igus®

iglide® Flange

iglide® Bearings
Flange - Technical Data

Product Range

- Available in 4 materials
  Standard material: G300
- Inner diameters:
  Metric sizes from 10 - 35 mm

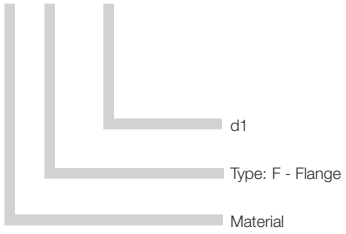
Other material Options

- iglide® G300: standard
- iglide® A180: FDA conform
- iglide® J: universal
- iglide® T500: chemicals, temperatures

Part Number Structure

Part Number Structure

G FL - 03



Advantages

- Maintenance-free
- Easy installation
- Very good wear resistance
- Very high temperature resistance
- Resistant to dirt, dust, and lint
- Corrosion-resistant
- Vibration-dampening
- Used for rotating and linear movements
- Very lightweight
- Can also be used in bore holes with larger tolerances

Visit www.igus.com to use our online expert system

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

Through the design, high loads are possible when there is a minimal precision requirement of the housing. iglide® maintenance-free flange bearings are made of iglide® G300, but can also be manufactured by special order from the different iglide® materials. In this way, all advantages of the iglide® high performance plastics can be utilized.

Material Data

General Properties	Unit	iglide® G300	iglide® A180	iglide® J	iglide® T500
Density	g/cm³	1.45	1.46	1.49	1.44
Color		dark gray	white	yellow	black
Max. moisture absorption at 73°F / 50% r.h.	% weight	0.7	0.2	0.3	0.1
Max. moisture absorption	% weight	4.0	1.3	1.3	0.5
Coefficient of friction, dynamic against steel	µ	0.08-0.15	0.05-0.23	0.06-0.18	0.09-0.27
p x v-value, max. (dry)	psi x fpm	12,000	8,800	9700	37,700
Mechanical Properties					
Modulus of elasticity	psi	1,131,000	333,585	348,000	1,174,500
Tensile strength at 68°F	psi	30,450	12,765	10,585	24,650
Compressive strength	psi	11,310	11,310	8,700	14,500
Max. static surface pressure (68°F)	psi	11,600	4,050	5,075	21,750
Shore D-hardness		81	76	74	85
Physical and Thermal Properties					
Max. long-term application temperature	°F	266	194	194	482
Max. short-term application temperature	°F	428	230	248	599
Min. application temperature	°F	-40	-58	-58	-148
Thermal conductivity	(W/m x K)	0.24	0.25	0.25	0.6
Coefficient of thermal expansion (at 73°F)	(K^{-1} x 10^{-5})	9	11	10	5
Electrical Properties					
Specific volume resistance	Ωcm	> 10^{13}	> 10^{12}	> 10^{13}	> 10^{5}
Surface resistance	Ω	> 10^{11}	> 10^{11}	> 10^{12}	> 10^{3}

Installation

Depending on the requirements, different mounting types can be considered. For low radial loads, it is sufficient to mount iglide® flange bearings on one surface simply with two bolts. For higher radial loads, it is recommended to support the iglide® flange bearing in a bore on the reinforced side facing the direction of the load. For this bore hole, large tolerances are permitted, since it only serves 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. The additional bolts ensure the fit of the bearing in the housing.
For the installation of the iglide® maintenance-free flange bearing, no special materials or devices are necessary.

iglide® Flange Bearing

The installation of the iglide® flange bearing, simple and secure

Temperatures

Application temperatures affect the properties of plain bearings greatly. In the case of the standard iglide® G300 for the flange bearings, the short-term maximum temperature is 428°F, allowing for the use of iglide® G300 in heat treat applications when the bearing is not subjected to additional loading. In the extreme the iglide® T500 can see short-term temperatures of 599°F.

With increasing temperatures, the compressive strength of iglide® bearings decreases. However, at the maximum long-term temperature the compressive strength for each bearing material is still very high. See each material section located in the front of the catalog for more detailed temperature-wear and temperature-strength comparisons.

➤ Application Temperatures, 1.7

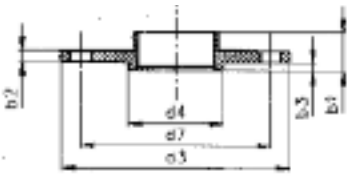
Temperature range for other materials

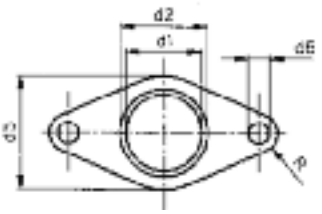
	Minimum	Max. Short-term	Max. Long-term
G300	-40°F	+428°F	+266°F
A180	-40°F	+230°F	+194°F
JFL	-58°F	+248°F	+194°F
TFL	-148°F	+599°F	+482°F

Telephone 1-800-521-2747
Fax 1-401-438-7270

Internet: http://www.igus.com
email: sales@igus.com
QuickSpec: http://www.igus.com/iglide-quickspec

iglide® Bearings
Flange. MM





Dimensions (mm)

iglide® G300	d1[1]	d2[2]	d3	d4	d5	d6	d7 (± 0.2)	b1	b2	b3	R
GFL-10	10	12	30	14	15	4.5	22	6	2	1	4
GFL-12	12	14	36	16	18	4.5	26	6	2	1	4.5
GFL-14	14	16	42	18	21	5.5	30	6	2	1	5
GFL-16	16	18	48	20	24	5.5	34	6	2	1	5.5
GFL-18	18	20	54	22	27	6.5	39	6	2	1	7
GFL-20	20	23	60	26	30	6.5	44	10	3	2	7
GFL-25	25	28	75	30	35	6.5	55	10	3	2	8.5
GFL-30	30	34	90	36	40	8.5	66	10	3	2	10
GFL-35	35	39	95	41	55	8.5	77	10	3	2	12

iglide® A180	d1[1]	d2[2]	d3	d4	d5	d6	d7 (± 0.2)	b1	b2	b3	R
A180FL-10	10	12	30	14	15	4.5	22	6	2	1	4
A180FL-12	12	14	36	16	18	4.5	26	6	2	1	4.5
A180FL-16	16	18	48	20	24	5.5	34	6	2	1	5.5
A180FL-20	20	23	60	26	30	6.5	44	10	3	2	7
A180FL-25	25	28	75	30	35	6.5	55	10	3	2	8.5
A180FL-30	30	34	90	36	40	8.5	66	10	3	2	10
A180FL-35	35	39	95	41	55	8.5	77	10	3	2	12

iglide® J	d1[1]	d2[2]	d3	d4	d5	d6	d7 (± 0.2)	b1	b2	b3	R
JFL-10	10	12	30	14	15	4.5	22	6	2	1	4
JFL-12	12	14	36	16	18	4.5	26	6	2	1	4.5
JFL-16	16	18	48	20	24	5.5	34	6	2	1	5.5
JFL-20	20	23	60	26	30	6.5	44	10	3	2	7
JFL-25	25	28	75	30	35	6.5	55	10	3	2	8.5
JFL-30	30	34	90	36	40	8.5	66	10	3	2	10
JFL-35	35	39	95	41	55	8.5	77	10	3	2	12

iglide® T500	d1[1]	d2[2]	d3	d4	d5	d6	d7 (± 0.2)	b1	b2	b3	R
TFL-10	10	12	30	14	15	4.5	22	6	2	1	4
TFL-12	12	14	36	16	18	4.5	26	6	2	1	4.5
TFL-16	16	18	48	20	24	5.5	34	6	2	1	5.5
TFL-20	20	23	60	26	30	6.5	44	10	3	2	7
TFL-25	25	28	75	30	35	6.5	55	10	3	2	8.5
TFL-30	30	34	90	36	40	8.5	66	10	3	2	10
TFL-35	35	39	95	41	55	8.5	77	10	3	2	12

1) Tolerance based on E10 (pin gauge measurement)
2) Press-fit in housing bore with H7 tolerance