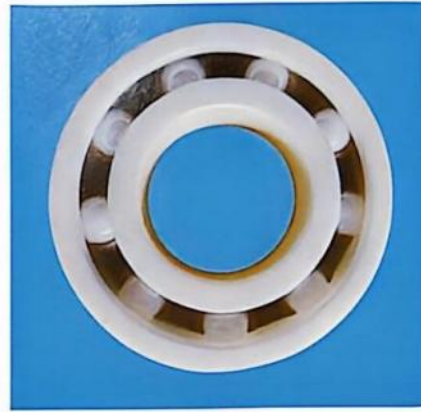


氧化锆全陶瓷系列/Zirconia full ceramic series

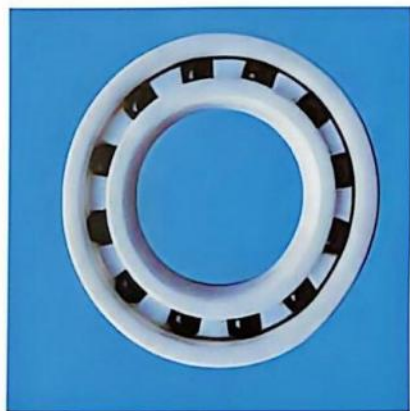
氧化锆全陶瓷轴承/Zirconia full ceramic bearing

全陶瓷轴承具抗磁电绝缘、耐磨耐腐蚀、无油自润滑、耐高温耐高寒等特点，可用于极度恶劣环境及特殊工况。套圈及滚动体采用氧化锆（ ZrO_2 ）陶瓷材料，保持器使用聚四氟乙烯（PTFE）作为标准配置，一般也可使用玻璃纤维增强的尼龙66（GRPA66-25），特种工程塑料（PEEK，PI），不锈钢（AISI SUS316、SUS304），黄铜（Cu）等。

深沟球轴承/Deep groove ball bearing



满球装轴承/Full ball bearing



氧化锆陶瓷（非标）轴承/Zirconia ceramic (non-standard) bearing



氧化锆全陶瓷系列/Zirconia full ceramic series

All ceramic bearings are resistant to magnetic and electrical insulation, wear and corrosion resistance, oil-free self-lubricating, high temperature and high temperature resistance, and can be used in extremely harsh environments and special working conditions. The ferrule and rolling element are made of zirconia (ZrO_2) ceramic material, and the retainer is made of polytetrafluoroethylene (PTFE) as standard. Generally, glass fiber reinforced nylon 66 (GRPA66-25) and special engineering plastic (PEEK, PI), stainless steel (AISI SUS316, SUS304), brass (Cu), etc.

双密封轴承

Double sealed bearing



推力球平面轴承

Thrust ball plain bearing



角接触轴承

Angular contact bearing



调心球陶瓷轴承/Self-aligning ball ceramic bearing



陶瓷直线轴承

Ceramic linear bearing



外球面轴承/Outer Spherical Bearings



陶瓷件/Ceramic parts



氮化硅全陶瓷轴承系列/Silicon nitride full ceramic bearing series

氮化硅全陶瓷轴承/Silicon nitride full ceramic bearing

氮化硅全陶瓷轴承套圈及滚动体采用氮化硅(Si_3N_4)陶瓷材料, 保持器使用聚四氟乙烯(PTFE)作为标准配置, 一般也可使用GRPA66-25, PEEK, PI, 以及酚醛夹布胶木管等。 Si_3N_4 制全陶瓷轴承相比较 SrO_2 材料可适用于更高转速及负荷能力, 以及适用于更高的环境温度。同时可提供用于高速高精度高刚性主轴的精密陶瓷轴承, 最高制造精度达P4至UP级。

深沟球轴承/Deep groove ball bearing



角接触轴承/Angular contact bearing



满球装轴承/Full ball bearing



氮化硅全陶瓷轴承系列/Silicon nitride full ceramic bearing series

The silicon nitride all-ceramic bearing ring and rolling element are made of silicon nitride (Si_3N_4) ceramic material, and the holder is made of polytetrafluoroethylene (PTFE) as standard. Generally, GRPA66-25, PEEK, PI, and phenolic can also be used. Cloth bakelite pipe, etc. Compared to SrO_2 , the SiN_4 all-ceramic bearing is suitable for higher speed and load capacity, as well as for higher ambient temperatures. At the same time, it can provide precision ceramic bearings for high-speed, high-precision and high-rigidity spindles with the highest manufacturing precision from P4 to UP.

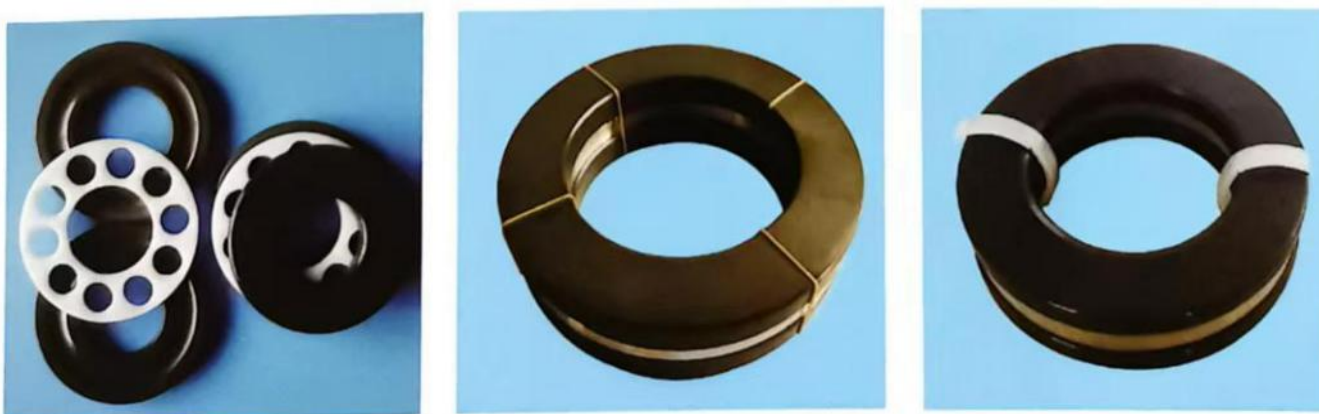
双密封轴承/Double sealed bearing



调心球陶瓷轴承/Self-aligning ball ceramic bearing



推力球平面轴承/Thrust ball plain bearing



陶瓷球/ Ceramic ball

本公司采用先进的粉处理，气压烧结工艺，生产高品质氮化硅（SI3N4），氧化锆（ZRO2），碳化硅（SIC），氧化铝（AL2O3）陶瓷轴承球及阀门球，其规格在0.4MM—60MM, 加工精度为G3 , G5, G10 , G16, G20级。

The company uses advanced powder processing, gas pressure sintering process, production of high-quality silicon nitride (SI3N4), zirconia (ZrO2), silicon carbide (SIC), alumina (Al2O3) ceramic ball bearings and ball valve, its specifications in 0.4MM—60MM, machining accuracy for G3, G5, G10, G16, G20 level.



氧化鋁球



氮化硅球



碳化硅球

陶瓷球规格表（常用） Ceramic balls (in common use)

规格 TYPE		规格 TYPE	
in	mm	in	mm
1/32	0.794	11/32	8.731
	0.800	3/8	9.525
	1.000	7/16	11.112
1/16	1.588	31/64	12.303
3/32	2.381	1/2	12.7
5/32	3.969	17/32	13.494
3/16	4.763	9/16	14.288
7/32	5.556	19/32	15.081
15/64	5.953	5/8	15.875
1/4	6.350	11/16	17.462
17/64	6.747	3/4	19.050
9/32	7.144	1	25.4
5/16	7.938	5/4	31.75

陶瓷球的 精度等级 GB/T 308-202

等级	球直径变动量 Vdws	球形误差 ΔS_{ph}	批直径变动量 Vdwl	表面粗糙度 Ra
G3	0.05~0.07	0.05~0.07	<0.13	0.009~0.01
G5	0.08~12	0.08~12	<0.25	0.009~0.01
G10	0.15~0.20	0.15~0.20	<0.5	0.014~0.018
G16	0.2~0.25	0.2~0.25	<0.8	<0.025
G20	0.3~0.4	0.3~0.4	<1	<0.032
G28	0.4~0.7	0.4~0.7	<1.4	<0.0105

塑料轴承系列 Plastic bearing series

PEEK/PI塑料轴承（耐高温塑料轴承） PEEK/PI plastic bearing (high temperature resistant plastic bearing)

PEEK和PI作为新兴的工程塑料材料，被证明是所有已知工程塑料中机械强度尺寸稳定性及耐高温性能最好的，其中PEEK长期使用温度达260℃，PI长期使用温度更是高达300℃，且其具有优良的耐腐蚀性能，在中等强度的酸碱腐蚀环境仍可以运转自如，故一般用于制作需要在比较严酷环境中精密运转的轴承，其缺点是因材料本身比较昂贵，故使用成本较高，一般内外圈材料选用PEEK或PI，保持架材料为PTFE，PEEK或PI，滚珠一般为ZrO₂或Si₃N₄陶瓷球。



As an emerging engineering plastics material, PEEK and PI have proven to be the best in mechanical strength dimensional stability and high temperature resistance of all known engineering plastics. The long-term use temperature of PEEK is 260 °C, and the long-term use temperature of PI is up to 300 °C. And it has excellent corrosion resistance, can still operate freely in medium-strength acid-alkaline corrosion environment, so it is generally used to make bearings that need to operate in a harsh environment. The disadvantage is that the material itself is expensive, so it is used. The cost is high. Generally, the inner and outer ring materials are made of PEEK or PI, the cage material is PTFE, PEEK or PI, and the balls are generally ZrO₂ or Si₃N₄ ceramic balls.

PTFE/PVDF塑料轴承（耐腐蚀塑料轴承） PTFE/PVDF plastic bearing (corrosion resistant plastic bearing)

作为氟塑料中最典型的品种，PTFE和PVDF是具有最优良的耐腐蚀性能，其中PTFE更是所有已知工程塑料中耐腐蚀性最好的，可用于所有的浓酸及浓碱场合，包括HF及发烟硫酸硝酸（98%以上）等，且具有良好的高温表现，PTFE证明可用于180℃的高温，PVDF也能用于150℃，但PTFE材料机械强度极低，且尺寸稳定性较差，温度变形大，相比较而言PVDF具有更佳的综合性能，一般内外圈材料选用PTFE或PVDF，保持架材料为PTFE或PVDF，滚珠一般为玻璃球或陶瓷球。



As the most typical variety of fluoroplastics, PTFE and PVDF have the best corrosion resistance, among which PTFE is the best corrosion resistance of all known engineering plastics, and can be used in all concentrated acid and concentrated alkali applications, including HF and fuming sulfuric acid nitric acid (98% or more), etc., and have good high temperature performance, PTFE proved to be used at 180 ° C high temperature, PVDF can also be used for 150 ° C, but PTFE material has very low mechanical strength and dimensional stability Poor, temperature deformation is large, PVDF has better comprehensive performance. Generally, the inner and outer ring materials are made of PTFE or PVDF, the cage material is PTFE or PVDF, and the balls are generally glass balls or ceramic balls.

POM/PA塑料轴承（精密塑料轴承） POM/PA plastic bearing (precision plastic bearing)

POM和PA材料具备良好的机械强度及耐磨性，适用制作比较精密的塑料轴承，其良好的自润滑性能及低的摩擦系数，在保持塑料轴承传统有时的基础上，可应用于精密及较高转速运转。其中POM塑料轴承是所有塑料中应用最为广泛的一种，一般内外球材料采用POM或PA，保持架采用玻璃纤维增强的尼龙66（GRPA66-25）。滚珠为玻璃球，不锈钢球或陶瓷球，此种轴承碱性环境下表现良好但不适合在酸性腐蚀环境下运行。



POM and PA materials have good mechanical strength and wear resistance. They are suitable for making relatively precise plastic bearings. Their good self-lubricating properties and low friction coefficient can be applied to precision and comparison on the basis of keeping plastic bearings traditionally. High speed operation. Among them, POM plastic bearing is the most widely used one of all plastics. Generally, the inner and outer spherical materials are POM or PA, and the cage is made of glass fiber reinforced nylon 66 (GRPA66-25). The balls are glass balls, stainless steel balls or ceramic balls. These bearings perform well under alkaline conditions but are not suitable for operation in acidic corrosive environments.

塑料轴承系列/Plastic bearing series

塑料轴承座及塑料外球面轴承/Angular contact bearing

塑料带座轴承独具重量轻，安装简便，免于维护，同时具有常用铸铁座或冲压座所不具有减震抗冲击性能。随着新材料的不断开发正越来越多地在工程上得到广泛应用。针对不同情况，塑料外球面轴承可采用POM、HDPE、PP、UPE、PTEE等不同材料制作，塑料轴承座一般采用PBT材料。

The plastic seat bearing is light in weight, easy to install and maintenance-free, and has a common cast iron seat or stamping seat that does not have shock absorption and impact resistance. With the continuous development of new materials, more and more applications are widely used in engineering. For different situations, plastic outer spherical bearings can be made of different materials such as POM, HDPE, PP, UPE, PTEE, etc. Plastic bearing housings generally use PBT materials.



塑料轴承常用规格类型/Plastic bearing common specification type



深沟球 Deep groove ball



角接触 Angular contact



双列角接触 Double row angular contact



推力球 Thrust ball



调心球 Self-aligning ball



满球装 Full ball

混合陶瓷球轴承/Mixed ceramic ball bearing

陶瓷球特别是氮化硅球具有低密度、高硬度、低摩擦系数, 抗磁电绝缘、耐磨、自润滑及刚性好等特点, 特别适合做高速、高精度及长寿命混合陶瓷球轴承的滚动体(内外圈为金属)。一般内外圈采用轴承钢 (GCr15) 或不锈钢 (AISI440C, 316 304), 陶瓷球可选用ZrO₂, Si₃N₄, 或SiC材料。

采用陶瓷球混合轴承和普通轴承相比的优势:

(1). 耐高温, 陶瓷球热膨胀系数小, 在高温环境下不会因为温度的原因导致轴承球膨胀, 这样大大提高了整个轴承的使用温度, 普通轴承的温度在160度左右, 陶瓷球的可以达到220度以上。

(2). 转速高, 陶瓷球具有无油自润滑属性, 陶瓷球摩擦系数小, 所以陶瓷球轴承具有很高的转速. 统计采用陶瓷球的轴承是一般轴承的转速1.5倍以上的转速。

(3). 寿命长, 陶瓷球可以不加任何油脂, 也就是说即使油脂干掉, 轴承还是可以运作的, 这样就避免了普通轴承中因为油脂干掉导致的轴承过早损坏现象的发生. 据我们测试以及一些客户的反馈使用陶瓷球后的轴承的使用寿命是普通轴承的2-3倍。

(4). 最后一点也是最重要的一点, 绝缘. 采用陶瓷球的轴承, 可以使轴承的内外圈之间绝缘, 因为陶瓷球是绝缘体, 在轴承的内外圈之间用陶瓷球, 就可以达到绝缘的效果. 这样就使轴承能够在导电的环境下使用了。

Ceramic ball especially Si₃N₄ have the following performance as low density, high strength, low friction coefficient, electrical and magnetism resistance, wear resistance, well rigidity, lubrication and maintenance free when working, it's the best choice for rollers (inner ring and outer ring are made by metal) of the hybrid construction ceramic ball bearing which are used in high-speed, high accuracy and long life environments. Normally, GCr15 or (AISI440C, 316 304) makes inner ring and outer ring; The ceramic ball can adopt ZrO₂, Si₃N₄ or SiC.

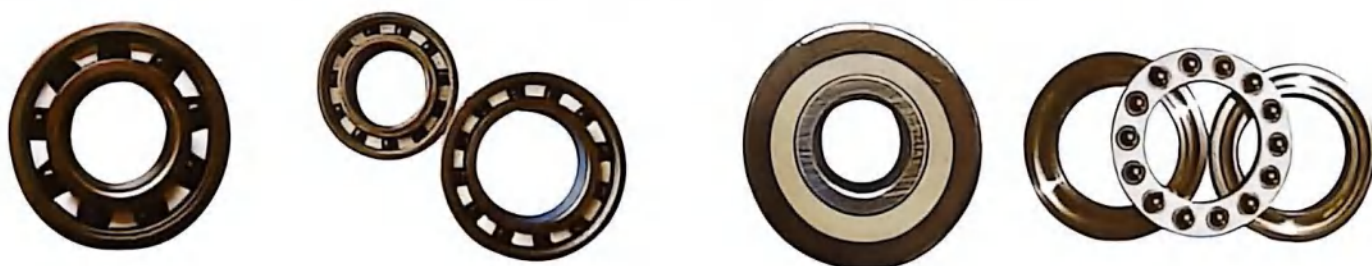
Advantages of ceramic ball bearings and plain bearings:

(1). high temperature resistance, ceramic ball heat expansion coefficient is small, under the high temperature environment will not because of the temperature of the reasons lead to expansion of the ball bearing, which can greatly enhance the using temperature of the bearings, plain bearing temperature in 160 degrees, ceramic ball can be reached more than 220 degrees.

(2). the high speed, ceramic ball with no oil self lubrication properties, ceramic ball friction coefficient is small, so the ceramic ball bearings with a high speed. The statistical use of ceramic ball bearings are generally more than 1.5 times the speed of the bearing.

(3). Long life, ceramic ball can without any grease, also is to say even get rid of grease, the bearings can still operate, thus avoiding the common bearing because oil kill leads to premature bearing damage phenomenon happened. According to our test and some customer feedback using ceramic ball bearing service life is 2-3 times that of ordinary bearing.

(4). finally, and most important, insulation. Using ceramic ball bearing can make the inner and outer rings of bearing insulation between, because ceramic ball is an insulator, between the inner and outer rings of bearings with ceramic ball, the insulation effect can be achieved. This makes the bearing to the conductive environment.



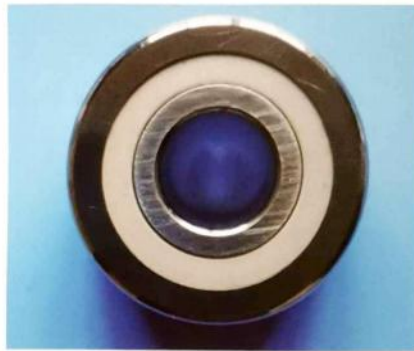
不锈钢深沟球轴承

Stainless steel deep groove ball bearing



不锈钢角接触球轴承

Stainless steel angular contact ball bearing



不锈钢调心球轴承/Stainless steel self-aligning ball bearing



不锈钢推力球轴承/Stainless steel thrust ball bearing



不锈钢外球面轴承

Stainless steel outer spherical bearing

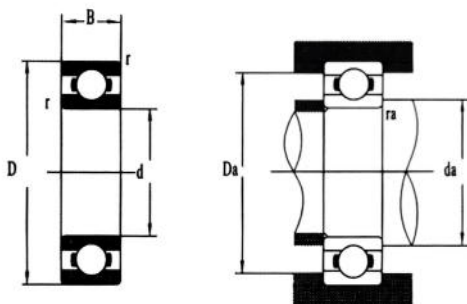


不锈钢座陶瓷轴承

Stainless steel seat ceramic bearing

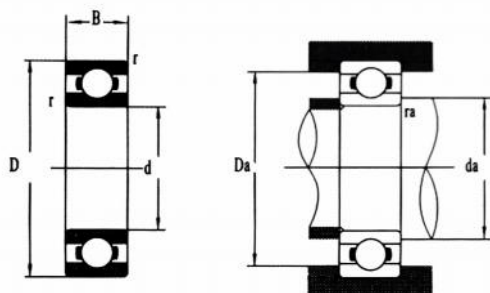


深沟球轴承/Deep groove ball bearing



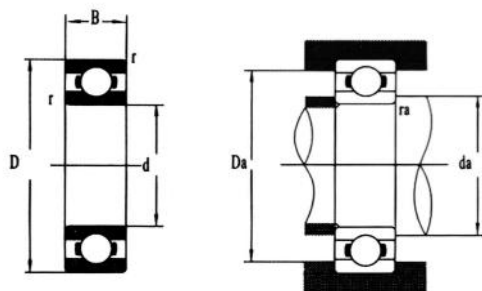
轴承 型号 Bearing Type	Dimensions (mm)				Mass 重量			
	d	D	B	r (min)	(Kg) (参考) (refer)			
					ZrO2	Si3N4	PLASTIC	440C
685	5	11	3	0.15	0.0009	0.0005	0.0002	0.0012
695		13	4	0.2	0.0019	0.0010	0.0005	0.0025
605		14	5	0.2	0.0027	0.0015	0.0007	0.0035
625		16	5	0.3	0.0038	0.0021	0.0010	0.005
635		19	6	0.3	0.0066	0.0036	0.0016	0.0086
686	6	13	3.5	0.15	0.0015	0.0008	0.0004	0.0019
696		15	5	0.2	0.0030	0.0016	0.0007	0.0039
606		17	6	0.3	0.0046	0.0025	0.0011	0.006
626		19	6	0.3	0.0063	0.0034	0.0016	0.0086
636		22	7	0.3	0.0108	0.0058	0.0027	0.0140
687	7	14	3.5	0.15	0.0017	0.0009	0.0004	0.0022
697		17	5	0.3	0.0040	0.0022	0.001	0.0053
607		19	6	0.3	0.0059	0.0032	0.0015	0.0077
627		22	7	0.3	0.0098	0.0053	0.0024	0.0127
637		26	9	0.3	0.0185	0.0100	0.0046	0.0240
688	8	16	4	0.2	0.0025	0.0014	0.0006	0.0072
698		19	6	0.3	0.0056	0.0030	0.0014	0.0072
608		22	7	0.3	0.0093	0.0050	0.0023	0.012
628		24	8	0.3	0.013	0.0072	0.0033	0.017
638		28	9	0.3	0.022	0.012	0.0054	0.028
689	9	17	4	0.2	0.0027	0.0015	0.0007	0.0035
699		20	6	0.3	0.0065	0.0035	0.0016	0.0085
609		24	7	0.3	0.011	0.006	0.0028	0.015
629		26	8	0.3	0.015	0.0081	0.0038	0.020
639		30	10	0.6	0.028	0.015	0.007	0.037
6800	10	19	5	0.3	0.004	0.0021	0.0010	0.005
6900		22	6	0.3	0.007	0.0038	0.0017	0.009
6000		26	8	0.3	0.014	0.0075	0.0035	0.018
6200	10	30	9	0.6	0.025	0.013	0.006	0.032
6300		35	11	0.6	0.040	0.022	0.010	0.052
6801	12	21	5	0.3	0.005	0.0025	0.0012	0.006
6901		24	6	0.3	0.008	0.0042	0.0019	0.01
16001		28	7	0.3	0.015	0.0079	0.004	0.019
6001		28	8	0.3	0.017	0.0092	0.004	0.019
6201		32	10	0.6	0.028	0.015	0.007	0.037
6301	15	37	12	1	0.046	0.025	0.004	0.022
6802		24	5	0.3	0.005	0.0029	0.0013	0.007
6902		28	7	0.3	0.012	0.0063	0.003	0.005
16002		32	8	0.3	0.021	0.011	0.005	0.027
6002		32	9	0.3	0.24	0.013	0.006	0.031
6202	17	35	11	0.6	0.035	0.019	0.009	0.045
6302		42	13	1	0.064	0.035	0.016	0.083
6803		26	5	0.3	0.005	0.0029	0.0013	0.007
6903		30	7	0.3	0.013	0.0071	0.0033	0.017
16003		35	8	0.3	0.025	0.014	0.006	0.033
6003	20	35	10	0.3	0.032	0.017	0.008	0.041
6203		40	12	0.6	0.052	0.028	0.013	0.067
6303		47	14	1	0.087	0.047	0.022	0.11
6403		62	17	1.1	0.21	0.11	0.052	0.27
6804		32	7	0.3	0.013	0.007	0.003	0.017
6904	20	37	9	0.3	0.028	0.015	0.007	0.037
16004		42	8	0.3	0.037	0.02	0.009	0.048
6004		42	12	0.6	0.052	0.028	0.013	.068
6204		47	14	1	0.082	0.045	0.021	0.11
6304		52	15	1.1	0.11	0.06	0.028	0.15
6404	20	72	19	1.1	0.31	0.17	0.08	0.4

深沟球轴承/Deep groove ball bearing



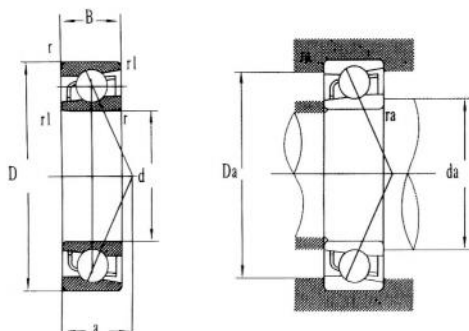
轴承 型号 Bearing Type	Dimensions(mm)				Mass 重量			
	d	D	B	r (min)	(Kg) (参考) (refer)			
					ZrO2	Si3N4	PLASTIC	440C
6805	25	37	7	0.3	0.016	0.009	0.01	0.021
6905		42	9	0.3	0.032	0.018	0.01	0.042
16005		47	8	0.3	0.045	0.025	0.011	0.059
6005		47	12	0.6	0.061	0.033	0.015	0.079
6205		62	16	1	0.099	0.054	0.025	0.13
6305		62	17	1.1	0.18	0.098	0.045	0.24
6405		80	21	1.5	0.41	0.22	0.102	0.53
6806	30	42	7	0.3	0.018	0.01	0.005	0.024
6906		47	9	0.3	0.04	0.022	0.01	0.052
16006		55	9	0.3	0.067	0.36	0.017	0.087
6006		55	13	1	0.089	0.048	0.022	0.116
6206		62	16	1	0.15	0.083	0.038	0.2
6306		72	19	1.1	0.27	0.14	0.066	0.35
6406		90	23	1.5	0.57	0.31	0.14	0.74
6807	35	47	7	0.3	0.021	0.011	0.005	0.027
6907		55	10	0.6	0.058	0.031	0.014	0.075
16007		62	9	0.3	0.082	0.045	0.21	0.11
6007		62	14	1	0.12	0.63	0.029	0.15
6207		72	17	1.1	0.22	0.12	0.055	0.28
6307		80	21	1.5	0.36	0.19	0.089	0.48
6407		100	25	1.5	0.73	0.40	0.18	0.95
6808	40	52	7	0.3	0.02	0.013	0.006	0.03
6908		62	12	0.6	0.09	0.05	0.022	0.11
16008		68	9	0.3	0.10	0.05	0.025	0.13
6008		68	15	1	0.15	0.08	0.037	0.19
6208		80	18	1.1	0.28	0.15	0.07	0.37
6308		90	13	1.5	0.49	0.27	0.12	0.64
6408		110	27	2	0.946	0.513	0.24	1.23
6809	45	58	7	1.3	0.029	0.016	0.007	0.038
6909		68	12	0.6	0.097	0.053	0.024	0.13
16009		75	10	0.6	0.13	0.07	0.032	0.17
6009		75	16	1	0.19	0.1	0.046	0.24
6209		85	19	1.1	0.32	0.175	0.081	0.42
6309		100	25	1.5	0.64	0.345	0.16	0.83
6409		120	29	2	1.18	0.64	0.29	1.53
6810	50	65	7	0.3	0.038	0.021	0.010	0.05
6910		72	12	0.6	0.1	0.06	0.026	0.14
16010		80	10	0.6	0.13	0.07	0.034	0.18
6010		80	16	1	0.20	0.11	0.05	0.26
6210		90	20	1.1	0.35	0.19	0.088	0.46
6310		110	27	2	0.82	0.44	0.2	1.06
6410		130	31	2.1	1.45	0.78	0.36	1.88
6811	55	72	9	0.3	0.06	0.03	0.016	0.08
6911		80	13	1	0.15	0.08	0.036	0.19
16011		90	11	0.6	0.2	0.11	0.049	0.26
6011		90	18	1.1	0.29	0.16	0.073	0.38
6211		100	21	1.5	0.48	0.26	0.12	0.62
6311		120	29	2	1.05	0.57	0.26	1.37
6411		140	33	2.1	1.76	0.95	0.44	2.29
6812	60	78	10	0.3	0.08	0.04	0.02	0.1
6912		85	13	1	0.15	0.08	0.37	0.19
16012		95	11	0.6	0.22	0.12	0.54	0.28
6012		95	18	1.1	0.32	0.17	0.79	0.41
6212		110	22	1.5	0.6	0.33	0.15	0.78
6312		130	31	2.1	1.32	0.72	0.33	1.72
6412		150	35	2.1	2.13	1.15	0.53	2.77

深沟球轴承/Deep groove ball bearing



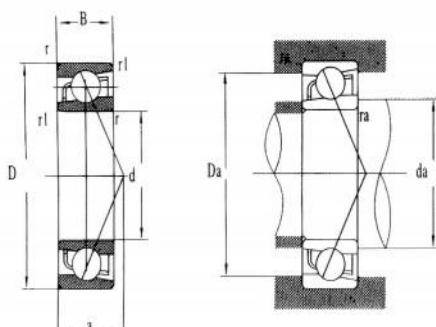
轴承 型号 Bearing Type	Dimensions (mm)				Mass 重量			
	d	D	B	r (min)	(Kg) (参考) (refer)			
					ZrO2	Si3N4	PLASTIC	440C
6813	65	85	10	0.6	0.1	0.05	0.025	0.13
6913		90	13	1	0.17	0.09	0.04	0.22
16013		100	11	0.6	0.23	0.13	0.06	0.3
6013		100	18	1.1	0.34	0.18	0.08	0.44
6213		120	23	1.5	0.77	0.42	0.19	1.00
6313		140	33	2.1	1.62	0.88	0.41	2.11
6413		160	37	2.1	2.54	1.35	0.60	3.3
6814	70	90	10	0.6	0.1	0.056	0.03	0.13
6914		100	16	1	0.27	0.15	0.07	0.35
16014		110	13	0.6	0.34	0.18	0.08	0.44
6014		110	20	1.1	0.47	0.25	0.12	0.61
6214		125	24	1.5	0.84	0.45	0.21	1.09
6314		150	35	2.1	1.98	1.07	0.49	2.57
6414		180	42	3	3.71	1.98	0.87	4.83
6815	75	95	10	0.6	0.011	0.06	0.029	0.15
6915		105	16	1	0.28	0.15	0.070	0.36
16015		115	13	0.6	0.36	0.09	0.089	0.46
6015		115	20	1.1	0.5	0.27	0.12	0.65
6215		130	25	1.5	0.92	0.5	0.23	1.19
6315		160	37	2.1	2.37	1.26	0.55	3.08
6415		190	45	3	4.52	2.41	1.05	5.87
6816	80	100	10	0.6	0.12	0.063	0.03	0.15
6916		110	16	1	0.3	0.16	0.075	0.39
16016		125	14	0.6	0.48	0.26	0.12	0.62
6016		125	22	1.1	0.67	0.36	0.17	0.87
6216		140	26	2	1.09	0.59	0.27	1.42
6316		170	39	2.1	2.82	1.51	0.66	3.67
6416		200	48	3	5.26	2.81	1.23	6.84
6817	85	110	13	1	0.2	0.11	0.051	0.26
6917		120	18	1.1	0.42	0.23	0.11	0.55
16017		130	14	0.6	0.5	0.27	0.13	0.65
6017		130	22	1.1	0.71	0.38	0.18	0.92
6217		150	28	2	1.35	0.73	0.34	1.76
6317		180	41	3	3.25	1.74	0.76	4.23
6818	90	115	13	1	0.21	0.12	0.05	0.28
6918		125	18	1.1	0.45	0.24	0.11	0.59
16018		140	16	1	0.67	0.36	0.17	0.87
6018		140	24	1.5	0.92	0.5	0.23	1.19
6218		160	30	2	1.65	0.88	0.39	2.15
6318		190	43	3	3.78	2.01	0.88	4.91
6819	95	120	13	1	0.23	0.12	0.057	1.3
6919		130	18	1.1	0.46	0.25	0.12	0.6
16019		145	16	1	0.7	0.38	0.17	0.9
6019		145	24	1.5	0.95	0.51	0.24	1.23
6219		170	32	2.1	2.02	1.07	0.47	2.62
6319		200	45	3	4.36	2.33	1.02	5.67
6820	100	125	13	1	0.24	0.13	0.06	0.31
6920		140	20	1.1	0.64	0.35	0.16	0.83
16020		150	16	1	0.73	0.39	0.18	0.95
6020		150	24	1.5	0.99	0.54	0.25	1.29
6220		180	34	2.1	2.42	1.29	0.56	3.14
6320		215	47	3	5.38	2.87	1.26	7.0

角接触轴承/Angular contact bearing



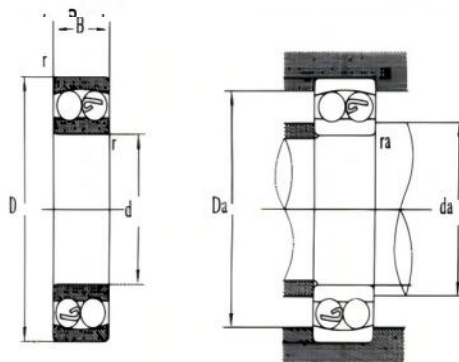
轴承型号 Bearing Type	外形尺寸 Dimensions (mm)					安装尺寸 Installation size(mm)			Mass 重量 (Kg) (参考) (refer)			
	d	D	B	r最小 (min)	r1最小 (min)	da 最小min	Da 最大max	ra 最大max	ZrO2	Si3N4	PLASTIC	440C
7900	10	22	6	0.3	0.15	12.5	19.5	0.3	0.007	0.0038	0.0016	0.009
7000		26	8	0.3	0.15	12.5	23.5	0.3	0.014	0.0075	0.0032	0.018
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	0.0058	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	0.012	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	0.06	0.026	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	0.54	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	0.3	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	0.012	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	0.1	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

角接触轴承/Angular contact bearing



轴承型号 Bearing Type	外形尺寸 Dimensions (mm)						安装尺寸 Installation size(mm)			Mass 重量 (Kg) (参考) (refer)			
	d	D	B	r最小 (min)	r1最小 (min)		da	Da	ra	ZrO2	Si3N4	PLASTIC	440C
							最小min	最大max	最大max				
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	0.0399	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	0.2549	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	0.391
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	0.918
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

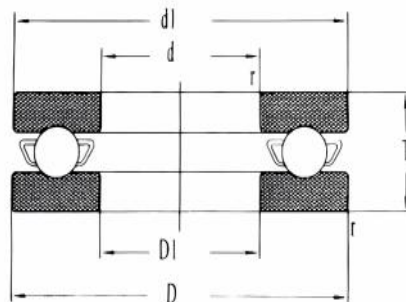
调心球轴承 / Self-aligning ball bearing



Bearing Type	外形尺寸 Dimensions (mm)				Mass 重量		
	d	D	B	r (min)	(Kg) (参考) (refer)		
					ZrO2	Si3N4	SiSi440C
135	5	19	6	0.3	0.007	0.004	0.009
126	6	19	6	0.3	0.007	0.004	0.009
127	7	22	7	0.3	0.011	0.006	0.014
108	8	22	7	0.3	0.011	0.006	0.014
129	9	25	8	0.6	0.017	0.009	0.022
1200	10	30	9	0.6	0.026	0.14	0.034
2200		30	14	0.6	0.036	0.19	0.047
1300		25	11	0.6	0.045	0.24	0.058
2300	12	25	17	0.6	0.085	0.35	0.85
1201		32	10	0.6	0.031	0.16	0.04
2201		32	14	0.6	0.041	0.022	0.053
1301	15	37	12	1	0.052	0.027	0.067
2301		37	17	1	0.073	0.039	0.095
1202		35	11	0.6	0.038	0.20	0.049
2202	17	35	14	0.6	0.046	0.25	0.06
1302		42	13	1	0.072	0.039	0.094
2302		42	17	1	0.088	0.047	0.11
1203	20	40	12	0.6	0.056	0.030	0.073
2203		40	16	0.6	0.068	0.036	0.088
1303		47	14	1	0.10	0.053	0.13
2303	25	47	19	1	0.12	0.065	0.16
1204		47	14	1	0.09	0.049	0.12
2204		47	18	1	0.11	0.057	0.14
1304	30	52	15	1.1	0.13	0.067	0.16
2304		52	21	1.1	0.16	0.086	0.21
1205		52	15	1	0.11	0.058	0.14
2205	35	52	18	1	0.13	0.067	0.16
1305		62	17	1.1	0.20	0.11	0.26
2305		62	24	1.1	0.26	0.14	0.34
1206	40	62	16	1	0.17	0.09	0.22
2206		62	20	1	0.20	0.11	0.26
1306		72	19	1.1	0.3	0.16	0.39
2306	45	72	27	1.1	0.38	0.21	0.50
1207		72	17	1.1	0.25	0.13	0.32
2207		72	23	1.1	0.31	0.17	0.40
1307	50	80	21	1.5	0.39	0.21	0.51
2307		80	31	1.5	0.52	0.28	0.68
1208		80	18	1.1	0.32	0.17	0.42
2208	55	80	23	1.1	0.39	0.21	0.51
1308		90	23	1.5	0.55	0.29	0.72
2308		90	33	1.5	0.71	0.38	0.93
1209	60	85	19	1.1	0.36	0.19	0.47
2209		85	23	1.1	0.42	0.22	0.55
1309		100	25	1.5	0.74	0.39	0.96
2309	65	100	36	1.5	0.95	0.50	1.23
1210		90	20	1.1	0.40	0.22	0.53

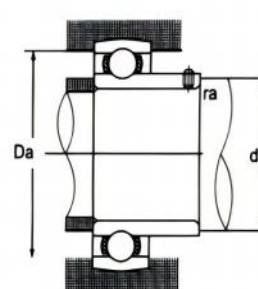
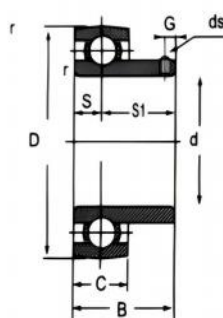
Bearing Type	外形尺寸 Dimensions (mm)				Mass 重量		
	d	D	B	r (min)	(Kg) (参考) (refer)		
					ZrO2	Si3N4	SiSi440C
2210	50	90	23	1.1	0.45	0.24	0.59
1310		110	27	2	0.93	0.50	1.21
2310		110	40	2	1.26	0.67	1.64
1211	55	100	21	1.5	0.54	0.29	0.71
2211		100	25	1.5	0.62	0.33	0.81
1311		120	29	2	1.22	0.65	1.58
2311	60	120	43	2	1.62	0.86	2.1
1212		110	22	1.5	0.69	0.37	0.9
2212		110	28	1.5	0.84	0.45	1.09
1312	65	130	31	2.1	1.51	0.80	0.96
2312		130	46	2.1	2.00	1.07	2.6
1213		120	23	1.5	0.88	0.47	1.15
2213	70	120	31	1.5	1.12	0.60	1.46
1313		140	33	2.1	1.88	1.01	2.45
2313		140	48	2.1	2.48	1.33	3.23
1214	75	125	24	1.5	0.97	0.52	1.26
2214		125	31	1.5	1.17	0.62	1.52
1314		150	35	2.1	2.30	1.23	2.99
2314	80	150	51	2.1	3.25	1.74	4.23
1215		130	25	1.5	1.02	0.56	1.36
2215		130	31	1.5	1.25	0.66	1.62
1315	85	160	37	2.1	2.70	1.44	3.51
2315		160	55	2.1	3.85	2.06	5.01
1216		140	26	2	1.28	0.69	1.67
1316	90	140	33	2	1.55	0.82	2.01
2216		170	39	2.1	3.17	1.69	4.12
2316		170	58	2.1	4.85	2.45	5.96
1217	95	150	28	2	1.59	0.85	2.07
2217		150	36	2	1.94	1.03	2.52
1317		180	41	3	3.78	2.01	4.91
2317	100	180	60	3	5.3	2.83	6.89
1218		160	30	2	1.91	1.02	2.48
2218		160	40	2	2.56	1.37	3.33
1318	105	190	43	3	4.4	2.34	5.71
2318		190	64	3	6.35	3.38	8.25
1219		170	32	2.1	2.35	1.25	3.05
2219	110	170	43	2.1	3.08	1.64	4
1319		200	45	3	5.07	2.7	6.59
2319		200	67	3	7.36	3.93	9.57
1220	115	180	34	2.1	2.8	1.1	3.64
2220		180	46	2.1	3.75	2	4.87
1221		190	36	2.1	3.36	1.8	4.37
2221	120	190	50	2.1	4.67	2.49	6.07
1222		200	38	2.1	3.96	2.11	5.15
2222		200	53	2.1	5.46	2.91	7.1

推力球轴承/Thrust ball bearing



轴承型号 Bearing Type	外形尺寸 Dimensions (mm)						Mass 重量			
	d	D	T	r 最小(min)	d ₁	D ₁	(Kg) (参考) (refer)			
							ZrO2	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	0.6
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	110	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	2.25
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

外球面轴承/Spherical Bearings



轴承型号 Bearing No.	孔径 Bore Dia (D)		外形尺寸 Dimensions (mm)							Mass 重量 (kg) (参考) (refer)			
	in	mm	D	B	C	S	S1	G	ds	ZrO2	Si3n4	PLASTIC	400C
SUC201-8	1 / 2		47	31	17	12.7	18.3	5	1/4-28 M6P0.75	0.15	0.08	0.04	0.20
SUC201		12								0.16	0.09	0.04	0.21
SUC202-9	9/16									0.15	0.08	0.03	0.19
SUC202-10	5/8									0.15	0.08	0.03	0.19
SUC202		15								0.14	0.07	0.03	0.18
SUC203-11	11/16									0.14	0.07	0.03	0.18
SUC203		17								0.12	0.07	0.03	0.16
SUC204-14	3/4		47	31	17	12.7	18.3	5	1/4-28 M6P0.75	0.12	0.07	0.03	0.16
SUC204		20								0.12	0.07	0.03	0.16
SUC206-13			52	34.1	17	14.3	19.8	5	1/4-28 M6P0.75	0.17	0.09	0.04	0.22
SUC205-14	7/8									0.15	0.08	0.04	0.20
SUC205-15	15/16									0.15	0.08	0.04	0.20
SUC205-16	1									0.15	0.08	0.03	0.19
SUC205		25								0.15	0.08	0.03	0.19
SUC206-17	11/16		62	38.1	19	15.9	22.2	5	1/4-28 M6P0.75	0.25	0.14	0.06	0.33
SUC206-18	11/8									0.24	0.13	0.06	0.31
SUC206-19	13/16									0.25	0.13	0.06	0.32
SUC206-20	11/4									0.24	0.13	0.06	0.31
SUC206		30								0.24	0.13	0.06	0.31
SUC207-20	11/4		72	42.9	20	17.5	25.4	7	5/16-24 M8P1.0	0.41	0.22	0.10	0.53
SUC207-21	15/16									0.38	0.21	0.09	0.50
SUC207-22	13/8									0.36	0.19	0.08	0.47
SUC207-23	17/16									0.34	0.18	0.08	0.44
SUC207		35								0.36	0.19	0.08	0.47
SUC208-24	11/2		80	49.2	22	19	30.2	8	5/16-24 M8P1.0	0.51	0.27	0.12	0.66
SUC208-25	19/16									0.48	0.26	0.11	0.63
SUC208		40								0.47	0.25	0.11	0.61
SUC209-26	15/18		85	49.2	22	19	30.2	8	5/16-24 M8P1.0	0.60	0.32	0.14	0.78
SUC209-27	11/16									0.57	0.30	0.13	0.74
SUC209-28	13/4									0.54	0.29	0.13	0.70
SUC209		45								0.52	0.28	0.12	0.68
SUC210-29	13/16		90	51.6	24	19	32.6	10	3/8-24 M10P1.25				
SUC210-30	17/18									0.65	0.35	0.15	0.85
SUC210-31	15/16									0.64	0.34	0.15	0.83
SUC210-32	2									0.60	0.32	0.14	0.78
SUC210		50								0.59	0.32	0.14	0.77
SUC211-32	2		100	55.6	25	22.4	33.4	10	3/8-24 M10P1.25	1.04	0.55	0.24	1.35
SUC211-33	21/16									0.95	0.51	0.22	1.24
SUC211-34	11/8									0.85	0.45	0.20	1.10
SUC211-35	23/16									0.92	0.49	0.21	1.19
SUC211		55								0.82	0.44	0.19	1.07
SUC212-36	21/4		110	65.1	27	25.4	39.7	10	3/8-24 M10P1.25	1.27	0.68	0.30	1.65
SUC212-37	25/6									1.19	0.64	0.28	1.55
SUC212-38	23/8									1.15	0.62	0.27	1.50
SUC212-39	27/16									1.10	0.59	0.26	1.43
SUC212		60								1.17	0.62	0.27	1.52
SUC213		65	120	65.1	28	25.4	39.7	10	M10x1.0				1.86
SUC214		70	125	74.6	30	30.2	44.4	12	M12x1.5				2.05
SUC215		75	130	77.8	30	33.3	44.5	12	M12x1.5				2.21
SUC216		80	140	82.3	33	33.3	49.3	12	M12x1.5				2.79
SUC217		85	150	85.7	35	34.1	51.6	12	M12x1.5				3.45
SUC218		90	160	96	37	39.7	56.3	12	M12x1.5				4.35

稀土陶瓷材料性能表/Rare earth ceramic material performance table

性能 Performance	单位符号 Unit symbol	碳化硼 B4C Boron carbide B4C	氧化铝99Al2O3 Alumina99Al2O3	增韧氧化铝ZTA-20% Toughened alumina ZTA-20%	氧化锆 ZrO2 Zirconia ZrO2	氮化硅 Si3N4 Silicon nitride Si3N4	碳化硅 SiC Silicon carbide SiC
密度 ρ Density ρ	g/cm ³	2.4~2.51	3.7~3.99	5.5	6	3.2	3.2
硬度 hardness	kg/mm	2700~3200	2300~2700	1470~1500	1300~1500	1700~2700	2350~2450
抗弯强度 σ_b Bending strength σ_b	Mpa	350~400	300~400	700	1000~1500	900	450~800
抗压强度 Compressive strength	Mpa	1800~2500	2800~3500	2000	2000	3500	2250~3000
断裂韧性 Fracture toughness	Mpa · m ^{-3/2}	6	2~4	5~6	11	7	4~5
韦伯模数 Weber modulus	Gpa		> 7	> 10	> 15	> 15	> 6
弹性模数 E_i Elastic modulus E_i	Gpa		407	260	210	320	410
泊松比 Poisson's ratio			0.2	0.23	0.3	0.26	0.16
热胀系数 α Heat rise coefficient α	x10 ⁻⁶ /°C	4.5	6.5~8.6	9.4	10.5	3.2	4.3
热冲击性 Thermal shock	ΔT°C		200	470	250	500	350
电阻 resistance	Ω/cm ²	0.3~0.8	> 10 ¹⁴ ~ 10 ¹⁹	> 10 ¹⁰	> 10 ¹⁰	> 10 ¹⁰	100~2

氧化锆全陶瓷轴承的耐腐蚀性/Corrosion resistance of zirconia all ceramic bearings

介质 Medium	分子式 Molecular formula	含量 content	温度 temperature	耐腐蚀性 Corrosion resistance
醋酸 acetic acid	CH ₃ COOH	80	沸腾 boiling	优秀 excellent
醋酸/醋酸酐 Acetic acid/acetlic anhydride	CH ₃ COOH+CH ₃ CO	50/80	沸腾 boiling	优秀 excellent
水+氯化钠 Water + sodium chloride	H ₂ O+NaCl		沸腾 boiling	优秀 excellent
碳酸 Carbonic acid	H ₂ CO ₃		沸腾 boiling	优秀 excellent
铜 copper	CU		1400°C	优秀 excellent
食物酸 Food Acid			沸腾 boiling	优秀 excellent
果汁 fruit juice			沸腾 boiling	优秀 excellent
盐酸 hydrochloric acid	HCl	35	25°C	良好 good
盐酸+氧化铁 Hydrochloric acid + Iron oxide	HCl+FeCl ₂		沸腾 boiling	良好 good
氢氟酸 Hydrofluoric acid	HF		25°C	不推荐 Not recommended
硝酸 Nitric acid	HNO ₃	83	25°C	良好 good
磷酸+盐酸 Phosphoric acid + hydrochloric acid	H ₃ PO ₄ +HCl	80+20	沸腾 boiling	良好 good
磷酸 Phosphate	H ₃ PO ₄	85	25°C	优秀 excellent
氢氧化钾 Potassium hydroxide	KOH		25°C	优秀 excellent
碳酸钠+硫酸 Sodium carbonate + sulfuric acid	Na ₂ CO ₃ +H ₂ SO ₄	18/20	925°C	优秀 excellent
氢氧化钠 Sodium hydroxide	NaOH	50	沸腾 boiling	优秀 excellent
硫酸 sulfuric acid	H ₂ SO ₄	20	25°C	优秀 excellent
硫酸 sulfuric acid	H ₂ SO ₄	98	50°C	良好 excellent
铝 aluminum	Al	100	700°C	优秀 excellent
锌 Zinc	Zn	100	500°C	良好 good

材料表说明

公司生产本尺寸所列全陶瓷轴承、塑料轴承、不锈钢轴承及混合陶瓷球轴承，同时亦可提供配合外球面轴承之不锈钢轴承座及塑料轴承座。具体配置如下：

	适用类型	代号	常用内外圈材料	常用球材料	常用保持架材料	结构类型 structure type
深沟球 系列	全陶瓷轴承	68..CE 62..CE 69..CE 63..CE 60..CE 160..CE 64..CE	ZrO2 Si3N4 Al203 SiC	ZrO2 Si3N4 Al203 SiC	PTFE PA66 PEEK PI ZrO2	开式 满球无保持架
	塑料轴承	P68.. P69.. P60.. P62.. P63.. P64.. P160..	POM HDPE PP PEEK PVDF UPE PI PA	玻璃球 ZrO2 SUS304 SUS316 POM PA PE	PA 66 HDPE PEEK UPE	开式 满球无保持架
	不锈钢轴承	S68.. S69.. S60.. S62.. S63.. S64.. S160..	440C 304 316 316L 630	440C 304 316 316L	SUS304 SUS316	开式 两面橡胶密封 两面防尘盖密封圈
	混合陶瓷球轴承	(S)68..C (S)69..C (S)60..C (S)62..C (S)63..C (S)64..C (S)160..C	440C 304 316 316L GCr15	ZrO2 Si3N4	304 08F PA66 PEEK PTFE	开式 两面橡胶密封 两面防尘盖密封圈
角接触 轴承	全陶瓷轴承	79..CE 70..CE 72..CE 73..CE	ZrO2 Si3N4 Al203 SiC	ZrO2 Si3N4 Al203 SiC	PTFE PA66 PEEK PI ZrO2	开式 满球无保持架
	塑料轴承	P79.. P70.. P72.. P73..	POM HDPE PP PEEK PVDF UPE PI PA	玻璃球 ZrO2 SUS304 SUS316 POM PA PE	PA 66 HDPE PEEK UPE	开式 满球无保持架
	不锈钢轴承	S79.. S70.. S72.. S73..	440C 304 316 316L 630	440C 304 316 316L	304 316 PTFE 耐酸胶布管	开式 两面橡胶密封 两面防尘盖密封圈
	混合陶瓷球轴承	(S)79..C (S)70..C (S)72..C (S)73..C	440C 304 316 316L GCr15	ZrO2 Si3N4	304 08F PA66 PEEK PTFE 耐酸胶布管	开式 两面橡胶密封 两面防尘盖密封圈
调心球 轴承	全陶瓷轴承	12..CE 22..CE 13..CE 23..CE	ZrO2 Si3N4 Al203 SiC	ZrO2 Si3N4 Al203 SiC	PTFE PA66 304 316 PEEK PI	开式
	塑料轴承	P12.. P22.. P13.. P23..	POM HDPE PP PEEK PVDF UPE PI PA	玻璃球 ZrO2 SUS304 SUS316 POM PA PE	PA 66 HDPE PEEK UPE	开式
	不锈钢轴承	S12.. S22.. S13.. S23..	440C 304 316 316L 630	440C 304 316 316L	SUS304 PTFE SUS316 PA66	开式 两面橡胶密封 两面防尘盖密封圈
	混合陶瓷球轴承	(S)12..C (S)22..C (S)13..C (S)23..C	440C 304 316 316L GCr15	ZrO2 Si3N4	304 316 08F PA66 PEEK PTFE	开式 两面橡胶密封 两面防尘盖密封圈
双列角 接触球 轴承	全陶瓷轴承	52..CE 53..CE	ZrO2 Si3N4 Al203 SiC	ZrO2 Si3N4 Al203 SiC	PTFE PA66 PEEK PI ZrO2	开式 满球无保持架
	塑料轴承	P52.. P53..	POM HDPE PP PEEK PVDF UPE PI PA	玻璃球 ZrO2 SUS304 SUS316 POM PA PE	PA 66 HDPE PEEK UPE PTFE	开式 满球无保持架
	不锈钢轴承	S52.. S53..	440C 304 316 316L 630	440C 304 316 316L	PA 66 PTFE	开式 两面橡胶密封 两面防尘盖密封圈
	混合陶瓷球轴承	(S)52..C (S)53..C	440C 304 316 316L GCr15	ZrO2 Si3N4	PA 66 PEEK PTFE	开式 两面橡胶密封 两面防尘盖密封圈
推力球 轴承	全陶瓷轴承	511..CE 512..CE	ZrO2 Si3N4 Al203 SiC	ZrO2 Si3N4 Al203 SiC	PTFE PA66 PEEK PI	开式 满球无保持架
	塑料轴承	P511.. P512..	POM HDPE PP PEEK PVDF UPE PI PA	玻璃球 ZrO2 SUS304 SUS316 POM PA PE	PA 66 HDPE PEEK UPE	开式 满球无保持架
	不锈钢轴承	S511.. S512..	440C 304 316 316L 630	440C 304 316 316L	SUS304 SUS316 PA66	开式 满球无保持架
	混合陶瓷球轴承	(S)511..C (S)512..C	440C 304 316 316L GCr15	ZrO2 Si3N4	304 08F PA66 PEEK PTFE	开式 满球无保持架

材料表说明（续）/Description of Material Table (continued)

	适用类型 appropriate types	代号 Code	常用内外圈材料 Common inner and outer ring materials	常用球材料 Common ball material	常用保持架材料 Common cage materials	结构类型 structure type
外球面 系列 Spherical surface series	全陶瓷轴承 Full ceramic bearing	UC2.. CE	ZrO2 Si3N4 Al2O3 SiC	ZrO2 Si3N4 Al2O3 SiC	PTFE PA 66 PEEK PI ZrO2	开式 Open 满球无保持架 Full ball
	塑料轴承 Plastic bearing	PUC2..	POM HDPE PP PEEK PVDF UPE PI PA	玻璃球 Glass ball ZrO2 SUS304 SUS316 POM PA PE	PA 66 HDPE PEEK UPE	开式 Open 满球无保持架 Full ball
	不锈钢轴承 Stainless steel bearing	SUC2..	440C 304 316 316L 630	440C 304 316 316L	SUS304 SUS316 PA66	开式 Open 两面橡胶密封 两面防尘盖密封圈
	混合陶瓷球轴承 Mixed ceramic ball bearing	(S)UC2.. C	440C 304 316 316L GCr15	ZrO2 Si3N4	304 316 08F PA 66 PEEK PTFE	开式 Open 两面橡胶密封 两面防尘盖密封圈
英制轴承 系列 Inch bearing series	全陶瓷轴承 Full ceramic bearing	16.. CE R.. CE	ZrO2 Si3N4 Al2O3 SiC	ZrO2 Si3N4 Al2O3 SiC	PTFE PA66 PEEK PI ZrO2	开式 Open 满球无保持架 Full ball
	塑料轴承 Plastic bearing	P16.. PR..	POM HDPE PP PEEK PVDF UPE PI PA	玻璃球 Glass ball ZrO2 SUS304 SUS316 POM PA PE	PA 66 HDPE PEEK UPE	开式 Open 满球无保持架 Full ball
	不锈钢轴承 Stainless steel bearing	S16.. SR..	440C 304 316 316L 630	440C 304 316 316L	SUS304 SUS316 PA66	开式 Open 两面橡胶密封 两面防尘盖密封圈
	混合陶瓷球轴承 Mixed ceramic ball bearing	(S)16.. C (S)R.. C	440C 304 316 316L GCr15	ZrO2 Si3N4	304 08F PA66 PEEK PTFE	开式 Open 两面橡胶密封 两面防尘盖密封圈

材料表说明（外球面轴承座）/Description of Material Table (outer spherical bearing housing)

	适用类型 appropriate types	代号 Code	常用材料 Common materials	配合轴承类型 Matching bearing type
立式座 Vertical seat	塑料座 Plastic seat	PLP2..	PBT	SUC2..不锈钢外球面轴承 PUC2..塑料外球面轴承 SUC2..Stainless steel spherical bearing PUC2..Plastic outer spherical bearing
	不锈钢座 Stainless steel seat	SP2..	SUS304	SUC2..不锈钢外球面轴承 PUC2..塑料外球面轴承 SUC2..Stainless steel spherical bearing PUC2..Plastic outer spherical bearing
菱形座 Rhomboid seat	塑料座 Plastic seat	PLFL2..	PBT	SUC2..不锈钢外球面轴承 PUC2..塑料外球面轴承 SUC2..Stainless steel spherical bearing PUC2..Plastic outer spherical bearing
	不锈钢座 Stainless steel seat	SFL2..	SUS304	SUC2..不锈钢外球面轴承 PUC2..塑料外球面轴承 SUC2..Stainless steel spherical bearing PUC2..Plastic outer spherical bearing
方形座 Square seat	塑料座 Plastic seat	PLF2..	PBT	SUC2..不锈钢外球面轴承 PUC2..塑料外球面轴承 SUC2..Stainless steel spherical bearing PUC2..Plastic outer spherical bearing
	不锈钢座 Stainless steel seat	SF2..	SUS304	SUC2..不锈钢外球面轴承 PUC2..塑料外球面轴承 SUC2..Stainless steel spherical bearing PUC2..Plastic outer spherical bearing
滑块座 Slider seat	塑料座 Plastic seat	PLT2..	PBT	SUC2..不锈钢外球面轴承 PUC2..塑料外球面轴承 SUC2..Stainless steel spherical bearing PUC2..Plastic outer spherical bearing
	不锈钢座 Stainless steel seat	ST2..	SUS304	SUC2..不锈钢外球面轴承 PUC2..塑料外球面轴承 SUC2..Stainless steel spherical bearing PUC2..Plastic outer spherical bearing

技术资料: Technical Information

公差/Tolerance

有关滚动轴承主要尺寸的公差，公差值及旋转精度，在GB及ISO标准中均有所规定。轴承精度等级除普通精度P0级之外，有P6，P5，P4级，精度等级依次提高。这些精度均按ISO规格。表1，2列我公司生产P0级陶瓷轴承及不锈钢轴承（不包括塑料轴承）相应公差及公差值，有关P6，P5，P4级公差请与本公司联系。

塑料轴承因加工精度及本身尺寸稳定性限制（热膨胀系数远大于陶瓷及金属及金属材料）那低于P0及公差生产。表3列出我公司生产的塑料轴承相应的公差值。

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

表1 P0级公差内圈（适用陶瓷轴承和不锈钢轴承）

Table 1 PO grade tolerance of inner ring(For ceramic and stainless bearings)

d(mm)		△ dmp		V dp ²⁾			Vdmp	Kin	△ Bs			Vbs
				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	-200	-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

技术资料: Technical information

公差/Tolerance

表2 P0级公差外圈（适用陶瓷轴承和不锈钢轴承）

Table2 PO grade tolerance of outer ring(For ceramic and stainless bearings)

D(mm)		ΔDmp		$Vdp^{2)}$				Vdmp	Kea	ΔCs	Vcs
				开形轴承		闭形轴承				ΔCls	VCis
				直径系列						ΔCls	VCis
				9,	0, 1	2, 3, 4	2, 3, 4			ΔCls	VCis
超过	到	上偏差	下偏差	max				max	max	上偏差	下偏差
2.5	6	0	-8	10	8	6	10	6	15	与同一轴承内圈的 ΔBs 及VBs相同。	
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		
150	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		

塑料轴承公差/Tolerance of plastic bearings

表3 塑料轴承的内外圈公差

Table3 Inner and outerring tolerance(For plastic bearings)

材料 material	外径 D (mm) outside diameter	内径 d (mm) Bore diameter	高度 w (mm) width
PEEK	0/-0.05	+0.05/0	0/-0.12
POM	0/-0.1	0.1/0	0/-0.12
PP	0/-0.1	0.1/0	0/-0.12
PVDF	0/-0.1	0.1/0	0/-0.12
PE	0/-0.1	0.1/0	0/-0.12
UPE	0/-0.2	+0.2/0	0/-0.2
PTFE	0/-0.2	+0.2/0	0/-0.2

技术资料: Technical Information

游隙/Clearance

滚动轴承运转中的内部游隙（也称做游隙）的大小，对疲劳寿命、振动、噪声、温升等轴承性能影响很大。因此，选择轴承内部游隙，对于决定了结构尺寸的轴承，是一项重要研究项目。所谓游隙，是轴承内圈、外圈、滚动体之间的间隙量。即，将内圈或外圈一方固定，将另一方的套圈上下或左右方向移动的移动量。将径向方向及轴向方向的移动量，分别称做径向游隙、轴向游隙。在相应的国标及国际标准中均有所规定。

本公司生产的陶瓷轴承和不锈钢轴承（塑料轴承另做要求）按以下系列径向游隙标准（等同国标及国际标准）生产。0组为基本组（又称标准游隙），在不做特殊说明时按此系列供货。塑料轴承按表3轴向游隙标准生产，本公司生产的塑料轴承因塑料轴承尺寸稳定性受本身精度限制，加工安装时受轴及外壳挤压容易变形，引起工作游隙减小，故在制造时必须配装相对更大的游隙才能保证轴承的正常使用。

1. 陶瓷轴承和不锈钢轴承的径向游隙

1. Radial clearance of ceramic and stainless steel bearings

表1 深沟球轴承（适用陶瓷轴承和不锈钢轴承）(um)

Table 1 Deep groove ball bearings (for ceramic bearings and stainless steel bearings)

公称内径 d (mm) Bore		2组 (02)		0组 (00)		3组 (03)		4组 (04)		5组 (05)	
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	38	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）(um)

Table 2 Self-aligning ball bearings (for ceramic bearings and stainless steel bearings)

公称内径 d (mm) Bore		2组 (02)		0组 (00)		3组 (03)		4组 (04)		5组 (05)	
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	14	29	20	37
10	18	0	9	3	18	11	25	18	33	25	45
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	6	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

2. 塑料轴承轴向游隙

2. Axial Clearance of Plastic Bearing

表3 深沟球轴承（适用塑料轴承）

Table 3 Deep groove ball bearings (for plastic bearings)

内径尺寸d (mm) Bore diameter	轴向游隙 (um) Axial clearance		内径尺寸d (mm) Bore diameter	轴向游隙 (um) Axial clearance	
	Min	Max		Min	Max
10	130	180	10	180	250
10—25	180	220	10—25	190	260
25—40	200	270	25—40	200	270
40—65	300	400	40—65	300	400
以上标准适合材质: POM, PP, PVDF. Above suit material: POM, PP, PVDF. PEEK按国际C5径向游隙 PEEK refer to ISO C5 Radial clearance			以上标准适合材质: HDPE, UPE, PTFE. Above suit material: HDPE, UPE, PTFE		

全陶瓷轴承安装使用说明

一、陶瓷轴承的安装

安装轴承时，务须在套圈的端面的圆周上施加均等的压力，为将套圈装入，严禁用榔头等重物直接敲击套圈端面以免损伤轴承。此外，如果对套圈的某一方（例如外圈）压入，这往往要在滚动面上造成压痕或擦伤，万不可采用，尤其是将非分离型轴承同时安装于轴于轴承箱上时，如图所示，用垫铁将内外圈均衡的压入。

二、陶瓷轴承的配合

（一） 过盈量

将滚动轴承的内圈及外圈固定在轴或轴承箱上。当其承受负荷时，使套圈和轴承箱配合面不发生径向轴及向及旋转方向的相对运动。这种相对的运动将配合面上发生磨损，摩擦腐蚀或摩擦裂纹等，以造成轴承，轴及轴箱的损伤，进而磨损粉混入轴承内部，导致运转不良，异常发热或振动等原因。关于固定轴承的方式，以在套圈与轴或轴承箱的配合面上流出过盈量进行配合为最佳，该配合课使薄壁套圈的负荷均等的分布在圆周上，不致影响轴承的负荷能力。但是采用静配合课使采用静配合时，除安装拆除轴承不方便之外，自由侧轴承采用分离轴承时，无法转向移动，所以并不能用于所有场合，安装中有关问题请与我公司具体联系。

（二）， 配合的选择

配合的选择一般按下述原则进行，根据作用轴承的负荷方向，性质以及内外圈的哪一方向旋转，则各套圈所承受的负荷课分为旋转负荷，静止负荷和不定向负荷。承受旋转负荷及不定向负荷的套圈应取静配合（过盈配合）承受静止负荷的套圈，课取过滤配合或 动配合（游隙配合）。轴承负荷大或承受振动，冲击负荷时，其过盈须增大，采用空心轴，薄壁轴承箱或轻合金。塑料制轴承箱时，也须增大过盈量。要求保持高度旋转精度时，须采用高精度轴承，并提高轴及轴承箱的尺寸精度，避免过盈过大。如果过盈过大，可能使轴或轴承箱的几何形状精度影响轴承套圈的几何形状。从而损害轴承的旋转精度。若分离型轴承（如深沟球轴承）内外圈都采用静配合，则轴承安装、拆卸极为不方便，最好将内外圈的某一方采用动配合。

1. the installation of ceramic bearings

Mounting bearings, must be on the circumference of the ferrule end face is put equal pressure, the ring into the prohibited by heavy hammer and other direct percussion and the end surface of the ferrule so as not to damage the bearing. In addition, if on rings of a party (for example, the outer circle) pressed. This often to cause indentation or abrasions in the rolling surface, should not be used, especially the non separation type bearings are installed on the shaft in the bearing box when, as shown in the figure, with iron pad will into the internal and external balance circle of pressure.

2. the coordination of ceramic bearings

(1) shrinkrange

Rolling bearing inner ring and the outer ring fixed on the shaft or bearing box. When it is subjected to load, and a bearing ring box with surface radial shaft and to the direction and rotation relative motion. The relative motion will cooperate with the surface wear tribo corrosion or friction crack to cause bearing, shaft and axle box damage and wear powder mixed with internal bearing, resulting in dysfunctional, abnormal heat or vibration. Bearing is fixed on the way, in the ring and shaft or bearing box with the surface outflow amount of interference in a is the coordinate for the best, with the class the thin-walled ring load equalization of distribution on the circumference, not affect the bearing capacity. But the static coordinate class by using static distribution timely, in addition to the mounting and dismounting of bearings is not convenient outside and free side bearing the release bearing, not to move, and therefore cannot be used for all occasions, installation issues related to please with my company contact details.

(2) the choice of cooperation

With the selection according to the following principles, according to the direction of load bearing properties, and the inner and outer rings which rotate the ring bearing load of course is divided into rotary load, static load and non directional load. Under rotating load and non directional load should be taken with the static ring (FIT) under static load class rings, filtered with or matched (clearance). Bearing load or withstand vibration, impact load, the surplus shall be increased by hollow shaft, Thin-walled bearing box or light alloy. The plastic bearing box, also need to increase the amount of interference maintain a high rotation accuracy. Requirements, should be used in high precision bearings, and improve the size precision of the shaft and bearing box, to avoid excessive interference. If the interference is too large, may cause the shaft or bearing box geometry affects the accuracy of bearing ring geometry. Thus bearing damage Rotary precision. If the separation type bearings, such as deep groove ball bearing inner ring and the outer ring are used combined with static, bearing installation, disassembly is very convenient, it is best to inner and outer rings of a party adopts the movable fit.