

**Precision Ball Bearings** 



## Company

Established in 1995, ZXB Bearing specializes in the production of precision miniature, deep groove and angular contact ball bearings. With inside diameter sizes ranging from 2mm to 150mm, we also offer a wide range of material, closure, internal clearance, cage design and lubricant options. In working closely with our US and German based partners, ZXB Bearing has developed a reputation for the highest quality products at competitive prices. Our premium bearings are specifically designed as alternatives to other well known Japanese and European brands.

Typical applications for our precision and customized bearings include automotive, gearbox, electric motors, construction machinery, power tools, pumps, electronics and robotics. With sales offices in the US, Germany and China, our experienced sales and engineering staff are ready to support your ball bearing requirements.









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ZXB Bearing America, LLC

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## **Bearing Basics \***

### **Bearing Selection**

Ball bearings are available in a variety of types, configurations, and sizes. There are several important factors to consider when choosing the proper bearing for you application. These factors include materials, cages, precision grade (ABEC), shields & seals, radial play, and lubricant.

#### **Materials**

Ball bearings are typically made of either stainless steel or chrome alloy steel. The reliability and high quality of ZXB ball bearings are the result of development in metallurgy, modern manufacturing techniques, and our strict methods of quality control. ZXB Bearing offers stainless steel for applications that require corrosion resistance, and chrome alloy steel for greater fatigue life. Both of these materials are heat-treated to achieve the appropriate hardness and dimensional stability, and are suitable for most applications.

## **Cages**

ZXB Bearing has several cage types available for a variety of range of load, speed and temperature requirements. The most commonly used metallic cages are the one piece crown, the two piece ribbon and the two piece riveted types. These cages are generally considered to be interchangeable, although one may be more suitable for a particular application. Also available for some sizes are cages made of molded and machined nylon. Proper selection of a bearing cage can be extremely important. Our engineers can provide recommendations for any special requirements.

## **Precision Grade (ABEC)**

Several factors should be considered in selecting a bearing's precision (ABEC) grade, including radial and axial runout requirements, bore and O.D. fits, and acceptable noise/vibration levels. Grades 1 and 3 are preferred for most standard applications. Higher grades typically include superior race finish and geometry. ZXB Bearing recommends these grades for precision assemblies where low noise/vibration, minimal runout and maximum life are important considerations.

### **Shields and Seals**

Shields and seals are used to retain lubricant and to help prevent contamination from reaching internal bearing surfaces. Metal shields are popular for many applications and are available for most sizes. The effect of shields on bearing torque or running noise is insignificant.

Seals are generally made of synthetic rubber and offer improved lubricant retention and greater protection from contaminants. However, seals can greatly increase torque and limit overall operating speed.

### **Radial Play**

Radial Play (or internal clearance) is the amount of internal radial looseness between the balls and races. Ball bearings are assembled to radial play values based upon a desired range. Radial Play within a ball bearing is necessary to accommodate thermal expansion, the effects of interference fit, and to control the amount of axial play. In applications where extreme temperature, speed, load, or amount of axial play is important, our engineering department should be consulted for recommendations.

### Lubricant

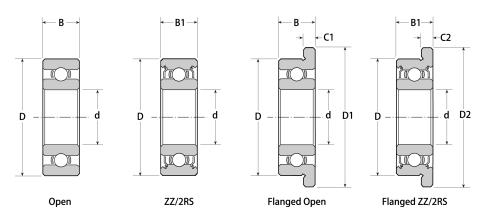
Selection of the lubricant can be critical. Proper lubrication helps to minimize friction and prevent wear between parts moving relative to one another. Lubricant also allows for the dissipation of frictional heat, as well as providing protection from moisture, corrosion and contaminants.

Unless torque is a problem, grease is generally preferred, as it is less susceptible to migration and leakage. However, grease can also increase bearing torque, depending on the type and quantity used. Grease is typically applied with special equipment in a clean room environment. The preferred amount of grease, or fill amount, is normally specified as either a percentage (such as 30% +/- 5%) or a measurement range (such as 120-160 mgs). Oil is also applied using special equipment, but the amount is not normally specified.

Many lubricants are available for a wide range of conditions and requirements. Each has particular characteristics that make it suitable for specific applications. ZXB engineers can help select the lubricant best suited for your application.

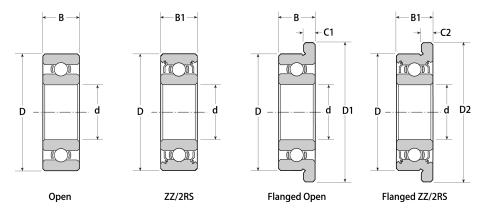
## Inch Series

# **Miniature Ball Bearings**



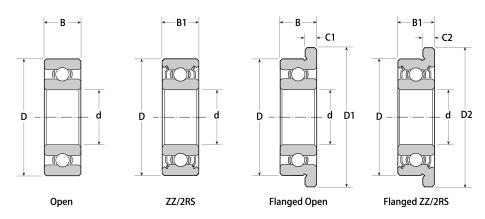
			Dimensi	on (inch)						Desi	gnation			Lo		Limiting	ı Sneed	W	eight
d	D	Wid	dth	Fla Diam		Fla Wid			Standar	d		Flanged		Rat (N	ung	(rp			(g)
		В	B1	D1	D2	C1	C2	Open	ZZ	2RS	Open	ZZ	2RS	Cr	Cor	Grease	Oil	Std	Flanged
0.0781	0.2500	0.0937	0.1406					R1-4	R1-4-ZZ					270	90	67000	80000	0.40	
0.0937	0.1875	0.0625	0.0937	0.2340	0.2340	0.0180	0.0310	R133	R133-ZZ		FR133	FR133-ZZ		170	60	80000	95000	0.11	0.15
0.0937	0.3125	0.1094	0.1406	0.3590	0.3590	0.0230	0.0310	R1-5	R1-5-ZZ		FR1-5	FR1-5-ZZ		545	172	60000	71000	0.60	0.67
	0.2500	0.0937	0.1094	0.2960	0.2960	0.0230	0.0310	R144	R144-ZZ		FR144	FR144-ZZ		311	109	67000	80000	0.27	0.33
	0.3125	0.1094	0.1406	0.3590	0.3590	0.0230	0.0310	R2-5	R2-5-ZZ	R2-5-2RS	FR2-5	FR2-5-ZZ		530	170	60000	67000	0.50	0.57
0.1250	0.3750	0.1094	0.1406	0.4220	0.4220	0.0230	0.0310	R2-6	R2-6-ZZ	R2-6-2RS	FR2-6	FR2-6-ZZ		643	228	53000	63000	0.96	1.05
	0.3750	0.1562	0.1562	0.4400	0.4400	0.0300	0.0300	R2	R2-ZZ	R2-2RS	FR2	FR2-ZZ	FR2-2RS	643	228	56000	67000	1.04	1.20
	0.5000	0.1719	0.1719					R2A	R2A-ZZ	R2A-2RS				1138	391	53000	63000	3.30	
0.1562	0.3125	0.1094	0.1250	0.3590	0.3590	0.0230	0.0360	R155	R155-ZZ		FR155	FR155-ZZ		395	140	53000	63000	0.51	0.58
	0.3125	0.1094	0.1250	0.3590	0.3590	0.0230	0.0360	R156	R156-ZZ	R156-2RS	FR156	FR156-ZZ	FR156-2RS	278	131	53000	63000	0.40	0.47
0.1875	0.3750	0.1250	0.1250	0.4220	0.4220	0.0230	0.0310	R166	R166-ZZ	R166-2RS	FR166	FR166-ZZ	FR166-2RS	711	270	50000	60000	0.81	0.90
0.1073	0.5000	0.1562	0.1960	0.5650	0.5650	0.0420	0.0420	R3	R3-ZZ	R3-2RS	FR3	FR3-ZZ	FR3-2RS	1074	423	43000	53000	2.21	2.50
	0.6250	0.1960	0.1960					R3A	R3A-ZZ	R3A-2RS				1881	680	38000	45000	4.75	
	0.3750	0.1250	0.1250	0.4220	0.4220	0.0230	0.0360	R168	R168-ZZ	R168-2RS	FR168	FR168-ZZ		373	172	48000	56000	0.57	0.66
0.2500	0.5000	0.1250	0.1875	0.5470	0.5470	0.0230	0.0450	R188	R188-ZZ	R188-2RS	FR188	FR188-ZZ	FR188-2RS	1083	438	40000	50000	1.60	1.71
0.2000	0.6250	0.1960	0.1960	0.6900	0.6900	0.0420	0.0420	R4	R4-ZZ	R4-2RS	FR4	FR4-ZZ	FR4-2RS	1472	603	38000	45000	4.46	4.82
	0.7500	0.2188	0.2812					R4A	R4A-ZZ	R4A-2RS				2239	911	36000	43000	7.48	
0.3125	0.5000	0.1562	0.1562	0.5470	0.5470	0.0310	0.0310	R1810	R1810-ZZ		FR1810	FR1810-ZZ		530	260	40000	48000	1.39	1.54
0.3750	0.8750	0.2188	0.2812	0.9690	0.9690	0.0620	0.0620	R6	R6-ZZ	R6-2RS	FR6	FR6-ZZ	FR6-2RS	3338	1416	32000	38000	9.02	9.71

# **Miniature Ball Bearings**

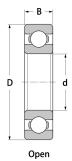


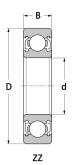
		Di	mensi	on (m	m)					Desigr	nation				ad	Limiting	s Speed	W	eight
d	D	Wi	dth	Flai Dian		Flai Wi			Standard	d		Flange	d	Rat (f		(rp			(g)
		В	B1	D1	D2	C1	C2	Open	ZZ	2RS	Open	ZZ	2RS	Cr	Cor	Grease	Oil	Std	Flanged
	5	1.5	2.3	6.1	6.1	0.5	0.6	682	682-ZZ		F682	F682-ZZ		189	59	85000	100000	0.15	0.19
	6	2.3	3	7.5	7.5	0.6	0.8	692	692-ZZ		F692	F692-ZZ		279	90	75000	90000	0.28	0.35
0	7	2.8	3.5	8.5	8.5	0.7	0.9	602	602-ZZ		F602	F602-ZZ		380	130	60000	71000	0.50	0.60
2	5	2	2.5	6.2	6.2	0.6	0.6	MR52	MR52-ZZ		MF52	MF52-ZZ		189	59	85000	100000	0.14	0.19
	6	2.5	2.5	7.2		0.6		MR62	MR62-ZZ		MF62			279	90	70000	90000	0.28	0.34
	7	2.5	3	8.2	8.2	0.6	0.6	MR72	MR72-ZZ		MF72	MF72-ZZ		380	130	63000	75000	0.43	0.50
	6	1.8	2.6	7.1	7.1	0.5	0.8	682X	682X-ZZ		F682X	F682X-ZZ		19	6	71000	80000	0.20	0.24
2.5	7	2.5	3.5	8.5	8.5	0.7	0.9	692X	692X-ZZ		F692X	F692X-ZZ		37	12	63000	75000	0.40	0.50
2.5	8	2.8	4	9.5	9.5	0.7	0.9	602X	602X-ZZ		F602X	F602X-ZZ		55	18	60000	71000	0.61	0.72
	8	2.5		9.2		0.6		MR82X			MF82X			55	18	60000	67000	0.52	0.60
	7	2	3	8.1	8.1	0.5	0.8	683	683-ZZ		F683	F683-ZZ		312	112	63000	75000	0.32	0.37
	8	3	4	9.5	9.5	0.7	0.9	693	693-ZZ		F693	F693-ZZ		549	174	60000	67000	0.60	0.71
	9	3	5	10.5	10.5	0.7	1	603	603-ZZ		F603	F603-ZZ		634	219	56000	67000	0.84	0.96
3	10	4	4	11.5	11.5	1	1	623	623-ZZ		F623	F623-ZZ		643	228	50000	60000	1.45	1.65
5	13	5	5					633	633-ZZ					1300	500	40000	48000	3.27	
	6	2	2.5	7.2	7.2	0.6	0.6	MR63	MR63-ZZ		MF63	MF63-ZZ		209	73	71000	80000	0.20	0.26
	8	2.5	3	9.2	9.2	0.6		MR83	MR83-ZZ		MF83			410	160	60000	67000	0.51	0.59
	9	2.5	4	10.2	10.5	0.6	0.8	MR93	MR93-ZZ		MF93	MF93-ZZ		634	219	56000	67000	0.75	0.83
	9	2.5	4	10.3	10.3	0.6	1	684	684-ZZ	684-2RS	F684	F684-ZZ	F684-2RS	500	189	53000	63000	0.65	0.74
	11	4	4	12.5	12.5	1	1	694	694-ZZ	694-2RS	F694	F694-ZZ	F694-2RS	959	346	48000	56000	1.69	1.91
	12	4	4	13.5	13.5	1	1	604	604-ZZ	604-2RS	F604	F604-ZZ	F604-2RS	959	346	48000	56000	2.19	2.42
4	13	5	5	15	15	1	1	624	624-ZZ	624-2RS	F624	F624-ZZ	F624-2RS	1158	401	40000	48000	3.10	3.44
	16	5	5	18	18	1	1	634	634-ZZ	634-2RS	F634	F634-ZZ	F634-2RS	1350	550	36000	43000	5.24	5.66
	7	2	2.5	8.2	8.2	0.6	0.6	MR74	MR74-ZZ		MF74	MF74-ZZ		223	88	60000	67000	0.23	0.30
	8	2	3	9.2	9.2	0.6	0.6	MR84	MR84-ZZ		MF84	MF84-ZZ		395	140	56000	67000	0.39	0.47
	10	3	4	11.2	11.6	0.6	0.8	MR104	MR104-ZZ		MF104	MF104-ZZ		540	222	48000	56000	0.96	1.04
	11	3	5	12.5	12.5	0.8	1	685	685-ZZ	685-2RS	F685	F685-ZZ	F685-2RS	775	319	45000	53000	1.16	1.33
	13	4	4	15	15	1	1	695	695-ZZ	695-2RS	F695	F695-ZZ	F695-2RS	1074	423	43000	50000	2.39	2.73
5	14	5	5	16	16	1	1	605	605-ZZ	605-2RS	F605	F605-ZZ	F605-2RS	1074	423	40000	50000	3.46	3.83
	16	5	5	18	18	1	1	625	625-ZZ	625-2RS	F625	F625-ZZ	F625-2RS	1750		36000	43000	4.95	5.37
	19	6	6	22	22	1.5	1.5	635	635-ZZ	635-2RS	F635	F635-ZZ	F635-2RS	2239	911	32000	40000	8.50	9.26

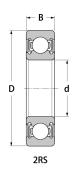
# **Miniature Ball Bearings**



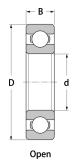
		Di	mensi	on (m	m)					Desigr	ation				ad	Limiting	g Speed	W	eight
d	D	Wi	dth	Flai Diam		Fla Wi			Standar	d		Flange	d	Rat (f	ting N)	(rp			(g)
		В	B1	D1	D2	C1	C2	Open	ZZ	2RS	Open	ZZ	2RS	Cr	Cor	Grease	Oil	Std	Flanged
	8	2	2.5	9.2	9.2	0.6	0.6	MR85	MR85-ZZ		MF85	MF85-ZZ		218	91	53000	63000	0.25	0.33
5	9	2.5	3	10.2	10.2	0.6	0.6	MR95	MR95-ZZ		MF95	MF95-ZZ		432	168	50000	60000	0.54	0.62
3	10	3	4	11.2	11.6	0.6	0.8	MR105	MR105-ZZ	MR105-2RS	MF105	MF105-ZZ	MF105-2RS	540	222	50000	60000	0.91	1.00
	11		4				8.0		MR115-ZZ	MR115-2RS		MF115-ZZ	MF115-2RS	730	300	45000	53000	0.56	0.75
	13	3.5	5	15	15	1	1.1	686	686-ZZ	686-2RS	F686	F686-ZZ	F686-2RS	1083	438	40000	50000	1.87	2.21
	15	5	5	17	17	1.2	1.2	696	696-ZZ	696-2RS	F696	F696-ZZ	F696-2RS	1472	603	40000	45000	3.85	4.24
	17	6	6	19	19	1.2	1.2	606	606-ZZ	606-2RS	F606	F606-ZZ	F606-2RS	1969	737	38000	45000	5.94	6.47
6	19	6	6	22	22	1.5	1.5	626	626-ZZ	626-2RS	F626	F626-ZZ	F626-2RS	2240	912	32000	40000	8.12	9.25
	22	7	7					636	636-ZZ	636-2RS				3297	1368	30000	36000	13.90	
	10	2.5	3	11.2	11.2	0.6	0.6	MR106	MR106-ZZ	MR106-2RS	MF106	MF106-ZZ	MF106-2RS	497	219	45000	53000	0.55	0.64
	12	3	4	13.2	13.6	0.6	0.8	MR126	MR126-ZZ	MR126-2RS	MF126	MF126-ZZ	MF126-2RS	716	293	43000	50000	1.25	1.44
	14	3.5	5	16	16	1	1.1	687	687-ZZ	687-2RS	F687	F687-ZZ	F687-2RS	1175	511	40000	50000	2.03	2.40
	17	5	5	19	19	1.2	1.2	697	697-ZZ	697-2RS	F697	F697-ZZ	F697-2RS	1606	716	36000	43000	5.26	5.79
	19	6	6	22	22	1.5	1.5	607	607-ZZ	607-2RS	F607	F607-ZZ	F607-2RS	2240	912	36000	43000	7.80	8.93
7	22	7	7	25	25	1.5	1.5	627	627-ZZ	627-2RS	F627	F627-ZZ	F627-2RS	3296	1367	30000	36000	12.70	14.00
	26	9	9					637	637-ZZ	637-2RS				4600	2000	28000	34000	24.20	
	11	2.5	3	12.2	12.2	0.6	0.6	MR117	MR117-ZZ		MF117	MF117-ZZ		457	201	43000	50000	0.59	0.69
	13	3	4	14.2	14.6	0.6	0.8	MR137	MR137-ZZ		MF137	MF137-ZZ		500	250	40000	48000	1.52	1.64
	16	4	5	18	18	1	1.1	688	688-ZZ	688-2RS	F688	F688-ZZ	F688-2RS	1606	716	36000	43000	3.11	3.53
	19	6	6	22	22	1.5	1.5	698	698-ZZ	698-2RS	F698	F698-ZZ	F698-2RS	2240	910	36000	43000	7.12	8.50
	22	7	7	25	25	1.5	1.5	608	608-ZZ	608-2RS	F608	F608-ZZ	F608-2RS	3296	1367	34000	40000	11.80	13.10
8	24	8	8					628	628-ZZ	628-2RS				3338	1416	28000	34000	17.10	
	28	9	9					638	638-ZZ	638-2RS				4600	2000	28000	34000	28.10	
	12	2.5	3.5	13.2	13.6	0.6	8.0	MR128	MR128-ZZ		MF128	MF128-ZZ		544	275	40000	48000	0.70	0.81
	14	3.5	4	15.6	15.6	0.8	0.8	MR148	MR148-ZZ		MF148	MF148-ZZ		736	348	38000	45000	1.90	2.13
	14	3	4.5					679	679-ZZ					513	244	36000	42000	1.35	1.57
	17	4	5	19	19	1	1.1	689	689-ZZ	689-2RS	F689	F689-ZZ	F689-2RS	1603	732	36000	43000	3.41	3.85
9	20	6	6	23	23	1.5	1.5	699	699-ZZ	699-2RS	F699	F699-ZZ	F699-2RS	2481	1090	34000	40000	8.38	9.57
	24	7	7					609	609-ZZ	609-2RS				3338	1416	32000	38000	14.70	16.10
	26	8	8					629	629-ZZ	629-2RS				4550	1970	28000	34000	19.00	
	30	10	10					639	639-ZZ	639-2RS				5114	2387	24000	30000	36.20	

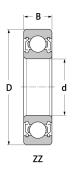


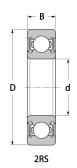




	Dimensi	on (inch)			Designation		Load Ra	ating (N)	Limit	ting Speed (	rpm)	
_		Е	3	0	77	ODC	0-	0	Oper	ı, ZZ	2RS	Weight (kg)
d	D	Open	Closed	Open	ZZ	2RS	Cr	Cor	Grease	Oil	Grease	( 3)
0.1875	0.6875	0.2500	0.3125	1601	1601-ZZ	1601-2RS	2180	748	32000	40000	24000	0.007
0.2500	0.6875	0.2500	0.3125	1602	1602-ZZ	1602-2RS	2424	872	35000	42000	26000	0.007
0.3125	0.8750	0.2813	0.3437	1603	1603-ZZ	1603-2RS	3670	1411	31000	38000	23000	0.012
0.3750	0.8750	0.2813	0.3437	1604	1604-ZZ	1604-2RS	3670	1411	30000	36000	22000	0.011
0.3125	0.9063	0.3125	0.3125	1605	1605-ZZ	1605-2RS	3714	1449	28000	34000	21000	0.016
0.3750	0.9063	0.3125	0.3125	1606	1606-ZZ	1606-2RS	3714	1449	30000	35000	22000	0.015
0.4375	0.9063	0.3125	0.3125	1607	1607-ZZ	1607-2RS	3714	1449	27000	32000	20000	0.015
0.3750	1.1250	0.3750	0.3750	1614	1614-ZZ	1614-2RS	5627	2392	26000	31000	19000	0.030
0.4375	1.1250	0.3750	0.3750	1615	1615-ZZ	1615-2RS	5627	2392	25000	30000	18000	0.028
0.5000	1.1250	0.3750	0.3750	1616	1616-ZZ	1616-2RS	5627	2392	24000	28000	18000	0.026
0.4375	1.3750	0.4375	0.4375	1620	1620-ZZ	1620-2RS	8407	3716	22000	26000	16000	0.050
0.5000	1.3750	0.4375	0.4375	1621	1621-ZZ	1621-2RS	8407	3716	22000	26000	16000	0.048
0.5625	1.3750	0.4375	0.4375	1622	1622-ZZ	1622-2RS	8407	3716	19000	23000	14000	0.046
0.6250	1.3750	0.4375	0.4375	1623	1623-ZZ	1623-2RS	8407	3716	18000	22000	13000	0.041
0.6250	1.6250	0.5000	0.5000	1628	1628-ZZ	1628-2RS	11564	4492	17000	21000	12000	0.072
0.7500	1.6250	0.5000	0.5000	1630	1630-ZZ	1630-2RS	10320	4966	19000	22000	14000	0.069
0.6250	1.7500	0.5000	0.5000	1633	1633-ZZ	1633-2RS	10343	5079	17000	21000	12000	0.092
0.7500	1.7500	0.5000	0.5000	1635	1635-ZZ	1635-2RS	10343	5079	17000	20000	12000	0.090
0.7500	2.0000	0.5625	0.5625	1638	1638-ZZ	1638-2RS	11054	5952	14000	17000	10000	0.145
0.8750	2.0000	0.5625	0.5625	1640	1640-ZZ	1640-2RS	11054	5952	14000	17000	10000	0.133
1.0000	2.0000	0.5625	0.5625	1641	1641-ZZ	1641-2RS	15414	7794	14000	16000	10000	0.121
1.1250	2.5000	0.6250	0.6250	1652	1652-ZZ	1652-2RS	17593	10231	13000	15000	9000	0.211
1.2500	2.5000	0.6250	0.6250	1654	1654-ZZ	1654-2RS	17593	10231	11000	13000	8000	0.193
1.2500	2.5625	0.6875	0.6875	1657	1657-ZZ	1657-2RS	17571	10305	11000	12000	8000	0.232
1.3125	2.5625	0.6875	0.6875	1658	1658-ZZ	1658-2RS	17571	10305	10000	11000	7500	0.210

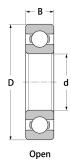


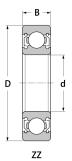


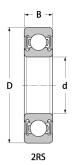


	Dimensi	on (inch)			Designation		Load Ra	ating (N)	Limit	ting Speed (	rpm)	
4	-	E	3	Open	77	ane	0-	Cor	Oper	ı, ZZ	2RS	Weight (kg)
d	D	Open	Closed	Open	ZZ	2RS	Cr	Cor	Grease	Oil	Grease	
0.1250	0.3750	0.1562	0.1562	R2	R2-ZZ	R2-2RS	643	228	56000	67000	36000	0.001
0.1250	0.5000	0.1719	0.1719	R2A	R2A-ZZ	R2A-2RS	1138	391	53000	63000	31000	0.003
0.1875	0.5000	0.1562	0.1960	R3	R3-ZZ	R3-2RS	1074	423	43000	53000	30000	0.002
0.1875	0.5000	0.1960	0.1960	R3A	R3A-ZZ	R3A-2RS	1881	680	38000	45000	30000	0.005
0.2500	0.6250	0.1960	0.1960	R4	R4-ZZ	R4-2RS	1472	603	38000	45000	27000	0.004
0.2500	0.7500	0.2188	0.2812	R4A	R4A-ZZ	R4A-2RS	2239	911	36000	43000	25000	0.007
0.3750	0.8750	0.2188	0.2812	R6	R6-ZZ	R6-2RS	3338	1416	32000	38000	23000	0.009
0.5000	1.1250	0.2500	0.3125	R8	R8-ZZ	R8-2RS	5116	2402	26000	30000	19000	0.018
0.6250	1.3750	0.2813	0.3437	R10	R10-ZZ	R10-2RS	5961	3238	20000	24000	15000	0.037
0.7500	1.6250	0.3125	0.4375	R12	R12-ZZ	R12-2RS	9386	4982	18000	21000	13000	0.047
0.8750	1.8750	0.3750	0.5000	R14	R14-ZZ	R14-2RS	10098	5827	15000	18000	11000	0.071
1.0000	2.0000	0.3750	0.5000	R16	R16-ZZ	R16-2RS	10098	5872	14000	16000	10000	0.085
1.1250	2.1250	0.3750	0.5000	R18	R18-ZZ	R18-2RS	13256	8274	13000	15000	9000	0.090
1.2500	2.2500	0.3750	0.5000	R20	R20-ZZ	R20-2RS	13256	8274	12000	14000	9000	0.095
1.3750	2.5000	0.4375	0.5625	R22	R22-ZZ	R22-2RS	15970	10320	11000	12500	8000	0.105
1.5000	2.6250	0.4375	0.5625	R24	R24-ZZ	R24-2RS	16770	11521	10000	11500	7500	0.140

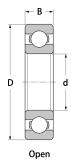
Note: Flanged configurations are also available for certain R Series sizes, see page 4.

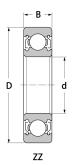


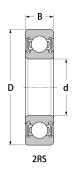




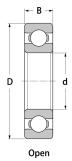
Di	mension (m	m)		Designation		Load Ra	ating (N)	Limi	ting Speed (ı	rpm)	
d	D	D	Open	ZZ	2RS	Cr	Cor	Oper	ı, ZZ	2RS	Weight (kg)
u	U	В	Open	ZL	Zno	U	COI	Grease	Oil	Grease	
	15	3	6700			855	435	10000	12000		0.002
	15	4		6700-ZZ	6700-2RS	855	435	10000	12000	7500	0.002
	19	5	6800	6800-ZZ	6800-2RS	1830	925	32000	38000	24000	0.005
10	22	6	6900	6900-ZZ	6900-2RS	2700	1270	30000	36000	21000	0.009
	26	8	6000	6000-ZZ	6000-2RS	4550	1960	29000	34000	21000	0.019
	30	9	6200	6200-ZZ	6200-2RS	5100	2390	25000	30000	18000	0.032
	35	11	6300	6300-ZZ	6300-2RS	8200	3500	23000	27000	16000	0.053
	18	4	6701	6701-ZZ	6701-2RS	930	530	8300	9500	6300	0.002
	21	5	6801	6801-ZZ	6801-2RS	1920	1040	29000	35000	20000	0.006
	24	6	6901	6901-ZZ	6901-2RS	2890	1460	27000	32000	19000	0.011
12	28	7	16001	16001-ZZ	16001-2RS	5100	2390	26000	30000	18000	0.019
	28	8	6001	6001-ZZ	6001 -2RS	5100	2390	26000	30000	18000	0.021
	32	10	6201	6201-ZZ	6201-2RS	6100	2750	22000	26000	16000	0.037
	37	12	6301	6301-ZZ	6301-2RS	9700	4200	20000	24000	15000	0.060
	21	4	6702	6702-ZZ	6702-2RS	940	585	6600	7600	5000	0.003
	24	5	6802	6802-ZZ	6802-2RS	2080	1260	26000	31000	17000	0.007
	28	7	6902	6902-ZZ	6902-2RS	3650	2000	24000	28000	16000	0.016
15	32	8	16002	16002-ZZ	16002-2RS	5600	2840	22000	26000	15000	0.025
	32	9	6002	6002-ZZ	6002-2RS	5600	2840	22000	26000	15000	0.030
	35	11	6202	6202-ZZ	6202-2RS	7750	3600	19000	23000	15000	0.045
	42	13	6302	6302-ZZ	6302-2RS	11400	5450	17000	21000	12000	0.082
	23	4	6703	6703-ZZ	6703-2RS	1000	658	5000	6700	3750	0.003
	26	5	6803	6803-ZZ	6803-2RS	2230	1460	24000	28000	15000	0.008
	30	7	6903	6903-ZZ	6903-2RS	4650	2580	22000	26000	14000	0.018
17	35	8	16003	16003-ZZ	16003-2RS	6800	3350	20000	24000	14000	0.032
	35	10	6003	6003-ZZ	6003-2RS	6800	3350	20000	24000	14000	0.039
	40	12	6203	6203-ZZ	6203-2RS	9600	4600	18000	21000	12000	0.066
	47	14	6303	6303-ZZ	6303-2RS	13500	6550	16000	19000	11000	0.115
20	27	4	6704	6704-ZZ	6704-2RS	1400	730	5000	5700	3750	0.005
20	32	7	6804	6804-ZZ	6804-2RS	4000	2470	21000	25000	13000	0.019

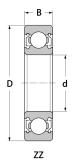


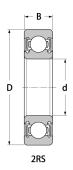




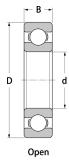
Di	mension (m	m)		Designation		Load Ra	ating (N)	Limi	ting Speed (ı	rpm)	
d	-	D	Onen	77	ane	0-	Cor	Oper	ı, ZZ	2RS	Weight (kg)
d	D	В	Open	ZZ	2RS	Cr	Cor	Grease	Oil	Grease	
	37	9	6904	6904-ZZ	6904-2RS	6400	3700	19000	23000	12000	0.036
	42	8	16004	16004-ZZ	16004-2RS	7900	4500	18000	21000	11000	0.051
20	42	12	6004	6004-ZZ	6004-2RS	9400	5050	18000	21000	11000	0.069
	47	14	6204	6204-ZZ	6204-2RS	12800	6650	16000	18000	10000	0.103
	52	15	6304	6304-ZZ	6304-2RS	15900	7900	14000	17000	10000	0.144
	44	12	60/22	60/22-ZZ	60/22-2RS	9400	5050	17000	20000	10000	0.007
22	50	14	62/22	62/22-ZZ	62/22-2RS	12900	6800	14000	17000	9700	0.117
	56	16	63/22	63/22-ZZ	63/22-2RS	18400	9250	13000	15000	9200	0.176
	32	4	6705	6705-ZZ	6705-2RS	1100	840	4000	4600	3000	0.005
	37	7	6805	6805-ZZ	6805-2RS	4300	2950	18000	21000	10000	0.022
	42	9	6905	6905-ZZ	6905-2RS	7050	4550	16000	19000	9800	0.042
25	47	8	16005	16005-ZZ	16005-2RS	8350	5100	15000	18000	9400	0.060
	47	12	6005	6005-ZZ	6005-2RS	10100	5850	15000	18000	9400	0.080
	52	15	6205	6205-ZZ	6205-2RS	14000	7850	13000	15000	8900	0.128
	62	17	6305	6305-ZZ	6305-2RS	21200	10900	12000	14000	8100	0.232
	52	12	60/28	60/28-ZZ	60/28-2RS	12500	7400	14000	16000	8400	0.098
28	58	16	62/28	62/28-ZZ	62/28-2RS	17900	9750	12000	14000	8100	0.171
	68	18	63/28	63/28-ZZ	63/28-2RS	26700	14000	11000	13000	7400	0.284
	37	4	6706	6706-ZZ	6706-2RS	1140	950	17000	20000	2500	0.006
	42	7	6806	6806-ZZ	6806-2RS	4700	3650	15000	18000	8800	0.026
	47	9	6906	6906-ZZ	6906-2RS	7250	5000	14000	17000	8400	0.048
30	55	9	16006	16006-ZZ	16006-2RS	11200	7350	13000	15000	8400	0.091
	55	13	6006	6006-ZZ	6006-2RS	13200	8300	13000	15000	7700	0.116
	62	16	6206	6206-ZZ	6206-2RS	19500	11300	11000	13000	7300	0.199
	72	19	6306	6306-ZZ	6306-2RS	26700	15000	10000	12000	6600	0.360
	58	13	60/32	60/32-ZZ	60/32-2RS	11800	8050	12000	15000	7200	0.129
32	65	17	62/32	62/32-ZZ	62/32-2RS	20700	11600	11000	12000	7100	0.226
	75	20	63/32	63/32-ZZ	63/32-2RS	29800	16900	9500	11000	6500	0.382
25	47	7	6807	6807-ZZ	6807-2RS	4900	4000	13000	16000	7600	0.029
35	55	10	6907	6907-ZZ	6907-2RS	9550	4050	12000	15000	7100	0.074

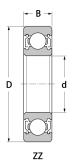


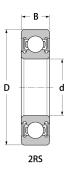




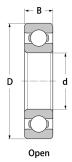
Di	mension (m	m)		Designation		Load Ra	ating (N)	Limi	ting Speed (ı	rpm)	
d	D	D	Open	77	ane	Or.	Cor	Oper	ı, ZZ	2RS	Weight (kg)
d	D	В	Open	ZZ	2RS	Cr	Cor	Grease	Oil	Grease	
	62	9	16007	16007-ZZ	16007-2RS	11700	8200	12000	14000	6800	0.110
35	62	14	6007	6007-ZZ	6007-2RS	16000	10300	12000	14000	6800	0.155
33	72	17	6207	6207-ZZ	6207-2RS	25700	15300	9800	11000	6300	0.288
	80	21	6307	6307-ZZ	6307-2RS	33500	19100	8800	10000	6000	0.457
	52	7	6808	6808-ZZ	6808-2RS	5100	4400	12000	14000	6700	0.033
	62	12	6908	6908-ZZ	6908-2RS	12200	8900	11000	13000	6300	0.110
40	68	9	16008	16008-ZZ	16008-2RS	12600	9650	10000	12000	6100	0.125
40	68	15	6008	6008-ZZ	6008-2RS	16800	11500	10000	12000	6100	0.190
	80	18	6208	6208-ZZ	6208-2RS	29100	17800	8700	10000	5600	0.366
	90	23	6308	6308-ZZ	6308-2RS	40500	24000	7800	9200	5300	0.630
	58	7	6809	6809-ZZ	6809-2RS	5350	4950	11000	12000	5900	0.040
	68	12	6909	6909-ZZ	6909-2RS	13100	10400	9800	12000	5600	0.128
45	75	10	16009	16009-ZZ	16009-2RS	12900	10500	9200	11000	5400	0.171
45	75	16	6009	6009-ZZ	6009-2RS	21000	15100	9200	11000	5400	0.237
	85	19	6209	6209-ZZ	6209-2RS	32500	20400	7800	9200	5200	0.398
	100	25	6309	6309-ZZ	6309-2RS	53000	32000	7000	8200	4700	0.814
	65	7	6810	6810-ZZ	6810-2RS	6600	6100	9600	11000	5300	0.052
	72	12	6910	6910-ZZ	6910-2RS	13400	11200	8900	11000	5100	0.132
E0	80	10	16010	16010-ZZ	16010-2RS	13200	11300	8400	9800	5000	0.180
50	80	16	6010	6010-ZZ	6010-2RS	21800	16600	8400	9800	5000	0.261
	90	20	6210	6210-ZZ	6210-2RS	35000	23200	7100	8300	4700	0.454
	110	27	6310	6310-ZZ	6310-2RS	62000	38500	6400	7500	4200	1.070
	72	9	6811	6811-ZZ	6811-2RS	8800	8100	8700	10000	4800	0.083
	80	13	6911	6911-ZZ	6911-2RS	16600	13300	8200	9600	4600	0.180
EE	90	11	16011	16011-ZZ	16011-2RS	18600	15300	7700	9000	4500	0.258
55	90	18	6011	6011-ZZ	6011-2RS	28300	21200	7700	9000	4500	0.388
	100	21	6211	6211-ZZ	6211-2RS	43500	29200	6400	7600	4300	0.601
	120	29	6311	6311-ZZ	6311-2RS	71500	45000	5800	6800	3900	1.370
60	78	10	6812	6812-ZZ	6812-2RS	11500	10600	8000	9400	4400	0.106
00	85	13	6912	6912-ZZ	6912-2RS	16400	14300	7600	8900	4300	0.193

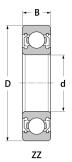


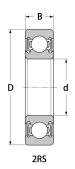




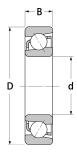
Di	mension (m	m)		Designation		Load Ra	ating (N)	Limi	ting Speed (	rpm)	
d	D	В	Open	ZZ	2RS	Cr	Cor	Oper	ı, ZZ	2RS	Weight (kg)
u	U	Б	Орен	LL	Zno	UI .	COI	Grease	Oil	Grease	
	95	13	16012	16012-ZZ	16012-2RS	20000	17500	7000	8300	4100	0.283
60	95	18	6012	6012-ZZ	6012-2RS	29500	23200	7000	8300	4100	0.414
00	110	22	6212	6212-ZZ	6212-2RS	52500	36000	6000	7000	3800	0.783
	130	31	6312	6312-ZZ	6312-2RS	82000	52000	5400	6300	3600	1.730
	85	10	6813	6813-ZZ	6813-2RS	11600	11000	7400	8700	4100	0.128
	90	13	6913	6913-ZZ	6913-2RS	17400	16100	7000	8200	4000	0.206
65	100	11	16013	16013-ZZ	16013-2RS	20500	18700	6500	7700	3900	0.307
0.0	100	18	6013	6013-ZZ	6013-2RS	30500	25200	6500	7700	3900	0.421
	120	23	6213	6213-ZZ	6213-2RS	57500	40000	5500	6500	3600	0.990
	140	33	6313	6313-ZZ	6313-2RS	92500	60000	4900	5800	3300	2.080
	90	10	6814	6814-ZZ	6814-2RS	12100	11900	6900	8100	3800	0.137
	100	16	6914	6914-ZZ	6914-2RS	23700	21200	6500	7700	3700	0.334
70	110	13	16014	16014-ZZ	16014-2RS	24400	22600	6100	7100	3600	0.441
70	110	20	6014	6014-ZZ	6014-2RS	38000	31000	6100	7100	3600	0.604
	125	24	6214	6214-ZZ	6214-2RS	62000	44000	5100	6000	3400	1.070
	150	35	6314	6314-ZZ	6314-2RS	104000	68000	4600	5400	3100	2.520
	95	10	6815	6815-ZZ	6815-2RS	12500	12900	6400	7600	3600	0.145
	105	16	6915	6915-ZZ	6915-2RS	24400	22600	6100	7200	3500	0.353
75	115	13	16015	16015-ZZ	16015-2RS	25000	24000	5700	6700	3300	0.464
73	115	20	6015	6015-ZZ	6015-2RS	39500	33500	5700	6700	3300	0.649
	130	25	6215	6215-ZZ	6215-2RS	66000	49500	4800	5600	3200	1.180
	160	37	6315	6315-ZZ	6315-2RS	113000	77000	4300	5000	2900	3.020
	100	10	6816	6816-ZZ	6816-2RS	12700	13300	6000	7100	3400	0.154
	110	16	6916	6916-ZZ	6916-2RS	24900	24000	5700	6700	3200	0.373
80	125	14	16016	16016-ZZ	16016-2RS	25400	25100	5300	6200	3100	0.597
00	125	22	6016	6016-ZZ	6016-2RS	47500	40000	5300	6200	3100	0.854
	140	26	6216	6216-ZZ	6216-2RS	72500	53000	4500	5300	3000	1.400
	170	39	6316	6316-ZZ	6316-2RS	123000	86500	4000	4700	2700	3.590
	110	13	6817	6817-ZZ	6817-2RS	18700	19000	5700	6700	3100	0.270
85	120	18	6917	6917-ZZ	6917-2RS	32000	29600	5400	6300	3000	0.536
	130	14	16017	16017-ZZ	16017-2RS	25900	26200	5000	5900	2900	0.626







Di	mension (m	m)		Designation		Load Ra	ating (N)	Limi	ting Speed (ı	rpm)	
d	D	В	Open	ZZ	2RS	Cr	Cor	Oper	ı, ZZ	2RS	Weight (kg)
u	U	Б	Open	ZZ	Zno	U	COI	Grease	Oil	Grease	( 3)
05	130	22	6017	6017-ZZ	6017-2RS	49500	43000	5000	5900	2900	0.890
85	150	28	6217	6217-ZZ	6217-2RS	83500	64000	4200	5000	2800	1.790
	115	13	6818	6818-ZZ	6818-2RS	19000	19700	5400	6300	3000	0.285
	125	18	6918	6918-ZZ	6918-2RS	33000	31500	5100	6000	2900	0.554
90	140	16	16018	16018-ZZ	16018-2RS	33500	33500	4700	5600	2800	0.848
	140	24	6018	6018-ZZ	6018-2RS	58000	49500	4700	5600	2800	1.020
	160	30	6218	6218-ZZ	6218-2RS	96000	71500	4000	4700	2600	2.150
	120	13	6819	6819-ZZ	6819-2RS	19300	19700	5000	5900	2800	0.300
95	130	18	6919	6919-ZZ	6919-2RS	33500	31500	4800	5700	2800	0.579
95	145	16	16019	16019-ZZ	16019-2RS	34500	33500	4500	5300	2600	0.885
	145	24	6019	6019-ZZ	6019-2RS	60500	49500	4500	5300	2600	1.080
	125	13	6820	6820-ZZ	6820-2RS	19600	21200	4800	5600	2700	0.313
100	140	20	6920	6920-ZZ	6920-2RS	41000	39500	4500	5300	2600	0.785
100	150	16	16020	16020-ZZ	16020-2RS	35000	36500	4200	5000	2600	0.910
	150	24	6020	6020-ZZ	6020-2RS	60000	54000	4200	5000	2600	1.150
	130	13	6821	6821-ZZ	6821-2RS	19800	22000	4600	5400	2600	0.330
105	145	20	6921	6921-ZZ	6921-2RS	42500	42000	4300	5100	2500	0.816
	160	18	16021	16021-ZZ	16021-2RS	52000	50500	4000	4700	2400	1.190
	140	16	6822	6822-ZZ	6822-2RS	25000	28000	4300	5100	2500	0.515
110	150	20	6922	6922-ZZ	6922-2RS	43500	44500	4100	4800	2400	0.849
	170	19	16022	16022-ZZ	16022-2RS	57500	56500	3800	4500	2300	1.460
	150	16	6824	6824-ZZ	6824-2RS	28900	33000	4000	4700	2600	0.555
120	165	22	6924	6924-ZZ	6924-2RS	53000	54000	3800	4400	2300	1.150
	180	19	16024	16024-ZZ	16024-2RS	63000	63500	3500	4100	2100	1.560
	165	18	6826	6826-ZZ	6826-2RS	37000	41000	3700	4300	2200	0.800
130	180	24	6926	6926-ZZ	6926-2RS	65000	67500	3500	4100	2100	1.520
	200	22	16026	16026-ZZ	16026-2RS	80000	79500	3200	3800	1900	2.310
140	175	18	6828	6828-ZZ	6828-2RS	38500	44500	3400	4000	2000	0.850
140	190	24	6928	6928-ZZ	6928-2RS	66500	71500	3200	3800	1900	1.620
150	190	20	6830	6830-ZZ	6830-2RS	47500	55000	3100	3700	1850	1.160
100	210	28	6930	6930-ZZ	6930-2RS	85000	90500	3000	3500	1800	2.470

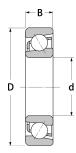


#### Features:

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	Dimensions (mn	n)	Designation	Load Ra	ating (N)	Limiting S <sub>l</sub>	peed (rpm)	Weight
d	D	В	Designation	Cr	Cor	Grease	Oil	(kg)
	26	8	7000B	4450	1980	25000	36000	0.023
10	30	9	7200B	5000	2600	24000	32000	0.029
	35	11	7300B	8800	4100	22000	29000	0.040
	28	8	7001B	4950	2350	22000	32000	0.025
12	32	10	7201B	6950	3550	21000	28000	0.036
	37	12	7301B	10600	5000	20000	26000	0.045
	32	9	7002B	5500	3050	19000	27000	0.035
15	35	11	7202B	8000	4450	18000	25000	0.046
	42	13	7302B	12500	6650	17000	22000	0.057
	35	10	7003B	6050	3400	18000	24000	0.046
17	40	12	7203B	10000	5700	17000	22000	0.066
	47	14	7303B	14800	8000	15000	20000	0.109
	42	12	7004B	8700	5000	17000	22000	0.080
20	47	14	7204B	13400	7800	15000	20000	0.104
	52	15	7304B	17300	9650	13000	18000	0.143
	47	12	7005B	9700	6000	14000	19000	0.093
25	52	15	7205B	14600	9300	12000	16000	0.127
	62	17	7305B	24400	14600	11000	15000	0.223
	42	7	7806B	5600	4550	14000	19000	0.025
	47	9	7906B	7900	6000	13000	18000	0.050
30	55	13	7006B	18300	12500	12000	16000	0.135
	62	16	7206B	20400	14100	11000	14000	0.196
	72	19	7306B	33000	22100	9600	13000	0.341
	47	7	7807B	6000	5300	13000	18000	0.027
	55	10	7907B	7550	5750	12000	16000	0.088
35	62	14	7007B	12200	8200	11000	14000	0.180
	72	17	7207B	20500	13500	9300	12000	0.282
	80	21	7307B	31000	20500	8400	11000	0.447

Note: Table data based on standard 40 degree contact angle "B".

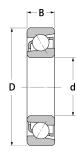


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	Dimensions (mn	n)	Designation	Load Ra	ating (N)	Limiting S <sub>l</sub>	Weight	
d	D	В	Designation	Cr	Cor	Grease	Oil	(kg)
	52	7	7808B	6300	5850	12000	16000	0.029
	62	12	7908B	14100	10100	11000	14000	0.130
40	68	15	7008B	26000	18600	9300	12000	0.222
	80	18	7208B	32000	23500	8300	11000	0.367
	90	23	7308B	50000	34500	7400	9900	0.610
	58	7	7809B	6550	6550	11000	14000	0.033
	68	12	7909B	15400	12200	10000	12000	0.150
45	75	16	7009B	24700	19100	8700	11500	0.282
	85	19	7209B	36000	27000	7400	9900	0.405
	100	25	7309B	61000	43000	6600	8900	0.813
	65	7	7810B	6950	7350	10000	12000	0.043
	72	12	7910B	16100	14800	9000	11000	0.157
50	80	16	7010B	25300	20500	7600	10000	0.306
	90	20	7210B	37500	28500	6700	9000	0.458
	110	27	7310B	70000	50000	6000	8100	1.050
	72	9	7811B	11800	11800	9000	11000	0.058
	80	13	7911B	18700	17500	8000	10000	0.214
55	90	18	7011B	35500	26500	7000	9500	0.447
	100	21	7211B	46500	38500	6100	8200	0.604
	120	29	7311B	80000	61000	5500	7300	1.380
	78	10	7812B	12200	12900	8000	10000	0.070
	85	13	7912B	19000	18000	7000	9500	0.230
60	95	18	7012B	37000	31300	6500	8500	0.478
	110	22	7212B	56000	45000	5700	7600	0.780
	130	31	7312B	90000	66900	5100	6800	1.720
	85	10	7813B	15300	16000	7000	9500	0.085
	90	13	7913B	19400	20000	6500	8500	0.245
65	100	18	7013B	38000	33600	6000	8000	0.509
	120	23	7213B	64000	55000	5200	7000	1.000
	140	33	7313B	103000	82000	4700	6300	2.130

Note: Table data based on standard 40 degree contact angle "B".

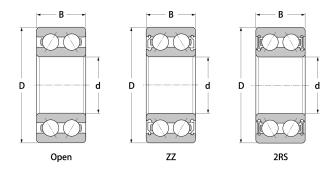


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[	Dimensions (mn	n)	Designation	Load Ra	ating (N)	Limiting S	Weight		
d	D	В	Designation	Cr	Cor	Grease	Oil	(kg)	
	90	10	7814B	16000	17300	6500	8500	0.091	
	100	16	7914B	27100	26300	6000	8000	0.397	
70	110	20	7014B	45800	40900	5500	7000	0.705	
	125	24	7214B	69500	62000	4900	6500	1.080	
	150	35	7314B	117000	93000	4400	5800	2.580	
	95	10	7815B	16300	18000	6000	8000	0.096	
	105	16	7915B	27000	27700	5500	7000	0.420	
75	115	20	7015B	47500	43300	5000	6500	0.745	
	130	25	7215B	68000	62000	4500	6000	1.160	
	160	37	7315B	130000	107000	4100	5400	3.100	
80	125	22	7016B	58000	52000	4800	6200	0.994	
80	140	26	7216B	80000	72000	4300	5700	1.420	
85	130	22	7017B	59400	55100	4500	5800	1.040	
80	150	28	7217B	90000	86000	4000	5300	1.820	
90	140	24	7018B	69300	65400	4300	5500	1.350	
90	160	30	7218B	106000	98000	3800	5000	2.210	
O.E.	145	24	7019B	71500	68600	4000	5100	1.410	
95	170	32	7219B	116000	106000	3500	4700	2.640	
100	150	24	7020B	73800	72100	3900	4900	1.470	
100	180	34	7220B	137000	132000	3400	4500	3.170	
105	160	26	7021B	84500	83500	3700	4800	1.860	
105	190	36	7221B	144000	142000	3200	4300	3.690	
110	170	28	7022B	96300	95100	3500	4500	2.300	
110	200	38	7222B	155000	154000	3000	4000	4.440	

Note: Table data based on standard 40 degree contact angle "B".



Di	mension (m	m)		Designation		Load Ra	ating (N)	Limiting Sp	Weight (kg)	
d	D B		Open	ZZ	2RS	Cr	Cor	Grease		Oil
10	30	14.3	5200	5200-ZZ	5200-2RS	7500	4300	16000	21000	0.051
12	32	15.9	5201	5201-ZZ	5201-2RS	9000	4900	14000	19000	0.053
15	35	15.9	5202	5202-ZZ	5202-2RS	10000	6000	11000	16000	0.067
15	42	19	5302	5302-ZZ	5302-2RS	14000	8000	10000	15000	0.124
4.7	40	17.5	5203	5203-ZZ	5203-2RS	12700	7800	9000	14000	0.095
17	47	22.2	5303	5303-ZZ	5303-2RS	17300	10400	8000	12000	0.177
20	47	20.6	5204	5204-ZZ	5204-2RS	19000	12100	8000	12000	0.160
20	52	22.2	5304	5304-ZZ	5304-2RS	19000	12300	8500	12000	0.221
0.5	52	20.6	5205	5205-ZZ	5205-2RS	20600	13900	7500	10000	0.182
25	62	25.4	5305	5305-ZZ	5305-2RS	27600	17800	7500	10000	0.359
20	62	23.8	5206	5206-ZZ	5206-2RS	25700	18500	6300	8500	0.296
30	72	30.2	5306	5306-ZZ	5306-2RS	37200	25900	6000	8000	0.558
٥٢	72	27	5207	5207-ZZ	5207-2RS	30400	23500	5600	7500	0.454
35	80	34.9	5307	5307-ZZ	5307-2RS	46100	35300	5300	7000	0.667
40	80	30.2	5208	5208-ZZ	5208-2RS	40800	30200	5300	7000	0.605
40	90	36.5	5308	5308-ZZ	5308-2RS	54900	40100	4800	6300	0.998
45	85	30.2	5209	5209-ZZ	5209-2RS	42800	34500	4800	6300	0.640
45	100	39.7	5309	5309-ZZ	5309-2RS	72100	52000	4300	5600	1.360
F0	90	30.2	5210	5210-ZZ	5210-2RS	43200	35300	4500	6000	0.693
50	110	44.4	5310	5310-ZZ	5310-2RS	84900	62600	4000	5300	1.800
	100	33.3	5211	5211-ZZ	5211-2RS	53900	47200	4000	5300	0.969
55	120	49.2	5311	5311-ZZ	5311-2RS	106300	82000	3600	4800	2.360
00	110	36.5	5212	5212-ZZ	5212-2RS	61300	52600	3800	5000	1.290
60	130	54	5312	5312-ZZ	5312-2RS	121400	95100	3400	4500	2.920
0.5	120	38.1	5213	5213-ZZ	5213-2RS	73400	66600	3400	4500	1.660
65	140	58.7	5313	5313-ZZ	5313-2RS	137500	109600	2800	3700	3.630
70	125	39.7	5214	5214-ZZ	5214-2RS	80500	73800	3200	4300	1.800
70	150	63.5	5314	5314-ZZ	5314-2RS	154500	125100	2800	3800	5.030
7.5	130	41.3	5215	5215-ZZ	5215-2RS	87900	81400	3000	3600	1.910
75	160	68.3	5315	5315-ZZ	5315-2RS	171400	134800	2600	3200	6.070

## **Inch/Metric Conversion**

Inches				Inches										
Fract	Fractions Decimals		Millimeters	Fractions		;	Decimals	Millimeters	Fr	action	5	Decimals	Millimeters	
			.00394	.1				.28125	7.1438		<u>21</u> 32 -		.65625	16.6688
	Ē		.00787	.2	1_		19 64	.296875	7.5406		32	<u>43</u> –	.66929	17.00
			.01181	.3	<u>5</u> 16		01	.3125	7.9375	1_			.671875	17.0657
		1 64	.015625	.3969				.31496	8.00	11 16			.6875	17.4625
			.01575	.4			<u>21</u> 64	.328125	8.3344			45 64 - 47 64 - 51 64	.703125	17.8594
			.01969	.5	1	$\frac{11}{32}$ -		.34375	8.7313				.70866	18.00
			.02362	.6	1			.35433	9.00		<u>23</u> 32		.71875	18.2563
			.02756	.7	1_		23 64	.359375	9.1281		OL.		.734375	18.6532
3	<u>1</u> –		.03125	.7938	3/8			.375	9.525				.74803	19.00
	) <u>C</u>		.0315	.8			<u>25</u> 64	.390625	9.9219	3 4			.7500	19.05
			.03543	.9				.3937	10.00		25 32 –		.765625	19.4469
			.03937	1.00		$\frac{13}{32}$ -		.40625	10.3188				.78125	19.8438
_		3 64	.046875	1.1906			<u>27</u> 64 –	.421875	10.7156				.7874	20.00
1/16		<u> </u>	.0625	1.5875				.4331	11.00				.796875	20.2407
10		<u>5</u> 64 –	.078125	1.9844	<u>7</u>		_	.4375	11.1125	13 16	<del>27</del> / <del>32</del> –	53 64 - 55 64 -	.8125	20.6375
			.04874	2.00			<u>29</u> 64	.453125	11.5094				.82677	21.00
3	<u>3</u> –		.09375	2.3813		$\frac{15}{32}$ -		.46875	11.9063				.828125	21.0344
		<u>7</u> 64 –	.109375	2.7781				.47244	12.00				.84375	21.4313
			.11811	3.00			31 64	.484375	12.3031				.859375	21.8282
$\frac{1}{8}$ —			.125	3.175	$\frac{1}{2}$			.5000	12.70				.86614	22.00
	-	9 64 -	.140625	3.5719				.51181	13.00	7 8			.875	22.225
3	<u>5</u> _		.15625	3.9688			33 64	.515625	13.0969				.890625	22.6219
			.15748	4.00		$\frac{17}{32}$ -	05	.53125	13.4938				.90551	23.00
		11/64 -	.171875	4.3656			35 64	.546875	13.8907		<sup>29</sup> / <sub>32</sub> -	50	.90625	23.0188
3 16			.1875	4.7625				.55118	14.00	45		<u>59</u> 64	.921875	23.4157
			.19685	5.00	<u>9</u> 16			.5625	14.2875	1 <u>5</u>			.9375	23.8125
	-	13 64 –	.203125	5.1594		$\frac{19}{32}$ -	37 64	.578125	14.6844				.94488	24.00
3	<del>7</del> –		.21875	5.5563			٠٠١	.59055	15.00		31 32 -	61 64	.953125	24.2094
		15 64	.234375	5.9531			20	.59375	15.0813			_	.96875	24.6063
			.23622	6.00			39 64	.609375	15.4782			00	.98425	25.00
$\frac{1}{4}$ —		47	.2500	6.35	$\frac{5}{8}$		_	.625	15.875			63 64	.984375	25.0032
		17 64 –	.265625	6.7469			41	.62992	16.00	1_			1.0000	25.4001
			.27559	7.00			41 64	.640625	16.2719				1.0000	20.4001





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