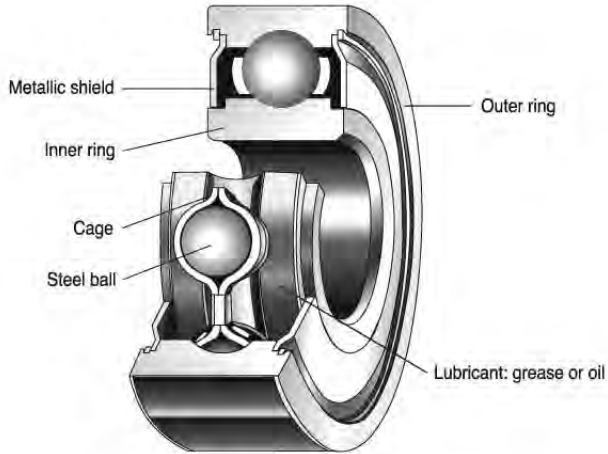
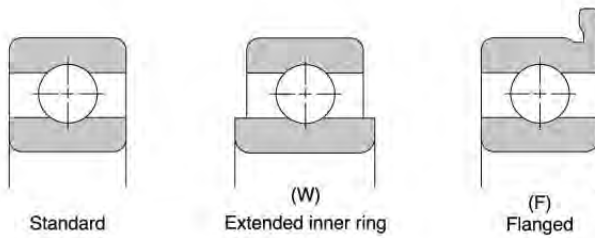


1.1 Structure & Design of Radial Ball Bearings

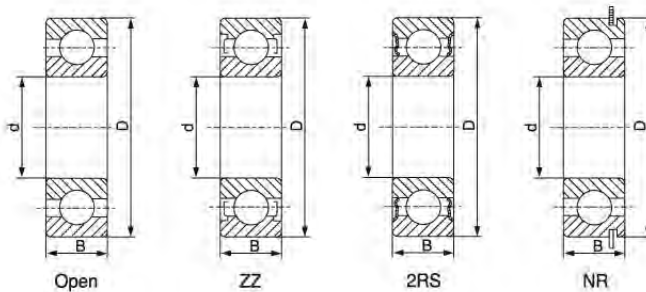
Structure



Design

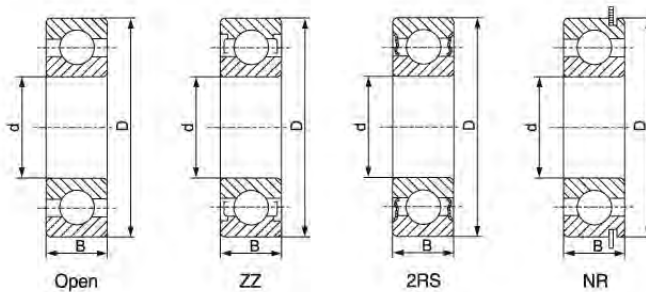


1.1 Single Row



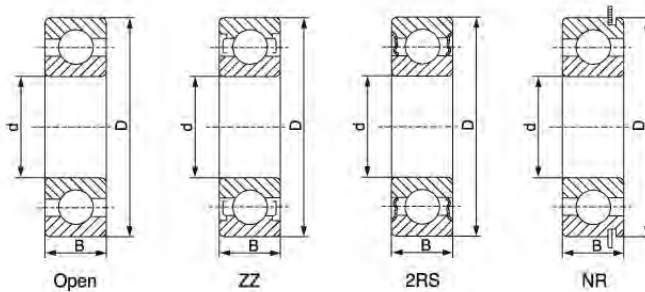
Dimension			Bearing Number			Load Rating		Limiting Speed		Mass
d	D	B	Open	Shielded	Sealed	Dynamic Cr	Static Cor	Grease	Oil	Approx
mm	mm	mm				(N)	(N)	(rpm)	(rpm)	(kg)
10	26	8	6000	ZZ	2RS	3640	1576	24000	28800	0.02
10	30	9	6200	ZZ	2RS	4080	1912	19200	24000	0.03
10	35	11	6300	ZZ	2RS	6480	2760	17600	20800	0.05
10	19	5	6800	ZZ	2RS	1376	672	27200	32000	0.01
10	22	6	6900	ZZ	2RS	2160	1016	25600	30400	0.01
12	28	8	6001	ZZ	2RS	4080	1896	22400	25600	0.02
12	32	10	6201	ZZ	2RS	5440	2440	17600	22400	0.04
12	37	12	6301	ZZ	2RS	7760	3360	16000	19200	0.06
12	21	5	6801	ZZ	2RS	1536	832	25600	30400	0.01
12	24	6	6901	ZZ	2RS	2312	1168	24000	28800	0.01
12	28	7	16001	ZZ	2RS	4080	1896	22400	25600	0.02
15	32	9	6002	ZZ	2RS	4480	2264	19200	22400	0.03
15	35	11	6202	ZZ	2RS	6120	3000	16000	19200	0.05
15	42	13	6302	ZZ	2RS	9120	4360	13600	16000	0.08
15	24	5	6802	ZZ	2RS	1656	1008	22400	27200	0.01
15	28	7	6902	ZZ	2RS	2312	1168	24000	28800	0.02
15	32	8	16002	ZZ	2RS	4480	2264	19200	22400	0.03
17	35	10	6003	ZZ	2RS	4800	2600	17600	20800	0.04
17	40	12	6203	ZZ	2RS	7640	3840	13600	16000	0.07
17	47	14	6303	ZZ	2RS	10880	5320	12000	14400	0.11
17	26	5	6803	ZZ	2RS	2104	1256	20800	24000	0.01
17	30	7	6903	ZZ	2RS	3480	1808	19200	22400	0.02
17	35	8	16003	ZZ	2RS	4800	2600	17600	20800	0.03
20	42	12	6004	ZZ	2RS	7520	4000	14400	16000	0.07
20	47	14	6204	ZZ	2RS	10240	5280	12000	14400	0.11
20	52	15	6304	ZZ	2RS	12720	6320	11200	13600	0.14
20	32	7	6804	ZZ	2RS	3200	1976	17600	20800	0.02
20	37	9	6904	ZZ	2RS	5120	2960	15200	17600	0.04
20	42	8	16004	ZZ	2RS	6320	3560	14400	16000	0.05
22	44	12	60/22	ZZ	2RS	7520	4040	13600	16000	0.07
22	50	14	62/22	ZZ	2RS	10320	5440	11200	12800	0.12
22	56	16	63/22	ZZ	2RS	14720	7400	10400	12800	0.18
25	47	12	6005	ZZ	2RS	8080	4680	12000	14400	0.08
25	52	15	6205	ZZ	2RS	11200	6280	10400	12000	0.13
25	62	17	6305	ZZ	2RS	16480	8960	8800	10400	0.23

1.1 Single Row



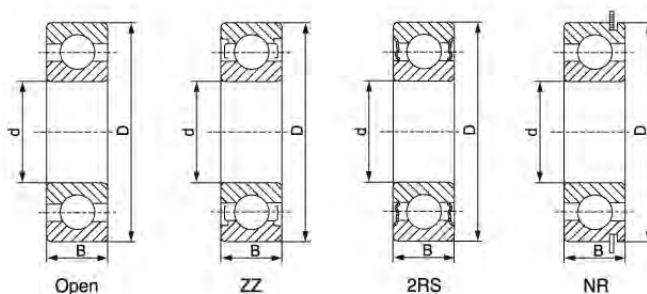
Dimension			Bearing Number			Load Rating		Limiting	Speed	Mass
d	D	B	Open	Shielded	Sealed	Dynamic	Static	Grease	Oil	Approx
mm	mm	mm				Cr	Cor	(rpm)	(rpm)	(kg)
25	37	7	6805	ZZ	2RS	3600	2520	14400	17600	0.02
25	42	9	6905	ZZ	2RS	5640	3640	12800	15200	0.05
25	47	8	16005	ZZ	2RS	7080	4480	12000	14400	0.06
28	52	12	60/28	ZZ	2RS	10000	5920	11200	12800	0.10
28	58	16	62/28	ZZ	2RS	13280	7600	9600	11200	0.18
28	68	18	63/28	ZZ	2RS	21360	11200	8000	10400	0.28
30	55	13	6006	ZZ	2RS	10560	6640	10400	12000	0.12
30	62	16	6206	ZZ	2RS	15600	9040	8800	10400	0.20
30	72	19	6306	ZZ	2RS	21360	12000	7600	9600	0.35
30	42	7	6806	ZZ	2RS	3760	2920	12000	14400	0.03
30	47	9	6906	ZZ	2RS	5800	4000	11200	13600	0.05
30	55	9	16006	ZZ	2RS	8960	5880	10400	12000	0.09
32	58	13	60/32	ZZ	2RS	12080	7320	9600	11200	0.12
32	65	17	62/32	ZZ	2RS	16560	9280	8000	9600	0.23
32	75	20	63/32	ZZ	2RS	23920	13600	7200	8800	0.39
35	62	1	6007	ZZ	2RS	12800	8240	8800	10400	0.15
35	72	17	6207	ZZ	2RS	20560	12240	7600	8800	0.29
35	80	21	6307	ZZ	2RS	26800	15360	6800	8000	0.46
35	47	7	6807	ZZ	2RS	3920	3280	11200	12800	0.03
35	55	10	6907	ZZ	2RS	8480	5800	9600	12000	0.08
35	62	9	16007	ZZ	2RS	9360	6560	8800	10400	0.11
40	68	15	6008	ZZ	2RS	13440	9200	8000	9600	0.19
40	80	18	6208	ZZ	2RS	23280	14320	6800	8000	0.37
40	90	23	6308	ZZ	2RS	32400	19200	6000	720	0.63
40	52	7	6808	ZZ	2RS	5080	4440	9600	11200	0.03
40	62	12	6908	ZZ	2RS	10960	8000	8800	10400	0.12
40	68	9	16008	ZZ	2RS	10080	7720	8000	9600	0.13
45	75	16	6009	ZZ	2RS	16720	12160	7200	8800	0.25
45	85	19	6209	ZZ	2RS	25200	16320	6000	7200	0.41
45	100	25	6309	ZZ	2RS	42400	25600	5360	6400	0.83
45	58	7	6809	ZZ	2RS	5280	4920	8800	10400	0.04
45	68	12	6909	ZZ	2RS	11280	8720	7600	9600	0.14
45	75	10	16009	ZZ	2RS	11920	9120	7200	8800	0.17
50	80	16	6010	ZZ	2RS	17440	13280	6800	8000	0.26

1.1 Single Row



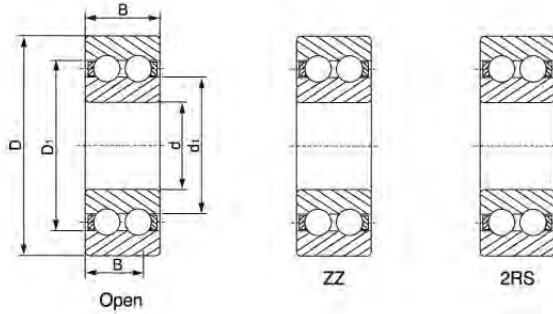
Dimension			Bearing Number			Load Rating		Limiting Speed		Mass
d	D	B	Open	Shielded	Sealed	Dynamic Cr	Static Cor	Grease	Oil	Approx
mm	mm	mm				(N)	(N)	(rpm)	(rpm)	(kg)
50	90	20	6210	ZZ	2RS	28000	18560	5680	3840	0.46
50	110	27	6310	ZZ	2RS	49600	30800	4800	6000	1.05
50	65	7	6810	ZZ	2RS	5120	4960	7600	8800	0.05
50	72	12	6910	ZZ	2RS	11600	9360	7200	8800	0.14
50	80	10	16010	ZZ	2RS	12320	9920	6800	8000	0.18
55	90	18	6011	ZZ	2RS	22640	16960	6000	7200	0.38
55	100	21	6211	ZZ	2RS	34800	23440	5040	6000	0.61
55	120	29	6311	ZZ	2RS	57200	35600	4480	5360	1.35
55	72	9	6811	ZZ	2RS	7040	6800	6800	8000	0.08
55	80	13	6911	ZZ	2RS	12800	10640	6400	7600	0.19
55	90	11	16011	ZZ	2RS	15520	13040	6000	7200	0.26
60	95	18	6012	ZZ	2RS	23600	18560	5680	6800	0.41
60	110	22	6212	ZZ	2RS	42000	28800	4480	5680	0.78
60	130	31	6312	ZZ	2RS	65600	41600	4240	5040	1.70
60	78	10	6812	ZZ	2RS	9200	8720	6400	7600	0.10
60	85	13	6912	ZZ	2RS	15520	13040	6000	7200	0.19
60	95	11	16012	ZZ	2RS	16000	14000	5680	6800	0.28
65	100	18	6013	ZZ	2RS	24400	20160	5360	6400	0.44
65	120	23	6213	ZZ	2RS	46000	32000	4240	5040	0.99
65	140	33	6313	ZZ	2RS	74000	48000	3840	4800	2.10
65	85	10	6813	ZZ	2RS	9520	9680	6000	6800	0.13
65	90	13	6913	ZZ	2RS	13920	12880	5680	6800	0.22
65	100	11	16013	ZZ	2RS	16400	14960	5360	6400	0.30
70	110	20	6014	ZZ	2RS	30400	24800	4800	5680	0.60
70	125	24	6214	ZZ	2RS	49600	35200	4000	5040	1.05
70	150	35	6314	ZZ	2RS	83200	54400	3600	4240	2.50
70	90	10	6814	ZZ	2RS	9680	10160	5360	6400	0.13
70	100	16	6914	ZZ	2RS	18960	16960	5040	6000	0.35
70	110	13	16014	ZZ	2RS	21440	18880	4800	5680	0.43
75	115	20	6015	ZZ	2RS	31600	26800	4480	5360	0.64
75	130	25	6215	ZZ	2RS	52800	39600	3840	4480	1.20
75	160	37	6315	ZZ	2RS	90400	61600	3440	4000	3.00
75	95	10	6815	ZZ	2RS	10000	11120	5040	6000	0.15
75	105	16	6915	ZZ	2RS	19520	18080	4800	5680	0.36
75	115	13	16015	ZZ	2RS	22080	20240	4480	5360	0.46

1.1 Single Row



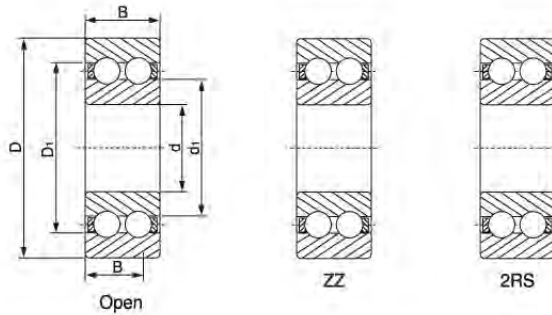
Dimension			Bearing Number			Load Rating		Limiting Speed		Mass
d	D	B	Open	Shielded	Sealed	Dynamic Cr	Static Cor	Grease	Oil	Approx
mm	mm	mm				(N)	(N)	(rpm)	(rpm)	(kg)
80	125	22	6016	ZZ	2RS	38000	32000	4240	5040	0.87
80	140	26	6216	ZZ	2RS	58000	42400	3600	4240	1.40
80	170	39	6316	ZZ	2RS	98400	69200	3200	3840	3.60
80	100	10	6816	ZZ	2RS	10160	11600	4800	5680	0.15
80	110	16	6916	ZZ	2RS	20000	19200	4480	5360	0.39
80	125	14	16016	ZZ	2RS	25600	23680	4240	5040	0.62
85	130	22	6017	ZZ	2RS	39600	34400	4000	4800	0.92
85	150	28	6217	ZZ	2RS	67200	49600	3440	4000	1.80
85	180	41	6317	ZZ	2RS	106400	77600	3040	3600	4.25
85	110	13	6817	ZZ	2RS	14960	16000	4480	5360	0.26
85	120	18	6917	ZZ	2RS	25600	23680	4240	5040	0.55
85	130	14	16017	ZZ	2RS	26400	25200	4000	4800	0.65
90	140	24	6018	ZZ	2RS	46400	40000	3840	4480	1.15
90	160	30	6218	ZZ	2RS	76800	57200	3200	3840	2.15
90	190	43	6318	ZZ	2RS	114400	85600	2880	3440	4.90
90	115	13	6818	ZZ	2RS	15200	16800	4240	5040	0.28
90	125	18	6918	ZZ	2RS	26400	25200	4000	4800	0.59
90	140	16	16018	ZZ	2RS	33200	31600	3840	4480	0.87
95	145	24	6019	ZZ	2RS	48400	43200	3600	4240	1.20
95	170	32	6219	ZZ	2RS	87200	65600	3040	3600	2.60
95	200	45	6319	ZZ	2RS	122400	95200	2400	2880	5.65
95	120	13	6819	ZZ	2RS	15440	17600	4000	4800	0.30
95	130	18	6919	ZZ	2RS	26800	26800	3840	4480	0.60
95	145	16	16019	ZZ	2RS	34400	33600	3600	4240	0.89
100	150	24	6020	ZZ	2RS	48000	43200	3440	4240	1.25
100	180	34	6220	ZZ	2RS	97600	74400	2880	3440	3.15
100	215	47	6320	ZZ	2RS	138400	112800	2240	2720	7.00
100	125	13	6820	ZZ	2RS	15680	18400	3840	4480	0.31
100	140	20	6920	ZZ	2RS	34400	33600	3600	4240	0.83
100	150	16	16020	ZZ	2RS	34000	33600	3440	4240	0.95
105	130	13	6821	ZZ	2RS	15840	19120	3840	4480	0.32
105	160	18	16021	ZZ	2RS	41600	40400	3200	3840	1.20
110	140	16	6822	ZZ	2RS	22480	26000	3440	4240	0.50
110	170	19	16022	ZZ	2RS	46000	45200	3040	3600	1.46

1.2 Double Row



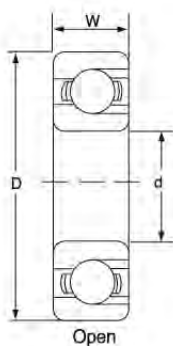
Dimension			Bearing Number	Load Rating		Limiting Speed		Mass Approx
d	D	B		Dynamic Cr	Static Cor	Grease (rpm)	Oil (rpm)	
mm	mm	mm		(N)	(N)			(kg)
10	30	14	4200	6461	3640	12600	15400	0.05
12	32	14	4201	7420	4340	11900	14000	0.05
12	37	17	4301	9100	5460	10500	12600	0.09
15	35	14	4202	8330	5250	9800	11900	0.06
15	42	17	4302	10360	6650	8400	10500	0.12
17	40	16	4203	10360	6650	8400	10500	0.09
17	47	19	4303	13650	9240	7000	9100	0.16
20	47	18	4204	12460	8750	7000	9100	0.14
20	52	21	4304	16380	11200	6650	8400	0.21
25	52	18	4205	13300	10220	6300	7700	0.16
25	62	24	4305	22330	15680	5950	7000	0.34
30	62	20	4206	18200	14560	5600	6650	0.26
30	72	27	4306	28700	21000	4900	5950	0.50
35	72	23	4207	24570	19950	4690	5600	0.40
35	80	31	4307	35490	26600	4410	5250	0.69
40	80	23	4208	25970	22750	4200	4900	0.50
40	90	33	4308	39130	31500	3920	4690	0.95
45	85	23	4209	27300	25200	3920	4690	0.54
45	100	36	4309	48230	39200	3500	4200	1.25

1.2 Double Row



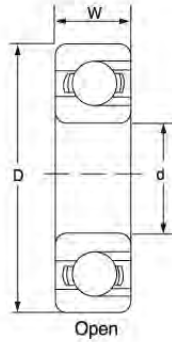
d	Dimension		Bearing Number	Load Rating		Limiting Speed		Mass Approx
	D	B		Dynamic Cr	Static Cor	Grease (rpm)	Oil (rpm)	
mm	mm	mm		(N)	(N)			(kg)
50	90	23	4210	28700	28000	3500	4200	0.58
50	110	40	4310	57330	48650	3150	3710	1.70
55	100	25	4211	31430	30800	3360	3920	0.80
55	120	43	4311	68250	58100	3010	3500	2.15
60	110	28	4212	40040	38500	3150	3710	1.10
60	130	46	4312	78400	68600	2660	3150	2.65
65	120	31	4213	47320	46900	2800	3360	1.45
65	140	48	4313	84700	74200	2520	3010	3.25
70	125	31	4214	49140	51450	2520	3010	1.50
70	150	51	4314	96600	87500	2240	2660	3.95
75	130	31	4215	50960	56000	2380	2800	1.60
75	160	55	4315	109200	100100	2100	2520	4.80
80	140	33	4216	56420	63000	2240	2660	2.00
85	150	36	4217	65520	71400	2100	2520	2.55
90	160	40	4218	78400	85400	1960	2380	3.20

1.3 Max type



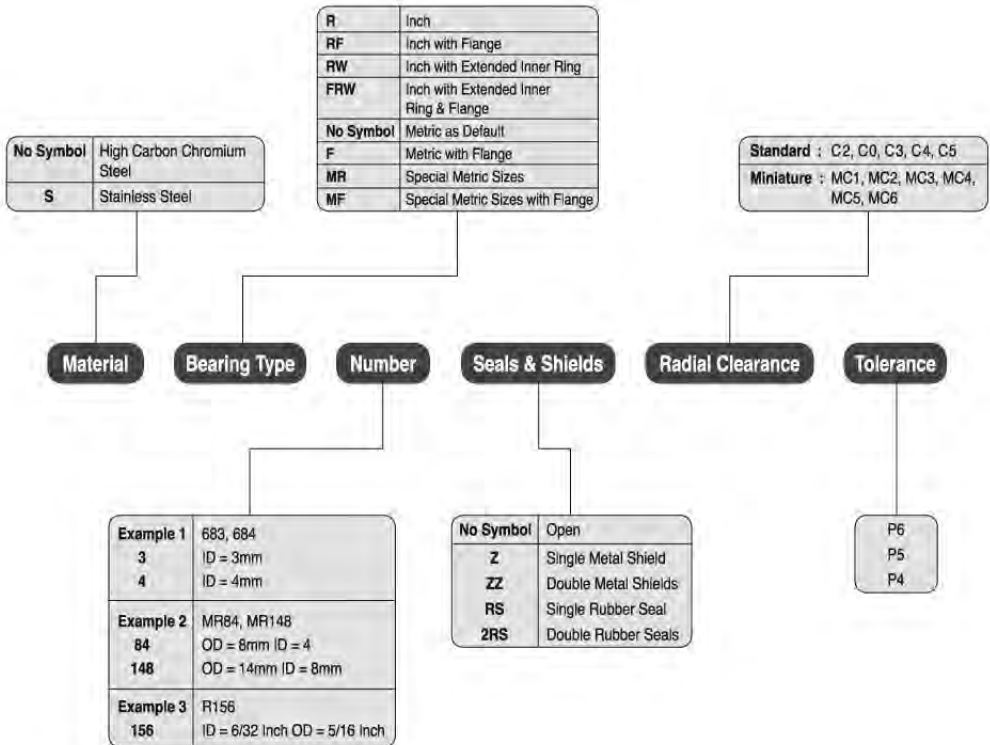
Dimension			Bearing Number	Load Rating		Limiting Speed		Mass Approx
d	D	B		Dynamic Cr	Static Cor	Grease (rpm)	Oil (rpm)	
mm	mm	mm		(N)	(N)			(kg)
25	52	15	BL 205	11520	8400	9600	12000	0.13
30	62	16	BL 206	16800	13040	8000	9600	0.22
30	72	19	BL 306	22320	16560	7200	8800	0.36
35	72	17	BL 207	22240	17680	7200	8800	0.31
35	80	21	BL 307	29600	23280	6400	7600	0.49
40	80	18	BL 208	28400	23040	6400	7600	0.39
40	90	23	BL 308	37200	28800	6000	7200	0.69
45	85	19	BL 209	29600	25600	6000	7200	0.45
45	100	25	BL 309	44400	35200	5040	6400	0.88
50	90	20	BL 210	31200	28000	5360	6800	0.50
50	110	27	BL 310	52000	42000	4800	5680	1.16
55	100	21	BL 211	38400	35200	5040	6000	0.67
55	120	29	BL 311	60000	49200	4480	5360	1.49
60	110	22	BL 212	46400	43200	4480	5360	0.86
60	130	31	BL 312	68400	57200	4000	4800	1.88
65	120	23	BL 213	50800	48000	4240	5040	1.09
65	140	33	BL 313	82400	71600	3840	4480	2.36

1.3 Max type



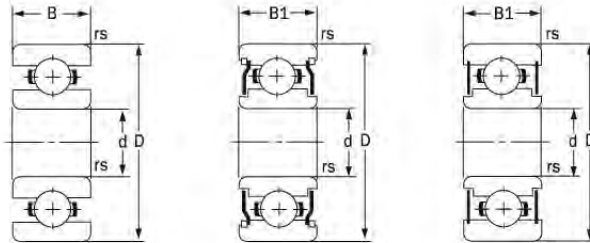
Dimension			Bearing Number	Load Rating		Limiting Speed		Mass Approx
d	D	B		Dynamic Cr	Static Cor	Grease (rpm)	Oil (rpm)	
mm	mm	mm		(N)	(N)			(kg)
70	125	24	BL 214	55200	52800	4000	4800	1.19
70	150	35	BL 314	92000	81600	3440	4240	2.87
75	130	25	BL 215	5760	5760	3600	4480	1.29
75	160	37	BL 315	100800	92800	3200	4000	3.43
80	140	26	BL 216	67200	68000	3440	4240	1.61
80	170	39	BL 316	108800	104000	3040	3600	4.08
85	150	28	BL 217	74400	74400	3200	4000	1.97
85	180	41	BL 317	117600	116000	2880	3440	4.77
90	160	30	BL 218	85600	85600	3040	3600	2.43
90	190	43	BL 318	126400	128800	2720	3200	5.45
95	170	32	BL 219	96800	98400	2880	3440	2.95
95	200	45	BL 319	135200	142400	2240	2880	6.40
100	180	34	BL 220	108800	112000	2720	3200	3.54
105	190	36	BL 221	118400	125600	2560	3040	4.23
110	200	38	BL 222	128000	140800	2240	2720	4.84

1.4 Nomenclature of Miniature Ball Bearings



1.4 Miniature

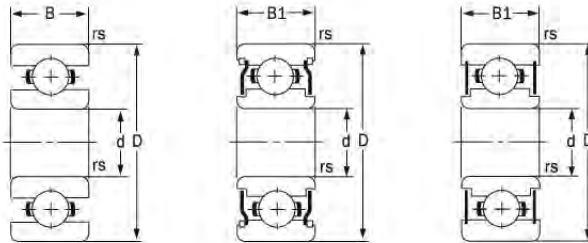
Metric series (Plain)



Dimension					Bearing Number			Load Rating		Limiting Speed	
d	D	B	B1	rs	Open	ZZ	2RS	Dynamic Cr	Static Cor	Grease (rpm)	Oil (rpm)
mm	mm	mm	mm	mm				(N)	(N)		
1	3	1	-	0.05	681	-	-	6.0	1.6	130000	150000
	3	1.5	-	0.05	MR 31	-	-	6.0	1.6	130000	150000
	4	1.6	-	0.1	691	-	-	11.2	3.2	100000	120000
1.2	4	1.8	2.5	0.1	MR 41X	MR 41 XZZ	-	8.8	2.8	110000	130000
1.5	4	1.2	2	0.05	681X	681 XZZ	681 X2RS	9.0	2.6	100000	120000
	5	2	2.6	0.15	691X	691 XZZ	691 X2RS	13.5	4.0	85000	100000
	6	2.5	3	0.15	601X	601 XZZ	601 X2RS	26.4	7.9	75000	90000
2	5	1.5	2.3	0.08	682	682 ZZ	682 2RS	13.5	4.0	85000	100000
	5	2	2.5	0.1	MR 52	MR 52 ZZ	MR 52 2RS	13.5	4.0	85000	100000
	6	2.3	3	0.15	692	692 ZZ	692 2RS	26.4	7.9	75000	90000
	6	2.5	2.5	0.15	MR 62	MR 62 ZZ	MR 62 2RS	26.4	7.9	75000	90000
	7	2.5	3	0.15	MR 72	MR 72 ZZ	MR 72 2RS	30.9	10.3	63000	75000
	7	2.8	3.5	0.15	602	602 ZZ	602 2RS	30.9	10.3	63000	75000
2.5	6	1.8	2.6	0.08	682X	682 XZZ	682 X2RS	16.7	5.9	71000	80000
	7	2.5	3.5	0.15	692X	692 XZZ	692 X2RS	30.9	10.3	63000	75000
	8	2.5	4	0.2	MR 82X	MR 82 XZZ	MR 82 X2RS	44.6	14.4	60000	67000
	8	2.8	4	0.15	602X	602 XZZ	602 X2RS	44.2	14.2	60000	71000
3	6	2	2.5	0.1	MR 63	MR 63 ZZ	MR 63 2RS	16.7	5.9	71000	80000
	7	2	3	0.1	683	683 ZZ	683 2RS	24.9	9.0	63000	75000
	8	2.5	3	0.15	MR 83	MR 83 ZZ	MR 83 2RS	31.6	11.3	60000	67000
	8	3	4	0.15	693	693 ZZ	693 2RS	44.6	14.4	60000	67000
	9	2.5	4	0.2	MR 93	MR 93 ZZ	MR 93 2RS	45.7	15.1	56000	67000
	9	3	5	0.15	603	603 ZZ	603 2RS	45.7	15.1	56000	67000
	10	4	4	0.15	623	623 ZZ	623 2RS	50.5	17.5	50000	60000
	13	5	5	0.2	633	633 ZZ	633 2RS	104.1	39.0	40000	48000
	4	7	2	2.5	0.1	MR74	-	-	24.9	9.2	60000
8		2	3	0.15	MR 84	MR84 ZZ	MR84 2RS	31.6	11.3	56000	67000
9		2.5	4	0.1	684	684 ZZ	684 2RS	51.3	18.2	53000	63000
10		3	4	0.2	MR104	MR104 ZZ	MR104 2RS	56.9	21.8	50000	60000
11		4	4	0.15	694	694 ZZ	694 2RS	76.6	28.0	48000	56000
12		4	4	0.2	604	604 ZZ	604 2RS	76.6	28.0	48000	56000
13		5	5	0.3	624	624 ZZ	624 2RS	104.1	39.0	40000	48000
16		5	5	0.3	634	634 ZZ	634 2RS	107.2	41.8	36000	43000

1.4 Miniature

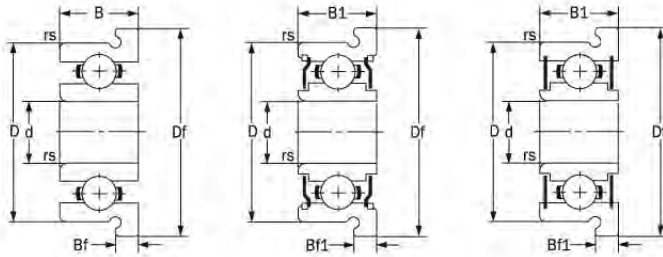
Metric series (Plain)



d	Dimension					Bearing Number			Load Rating		Limiting Speed	
	D	B	B1	rs	Open	ZZ	2RS	Dynamic Cr	Static Cor	Grease (rpm)	Oil (rpm)	
mm	mm	mm	mm	mm				(N)	(N)			
5	8	2	2.5	0.1	MR85	-	-	24.6	9.6	53000	63000	
	8	-	2.5	0.1	-	MR85 ZZ	MR85 2RS	17.4	7.2	53000	63000	
	9	2.5	3	0.15	MR95	MR95 ZZ	MR95 2RS	34.5	13.5	50000	60000	
	10	3	4	0.15	MR105	MR105 ZZ	MR105 2RS	34.5	13.5	50000	60000	
	11	3	4	0.15	MR115	MR115 ZZ	MR115 2RS	57.3	22.6	48000	56000	
	11	3	5	0.15	685	685 ZZ	685 2RS	57.3	22.6	45000	53000	
	13	4	4	0.2	695	695 ZZ	695 2RS	86.2	34.6	43000	50000	
	14	5	5	0.2	605	605 ZZ	605 2RS	106.3	40.6	40000	50000	
	16	5	5	0.3	625	625 ZZ	625 2RS	138.3	54.0	36000	43000	
19	6	6	0.3	635	635 ZZ	635 2RS	186.9	71.7	32000	40000		
6	10	2.5	3	0.15	MR106	MR106 ZZ	MR106 2RS	39.7	17.4	45000	53000	
	12	3	4	0.2	MR126	MR126 ZZ	MR126 2RS	57.1	23.6	43000	50000	
	13	3.5	5	0.15	686	686 ZZ	686 2RS	86.6	35.4	40000	50000	
	15	5	5	0.2	696	696 ZZ	696 2RS	107.2	41.8	40000	45000	
	17	6	6	0.3	606	606 ZZ	606 2RS	181.0	67.7	38000	45000	
	19	6	6	0.3	626	626 ZZ	626 2RS	186.9	71.7	32000	40000	
	19	6	6	0.3	626	626 ZZ	626 2RS	186.9	71.7	32000	40000	
	22	7	7	0.3	636	636 ZZ	636 2RS	266.6	113.8	30000	36000	
7	11	2.5	3	0.15	MR117	MR117 ZZ	MR117 2RS	36.4	16.2	43000	50000	
	13	3	4	0.2	MR137	MR137 ZZ	MR137 2RS	43.3	22.1	40000	48000	
	14	3.5	5	0.15	687	687 ZZ	687 2RS	93.8	41.0	40000	45000	
	17	5	5	0.3	697	697 ZZ	697 2RS	128.4	57.5	36000	43000	
	19	6	6	0.3	607	607 ZZ	607 2RS	186.9	71.7	36000	43000	
	22	7	7	0.3	627	627 ZZ	627 2RS	263.0	110.3	30000	36000	
	22	7	7	0.3	627	627 ZZ	627 2RS	263.0	110.3	30000	36000	
	26	9	9	0.3	637	637 ZZ	637 2RS	365.0	158.6	28000	34000	
8	12	2.5	3.5	0.15	MR128	MR128 ZZ	MR128 2RS	43.4	21.9	40000	48000	
	14	3.5	4	0.2	MR148	MR148 ZZ	MR148 2RS	65.4	30.9	38000	45000	
	16	4	5	0.2	688	688 ZZ	688 2RS	100.2	47.4	36000	43000	
	19	6	6	0.3	698	698 ZZ	698 2RS	179.0	73.4	36000	43000	
	22	7	7	0.3	608	608 ZZ	608 2RS	263.4	110.3	34000	40000	
	24	8	8	0.3	628	628 ZZ	628 2RS	266.6	113.8	28000	34000	
	24	8	8	0.3	628	628 ZZ	628 2RS	266.6	113.8	28000	34000	
9	17	4	5	0.2	689	689 ZZ	689 2RS	106.2	53.4	36000	43000	
	20	6	6	0.3	699	699 ZZ	699 2RS	197.4	86.5	34000	40000	
	24	7	7	0.3	609	609 ZZ	609 2RS	268.5	115.5	32000	38000	
	24	7	7	0.3	609	609 ZZ	609 2RS	268.5	115.5	32000	38000	
	26	8	8	0.3	629	629 ZZ	629 2RS	366.0	158.6	28000	34000	

1.4 Miniature

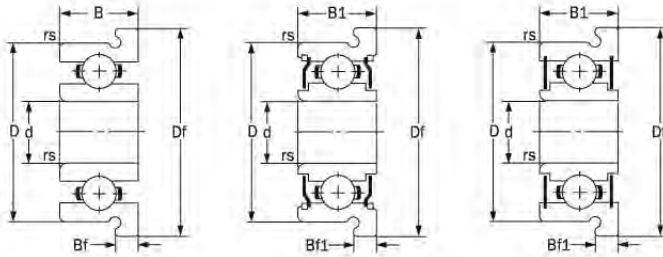
Metric series (Flanged)



Dimension								Bearing Number			Load Rating		Limiting Speed	
d	D	B	B1	rs	Df	Bf	Bf1	Open	ZZ	2RS	Dynamic Cr	Static Cor	Grease (rpm)	Oil (rpm)
mm	mm	mm	mm	mm	mm	mm	mm				(N)	(N)		
1	3	1	-	0.05	3.8	0.3	-	F 681	-	-	6.0	1.6	130000	150000
1	4	1.6	-	0.1	5	0.5	-	F 691	-	-	11.2	3.2	100000	120000
1.2	4	1.8	-	0.1	4.8	0.4	-	MF 41X	-	-	8.8	2.8	110000	130000
1.5	4	1.2	2	0.05	5	0.4	0.6	F 681X	F 681X ZZ	F 681X 2RS	9.0	2.6	100000	120000
1.5	5	2	2.6	0.15	6.5	0.6	0.8	F 691X	F 691X ZZ	F 691X 2RS	13.5	4.0	85000	100000
1.5	6	2.5	3	0.15	7.5	0.6	0.8	F 601X	F 601X ZZ	F 601X 2RS	26.4	7.9	75000	90000
2	5	1.5	2.3	0.08	6.1	0.5	0.6	F 682	F 682 ZZ	F 682 2RS	13.5	4.0	85000	100000
2	5	2	2.5	0.1	6.2	0.6	0.6	MF 52	MF 52 ZZ	MF 52 2RS	13.5	4.0	85000	100000
2	6	2.3	3	0.15	7.5	0.6	0.8	F 692	F 692 ZZ	F 692 2RS	26.4	7.9	75000	90000
2	6	2.5	2.6	0.15	7.2	0.6	-	MF 62	-	-	26.4	7.9	75000	90000
2	7	2.5	3	0.15	8.2	0.6	0.6	MF 72	MF 72 ZZ	MF 72 2RS	30.9	10.3	63000	75000
2	7	2.8	3.5	0.15	8.5	0.7	0.9	F 602	F 602 ZZ	F 602 2RS	30.9	10.3	63000	75000
2.5	6	1.8	2.6	0.08	7.1	0.5	0.8	F 682X	F 682X ZZ	F 682X 2RS	16.7	5.9	71000	80000
2.5	7	2.5	3.5	0.15	8.5	0.7	0.9	F 692X	F 692X ZZ	F 692X 2RS	30.9	10.3	63000	67000
2.5	8	2.5	-	0.2	9.2	0.6	-	MF 82X	-	-	44.6	14.4	60000	71000
2.5	8	2.8	4	0.15	9.5	0.7	0.9	F 602X	F 602X ZZ	F 602X 2RS	44.2	14.2	60000	71000
3	6	2	2.5	0.1	7.2	0.6	0.6	MF 63	MF 63 ZZ	MF 63 2RS	16.7	5.9	71000	80000
3	7	2	3	0.1	8.1	0.5	0.8	F 683	-	-	24.9	9.0	63000	75000
3	8	2.5	3	0.15	9.2	0.6	-	MF 83	-	-	31.6	11.3	60000	67000
3	8	3	4	0.15	9.5	0.7	0.9	F 693	F 693 ZZ	F 693 2RS	44.6	14.4	60000	67000
3	9	2.5	4	0.2	10.2	0.6	0.8	MF 93	MF 93 ZZ	MF 93 2RS	45.7	15.1	56000	67000
3	9	3	5	0.15	10.5	0.7	1	F 60	F 603 ZZ	F 603 2RS	45.7	15.1	56000	67000
3	10	4	4	0.15	11.5	1	1	F 623	F 623 ZZ	F 623 2RS	50.5	17.5	50000	60000
3	13	5	5	0.2	-	-	-	F 633	-	-	104.1	39.0	-	-
4	7	2	-	0.1	8.2	0.6	-	MF 74	-	-	24.9	9.2	60000	67000
4	7	-	2.5	0.1	8.2	-	0.6	-	MF 74 ZZ	MF 74 2RS	20.4	8.6	60000	71000
4	8	2	3	0.15	9.2	0.6	0.6	MF 84	MF 84 ZZ	MF 84 2RS	31.6	11.3	56000	67000
4	9	2.5	4	0.1	10.3	0.6	1	F 684	F 684 ZZ	F 684 2RS	51.3	18.2	53000	63000
4	10	3	4	0.2	11.2	0.6	0.8	MF 104	MF 104 ZZ	MF 104 2RS	56.9	21.8	50000	60000
4	11	4	4	0.15	12.5	1	1	F 694	F 694 ZZ	F 694 2RS	76.6	28.0	48000	56000
4	12	4	4	0.2	13.5	1	1	F 604	F 604 ZZ	F 604 2RS	76.6	28.0	48000	56000
4	13	5	5	0.3	15	1	1	F 624	F 624 ZZ	F 624 2RS	104.1	39.0	40000	48000
4	16	5	5	0.3	18	1	1	F 634	F 634 ZZ	F 634 2RS	107.2	41.8	36000	43000

1.4 Miniature

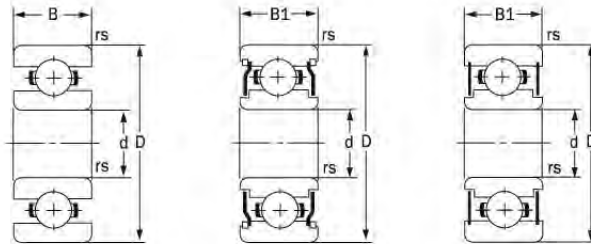
Metric series (Flanged)



Dimension									Bearing Number			Load Rating		Limiting Speed	
d	D	B	B1	rs	Df	Bf	Bf1		Open	ZZ	2RS	Dynamic	Static	Grease	Oil
mm	mm	mm	mm	mm	mm	mm	mm	mm				(N)	(N)	(rpm)	(rpm)
5	8	2	-	0.1	9.2	0.6	-		MF 85	-	-	24.6	9.6	53000	63000
5	8	-	2.5	0.1	9.2	-	0.6		-	MF 85 ZZ	MF 85 2RS	17.4	7.2	53000	63000
5	9	2.5	3	0.15	10.2	0.6	0.6		MF 95	MF 95 ZZ	MF 95 2RS	34.5	13.5	50000	60000
5	10	3	4	0.15	11.2	0.6	0.8		MF 105	MF 105 ZZ	MF 105 2RS	34.5	13.5	50000	60000
5	11	-	4	0.15	12.6	-	0.8		-	MF 115 ZZ	MF 115 2RS	57.3	22.6	45000	53000
5	11	3	5	0.15	12.5	0.8	1		F 685	F 685 ZZ	F 685 2RS	57.3	22.6	45000	53000
5	13	4	4	0.2	15	1	1		F 695	F 695 ZZ	F 695 2RS	86.2	34.6	43000	50000
5	14	5	5	0.2	16	1	1		F 605	F 605 ZZ	F 605 2RS	106.3	40.6	40000	50000
5	16	5	5	0.3	18	1	1		F 625	F 625 ZZ	F 625 2RS	138.3	54.0	36000	43000
5	19	6	6	0.3	22	1.5	1.5		F 635	F 635 ZZ	F 635 2RS	186.9	71.7	32000	40000
6	10	2.5	3	0.15	11.2	0.6	0.6		MF 106	MF 106 ZZ	MF 106 2RS	39.7	17.4	45000	53000
6	12	3	4	0.2	13.2	0.6	0.8		MF 126	MF 126 ZZ	MF 126 2RS	57.1	23.6	43000	50000
6	13	3.5	5	0.15	15	1	1.1		F 686	F 686 ZZ	F 686 2RS	86.6	35.4	40000	50000
6	15	5	5	0.2	17	1.2	1.2		F 696	F 696 ZZ	F 696 2RS	107.2	41.8	40000	45000
6	17	6	6	0.3	19	1.2	1.2		F 606	F 606 ZZ	F 606 2RS	181.0	67.7	38000	45000
6	19	6	6	0.3	22	1.5	1.5		F 626	F 626 ZZ	F 626 2RS	186.9	71.7	32000	40000
7	11	2.5	3	0.15	12.2	0.6	0.6		MF 117	MF 117 ZZ	MF 117 2RS	36.4	16.2	43000	50000
7	13	3	4	0.2	14.2	0.6	0.8		MF 137	MF 137 ZZ	MF 137 2RS	43.3	22.1	40000	48000
7	14	3.5	5	0.15	16	1	1.1		F 687	F 687 ZZ	F 687 2RS	93.8	41.0	40000	45000
7	17	5	5	0.3	19	1.2	1.2		F 697	F 697 ZZ	F 697 2RS	128.4	57.5	36000	43000
7	19	6	6	0.3	22	1.5	1.5		F 607	F 607 ZZ	F 607 2RS	186.9	71.7	36000	43000
7	22	7	7	0.3	25	1.5	1.5		F 627	F 627 ZZ	F 627 2RS	263.0	110.3	30000	36000
8	12	2.5	3.5	0.15	13.2	0.6	0.8		MF 128	MF 128 ZZ	MF 128 2RS	43.4	21.9	40000	48000
8	14	3.5	4	0.2	15.6	0.8	0.8		MF 148	MF 148 ZZ	MF 148 2RS	65.4	30.9	38000	45000
8	16	4	5	0.2	18	1	1.1		F 688	F 688 ZZ	F 688 2RS	100.2	47.4	36000	43000
8	19	6	6	0.3	22	1.5	1.5		F 698	F 698 ZZ	F 698 2RS	179.0	73.4	36000	43000
8	22	7	7	0.3	25	1.5	1.5		F 608	F 608 ZZ	F 608 2RS	263.4	110.3	34000	40000
9	17	4	5	0.2	19	1	1.1		F 689	F 689 ZZ	F 689 2RS	106.2	53.4	36000	43000
9	20	6	6	0.3	23	1.5	1.5		F 699	F 699 ZZ	F 699 2RS	197.4	86.5	34000	40000
9	24	7	7	0.3	27	1.5	1.5		F 609	F 609 ZZ	F 609 2RS	268.5	115.5	34000	40000

1.4 Miniature

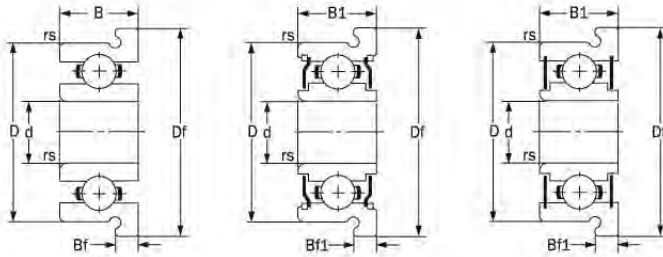
Inch series (Plain)



Dimension					Bearing Number			Load Rating		Limiting Speed	
d	D	B	B1	rs	Open	ZZ	2RS	Dynamic Cr	Static Cor	Grease (rpm)	Oil (rpm)
mm	mm	mm	mm	mm				(N)	(N)		
1.191	3.967	1.588	2.38	0.1	R 0	R 0 ZZ	-	8.8	2.8	11000	13000
1.397	4.764	1.984	2.779	0.1	R 1	R 1 ZZ	-	19.2	5.6	9000	11000
1.984	6.35	2.38	3.571	0.1	R 1-4	R 1-4 ZZ	R 1-4 2RS	22.7	7.7	67000	80000
2.381	4.762	1.588	-	0.1	R 133	-	-	15.1	4.8	80000	95000
	4.762	-	2.38	0.1	-	R 133 ZZ	R 133 2RS	11.5	4.2	80000	95000
	7.938	2.779	3.571	0.15	R 1-5	R 1-5 ZZ	R 1-5 2RS	46.6	14.1	60000	71000
3.175	6.35	2.38	2.779	0.1	R 144	R 144 ZZ	R 144 2RS	22.7	7.7	67000	80000
3.175	7.938	2.779	3.571	0.1	R 2-5	R 2-5 ZZ	R 2-5 2RS	44.6	14.4	60000	67000
3.175	9.525	2.779	3.571	0.15	R 2-6	R 2-6 ZZ	R 2-6 2RS	51.2	18.2	53000	63000
3.175	9.525	3.967	3.967	0.3	R 2	R 2 ZZ	R 2 2RS	50.5	17.5	56000	67000
3.175	12.7	4.366	4.366	0.3	R 2 A	R 2 A ZZ	R 2 A 2RS	51.2	18.2	53000	63000
3.967	7.938	2.779	3.175	0.1	R 155	R 155 ZZ	R 155 2RS	28.7	12.0	53000	63000
4.762	7.938	2.779	3.175	0.1	R 156	R 156 ZZ	R 156 2RS	28.7	12.0	53000	63000
4.762	9.525	3.175	3.175	0.1	R 166	R 166 ZZ	R 166 2RS	56.7	21.8	50000	60000
4.762	12.7	3.967	4.978	0.3	R 3	R 3 ZZ	R 3 2RS	104.1	39.0	43000	50000
4.762	15.875	4.978	4.978	0.3	R 3 A	R 3 A ZZ	R 3 A 2RS	118.4	49.7	43000	50000
6.35	9.525	3.175	3.175	0.1	R 168	R 168 ZZ	R 168 2RS	29.8	13.8	48000	56000
6.35	12.7	3.175	4.762	0.15	R 188	R 188 ZZ	R 188 2RS	86.6	35.4	40000	50000
6.35	15.875	4.978	4.978	0.3	R 4	R 4 ZZ	R 4 2RS	118.4	49.7	38000	45000
6.35	19.05	5.558	7.142	0.4	R 4 A	R 4 A ZZ	R 4 A 2RS	186.9	71.7	36000	43000
7.938	12.7	3.967	3.967	0.15	R 1810	R 1810 ZZ	R 1810 2RS	43.4	22.1	40000	48000
9.525	15.875	3.967	3.967	0.25	R 1038	R 1038 ZZ	R 1038 2RS	34.4	16.0	38000	45000
9.525	22.225	5.558	7.142	0.4	R 6	R 6 ZZ	R 6 2RS	266.6	113.8	32000	38000

1.4 Miniature

Inch series (Flanged)



d	D	Dimension						Bearing Number			Load Rating		Limiting Speed	
		B	B1	rs	Df	Bf	Bf1	Open	ZZ	2RS	Dynamic Cr	Static Cor	Grease (rpm)	Oil (rpm)
mm	mm	mm	mm	mm	mm	mm	mm				(N)	(N)	(rpm)	(rpm)
1.191	3.967	1.588	2.38	0.1	5.516	0.33	0.787	FR 0	FR 0 ZZ	FR 0 2RS	9.0	2.6	110000	130000
1.397	4.762	1.984	2.779	0.1	5.944	0.584	0.787	FR 1	FR 1 ZZ	FR 1 2RS	18.6	5.4	90000	110000
1.984	6.35	2.38	3.571	0.1	7.518	0.584	0.787	FR 1-4	FR 1-4 ZZ	FR 1-4 2RS	22.7	7.7	67000	80000
2.38	4.762	1.588	-	0.1	5.944	0.457	-	FR 133	-	-	15.1	4.8	80000	95000
	4.762	-	2.38	0.1	5.944	-	0.787	-	FR 133 ZZ	FR 133 2RS	11.5	4.2	80000	95000
	7.938	2.779	3.571	0.15	9.119	0.584	0.787	FR 1-5	FR 1-5 ZZ	FR 1-5 2RS	46.6	14.1	60000	71000
3.175	6.35	2.38	2.779	0.1	7.518	0.584	0.787	FR 144J	FR 144J ZZ	FR 144J 2RS	24.9	8.8	67000	80000
	6.35	2.38	2.779	0.1	7.518	0.584	0.787	FR 144	FR 144 ZZ	FR 144 2RS	22.7	7.7	67000	80000
	7.938	2.779	3.571	0.1	9.119	0.58	0.787	FR 2-5	FR 2-5 ZZ	FR 2-5 2RS	44.6	14.4	60000	67000
	9.525	2.779	3.571	0.15	10.719	0.584	0.787	FR 2-6	FR 2-6 ZZ	FR 2-6 2RS	51.2	18.2	53000	63000
	9.525	3.967	3.967	0.3	11.176	0.762	0.762	FR 2	FR 2 ZZ	FR 2 2RS	50.5	17.5	56000	67000
3.967	7.938	2.779	3.175	0.1	9.119	0.584	0.914	FR 155	FR 155 ZZ	FR 155 2RS	28.7	12.0	53000	63000
4.762	7.938	2.779	3.175	0.1	9.119	0.584	0.914	FR 156	FR 156 ZZ	FR 156 2RS	28.7	12.0	53000	63000
	9.525	3.175	3.175	0.1	10.719	0.584	0.787	FR 166	FR 166 ZZ	FR 166 2RS	56.7	21.8	50000	60000
	12.7	3.967	4.978	0.3	14.351	1.067	1.067	FR 3	FR 3 ZZ	FR 3 2RS	104.1	39.0	43000	50000
6.35	9.525	3.175	3.175	0.1	10.719	0.584	0.914	FR 168	FR 168 ZZ	FR 168 2RS	29.8	13.8	48000	56000
	12.7	3.175	4.762	0.15	13.894	0.584	1.143	FR 188	FR 188 ZZ	FR 188 2RS	86.6	35.4	40000	50000
	15.88	4.978	4.978	0.3	17.526	1.067	1.067	FR 4	FR 4 ZZ	FR 4 2RS	118.4	49.7	38000	45000
7.938	12.7	3.967	3.967	0.15	13.894	0.787	0.787	FR 1810	FR 1810 ZZ	FR 1810 2RS	43.3	22.1	40000	48000
9.525	22.23	5.558	7.142	0.4	24.623	1.575	1.575	FR 6	FR 6 ZZ	FR 6 2RS	266.6	113.8	32000	38000