

iglide® snap On

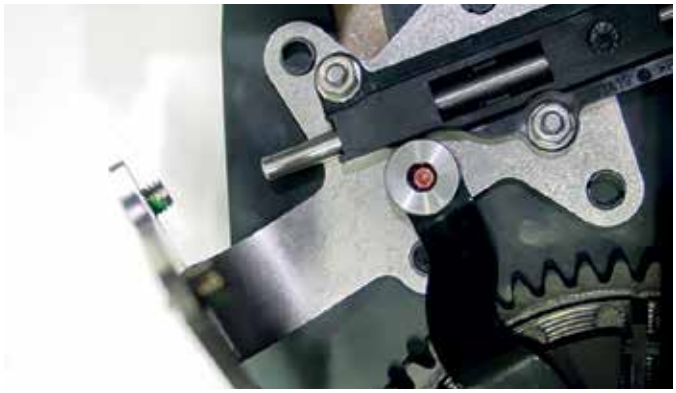
- The washer is snapped onto the flanged bearing with undercuts
- Compensation of axial clearance
- Secure pre-assembly possible
- Combination of conductive and non-conductive materials possible

▶ Page 702

iglide® clip bearings | Application examples

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

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



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

The guide rod in this pharmacy printer has been attached using igus® clip bearings.

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

General properties

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

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

Mechanical properties

The permissible static pressure of iglide® M250 at room temperature is 2,900 psi. 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.

▶ iglide® M250, **Page 121**

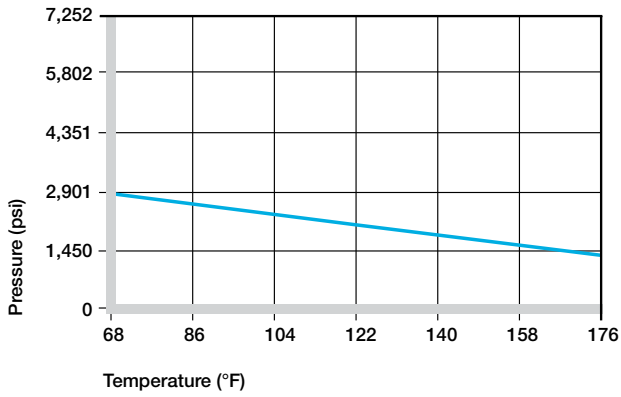


Diagram 01: Recommended maximum surface pressure of as a function of temperature (2,900 psi at +68°F)

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 iglide® M250.

With lubrication the permissible speeds can be increased.

▶ Surface speed, **Page 44**

	Continuous fpm	Short Term fpm
Rotating	157	393
Oscillating	118	275
Linear	492	984

Maximum surface speeds

Temperatures

For operating temperatures up to +176 °F iglide® clip bearings display high wear resistance. Even in the cold, the plain bearings remain elastic and resistant to wear.

▶ Application temperatures, **Page 49**

iglide® M250	Application temperature
Minimum	–40°F
Max. long term	+176°F
Max. short term	+338°F

Temperature limits

Installation

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

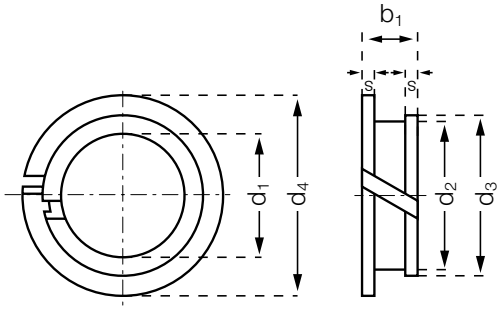
The slot also compensates for expansions of the circumference. In this way, a tight clearance is possible with the clip bearings. The bearing clearance is dimensioned in such a way that in a housing bore with a nominal diameter, a shaft made with the same nominal diameter turns easily. The clip bearings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

Diameter d1 [in]	Shaft h9 [in]	Tolerances D11 [in]	Housing H7 [in]
> 0.1181 to 0.2362	0-0.0012	+0.0012 +0.0041	0 +0.0005
> 0.2362 to 0.3937	0-0.0014	+0.0016 +0.0051	0 +0.0006
> 0.3937 to 0.7086	0-0.0017	+0.0020 +0.0063	0 +0.0007
> 0.7086 to 1.1811	0-0.0020	+0.0026 +0.0077	0 +0.0008
> 1.1811 to 1.9685	0-0.0024	+0.0031 +0.0094	0 +0.0010
> 1.9685 to 3.1496	0–0.0029	+0.0000 +0.0000	0 +0.0012

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

iglide® Clip bearings |- Product range

Clip bearings for sheet metals – secured with double flange



Material:
iglide® M250 ▶ Page 121

Order key

Type			Dimensions	
M	C	I	- 06 -	01
iglide® material	Clip bearings	Inch	Inner-Ø d1 [mm]	Length b1–2s [mm]

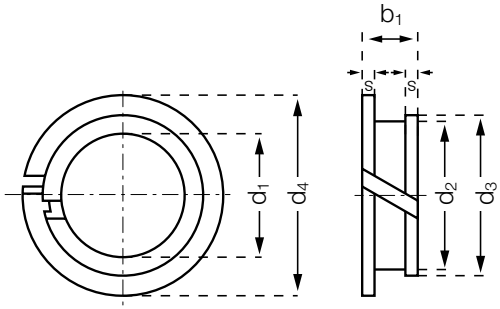
Dimensions [mm]

Part Number	d1 D11[7]	d2	d3	d4	s –0.10	b1 + 0.20	ID of Bearing in Housing	Recommended Housing Bore		Recommended Shaft Size	
								Max.	Min.	Max.	Min.
MCI-02-02	1/8	0.1718	3/16	1/4	0.032	0.2000	0.1260	0.1724	0.1718	0.1250	0.1238
MCI-03-01	3/16	0.2343	1/4	5/16	0.032	0.1380	0.1885	0.2414	0.2343	0.1875	0.1865
MCI-03-02	3/16	0.2343	1/4	5/16	0.032	0.2000	0.1885	0.2414	0.2343	0.1875	0.1865
MCI-04-01	1/4	0.3125	11/32	7/16	0.032	0.1380	0.2510	0.3212	0.3125	0.2500	0.2490
MCI-04-02	1/4	0.3125	11/32	7/16	0.032	0.2000	0.2510	0.3212	0.3125	0.2500	0.2490
MCI-05-01	5/16	0.3750	13/32	1/2	0.032	0.1380	0.3135	0.3834	0.3750	0.3125	0.3115
MCI-05-02	5/16	0.3750	13/32	1/2	0.032	0.2000	0.3135	0.3834	0.3750	0.3125	0.3115
MCI-05-03	5/16	0.3750	13/32	1/2	0.032	0.2480	0.3135	0.3834	0.3750	0.3125	0.3115
MCI-06-01	3/8	0.4375	15/32	9/16	0.032	0.1380	0.3760	0.4481	0.4375	0.3750	0.3740
MCI-06-02	3/8	0.4375	15/32	9/16	0.032	0.2000	0.3760	0.4481	0.4375	0.3750	0.3740
MCI-07-01	7/16	0.5000	17/32	5/8	0.032	0.1380	0.4385	0.5106	0.5000	0.4375	0.4365
MCI-07-02	7/16	0.5000	17/32	5/8	0.032	0.2000	0.4385	0.5106	0.5000	0.4375	0.4365
MCI-08-01	1/2	0.5625	19/32	11/16	0.032	0.1380	0.5010	0.5731	0.5625	0.5000	0.4990
MCI-08-02	1/2	0.5625	19/32	11/16	0.032	0.2000	0.5010	0.5731	0.5625	0.5000	0.4990
MCI-08-03	1/2	0.5625	19/32	11/16	0.032	0.2480	0.5010	0.5731	0.5625	0.5000	0.4990
MCI-10-01	5/8	0.6875	23/32	7/8	0.032	0.1380	0.6260	0.6981	0.6875	0.6250	0.6240
MCI-10-02	5/8	0.6875	23/32	7/8	0.032	0.2000	0.6260	0.6981	0.6875	0.6250	0.6240
MCI-12-01	3/4	0.8125	27/32	1	0.032	0.1380	0.7510	0.8255	0.8125	0.7500	0.7490
MCI-12-02	3/4	0.8125	27/32	1	0.032	0.2000	0.7510	0.8255	0.8125	0.7500	0.7490
MCI-16-02	1	1.0755	1 1/8	1 1/4	0.032	0.2000	1.0010	1.0763	1.0755	1.0000	0.9980
MCI-20-02	1 1/4	1.3280	1 3/8	1 17/32	0.0390	0.2180	1.2530	1.3290	1.3280	1.2500	1.2476

[7] d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.0002”). Please see D11 tolerances table ▶ Page 693

iglide® Clip bearings | Product range

Clip bearings for sheet metals – secured with double flange



Material:
iglide® M250 ▶ Page 121

Order key

Type			Dimensions	
M	C	M	- 06	- 015
iglide® material	Clip bearings	Metric	Inner-Ø d1 [mm]	Length b1–2s [mm]

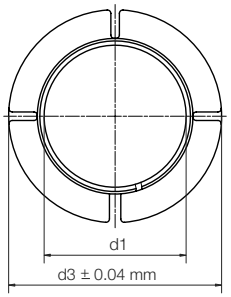
Dimensions [mm]

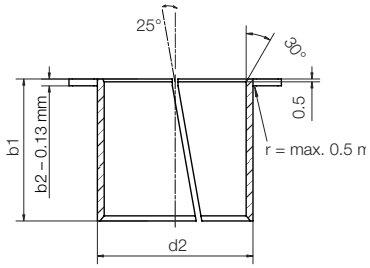
Part Number	d1 D11[7]	d2	d3	d4	s –0.10	b1 + 0.20	ID of Bearing in Housing	Recommended Housing Bore		Recommended Shaft Size	
								Max.	Min.	Max.	Min.
MCM-03-02	3	4.2	4.8	6	0.6	3.2	3.025	4.380	4.200	3.000	2.975
MCM-03-03	3	4.2	4.8	6	0.6	4.2	3.025	4.380	4.200	3.000	2.975
MCM-04-02	4	5.2	5.9	7	0.6	3.2	4.025	5.380	5.200	4.000	3.975
MCM-04-03	4	5.2	5.9	7	0.6	4.2	4.025	5.380	5.200	4.000	3.975
MCM-05-02	5	6.2	6.8	8	0.6	3.2	5.025	6.420	6.200	5.000	4.975
MCM-05-03	5	6.2	6.8	8	0.6	4.2	5.025	6.420	6.200	5.000	4.975
MCM-06-015	6	7.2	7.8	11	0.6	2.7	6.025	7.420	7.200	6.000	5.975
MCM-06-02	6	7.2	7.8	11	0.6	3.2	6.025	7.420	7.200	6.000	5.975
MCM-06-03	6	7.2	7.8	11	0.6	4.2	6.025	7.420	7.200	6.000	5.975
MCM-06-04	6	7.2	7.8	11	0.6	5.2	6.025	7.420	7.200	6.000	5.975
MCM-07-03	7	9.0	9.8	13	0.8	4.6	7.025	9.220	9.000	7.000	6.975
MCM-08-02	8	9.6	10.4	13	0.8	3.6	8.025	9.820	9.600	8.000	7.975
MCM-08-03	8	9.6	10.4	13	0.8	4.6	8.025	9.820	9.600	8.000	7.975
MCM-08-04	8	9.6	13.0	10.4	0.8	5.6	8.025	9.820	9.600	8.000	7.975
MCM-09-02	9	10.6	11.4	14	0.8	3.6	9.025	10.870	10.600	9.000	8.975
MCM-10-02	10	11.6	12.4	15	0.8	3.6	10.025	11.870	11.600	10.000	9.975
MCM-10-025	10	11.6	12.4	15	0.8	4.1	10.025	11.870	11.600	10.000	9.975
MCM-10-03	10	11.6	12.4	15	0.8	4.6	10.025	11.870	11.600	10.000	9.975
MCM-10-04	10	11.6	12.4	15	0.8	5.6	10.025	11.870	11.600	10.000	9.975
MCM-10-08	10	11.6	12.4	15	0.8	9.6	10.025	11.870	11.600	10.000	9.975
MCM-12-018	12	13.6	14.4	17	0.8	3.4	12.025	13.870	13.600	12.000	11.975
MCM-12-02	12	13.6	14.4	17	0.8	3.6	12.025	13.870	13.600	12.000	11.975
MCM-12-025	12	13.6	14.4	17	0.8	4.4	12.025	13.870	13.600	12.000	11.975
MCM-12-03	12	13.6	14.4	17	0.8	4.6	12.025	13.870	13.600	12.000	11.975
MCM-12-035	12	13.6	14.4	17	0.8	5.1	12.025	13.870	13.600	12.000	11.975
MCM-12-04	12	13.6	14.4	17	0.8	5.6	12.025	13.870	13.600	12.000	11.975
MCM-12-045	12	13.6	14.4	17	0.8	6.4	12.025	13.870	13.600	12.000	11.975
MCM-14-03	14	15.6	16.4	19	0.8	4.6	14.025	15.870	15.600	14.000	13.975
MCM-16-02	16	17.6	18.4	21	0.8	3.6	16.025	17.870	17.600	16.000	15.975
MCM-16-03	16	17.6	18.4	21	0.8	4.6	16.025	17.870	17.600	16.000	15.975
MCM-18-02	18	20	21	23	0.8	4	18.025	20.330	20.000	18.000	17.975
MCM-18-03	18	20	21	23	1.0	5.0	18.025	20.330	20.000	18.000	17.975
MCM-20-03	20	22	23	25	1.0	5.0	20.025	22.330	22.000	20.000	19.975
MCM-25-03	25	27	28	30	1.0	5.0	25.025	27.330	27.000	25.000	24.975
MCM-25-06	25	27	28	30	1	8	25.025	27.330	27.000	25.000	24.975

[7] d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.005). Please see D11 tolerances table ▶ Page 693

iglide® Clip bearings |- Product range

Split bearings (Clip2) – easy assembly





Material:
iglide® M250 ▶ Page 121
with anti-rotation feature ▶ Page 698

Order key

Type			Dimensions	
M	Y	I	- 04	- 04
iglide® material	Clip2	Inch	Inner-Ø d1 [inch] Based on 1/16"	Length b1 [mm] Based on 1/16"

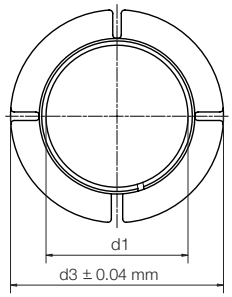
Dimensions [mm]

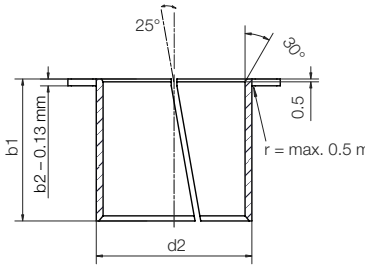
Part Number	d1	d2	d3	b1	b2	W	Recommended Housing Bore		Recommended Shaft Size	
							Max.	Min.	Max.	Min.
MYI-03-03	3/16	0.2339	5/16	3/16	0.0252	25°	0.2351	0.2339	0.1875	0.1865
MYI-04-04	1/4	0.2965	13/32	1/4	0.0252	25°	0.2979	0.2965	0.2500	0.2490
MYI-05-05	5/16	0.3744	1/2	5/16	0.0299	25°	0.3758	0.3744	0.3125	0.3115
MYI-05-07	5/16	0.3744	1/2	7/16	0.0299	25°	0.3758	0.3744	0.3125	0.3115
MYI-05-10	5/16	0.3744	1/2	5/8	0.0299	25°	0.3758	0.3744	0.3125	0.3115
MYI-06-06	3/8	0.4370	19/32	3/8	0.0299	25°	0.4387	0.4370	0.3750	0.3740
MYI-06-11	3/8	0.4370	19/32	11/16	0.0299	25°	0.4387	0.4370	0.3750	0.3740
MYI-07-07	7/16	0.4996	21/32	7/16	0.0299	25°	0.5013	0.4996	0.4375	0.4365
MYI-08-03	1/2	0.5618	3/4	3/16	0.0299	25°	0.5635	0.5618	0.5000	0.4990
MYI-08-06	1/2	0.5618	3/4	3/8	0.0299	25°	0.5635	0.5618	0.5000	0.4990
MYI-08-08	1/2	0.5618	3/4	1/2	0.0299	25°	0.5635	0.5618	0.5000	0.4990
MYI-10-07	5/8	0.6870	15/16	7/16	0.0299	25°	0.6887	0.6870	0.6250	0.6240
MYI-10-10	5/8	0.6870	15/16	5/8	0.0299	25°	0.6887	0.6870	0.6250	0.6240
MYI-10-14	5/8	0.6870	15/16	7/8	0.0299	25°	0.6887	0.6870	0.6250	0.6240
MYI-10-18	5/8	0.6870	15/16	1 1/8	0.0299	25°	0.6887	0.6870	0.6250	0.6240
MYI-12-12	3/4	0.8118	1 1/8	3/4	0.0299	25°	0.8139	0.8118	0.7500	0.7490
MYI-12-18	3/4	0.8118	1 1/8	1 1/8	0.0299	25°	0.8139	0.8118	0.7500	0.7490
MYI-14-7.5	7/8	0.9370	1 5/16	15/32	0.0299	25°	0.9391	0.9370	0.8750	0.8740
MYI-14-14	7/8	0.9370	1 5/16	7/8	0.0299	25°	0.9391	0.9370	0.8750	0.8740
MYI-16-10	1	1.0933	1 1/2	5/8	0.0449	25°	1.0954	1.0933	1.0000	0.9985
MYI-16-14	1	1.0933	1 1/2	7/8	0.0449	25°	1.0954	1.0933	1.0000	0.9985
MYI-16-16	1	1.0933	1 1/2	1	0.0449	25°	1.0954	1.0933	1.0000	0.9985
MYI-18-18	1 1/8	1.2185	1 11/16	1 1/8	0.0449	25°	1.2205	1.2185	1.1250	1.1230

[7] d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.005)
[9] Recommended housing bore tolerance: H9

iglide® Clip bearings | Product range

Split bearings (Clip2) – easy assembly





Material:
iglide® M250 ▶ Page 121
with anti-rotation feature ▶ Page 698

Order key

Type			Dimensions	
M	Y	M	- 04 -	04
iglide® material	Clip2	Metric	Inner-Ø d1 [mm]	Total Length b1 [mm]

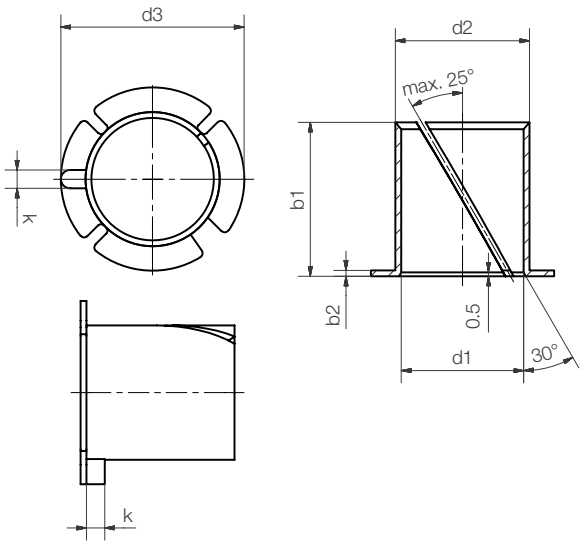
Dimensions [mm]

Part Number	d1	d1 tolerance[7]	d2[9]	d3	b1	b2	Recommended Housing Bore		\Recommended Shaft Size	
							Max.	Min.	Max.	Min.
MYM-04-04	4	+0.025 +0.075	5.2	7.0	4.0	0.6	5.230	5.200	4.000	3.975
MYM-05-05	5	+0.025 +0.075	6.2	8.0	5.0	0.6	6.236	6.200	5.000	4.975
MYM-06-06	6	+0.025 +0.075	7.2	9.5	6.0	0.6	7.236	7.200	6.000	5.975
MYM-08-08	8	+0.025 +0.075	9.6	12.0	8.0	0.8	9.636	9.600	8.000	7.975
MYM-10-10	10	+0.025 +0.075	11.6	15.0	10.0	0.8	11.643	11.600	10.000	9.975
MYM-12-06	12	+0.025 +0.075	13.6	18.0	6.0	0.8	13.643	13.600	12.000	11.975
MYM-12-12	12	+0.025 +0.075	13.6	18.0	12.0	0.8	13.643	13.600	12.000	11.975
MYM-14-14	14	+0.025 +0.075	15.6	21.0	14.0	0.8	15.643	15.600	14.000	13.975
MYM-16-16	16	+0.025 +0.075	17.6	24.0	16.0	0.8	17.643	17.600	16.000	15.975
MYM-20-16	20	+0.025 +0.075	21.6	30.0	16.0	0.8	21.652	21.600	20.000	19.948
MYM-20-20	20	+0.025 +0.075	21.6	30.0	20.0	0.8	21.652	21.600	20.000	19.948
MYM-25-25	25	+0.025 +0.075	27.4	37.5	25.0	1.2	27.348	27.400	25.000	24.948

[7] d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.005)
[9] Recommended housing bore tolerance: H9

iglide® Clip bearings |- Product range

Split bearing with anti-rotation feature



Order key

Type			Dimensions		Option
M	Y	I	- 04	- 04	K
iglide® material	Clip2	Inch	Inner-Ø d1 [inch] Based on 1/16"	Length b1 [mm] Based on 1/16"	Anti rotation feature

Material:
iglide® M250 ▶ Page 121

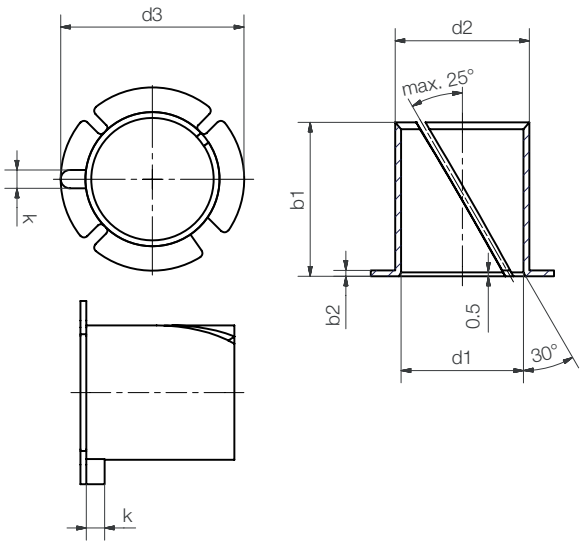
Dimensions [mm]

Part Number	d1	d2	d3	b1	b2	W	k	Recommended Housing Bore		Recommended Shaft Size	
								Max.	Min.	Max.	Min.
MYI-04-04K	1/4	0.2965	13/32	1/4	0.0252	25°	1/16	0.2979	0.2965	0.2500	0.2490
MYI-05-05K	5/16	0.3744	1/2	5/16	0.0299	25°	3/32	0.3758	0.3744	0.3125	0.3115
MYI-05-07K	5/16	0.3744	1/2	7/16	0.0299	25°	3/32	0.3758	0.3744	0.3125	0.3115
MYI-06-06K	3/8	0.4370	19/32	3/8	0.0299	25°	3/32	0.4387	0.4370	0.3750	0.3740
MYI-07-07K	7/16	0.4996	21/32	7/16	0.0299	25°	3/32	0.5013	0.4996	0.4375	0.4365
MYI-08-06K	1/2	0.5618	3/4	3/8	0.0299	25°	3/32	0.5635	0.5618	0.5000	0.4990
MYI-08-08K	1/2	0.5618	3/4	1/2	0.0299	25°	3/32	0.5635	0.5618	0.5000	0.4990
MYI-10-07K	5/8	0.6870	15/16	7/16	0.0299	25°	1/8	0.6887	0.6870	0.6250	0.6240
MYI-10-10K	5/8	0.6870	15/16	5/8	0.0299	25°	1/8	0.6887	0.6870	0.6250	0.6240
MYI-10-18K	5/8	0.6870	15/16	1 1/8	0.0299	25°	1/8	0.6887	0.6870	0.6250	0.6240
MYI-12-12K	3/4	0.8118	1 1/8	3/4	0.0299	25°	1/8	0.8139	0.8118	0.7500	0.7490
MYI-12-18K	3/4	0.8118	1 1/8	1 1/8	0.0299	25°	1/8	0.8139	0.8118	0.7500	0.7490
MYI-14-7.5K	7/8	0.9370	1 5/16	15/32	0.0299	25°	1/8	0.9391	0.9370	0.8750	0.8740
MYI-14-14K	7/8	0.9370	1 5/16	7/8	0.0299	25°	1/8	0.9391	0.9370	0.8750	0.8740
MYI-16-10K	1	1.0933	1 1/2	5/8	0.0449	25°	5/32	1.0954	1.0933	1.0000	0.9985
MYI-16-14K	1	1.0933	1 1/2	7/8	0.0449	25°	5/32	1.0954	1.0933	1.0000	0.9985
MYI-16-16K	1	1.0933	1 1/2	1	0.0449	25°	5/32	1.0954	1.0933	1.0000	0.9985
MYI-18-18K	1 1/8	1.2185	1 11/16	1 1/8	0.0449	25°	5/32	1.2205	1.2185	1.1250	1.1230
MYI-24-24K	1 1/2	1.6245	2 1/4	1 1/2	0.0591	25°	3/16	1.6265	1.6245	1.5000	1.4980

[7] d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.0002")
[9] Recommended housing bore tolerance: H9

iglide® Clip bearings | Product range

Flanged bearings – press in and fold down



Order key

Type			Dimensions		Option
M	Y	M	- 04	- 04	K
iglide® material	Clip2	Metric	Inner-Ø d1 [mm]	Length b1 [mm]	Anti rotation feature

Material:
iglide® M250 ▶ Page 121

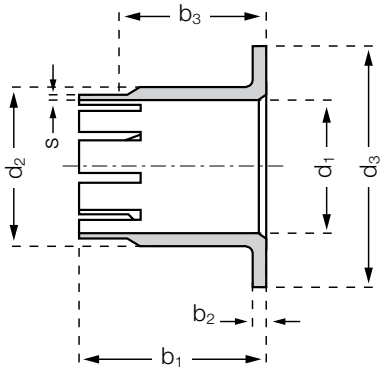
Dimensions [mm]

Part Number	d1	d2	d3	b1	b2	W	k	Recommended Housing Bore		Recommended Shaft Size	
								Max.	Min.	Max.	Min.
MYM-04-04K	4	5.2	7.0	4.0	0.6	25°	1.0	5.230	5.200	4.000	3.975
MYM-05-05K	5	6.2	8.0	5.0	0.6	25°	1.0	6.236	6.200	5.000	4.975
MYM-06-06K	6	7.2	9.5	6.0	0.6	25°	1.5	7.236	7.200	6.000	5.975
MYM-08-08K	8	9.6	12.0	8.0	0.8	25°	1.5	9.636	9.600	8.000	7.975
MYM-10-10K	10	11.6	15.0	10.0	0.8	25°	2.0	11.643	11.600	10.000	9.975
MYM-14-14K	14	15.6	21.0	14.0	0.8	25°	3.0	15.643	15.600	14.000	13.975

[7] d1 value is measured with a plug gauge after fitting into a reference housing d2 (+0.005)
[9] Recommended housing bore tolerance: H9

iglide® Clip bearings |- Product range

Flanged bearings – press in and fold down



Material:
iglide® M250 ▶ Page 121

Order key

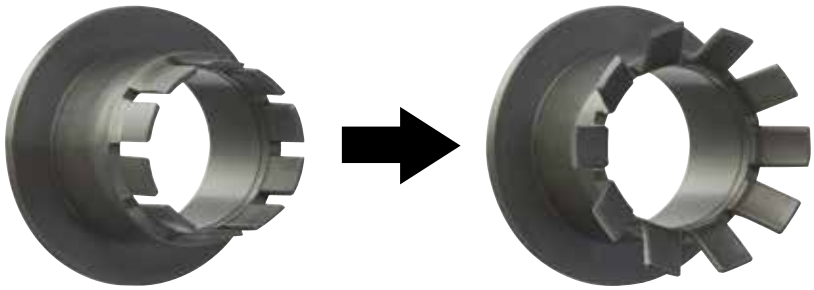
Type			Dimensions		
M	K	M	- 10	12	- 10
iglide® material	Type (Form K)	Metric	Inner-Ø d1 [mm]	Outer-Ø d2 [mm]	Sheet metal thickness [mm]

Sample dimension [mm]

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

[3] After pressfit. Testing methods ▶ Page 57

Assembly:

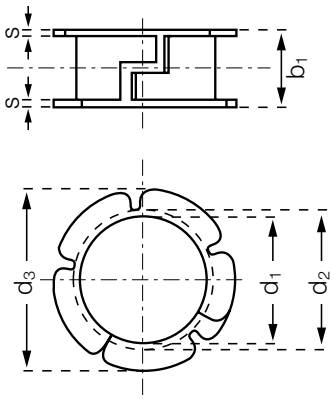


Press in, fold down, ready: axial load on both sides

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

iglide® Clip bearings | Product range

Double flange bearing – press and plug



Material:
iglide® M250 ▶ Page 121

Order key

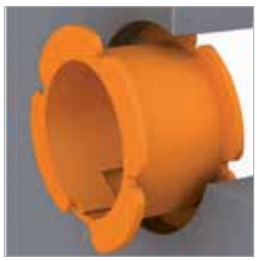
Type			Dimensions		
M	D	M	- 12	13	- 06
iglide® material	Type (Form D)	Metric	Inner-Ø d1 [mm]	Outer-Ø d2 [mm]	Sheet metal thickness [mm]

Sample dimension [mm]

Part No.	d1	d1 Tolerance[8)]	d2	d3	b1	s
MDM-1213-06	12	+0.050 +0.160	13	16.5	7	0.5

[8)] d1 value is measured with a pin 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. bearing solutions.

iglide® Clip bearings - Custom solution

iglide® Snap-On: connect and snap into place

Material:
iglide® M250 ▶ Page 121

The solution for all applications in stamped sheet metal retainers

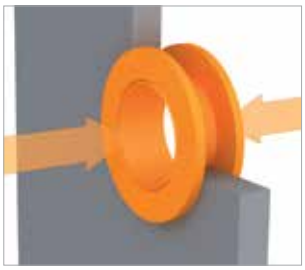
iglide® Snap-On are frequently used in seat and convertible top systems and multi-joint hinges. iglide® clip-on bearings allow for captured assembly even in punched sheet metal / steering arms with limited fine blanking content.

- Compensation of axial clearance
- Pre-assembly possible
- Electrically conductive materials are available
- Pressure-resistant materials up to 11,600 psi

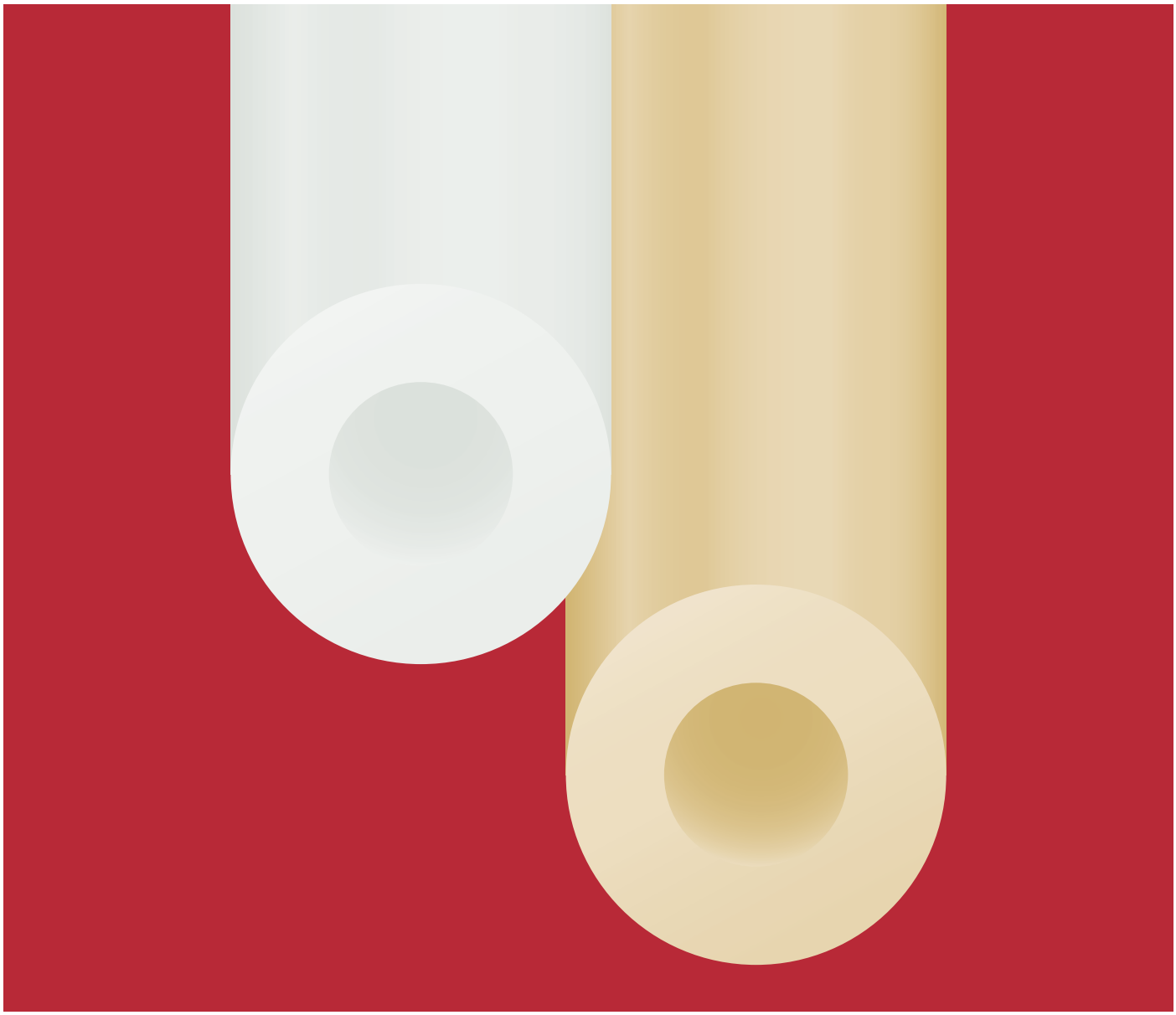
The snap-on bearings can also be produced from electrically conducting and other materials for e-coating purposes.

Assembly:

The washer is snapped onto the flange bushing with undercuts.



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. bearing solutions.



iglide® knife edge rollers

100% self-lubricating

Low required drive force

Tight deflection radii

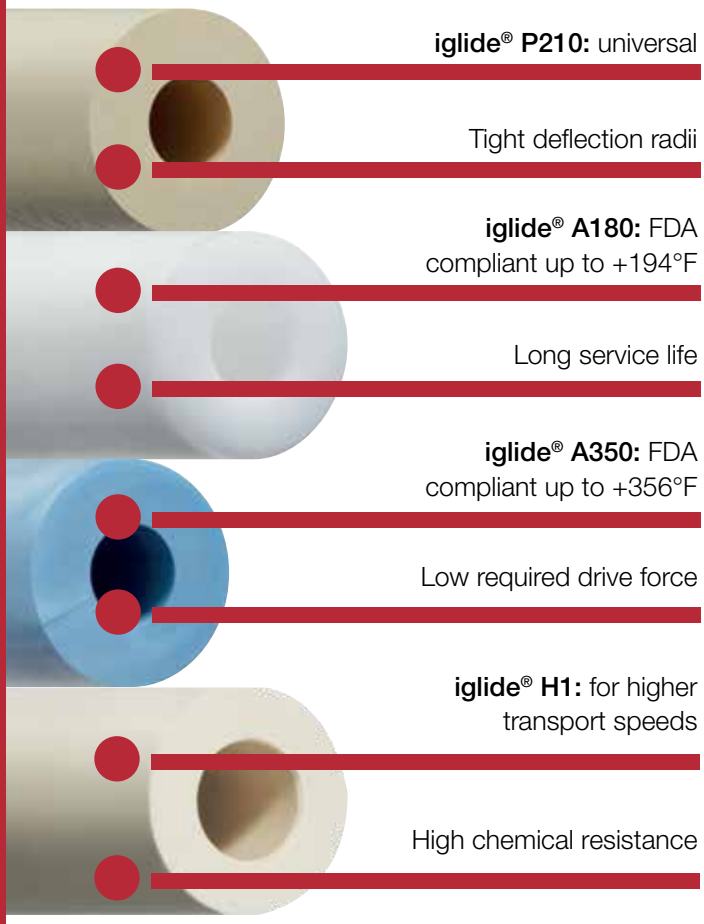
Long service life of the belt and bearing

Cost-effective

Standard range from stock

iglide® knife edge rollers | Advantages

Self-lubricating and precise deflection of conveyor belts



iglide® P210: universal

Tight deflection radii

iglide® A180: FDA compliant up to +194°F

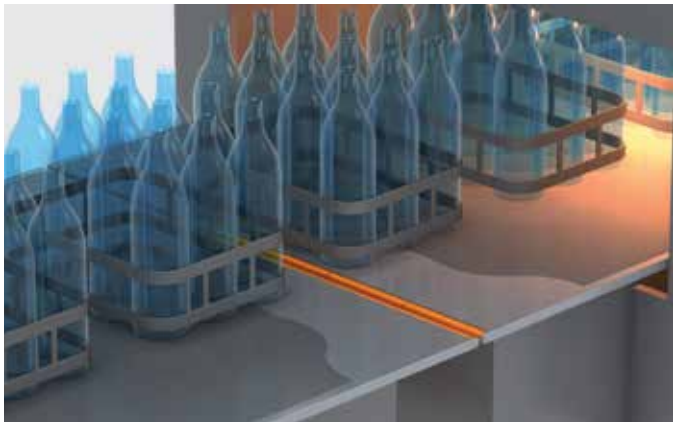
Long service life

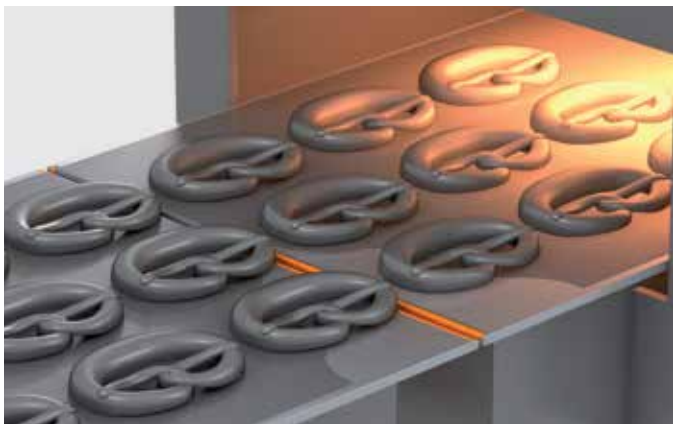
iglide® A350: FDA compliant up to +356°F

Low required drive force

iglide® H1: for higher transport speeds

High chemical resistance





iglide® knife edge rollers

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

When to use it?

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

When not to use it?

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

Depending on material:

iglide® P210:	**–40°F up to +212°F**
iglide® A180:	**–58°F up to +194°F**
iglide® A350:	**–148°F up to +356°F**
iglide® H1:	**–40°F up to +392°F**

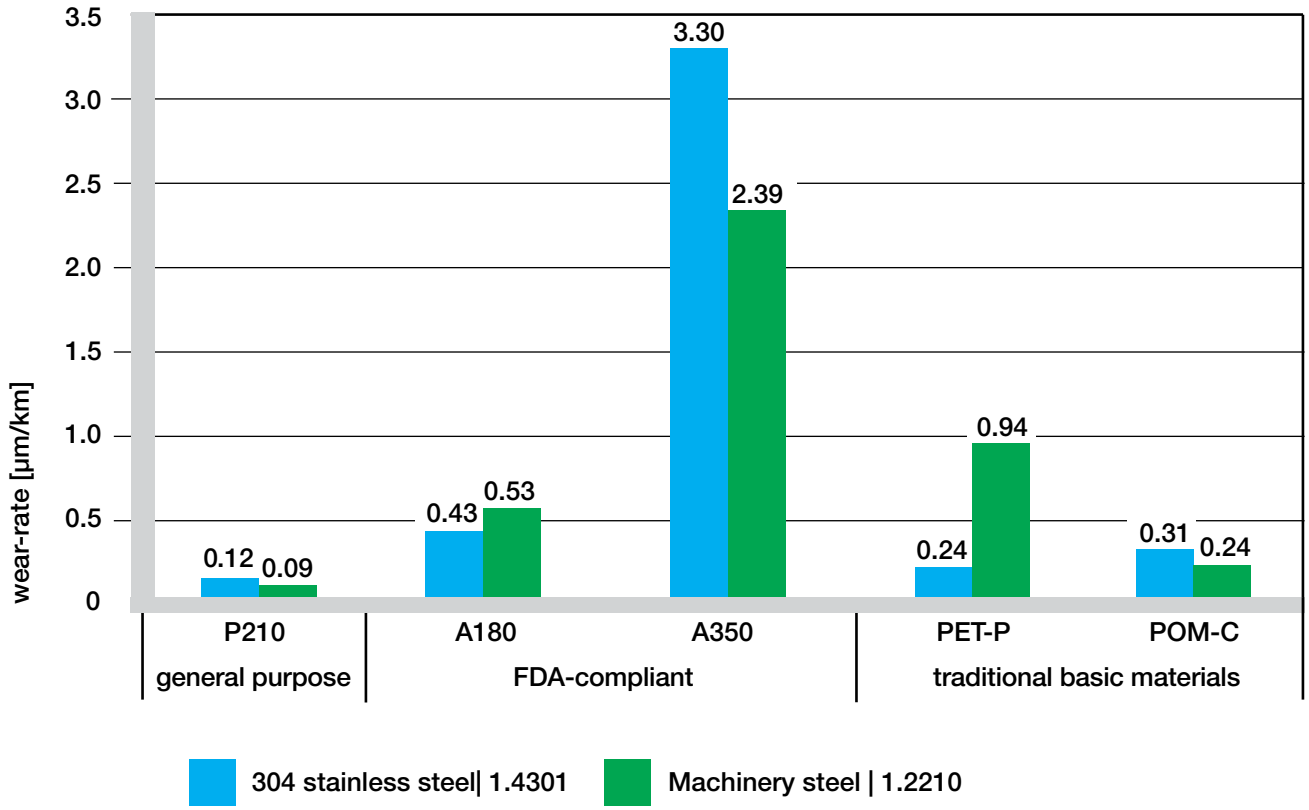
3 Materials
Ø 3–10 mm ID, 9-20 mm OD
more dimensions on request

Available from stock
Detailed information about delivery time online.

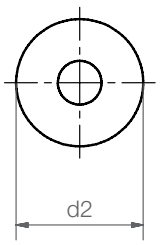
iglide® knife edge rollers | Technical data

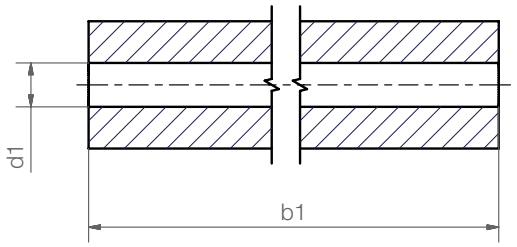
Material properties table

General properties	Unit	iglide® P210	iglide® A180	iglide® A350	iglide® H1
Density	g/cm³	1.40	1.46	1.42	1.53
Color		yellow	white	blue	cream
Max. moisture absorption at +73 °F/50 % r.h.	% weight	0.3	0.2	0.6	0.1
Max. water absorption	% weight	0.5	1.3	1.9	0.3
Coefficient of sliding friction, dynamic against steel	µ	0.07–0.19	0.05–0.23	0.10–0.20	0.06-0.20
PV value, max. (dry)	psi · ft/min	11,500	8,750	11,500	22,800
Mechanical properties					
Modulus of elasticity	psi	362,594	333,600	290,075	406,100
Tensile strength at +68°F	psi	10,150	12,760	15,950	7,977
Compressive strength	psi	7,250	11,310	11,312	11,310
Max. recommended surface pressure (+68 °F)	psi	7,250	4,060	8,700	11,600
Shore-D Hardness		75	76	76	77
Physical and thermal properties					
Max. long term application temperature	°F	+212	+194	+356	+392
Max. short term application temperature	°F	+320	+230	+410	+464
Min. application temperature	°F	–40	–58	–148	-40
Thermal conductivity	W/m · K	0.25	0.25	0.24	0.24
Coefficient of thermal expansion (at +73 °F)	$K^{-1} \cdot 10^{-5}$	8	11	8	6
Electrical properties					
Specific volume resistance	Ωcm	> 10^{12}	> 10^{12}	> 10^{11}	> 10^{12}
Surface resistance	Ω	> 10^{11}	> 10^{11}	> 10^{11}	> 10^{11}



iglide® knife edge rollers | Product range





Knife edge rollers made from iglide® P210 – Universal, up to 212 °F

Part No.	d1 +0.1 [mm]	d2 ±0.1 [mm]	b1 –0.3 [mm]
P210RLM-0309-50	3.1	9.0	50.0
P210RLM-0409-50	4.1	9.0	50.0
P210RLM-0511-70	5.1	11.0	70.0
P210RLM-0514-70	5.1	14.0	70.0
P210RLM-0612-70	6.1	12.0	70.0
P210RLM-0614-70	6.1	14.0	70.0
P210RLM-0812-70	8.1	12.0	70.0
P210RLM-0814-70	8.1	14.0	70.0
P210RLM-0816-77	8.1	16.0	77.0
P210RLM-0818-70	8.1	18.0	70.0
P210RLM-1020-70	10.1	20.0	70.0
P210RLM-1220-70	12.1	20.0	70.0

Knife edge rollers made from iglide® A180 – FDA compliant, up to 194 °F

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

iglide® knife edge rollers | Product range

Order key

Type			Dimensions		
A180	RL	M	- 03	09	- 50
iglide® material	Roller	Metric	Inner-Ø d1 [mm]	Outer-Ø d2 [mm]	Length b1 [mm]

Options:
iglide® material
P210 = iglide® P210
A180 = iglide® A180
A350 = iglide® A350
H1 = iglide® H1

Knife edge rollers made from iglide® A350 – FDA compliant, up to 356 °F

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

Knife edge rollers made from iglide® H1 – FDA compliant, up to 392°F

Part No.	d1 +0.1 [mm]	d2 ±0.1 [mm]	b1 –0.3 [mm]
H1RLM-0309-50	3.1	9.0	50.0
H1RLM-0409-50	4.1	9.0	50.0
H1RLM-0511-70	5.1	11.0	70.0
H1RLM-0612-70	6.1	12.0	70.0
H1RLM-0614-70	6.1	14.0	70.0
H1RLM-0812-70	8.1	12.0	70.0
H1RLM-0814-70	8.1	14.0	70.0
H1RLM-0818-70	8.1	18.0	70.0

Notes

iglide® two bolt flange bearings

Wear resistant

Maintenance-free dry operation

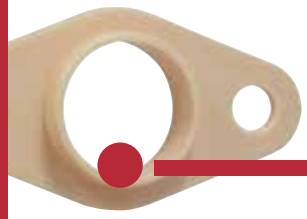
Lightweight

Standard range from stock

iglide® flange bearings | Advantages

Maintenance free dry running

iglide® G:
Standard material for many applications



iglide® J:
Material for low wear

iglide® X:
Material for high temperature applications

iglide® A180:
Material for use in the food sector

iglide® maintenance-free flange bearings

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

- Very good wear resistance
- Lightweight
- Self-lubricating

Installation

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

Depending on material:

iglide® G300:	**–40°F up to**	**+266°F**
iglide® J:	**–58°F up to**	**+194°F**
iglide® X:	**–148°F up to**	**+482°F**
iglide® A180:	**–58°F up to**	**+194°F**

Material properties:

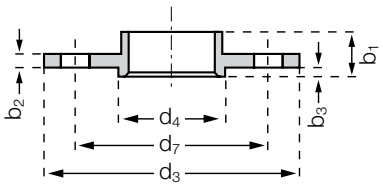
iglide® G300 ▶ **Page 87**
iglide® J ▶ **Page 193**
iglide® X ▶ **Page 339**
iglide® A180 ▶ **Page 493**

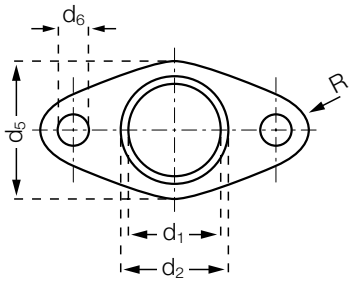
4 materials
Ø 10–35 mm
more dimensions on request

Available from stock
Detailed information about delivery time online.

iglide® flange bearings | Technical data

Flange bearings





Order key

Type	Size
G FL	- 10
iglide® material	Flange bearings / Inner-Ø [mm]

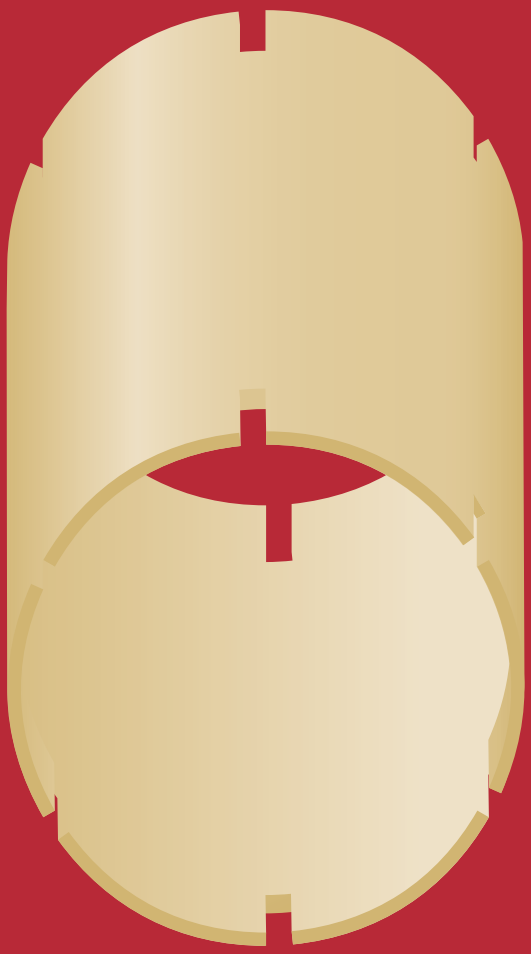
Options:
iglide® material
G = iglide® G
J = iglide® J
X = iglide® X
A180 = iglide® A180

Dimensions [mm]

Part No.	d1	d1-Tolerance[3]	d2[13]	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
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
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

[3] after pressfit. Testing methods ▶ Page 76 [13] pressfit in H7 tolerance housing bore

Notes



iglide® clearance-free pre-loaded plain bearings

Radial and axial preload

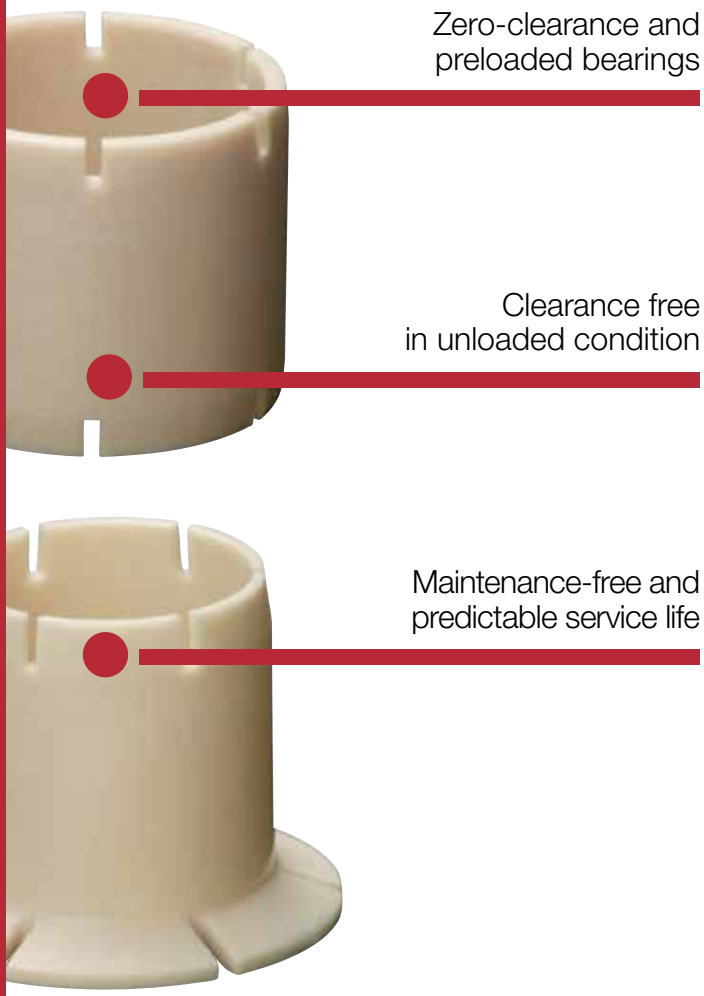
Clearance-free in unloaded condition

Material: iglide® J

Maintenance-free and predictable service life

iglide® JV | Advantages

Zero-clearance and rattle free – preloaded iglide® J bearings



iglide® – zero-clearance and preloaded bearings

iglide® JVSM and JVFM bearings are clearance-free in unloaded condition due to the axial and/or radial preload. The iglide® 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 or anywhere zero clearance is required.

When to use it?

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

When not to use it?

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

max. +194°F
min. –58°F

Material:
iglide® J ▶ Page 193

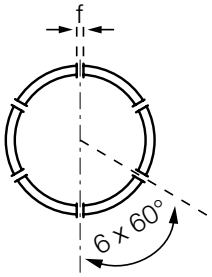
2 types
Ø 6–20 mm
more dimensions on request

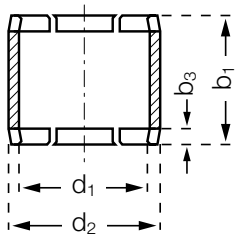
Ø 3/8 to 1 inches

Available from stock
Detailed information about delivery time online.

iglide® JV | Technical data

Preloaded sleeve bearings - Inch





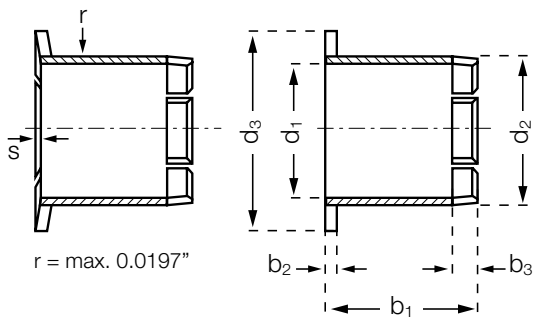
Order key

Type				Dimensions		
J	V	S	I	- 06	08	- 06
iglide® material	pre-tensioned	Sleeve	Inch	Inner-Ø d1 [inch] Based on 1/16"	Outer-Ø [inch] Based on 1/16"	Length b1 [in]

Dimensions [in]

Part No.	d1[14]	d2	b1	b3	f	d1-Tolerance (E10)	
			h13			Max.	Min.
JVSI-0608-06	3/8	1/2	3/8	0.079	0.3773	0.3750	6.020
JVSI-0810-08	1/2	5/8	1/2	0.079	0.5040	0.5013	8.025
JVSI-1012-10	5/8	3/4	5/8	0.098	0.6297	0.6270	10.025
JVSI-1214-12	3/4	7/8	3/4	0.098	0.7541	0.7505	12.032
JVSI-1618-16	1	1 1/8	1	0.098	1.0041	1.0007	14.032

[14] d1 – Measured after pressfit in steel housing bore with an H7 tolerance.



Order key

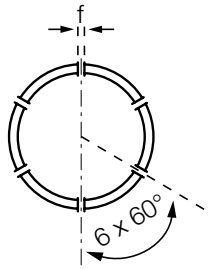
Type				Dimensions		
J	V	F	I	- 06	08	- 06
iglide® material	pre-tensioned	Flange	Inch	Inner-Ø d1 [inch] Based on 1/16"	Outer-Ø [inch] Based on 1/16"	Length b1 [in]

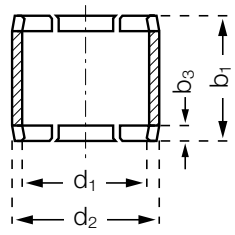
Dimensions [in]

Part Number	d1	d2	d3	b1	b2	b3	d1 Tolerance	
							Max.	Min.
JVFI-0608-06	3/8	1/2	0.625	3/8	0.062	0.079	0.3773	0.3750
JVFI-0810-08	1/2	5/8	0.875	1/2	0.062	0.079	0.5040	0.5013
JVFI-1012-10	5/8	3/4	1.000	5/8	0.062	0.098	0.6297	0.6270
JVFI-1214-12	3/4	7/8	1.125	3/4	0.062	0.098	0.7541	0.7505
JVFI-1618-16	1	1 1/8	1.375	1	0.062	0.098	1.0041	1.0007

iglide® JV | Product range

Preloaded sleeve bearings - metric





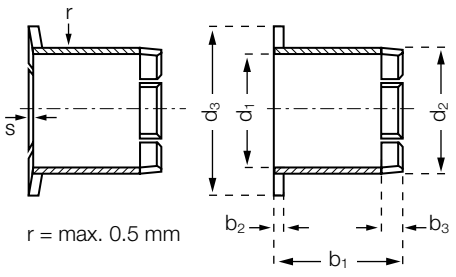
Order key

Type				Dimensions		
J	V	S	M	- 06	08	- 06
iglide® material	pre-tensioned	Sleeve	Metric	Inner-Ø d1 [mm]	Outer-Ø d2 [mm]	Length b1 [mm]

Dimensions [mm]

Part No.	d1	d2	b1 h13	b3	f	d1-Tolerance [14] (E10) Max.	Min.
JVSM-0608-06	6	8	6	2.0	1	6.068	6.020
JVSM-0810-08	8	10	8	2.0	1	8.083	8.025
JVSM-1012-10	10	12	10	2.0	1	10.083	10.025
JVSM-1214-12	12	14	12	2.0	1	12.102	12.032
JVSM-1416-14	14	16	14	2.0	1	14.102	14.032
JVSM-1517-15	15	17	15	2.5	1	15.102	15.032
JVSM-1820-18	18	20	18	2.5	1	18.102	18.032
JVSM-2023-20	20	23	20	2.5	1	20.140	20.040

[14] d1 – Measured after pressfit in steel housing bore with an H7 tolerance.



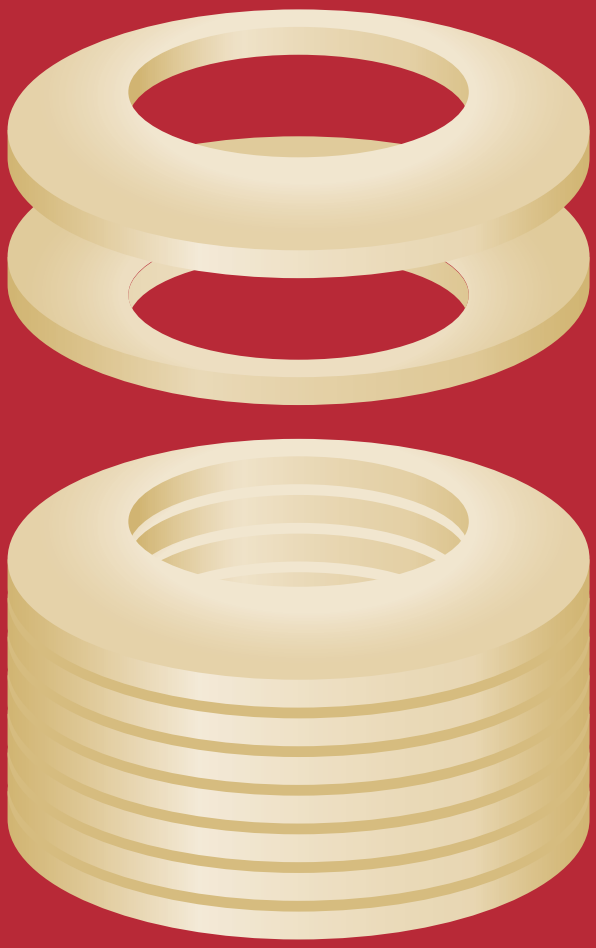
Order key

Type				Dimensions		
J	V	F	M	- 06	08	- 06
iglide® material	pre-tensioned	Flange	Metric	Inner-Ø d1 [mm]	Outer-Ø d2 [mm]	Length b1 [mm]

Dimensions [mm]

Part No.	d1	d2	d3	b1 h13	b2	b3	s	d1-Tolerance [14] (E10) Max.	Min.
JVFM-0810-10	8	10	15	10	1	2.0	0.44	8.083	8.025
JVFM-1012-10	10	12	18	10	1	2.0	0.53	10.083	10.025
JVFM-1214-12	12	14	20	12	1	2.0	0.53	12.102	12.032
JVFM-1416-12	14	16	22	12	1	2.0	0.53	14.102	14.032
JVFM-1517-15	15	17	23	15	1	2.5	0.53	15.102	15.032
JVFM-1820-11	18	20	26	11	1	2.5	0.53	18.102	18.032
JVFM-1820-18	18	20	26	18	1	2.5	0.53	18.102	18.032
JVFM-2023-20	20	23	30	20	1.5	2.5	0.62	20.140	20.040

[14] d1 – Measured after pressfit in steel housing bore with an H7 tolerance.



polysorb disc springs

Compensation for axial clearances and manufacturing tolerances

Vibration dampening

Quiet operation

Corrosion-free

Lightweight

Electrical and thermal insulation

Standard range from stock

iglide® polysorb | Advantages

Cushion and dampen: plastic disc springs

- iglide® J: Standard material a wide range of applications
- Offers compensation of axial clearance and manufacturing tolerances
- Vibration dampening
- iglide® A500: high temperature material
- Lightweight
- FDA compliant

Polysorb - plastic disc springs

Spring washers are axially concaved discs, meant to be axially loaded for compensation of axial clearances and manufacturing tolerances. Polysorb disc springs require less space than other spring options, and are especially suitable for applications that do not require a high spring length.

When to use it?

- When an application requires spring characteristics typically only possible with metal at a considerable price
- For compensation of axial clearances and manufacturing tolerances
- For vibration dampening
- For noise reduction
- When a non-magnetic material is required
- For electrical and thermal insulation

When not to use it?

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

Depending on material:
iglide® J: –58°F up to +194°F
iglide® A500: –148°F up to +482°F

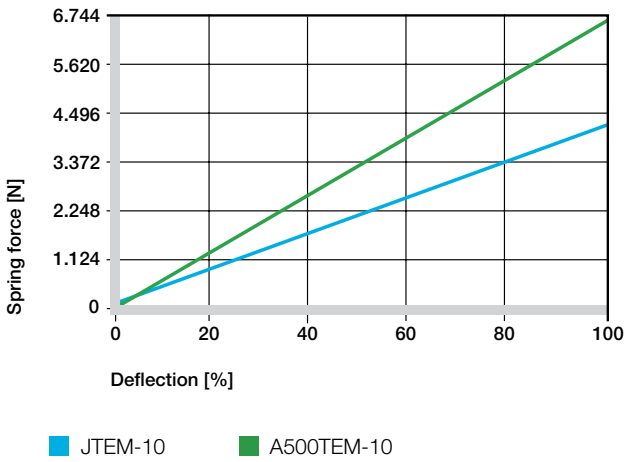
Material properties:
iglide® J **▶ Page 193**
iglide® A500 **▶ Page 481**

2 materials
Ø 5–20 mm
more dimensions on request

Available from stock
Detailed information about delivery time online.

General properties

The spring deflection of Polysorb is relatively small, therefore, a number of disc springs can be combined. Alternately stacked Polysorb springs increase the spring length proportionally to the number of springs in use, with the total spring force equaling the force of a single disc spring. To increase the force, disc springs can be stacked in parallel to form a spring packet.



Percent of deflection based on the spring force of size 10 Polysorb discs

Chemical resistance

Polysorb disc springs are resistant to a variety of chemicals. For higher resistance, iglide® A500 material discs should be used.

Medium	Resistance	
	iglide® J	iglide® A500
Alcohols	+	+
Hydrocarbons	+	+
Greases, oils without additives	+	+
Fuels	+	+
Diluted acids	0 to –	+
Strong acids	–	+
Diluted alkalines	+	+
Strong alkalines	+ to 0	+

+ resistant 0 conditionally resistant – not resistant
All data given at room temperature [+68°F]
Table 01: Chemical resistance

Moisture absorption

Low moisture absorption allows for Polysorb to be used in wet or humid environments. The disc springs absorb moisture, changing mechanical properties of the disc in the process. However, even in long term use in water, Polysorb disc springs maintain a high spring force.

iglide®	Standard environment 68°F/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 plastic materials. Polysorb disc springs made of standard iglide® J maintain a maximum spring force of 1.8 lbs at the maximum permissible temperature of 194°F. Compare spring force with ambient temperature in diagram 02.

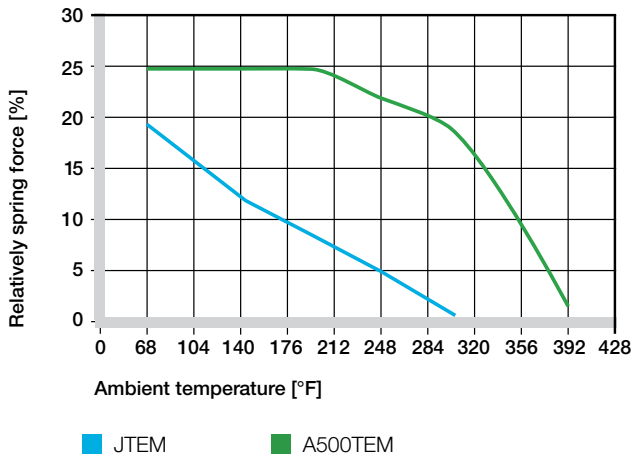


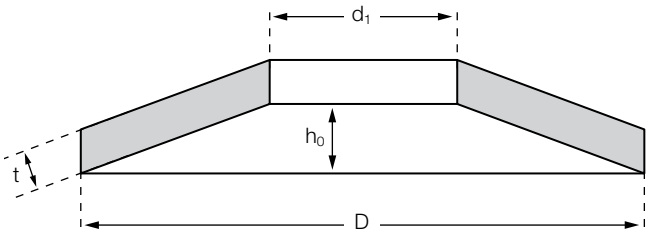
Diagram 02: Effect of ambient temperature on the spring force

iglide® polysorb | Product range

Polysorb disc springs

iglide® J

iglide® A500



Dimensions based on DIN 2093

Material:
iglide® J ▶ Page 193
iglide® A500 ▶ Page 481

Order key

Type				Dimensions
☐	T	E	M	- 05
iglide® material	Thrust washer style	"Elastic spring"	Metric	Inner-Ø d1 [mm]

Material options:
iglide® J for low wear
iglide® A500 for FDA-compliant high temperature applications

Dimensions [mm]

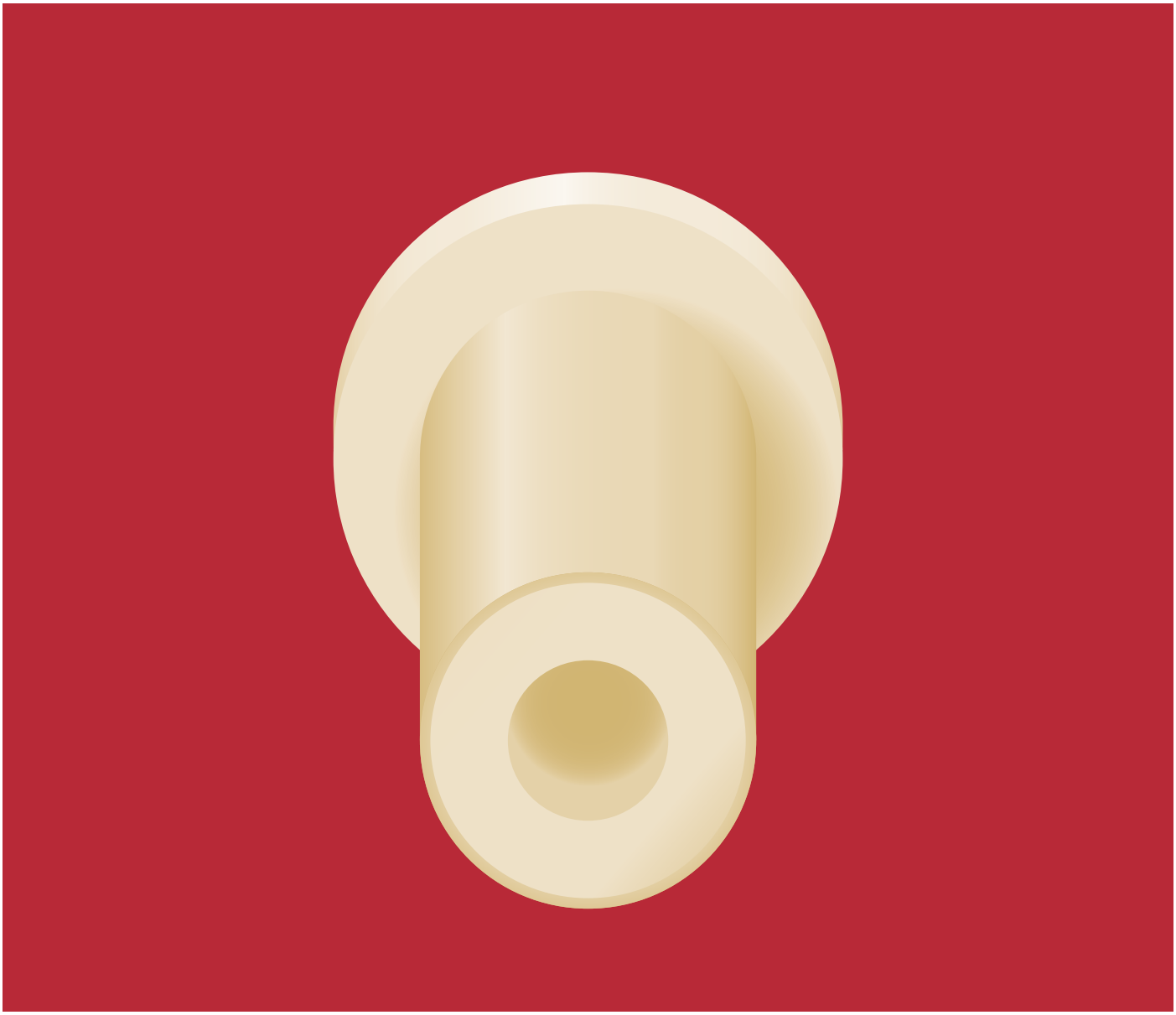
Part No.[15]	D	d1	t	h_0	Standard values: spring lengths and forces $F_{1.0}$ iglide® J [N]	$F_{1.0}$ iglide® A500 [N]
☐ TEM-05	10.0	5.2	0.5	0.25	5	7
☐ TEM-06	12.5	6.2	0.7	0.30	10	14
☐ TEM-08	16.0	8.2	0.9	0.35	15	18
☐ TEM-10	20.0	10.2	1.1	0.45	18	24
☐ TEM-12	25.0	12.2	1.5	0.55	40	55
☐ TEM-16	31.5	16.3	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.

[15] Material: iglide® J, JTEM, Standard
iglide® A500, A500TEM, high temperature and chemical resistance

Symbols and units:

F	=	Force [N]
D	=	Outer diameter [mm]
d1	=	Inner diameter [mm]
t	=	Plate thickness [mm]
h_0	=	Maximum spring displacement [mm]
$F_{1.0}$	=	Spring force 100% displacement [N]



Custom parts for anything from prototyping to serial production

Cost-effective injection molding for prototypes and large production sizes

3D printed molds for injection molding

Machined parts

SLS and FDM 3D-printed parts

For quantities ranging from a few hundred to several million

Plain bearings | Customized parts

Injection molding

Customized & cost-effective:
Your plastic plain bearing in the required design, material and quantity

"*Show me the plastic part that gives you a problem. I'll provide you with a solution!*"

With this idea, Günter Blase founded igus® over 50 years ago, and it still holds true today: therefore, customer-specific series solutions are part of our daily work just like catalog parts.

igus® plastic plain bearings:

- Self-lubricating and maintenance-free
- Cost-effective
- Customized parts ship as early as 2-3 business days
- Predictable service life
- All iglide® materials possible
- New development of specific materials possible
- From 1 piece to several million pieces: Always the appropriate manufacturing process

Options and when to use them ...

Standard Production tool - injection molding

- All iglide® materials available
- For large production sizes - typically 5,000 and up
- Ability to start with 1 cavity to produce samples for approval. Tool expansion possible for production quantities
- Tooling can be expanded
- Exact parts as expected with large production runs
- Set-up includes maintenance of the tool over the lifetime of the project

Plain bearings | Customized parts

Print-to-mold, FastLine

FastLine

igus® in-house toolmaking department enables fast production of customized plain bearings

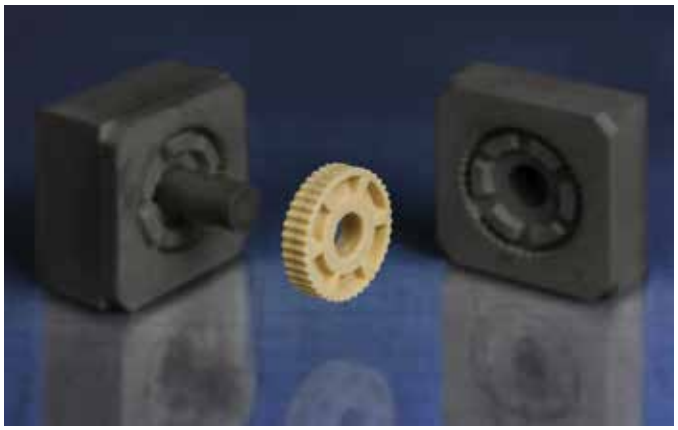
Using the iglide® Designer online tool you simply enter the dimensions of the bearing you require, the designed material and the quantity you need. The results will show you an overview of the manufacturing processes and their associated costs.

- Injection-molded self-lubricating plain bearings with special dimensions shipped in a maximum of 10 days
- Everything from one source: from the injection mold to the completed plain bearing
- Cost-effective
- Price transparency

Print-to-Mold

3D printed molds for injection molding with iglide® materials

- Printed molds from SLS, SLA, printed aluminum or printed steel
- Cost effective solution for smaller production runs or prototyping process
- Most iglide® materials available
- Tolerances of +/- 0.1mm to +/- 0.2mm possible
- Quantities up to 5,000+ upon review



Plain bearings | Customized parts

3D printed parts

SLS and FDM printed parts from our tribo-printing materials

- 9 filaments for various application areas: high temperature, chemical resistance, high wear resistance, food grade, railway and aviation industry
- 3 Selective Laser Sintering materials for high wear resistance and strength, gear configurations and ESD capability
- High speed prototype production with SLS, ready for shipment in 2-3 business days
- Dependent on the size and method (FDM or SLS) of the part meant for lower volumes
- No design limitations except minimum wall thickness of 0.7mm

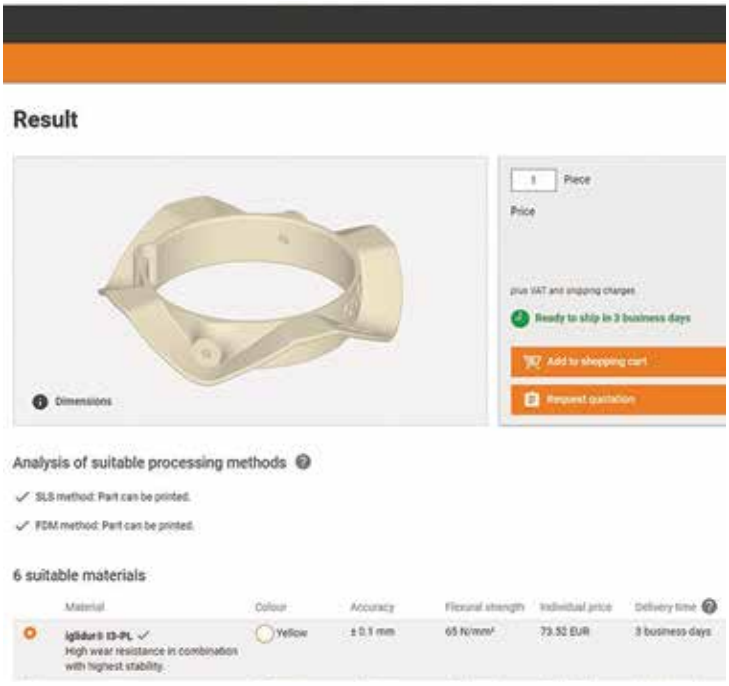
Easy to review and order with our online 3D print designer

Plain bearings | Customized parts

Online 3D printing service

For wear resistant parts made of high performance plastics

- Easy to use online tool for ordering 3D printed parts
- Upload your STEP files and review part suitability
- Select production method and review material options
- Receive instant price quote and lead time
- Submit an order or send a request for more information



Machining

Semi-finished iglide® materials for machined custom parts

- 32 iglide® materials available
- Bar stock, plate stock, tube stock and plate strips available
- Typically ideal for quantities less than 500 pcs
- Tight tolerances are possible
- Quick turnaround for smaller volumes
- 10mm - 45mm plate thickness in carious lengths and widths
- Plate strips in 160mm width sold by the meter saves on wasted material
- Tube stock with hollow core for machining large format bearings with less waste

Online inquiry form for any of the manufacturing methods mentioned

In 3 steps to your individual plain bearing

1. Submit an inquiry
Fill in the form with some basic information: quantity and requirement, such as food contact, dirt resistance, low wear etc. and upload the CAD files, for example.

After one of our specialists has contacted you for a consultation, you will receive a quotation.

2. We produce your required component
Upon order, igus® starts with the production process.

3. Your receive your product
Your required component is ready to ship and delivered quickly.

Submit an inquiry:
▶ www.igus.com/specialbearings-enquiry