



洛阳恒冠轴承科技有限公司

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(Focused, Professional, Stability)

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中国 · 洛阳


公司简介
Company profile

洛阳恒冠轴承技术有限公司位于中国十三王朝的古都——洛阳。它是一家集专业设计，研发，生产，销售和服务于一体的回转支承 / 回转支承综合实体企业。依托洛阳经验丰富的轴承加工基地的独特优势，公司聚集了一批经验丰富的轴承设计人员和熟练的一线生产工人，以及先进的生产加工设备和测试工具，以确保产品质量和质量。从根本上保证产品和服务的质量。

我公司主要生产直径为 50-9800mm 的回转支承 / 回转支承，以及各种高精度回转支承，大推力球轴承，非标异质轴承等产品。精度涵盖 P0 / P6 / P5 / P4 的四个等级。产品类型包括单列四点接触球结构，交叉圆柱滚子结构，三列圆柱滚子结构，薄壁法兰结构等。产品广泛应用于自动化，建筑，矿山，港口，纺织，航空航天，风力发电等领域。产品销往全国各地，并远销欧美，亚洲等国家和地区，并得到了广大用户的认可和认可。

公司始终坚持“以人为本，客户至上，技术创新，质量求精”的价值理念。本着务实，创新，统一，高效的开拓精神。一切都围绕客户需求，个性化的优化设计和针对不同客户的定制灵活的生产方法，并努力为客户提供具有成本效益的产品和服务，以实现客户长期发展的战略目标。恒冠轴承，“智”造未来，我们只做优质产品和服务的提供者！

Luoyang Hengguan Bearing Technology Co., Ltd. is located in Luoyang, the ancient capital of China's thirteen dynasties. It is a professional design, research and development, production, A slewing ring/slewing ring integrated entity enterprise integrating sales and service. Relying on the uniqueness of Luoyang's experienced bearing processing base Advantages, the company has gathered a group of experienced bearing designers and skilled first-line production workers, as well as advanced production and processing equipment. And testing tools to ensure product quality and quality. Fundamentally guarantee the quality of products and related services. Our company mainly produces slewing bearings/slewing bearings with a diameter of 50-9800mm, as well as various high-precision slewing bearings, and large thrust ball shafts. Bearing, non-standard heterogeneous bearings and other products. The accuracy covers four levels of P0 / P6 / P5 / P4. Product types include single row four-point contact ball structure, cross cylindrical roller structure, three-row cylindrical roller structure, thin-walled flange structure, etc. Products are widely used in automation, construction, Mines, ports, textiles, aerospace, wind power and other fields. Products are sold all over the country and exported to Europe, America, Asia and other countries and Region, and has been recognized and recognized by the majority of users.

The company always adheres to the value concept of "people-oriented, customer first, technological innovation, and quality refinement". Based on pragmatism, innovation, and unity, Efficient pioneering spirit. Everything revolves around customer needs, personalized optimized design and customized flexible production methods for different customers, And strive to provide customers with cost-effective products and services to achieve customers' long-term development strategic goals. Hengguan Bearing, "Smart" To create the future, we are only a provider of quality products and professional services!


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精密交叉滚子轴承

Precision crossed Roller Bearings



产品概览 Product Overview

交叉滚子轴承又叫十字交叉滚子轴承，内部结构采用滚子互成90°相互垂直交叉排列在V型滚道内，滚子之间装有间隔保持器或者隔离块。这种结构使得单个轴承就可以承受径向载荷、轴向载荷及倾覆力矩等所有方向的载荷。同时，由于外形尺寸被最大限度的微型化，且轴承又具有很高的刚性和高的旋转精度以及复合承载能力，所以最适合用于工业机器人的关节部或旋转部、机械手旋转部、加工中心的旋转工作台、精密旋转工作台、医疗仪器、计量器、IC制造装置等用途。交叉滚子轴承的结构分为外圈分体、内圈整体；外圈整体、内圈分体和外圈和内圈均为整体的三种形式。

1. RB型（外圈分体、内圈一体）外圈分为两片，内圈整体的结构，适用于内圈旋转精度要求高的场合。
2. RE型（外圈一体、内圈分体）外形尺寸和RB型相同，但结构为外圈整体，内圈分为两片，适用于外圈旋转精度的要求高的场合。
3. RU型（内外圈一体、带安装孔）由于内外圈都有安装孔，则无需固定法兰和支撑座，使用起来非常方便。内外圈一体，安装对性能几乎没有影响，因而可获得稳定的旋转精度和扭矩。适用于内外圈旋转精度都要求高的场合。
4. RA型（外圈分体、内圈一体、超薄）此型号是将内外圈厚度减小到极限的超薄型交叉滚子轴承，结构和RB型一样外圈分体结构，适用于机器人和机械手旋转部位等需要重量轻、紧凑设计的部位。
5. CRBH型（内外圈一体、超薄），由于采用了超薄设计而且内外圈没有安装孔，安装时需要法兰和支撑座固定。内外圈均为一体结构，不会因安装对性能产生影响，继而能够获得稳定的旋转精度和扭矩，适用于内外圈旋转但尺寸要求小型化的场合。
6. SX型（内圈一体、外圈分体、超薄），轴颈相同的情况下，SX比RB类型的截面尺寸更小，由于超薄设计，内外圈均无安装孔，安装时需要法兰和轴承座固定，适用于内圈旋转的场合。

Crossed roller bearing also is called crosswise crossed roller bearing. With each roller perpendicular to the adjacent roller in the groove with "V" shape, cylindrical rollers are arranged crosswise with 90°. Between rollers and rollers, it is separated by the spacing block, which the bearing can bear radial load, axial load and all directions loads. And since the dimension of the inner and outer rings is a maximum to miniaturization, the bearing has very high rotation accuracy, rigidity and loading capacity. So it is optimal used for the industrial robot joints and swiveling tables of machining centers, rotary units of manipulators, precision rotary worktable, medical equipment, measuring instruments and IC manufacturing machines etc. For the structure, the crossed roller bearings can be divided into three types: inner ring rotation; out ring rotation; one-piece of inner ring and out ring.

1. RB series(inner rotation) have two parts of the outer rings, and the inner ring is one integer. It is well used for the situation which need high rotation precision of inner ring.
2. RE series(inner ring division) have the same size of RB series. The inner rings have two parts, but the outer ring is one integer. It is suitable for the situation which need high rotation accuracy of outer ring.
3. RU series(one-piece of inner and outer ring). Because the mounting holes are provided, it doesn't need the presser flange or housing. Besides, it has an integrated inner and outer ring structure. The performance is minimally affected by the mounting procedure, so it can ensure stable rotation accuracy and torque. This type can be used for both inner ring and outer ring rotation.
4. RA series(outer ring division) is a kind of small size of inner /outer rings crossed roller bearing, its structure is same as to the RB series. It can be suited for the rotational parts of the robots and other areas where the swiveling unit needs to be light and small.
5. CRBH series(integrated inner /outer ring type) is a compact type of model RU with extremely thin outer and inner rings without mounting holes are required, the presser flange or housing are necessary. In addition, since it has an integrated inner/outer ring structure and is

equipped with washers, the performance is minimally affected by the mounting procedure, ensuring stable rotation accuracy and torque. It can be used for both inner-ring rotation and outer-ring rotation.

6. SX series(outer ring division type with inner rotation) this type has smaller section than RB series.

Due to the extremely thin structure, there is no mounting holes on the outer ring and the inner ring, so the model requires a presser flange or housing. It can be used for the inner ring rotation.

设计和安装 Design and fitting

基本额定寿命 Basic Bearing Rated Life

基本额定寿命是指一批轴承在相同条件下分别运转时，其中90%不因滚动疲劳产生表面剥落所能达到的总转数。下面公式是用来计算在固定负荷下轴承的基本额定寿命：

When a lot of similar bearings rotate under the same conditions, rolling fatigue will not occur on 90% of those bearings. Please see below equation of the calculation of the bearing life on the basic rated dynamic load.

$L = (Cr \div P) 10^3 \times 10^6$ L-轴承的基本额定寿命；单位为旋转数；
L- basic rated life, the units is the number of rotations
P-当量动负荷
P: equivalent dynamic load
Cr-基本额定动负荷
C: basic rated dynamic load

交叉滚子轴承的实际寿命与轴承的结构、材料、选型、加工质量、轴承运行环境、周边结构设计和安装使用维护有关。交叉滚子轴承失效的主要形式不是疲劳失效，因为交叉滚子轴承具有很高的回转精度所以通常是由滚道、滚动体、保持器的磨损致使精度丧失（产生轴向与径向间隙），或其它非正常损坏的，轴承在此时可能还未出现疲劳破坏，所以计算基本额定寿命只作为交叉滚子轴承使用寿命的一个参考依据。

The actual life of cross roller bearings rests on the bearing structures, quality of materials, selection, processes, the running environment, the design of the environment and the installation and maintenance. The fatigue failure is not the main forms of the crossed roller bearing failure, because cross roller bearing has high rotary precision, usually the failure is due to the wear and tear of raceway, rolling body, and the cage(occur axial and radial clearance), or other abnormal using damage, and bearing doesn't appear fatigue damage under this condition, so basic rated life only can be a reference to the crossed roller bearing using life.

静载荷安全系数 Static Load Safety Factor

当轴承受到径向、轴向和倾覆力矩的复合负荷作用时，滚动体与滚道因承受最大负荷而产生永久变形量，若一种负荷也能让该轴承发生相等的永久变形量，则此假想的负荷即为当量静负荷，其算式如下：

When the bearings carry complex load from radial, axial and overturning moment, rolling element and raceway withstand the maximum load to make permanent deformation. If one hypothetical load can make the same effect, this hypothetical load is the equivalent static load. Below is the formula:

$PO = Fr + 2M / Dpw + 0.44 Fa$ 式中：PO—当量静负荷
Here: PO- Here equivalent static load
Fr—径向负荷



Fr Here Radial load

Fa—轴向负荷

Fa Here Axial load

M—力矩，单位为N·mm

M Here Moment load(N·m or Kgf·mm)

节圆直径(Pitch diameter)Dpw = (d+D) / 2 单位为(Unit) mm。

安全系数 Safety factor

安全系数(f)主要由基本额定静负荷(Co)与当量静负荷(Po)所决定，如下式所示：

Safety factor (FS) mainly depends on the basic static load rating (Co) and static equivalent load (Po), as shown in the following:

$Fs = (Co / Po)$

其中Co为基本额定静负荷；安全系数的参考如下（依工况的不同）：

Co as the basic rated static load; Safety factor of reference (in accordance with the conditions of different) as follows:

使用条件Working condition	安全系数Safety factor
标准Standard	≥1.5
振动环境Shake	≥2
高速、高精度High speed ,high precision	≥3.5

轴承的精度 The Precision of The Bearings

表1 RB型的内圈旋转精度(The rotation accuracy of RB series inner ring) 单位(Unit): μm

轴承内径 (d) (mm) Inner diameter (mm)		内圈径向跳动 Inner ring radial run out					内圈轴向跳动 Inner ring axial run out				
以上 Upon	以下 Below	P0	P6	P5	P4	P2	P0	P6	P5	P4	P2
18	30	13	8	4	3	2.5	13	8	4	3	2.5
30	50	15	10	5	4	2.5	15	10	5	4	2.5
50	80	20	10	5	4	2.5	20	10	5	4	2.5
80	120	25	13	6	5	2.5	25	13	6	5	2.5
120	150	30	18	8	6	2.5	30	18	8	6	2.5
150	180	30	18	8	6	5	30	18	8	6	5
180	250	40	20	10	8	5	40	20	10	8	5
250	315	50	25	13	10	—	50	25	13	10	—
315	400	60	30	15	12	—	60	30	15	12	—
400	500	65	35	18	14	—	65	35	18	14	—
500	630	70	40	20	16	—	70	40	20	16	—
630	800	80	—	—	—	—	80	—	—	—	—
800	1000	90	—	—	—	—	90	—	—	—	—
1000	1250	100	—	—	—	—	100	—	—	—	—


 表2 RE型的外圈旋转精度(The rotation accuracy of RE series outer ring) 单位(Unit): μm

轴承外径 (D) (mm) Outer diameter (mm)		外圈径向跳动 Outer ring radial run out					外圈轴向跳动 Outer ring axial run out				
以上Upon	以下Below	P0	P6	P5	P4	P2	P0	P6	P5	P4	P2
30	50	20	10	10	5	2.5	20	10	10	5	2.5
50	80	25	13	13	5	4	25	13	13	5	4
80	120	35	18	18	6	5	35	18	18	6	5
120	150	40	20	20	7	5	40	20	20	7	5
150	180	45	23	23	8	5	45	23	23	8	5
180	250	50	25	25	10	7	50	25	25	10	7
250	315	60	30	30	11	7	60	30	30	11	7
315	400	70	35	35	13	8	70	35	35	13	8
400	500	80	40	40	15	—	80	40	40	15	—
500	630	100	50	50	16	—	100	50	50	16	—
630	800	120	60	60	20	—	120	60	60	20	—
800	1000	120	75	75	—	—	120	75	75	—	—
1000	1250	120	—	—	—	—	120	—	—	—	—
1250	1600	120	—	—	—	—	120	—	—	—	—

 表3 RU型的内圈旋转精度(The rotation accuracy of RU series inner ring) 单位(Unit): μm

公称型号 Bearing NO.	内圈径向跳动 Inner ring radial run out			内圈轴向跳动 Inner ring axial run out		
	P5	P4	P2	P5	P4	P2
RU28	4	3	2.5	4	3	2.5
RU42	4	3	2.5	4	3	2.5
RU57	4	3	2.5	4	3	2.5
RU66	5	4	2.5	5	4	2.5
RU85	5	4	2.5	5	4	2.5
RU124	5	4	2.5	5	4	2.5
RU148	6	5	2.5	6	5	2.5
RU178	6	5	2.5	6	5	2.5
RU228	8	6	5	8	6	5
RU297	10	8	5	10	8	5
RU445	15	12	7	15	12	7

 表4 RU型的外圈旋转精度
 (The rotation accuracy of RU series out ring) 单位(Unit): μm

公称型号 Bearing NO.	外圈径向跳动 Outer ring radial run out			外圈轴向跳动 Outer ring axial run out		
	P5	P4	P2	P5	P4	P2
RU28	8	5	4	8	5	4
RU42	8	5	4	8	5	4
RU57	8	5	4	8	5	4
RU66	10	6	5	10	6	5
RU85	10	6	5	10	6	5
RU124	13	8	5	13	8	5
RU148	15	10	7	15	10	7
RU178	15	10	7	15	10	7
RU228	18	11	7	18	11	7
RU297	20	13	8	20	13	8
RU445	25	16	10	25	16	10

 表5 RA型的内圈旋转精度
 (The rotation accuracy of RA series inner ring)
 单位(Unit): μm

轴承内径(d)(mm) Inner diameter (mm)		径向跳动和 轴向跳动 Axial/radial run out
以上Upon	以下Below	run out
40	65	13
65	80	15
80	100	15
100	120	20
120	140	25
140	180	25
180	200	30

※ 我们亦可提供旋转精度更高的RA型产品。
 We can supply higher accuracy of RA series.


 表6 CRBH型的内圈精度(The accuracy of CRBH series inner ring) 单位(Unit): μm

内径(d) (mm) Inner diameter (mm)		内径公差 Inner Diameter Tolerance								高度公差 Height Tolerance		径向跳动 Radial Run-out				轴向跳动 Axial Run-out					
		P0		P6		P5		P4/P2													
以上upon	以下Below	high	low	high	low	high	low	high	low	high	low	P0	P6	P5	P4	P2	P0	P6	P5	P4	P2
18	30	0	-10	0	-8	0	-6	0	-5	0	-75	13	8	4	3	2.5	13	8	4	3	2.5
30	50	0	-12	0	-10	0	-8	0	-6	0	-75	15	10	5	4	2.5	15	10	5	4	2.5
50	80	0	-15	0	-12	0	-9	0	-7	0	-75	20	10	5	4	2.5	20	10	5	4	2.5
80	120	0	-20	0	-15	0	-10	0	-8	0	-75	25	13	6	5	2.5	25	13	6	5	2.5
120	150	0	-25	0	-18	0	-13	0	-10	0	-100	30	18	8	6	2.5	30	18	8	6	2.5
150	180	0	-25	0	-18	0	-13	0	-10	0	-100	30	18	8	6	5	30	18	8	6	5
180	250	0	-30	0	-22	0	-15	0	-12	0	-100	40	20	10	8	5	40	20	10	8	5
250	315	0	-35	0	-25	0	-18	0	—	0	-120	50	25	13	10	7	50	25	13	10	7



表7 CRBH型的外圈精度(The accuracy of CRBH series outer ring) 单位(Unit): μm

外径(D)(mm) Outerdiameter (mm)		外径公差Outer Diameter Tolerance								高度公差 Height Tolerance		径向跳动 Radial Run-out				轴向跳动 Axial Run-out					
		P0		P6		P5		P4/P2				P0		P6		P5		P4 P2			
以上Upon	以下Below	高high	低low	高high	低low	高high	低low	高high	低low	高high	低low	P0	P6	P5	P4	P2	P0	P6	P5	P4 P2	
30	50	0	-11	0	-9	0	-7	0	-6	0	-100	20	10	7	5	2.5	20	10	7	5	2.5
50	80	0	-13	0	-11	0	-9	0	-7	0	-100	25	13	8	5	4	25	13	8	5	4
80	120	0	-15	0	-13	0	-10	0	-8	0	-100	35	18	10	6	5	35	18	10	6	5
120	150	0	-18	0	-15	0	-11	0	-9	0	-120	40	20	11	7	5	40	20	11	7	5
150	180	0	-25	0	-18	0	-13	0	-10	0	-120	45	23	13	8	5	45	23	13	8	5
180	250	0	-30	0	-20	0	-15	0	-11	0	-120	50	25	15	10	7	50	25	15	10	7
250	315	0	-35	0	-25	0	-18	0	-13	0	-150	60	30	18	11	7	60	30	18	11	7
315	400	0	-40	0	-28	0	-20	—	—	0	-200	70	35	20	—	—	70	35	20	—	—

表8 SX型的轴承精度(The accuracy of SX series) 单位(Unit): μm

公称型号 Bearing NO.	内径尺寸公差 Inner Diameter Tolerance (d)		外径尺寸公差 Outer Diameter Tolerance (D)		内圈高度 (B) Inner Ring Height		外圈高度 (B1) Inner Ring Height		内圈径向跳动 Inner Radial Run-out (Kia)	内圈轴向跳动 Inner Axial Run-out (Sia)
	高high	低low	高high	低low	高high	低low	高high	低low		
SX011814	4	-15	0	-22	0	-10	10	-10	10	10
SX011818	4	-18	0	-22	0	-10	12	-12	10	10
SX011820	4	-18	0	-25	0	-15	12	-12	10	10
SX011824	4	-18	0	-25	0	-15	12	-12	10	10
SX011828	4	-21	0	-25	0	-15	12	-12	15	10
SX011832	4	-21	0	-29	0	-25	12	-12	15	10
SX011836	4	-21	0	-29	0	-25	13	-13	15	10
SX011840	4	-24	0	-29	0	-25	13	-13	15	10
SX011848	5	-24	0	-32	0	-25	13	-13	20	10
SX011860	5	-27	0	-36	0	-50	14	-14	20	10
SX011868	7	-29	0	-40	0	-50	14	-14	25	10
SX011880	7	-29	0	-40	0	-50	15	-15	30	10
SX0118/500	8	-32	0	-44	0	-50	16	-16	40	10

※ 如想了解RB、RE、RU、RA、CRBH、SX更高精度的系列, 请与我司联系。
If you want to know more information about RB,RE,RU,RA,CRBH,SX higher accuracy series bearings, please contact with Ouna.

表9 轴承内径的尺寸公差(Dimension tolerance of the inner diameter) 单位(Unit): μm

轴承内径 (d) (mm) Inner diameter (mm)		轴承内径d的公差 Tolerance of inner diameter d							
		P0		P6		P5		P4、P2	
以上Upon	以下Below	高High	低Low	高High	低Low	高High	低Low	高High	低Low
18	30	0	-10	0	-8	0	-6	0	-5
30	50	0	-12	0	-10	0	-8	0	-6
50	80	0	-15	0	-12	0	-9	0	-7
80	120	0	-20	0	-15	0	-10	0	-8
120	150	0	-25	0	-18	0	-13	0	-10
150	180	0	-25	0	-18	0	-13	0	-10
180	250	0	-30	0	-22	0	-15	0	-12
250	315	0	-35	0	-25	0	-18	—	—
315	400	0	-40	0	-30	0	-23	—	—
400	500	0	-45	0	-35	—	—	—	—
500	630	0	-50	0	-40	—	—	—	—
630	800	0	-75	—	—	—	—	—	—
800	1000	0	-100	—	—	—	—	—	—
1000	1250	0	-125	—	—	—	—	—	—

表10 轴承外径尺寸公差(Dimension tolerance of the outer diameter) 单位(Unit): μm

轴承外径 (D) (mm) Outer diameter (mm)		轴承外径D的公差 Tolerance of outer diameter D							
		P0		P6		P5		P4、P2	
以上Upon	以下Below	高High	低Low	高High	低Low	高High	低Low	高High	低Low
30	50	0	-11	0	-9	0	-7	0	-6
50	80	0	-13	0	-11	0	-9	0	-7
80	120	0	-15	0	-13	0	-10	0	-8
120	150	0	-18	0	-15	0	-11	0	-9
150	180	0	-25	0	-18	0	-13	0	-10
180	250	0	-30	0	-20	0	-15	0	-11
250	315	0	-35	0	-25	0	-18	0	-13
315	400	0	-40	0	-28	0	-20	0	-15
400	500	0	-45	0	-33	0	-23	—	—
500	630	0	-50	0	-38	0	-28	—	—
630	800	0	-75	0	-45	0	-35	—	—
800	1000	0	-100	—	—	—	—	—	—
1000	1250	0	-125	—	—	—	—	—	—
1250	1600	0	-160	—	—	—	—	—	—


 表11 RB、RE外圈宽度的公差(Width tolerance of RB, RE series outer ring) 单位(Unit): μm

轴承内径 (d) (mm) Inner diameter		B的公差(B tolerance)		B1的公差(B1 tolerance)	
		适用于RB的内圈和RE的外圈 For RB inner ring and RE outer ring		适用于RB的外圈和RE的内圈 For RB outer ring and RE inner ring	
以上Above	以下Below	高High	低Low	高High	低Low
18	30	0	-75	0	-100
30	50	0	-75	0	-100
50	80	0	-75	0	-100
80	120	0	-75	0	-100
120	150	0	-100	0	-120
150	180	0	-100	0	-120
180	250	0	-100	0	-120
250	315	0	-120	0	-150
315	400	0	-150	0	-200
400	500	0	-150	—	-200
500	630	0	-150	—	-200
630	800	0	-150	—	-200
800	1000	0	-300	—	-400
1000	1250	0	-300	—	-400

※表中无数值的,表示适用于下一精度等级中等级最高的数值。

 表12 RU内圈圈的宽度公差 (Width tolerance of RU series inner/outer ring) 单位 (Unit) : μm

公称型号 Bearing type	B的公差 B tolerance	
	高 High	低 Low
RU28	0	-75
RU42	0	-75
RU57	0	-75
RU66	0	-75
RU85	0	-75
RU124	0	-75
RU148	0	-75
RU178	0	-100
RU228	0	-100
RU297	0	-100
RU445	0	-100

※ 轴承游隙 The clearance of bearings

 表13 RU型的径向间隙 (预压)
 RU series radial clearance(Preload) 单位(Unit): μm

滚柱的节圆直径 (Dpw) (mm) Roller Pitch Diameter		CCO		CO	
以上Above	以下Below	最小Min	最大Max	最小Min	最大Max
10	30	-8	0	0	15
30	60	-8	0	0	25
60	80	-10	0	0	30
80	160	-10	0	0	40
160	200	-10	0	0	50
200	250	-10	0	0	60
250	350	-20	0	0	70
350	450	-20	0	0	100

 表14 RB、RE型的径向间隙 (预压) RB,RE series radial clearance(Preload) 单位(Unit): μm

滚柱的节圆直径 (Dpw) (mm) Roller Pitch Diameter		CCO		CO		C1	
以上 Above	以下 Below	最小 Min	最大 Max	最小 Min	最大 Max	最小 Min	最大 Max
18	30	-8	0	0	15	15	35
30	50	-8	0	0	25	25	50
50	80	-10	0	0	30	30	60
80	120	-10	0	0	40	40	70
120	140	-10	0	0	40	40	80
140	160	-10	0	0	40	40	90
160	180	-10	0	0	50	50	100
180	200	-10	0	0	50	50	110
200	225	-10	0	0	60	60	120
225	250	-10	0	0	60	60	130
250	280	-15	0	0	80	80	150
280	315	-15	0	0	100	100	170
315	355	-15	0	0	110	110	190

滚柱的节圆直径 (Dpw) (mm) Roller Pitch Diameter		CCO		CO		C1	
以上 Above	以下 Below	最小 Min	最大 Max	最小 Min	最大 Max	最小 Min	最大 Max
355	400	-15	0	0	120	120	210
400	450	-20	0	0	130	130	230
450	500	-20	0	0	130	130	250
500	560	-20	0	0	150	150	280
560	630	-20	0	0	170	170	310
630	710	-20	0	0	190	190	350
710	800	-30	0	0	210	210	390
800	900	-30	0	0	230	230	430
900	1000	-30	0	0	260	260	480
1000	1120	-30	0	0	290	290	530
1120	1250	-30	0	0	320	320	580
1250	1400	-30	0	0	350	350	630

 表15 CRBH型的径向游隙 (预压) CRBH series radial clearance (Preload) 单位 (Unit) : μm

轴承内径 Inner Diameter		T1		C1		C2	
以上 Above	以下 Below	最小 Min	最大 Max	最小 Min	最大 Max	最小 Min	最大 Max
—	30	-10	0	0	10	10	20
30	40	-10	0	0	10	10	20
40	50	-10	0	0	10	10	25
50	65	-10	0	0	10	10	25
65	80	-10	0	0	-15	-15	30
80	100	-10	0	0	-15	-15	35
100	120	-15	0	0	-15	-15	35
120	140	-15	0	0	-20	-20	45
140	160	-15	0	0	-20	-20	50
160	200	-15	0	0	-20	-20	50
200	250	-20	0	0	25	25	60
250	315	-20	0	0	25	25	60



表16 RA型的径向游隙(预压) RA series radial clearance(Preload) 单位(Unit): μm



滚柱的节圆直径 (Dpw) (mm) Roller Pitch Diameter		CCO		CO	
以上Above	以下Below	最小Min	最大Max	最小Min	最大Max
50	80	-8	0	0	15
80	120	-8	0	0	15
120	140	-8	0	0	15
140	160	-8	0	0	15
160	180	-10	0	0	20
180	200	-10	0	0	20
200	225	-10	0	0	20

表17 SX型的内部游隙 SX series inner clearance 单位(Unit): μm

公称型号 Bearing type	基本游隙Basic Clearance				RLO径向游隙 Radial Clearance		VSP径向游隙 Radial Clearance	
	径向游隙 Radial Clearance		轴向游隙 Axial Clearance		最小 Min	最大 Max	最小 Min	最大 Max
	最小 Min	最大 Max	最小 Min	最大 Max				
SX011814	3	15	6	30	-6	3	-15	-3
SX011818	3	15	6	30	-6	3	-15	-3
SX011820	5	20	10	40	-8	4	-20	-5
SX011824	5	20	10	40	-8	4	-20	-5
SX011828	5	20	10	40	-8	4	-20	-5
SX011832	5	20	10	40	-8	4	-20	-5
SX011836	5	25	10	50	-10	5	-25	-5
SX011840	5	25	10	50	-10	5	-25	-5
SX011848	10	30	20	60	-10	5	-25	-5
SX011860	10	40	20	80	-10	5	-25	-5
SX011868	10	40	20	80	-10	5	-25	-5
SX011880	10	50	20	100	-10	5	-25	-5
SX0118/500	15	60	30	120	-12	6	-30	-5

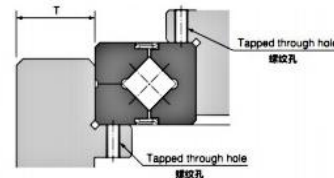
设计和安装配合 Design and the installation

轴承座或固定法兰的设计 The design for the bearing set and the fixed flange
由于交叉滚子轴承的薄壁小型结构, 须充分考虑轴承座或固定法兰的刚性。如果刚性不足, 就不能均等地固定内圈或外圈, 轴承在承受力矩负荷时将会变形, 滚子和滚道的接触区域会变得不均匀, 严重影响轴承的性能。
Since crossed roller bearings are thin section structure, you need consider the rigidity of the bearing set and the fixed flange. If the rigidity is not strong enough, the inner rings or outer rings can not be fixed uniformly, the bearings will become deformed. The contact area of the roller and the raceway will be inhomogeneous, the performance of the bearing will be affected seriously.

轴承座 Bearing Set

轴承座的壁厚, 按轴承截面高度的60%以上为基准进行设计。轴承座的壁厚 $T=(D-d)/2 \times 0.6$ 以上(D: 外圈外径尺寸; d: 内圈内径尺寸)。如果设置内外圈拆卸用螺纹孔(如下图7), 拆卸内外圈时就不会对轴承造成损伤。请避免在拆卸外圈时推内圈或在拆卸内圈时推外圈。

About the wall thickness of bearing set, it should be designed at the basic of 60% of the bearing section height. The wall thickness of bearing set $T=(D-d)/2 \times 0.6U_p$ (D: Outer ring diameter, d: Inner ring diameter). If the bearing have threaded hole which is used for disassemble the outer rings and inner rings, the bearings can not be damaged when disassembling. The appearance of out ring push the inner ring or inner ring push the out ring should be avoided during the process of disassembling.



固定法兰及固定螺栓 Fixed flange and fixed bolts

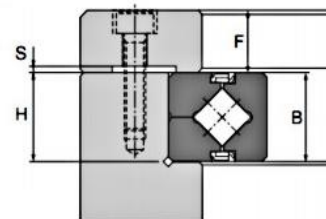
固定法兰的壁厚(F)和法兰部的间隙(S)值, 请以下述尺寸为基准。此外, 至于固定螺栓的数量, 进行等距配置且数量越多越稳, 并以表19所示进行配置。

The wall thickness of fixed flange (F) and the gap of that (S), please see the following dimensions. Besides, for the fixed bolts quantity, it is decided based on the basic parameters(Figure 19). Under the equidistant configuration by using suitable torque to screw the bearings, more fixed bolts, more stable.

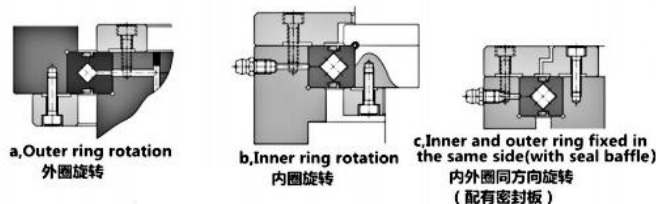
$$F=B \times 0.5 - B \times 1.2$$

$$H=B \times 0.6$$

$$S=0.5 \text{ mm}$$



安装示例
Assemble Example



固定法兰建议采用铁质材料。固定螺栓可用扭矩扳手结实地拧紧。如果轴承座或固定法兰的材料是普通的的中硬度钢材时, 锁紧扭矩如下表所示。

The material of fixed flange is recommend to use steel. When locking fixed bolt, please screw the bolts tight with the torque spanner. If the bearing set or the fixed flange use the general medium-hard steel, please see the locking torque showed in following.


 表18固定螺栓的数量和尺寸 单位(Unit): N.m
 The QTY and Dimensions of Fixed bolts

外圈外径尺寸 (D) Outer diameter		螺栓数量 QTY of bolts	螺栓尺寸 (基准值) Bolt size (reference value)
以上Upon	以下Low		
—	100	8或更多 8 or more	M3 - M5
100	200	12或更多 12 or more	M4 - M8
200	500	16或更多 16 or more	M5 - M12
500	—	24或更多 24 or more	M12或更大 M12 or more

 表19螺栓的锁紧扭矩 单位(Unit):mm
 The locking torque of the bolts

螺钉的公称型号 Nominal model of screw	锁紧扭矩 Tightening torque	螺钉的公称型号 Nominal model of screw	锁紧扭矩 Tightening torque
M3	2	M10	70
M4	4	M12	120
M5	9	M16	200
M6	14	M20	390
M8	30	M22	530

润滑 Lubrication

交叉滚子轴承出厂时内部已注有优质的锂基润滑油脂,因此轴承到货后可直接使用,但必须定期(大约6个月至1年)补充相同种类的润滑脂,轴承注脂后,摩擦力矩初期会暂时增加,等多余的油脂溢出密封圈后,摩擦力矩会很快恢复正常值。

We have filled in the good Li Base Grease into the crossed roller bearing before the bearings are delivery. It can be directly mounted after receiving the bearing. But, please use the same grease to fill into the bearing at regular intervals. (About 6 months to one year). After added the grease, the lubrication torque may rise temporary. While the over grease overflow from the oil seal, the lubrication torque will return to the normal level in short time.

配合公差 Clearance fit tolerance

交叉滚子轴承的配合,建议采用下表中的组合。For the fitting of crossed roller bearings, please refer to figure 20.

表20 RB、RE和RA型的配合Fitting of RB/RE/RA series

径向间隙 (预压) Radial Clearance(preload)	使用条件Work Condition		轴Shaft	支撑座 Bearing Set
CO	内圈旋转Inner Ring Rotation	普通负荷Common load	h5	H7
		冲击或大力矩Impact or large torque	h5	H7
	外圈旋转Outer Ring Rotation	普通负荷Common load	g5	JS7
		冲击或大力矩Impact or large torque	g5	JS7
C1	内圈旋转Inner Ring Rotation	普通负荷Common load	j5	H7
		冲击或大力矩Impact or large torque	k5	JS7
	外圈旋转Outer Ring Rotation	普通负荷Common load	g6	JS7
		冲击或大力矩Impact or large torque	h5	K7

安装 Installation

安装交叉滚子轴承时,请按以下步骤进行:

1. 安装前零部件的检查。将轴承座或其它安装部件彻底清洗干净,去除污垢,并确认毛刺或毛边是否清除。
2. 将交叉滚子轴承装入轴或轴承座里。由于是薄壁轴承,安装时容易倾斜。请一边保持水平,一边用塑料锤均匀敲打,一点一点地装入,直到可通过声音确认与基准面完全紧靠时为止。
3. 固定法兰的安装。将固定法兰放置在交叉滚子轴承上。摇动固定法兰几次,调整安装螺栓的位置。将固定螺栓穿入孔内。用手转动螺栓时,确认没有因螺栓孔偏离而引起螺栓难以拧入。如图10所示,固定螺栓的锁紧由暂时锁紧到全锁紧可分成3-4个阶段,按对角线上的顺序反复拧紧。在拧紧分体的内圈或外圈时,将一体的外圈或内圈稍微转动,就能修正内外圈与主体的偏离。

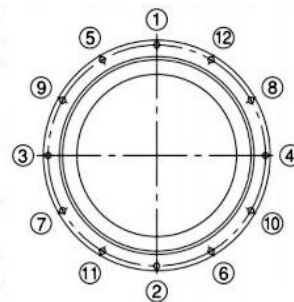
When install the crossed roller bearings, please carry on the steps as follows:

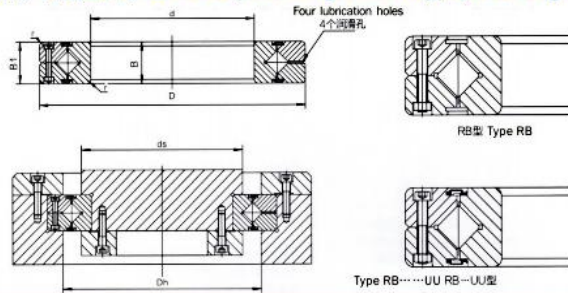
1. Check the parts before assembling, thoroughly clean the housing and other parts. The burr or flush need be cleaned finished.
2. Put the crossed roller bearings into the shaft or bearing set. Since the bearing is a thin bearing, it tends to tilts as it is installed. Please hit it with a plastic hammer while keeping it horizontal, until you checked that the bearing contact with the datum level completely through the sound.
3. The installment of the flange. Put the fixed flange on the crossed roller bearings. Shake the flange for several times until the flange fit with the bearing bolt holes. Insert the presser bolts into the holes. Manually turn the bolts and check that there is no deviation to make the bolts can not screw into the bolt holes by misalignment of the bolts. As shown figure 10, there are 3-4 stages to lock the fixing bolts completely according to diagonal line repeatedly. When screwing tightly the fission inner ring or outer ring. Turn the wholly outer ring or inner ring slightly, the deviation between the inner ring and the outer ring with the main parts can be amended and subject.

安装注意事项(Installation Notes):

1. 被分割成两部分的内圈或外圈是用特殊的铆钉、螺栓或螺母连接。在将其安装到系统时,不要将其拆卸。此外,如果安装保持器错误,将会对系统的旋转性能有很大影响。
2. 分割的内圈或外圈的同心度可能会略有偏差。在装入轴承座前,可松开用于固定内圈或外圈的螺栓,用塑料锤等修正后再进行装配。
3. 安装或拆卸交叉滚子轴承时,请勿施加力给连接铆钉、螺栓和滚子。
4. 当安装固定法兰时,要考虑安装部件的尺寸公差,使得法兰从侧面压紧内圈和外圈。

1. The separable inner or outer rings are connected with the particular rivets or bolts or screws. After installed, the inner ring and outer ring could not be separated. Besides, if you install the isolation block by error, the rotation system performance will be seriously effected.
2. There would be deviation more or less in the connection of inner or outer ring. Please relax the fixed bolts before mounting on the bearing shaft, then install that after adjust the fixed bolts with plastic hammer.
3. When installing or disassembling crossed roller bearings, please do not put strong pressure on connected rivets, bolts and rollers.
4. When installs the fixed flange, you must consider the dimension allowance of the installation parts, to make the flange contact well with the inner ring and outer ring from side. Also you can not put too much pressure on the bearings, or the bearings will become deformed, that will affects the bearing rotation flexibility and life.




尺寸规格表 Dimensions and specification
RB型 (外圈分体、内圈整体) RB series(Outer ring division type, inner ring rotation)


单位(Unit):mm

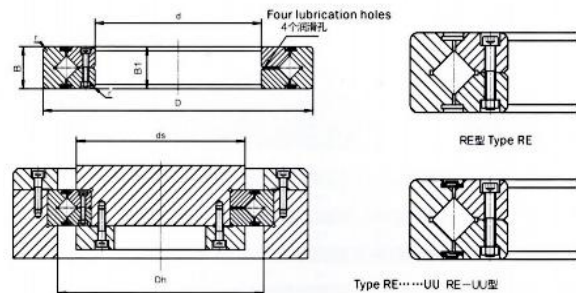
公称型号 Bearing Type	主要尺寸Dimension						轴肩尺寸 Shoulder Size		基本额定载荷 (径向) Basic Load Rating (Radial)		重量 weight
	内径 Inner Diameter	外径 Outer Diameter	滚子节圆直径 Roller Pitch Diameter	高度 Height	倒角 Chamfer	ds	Dh	Cr	Cor		
	d	D	Dpw	B B1	rmin					kN	
RB 2008	20	36	27	8	0.5	23.5	30.5	3.23	3.1	0.04	
RB 2508	25	41	32	8	0.5	28.5	35.5	3.63	3.83	0.05	
RB 3010	30	55	41.5	10	0.6	37	47	7.35	8.36	0.12	
RB 3510	35	60	46.5	10	0.6	41	51.5	7.64	9.12	0.13	
RB 4010	40	65	51.5	10	0.6	47.5	57.5	8.33	10.6	0.16	
RB 4510	45	70	56.5	10	0.6	51	61.5	8.62	11.3	0.17	
RB 5013	50	80	64	13	0.6	57.4	72	16.7	20.9	0.27	
RB 6013	60	90	74	13	0.6	68	82	18	24.3	0.3	
RB 7013	70	100	84	13	0.6	78	92	19.4	27.7	0.35	
RB 8016	80	120	98	16	0.6	91	111	30.1	42.1	0.7	
RB 9016	90	130	108	16	1	98	118	31.4	45.3	0.75	
RB 10016	100	140	119.3	16	1	109	129	31.7	48.6	0.83	
RB 10020	100	150	123	20	1	113	133	33.1	50.9	1.45	
RB 11012	110	135	121.8	12	0.6	117	127	12.5	24.1	0.4	
RB 11015	110	145	126.5	15	0.6	122	136	23.7	41.5	0.75	
RB 11020	110	160	133	20	1	120	143	34	54	1.56	
RB 12016	120	150	134.2	16	0.6	127	141	24.2	43.2	0.72	
RB 12025	120	180	148.7	25	1.5	133	164	66.9	100	2.62	
RB 13015	130	160	144.5	15	0.6	137	152	25	46.7	0.72	
RB 13025	130	190	158	25	1.5	143	174	69.5	107	2.82	

单位(Unit):mm

公称型号 Bearing Type	主要尺寸Dimension					轴肩尺寸 Shoulder Size		基本额定载荷 (径向) Basic Load Rating (Radial)		重量 weight
	内径 Inner Diameter	外径 Outer Diameter	滚子节圆直径 Roller Pitch Diameter	高度 Height	倒角 Chamfer	ds	Dh	Cr	Cor	
	d	D	Dpw	B B1	rmin					
RB 14016	140	175	160	16	1	147	162	25.9	50.1	1
RB 14025	140	200	172	25	1.5	154	185	74.8	121	2.96
RB 15013	150	180	166	13	0.6	157	172	27	53.5	0.68
RB 15025	150	210	182	25	1.5	164	194	76.8	128	3.16
RB 15030	150	230	192	30	1.5	173	211	100	156	5.3
RB 16025	160	220	192	25	1.5	173	204	81.7	135	3.14
RB 17020	170	220	196.1	20	1.5	184	198	29	62.1	2.21
RB 18025	180	240	210	25	1.5	195	225	84	143	3.44
RB 19025	190	240	219	25	1	202	222	41.7	82.9	2.99
RB 20025	200	260	230	25	2	215	245	84.2	157	4
RB 20030	200	280	240	30	2	221	258	114	200	6.7
RB 20035	200	295	247.7	35	2	225	270	151	252	9.6
RB 22025	220	280	250.1	25	2	235	265	92.3	171	4.1
RB 24025	240	300	272.5	25	2.5	256	281	68.3	145	4.5
RB 25025	250	310	280.9	25	2.5	265	290	69.3	150	5
RB 25030	250	330	287.5	30	2.5	269	306	126	244	8.1
RB 25040	250	355	300.7	40	2.5	275	326	195	348	14.8
RB 30025	300	360	332	25	2.5	315	340	76.3	178	5.9
RB 30035	300	395	345	35	2.5	322	368	183	367	13.4
RB 30040	300	405	351.6	40	2.5	326	377	212	409	17.2
RB 35020	350	400	376.6	20	2.5	363	383	54.1	143	3.9
RB 40035	400	480	440.3	35	2.5	422	459	156	370	14.5
RB 40040	400	510	453.4	40	2.5	428	479	241	531	23.5
RB 45025	450	500	476.6	25	1	464	484	61.7	182	6.6
RB 50025	500	550	526.6	25	1	514	534	65.5	201	7.3
RB 50040	500	600	548.8	40	2.5	526	572	239	607	26
RB 50050	500	625	561.6	50	2.5	536	587	267	653	41.7
RB 60040	600	700	650	40	3	627	673	264	721	29
RB 70045	700	815	753.5	45	3	731	777	281	836	46
RB 80070	800	950	868.1	70	4	836	900	468	1330	105
RB 90070	900	1050	969	70	4	937	1001	494	1490	120
RB 1000110	1000	1250	1114	110	5	1057	1171	1220	3220	360
RB 1250100	1250	1500	1365.8	110	5	1308	1423	1350	3970	440



RE型 (外圈整体、内圈分体) RE series (Inner ring division type, outer ring rotation)



单位(Unit):mm

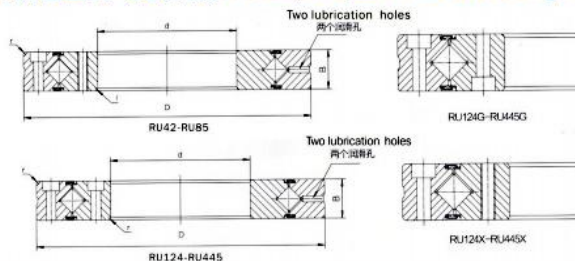
公称型号 Bearing Type	主要尺寸Dimension					轴肩尺寸 Shoulder Size		基本额定载荷 (径向) Basic Load Rating (Radial)		重量 weight
	内径 Inner Diameter	外径 Outer Diameter	滚子节圆直径 Roller Pitch Diameter	高度 Height	倒角 Chamfer	ds	Dh	Cr	Cor	
	d	D	Dpw	B B1	Rmin			kN	kN	
RE 2008	20	36	29	8	0.5	23.5	30.5	3.23	3.1	0.04
RE 2508	25	41	34	8	0.5	28.5	35.5	3.63	3.83	0.05
RE 3010	30	55	43.5	10	0.6	37	47	7.35	8.36	0.12
RE 3510	35	60	48.5	10	0.6	41	51.5	7.64	9.12	0.13
RE 4010	40	65	53.5	10	0.6	47.5	58	8.33	10.6	0.16
RE 4510	45	70	58.5	10	0.6	51	61.5	8.62	11.3	0.17
RE 5013	50	80	66	13	0.6	57.5	72	16.7	20.9	0.27
RE 6013	60	90	76	13	0.6	68	82	18	24.3	0.3
RE 7013	70	100	86	13	0.6	78	92	19.4	27.7	0.35
RE 8016	80	120	101.4	16	0.6	91	111	30.1	42.1	0.7
RE 9016	90	130	112	16	1	98	118	31.4	45.3	0.75
RE 10016	100	140	121.1	16	1	109	129	31.7	48.6	0.83
RE 10020	100	150	127	20	1	113	133	33.1	50.9	1.45
RE 11012	110	135	123.3	12	0.6	117	127	12.5	24.1	0.4
RE 11015	110	145	129	15	0.6	122	136	23.7	41.5	0.75
RE 11020	110	160	137	20	1	120	140	34	54	1.56
RE 12016	120	150	136	16	0.6	127	141	24.2	43.2	0.72
RE 12025	120	180	152	25	1.5	133	164	66.9	100	2.62
RE 13015	130	160	146	15	0.6	137	152	25	46.7	0.72
RE 13025	130	190	162	25	1.5	143	174	69.5	107	2.82

单位(Unit):mm

公称型号 Bearing Type	主要尺寸Dimension					轴肩尺寸 Shoulder Size		基本额定载荷 (径向) Basic Load Rating (Radial)		重量 weight
	内径 Inner Diameter	外径 Outer Diameter	滚子节圆直径 Roller Pitch Diameter	高度 Height	倒角 Chamfer	ds	Dh	Cr	Cor	
	d	D	Dpw	B B1	Rmin			kN	kN	
RE 14016	140	175	160	16	1	147	162	25.9	50.1	1
RE 14025	140	200	172	25	1.5	154	185	74.8	121	2.96
RE 15013	150	180	166	13	0.6	158	172	27	53.5	0.68
RE 15025	150	210	182	25	1.5	164	194	76.8	128	3.16
RE 15030	150	230	192	30	1.5	173	210	100	156	5.3
RE 16025	160	220	192	25	1.5	173	204	81.7	135	3.14
RE 17020	170	220	196.1	20	1.5	184	198	29	62.1	2.21
RE 18025	180	240	210	25	1.5	195	225	84	143	3.44
RE 19025	190	240	219	25	1	202	222	41.7	82.9	2.99
RE 20025	200	260	230	25	2	215	245	84.2	157	4
RE 20030	200	280	240	30	2	221	258	114	200	6.7
RE 20035	200	295	247.7	35	2	225	270	151	252	9.6
RE 22025	220	280	250.1	25	2	235	265	92.3	171	4.1
RE 24025	240	300	272.5	25	2.5	256	281	68.3	145	4.5
RE 25025	250	310	280.9	25	2.5	268	293	69.3	150	5
RE 25030	250	330	287.5	30	2.5	269	306	126	244	8.1
RE 25040	250	355	300.7	40	2.5	275	326	195	348	14.8
RE 30025	300	360	332	25	2.5	319	344	75.5	178	5.9
RE 30035	300	395	345	35	2.5	322	368	183	367	13.4
RE 30040	300	405	351.6	40	2.5	326	377	212	409	17.2
RE 35020	350	400	376.6	20	2.5	363	383	54.1	143	3.9
RE 40035	400	480	440.3	35	2.5	422	459	156	370	14.5
RE 40040	400	510	453.4	40	2.5	428	479	241	531	23.5
RE 45025	450	500	476.6	25	1	464	484	61.7	182	6.6
RE 50025	500	550	526.6	25	1	514	534	65.5	201	7.3
RE 50040	500	600	548.8	40	2.5	526	572	239	607	26
RE 50050	500	625	561.6	50	2.5	536	587	267	653	41.7
RE 60040	600	700	650	40	3	627	673	264	721	29

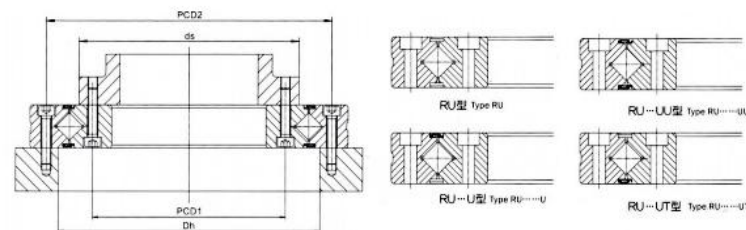


RU型 (内外圈整体、带安装孔) RU series(one-piece of inner and outer ring, with the installation holes)



单位(Unit):mm

公称型号 Bearing Type	主要尺寸Dimension					轴肩尺寸 Shoulder Size		基本额定载荷 (径向) Basic Load Rating (Radial)		重量 weight
	内径 Inner Diameter	外径 Outer Diameter	滚子节圆直径 Roller Pitch Diameter	高度 Height	倒角 Chamfer	ds	Dh	Cr	Cor	
	d	D	Dpw	B	Rmin	ds	Dh	kN	kN	
RU 28	10	52	27.2	8	0.3	24	31	2.91	2.43	0.12
RU 42	20	70	41.5	12	0.3	37	48	7.35	8.35	0.31
RU 57	25	80	57	12	0.6	47	58	8.61	10.6	0.4
RU 66	35	95	66	15	0.6	56	74	17.5	22.3	0.66
RU 85(G) RU85X	55	120	85	15	0.6	79	93	20.3	29.5	0.96
RU 124(G) RU 124X	80	165	124	22	1	114	134	33.1	50.9	2.6
RU 148(G) RU 148X	90	210	147.5	25	1.5	133	162	49.1	76.8	4.9
RU 178(G) RU 178X	115	240	178	28	1.5	161	195	80.3	135	6.8
RU 228(G) RU 228X	160	295	227.5	35	2	208	246	104	173	11.4
RU 297(G) RU 297X	210	380	297.5	40	2.5	272	320	156	281	21.3
RU 445(G) RU 445X	350	540	445.4	45	2.5	417	473	222	473	35.4

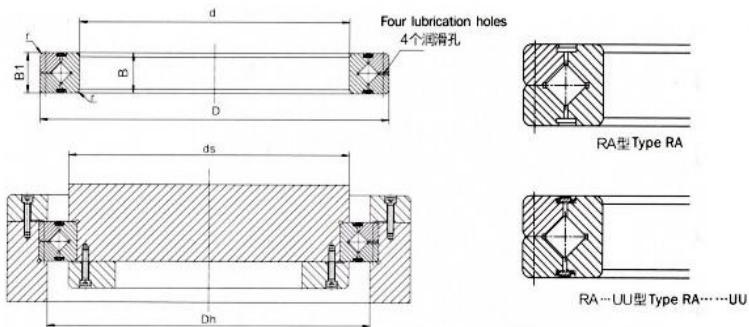


单位(Unit):mm

内圈 Inner Ring		外圈 Outer Ring		公称型号 Bearing Type
安装孔中心径PCD1 Fixing Holes Center Diameter	安装孔尺寸 Fixing Holes Dimension	安装孔中心径PCD2 Fixing Holes Center Diameter	安装孔尺寸 Fixing Holes Dimension	
16	4-M3贯通(Through Hole)	42	6-Φ3.4通孔Φ6.5沉孔深度3.3 6-Φ3.4Through Hole Φ6.5Counterbore Depth3.3	RU 28 RU 42
28	6-M3贯通(Through Hole)	57	6-Φ3.4通孔Φ6.5沉孔深度3.3 6-Φ3.4Through Hole Φ6.5Counterbore Depth3.3	RU 57
35	6-M3贯通(Through Hole)	67	8-Φ4.5通孔Φ8沉孔深度4.4 8-Φ4.5Through Hole Φ8Counterbore Depth4.4	RU 66
45	8-M4贯通(Through Hole)	83	8-Φ5.6通孔(8-Φ5.5Through Hole) 8-M5贯通(Through Hole)	RU85(G) RU 85X
65	10-Φ5.5通孔Φ9.5沉孔深度5.4 10-Φ5.5Through Hole Φ9.5Counterbore Depth5.4	105	10-Φ5.6通孔Φ9.5沉孔深度5.4 10-Φ5.5Through Hole Φ9.5Counterbore Depth5.4	RU 124(G) RU 124X
97	10-Φ5.5通孔Φ9.5沉孔深度5.4 10-Φ5.5Through Hole Φ9.5Counterbore Depth5.4	148	12-Φ9通孔Φ14沉孔深度8.6 12-Φ9Through Hole Φ14Counterbore Depth8.6	RU 148(G) RU 148X
112	12-Φ9通孔Φ14沉孔深度8.6 12-Φ9Through Hole Φ14Counterbore Depth8.6	187	12-Φ9通孔Φ14沉孔深度8.6 12-Φ9Through Hole Φ14Counterbore Depth8.6	RU 178(G) RU 178X
139	12-Φ9通孔Φ14沉孔深度8.6 12-Φ9Through Hole Φ14Counterbore Depth8.6	217	12-Φ11通孔Φ17.5沉孔深度10.8 12-Φ11Through Hole Φ17.5Counterbore Depth10.8	RU 228(G) RU 228X
184	12-Φ11通孔Φ17.5沉孔深度10.8 12-Φ11Through Hole Φ17.5Counterbore Depth10.8	270	16-Φ14通孔Φ20沉孔深度13 16-Φ14Through Hole Φ20Counterbore Depth13	RU 297(G) RU 297X
240	16-Φ14通孔Φ20沉孔深度13 16-Φ14Through Hole Φ20Counterbore Depth13	350	24-Φ14通孔Φ20沉孔深度13 24-Φ14Through Hole Φ20Counterbore Depth13	RU 445(G) RU 445X
385	24-Φ14通孔Φ20沉孔深度13 24-Φ14Through Hole Φ20Counterbore Depth13	505	24-Φ14通孔Φ20沉孔深度13 24-Φ14Through Hole Φ20Counterbore Depth13	

RA型 (内圈整体、外圈分体、超薄)

RA series (Inner ring integrity, outer ring division, thin section)



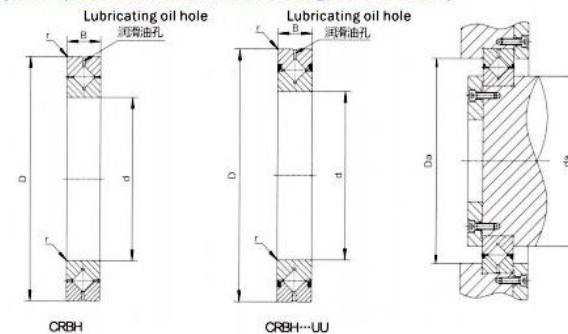
单位(Unit):mm

公称型号 Bearing Type	主要尺寸Dimension					轴肩尺寸 Shoulder Size		基本额定载荷 (径向) Basic Load Rating (Radial)		重量 weight
	内径 Inner Diameter	外径 Outer Diameter	滚子节圆直径 Roller Pitch Diameter	高度 Height	倒角 Chamfer	ds	Dh	Cr	Cor	
	d	D	Dpw	B B1	Rmin					
RA 5008	50	66	57	8	0.5	53.5	60.5	5.1	7.19	0.08
RA 6008	60	76	67	8	0.5	63.5	70.5	5.68	8.68	0.09
RA 7008	70	86	77	8	0.5	73.5	80.5	5.98	9.8	0.1
RA 8008	80	96	87	8	0.5	83.5	90.5	6.37	11.3	0.11
RA 9008	90	106	97	8	0.5	93.5	100.5	6.76	12.4	0.12
RA 10008	100	116	107	8	0.5	103.5	110.5	7.15	13.9	0.14
RA 11008	110	126	117	8	0.5	113.5	120.5	7.45	15	0.15
RA 12008	120	136	127	8	0.5	123.5	130.5	7.84	16.5	0.17
RA 13008	130	146	137	8	0.5	133.5	140.5	7.94	17.6	0.18
RA 14008	140	156	147	8	0.5	143.5	150.5	8.33	19.1	0.19
RA 15008	150	166	157	8	0.5	153.5	160.5	8.82	20.6	0.2
RA 16013	160	186	172	13	0.8	165	179	23.3	44.9	0.59
RA 17013	170	196	182	13	0.8	175	189	23.5	46.5	0.64
RA 18013	180	206	192	13	0.8	185	199	24.5	49.8	0.68
RA 19013	190	216	202	13	0.8	195	209	24.9	51.5	0.69
RA 20013	200	226	212	13	0.8	205	219	25.8	54.7	0.71



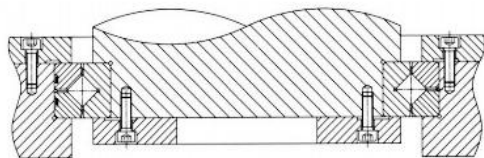
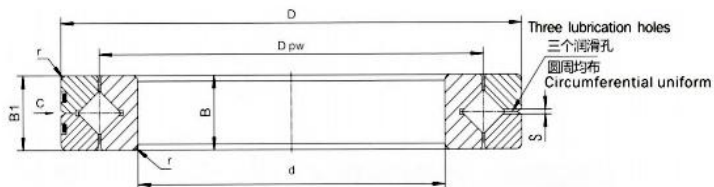
CRBH型 (内外圈整体、超薄)

CRBH series (one—piece of inner and outer ring, thin section)



单位(Unit):mm

公称型号 Bearing Type	主要尺寸Dimension				轴肩尺寸 Shoulder Size		基本额定载荷 (径向) Basic Load Rating (Radial)		重量 weight
	内径 Inner Diameter	外径 Outer Diameter	宽度 Width	倒角 Chamfer	da	Da	Cr	Cor	
	d	D	B	Rmin					
CRBH 208 A	20	36	8	0.3	24	31	2.91	2.43	0.04
CRBH 258 A	25	41	8	0.3	29	36	3.12	2.81	0.05
CRBH 3010 A	30	55	10	0.3	36.5	48.5	7.6	8.37	0.12
CRBH 3510 A	35	60	10	0.3	41.5	53.5	7.9	9.13	0.13
CRBH 4010 A	40	65	10	0.3	46.5	58.5	8.61	10.6	0.15
CRBH 4510 A	45	70	10	0.3	51.5	63.5	8.86	11.3	0.16
CRBH 5013 A	50	80	13	0.6	56	74	17.3	20.9	0.29
CRBH 6013 A	60	90	13	0.6	66	84	18.8	24.3	0.33
CRBH 7013 A	70	100	13	0.6	76	94	20.1	27.7	0.38
CRBH 8016 A	80	120	16	0.6	88	112	32.1	43.4	0.74
CRBH 9016 A	90	130	16	0.6	98	122	33.1	46.8	0.81
CRBH 10020 A	100	150	20	0.6	110	140	50.9	72.2	1.45
CRBH 11020 A	110	160	20	0.6	120	150	52.4	77.4	1.56
CRBH 12025 A	120	180	25	1	132	168	73.4	108	2.62
CRBH 13025 A	130	190	25	1	142	178	75.9	115	2.82
CRBH 14025 A	140	200	25	1	152	188	81.9	130	2.96
CRBH 15025 A	150	210	25	1	162	198	84.3	138	3.16
CRBH 20025 A	200	260	25	1	212	248	92.3	169	4
CRBH 25025 A	250	310	25	1.5	262	298	102	207	4.97


SX 系列 (内圈整体、外圈分体、超薄)
SX series (Inner ring integrity, outer ring division, thin section)


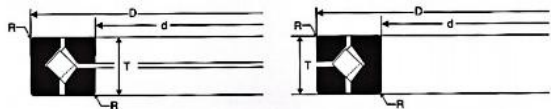
单位(Unit):mm

公称型号 Bearing Type	主要尺寸 Dimension						基本额定负荷 (轴向) Basic Load Rating (Axial)		基本额定负荷 (径向) Basic Load Rating (Radial)		重量 weight
	内径 Inner Diameter	外径 Outer Diameter	滚子节圆直径 Roller Pitch Diameter	宽度 Width	油孔 Oil Holes	倒角 Chamfer	Ca	Coa	Cr	Cor	
	d	D	Dpw	B B1	S	rmin	kN	kN	kN	kN	kg
SX011814	70	90	80	10	1.2	0.6	18	60	12	30	0.3
SX011818	90	115	102	13	1.2	1	26	96	17	47	0.4
SX011820	100	125	112	13	1.2	1	28	106	18	52	0.5
SX011824	120	150	135	16	1.5	1	41	153	26	75	0.8
SX011828	140	175	157	18	1.5	1.1	64	237	41	116	1.1
SX011832	160	200	180	20	1.5	1.1	69	272	44	133	1.7
SX011836	180	225	202	22	2	1.1	98	381	63	187	2.3
SX011840	200	250	225	24	2	1.5	106	425	68	208	3.1
SX011848	240	300	270	28	2	2	149	612	95	300	5.3
SX011860	300	380	340	38	2.5	2.1	245	1027	156	504	12
SX011868	340	420	380	38	2.5	2.1	265	1148	167	563	13.5
SX011880	400	500	450	46	2.5	2.5	385	1699	244	833	24
SX0118/500	500	620	560	56	2.5	3	260	2538	355	1244	44


精密交叉圆锥滚子轴承
 Precision crossed taper roller bearings




产品概览 Product Overview



交叉圆锥滚子轴承是由两列相互垂直的轴承滚道以及相互交叉排列成90°的一组圆锥滚子组成，滚子间有尼龙隔离块隔开，防止了滚子的倾斜和滚子间的摩擦，减小了旋转力矩，它可以承受径向负荷、轴向负荷和倾覆力矩等联合负荷。该轴承具有很高的旋转精度，常用的精度是P5和P4级。交叉圆锥滚子轴承采用大锥角和锥形几何设计，使轴承总体有效跨距更大；其极限转速远高于交叉圆柱滚子轴承，摩擦力矩也低于交叉圆柱滚子轴承。

Crossed taper roller bearings have two sets of races and taper rollers brought together at right angles with alternate taper rollers facing in opposite directions, and with nylon separator between the taper rollers to avoid the mutual friction between rollers and the overturning effect, which reducing the rotation torque, and that can bear combined loads of radial loads, axial loads and overturning moments. The bearing has the very high rotating accuracy, the precision of the commonly used is the P5 and P4 level. The bearings adopt the design of large cone angle and taper, which make the bearing complement have larger stride distance and the limited speed is much higher than the crossed roller bearing, and the friction torque is also lower than that.

主要特性及应用领域：Main character and Application

高精度：精度可达到P4级；

高刚性：该系列轴承均带有预载荷，且可调整，以达到最佳的预载荷；

高承载：可承受轴向载荷、径向载荷、倾覆载荷，抗倾覆刚度高；

高转速：滚动体在运动过程中做纯滚动，因此极限转速高于交叉圆柱滚子轴承；

低摩擦：摩擦力矩远低于交叉圆柱滚子轴承，启动力矩低；设计紧凑，需要的安装空间小。

用于空间受限、旋转质量重心要求低、要求转速高的场合，如，工业机器人、机床精密分度工作台、立式和卧式镗床、立式磨床、回转平面磨床、立式车床、大型滚齿机、转塔、大型望远镜（射电、光学）、旋转相机等等。

- ◆ High precision: precision at P4.
- ◆ High rigidity: these series bearings with preload and can be adjusted, in order to achieve the best preload.
- ◆ High load bearing: can withstand radial load, axial load, and tilting load.
- ◆ High speed: rollers rolling in the raceway, so the limited speed of crossed taper roller bearings is higher than that of crossed cylindrical roller bearings.
- ◆ Low friction: the frictional torque of crossed taper roller bearings is much lower than that of crossed cylindrical roller bearings. Compact structure, small installation space.

This bearings are used in the occasion with limited space, low rotating center of mass, high speed requirements. Such as: industrial robots, machine precision circular indexing table, vertical and horizontal boring machine, vertical grinding machine, rotary surface grinding machine, vertical lathe, large gear hobbing machine, turntable, large telescope (radio, optical), rotating camera, and so on.

配合和安装 Fitting and installation

交叉圆锥滚子轴承无需再配置其它类型轴承。热胀冷缩引起的尺寸变化对交叉滚子轴承没有影响，为提高刚性，该类轴承内、外径和轴与轴承座建议采用过盈配合。

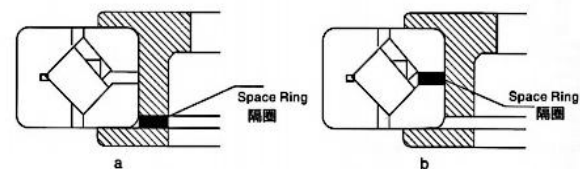
交叉圆锥滚子轴承两个内圈接触可以通过轴上的隔圈施加预载荷，隔圈的宽度决定了预载荷的大小。

It doesn't need to fit other bearings. The dimension variety caused by expansion on heating and contraction on cooling do not effect the bearings. We suggest to use interference fit for the inner rings and outer rings with the shaft and the bearing to improve the bearing rigidity.

Two contact inner of ring cross tapered roller bearing can be exerted preload by spacer shaft. The width of the bearing adjacent structure decide the value of preload.

如上图所示a（主轴上加隔圈）和b（两分半轴承内圈之间加隔圈）两种施加预载荷的方法。

Figure "a" and "b" shows two kinds of preload, a is add intermediate ring on the shaft and b is add intermediate ring between two inner rings.



JXR/XR系列尺寸规格表 JXR/XR series dimension and specifications

单位(Unit):mm

公称型号 ¹⁾ Bearing Type	内径 Inner Diameter d	外径 Outer Diameter D	高度 Width H	倒角 Chamfer R	径向额定 ²⁾ 载荷 Basic load rating(Radial) kN	轴向额定 ²⁾ 载荷 Basic load rating(Axial) kN	极限转速 ³⁾ Limited Speed3 r/min	重量 Weight kg
JXR637050	300	400	37	1.5	63	80.1	720	13
JXR652050	310	425	45	2.5	82.2	102	640	20
JXR699050	370	495	50	3.0	93.6	119	600	30
XR496051	203.2	279.4	31.75	1.5	51.3	61.6	800	6.5
XR678052	330.2	457.2	63.5	3.3	100	123	620	35
XR766051	457.2	609.6	63.5	3.3	141	178	520	51
XR820060	580	760	80	6.4	215	234	300	100
XR855053	685.8	914.4	79.375	3.3	270	344	260	150
XR882055	901.7	1117.6	82.55	3.3	300	396	200	185
XR889058	1028.7	1327.15	114.3	3.3	405	534	160	400
XR897051	1549.4	1828.8	101.6	3.3	518	699	80	500



精密谐波减速机轴承

Precision harmonic reducer bearings



产品概览 Product Overview

谐波减速机以其高转矩容量，高刚性，高定位精度，高旋转精度，高效率，高稳定性，体积小，重量超轻等特点，广泛适用于工业自动化及机器人手臂关节、仿人机器人、半导体液晶生产装置、光伏设备、光学仪器、精密机床等各种尖端领域。谐波减速机轴承本身高精度，结构紧凑，密封好，承载能力强，高刚性，质量稳定可靠，性价比高。内外圈都设计有多层的精密孔可与产品工作部直接连接，适合于各种不同类型的谐波减速机。

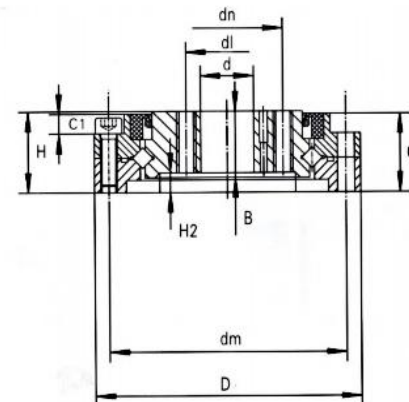
Harmonic reducer, with its high torque capacity, high rigidity, high positioning accuracy, high rotational accuracy, high efficiency, high stability, ultra-small, ultra-light weight and other characteristics, which are widely applied in the industrial automation, robot arm, humanoid robots, semiconductor LCD production equipment, photovoltaic equipment, optical instruments, precision machine tools, and other cutting-edge fields. The inner and outer of harmonic reducer bearings are designed with multi-layer precision hole can be directly connected with working parts of the product, this bearings have the features, such as: high precision, compact structure, good sealing, good capacity, good rigidity, good quality and cost-effective, it is well applied to various types harmonic reducer.

CSF(G)型 CSF(G) series

内圈整体结构，外圈被分为两片，安装时不需要法兰和轴承座，直接安装连接，使用非常方便，适用于CSF(G)各种谐波减速机系列。CSF(G)系列谐波减速机轴承型号如下：

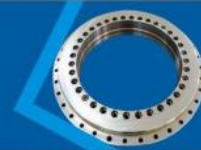
The inner rings have two parts, and the outer ring is the one integral structure. It doesn't need the presser flange or housing. The bearing can be installed directly connected, which is very convenient to use the bearing. And it is well used for all types of CSF(G) harmonic reducer.

The models of CSF(G) series harmonic reducer bearings as follows:



单位(Unit):mm

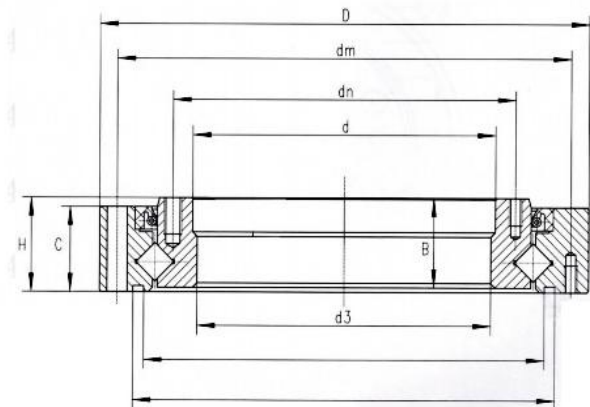
公称型号 Bearing type	外形尺寸 (mm) Overall Dimension (mm)					安装孔尺寸 (孔中心径及孔规格) Installation Hole Size (PCD&SPEC)				重量 weight kg		
	D	d	C	H	B	dm	dn	dl				
CSF(G)-14	55	11	16	16.5	13.5	49	8-φ3.5	23	6-M4	17	6-M4	0.35
CSF(G)-17	62	10	16	16.5	13.5	56	10-φ3.5	27	6-M5	19	6-M5	0.4
CSF(G)-20	70	14	16	16.5	13.5	64	12-φ3.5	32	8-M6	24	8-M5	0.5
CSF(G)-25	85	20	18	18.5	16.5	79	16-φ3.5	42	8-M8	30	8-M6	0.72
CSF(G)-32	112	26	21.5	22.5	19	104	16-φ4.5	55	8-M10	40	8-M8	1.74
CSF(G)-40	126	24/32	22.5	24	21.5	117	20-φ5	68	8-M10	50	8-M10	2.32
CSF(G)-50	157	32/40	30	31	28	147	16-φ5.5	84	8-M14	60	8-M14	4.64
CSF(G)-65	210	44/52	37	39	35	198	20-φ6.5	110	8-M16	80	8-M16	9.65



SHF(G)系列 SHF(G) series

内圈和外圈都为整体结构，安装对性能几乎无任何影响，能够获得稳定的旋转精度和扭矩，使用非常方便，适用于SHF(G)各种谐波减速机系列。SHF(G)系列谐波减速机轴承型号如下：

It has an integrated inner and outer ring structure, and its performance is minimally affected by the mounting procedure, so it can ensure stable rotation accuracy and torque. It's easy to use, which is well used for all types of SHF(G) harmonic reducer. The models of SHF(G) series harmonic reducer bearings as follows:



单位(Unit):mm

公称型号 Bearing Type	外形尺寸 (mm) Overall Dimension (mm)						安装孔尺寸 (孔中心径及孔规格) Installation Hole Size (PCD&SPEC)			基本额定载荷 Basic Load Rating		重量 weight	
	D	d	d3	B	C	H	dm	dn	Cr	Cor	kg		
SHF(G)-14	70	38	35.6	14.6	14.1	15.1	64	8-φ3.5	44	12-M3	6.1	14	0.11
SHF(G)-17	80	47	44.1	16.4	16	17	74	12-φ3.4	54	20-M3	9.4	16.1	0.36
SHF(G)-20	90	54	51.3	17.5	17.5	18.5	84	12-φ3.5	62	16-M3	20.2	31.1	0.44
SHF(G)-25	110	68	64.2	19.7	18.7	20.7	102	16-φ4.5	77	16-M4	28.5	45.2	0.7
SHF(G)-32	142	88	84	23.4	23.4	24.4	132	12-φ5.5	100	16-M5	47.3	77.3	1.57
SHF(G)-40	170	108	106	28.5	29	30	158	12-φ6.6	122	16-M6	35.5	71.2	2.4
SHF(G)-50	214	135	129	34.5	34	36	200	12-φ9	154	16-M8	80.4	151.9	4.5

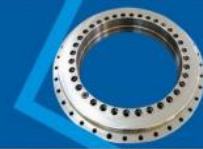


HGB BEARING

高精度转台轴承

High precision rotary table bearings





1、产品概览 Product Overview

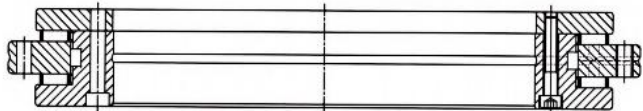
YRT转台轴承由一个推力/向心座圈，一个推力/向心轴圈，一个推力垫圈，两个滚针保持架组件和一组向心圆柱滚子组成，座圈和轴圈有均布的安装用螺钉孔。该型轴承具有高轴向和径向承载能力、高刚度和非常高的精度。

YRT rotary table bearing is included by a thrust race/radial race, a thrust gasket, two needle rollers with cage assembly and a set of centripetal roller. There is the screw holes which is used for the installation on the race and circle. YRT bearings has the high axial rigidity, high radial loading capacity, high stiffness and high accuracy.

YRT标准系列 YRT basic series

推力-向心组合结构，是用螺栓引导安装的径向引导双向推力轴承，预填充有润滑脂，即装即用，并且安装无需调整游隙，具有非常高的刚度，承载能力和运转精度，可同时承受双向轴向载荷、径向载荷和倾覆力矩，此系列适用于低转速，运转周期短的应用，如数控回转工作台、分度头、回转铣头等。

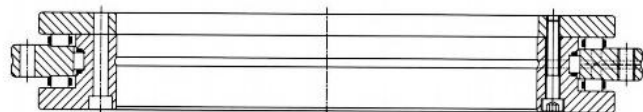
Radial Double direction thrust bearing is installed under the guide of bolted, its structure is thrust-centripetal composite. The bearings have preload before leaving factory, no need to adjust clearance when installed. This series bearings have the characteristics of high stiffness, good bearing capacity and running accuracy, and can withstand the bidirectional axial load, radial load and tilting moment, this series is applicable the place where is low speed, short operation cycle, such as CNC rotary table, dividing head, rotary milling head.



YRTS高速系列 YRTS high speed series

此系列具有相对YRT标准系列转速高，并且整个转速范围内摩擦力矩低，并且均匀，外形结构尺寸与YRT系列相同，但内部结构于YRT系列相对不同，此系列在直驱电机驱动下使用最为合适。

YRTS series bearing's limit speed higher than YRT series, and the frictional torque is lower than YRT series and uniform spread, this bearings have the same outer structure with YRT series, but the difference inner structure. This series bearing is used for shaft which driven by direct drive motor.



YRTM带角度测量系统的转台轴承 YRTM rotary table bearings with integral measuring system

角位移的测量在工业应用中有着十分重要的作用，特别在机床行业中，对加工件的旋转角度有很高要求，这就需要对角位移进行精确的测量和控制。

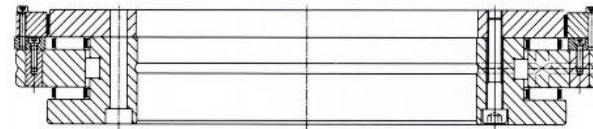
现今对于角位移的测量，较常用的方法有光栅编码器，磁栅编码器等，同时，由于是加装在YRT轴承上，该组合轴承有极高的旋转精度，又能同时承受轴向载荷、径向载荷和倾覆力矩，非常适用于机床行业中的高精度数控转台、分度头以及科研实验和测量等要求较高的领域。

The measurement of angular displacement is very important in modern industry, especially in machine tool industry, the rotation angle of mechanical parts was often highly demand. It needs to accurately mature and control the angular displacement.

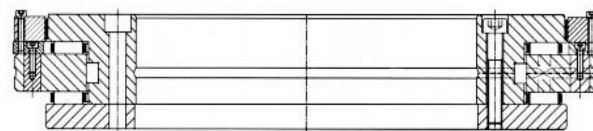
Now, grating encoder, magnetic gate encoder is commonly used in measuring the angular displacement. At the same time, because it is installed on the YRT bearing, the composite bearing has extremely high rotation accuracy, and can also carry axial load, radial load and tilting moment.

They are very suitable for the high precision rotary table in machine tools industry, dividing head and scientific experiment and measurement and other areas where the high precision are demand.

钢栅装在垫圈上 Steel grate is installed on the washer



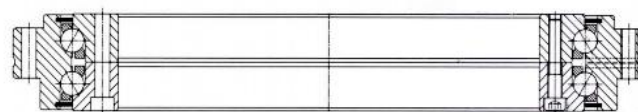
钢栅装在L型内圈上 Steel grate is installed on the "L" shape inner ring



ZKLDF推力角接触球系列 ZKLDF thrust angular contact ball bearings series

双向推力角接触球系列，具有高精度，低摩擦，高转速，高轴向和径向载荷以及倾覆刚度，非常适用于联合载荷的应用场合，例如高速回转工作台、铣削、磨削、珩磨头以及精密测量、测试设备等。

The double direction angular contact thrust ball bearings have the characters of high precision, low friction, high rotation speed, high axial and radial load and high overturning stiffness, they are widely used in the high speed rotary worktable, rotary worktable, milling, honing head and precision measuring instruments and other combined load occasions.



2、结构特性 Structural Features

YRT标准系列和YRTS高速系列 YRT basic series and YRTS high speed series

推力-向YRT与YRTS系列转台轴承具有径向组件与轴向组件，轴向组件由上下各一排圆柱滚子与保持架组成，径向组件由一排组径向满装滚子或有保持架引导组成，一个外圈，一个L形内圈以及第二内圈，内、外圈带有安装孔，预载的该轴承通过螺栓的圆周均布，保证安装方便与运输。

YRT and YRTS series bearings with radial component and axial components, two groups of axial needle roller, a group of radial full roller, cage assembly, an outer ring, a L-section inner ring and the inner and outer ring with mounting holes, the circumference of the bearing by bolted preload uniform, ensuring convenient installation and transportation.



YRT



YRTS

YRTM系列带集成角度测量系统 YRTM series rotary with integral measuring system

钢栅系统包括钢栅尺、读数头、电子评估器三部分。钢栅尺是一个封闭的钢制圆环，上面有均匀分布的栅格，它安装在轴承的内圈上。读数头安装在在轴承外圈上，与钢栅尺靠近但并不接触，两者之间有0.1-0.2mm间隙。工作时轴承旋转，钢栅尺和读数头做非接触式相对运动，通过感应采集来的数据经电缆传给电子评估器。电子评估器再将数据转换为方波或正弦波信号。这些信号输入到机床的数控系统中，就能实现对角位移的测量和控制。

Grade measurement system includes three parts steel grade feet, reading-head and electronic assessment. The steel grade feet is installed on the inner ring of the bearing, it is a steel ring with grids uniform distribution on. The reading-head is installed on the outer ring of the bearing, it is near the steel grade feet, but not touch, there is a 0.1-0.2mm clearance between them. When working, the bearing rotary, the steel grade feet and the reading-head do non-contact relative motion, then turn the data which is collected by induction to the electronic evaluation through the cable. The electronic evaluation then transfer the information to square wave or positive harmonic signal. These signal is put into the numerical control system. In the machine tools, it can realize the measuring and control to the angular displacement.

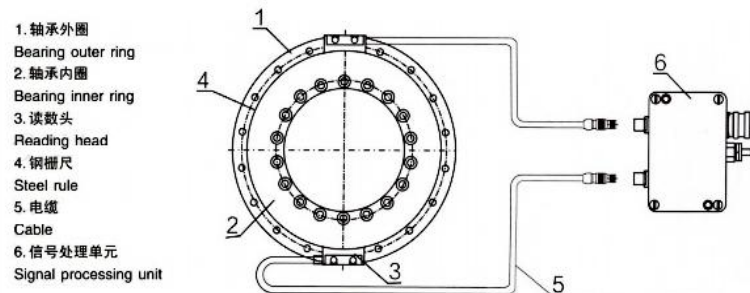
钢栅系统主要特点如下：

1. 非接触感应式编码器，无磨损
2. 精度可与光学编码器相媲美，最高精度 $\leq 2''$
3. 双读数头测量系统可以对轴承径向的偏差进行实时校正
4. 高转速、高动态性能，高分辨率
5. 无磁性构件，无磁滞反应，无消磁危险
6. 对环境干扰具备极强的抗干扰性，防护等级IP67，可耐一定水压、尘密、对任何类型的污染或者污物不敏感。
7. 紧凑的设计，解决用户安装空间狭小的问题。
8. 可输出正弦波(1VPP)或方波信号(TTL)，兼容西门子和FANUC等数控系统。



Advantage of the steel measuring system :

- ◆ No-contact inductive encoder, no wearing.
- ◆ The precision can be compared with the optical encoder, high precision < 2 arc-second.
- ◆ Double reading-head measuring system can correct the deviation on bearing radial in real time.
- ◆ High speed, high dynamic resolution, high dynamic performance.
- ◆ No magnetic components, no hysteresis reaction, no demagnetization dangerous.
- ◆ Strong anti-jamming to solid grain, oil etc. Protection grade IP67, resistance to water pressure and dense dust, not sensitive to any type of dirt and pollutants.
- ◆ Compact design, no matter for narrow installation space.
- ◆ Can output sine wave (1VPP) and square wave signal (TTL), compatible with Siemens and Famic numerical control system, etc



ZKLDF推力角接触球系列 ZKLDF thrust angular contact ball bearings series

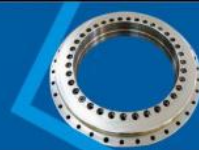
双向推力角接触球轴承包括一个整体外圈、两个内圈和两组钢球及保持架组件，接触角为 60° 。外圈和内圈带有安装孔，轴承自身通过联接螺栓固定，保证安装运输和搬运。

工作温度：YRT、YRTS、ZKLDF系列轴承适应的温度范围为-30到+120

Double thrust angular contact ball bearing consists of an integral outer ring and two divided inner ring and two sets of steel ball and cage components, the contact angular is 60° . The outer ring and inner ring both with mounting holes, the bearing itself are connected with the bolts to ensure the installing the transporting and moving.

Working temperature: YRT, YRTS, ZKLDF series bearings can work under the temperature of -30 to $+120^\circ\text{C}$.





三个系列轴承的极限转速和倾覆刚度比较

Limited speed & Tilting moments is shown in

①ZKLD②YRTS③YRT

nG=极限转速

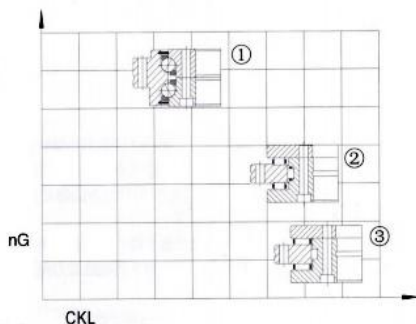
nG = limited speed

CKI=倾覆刚度

CKI = tilting moments

极限转速与倾覆刚度

Limited speed & Tilting moments



3、设计和安装 Design and fitting

基本额定寿命 必须校核轴向和径向组件的承载能力和寿命, 需要基本额定寿命相关数据时请与我们联系, 必须提供速度、载荷和运转周期数据。

Basic rating life: it needs to be calculated based on the loading capacity and life of radial and axial subassembly. If you need the data of basic rating life, please contact with Ouna. (The data of speed, loading and running period should be provided to us).

静载荷安全系数: Static load safety factor

静载荷安全系数So用来表明轴承中出现的不允许塑性变形的安全性;

Static load safety factor "So" is used to declare the safety when create plastic deformation in bearings that can not be accepted:

$$So = Cor/For = Coa/Poa$$

Cor - 径向基本额定静载荷 Coa - 轴向基本额定静载荷

Cor - Radial basic rated static load Coa - Axial basic rated static load

For - 径向当量静载荷 Fo a - 轴向当量静载荷

For - Radial maximum static load Fo a - Axial maximum static load

应用于机床或者类似的情况中, 取So=4。

Machine tools or similar situation, please choose So=4.

极限载荷图: Limiting load diagrams

极限静载荷图可用于:

1. 在轴承主要受静载荷的情况下快速确定轴承的尺寸。
2. 计算轴承可承受轴向载荷之外的倾覆力矩Mk。

The static limiting load diagrams can be used as followings

◆ For rapid checking the bearing size under predominantly static load.

◆ Calculating the tilting moment Mk.

极限载荷图是基于滚动体组件的静载荷安全系数So≥4, 以及螺栓和轴承套圈的强度。选择轴承时, 不可超过极限静载荷, 如下图所示。

The limiting load diagrams is made by taking account of the static load safety factor So≥4, and the strength of the rolling element set as well as the screw. The static limiting load must not be exceeded when choose the dimensions of bearings. Please see Figure 5.

① 轴承, 尺寸

① Bearing / Size

② 允许范围

② permissible range

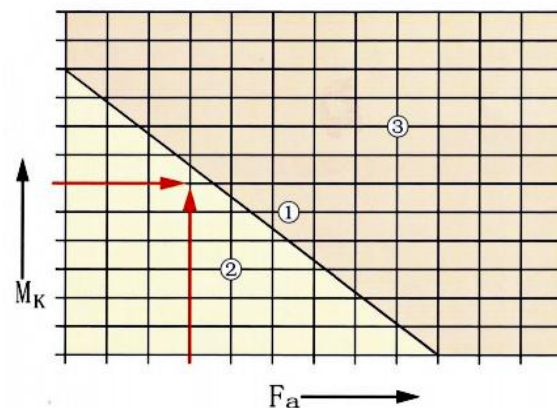
③ 不允许范围

③ impermissible ranges

Mk=Max tilting moment

Fa=轴向载荷

Fa=axial load



极限转速 Limiting speeds

轴承的许可极限转速nG如尺寸表中所示, 轴承的极限转速与轴承的工作温度有关, 而工作温度与环境以及轴承自身的条件及各参数有关, 可以通过以摩擦力矩为基础的热平衡分析进行计算。如果环境条件与技术要求有差别, 或者和一般运转工况不同, 需要再次验算, 请与我们联系。

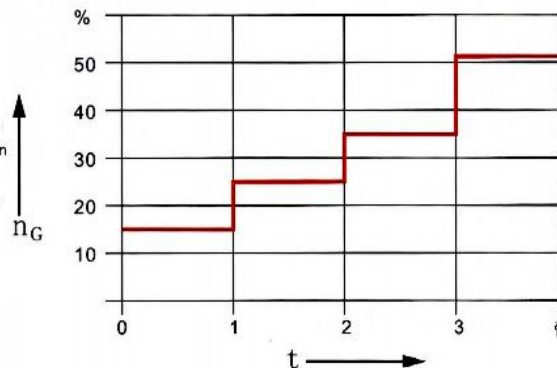
The bearings' limiting speeds nG is given in the dimension tables. Bearing limiting speeds is related to the operating temperatures. The generate heat are heavily depend on the bearing's service, environment, the quality of bearing and the related parameters. The limited speed in the dimension table is computed under the generally bearing work condition. If the environmental conditions differ from the specifications, you need carry out again. Please contact with OUNA.

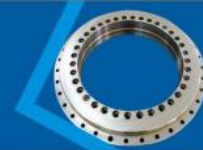
nG=尺寸表中的极限速度

nG=limiting speed according to dimension table

t=时间

t=time





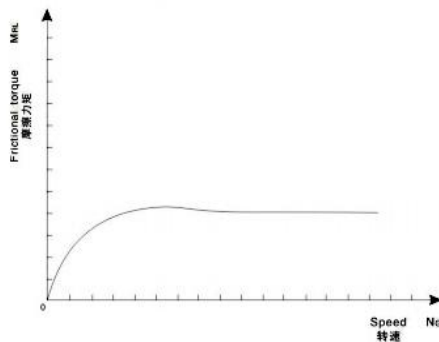
摩擦力矩 Frictional torque

轴承的摩擦力矩MRL主要受润滑剂粘度、数量和轴承预载的影响。润滑剂的粘度和数量取决于润滑剂等级和工作温度；轴承的预载取决于安装配合、相邻的几何精度、内外圈的温度差、螺栓的拧紧力矩和安装状态（轴承内圈是单侧的还是双侧的轴向支撑）。

尺寸表中的摩擦力矩MRL是脂润滑轴承的统计参考值（测量速度5r/min）。

The bearing frictional torque MRL is influenced primarily by the viscosity and quantity of the lubricant and the bearing preload. The lubricant viscosity and quantity are dependent on the lubricant grade and operating temperature. The bearing preload is dependent on the mounting fits, the geometrical accuracy of the adjacent parts, the temperature difference between the inner and outer ring, the screw tightening torque and the mounting situation (bearing inner ring axially supported on one or both sides).

The frictional torque MRL in the dimension tables are statistically determined guide values for bearings with grease lubrication (measurement speed 5r/min).



对于YRT标准系列轴承，随着速度的提高，摩擦力矩会增加2到2.5倍，而YRTS高速系列则不会出现这种情况。对于ZKLDF轴承系列，必须考虑到启动摩擦力矩可能是尺寸表中数值MRL的1.5倍。

For YRT basic series bearings, the frictional torque can increase 2 and 2.5 times by a factor of increasing speed, YRTS higher speed bearings will not appear. For ZKLDF bearings, it must be taken into consideration that the starting frictional torque can be 1.5 times of the values MRL in the dimension tables.

润滑 Lubrication

YRT和YRTS系列轴承可以通过L型内圈和外圈上的油孔进行润滑。ZKLDF轴承系列可以通过外圈上的油孔进行润滑。

再润滑的润滑剂数量和间隔应根据给出的载荷情况（速度，载荷，运转持续时间）和环境条件进行计算，请与我们联系。

过量润滑：如果过量润滑，会使轴承的摩擦力矩增大，温度升高。为了达到最初的摩擦力矩，应按照图7所示的周期进行跑合。

YRT and YRTS can be re lubricated via the L section ring and outer ring oil holes. ZKLDF axial angular contact ball bearings can be re lubricated via the outer ring oil holes.

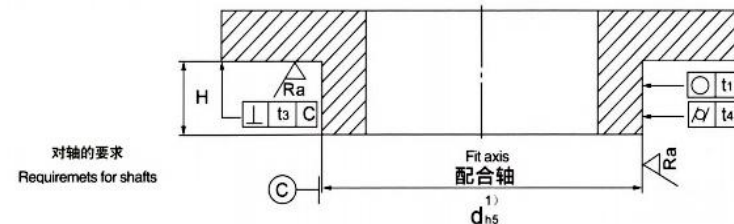
The quantity of re lubrication should depend on the stated load condition (speed, load, operating duration) and other working conditions.

Over lubrication: if the bearing is inadvertently over lubricated, the bearing frictional torque and temperature will increase. In order to achieve the original frictional torque again, the running-in cycle in accordance with Figure 7.

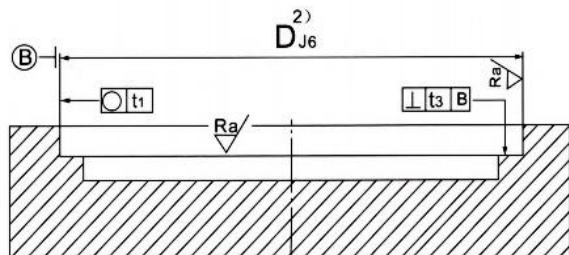
轴和轴承座的设计 Design of axis and bearing set

YRT、YRTS和ZKLDF系列具有相同的轴承安装尺寸。螺栓安装和配合面如果精度不好会影响到轴承运转的精度、预载和运转特性，因此相邻表面的精度必须与组件的精度要求匹配，相邻面的公差须在轴承运转公差内。

YRT, YRTS and ZKLDF series bearings have the same mounting dimensions. If the accuracy is not good, it will influence the running accuracy, preload, frictional torque and running characteristics. Therefore, the shaft and the bearing set must be matched to the bearing accuracy requirement of the subassembly.



公称型号 Bearing type	配合轴颈 Shaft diameter (mm)			圆度 Roundness (○)	垂直度 (⊥) Perpendicularity	圆柱度 (○) Cylindricity	表面粗糙度 Ra Roughness
	公称尺寸 (d) Nominal dimension	上偏差 Upper deviation	下偏差 Lower deviation	t1 (μm)	t3 (μm)	t4 (μm)	Ra (μm)
YRT50	50	0	-0.011	3	3	3	0.4
YRT80	80	0	-0.013	3	3	3	0.4
YRT(ZKLDF)100	100	0	-0.015	4	4	4	0.4
YRT(ZKLDF)120	120	0	-0.015	4	4	4	0.4
YRT(ZKLDF)150	150	0	-0.018	5	5	5	0.8
YRT(ZKLDF)180	180	0	-0.018	5	5	5	0.8
YRT(ZKLDF)200	200	0	-0.02	7	7	7	0.8
YRT(ZKLDF)260	260	0	-0.023	8	8	8	0.8
YRT(ZKLDF)325	325	0	-0.025	9	9	9	0.8
YRT(ZKLDF)395	395	0	-0.025	9	9	9	0.8
YRT(ZKLDF)460	460	0	-0.027	10	10	10	0.8
YRT(ZKLDF)580	580	0	-0.028	11	11	11	1.6
YRT(ZKLDF)650	650	0	-0.032	12	12	12	1.6
YRT850	850	0	-0.036	14	14	14	1.6
YRT950	950	0	-0.036	14	14	14	1.6
YRT1030	1030	0	-0.045	16	16	16	1.6
YRT1200	1200	0	-0.054	18	18	18	1.6


 配合度
 Bearing set dimensions

公称型号 Bearing type	配合轴颈 Shaft diameter (mm)			圆度 Roundness (○)	垂直度 (⊥) Perpendicularity	表面粗糙度 Ra Roughness
	公称尺寸 (d) Nominal dimension	上偏差 Upper deviation	下偏差 Lower deviation			
YRT50	126	+0.018	-0.007	5	5	0.8
YRT80	146	+0.018	-0.007	5	5	0.8
YRT(ZKLDF)100	185	+0.022	-0.007	7	7	0.8
YRT(ZKLDF)120	210	+0.022	-0.007	7	7	0.8
YRT(ZKLDF)150	240	+0.022	-0.007	7	7	0.8
YRT(ZKLDF)180	280	+0.025	-0.007	8	8	0.8
YRT(ZKLDF)200	300	+0.025	-0.007	8	8	0.8
YRT(ZKLDF)260	385	+0.029	-0.007	9	9	0.8
YRT(ZKLDF)325	450	+0.033	-0.007	10	10	0.8
YRT(ZKLDF)395	525	+0.034	-0.01	11	11	1.6
YRT(ZKLDF)460	600	+0.034	-0.01	11	11	1.6
YRT(ZKLDF)580	750	+0.038	-0.012	12	12	1.6
YRT(ZKLDF)650	870	+0.044	-0.012	14	14	1.6
YRT850	1095	+0.052	-0.014	14	14	1.6
YRT950	1200	+0.052	-0.014	16	16	1.6
YRT1030	1300	+0.060	-0.016	18	18	1.6
YRT1200	1490	+0.068	-0.02	20	20	1.6

配合 Fit

配合形式为过渡配合。即根据实际的轴承直径尺寸和安装尺寸，会出现间隙配合或者是过盈配合。配合会影响到轴承的运转精度和动态特性，如过紧的配合会增大轴承的径向预载，降低轴承的最高转速和工作寿命。

The adjacent structure form of Turntable bearings is the transition fit. That is to say, according to the actual bearing diameter size and installation size, it may appear the clearance fit or the interference. Improper fits will decrease the rotational accuracy and dynamic

performance, such as tight fit increase bearing radial preload, then the friction will increase, generate much heat, the load and friction of the raceway will be get up step up. So, the limiting speed and the useful life will drop.

与轴的推荐配合: Advice to the bearing fit with the shaft:

轴的制造公差为h5。对于最高的运转精度要求和内圈转动的情况，其配合间隙应可能接近零，否则配合间隙会增大轴承的跳动。对于高速及更长运转时间的工况，不能超过0.01mm的配合间隙。对于YRTS系列，配合间隙不能超过0.005mm。对于ZKLDF系列，配合间隙应根据最小孔径的内圈进行确定。

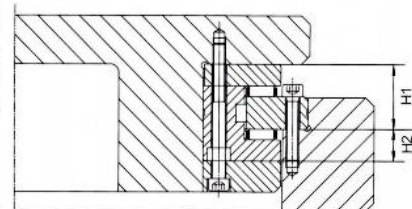
The tolerance of shaft is h5. For the situation of high accuracy of rotation and inner ring rotation, the clearance fit should be close to zero, or the clearance fit will raise the run-out of the bearing. For the higher rotation speed and longer run duration, the clearance fit can not over 0.01 mm. For the YRTS high speed series bearings, the clearance fit can not over 0.005mm. For ZKLDF series bearings, the clearance fit should be decided as the size of the inner ring.

与轴承座的推荐配合: Advice to the bearing fit with the bearing set:

轴承座的制造公差应为J6。对于最高运转精度要求和外圈转动的情况，其配合间隙应尽可能接近零，如果外圈静止，应选择间隙配合或无径向对中的设计。

对于更高速度或更长运转时间的工况，轴承外圈应无径向对中设计并且与轴承座应采取至少0.02mm的配合间隙，这样可以降低轴承生热时引起的预载增大。

The tolerance of bearing set should be J6. For the situation of high accuracy of rotation and outer ring rotation, the clearance fit should be close to zero. If the outer ring does not run, we should use the proposal of clearance fit or the design which need not radial positioning. For the case of higher rotation speed and longer run duration, the outer ring should not use the design which need radial positioning, and the clearance fit should be 0.02mm at least, this can reduce the over load when the bearing occurs much heat.


 安装尺寸 H1, H2
 installation dimension H1, H2

安装尺寸 H1、H2 The size requirement of H1、H2:

如果高度偏差要尽可能的小，H1尺寸（见右图）公差必须按照第42页表中数值控制安装尺寸，H2确定了所有采用蜗轮蜗杆结构中的涡轮位置，或见第41页上图2，带支撑环的L形内圈。

If the height deviation should be as small as possible, H1 (the picture on the right) deviation must be controlled by the data (Page 42) and H2 promise the turbine position in worm gear structure. Or please see Figure YRT.....VSP in page 41. the "L" shape inner ring with support ring.

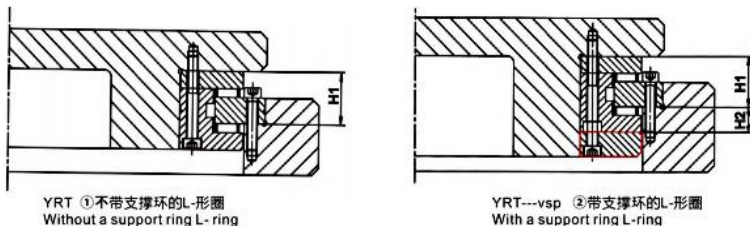
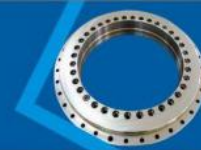
带支撑环和不带支撑环的L形内圈 "L" inner ring with support ring and without support ring.

YRT轴承的L形内圈的整个大端面可以完全支撑②或不支撑①，如图。如果支撑，那么倾覆刚性会更高。

对于“安装支撑环的L型圈”，轴承型号带有后缀VSP。如YRT200VSP等；且支撑环的高度至少应为轴承第二内圈高度的两倍。

"L" shape inner ring's entire head face can support the YRT VSP bearing completely or don't support the YRT bearing. Please see the following figure. For "L" shape ring with support ring, the rigidity of overturn will be bigger.

For "L" shape ring with support ring, the bearing type have a suffix VSP. For example, YRT200VSP. The height of the support ring should be twice of that of the second inner ring.



安装 : Installation instruction

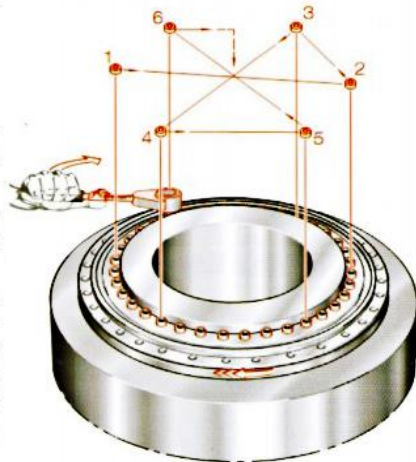
为了使轴承对中更容易, 安装前要松开保持螺栓, 并在安装后拧紧或者取下, 根据给定的拧紧力矩MA, 用力矩扳手按十字交叉顺序, 分三步依次拧紧固定螺栓, 拧紧固定螺栓的同时边转动轴承。

In order to make the bearing positioning more easily, the connecting bolt of bearing must be released before installation, and tighten after that. As given tighten torque MA, tighten the fixing screws in crosswise sequence by using a torque wrench in three steps (Figure 11) as well as rolling the bearings.

- 第一步: 40%MA; Step 1, 40% of the MA
- 第二步: 70%MA; Step 2, 70% of the MA
- 第三步: 100%MA; Step 3, 100% of the MA

注意: Note:

注意安装螺栓的等级为12.9级以上, 安装力只能加在要安装的轴承套圈上, 不许通过滚动体, 在安装与拆卸过程中, 轴承组件不可拆分或互换, 如果轴承转动异常困难, 要松开安装螺栓, 并且重新按照十字交叉顺序再次分三步拧紧, 可以消除轴承变形。应按下图安装轴承, 安装过程中严禁敲击轴承。



It should be noted that the level of installing bolts is over 12.9 level. The installation power only can be fixed on the bearing rings, not on the roller. In the mounting and disassembly of bearing, the units of bearings can not be split and changed. If the bearings rotate hard, please release the mounting bolt and tighten the fixing screws in crosswise sequence by using a torque wrench in three steps. Thus it can eliminate the deformation of bearings.

It should be installed in accordance with the following bearings (Striking is strictly forbidden).

轴承精度 Bearing precision

YRT系列轴承的尺寸精度为P5级, 旋转精度为J4级。

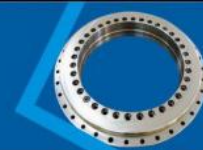
YRT series bearings, the dimension precision is P5 class, and rotation precision is P4 class.

YRT和ZKLDF系列 YRT and ZKLDF series

外形尺寸 Overall Dimension											轴向跳动和径向跳动 Axial runout and run ² to beat (μm)		
d			D			H	H1			H2	标准 Standard	严格的 ¹ Strict ¹	
公称尺寸 Nominal dimension mm	上偏差 Upper deviation mm	下偏差 Lower deviation mm	公称尺寸 Nominal dimension mm	上偏差 Upper deviation mm	下偏差 Lower deviation mm	公称尺寸 Nominal dimension mm	公称尺寸 Nominal dimension mm	偏差 deviation mm	严格的 ¹ Strict ¹ $\Delta H1s$ mm	严格的 ¹ Strict ¹ $\Delta H2s$ mm			
50	0	-0.008	126	0	-0.011	30	20	± 0.125	± 0.025	10	± 0.02	2	1
80	0	-0.009	146	0	-0.011	35	23.35	± 0.15	± 0.025	11.65	± 0.02	3	1.5
100	0	-0.01	185	0	-0.015	38	25	± 0.175	± 0.025	13	± 0.02	3	1.5
120	0	-0.01	210	0	-0.015	40	26	± 0.175	± 0.025	14	± 0.02	3	1.5
150	0	-0.013	240	0	-0.015	40	26	± 0.175	± 0.03	14	± 0.02	3	1.5
180	0	-0.013	280	0	-0.018	43	29	± 0.175	± 0.03	14	± 0.025	4	2
200	0	-0.015	300	0	-0.018	45	30	± 0.175	± 0.03	15	± 0.025	4	2
260	0	-0.018	385	0	-0.02	55	36.5	± 0.2	± 0.04	18.5	± 0.025	6	3
325	0	-0.023	450	0	-0.023	60	40	± 0.2	± 0.05	20	± 0.025	6	3
395	0	-0.023	525	0	-0.028	65	42.5	± 0.2	± 0.05	22.5	± 0.025	6	3
460	0	-0.023	600	0	-0.028	70	46	± 0.225	± 0.06	24	± 0.03	6	3
580	0	-0.025	750	0	-0.035	90	60	± 0.25	± 0.075	30	± 0.03	10	5(4)
650	0	-0.038	870	0	-0.05	122	78	± 0.25	± 0.1	44	± 0.03	10	5(4)
850	0	-0.05	1095	0	-0.063	124	80.5	± 0.3	± 0.12	43.5	± 0.03	12	6(4)
950	0	-0.05	1200	0	-0.063	132	86	± 0.3	± 0.12	46	± 0.03	12	6(4)
1030	0	-0.063	1300	0	-0.08	145	92.5	± 0.3	± 0.15	52.5	± 0.03	12	6(4)
1200	0	-0.075	1490	0	-0.085	164	108	± 0.3	± 0.15	52.5	± 0.05	15	6(4)

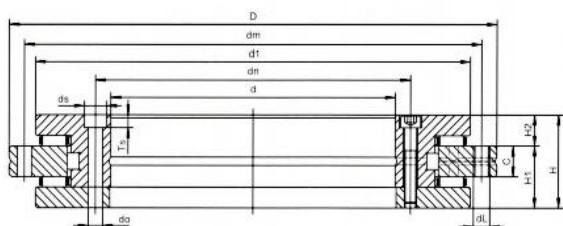
YRTS高速系列 YRTS high speed series

尺寸公差 Dimension Tolerance				安装尺寸 Installation dimension			轴向和径向跳动 ¹ The axial and radial runout ¹	
内径 Inner diameter		外径 Outer diameter					标准 Standard μm	严格的 ¹ Strict ¹ μm
d mm	Δds mm	D mm	ΔDs mm	H1 mm	$\Delta H1s$ mm	H2 mm		
200	-0.015	300	-0.018	30	0.04 -0.06	15	4	2
260	-0.018	385	-0.02	36.5	0.05 -0.07	18.5	6	3
325	-0.023	450	-0.023	40	0.06 -0.07	20	6	3
395	-0.023	525	-0.028	42.5	0.06 -0.07	22.5	6	3
460	-0.023	600	-0.028	46	0.07 -0.08	24	6	3

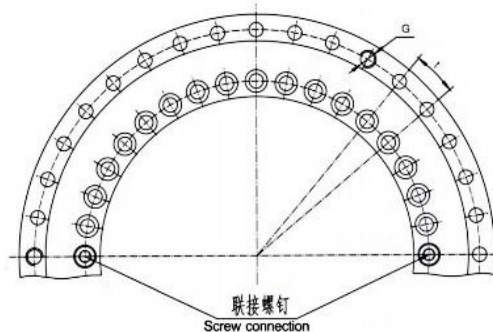


4、尺寸规格表Dimension

YRT标准系列 YRT basic series



公称型号 Bearing type	外形尺寸 Overall Dimension									固定孔 The fixing holes					
	d	D	H	H1	H2	C	d1	dn	dm	内圈 Inner ring			外圈 Outer ring		
	单位: mm Unit: mm									do	ds	Ts	数量 ¹⁾ QTY ¹⁾	dL	数量 ¹⁾ QTY ¹⁾
										mm			mm	mm	
YRT50	50	126	30	20	10	10	105	63	116	5.6	9	4.2	10	5.6	12
YRT80	80	146	35	23.35	11.65	12	130	92	138	5.6	10	4.2	10	4.6	12
YRT100	100	185	38	25	13	12	160	112	170	5.6	10	5.4	16	5.6	15
YRT120	120	210	40	26	14	12	184	135	195	7	11	6.2	22	7	21
YRT150	150	240	40	26	14	12	214	165	225	7	11	6.2	34	7	33
YRT180	180	280	43	29	14	15	244	194	260	7	11	6.2	46	7	45
YRT200	200	300	45	30	15	15	274	215	285	7	11	6.2	46	7	45
YRT260	260	385	55	36.5	18.5	18	345	280	365	9.3	15	8.2	34	9.3	33
YRT325	325	450	60	40	20	20	415	342	430	9.3	15	8.2	34	9.3	33
YRT395	395	525	65	42.5	22.5	20	486	415	505	9.3	15	8.2	46	9.3	45
YRT460	460	600	70	46	24	22	560	482	580	10	15	8.2	46	10	45
YRT580	580	750	90	60	30	30	700	610	720	11.4	18	11	46	11.4	42
YRT650	650	870	122	78	44	34	800	680	830	14	20	13	45	14	42
YRT850	850	1095	124	80.5	43.5	37	1018	690	1055	18.5	26	17	57	18.5	54
YRT950	950	1200	132	86	46	40	1130	990	1160	18.5	26	17	57	18.5	54
YRT1030	1030	1300	145	92.5	52.5	40	1215	1075	1255	18.5	26	17	66	18.5	66
YRT1200	1200	1490	164	108	56	52	1410	1240	1445	18.5	26	17	66	18.5	66

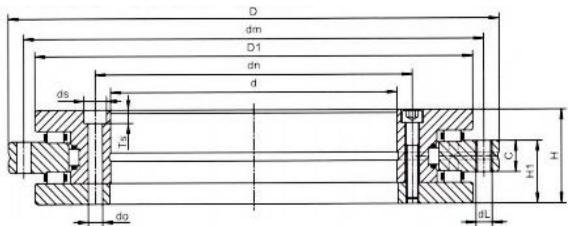


YRT转台轴承
YRT rotary table bearing

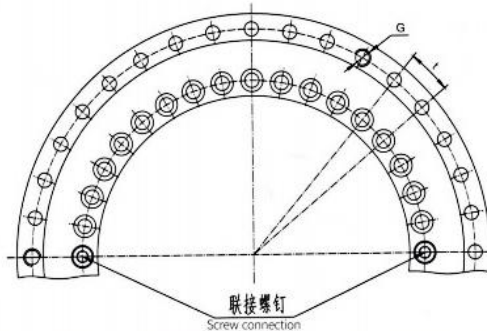
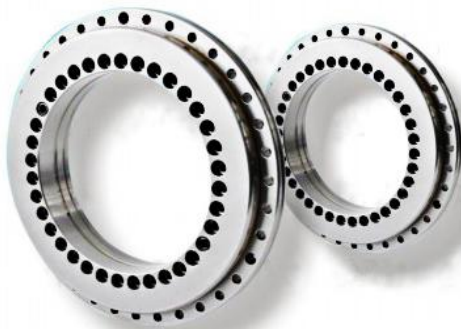
联接螺钉 数量 Screw connection QTY	螺纹退卸孔 Connect screws holes		节距 ¹⁾ Pitch ¹⁾ t	螺钉拧紧 力矩 Tightening torque of screw Ma ²⁾	基本额定载荷 Basic rated load				极限转速 ¹⁾ Limited speed ¹⁾ r/min	轴承摩 ¹⁾ 擦力矩 Friction moment ¹⁾ Nm	重量 Weight = Kg	公称型号 Bearing type
	G	数量 QTY			轴向 Axial		径向 Radial					
					动 Dynamic Ca	静 Static Coa	动 Dynamic Cr	静 Static Cor				
2	—	—	12×30°	8.5	38	158	28.5	49.5	600	2.5	1.6	YRT50
2	—	—	12×30°	8.5	56	255	42.5	100	530	3	2.4	YRT80
2	M5	3	18×20°	8.5	76.5	415	47.5	120	430	3	4.1	YRT100
2	M8	3	24×15°	14	102	540	52	143	340	7	5.3	YRT120
2	M8	3	36×10°	14	112	630	56	170	320	10	6.2	YRT150
2	M8	3	48×7.5°	14	118	710	69.5	200	280	12	7.7	YRT180
2	M8	3	48×7.5°	14	120	765	81.5	220	260	14	9.7	YRT200
2	M12	3	36×10°	34	160	1060	93	290	200	20	18.3	YRT260
2	M12	3	36×10°	34	275	1930	120	345	170	40	25	YRT325
2	M12	3	48×7.5°	34	300	2280	186	655	140	55	33	YRT395
2	M12	3	48×7.5°	34	355	2800	200	765	120	70	45	YRT460
2	M12	6	48×7.5°	68	490	4250	228	965	80	140	89	YRT580
2	M12	6	48×7.5°	116	1040	8000	490	1800	65	200	170	YRT650
3	M16	6	60×6°	284	1000	8650	455	1730	50	300	253	YRT850
3	M16	6	60×6°	284	1290	11400	530	2040	40	600	312	YRT950
6	M16	6	72×5°	284	1380	12000	620	2650	35	800	375	YRT1030
6	M16	6	72×5°	284	1435	12850	745	2800	25	1000	450	YRT1200



YRTS高速系列 YRTS high speed series



公称型号 Bearing type	外形尺寸 Overall Dimension									固定孔 The fixing holes					
	d	D	H	H1	H2	C	D1	dn	d	内圈 Inner ring		外圈 Outer ring			
	单位: mm Unit: mm									d0	ds	Ts	数量** QTY**	dL	数量** QTY**
YRTS200	200	300	45	30	15	15	274	215	285	7	11	6.2	46	7	45
YRTS260	260	385	55	36.5	18.5	18	345	280	365	9.3	15	8.2	34	9.3	33
YRTS325	325	450	60	40	20	20	415	342	430	9.3	15	8.2	34	9.3	33
YRTS395	395	525	65	42.5	22.5	20	486	415	505	9.3	15	8.2	46	9.3	45
YRTS460	460	600	70	46	24	22	560	482	580	10	15	8.2	46	9.3	45



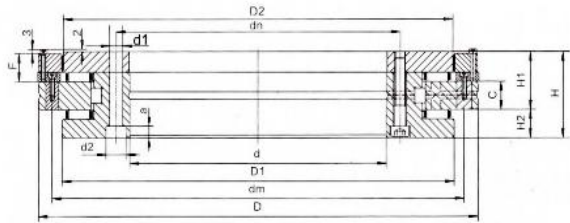
YRTS转台轴承
YRTS rotary table bearing

联接螺钉 数量 Screw connection QTY	螺纹退卸孔 Connect screws holes		节距 ¹⁾ Pitch ¹⁾ t	螺钉拧紧 力矩 Tightening torque of screw Ma ²⁾	基本额定载荷 Basic rated load				极限转速 ³⁾ Limited speed ³⁾ r/min	重量 Weight ≈ Kg	公称型号 Bearing type
	G	数量 QTY			轴向 Axial 动 Dynamic	径向 Radial 静 Static	动 Dynamic	静 Static			
					Ca	Coa	Cr	Cor			
2	M8	3	48×7.5°	14	105	635	78	202	950	9.7	YRTS200
2	M12	3	36×10°	34	131	840	85	275	800	18.3	YRTS260
2	M12	3	36×10°	34	191	1260	109	300	680	25	YRTS325
2	M12	3	48×7.5°	34	214	1540	121	390	600	33	YRTS395
2	M12	3	48×7.5°	34	221	1690	168	570	500	45	YRTS460

- 注: ◆包括联接螺钉孔和螺纹退卸孔, 圆周均布
◆用于12.9级螺栓的拧紧力矩。
◆用于轴与轴承座的固定孔, 注意轴承固定孔的节距和等分。
◆Including a connecting screw hole and screw thread unloading hole, which distributing equality on a circle.
◆For the 12.9 grade bolt tightening torque.
◆For the fixed hole which is used for shaft and bearings set, we should pay more attention to the hole pitch and point of bisection.



YRTM系列 YRTM series

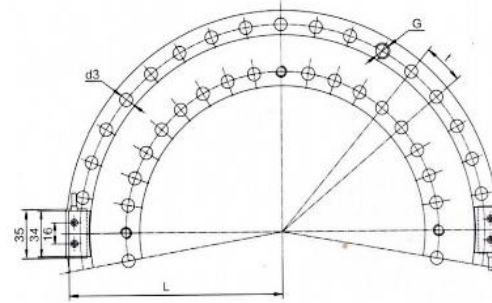


公称型号 Bearing type	外形尺寸 Overall Dimension											固定孔 The fixing holes						
	d	D	H	H1	H2	C	D1	D2	F	L	dn	dm	内圈 Inner ring			外圈 Outer ring		
	单位: mm Unit: mm											d1	d2	a	数量 ¹⁾ QTY ¹⁾	d3	数量 ¹⁾ QTY ¹⁾	
												mm			mm			
YRTM150	150	240	43*	29*	14	12	214	215	16.5	121	165	225	7	11	6.2	32	7	33
YRTM180	180	280	46*	32*	14	15	244	245	16.5	140	194	260	7	11	6.2	44	7	45
YRTM200	200	300	47*	32*	15	15	274	274.5	16.5	152	215	285	7	11	6.2	44	7	45
YRTM260	260	385	55	36.5	18.5	18	345	345.5	17.5	192.5	280	365	9.3	15	8.2	32	9.3	33
YRTM325	325	450	60	40	20	20	415	415.5	18.5	225	342	430	9.3	15	8.2	32	9.3	33
YRTM395	395	525	65	42.5	22.5	20	486	486.5	18.5	262.5	415	505	9.3	15	8.2	42	9.3	45
YRTM460	460	600	70	46	24	22	560	560.5	18.5	300	482	580	10	15	8.2	42	10	45

这个表格给出的数值是关于扫描头的安装尺寸，但带*号的尺寸和标准轴承有所差异。

The following table shows the installation dimensions of the scan head, but the value with "*" have some diversity with basic value.

我们亦可提供以下系列的YRTM带集成角度测量系统的转台轴承:YRTM580、YRTM650、YRTM850、YRTM950; 其具体尺寸和参数请与我们联系。
Ouna can also offer below YRTM rotary table bearings with integral measuring system: YRTM580,YRTM650,YRTM850,YRTM950; If you need that, please contact with Ouna.

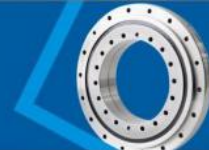


2个扫描头, 180°±1°相对位置
2 scan reader
180°±1 degree relative position

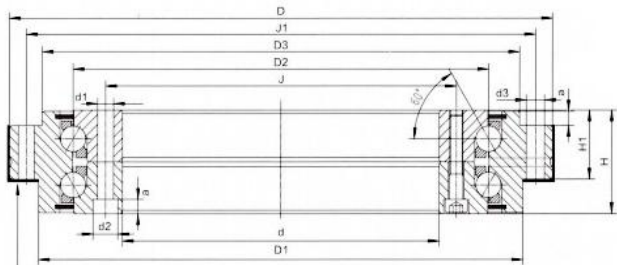
联接螺钉 数量 Screw connection QTY	轴承轴向 和径向跳动 Axial Radial Run-out	螺纹退卸孔 Connect screws holes	节距 ¹⁾ Pitch ¹⁾ t	螺钉拧紧 力矩 Tightening torque of screw Ma ¹⁾	基本额定载荷 Basic rated load				极限转速 ¹⁾ Limited speed ¹⁾ r/min	轴承摩擦 力矩 ¹⁾ Friction moment ¹⁾ Nm	重量 Weight Kg	公称型号 Bearing type	
					轴向 Axial		径向 Radial						
					动 Dynamic	静 Static	动 Dynamic	静 Static					
	µm	G	数量 QTY	数量 X t QTY X t	Nm	kN							
4	3	M8	3	36 × 10°	14	112	630	56	170	320	10	9.7	YRTM150
4	4	M8	3	48 × 7.5°	14	118	710	69.5	200	280	12	18.3	YRTM180
4	4	M8	3	48 × 7.5°	14	120	765	81.5	220	260	14	25	YRTM200
4	6	M12	3	36 × 10°	34	160	1060	93	290	200	20	33	YRTM260
4	6	M12	3	36 × 10°	34	275	1930	120	345	170	40	45	YRTM325
6	6	M12	3	48 × 7.5°	34	300	2280	186	655	140	55		YRTM395
6	6	M12	3	48 × 7.5°	34	355	2800	200	765	120	70		YRTM460

注: ◆包括联接螺钉孔和螺纹退卸孔, 圆周均布。

- ◆用于12.9级螺栓的拧紧力矩。
- ◆轴承摩擦力矩应在5r/min转速下测量。
- ◆用于轴与轴承座的固定孔, 注意轴承固定孔的节距和等分
- ◆Including the fixing holes and screwed holes, uniformly distributed over the whole rings.
- ◆Used for the tightening torques of 12.9 class bolts.
- ◆The friction torque should be measured at the speed of 5r/min.
- ◆Used for the fixing holes of shaft and bearing set. The pitches and equal divisions for the bearing fixing holes.



ZKLDF推力角接触球系列 ZKLDF thrust angular contact ball bearings series

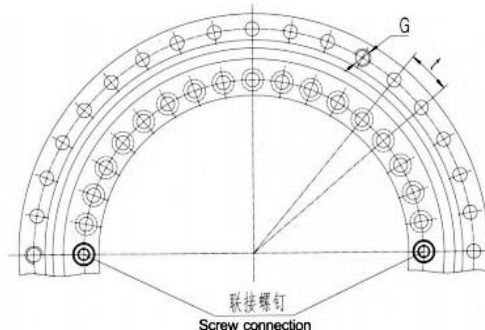


轴承的安装表面和定位直径
Mounting surface and locating diameter of bearing

公称型号 Bearing type	外形尺寸 Overall Dimension									固定孔 The fixing holes					
	d	D	H	H1	D1	D2	D3	J	J1	a	内圈 Inner ring			外圈 Outer ring	
	单位: mm Unit: mm										d1	d2	数量 ¹⁾ QTY ¹⁾	d3	数量 ¹⁾ QTY ¹⁾
											mm			mm	
ZKLDF100	100	185	38	25	160	136	158	112	170	5.4	5.6	10	16	5.6	15
ZKLDF120	120	210	40	26	184	159	161	135	195	6.2	7	11	22	7	21
ZKLDF150	150	240	40	26	214	188	211	165	225	6.2	7	11	34	7	33
ZKLDF200	200	300	45	30	274	243	271	215	285	6.2	7	11	46	7	45
ZKLDF260	260	385	55	36.5	345	313	348	280	365	8.2	9.3	15	34	9.3	33
ZKLDF325	325	450	60	40	415	380	413	342	430	8.2	9.3	15	34	9.3	33
ZKLDF395	395	525	65	42.5	486	450	488	415	505	8.2	9.3	15	46	9.3	45
ZKLDF460	460	600	70	46	560	520	563	482	580	8.2	9.3	15	46	9.3	45
ZKLDF580	580	750	90	60	702	656	700	610	720	11	11.4	18	45	11.4	42



销售热线 (Sales Hotline):0379-60697786



ZKLDF推力角接触球轴承
ZKLDF angular contact thrust bearing

联接螺钉 数量 Screw connection QTY	螺纹退卸孔 Connect screws holes		节距 ¹⁾ Pitch ¹⁾ t	螺钉拧紧力矩 Tightening torque of screw Ma ²⁾	基本额定载荷Basic rated load		极限转速 ¹⁾ Limited speed ¹⁾	轴承摩擦 ¹⁾ 力矩 Friction moment ¹⁾	重量 Weight	公称型号 Bearing type
	G	数量 QTY			轴向Axial					
			动 Dynamic Ca	静 Static Coa						
	单位: mm Unit: mm		mm		Nm	kN		r/min	Nm	~Kg
2	M5	3	18 × 20°	8.5	67	251	2800	1.6	4.5	ZKLDF100
2	M8	3	24 × 15°	14	72	315	2400	2	6	ZKLDF120
2	M8	3	36 × 10°	14	76	365	2000	3	7.5	ZKLDF150
2	M8	3	48 × 7.5°	14	112	550	1600	4.5	11	ZKLDF200
2	M12	3	36 × 10°	34	155	920	1200	7.5	22	ZKLDF260
2	M12	3	36 × 10°	34	165	1110	1000	11	28	ZKLDF325
2	M12	3	48 × 7.5°	34	214	1470	800	16	39	ZKLDF395
2	M12	3	48 × 7.5°	34	255	1860	700	21	50	ZKLDF460
3	M12	6	48 × 7.5°	68	395	3180	500	40	82	ZKLDF580

我司专业研发、设计、制造各种精密交叉滚子轴承，转台轴承，谐波减速机专用轴承，针对以上系列专用轴承客户提供相关咨询服务，需要了解交叉滚子轴承，转台轴承，谐波减速机专用轴承价格、详细参数、使用及安装等资料请与我们联系！

Our company is the professional in the field of R&D, design, manufacturing cross roller bearings, rotary table bearings and harmonic series crossed roller bearing. For the above products, we provide relevant consulting services. If you want to learn more information about the prices, parameters, use and installation of harmonic series crossed roller bearings, crossed roller bearings, rotary table bearings or any other bearings, please contact us freely.