

Table 2-14. CYLINDRICAL ROLLER BEARING FIT TOLERANCES

Basic Number	Shaft Fits										Housing Fits (all H6)									
	Bearing Bore		Shaft Diameter		Shaft Diameter		Bearing OD		200 Series Housing Bore		Bearing OD		300 Series Housing Bore		Bearing OD		300 Series Housing Bore			
	Tolerance Class	mm	Maximum (inches)	Minimum (inches)	Maximum (mm)	Minimum (mm)	Maximum (mm)	Minimum (mm)	mm	Minimum (mm)	Maximum (mm)	mm	Minimum (inches)	Maximum (inches)	Minimum (mm)	Maximum (mm)	mm	Minimum (inches)	Maximum (mm)	
00	m5	10	0.3942	0.9939	10.012	10.006	30	1.1811	1.1816	30.000	30.016	35	1.3780	1.3786	35.000	35.016				
01	m5	12	0.4730	0.4727	12.015	12.007	32	1.2598	1.2604	32.000	32.016	37	1.4567	1.4573	37.000	37.016				
02	m5	15	0.5911	0.5908	15.015	15.007	35	1.3780	1.3786	35.000	35.016	42	1.6535	1.6541	42.000	42.016				
03	m5	17	0.6699	0.6696	17.015	17.007	40	1.5748	1.5754	40.000	40.016	47	1.8504	1.8510	47.000	47.016				
04	m5	20	0.7881	0.7877	20.017	20.008	47	1.8504	1.8510	47.000	47.016	52	2.0472	2.0479	52.000	52.019				
05	m5	25	0.9850	0.9846	25.017	25.008	52	2.0472	2.0479	52.000	52.019	62	2.4409	2.4416	62.000	62.019				
06	m5	30	1.1818	1.1814	30.017	30.008	62	2.4409	2.4416	62.000	62.019	72	2.8346	2.8353	72.000	72.019				
07	m5	35	1.3787	1.3783	35.020	35.009	72	2.8346	2.8353	72.000	72.019	80	3.1496	3.1503	80.000	80.019				
08	m5	40	1.5756	1.5752	40.020	40.009	80	3.1496	3.1503	80.000	80.019	90	3.5433	3.5442	90.000	90.022				
09	m6	45	1.7726	1.7720	45.025	45.009	85	3.3465	3.3474	85.000	85.022	100	3.9370	3.9379	100.000	100.022				
10	m6	50	1.9695	1.9689	50.025	50.009	90	3.5433	3.5442	90.000	90.022	110	4.3307	4.3316	110.000	110.022				
11	m6	55	2.1666	2.1658	55.030	55.011	100	3.9370	3.9379	100.000	100.022	120	4.7244	4.7253	120.000	120.022				
12	m6	60	2.3634	2.3626	60.030	60.011	110	4.3307	4.3316	110.000	110.022	130	5.1181	5.1191	130.000	130.025				
13	m6	65	2.5603	2.5595	65.030	65.011	120	4.7244	4.7253	120.000	120.022	140	5.5118	5.5128	140.000	140.025				
14	n6	70	2.7574	2.7567	70.039	70.020	125	4.9213	4.9223	125.000	125.025	150	5.9055	5.9065	150.000	150.025				
15	n6	75	2.9543	2.9536	75.039	75.020	130	5.1181	5.1191	130.000	130.025	160	6.2992	6.3002	160.000	160.025				
16	n6	80	3.1511	3.1504	80.039	80.020	140	5.5118	5.5128	140.000	140.025	170	6.6929	6.6939	170.000	170.025				
17	n6	85	3.3483	3.3474	85.045	85.023	150	5.9055	5.9065	150.000	150.025	180	7.0866	7.0876	180.000	180.025				
18	n6	90	3.5451	3.5442	90.045	90.023	160	6.2992	6.3002	160.000	160.025	190	7.4803	7.4814	190.000	190.029				
19	n6	95	3.7420	3.7411	95.045	95.023	170	6.6929	6.6939	170.000	170.025	200	7.8740	7.8751	200.000	200.029				
20	n6	100	3.9388	3.9379	100.045	100.023	180	7.0866	7.0876	180.000	180.025	215	8.4646	8.4657	215.000	215.029				
21	n6	105	4.1357	4.1348	105.045	105.023	190	7.4803	7.4814	190.000	190.029	225	8.8583	8.8594	225.000	225.029				
22	n6	110	4.3325	4.3316	110.045	110.023	200	7.8740	7.8751	200.000	200.029	240	9.4488	9.4499	240.000	240.029				
24	n6	120	4.7262	4.7253	120.045	120.023	215	8.4646	8.4657	215.000	215.029	260	10.2362	10.2375	260.000	260.032				
26	n6	130	5.1202	5.1192	130.052	130.027	230	9.0551	9.0562	230.000	230.029	280	11.0236	11.0249	280.000	280.032				
28	n6	140	5.5139	5.5129	140.052	140.027	250	9.8425	9.8436	250.000	250.029	300	11.8110	11.8123	300.000	300.032				
30	p6	150	5.9082	5.9072	150.068	150.043	270	10.6299	10.6312	270.000	270.032	320	12.5998	12.5998	320.000	320.036				
32	p6	160	6.3019	6.3009	160.068	160.043	290	11.4173	11.4186	290.000	290.032	340	13.3858	13.3872	340.000	340.036				
34	p6	170	6.6956	6.6946	170.068	170.043	310	12.2047	12.2060	310.000	310.032	360	14.1732	14.1746	360.000	360.036				
36	p6	180	7.0893	7.0883	180.068	180.043	320	12.5984	12.5998	320.000	320.036	380	14.9606	14.9620	380.000	380.036				
38	p6	190	7.4834	7.4823	190.079	190.050	340	13.3858	13.3872	340.000	340.036	400	15.7480	15.7494	400.000	400.036				
40	p6	200	7.8771	7.8760	200.079	200.050	360	14.1732	14.1746	360.000	360.036	420	16.5354	16.5370	420.000	420.040				

Shaft rotates—outer ring stationary. Adapted from ABMA Std. 7, Tables 1, 2, 3 and 4. The above shaft (interference) fits and housing (clearance) fits are practical for most standard electric motor applications. Where wider tolerances (housing fits) are permissible, use tolerance class H7 instead of H6. Some applications such as hollow shaft motors, spindle motors and vibrator motors require a different tolerance class than shown in the table.