

Note: ABEC-1 & 3 stocked as half-pairs, where available.

7100 Series bearings are similar to the 7100-KR Series but have a larger O.D. and narrower width, and are used for one-directional thrust loads or combined radial and thrust loads where the thrust load is predominant.

"D" indicates a duplex ground half pair matched with an identical half pair and is followed by an additional suffix letter to describe the type of duplex. See pages 236 and 237 for suffix description.

Caution: Single bearings are not to be used where only radial loads are present. For two-direction thrust loads, use duplex bearings.

Values for -D bearings are for back-to-back (DB) or face-to-face (DF) mounting arrangements.

MRC Bearing Number	Bore		Outside Diameter D		Width B		Fillet Radius ¹⁾				Basic Radial Load Rating ²⁾				Speed Rating ³⁾	
											Dynamic C _d ⁴⁾		Static C ₀		Grease RPM	Oil RPM
											N	lbf	N	lbf		
7120	100	3.9370	160	6.2992	28	1.1024	2.0	.08	1.0	.040	85 200	19 200	86 500	19 400	2 600	4 300
7122	110	4.3307	175	6.8898	30	1.1811	2.0	.08	1.0	.040	104 000	23 400	108 000	24 300	2 400	4 000
7124	120	4.7244	190	7.4803	32	1.2598	2.0	.08	1.0	.040	108 000	24 300	127 000	28 600	2 200	3 700
7126	130	5.1181	205	8.0709	34	1.3386	2.0	.08	1.0	.040	121 000	27 200	134 000	30 100	2 100	3 500
7128	140	5.5118	220	8.6614	36	1.4173	2.0	.08	1.0	.040	138 000	31 000	156 000	35 100	1 900	3 200
7130	150	5.9055	235	9.2520	38	1.4961	2.0	.08	1.0	.040	159 000	35 700	180 000	40 500	1 700	2 800
7132	160	6.2992	250	9.8425	40	1.5748	2.0	.08	1.0	.040	174 000	39 100	204 000	45 900	1 600	2 700
7134	170	6.6929	265	10.4331	42	1.6535	2.5	.10	1.0	.040	190 000	42 700	232 000	52 200	1 600	2 700
7136	180	7.0866	280	11.0236	44	1.7323	2.5	.10	1.0	.040	208 000	46 800	260 000	58 500	1 600	2 600
7138	190	7.4803	300	11.8110	46	1.8110	2.5	.10	1.0	.040	242 000	54 400	315 000	70 800	1 400	2 400
7140	200	7.8740	320	12.5984	48	1.8898	2.5	.10	1.0	.040	260 000	58 500	355 000	79 800	1 400	2 300
7142	210	8.2677	340	13.3858	50	1.9685	2.5	.10	1.0	.040	286 000	64 300	400 000	89 900	1 400	2 300
7144	220	8.6614	350	13.7795	51	2.0079	2.5	.10	1.0	.040	291 000	65 400	415 000	93 300	1 300	2 200
7146	230	9.0551	370	14.5669	53	2.0866	3.0	.12	1.0	.040	312 000	70 100	455 000	102 000	1 200	2 000
7148	240	9.4488	390	15.3543	55	2.1654	3.0	.12	1.0	.040	332 000	74 600	500 000	112 000	1 100	1 900
7152	260	10.2362	430	16.9291	59	2.3228	3.0	.12	1.0	.040	364 000	81 800	585 000	132 000	1 100	1 800
7156	280	11.0236	460	18.1102	63	2.4803	3.0	.12	1.0	.040	403 000	90 600	600 000	135 000	1 100	1 800
7164	320	12.5984	500	19.6850	71	2.7953	3.0	.12	1.0	.040	462 000	104 000	815 000	183 000	960	1 600

7100-D

7120-D	100	3.9370	160	6.2992	56	2.2047	2.0	.08	1.0	.040	140 000	31 500	173 000	38 900	2 100	3 400
7122-D	110	4.3307	175	6.8898	60	2.3622	2.0	.08	1.0	.040	168 000	37 800	216 000	48 600	1 900	3 200
7124-D	120	4.7244	190	7.4803	64	2.5197	2.0	.08	1.0	.040	178 000	40 000	255 000	57 300	1 800	3 000
7126-D	130	5.1181	205	8.0709	68	2.6772	2.0	.08	1.0	.040	195 000	43 800	270 000	60 700	1 700	2 800
7128-D	140	5.5118	220	8.6614	72	2.8346	2.0	.08	1.0	.040	225 000	50 600	310 000	69 700	1 500	2 600
7130-D	150	5.9055	235	9.2520	76	2.9921	2.0	.08	1.0	.040	255 000	57 300	360 000	80 900	1 400	2 200
7132-D	160	6.2992	250	9.8425	80	3.1496	2.0	.08	1.0	.040	286 000	64 300	405 000	91 000	1 300	2 200
7134-D	170	6.6929	265	10.4331	84	3.3071	2.5	.10	1.0	.040	312 000	70 100	465 000	105 000	1 300	2 200
7136-D	180	7.0866	280	11.0236	88	3.4646	2.5	.10	1.0	.040	338 000	76 000	520 000	117 000	1 300	2 100
7138-D	190	7.4803	300	11.8110	92	3.6220	2.5	.10	1.0	.040	390 000	87 700	630 000	142 000	1 100	1 900
7140-D	200	7.8740	320	12.5984	96	3.7795	2.5	.10	1.0	.040	423 000	95 100	695 000	156 000	1 100	1 800
7142-D	210	8.2677	340	13.3858	100	3.9370	2.5	.10	1.0	.040	468 000	105 000	800 000	180 000	1 100	1 800
7144-D	220	8.6614	350	13.7795	102	4.0157	2.5	.10	1.0	.040	475 000	107 000	830 000	187 000	1 000	1 800
7146-D	230	9.0551	370	14.5669	106	4.1732	3.0	.12	1.0	.040	507 000	114 000	915 000	206 000	960	1 600
7148-D	240	9.4488	390	15.3543	110	4.3307	3.0	.12	1.0	.040	540 000	121 000	1 000 000	225 000	880	1 500
7152-D	260	10.2362	430	16.9291	118	4.6457	3.0	.12	1.0	.040	592 000	133 000	1 160 000	261 000	880	1 400
7156-D	280	11.0236	460	18.1102	126	4.9606	3.0	.12	1.0	.040	663 000	149 000	1 200 000	270 000	880	1 400
7164-D	320	12.5984	500	19.6850	142	5.5904	3.0	.12	1.0	.040	761 000	171 000	1 630 000	366 000	770	1 300

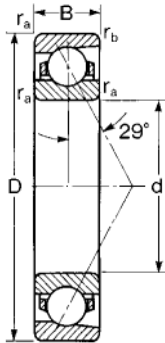
¹⁾ Fillet radius indicates maximum fillet radius on shaft or in housing which bearing corner will clear.

²⁾ For thrust rating multiply C by 1.32 and C₀ by 2.94.

³⁾ Listed values are for machined bronze cage, ABEC-1.

For phenolic composition cage, multiply by 1.33 for both grease and oil. For phenolic composition cage, ABEC-5 or 7, multiply by 1.86 for both grease and oil. For pressed steel cage, ABEC-1, multiply by 0.67 for grease and 0.80 for oil. The speed rating adjustment factors have been determined through historical application and practice. For a more complete explanation, see page 276

⁴⁾ Rating for one million revolutions or 500 hours at 33 1/3 RPM.



This series is available in bore sizes ranging from 10 mm to 320 mm. One-piece machined nonmetallic or solid bronze cages are considered standard for this series. These bearings are appropriate for use with moderate one-directional thrust loads, or combined radial and thrust loads where the thrust load is predominant.

Caution: Single bearings are not to be used where only radial loads are present. For two-direction thrust loads, use duplex bearings.

MRC Bearing Number	Bore		Outside Diameter D		Width B		Fillet Radius ¹⁾				Basic Radial Load Rating ²⁾				Speed Rating ³⁾	
											Dynamic C ⁴⁾		Static C ₀		Grease RPM	Oil RPM
	d mm	in	mm	in	mm	in	r _a mm	in	r _b mm	in	N	lbf	N	lbf		
7100-KR	10	.3937	26	1.0236	8	.3150	.30	.012	.10	.004	4 620	1 040	2 000	450	23 000	39 000
7101-KR	12	.4724	28	1.1024	8	.3150	.30	.012	.10	.004	4 940	1 110	2 500	562	19 000	32 000
7102-KR	15	.5906	32	1.2598	9	.3543	.30	.012	.10	.004	5 400	1 210	2 900	652	17 000	28 000
7103-KR	17	.6693	35	1.3780	10	.3937	.30	.012	.10	.004	7 610	1 710	4 250	955	15 000	25 000
7104-KR	20	.7874	42	1.6535	12	.4724	.64	.025	.30	.012	9 560	2 150	5 700	1 280	13 000	21 000
7105-KR	25	.9843	47	1.8504	12	.4724	.64	.025	.30	.012	10 600	2 380	6 950	1 560	9 600	16 000
7106-KR	30	1.1811	55	2.1654	13	.5118	1.0	.04	.30	.012	13 800	3 100	9 650	2 170	8 400	14 000
7107-KR	35	1.3780	62	2.4409	14	.5512	1.0	.04	.30	.012	16 800	3 780	12 000	2 700	7 200	12 000
7108-KR	40	1.5748	68	2.6772	15	.5906	1.0	.04	.30	.012	17 200	3 870	13 200	2 970	6 600	11 000
7109-KR	45	1.7717	75	2.9528	16	.6299	1.0	.04	.30	.012	21 200	4 770	17 000	3 820	5 700	9 800
7110-KR	50	1.9685	80	3.1496	16	.6299	1.0	.04	.30	.012	22 100	4 970	18 300	4 110	5 400	9 000
7111-KR	55	2.1654	90	3.5433	18	.7087	1.0	.04	.60	.024	29 600	6 650	25 500	5 730	4 900	8 200
7112-KR	60	2.3622	95	3.7402	18	.7087	1.0	.04	.60	.024	30 700	6 900	27 000	6 070	4 400	7 400
7113-KR	65	2.5591	100	3.9370	18	.7087	1.0	.04	.60	.024	31 200	7 010	29 000	6 520	4 200	7 000
7114-KR	70	2.7559	110	4.3307	20	.7874	1.0	.04	.60	.024	34 500	7 760	35 500	7 980	3 900	6 500
7115-KR	75	2.9528	115	4.5276	20	.7874	1.0	.04	.60	.024	37 700	8 480	37 500	8 430	3 700	6 100
7116-KR	80	3.1496	125	4.9213	22	.8661	1.0	.04	.60	.024	48 800	11 000	49 000	11 000	3 500	5 800
7117-KR	85	3.3465	130	5.1181	22	.8661	1.0	.04	.60	.024	49 400	11 100	52 000	11 700	3 200	5 300
7118-KR	90	3.5433	140	5.5118	24	.9449	1.5	.06	.60	.024	58 500	13 200	61 000	13 700	2 900	4 900
7119-KR	95	3.7402	145	5.7087	24	.9449	1.5	.06	.60	.024	71 500	16 100	72 000	16 200	2 800	4 700
7120-KR	100	3.9370	150	5.9055	24	.9449	1.5	.06	1.0	.040	62 400	14 000	68 000	15 300	2 700	4 500
7121-KR	105	4.1339	160	6.2992	26	1.0236	2.0	.08	1.0	.040	74 100	16 700	80 000	18 000	2 600	4 300
7122-KR	110	4.3307	170	6.6929	28	1.1024	2.0	.08	1.0	.040	87 100	19 600	91 500	20 600	2 500	3 800
7124-KR	120	4.7244	180	7.0866	28	1.1024	2.0	.08	1.0	.040	88 400	19 900	98 000	22 000	2 300	3 800
7126-KR	130	5.1181	200	7.8740	33	1.2992	2.0	.08	1.0	.040	121 000	27 200	134 000	30 100	2 100	3 500
7128-KR	140	5.5118	210	8.2677	33	1.2992	2.0	.08	1.0	.040	121 000	27 200	137 000	30 800	2 000	3 300
7130-KR	150	5.9055	225	8.8583	35	1.3780	2.0	.08	1.0	.040	135 000	30 300	156 000	35 100	1 700	2 900
7132-KR	160	6.2992	240	9.4488	38	1.4961	2.0	.08	1.0	.040	156 000	35 100	180 000	40 500	1 700	2 800
7134-KR	170	6.6929	260	10.2362	42	1.6535	2.0	.08	1.0	.040	186 000	41 800	220 000	49 500	1 600	2 700
7136-KR	180	7.0866	280	11.0236	46	1.8110	2.0	.08	1.0	.040	208 000	46 800	260 000	58 500	1 600	2 600
7138-KR	190	7.4803	290	11.4173	46	1.8110	2.0	.08	1.0	.040	212 000	47 700	270 000	60 700	1 400	2 400
7140-KR	200	7.8740	310	12.2047	51	2.0079	2.0	.08	1.0	.040	238 000	53 500	320 000	71 900	1 400	2 300
7144-KR	220	8.6614	340	13.3858	56	2.2047	2.5	.10	1.0	.040	302 000	67 900	430 000	96 700	1 300	2 200
7148-KR	240	9.4488	360	14.1732	56	2.2047	2.5	.10	1.0	.040	307 000	69 000	455 000	102 000	1 200	2 000
7152-KR	260	10.2362	400	15.7480	65	2.5591	3.0	.12	1.5	.060	377 000	84 800	585 000	132 000	1 100	1 900
7156-KR	280	11.0236	420	16.5354	65	2.5591	3.0	.12	1.5	.060	390 000	87 700	620 000	139 000	1 100	1 900
7160-KR	300	11.8110	460	18.1102	74	2.9134	3.0	.12	1.5	.060	449 000	101 000	765 000	172 000	1 000	1 700
7164-KR	320	12.5984	480	18.8976	74	2.9134	3.0	.12	1.5	.060	462 000	104 000	815 000	183 000	960	1 600

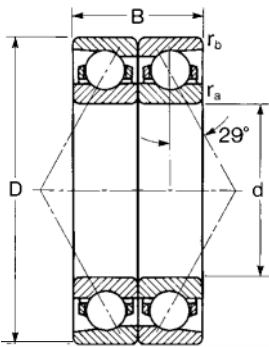
¹⁾ Fillet radius indicates maximum fillet radius on shaft or in housing which bearing corner will clear.

²⁾ For thrust rating multiply C by 1.32 and C₀ by 2.94.

³⁾ Listed values are for machined bronze cage, ABEC-1.

For phenolic composition cage, multiply by 1.33 for both grease and oil. For phenolic composition cage, ABEC-5 or 7, multiply by 1.86 for both grease and oil. For pressed steel cage, ABEC-1, multiply by 0.67 for grease and 0.80 for oil. The speed rating adjustment factors have been determined through historical application and practice. For a more complete explanation, see page 276

⁴⁾ Rating for one million revolutions or 500 hours at 33 1/3 RPM.



"D" indicates a duplex ground half pair matched with an identical half pair and is followed by an additional suffix letter to describe the type of duplex. See pages 236 and 237 for suffix description.

Note: ABEC - 1 & 3 stocked as half-pairs, where available.

Use these values for back-to-back (DB) or face-to-face (DF) mounting arrangements.

MRC Bearing Number	Bore		Outside Diameter		Width		Fillet Radius ¹⁾				Basic Radial Load Rating ²⁾				Speed Rating ³⁾	
	d	mm	D	mm	B	mm	r _a	r _b	mm	in	Dynamic C _d ⁴⁾		Static C _s		Grease RPM	Oil RPM
											N	lbf	N	lbf		
7100-KRD	10	.3937	26	1.0236	16	.6299	.30	.012	.10	.004	7 610	1 710	4 150	933	24 000	31 000
7101-KRD	12	.4724	28	1.1024	16	.6299	.30	.012	.10	.004	8 060	1 810	5 000	1 120	20 000	26 000
7102-KRD	15	.5906	32	1.2598	18	.7087	.30	.012	.10	.004	8 840	1 990	5 850	1 320	18 000	22 000
7103-KRD	17	.6693	35	1.3780	20	.7874	.30	.012	.10	.004	12 500	2 810	8 500	1 910	15 000	20 000
7104-KRD	20	.7874	42	1.6535	24	.9449	.64	.025	.30	.012	15 600	3 510	11 400	2 560	13 000	17 000
7105-KRD	25	.9843	47	1.8504	24	.9449	.64	.025	.30	.012	17 400	3 910	14 000	3 150	9 600	13 000
7106-KRD	30	1.1811	55	2.1654	26	1.0236	1.0	.04	.30	.012	22 500	5 060	19 300	4 340	8 800	11 000
7107-KRD	35	1.3780	62	2.4409	28	1.1024	1.0	.04	.30	.012	27 600	6 200	24 000	5 400	7 400	9 600
7108-KRD	40	1.5748	68	2.6772	30	1.1811	1.0	.04	.30	.012	28 100	6 320	26 000	5 850	6 800	8 800
7109-KRD	45	1.7717	75	2.9528	32	1.2598	1.0	.04	.30	.012	34 500	7 760	34 000	7 640	6 000	7 800
7110-KRD	50	1.9685	80	3.1496	32	1.2598	1.0	.04	.30	.012	35 800	8 050	36 500	8 210	5 500	7 200
7111-KRD	55	2.1654	90	3.5433	36	1.4173	1.0	.04	.60	.024	47 500	10 700	51 000	11 500	5 000	6 600
7112-KRD	60	2.3622	95	3.7402	36	1.4173	1.0	.04	.60	.024	49 400	11 100	54 000	12 100	4 600	5 900
7113-KRD	65	2.5591	100	3.9370	36	1.4173	1.0	.04	.60	.024	50 700	11 400	58 500	13 200	4 300	5 600
7114-KRD	70	2.7559	110	4.3307	40	1.5748	1.0	.04	.60	.024	55 900	12 600	71 000	16 000	4 000	5 200
7115-KRD	75	2.9528	115	4.5276	40	1.5748	1.0	.04	.60	.024	61 800	13 900	75 000	16 900	3 800	4 900
7116-KRD	80	3.1496	125	4.9213	44	1.7323	1.0	.04	.60	.024	79 300	17 800	98 000	22 000	3 600	4 600
7117-KRD	85	3.3465	130	5.1181	44	1.7323	1.0	.04	.60	.024	80 600	18 100	104 000	23 400	3 300	4 200
7118-KRD	90	3.5433	140	5.5118	48	1.8898	1.5	.06	.60	.024	95 600	21 500	122 000	27 400	3 000	3 900
7119-KRD	95	3.7402	145	5.7087	48	1.8898	1.5	.06	.60	.024	117 000	26 300	143 000	32 100	2 900	3 800
7120-KRD	100	3.9370	150	5.9055	48	1.8898	1.5	.06	1.0	.040	101 000	22 700	137 000	30 800	2 800	3 600
7121-KRD	105	4.1339	160	6.2992	52	2.0472	2.0	.08	1.0	.040	121 000	27 200	160 000	36 000	2 600	3 400
7122-KRD	110	4.3307	170	6.6929	56	2.2047	2.0	.08	1.0	.040	140 000	31 500	183 000	41 100	2 600	3 300
7124-KRD	120	4.7244	180	7.0866	56	2.2047	2.0	.08	1.0	.040	143 000	32 100	196 000	44 100	2 300	3 000
7126-KRD	130	5.1181	200	7.8740	66	2.5984	2.0	.08	1.0	.040	195 000	43 800	270 000	60 700	2 200	2 800
7128-KRD	140	5.5118	210	8.2677	66	2.5984	2.0	.08	1.0	.040	195 000	43 800	270 000	60 700	2 000	2 600
7130-KRD	150	5.9055	225	8.8583	70	2.7559	2.0	.08	1.0	.040	221 000	49 700	315 000	70 800	1 800	2 300
7132-KRD	160	6.2992	240	9.4488	76	2.9921	2.0	.08	1.0	.040	255 000	57 300	360 000	80 900	1 800	2 200
7134-KRD	170	6.6929	260	10.2362	84	3.3071	2.0	.08	1.0	.040	302 000	67 900	440 000	98 900	1 700	2 200
7136-KRD	180	7.0866	280	11.0236	92	3.6220	2.0	.08	1.0	.040	338 000	76 000	520 000	117 000	1 600	2 100
7138-KRD	190	7.4803	290	11.4173	92	3.6220	2.0	.08	1.0	.040	345 000	77 600	540 000	121 000	1 400	1 900
7140-KRD	200	7.8740	310	12.2047	102	4.0157	2.0	.08	1.0	.040	390 000	87 700	640 000	144 000	1 400	1 800
7144-KRD	220	8.6614	340	13.3858	112	4.4094	2.5	.10	1.0	.040	494 000	111 000	865 000	194 000	1 400	1 800
7148-KRD	240	9.4488	360	14.1732	112	4.4094	2.5	.10	1.0	.040	494 000	111 000	915 000	206 000	1 200	1 600
7152-KRD	260	10.2362	400	15.7480	130	5.1181	3.0	.12	1.5	.060	618 000	139 000	1 180 000	265 000	1 200	1 500
7156-KRD	280	11.0236	420	16.5354	130	5.1181	3.0	.12	1.5	.060	637 000	143 000	1 250 000	281 000	1 200	1 500
7160-KRD	300	11.8110	460	18.1102	148	5.8268	3.0	.12	1.5	.060	728 000	164 000	1 580 000	355 000	1 000	1 400
7164-KRD	320	12.5984	480	18.8976	148	5.8268	3.0	.12	1.5	.060	761 000	171 000	1 630 000	366 000	960	1 300

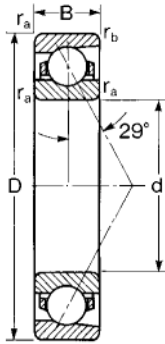
¹⁾ Fillet radius indicates maximum fillet radius on shaft or in housing which bearing corner will clear.

²⁾ For thrust rating multiply C by 0.81 and C_s by 1.47.

³⁾ Listed values are for machined bronze cage, ABEC-1.

For phenolic composition cage, multiply by 1.33 for both grease and oil. For phenolic composition cage, ABEC-5 or 7, multiply by 1.86 for both grease and oil. For pressed steel cage, ABEC-1, multiply by 0.67 for grease and 0.80 for oil. The speed rating adjustment factors have been determined through historical application and practice. For a more complete explanation, see page 276

⁴⁾ Rating for one million revolutions or 500 hours at 33 1/3 RPM.



The 7200 Series contains single-row angular contact bearings with a counterbored outer ring. Bore sizes range from 10 mm to 320 mm, and most of these bearings are available with a two-piece pressed steel cage, or a one-piece nonmetallic or solid bronze cage. 7000 Series bearings are designed with an initial contact angle of 29 degrees, although some small sizes may have a lesser angle. 7200 Series bearings can be used with moderate to heavy one-directional thrust loads, or combined radial and thrust loads where the thrust load is predominant.

Caution: Single bearings are not to be used where only radial loads are present. For two-direction thrust loads, use duplex bearings.

MRC Bearing Number	Bore		Outside Diameter D		Width B		Fillet Radius ¹⁾				Basic Radial Load Rating ²⁾				Speed Rating ³⁾	
											Dynamic C ⁴⁾		Static C ₀		Grease RPM	Oil RPM
											N	lbf	N	lbf		
7200	10	.3937	30	1.1811	9	.3543	.64	.025	.30	.012	5 400	1 210	2 750	618	28 000	36 000
7201	12	.4724	32	1.2598	10	.3937	.64	.025	.30	.012	6 240	1 400	3 200	719	22 000	29 000
7202	15	.5906	35	1.3780	11	.4331	.64	.025	.30	.012	9 040	2 030	4 750	1 070	20 000	26 000
7203	17	.6693	40	1.5748	12	.4724	.64	.025	.30	.012	11 900	2 680	6 550	1 470	18 000	23 000
7204	20	.7874	47	1.8504	14	.5512	.64	.04	.60	.024	12 700	2 860	7 200	1 620	15 000	19 000
7205	25	.9843	52	2.0472	15	.5906	1.0	.04	.60	.024	15 300	3 440	9 500	2 140	12 000	16 000
7206	30	1.1811	62	2.4409	16	.6299	1.0	.04	.60	.024	16 800	3 780	11 800	2 650	10 000	13 000
7207	35	1.3780	72	2.8346	17	.6693	1.0	.04	.60	.024	23 400	5 260	17 000	3 820	9 200	12 000
7208	40	1.5748	80	3.1496	18	.7087	1.0	.04	.60	.024	30 700	6 900	22 800	5 130	7 700	10 000
7209	45	1.7717	85	3.3465	19	.7480	1.0	.04	.60	.024	30 700	6 900	23 200	5 220	7 300	9 500
7210	50	1.9685	90	3.5433	20	.7874	1.0	.04	.60	.024	33 200	7 460	27 000	6 070	6 400	8 300
7211	55	2.1654	100	3.9370	21	.8268	1.5	.06	1.0	.040	48 800	11 000	37 500	8 430	6 000	7 800
7212	60	2.3622	110	4.3307	22	.8661	1.5	.06	1.0	.040	52 700	11 800	44 000	9 890	5 400	7 000
7213	65	2.5591	120	4.7244	23	.9055	1.5	.06	1.0	.040	63 700	14 300	54 000	12 100	4 900	6 400
7214	70	2.7559	125	4.9213	24	.9449	1.5	.06	1.0	.040	63 700	14 300	55 000	12 400	4 600	6 000
7215	75	2.9528	130	5.1181	25	.9843	1.5	.06	1.0	.040	79 300	17 800	69 500	15 600	4 300	5 600
7216	80	3.1496	140	5.5118	26	1.0236	2.0	.08	1.0	.040	74 100	16 700	67 000	15 100	4 100	5 300
7217	85	3.3465	150	5.9055	28	1.1024	2.0	.08	1.0	.040	90 400	20 300	83 000	18 700	3 800	4 900
7218	90	3.5433	160	6.2992	30	1.1811	2.0	.08	1.0	.040	117 000	26 300	118 000	26 500	3 600	4 700
7219	95	3.7402	170	6.6929	32	1.2598	2.0	.08	1.0	.040	121 000	27 200	114 000	25 600	3 500	4 500
7220	100	3.9370	180	7.0866	34	1.3386	2.0	.08	1.0	.040	138 000	31 000	129 000	29 000	3 200	4 100
7221	105	4.1339	190	7.4803	36	1.4173	2.0	.08	1.0	.040	148 000	33 300	137 000	30 800	3 000	3 900
7222	110	4.3307	200	7.8740	38	1.4961	2.0	.08	1.0	.040	163 000	36 600	156 000	35 100	2 900	3 800
7224	120	4.7244	215	8.4646	40	1.5748	2.0	.08	1.0	.040	174 000	39 100	176 000	39 600	2 700	3 500
7226	130	5.1181	230	9.0551	40	1.5748	2.5	.10	1.0	.040	195 000	43 800	208 000	46 800	2 500	3 200
7228	140	5.5118	250	9.8425	42	1.6535	2.5	.10	1.0	.040	208 000	46 800	232 000	52 200	2 300	3 000
7230	150	5.9055	270	10.6299	45	1.7717	2.5	.10	1.0	.040	242 000	54 400	280 000	62 900	2 100	2 700
7232	160	6.2992	290	11.4173	48	1.8898	2.5	.10	1.0	.040	270 000	60 700	325 000	73 100	2 000	2 600
7234	170	6.6929	310	12.2047	52	2.0472	3.0	.12	1.0	.040	286 000	64 300	365 000	82 100	1 900	2 500
7236	180	7.0866	320	12.5984	52	2.0472	3.0	.12	1.0	.040	302 000	67 900	390 000	87 700	1 900	2 400
7238	190	7.4803	340	13.3858	55	2.1654	3.0	.12	1.0	.040	332 000	74 600	450 000	101 000	1 700	2 200
7240	200	7.8740	360	14.1732	58	2.2835	3.0	.12	1.0	.040	351 000	78 900	490 000	110 000	1 600	2 100
7242	210	8.2677	380	14.9606	61	2.4016	3.0	.12	1.0	.040	390 000	87 700	560 000	126 000	1 500	2 000
7244	220	8.6614	400	15.7480	65	2.5591	3.0	.12	1.0	.040	403 000	90 600	600 000	135 000	1 500	2 000
7246	230	9.0551	420	16.5354	68	2.6772	3.0	.12	1.0	.040	442 000	99 400	670 000	151 000	1 500	1 900
7248	240	9.4488	440	17.3228	72	2.8346	3.0	.12	1.0	.040	475 000	107 000	750 000	169 000	1 400	1 800
7250	250	9.8425	460	18.1102	76	2.9921	4.0	.16	1.5	.060	520 000	117 000	830 000	187 000	1 400	1 800
7252	260	10.2362	480	18.8976	80	3.1496	4.0	.16	1.5	.060	559 000	126 000	915 000	206 000	1 300	1 700
7256	280	11.0236	500	19.6850	80	3.1496	4.0	.16	1.5	.060	572 000	129 000	980 000	220 000	1 300	1 700
7260	300	11.8110	540	21.2598	85	3.3465	4.0	.16	1.5	.060	618 000	139 000	1 100 000	247 000	1 200	1 600
7264	320	12.5984	580	22.8346	92	3.6220	4.0	.16	1.5	.060	650 000	146 000	1 220 000	274 000	1 200	1 500

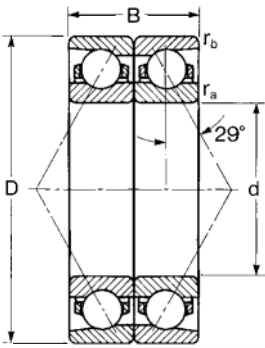
¹⁾ Fillet radius indicates maximum fillet radius on shaft or in housing which bearing corner will clear.

²⁾ For thrust rating multiply C by 1.32 and C₀ by 2.94.

³⁾ Listed values are for machined bronze cage, ABEC-1.

For phenolic composition cage, multiply by 1.33 for both grease and oil. For phenolic composition cage, ABEC-5 or 7, multiply by 1.86 for both grease and oil. For pressed steel cage, ABEC-1, multiply by 0.67 for grease and 0.80 for oil. The speed rating adjustment factors have been determined through historical application and practice. For a more complete explanation, see page 276

⁴⁾ Rating for one million revolutions or 500 hours at 33 1/3 RPM.



Note: ABEC-1 & 3 stocked as half-pairs, where available.

“D” indicates a duplex ground half pair matched with an identical half pair and is followed by an additional suffix letter to describe the type of duplex. See pages 236 and 237 for suffix description.

For duplex sets of 7000 and 9000 series bearings see page 239

Use these values for back-to-back (DB) or face-to-face (DF) mounting arrangements.

MRC Bearing Number	Bore		Outside Diameter D		Width B		Fillet Radius ¹⁾				Basic Radial Load Rating ²⁾				Speed Rating ³⁾	
											Dynamic C _d		Static C ₀		Grease	Oil
	d	mm	in	mm	in	mm	in	mm	in	mm	in	N	lbf	N	lbf	RPM
7200-D	10	.3937	30	1.1811	18	.7087	.64	.025	.30	.012	8 840	1 900	5 500	1 240	22 000	29 000
7201-D	12	.4724	32	1.2598	20	.7874	.64	.025	.30	.012	10 100	2 270	6 400	1 440	18 000	23 000
7202-D	15	.5906	35	1.3780	22	.8661	.64	.025	.30	.012	14 800	3 330	9 500	2 140	16 000	21 000
7203-D	17	.6693	40	1.5748	24	.9449	.64	.025	.30	.012	19 500	4 380	13 200	2 970	14 000	18 000
7204-D	20	.7874	47	1.8504	28	1.1024	1.0	.04	.60	.024	20 800	4 680	14 600	3 280	12 000	15 000
7205-D	25	.9843	52	2.0472	30	1.1811	1.0	.04	.60	.024	25 100	5 640	19 000	4 270	9 600	13 000
7206-D	30	1.1811	62	2.4409	32	1.2598	1.0	.04	.60	.024	27 600	6 200	23 600	5 310	8 000	10 000
7207-D	35	1.3780	72	2.8346	34	1.3386	1.0	.04	.60	.024	37 700	8 480	34 000	7 640	7 400	9 600
7208-D	40	1.5748	80	3.1496	36	1.4173	1.0	.04	.60	.024	49 400	11 100	45 500	10 200	6 200	8 000
7209-D	45	1.7717	85	3.3465	38	1.4961	1.0	.04	.60	.024	49 400	11 100	46 500	10 500	5 800	7 600
7210-D	50	1.9685	90	3.5433	40	1.5748	1.0	.04	.60	.024	54 000	12 100	54 000	12 100	5 100	6 600
7211-D	55	2.1654	100	3.9370	42	1.6535	1.5	.06	1.0	.040	79 300	17 800	75 000	16 900	4 800	6 200
7212-D	60	2.3622	110	4.3307	44	1.7323	1.5	.06	1.0	.040	85 200	19 100	88 000	19 800	4 300	5 600
7213-D	65	2.5591	120	4.7244	46	1.8110	1.5	.06	1.0	.040	104 000	23 400	110 000	24 700	3 900	5 100
7214-D	70	2.7559	125	4.9213	48	1.8898	1.5	.06	1.0	.040	104 000	23 400	110 000	24 700	3 700	4 800
7215-D	75	2.9528	130	5.1181	50	1.9685	1.5	.06	1.0	.040	130 000	29 200	140 000	31 500	3 400	4 500
7216-D	80	3.1496	140	5.5118	52	2.0472	2.0	.08	1.0	.040	121 000	27 200	134 000	30 100	3 300	4 200
7217-D	85	3.3465	150	5.9055	56	2.2047	2.0	.08	1.0	.040	148 000	33 300	166 000	37 300	3 000	3 900
7218-D	90	3.5433	160	6.2992	60	2.3622	2.0	.08	1.0	.040	190 000	42 700	236 000	53 100	2 900	3 800
7219-D	95	3.7402	170	6.6929	64	2.5197	2.0	.08	1.0	.040	199 000	44 700	228 000	51 300	2 800	3 600
7220-D	100	3.9370	180	7.0866	68	2.6772	2.0	.08	1.0	.040	225 000	50 600	260 000	58 500	2 600	3 300
7221-D	105	4.1339	190	7.4803	72	2.8346	2.0	.08	1.0	.040	242 000	54 400	295 000	66 300	2 400	3 100
7222-D	110	4.3307	200	7.8740	76	2.9921	2.0	.08	1.0	.040	265 000	59 600	310 000	69 700	2 300	3 000
7224-D	120	4.7244	215	8.4646	80	3.1496	2.0	.08	1.0	.040	281 000	63 200	355 000	79 800	2 200	2 800
7226-D	130	5.1181	230	9.0551	80	3.1496	2.5	.10	1.0	.040	319 000	71 700	415 000	93 300	2 000	2 600
7228-D	140	5.5118	250	9.8425	84	3.3071	2.5	.10	1.0	.040	338 000	76 000	465 000	105 000	1 800	2 400
7230-D	150	5.9055	270	10.6299	90	3.5435	2.5	.10	1.0	.040	397 000	89 200	560 000	126 000	1 700	2 200
7232-D	160	6.2992	290	11.4173	96	3.7795	2.5	.10	1.0	.040	442 000	99 400	670 000	135 000	1 600	2 100
7234-D	170	6.6929	310	12.2047	104	4.0945	3.0	.12	1.0	.040	468 000	105 000	735 000	165 000	1 500	2 000
7236-D	180	7.0866	320	12.5984	104	4.0945	3.0	.12	1.0	.040	494 000	111 000	780 000	175 000	1 500	1 900
7238-D	190	7.4803	340	13.3858	110	4.3307	3.0	.12	1.0	.040	540 000	121 000	900 000	202 000	1 400	1 800
7240-D	200	7.8740	360	14.1732	116	4.5669	3.0	.12	1.0	.040	572 000	129 000	965 000	217 000	1 300	1 700
7242-D	210	8.2677	380	14.9606	122	4.8031	3.0	.12	1.0	.040	637 000	143 000	1 120 000	252 000	1 200	1 600
7244-D	220	8.6614	400	15.7480	130	5.1181	3.0	.12	1.0	.040	650 000	146 000	1 200 000	270 000	1 200	1 600
7246-D	230	9.0551	420	16.5354	136	5.3543	3.0	.12	1.0	.040	715 000	161 000	1 340 000	301 000	1 200	1 500
7248-D	240	9.4488	440	17.3228	144	5.6693	3.0	.12	1.0	.040	780 000	175 000	1 500 000	337 000	1 100	1 400
7250-D	250	9.8425	460	18.1102	152	5.9842	4.0	.16	1.5	.060	852 000	192 000	1 660 000	373 000	1 100	1 400
7252-D	260	10.2362	480	18.8976	160	6.2992	4.0	.16	1.5	.060	904 000	203 000	1 830 000	411 000	1 000	1 400
7256-D	280	11.0236	500	19.6850	160	6.2992	4.0	.16	1.5	.060	936 000	210 000	2 000 000	450 000	1 000	1 400
7260-D	300	11.8110	540	21.2598	170	6.6929	4.0	.16	1.5	.060	1 010 000	227 000	2 200 000	495 000	960	1 300
7264-D	320	12.5984	580	22.8346	184	7.2441	4.0	.16	1.5	.060	1 060 000	238 000	2 400 000	540 000	960	1 200

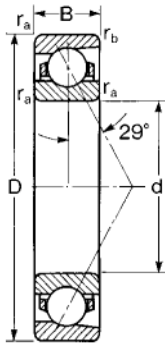
¹⁾ Fillet radius indicates maximum fillet radius on shaft or in housing which bearing corner will clear.

²⁾ For thrust rating multiply C by 0.81 and C₀ by 1.47.

³⁾ Listed values are for machined bronze cage, ABEC-1.

For phenolic composition cage, multiply by 1.33 for both grease and oil. For phenolic composition cage, ABEC-5 or 7, multiply by 1.86 for both grease and oil. For pressed steel cage, ABEC-1, multiply by 0.67 for grease and 0.80 for oil. The speed rating adjustment factors have been determined through historical application and practice. For a more complete explanation, see page 276

⁴⁾ Rating for one million revolutions or 500 hours at 33 1/3 RPM.



7300 series bearings have the same ring and ball cage construction as the 7200 Series but are heavier sectioned bearings with a ball complement capable of handling heavier loads. 7300 Series are listed with bore sizes from 10 mm to 280 mm. For two directional thrust loads, use duplex bearings.

Caution: Single bearings are not to be used where only radial loads are present. For two-direction thrust loads, use duplex bearings.

MRC Bearing Number	Bore d mm in		Outside Diameter D mm in		Width B mm in		Fillet Radius ¹⁾ r _a r _b mm in				Basic Radial Load Rating ²⁾				Speed Rating ³⁾	
											Dynamic C _d		Static C ₀		Grease RPM	Oil RPM
											N	lbf	N	lbf		
7300	10	.3937	36	1.3780	11	.4331	.64	.025	.60	.024	6 370	1 430	3 200	719	24 000	31 000
7301	12	.4724	37	1.4567	12	.4724	1.0	.04	.60	.024	7 020	1 580	3 750	843	19 000	25 000
7302	15	.5906	42	1.6535	13	.5118	1.0	.04	.60	.024	13 500	3 030	7 100	1 600	16 000	21 000
7303	17	.6693	47	1.8504	14	.5512	1.0	.04	.60	.024	15 900	3 570	8 650	1 940	15 000	19 000
7304	20	.7874	52	2.0472	15	.5906	1.0	.04	.60	.024	18 600	4 180	10 600	2 380	13 000	17 000
7305	25	.9843	62	2.4409	17	.6693	1.0	.04	.60	.024	21 200	4 770	13 700	3 080	11 000	14 000
7306	30	1.1811	72	2.8346	19	.7480	1.0	.04	.60	.024	28 100	6 320	18 600	4 180	9 200	12 000
7307	35	1.3780	80	3.1496	21	.8268	1.5	.06	1.0	.040	35 800	8 050	24 000	5 400	8 500	11 000
7308	40	1.5748	90	3.5433	23	.9055	1.5	.06	1.0	.040	44 200	9 940	30 500	6 860	7 300	9 500
7309	45	1.7717	100	3.9370	25	.9843	1.5	.06	1.0	.040	52 700	11 800	37 500	8 430	6 400	8 300
7310	50	1.9685	110	4.3307	27	1.0630	2.0	.08	1.0	.040	74 100	16 700	53 000	11 900	5 800	7 500
7311	55	2.1654	120	4.7244	29	1.1417	2.0	.08	1.0	.040	85 200	19 200	62 000	13 900	5 100	6 600
7312	60	2.3622	130	5.1181	31	1.2205	2.0	.08	1.0	.040	97 500	21 900	72 000	16 200	4 900	6 400
7313	65	2.5591	140	5.5118	33	1.2992	2.0	.08	1.0	.040	108 000	24 300	86 500	19 400	4 600	6 000
7314	70	2.7559	150	5.9055	35	1.3780	2.0	.08	1.0	.040	111 000	25 000	85 000	19 100	4 100	5 300
7315	75	2.9528	160	6.2992	37	1.4567	2.0	.08	1.0	.040	138 000	31 000	114 000	25 600	3 900	5 000
7316	80	3.1496	170	6.6929	39	1.5354	2.0	.08	1.0	.040	143 000	32 100	120 000	27 000	3 600	4 700
7317	85	3.3465	180	7.0866	41	1.6142	2.5	.10	1.0	.040	163 000	36 600	143 000	32 100	3 500	4 500
7318	90	3.5433	190	7.4803	43	1.6299	2.5	.10	1.0	.040	168 000	37 800	150 000	33 700	3 200	4 200
7319	95	3.7402	200	7.8740	45	1.7717	2.5	.10	1.0	.040	178 000	40 000	166 000	37 300	3 100	4 000
7320	100	3.9370	215	8.4646	47	1.8504	2.5	.10	1.0	.040	190 000	42 700	183 000	41 100	3 000	3 900
7321	105	4.1339	225	8.8583	49	1.9291	2.5	.10	1.0	.040	203 000	45 600	200 000	45 000	2 900	3 800
7322	110	4.3307	240	9.4488	50	1.9685	2.5	.10	1.0	.040	229 000	51 500	236 000	53 100	2 700	3 500
7324	120	4.7244	260	10.2362	55	2.1654	2.5	.10	1.0	.040	260 000	58 500	275 000	61 800	2 500	3 200
7326	130	5.1181	280	11.0236	58	2.2835	3.0	.12	1.0	.040	286 000	64 300	320 000	71 900	2 300	3 000
7328	140	5.5118	300	11.8110	62	2.4409	3.0	.12	1.0	.040	312 000	70 100	375 000	84 300	2 200	2 800
7330	150	5.9055	320	12.5984	65	2.5591	3.0	.12	1.0	.040	345 000	77 600	430 000	96 700	2 000	2 600
7332	160	6.2992	340	13.3858	68	2.6772	3.0	.12	1.0	.040	377 000	84 800	490 000	110 000	1 900	2 500
7334	170	6.6929	360	14.1732	72	2.8346	3.0	.12	1.0	.040	397 000	89 200	520 000	117 000	1 900	2 400
7336	180	7.0866	380	14.9606	75	2.9528	3.0	.12	1.0	.040	423 000	95 100	585 000	132 000	1 800	2 300
7338	190	7.4803	400	15.7480	78	3.0709	4.0	.16	1.5	.060	462 000	104 000	655 000	147 000	1 600	2 100
7340	200	7.8740	420	16.5354	80	3.1496	4.0	.16	1.5	.060	494 000	111 000	720 000	162 000	1 500	2 000
7342	210	8.2677	440	17.3228	84	3.3071	4.0	.16	1.5	.060	527 000	118 000	800 000	180 000	1 500	1 900
7344	220	8.6614	460	18.1102	88	3.4646	4.0	.16	1.5	.060	559 000	126 000	865 000	194 000	1 400	1 800
7348	240	9.4488	500	19.6850	95	3.7402	4.0	.16	1.5	.060	605 000	136 000	965 000	217 000	1 400	1 700
7352	260	10.2362	540	21.2598	102	4.0157	5.0	.20	2.0	.080	663 000	149 000	1 140 000	256 000	1 300	1 600
7356	280	11.0236	580	22.8346	108	4.2520	5.0	.20	2.0	.080	741 000	167 000	1 340 000	301 000	1 200	1 500

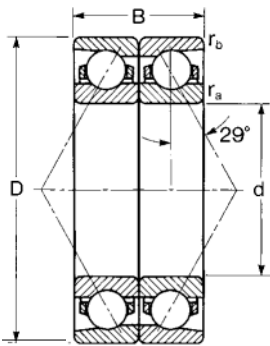
¹⁾ Fillet radius indicates maximum fillet radius on shaft or in housing which bearing corner will clear.

²⁾ For thrust rating multiply C by 1.32 and C₀ by 2.94.

³⁾ Listed values are for machined bronze cage, ABEC-1.

For phenolic composition cage, multiply by 1.33 for both grease and oil. For phenolic composition cage, ABEC-5 or 7, multiply by 1.86 for both grease and oil. For pressed steel cage, ABEC-1, multiply by 0.67 for grease and 0.80 for oil. The speed rating adjustment factors have been determined through historical application and practice. For a more complete explanation, see page 276

⁴⁾ Rating for one million revolutions or 500 hours at 33 1/3 RPM.



“D” indicates a duplex ground half pair matched with an identical half pair and is followed by an additional suffix letter to describe the type of duplex. See pages 236 and 237 for suffix description.

For duplex sets of 7000 and 9000 series bearings see page 239

Note: ABEC-1 & 3 stocked as half-pairs where available.

Use these values for back-to-back (DB) or face-to-face (DF) mounting arrangements.

MRC Bearing Number	Bore		Outside Diameter D		Width B		Fillet Radius ¹⁾				Basic Radial Load Rating ²⁾				Speed Rating ³⁾	
	d mm	in	mm	in	mm	in	r _a mm	in	r _b mm	in	Dynamic C _d ⁴⁾		Static C ₀		Grease RPM	Oil RPM
											N	lbf	N	lbf		
7300-D	10	.3937	36	1.3780	22	.8661	.64	.025	.60	.024	10 400	2 340	6 400	1 440	19 000	25 000
7301-D	12	.4724	37	1.4567	24	.9449	1.0	.04	.60	.024	11 400	2 560	7 500	1 690	15 000	20 000
7302-D	15	.5906	42	1.6535	26	1.0236	1.0	.04	.60	.024	21 600	4 860	14 300	3 210	13 000	17 000
7303-D	17	.6693	47	1.8504	28	1.1024	1.0	.04	.60	.024	26 000	5 850	17 300	3 890	12 000	15 000
7304-D	20	.7874	52	2.0472	30	1.1811	1.0	.04	.60	.024	30 200	6 790	21 200	4 770	10 000	14 000
7305-D	25	.9843	62	2.4409	34	1.3386	1.0	.04	.60	.024	34 500	7 760	27 000	6 070	8 800	11 000
7306-D	30	1.1811	72	2.8346	38	1.4961	1.0	.04	.60	.024	46 200	10 400	37 500	8 430	7 400	9 600
7307-D	35	1.3780	80	3.1496	42	1.6535	1.5	.06	1.0	.040	58 500	13 200	48 000	10 800	6 800	8 800
7308-D	40	1.5748	90	3.5433	46	1.8110	1.5	.06	1.0	.040	71 500	16 100	61 000	13 700	5 800	7 600
7309-D	45	1.7717	100	3.9370	50	1.9685	1.5	.06	1.0	.040	85 200	19 200	75 000	16 900	5 100	6 600
7310-D	50	1.9685	110	4.3307	54	2.1260	2.0	.08	1.0	.040	121 000	27 200	106 000	23 800	4 600	6 000
7311-D	55	2.1654	120	4.7244	58	2.2835	2.0	.08	1.0	.040	140 000	31 500	125 000	28 100	4 100	5 300
7312-D	60	2.3622	130	5.1181	62	2.4409	2.0	.08	1.0	.040	159 000	35 700	146 000	32 800	3 900	5 100
7313-D	65	2.5591	140	5.5118	66	2.5984	2.0	.08	1.0	.040	178 000	40 000	173 000	38 900	3 700	4 800
7314-D	70	2.7559	150	5.9055	70	2.7559	2.0	.08	1.0	.040	182 000	40 900	170 000	38 200	3 300	4 200
7315-D	75	2.9528	160	6.2992	74	2.9134	2.0	.08	1.0	.040	225 000	50 600	228 000	51 300	3 100	4 000
7316-D	80	3.1496	170	6.6929	78	3.0709	2.0	.08	1.0	.040	234 000	52 600	240 000	54 000	2 900	3 800
7317-D	85	3.3465	180	7.0866	82	3.2283	2.5	.10	1.0	.040	265 000	59 600	285 000	64 100	2 800	3 600
7318-D	90	3.5433	190	7.4803	86	3.3858	2.5	.10	1.0	.040	276 000	62 000	300 000	67 400	2 600	3 400
7319-D	95	3.7402	200	7.8740	90	3.5433	2.5	.10	1.0	.040	291 000	65 400	325 000	73 100	2 500	3 200
7320-D	100	3.9370	215	8.4646	94	3.7008	2.5	.10	1.0	.040	312 000	70 100	365 000	82 100	2 400	3 100
7321-D	105	4.1339	225	8.8583	98	3.8583	2.5	.10	1.0	.040	332 000	74 600	400 000	89 900	2 300	3 000
7322-D	110	4.3307	240	9.4488	100	3.9370	2.5	.10	1.0	.040	371 000	83 400	475 000	107 000	2 200	2 800
7324-D	120	4.7244	260	10.2362	110	4.3307	2.5	.10	1.0	.040	423 000	95 100	560 000	126 000	2 000	2 600
7326-D	130	5.1181	280	11.0236	116	4.5669	3.0	.12	1.0	.040	468 000	105 000	640 000	144 000	1 800	2 400
7328-D	140	5.5118	300	11.8110	124	4.8819	3.0	.12	1.0	.040	507 000	114 000	735 000	165 000	1 800	2 200
7330-D	150	5.9055	320	12.5984	130	5.1181	3.0	.12	1.0	.040	559 000	126 000	865 000	194 000	1 600	2 100
7332-D	160	6.2992	340	13.3858	136	5.3543	3.0	.12	1.0	.040	618 000	139 000	965 000	217 000	1 500	2 000
7334-D	170	6.6929	360	14.1732	144	5.6693	3.0	.12	1.0	.040	650 000	146 000	1 040 000	234 000	1 500	1 900
7336-D	180	7.0866	380	14.9606	150	5.9055	3.0	.12	1.0	.040	689 000	155 000	1 160 000	261 000	1 400	1 800
7338-D	190	7.4803	400	15.7480	156	6.1417	4.0	.16	1.5	.060	761 000	171 000	1 290 000	270 000	1 300	1 700
7340-D	200	7.8740	420	16.5354	160	6.2992	4.0	.16	1.5	.060	806 000	181 000	1 430 000	321 000	1 200	1 600
7342-D	210	8.2677	440	17.3228	168	6.6142	4.0	.16	1.5	.060	852 000	192 000	1 600 000	360 000	1 200	1 500
7344-D	220	8.6614	460	18.1102	176	6.9291	4.0	.16	1.5	.060	904 000	203 000	1 730 000	389 000	1 100	1 400
7348-D	240	9.4488	500	19.6850	190	7.4803	4.0	.16	1.5	.060	975 000	219 000	1 930 000	434 000	1 000	1 400
7352-D	260	10.2362	540	21.2598	204	8.0315	5.0	.20	2.0	.080	1 080 000	243 000	2 280 000	513 000	960	1 300
7356-D	280	11.0236	580	22.8346	216	8.5039	5.0	.20	2.0	.080	1 210 000	272 000	2 650 000	596 000	960	1 200

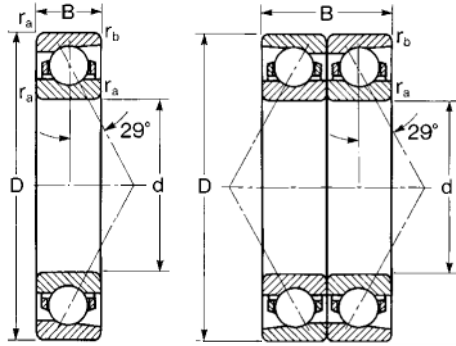
¹⁾ Fillet radius indicates maximum fillet radius on shaft or in housing which bearing corner will clear.

²⁾ For thrust rating multiply C by 0.81 and C₀ by 1.47.

³⁾ Listed values are for machined bronze cage, ABEC-1.

For phenolic composition cage, multiply by 1.33 for both grease and oil. For phenolic composition cage, ABEC-5 or 7, multiply by 1.86 for both grease and oil. For pressed steel cage, ABEC-1, multiply by 0.67 for grease and 0.80 for oil. The speed rating adjustment factors have been determined through historical application and practice. For a more complete explanation, see page 276

⁴⁾ Rating for one million revolutions or 500 hours at 33 1/3 RPM.



Note: ABEC 1 & 3 stocked as half-pairs where available.

7400 Series bearings are similar to the 7200 and 7300 Series but are heavier sectioned and are used for heavy one-directional thrust loads or combined radial and thrust loads where the thrust load is predominant.

"D" indicates a duplex ground half pair matched with an identical half pair and is followed by an additional suffix letter to describe the type of duplex. See pages 236 and 237 for suffix description.

Caution: Single bearings are not to be used where only radial loads are present. For two-direction thrust loads, use duplex bearings.

Values for -D bearings are for back-to-back or face-to-face (DF) mounting arrangements.

MRC Bearing Number	Bore d mm in		Outside Diameter D mm in		Width B mm in		Fillet Radius ¹⁾ r _a r _b mm in mm in				Basic Radial Load Rating ²⁾				Speed Rating ³⁾	
											Dynamic C _r ⁴⁾		Static C ₀		Grease RPM	Oil RPM
											N	lbf	N	lbf		
7403	17	.6693	62	2.4409	17	.6693	1.0	.04	.60	.024	26 000	5 850	13 700	3 080	14 000	18 000
7404	20	.7874	72	2.8346	19	.7480	1.0	.04	.60	.024	32 500	7 310	17 600	3 960	12 000	15 000
7405	25	.9843	80	3.1496	21	.8268	1.5	.06	1.0	.040	42 300	9 510	24 500	5 510	9 200	12 000
7406	30	1.1811	90	3.5433	23	.9055	1.5	.06	1.0	.040	54 000	12 100	34 000	7 640	7 700	10 000
7407	35	1.3780	100	3.9370	25	.9843	1.5	.06	1.0	.040	63 700	14 300	40 500	9 100	6 600	8 500
7408	40	1.5748	110	4.3307	27	1.0630	2.0	.08	1.0	.040	74 100	16 700	49 000	11 000	5 400	7 700
7409	45	1.7717	120	4.7244	29	1.1417	2.0	.08	1.0	.040	85 200	19 200	57 000	12 800	5 300	6 900
7410	50	1.9685	130	5.1181	31	1.2205	2.0	.08	1.0	.040	95 600	21 500	72 000	16 200	4 900	6 400
7411	55	2.1654	140	5.5118	33	1.2992	2.0	.08	1.0	.040	108 000	24 300	78 000	17 500	4 500	5 800
7412	60	2.3622	150	5.9055	35	1.3780	2.0	.08	1.0	.040	127 000	28 600	93 000	20 900	4 100	5 300
7413	65	2.5591	160	6.2992	37	1.4567	2.0	.08	1.0	.040	138 000	31 000	106 000	23 800	3 800	4 900
7414	70	2.7559	180	7.0866	42	1.6535	2.5	.10	1.0	.040	168 000	37 800	140 000	31 500	3 500	4 600
7415	75	2.9528	190	7.4803	45	1.7717	2.5	.10	1.0	.040	182 000	40 900	156 000	35 100	3 300	4 300
7416	80	3.1496	200	7.8740	48	1.8898	2.5	.10	1.0	.040	190 000	42 700	170 000	38 200	3 200	4 100
7417	85	3.3465	210	8.2677	52	2.0472	3.0	.12	1.0	.040	203 000	45 600	186 000	41 800	2 900	3 800
7418	90	3.5433	225	8.8583	54	2.1260	3.0	.12	1.0	.040	229 000	51 500	220 000	49 500	2 700	3 500
7419	95	3.7402	250	9.8425	55	2.1654	3.0	.12	1.0	.040	255 000	57 300	255 000	57 300	2 500	3 300
7420	100	3.9370	265	10.4331	60	2.3622	3.0	.12	1.0	.040	276 000	62 000	290 000	65 200	2 400	3 200
7421	105	4.1339	290	11.4173	65	2.5591	3.0	.12	1.0	.040	332 000	74 600	325 000	73 100	2 300	3 000
7422	110	4.3307	320	12.5984	70	2.7559	3.0	.12	1.0	.040	371 000	83 400	390 000	87 700	2 200	2 900

7400-D

7403-D	17	.6693	62	2.4409	34	1.3386	1.0	.04	.60	.024	42 300	9 510	27 000	6 070	11 000	14 000
7404-D	20	.7874	72	2.8346	38	1.4961	1.0	.04	.60	.024	52 700	11 800	35 500	7 980	9 600	12 000
7405-D	25	.9843	80	3.1496	42	1.6535	1.5	.06	1.0	.040	68 900	15 500	49 000	11 000	7 400	9 600
7406-D	30	1.1811	90	3.5433	46	1.8110	1.5	.06	1.0	.040	88 400	19 900	68 000	15 300	6 200	8 000
7407-D	35	1.3780	100	3.9370	50	1.9685	1.5	.06	1.0	.040	104 000	23 400	81 500	18 300	5 300	6 800
7408-D	40	1.5748	110	4.3307	54	2.1260	2.0	.08	1.0	.040	121 000	27 200	96 500	21 700	4 300	6 200
7409-D	45	1.7717	120	4.7244	58	2.2835	2.0	.08	1.0	.040	138 000	31 000	114 000	25 600	4 200	5 500
7410-D	50	1.9685	130	5.1181	62	2.4409	2.0	.08	1.0	.040	156 000	35 100	146 000	32 800	3 900	5 100
7411-D	55	2.1654	140	5.5118	66	2.5984	2.0	.08	1.0	.040	178 000	40 000	156 000	35 100	3 600	4 600
7412-D	60	2.3622	150	5.9055	70	2.7559	2.0	.08	1.0	.040	203 000	45 600	190 000	42 700	3 300	4 200
7413-D	65	2.5591	160	6.2992	74	2.9134	2.0	.08	1.0	.040	225 000	50 600	275 000	61 800	3 000	3 900
7414-D	70	2.7559	180	7.0866	84	3.3071	2.5	.10	1.0	.040	276 000	62 000	280 000	62 900	2 800	3 700
7415-D	75	2.9528	190	7.4803	90	3.5433	2.5	.10	1.0	.040	291 000	65 400	310 000	69 700	2 600	3 400
7416-D	80	3.1496	200	7.8740	96	3.7795	2.5	.10	1.0	.040	312 000	70 100	340 000	76 400	2 500	3 300
7417-D	85	3.3465	210	8.2677	104	4.0945	3.0	.12	1.0	.040	332 000	74 200	375 000	84 300	2 300	3 000
7418-D	90	3.5433	225	8.8583	108	4.2520	3.0	.12	1.0	.040	371 000	83 400	440 000	98 900	2 200	2 800
7419-D	95	3.7402	250	9.8425	110	4.3307	3.0	.12	1.0	.040	410 000	92 200	510 000	115 000	2 000	2 600
7420-D	100	3.9370	265	10.4331	120	4.7244	3.0	.12	1.0	.040	449 000	101 000	585 000	132 000	1 900	2 600
7421-D	105	4.1339	290	11.4173	130	5.1181	3.0	.12	1.0	.040	540 000	121 000	670 000	151 000	1 800	2 400
7422-D	110	4.3307	320	12.5984	140	5.5118	3.0	.12	1.0	.040	605 000	136 000	800 000	180 000	1 700	2 300

¹⁾ Fillet radius indicates maximum fillet radius on shaft or in housing which bearing corner will clear.

²⁾ For thrust rating multiply C by 1.32 and C₀ by 2.94 (single) and C by .81 and C₀ by 1.47 (duplex).

³⁾ Listed values are for machined bronze cage, ABEC-1.

For phenolic composition cage, multiply by 1.33 for both grease and oil. For phenolic composition cage, ABEC-5 or 7, multiply by 1.86 for both grease and oil. For pressed steel cage, ABEC-1, multiply by 0.67 for grease and 0.80 for oil. The speed rating adjustment factors have been determined through historical application and practice. For a more complete explanation, see page 276.

⁴⁾ Rating for one million revolutions or 500 hours at 33 1/3 RPM.

7000 Series
29 Degree Angular
Contact Ball Bearings
Single Bearing

Dynamic and static equivalent radial load
and life rating

Dynamic equivalent radial load

$$P = F_R \quad \text{when } F_A/F_R \leq 0.80$$

or

$$P = 0.39 F_R + 0.76 F_A \quad \text{when } F_A/F_R > 0.80$$

P = Dynamic equivalent radial load
F_R = Radial load
F_A = Thrust load

Static equivalent radial load

$$P_0 = 0.50 F_R + 0.34 F_A$$

P₀ is always $\geq F_R$

P₀ = Static equivalent radial load
F_R = Radial load
F_A = Thrust load

Life rating

$$L_{10} = \left(\frac{C}{P}\right)^3 \quad (\text{millions of revolutions})$$

or

$$L_{10h} = \frac{10^6}{60n} \left(\frac{C}{P}\right)^3 \quad (\text{Hours})$$

C = Basic dynamic radial load rating
(from single bearing tables)
P = Dynamic equivalent radial load
n = Speed in rpm

7000 Series 29 Degree Angular Contact Ball Bearings Single Bearing

Dynamic equivalent radial load and life calculation examples

Bearing size: 7309

Speed: 2000 RPM

Basic dynamic radial load rating (C) = 11800

Case 1

Radial load (F_R) = 1750

Thrust load (F_A) = 1310

Equivalent load (P) = F_R or $0.39 F_R + 0.76 F_A$

$F_A/F_R = 1310/1750 = 0.75$

Since $F_A/F_R < 0.80$, $P = F_R = 1750$

$$\text{Life (L}_{10}\text{)} = \left(\frac{C}{P}\right)^3 = \left(\frac{11800}{1750}\right)^3 = 307 \times 10^6 \text{ Rev.}$$

or

$$\begin{aligned} \text{Life (L}_{10}\text{h)} &= \frac{10^6}{60n} \left(\frac{C}{P}\right)^3 = \frac{10^6}{60 \times 2000} \left(\frac{11800}{1750}\right)^3 \\ &= 2558 \text{ Hrs} \end{aligned}$$

Case 2

Radial load (F_R) = 1750

Thrust load (F_A) = 2100

Equivalent load (P) = F_R or $0.39 F_R + 0.76 F_A$

$F_A/F_R = 2100/1750 = 1.20$

Since $F_A/F_R > 0.80$, $P = 0.39 \times 1750 + 0.76 \times 2100 = 2279$

$$\text{Life (L}_{10}\text{)} = \left(\frac{C}{P}\right)^3 = \left(\frac{11800}{2279}\right)^3 = 139 \times 10^6 \text{ Rev.}$$

or

$$\begin{aligned} \text{Life (L}_{10}\text{h)} &= \frac{10^6}{60n} \left(\frac{C}{P}\right)^3 = \frac{10^6}{60 \times 2000} \left(\frac{11800}{2279}\right)^3 \\ &= 1158 \text{ Hrs} \end{aligned}$$

Case 3

Thrust load (F_A) = 2100

Equivalent load (P) = $0.39 F_R + 0.76 F_A$

$F_A/F_R = 2100/0 = \infty$

Since $F_A/F_R > 0.80$, $P = 0.76 \times 2100 = 1596$

$$\text{Life (L}_{10}\text{)} = \left(\frac{C}{P}\right)^3 = \left(\frac{11800}{1596}\right)^3 = 404 \times 10^6 \text{ Rev.}$$

or

$$\begin{aligned} \text{Life (L}_{10}\text{h)} &= \frac{10^6}{60n} \left(\frac{C}{P}\right)^3 = \frac{10^6}{60 \times 2000} \left(\frac{11800}{1596}\right)^3 \\ &= 3367 \text{ Hrs} \end{aligned}$$

***Duplex 7000-D Series
29 Degree Angular Contact
Ball Bearings***

***Dynamic and static equivalent radial load
and life rating***

Dynamic equivalent radial load

DB or DF pair
 $P = 1.0 F_R + 0.78 F_A$ when $\frac{F_A}{F_R} \leq 0.80$

$P = 0.63 F_R + 1.24 F_A$ when $\frac{F_A}{F_R} > 0.80$

Tandem DT
 $P = 1.0 F_R$ when $\frac{F_A}{F_R} \leq 0.80$

$P = 0.39 F_R + 0.76 F_A$ when $\frac{F_A}{F_R} > 0.80$

P = Dynamic equivalent radial load

F_R = Radial load

F_A = Thrust load

Life rating

$L_{10} = \left(\frac{C}{P}\right)^3$ (millions of revolutions)

or

$L_{10h} = \frac{10^6 (C/P)^3}{60n}$ (Hours)

For DB or DF mounting:

C = Duplex dynamic radial load
 Rating (from duplex bearing tables)

or

C = Single-row dynamic radial load
 Rating times $(i)^{0.7}$, where $i = 2$

For tandem mounting:

C = Single-row dynamic radial load
 Rating times $(i)^{0.7}$, where

i = Number of bearings in set

P = Dynamic equivalent radial load

n = Speed in rpm

Static equivalent radial load

$P_0 = 1.0 F_R + 0.66 F_A$

P_0 is always $\geq F_R$

P_0 = Static equivalent radial load

F_R = Radial load

F_A = Thrust load

Duplex 7000-D Series 29 Degree Angular Contact Ball Bearings

Dynamic equivalent radial load and life calculation examples

Bearing size: 7309DU (DB or DF Pair)
Speed: 2000 RPM
Duplex pair basic dynamic radial load
Rating (C) = 19200

Case 1

Radial load (F_R) = 1750
Thrust load (F_A) = 1310
 $F_A/F_R = 1310/1750 = 0.75$
Since $F_A/F_R < 0.80$, equivalent load (P) =
 $1.0 F_R + 0.78 F_A$
 $= 1.0 \times 1750 + 0.78 \times 1310 = 2772$

$$\text{Life (L}_{10}) = \left(\frac{C}{P}\right)^3 = \left(\frac{19200}{2772}\right)^3 = 332 \times 10^6 \text{ Rev.}$$

or

$$\begin{aligned} \text{Life (L}_{10\text{h}}) &= \frac{10^6}{60n} \left(\frac{C}{P}\right)^3 = \frac{10^6}{60 \times 2000} \left(\frac{19200}{2772}\right)^3 \\ &= 2767 \text{ Hrs} \end{aligned}$$

Case 2

Radial load (F_R) = 1750
Thrust load (F_A) = 2100
 $F_A/F_R = 2100/1750 = 1.20$
Since $F_A/F_R > 0.80$, equivalent load (P) =
 $0.63 F_R + 1.24 F_A$
 $= 0.63 \times 1750 + 1.24 \times 2100 = 3707$

$$\text{Life (L}_{10}) = \left(\frac{C}{P}\right)^3 = \left(\frac{19200}{3707}\right)^3 = 139 \times 10^6 \text{ Rev.}$$

or

$$\begin{aligned} \text{Life (L}_{10\text{h}}) &= \frac{10^6}{60n} \left(\frac{C}{P}\right)^3 = \frac{10^6}{60 \times 2000} \left(\frac{19200}{3707}\right)^3 \\ &= 1158 \text{ Hrs} \end{aligned}$$

Case 3

Thrust load (F_A) = 2100
 $F_A/F_R = 2100/0 = \infty$
Since $F_A/F_R > 0.80$, equivalent load (P) =
 $0.63 F_R + 1.24 F_A = 1.24 \times 2100 = 2604$

$$\text{Life (L}_{10}) = \left(\frac{C}{P}\right)^3 = \left(\frac{19200}{2604}\right)^3 = 401 \times 10^6 \text{ Rev.}$$

or

$$\begin{aligned} \text{Life (L}_{10\text{h}}) &= \frac{10^6}{60n} \left(\frac{C}{P}\right)^3 = \frac{10^6}{60 \times 2000} \left(\frac{19200}{2604}\right)^3 \\ &= 3342 \text{ Hrs} \end{aligned}$$

Bearing size: 7309DT
3 bearings in tandem
Speed: 2000 RPM
Single-row basic dynamic radial load
Rating (C) = 11800

Case 1

Thrust load (F_A) = 4200
 $F_A/F_R = 4200/0 = \infty$
Since $F_A/F_R > 0.80$, equivalent load (P) =
 $0.39 F_R + 0.76 F_A = 0.76 \times 4200 = 3192$
Load rating = (i)^{0.7} × 11800
 $= (3)^{0.7} \times 11800 = 25460$

$$\text{Life (L}_{10}) = \left(\frac{C}{P}\right)^3 = \left(\frac{25460}{3192}\right)^3 = 507 \times 10^6 \text{ Rev.}$$

or

$$\begin{aligned} \text{Life (L}_{10\text{h}}) &= \frac{10^6}{60n} \left(\frac{C}{P}\right)^3 = \frac{10^6}{60 \times 2000} \left(\frac{25460}{3192}\right)^3 \\ &= 4225 \text{ Hrs} \end{aligned}$$

Case 2

Radial load (F_R) = 3500
Thrust load (F_A) = 4200
 $F_A/F_R = 4200/3500 = 1.20$
Since $F_A/F_R > 0.80$, equivalent load (P) =
 $0.39 F_R + 0.76 F_A$
 $= 0.39 \times 3500 + 0.76 \times 4200 = 4557$
Load rating = (i)^{0.7} × 11800
 $= (3)^{0.7} \times 11800 = 25460$

$$\text{Life (L}_{10}) = \left(\frac{C}{P}\right)^3 = \left(\frac{25460}{4557}\right)^3 = 174 \times 10^6 \text{ Rev.}$$

or

$$\begin{aligned} \text{Life (L}_{10\text{h}}) &= \frac{10^6}{60n} \left(\frac{C}{P}\right)^3 = \frac{10^6}{60 \times 2000} \left(\frac{25460}{4557}\right)^3 \\ &= 1450 \text{ Hrs} \end{aligned}$$