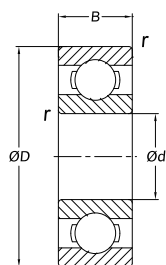


## Deep Groove Ball Bearings

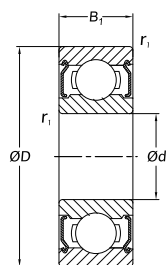


Deep groove ball bearings are the most widely used bearing type with a broad dimension range and extensive varieties. Outer diameter ranges from 3mm to 1700mm. Deep groove bearings can accommodate radial load, axial load and combined load.

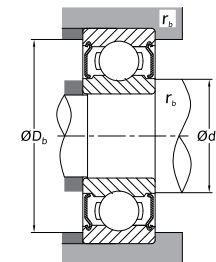
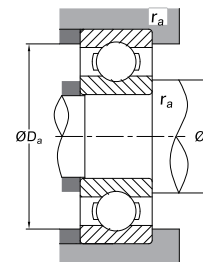
Metric Size  
d: 1~4mm



Open Type

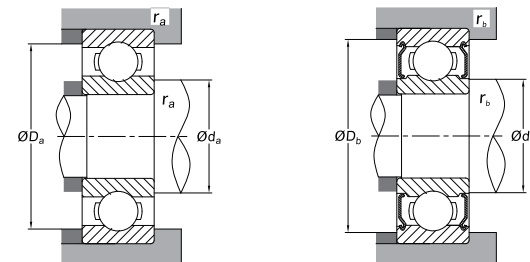
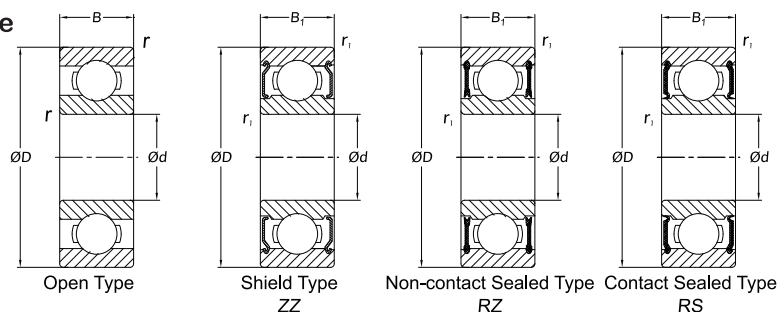


Shield Type  
ZZ



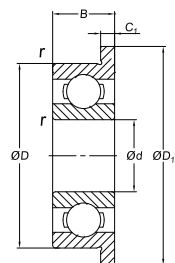
Principal Dimensions (mm)						Basic Load Ratings (N)		Limiting Speed (rpm)			Bearing Designations				Abutment and Fillet Dimensions (mm)						Weight (g)	
d	D	B	B <sub>1</sub>	r (min)	r <sub>1</sub> (min)	Dynamic C <sub>r</sub>	Static C <sub>0r</sub>	Open, Z, ZZ	Open, Z		Open	Shield Type	Sealed Type		d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (max)	D <sub>b</sub> (min)	r <sub>a</sub> (max)	r <sub>b</sub> (max)	Open	Sealed Type
1	3	1.0	-	0.05	-	80	23	130,000	150,000		681	-	-	-	1.4	-	2.6	-	0.05	-	0.03	-
	3	1.5	-	0.05	-	80	23	130,000	150,000		MR31	-	-	-	1.4	-	2.6	-	0.05	-	0.04	-
	4	1.6	-	0.10	-	138	35	100,000	120,000		691	-	-	-	1.8	-	3.2	-	0.10	-	0.09	-
1.2	4	1.8	2.5	0.10	0.10	138	35	110,000	130,000		MR4/1.2	MR4/1.2-ZZ	-	-	2.0	1.9	3.2	3.5	0.10	0.10	0.10	0.14
1.5	4	1.2	2.0	0.05	0.05	112	33	100,000	120,000		68/1.5	68/1.5-ZZ	-	-	1.1	2.1	3.6	3.6	0.05	0.05	0.07	0.11
	5	2.0	2.6	0.15	0.15	237	69	85,000	100,000		69/1.5	69/1.5-ZZ	-	-	2.7	2.5	3.8	4.3	0.15	0.15	17.00	0.20
	6	2.5	3.0	0.15	0.15	330	98	75,000	90,000		60/1.5	60/1.5-ZZ	-	-	2.7	3.0	4.8	5.4	0.15	0.15	0.33	0.38
2	5	1.5	2.3	0.08	0.08	169	50	85,000	100,000		682	682-ZZ	-	-	2.6	2.7	4.4	4.2	0.08	0.08	0.12	0.17
	5	2.0	2.5	0.10	0.10	187	58	85,000	100,000		MR52	MR52-ZZ	-	-	2.8	2.7	4.2	4.4	0.10	0.10	0.16	0.23
	6	2.3	3.0	0.15	0.15	330	98	75,000	90,000		692	692-ZZ	-	-	3.2	3.0	4.8	5.4	0.15	0.15	0.28	0.38
	6	2.5	2.5	0.15	0.15	330	98	75,000	90,000		MR62	MR62-ZZ	-	-	3.2	3.0	4.8	5.2	0.15	0.15	0.30	0.29
	7	2.5	3.0	0.15	0.15	385	127	63,000	75,000		MR72	MR72-ZZ	-	-	3.2	3.8	5.8	6.2	0.15	0.15	0.45	0.49
	7	2.8	3.5	0.15	0.15	385	127	63,000	75,000		602	602-ZZ	-	-	3.2	3.8	5.8	6.2	0.15	0.15	0.51	0.58
2.5	6	1.8	2.6	0.08	0.08	208	74	71,000	80,000		68/2.5	68/2.5-ZZ	-	-	3.1	3.7	5.4	5.4	0.08	0.08	0.23	0.29
	7	2.5	3.5	0.15	0.15	385	127	63,000	75,000		69/2.5	69/2.5-ZZ	-	-	3.7	3.8	5.8	6.2	0.15	0.15	0.41	0.55
	8	2.5	-	0.20	-	560	179	60,000	67,000		MR8/2.5	-	-	-	4.1	-	6.4	-	0.20	-	0.56	-
	8	2.8	4.0	0.15	0.15	550	175	60,000	71,000		60/2.5	60/2.5-ZZ	-	-	3.7	4.1	6.8	7.0	0.15	0.15	0.63	0.83
3	6	2.0	2.5	0.10	0.10	208	74	71,000	80,000		MR63	MR63-ZZ	-	-	3.8	3.7	5.2	5.4	0.10	0.10	0.20	0.27
	7	2.0	3.0	0.10	0.10	390	130	63,000	75,000		683	683-ZZ	-	-	3.8	4.0	6.2	6.4	0.10	0.10	0.32	0.45
	8	2.5	-	0.15	-	560	179	60,000	67,000		MR83	-	-	-	4.2	-	6.8	-	0.15	-	0.54	-
	8	3.0	4.0	0.15	0.15	560	179	60,000	67,000		693	693-ZZ	-	-	4.2	4.3	6.8	7.3	0.15	0.15	0.61	0.83
	9	2.5	4.0	0.20	0.15	570	187	56,000	67,000		MR93	MR93-ZZ	-	-	4.6	4.3	7.4	7.9	0.20	0.15	0.73	1.18
	9	3.0	5.0	0.15	0.15	570	187	56,000	67,000		603	603-ZZ	-	-	4.2	4.3	7.8	7.9	0.15	0.15	0.87	1.45
	10	4.0	4.0	0.15	0.15	630	218	50,000	60,000		623	623-ZZ	-	-	4.2	4.3	8.8	8.0	0.15	0.15	1.65	1.66
4	13	5.0	5.0	0.20	0.20	1300	485	40,000	48,000		633	633-ZZ	-	-	4.6	6.0	11.4	11.3	0.20	0.20	3.38	3.33
	7	2.0	-	0.10	-	310	115	60,000	67,000		MR74	-	-	-	4.8	-	6.2	-	0.10	-	0.22	-
	7	-	2.5	-	0.10	255	107	60,000	71,000		-	MR74-ZZ	-	-	-	4.8	-	6.3	-	0.10	-	0.29
	8	2.0	3.0	0.15	0.10	3953	139	56,000	67,000		MR84	MR84-ZZ	-	-	5.2	5.0	6.8	7.4	0.15	0.10	0.36	0.56
	9	2.5	4.0	0.15	0.15	640	225	53,000	63,000		684	684-ZZ	-	-	4.8	5.2	8.2	8.1	0.10	0.10	0.63	1.01
	10	3.0	4.0	0.20	0.15	710	270	50,000	60,000		MR104	MR104-ZZ	-	-	5.6	5.9	8.4	8.8	0.20	0.15	1.04	1.42
	11	4.0	4.0	0.15	0.15	960	345	48,000	56,000		694	694-ZZ	-	-	5.2	5.6	9.8	9.9	0.15	0.15	1.70	1.75
	12	4.0	4.0	0.20	0.20	960	345	48,000	56,000		604	604-ZZ	-	-	5.6	5.6	10.4	9.9	0.20	0.20	2.25	2.29
	13	5.0	5.0	0.20	0.20	1300	485	40,000	48,000		624	624-ZZ	-	-	5.6	6.0	11.4	11.3	0.20	0.20	3.03	3.04
	16	5.0	5.0	0.30	0.30	1730	670	36,000	43,000		634	634-ZZ	-	-	6.0	7.5	14.0	13.8	0.30	0.30	5.24	5.21

Metric Size  
d: 5~9mm

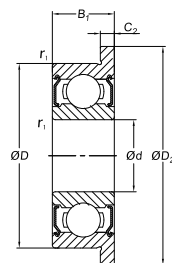


Principal Dimensions (mm)						Basic Load Ratings (N)		Limiting Speed (rpm)					Bearing Designations				Abutment and Fillet Dimensions (mm)						Weight (g)	
d	D	B	B <sub>1</sub>	r (min)	r <sub>1</sub> (min)	Dynamic C <sub>r</sub>	Static C <sub>0r</sub>	Grease		Oil			Open	Shield Type	Sealed Type	d <sub>a</sub> (min)	d <sub>a</sub> (max)	D <sub>a</sub> (max)	D <sub>0</sub> (min)	r <sub>a</sub> (max)	r <sub>0</sub> (max)	Open	Sealed Type	
								Z, ZZ, RZ, 2RZ	RS, 2RS	Open, Z														
5	8	2.0	-	0.10	-	310	120	53,000	-	63,000		MR85	-	-	-	5.8	-	7.2	-	0.10	-	0.26	-	
	8	-	2.5	-	0.10	278	131	53,000	-	63,000		-	MR85 ZZ	-	-	-	5.8	-	7.4	-	0.10	-	0.34	
	9	2.5	3.0	0.15	0.15	430	168	50,000	-	60,000		MR95	MR95 ZZ	-	-	6.2	6.0	7.8	8.2	0.15	0.15	0.50	0.58	
	10	3.0	4.0	0.15	0.15	430	168	50,000	-	60,000		MR105	MR105 ZZ	-	-	6.2	6.0	8.8	8.4	0.15	0.15	0.95	1.29	
	11	-	4.0	-	0.15	715	276	48,000	-	56,000		-	MR115 ZZ	2RZ	-	-	6.3	-	9.8	-	0.15	-	1.49	
	11	3.0	5.0	0.15	0.15	715	281	45,000	-	53,000		685	685 ZZ	-	-	6.2	6.2	9.8	9.9	0.15	0.15	1.20	1.96	
	13	4.0	4.0	0.20	0.20	1080	430	43,000	40,000	50,000		695	695 ZZ	2RZ	2RS	6.6	6.6	11.4	11.2	0.20	0.20	2.45	2.50	
	14	5.0	5.0	0.20	0.20	1330	505	40,000	38,000	50,000		605	605 ZZ	-	2RS	6.6	6.9	12.4	12.2	0.20	0.20	3.54	3.48	
	16	5.0	5.0	0.30	0.30	1730	670	36,000	32,000	43,000		625	625 ZZ	2RZ	2RS	7.0	7.5	14.0	13.8	0.30	0.30	4.95	4.86	
19	6.0	6.0	0.30	0.30	2340	885	32,000	30,000	40,000		635	635 ZZ	2RZ	2RS	7.0	8.5	17.0	16.5	0.30	0.30	8.56	8.34		
6	10	2.5	3.0	0.15	0.10	495	218	45,000	-	53,000		MR106	MR106 ZZ	-	-	7.2	7.0	8.8	9.3	0.15	0.10	0.56	0.68	
	12	3.0	4.0	0.20	0.15	715	292	43,000	40,000	50,000		MR126	MR 126 ZZ	-	2RS	7.6	7.2	10.4	10.9	0.20	0.15	1.27	1.74	
	13	3.5	5.0	0.15	0.15	1080	440	40,000	38,000	50,000		686	686 ZZ	2RZ	2RS	7.2	7.4	11.8	11.7	0.15	0.15	1.91	2.69	
	15	5.0	5.0	0.20	0.20	1730	670	40,000	36,000	45,000		696	696 ZZ	2RZ	2RS	7.6	7.9	13.4	13.3	0.20	0.20	3.88	3.72	
	17	6.0	6.0	0.30	0.30	2260	835	38,000	34,000	45,000		606	606 ZZ	2RZ	2RS	8.0	8.2	15.0	14.8	0.30	0.30	5.97	6.08	
	19	6.0	6.0	0.30	0.30	2340	885	32,000	30,000	40,000		626	626 ZZ	2RZ	2RS	8.0	8.5	17.0	16.5	0.30	0.30	8.15	7.94	
	22	7.0	7.0	0.30	0.30	3300	1370	30,000	28,000	36,000		636	636 ZZ	2RZ	2RS	8.0	10.5	20.0	19.0	0.30	0.30	14.00	14.00	
7	11	2.5	3.0	0.15	0.10	455	201	43,000	-	50,000		MR117	MR117 ZZ	-	-	8.2	8.0	9.8	10.5	0.15	0.10	0.62	0.72	
	13	3.0	4.0	0.20	0.15	540	276	40,000	-	48,000		MR137	MR137 ZZ	-	-	8.6	9.0	11.4	11.6	0.20	0.15	1.58	2.02	
	14	3.5	5.0	0.15	0.15	1170	510	40,000	34,000	45,000		687	687 ZZ	2RZ	2RS	8.2	8.5	12.8	12.7	0.15	0.15	2.13	2.97	
	17	5.0	5.0	0.30	0.30	1610	710	36,000	28,000	43,000		697	697 ZZ	2RZ	2RS	9.0	10.2	15.0	14.8	0.30	0.30	5.26	5.12	
	19	6.0	6.0	0.30	0.30	2340	885	36,000	32,000	43,000		607	607 ZZ	2RZ	2RS	9.0	9.1	17.0	16.5	0.30	0.30	7.67	7.51	
	22	7.0	7.0	0.30	0.30	3300	1370	30,000	28,000	36,000		627	627 ZZ	2RZ	2RS	9.0	10.5	20.0	19.0	0.30	0.30	12.70	12.90	
	26	9.0	9.0	0.30	0.30	4550	1970	28,000	22,000	34,000		637	637 ZZ	2RZ	2RS	9.0	12.8	24.0	22.8	0.30	0.30	24.00	25.00	
8	12	2.5	3.5	0.15	0.10	545	274	40,000	-	48,000		MR128	MR128 ZZ	-	-	9.2	9.0	10.8	11.3	0.15	0.10	0.71	0.97	
	14	3.5	4.0	0.20	0.15	820	385	38,000	32,000	45,000		MR148	MR148 ZZ	2RZ	2RS	9.6	9.2	12.4	12.8	0.20	0.15	1.86	2.16	
	16	4.0	5.0	0.20	0.20	1610	710	36,000	28,000	43,000		688	688 ZZ	2RZ	2RS	9.6	10.2	14.4	14.2	0.20	0.20	3.12	4.02	
	19	6.0	6.0	0.30	0.30	2240	910	36,000	28,000	43,000		698	698 ZZ	2RZ	2RS	10.0	10.0	17.0	16.5	0.30	0.30	7.23	7.18	
	22	7.0	7.0	0.30	0.30	3300	1370	34,000	28,000	40,000		608	608 ZZ	2RZ	2RS	10.0	10.5	20.0	19.0	0.30	0.30	12.10	12.20	
	24	8.0	8.0	0.30	0.30	3350	1430	28,000	24,000	34,000		628	628 ZZ	2RZ	2RS	10.0	12.0	22.0	20.5	0.30	0.30	17.20	17.40	
	28	9.0	9.0	0.30	0.30	4550	1970	28,000	22,000	34,000		638	638 ZZ	2RZ	2RS	10.0	12.8	26.0	22.8	0.30	0.30	28.30	28.60	
9	17	4.0	5.0	0.20	0.20	1330	665	36,000	24,000	43,000		689	689 ZZ	2RZ	2RS	10.6	11.5	15.4	15.2	0.20	0.20	3.53	4.43	
	20	6.0	6.0	0.30	0.30	1720	840	34,000	24,000	40,000		699	699 ZZ	2RZ	2RS	11.0	12.0	18.0	17.2	0.30	0.30	8.45	8.33	
	24	7.0	7.0	0.30	0.30	3350	1430	32,000	24,000	38,000		609	609 ZZ	2RZ	2RS	11.0	12.0	22.8	20.5	0.30	0.30	14.50	14.70	
	26	8.0	8.0	0.60	0.60	4550	1970	28,000	22,000	34,000		629	629 ZZ	2RZ	2RS	11.0	12.8	24.0	22.8	0.30	0.30	19.50	19.30	
	30	10.0	10.0	0.60	0.60	5100	2390	24,000	-	30,000		639	639 ZZ	2RZ	-	13.0	16.1	26.0	25.6	0.60	0.60	36.50	36.00	

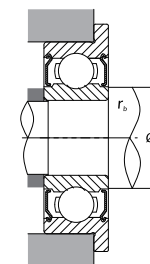
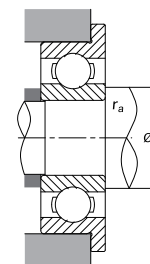
## Metric Size With Flanged Outer Ring d: 1~4mm



Open Type



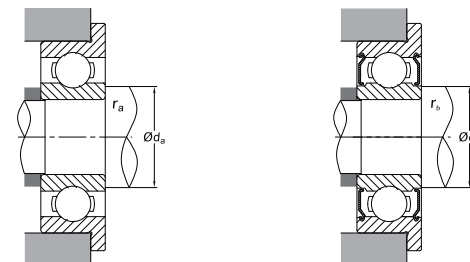
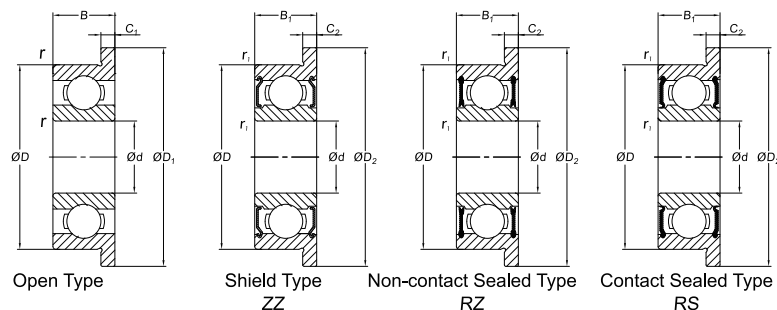
Shield Type  
ZZ



Principal Dimensions (mm)										Basic Load Ratings (N)		Limiting Speed (rpm)				Bearing Designations				Abutment and Fillet Dimensions (mm)				Weight (g)	
d	D	D <sub>1</sub>	D <sub>2</sub>	B	B <sub>1</sub>	C <sub>1</sub>	C <sub>2</sub>	r (min)	r <sub>1</sub> (min)	Dynamic C <sub>r</sub>	Static C <sub>0r</sub>	Grease	Oil			Open	Shield Type	Sealed Type	d <sub>s</sub> (min)	d <sub>f</sub> (max)	r <sub>s</sub> (max)	r <sub>f</sub> (max)	Open	Sealed Type	
1	3	3.8	-	1.0	-	0.3	-	0.05	-	80	23	130,000	150,000		F681	-	-	-	1.4	-	0.05	-	0.04	-	
	4	5.0	-	1.6	-	0.5	-	0.10	-	140	36	100,000	120,000		F691	-	-	-	1.8	-	0.10	-	0.14	-	
1.2	4	4.8	-	1.8	-	0.4	-	0.10	-	138	35	110,000	130,000		MF4/1.2	-	-	-	2.0	-	0.10	-	0.12	-	
1.5	4	5.0	5.0	1.2	2.0	0.4	0.6	0.05	0.05	112	33	100,000	120,000		F68/1.5	F68/1.5 ZZ	-	-	1.9	2.1	0.05	0.05	0.09	0.14	
	5	6.5	6.5	2.0	2.6	0.6	0.8	0.15	0.15	237	69	85,000	100,000		F69/1.5	F69/1.5 ZZ	-	-	2.7	2.5	0.15	0.15	0.23	0.28	
	6	7.5	7.5	2.5	3.0	0.6	0.8	0.15	0.15	330	98	75,000	90,000		F60/1.5	F60/1.5 ZZ	-	-	2.7	3.0	0.15	0.15	0.42	0.52	
2	5	6.1	6.1	1.5	2.3	0.5	0.6	0.08	0.08	169	50	85,000	100,000		F682	F682 ZZ	-	-	2.6	2.7	0.08	0.08	0.16	0.22	
	5	6.2	6.2	2.0	2.5	0.6	0.6	0.10	0.10	187	58	85,000	100,000		MF52	MF52 ZZ	-	-	2.8	2.7	0.10	0.10	0.21	0.27	
	6	7.5	7.5	2.3	3.0	0.6	0.8	0.15	0.15	330	98	75,000	90,000		F692	F692 ZZ	-	-	3.2	3.0	0.15	0.15	0.35	0.48	
	6	7.2	-	2.5	-	0.6	-	0.15	-	330	98	75,000	90,000		MF62	-	-	-	3.2	-	0.15	-	0.36	-	
	7	8.2	8.2	2.5	3.0	0.6	0.6	0.15	0.15	385	127	63,000	75,000		MF72	MF72 ZZ	-	-	3.2	3.8	0.15	0.15	0.52	0.56	
	7	8.5	8.5	2.8	3.5	0.7	0.9	0.15	0.15	385	127	63,000	75,000		F602	F602 ZZ	-	-	3.2	3.1	0.15	0.15	0.60	0.71	
2.5	6	7.1	7.1	1.8	2.6	0.5	0.8	0.08	0.08	208	74	71,000	80,000		F68/2.5	F68/2.5 ZZ	-	-	3.1	3.7	0.08	0.08	0.25	0.36	
	7	8.5	8.5	2.5	3.5	0.7	0.9	0.15	0.15	385	127	63,000	75,000		F69/2.5	F69/2.5 ZZ	-	-	3.7	3.8	0.15	0.15	0.51	0.68	
	8	9.2	-	2.5	-	0.6	-	0.20	-	560	179	60,000	67,000		MF8/2.5	-	-	-	4.1	-	0.20	-	0.62	-	
	8	9.5	9.5	2.8	4.0	0.7	0.9	0.15	0.15	550	175	60,000	71,000		F60/2.5	F60/2.5 ZZ	-	-	3.7	3.5	0.15	0.15	0.74	0.98	
3	6	7.2	7.2	2.0	2.5	0.6	0.6	0.10	0.10	208	74	71,000	80,000		MF63	MF63 ZZ	-	-	3.8	3.7	0.10	0.10	0.27	0.33	
	7	8.1	8.1	2.0	3.0	0.5	0.8	0.10	0.10	390	130	63,000	75,000		F683	F683 ZZ	-	-	3.8	4.0	0.10	0.10	0.37	0.53	
	8	9.2	-	2.5	-	0.6	-	0.15	-	560	179	60,000	67,000		MF83	-	-	-	4.2	-	0.15	-	0.56	-	
	8	9.5	9.5	3.0	4.0	0.7	0.9	0.15	0.15	560	179	60,000	67,000		F693	F693 ZZ	-	-	4.2	4.3	0.15	0.15	0.70	0.97	
	9	10.2	10.6	2.5	4.0	0.6	0.8	0.20	0.15	570	187	56,000	67,000		MF93	MF93 ZZ	-	-	4.6	4.3	0.20	0.15	0.81	1.34	
	9	10.5	10.5	3.0	5.0	0.7	1.0	0.15	0.15	570	187	56,000	67,000		F603	F603 ZZ	-	-	4.2	4.3	0.15	0.15	1.00	1.63	
	10	11.5	11.5	4.0	4.0	1.0	1.0	0.15	0.15	630	218	50,000	60,000		F623	F623 ZZ	-	-	4.2	4.3	0.15	0.15	1.85	1.86	
	13	15.0	15.0	5.0	5.0	1.0	1.0	0.20	0.20	1300	485	36,000	43,000		F633	F633 ZZ	-	-	4.6	6.0	0.20	0.20	3.73	3.59	
4	7	8.2	-	2.0	-	0.6	-	0.10	-	310	115	60,000	67,000		MF74	-	-	-	4.8	-	0.10	-	0.29	-	
	7	-	8.2	-	2.5	-	0.6	-	0.10	255	107	60,000	71,000		-	MF74 ZZ	-	-	-	4.8	-	0.10	-	0.35	-
	8	9.2	9.2	2.0	3.0	0.6	0.6	0.15	0.10	395	139	56,000	67,000		MF84	MF84 ZZ	-	-	5.2	5.0	0.15	0.10	0.44	0.63	
	9	10.3	10.3	2.5	4.0	0.6	1.0	0.15	0.15	640	225	53,000	63,000		F684	F684 ZZ	-	-	4.8	5.2	0.10	0.10	0.70	1.14	
	10	11.2	11.6	3.0	4.0	0.6	0.8	0.20	0.15	710	270	50,000	60,000		MF104	MF104 ZZ	-	-	5.6	5.9	0.20	0.15	1.13	1.59	
	11	12.5	12.5	4.0	4.0	1.0	1.0	0.15	0.15	960	345	48,000	56,000		F694	F694 ZZ	-	-	5.2	5.6	0.15	0.15	1.91	1.96	
	12	13.5	13.5	4.0	4.0	1.0	1.0	0.20	0.20	960	345	48,000	56,000		F604	F604 ZZ	-	-	5.6	5.6	0.20	0.20	2.53	2.53	
	13	15.0	15.0	5.0	5.0	1.0	1.0	0.20	0.20	1300	485	40,000	48,000		F624	F624 ZZ	-	-	5.6	6.0	0.20	0.20	3.38	3.53	
	16	18.0	18.0	5.0	5.0	1.0	1.0	0.30	0.30	1730	670	36,000	43,000		F634	F634 ZZ	-	-	6.0	7.5	0.30	0.30	5.73	5.62	

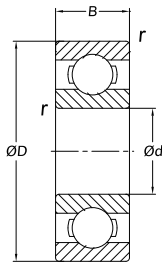


## Metric Size With Flanged Outer Ring d: 5~9mm

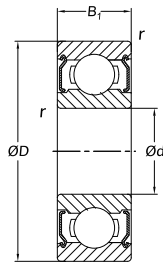


Principal Dimensions (mm)										Basic Load Ratings (N)		Limiting Speed (rpm)				Bearing Designations				Abutment and Fillet Dimensions (mm)				Weight (g)	
d	D	D <sub>1</sub>	D <sub>2</sub>	B	B <sub>1</sub>	C <sub>1</sub>	C <sub>2</sub>	r <sub>1</sub> (mm)	r <sub>2</sub> (mm)	Dynamic C <sub>r</sub>	Static C <sub>0r</sub>	Grease		Oil		Open	Shield Type	Sealed Type	d <sub>a</sub> (mm)	d <sub>b</sub> (mm)	r <sub>a</sub> (mm)	r <sub>b</sub> (mm)	Open	Sealed Type	
												Z, ZZ, RZ, 2RZ	RS, 2RS	Open, Z											
5	8	9.2	-	2.0	-	0.6	-	0.10	-	310	120	53,000	-	63,000		MF85	-	-	-	5.8	-	0.10	-	0.33	-
	8	-	9.2	-	2.5	-	0.6	-	0.10	278	131	53,000	-	63,000		-	MF85 ZZ	-	-	-	6	-	0.10	-	0.41
	9	10.2	10.2	2.5	3.0	0.6	0.6	0.15	0.15	430	168	50,000	-	60,000		MF95	MF95 ZZ	-	-	6.2	6	0.15	0.15	0.59	0.66
	10	11.2	11.6	3.0	4.0	0.6	0.6	0.15	0.15	430	168	50,000	-	60,000		MF105	MF105 ZZ	-	-	6.2	6.0	0.15	0.15	1.05	1.46
	11	12.5	12.5	3.0	5.0	0.8	1.0	0.15	0.15	715	281	45,000	-	53,000		F685	F685 ZZ	-	-	6.2	6.2	0.15	0.15	1.37	2.18
	13	15.0	15.0	4.0	4.0	1.0	1.0	0.20	0.20	1080	430	43,000	40,000	50,000		F695	F695 ZZ	2RZ	2RS	6.6	6.6	0.20	0.20	2.79	2.84
	14	16.0	16.0	5.0	5.0	1.0	1.0	0.20	0.20	1330	505	40,000	38,000	50,000		F605	F605 ZZ	-	2RS	6.6	6.9	0.20	0.20	3.90	3.85
	16	18.0	18.0	5.0	5.0	1.0	1.0	0.30	0.30	1730	670	36,000	32,000	43,000		F625	F625 ZZ	2RZ	2RS	7.0	7.5	0.30	0.30	5.37	5.27
	19	22.0	22.0	6.0	6.0	1.5	1.5	0.30	0.30	2340	885	32,000	30,000	40,000		F635	F635 ZZ	2RZ	2RS	7.0	8.5	0.30	0.30	9.49	9.49
6	10	11.2	11.2	2.5	3.0	0.6	0.6	0.15	0.10	495	218	45,000	-	53,000		MF106	MF106 ZZ	-	-	7.2	7.0	0.15	0.10	0.65	0.77
	12	13.2	13.6	3.0	4.0	0.6	0.8	0.20	0.15	715	292	43,000	40,000	50,000		MF126	MF126 ZZ	-	2RS	7.6	7.2	0.20	0.15	1.38	1.94
	13	15.0	15.0	3.5	5.0	1.0	1.1	0.15	0.15	1080	440	40,000	38,000	50,000		F686	F686 ZZ	2RZ	2RS	7.2	7.4	0.15	0.15	2.25	3.04
	15	17.0	17.0	5.0	5.0	1.2	1.2	0.20	0.20	1730	670	40,000	36,000	45,000		F696	F696 ZZ	2RZ	2RS	7.6	7.9	0.20	0.20	4.34	4.26
	17	19.0	19.0	6.0	6.0	1.2	1.2	0.30	0.30	2260	835	38,000	34,000	45,000		F606	F606 ZZ	2RZ	2RS	8.0	8.2	0.30	0.30	6.58	6.61
	19	22.0	22.0	6.0	6.0	1.5	1.5	0.30	0.30	2340	885	32,000	30,000	40,000		F626	F626 ZZ	2RZ	2RS	8.0	8.5	0.30	0.30	9.09	9.09
7	11	12.2	12.2	2.5	3.0	0.6	0.6	0.15	0.10	455	201	43,000	-	50,000		MF117	MF117 ZZ	-	-	8.2	8.0	0.15	0.10	0.72	0.82
	13	14.2	14.6	3.0	4.0	0.6	0.8	0.20	0.15	540	276	40,000	-	48,000		MF137	MF137 ZZ	-	-	8.6	9.0	0.20	0.15	1.70	2.23
	14	16.0	16.0	3.5	5.0	1.0	1.1	0.15	0.15	1170	510	40,000	34,000	45,000		F687	F687 ZZ	2RZ	2RS	8.2	8.5	0.15	0.15	2.48	3.37
	17	19.0	19.0	5.0	5.0	1.2	1.2	0.30	0.30	1610	715	36,000	28,000	43,000		F697	F697 ZZ	2RZ	2RS	9.0	10.2	0.30	0.30	5.65	5.65
	19	22.0	22.0	6.0	6.0	1.5	1.5	0.30	0.30	2340	885	36,000	32,000	43,000		F607	F607 ZZ	2RZ	2RS	9.0	9.1	0.30	0.30	8.66	8.66
	22	25.0	25.0	7.0	7.0	1.5	1.5	0.30	0.30	3300	1370	30,000	28,000	36,000		F627	F627 ZZ	2RZ	2RS	9.0	10.5	0.30	0.30	14.20	14.20
8	12	13.2	13.6	2.5	3.5	0.6	0.8	0.15	0.10	545	274	40,000	-	48,000		MF128	MF128 ZZ	-	-	9.2	9.0	0.15	0.10	0.82	1.15
	14	15.6	15.6	3.5	4.0	0.8	0.8	0.20	0.15	820	385	38,000	32,000	45,000		MF148	MF148 ZZ	2RZ	2RS	9.6	9.2	0.20	0.15	2.09	2.39
	16	18.0	18.0	4.0	5.0	1.0	1.1	0.20	0.20	1610	710	36,000	30,000	43,000		F688	F688 ZZ	2RZ	2RS	9.6	10.2	0.20	0.20	3.54	4.47
	19	22.0	22.0	6.0	6.0	1.5	1.5	0.30	0.30	2240	910	36,000	28,000	43,000		F698	F698 ZZ	2RZ	2RS	10.0	10.0	0.30	0.30	8.35	8.30
	22	25.0	25.0	7.0	7.0	1.5	1.5	0.30	0.30	3300	1370	34,000	28,000	40,000		F608	F608 ZZ	2RZ	2RS	10.0	10.5	0.30	0.30	13.40	13.50
9	17	19.0	19.0	4.0	5.0	1.0	1.1	0.20	0.20	1330	665	36,000	24,000	43,000		F689	F689 ZZ	2RZ	2RS	10.6	11.5	0.20	0.20	3.97	4.91
	20	23.0	23.0	6.0	6.0	1.5	1.5	0.30	0.30	1720	840	34,000	24,000	40,000		F699	F699 ZZ	2RZ	2RS	11.0	12.0	0.30	0.30	9.51	9.51

Inch Size  
d: 1.016~9.525mm

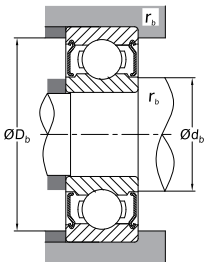
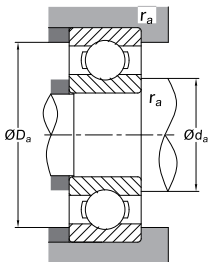


Open Type



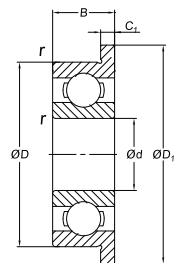
Shield Type  
ZZ

Principal Dimensions (mm)					Basic Load Ratings (N)		Limiting Speed (rpm)		
d	D	B	B <sub>1</sub>	r (min)	Dynamic C <sub>r</sub>	Static C <sub>0r</sub>	Grease Open, Z, ZZ,	Oil Open, Z	
1.016	3.175	1.191	-	0.10	80	23	130,000	150,000	
1.191	3.967	1.588	2.380	0.10	138	35	110,000	130,000	
1.397	4.762	1.984	2.779	0.10	231	66	90,000	110,000	
1.984	6.350	2.380	3.571	0.10	310	108	67,000	80,000	
2.380	4.762	1.588	2.380	0.10	143	52	80,000	95,000	
	7.938	2.779	3.571	0.15	550	175	60,000	71,000	
3.175	6.350	2.380	2.779	0.10	283	95	67,000	80,000	
	7.938	2.779	3.571	0.10	560	179	60,000	67,000	
	9.525	2.779	3.571	0.15	640	225	53,000	63,000	
	9.525	3.967	3.967	0.30	630	218	56,000	67,000	
	12.700	4.366	4.366	0.30	640	225	53,000	63,000	
3.967	7.938	2.779	3.175	0.10	360	149	53,000	63,000	
4.762	7.938	2.779	3.175	0.10	360	149	53,000	63,000	
	9.525	3.175	3.175	0.10	710	270	50,000	60,000	
	12.700	3.967	4.978	0.30	1300	485	43,000	53,000	
6.350	9.525	3.175	3.175	0.10	420	204	48,000	56,000	
	12.700	3.175	4.762	0.15	1080	440	40,000	50,000	
	15.875	4.978	4.978	0.30	1610	660	38,000	45,000	
	19.050	5.558	7.142	0.40	2340	885	36,000	43,000	
7.938	12.700	3.967	3.967	0.15	540	276	40,000	48,000	
9.525	22.225	5.558	7.142	0.40	3350	1410	32,000	38,000	

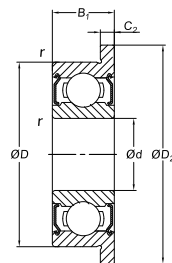


	Bearing Designations		Abutment and Fillet Dimensions (mm)					Weight (g)	
	Open	Shield Type	d <sub>a</sub> (min)	d <sub>b</sub> (max)	D <sub>a</sub> (max)	D <sub>b</sub> (min)	r <sub>a</sub> (max)	Open	Sealed Type
	R09	-	1.9	-	2.3	-	0.10	0.04	-
	R0	R0 ZZ	2.0	1.9	3.1	3.5	0.10	0.09	0.11
	R1	R1 ZZ	2.2	2.3	3.9	4.1	0.10	0.15	0.19
	R1-4	R1-4 ZZ	2.8	3.9	5.5	5.9	0.10	0.35	0.50
	R133	R133 ZZ	3.2	3.0	3.9	4.2	0.10	0.10	0.13
	R1-5	R1-5 ZZ	3.6	4.1	6.7	7.0	0.15	0.60	0.72
	R144	R144 ZZ	4.0	3.9	5.5	5.9	0.10	0.25	0.27
	R2-5	R2-5 ZZ	4.0	4.3	7.1	7.3	0.10	0.55	0.72
	R2-6	R2-6 ZZ	4.4	4.6	8.3	8.2	0.15	0.96	1.13
	R2	R2 ZZ	5.2	4.8	7.5	8.0	0.30	1.36	1.39
	R2A	R2A ZZ	5.2	4.6	10.7	8.2	0.30	3.30	3.23
	R155	R155 ZZ	4.8	5.5	7.1	7.3	0.10	0.51	0.56
	R156	R156 ZZ	5.6	5.5	7.1	7.3	0.10	0.39	0.42
	R166	R166 ZZ	5.6	5.9	8.7	8.8	0.10	0.81	0.85
	R3	R3 ZZ	6.8	6.5	10.7	11.2	0.30	2.21	2.79
	R168	R168 ZZ	7.2	7.0	8.7	8.9	0.10	0.58	0.62
	R188	R188 ZZ	7.6	7.4	11.5	11.7	0.15	1.53	2.24
	R4	R4 ZZ	8.4	8.4	13.8	13.8	0.30	4.50	4.43
	R4A	R4A ZZ	9.4	9.0	16.0	16.6	0.40	7.48	9.17
	R1810	R1810 ZZ	9.2	9.0	11.5	11.6	0.15	1.56	1.48
	R6	R6 ZZ	12.6	11.9	19.2	20.0	0.40	9.02	11.00

Inch Size With Flanged Outer Ring  
d: 1.191~9.525mm

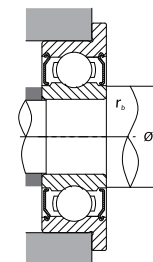
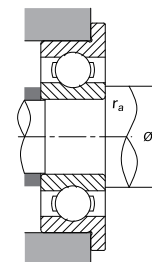


Open Type



Shield Type  
ZZ

Principal Dimensions (mm)								Basic Load Ratings (N)		Limiting Speed (rpm)	
d	D	D <sub>1</sub>	B	B <sub>1</sub>	C <sub>1</sub>	C <sub>2</sub>	r (min)	Dynamic C <sub>r</sub>	Static C <sub>0r</sub>	Grease Z, ZZ	Oil Open, Z
1.191	3.967	5.156	1.588	2.380	0.330	0.787	0.10	138	35	110,000	130,000
1.397	4.762	5.944	1.984	2.779	0.584	0.787	0.10	231	66	90,000	110,000
1.984	6.350	7.518	2.380	3.571	0.584	0.787	0.10	310	108	67,000	80,000
2.380	4.762	5.944	1.588	2.380	0.460	0.790	0.10	143	52	80,000	95,000
	7.938	9.119	2.779	3.571	0.584	0.787	0.15	550	175	60,000	71,000
3.175	6.350	7.518	2.380	2.779	0.584	0.787	0.10	283	95	67,000	80,000
	7.938	9.119	2.779	3.571	0.584	0.787	0.10	560	179	60,000	67,000
	9.525	10.719	2.779	3.571	0.584	0.787	0.15	640	225	53,000	63,000
	9.525	11.176	3.967	3.967	0.762	0.762	0.30	630	218	56,000	67,000
3.967	7.938	9.119	2.779	3.175	0.584	0.914	0.10	360	149	53,000	63,000
4.762	7.938	9.119	2.779	3.175	0.584	0.914	0.10	360	149	53,000	63,000
	9.525	10.719	3.175	3.175	0.584	0.787	0.10	710	270	50,000	60,000
	12.700	14.351	4.978	4.978	1.067	1.067	0.30	1300	485	43,000	53,000
6.350	9.525	10.719	3.175	3.175	0.584	0.914	0.10	420	204	48,000	56,000
	12.700	13.894	3.175	4.762	0.584	1.143	0.15	1080	440	40,000	50,000
	15.875	17.526	4.978	4.978	1.067	1.067	0.30	1610	660	38,000	45,000
7.938	12.700	13.894	3.967	3.967	0.787	0.787	0.15	540	276	40,000	48,000
9.525	22.225	24.613	7.142	7.142	1.570	1.570	0.40	3350	1410	32,000	38,000



Bearing Designations		Abutment and Fillet Dimensions (mm)			Weight (g)	
Open	Shield Type	d <sub>a</sub> (min)	d <sub>b</sub> (max)	r <sub>s</sub> (max)	Open	Sealed Type
R0	R0 ZZ	2.0	1.9	0.10	0.11	0.16
R1	R1 ZZ	2.2	2.3	0.10	0.20	0.25
R1-4	R1-4 ZZ	2.8	3.9	0.10	0.41	0.58
R133	R133 ZZ	3.2	3.0	0.10	0.13	0.19
R1-5	R1-5 ZZ	3.6	3.5	0.15	0.68	0.82
R144	R144 ZZ	4.0	3.9	0.10	0.31	0.35
R2-5	R2-5 ZZ	4.0	4.3	0.10	0.62	0.81
R2-6	R2-6 ZZ	4.4	4.6	0.15	1.04	1.25
R2	R2 ZZ	5.2	4.8	0.30	1.51	1.55
R155	R155 ZZ	4.8	5.5	0.10	0.59	0.67
R156	R156 ZZ	5.6	5.5	0.10	0.47	0.53
R166	R166 ZZ	5.6	5.9	0.10	0.90	0.98
R3	R3 ZZ	6.8	6.5	0.30	2.97	3.09
R168	R168 ZZ	7.2	7.0	0.10	0.66	0.75
R188	R188 ZZ	7.6	7.4	0.15	1.64	2.49
R4	R4 ZZ	8.4	8.4	0.30	4.82	4.78
R1810	R1810 ZZ	9.2	9.0	0.15	1.71	1.63
R6	R6 ZZ	12.6	11.9	0.40	10.10	12.10