Metric Series Bearings

Standard metric series radial bearings carry moderate radial and thrust loads at low operating torque and provide high performance within small envelope designs. Stainless steel or chrome steel bearings are available with crown or ribbon type metallic cages. Open or shielded bearings may be flanged or unflanged. Various types of seals may be specified depending upon the anticipated environment to which the bearings will be exposed. (See Engineering Section for seal information)

L SERIES

Radial open and flanged open bearings 3.2
Bore sizes: 1.0-12.0mm

Radial shielded and flanged shielded bearings 3.3
Bore sizes: 1.5-12.0mm

R SERIES

Radial open and flanged open bearings 3.4
Bore sizes: 1.0-12.0mm

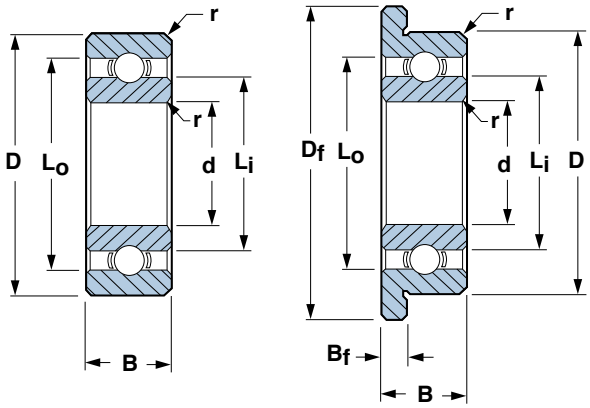
Radial shielded and flanged shielded bearings 3.5
Bore sizes: 1.5-12.0mm

600/6000 SERIES

Radial open and shielded bearing 3.6
Bore sizes: 5-10mm

Radial Open and Flanged Open Bearings

BORE d		O.D. D		WIDTH B		*BASIC NUMBER	FLANGE (MM) DIA. D_f	FLANGE (MM) WIDTH B_f	FLANGED *BASIC NUMBER	REFERENCE DIAMETER (MM) L_i	REFERENCE DIAMETER (MM) L_o	FILLET RADIUS r MM	FILLET RADIUS r INCH	LOAD RATINGS N DYN. C_r	LOAD RATINGS N STATIC C_{or}
MM	INCH	MM	INCH	MM	INCH										
1.0	.0394	3.0	.1181	1.0	.0394	DDL-310	3.8	0.3	DDLF-310	1.60	2.41	0.05	.002	80	23
1.5	.0591	4.0	.1575	1.2	.0472	DDL-415	5.0	0.4	DDLF-415	2.26	3.25	0.05	.002	125	38
2.0	.0787	5.0	.1969	1.5	.0591	DDL-520	6.1	0.5	DDLF-520	2.90	4.00	0.08	.003	187	59
2.5	.0984	6.0	.2362	1.8	.0709	DDL-625	7.1	0.5	DDLF-625	3.80	4.93	0.08	.003	206	73
3.0	.1181	6.0	.2362	2.0	.0787	DDL-630	7.2	0.6	DDLF-630	3.80	4.93	0.08	.003	206	73
3.0	.1181	7.0	.2756	2.0	.0787	DDL-730	8.1	0.5	DDLF-730	4.10	5.83	0.10	.004	384	129
4.0	.1575	7.0	.2756	2.0	.0787	DDL-740	8.2	0.6	DDLF-740	4.80	5.93	0.08	.003	252	106
4.0	.1575	8.0	.3150	2.0	.0787	DDL-840	9.2	0.6	DDLF-840	5.20	6.93	0.10	.004	391	140
4.0	.1575	9.0	.3543	2.5	.0984	DDL-940	10.3	0.6	DDLF-940	5.20	7.48	0.10	.004	641	226
4.0	.1575	10.0	.3937	3.0	.1181	DDL-1040	11.2	0.6	DDLF-1040	5.80	7.96	0.15	.006	708	266
5.0	.1969	8.0	.3150	2.0	.0787	DDL-850	9.2	0.6	DDLF-850	5.80	6.95	0.08	.003	274	130
5.0	.1969	9.0	.3543	2.5	.0984	DDL-950	10.2	0.6	DDLF-950	6.00	7.73	0.10	.004	495	207
5.0	.1969	10.0	.3937	3.0	.1181	DDL-1050	11.2	0.6	DDLF-1050	6.40	8.63	0.10	.006	714	276
5.0	.1969	11.0	.4331	3.0	.1181	DDL-1150	12.5	0.8	DDLF-1150	6.40	8.63	0.15	.006	714	276
6.0	.2362	10.0	.3937	2.5	.0984	DDL-1060	11.2	0.6	DDLF-1060	6.95	8.73	0.10	.004	457	194
6.0	.2362	12.0	.4724	3.0	.1181	DDL-1260	13.2	0.6	DDLF-1260	7.70	9.94	0.15	.006	831	363
6.0	.2362	13.0	.5118	3.5	.1378	DDL-1360	15.0	1.0	DDLF-1360	8.00	10.98	0.15	.006	1083	438
7.0	.2756	11.0	.4331	2.5	.0984	DDL-1170	12.2	0.6	DDLF-1170	8.10	9.83	0.10	.004	449	199
7.0	.2756	13.0	.5118	3.0	.1181	DDL-1370	14.2	0.6	DDLF-1370	8.90	11.13	0.15	.006	880	414
7.0	.2756	14.0	.5512	3.5	.1378	DDL-1470	16.0	1.0	DDLF-1470	9.00	12.03	0.15	.006	1175	511
8.0	.3150	12.0	.4724	2.5	.0984	DDL-1280	13.2	0.6	DDLF-1280	9.10	10.93	0.10	.004	506	249
8.0	.3150	14.0	.5512	3.5	.1378	DDL-1480	15.6	0.8	DDLF-1480	9.90	12.13	0.15	.006	819	386
8.0	.3150	16.0	.6299	4.0	.1575	DDL-1680	18.0	1.0	DDLF-1680	10.30	13.40	0.20	.008	1606	712
9.0	.3543	17.0	.6693	4.0	.1575	DDL-1790	19.0	1.0	DDLF-1790	11.20	14.84	0.20	.008	1724	813
9.0	.3543	20.0	.7874	6.0	.2362	DDL-2090	—	—	—	12.32	16.71	0.30	.012	2123	985
10.0	.3937	19.0	.7480	5.0	.1969	DDL-1910	—	—	—	12.32	16.71	0.30	.012	2123	985
12.0	.4724	21.0	.8268	5.0	.1969	DDL-2212	—	—	—	14.40	19.22	0.30	.012	1917	1042



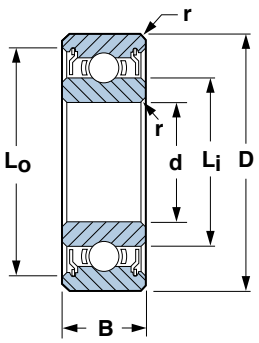
NOTES:

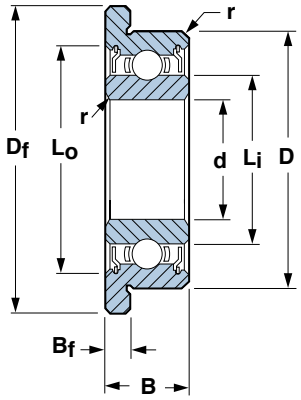
1. Basic numbers shown above include code "DD" for NMB developed 400 series Martensitic stainless steel. If chrome steel is desired, delete "DD".
2. ABEC 1, 3, 5 and 7 tolerances apply.
3. r = Maximum shaft or housing fillet radius that bearing corners will clear.

* "DD" is a trademark of NMB.

Radial Shielded and Flanged Shielded Bearings

BORE d		O.D. D		WIDTH B			FLANGE (MM)			REFERENCE DIAMETER (MM)		FILLET RADIUS r		LOAD RATINGS N	
MM	INCH	MM	INCH	MM	INCH	*BASIC NUMBER	DIA. D_f	WIDTH B_f	FLANGED *BASIC NUMBER	L_i	L_o	MM	INCH	DYN. C_r	STATIC C_{or}
1.5	.0591	4.0	.1575	2.0	.0787	DDL-415	—	—	—	2.15	3.42	0.05	.002	113	34
1.5	.0591	4.0	.1575	2.0	.0787	DDL-415	5.0	0.6	DDLF-415	2.26	3.49	0.05	.002	125	38
2.0	.0787	5.0	.1969	2.3	.0906	DDL-520	6.1	0.8	DDLF-520	2.90	4.28	0.08	.003	187	59
2.5	.0984	6.0	.2362	2.6	.1024	DDL-625	7.1	0.6	DDLF-625	3.80	5.23	0.08	.003	206	73
3.0	.1181	6.0	.2362	2.5	.0984	DDL-630	7.2	0.8	DDLF-630	3.80	5.23	0.08	.003	206	73
3.0	.1181	7.0	.2756	3.0	.1181	DDL-730	8.1	0.6	DDLF-730	4.10	6.13	0.10	.004	384	129
4.0	.1575	7.0	.2756	2.5	.0984	DDL-740	8.2	0.6	DDLF-740	4.80	6.33	0.08	.003	252	106
4.0	.1575	8.0	.3150	3.0	.1181	DDL-840	9.2	1.0	DDLF-840	5.20	7.24	0.10	.004	391	140
4.0	.1575	9.0	.3543	4.0	.1575	DDL-940	10.3	0.8	DDLF-940	5.20	7.93	0.10	.004	641	226
4.0	.1575	10.0	.3937	4.0	.1575	DDL-1040	11.6	0.6	DDLF-1040	5.46	8.50	0.15	.006	708	266
5.0	.1969	8.0	.3150	2.5	.0984	DDL-850	9.2	0.6	DDLF-850	5.80	7.26	0.08	.003	274	130
5.0	.1969	9.0	.3543	3.0	.1181	DDL-950	10.2	0.8	DDLF-950	6.00	8.04	0.10	.004	495	207
5.0	.1969	10.0	.3937	4.0	.1575	DDL-1050	11.6	1.0	DDLF-1050	6.40	8.94	0.10	.006	714	276
5.0	.1969	11.0	.4331	5.0	.1969	DDL-1150	12.5	0.6	DDLF-1150	6.40	9.54	0.15	.006	714	276
6.0	.2362	10.0	.3937	3.0	.1181	DDL-1060	11.2	0.8	DDLF-1060	6.95	9.04	0.10	.004	457	194
6.0	.2362	12.0	.4724	4.0	.1575	DDL-1260	13.6	1.1	DDLF-1260	7.70	10.48	0.15	.006	831	363
6.0	.2362	13.0	.5118	5.0	.1969	DDL-1360	15.0	0.6	DDLF-1360	7.33	11.44	0.15	.006	1083	438
7.0	.2756	11.0	.4331	3.0	.1181	DDL-1170	12.2	0.8	DDLF-1170	8.10	10.14	0.10	.004	449	199
7.0	.2756	13.0	.5118	4.0	.1575	DDL-1370	14.6	1.1	DDLF-1370	8.43	11.54	0.15	.006	880	414
7.0	.2756	14.0	.5512	5.0	.1969	DDL-1470	16.0	0.8	DDLF-1470	9.00	12.45	0.15	.006	1175	511
8.0	.3150	12.0	.4724	3.5	.1378	DDL-1280	13.6	0.8	DDLF-1280	9.10	11.24	0.10	.004	506	249
8.0	.3150	14.0	.5512	4.0	.1575	DDL-1480	15.6	1.1	DDLF-1480	9.90	12.55	0.15	.006	819	386
8.0	.3150	16.0	.6299	5.0	.1969	DDL-1680	18.0	1.1	DDLF-1680	9.68	14.18	0.20	.008	1606	712
9.0	.3543	17.0	.6693	5.0	.1969	DDL-1790	19.0	—	DDLF-1790	11.20	15.34	0.20	.008	1724	813
9.0	.3543	20.0	.7874	6.0	.2362	DDL-2090	—	—	—	12.32	17.44	0.30	.012	2123	985
10.0	.3937	19.0	.7480	7.0	.2756	DDL-1910	—	—	—	12.32	17.44	0.30	.012	2123	985
12.0	.4724	21.0	.8268	5.0	.1969	DDL-2112	—	—	—	14.40	19.22	0.30	.012	1917	1042





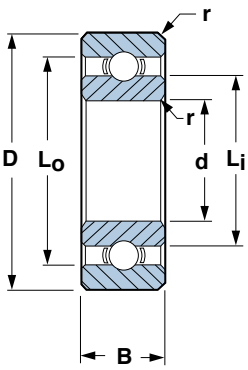
NOTES:

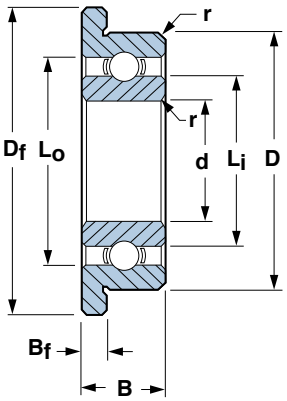
1. Basic numbers shown above include code "DD" for NMB developed 400 series Martensitic stainless steel. If chrome steel is desired, delete "DD".
2. ABEC 1, 3, 5 and 7 tolerances apply.
3. r = Maximum shaft or housing fillet radius that bearing corners will clear.

* "DD" is a trademark of NMB.

Radial Open and Flanged Open Bearings

BORE d		O.D. D		WIDTH B		*BASIC NUMBER	FLANGE (MM)		FLANGED *BASIC NUMBER	REFERENCE DIAMETER (MM)		FILLET RADIUS r		LOAD RATINGS N	
MM	INCH	MM	INCH	MM	INCH		DIA. D_f	WIDTH B_f		L_i	L_o	MM	INCH	DYN. C_r	STATIC C_{or}
1.0	.0394	4.0	.1575	1.6	.0630	DDR-410	—	—	—	2.05	3.16	0.10	.004	158	44
1.2	.0472	4.0	.1575	1.8	.0709	DDR-412	—	—	—	2.05	3.16	0.10	.004	158	44
1.5	.0591	5.0	.1969	2.0	.0787	DDR-515	6.5	0.6	DDRF-515	2.60	3.73	0.15	.006	184	57
1.5	.0591	6.0	.2362	2.5	.0984	DDR-615	7.5	0.6	DDRF-615	2.90	4.73	0.15	.006	324	97
2.0	.0787	6.0	.2362	2.3	.0906	DDR-620	—	—	—	3.16	4.78	0.15	.006	279	89
2.0	.0787	6.0	.2362	2.3	.0906	—	7.5	0.6	DDRF-620	3.16	4.75	0.15	.006	330	99
2.0	.0787	7.0	.2756	2.8	.1102	DDR-720	8.5	0.7	DDRF-720	3.80	5.52	0.15	.006	330	99
2.5	.0984	7.0	.2756	2.5	.0984	DDR-725	8.5	0.7	DDRF-725	3.80	5.52	0.15	.006	380	126
2.5	.0984	8.0	.3150	2.8	.1102	DDR-825	9.5	0.7	DDRF-825	4.10	6.53	0.15	.006	553	176
3.0	.1181	8.0	.3150	3.0	.1181	DDR-830	9.5	0.7	DDRF-830	4.10	6.53	0.15	.006	553	176
3.0	.1181	9.0	.3543	3.0	.1181	DDR-930	10.5	0.7	DDRF-930	4.80	7.23	0.15	.006	634	219
3.0	.1181	10.0	.3937	4.0	.1575	DDR-1030	11.5	1.0	DDRF-1030	5.08	8.20	0.15	.006	641	226
4.0	.1575	11.0	.4331	4.0	.1575	DDR-1140	12.5	1.0	DDRF-1140	6.40	9.54	0.15	.006	714	276
4.0	.1575	12.0	.4724	4.0	.1575	DDR-1240	13.5	1.0	DDRF-1240	5.62	9.99	0.20	.008	959	347
4.0	.1575	13.0	.5118	5.0	.1969	DDR-1340	—	—	—	5.97	11.22	0.20	.008	1306	487
4.0	.1575	13.0	.5118	5.0	.1969	—	15.0	1.0	DDRF-1340	7.00	11.04	0.20	.008	1306	487
4.0	.1575	16.0	.6299	5.0	.1969	DDR-1640	18.0	1.0	DDRF-1640	7.80	13.41	0.30	.012	1735	671
5.0	.1969	13.0	.5118	4.0	.1575	DDR-1350	15.0	1.0	DDRF-1350	6.66	11.14	0.20	.008	1074	422
5.0	.1969	14.0	.5512	5.0	.1969	DDR-1450	16.0	1.0	DDRF-1450	6.88	12.14	0.20	.008	1329	508
5.0	.1969	16.0	.6299	5.0	.1969	DDR-1650	—	—	—	7.80	12.50	0.30	.012	1735	671
5.0	.1969	16.0	.6299	5.0	.1969	—	18.0	1.0	DDRF-1650	7.80	13.41	0.30	.012	1735	671
5.0	.1969	19.0	.7480	6.0	.2362	DDR-1950	—	—	—	8.67	15.63	0.30	.012	2805	1060
5.0	.1969	19.0	.7480	6.0	.2362	DDR-1950	22.0	1.5	DDRF-1950	8.67	15.60	0.30	.012	2805	1060
6.0	.2362	15.0	.5906	5.0	.1969	DDR-1560	17.0	1.2	DDRF-1560	7.80	13.20	0.20	.008	1735	671
6.0	.2362	16.0	.6299	5.0	.1969	DDR-1660	—	—	—	7.80	13.41	0.30	.012	1735	671
6.0	.2362	17.0	.6693	6.0	.2362	DDR-1760	19.0	1.2	DDRF-1760	8.22	14.70	0.30	.012	2265	839
6.0	.2362	19.0	.7480	6.0	.2362	DDR-1960	—	—	—	8.67	15.63	0.30	.012	2805	1060
6.0	.2362	19.0	.7480	6.0	.2362	—	22.0	1.5	DDRF-1960	8.67	15.63	0.30	.012	2805	1060
7.0	.2756	19.0	.7480	6.0	.2362	DDR-1970	—	—	—	9.55	16.24	0.30	.012	2240	912
7.0	.2756	22.0	.8661	7.0	.2756	DDR-2270	25.0	1.5	DDRF-2270	10.80	19.07	0.30	.012	3297	1368
8.0	.3150	19.0	.7480	6.0	.2362	DDR-1980	—	—	—	10.60	16.68	0.30	.012	2463	1059
8.0	.3150	19.0	.7480	6.0	.2362	—	22.0	1.5	DDRF-1980	9.55	16.24	0.30	.012	2240	912
8.0	.3150	22.0	.8661	7.0	.2756	DDR-2280	—	—	—	10.80	19.07	0.30	.012	3297	1368
8.0	.3150	22.0	.8661	7.0	.2756	—	25.0	1.5	DDRF-2280	10.76	18.89	0.30	.012	3297	1368
10.0	.3937	22.0	.8661	6.0	.2362	DDR-2210	—	—	—	13.40	19.40	0.30	.012	2697	1273
12.0	.4724	24.0	.9449	6.0	.2362	DDR-2412	—	—	—	14.28	21.69	0.30	.012	3082	1433





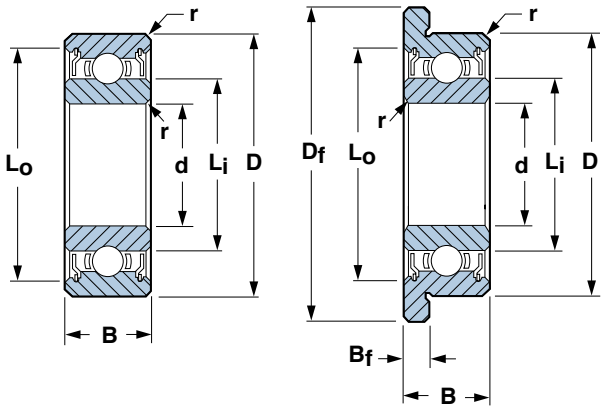
NOTES:

1. Basic numbers shown above include code "DD" for NMB developed 400 series Martensitic stainless steel. If chrome steel is desired, delete "DD".
2. ABEC 1, 3, 5 and 7 tolerances apply.
3. r = Maximum shaft or housing fillet radius that bearing corners will clear.

* "DD" is a trademark of NMB.

Radial Shielded and Flanged Shielded Bearings

BORE d		O.D. D		WIDTH B			FLANGE (MM)			REFERENCE DIAMETER (MM)		FILLET RADIUS r		LOAD RATINGS N	
MM	INCH	MM	INCH	MM	INCH	*BASIC NUMBER	DIA. D_f	WIDTH B_f	FLANGED *BASIC NUMBER	L_i	L_o	MM	INCH	DYN. C_r	STATIC C_{or}
1.5	.0591	5.0	.1969	2.0	.0787	DDR-515	6.5	0.6	DDRF-515	2.60	3.73	0.15	.006	184	57
1.5	.0591	6.0	.2362	2.5	.0984	DDR-615	7.5	0.6	DDRF-615	2.90	4.73	0.15	.006	324	97
2.0	.0787	6.0	.2362	2.3	.0906	DDR-620	7.5	0.6	DDRF-620	3.16	4.78	0.15	.006	279	89
2.0	.0787	7.0	.2756	2.8	.1102	DDR-720	8.5	0.7	DDRF-720	3.80	5.52	0.15	.006	380	126
2.5	.0984	7.0	.2756	2.5	.0984	DDR-725	8.5	0.7	DDRF-725	3.80	5.52	0.15	.006	380	126
2.5	.0984	8.0	.3150	2.8	.1102	DDR-825	9.5	0.7	DDRF-825	4.10	6.53	0.15	.006	553	176
3.0	.1181	8.0	.3150	3.0	.1181	DDR-830	9.5	0.7	DDRF-830	4.10	6.53	0.15	.006	553	176
3.0	.1181	9.0	.3543	3.0	.1181	DDR-930	10.5	0.7	DDRF-930	4.80	7.23	0.15	.006	634	219
3.0	.1181	10.0	.3937	4.0	.1575	DDR-1030	11.5	1.0	DDRF-1030	5.08	8.20	0.15	.006	641	226
4.0	.1575	11.0	.4331	4.0	.1575	DDR-1140	12.5	1.0	DDRF-1140	6.40	9.54	0.15	.006	714	276
4.0	.1575	12.0	.4724	4.0	.1575	DDR-1240	13.5	1.0	DDRF-1240	5.62	9.99	0.20	.008	959	347
4.0	.1575	13.0	.5118	5.0	.1969	DDR-1340	—	—	—	5.97	11.22	0.20	.008	1306	487
4.0	.1575	13.0	.5118	5.0	.1969	—	15.0	1.0	DDRF-1340	7.00	11.04	0.20	.008	1306	487
4.0	.1575	16.0	.6299	5.0	.1969	DDR-1640	—	—	—	7.80	13.41	0.30	.012	1735	671
4.0	.1575	16.0	.6299	5.0	.1969	—	18.0	1.0	DDRF-1640	7.80	13.20	0.30	.012	1735	671
5.0	.1969	13.0	.5188	4.0	.1575	DDR-1350	15.0	1.0	DDRF-1350	6.60	11.14	0.20	.008	1074	422
5.0	.1969	14.0	.5512	5.0	.1969	DDR-1450	16.0	1.0	DDRF-1450	6.88	12.14	0.20	.008	1329	508
5.0	.1969	16.0	.6299	5.0	.1969	DDR-1650	18.0	1.0	DDRF-1650	7.80	12.50	0.30	.012	1735	671
5.0	.1969	19.0	.7480	6.0	.2362	DDR-1950	22.0	1.5	DDRF-1950	8.67	15.63	0.30	.012	2085	1060
6.0	.2362	15.0	.5906	5.0	.1969	DDR-1560	17.0	1.2	DDRF-1560	7.80	13.20	0.20	.008	1735	671
6.0	.2362	16.0	.6299	5.0	.1969	DDR-1660	—	—	—	7.80	13.41	0.30	.012	1735	671
6.0	.2362	17.0	.6693	6.0	.2362	DDR-1760	19.0	1.2	DDRF-1760	8.22	14.70	0.30	.012	2265	839
6.0	.2362	19.0	.7480	6.0	.2362	DDR-1960	22.0	1.5	DDRF-1960	8.67	15.63	0.30	.012	2805	1060
7.0	.2756	19.0	.7480	6.0	.2362	DDR-1970	—	—	—	9.55	16.24	0.30	.012	2240	912
7.0	.2756	22.0	.8661	7.0	.2756	DDR-2270	25.0	1.5	DDRF-2270	10.80	19.07	0.30	.012	3297	1368
8.0	.3150	19.0	.7480	6.0	.2362	DDR-1980	—	—	—	10.60	16.68	0.30	.012	2463	1059
8.0	.3150	19.0	.7480	6.0	.2362	—	22.0	1.5	DDRF-1980	9.55	16.24	0.30	.012	2240	912
8.0	.3150	22.0	.8661	7.0	.2756	DDR-2280	25.0	1.5	DDRF-2280	10.80	19.07	0.30	.012	3297	1368
10.0	.3937	22.0	.8661	6.0	.2362	DDR-2210	—	—	—	13.40	19.40	0.30	.012	2697	1273
10.0	.3937	22.0	.8661	6.0	.2362	—	25.0	1.5	DDRF-2210	12.40	19.08	0.30	.012	2697	1273
12.0	.4724	24.0	.9449	6.0	.2362	DDR-2412	—	—	—	14.28	21.69	0.30	.012	3082	1433



NOTES:

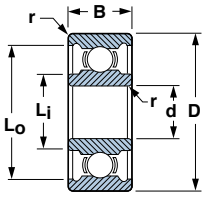
1. Basic numbers shown above include code "DD" for NMB developed 400 series Martensitic stainless steel. If chrome steel is desired, delete "DD".
2. ABEC 1, 3, 5 and 7 tolerances apply.
3. r = Maximum shaft or housing fillet radius that bearing corners will clear.

* "DD" is a trademark of NMB.

Radial Open and Shielded Bearings

BORE d		O.D. D		WIDTH B		BASIC NUMBER	REFERENCE DIAMETER (MM)		FILLET RADIUS r		LOAD RATINGS N	
MM	INCH	MM	INCH	MM	INCH		L_o	L_i	MM	INCH	DYN. C_r	STATIC C_{or}
5	.1969	19	.7480	6	.2362	635	16.68	9.20	0.3	.012	2614	1053
6	.2362	19	.7480	6	.2362	626	16.68	9.20	0.3	.012	2614	1053
7	.2756	19	.7480	6	.2362	607	16.68	9.20	0.3	.012	2614	1053
7	.2756	22	.8661	7	.2756	627	19.10	10.80	0.3	.012	3297	1368
8	.3150	22	.8661	7	.2756	608	19.10	10.80	0.3	.012	3297	1368
9	.3543	24	0.9449	7	.2756	*609	19.10	12.40	0.3	.012	3297	1368
9	.3543	26	1.0236	8	.3150	*629	22.80	12.88	0.3	.012	4578	1970
10	.3937	26	1.0236	8	.3150	*6000	22.80	13.75	0.3	.012	4578	1970

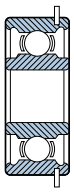
* Note: Limited Availability



OPEN BEARING

OPEN BEARING

METAL SHIELD



EXTERNAL RETAINING RING NR TYPE

NOTES:

1. Dimensions in millimeters unless otherwise noted.
2. All bearings in this series are made of chrome alloy steel.
3. r = Maximum shaft or housing fillet radius that bearing corners will clear.