

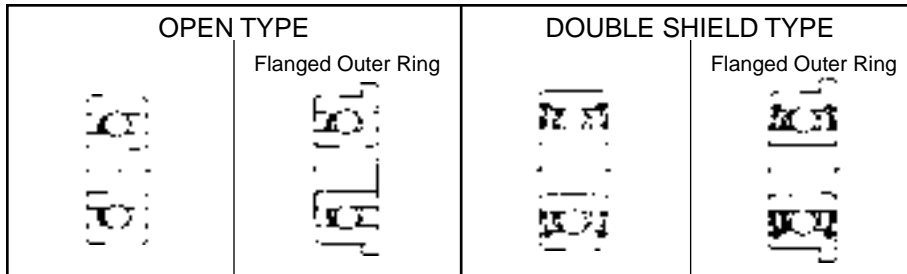
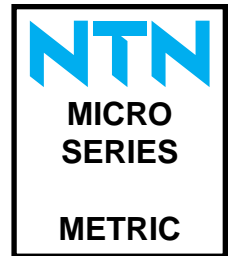
Units: INCHES

MICRO BEARING (INCH SERIES)																	
OPEN TYPE					DOUBLE SHIELD TYPE												
					Flanged Outer Ring												
					Flanged Outer Ring												
Bearing No.	Boundary Dimensions				Bearing No. Flange Type	Boundary Dimensions			Bearing No.	Boundary Dimensions			Flange Width	Basic Load Ratings (lbs)		Limiting Speeds (RPM)	
	Bore	O.D.	Width	Min. Chamfer		Flange O.D.	Flange Width			Width	Bearing No. Flange Type w/Shields	OD		C Dynamic	Co Static	Grease	Oil
R01	0.0400	0.1250	0.0469	0.003	—	—	—	—	—	—	—	—	—	22	6	110,000	130,000
R0	0.0469	0.1562	0.0625	0.003	FLR0	0.203	0.013	RA0ZZA	0.0937	FLRA0ZZA	0.203	0.031	36	10	93,000	110,000	
R1	0.0550	0.1875	0.0781	0.003	FLR1	0.234	0.023	RA1ZZA	0.1094	FLRA1ZZA	0.234	0.031	42	13	81,000	95,000	
R1-4	0.0781	0.2500	0.0937	0.003	FLR1-4	0.296	0.023	RA1-4ZZA	0.1406	FLRA1-4ZZA	0.296	0.031	63	20	67,000	79,000	
R133	0.0937	0.1875	0.0625	0.003	FLR133	0.234	0.018	RA133ZZA	0.0937	FLRA133ZZA	0.234	0.031	28	9.5	73,000	85,000	
R1-5	0.0937	0.3125	0.1094	0.005	FLR1-5	0.359	0.023	RA1-5ZZA	0.1406	FLRA1-5ZZA	0.359	0.031	96	34	56,000	66,000	
R144	0.1250	0.2500	0.0937	0.003	FLR144	0.296	0.023	RA144ZZA	0.1094	FLRA144ZZA	0.296	0.031	64	22	59,000	70,000	
R2-5	0.1250	0.3125	0.1094	0.003	FLR2-5	0.359	0.023	RA2-5ZZA	0.1406	FLRA2-5ZZA	0.359	0.031	126	40	54,000	63,000	
R2-6	0.1250	0.3750	0.1094	0.005	—	—	—	RA2-6ZZA	0.1406	—	—	—	144	50	49,000	58,000	
R2	0.1250	0.3750	0.1562	0.012	FLR2	0.440	0.030	R2ZZA	0.1562	FLR2ZZA	0.440	0.030	144	50	49,000	58,000	
RA2	0.1250	0.5000	0.1719	0.012	—	—	—	RA2ZZ	0.1719	—	—	—	258	89	43,000	51,000	
R155	0.1562	0.3125	0.1094	0.003	FLR155	0.359	0.023	RA155ZZA	0.1250	FLRA155ZZA	0.359	0.036	76	30	51,000	60,000	
R156	0.1875	0.3125	0.1094	0.003	FLR156	0.359	0.023	RA156ZZA	0.1250	FLRA156ZZA	0.359	0.036	89	32	49,000	58,000	
R166	0.1875	0.3750	0.1250	0.003	FLR166	0.422	0.023	R166ZZA	0.1250	FLRA166ZZA	0.422	0.031	160	60	46,000	55,000	
R3	0.1875	0.5000	0.1562	0.012	—	—	—	—	0.1875	—	—	—	295	110	41,000	48,000	
RA3	0.1875	0.5000	0.1960	0.012	FLRA3	0.565	0.042	RA3ZZ	0.1960	FLRA3ZZ	0.565	0.042	295	110	41,000	48,000	
R168	0.2500	0.3750	0.1250	0.003	FLR168	0.422	0.023	R168ZZA	0.1250	FLRA168ZZA	0.422	0.036	60	31	43,000	51,000	
R188	0.2500	0.5000	0.1250	0.005	FLR188	0.547	0.023	RA188ZZA	0.1875	FLRA188ZZA	0.547	0.045	186	84	39,000	46,000	
R4	0.2500	0.6250	0.1960	0.012	FLR4	0.690	0.042	R4ZZ	0.1960	FLR4ZZ	0.690	0.042	335	136	36,000	43,000	
R6	0.3750	0.8750	0.2812	0.016	FLR6	0.989	0.062	R6ZZ	0.2812	FLR6ZZ	0.989	0.062	526	199	31,000	37,000	

Bearing numbers listed above are for bearings made of high carbon chrome bearing steel; bearings made of stainless steel (equivalent to AISI 440 C) are also available upon request, for which "F" should be prefixed to the bearing numbers.

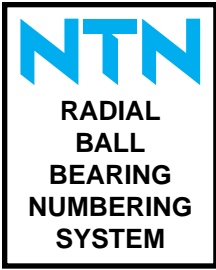


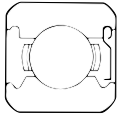
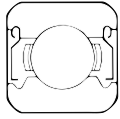
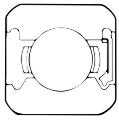
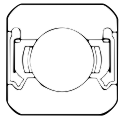
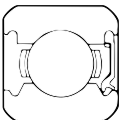
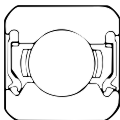
Units: Millimeters

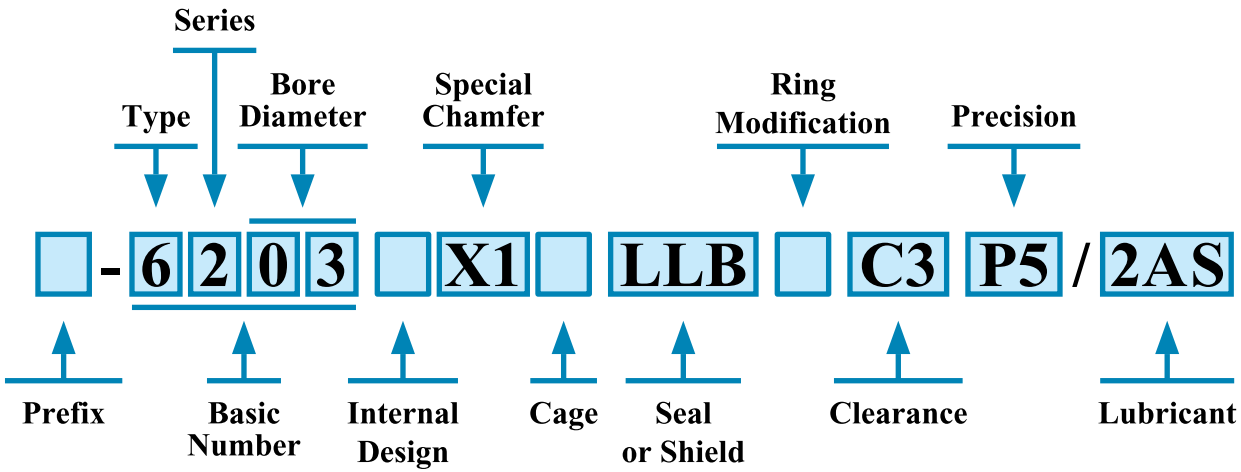
**MICRO BEARING (METRIC SERIES)**

Bearing No.	Boundary Dimensions				Bearing No.	Flange Dimensions		Bearing No.	Width	Bearing No.	Flange Dimensions		Limiting Speed (RPM)		Basic Load Ratings (lbs)	
	Bore	O.D.	Width	Min. Chamfer		O.D.	Width				O.D.	Width	Grease	Oil	Dynamic C	Static C <sub>0</sub>
68/1.5	1.5	4	1.2	0.15	FL68/1.5	5.0	0.4	W68/1.5ZZA	2.0	FLW68/1.5ZZA	5.0	0.60	88,000	100,000	23	6
69/1.5A	1.5	5	2.0	0.15	FL69/1.5	6.5	0.6	W69/1.5ZZA	2.6	FLW69/1.5ZZA	6.5	0.80	79,000	93,000	53	15
60/1.5	1.5	6	2.5	0.15	FL60/1.5	7.5	0.6	W60/1.5ZZA	3.0	FLW60/1.5ZZA	7.5	0.80	71,000	84,000	62	19
672	2.0	4	1.2	0.05	—	—	—	W672ZZA	2.0	—	—	—	83,000	98,000	23	8.5
682	2.0	5	1.5	0.08	FL682	6.1	0.5	W682ZZA	2.3	FLW682ZZA	6.1	0.60	74,000	87,000	38	11
692	2.0	6	2.3	0.15	FL692	7.5	0.6	W692ZZA	3.0	FLW692ZZA	7.5	0.80	67,000	79,000	63	20
602	2.0	7	2.8	0.15	FL602	8.5	0.7	W602ZZA	3.5	FLW602ZZA	8.5	0.90	62,000	73,000	86	28
67/2.5	2.5	5	1.5	0.08	—	—	—	W67/2.5ZZA	2.3	—	—	—	70,000	82,000	34	13
68/2.5	2.5	6	1.8	0.08	FL68/2.5	7.1	0.5	W68/2.5ZZA	2.6	FLW68/2.5ZZA	7.1	0.80	35,000	76,000	47	16
69/2.5	2.5	7	2.5	0.15	FL69/2.5	8.5	0.7	W69/2.5ZZA	3.5	FLW69/2.5ZZA	8.5	0.90	59,000	70,000	64	22
60/2.5	2.5	8	2.8	0.15	FL60/2.5	9.5	0.7	W60/2.5ZZA	4.0	FLW60/2.5ZZA	9.5	0.90	56,000	66,000	123	39
673	3.0	6	2.0	0.08	FL673	7.2	0.6	WA673ZZA	2.5	FLWA673ZZA	7.2	0.60	60,000	71,000	54	21
683	3.0	7	2.0	0.1	FL683	8.1	0.5	W683ZZA	3.0	FLW683ZZA	8.1	0.80	58,000	68,000	87	29
693	3.0	8	3.0	0.15	FL693	9.5	0.7	W693ZZA	4.0	FLW693ZZA	9.5	0.90	54,000	63,000	126	40
603	3.0	9	3.0	0.15	FL603	10.5	0.7	W603ZZA	5.0	FLW603ZZA	10.5	1.00	50,000	59,000	142	49
623	3.0	10	4.0	0.15	FL623	11.5	1.0	623ZZA	4.0	FL623ZZA	11.5	1.00	50,000	58,000	144	50
694	4.0	11	4.0	0.15	FL694	12.5	1.0	694ZZA	4.0	FL694ZZA	12.5	1.00	45,000	52,000	161	62
604	4.0	12	4.0	0.20	FL604	13.5	1.0	604ZZ	4.0	FL604ZZ	13.5	1.00	43,000	51,000	218	80
624	4.0	13	5.0	0.20	FL624	15.0	1.0	624ZZ	5.0	FL624ZZ	15.0	1.00	42,000	49,000	295	110
634	4.0	16	5.0	0.30	—	—	—	634ZZ	5.0	—	—	—	37,000	44,000	395	153
675	5.0	8	2.0	0.08	FL675	9.2	0.6	WA675ZZA	2.5	FLWA675ZZA	9.2	0.60	49,000	57,000	66	32
685	5.0	11	3.0	0.15	FL685	12.5	0.8	W685ZZA	5.0	FLW685ZZA	12.5	1.00	43,000	51,000	161	63
695	5.0	13	4.0	0.20	FL695	15.0	1.0	695ZZA	4.0	FL695ZZA	15.0	1.00	40,000	47,000	242	97
605	5.0	14	5.0	0.20	FL605	16.0	1.0	605ZZ	5.0	FL605ZZ	16.0	1.00	39,000	46,000	299	114
625	5.0	16	5.0	0.30	FL625	18.0	1.0	625ZZ	5.0	FL625ZZ	18.0	1.00	37,000	44,000	395	153
635	5.0	19	6.0	0.30	—	—	—	635ZZ	6.0	—	—	—	34,000	40,000	525	199
686	6.0	13	3.5	0.15	FL686	15.0	1.0	W686ZZA	5.0	FLW686ZZA	15.0	1.10	39,000	46,000	243	99
696	6.0	15	5.0	0.20	FL696	17.0	1.2	696ZZ	5.0	FL696ZZ	17.0	1.20	37,000	44,000	305	119
606	6.0	17	6.0	0.30	FL606	19.0	1.2	606ZZ	6.0	FL606ZZ	19.0	1.20	35,000	42,000	495	195
626	6.0	19	6.0	0.30	FL626	22.0	1.5	626ZZ	6.0	FL626ZZ	22.0	1.50	34,000	40,000	525	199
677	7.0	11	2.5	0.10	FL677	12.2	0.6	WA677ZZA	3.0	FLWA677ZZA	12.2	0.60	40,000	47,000	124	60
687	7.0	14	3.5	0.15	FL687	16.0	1.0	W687ZZA	5.0	FLW687ZZA	16.0	1.10	37,000	44,000	264	115
697	7.0	17	5.0	0.30	FL697	19.0	1.2	697ZZ	5.0	FL697ZZ	19.0	1.20	35,000	41,000	360	160
607	7.0	19	6.0	0.30	—	—	—	607ZZ	6.0	—	—	—	34,000	40,000	505	205
627	7.0	22	7.0	0.30	—	—	—	627ZZ	7.0	—	—	—	32,000	37,000	750	315
698	8.0	19	6.0	0.30	FL698	22.0	1.5	698ZZ	6.0	FL698ZZ	22.0	1.50	33,000	39,000	445	194
608	8.0	22	7.0	0.30	FL608	25.0	1.5	608ZZ	7.0	FL608ZZ	25.0	1.50	32,000	37,000	750	315
628	8.0	24	8.0	0.30	—	—	—	628ZZ	8.0	—	—	—	31,000	36,000	900	355
679	9.0	14	3.0	0.10	—	—	—	W679ZZA	4.5	—	—	—	36,000	42,000	207	105
689	9.0	17	4.0	0.20	FL689	19.0	1.0	W689ZZ	5.0	FLW689ZZ	19.0	1.10	33,000	39,000	390	184
699	9.0	20	6.0	0.30	—	—	—	699ZZ	6.0	—	—	—	32,000	38,000	560	245
609	9.0	24	7.0	0.30	—	—	—	609ZZ	7.0	—	—	—	31,000	36,000	765	325
629	9.0	26	8.0	0.60	—	—	—	629ZZ	8.0	—	—	—	30,000	35,000	1030	440

Bearing numbers listed above are for bearings made of high carbon chrome bearing steel; bearings made of stainless steel (equivalent to AISI 440 C) are also available upon request, for which "F" should be prefixed to the bearing numbers.



SEAL STRUCTURE AND TYPE DESIGNATION	FEATURES
  Z                      ZZ	<p>The sealed V-slot around the inner ring creates an air and/or grease pocket which increases the labyrinth effect.</p> <p>This is a non-contact, low-friction torque type bearing assembly, which can be used effectively for general protection.</p>
  LB                      LLB	<p>Both sides of the seal edge have a circular concaved surface which creates several narrow wide gaps along the V-shaped groove of the inner ring's sealed surface. The unique design ensures a perfect labyrinth effect.</p> <p>This non-contact, low friction bearing assembly requires very little torque and is highly resistant to dust build-up.</p>
  LU                      LLU	<p>The seal edge forms a double-lip. The inner lip touches the V-slot side of the inner ring's seal surface. There is a slight gap between the inner ring and the outer lip which produces the labyrinth effect. Even if friction causes the inner lip to wear, the outer lip constricts around the inner ring to compensate, and thus constantly preserving the perfect sealing effect.</p> <p>Due to the fact that it is a contact type seal bearing, the torque will be a little greater but the seal will provide the optimum protection from dust penetration.</p>



- 1. PREFIX
  - TS2: Heat stabilization for up to 320° F (160° C)
  - TS3: Heat stabilization for up to 390° F (200° C)
  - TS4: Heat stabilization for up to 480° F (250° C)
- 2. TYPE
  - 6: Single row deep groove ball bearings
  - 8, WC8: Single row deep groove ball bearings
  - BL: Maximum capacity
  - DE & DF: Special double row ball bearings
  - SC & SX: Special single row ball bearings
  - R: Inch series
  - TMB: Thermal mechanical bearing
- 3. INTERNAL DESIGN
  - A: Internal redesign, from A onward
  - U: Universal seal groove for open bearings
- 4. CHAMFER
  - Xn: Special chamfer, from 1 onward (X1, X2 ...)
- 5. CAGE
  - No Symbol: Pressed steel cage
  - J: Pressed steel cage
  - T1: Phenolic cage
  - T2: Nylon cage
  - L1: Machined brass cage
- 6. SEAL OR SHIELD
  - No Symbol: Open Type
  - LB, LLB: Non-contact rubber seal
  - LU, LLU: Double-lip contact rubber seal
  - LH, LLH: Light contact rubber seal
  - LUA, LLUA: Polyacrylic rubber seal
  - LUA1, LLUA1: Fluorocarbon rubber seal
  - Z, ZZ: Shield
  - Z1, ZZ1: Stainless steel shield
  - ZA, ZZA: Removable shield
- 7. RING MODIFICATION
  - N: Snap ring groove on outer ring, but without snap ring
  - NR: Snap ring groove on outer ring, snap ring included
  - /X.XX: Special bore, XX.XX in mm; Ex. 5/16" bore, /7.938
  - /XX.X: Special O.D., size XX.X in mm
- 8. INTERNAL CLEARANCE
  - C1: Radial clearance less than C2
  - C2: Radial clearance less than normal
  - C3: Radial clearance greater than normal
  - C4: Radial clearance greater than C3
  - C5: Radial clearance greater than C4
  - CSXX: Special radial clearance; XX is mean value in 0.001 mm units
- 9. TOLERANCE
  - P6: ISO class 6 (equivalent to ABEC 3)
  - P5: ISO class 5 (equivalent to ABEC 5)
  - P4: ISO class 4 (equivalent to ABEC 7)
  - PXn: Special tolerance, from 1 onward (PX1, PX2 ...)
  - Vn: Special requirement, from 1 onward (V1, V2 ...)
- 10. PRELUBRICANT (Typical)
  - 1E: Exxon Andok C grease
  - 1W: Anderson Oil Winsor Lube L-245X, MIL-L-6085A
  - 2AS: Shell Alvania #2 grease, MIL-G-18709A
  - 2E: Exxon Unirex N3
  - 3AS: Shell Oil Alvania #3 grease
  - 5C: Chevron SRI #2 grease, MIL-G-3545C
  - 5K: Kyodo Yushi Multemp SRL
  - 5S: Shell Aeroshell #7 grease, MIL-G-23827A
  - 9B: Mobil 28, MIL-G-81322
  - L627: Exxon Polyrex EM