

Table 2-13. RADIAL BALL BEARING FIT TOLERANCES*

Basic Number	Shaft Fits				Housing Fits (all H6)											
	Bearing Bore		Shaft Diameter		200 Series Housing Bore		300 Series Housing Bore									
	Tolerance Class*	mm	(inches)	(mm)	(inches)	Minimum	Maximum	(inches)	Minimum	Maximum						
00	j5	10	0.3939	0.3936	10.004	9.998	30	1.1811	1.1816	30.000	30.016	35	1.3780	1.3786	35.000	35.016
01	j5	12	0.4726	0.4723	12.005	11.997	32	1.2598	1.2604	32.000	32.016	37	1.4567	1.4573	37.000	37.016
02	j5	15	0.5908	0.5905	15.005	14.997	35	1.3780	1.3786	35.000	35.016	42	1.6535	1.6541	42.000	42.016
03	j5	17	0.6695	0.6692	17.005	16.997	40	1.5748	1.5754	40.000	40.016	47	1.8504	1.8510	47.000	47.016
04	k5	20	0.7878	0.7875	20.011	20.002	47	1.8504	1.8510	47.000	47.016	52	2.0472	2.0479	52.000	52.019
05	k5	25	0.9847	0.9844	25.011	25.002	52	2.0472	2.0479	52.000	52.019	62	2.4409	2.4416	62.000	62.019
06	k5	30	1.1815	1.1812	30.011	30.002	62	2.4409	2.4416	62.000	62.019	72	2.8346	2.8353	72.000	72.019
07	k5	35	1.3785	1.3781	35.013	35.002	72	2.8346	2.8353	72.000	72.019	80	3.1496	3.1503	80.000	80.019
08	k5	40	1.5753	1.5749	40.013	40.002	80	3.1496	3.1503	80.000	80.019	90	3.5433	3.5442	90.000	90.022
09	k5	45	1.7722	1.7718	45.013	45.002	85	3.3465	3.3474	85.000	85.022	100	3.9370	3.9379	100.000	100.022
10	k5	50	1.9690	1.9686	50.013	50.002	90	3.5433	3.5442	90.000	90.022	110	4.3307	4.3316	110.000	110.022
11	k5	55	2.1660	2.1655	55.015	55.002	100	3.9370	3.9379	100.000	100.022	120	4.7244	4.7253	120.000	120.022
12	k5	60	2.3628	2.3623	60.015	60.002	110	4.3307	4.3316	110.000	110.022	130	5.1181	5.1191	130.000	130.025
13	k5	65	2.5597	2.5592	65.015	65.002	120	4.7244	4.7253	120.000	120.022	140	5.5118	5.5128	140.000	140.025
14	k5	70	2.7565	2.7560	70.015	70.002	125	4.9213	4.9223	125.000	125.025	150	5.9055	5.9065	150.000	150.025
15	k5	75	2.9534	2.9529	75.015	75.002	130	5.1181	5.1191	130.000	130.025	160	6.2992	6.3002	160.000	160.025
16	k5	80	3.1502	3.1497	80.015	80.002	140	5.5118	5.5128	140.000	140.025	170	6.6929	6.6939	170.000	170.025
17	k5	85	3.3472	3.3466	85.018	85.003	150	5.9055	5.9065	150.000	150.025	180	7.0866	7.0876	180.000	180.025
18	k5	90	3.5440	3.5434	90.018	90.003	160	6.2992	6.3002	160.000	160.025	190	7.4803	7.4814	190.000	190.029
19	k5	95	3.7409	3.7403	95.018	95.003	170	6.6929	6.6939	170.000	170.025	200	7.8740	7.8751	200.000	200.029
20	k5	100	3.9377	3.9371	100.018	100.003	180	7.0866	7.0876	180.000	180.025	215	8.4646	8.4657	215.000	215.029
21	m5	105	4.1350	4.1344	105.028	105.013	190	7.4803	7.4814	190.000	190.029	225	8.8583	8.8594	225.000	225.029
22	m5	110	4.3318	4.3312	110.028	110.013	200	7.8740	7.8751	200.000	200.029	240	9.4498	9.4499	240.000	240.029
24	m5	120	4.7255	4.7249	120.028	120.013	215	8.4646	8.4657	215.000	215.029	260	10.2362	10.2375	260.000	260.032
26	m5	130	5.1194	5.1187	130.033	130.015	230	9.0551	9.0562	230.000	230.029	280	11.0236	11.0249	280.000	280.032
28	m5	140	5.5131	5.5124	140.033	140.015	250	9.8425	9.8436	250.000	250.029	300	11.8110	11.8123	300.000	300.032
30	m5	150	5.9068	5.9061	150.033	150.015	270	10.6299	10.6312	270.000	270.032	320	12.5994	12.5998	320.000	320.036
32	m5	160	6.3005	6.2998	160.033	160.015	290	11.4173	11.4186	290.000	290.032	340	13.3858	13.3872	340.000	340.036
34	m6	170	6.6945	6.6935	170.040	170.015	310	12.2047	12.2060	310.000	310.032	360	14.1732	14.1746	360.000	360.036
36	m6	180	7.0882	7.0872	180.040	180.015	320	12.5984	12.5998	320.000	320.036	380	14.9606	14.9620	380.000	380.036
38	m6	190	7.4821	7.4810	190.046	190.017	340	13.3858	13.3872	340.000	340.036	400	15.7480	15.7494	400.000	400.036
40	m6	200	7.8758	7.8747	200.046	200.017	360	14.1732	14.1746	360.000	360.036	420	16.5354	16.5370	420.000	420.040

*For hollow shafts, use j6 instead of j5, m5 instead of m6, and p6 instead of m6.

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.