

Appendix table-1: Boundary dimensions of radial bearings (Tapered roller bearings not included)-1 Unit: mm

Single row radial ball bearings		67					68					68					78															
Double row radial ball bearings																																
Cylindrical roller bearings							N28					N38					NN48															
Needle roller bearings												NA48																				
Spherical roller bearings																																
Nominal bearing bore diameter <i>d</i>		Diameter series 7					Diameter series 8					Diameter series 9					Diameter series 0															
Number	Dimension	Nominal bearing outside diameter <i>D</i>	Dimension series				Nominal bearing outside diameter <i>D</i>	Dimension series				Nominal bearing outside diameter <i>D</i>	Dimension series				Nominal bearing outside diameter <i>D</i>	Dimension series														
			17	27	37	47		17~47	08	18	28		38	48	58	68		08	18~68	09	19	29	39	49	59	69	09	19~39	49~69	00	10	20
		Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min				Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min				Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min				Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min				Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min				
—	0.6	2	0.8	—	—	—	0.05	2.5	—	1	—	1.4	—	—	—	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
1	1	2.5	1	—	—	—	0.05	3	—	1	—	1.5	—	—	—	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
—	1.5	3	1	—	1.8	—	0.05	4	—	1.2	—	2	—	—	—	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
2	2	4	1.2	—	2	—	0.05	5	—	1.5	—	2.3	—	—	—	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
—	2.5	5	1.5	1.8	2.3	—	0.08	6	—	1.8	—	2.6	—	—	—	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
3	3	6	2	2.5	3	—	0.08	7	—	2	—	3	—	—	—	—	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
4	4	7	2	2.5	3	—	0.08	9	—	2.5	3.5	4	—	—	—	—	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
5	5	8	2	2.5	3	—	0.08	11	—	3	4	5	—	—	—	—	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
6	6	10	2.5	3	3.5	—	0.1	13	—	3.5	5	6	—	—	—	—	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7	7	11	2.5	3	3.5	—	0.1	14	—	3.5	5	6	—	—	—	—	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
8	8	12	2.5	—	3.5	—	0.1	16	—	4	5	6	8	—	—	—	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
9	9	14	3	—	4.5	—	0.1	17	—	4	5	6	8	—	—	—	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
00	10	15	3	—	4.5	—	0.1	19	—	5	6	7	9	—	—	—	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
01	12	18	4	—	5	—	0.2	21	—	5	6	7	9	—	—	—	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
02	15	21	4	—	5	—	0.2	24	—	5	6	7	9	—	—	—	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
03	17	23	4	—	5	—	0.2	26	—	5	6	7	9	—	—	—	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
04	20	27	4	—	5	7	0.2	32	4	7	8	10	12	16	22	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
/22	22	30	4	—	5	7	0.2	34	4	7	—	10	—	16	22	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
05	25	32	4	—	5	7	0.2	37	4	7	8	10	12	16	22	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
/28	28	35	4	—	5	7	0.2	40	4	7	—	10	—	16	22	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
06	30	37	4	—	5	7	0.2	42	4	7	8	10	12	16	22	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
/32	32	40	4	—	6	8	0.2	44	4	7	—	10	—	16	22	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
07	35	44	5	—	7	9	0.3	47	4	7	8	10	12	16	22	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
08	40	50	6	—	8	10	0.3	52	4	7	8	10	12	16	22	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
09	45	55	6	—	8	10	0.3	58	4	7	8	10	13	18	23	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10	50	62	6	—	10	12	0.3	65	5	7	10	12	15	20	27	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
11	55	68	7	—	10	13	0.3	72	7	9	11	13	17	23	30	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12	60	75	7	—	12	15	0.3	78	7	10	12	14	18	24	32	0.3	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
13	65	80	7	—	12	15	0.3	85	7	10	13	15	20	27	36	0.3	0.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
14	70	85	7	—	12	15	0.3	90	8	10	13	15	20	27	36	0.3	0.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
15	75	90	7	—	12	15	0.3	95	8	10	13	15	20	27	36	0.3	0.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
16	80	95	7	—	12	15	0.3	100	8	10	13	15	20	27	36	0.3	0.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
17	85	105	10	—	15	—	0.6	110	9	13	16	19	25	34	45	0.3	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
18	90	110	10	—	15	—	0.6	115	9	13	16	19	25	34	45	0.3	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
19	95	115	10	—	15	—	0.6	120	9	13	16	19	25	34	45	0.3	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
20	100	120	10	—	15	—	0.6	125	9	13	16	19	25	34	45	0.3	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
21	105	125	10	—	15	—	0.6	130	9	13	16	19	25	34	45	0.3	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
22	110	135	13	—	19	—	1	140	10	16	19	23	30	40	54	0.6	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
24	120	145	13	—	19	—	1	150	10	16	19	23	30	40	54	0.6	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
26	130	160	16	—	23	—	1	165	11	18	22	26	35	46	63	0.6	1.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
28	140	170	16	—	23	—	1	175	11	18	22	26	35	46	63	0.6	1.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
30	150	180	16	—	23	—	1	190	13	20	24	30	40	54	71	0.6	1.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
32	160	190	16	—	23	—	1	200	13	20	24	30	40	54	71	0.6	1.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
34	170	200	16	—	23	—	1	215	14	22	27	34	45	60	80	0.6	1.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

Appendix table-1: Boundary dimensions of radial bearings (Tapered roller bearings not included)-2 Unit: mm

Single row radial ball bearings		69					70					70					70														
Double row radial ball bearings																															
Cylindrical roller bearings		N19					N29					NN39					NN49														
Needle roller bearings												NA49					NA59														
Spherical roller bearings																															
Nominal bearing bore diameter <i>d</i>		Diameter series 9					Diameter series 0					Diameter series 9					Diameter series 0														
Number	Dimension	Nominal bearing outside diameter <i>D</i>	Dimension series				Nominal bearing outside diameter <i>D</i>	Dimension series				Nominal bearing outside diameter <i>D</i>	Dimension series				Nominal bearing outside diameter <i>D</i>	Dimension series													
			09	19	29	39		49	59	69	09		19~39	49~69	00	10		20	30	40	50	60	00	10~60							
		Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min				Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min				Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min				Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min				Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min			
—	0.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	1	4	—	1.6	—	2.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	1.5	5	—	2	—	2.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	2	6	—	2.3	—	3	—	—	—																						

Appendix table-1: Boundary dimensions of radial bearings (Tapered roller bearings not included)-3 Unit: mm

Single row radial ball bearings		67					68										68	
Double row radial ball bearings																		
Cylindrical roller bearings								N28		N38		NN48						
Needle roller bearings												NA48						
Spherical roller bearings																		
Nominal bearing bore diameter <i>d</i>		Diameter series 7					Diameter series 8											
Number	Dimension	Dimension series					Dimension series											
		Nominal bearing outside diameter <i>D</i>				Chamfer dimension <i>r</i> <sub>s min</sub>	Nominal bearing outside diameter <i>D</i>											
		17	27	37	47		17~47	08	18	28	38	48	58	68	08	18~68		
		Nominal width <i>B</i>					Nominal width <i>B</i>										Chamfer dimension <i>r</i> <sub>s min</sub>	
36	180	215	18	—	26	—	1.1	225	14	22	27	34	45	60	80	0.6	1.1	
38	190	230	20	—	30	—	1.1	240	16	24	30	37	50	67	90	1	1.5	
40	200	240	20	—	30	—	1.1	250	16	24	30	37	50	67	90	1	1.5	
44	220	—	—	—	—	—	—	270	16	24	30	37	50	67	90	1	1.5	
48	240	—	—	—	—	—	—	300	19	28	36	45	60	80	100	1	2	
52	260	—	—	—	—	—	—	320	19	28	36	45	60	80	100	1	2	
56	280	—	—	—	—	—	—	350	22	33	42	52	69	95	125	1.1	2	
60	300	—	—	—	—	—	—	380	25	38	48	60	80	109	145	1.5	2.1	
64	320	—	—	—	—	—	—	400	25	38	48	60	80	109	145	1.5	2.1	
68	340	—	—	—	—	—	—	420	25	38	48	60	80	109	145	1.5	2.1	
72	360	—	—	—	—	—	—	440	25	38	48	60	80	109	145	1.5	2.1	
76	380	—	—	—	—	—	—	480	31	46	60	75	100	136	180	2	2.1	
80	400	—	—	—	—	—	—	500	31	46	60	75	100	136	180	2	2.1	
84	420	—	—	—	—	—	—	520	31	46	60	75	100	136	180	2	2.1	
88	440	—	—	—	—	—	—	540	31	46	60	75	100	136	180	2	2.1	
92	460	—	—	—	—	—	—	580	37	56	72	90	118	160	218	2.1	3	
96	480	—	—	—	—	—	—	600	37	56	72	90	118	160	218	2.1	3	
/500	500	—	—	—	—	—	—	620	37	56	72	90	118	160	218	2.1	3	
/530	530	—	—	—	—	—	—	650	37	56	72	90	118	160	218	2.1	3	
/560	560	—	—	—	—	—	—	680	37	56	72	90	118	160	218	2.1	3	
/600	600	—	—	—	—	—	—	730	42	60	78	98	128	175	236	3	3	
/630	630	—	—	—	—	—	—	780	48	69	88	112	150	200	272	3	4	
/670	670	—	—	—	—	—	—	820	48	69	88	112	150	200	272	3	4	
/710	710	—	—	—	—	—	—	870	50	74	95	118	160	218	290	4	4	
/750	750	—	—	—	—	—	—	920	54	78	100	128	170	230	308	4	5	
/800	800	—	—	—	—	—	—	980	57	82	106	136	180	243	325	4	5	
/850	850	—	—	—	—	—	—	1 030	57	82	106	136	180	243	325	4	5	
/900	900	—	—	—	—	—	—	1 090	60	85	112	140	190	258	345	5	5	
/950	950	—	—	—	—	—	—	1 150	63	85	112	140	190	258	345	5	5	
/1000	1 000	—	—	—	—	—	—	1 220	71	90	128	165	218	300	400	5	6	
/1060	1 060	—	—	—	—	—	—	1 280	71	100	128	165	218	300	400	5	6	
/1120	1 120	—	—	—	—	—	—	1 360	78	106	140	180	243	325	438	5	6	
/1180	1 180	—	—	—	—	—	—	1 420	78	106	140	180	243	325	438	5	6	
/1250	1 250	—	—	—	—	—	—	1 500	80	112	145	185	250	335	450	6	6	
/1320	1 320	—	—	—	—	—	—	1 600	88	122	165	206	280	375	500	6	6	
/1400	1 400	—	—	—	—	—	—	1 700	95	132	175	224	300	400	545	6	7.5	
/1500	1 500	—	—	—	—	—	—	1 820	—	140	185	243	315	—	—	—	7.5	
/1600	1 600	—	—	—	—	—	—	1 950	—	155	200	265	345	—	—	—	7.5	
/1700	1 700	—	—	—	—	—	—	2 060	—	160	206	272	355	—	—	—	7.5	
/1800	1 800	—	—	—	—	—	—	2 180	—	165	218	290	375	—	—	—	9.5	
/1900	1 900	—	—	—	—	—	—	2 300	—	175	230	300	400	—	—	—	9.5	
/2000	2 000	—	—	—	—	—	—	2 430	—	190	250	325	425	—	—	—	9.5	

Appendix table-1: Boundary dimensions of radial bearings (Tapered roller bearings not included)-4 Unit: mm

Single row radial ball bearings		69					160										60					
Double row radial ball bearings																						
Cylindrical roller bearings		N19		N29		NN39		NN49						N10		N20 NN30 NN40						
Needle roller bearings								NA49		NA59		NA69										
Spherical roller bearings										239		249				230 240						
Nominal bearing bore diameter <i>d</i>		Diameter series 9										Diameter series 0										
Number	Dimension	Dimension series										Dimension series										
		Nominal bearing outside diameter <i>D</i>					Chamfer dimension <i>r</i> <sub>s min</sub>	Nominal bearing outside diameter <i>D</i>					Chamfer dimension <i>r</i> <sub>s min</sub>	Nominal bearing outside diameter <i>D</i>					Chamfer dimension <i>r</i> <sub>s min</sub>			
		09	19	29	39	49		59	69	09	19~39	49~69		00	10	20	30	40		50	60	00
		Nominal width <i>B</i>										Nominal width <i>B</i>										
36	180	250	22	33	42	52	69	95	125	1.1	2	2	280	31	46	60	74	100	136	180	2	2.1
38	190	260	22	33	42	52	69	95	125	1.1	2	2	290	31	46	60	75	100	136	180	2	2.1
40	200	280	25	38	48	60	80	109	145	1.5	2.1	2.1	310	34	51	66	82	109	150	200	2	2.1
44	220	300	25	38	48	60	80	109	145	1.5	2.1	2.1	340	37	56	72	90	118	160	218	2.1	3
48	240	320	25	38	48	60	80	109	145	1.5	2.1	2.1	360	37	56	72	92	118	160	218	2.1	3
52	260	360	31	46	60	75	100	136	180	2	2.1	2.1	400	44	65	82	104	140	190	250	3	4
56	280	380	31	46	60	75	100	136	180	2	2.1	2.1	420	44	65	82	106	140	190	250	3	4
60	300	420	37	56	72	90	118	160	218	2.1	3	3	460	50	74	95	118	160	218	290	4	4
64	320	440	37	56	72	90	118	160	218	2.1	3	3	480	50	74	95	121	160	218	290	4	4
68	340	460	37	56	72	90	118	160	218	2.1	3	3	520	57	82	106	133	180	243	325	4	5
72	360	480	37	56	72	90	118	160	218	2.1	3	3	540	57	82	106	134	180	243	325	4	5
76	380	520	44	65	82	106	140	190	250	3	4	4	560	57	82	106	135	180	243	325	4	5
80	400	540	44	65	82	106	140	190	250	3	4	4	600	63	90	118	148	200	272	355	5	5
84	420	560	44	65	82	106	140	190	250	3	4	4	620	63	90	118	150	200	272	355	5	5
88	440	600	50	74	95	118	160	218	290	4	4	4	650	67	94	122	157	212	280	375	5	6
92	460	620	50	74	95	118	160	218	290	4	4	4	680	71	100	128	163	218	300	400	5	6
96	480	650	54	78	100	128	170	230	308	4	5	5	700	71	100	128	165	218	300	400	5	6
/500	500	670	54	78	100	128	170	230	308	4	5	5	720	71	100	128	167	218	300	400	5	6
/530	530	710	57	82	106	136	180	243	325	4	5	5	780	80	112	145	185	250	335	450	6	6
/560	560	750	60	85	112	140	190	258	345	5	5	5	820	82	115	150	195	258	355	462	6	6
/600	600	800	63	90	118	150	200	272	355	5	5	5	870	85	118	155	200	272	365	488	6	6
/630	630	850	71	100	128	165	218	300	400	5	6	6	920	92	128	170	212	290	388	515	6	7.5
/670	670	900	73	103	136	170	230	308	412	5	6	6	980	100	136	180	230	308	425	560	6	7.5
/710	710	950	78	106	140	180	243	325	438	5	6	6	1 030	103	140	185	236	315	438	580	6	7.5
/750	750	1 000	80	112	145	185	250	335	450	6	6	6	1 090	109	150	195	250	335	462	615	7.5	7.5
/800	800	1 060	82	115	150	195	258	355	462	6	6	6	1 150	112	155	200	258	345	475	630	7.5	7.5
/850	850	1 120	85	118	155	200	272	365	488	6	6	6	1 220	118	165							



Appendix table-1: Boundary dimensions of radial bearings (Tapered roller bearings not included)-7 Unit: mm

Single row radial ball bearings																				62		622		632																			
Double row radial ball bearings																				12		42		52																			
Cylindrical roller bearings																				N2		N22		N32																			
Needle roller bearings																																											
Spherical roller bearings																								222		232																	
Nominal bearing bore diameter <i>d</i>		Diameter series 1										Diameter series 2																															
Number	Dimension	Dimension series										Dimension series																															
		Nominal width <i>B</i>										Nominal width <i>B</i>																															
		Nominal bearing outside diameter <i>D</i>		01		11		21		31		41		51		61		01		11-61		Nominal bearing outside diameter <i>D</i>		82		02		12		22		32		42		52		62		82		02-62	
30	150	250	31	46	60	80	100	136	180	2	2.1	270	—	45	54	73	96	118	160	218	—	3																					
32	160	270	34	51	66	86	109	150	200	2	2.1	290	—	48	58	80	104	128	175	236	—	3																					
34	170	280	34	51	66	88	109	150	200	2	2.1	310	—	52	62	86	110	140	190	250	—	4																					
36	180	300	37	56	72	96	118	160	218	2.1	3	320	—	52	62	86	112	140	190	250	—	4																					
38	190	320	42	60	78	104	128	175	236	3	3	340	—	55	65	92	120	150	200	272	—	4																					
40	200	340	44	65	82	112	140	190	250	3	3	360	—	58	70	98	128	160	218	290	—	4																					
44	220	370	48	69	88	120	150	200	272	3	4	400	—	65	78	108	144	180	243	325	—	4																					
48	240	400	50	74	95	128	160	218	290	4	4	440	—	72	85	120	160	200	272	355	—	4																					
52	260	440	57	82	106	144	180	243	325	4	4	480	—	80	90	130	174	218	300	400	—	5																					
56	280	460	57	82	106	146	180	243	325	4	5	500	—	80	90	130	176	218	300	400	—	5																					
60	300	500	63	90	118	160	200	272	355	5	5	540	—	85	98	140	192	243	325	438	—	5																					
64	320	540	71	100	128	176	218	300	400	5	5	580	—	92	105	150	208	258	355	462	—	5																					
68	340	580	78	106	140	190	243	325	438	5	5	620	—	92	118	165	224	280	375	500	—	6																					
72	360	600	78	106	140	192	243	325	438	5	5	650	—	95	122	170	232	290	388	515	—	6																					
76	380	620	78	106	140	194	243	325	438	5	5	680	—	95	132	175	240	300	400	545	—	6																					
80	400	650	80	112	145	200	250	335	450	6	6	720	—	103	140	185	256	315	438	580	—	6																					
84	420	700	88	122	165	224	280	375	500	6	6	760	—	109	150	195	272	335	462	615	—	7.5																					
88	440	720	88	122	165	226	280	375	500	6	6	790	—	112	155	200	280	345	475	630	—	7.5																					
92	460	760	95	132	175	240	300	400	545	6	7.5	830	—	118	165	212	296	365	500	670	—	7.5																					
96	480	790	100	136	180	248	308	425	560	6	7.5	870	—	125	170	224	310	388	530	710	—	7.5																					
/500	500	830	106	145	190	264	325	450	600	7.5	7.5	920	—	136	185	243	336	412	560	750	—	7.5																					
/530	530	870	109	150	195	272	335	462	615	7.5	7.5	980	—	145	200	258	355	450	600	—	—	9.5																					
/560	560	920	115	160	206	280	355	488	650	7.5	7.5	1030	—	150	206	272	365	475	630	—	—	9.5																					
/600	600	980	122	170	218	300	375	515	690	7.5	7.5	1090	—	155	212	280	388	488	670	—	—	9.5																					
/630	630	1030	128	175	230	315	400	545	710	7.5	7.5	1150	—	165	230	300	412	515	710	—	—	12																					
/670	670	1090	136	185	243	336	412	560	750	7.5	7.5	1220	—	175	243	315	438	545	750	—	—	12																					
/710	710	1150	140	195	250	345	438	600	800	9.5	9.5	1280	—	180	250	325	450	560	775	—	—	12																					
/750	750	1220	150	206	272	365	475	630	—	9.5	9.5	1360	—	195	265	345	475	615	825	—	—	15																					
/800	800	1280	155	212	272	375	475	650	—	9.5	9.5	1420	—	200	272	355	488	615	—	—	—	15																					
/850	850	1360	165	224	290	400	500	690	—	12	12	1500	—	206	280	375	515	650	—	—	—	15																					
/900	900	1420	165	230	300	412	515	710	—	12	12	1580	—	218	300	388	515	670	—	—	—	15																					
/950	950	1500	175	243	315	438	545	750	—	12	12	1660	—	230	315	412	530	710	—	—	—	15																					
/1000	1000	1580	185	258	335	462	580	775	—	12	12	1750	—	243	330	425	560	750	—	—	—	15																					
/1060	1060	1660	190	265	345	475	600	800	—	12	15	—	—	—	—	—	—	—	—	—	—	—																					
/1120	1120	1750	—	280	365	475	630	—	—	—	15	—	—	—	—	—	—	—	—	—	—	—																					
/1180	1180	1850	—	290	388	500	670	—	—	—	15	—	—	—	—	—	—	—	—	—	—	—																					
/1250	1250	1950	—	308	400	530	710	—	—	—	15	—	—	—	—	—	—	—	—	—	—	—																					
/1320	1320	2060	—	325	425	560	750	—	—	—	15	—	—	—	—	—	—	—	—	—	—	—																					
/1400	1400	2180	—	345	450	580	775	—	—	—	19	—	—	—	—	—	—	—	—	—	—	—																					
/1500	1500	2300	—	355	462	600	800	—	—	—	19	—	—	—	—	—	—	—	—	—	—	—																					

Appendix table-1: Boundary dimensions of radial bearings (Tapered roller bearings not included)-8 Unit: mm

Single row radial ball bearings																				64		74									
Double row radial ball bearings																															
Cylindrical roller bearings																															
Needle roller bearings																															
Spherical roller bearings																															
Nominal bearing bore diameter <i>d</i>		Diameter series 3										Diameter series 4																			
Number	Dimension	Dimension series										Dimension series																			
		Nominal width <i>B</i>										Nominal width <i>B</i>																			
		Nominal bearing outside diameter <i>D</i>		83		03		13		23		33		83		03-33		Nominal bearing outside diameter <i>D</i>		04		24		Chamfer dimension <i>r</i> 's min		Nominal width <i>B</i>		Chamfer dimension <i>r</i> 's min			
30	150	320	—	65	75	108	128	—	4	380	85	138	5																		
32	160	340	—	68	79	114	136	—	4	400	88	142	5																		
34	170	360	—	72	84	120	140	—	4	420	92	145	5																		
36	180	380	—	75	88	126	150	—	4	440	95	150	6																		
38	190	400	—	78	92	132	155	—	5	460	98	155	6																		
40	200	420	—	80	97	138	165	—	5	480	102	160	6																		
44	220	460	—	88	106	145	180	—	5	540	115	180	6																		
48	240	500	—	95	114	155	195	—	5	580	122	190	6																		
52	260	540	—	102	123	165	206	—	6	620	132	206	7.5																		
56	280	580	—	108	132	175	224	—	6	670	140	224	7.5																		
60	300	620	—	109	140	185	236	—	7.5	710	150	236	7.5																		
64	320	670	—	112	155	200	258	—	7.5	750	155	250	9.5																		
68	340	710	—	118	165	212	272	—	7.5	800	164	265	9.5																		
72	360	750	—	125	170	224	290	—	7.5	850	180	280	9.5																		
76	380	780	—	128	175	230	300	—	7.5	900	190	300	9.5																		
80	400	820	—	136	185	243	308	—	7.5	950	200	315	12																		
84	420	850	—	136	190	250	315	—	9.5	980	206	325	12																		
88	440	900	—	145	200	265	345	—	9.5	1030	212	335	12																		
92	460	950	—	155	212	280	365	—	9.5	1060	218	345	12																		
96	480	980	—	160	218	290	375	—	9.5	1120	230	365	15																		
/500	500	1030	—	170	230	300	388	—	12	1150	236	375	15																		
/530	530	1090	—	180	243	325	412	—	12	1220	250	400	15																		
/560																															

Appendix table-2: Comparison table of SI and CGS series gravity units-1

Unit system	Quantity	Length L	Mass M	Time T	Acceleration	Force	Stress	Pressure	Energy
SI		m	kg	s	m/s <sup>2</sup>	N	Pa	Pa	J
CGS system		cm	g	s	Gal	dyn	dyn/cm <sup>2</sup>	dyn/cm <sup>2</sup>	erg
Gravitation system		m	kgf·s <sup>2</sup> /m	s	m/s <sup>2</sup>	kgf	kgf/m <sup>2</sup>	kgf/m <sup>2</sup>	kgf·m

Appendix table-3: SI-customary unit conversion table-1

Quantity	Unit designation	Code	Conversion rate to SI	SI unit designation	Code
Angle	Degree	°	$\pi/180$	Radian	rad
	Minute	'	$\pi/10\ 800$		
	Second	"(sec)	$\pi/648\ 000$		
Length	Meter	m	1	Meter	m
	Micron	$\mu$	$10^{-6}$		
	Angstrom	Å	$10^{-10}$		
Area	Square meter	m <sup>2</sup>	1	Square meter	m <sup>2</sup>
	Are	a	$10^2$		
	Hectare	ha	$10^4$		
Volume	Cubic meter	m <sup>3</sup>	1	Cubic meter	m <sup>3</sup>
	Liter	ℓ.L	$10^{-3}$		
Mass	Kilogram	kg	1	Kilogram	kg
	Ton	t	$10^3$		
	Kilogram force / square second per meter	kgf·s <sup>2</sup> /m	9.806 65		
Time	Second	s	1	Second	s
	Minute	min	60		
	Hour	h	3 600		
	Day	d	86 400		
Speed	Meters per second	m/s	1	Meters per second	m/s
	Knot	kn	$1\ 852/3\ 600$		
Frequency and vibration	Cycle	s <sup>-1</sup> (pps)	1	Hertz	Hz
Revolutions (rotational speed)	Revolutions per minute (rpm)	rpm (r/min)	1/60	Per second	s <sup>-1</sup>
Angular velocity	Radians per second	rad/s	1	Radians per second	rad/s
Acceleration	Meters per square second	m/s <sup>2</sup>	1	Radians per second	m/s <sup>2</sup>
	G	G	9.806 65		
Force	Kilogram force	kgf	9.806 65	Newton	N
	Ton force	tf	9 806.65		
	Dyne	dyn	$10^{-5}$		
Force moment	Kilogram force / meter	kgf·m	9.806 65	Newton meter	N·m
Inertia moment	Kilogram force / meter / square second	kgf·m·s <sup>-2</sup>	9.806 65	Kilogram / square meter	kg·m <sup>2</sup>
	Stress	kgf/m <sup>2</sup>	9.806 65		
Pressure	Kilogram force per square meter	kgf/m <sup>2</sup>	9.806 65	Pascal	Pa
	Meter water column	mH <sub>2</sub> O	9 806.65		
	Meter of mercury	mHg	$101\ 325/0.76$		
	Torr	Torr	$101\ 325/760$		
	Atmosphere	atm	101 325		
	Bar	bar	$10^5$		
Energy	Erg	erg	$10^{-7}$	Joule	J
	IT calorie	cal <sub>IT</sub>	4.186 8		
	Kilogram force / meter	kgf·m	9.806 65		
	Kilowatt hour	kW·h	$3.600 \times 10^6$		
	Metric horsepower per hour	PS·h	$2.647\ 79 \times 10^6$		
Power rate and power	Watt	W	1	Watt	W
	Metric horsepower	PS	735.5		
	Kilogram force / meter per second	kgf·m/s	9.806 65		

Appendix table-2: Comparison table of SI and CGS series gravity units-2

Unit system	Quantity	Power rate	Temperature	Viscosity	Dynamic viscosity	Flux	Flux density	Magnetic field strength
SI		W	K	Pa·s	m <sup>2</sup> /s	Wb	T	A/m
CGS system		erg/s	°C	P	St	Mx	Gs	Oe
Gravitation system		kgf·m/s	°C	kgf·s/m <sup>2</sup>	m <sup>2</sup> /s	—	—	—

Appendix table-3: SI-customary unit conversion table-2

Quantity	Unit designation	Code	Conversion rate to SI	SI unit designation	Code
Viscosity	Poise	P	$10^{-1}$	Pascal second	Pa·s
	Centipoise	cP	$10^{-3}$		
	Kilogram force / square second per meter	kgf·s/m <sup>2</sup>	9.806 65		
Dynamic viscosity	Stoke	St	$10^{-4}$	Square meter per second	m <sup>2</sup> /s
	Centistoke	cSt	$10^{-6}$		
Temperature	Degree	°C	+273.15	Kelvin	K
Radioactivity	Curie	Ci	$3.7 \times 10^{10}$	Becquerel	Bq
	Dosage	R	$2.58 \times 10^{-4}$		
Absorption dosage	Rad	rad	$10^{-2}$	Gray	Gy
Dosage equivalent	Rem	rem	$10^{-2}$	Sievert	Sv
Dosage equivalent	Maxwell	Mx	$10^{-8}$	Weber	Wb
Flux density	Gamma	$\gamma$	$10^{-9}$	Tesla	T
	Gauss	Gs	$10^{-4}$		
Magnetic field strength	Oersted	Oe	$10^3/4\pi$	Amperes per meter	A/m
Magnetic field strength	Coulomb	C	1	Coulomb	C
Potential difference	Volt	V	1	Volt	V
Electric resistance	Ohm	$\Omega$	1	Ohm	$\Omega$
	Curren	Ampere	1		

Appendix table-4: Tenth power multiples of SI unit

Multiples of unit	Prefix		Multiples of unit	Prefix	
	Designation	Code		Designation	Code
$10^{18}$	Exa	E	$10^{-1}$	Deci	d
$10^{15}$	Peta	P	$10^{-2}$	Centi	c
$10^{12}$	Tera	T	$10^{-3}$	Milli	m
$10^9$	Giga	G	$10^{-6}$	Micro	$\mu$
$10^6$	Mega	M	$10^{-9}$	Nano	n
$10^3$	Kilo	k	$10^{-12}$	Pico	p
$10^2$	Hecto	h	$10^{-15}$	Femto	f
10	Deca	da	$10^{-18}$	Atto	a

Appendix table-5: Dimensional tolerance for shafts

Diameter division mm		a13		c12		d6		e6		e13		f5		f6		g5		g6	
Over	Incl.	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
—	3 <sup>1)</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	6	-270	-450	-70	-190	-30	-38	-20	-28	-20	-200	-10	-15	-10	-18	-4	-9	-4	-12
6	10	-280	-500	-80	-230	-40	-49	-25	-34	-25	-245	-13	-19	-13	-22	-5	-11	-5	-14
10	18	-290	-560	-95	-275	-50	-61	-32	-43	-32	-302	-16	-24	-16	-27	-6	-14	-6	-17
18	30	-300	-630	-110	-320	-65	-78	-40	-53	-40	-370	-20	-29	-20	-33	-7	-16	-7	-20
30	40	-310	-700	-120	-370	-80	-96	-50	-66	-50	-440	-25	-36	-25	-41	-9	-20	-9	-25
40	50	-320	-710	-130	-380	-90	-109	-60	-79	-60	-520	-30	-43	-30	-49	-10	-23	-10	-29
50	65	-340	-800	-140	-440	-100	-119	-70	-94	-70	-612	-36	-51	-36	-58	-12	-27	-12	-34
65	80	-360	-820	-150	-450	-120	-142	-85	-110	-85	-715	-43	-61	-43	-68	-14	-32	-14	-39
80	100	-380	-920	-170	-520	-145	-170	-100	-129	-100	-820	-50	-70	-50	-79	-15	-35	-15	-44
100	120	-410	-950	-180	-530	-170	-199	-100	-129	-100	-820	-50	-70	-50	-79	-15	-35	-15	-44
120	140	-460	-1090	-200	-600	-190	-222	-110	-142	-110	-920	-56	-79	-56	-88	-17	-40	-17	-49
140	160	-520	-1150	-210	-610	-210	-246	-125	-161	-125	-1015	-62	-87	-62	-98	-18	-43	-18	-54
160	180	-580	-1210	-230	-630	-230	-270	-135	-175	-135	-1105	-68	-95	-68	-108	-20	-47	-20	-60
180	200	-660	-1380	-240	-700	-250	-280	-140	-180	-140	-1200	-76	-120	-76	-120	-22	-50	-22	-66
200	225	-740	-1460	-260	-720	-260	-315	-150	-186	-150	-1245	-86	-142	-86	-142	-26	-58	-26	-72
225	250	-820	-1540	-280	-740	-280	-315	-150	-186	-150	-1245	-86	-142	-86	-142	-26	-58	-26	-72
250	280	-920	-1730	-300	-820	-300	-355	-160	-209	-160	-1350	-95	-160	-95	-160	-30	-63	-30	-80
280	315	-1050	-1860	-330	-850	-330	-400	-175	-224	-175	-1470	-108	-188	-108	-188	-34	-70	-34	-90
315	355	-1200	-2090	-360	-930	-360	-450	-190	-240	-190	-1570	-120	-212	-120	-212	-38	-78	-38	-100
355	400	-1350	-2240	-400	-970	-400	-500	-210	-260	-210	-1700	-135	-240	-135	-240	-44	-88	-44	-110
400	450	-1500	-2470	-440	-1070	-440	-550	-230	-270	-230	-1830	-150	-280	-150	-280	-50	-100	-50	-120
450	500	-1650	-2620	-480	-1110	-480	-600	-250	-290	-250	-1950	-165	-300	-165	-300	-56	-110	-56	-130
500	560	—	—	—	—	-260	-304	-145	-189	-145	-1245	-180	-330	-180	-330	-62	-120	-62	-140
560	630	—	—	—	—	-290	-340	-160	-210	-160	-1410	-200	-376	-200	-376	-70	-130	-70	-150
630	710	—	—	—	—	-320	-376	-170	-226	-170	-1570	-220	-416	-220	-416	-78	-140	-78	-160
710	800	—	—	—	—	-350	-416	-195	-261	-195	-1845	-240	-468	-240	-468	-86	-150	-86	-170
800	900	—	—	—	—	-390	-468	-220	-298	-220	-2170	-260	-510	-260	-510	-94	-160	-94	-180
900	1000	—	—	—	—	-430	-510	-250	-310	-250	-2340	-280	-550	-280	-550	-100	-170	-100	-190
1000	1120	—	—	—	—	-460	-550	-270	-320	-270	-2460	-300	-590	-300	-590	-108	-180	-108	-200
1120	1250	—	—	—	—	-500	-600	-300	-350	-300	-2670	-330	-630	-330	-630	-116	-190	-116	-210
1250	1400	—	—	—	—	-540	-660	-330	-380	-330	-2880	-360	-690	-360	-690	-124	-200	-124	-220
1400	1600	—	—	—	—	-580	-720	-360	-420	-360	-3090	-390	-750	-390	-750	-132	-210	-132	-230
1600	1800	—	—	—	—	-620	-780	-400	-460	-400	-3300	-420	-810	-420	-810	-140	-220	-140	-240
1800	2000	—	—	—	—	-660	-840	-440	-500	-440	-3510	-450	-870	-450	-870	-148	-230	-148	-250
2000	2240	—	—	—	—	-700	-900	-480	-540	-480	-3720	-480	-930	-480	-930	-156	-240	-156	-260
2240	2500	—	—	—	—	-740	-960	-520	-580	-520	-3930	-510	-990	-510	-990	-164	-250	-164	-270
2500	2800	—	—	—	—	-780	-1020	-560	-620	-560	-4140	-540	-1050	-540	-1050	-172	-260	-172	-280
2800	3150	—	—	—	—	-820	-1080	-600	-660	-600	-4350	-570	-1110	-570	-1110	-180	-270	-180	-290

1) Basic tolerance a is not used for the basic size tolerance with respect to the size of 1 mm or below shown in drawings.

Diameter division mm		j5		js5		j6		js6		j7		k4		k5		k6		m5	
Over	Incl.	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
—	3	+2	-2	+2	-2	+4	-2	+3	-3	+6	-4	+3	0	+4	0	+6	0	+6	+2
3	6	+3	-2	+2.5	-2.5	+6	-2	+4	-4	+8	-4	+5	+1	+6	+1	+9	+1	+9	+4
6	10	+4	-2	+3	-3	+7	-2	+4.5	-4.5	+10	-5	+5	+1	+7	+1	+10	+1	+12	+6
10	18	+5	-3	+4	-4	+8	-3	+5.5	-5.5	+12	-6	+6	+1	+9	+1	+12	+1	+15	+7
18	30	+5	-4	+4.5	-4.5	+9	-4	+6.5	-6.5	+13	-8	+8	+2	+11	+2	+15	+2	+17	+8
30	40	+6	-5	+5.5	-5.5	+11	-5	+8	-8	+15	-10	+9	+2	+13	+2	+18	+2	+20	+9
40	50	+6	-7	+6.5	-6.5	+12	-7	+9.5	-9.5	+18	-12	+10	+2	+15	+2	+21	+2	+24	+11
50	65	+6	-9	+7.5	-7.5	+13	-9	+11	-11	+20	-15	+13	+3	+18	+3	+25	+3	+28	+13
65	80	+7	-11	+9	-9	+14	-11	+12.5	-12.5	+22	-18	+15	+3	+21	+3	+28	+3	+33	+15
80	100	+7	-13	+10	-10	+16	-13	+14.5	-14.5	+25	-21	+18	+4	+24	+4	+33	+4	+37	+17
100	120	+7	-16	+11.5	-11.5	+16	-16	+16	-16	+26	-26	+20	+4	+27	+4	+36	+4	+43	+20
120	140	+7	-18	+12.5	-12.5	+18	-18	+18	-18	+29	-28	+22	+4	+29	+4	+40	+4	+46	+21
140	160	+7	-20	+13.5	-13.5	+20	-20	+20	-20	+31	-32	+25	+5	+32	+5	+45	+5	+50	+23
160	180	—	—	+16	-16	—	—	+22	-22	—	—	—	—	—	—	+44	0	—	—
180	200	—	—	+18	-18	—	—	+25	-25	—	—	—	—	—	—	+50	0	—	—
200	225	—	—	+20	-20	—	—	+28	-28	—	—	—	—	—	—	+56	0	—	—
225	250	—	—	+23.5	-23.5	—	—	+33	-33	—	—	—	—	—	—	+66	0	—	—
250	280	—	—	+27.5	-27.5	—	—	+39	-39	—	—	—	—	—	—	+78	0	—	—
280	315	—	—	+32.5	-32.5	—	—	+46	-46	—	—	—	—	—	—	+92	0	—	—
315	355	—	—	+39	-39	—	—	+55	-55	—	—	—	—	—	—	+110	0	—	—
355	400	—	—	+48	-48	—	—	+67.5	-67.5	—	—	—	—	—	—	+135	0	—	—

Unit: μm

Diameter division mm		h4		h5		h6		h7		h8		h9		h10		h11		h13		js4		Diameter division mm	
Over	Incl.	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Over	Incl.
—	3	0	-3	0	-4	0	-6	0	-10	0	-14	0	-25	0	-40	0	-60	0	-140	+1.5	-1.5	—	3
3	6	0	-4	0	-5	0	-8	0	-12	0	-18	0	-30	0	-48	0	-75	0	-180	+2	-2	3	6
6	10	0	-4	0	-6	0	-9	0	-15	0	-22	0	-36	0	-54	0	-90	0	-220	+2	-2	6	10
10	18	0	-5	0	-8	0	-11	0	-18	0	-27	0	-43	0	-64	0							

Appendix table-6: Dimensional tolerance for housing bore

Diameter division mm		E7		E10		E11		E12		F6		F7		F8		G6	
Over	Incl.	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
—	3	+ 24	+ 14	+ 54	+ 14	+ 74	+ 14	+ 114	+ 14	+ 12	+ 6	+ 16	+ 6	+ 20	+ 6	+ 8	+ 2
3	6	+ 32	+ 20	+ 68	+ 20	+ 95	+ 20	+ 140	+ 20	+ 18	+ 10	+ 22	+ 10	+ 28	+ 10	+ 12	+ 4
6	10	+ 40	+ 25	+ 83	+ 25	+ 115	+ 25	+ 175	+ 25	+ 22	+ 13	+ 28	+ 13	+ 35	+ 13	+ 14	+ 5
10	18	+ 50	+ 32	+ 102	+ 32	+ 142	+ 32	+ 212	+ 32	+ 27	+ 16	+ 34	+ 16	+ 43	+ 16	+ 17	+ 6
18	30	+ 61	+ 40	+ 124	+ 40	+ 170	+ 40	+ 250	+ 40	+ 33	+ 20	+ 41	+ 20	+ 53	+ 20	+ 20	+ 7
30	40	+ 75	+ 50	+ 150	+ 50	+ 210	+ 50	+ 300	+ 50	+ 41	+ 25	+ 41	+ 25	+ 64	+ 25	+ 25	+ 9
40	50	+ 90	+ 60	+ 180	+ 60	+ 250	+ 60	+ 360	+ 60	+ 49	+ 30	+ 60	+ 30	+ 74	+ 30	+ 29	+ 10
50	65	+ 107	+ 72	+ 212	+ 72	+ 292	+ 72	+ 422	+ 72	+ 58	+ 36	+ 71	+ 36	+ 90	+ 36	+ 34	+ 12
65	80	+ 125	+ 85	+ 245	+ 85	+ 335	+ 85	+ 485	+ 85	+ 68	+ 43	+ 83	+ 43	+ 106	+ 43	+ 39	+ 14
80	100	+ 146	+ 100	+ 285	+ 100	+ 390	+ 100	+ 560	+ 100	+ 79	+ 50	+ 96	+ 50	+ 122	+ 50	+ 44	+ 15
100	120	+ 162	+ 110	+ 320	+ 110	+ 430	+ 110	+ 630	+ 110	+ 88	+ 56	+ 108	+ 56	+ 137	+ 56	+ 49	+ 17
120	140	+ 182	+ 125	+ 355	+ 125	+ 485	+ 125	+ 695	+ 125	+ 98	+ 62	+ 119	+ 62	+ 151	+ 62	+ 54	+ 18
140	160	+ 198	+ 135	+ 385	+ 135	+ 535	+ 135	+ 765	+ 135	+ 108	+ 68	+ 131	+ 68	+ 165	+ 68	+ 60	+ 20
160	180	+ 215	+ 145	+ 425	+ 145	+ 585	+ 145	+ 845	+ 145	+ 120	+ 76	+ 146	+ 76	+ 186	+ 76	+ 66	+ 22
180	200	+ 240	+ 160	+ 480	+ 160	+ 660	+ 160	+ 960	+ 160	+ 130	+ 80	+ 160	+ 80	+ 205	+ 80	+ 74	+ 24
200	225	+ 260	+ 170	+ 530	+ 170	+ 730	+ 170	+ 1070	+ 170	+ 142	+ 86	+ 176	+ 86	+ 226	+ 86	+ 82	+ 26
225	250	+ 300	+ 195	+ 615	+ 195	+ 855	+ 195	+ 1245	+ 195	+ 164	+ 98	+ 203	+ 98	+ 263	+ 98	+ 94	+ 28
250	280	+ 345	+ 220	+ 720	+ 220	+ 1000	+ 220	+ 1470	+ 220	+ 188	+ 110	+ 235	+ 110	+ 305	+ 110	+ 108	+ 30
280	315	+ 390	+ 240	+ 840	+ 240	+ 1160	+ 240	+ 1740	+ 240	+ 212	+ 120	+ 270	+ 120	+ 350	+ 120	+ 124	+ 32
315	355	+ 435	+ 260	+ 960	+ 260	+ 1360	+ 260	+ 2010	+ 260	+ 240	+ 130	+ 305	+ 130	+ 410	+ 130	+ 144	+ 34
355	400	+ 500	+ 290	+ 1150	+ 290	+ 1640	+ 290	+ 2390	+ 290	+ 280	+ 145	+ 355	+ 145	+ 475	+ 145	+ 173	+ 38

Diameter division mm		J6		JS6		J7		JS7		K5		K6		K7		M6	
Over	Incl.	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
—	3	+ 2	- 4	+ 3	- 3	+ 4	- 6	+ 5	- 5	0	- 4	0	- 6	0	- 10	- 2	- 8
3	6	+ 5	- 3	+ 4	- 4	+ 6	- 6	+ 6	- 6	0	- 5	+ 2	- 6	+ 3	- 9	- 1	- 9
6	10	+ 5	- 4	+ 4.5	- 4.5	+ 8	- 7	+ 7.5	- 7.5	+ 1	- 5	+ 2	- 7	+ 5	- 10	- 3	- 12
10	18	+ 6	- 5	+ 5.5	- 5.5	+ 10	- 8	+ 9	- 9	+ 2	- 6	+ 2	- 9	+ 6	- 12	- 4	- 15
18	30	+ 8	- 5	+ 6.5	- 6.5	+ 12	- 9	+ 10.5	- 10.5	+ 1	- 8	+ 2	- 11	+ 6	- 15	- 4	- 17
30	40	+ 10	- 6	+ 8	- 8	+ 14	- 11	+ 12.5	- 12.5	+ 2	- 9	+ 3	- 13	+ 7	- 18	- 4	- 20
40	50	+ 13	- 6	+ 9.5	- 9.5	+ 18	- 12	+ 15	- 15	+ 3	- 10	+ 4	- 15	+ 9	- 21	- 5	- 24
50	65	+ 16	- 6	+ 11	- 11	+ 22	- 13	+ 17.5	- 17.5	+ 2	- 13	+ 4	- 18	+ 10	- 25	- 6	- 28
65	80	+ 18	- 7	+ 12.5	- 12.5	+ 26	- 14	+ 20	- 20	+ 3	- 15	+ 4	- 21	+ 12	- 28	- 8	- 33
80	100	+ 22	- 7	+ 14.5	- 14.5	+ 30	- 16	+ 23	- 23	+ 2	- 18	+ 5	- 24	+ 13	- 33	- 8	- 37
100	120	+ 25	- 7	+ 16	- 16	+ 36	- 16	+ 26	- 26	+ 3	- 20	+ 5	- 27	+ 16	- 36	- 9	- 41
120	140	+ 29	- 7	+ 18	- 18	+ 39	- 18	+ 28.5	- 28.5	+ 3	- 22	+ 7	- 29	+ 17	- 40	- 10	- 46
140	160	+ 33	- 7	+ 20	- 20	+ 43	- 20	+ 31.5	- 31.5	+ 2	- 25	+ 8	- 32	+ 18	- 45	- 10	- 50
160	180	—	—	+ 22	- 22	—	—	+ 35	- 35	—	—	0	- 44	0	- 70	- 26	- 70
180	200	—	—	+ 25	- 25	—	—	+ 40	- 40	—	—	0	- 50	0	- 80	- 30	- 80
200	225	—	—	+ 28	- 28	—	—	+ 45	- 45	—	—	0	- 56	0	- 90	- 34	- 90
225	250	—	—	+ 33	- 33	—	—	+ 52.5	- 52.5	—	—	0	- 66	0	- 105	- 40	- 106
250	280	—	—	+ 39	- 39	—	—	+ 62.5	- 62.5	—	—	0	- 78	0	- 125	- 48	- 126
280	315	—	—	+ 46	- 46	—	—	+ 75	- 75	—	—	0	- 92	0	- 150	- 58	- 150
315	355	—	—	+ 55	- 55	—	—	+ 87.5	- 87.5	—	—	0	- 110	0	- 175	- 68	- 178
355	400	—	—	+ 67.5	- 67.5	—	—	+ 105	- 105	—	—	0	- 135	0	- 210	- 76	- 211

Unit: μm

Diameter division mm		G7		H6		H7		H8		H9		H10		H11		H13	
Over	Incl.	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
—	3	+ 12	+ 2	+ 6	0	+ 10	0	+ 14	0	+ 25	0	+ 40	0	+ 60	0	+ 140	0
3	6	+ 16	+ 4	+ 8	0	+ 12	0	+ 18	0	+ 30	0	+ 48	0	+ 75	0	+ 180	0
6	10	+ 20	+ 5	+ 9	0	+ 15	0	+ 22	0	+ 36	0	+ 58	0	+ 90	0	+ 220	0
10	18	+ 24	+ 6	+ 11	0	+ 18	0	+ 27	0	+ 43	0	+ 70	0	+ 110	0	+ 270	0
18	30	+ 28	+ 7	+ 13	0	+ 21	0	+ 33	0	+ 52	0	+ 84	0	+ 130	0	+ 330	0
30	40	+ 34	+ 9	+ 16	0	+ 25	0	+ 39	0	+ 62	0	+ 100	0	+ 160	0	+ 390	0
40	50	+ 40	+ 10	+ 19	0	+ 30	0	+ 46	0	+ 74	0	+ 120	0	+ 190	0	+ 460	0
50	65	+ 47	+ 12	+ 22	0	+ 35	0	+ 54	0	+ 87	0	+ 140	0	+ 220	0	+ 540	0
65	80	+ 54	+ 14	+ 25	0	+ 40	0	+ 63	0	+ 100	0	+ 160	0	+ 250	0	+ 630	0
80	100	+ 61	+ 15	+ 29	0	+ 46	0	+ 72	0	+ 115	0	+ 185	0	+ 290	0	+ 720	0
100	120	+ 69	+ 17	+ 32	0	+ 52	0	+ 81	0	+ 130	0	+ 210	0	+ 320	0	+ 810	0
120	140	+ 75	+ 18	+ 36	0	+ 57	0	+ 89	0	+ 140	0	+ 230	0	+ 360	0	+ 890	0
140	160	+ 83	+ 20	+ 40	0	+ 63	0	+ 97	0	+ 155	0	+ 250	0	+ 400	0	+ 970	0
160	180	+ 92	+ 22	+ 44	0	+ 70	0	+ 110	0	+ 175	0	+ 280	0	+ 440	0	+ 1100	0
180	200	+ 104	+ 24	+ 50	0	+ 80	0	+ 125	0	+ 200	0	+ 320	0	+ 500	0	+ 1250	0
200	225	+ 116	+ 26	+ 56	0	+ 90	0	+ 140	0	+ 230	0	+ 360	0	+ 560	0	+ 1400	0
225	250	+ 133	+ 28	+ 66	0	+ 105	0	+ 165	0	+ 260	0	+ 420	0	+ 660	0	+ 1650	0
250	280	+ 155	+ 30	+ 78	0	+ 125	0	+ 195	0	+ 310	0	+ 500	0	+ 780	0	+ 1950	0
280	315	+ 182	+ 32	+ 92	0	+ 150	0	+ 230	0	+ 370	0	+ 600	0	+ 920	0	+ 2300	0
315	355	+ 209	+ 34	+ 110	0	+ 175	0	+ 280	0	+ 440	0	+ 700	0	+ 1100	0	+ 2800	0
355	400	+ 248	+ 38	+ 135	0	+ 210	0	+ 330	0	+ 540	0	+ 860	0	+ 1350	0	+ 3300	0

Unit: μm

Diameter division mm		M7		N6		N7		P6		P7		R6		R7	
Over	Incl.	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower
—	3	- 2	- 12	- 4	- 10	- 4	- 14	- 6	- 12	- 6	- 16	- 10	- 16	- 10	- 20
3	6	0	- 12	- 5	- 13	- 4	- 16	- 9	- 17	- 8	- 20	- 12	- 20	- 11	- 23
6	10	0	- 15	- 7	- 16	- 4	- 19	- 12	- 21	- 9	- 24	- 16	- 25	- 13	- 28
10	18	0	- 18	- 9	- 20	- 5	- 23	- 15	- 26	- 11	-				

Appendix table-7: Basic tolerance

Unit:  $\mu\text{m}$

Basic dimension mm		IT basic tolerance class									
Over	Incl.	IT1	IT2	IT3	IT4	IT5	IT6	IT7	IT8	IT9	IT10
—	3	0.8	1.2	2	3	4	6	10	14	25	40
3	6	1	1.5	2.5	4	5	8	12	18	30	48
6	10	1	1.5	2.5	4	6	9	15	22	36	58
10	18	1.2	2	3	5	8	11	18	27	43	70
18	30	1.5	2.5	4	6	9	13	21	33	52	84
30	50	1.5	2.5	4	7	11	16	25	39	62	100
50	80	2	3	5	8	13	19	30	46	74	120
80	120	2.5	4	6	10	15	22	35	54	87	140
120	180	3.5	5	8	12	18	25	40	63	100	160
180	250	4.5	7	10	14	20	29	46	72	115	185
250	315	6	8	12	16	23	32	52	81	130	210
315	400	7	9	13	18	25	36	57	89	140	230
400	500	8	10	15	20	27	40	63	97	155	250
500	630	9	11	16	22	30	44	70	110	175	280
630	800	10	13	18	25	35	50	80	125	200	320
800	1 000	11	15	21	29	40	56	90	140	230	360
1 000	1 250	13	18	24	34	46	66	105	165	260	420
1 250	1 600	15	21	29	40	54	78	125	195	310	500
1 600	2 000	18	25	35	48	65	92	150	230	370	600
2 000	2 500	22	30	41	57	77	110	175	280	440	700
2 500	3 150	26	36	50	69	93	135	210	330	540	860

Appendix table-8: Viscosity conversion table

Dynamic viscosit mm <sup>2</sup> /s	Saybolt SUS (second)	Redwood R (second)	Engler E (degree)	Dynamic viscosit mm <sup>2</sup> /s	Saybolt SUS (second)	Redwood R (second)	Engler E (degree)
2.7	35	32.2	1.18	103	475	419	13.5
4.3	40	36.2	1.32	108	500	441	14.2
5.9	45	40.6	1.46	119	550	485	15.6
7.4	50	44.9	1.60	130	600	529	17.0
8.9	55	49.1	1.75	141	650	573	18.5
10.4	60	53.5	1.88	152	700	617	19.9
11.8	65	57.9	2.02	163	750	661	21.3
13.1	70	62.3	2.15	173	800	705	22.7
14.5	75	67.6	2.31	184	850	749	24.2
15.8	80	71.0	2.42	195	900	793	25.6
17.0	85	75.1	2.55	206	950	837	27.0
18.2	90	79.6	2.68	217	1 000	882	28.4
19.4	95	84.2	2.81	260	1 200	1 058	34.1
20.6	100	88.4	2.95	302	1 400	1 234	39.8
23.0	110	97.1	3.21	347	1 600	1 411	45.5
25.0	120	105.9	3.49	390	1 800	1 587	51
27.5	130	114.8	3.77	433	2 000	1 763	57
29.8	140	123.6	4.04	542	2 500	2 204	71
32.1	150	132.4	4.32	650	3 000	2 646	85
34.3	160	141.1	4.59	758	3 500	3 087	99
36.5	170	150.0	4.88	867	4 000	3 526	114
38.8	180	158.8	5.15	974	4 500	3 967	128
41.0	190	167.5	5.44	1 082	5 000	4 408	142
43.2	200	176.4	5.72	1 150	5 500	4 849	156
47.5	220	194.0	6.28	1 300	6 000	5 290	170
51.9	240	212	6.85	1 400	6 500	5 730	185
56.5	260	229	7.38	1 510	7 000	6 171	199
60.5	280	247	7.95	1 630	7 500	6 612	213
64.9	300	265	8.51	1 740	8 000	7 053	227
70.3	325	287	9.24	1 850	8 500	7 494	242
75.8	350	309	9.95	1 960	9 000	7 934	256
81.2	375	331	10.7	2 070	9 500	8 375	270
86.8	400	353	11.4	2 200	10 000	8 816	284
92.0	425	375	12.1				
97.4	450	397	12.8				



Appendix table-9: Kgf to N conversion table

kgf		N	kgf		N	kgf		N
0.1020	1	9.8066	3.4670	34	333.43	6.8321	67	657.04
0.2039	2	19.613	3.5690	35	343.23	6.9341	68	666.85
0.3059	3	29.420	3.6710	36	353.04	7.0361	69	676.66
0.4079	4	39.227	3.7730	37	362.85	7.1380	70	686.46
0.5099	5	49.033	3.8749	38	372.65	7.2400	71	696.27
0.6118	6	58.840	3.9769	39	382.46	7.3420	72	706.08
0.7138	7	68.646	4.0789	40	392.27	7.4440	73	715.88
0.8158	8	78.453	4.1808	41	402.07	7.5459	74	725.69
0.9177	9	88.260	4.2828	42	411.88	7.6479	75	735.50
1.0197	10	98.066	4.3848	43	421.68	7.7499	76	745.30
1.1217	11	107.87	4.4868	44	431.49	7.8518	77	755.11
1.2237	12	117.68	4.5887	45	441.30	7.9538	78	764.92
1.3256	13	127.49	4.6907	46	451.10	8.0558	79	774.72
1.4276	14	137.29	4.7927	47	460.91	8.1578	80	784.53
1.5296	15	147.10	4.8946	48	470.72	8.2597	81	794.34
1.6316	16	156.91	4.9966	49	480.52	8.3617	82	804.14
1.7335	17	166.71	5.0986	50	490.33	8.4637	83	813.95
1.8355	18	176.52	5.2006	51	500.14	8.5656	84	823.76
1.9375	19	186.33	5.3025	52	509.94	8.6676	85	833.56
2.0394	20	196.13	5.4045	53	519.75	8.7696	86	843.37
2.1414	21	205.94	5.5065	54	529.56	8.8716	87	853.18
2.2434	22	215.75	5.6085	55	539.36	8.9735	88	862.98
2.3454	23	225.55	5.7104	56	549.17	9.0755	89	872.79
2.4473	24	235.36	5.8124	57	558.98	9.1775	90	882.60
2.5493	25	245.17	5.9144	58	568.78	9.2794	91	892.40
2.6513	26	254.97	6.0163	59	578.59	9.3814	92	902.21
2.7532	27	264.78	6.1183	60	588.40	9.4834	93	912.02
2.8552	28	274.59	6.2203	61	598.20	9.5854	94	921.82
2.9572	29	284.39	6.3223	62	608.01	9.6873	95	931.63
3.0592	30	294.20	6.4242	63	617.82	9.7893	96	941.44
3.1611	31	304.01	6.5262	64	627.62	9.8913	97	951.24
3.2631	32	313.81	6.6282	65	637.43	9.9932	98	961.05
3.3651	33	323.62	6.7302	66	647.24	10.0952	99	970.86

[How to read the table] If for example you want to convert 10 kgf to N, find "10" in the middle column of the first set of columns. Look in the N column directly to the right of "10," and you will see that 10 kgf equals 98.066 N. Oppositely, to convert 10 N to kgf, look in the kgf column to the left of "10" and you will see that 10 N equals 1.0197 kgf.

1 kgf = 9.80665 N  
1 N = 0.101972 kgf

Appendix table-10: Inch / millimeter conversion table

Inch		0"	1"	2"	3"	4"	5"	6"	7"	8"	9"
Fraction	Decimal										
1/64	0.015625	0.397	25.400	50.800	76.200	101.600	127.000	152.400	177.800	203.200	228.600
1/32	0.031250	0.794	25.797	51.197	76.597	101.997	127.397	152.797	178.197	203.597	229.000
3/64	0.046875	1.191	26.194	51.594	76.994	102.394	127.794	153.194	178.594	203.994	229.394
1/16	0.062500	1.588	26.591	51.991	77.391	102.791	128.191	153.591	178.991	204.391	229.791
5/64	0.078125	1.984	26.988	52.388	77.788	103.188	128.588	153.988	179.388	204.788	230.188
3/32	0.093750	2.381	27.384	52.784	78.184	103.584	128.984	154.384	179.784	205.184	230.584
7/64	0.109375	2.778	27.781	53.181	78.581	103.981	129.381	154.781	180.181	205.581	230.981
1/8	0.125000	3.175	28.178	53.578	78.978	104.378	129.778	155.178	180.578	205.978	231.378
9/64	0.140625	3.572	28.575	53.975	79.375	104.775	130.175	155.575	180.975	206.375	231.775
5/32	0.156250	3.969	28.972	54.372	79.772	105.172	130.572	155.972	181.372	206.772	232.172
11/64	0.171875	4.366	29.369	54.769	80.169	105.569	130.969	156.369	181.769	207.169	232.569
3/16	0.187500	4.762	29.766	55.166	80.566	105.966	131.366	156.766	182.166	207.566	232.966
13/64	0.203125	5.159	30.162	55.562	80.962	106.362	131.762	157.162	182.562	207.962	233.362
7/32	0.218750	5.556	30.559	55.959	81.359	106.759	132.159	157.559	182.959	208.359	233.759
15/64	0.234375	5.953	30.956	56.356	81.756	107.156	132.556	157.956	183.356	208.756	234.156
1/4	0.250000	6.350	31.353	56.753	82.153	107.553	132.953	158.353	183.753	209.153	234.553
17/64	0.265625	6.747	31.750	57.150	82.550	107.950	133.350	158.750	184.150	209.550	234.950
9/32	0.281250	7.144	32.147	57.547	82.947	108.347	133.747	159.147	184.547	209.947	235.347
19/64	0.296875	7.541	32.544	57.944	83.344	108.744	134.144	159.544	184.944	210.344	235.744
5/16	0.312500	7.938	32.941	58.341	83.741	109.141	134.541	159.941	185.341	210.741	236.141
21/64	0.328125	8.334	33.338	58.738	84.138	109.538	134.938	160.338	185.738	211.138	236.538
11/32	0.343750	8.731	33.734	59.134	84.534	109.934	135.334	160.734	186.134	211.534	236.934
23/64	0.359375	9.128	34.131	59.531	84.931	110.331	135.731	161.131	186.531	211.931	237.331
3/8	0.375000	9.525	34.528	59.928	85.328	110.728	136.128	161.528	186.928	212.328	237.728
25/64	0.390625	9.922	34.925	60.325	85.725	111.125	136.525	161.925	187.325	212.725	238.125
13/32	0.406250	10.319	35.322	60.722	86.122	111.522	136.922	162.322	187.722	213.122	238.522
27/64	0.421875	10.716	35.719	61.119	86.519	111.919	137.319	162.719	188.119	213.519	238.919
7/16	0.437500	11.112	36.116	61.516	86.916	112.316	137.716	163.116	188.516	213.916	239.316
29/64	0.453125	11.509	36.512	61.912	87.312	112.712	138.112	163.512	188.912	214.312	239.712
15/32	0.468750	11.906	36.909	62.309	87.709	113.109	138.509	163.909	189.309	214.709	240.109
31/64	0.484375	12.303	37.306	62.706	88.106	113.506	138.906	164.306	189.706	215.106	240.506
1/2	0.500000	12.700	37.703	63.103	88.503	113.903	139.303	164.703	190.103	215.503	240.903
33/64	0.515625	13.097	38.100	63.500	88.900	114.300	139.700	165.100	190.500	215.900	241.300
17/32	0.531250	13.494	38.497	63.897	89.297	114.697	140.097	165.497	190.897	216.297	241.697
35/64	0.546875	13.891	38.894	64.294	89.694	115.094	140.494	165.894	191.294	216.694	242.094
9/16	0.562500	14.288	39.291	64.691	90.091	115.491	140.891	166.291	191.691	217.091	242.491
37/64	0.578125	14.684	39.688	65.088	90.488	115.888	141.283	166.688	192.088	217.488	242.888
19/32	0.593750	15.081	40.084	65.484	90.884	116.284	141.684	167.084	192.484	217.884	243.284
39/64	0.609375	15.478	40.481	65.881	91.281	116.681	142.081	167.481	192.881	218.281	243.681
5/8	0.625000	15.875	40.878	66.278	91.678	117.078	142.478	167.878	193.278	218.678	244.078
41/64	0.640625	16.272	41.275	66.675	92.075	117.475	142.875	168.275	193.675	219.075	244.475
21/32	0.656250	16.669	41.672	67.072	92.472	117.872	143.272	168.672	194.072	219.472	244.872
43/64	0.671875	17.066	42.069	67.469	92.869	118.269	143.669	169.069	194.469	219.869	245.269
11/16	0.687500	17.462	42.466	67.866	93.266	118.666	144.066	169.466	194.866	220.266	245.666
45/64	0.703125	17.859	42.862	68.262	93.662	119.062	144.462	169.862	195.262	220.662	246.062
23/32	0.718750	18.256	43.259	68.659	94.059	119.459	144.859	170.259	195.659	221.059	246.459
47/64	0.734375	18.653	43.656	69.056	94.456	119.856	145.256	170.656	196.056	221.456	246.856
3/4	0.750000	19.050	44.053	69.453	94.853	120.253	145.653	171.053	196.453	221.853	247.253
49/64	0.765625	19.447	44.450	69.850	95.250	120.650	146.050	171.450	196.850	222.250	247.650
25/32	0.781250	19.844	44.847	70.247	95.647	121.047	146.447	171.847	197.247	222.647	248.047
51/64	0.796875	20.241	45.244	70.644	96.044	121.444	146.844	172.244	197.644	223.044	248.444
13/16	0.812500	20.638	45.641	71.041	96.441	121.841	147.241	172.641	198.041	223.441	248.841
53/64	0.828125	21.034	46.038	71.438	96.838	122.238	147.638	173.038	198.438	223.838	249.238
27/32	0.843750	21.431	46.434	71.834	97.234	122.634	148.034	173.434	198.834	224.234	249.634
55/64	0.859375	21.828	46.831	72.231	97.631	123.031	148.431	173.831	199.231	224.631	250.031
7/8	0.875000	22.225	47.228	72.628	98.028	123.428	148.828	174.228	199.628	225.028	250.428
57/64	0.890625	22.622	47.625	73.025	98.425	123.825	149.225	174.625	200.025	225.425	250.825
29/32	0.906250	23.019	48.022	73.422	98.822	124.222	149.622	175.022	200.422	225.822	251.222
59/64	0.921875	23.416	48.419	73.819	99.219	124.619	150.019	175.419	200.819	226.219	251.619
15/16	0.937500	23.812	48.816	74.216	99.616	125.016	150.416	175.816	201.216	226.616	252.016
61/64</											

Appendix table-11: Hardness conversion table (reference)

Rockwell hardness C scale 1 471.0 N	Vickers hardness	Brinell hardness		Rockwell hardness		Shore hardness
		Standard steel balls	Tungsten carbide steel balls	A scale 588.4 N	B scale 980.7 N	
68	940			85.6		97
67	900			85.0		95
66	865			84.5		92
65	832		739	83.9		91
64	800		722	83.4		88
63	772		705	82.8		87
62	746		688	82.3		85
61	720		670	81.8		83
60	697		654	81.2		81
59	674		634	80.7		80
58	653		615	80.1		78
57	633		595	79.6		76
56	613		577	79.0		75
55	595	—	560	78.5		74
54	577	—	543	78.0		72
53	560	—	525	77.4		71
52	544	500	512	76.8		69
51	528	487	496	76.3		68
50	513	475	481	75.9		67
49	498	464	469	75.2		66
48	484	451	455	74.7		64
47	471	442	443	74.1		63
46	458	432	432	73.6		62
45	446	421	421	73.1		60
44	434	409	409	72.5		58
43	423	400	400	72.0		57
42	412	390	390	71.5		56
41	402	381	381	70.9		55
40	392	371	371	70.4	—	54
39	382	362	362	69.9	—	52
38	372	353	353	69.4	—	51
37	363	344	344	68.9	—	50
36	354	336	336	68.4	(109.0)	49
35	345	327	327	67.9	(108.5)	48
34	336	319	319	67.4	(108.0)	47
33	327	311	311	66.8	(107.5)	46
32	318	301	301	66.3	(107.0)	44
31	310	294	294	65.8	(106.0)	43
30	302	286	286	65.3	(105.5)	42
29	294	279	279	64.7	(104.5)	41
28	286	271	271	64.3	(104.0)	41
27	279	264	264	63.8	(103.0)	40
26	272	258	258	63.3	(102.5)	38
25	266	253	253	62.8	(101.5)	38
24	260	247	247	62.4	(101.0)	37
23	254	243	243	62.0	100.0	36
22	248	237	237	61.5	99.0	35
21	243	231	231	61.0	98.5	35
20	238	226	226	60.5	97.8	34
(18)	230	219	219	—	96.7	33
(16)	222	212	212	—	95.5	32
(14)	213	203	203	—	93.9	31
(12)	204	194	194	—	92.3	29
(10)	196	187	187	—	90.7	28
( 8)	188	179	179	—	89.5	27
( 6)	180	171	171	—	87.1	26
( 4)	173	165	165	—	85.5	25
( 2)	166	158	158	—	83.5	24
( 0)	160	152	152	—	81.7	24

Remarks: Quoted from hardness conversion table (SAE J 417)

Appendix table-12: Greek alphabet list

Roman type (upright)	Italic type (slanted)		Name
	Upper case	Lower case	
A	<i>A</i>	<i>α</i>	Alpha
B	<i>B</i>	<i>β</i>	Beta
Γ	<i>Γ</i>	<i>γ</i>	Gamma
Δ	<i>Δ</i>	<i>δ</i>	Delta
E	<i>E</i>	<i>ε</i>	Epsilon
Z	<i>Z</i>	<i>ζ</i>	Zeta
H	<i>H</i>	<i>η</i>	Eta
Θ	<i>Θ</i>	<i>θ</i>	Theta
I	<i>I</i>	<i>ι</i>	Iota
K	<i>K</i>	<i>κ</i>	Kappa
Λ	<i>Λ</i>	<i>λ</i>	Lambda
M	<i>M</i>	<i>μ</i>	Mu
N	<i>N</i>	<i>ν</i>	Nu
Ξ	<i>Ξ</i>	<i>ξ</i>	Xi
O	<i>O</i>	<i>ο</i>	Omicron
Π	<i>Π</i>	<i>π</i>	Pi
P	<i>P</i>	<i>ρ</i>	Rho
Σ	<i>Σ</i>	<i>σ</i>	Sigma
T	<i>T</i>	<i>τ</i>	Tau
Υ	<i>Υ</i>	<i>υ</i>	Upsilon
Φ	<i>Φ</i>	<i>φ</i>	Phi
X	<i>X</i>	<i>χ</i>	Khi
Ψ	<i>Ψ</i>	<i>ψ</i>	Psi
Ω	<i>Ω</i>	<i>ω</i>	Omega