



RPM Power Transmission Company Limited



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## COMPANY INTRODUCTION

We are specialty/ Custom Bearing Manufacturer, specialized in full ceramic bearings, Hybrid bearings, thin Section Bearings, Bearings (Inch & Metric Sizes) made from Ceramic ( $\text{Si}_3\text{N}_4/\text{ZrO}_2$ ), Stainless (440c/316) or Chrome Steel (SAE52100 steel); Tolerance ABEC1, 3, 5,7, level.

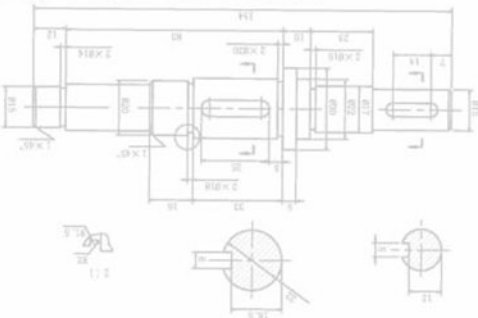


We work directly with our OEMs and Bearing Distributors. Our engineers can help you with bearing, shaft and housing tolerances as well as semiconductor applications, cryogenic applications, extreme hostile environments, and extreme delta T temperatures environments.



In pursuit of a no-lube ball bearing, we have developed a self lubricating PTFE based retainer. Combining these two developments, with a ceramic ball has resulted in the ultimate low torque ball bearing capable of withstanding high or low temperatures.

Our new approach to a simple device has resulted in a life extension by an order of magnitude.



We are uniquely positioned to provide OEM's and Distributors a full rang of engineered solutions in addition to stocking thousands of bearing and bearing related products to cost-efficiently and consistently provide just-in-time delivery.

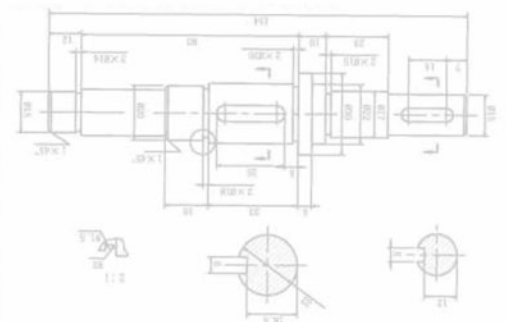




## Factory workshop



## Quality testing



## A warehouse







## Full ZrO<sub>2</sub> Ceramic Bearing

Full Ceramic bearing has good performance: Non-Magnetism, Electrical Insulation, Wear resistant, Anti-corrosive, Self-lubricated, high Temperature usage. Which can be used in the hostile environment and special application.

Using Zirconium Oxide as rolling elements and rings, PTFE cage as standard structure. Also in common, we use Nylon, PEEK, PI, Viton SS304, SS316, Brass as Cage material.

### Radial Ball Bearings



### Angular contact Ball Bearings





## Full ZrO<sub>2</sub> Ceramic Bearing

### Self-Aligning Ball Bearings



### Thrust Ball Bearings



### Insert Ball Bearings

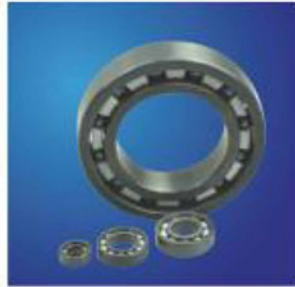




## Full Ceramic Silicon Nitride Ball Bearings

Full Si<sub>3</sub>N<sub>4</sub> full ceramic bearing's rings and balls are made from Silicon Nitride full ceramic, PTFE cage as standard structure, Also Nylon, PEEK, PI, Phonelic cage are available.

Full Si<sub>3</sub>N<sub>4</sub> ceramic bearing is more suitable for higher temperature and higher load application usage. Meantime, Si<sub>3</sub>N<sub>4</sub> ceramic is applied on high speed, high precision, Highest Precision Abec-7 can be achieved.



## Full Ceramic SIC Ball Bearings

Full Ceramic bearing with full compliment, bearing's one side is machined a loading slot, No cage, it can be put in with more ceramic balls than standard structure, which improves Radial Load; In addition, it has the advantage of Full ceramic bearing's Corrosion resistance, High temperature application, avoiding the limit of Cage Material. This series full compliment ceramic ball bearing is not used on high RPM; The bearing with loading slot side should be installed the end without Axial Load, thus this series is not applied on higher Axial Force environment;





## Full Ceramic SiC Ball Bearings

Silicon Carbide is an inorganic non-metallic materials with high hardness, high wear resistant, low coefficient of friction, Oxidation resistant, good thermal stability, thermal conductivity, large, and thermal shock and chemical corrosion and other fine features, can be used for a variety of requirements for abrasion, corrosion and high temperature mechanical equipment.

Our company's SiC bearings uses a new generations of pressureless Sintering SiC.

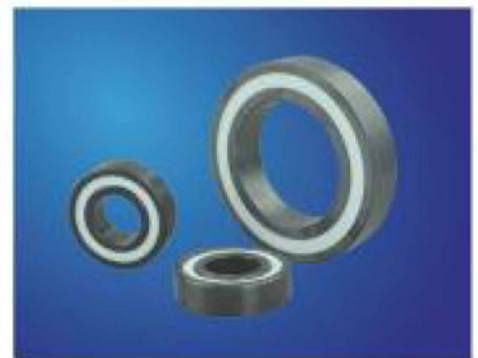
With pressureless sintering process, high purity a-SiC Micron Powder was sintered into SiC, which is high purity, high density, Non free silicon.

Pressureless sintering SiC's hardness, strength, corrosion resistance, high temperature resistance, Impact resistance and other properties is better than the other engineering ceramics such as zirconia, reaction bonded silicon carbide, etc.

SiC ceramic bearing rings and rolling elements was made of pressureless Sintered silicon carbide. using PTFE as standard structure; Compared to zirconium Oxide, it is more suitable for higher temperatures and harsher environment.

The mechanical performance of sintering silicon carbide:

No.	Item	Unit	Parameter
1	Density	g/cm <sup>3</sup>	3.10
2	Porosity%	/	≤ 0.15
3	Hardness	/	>92 (HRA)
4	Bending Strength	Mpa	>470
5	Modulus of Elasticity	Gpa	>410
6	Fracture Toughness	Mpa.M <sup>1/2</sup>	≥3.5
7	The Coefficient of Expansion	1x10 <sup>-6</sup> /°C	4
8	Silicon Carbide%	/	98%
9	Free-silicon%	/	none





## Stainless Steel Bearing

### Martensite stainless steel bearings

On the basis of clean, Corrosion Resistant, High performance stainless steel bearings also has the good property: High precision, Wear resistant the same as High Carbon Chrome steel bearing.

The rings and balls are made of AISI440 (9Cr 18Mo or 9Cr18) after Vacuum heat treatment; Cage and seals Skeleton is made of AISI304 or AISI316, ISO Abec-1 or higher precision level can be achieved. Vibration level: Above Z1.

### Austenite Stainless steel Bearings

We can also provide nonstandard stainless steel bearings to meet engineering special requirement. Compared to High Carbon Martensite stainless steel material, Austenite stainless steel is preferably corrosion resistant and non-magnetism. Austenite stainless steel bearings are made of AISI 304 (AISI316/316L) (including Rings balls and cage). Austenite stainless steel bearing can't be heat treated, thus it is not applied on higher load and higher RPM.





## Stainless Steel Deep Groove Ball Bearings.

Bearing rings and rolling material with stainless steel AISI SUS440C (domestic number: 9Cr18Mo, 9Cr18) by vacuum quenching and tempering treatment, cage and ring frame material AISI304 stainless steel (domestic number: 1Cr18). Compared with ordinary stainless steel bearings bearing steel. a stronger anti-rust, anti-corrosive, choose the right lubricant, dust cover, etc., can be used in an environment  $-60^{\circ}\text{C} \sim +300^{\circ}\text{C}$ 's. Stainless steel deep groove ball bearings can withstand moisture and corrosion caused by a number of other media. Such single row deep groove ball bearings and carbon chromium (rolling bearing) steel standard deep groove ball bearings, roller bearings with a deep ditch, with a high degree of bearing raceways and balls between. Stainless steel bearings because of high mechanical strength, high load capacity, widely used in food processing, medical equipment, pharmaceuticals machinery





## POM/PA Plastic Bearings (Precision Plastic Bearings)

POM and PA are with good mechanical and wear resistance, well used for manufacturing precision plastic bearings, working temp.: - 60 ~ 100C; With high strength of the smooth surface, Basically doest appear tension. Good self-lubrication and low coefficient of friction could be applied to the precision and higher speed operation. POM is used most widely among all the plastics; Commonly, Inner and outer races are made of POM or PA, glass fiber glass PA66 (GRPA66 - 25) as cage, Balls could be: glass balls, stainless steel balls and ceramic balls, such a bearing is good for alkaline environment but not good for acid working conditions.,



## PE/PP/UPE Plastic Bearings (Anti-Acid and Anti-alkali Bearings)

HDPE, PP, UPE are proven to work under relatively weak acid environment (30 % CuCl Solution and 30% NaOH solution are for testing) as well as mostly acid, alkali, Salt, solution, Oil, gass and seawater corrosive environment. With a series of features of no oil no grease, self-lubrication, non-magnetism, Insulation, but low mechanical strength, easily to be out of shape, such acid or alkali resistant bearing is not apply for higher load or RPM, this is a disadvantage of such bearings, Relatively, UPE is with features of more excellent strength, low friction, low temp application.

Generally, inner and outer rings are made of HDPE, PP or UPE; HDPE ,PP or UPE cages.

Glass balls, stainless steel balls, ceramic balls could be the rolling elements. Such Anti-acid bearings' performance is greatly improved





## PTFE / PVDF Plastic Bearings (Anti-Corrosion Plastic Bearings)

As the most typical type, PTFE and PVDF are with the highest corrosion resistant. PTFE is the most corrosive among the known engineering plastics, can be used under all the strong acid, strong Alkali, Including 98% Nitrate Acid; and it has good performance, PTFE was proven to be working under 180C, PVDF using temp. : 150C; But PTFE is with low mechanical strength, poor dimensional stability, big deformation, thus it is not applied to higher load or higher RPM. Relative speaking, PVDF is with better comprehensive performance, commonly: PTFE or PVDF as Inter or outer rings.,PTFE or PVDF cages, Balls: glass balls, ceramic balls, or stainless steel balls.



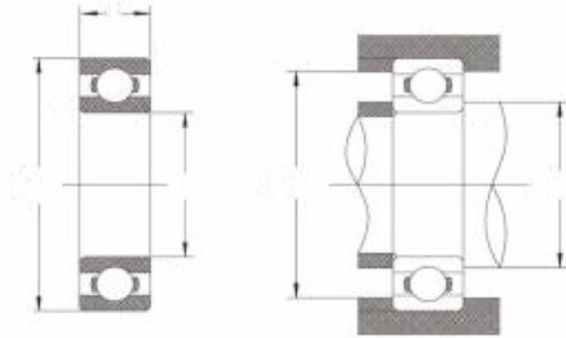
## PEEK / PVDF Plastic Bearings (High Temperature Plastic Bearings)

PEEK and PI, new engineering plastic materials, was proven to be with the best mechanical strength, dimensional stability and high temp. endurance among all the known engineering plastics. PEEK's long terms working temperature is 260C, PI's long term using temperature is as high as 300C, it is with excellent corrosion resistant, can be only dissolved or damaged by concentrated sulfuric acid, it still works under medium acid and alkali corrosive environment; Thus it is used for high precision bearing manufacturing, working under harsh environment, the only advantage is high using cost due to raw material. Generally, Inner and outer ring are made of PEEK or PI, Cage is made of PTFE, PEEK, PI; ZrO<sub>2</sub> or Si<sub>3</sub>N<sub>4</sub> ceramic balls as rolling elements.





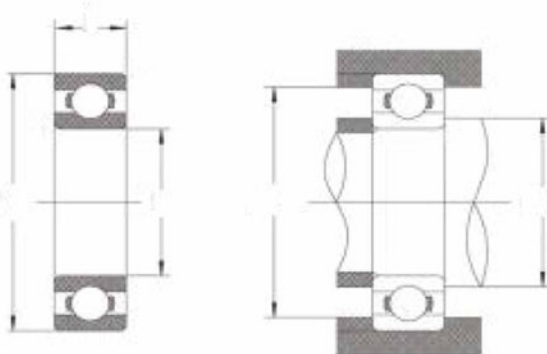
## Deep groove ball bearings



轴承型号 Bearing No.	外形尺寸 Boundary dimensions				Mass 重量 (Kg) (参考) (refer)				轴承型号 Bearing No.	外形尺寸 Boundary dimensions				Mass 重量 (Kg) (参考) (refer)			
	d	D	B	f(min)	ZrO2	Si3N4	PLASTIC	440C		d	D	B	f(min)	ZrO2	Si3N4	PLASTIC	440C
683	3	7	2	0.1	0.00024	0.00013	0.00005	0.00032	6200	10	30	9	0.6	0.025	0.013	0.006	0.032
693		8	3	0.15	0.0005	0.00025	0.0001	0.00061	6300		35	11	0.6	0.040	0.022	0.010	0.052
603		9	3	0.15	0.0007	0.0004	0.0002	0.00087	6801	12	21	5	0.3	0.005	0.0025	0.0012	0.006
623		10	4	0.15	0.0013	0.0007	0.0003	0.00165	6901		24	6	0.3	0.008	0.0042	0.0019	0.01
633		13	5	0.15	0.0025	0.0014	0.0006	0.0034	16001		28	7	0.3	0.015	0.0079	0.004	0.019
684	4	9	2.5	0.1	0.0005	0.0003	0.0001	0.0006	6001		28	8	0.3	0.017	0.0092	0.004	0.019
694		11	4	0.15	0.0013	0.0007	0.0003	0.0017	6201		32	10	0.6	0.028	0.015	0.007	0.037
604		12	4	0.2	0.0017	0.0009	0.0004	0.0023	6301	37	12	1	0.046	0.025	0.004	0.022	
624		13	5	0.2	0.0023	0.0013	0.0006	0.0030	6802	15	24	5	0.3	0.005	0.0029	0.0013	0.007
634		16	5	0.3	0.0040	0.0022	0.0010	0.0052	6902		28	7	0.3	0.012	0.0063	0.003	0.005
685	5	11	3	0.15	0.0009	0.0005	0.0002	0.0012	16002		32	8	0.3	0.021	0.011	0.005	0.027
695		13	4	0.2	0.0019	0.0010	0.0005	0.0025	6002		32	9	0.3	0.024	0.013	0.006	0.031
605		14	5	0.2	0.0027	0.0015	0.0007	0.0035	6202		35	11	0.6	0.035	0.019	0.009	0.045
625		16	5	0.3	0.0038	0.0021	0.0010	0.0050	6302	42	13	1	0.064	0.035	0.016	0.083	
635		19	6	0.3	0.0066	0.0036	0.0016	0.0086	6803	17	26	5	0.3	0.005	0.0029	0.0013	0.007
686	6	13	3.5	0.15	0.0015	0.0008	0.0004	0.0019	6903		30	7	0.3	0.013	0.0071	0.0033	0.017
696		15	5	0.2	0.0030	0.0016	0.0007	0.0039	16003		35	8	0.3	0.025	0.014	0.006	0.033
606		17	6	0.3	0.0046	0.0025	0.0011	0.0060	6003		35	10	0.3	0.032	0.017	0.008	0.041
626		19	6	0.3	0.0063	0.0034	0.0016	0.0086	6203		40	12	0.6	0.052	0.028	0.013	0.067
636		22	7	0.3	0.0108	0.0058	0.0027	0.0140	6303	47	14	1	0.087	0.047	0.022	0.11	
687	7	14	3.5	0.15	0.0017	0.0009	0.0004	0.0022	6403	62	17	1.1	0.21	0.11	0.052	0.27	
697		17	5	0.3	0.0040	0.0022	0.0010	0.0053	6804	20	32	7	0.3	0.013	0.007	0.003	0.017
607		19	6	0.3	0.0059	0.0032	0.0015	0.0077	6904		37	9	0.3	0.028	0.015	0.007	0.037
627		22	7	0.3	0.0098	0.0053	0.0024	0.0127	16004		42	8	0.3	0.037	0.02	0.009	0.048
637		26	9	0.3	0.0185	0.0100	0.0046	0.0240	6004		42	12	0.6	0.052	0.028	0.013	0.068
688	8	16	4	0.2	0.0025	0.0014	0.0006	0.0072	6204		47	14	1	0.082	0.045	0.021	0.11
698		19	6	0.3	0.0056	0.0030	0.0014	0.0072	6304	52	15	1.1	0.11	0.06	0.028	0.15	
608		22	7	0.3	0.0093	0.0050	0.0023	0.012	6404	72	19	1.1	0.31	0.17	0.08	0.4	
628		24	8	0.3	0.013	0.0072	0.0033	0.017	6805	25	37	7	0.3	0.016	0.009	0.004	0.021
638		28	9	0.3	0.022	0.012	0.0054	0.028	6905		42	9	0.3	0.032	0.018	0.009	0.042
689	17	4	0.2	0.0027	0.0015	0.0007	0.0035	16005	47		8	0.3	0.045	0.025	0.011	0.059	
699	20	6	0.3	0.0065	0.0035	0.0016	0.0085	6005	47		12	0.6	0.061	0.033	0.015	0.079	
609	9	24	7	0.3	0.011	0.0060	0.0028	0.015	6205		52	15	1	0.099	0.054	0.025	0.13
629		26	8	0.3	0.015	0.0081	0.0038	0.020	6305	62	17	1.1	0.18	0.098	0.045	0.24	
639		30	10	0.6	0.028	0.015	0.007	0.037	6405	80	21	1.5	0.41	0.22	0.102	0.53	
6800	10	19	5	0.3	0.004	0.0021	0.0010	0.005	6806	30	42	7	0.3	0.018	0.01	0.005	0.024
6900		22	6	0.3	0.007	0.0038	0.0017	0.009	6906		47	9	0.3	0.04	0.022	0.01	0.052
6000		26	8	0.3	0.014	0.0075	0.0035	0.018	16006		55	9	0.3	0.067	0.036	0.017	0.087



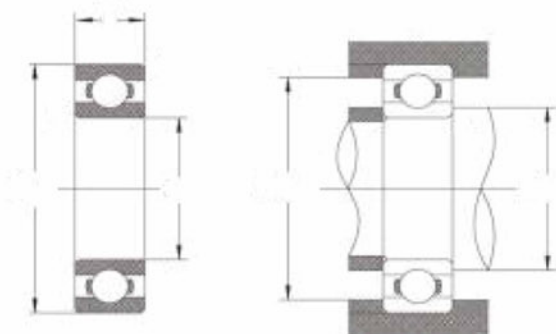
## Deep groove ball bearings



轴承型号 Bearing No.	外形尺寸 Boundary dimensions				Mass 重量 (Kg) (参考) (refer)				轴承型号 Bearing No.	外形尺寸 Boundary dimensions				Mass 重量 (Kg) (参考) (refer)			
	d	D	B	r(min)	ZrO2	Si3N4	PLASTIC	440C		d	D	B	r(min)	ZrO2	Si3N4	PLASTIC	440C
6006	30	55	13	1	0.089	0.048	0.022	0.116	6411	55	140	33	2.1	1.76	0.95	0.44	2.29
6206		62	16	1	0.15	0.083	0.038	0.2	6812	60	78	10	0.3	0.08	0.04	0.02	0.1
6306		72	19	1.1	0.27	0.14	0.066	0.35	6912		85	13	1	0.15	0.08	0.037	0.19
6406		90	23	1.5	0.57	0.31	0.14	0.74	16012		95	11	0.6	0.22	0.12	0.054	0.28
6807	35	47	7	0.3	0.021	0.011	0.005	0.027	6012		95	18	1.1	0.32	0.17	0.079	0.41
6907		55	10	0.6	0.058	0.031	0.014	0.075	6212	110	22	1.5	0.6	0.33	0.15	0.78	
16007		62	9	0.3	0.082	0.045	0.021	0.11	6312	130	31	2.1	1.32	0.72	0.33	1.72	
6007		62	14	1	0.12	0.063	0.029	0.15	6412	150	35	2.1	2.13	1.15	0.53	2.77	
6207	40	72	17	1.1	0.22	0.12	0.055	0.28	6813	65	85	10	0.6	0.1	0.05	0.025	0.13
6307		80	21	1.5	0.36	0.19	0.089	0.46	6913		90	13	1	0.17	0.09	0.04	0.22
6407		100	25	1.5	0.73	0.40	0.18	0.95	16013		100	11	0.6	0.23	0.13	0.06	0.3
6808		52	7	0.3	0.02	0.013	0.006	0.03	6013		100	18	1.1	0.34	0.18	0.08	0.44
6908	45	62	12	0.6	0.09	0.05	0.022	0.11	6213	120	23	1.5	0.77	0.42	0.19	1.00	
16008		68	9	0.3	0.10	0.05	0.025	0.13	6313	140	33	2.1	1.62	0.88	0.41	2.11	
6008		68	15	1	0.15	0.08	0.037	0.19	6413	160	37	2.1	2.54	1.35	0.60	3.3	
6208		80	18	1.1	0.28	0.15	0.07	0.37	6814	70	90	10	0.6	0.1	0.056	0.026	0.13
6308	90	13	1.5	0.49	0.27	0.12	0.64	6914	100		16	1	0.27	0.15	0.07	0.35	
6408	210	27	2	0.946	0.513	0.24	1.230	16014	110		13	0.6	0.34	0.18	0.08	0.44	
6809	50	58	7	0.3	0.029	0.016	0.007	0.038	6014		110	20	1.1	0.47	0.25	0.12	0.61
6909		68	12	0.6	0.097	0.053	0.024	0.13	6214	125	24	1.5	0.84	0.45	0.21	1.09	
16009		75	10	0.6	0.13	0.07	0.032	0.17	6314	150	35	2.1	1.98	1.07	0.49	2.57	
6009		75	16	1	0.19	0.1	0.046	0.24	6414	180	42	3	3.71	1.98	0.87	4.83	
6209	55	85	19	1.1	0.32	0.175	0.081	0.42	6815	75	95	10	0.6	0.011	0.06	0.028	0.15
6309		100	25	1.5	0.64	0.345	0.16	0.83	6915		105	16	1	0.28	0.15	0.070	0.36
6409		120	29	2	1.18	0.64	0.29	1.53	16015		115	13	0.6	0.36	0.09	0.089	0.46
6810		65	7	0.3	0.038	0.021	0.010	0.05	6015		115	20	1.1	0.5	0.27	0.12	0.65
6910	60	72	12	0.6	0.1	0.06	0.026	0.14	6215	130	25	1.5	0.92	0.5	0.23	1.19	
16010		80	10	0.6	0.13	0.07	0.034	0.18	6315	160	37	2.1	2.37	1.26	0.55	3.08	
6010		80	16	1	0.20	0.11	0.05	0.26	6415	190	45	3	4.52	2.41	1.05	5.87	
6210		90	20	1.1	0.35	0.19	0.088	0.46	6816	80	100	10	0.6	0.12	0.063	0.03	0.15
6310	110	27	2	0.82	0.44	0.2	1.06	6916	110		16	1	0.3	0.16	0.075	0.39	
6410	130	31	2.1	1.45	0.78	0.36	1.88	16016	125		14	0.6	0.48	0.26	0.12	0.62	
6811	72	9	0.3	0.06	0.03	0.016	0.08	6016	125		22	1.1	0.67	0.36	0.17	0.87	
6911	65	80	13	1	0.15	0.08	0.036	0.19	6216	140	26	2	1.09	0.59	0.27	1.42	
16011		90	11	0.6	0.2	0.11	0.049	0.26	6316	170	39	2.1	2.82	1.51	0.66	3.67	
6011		90	18	1.1	0.29	0.16	0.073	0.38	6416	200	48	3	5.26	2.81	1.23	6.84	
6211		100	21	1.5	0.48	0.26	0.12	0.62	6817	85	110	13	1	0.2	0.11	0.051	0.26
6311	120	29	2	1.05	0.57	0.26	1.37	6917	120		18	1.1	0.42	0.23	0.11	0.55	



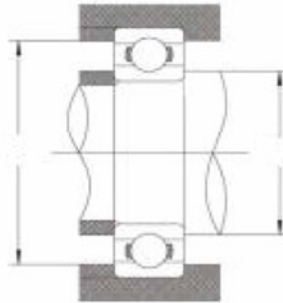
## Deep groove ball bearings



轴承型号 Bearing No.	外形尺寸 Boundary dimensions				Mass 重量 (Kg) (参考) (refer)				轴承型号 Bearing No.	外形尺寸 Boundary dimensions				Mass 重量 (Kg) (参考) (refer)			
	d	D	B	r(min)	ZrO2	Si3N4	PLASTIC	440C		d	D	B	r(min)	ZrO2	Si3N4	PLASTIC	440C
16017	85	130	14	0.6	0.5	0.27	0.13	0.65	6824	120	150	16	1	0.41	0.22	0.1	0.54
6017		130	22	1.1	0.71	0.38	0.18	0.92	6924		165	22	1.1	1.08	0.58	0.25	1.41
6217		150	28	2	1.35	0.73	0.34	1.76	16024		180	19	1	1.38	0.74	0.32	1.8
6317		180	41	3	3.25	1.74	0.76	4.23	6024		180	28	2	1.6	0.85	0.37	2.07
6818	90	115	13	1	0.21	0.12	0.05	0.28	6224	130	215	40	2.1	3.96	2.11	0.92	5.15
6918		125	18	1.1	0.45	0.24	0.11	0.59	6324		260	55	3	9.62	5.13	2.24	12.5
16018		140	16	1	0.67	0.36	0.17	0.87	6826		165	18	1.1	0.72	0.39	0.17	0.94
6018		140	24	1.5	0.92	0.5	0.23	1.19	6926		180	24	1.5	1.43	0.76	0.33	1.86
6218	95	160	30	2	1.65	0.88	0.39	2.15	16026	140	200	22	1.1	2.07	1.10	0.48	2.69
6318		190	43	3	3.78	2.01	0.88	4.91	6026		200	33	2	2.43	1.30	0.57	3.16
6819		120	13	1	0.23	0.12	0.057	0.3	6226		230	40	3	4.48	2.39	1.04	5.82
6919		130	18	1.1	0.46	0.25	0.12	0.6	6326		280	58	4	11.6	6.2	2.71	15.1
16019	100	145	16	1	0.7	0.38	0.17	0.9	6828	150	175	18	1.1	0.77	0.41	0.18	1.00
6019		145	24	1.5	0.95	0.51	0.24	1.23	6928		190	24	1.5	1.52	0.81	0.36	1.98
6219		170	32	2.1	2.02	1.07	0.47	2.62	16028		210	22	1.1	2.20	1.17	0.51	2.86
6319		200	45	3	4.36	2.33	1.02	5.67	6028		210	33	2	2.73	1.46	0.64	3.55
6820	105	125	13	1	0.24	0.13	0.06	0.31	6228	28	250	42	3	5.73	3.06	1.34	7.45
6920		140	20	1.1	0.64	0.35	0.16	0.83	6328		300	62	4	14.9	7.96	3.48	19.4
16020		150	16	1	0.73	0.39	0.18	0.95	6830		190	20	1.1	1.08	0.57	0.25	1.40
6020		150	24	1.5	0.99	0.54	0.25	1.29	6930		210	28	2	2.35	1.25	0.55	3.05
6220	110	180	34	2.1	2.42	1.29	0.56	3.14	16030	32	225	24	1.1	2.75	1.47	0.64	3.58
6320		215	47	3	5.38	2.87	1.26	7.0	6030		225	35	2.1	3.25	1.73	0.76	4.22
6821		130	13	1	0.25	0.14	0.06	0.32	6230		270	45	3	7.24	3.86	1.69	9.41
6921		145	20	1.1	0.66	0.36	0.16	0.86	6330		320	65	4	20.15	10.74	4.70	26.2
16021	115	160	18	1	0.92	0.49	0.22	1.2	60/22	22	44	12	0.6	0.057	0.030	0.013	0.074
6021		160	26	2	1.22	0.65	0.29	1.59	62/22		50	14	1	0.092	0.049	0.021	0.119
6221		190	36	2.1	2.85	1.52	0.66	3.7	60/22		56	16	1.1	0.138	0.073	0.032	0.179
6321		225	49	3	6.19	3.30	1.44	8.05	60/28		52	12	0.6	0.074	0.039	0.017	0.096
6822	120	140	16	1	0.38	0.21	0.1	0.5	62/28	28	58	16	1	0.135	0.072	0.031	0.175
6922		150	20	1.1	0.69	0.37	0.17	0.89	63/28		68	18	1.1	0.221	0.118	0.052	0.287
16022		170	19	1	1.12	0.6	0.26	1.46	60/32		58	13	1	0.094	0.050	0.022	0.122
6022		170	28	2	1.51	0.8	0.35	1.96	62/32		65	17	1	0.173	0.092	0.040	0.225
6222	125	200	38	2.1	3.35	1.8	0.78	4.36	63/32	75	20	1.1	0.299	0.160	0.070	0.389	
6322		240	50	3	7.34	3.91	1.71	9.54									



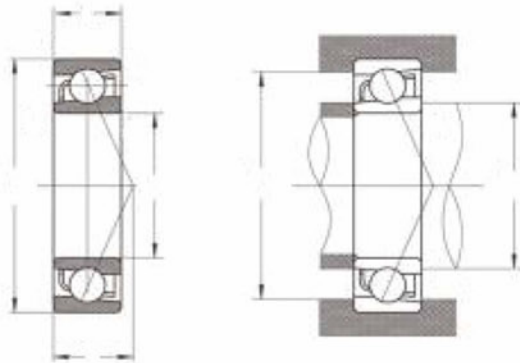
## Inch size ball bearings



轴承型号 Bearing No.	孔径直Bore d		外径O.D D		宽度Width B		Mass重量 (Kg) (参考) (refer)			
	mm	in.	mm	in.	mm	in.	ZrO2	Si3N4	PLASTIC	440C
	1601	4.763	3/16	17.463	11/16	6.350	1/4	0.0038	0.0021	0.0009
1602	6.350	1/4	17.463	11/16	6.350	1/4	0.0046	0.0025	0.0011	0.006
1603	7.938	1/32	22.225	7/8	7.144	9/32	0.0085	0.0045	0.0020	0.011
1604	9.525	3/8	22.225	7/8	7.144	9/32	0.0100	0.0053	0.0023	0.013
1605	7.938	7/16	23.019	29/32	7.938	5/16	0.0031	0.0016	0.0007	0.004
1606	9.525	3/8	23.019	29/32	7.938	5/16	0.0115	0.0062	0.0027	0.015
1607	11.113	7/16	23.019	29/32	7.938	5/16	0.0123	0.0066	0.0029	0.016
1614	9.525	3/8	28.575	9/8	9.525	3/8	0.0220	0.0117	0.0051	0.0286
1615	11.113	7/16	28.575	9/8	9.525	3/8	0.0205	0.0110	0.0048	0.0267
1616	12.700	1/2	28.575	9/8	9.525	3/8	0.1900	0.1013	0.0443	0.247
1620	11.113	7/16	34.925	11/8	11.113	7/16	0.0400	0.0213	0.0093	0.0520
1621	12.700	1/2	34.925	11/8	11.113	7/16	0.0377	0.0201	0.0088	0.0490
1622	14.288	9/16	34.925	11/8	11.113	7/16	0.0357	0.0190	0.0083	0.0464
1623	15.875	5/8	34.925	11/8	11.113	7/16	0.0332	0.0177	0.0078	0.0432
1628	15.875	5/8	41.275	13/8	12.700	1/2	0.0606	0.0323	0.0141	0.0788
1630	19.050	3/4	41.275	13/8	12.700	1/2	0.0599	0.0320	0.0140	0.0779
1633	15.875	5/8	44.450	7/4	12.700	1/2	0.0769	0.0410	0.0179	0.100
1635	19.050	3/4	44.450	7/4	12.700	1/2	0.0703	0.0375	0.0164	0.0914
R2	3.175	1/8	9.525	3/8	3.967	5/32	0.0011	0.0006	0.0003	0.0014
R2A	3.175	1/8	12.700	1/2	4.366	11/64	0.0022	0.0012	0.0005	0.0029
R3	4.762	3/16	12.700	1/2	3.967	5/32	0.0018	0.0010	0.0004	0.0024
R4	6.350	1/4	15.875	5/8	4.978	.1960	0.0035	0.0019	0.0008	0.0046
R4A	6.350	1/4	19.050	3/4	5.556	7/32	0.0054	0.0029	0.0013	0.007
R6	9.525	3/8	22.225	7/8	5.556	7/32	0.0085	0.0045	0.0020	0.011
R8	12.700	1/2	28.575	11/8	6.350	1/4	0.0108	0.0057	0.0025	0.014
R10	15.875	5/8	34.525	13/8	7.144	9/32	0.0215	0.0115	0.0050	0.028
R12	19.050	3/4	41.275	15/8	7.938	5/16	0.0323	0.0172	0.0075	0.042
R14	22.225	7/8	47.625	17/8	9.525	3/8	0.0554	0.0295	0.0129	0.072
R16	25.400	1	50.800	2	9.525	3/8	0.0654	0.0349	0.0153	0.085
R18	28.575	11/8	53.975	21/8	9.525	3/8	0.0654	0.0349	0.0153	0.085
R20	31.750	11/4	57.150	21/4	9.525	3/8	0.0638	0.0341	0.0149	0.083
R22	34.925	13/8	63.500	21/2	11.113	7/16	0.1038	0.0554	0.0242	0.135
R24	38.100	11/2	66.675	25/8	11.113	7/16	0.1108	0.0591	0.0258	0.144



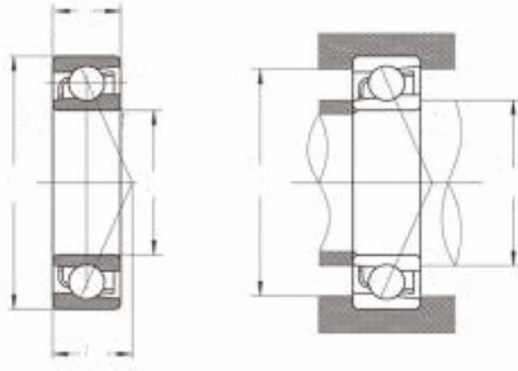
## Angular Contact ball bearings



轴承型号 Bearing No.	外形尺寸 (mm) Boundary dimension (mm)					有关安装尺寸(mm)			Mass重量			
	d	D	B	r 最小(min)	r1最小(min)	da	Da	ra	(Kg) (参考) (refer)			
						最小(min)	最大(max)	最大(max)	ZrO2	Si3N4	PLASTIC	440C
7900	10	22	6	0.3	0.15	12.5	19.5	0.3	0.007	0.0038	0.0016	0.009
7000		26	8	0.3	0.15	12.5	23.5	0.3	0.014	0.0075	0.0032	0.018
7200		30	9	0.6	0.3	15	25	0.6	0.025	0.013	0.0057	0.032
7300		35	11	0.6	0.3	15	30	0.6	0.040	0.022	0.0093	0.052
7901	12	24	6	0.3	0.15	14.5	21.5	0.3	0.008	0.0042	0.0018	0.01
7001		28	8	0.3	0.15	14.5	25.5	0.3	0.017	0.0092	0.0039	0.022
7201		32	10	0.6	0.3	17	27	0.6	0.028	0.015	0.0066	0.037
7301		37	12	1	0.6	18	31	1	0.046	0.025	0.0108	0.06
7902	15	28	7	0.3	0.15	17.5	25.5	0.3	0.012	0.0063	0.0027	0.015
7002		32	9	0.3	0.15	17.5	29.5	0.3	0.024	0.013	0.0056	0.031
7202		35	11	0.6	0.3	20	30	0.3	0.035	0.019	0.0081	0.045
7302		42	13	1	0.6	21	36	1	0.064	0.035	0.0149	0.083
7903	17	30	7	0.3	0.15	19.5	27.5	0.3	0.013	0.0071	0.0031	0.017
7003		35	10	0.3	0.15	19.5	32.5	0.3	0.032	0.017	0.0074	0.041
7203		40	12	0.6	0.3	22	35	0.6	0.052	0.028	0.0120	0.067
7303		47	14	1	0.6	23	41	1	0.087	0.047	0.0203	0.113
7904	20	37	9	0.3	0.15	22.5	34.5	0.3	0.028	0.015	0.0066	0.037
7004		42	12	0.6	0.3	25	37	0.6	0.052	0.028	0.0122	0.068
7204		47	14	1	0.6	26	41	1	0.082	0.045	0.0192	0.107
7304		52	15	1.1	0.6	27	45	1	0.11	0.060	0.0260	0.145
7905	25	42	9	0.3	0.15	27.5	39.5	0.3	0.032	0.018	0.0075	0.042
7005		47	12	0.6	0.3	30	42	0.6	0.061	0.033	0.0142	0.079
7205		52	15	1	0.6	31	46	1	0.099	0.054	0.0232	0.129
7305		62	17	1.1	0.6	32	55	1	0.18	0.098	0.0422	0.235
7906	30	47	9	0.3	0.15	32.5	44.5	1	0.040	0.022	0.0093	0.052
7006		55	13	1	0.6	36	49	1	0.089	0.048	0.0208	0.116
7206		62	16	1	0.6	36	56	1	0.15	0.083	0.0357	0.199
7306		72	19	1.1	0.6	37	65	1	0.27	0.14	0.0619	0.345
7907	35	55	10	0.6	0.3	40	50	0.6	0.058	0.031	0.0135	0.075
7007		62	14	1	0.6	41	56	1	0.12	0.063	0.0271	0.151
7207		72	17	1.1	0.6	42	65	1	0.22	0.12	0.0510	0.284
7307		80	21	1.5	1	44	71	1.5	0.36	0.19	0.0833	0.464
7908	40	62	12	0.6	0.3	45	57	0.6	0.09	0.05	0.0201	0.112
7008		68	15	1	0.6	46	62	1	0.15	0.08	0.0341	0.19
7208		80	18	1.1	0.6	47	73	1	0.28	0.15	0.0657	0.366
7308		90	23	1.5	1	49	81	1.5	0.49	0.27	0.1142	0.636
7909	45	68	12	0.6	0.3	50	63	0.6	0.097	0.053	0.0226	0.126
7009		75	16	1	0.6	51	69	1	0.19	0.100	0.0433	0.241
7209		85	19	1.1	0.6	52	78	1	0.32	0.175	0.0754	0.42
7309		100	25	1.5	1	54	91	1.5	0.64	0.345	0.1488	0.829



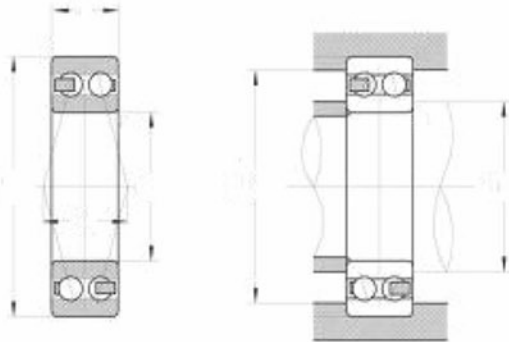
## Angular Contact Ball Bearing



轴承型号 Bearing No.	外形尺寸 (mm) Boundary dimension (mm)					有关安装尺寸(mm)			Mass重量			
	d	D	B	r 最小(min)	r1 最小(min)	da	Da	ra	(Kg) (参考) (refer)			
						最小(min)	最大(max)	最大(max)	ZrO2	Si3N4	PLASTIC	440C
7910	50	72	12	0.6	0.3	55	67	0.6	0.10	0.06	0.0242	0.135
7010		80	16	1	0.3	56	74	1	0.20	0.11	0.0468	0.261
7210		90	20	1.1	0.6	57	83	1	0.35	0.19	0.0824	0.459
7310		110	27	2	1	60	100	2	0.82	0.44	0.1903	1.06
7911	55	80	13	1	0.6	61	74	1	0.15	0.08	0.0339	0.189
7011		90	18	1.1	0.6	62	83	1	0.29	0.16	0.0684	0.381
7211		100	21	1.5	1	64	91	1.5	0.48	0.26	0.1111	0.619
7311		120	29	2	1	65	110	2	1.05	0.57	0.2459	1.37
7912CE	60	85	13	1	0.6	66	79	1	0.15	0.08	0.0345	0.192
7012CE		95	18	1.1	0.6	67	88	1	0.32	0.17	0.0739	0.412
7212CE		110	22	1.5	1	69	101	1.5	0.60	0.33	0.1405	0.783
7312CE		130	31	2.1	1.1	72	118	2	1.32	0.72	0.3087	1.72
7913CE	65	90	13	1	0.6	71	84	1	0.17	0.09	0.0391	0.218
7013CE		100	18	1.1	0.6	72	93	1	0.34	0.18	0.0788	0.439
7213CE		120	23	1.5	1	74	111	1.5	0.77	0.42	0.1795	1
7313CE		140	33	2.1	1.1	77	128	2	1.62	0.88	0.3787	2.11
7914CE	70	100	16	1	0.6	76	94	1	0.27	0.15	0.0626	0.349
7014CE		110	20	1.1	0.6	77	103	1	0.47	0.25	0.1091	0.608
7214CE		125	24	1.5	1	79	116	1.5	0.84	0.45	0.1956	1.09
7314CE		150	35	2.1	1.1	82	138	2	1.98	1.07	0.4613	2.57
7915CE	75	105	16	1	0.6	81	99	1	0.28	0.15	0.0653	0.364
7015CE		115	20	1.1	0.6	82	108	1	0.50	0.27	0.1165	0.649
7215CE		130	25	1.5	1	84	121	1.5	0.92	0.50	0.2136	1.19
7916CE		80	110	16	1	0.6	86	104	1	0.30	0.16	0.0702
7016CE	125		22	1.1	0.6	87	118	1	0.67	0.36	0.1565	0.872
7216CE	140		26	2	1	90	130	2	1.09	0.59	0.2549	1.42
7017CE	85		130	22	1.1	0.6	92	123	1	0.71	0.38	0.1648
7217CE		150	28	2	1	95	140	2	1.35	0.73	0.3159	1.76
7918CE	90	125	18	1.1	0.6	97	118	1	0.45	0.24	0.1050	0.585
7018CE		140	24	1.5	1	99	131	1.5	0.92	0.50	0.2136	1.19
7919CE	95	130	18	1.1	0.6	102	123	1	0.46	0.25	0.1079	0.601
7019CE		145	24	1.5	1	104	136	1.5	0.95	0.51	0.2208	1.23
7920CE	100	140	20	1.1	0.6	107	133	1	0.64	0.35	0.1486	0.828
7020CE		150	24	1.5	1	109	141	1.5	0.99	0.54	0.2315	1.29
7921CE	105	145	20	1.1	0.6	112	138	1	0.66	0.36	0.1536	0.856
7922CE	110	150	20	1.1	0.6	117	143	1	0.69	0.37	0.1603	0.893



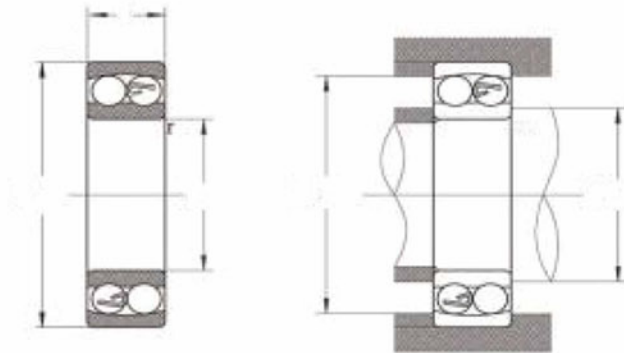
## Double Row Deep Groove Ball Bearing



轴承型号 Bearing No.	外形尺寸 (mm) Boundary dimension (mm)				安装相关尺寸 Mounting dimensions			Mass重量			
	d	D	B	r 最小(min)	da	Da	ra	(Kg) (参考) (refer)			
					最小(min)	最小(min)	最大(max)	ZrO2	Si3N4	PLASTIC	440C
5200	10	30	14.3	0.6	15	25	0.6	0.04	0.02	0.01	0.050
5201	12	32	15.9	0.6	17	27	0.6	0.05	0.02	0.01	0.060
5202	15	35	15.9	0.6	20	30	0.6	0.05	0.03	0.01	0.070
5302	15	42	19	1	21	36	1	0.08	0.05	0.02	0.11
5203	17	40	17.5	0.6	22	35	0.6	0.07	0.04	0.02	0.090
5303	17	47	22.2	1	23	41	1	0.11	0.06	0.03	0.14
5204	20	47	20.6	1	26	41	1	0.09	0.05	0.02	0.12
5304	20	52	22.2	1.1	27	45	1	0.18	0.09	0.04	0.23
5205	25	52	20.6	1	31	46	1	0.15	0.08	0.03	0.19
5305	25	62	25.4	1.1	32	55	1	0.26	0.14	0.06	0.34
5206	30	62	23.8	1	36	56	1	0.22	0.12	0.05	0.29
5306	30	72	30.2	1.1	37	65	1	0.39	0.21	0.09	0.51
5207	35	72	27	1.1	42	65	1	0.33	0.18	0.08	0.43
5307	35	80	34.9	1.5	44	71	1.5	0.61	0.32	0.14	0.79
5208	40	80	30.2	1.1	47	73	1	0.44	0.23	0.10	0.57
5308	40	90	36.5	1.5	49	81	1.5	0.81	0.43	0.19	1.05
5209	45	85	30.2	1.1	52	78	1	0.48	0.25	0.11	0.62
5309	45	100	39.7	1.5	54	91	1.5	1.08	0.57	0.25	1.4
5210	50	90	30.2	1.1	57	83	1	0.52	0.27	0.12	0.67
5310	50	110	44.4	2	60	100	2	1.50	0.80	0.35	1.95
5211	55	100	33.3	1.5	64	91	1.5	0.74	0.39	0.17	0.96
5311	55	120	49.2	2	65	110	2	1.77	0.94	0.41	2.3
5212	60	110	36.5	1.5	69	101	1.5	1.04	0.55	0.24	1.35
5312	60	130	54	2.1	72	118	2	2.42	1.29	0.57	3.15
5213	65	120	38.1	1.5	74	111	1.5	1.27	0.68	0.30	1.65
5313	65	140	58.7	2.1	77	128	2	2.96	1.58	0.69	3.85
5214	70	125	39.7	1.5	79	116	1.5	1.38	0.74	0.32	1.8
5314	70	150	63.5	2.1	82	138	2	3.77	2.01	0.88	4.9
5215	75	130	41.3	1.5	84	121	1.5	1.46	0.78	0.34	1.9
5216	80	140	44.4	2	90	130	2	1.92	1.03	0.45	2.5
5217	85	150	49.2	2	95	140	2	2.62	1.39	0.61	3.4



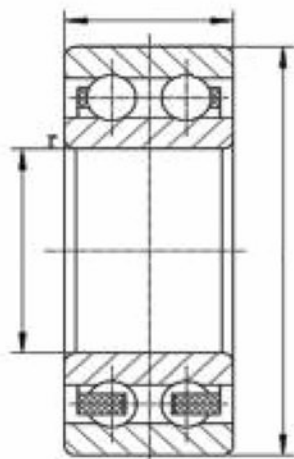
## Double Row Deep Groove Ball Bearing



轴承型号 Bearing No.	外形尺寸 (mm) Boundary dimension (mm)				重量 mass (Kg) refer 参考			轴承型号 Bearing No.	外形尺寸 (mm) Boundary dimension (mm)				重量 mass (Kg) refer 参考		
	d	D	B	r(min)	ZrO2	Si3N4	SiSi440C		d	D	B	r(min)	ZrO2	Si3N4	SiSi440C
135	5	19	6	0.3	0.007	0.004	0.009	2210	50	90	23	1.1	0.45	0.24	0.59
126	6	19	6	0.3	0.007	0.004	0.009	1310	50	110	27	2	0.93	0.50	1.21
127	7	22	7	0.3	0.011	0.006	0.014	2310	50	110	40	2	1.26	0.67	1.64
108	8	22	7	0.3	0.011	0.006	0.014	1211	55	100	21	1.5	0.54	0.29	0.71
129	9	26	8	0.6	0.017	0.009	0.022	2211	55	100	25	1.5	0.62	0.33	0.81
1200		30	9	0.6	0.026	0.014	0.034	1311	55	120	29	2	1.22	0.65	1.58
2200		30	14	0.6	0.036	0.019	0.047	2311	60	120	43	2	1.62	0.86	2.1
1300	10	25	11	0.6	0.045	0.024	0.058	1212	60	110	22	1.5	0.69	0.37	0.9
2300		25	17	0.6	0.065	0.035	0.085	2212	60	110	28	1.5	0.84	0.45	1.09
1201		32	10	0.6	0.031	0.016	0.04	1312	60	130	31	2.1	1.51	0.80	1.96
2201	12	32	14	0.6	0.041	0.022	0.053	2312	60	130	46	2.1	2.00	1.07	2.6
1301		37	12	1	0.052	0.027	0.067	1213	65	120	23	1.5	0.88	0.47	1.15
2301		37	17	1	0.073	0.039	0.095	2213	65	120	31	1.5	1.12	0.60	1.46
1202		35	11	0.6	0.038	0.020	0.049	1313	65	140	33	2.1	1.88	1.01	2.45
2202	15	35	14	0.6	0.046	0.025	0.06	2313	65	140	48	2.1	2.48	1.33	3.23
1302		42	13	1	0.072	0.039	0.094	1214	70	125	24	1.5	0.97	0.52	1.26
2302		42	17	1	0.088	0.047	0.11	2214	70	125	31	1.5	1.17	0.62	1.52
1203		40	12	0.6	0.056	0.030	0.073	1314	70	150	35	2.1	2.30	1.23	2.99
2203	17	40	16	0.6	0.068	0.036	0.088	2314	70	150	51	2.1	3.25	1.74	4.23
1303		47	14	1	0.10	0.053	0.13	1215	75	130	25	1.5	1.05	0.56	1.36
2303		47	19	1	0.12	0.065	0.16	2215	75	130	31	1.5	1.25	0.66	1.62
1204		47	14	1	0.09	0.049	0.12	1315	75	160	37	2.1	2.70	4.44	3.51
2204	20	47	18	1	0.11	0.057	0.14	2315	75	160	55	2.1	3.85	2.06	5.01
1304		52	15	1.1	0.13	0.067	0.16	1216	80	140	26	2	1.28	0.69	1.67
2304		52	21	1.1	0.16	0.086	0.21	2216	80	140	33	2	1.55	0.82	2.01
1205		52	15	1	0.11	0.058	0.14	1316	80	170	39	2.1	3.17	1.69	4.12
2205	25	52	18	1	0.13	0.067	0.16	2316	80	170	58	2.1	4.85	2.45	5.96
1305		62	17	1.1	0.20	0.11	0.26	1217	85	150	28	2	1.59	0.85	2.07
2305		62	24	1.1	0.26	0.14	0.34	2217	85	150	36	2	1.94	1.03	2.52
1206		62	16	1	0.17	0.090	0.22	1317	85	180	41	3	3.78	2.01	4.91
2206	30	62	20	1	0.20	0.11	0.26	2317	85	180	60	3	5.3	2.83	6.89
1306		72	19	1.1	0.30	0.16	0.39	1218	90	160	30	2	1.91	1.02	2.48
2306		72	27	1.1	0.38	0.21	0.50	2218	90	160	40	2	2.56	1.37	3.33
1207		72	17	1.1	0.25	0.13	0.32	1318	90	190	43	3	4.4	2.34	5.71
2207	35	72	23	1.1	0.31	0.17	0.40	2318	90	190	64	3	6.35	3.38	8.25
1307		80	21	1.5	0.39	0.21	0.51	1219	95	170	32	3.1	2.35	1.25	3.05
2307		80	31	1.5	0.52	0.28	0.68	2219	95	170	43	2.1	3.08	1.64	4
1208		80	18	1.1	0.32	0.17	0.42	1319	95	200	45	3	5.07	2.7	6.59
2208	40	80	23	1.1	0.39	0.21	0.51	2319	95	200	67	3	7.36	3.93	9.57
1308		90	23	1.5	0.55	0.29	0.72	1220	100	180	34	2.1	2.8	1.5	3.64
2308		90	33	1.5	0.71	0.38	0.93	2220	100	180	46	2.1	3.75	2	4.87
1209		85	19	1.1	0.36	0.19	0.47	1221	105	190	36	2.1	3.36	1.8	4.37
2209	45	85	23	1.1	0.42	0.22	0.55	2221	105	190	50	2.1	4.67	2.49	6.07
1309		100	25	1.5	0.74	0.39	0.96	1222	110	200	38	2.1	3.96	2.11	5.15
2309		100	36	1.5	0.95	0.50	1.23	2222	110	200	53	2.1	5.46	2.91	7.1
1210		90	20	1.1	0.40	0.22	0.53								



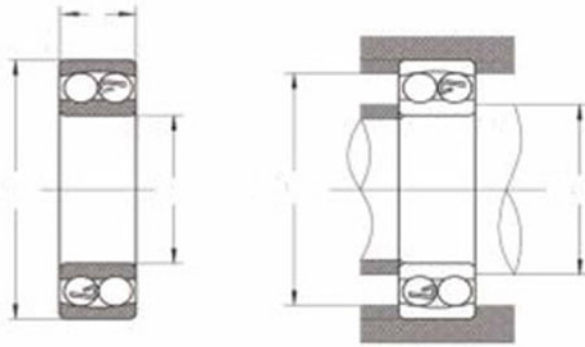
## Double Row Deep Groove Ball Bearing



轴承型号 Bearing No.	外形尺寸 Boundary Size						额定负荷 Load Rating	极限转速 Limiting Speed	重量 Weight (KG)
	d	D	B	rmin	Gr	Cor	Grease	Oil	
4200	10	30	14	0.6	7.7	5.9	15000	20000	0.057
4201	12	32	14	0.6	7.7	6.1	14000	18000	0.062
4202	15	35	14	0.6	9.7	9	12000	16000	0.071
4302		42	17	1	13.	11.	11000	14000	0.123
4203	17	40	16	0.6	11.	10.	11000	14000	0.106
4303		47	19	1	16.	15	9400	13000	0.171
4204	20	47	18	1	16.	16	9000	12000	0.165
4304		52	21	1.1	19.	17	8300	11000	0.227
4205	25	52	18	1	16.	16.	7500	9900	0.189
4305		62	24	1.1	26.	25.	6700	9000	0.365
4206	30	62	20	1	22	24.	6400	8500	0.298
4306		72	27	1.1	35.	35.	5700	7500	0.542
4207	35	72	23	1.1	26.	30.	5600	7400	0.46
4307		80	31	1.5	40.	41.	5200	7000	0.752
4208	40	80	23	1.1	33.	42.	4700	6300	0.558
4308		90	33	1.5	46	48.	4600	6100	1.01
4209	45	85	23	1.1	31.	43.	4600	6100	0.605
4309		10	36	1.5	57.	62.	4100	5500	1.35
4210	50	90	23	1.1	31.	44.	4200	5600	0.651
4310		11	40	2	70.	77.	3700	5000	1.8
4211	55	10	25	1.5	34.	54.	3800	5000	0.882
4311		12	43	2.1	84.	94.	3400	4600	2.29
4212	60	11	28	1.5	47.	67.	3500	4700	1.2
4312		13	46	2.1	99.	113	3100	4200	2.87
4213	65	12	31	1.5	54.	78.	3200	4300	1.59
4313		14	48	2.1	107	124	2900	6900	3.46
4214	70	12	31	1.5	62.	89.	3100	4100	1.68
4314		15	51	2.1	115	136	2700	3600	4.21



## Single Direction Thrust Ball Bearing



Bearing No.	Boundary dimension (mm)						Mass			
	d	D	T	r(min)	d1	D1	(Kg)			(refer)
							Zr02	Si3N4	PLASTIC	440C
51100	10	24	9	0.3	24	11	0.015	0.0078	0.0034	0.019
51200		26	11	0.6	26	12	0.022	0.011	0.0050	0.028
51101	12	26	9	0.3	26	13	0.016	0.009	0.0038	0.021
51201		28	11	0.6	28	14	0.024	0.013	0.0056	0.031
51102	15	28	9	0.3	28	16	0.018	0.0094	0.0041	0.023
51202		32	12	0.6	32	17	0.033	0.018	0.0077	0.043
51103	17	30	9	0.3	30	18	0.019	0.010	0.0045	0.025
51203		35	12	0.6	35	19	0.038	0.021	0.0090	0.05
51104	20	35	10	0.3	35	21	0.028	0.015	0.0066	0.037
51204		40	14	0.6	40	22	0.059	0.032	0.0138	0.077
51105	25	42	11	0.6	42	26	0.043	0.023	0.0101	0.056
51205		47	15	0.6	47	27	0.085	0.046	0.0199	0.11
51106	30	47	11	0.6	47	32	0.049	0.026	0.0115	0.064
51206		52	16	0.6	52	32	0.11	0.056	0.0246	0.14
51107	35	52	12	0.6	52	37	0.062	0.033	0.0145	0.081
51207		62	18	1	62	37	0.16	0.086	0.0377	0.21
51108	40	60	13	0.6	60	42	0.092	0.049	0.0215	0.12
51208		68	19	1	68	42	0.21	0.11	0.0485	0.27
51109	45	65	14	0.6	65	47	0.11	0.059	0.0257	0.14
51209		73	20	1	73	47	0.24	0.13	0.0556	0.31
51110	50	70	14	0.6	70	52	0.12	0.063	0.0275	0.15
51210		78	22	1	78	52	0.29	0.16	0.0678	0.38
51111	55	78	16	0.6	78	57	0.17	0.093	0.0407	0.23
51211		90	25	1	90	57	0.46	0.25	0.1075	0.60
51112	60	85	17	1	85	62	0.22	0.12	0.0504	0.28
51212		95	26	1	95	62	0.52	0.28	0.1208	0.67
51113	65	90	18	1	90	67	0.25	0.13	0.0582	0.32
51213		100	27	1	100	67	0.58	0.31	0.1357	0.76
51114	70	95	18	1	95	72	0.27	0.14	0.0621	0.35
51214		105	27	1	105	72	0.61	0.33	0.1423	0.79
51115	75	100	19	1	100	77	0.30	0.16	0.0698	0.39
51215		110	27	1	110	77	0.65	0.35	0.1517	0.85
51116	80	105	19	1	105	82	0.32	0.17	0.0748	0.42
51216		115	28	1	115	82	0.72	0.38	0.1671	0.93
51117	85	110	19	1	110	87	0.34	0.18	0.0790	0.44
51217		125	31	1	125	88	0.94	0.50	0.2190	1.2
51118	90	120	22	1	120	92	0.50	0.27	0.1159	0.6
51218		135	35	1.1	135	93	1.30	0.69	0.3033	1.69
51120	100	135	25	1	135	102	0.74	0.39	0.1723	0.96
51220		150	38	1.1	150	103	1.73	0.92	0.4038	20.25
51122	110	145	25	1	145	112	0.80	0.43	0.1867	1.04
51124	120	155	25	1	155	122	0.86	0.46	0.2010	1.12



## Standard sizes of ceramic roller:



### Diameter and Roundness

Unit :  $\mu\text{m}$

Grade	Dia		Lot Dia Variation $\nabla$ DNL Max	Roller Diameter Gauge Interval	Preferred Gauges	$\Delta$ Cir Max
	From	To				
0	3	18	1	1	-10, ***, -1 0 +1, ***, +5	0.3
0	18	30	1	1	-10, ***, -1 0 +1, ***, +5	0.4
I	3	18	2	1	-10, ***, -1 0 +1, ***, +5	0.4
I	18	30	2	1.5	-10.5, ***, -1.5 0 +1.5, ***, +6	0.5
II	3	18	3	1	-10, ***, -1 0 +1, ***, +5	1.0
II	18	30	3	1.5	-19.5, ***, -1.5 0 +1.5, ***, +6	1.5
II	30	45	3	2	-20, ***, -2 0 +3, ***, +6	2.5

### Length

Unit :  $\mu\text{m}$

Grade	Length		Lot Length Variation $\nabla$ LWL Max	Roller Length Gauge Interval	Preferred Gauges	$\Delta$ Cir Max
	From	To				
0	3	26	6	6	-30, ***, -6 0	3
0	26	50	6	6	-30, ***, -6 0	3
I	3	26	10	6	-30, ***, -6 0	5
I	26	50	10	10	-40, ***, -10 0	5
II	3	26	14	6	-30, ***, -6 0	6
II	26	50	14	10	-40, ***, -10 0	6
II	50	80	14	12	-48, ***, -12 0	6

### Surface Roundness

Unit :  $\mu\text{m}$

Grade	Rolling Surface Ra Max	End Face	Chamfer Angle
0	0.1	0.125	1.25
I	0.25	0.16	1.25
II	0.16	0.25	2.5

Length-Diameter aspect ratio (L/D)

Unit : mm

Dia 3-5 L/D < 2

Dia 5-10 L/D < 3

Dia 10-45 L/D < 4



## 常见油脂品牌的性能及用途(Lubrication)

The common lubricants we can provide as followings Table:

We are able to add any grease into our bearings;

One of our sales engineers can help you decide what lubricant best fits your need.

品牌 Manufacturer	代号 Brand	基本类型 Base Oil	稠度 Consistency	工作温度 Temp Range
埃克森 Exxon	Beacon 325	Diester	290	-60~+120
	Polyrex EM	Mineral	288	-40~+180
协同 Kyodo Yushi	Multemp SRL	Polyolester+Doester	250	-50~+150
	MultempSB-M	Synthetic Oil	260	-40~+200
	Multemp PS2	Diester	280	-50~+110
	ET-K	Synthetic Oil/Ester	300	-40~+200
克鲁勃 Kluber	Lsofoex super LDS18	Diester	280	-60~+130
	Asonic GLY32	Synthetic	265~295	-50~+140
	Asonic GHY72	Easter Mineral	250~280	-40~+180
	Barrierta L552	Fluorinated	280	-35~+260
美孚 Mobil Oil	Mobil 28	Synthetic Hydrocarbon	280	-60~+180
	HP222	Synthetic Oil	280	-60~+120
壳牌 Shell	Alvania RL2	Mineral	272	-25~+120
	Alvania RLQ2	Mineral	266	-25~+120
加德士(雪佛龙) Csltex	Chevron SRI2	Mineral	280	-30~+150
	RPM Grease SRI OEM	Mineral	280	-30~+150
杜邦 Dupont	Krytox GPL224	Fluorinated	/	-35~+150
	Krytox GPL225	Fluorinated	296	-28~+205
	Krytox GPL226	Fluorinated	265~295	5~+260



## 陶瓷轴承和不锈钢轴承公差/Tolerance of full ceramic or stainless steel bearings

表1 PO级公差内圈(适用陶瓷轴承和不锈钢轴承)

Table 1 PO level tolerance of inner ring (For full ceramic and stainless steel bearings)

d(mm)		dmp		V			V	K	B			V
				直径系列					全部	正常	修正	
				9	0.1	2, 3, 4						
超过	到	上偏差	下偏差	max			max	max	上偏差	下偏差		
0.6	2.5	0	-8	10	8	6	6	10	0	-40	-250	12
2.5	10	0	-8	10	8	6	6	10	0	-120	-250	15
10	18	0	-8	10	8	6	6	10	0	-120		20
18	30	0	-10	13	10	8	8	13	0	-120	-250	20
30	50	0	-12	15	12	9	9	15	0	-120	-250	20
50	80	0	-15	19	19	11	11	20	0	-150	-380	25
80	120	0	-20	21	21	15	15	25	0	-120	-380	25
120	180	0	-25	35	35	19	19	30	0	-250	-500	30
180	250	0	-30	38	38	23	23	40	0	-300	-500	30

注: 1>包括0.6在内 Note:1> Including 0.6  
2>直径系列7和8无规定值 2> Diameter series 7 and 8 no regular cost

表2 PO级公差外圈(适用陶瓷轴承和不锈钢轴承)  
Table 2 PO grade tolerance of outer ring (For ceramic and stainless bearings)

D(mm)		D		V				V	K	CC		VV
				开形轴承		闭形轴承				全部	正常	
				直径系列								
超过	到	上偏差	下偏差	9	0.1	2,3,4	2,3,4	max	max	上偏差	下偏差	
2.5	60	0	-8	10	8	6	10	6	15	与同一轴承内圈的		
6	18	0	-8	10	8	6	10	6	15			
18	30	0	-9	12	9	7	12	7	15			
30	50	0	-11	14	11	8	16	8	20			
50	80	0	-13	16	13	10	20	10	25			
80	120	0	-15	19	19	11	26	11	35			
120	150	0	-18	23	23	14	30	14	40			
250	180	0	-25	31	31	19	38	19	45			
180	250	0	-30	38	38	23		23	50			
250	315	0	-35	44	44	26		26	60			

注: 1>包括2.5在内 Note:1> Including 2.5  
2>直径系列7和8无规定值 2> Diameter series 7 and 8 no regular cost  
3>直径系列9,0.1无规定值 3> Diameter series 9,0.1 no regular cost  
4>适用于内外止动环安装前或拆卸后 4> Suitable for inside and outside brake ring before installation or after discharge



## 游隙(Radial Clearance)

1. 陶瓷轴承和不锈钢轴承的径向游隙

1. Radial clearance of ceramic and stainless bearings

表1深沟球轴承 ( 适用全陶瓷轴承和不锈钢轴承 ) (  $\mu\text{m}$  )

Table1. Deep groove ball bearings ( For ceramic and stainless bearings )

公称内径 d(mm)		2组 (C2)		O组 (CO)		3组 (C3)		4组 (C4)		5组 (C5)	
超过 over	到 to	min	max	min	max	min	max	min	max	min	max
2.5	6	1	8	5	15	10	20	15	25	21	33
6	10	2	9	6	17	12	25	19	33	27	42
10	14	2	10	6	19	13	26	21	35	30	48
14	18	3	12	8	21	15	28	23	37	32	50
18	24	4	14	10	23	17	30	25	39	34	52
24	30	5	16	11	24	19	35	29	46	40	58
30	40	6	18	13	29	23	40	34	53	46	66
40	50	6	19	14	31	25	44	37	57	50	71
50	65	7	21	16	36	30	50	45	69	62	88
65	80	8	24	18	40	35	60	54	83	76	108
80	100	9	27	22	48	42	70	64	96	89	124
100	120	10	31	25	56	50	83	75	114	105	145
120	140	10	36	30	68	60	100	90	135	125	175
140	160	15	44	35	80	70	120	110	161	150	210

表2调心球轴承 ( 适用陶瓷轴承和不锈钢轴承 ) (  $\mu\text{m}$  )

Table2. Self-Aligning ball bearings ( For ceramic and stainless bearings )

公称内径 d(mm)		2组 (C2)		O组 (CO)		3组 (C3)		4组 (C4)		5组 (C5)	
超过 over	到 to	min	max	min	max	min	max	min	max	min	max
2.5	6	0	7	2	13	8	23	14	29	20	37
6	10	0	7	2	13	8	23	18	33	25	45
10	18	0	9	3	18	11	25				
18	24	0	10	5	20	13	28	20	31	28	48
24	30	1	11	5	20	13	28	23	41	30	53
30	40	1	11	6	20	15	33	28	46	40	64
40	50	1	11	8	23	18	36	30	51	45	73
50	65	1	15	8	28	23	43	38	61	55	90
65	80	1	15	10	30	25	51	46	71	65	105
80	100	1	18	12	36	30	58	53	84	75	120
100	120	2	20	15	41	36	66	61	97	90	140
120	140	2	23	18	48	41	81	71	114	105	160





$Si_3N_4$	○●●●●	●●●●●	1100℃	○●●●●
○ Usage:	high precision bearing balls, high speed, vacuum, fixed anode X-ray tube, high temp, low temp, electric insulation, high precision ballscrew set, valve balls for acid, alkali, salt, measure pumps, flowmeter			
○ Characteristic:	resistant to strong acid, strong alkali, salt and gas of deleterious, long contact fatigue life, high hardness, resistance to wear			

SSiC	●●●●●	○●●●●	1400℃	○●●●●
○ Usage:	high precision bearing balls, high speed, vacuum, fixed anode X-ray tube, high temp, low temp, electric insulation, high precision ballscrew set, valve balls for acid, alkali, salt, measure pumps, flowmeter			
○ Characteristic:	resistance to strong acid, strong alkali, salt and gas of deleterious, especially resistance to hydrofluoric acid, long life, high hardness, resistance to wear			

$ZrO_2$	○●●●●	○●●●●	600℃	●●●●●
○ Usage:	high precision bearing balls, vacuum, high temp, low temp, electric insulation, high precision ballscrew set, valve balls for acid, alkali, salt, measure pumps, flowmeter and valve ball plunger for deep pump, deep well pump.			
○ Characteristic:	resistant to strong acid, strong alkali, salt and gas of deleterious, long life, high hardness, especially resistant to wear, high modulus of elasticity.			

$Al_2O_3$	○●●●●	○●●●●	1400℃	○●●●●
○ Usage:	high-tempered bearing balls, low temp, electric insulation, valve balls for acid, alkali, salt, measure pumps, flowmeter and valve ball plunger for deep well pump.			
○ Characteristic:	resistant to strong acid, strong alkali, salt and gas of deleterious, long life, high hardness, resistant to wear, resistant to high temp up to 1400℃, high electric insulation 300KV.			

440C/316L	○●●●●	●●●●●	200℃	●●●●●
○ Usage:	bearing balls for electric insulation, valve balls for acid, alkali, salt, measure pumps, flowmeter and valve ball plunger for deep well pump.			
○ Characteristic:	resistant to feeble acid, feeble alkali, salt and gas of deleterious, high toughness			



## Si3N4, ZrO2, Al2O3 and Steel's basical performance data comparision

Items		Unit	Steel	Si <sub>3</sub> N <sub>4</sub>	ZrO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>
Density		g/ cm <sup>3</sup>	7.85	3.23	6.05	3.95
Coefficient of Thermal Expansion		10 <sup>-6</sup> /K	10	3.2	10.5	9.1
Elasticity modulus		Gpa	208	300-320	210	380
Poisson' s Ratio			0.30	0.26	0.30	0.27
Hardness	(HV)		700	1500-1800	1200	1800
	(HRC)		62	75-80	70	80
(800°) Bending Streinth		Mpa	2400	200	300	220
(800°) Compressive Streinth		Mpa	- - - -	1400	2100	1500
Fracture Toughness		Mpa *m <sup>1/2</sup>	25	6.0-7.0	10.0	3.5
(500°) Thermal Conductivity		W/ mk	30~40	18	2	25
(600°) Electrical Resistivity		Ω *mm <sup>2</sup> / m	0.1~1	10 <sup>18</sup>	10 <sup>15</sup>	10 <sup>8</sup>
Highest Temp.		°C	300	800	550	1850
Acid and Alkali Corrosion resistance performance			Weak	Strong	Strong	Stong
Stress Cycles (50% Failure probality)		Times	10 <sup>7</sup>	10 <sup>7</sup> - 10 <sup>9</sup>	10 <sup>5</sup>	—
Dimensions Stability			with the Temp. change is big	with the Temp. change's smaller	—	—
Centrifugal Force			Large	Small	Larger	Medium
Non-Lubrication friction			Large	Small	Small	Small
Magnetism			Yes	None	None	None
Rolling Contact fatigue failure mode			Peel off	Peel off	Crash	Crash





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