

General Purpose Clutches

GFK

Overrunning, Indexing, Backstopping Bearing Envelope (59 Series) Design, Sprag Clutches

Integrated into 59 Series ball bearing



Model GFK is a sprag type clutch integrated into a 59 Series ball bearing.

This design provides high torque capacity for minimal outside diameter.

It is a bearing supported type, shipped grease lubricated.

Oil bath lubrication is also possible if the original grease is first removed by flushing the clutch with a suitable solvent.

Whatever the lubrication type, seals should be provided, as illustrated below.

Torque transmission must be ensured by a press fit assembly into a rigid outer housing with R6 tolerance, and onto a shaft with p5 tolerance.

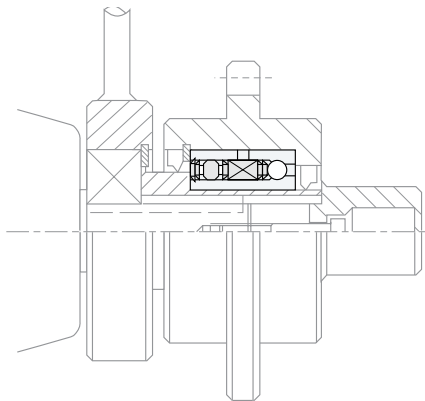
The total press fit on the GFK should not exceed the internal clearance for the model as listed in the Internal Clearance Column.

Operating temperature ranges from -4°F to +212°F (-20°C to +100°C). Peaks up to 248°F (+120°C) are acceptable for short periods.

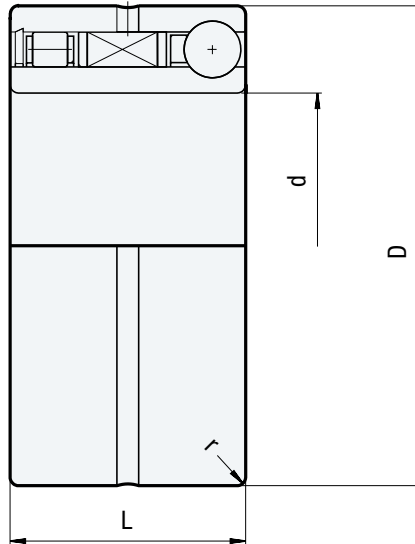
Specifications

Size	Bearing Series	Torque Capacity lb.ft. (Nm)	Overrunning Speed Max. RPM		Lubrication	Internal Clearance (mm)	Shipping Weight lb. (kg)
			Inner Race	Outer Race			
20	5904	38 (51)	5,500	4,000	Grease	(.055 to .085)	0.20 (0.09)
25	5905	48 (65)	5,300	3,800	Grease	(.06 to .09)	0.24 (0.11)
30	5906	70 (95)	5,000	3,500	Grease	(.06 to .09)	0.29 (0.13)
35	5907	151 (204)	4,600	3,200	Grease	(.07 to .105)	0.44 (0.20)
40	5908	232 (315)	4,200	3,000	Grease	(.07 to .105)	0.66 (0.30)
45	5909	273 (370)	3,800	2,500	Grease	(.085 to .12)	0.75 (0.34)

Typical Mounting Arrangement



The Model GFK clutch must be mounted with a press fit on both the inner and outer race. The shaft diameter tolerance should be p5 and the bore diameter tolerance for the outer race should be an R6. Seals must be provided to retain the lubricant in this clutch.



Dimensions inches (mm)

Size	Bearing Loads				D in. (mm)	Balls L in. (mm)	r in. (mm)
	Rollers Dynamic lb. (N)	Balls Dynamic lb. (N)	Rollers Static lb. (N)	Static lb. (N)			
20	1260 (5600)	990 (4400)	652.5 (2900)	618.75 (2750)	1.46 (37)	0.91 (23)	0.02 (0.5)
25	1417.5 (6300)	1192.5 (5300)	776.25 (3450)	753.75 (3350)	1.65 (42)	0.91 (23)	0.02 (0.5)
30	1732.5 (7700)	1237.5 (5500)	1035 (4600)	821.25 (3650)	1.85 (47)	0.91 (23)	0.02 (0.5)
35	1845 (8200)	1912.5 (8500)	1170 (5200)	1282.5 (5700)	2.17 (55)	1.06 (27)	0.04 (1)
40	1946.25 (8650)	1867.5 (8300)	1293.75 (5750)	1282.5 (5700)	2.44 (62)	1.18 (30)	0.04 (1)
45	2070 (9200)	2171.25 (9650)	1428.75 (6350)	1620 (7200)	2.68 (68)	1.18 (30)	0.04 (1)

Bore sizes and keyseats inches (mm)

Size	d Bore Size	Keyseat ⁽¹⁾
20	0.79 (20)	None
25	0.98 (25)	None
30	1.18 (30)	None
35	1.38 (35)	None
40	1.57 (40)	None
45	1.77 (45)	None

⁽¹⁾ Press fit is required; see Typical Mounting Arrangement, page 32.