9.5 BEARING FIT TOLERANCES

RADIAL BALL BEARING FIT TOLERANCES*

	SHAFT FITS (j5 and k5)				HOUSING FITS (H6)					
		BEARING	SHAFT DIAMETER (inches)		BEARING	200 SERIES		BEARING	300 SERIES	
BASIC NUMBER	TOLERANCE CLASS	BORE mm	MAXIMUM	MINIMUM	OD mm	HOUSING BORE (inches) MINIMUM	MAXIMUM	OD mm	HOUSING BORE (inches) MINIMUM	MAX IMUM
00	j5	10	0.3939	0.3936	30	1.1811	1.1816	35	1.3780	1.3786
01	j5	12	0.4726	0.4723	32	1.2598	1.2604	37	1.4567	1.4573
02	j5	15	0.5908	0.5905	35	1.3780	1.3786	42	1.6535	1.6541
03	j5	17	0.6696	0.6692	40	1.5748	1.5754	47	1.8504	1.8510
04	k5	20	0.7878	0.7875	47	1.8504	1.8510	52	2.0472	2.0479
05	k5	25	0.9847	0.9844	52	2.0472	2.0479	62	2.4409	2.4416
06	k5	30	1.1815	1.1812	62	2.4409	2.4416	72	2.8346	2.8353
07	k5	35	1.3785	1.3781	72	2.8346	2.8353	80	3.1496	3.1503
08	k5	40	1.5753	1.5749	80	3.1496	3.1503	90	3.5433	3.5442
09	k5	45	1.7722	1.7718	85	3.3465	3.3474	100	3.9370	3.9379
10	k5	50	1.9690	1.9686	90	3.5433	3.5442	110	4.3307	4.3316
11	k5	55	2.1660	2.1655	100	3.9370	3.9379	120	4.7244	4.7253
12	k5	60	2.3628	2.3623	110	4.3307	4.3316	130	5.1181	5.1191
13	k5	65	2.5597	2.5592	120	4.7244	4.7253	140	5.5118	5.5128
14	k5	70	2.7565	2.7560	125	4.9213	4.9223	150	5.9055	5.9065
15	k5	75	2.9534	2.9529	130	5.1181	5.1191	160	6.2992	6.3002
16	k5	80	3.1502	3.1497	140	5.5118	5.5128	170	6.6929	6.6939
17	k5	85	3.3472	3.3466	150	5.9055	5.9065	180	7.0866	7.0876
18	k5	90	3.5440	3.5434	160	6.2992	6.3002	190	7.4803	7.4814
19	k5	95	3.7409	3.7403	170	6.6929	6.6939	200	7.8740	7.8751
20	k5	100	3.9377	3.9371	180	7.0866	7.0876	215	8.4646	8.4657
21	m5	105	4.1350	4.1344	190	7.4803	7.4814	225	8.8583	8.8594
22	m5	110	4.3318	4.3312	200	7.8740	7.8751	240	9.4488	9.4499
24	m5	120	4.7257	4.7250	215	8.4646	8.4657	260	10.2362	10.2375
26	m5	130	5.1194	5.1187	230	9.0551	9.0562	280	11.0236	11.0249
28	m5	140	5.5131	5.5124	250	9.8425	9.8436	300	11.8110	11.8123
30	m5	150	5.9068	5.9061	270	10.6299	10.6312	320	12.5984	12.5998
32	m5	160	6.3005	6.2998	290	11.4173	11.4186	340	13.3858	13.3872
34	m6	170	6.6945	6.6935	310	12.2047	12.2060	360	14.1732	14.1746
36	m6	180	7.0882	7.0872	320	12.5984	12.5998	380	14.9606	14.9620
38	m6	190	7.4821	7.4810	340	13.3858	13.3872	400	15.7480	15.7494
40	m6	200	7.8758	7.8747	360	14.1732	14.1746	420	16.5354	16.5370

*Shaft Rotates—Outer Ring Stationary.
Adapted from ABMA Standard 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.

Bearings 9

CYLINDRICAL ROLLER BEARING FIT TOLERANCES*

	SHAFT FITS (k5, m5, m6 and n6)				HOUSING FITS (H6)					
		BEARING	SHAFT DIAMETER (Inches)		BEARING	200 SERIES		BEARING	300 SERIES	
BASIC	TOLERANCE	BORE			OD	HOUSING BORE (Inches)		OD	HOUSING BORE (Inches)	
NUMBER	CLASS	mm	MAXIMUM	MINIMUM	mm	MINIMUM	MAXIMUM	mm	MINIMUM	MAXIMUM
00	m5	10	0.3942	0.3939	30	1.1811	1.1816	35	1.3780	1.3786
01	m5	12	0.4730	0.4727	32	1.2598	1.2604	37	1.4567	1.4573
02	m5	15	0.5912	0.5909	35	1.3780	1.3786	42	1.6535	1.6541
03	m5	17	0.6699	0.6696	40	1.5748	1.5754	47	1.8504	1.8510
04	m5	20	0.7881	0.7877	47	1.8504	1.8510	52	2.0472	2.0479
05	m5	25	0.9850	0.9846	52	2.0472	2.0479	62	2.4409	2.4416
06	m5	30	1.1818	1.1814	62	2.4409	2.4416	72	2.8346	2.8353
07	m5	35	1.3788	1.3784	72	2.8346	2.8353	80	3.1496	3.1503
08	m5	40	1.5756	1.5752	80	3.1496	3.1503	90	3.5433	3.5442
09	m6	45	1.7727	1.7721	85	3.3465	3.3474	100	3.9370	3.9379
10	m6	50	1.9695	1.9689	90	3.5433	3.5442	110	4.3307	4.3316
11	m6	55	2.1666	2.1658	100	3.9370	3.9379	120	4.7244	4.7253
12	m6	60	2.3634	2.3626	110	4.3307	4.3316	130	5.1181	5.1191
13	m6	65	2.5603	2.5595	120	4.7244	4.7253	140	5.5118	5.5128
14	n6	70	2.7574	2.7567	125	4.9213	4.9223	150	5.9055	5.9065
15	n6	75	2.9543	2.9536	130	5.1181	5.1191	160	6.2992	6.3002
16	n6	80	3.1511	3.1504	140	5.5118	5.5128	170	6.6929	6.6939
17	n6	85	3.3483	3.3474	150	5.9055	5.9065	180	7.0866	7.0876
18	n6	90	3.5451	3.5442	160	6.2992	6.3002	190	7.4803	7.4814
19	n6	95	3.7420	3.7411	170	6.6929	6.6939	200	7.8740	7.8751
20	n6	100	3.9388	3.9379	180	7.0866	7.0876	215	8.4646	8.4657
21	n6	105	4.1357	4.1348	190	7.4803	7.4814	225	8.8583	8.8594
22	n6	110	4.3325	4.3316	200	7.8740	7.8751	240	9.4488	9.4499
24	n6	120	4.7262	4.7253	215	8.4646	8.4657	260	10.2362	10.2375
26	n6	130	5.1201	5.1192	230	9.0551	9.0562	280	11.0236	11.0249
28	n6	140	5.5138	5.5129	250	9.8425	9.8436	300	11.8110	11.8123
30	p6	150	5.9082	5.9072	270	10.6299	10.6312	320	12.5984	12.5998
32	p6	160	6.3019	6.3009	290	11.4173	11.4186	340	13.3858	13.3872
34	p6	170	6.6956	6.6946	310	12.2047	12.2060	360	14.1732	14.1746
36	p6	180	7.0893	7.0883	320	12.5984	12.5998	380	14.9606	14.9620
38	p6	190	7.4834	7.4823	340	13.3858	13.3872	400	15.7480	15.7494
40	p6	200	7.8771	7.8760	360	14.1732	14.1746	420	16.5354	16.5370

*Shaft Rotates—Outer Ring Stationary.
Adapted from ABMA Standard 7, Tables 1, 2, 3 and 4.
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