



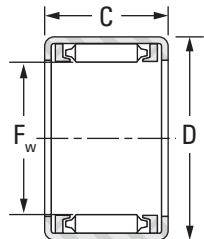
DRAWN CUP ROLLER CLUTCHES

METRIC SERIES

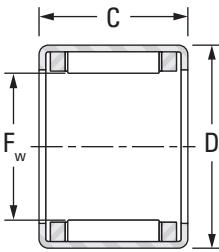
- For proper application, separate bearings are suggested (adjacent to clutch) to carry radial loads and assure concentricity between shaft and housing.
- The clutch engages when housing is rotated relative to the shaft in direction of arrow marking (← LOCK), as labeled on cup.
- Proper inspection requires use of ring gage and bore plug gage(s). See the inspection section on page B-3-9.
- Full details on installation are given on page B-3-8.
- Shaft raceway and housing bore diameters that are necessary for proper mounting and operation are listed on the opposite page.
- Types FC, FCS, FC-K and FCL-K clutches have stainless steel springs inserted in molded cage to position rollers for lockup.



The mounted clutch engages when the housing is rotated relative to the shaft in the direction of the arrow marking (← LOCK) stamped on the cup.



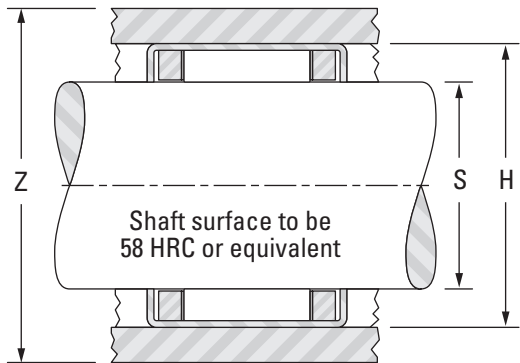
FC



FCS, FCL-K and FC-K

Shaft Diameter	F _w	D	C	Clutch Designation	Torque Rating	Minimum O.D. of Steel Housing for Rated Torque	Overrun Limiting Speed Rating for Rotating Shaft ⁽¹⁾	Suitable Drawn Cup Bearing ⁽²⁾
						-0.30 mm -0.012 in		
mm in	mm in	mm in	mm in		N-m lbf-in	mm in	min ⁻¹	
4 0.1575	4 0.1575	8 0.3150	6 0.236	FC-4-K	0.349 3.09	11 0.433	26000	HK0408
6 0.2362	6 0.2362	10 0.3937	12 0.472	FCS-6	2.15 19.0	14 0.551	22000	HK0608
	6 0.2362	10 0.3937	12 0.472	FC-6	2.63 23.3	14 0.551	22000	HK0608
8 0.3150	8 0.3150	12 0.4724	12 0.472	FCL-8-K	3.39 30.0	17 0.669	21000	HK0808
	8 0.3150	14 0.5512	12 0.472	FC-8	4.42 39.1	20 0.787	21000	—
10 0.3937	10 0.3937	14 0.5512	12 0.472	FCL-10-K	4.60 40.7	20 0.787	19000	HK1010
	10 0.3937	16 0.6299	12 0.472	FC-10	5.82 51.5	25 0.984	19000	—
12 0.4724	12 0.4724	18 0.7087	16 0.630	FC-12	14.0 124	27 1.063	19000	HK1212
16 0.6299	16 0.6299	22 0.8661	16 0.630	FC-16	21.7 192	31 1.22	14000	HK1612
20 0.7874	20 0.7874	26 1.0236	16 0.630	FC-20	32.6 289	38 1.496	11000	HK2012
25 0.9843	25 0.9843	32 1.2598	20 0.787	FC-25	71.0 628	46 1.811	8700	HK2512
30 1.1811	30 1.1811	37 1.4567	20 0.787	FC-30	99.1 877	51 2.008	7300	HK3012
35 1.3780	35 1.3780	42 1.6535	20 0.787	FCS-35	107.0 947	56 2.205	6100	HK3512

⁽¹⁾ Indicates the number of relative rotations allowed when the shaft idles.
⁽²⁾ See pages B-2-14 to B-2-25 for suitable bearing types and sizes.



Gaging			Mounting				Approx. Wt.
			Shaft Raceway Diameter		Housing Bore		
Ring Gage	Clutch Locking Plug	Clutch Overrun Plug	S		H		
			Max.	Min.	Max.	Min.	
mm in	mm in	mm in	mm in	mm in	mm in	mm in	kg lbs
7.984 0.3143	3.980 0.1567	4.004 0.1576	4.000 0.1575	3.995 0.1573	7.993 0.3147	7.984 0.3143	0.001 0.002
9.984 0.3931	5.980 0.2354	6.004 0.2364	6.000 0.2362	5.995 0.2360	9.993 0.3934	9.984 0.3931	0.003 0.007
9.984 0.3931	5.980 0.2354	6.004 0.2364	6.000 0.2362	5.995 0.2360	9.993 0.3934	9.984 0.3931	0.004 0.009
11.980 0.4717	7.976 0.3140	8.005 0.3152	8.000 0.3150	7.994 0.3147	11.991 0.4721	11.980 0.4717	0.003 0.007
13.980 0.5504	7.976 0.3140	8.005 0.3152	8.000 0.3150	7.994 0.3147	13.991 0.5508	13.980 0.5504	0.007 0.015
13.980 0.5504	9.976 0.3928	10.005 0.3939	10.000 0.3937	9.994 0.3935	13.991 0.5508	13.980 0.5504	0.004 0.009
15.980 0.6291	9.976 0.3928	10.005 0.3939	10.000 0.3937	9.994 0.3935	15.991 0.6296	15.980 0.6291	0.009 0.020
17.980 0.7079	11.974 0.4714	12.006 0.4727	12.000 0.4724	11.992 0.4721	17.991 0.7083	17.980 0.7079	0.012 0.026
21.976 0.8652	15.972 0.6288	16.006 0.6302	16.000 0.6299	15.992 0.6296	21.989 0.8657	21.976 0.8652	0.018 0.040
25.976 1.0227	19.970 0.7862	20.007 0.7877	20.000 0.7874	19.991 0.7870	25.989 1.0232	25.976 1.0227	0.021 0.046
31.972 1.2587	24.967 0.9830	25.007 0.9845	25.000 0.9843	24.991 0.9839	31.988 1.2594	31.972 1.2587	0.034 0.075
36.972 1.4556	29.967 1.1798	30.007 1.1814	30.000 1.1811	29.991 1.1807	36.988 1.4562	36.972 1.4556	0.042 0.093
41.972 1.6524	34.964 1.3765	35.009 1.3783	35.000 1.3780	34.989 1.3775	41.988 1.6531	41.972 1.6524	0.048 0.106



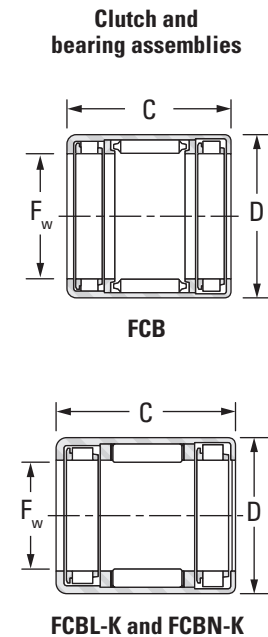
DRAWN CUP ROLLER CLUTCHES
AND BEARING ASSEMBLIES

METRIC SERIES

- The clutch and bearing assembly engages when the housing is rotated relative to shaft in direction of arrow marking (← LOCK), as labeled on cup.
- Shaft raceway and housing bore diameters that are necessary for proper mounting and operation are listed on the opposite page.
- Proper inspection requires use of ring gage and bore plug gage(s). See the inspection section on page B-3-9.
- Full details on installation are given on page B-3-8.
- Types FCB, FCBL-K and FCBN-K clutch and bearing assemblies have stainless steel springs inserted in molded cage to position rollers for lockup.

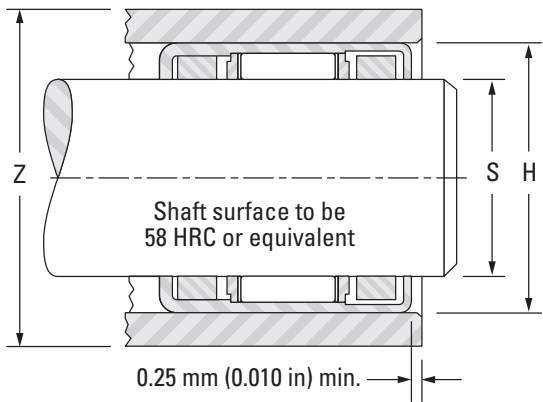


The mounted clutch and bearing assembly engages when the housing is rotated relative to the shaft in the direction of the arrow marking (← LOCK) stamped on the cup.



Shaft Diameter	F _w	D	C	Clutch and Bearing Assembly Designation	Torque Rating	Minimum O.D. of Steel Housing for Rated Torque	Load Ratings ⁽¹⁾		Fatigue Load Limit C _u
							Dynamic	Static	
			-0.30 mm -0.012 in				Z	C	
mm in	mm in	mm in	mm in		N-m lbf-in		kN lbf	kN lbf	kN
4 0.1575	4 0.1575	10 0.3937	9 0.354	FCBN-4-K	0.19 1.68	16 0.630	1.86 418	0.99 223	0.160
6 0.2362	6 0.2362	12 0.4724	10 0.394	FCBN-6-K	0.56 4.96	18 0.709	2.48 558	1.48 333	0.240
8 0.3150	8 0.3150	12 0.4724	22 0.866	FCBL-8-K	3.39 30.0	17 0.669	3.62 814	3.28 737	0.520
	8 0.3150	14 0.5512	20 0.787	FCB-8	4.42 39.1	20 0.787	4.22 949	3.04 683	0.500
10 0.3937	10 0.3937	16 0.6299	20 0.787	FCB-10	5.82 51.5	25 0.984	4.84 1090	3.80 854	0.630
12 0.4724	12 0.4724	18 0.7087	26 1.024	FCB-12	14.0 124	27 1.063	6.30 1420	5.84 1310	0.970
16 0.6299	16 0.6299	22 0.8661	26 1.024	FCB-16	21.7 192	31 1.220	6.64 1490	7.12 1600	1.20
20 0.7874	20 0.7874	26 1.0236	26 1.024	FCB-20	32.6 289	38 1.496	8.16 1830	9.46 2130	1.55
25 0.9843	25 0.9843	32 1.2598	30 1.181	FCB-25	71.0 628	46 1.811	11.3 2540	13.1 2940	2.20
30 1.1811	30 1.1811	37 1.4567	30 1.181	FCB-30	99.1 877	51 2.008	11.5 2590	14.9 3350	2.50

⁽¹⁾ Load ratings are based on a minimum raceway hardness of 58 HRC or equivalent.
⁽²⁾ Indicates the number of relative rotations allowed when the shaft idles.



Overrun Limiting Speed Rating for Rotating Shaft ⁽²⁾	Gaging				Mounting				Approx. Wt.
	Ring Gage	Clutch Locking Plug	Clutch Overrun and Bearing Go Plug	Bearing No Go Plug	S		H		
					Max.	Min.	Max.	Min.	
min ⁻¹	mm in	mm in	mm in	mm in	mm in	mm in	mm in	mm in	kg lbs
26000	9.984 0.3931	3.980 0.1567	4.004 0.1576	4.030 0.1587	4.000 0.1575	3.995 0.1573	9.993 0.3934	9.984 0.3931	0.003 0.007
22000	11.980 0.4717	5.980 0.2354	6.004 0.2364	6.030 0.2374	6.000 0.2362	5.995 0.2360	11.991 0.4721	11.980 0.4717	0.004 0.009
21000	11.980 0.4717	7.976 0.3140	8.005 0.3152	8.033 0.3163	8.000 0.3150	7.994 0.3147	11.991 0.4721	11.980 0.4717	0.005 0.011
21000	13.980 0.5504	7.976 0.3140	8.005 0.3152	8.033 0.3163	8.000 0.3150	7.994 0.3147	13.991 0.5508	13.980 0.5504	0.011 0.024
19000	15.980 0.6291	9.976 0.3928	10.005 0.3939	10.033 0.3950	10.000 0.3937	9.994 0.3935	15.991 0.6296	15.980 0.6291	0.013 0.029
19000	17.980 0.7079	11.974 0.4714	12.006 0.4727	12.036 0.4739	12.000 0.4724	11.992 0.4721	17.991 0.7083	17.980 0.7079	0.018 0.040
14000	21.976 0.8652	15.972 0.6288	16.006 0.6302	16.036 0.6313	16.000 0.6299	15.992 0.6296	21.989 0.8657	21.976 0.8652	0.024 0.053
11000	25.976 1.0227	19.970 0.7862	20.007 0.7877	20.043 0.7891	20.000 0.7874	19.991 0.7870	25.989 1.0232	25.976 1.0227	0.028 0.062
8700	31.972 1.2587	24.967 0.9830	25.007 0.9845	25.043 0.9859	25.000 0.9843	24.991 0.9839	31.988 1.2594	31.972 1.2587	0.048 0.106
7300	36.972 1.4556	29.967 1.1798	30.007 1.1814	30.043 1.1828	30.000 1.1811	29.991 1.1807	36.988 1.4562	36.972 1.4556	0.054 0.119