



NEEDLE ROLLER BEARINGS

DRAWN CUP ROLLER CLUTCHES AND BEARING ASSEMBLIES METRIC SERIES

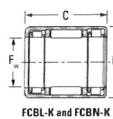
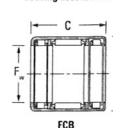
- The clutch and bearing assembly engages when the housing is rotated relative to shaft in direction of arrow marking (← LOCK), as labeled on cup.
- Shaft raceway and housing bore diameters that are necessary for proper mounting and operation are listed on the opposite page.
- Proper inspection requires 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.

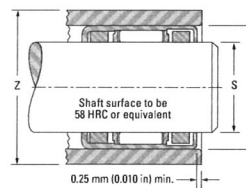
Clutch and bearing assemblies



Shaft Diameter mm in.	F _W		D		C	Clutch and Bearing Assembly Designation	Torque Rating N-m lbf-in.	Minimum O.D. of Shaft Housing for Rated Torque		Load Ratings ⁽¹⁾		Fatigue Load Limit C ₁₀
	mm	in.	mm	in.	mm			Z	C	C ₁₀	C ₉₀	
4	0.1575	0.1575	10	0.394	9	FCBN-4-K	0.19	16	1.86	0.99	0.180	
5	0.2362	0.2362	12	0.4724	10	FCBN-5-K	0.16	18	2.48	1.48	0.240	
8	0.3150	0.3150	12	0.4724	22	FCBL-8-K	3.39	17	814	328	0.530	
8	0.3150	0.3150	14	0.5512	29	FCBL-8	4.42	29	422	3.94	0.500	
10	0.3937	0.3937	16	0.6299	20	FCBL-10	5.82	25	4.84	3.80	0.630	
12	0.4724	0.4724	18	0.7087	26	FCBL-12	14.0	27	6.30	5.84	0.930	
16	0.6299	0.6299	22	0.8661	26	FCBL-16	21.7	31	8.64	7.12	1.20	
20	0.7874	0.7874	26	1.024	30	FCBL-20	32.6	38	8.16	6.46	1.55	
25	0.9843	0.9843	32	1.258	30	FCBL-25	71.0	46	11.3	13.1	2.20	
30	1.1811	1.1811	37	1.4567	30	FCBL-30	96.1	51	11.5	14.9	2.60	

⁽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 is locked.

Drawn Cup Roller Clutches



Shaft Diameter mm in.	Gaging				Mounting				Approx. Wt. kg lb.
	Ring Gage	Clutch Locking Plug	Clutch Overmold and Bearing Go Plug	Bearing No Go Plug	S	H	H		
25000	9.984 0.3931	3.980 0.1567	4.804 0.1892	4.800 0.1890	3.995 0.1573	9.983 0.3930	9.984 0.3931	0.003 0.007	
22000	11.980 0.4717	5.980 0.2354	6.804 0.2684	6.800 0.2682	5.995 0.2350	11.981 0.4717	11.980 0.4717	0.004 0.009	
21000	11.980 0.4717	7.976 0.3140	8.800 0.3462	8.803 0.3463	8.000 0.3150	7.994 0.3147	11.981 0.4717	0.005 0.011	
21000	13.980 0.5504	7.976 0.3140	8.800 0.3462	8.803 0.3463	8.000 0.3150	7.994 0.3147	13.981 0.5508	0.011 0.024	
19000	15.980 0.6291	9.976 0.3929	10.800 0.4252	10.803 0.4253	10.000 0.3937	9.994 0.3929	15.981 0.6291	0.013 0.029	
18000	17.980 0.7079	11.974 0.4714	12.800 0.5037	12.806 0.5038	12.000 0.4724	11.982 0.4721	17.981 0.7079	0.016 0.040	
14000	21.976 0.8652	15.972 0.6290	16.800 0.6613	16.806 0.6615	16.000 0.6299	15.982 0.6291	21.976 0.8652	0.024 0.053	
11000	25.976 1.0227	19.970 0.7862	20.800 0.8187	20.803 0.8188	20.000 0.7874	19.981 0.7872	25.976 1.0227	0.030 0.067	
8900	31.972 1.2587	24.967 0.9830	25.800 1.0155	25.803 1.0156	25.000 0.9843	24.981 0.9839	31.972 1.2587	0.048 0.106	
7200	36.972 1.4556	29.967 1.1798	30.800 1.2123	30.803 1.2124	30.000 1.1811	29.981 1.1807	36.972 1.4556	0.064 0.141	