

Standard inch series radial bearings carry moderate radial and thrust loads at low operating torque and provide high performance within small envelope designs.

A1 miniature and instrument bearings of both the metric and inch configurations meet the tolerances of ABMA Standard 20 for ABEC 1 metric series bearings.

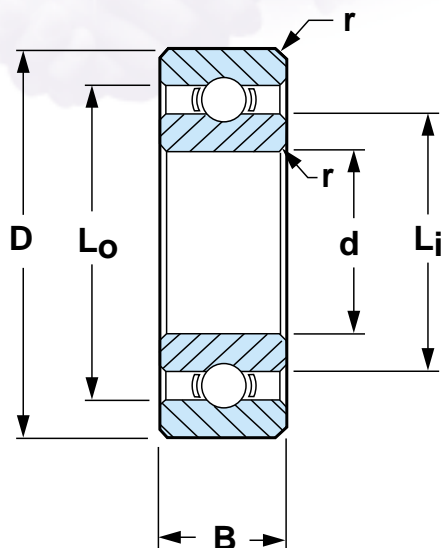
Stainless steel or chrome steel bearings are available with crown or ribbon type metallic cages. Open or shielded bearings may be flanged or unflanged. Various types of seals may be specified depending upon the anticipated environment to which the bearings will be exposed. (See Engineering Section for seal information)

Inch Series Bearings

Radial open bearings	2-2
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<i>Bore sizes: .0469-.3125"</i>	

RADIAL OPEN BEARINGS

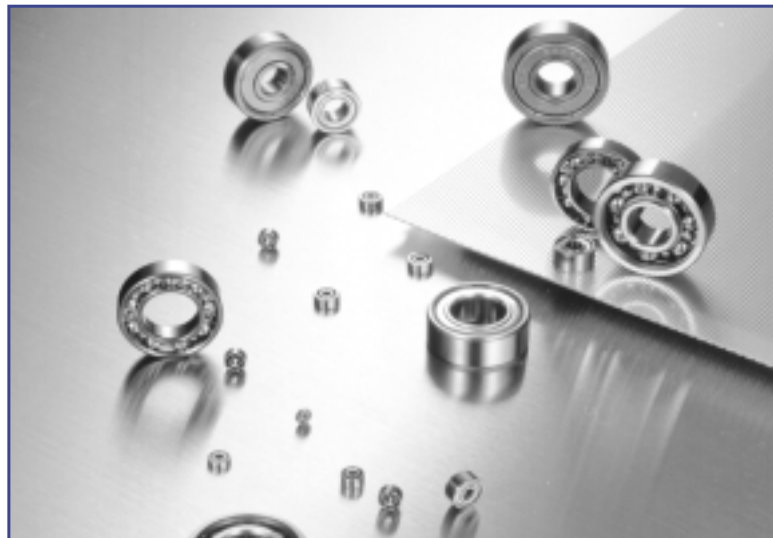
Vision



BORE d	O.D. D	WIDTH B	*BASIC NUMBER
.0400	.1250	.0469	DDRI-2
.0469	.1562	.0625	DDRI-21/2
.0550	.1875	.0781	DDRI-3
.0781	.2500	.0937	DDRI-4
.0937	.1875	.0625	DDRI-3332
.0937	.3125	.1094	DDRI-5
.1250	.2500	.0937	DDRI-418
.1250	.3125	.1094	DDRI-518
.1250	.3750	.1094	DDRI-618
.1250	.3750	.1562	DDR-2
.1562	.3125	.1094	DDRI-5532
.1875	.3125	.1094	DDRI-5632
.1875	.3750	.1250	DDRI-6632
.1875	.5000	.1562	DDR-3
.2500	.3750	.1250	DDRI-614
.2500	.5000	.1250	DDRI-814
.2500	.6250	.1960	DDR-4
.2500	.7500	.2188	DDRI-1214
.3125	.5000	.1562	DDRI-8516
.3750	.6250	.1562	DDRI-1038
.3750	.8750	.2188	DDRI-1438
.5000	.7500	.1562	DDRI-1212
.6250	.8750	.1562	DDRI-1458
.7500	1.0000	.1562	DDRI-1634

NOTES:

1. Inch to metric conversion - see Engineering Section.
 2. Basic numbers shown above include code "DD" for NMB developed 400 series Martensitic stainless steel. If chrome steel is desired, delete "DD".
 3. ABEC 1, 3, 5 and 7 tolerances apply.
 4. r = Maximum shaft or housing fillet radius that bearing corners will clear.
- * "DD" is a trademark of NMB.
 ** Radial Load ratings shown are for chrome steel.
 For stainless steel multiply by 0.8



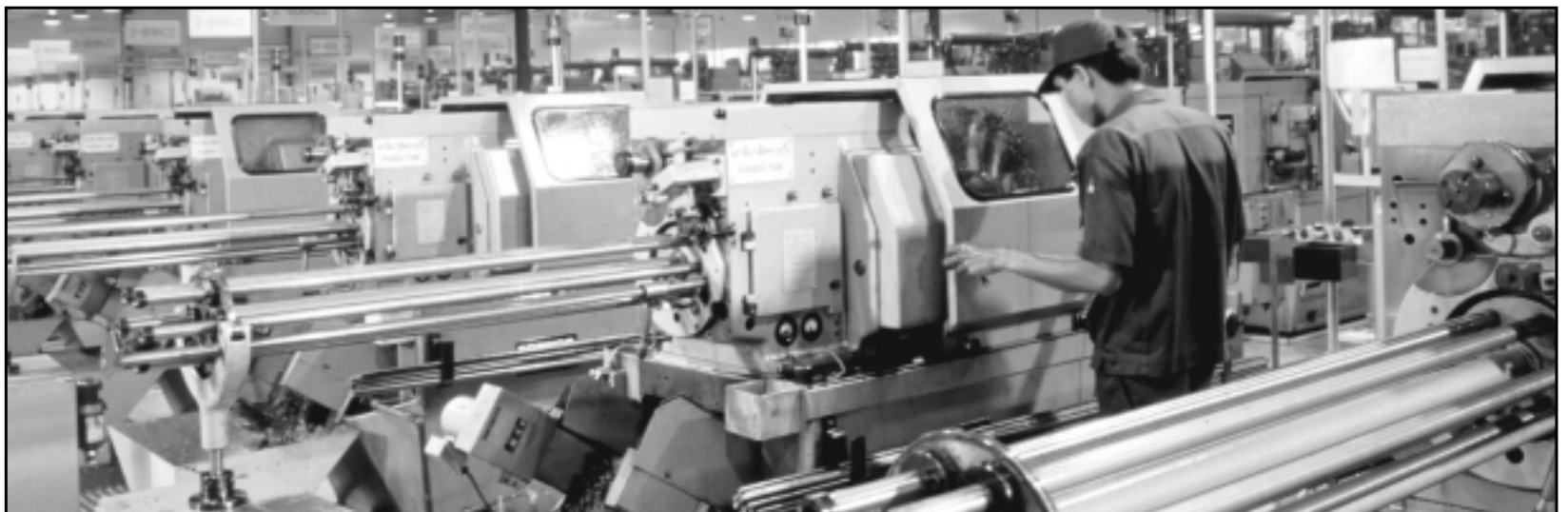
RADIAL OPEN BEARINGS

INCH SERIES

RADIAL OPEN BEARINGS

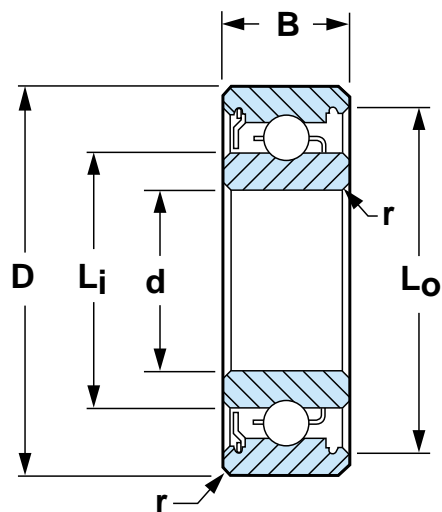
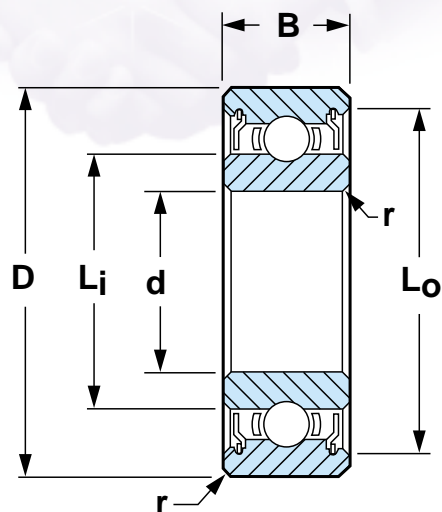
Products

REFERENCE DIAMETER		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS**				SPEED RATING Nmax/fn rpm/1000	BRG. WGT. GMS.	STD. REF.
Li	Lo		NO. Z	SIZE Dw	Kgs		Lbs				
					DYN. Cr	STATIC Cor	DYN. Cr	STATIC Cor			
.064	.100	.003	6	.025	11	3	24	7	192	0.05	R0-9
.081	.124	.003	6	1/32	16	5	35	11	149	0.15	R0
.093	.159	.003	5	3/64	27	8	60	18	121	0.20	R1
.122	.193	.003	6	3/64	34	11	75	24	97	0.50	R1-4
.118	.163	.003	7	1/32	19	6	42	13	109	0.10	R133
.173	.270	.003	6	1/16	58	19	128	42	68	0.85	R1-5
.166	.221	.003	7	1.0mm	29	10	64	22	79	0.35	R144
.173	.270	.003	6	1/16	58	19	128	42	68	0.70	R2-5
.173	.270	.005	6	1/16	58	19	128	42	68	1.30	R2-6
.200	.320	.012	7	1/16	66	23	146	51	61	1.30	R-2
.221	.279	.003	7	3/64	40	15	88	33	61	0.65	R155
.221	.279	.003	7	3/64	40	15	88	33	61	0.50	R156
.235	.343	.003	8	1/16	73	28	161	62	54	0.90	R166
.276	.433	.012	7	3/32	134	50	295	110	44	2.60	R-3
.285	.340	.003	13	1.0mm	43	21	95	46	48	0.65	R168
.330	.431	.005	10	1/16	85	38	187	84	40	1.90	R188
.323	.513	.012	8	3/32	150	61	331	134	35	4.40	R-4
.386	.598	.016	6	9/64	246	93	542	205	31	8.70	R-4A
.362	.450	.005	11	1/16	90	43	198	95	37	1.60	R1810
.458	.543	.010	12	1/16	93	38	205	84	30	2.60	R620
.520	.741	.016	7	5/32	337	140	743	309	24	8.80	R-6
.587	.672	.010	16	1/16	108	51	238	112	24	3.30	R824
.713	.798	.010	18	1/16	112	57	247	126	20	3.90	R1028
.837	.922	.010	22	1/16	123	70	271	154	17	4.50	R1232



RADIAL SHIELDED BEARINGS

Vision



BORE d	O.D. D	WIDTH B		*BASIC NUMBER
		B 1 SHIELD	B 2 SHIELDS	
.0469	.1562	.0937	.0937	DDRI-21/2
.0550	.1875	.0937	.1094	DDRI-3
.0781	.2500	.1094	.1406	DDRI-4
.0937	.1875	.0937	.0937	DDRI-3332
.0937	.3125	.1094	.1406	DDRI-5
.1250	.2500	.0937	.1094	DDRI-418
.1250	.3125	.1094	.1406	DDRI-518
.1250	.3750	.1094	.1406	DDRI-618
.1250	.3750	.1562	.1562	DDR-2
.1562	.3125	.1094	.1250	DDRI-5532
.1875	.3125	.1094	.1250	DDRI-5632
.1875	.3750	.1250	.1250	DDRI-6632
.1875	.5000	.1960	.1960	DDR-3
.2500	.3750	.1250	.1250	DDRI-614
.2500	.5000	.1250	.1875	DDRI-814
.2500	.6250	.1960	.1960	DDR-4
.2500	.7500	.2812	.2812	DDRI-1214
.3125	.5000	.1562	.1562	DDRI-8516
.3750	.6250	.1562	.1562	DDRI-1038
.3750	.8750	.2812	.2812	DDRI-1438
.5000	.7500	.1562	.1562	DDRI-1212
.6250	.8750	.1562	.1562	DDRI-1458
.7500	1.0000	.1562	.1562	DDRI-1634

NOTES:

1. Inch to metric conversion - see Engineering Section.
 2. Basic numbers shown above include code "DD" for NMB developed 400 series Martensitic stainless steel. If chrome steel is desired, delete "DD".
 3. ABEC 1, 3, 5 and 7 tolerances apply.
 4. r = Maximum shaft or housing fillet radius that bearing corners will clear.
- * "DD" is a trademark of NMB.
 ** Radial Load ratings shown are for chrome steel.
 For stainless steel multiply by 0.8



RADIAL SHIELDED BEARINGS

RADIAL SHIELDED BEARINGS

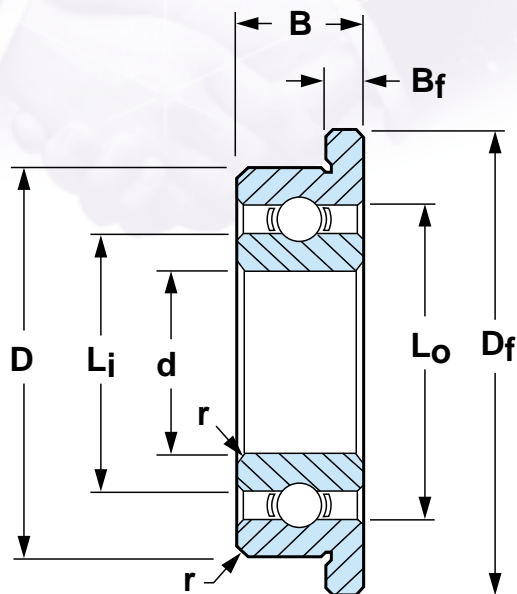
Products

REFERENCE DIAMETER		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS**				SPEED RATING Nmax/fn rpm/1000	BRG. WGT. GMS.	STD. REF.
Li	Lo		NO. Z	SIZE Dw	Kgs		Lbs				
					DYN. Cr	STATIC Cor	DYN. Cr	STATIC Cor			
.081	.135	.003	6	1/32	16	5	35	11	149	0.15	R0
.093	.169	.003	5	3/64	27	8	60	18	121	0.20	R1
.122	.205	.003	6	3/64	34	11	75	24	97	0.50	R1-4
.122	.168	.003	7	1/32	19	6	42	13	109	0.10	R133
.173	.283	.003	6	1/16	58	19	128	42	68	0.85	R1-5
.161	.230	.003	7	1.0mm	29	10	64	22	79	0.35	R144
.173	.283	.003	6	1/16	58	19	128	42	68	0.70	R2-5
.173	.283	.005	6	1/16	58	19	128	42	68	1.30	R2-6
.200	.322	.012	7	1/16	66	23	146	51	61	1.30	R-2
.221	.288	.003	7	3/64	40	15	88	33	61	0.65	R155
.221	.288	.003	7	3/64	40	15	88	33	61	0.50	R156
.235	.343	.003	8	1/16	73	28	161	62	54	0.90	R166
.276	.433	.012	7	3/32	134	50	295	110	44	2.60	R-3
.285	.350	.003	13	1.0mm	43	21	95	46	48	0.65	R168
.330	.454	.005	10	1/16	85	38	187	84	40	1.90	R188
.324	.513	.012	8	3/32	150	61	331	134	35	4.40	R-4
.340	.641	.016	6	9/64	246	93	542	205	31	8.70	R-4A
.362	.463	.005	11	1/16	90	43	198	95	37	1.60	R1810
.458	.543	.010	12	1/16	93	38	205	84	30	2.60	R620
.488	.749	.016	7	5/32	339	142	747	313	24	8.80	R-6
.587	.689	.010	16	1/16	108	51	238	112	24	3.30	R824
.713	.815	.010	18	1/16	112	57	247	126	20	3.90	R1028
.837	.939	.010	22	1/16	123	70	271	154	17	4.50	R1232



RADIAL FLANGED OPEN BEARINGS

OPEN BEARINGS



BORE d	O.D. D	WIDTH B	*BASIC NUMBER
.0400	.1250	.0469	DDRIF-2
.0469	.1562	.0625	DDRIF-21/2
.0550	.1875	.0781	DDRIF-3
.0781	.2500	.0937	DDRIF-4
.0937	.1875	.0625	DDRIF-3332
.0937	.3125	.1094	DDRIF-5
.1250	.2500	.0937	DDRIF-418
.1250	.3125	.1094	DDRIF-518
.1250	.3750	.1094	DDRIF-618
.1250	.3750	.1562	DDRF-2
.1562	.3125	.1094	DDRIF-5532
.1875	.3125	.1094	DDRIF-5632
.1875	.3750	.1250	DDRIF-6632
.1875	.5000	.1562	DDRF-3
.2500	.3750	.1250	DDRIF-614
.2500	.5000	.1250	DDRIF-814
.2500	.6250	.1960	DDRF-4
.3125	.5000	.1562	DDRIF-8516
.3750	.8750	.2812	DDRIF-1438

NOTES:

1. Inch to metric conversion - see Engineering Section.
 2. Basic numbers shown above include code "DD" for NMB developed 400 series Martensitic stainless steel. If chrome steel is desired, delete "DD".
 3. ABEC 1, 3, 5 and 7 tolerances apply.
 4. r = Maximum shaft or housing fillet radius that bearing corners will clear.
- * "DD" is a trademark of NMB.
 ** Radial Load ratings shown are for chrome steel.
 For stainless steel multiply by 0.8



RADIAL FLANGED OPEN BEARINGS

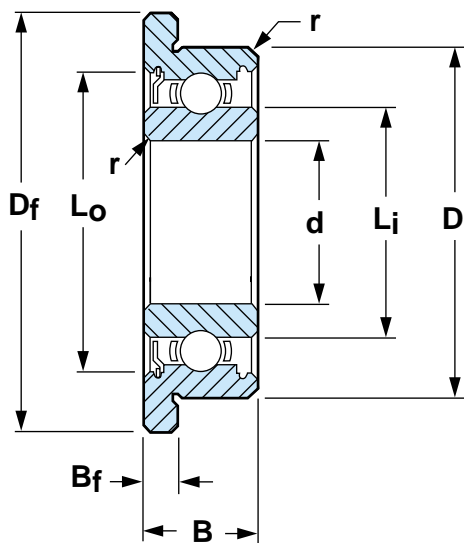
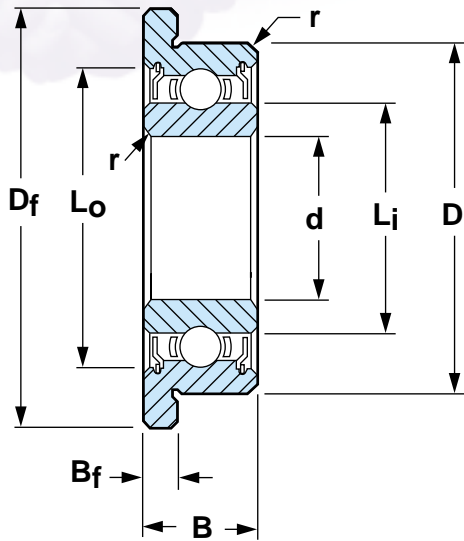
FLANGED OPEN BEARINGS

FLANGE DIA. Df	FLANGE WIDTH Bf	REFERENCE DIAMETER Li Lo		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS**				SPEED RATING Nmax/fn rpm/1000	BRG. WGT. GMS.	STD. REF.
					NO. Z	SIZE Dw	Kgs		Lbs				
							DYN. Cr	STATIC Cor	DYN. Cr	STATIC Cor			
.171	.013	.064	.100	.003	6	.025	11	3	24	7	192	0.06	FR09
.203	.013	.081	.124	.003	6	1/32	16	5	35	11	149	0.19	FR0
.234	.023	.093	.159	.003	5	3/64	27	8	60	18	121	0.25	FR1
.296	.023	.122	.193	.003	6	3/64	34	11	75	24	97	0.60	FR1-4
.234	.018	.118	.163	.003	7	1/32	19	6	42	13	109	0.14	FR133
.359	.023	.173	.270	.003	6	1/16	58	19	128	42	68	0.90	FR1-5
.296	.023	.166	.221	.003	7	1.0mm	29	10	64	22	79	0.40	FR144
.359	.023	.173	.270	.003	6	1/16	58	19	128	42	68	0.75	FR2-5
.422	.023	.173	.270	.005	6	1/16	58	19	128	42	68	1.40	FR2-6
.440	.030	.200	.320	.012	7	1/16	66	23	146	51	61	1.40	FR-2
.359	.023	.221	.279	.003	7	3/64	40	15	88	33	61	0.75	FR155
.359	.023	.221	.279	.003	7	3/64	40	15	88	33	61	0.60	FR156
.422	.023	.235	.324	.003	8	1/16	73	28	161	62	54	0.95	FR166
.565	.042	.276	.433	.012	7	3/32	134	50	295	110	44	2.90	FR-3
.422	.023	.285	.340	.003	13	1.0mm	43	21	95	46	48	0.75	FR168
.547	.023	.330	.431	.005	10	1/16	85	38	187	84	40	2.20	FR188
.690	.042	.323	.513	.012	8	3/32	150	61	331	134	35	4.60	FR-4
.547	.031	.362	.450	.005	11	1/16	90	43	198	95	37	1.80	FR1810
.969	.062	.520	.741	.016	7	5/32	337	140	743	309	24	12.00	FR-6



RADIAL FLANGED SHIELDED BEARINGS

SHIELDED BEARINGS



BORE d	O.D. D	SHIELDED WIDTH	*BASIC NUMBER
		B 1 OR 2 SHIELDS	
.0469	.1562	.0937	DDRIF-21/2
.0550	.1875	.1094	DDRIF-3
.0781	.2500	.1406	DDRIF-4
.0937	.1875	.0937	DDRIF-3332
.0937	.3125	.1406	DDRIF-5
.1250	.2500	.1094	DDRIF-418
.1250	.3125	.1406	DDRIF-518
.1250	.3750	.1406	DDRIF-618
.1250	.3750	.1562	DDRF-2
.1562	.3125	.1250	DDRIF-5532
.1875	.3125	.1250	DDRIF-5632
.1875	.3750	.1250	DDRIF-6632
.1875	.5000	.1960	DDRF-3
.2500	.3750	.1250	DDRIF-614
.2500	.5000	.1875	DDRIF-814
.2500	.6250	.1960	DDRF-4
.3125	.5000	.1562	DDRIF-8516
.3750	.8750	.2812	DDRIF-1438

NOTES:

1. Inch to metric conversion - see Engineering Section.
 2. Basic numbers shown above include code "DD" for NMB developed 400 series Martensitic stainless steel. If chrome steel is desired, delete "DD".
 3. ABEC 1, 3, 5 and 7 tolerances apply.
 4. r = Maximum shaft or housing fillet radius that bearing corners will clear.
- * "DD" is a trademark of NMB.
 ** Radial Load ratings shown are for chrome steel.
 For stainless steel multiply by 0.8



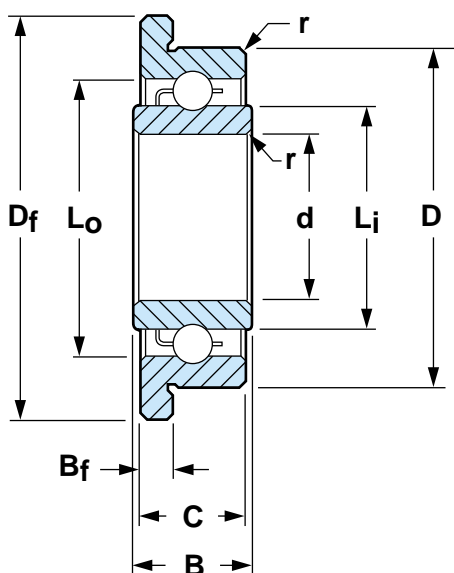
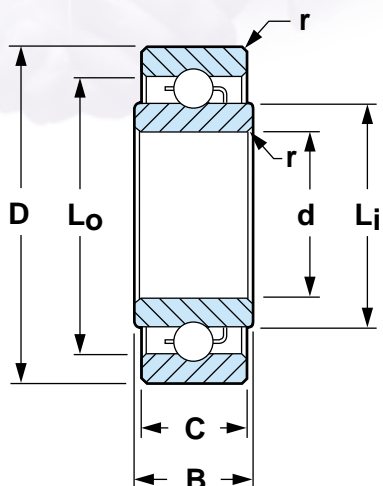
RADIAL FLANGE SHIELDED BEARINGS

FLANGED SHIELDED BEARINGS

FLANGE DIA. Df	FLANGE WIDTH Bf	REFERENCE DIAMETER		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS**				SPEED RATING Nmax/fn rpm/1000	BRG. WGT. GMS.	STD. REF.
		Li	Lo		NO. Z	SIZE Dw	Kgs		Lbs				
							DYN. Cr	STATIC Cor	DYN. Cr	STATIC Cor			
.203	.031	.081	.135	.003	6	1/32	16	5	35	11	149	0.19	FR0
.234	.031	.093	.169	.003	5	3/64	27	8	60	18	121	0.25	FR1
.296	.031	.122	.205	.003	6	3/64	34	11	75	24	97	0.60	FR1-4
.234	.031	.122	.168	.003	7	1/32	19	6	42	13	109	0.14	FR133
.359	.031	.173	.283	.003	6	1/16	58	19	128	42	68	0.90	FR1-5
.296	.031	.161	.230	.003	7	1.0mm	29	10	64	22	79	0.40	FR144
.359	.031	.173	.283	.003	6	1/16	58	19	128	42	68	0.75	FR2-5
.422	.031	.173	.283	.005	6	1/16	58	19	128	42	68	1.40	FR2-6
.440	.030	.200	.322	.012	7	1/16	66	23	146	51	61	1.40	FR-2
.359	.036	.221	.288	.003	7	3/64	40	15	88	33	61	0.75	FR155
.359	.036	.221	.288	.003	7	3/64	40	15	88	33	61	0.60	FR156
.422	.031	.235	.343	.003	8	1/16	73	28	161	62	54	0.95	FR166
.565	.042	.276	.433	.012	7	3/32	134	50	295	110	44	2.90	FR-3
.422	.036	.285	.348	.003	13	1.0mm	43	21	95	46	48	0.75	FR168
.547	.045	.330	.454	.005	10	1/16	85	38	187	84	40	2.20	FR188
.690	.042	.323	.513	.012	8	3/32	150	61	331	134	35	4.60	FR-4
.547	.031	.362	.463	.005	11	1/16	90	43	198	95	37	1.80	FR1810
.969	.062	.488	.749	.016	7	5/32	339	142	747	313	24	12.00	FR-6



EXTENDED INNER RING RADIAL OPEN BEARINGS, FLANGED, UNFLANGED



BORE d	O.D. D	WIDTH 1 OR 2 SHIELDS		*BASIC NUMBER†
		B	C	
.0400	.1250	.0781	.0469	DDR1-2
.0469	.1562	.0937	.0625	DDR1-21/2
.0550	.1875	.1094	.0781	DDR1-3
.0781	.2500	.1250	.0937	DDR1-4
.0937	.1875	.0937	.0625	DDR1-3332
.0937	.3125	.1406	.1094	DDR1-5
.1250	.2500	.1250	.0937	DDR1-418
.1250	.3125	.1406	.1094	DDR1-518
.1250	.3750	.1406	.1094	DDR1-618
.1250	.3750	.1875	.1562	DDR-2
.1562	.3125	.1406	.1094	DDR1-5532
.1875	.3125	.1406	.1094	DDR1-5632
.1875	.3750	.1562	.1250	DDR1-6632
.2500	.3750	.1562	.1250	DDR1-614
.2500	.5000	.1562	.1250	DDR1-814
.3125	.5000	.1875	.1562	DDR1-8516

NOTES:

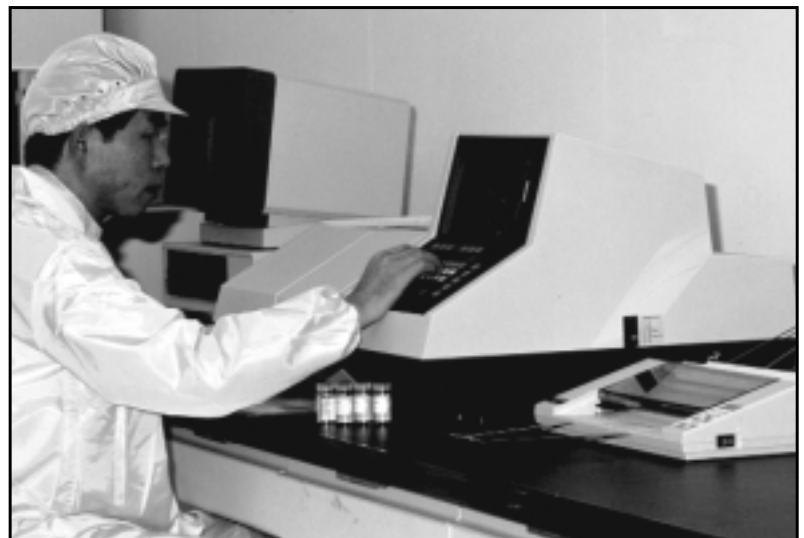
1. Inch to metric conversion - see Engineering Section.
 2. Basic numbers shown above include code "DD" for NMB developed 400 series Martensitic stainless steel. If chrome steel is desired, delete "DD".
 3. ABEC 1, 3, 5 and 7 tolerances apply.
 4. r = Maximum shaft or housing fillet radius that bearing corners will clear.
- † For flanged bearing substitute prefix DDRIF- or DDRF-
 * "DD" is a trademark of NMB.
 ** Radial Load ratings shown are for chrome steel.
 For stainless steel multiply by 0.8



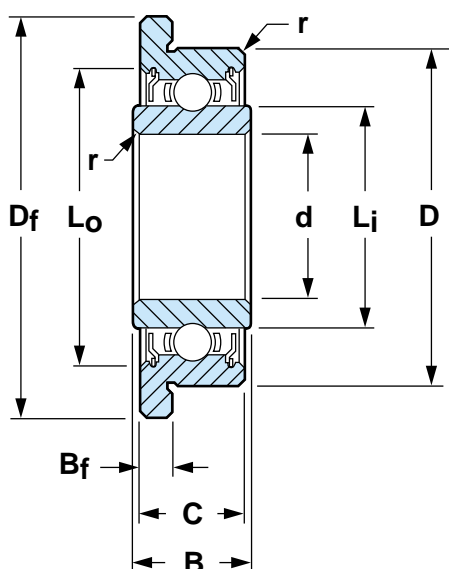
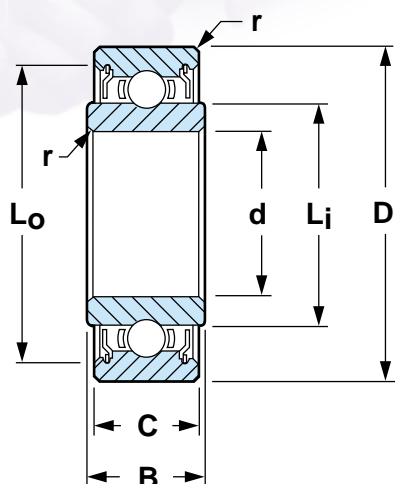
EXTENDED INNER RING RADIAL OPEN BEARINGS, FLANGED, UNFLANGED

INNER RING

FLANGE DIA. Df	FLANGE WIDTH Bf	REFERENCE DIAMETER		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS**				SPEED RATING Nmax/fn rpm/1000
							Kgs		Lbs		
							DYN. Cr	STATIC Cor	DYN. Cr	STATIC Cor	
.171	.013	.064	.100	.003	6	.025	11	3	24	7	192
.203	.013	.081	.124	.003	6	1/32	16	5	35	11	149
.234	.023	.093	.159	.003	5	3/64	27	8	60	18	121
.296	.023	.122	.193	.003	6	3/64	34	11	75	24	97
.234	.018	.118	.163	.003	7	1/32	19	6	42	13	109
.359	.023	.173	.270	.003	6	1/16	58	19	128	42	68
.296	.023	.166	.221	.003	7	1.0mm	29	10	64	22	79
.359	.023	.173	.270	.003	6	1/16	58	19	128	42	68
.422	.023	.173	.270	.005	6	1/16	58	19	128	42	68
.440	.030	.200	.320	.012	7	1/16	66	23	146	51	61
.359	.023	.221	.279	.003	7	3/64	40	15	88	33	61
.359	.023	.221	.279	.003	7	3/64	40	15	88	33	61
.422	.023	.235	.324	.003	8	1/16	73	28	161	62	54
.422	.023	.285	.340	.003	13	1.0mm	43	21	95	46	48
.547	.023	.330	.431	.005	10	1/16	85	38	187	84	40
.547	.031	.362	.450	.005	11	1/16	90	43	198	95	37



EXTENDED INNER RING RADIAL SHIELDED BEARINGS, FLANGED AND UNFLANGED



BORE d	O.D. D	WIDTH 1 OR 2 SHIELDS		*BASIC NUMBER†
		B	C	
.0469	.1562	.1250	.0937	DDRI-21/2
.0550	.1875	.1406	.1094	DDRI-3
.0781	.2500	.1719	.1406	DDRI-4
.0937	.1875	.1250	.0937	DDRI-3332
.0937	.3125	.1719	.1406	DDRI-5
.1250	.2500	.1406	.1094	DDRI-418
.1250	.3125	.1719	.1406	DDRI-518
.1250	.3750	.1719	.1406	DDRI-618
.1250	.3750	.1875	.1562	DDR-2
.1562	.3125	.1562	.1250	DDRI-5532
.1875	.3125	.1562	.1250	DDRI-5632
.1875	.3750	.1562	.1250	DDRI-6632
.1875	.5000	.2272	.1960	DDR-3
.2500	.3750	.1562	.1250	DDRI-614
.2500	.5000	.2188	.1875	DDRI-814
.2500	.6250	.2260	.1960	DDR-4
.3125	.5000	.1875	.1562	DDRI-8516

NOTES:

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

† For flanged bearing substitute prefix DDRIF- or DDRF-

* "DD" is a trademark of NMB.

** Radial Load ratings shown are for chrome steel.
For stainless steel multiply by 0.8



EXTENDED INNER RING RADIAL SHIELDED BEARINGS, FLANGED AND UNFLANGED

INNER RING

FLANGE DIA. Df	FLANGE WIDTH Bf	REFERENCE DIAMETER		FILLET RADIUS r	BALL COMPLEMENT		LOAD RATINGS**				SPEED RATING Nmax/fn rpm/1000
							Kgs		Lbs		
							DYN. Cr	STATIC Cor	DYN. Cr	STATIC Cor	
.203	.031	.081	.135	.003	6	1/32	16	5	35	11	149
.234	.031	.093	.169	.003	5	3/64	27	8	60	18	121
.296	.031	.122	.205	.003	6	3/64	34	11	75	24	97
.234	.031	.122	.168	.003	7	1/32	19	6	42	13	109
.359	.031	.173	.283	.003	6	1/16	58	19	128	42	68
.296	.031	.161	.230	.003	7	1.0mm	29	10	64	22	79
.359	.031	.173	.283	.003	6	1/16	58	19	128	42	68
.422	.031	.173	.283	.005	6	1/16	58	19	128	42	68
.440	.030	.200	.322	.012	7	1/16	66	23	146	51	61
.359	.036	.221	.288	.003	7	3/64	40	15	88	33	61
.359	.036	.221	.288	.003	7	3/64	40	15	88	33	61
.422	.031	.235	.343	.003	8	1/16	73	28	161	62	54
.565	.042	.276	.433	.012	7	3/32	134	50	295	110	44
.422	.036	.285	.348	.003	13	1.0mm	43	21	95	46	48
.547	.045	.330	.454	.005	10	1/16	85	38	187	84	40
.690	.042	.323	.513	.012	8	3/32	150	61	331	134	35
.547	.031	.362	.463	.005	11	1/16	90	43	198	95	37



