



AXYA

山东鑫赢轴承有限公司

SHANDONG XINYING BEARING CO., LTD

智慧云码

Intelligent cloud code



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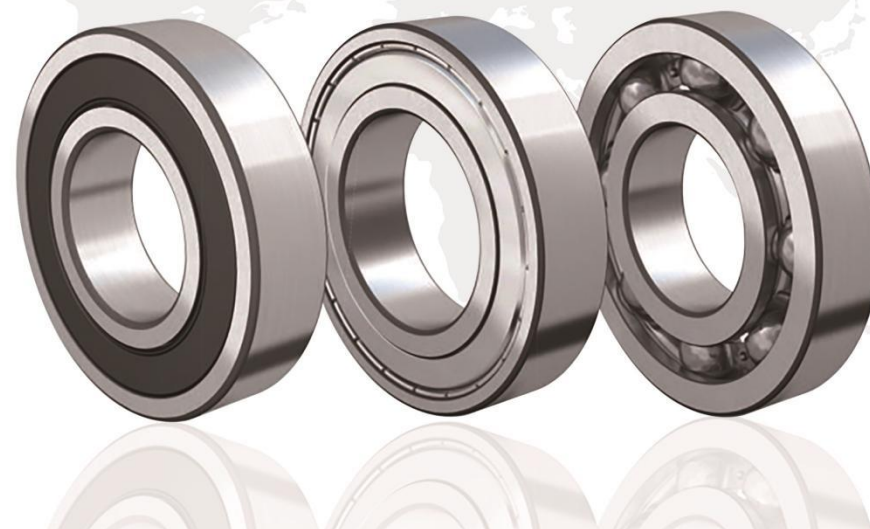
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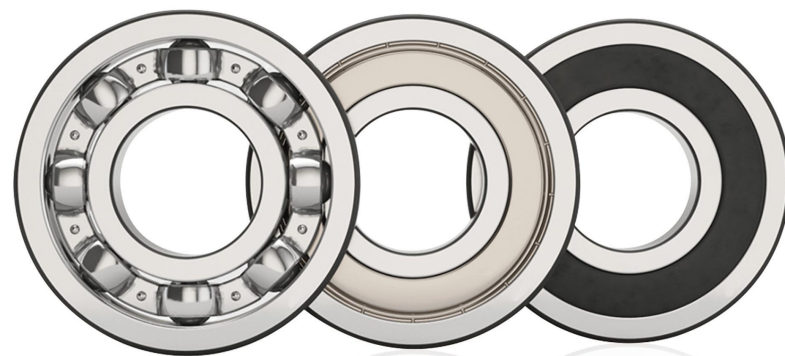
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公司主导产品 COMPANY LEADING PRODUCTS

深沟球轴承 DEEP GROOVE BALL BEARING



AXYA 02

企业简介 ENTERPRISE INTRODUCTION

山东鑫赢轴承有限公司，专业制造AXYA品牌的高品质轴承。公司致力于成为深沟球轴承的标杆，以先进的适用技术，稳定可靠的产品和专业周到的服务为用户提供更优性价比的解决方案。

AXYA品牌创立于2015年，主要核心产品是深沟球轴承及非标标件加工产品等，产品广泛应用于汽车、电机、托辊、减速机、车桥、建筑机械等行业，以稳定的质量和优异的性能赢得了客户的信赖。

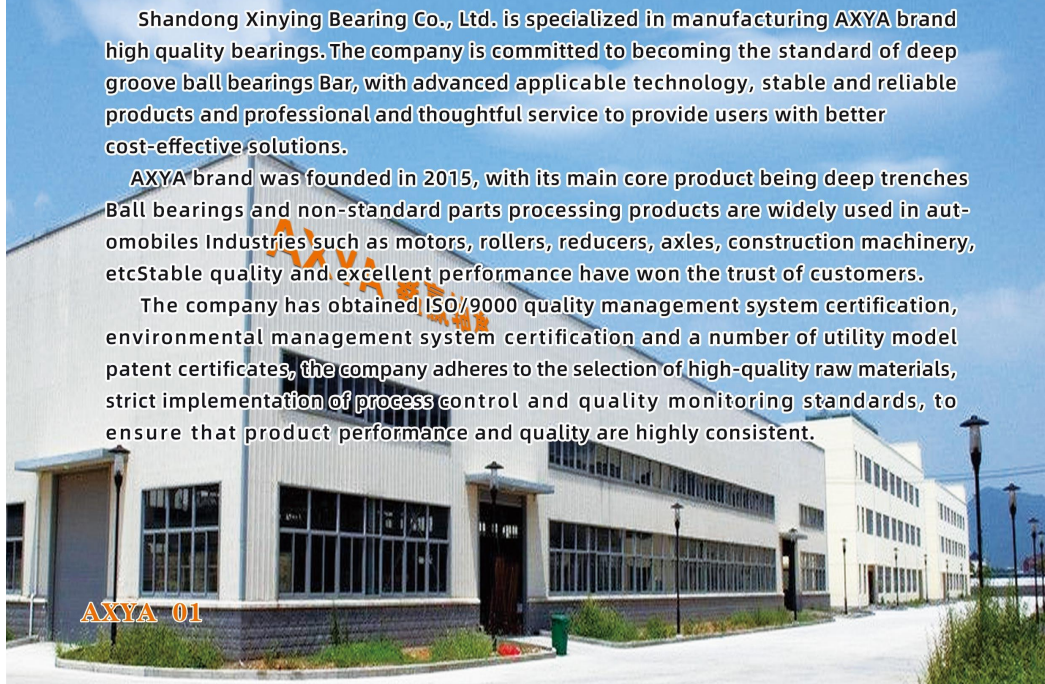
公司已取得ISO/9000质量管理体系认证、环境管理体系认证以及多项实用新型专利证书，公司坚持选用优质原材料，严格执行过程控制与质量监控标准，确保产品性能与品质高度一致性。

Shandong Xinying Bearing Co., Ltd. is specialized in manufacturing AXYA brand high quality bearings. The company is committed to becoming the standard of deep groove ball bearings Bar, with advanced applicable technology, stable and reliable products and professional and thoughtful service to provide users with better cost-effective solutions.

AXYA brand was founded in 2015, with its main core product being deep trenches Ball bearings and non-standard parts processing products are widely used in automobiles Industries such as motors, rollers, reducers, axles, construction machinery, etcStable quality and excellent performance have won the trust of customers.

The company has obtained ISO/9000 quality management system certification, environmental management system certification and a number of utility model patent certificates, the company adheres to the selection of high-quality raw materials, strict implementation of process control and quality monitoring standards, to ensure that product performance and quality are highly consistent.

AXYA 01





质量把关
Quality control
合格把关
Qualified checks



生产流程图

PRODUCTION FLOW CHART



1 原材料
Raw material

2 锻造
Forge

3 热处理
Heat treatment

4 车床
Lathe



8 安装
Install

7 退磁
Demagnetizing

6 清洗
Cleanse

5 磨床精磨
The grinder grinds fine



9 检测
Detection

10 激光打号
Laser marking

11 包装
Package

12 发货
Deliver goods

电机轴承 Motor bearing

电机轴承的主要作用是支撑转子、导向转子、减少摩擦和磨损、传递负荷、承受电机运动中的轴向力和往复力、保证电机转子在高速旋转时的稳定运行、减少因摩擦产生的热量和损耗、延长电机的使用寿命、承受径向力、轴向力和转矩等力的作用、支撑转轴的重量和转速、将转动过程中的摩擦转化为热能防止机械磨损、起到抗振、降噪、密封和保护轴承寿命等作用。

此外，轴承还影响电机的传动效率，为了降低这个影响，在高速轴的轴承上必须实现良好的润滑。总的来说，轴承对电动机的性能、寿命和可靠性具有重大影响。

The main function of the motor bearing is to support the rotor, guide the rotor, reduce friction and wear, transfer load, withstand the axial force and reciprocating force in the motor movement, ensure the stable operation of the motor rotor at high speed rotation, reduce the heat and loss caused by friction, extend the service life of the motor, withstand the radial force, axial force and torque and other forces, support the weight and speed of the shaft. The friction in the rotation process is converted into heat energy to prevent mechanical wear, anti-vibration, noise reduction, sealing and protection of bearing life.

In addition, bearings also affect the transmission efficiency of the motor, in order to reduce this impact, good lubrication must be achieved on the bearings of the high-speed shaft. In general, bearings have a significant impact on the performance, life and reliability of the motor.



托辊轴承 Idler bearing

托辊轴承是深沟球轴承的一种，它可以根据用户的要求，量身打造。通过工艺可自控产品的价格。通过要求的标准，可做出不同的轴承游隙。如：C3 C4 4G 等。专业生产是市场竞争力的基础。KA轴承：KA轴承是一种托辊上常用的尼龙保持器轴承。多用于矿山输送设备。尼龙保持器能有效地防止转动摩擦引起的静电。

阻燃阻胶片聚合物制品具有阻燃性、表面电阻、适用于煤矿井下能引起延燃和静电火花的聚合物制品。

Roller bearing is a kind of deep groove ball bearing, it can be tailored according to the different requirements of users. The price of the product can be controlled by the process. Different bearing clearance can be made according to the required standard. Such as: C3, C4, 4G, etc. Professional production is the basis of market competitiveness. KA bearing :KA bearing is a commonly used nylon retainer bearing on rollers. It is mainly used in mine conveying equipment. Nylon retainer can effectively prevent static electricity caused by rotational friction.

Flame retardant film polymer products with flame retardant, surface resistance, suitable for coal mine can cause flame retardation and electrostatic spark polymer products.

车桥轴承 Axle bearing

前桥输入轴轴承是汽车前桥装置的重要组成部分，主要起到支撑前桥输入轴和传递动力的作用。因此，轴承的间隙调整非常重要，过大过小都会影响车辆的性能和安全。

The front axle input shaft bearing is an important part of the automobile front axle device, which mainly plays the role of supporting the front axle input shaft and transmitting power. Therefore, the bearing clearance adjustment is very important, too large or too small will affect the performance and safety of the vehicle.



建筑机械轴承 Construction machinery bearing

建筑机械轴承是用来支撑轴及轴上零件、保持轴的旋转精度和减少转轴与支承之间的摩擦和磨损的部件。

Construction machinery bearings are used to support the shaft and the parts on the shaft, maintain the rotating accuracy of the shaft and reduce the friction and wear between the shaft and the support.



减速机轴承 Reducer bearing

减速机轴承通常由外圈、内圈、滚动体和保持架等部分构成，通过滚动体的滚动来承受旋转部件的负载，并自行调整轴承内部的空隙，以最小化摩擦系数减速机轴承还能防止旋转部件在高速旋转时产生偏移或抖动，确保减速器的工作平稳。

此外，减速机轴承还需要保持轴承内部齿轮润滑油在使用中不会流失，以保证轴承处于良好的润滑状态，同时防止外界的尘埃或有害气体进入轴承内腔，避免对轴承造成损伤。

Reducer bearings are usually composed of the outer ring, the inner ring, the rolling body and the cage and other parts, through the rolling body to bear the load of the rotating parts, and adjust the gap inside the bearing to minimize the friction coefficient, reducer bearings can also prevent the rotating parts from offset or jitter when rotating at high speed, to ensure the smooth work of the reducer.

In addition, the reducer bearing also needs to keep the internal gear lubricating oil of the bearing in use will not be lost to ensure that the bearing is in a good lubrication state, while preventing external dust or harmful gases from entering the bearing cavity to avoid damage to the bearing.



滚动轴承失效形式及图例

Failure form and legend of rolling bearing

剥落 Peel off

轴承在受载旋转时，内、外圈滚道或滚动体表面由于反复的应力循环，使轴承材料疲劳而成现鱼鳞状的损坏现象。

When the bearing is rotating under load, the inner and outer ring raceway or the surface of the rolling body will fatigue the bearing material and become fishscale damage phenomenon due to repeated stress cycles.

原因 Reason

- 轴、轴承箱精度不好，轴承箱的刚性不足
- 承受载荷过大
- 轴的挠度大
- 异物入侵、进水
- 润滑不足，润滑剂不合适
- 轴承游隙不适当
- 擦伤和压痕

- The accuracy of shaft and bearing box is not good, and the rigidity of bearing box is insufficient
- Overloading
- The deflection of the shaft is large
- Foreign body intrusion, water
- Insufficient lubrication, unsuitable lubricant
- Improper bearing clearance
- Abrasions and indentations

预防措施 Preventive measure.

- 检查载荷的大小及再次研究所使用的轴承
- 改善安装方法
- 改善密封装置、停机时防锈
- 检查游隙
- 改用适当粘度的润滑剂和润滑方法
- 检查轴和轴承箱的精度
- Check the size of the load and study the bearings used again
- Improved installation method
- Improve sealing device, rust prevention during shutdown
- Check clearance
- Use appropriate viscosity lubricants and lubrication methods
- Check shaft and bearing box accuracy



腐蚀 Corrosion

磨蚀是指轴承在静止时受到振动或微小振动出现磨损的现象。在滚道和滚动体的接触部分上产生。由于发生红褐色或黑色磨损粉末，因而也称微振磨损腐蚀。

Abrasion refers to the phenomenon that the bearing is subjected to vibration or small vibration when it is at rest. Produced on the contact part of the raceway and the rolling element. Due to the occurrence of reddish-brown or black wear powder, it is also called micro-vibration wear corrosion.

原因 Reason

- 润滑不良
- 小振幅的摆动
- 过盈量不足
- Poor lubrication
- Small amplitude swing
- Insufficient interference

预防措施 Preventive measure.

- 使用合适的润滑剂
- 检测过盈量
- 加预压
- 向配合面上涂润滑剂
- Use suitable lubricant
- Detect interference
- Apply prepressure
- Apply lubricant to the mating surface



磨损 Wear

磨损大多出现在滚子端面与挡边面、保持架兜面以及持架与套圈引导面等滑动摩擦面上，这些现象的出现与材料疲劳无直接关系。

Most wear occurs on sliding friction surfaces such as roller end face and rib surface, cage hood and holder and ring guide surface. These phenomena have no direct relationship with material fatigue.



原因 Reason

- 异物入侵、生锈电蚀
- 润滑不合适或者不足
- 滚动体的不规则运动而造成的打滑
- Foreign body intrusion, rust, electrical corrosion
- Improper or insufficient lubrication
- Slip caused by the irregular movement of the rolling element

预防措施 Preventive measure.

- 改善密封装置
- 清洗轴承周边
- 对润滑剂，润滑方式重新考虑
- Improve sealing device
- Clean bearing perimeter
- Reconsider lubricants and lubrication methods

烧伤 Burn

套圈、滚动体以及保持架在旋转中急剧发热直至变色、软化、熔化和破损。

The ferries, rollers and cages heat up rapidly in rotation until they are discolored, softened, melted and damaged.



原因 Reason

- 过大载荷（预压过大）
- 转速过高
- 游隙过小
- 水、异物的侵入
- 轴、轴承箱的精度不良，轴的挠度大
- Excessive load (excessive preload)
- Excessive speed
- Too small clearance
- Intrusion of water and foreign bodies
- The accuracy of shaft and bearing box is poor, and the disturbance of shaft is large

预防措施 Preventive measure.

- 研究润滑剂及润滑方式
- 正确选型
- 研究配合、轴承间隙和预压
- 改善密封装置
- 检查轴和轴承箱的精度
- 改善安装方法
- Researching lubricants and lubrication methods
- Correct selection
- Study fit, bearing clearance and preload
- Improve the sealing device
- Check the accuracy of shaft and bearing box
- Improve installation methods

电蚀 Electric corrosion

电蚀是指轴承工作时电流在套圈和滚动体的接触部分流动，通过薄薄的润滑油膜发出火花，其滚道表面出现喷火口状凹坑，进一步发展就会呈波纹状。

Electric corrosion means that when the bearing is working, the current flows in the contact part of the ring and the rolling body, and sparks are emitted through the thin lubricating oil film, and the surface of the raceway appears a pitt-like pit, and the further development will be corrugated.

原因 Reason

- 轴承导电，内圈与外圈间形成电位差
- The bearing conducts electricity, forming a potential difference between the inner ring and the outer ring

预防措施 Preventive measure.

- 增加电流旁通回路
- 对轴承采取绝缘措施，避免电流通过轴承内部
- Increase current bypass loop
- Take insulation measures to prevent current from passing through the bearing interior



变色 Change color

由于温度上升和与润滑剂的反应等，套圈和滚动体及保持架变色。
Due to temperature rise and reaction with lubricant, the ring and rolling element and cage change color.



原因 Reason

- 润滑不良 · 与润滑剂发生反应造成颜色变化温度上升快
- Poor lubrication
- Reaction with lubricant causes color change and rapid temperature rise

预防措施 Preventive measure

- 改善润滑方法
- Improve lubrication methods

断裂 Severance

所谓断裂是指由于对套圈的挡边或滚子倒角局部施加冲击或过大载荷而小部分断裂。
The so-called fracture refers to a small part of the fracture due to local impact or excessive load on the flange or roller chamfer of the ring.



原因 Reason

- 安装时受到了冲击 · 载荷过大 · 跌落等使用不良 · 热处理质量
- There was an impact during installation · Excessive load
- Drop and other poor use · Heat treatment quality

预防措施 Preventive measure

- 改善安装方法(采用热装，使用适当的工具)
- 纠正载荷条件 · 轴承安装到位，使挡边受支撑
- Improved installation methods (hot loading, use of appropriate tools)
- Correct load conditions · Bearings are installed in place so that the rib is supported

锈蚀 corrosion

轴承的锈蚀表现有套圈、滚动体表面的坑状锈，梨皮状锈及滚动体间隔相同的坑状锈，全面生锈及腐蚀等。

The corrosion of the bearing includes pitting rust on the surface of the ring and rolling body, pear-skin rust and pitting rust with the same spacing of the rolling body, overall rust and corrosion.



原因 Reason

- 水、腐蚀介质的侵入 · 润滑剂不合适 · 高温多湿时停转
- 运输过程中防锈不良 · 保管状态不良
- Intrusion of water and corrosive media · Inappropriate lubricant
- Stop running at high temperature and humidity · Poor rust prevention during transportation
- poor storage condition

预防措施 Preventive measure

- 改善密封装置 · 研究润滑方式 · 停转时的防锈措施
- 改善保管方法 · 使用时要加以注意
- Improve the sealing device · Study the lubrication method · Anti-rust measures during stall
- Improve storage methods · Pay attention to use

保持架损伤 Cage damage

保持架损伤有变形、折损、磨损等。如横梁的折损、端部的变形、兜孔折损、引导面的磨损。
Cage damage has deformation, damage, wear and so on. Such as the damage of the beam, the deformation of the end, the damage of the hole, the wear of the guide surface.

原因 Reason

- 安装不良(轴承的非线性) · 使用不良 · 力矩载荷大
- 冲击、振动大 · 转速过大、转速突变 · 润滑不良 · 温度过高
- Poor installation (bearing non-linearity) · poor use · large torque load
- Large impact and vibration · Excessive speed and sudden change of speed
- Poor lubrication · High temperature

预防措施 Preventive measure

- 检查安装方法 · 检查载荷、温度等条件减少振动 · 改变润滑剂或润滑方法
- Check installation method · Check load, temperature and other conditions to reduce vibration · Change lubricant or lubrication method



压痕 Impression

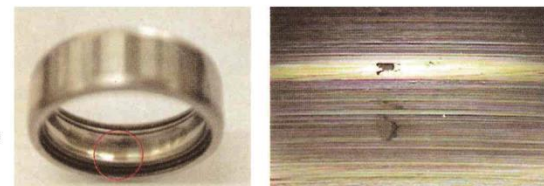
咬入了金属微小粉末、异物等，在滚道或滚子表面产生的凹痕。
Bite into the metal powder, foreign matter, etc., in the raceway or roller surface of the indentation.

原因 Reason

- 金属粉末等的异物咬入
- 组装或运输过程中受到冲击载荷过大
- 冲击轴套
- A foreign object such as metal powder
- Excessive impact load during assembly or transportation
- Impact shaft sleeve

预防措施 Preventive measure

- 改善密封装置 · 过滤润滑油 · 改善装配及使用方法 · Improve sealing device · Filter lubricating oil · Improve assembly and use method



假性布氏压痕 False Brinell indentation

在微振期间,在滚动体和套圈的接触部分由于振动和摇摆造成磨损有所发展,产生类似布氏压痕的印痕。
False Brinell indentation develops in the contact part of the rolling element and the ring due to vibration and swing wear during microvibration, resulting in an impression similar to Brinell indentation.



原因 Reason

- 运输过程中或轴承停转时产生的振动和摆动
- 振幅小的摆动 · 润滑不良
- Vibration and swing during transportation or when bearings are stopped
- Small amplitude swing · poor lubrication

预防措施 Preventive measure

- 运输过程中要对轴和轴承箱加以固定
- 分离型轴承在运输时内圈和外圈要分开包装
- 加上预压减轻振动 · 使用适当的润滑剂
- The shaft and bearing box should be fixed back during transportation
- The inner ring and the outer ring should be packed separately when the separate bearing is transported
- Add prepressure to reduce vibration · Use appropriate lubricant

蠕变 Creep

所谓蠕变是指轴承配合面上存在间隙，在配合面之间相对发生打滑。发生蠕变的配合面呈现出镜面光亮或暗面，有时也伴随有变色或划痕。



原因 Reason

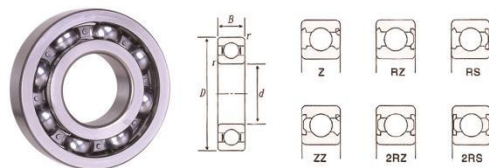
- 过盈量不足 · 间隙配合紧定套紧固不够
- 异常升温或载荷过大
- Insufficient interference · Insufficient tightening of clearance with tight sleeve
- Abnormal temperature rise or excessive load

预防措施 Preventive measure

- 检查过盈量 · 适当紧固紧定套
- 研究轴和轴承箱的精度轴向预压 · 套圈轴向紧固
- 向配合面涂润滑剂
- Check for interference · Tighten the fitting sleeve properly
- Study the precision axial preloading of the shaft and bearing box
- Axial locking of the ring · Apply lubricant to the mating surface

深沟球轴承

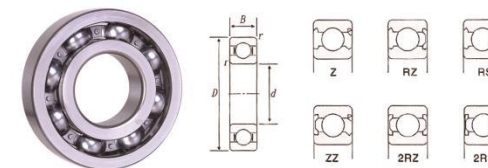
Deep groove ball Bearing



轴承型号 Bearing Designation	基本尺寸 Basic size			额定负荷 Rated load		极限转速 Limiting speed		重量 Weight
	d	D	B	Cr	Cor	脂润滑 Grease	油润滑 Oil	
6002	15	32	5.6	5.6	2.84	18000	24000	0.030
6003	17	35	6.8	6.8	3.35	17000	22000	0.039
6004	20	42	9.4	9.4	5.05	15000	19000	0.069
6005	25	47	10.1	10.1	5.85	13000	17000	0.080
6006	30	55	13.2	13.2	8.3	12000	15000	0.116
6007	35	62	16	16	10.3	10000	13000	0.155
6008	40	68	16.8	16.8	11.5	8000	11000	0.185
6009	45	75	21	21	15.1	7200	9000	0.231
6010	50	80	21.8	21.8	16.6	6400	7800	0.250
6011	55	90	28.3	28.3	21.2	5700	7000	0.362
6012	60	95	29.5	29.5	23.2	5000	6300	0.385
6013	65	100	31.9	31.9	25	4800	6100	0.440
6014	70	110	39.7	39.7	31	4600	5800	0.600
6015	75	115	41.6	41.6	33.5	4400	5600	0.640
6016	80	125	47.5	47.5	40	4300	5500	0.854
6017	85	130	49.5	49.5	43	4200	5300	0.890
6018	90	140	58	58	49.5	4000	5100	1.020
6019	95	145	57.8	57.8	50	4000	5000	1.150
6020	100	150	64.5	64.5	56.2	3800	4800	1.180
6021	105	160	71.8	71.8	63.2	3600	4500	1.520
6022	110	170	81.8	81.8	72.8	3400	4300	1.890
6024	120	180	87.5	87.5	79.2	3000	3800	1.990
6026	130	200	90.2	90.2	81.3	2800	3400	2.890
6028	140	210	110	110	109	3000	3300	3.550
6030	150	225	125	125	126	2800	3000	4.220
6200	10	30	5.1	5.1	2.39	19000	26000	0.032
6201	12	32	6.1	6.1	2.75	18000	24000	0.037
6202	15	35	7.75	7.75	3.6	17000	22000	0.045
6203	17	40	9.6	9.6	4.6	16000	20000	0.066
6204	20	47	12.8	12.8	6.65	14000	18000	0.106

深沟球轴承

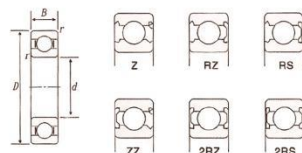
Deep groove ball Bearing



轴承型号 Bearing Designation	基本尺寸 Basic size			额定负荷 Rated load		极限转速 Limiting speed		重量 Weight
	d	D	B	Cr	Cor	脂润滑 Grease	油润滑 Oil	
6205	25	52	15	14	7.385	12000	16000	0.128
6206	30	62	16	19.5	11.3	10000	13000	0.199
6207	35	72	17	25.7	15.3	8800	10000	0.287
6208	40	80	18	29.1	17.8	7700	9200	0.367
6209	45	85	19	32.5	20.4	6800	8200	0.416
6210	50	90	20	35	23.2	6100	7300	0.462
6211	55	100	21	46.2	29.2	6400	7600	0.608
6212	60	110	22	47.8	32.8	5600	7000	0.789
6213	65	120	23	57.2	40	5000	6300	0.99
6214	70	125	24	60.8	45	4800	6000	1.084
6215	75	130	25	66	49.5	4500	5600	1.171
6216	80	140	26	71.5	54.2	4300	5300	1.448
6217	85	150	28	83.2	63.8	4000	5000	1.808
6218	90	160	30	95.8	71.5	3800	4800	2.17
6219	95	170	32	110	82.8	3600	4500	2.62
6220	100	180	34	122	92.8	3400	4300	3.19
6221	105	190	36	133	105	3300	3900	3.7
6222	110	200	38	144	117	3100	3700	4.36
6224	120	215	40	155	131	2900	3400	5.15
6226	130	230	40	167	146	2700	3200	5.82
6228	140	250	42	166	150	2400	2900	7.45
6230	150	270	45	176	168	2200	2700	9.41
6300	10	35	11	8.2	3.5	15000	21000	0.053
6301	12	37	12	9.7	4.2	14000	20000	0.06
6302	15	42	13	11.4	5.45	13000	18000	0.082
6303	17	47	14	13.5	6.55	12000	17000	0.115
6304	20	52	15	15.9	7.9	11000	15000	0.145
6305	25	62	17	21.2	10.9	10000	13000	0.219
6306	30	72	19	26.7	15	8000	10000	0.345
6307	35	80	21	33.5	19.1	6800	8000	0.454

深沟球轴承

Deep groove ball Bearing



轴承型号 Bearing Designation	基本尺寸 Basic size			额定负荷 Rated load		极限转速 Limiting speed		重量 Weight
	d	D	B	Cr	Cor	脂润滑 Grease	油润滑 Oil	
6308	40	90	23	40.5	24	5800	7200	0.639
6309	45	100	25	53	32	5000	6200	0.836
6310	50	110	27	62	38.5	4400	5500	1.082
6311	55	120	29	74.1	45	5800	6800	1.35
6312	60	130	31	81.8	51.8	5000	6000	1.71
6313	65	140	33	93.8	60.5	4500	5300	2.1
6314	70	150	35	105	68	4300	5000	2.55
6315	75	160	37	113	76.8	4000	4800	3.05
6316	80	170	39	123	86.5	3800	4500	3.61
6317	85	180	41	132	96.5	3600	4300	4.28
6318	90	190	43	145	108	3400	4000	4.97
6319	95	200	45	157	122	3200	3800	5.74
6320	100	215	47	173	140	2800	3600	7.09
6403	17	62	17	22.7	10.8	14000	16000	0.27
6404	20	72	19	28.5	13.9	12000	14000	0.4
6405	25	80	21	34.5	17.5	10000	12000	0.53
6406	30	90	23	43.5	23.9	8800	10000	0.735
6407	34	100	25	55	31	7800	9100	0.952
6408	40	110	27	63.5	36.5	7000	8200	1.23
6409	45	120	29	77	45	6300	7400	1.53
6410	50	130	31	83	49.5	5700	6700	1.88
6411	55	140	33	89	54	5200	6100	2.29
6412	60	150	35	102	64.5	4800	5700	2.77
6413	65	160	37	111	72.5	4400	5200	3.3
6414	70	180	42	128	89.5	4100	4800	4.83
6415	75	190	45	138	99	3800	4500	5.72
6416	80	200	48	164	125	3600	4200	6.76
6417	85	210	52	165	128	3400	4000	7.95
6418	90	225	54	185	149	3200	3800	11.4

轴承选用的材料--Bearing The Selection Of Material

轴承由内外套圈、保持架、防尘盖/密封圈及钢球四大部分组成，HANS 轴承套圈和钢球采用精炼轴承钢GCr15(AISI 52100)制造，保持架采用黄铜带(H62)或优质冷轧钢带(SPCC BQB402)冲压制成，必要时可用增强工程塑料制造，防尘盖采用进口专用材质(SPCC JISG314)制成，密封圈采用磷化钢骨架和丁腈耐油橡胶热压制成。

The bearing consists of four parts: inner and outer ring, cage, dust cover /sealing ring and steel ball. The HANS bearing ring and steel ball are made of refined bearing steel GCr15(AISI 52100), and the cage is made of brass strip (H62) or high-quality cold rolled steel strip (SPCC BQB402). If necessary, it can be made of reinforced engineering plastics, dust cover is made of imported special material (SPCC JISG314), and sealing ring is made of phosphide steel skeleton and nitrile oil resistant rubber.

Steel No.	C (%)	Si (%)	Mn (%)	S (%)	P (%)	Cr (%)
GCr15	0.95-1.05	0.15-0.3	0.25-0.45	<0.025	<0.025	1.3-1.6
9Cr18	0.90-1.05	<0.8	<0.8	0.04	<0.03	16-19

轴承游隙--Bearing Clearance

轴承公差内径 d (mm)		游隙 Clearance									
		C2		标准 (C0)		C3		C4		C5	
超过	到	最小	最大	最小	最大	最小	最大	最小	最大	最小	最大
2.5	6	0	7	2	13	8	23				
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	36	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

备注：作测量游隙时，需加上测量负荷产生的径向内部游隙增加量进行修正。

Note: When measuring the clearance, we should take into consideration of the extra clearance arisen from the measuring load.

轴承的精度--Bearing accuracy

轴承的精度，是指尺寸精度和旋转精度。国际轴承精度等级分为：0级、6级、5级、4级、2级，等效采用ISO标准，不同标准精度等级对比如下。

Bearing accuracy refers to dimensional accuracy and rotation accuracy. International bearing accuracy grades are divided into: 0, 6, 5, 4, 2, Equivalent use of ISO standards, different standards of accuracy levels compared as follows.

国家 Country	标准 Standard	精度等级 Accuracy Grade				
中国 China	GB307.1	0	6	5	4	2
国际标准化组织 International organization for Standardization	ISO	0	6	5	4	2
瑞士 Sweden	SKE	P0	P6	P5	P4	P2
德国 Germany	DIN	P0	P6	P5	P4	P2
日本 Japan	JIS	P0	P6	P5	P4	P2
美国 American	ANSI	ABEC1	ABEC3	ABEC5	ABEC7	ABEC9

0级公差内圈 Inner Ring Of 0 Grade Tolerance μm												
d mm		△dmp		VSP ²⁾			Vdmp	Kia	△BS			Vas
				直径系列					全部	正常	修正 ³⁾	
				9	0.1	2.3.4						
超过	到	上偏差	下偏差	max			max	max	上偏差	下偏差	max	
0.6	2.5	0	-8	10	8	6	6	10	0	-40	0	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	-250	20
18	30	0	-10	13	10	8	8	13	0	-120	-250	20
30	20	0	-12	15	12	9	9	15	0	-120	-250	20

注：1) 包括0.6在内 2) 直径系列7和8无规定值 3) 系指用于成对或成组安装时单个轴承的内圈

0级公差内圈 Inner Ring Of 0 Grade Tolerance μm												
d mm		Δdmp		VSP ²⁾				Vdmp ¹⁾	Kea	ΔCs ΔCis ³⁾		ΔCs ΔCis ³⁾
				开型轴承		闭型轴承 ³⁾						
				直径系列								
				9	0.1	2.3.4	2.3.4					
超过	到	上偏差	下偏差	max				max	max	上偏差	下偏差	max
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			

注：1) 包括0.6在内 2) 直径系列7和8无规定值 3) 系指用于成对或成组安装时单个轴承的内圈

深沟球轴承振动加速度级限值

Vibration acceleration level limits for deep groove ball bearings

轴承公称外径 D/mm		0 直径系列 0 Diameter series						2 直径系列 2 Diameter series						3 直径系列 3 Diameter series					
>	≤	Z	Z1	Z2	Z3	Z4	Z	Z1	Z2	Z3	Z4	Z	Z1	Z2	Z3	Z4	Z	Z1	Z2
10	15	36	33	30	27	24	36	33	30	27	24	41	37	33	29	25			
15	20	37	34	31	28	25	37	34	31	28	25	42	38	34	30	26			
20	25	38	35	32	29	26	40	37	33	29	26	43	39	35	31	27			
25	30	39	36	33	30	27	41	38	34	30	27	44	40	36	31	27			
30	40	41	38	35	32	29	42	39	36	33	30	46	42	38	33	29			
40	50	43	40	37	34	31	44	41	38	35	32	48	44	40	35	31			
50	60	45	42	39	36	33	46	43	40	37	34	50	46	42	37	33			
60	70	48	45	42	38	35	49	46	42	39	36	52	48	44	39	35			
70	80	50	47	44	40	37	51	48	44	41	38	54	50	46	41	37			
80	90	52	49	46	42	39	53	50	46	43	40	57	53	48	43	39			
90	100	54	51	48	44	41	55	52	48	45	42	59	55	50	45	41			
100	110	56	53	50	46	43	58	54	50	47	44	61	57	52	47	43			
110	120	58	55	52	48	45	60	56	52	49	46	63	59	54	49	45			
120	130	60	58	54	50	47	62	58	54	51	48	65	61	56	51	47			
130	140	63	60	56	52	49	64	60	56	53	50	67	63	58	53	49			
140	150	65	62	58	54	51	67	63	59	55	52	69	65	60	55	51			
150	160	67	64	60	56	53	69	65	61	57	54	71	67	62	57	53			
160	170	69	66	62	58	55	71	67	63	59	56	73	69	64	59	55			
170	180	71	68	64	60	57	73	69	65	61	58	75	71	66	61	57			
180	190	73	70	66	62	59	76	71	67	63	60	77	73	68	63	59			
190	200	77	74	70	64	61	78	74	69	65	62	79	75	70	65	61			

深沟球轴承振动(速度)限值

Vibration (speed) limit for deep groove ball bearings

公称外径 D mm		V			V1			V2			V3			V4		
>	≤	低频 Low frequency	中频 Intermediate frequency	高频 High frequency	低频 Low frequency	中频 Intermediate frequency	高频 High frequency	低频 Low frequency	中频 Intermediate frequency	高频 High frequency	低频 Low frequency	中频 Intermediate frequency	高频 High frequency	低频 Low frequency	中频 Intermediate frequency	高频 High frequency
$\mu m/s$																
10	15	110	60	60	80	40	40	55	28	28	40	18	18	28	12	12
15	20	145	70	70	100	50	50	65	30	30	45	18	18	32	12	12
20	25	185	85	95	120	55	60	80	35	35	52	20	20	35	12	12
25	30	225	100	125	145	65	75	95	40	45	60	25	25	38	15	15
30	40	265	120	170	170	75	110	110	50	65	70	32	35	45	20	20
40	50	310	140	220	195	90	130	125	60	85	80	38	50	50	25	30
50	60	360	160	270	225	105	165	145	70	105	90	45	65	55	30	40
60	70	410	185	320	255	120	200	165	80	125	105	52	80	65	35	50
70	80	460	210	370	285	135	235	185	90	145	120	60	95	75	40	60
80	90	510	240	430	320	155	270	205	100	170	135	68	110	85	45	70
90	100	560	270	490	355	175	310	225	110	195	150	75	125	95	50	80
100	110	610	300	550	390	195	350	250	120	220	165	82	140	105	55	90
110	120	660	330	610	425	215	390	275	130	245	180	90	155	115	60	100
120	130	710	360	670	460	235	430	300	140	270	200	98	170	130	65	110
130	140	760	390	730	500	255	470	330	155	295	220	105	190	145	70	120
140	150	810	420	790	540	275	510	360	170	325	240	115	210	160	75	135
150	160	860	450	850	580	295	550	390	185	355	260	125	230	175	80	150
160	170	920	480	910	620	315	590	420	200	385	280	135	250	190	85	165
170	180	980	510	970	660	335	635	450	215	415	300	145	270	205	90	180
180	190	1040	540	1030	705	355	680	480	230	445	320	155	295	220	100	195
190	200	1100	570	1100	750	375	730	510	250	480	345	165	320	235	110	210