BORAN TECHNOLOGY

Contents 目录

BORAN TECHNOLOGY CO. LTD.

Introduction

企业简介

博朗科技（安徽）有限公司成立于 2018 年 12 月，是一家私人投资有限责任公司。注册资金 1000 万元，主要生产自润滑轴承，无油衬套，铜合金石墨铜套及自润滑轴承行业所用原材料。

公司位于安徽省宣城市广德市经济开发区太极大道 822 号，占地约 63 亩，实际面积约为 35000 多平方米。于广德东高速出口一公里处，区位优越，交通便捷。

目前主要产品有：BR1(DU) 自润滑卷制衬套、BR2（DX) 边界自润滑衬套、BR3 双金属衬套、BR4 青铜卷制衬套、BR5（500#）固体润滑轴承、BR6 工程塑料轴承等，产品广泛运用于汽车行业，工程机械，农业机械，轻工机械，流体转动，光伏发电，工业自动化等领域，自润滑轴承已成为轴承行业发展较快的子行业之一，现博朗拥有多条烧结线，另自动化设备先进、精良，模具齐全、精密检验和试验设备，产品具有较强的市场竞争能力。

未来我们将继续致力于新产品的研发，以及新材料与新应用领域的推广与应用，为我们的顾客提供优质的产品，公司始终坚持以质量求生存，以信誉促发展的企业方针，真诚欢迎国内外客户来人来函洽谈合作！

博亿新材料科技有限公司隶属于博朗科技旗下子公司，专业从事自润滑材料及成品销售。

杭州亿联博工贸有限公司主要从事海内外市场拓展及运营。

Braun Technology (Anhui) Co., Ltd. was established in December 2018 and is a private investment limited liability company. With a registered capital of 10 million yuan, it mainly produces self-lubricating bearings, oil-free bushings, copper alloy graphite copper sleeves and raw materials used in the self-lubricating bearing industry.

The company is located at No. 822, Taiji Avenue, Guangde Economic Development Zone, Xuancheng City, Anhui Province, covering an area of about 63 acres and an actual area of more than 35,000 square meters. One kilometer away from the exit of Guangde East Expressway, the location is superior and the transportation is convenient.

At present, the main products are: BR1 (DU) self-lubricating rolled bushing, BR2 (DX) boundary self-lubricating bushing, BR3 bimetallic bushing, BR4 bronze rolled bushing, BR5 (500#) solid lubricated bearing, BR6 plastic plain bearing, etc., the products are widely used in the automotive industry, construction machinery, agricultural machinery, light industry machinery, fluid rotation, photovoltaic power generation, industrial automation and other fields, self-lubricating bearings have become one of the fastest-growing sub-industries of the bearing industry, and now Braun has a number of sintering lines, In addition, the automation equipment is advanced and sophisticated, the molds are complete, the precision inspection and testing equipment, and the products have strong market competitiveness.

In the future, we will continue to devote ourselves to the research and development of new products, as well as the promotion and application of new materials and new application fields, to provide our customers with high-quality products, the company has always adhered to the quality of survival, reputation and development of the enterprise policy, sincerely welcome customers at home and abroad to discuss cooperation!

Boyi New Material Technology Co., Ltd. is a subsidiary of Braun Technology, specializing in the sales of self-lubricating materials and finished products.

Hangzhou Yilianbo Industry and Trade Co., Ltd. is mainly engaged in market development and operation at home and abroad.

Development History

发展历程

2012

嘉善博朗轴承迁入金秀路 69 号

2009

嘉善博朗轴承成立

2015

博朗自润滑轴套进入海天中国供应链

2013

涉足铜产品精加工领域

2018

长三角一体化招商引资到广德建厂
35000 平方（63 亩土地）

2016

设立博朗精工分厂

2019

广德博朗新工厂正式运营生产

2022

2022 博朗添购全自动行架、六关节机械手、五轴加工中心等高端设备，打造了精恒温车间，逐步升级为自动化产线，实现数字化管理

2021

2021 博朗注资打造复合衬套生产线，同年踏入风电行业、新能源汽车行业、助力清洁可持续能源

2023

2023 博朗大批量采购复合衬套自动生产设备达 120 余台

Receive Honor

企业荣誉

★ 博朗科技通过 ISO9001:2015 质量管理体系及 ISO45001:2018 环境管理体系。
Braun Technology has passed the ISO9001:2015 quality management system and the ISO45001:2018 environmental management system.

★ 获得高精度自润滑轴承抛光装置等 11 项实用新型专利证书。
Obtained 11 utility model patent certificates such as high-precision self-lubricating bearing polishing device.

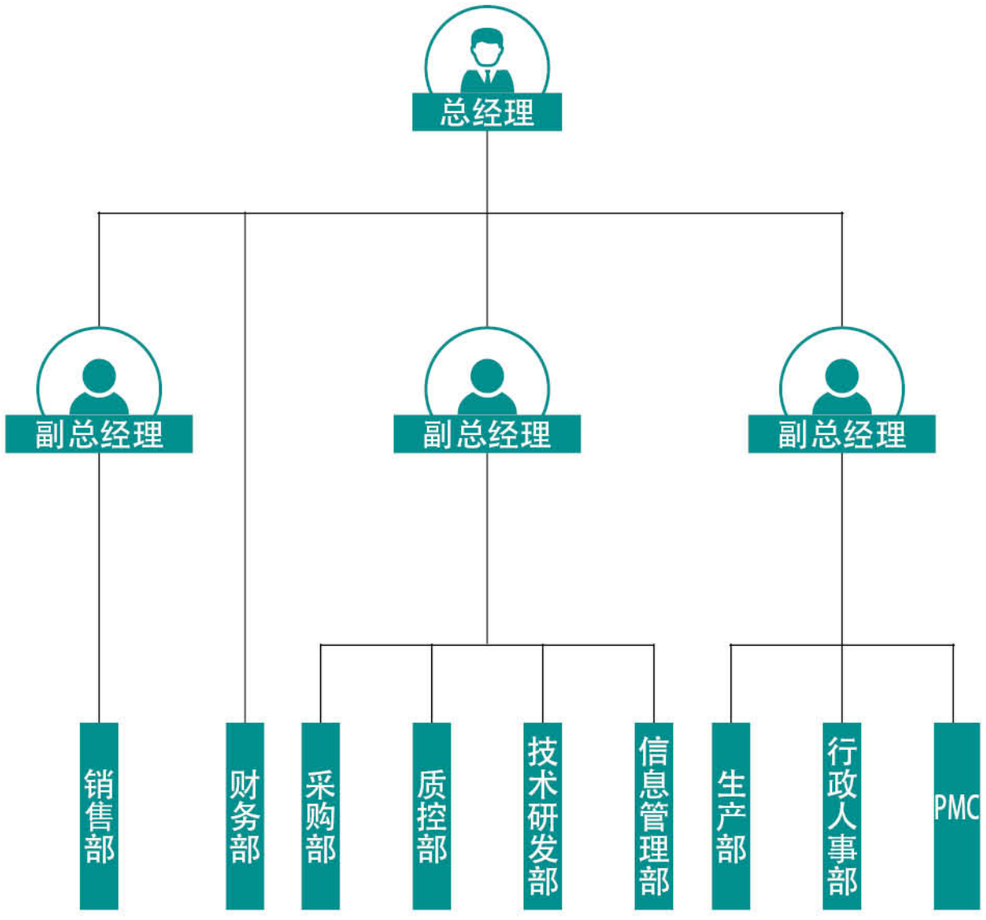
★ 博朗科技被评选为高新技术企业，获得安徽省“专精特新”企业称号。
Braun Technology was selected as a high-tech enterprise and won the title of "specialized, special and new" enterprise in Anhui Province.

★ 成功入选安徽省科技型中小企业，晋升广德市 A 类企业。
It was successfully selected as a science and technology small and medium-sized enterprise in Anhui Province and promoted to a class A enterprise in Guangde City.

★ 与合肥工业大学合作研发材料配方，成为校企合作单位，也是宣城市机械电子工程学院的就业实习基地。
Cooperate with Hefei University of Technology to develop material formulas, become a school-enterprise cooperation unit, and also an employment practice base of Xuancheng Institute of Mechanical and Electronic Engineering.

Organizational Chart

组织架构



Vision And Value

vision

企业愿景

为汽车工业及通用工业提供世界领先的高性能轴承解决方案，力争成为世界机械行业优质自润滑摩擦材料及自润滑轴承供应商。

Provide the world's leading high-performance bearing solutions for the automotive industry and general industry, and strive to become a supplier of high-quality self-lubricating friction materials and self-lubricating bearings in the world's machinery industry.

spirit

企业精神

团结协作，敬业奉献，奋斗永无止境， 我们永远在路上。

Unity and cooperation, dedication and dedication, the struggle is endless, we are always on the road.

value

企业价值观

客户为先，坦诚做人，真诚做事。

Customer first, honest and sincere.

博朗拥有国内一流的实验检测设备

Braun has domestic first-class experimental testing equipment

质量检验工作是企业质量管理工作中的重要一环。面对日趋复杂的竞争环境和多样化的顾客质量需求以及质量技术的飞速发展，博朗科技将质量视为企业的生命，是企业的核心竞争力。

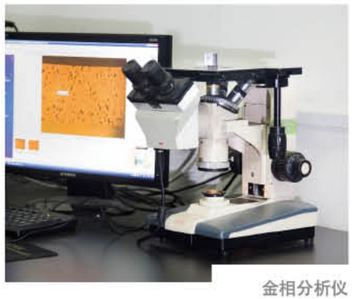
博朗科技配备了完善的检测实验设备，来确保每位客户的质量可靠性。

InspectionEquipment

实验中心

HB 硬度机

拉力测试机



金相分析仪

UT 检测设备

PV 摩擦磨损试验机

光谱检测仪

端面摩擦磨损试验机

摇摆试验机

Quality inspection is an important part of enterprise quality management. In the face of the increasingly complex competitive environment, diversified customer quality needs and the rapid development of quality technology, Braun Technology regards quality as the life of the enterprise and the core competitiveness of the enterprise.

Braun Technology is equipped with complete testing and experimental equipment to ensure the quality and reliability of each customer.

博朗是国内少数几家从原材料到成品精加工一站式服务的企业

Braun is one of the few enterprises in China that provides one-stop service from raw materials to finished product finishing

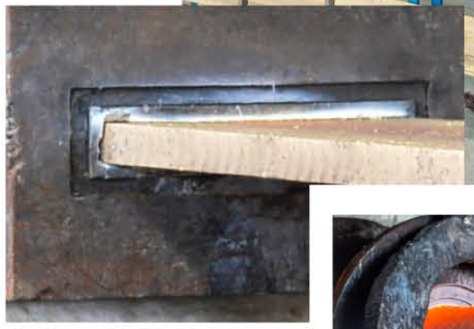
Centrifugal Casting

离心浇铸

博朗是国内少数几家从原材料到成品精加工一站式服务的企业。目前铸造车间已形成生产 5000 吨的完整型材生产线。拥有离心工频炉 2 台，中频炉 4 台，离心机 9 台，最大离心直径 3000mm。专业的铸造工艺是我司立足行业顶端的基石。

Braun is one of the few enterprises in China that provides one-stop service from raw materials to finished product finishing. At present, the foundry workshop has formed a complete profile production line with a production capacity of 5,000 tons.

It has 2 centrifugal power frequency furnaces, 4 intermediate frequency furnaces, 9 centrifuges, and a maximum centrifugal diameter of 3000mm. Professional casting technology is the cornerstone of our company based on the top of the industry.



Horizontal Continuous Casting

水平连铸

博朗是国内少数几家从原材料浇铸到成品精加工一站式服务的企业。目前铸造车间已形成生产 8000 吨的完整型材生产线，拥有连铸工频炉 5 台，中频炉 2 台，最大连铸直径 280mm。

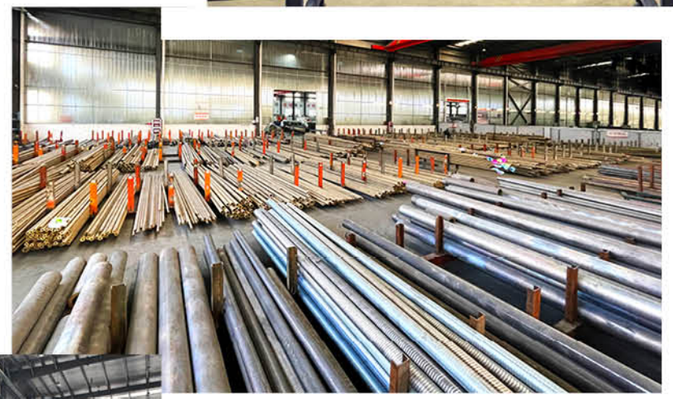
Braun is one of the few enterprises in China that provides one-stop service from raw material casting to finished product finishing. At present, the foundry workshop has formed a complete profile production line with a production capacity of 8,000 tons, with 5 continuous casting power frequency furnaces and 2 intermediate frequency furnaces, with a maximum continuous casting diameter of 280mm.

RawShopwork

加工流程

半成品管料、模具车间

拥有各类加工设备 90 余台，其中数控设备 50 余台，普通车床 20 余台，铣床 10 余台，锯床等 20 余台。设立 5 个班组，分两班制生产，国家安全生产许可能力 15 吨 / 天，能满足套、棒、板类毛坯全尺寸的加工。



Semi-finished pipe and mold workshop

It has more than 90 sets of various processing equipment, including more than 50 sets of CNC equipment, more than 20 sets of ordinary lathes, more than 10 sets of milling machines, and more than 20 sets of sawing machines. Set up 5 teams, divided into two shifts of production, the national safety production license capacity of 15 tons/day, can meet the full size of the processing of sets, rods and plates.

半成品车间

半成品加工车间作为公司起步的基石，历经十多年经营，已逐渐成为支撑公司业务的重要支柱。

在满足自身内部需求的同时，公司的半成品业务已经扎根自润滑轴承市场。以长三角为中心，辐射全国乃至国外市场，为国内外的客户提供半成品服务和技术支持。

Semi-finished product workshop

As the cornerstone of the company's start, the semi-finished product processing workshop has gradually become an important pillar supporting the company's business after more than ten years of operation.

While satisfying its own internal needs, the company's semi-finished products business has taken root in the self-lubricating bearing market. With the Yangtze River Delta as the center, it radiates the whole country and even foreign markets, and provides semi-finished product services and technical support for customers at home and abroad.

BORAN TECHNOLOGY CO.
LTD.

Finished Product Workshop

成品车间

技术实力不断进步的成品车间

博朗精加工生产线于 2013 年投产，并成立了精加工车间。

凭借强大的工艺研发能力、高效的柔性制造能力和良好的客户协作能力，精加工车间已成为公司腾飞的最大推动力。截止 2019 年，产品类型已开发至铜套、铜板、涡轮以及自润滑轴承等多种类型。

精加工车间拥有先进 200 余台。

The finished product workshop with continuous improvement in technical strength

Braun's finishing production line was put into operation in 2013 and a finishing workshop was set up.

With strong process research and development capabilities, efficient flexible manufacturing capabilities and good customer collaboration capabilities, the finishing workshop has become the biggest driving force for the company's take-off. As of 2019, the product types have been developed into various types such as copper sleeves, copper plates, turbines and self-lubricating bearings.

The finishing workshop has more than 200 advanced units.

Finishing Shop

精加工车间

最大加工直径2500mm

最大加工直径 2000mm

最大加工直径1600mm

最大加工直径 1200mm

Large Copper Bushing Processing Equipment

大型铜套加工设备

PlateSintering

复合板材烧结

拥有多条产品烧结线，另自动化设备先进、精良，模具齐全、精密检验和试验设备，产品具有较强的市场竞争能力。

未来我们将继续致力于新产品的研发，以及新材料与新应用领域的推广与应用，为我们的顾客提供优质的产品。

It has a number of product sintering lines, advanced and sophisticated automation equipment, complete molds, precision inspection and testing equipment, and its products have strong market competitiveness.

In the future, we will continue to devote ourselves to the research and development of new products, as well as the promotion and application of new materials and new application fields, to provide our customers with high-quality products.

板材烧结车间 1

板材烧结车间 2

拥有十台厢式炉

拥有百余台自动生产设备

PRODUCT DISPLAY

生产流程

铜基镶嵌自润滑轴承


熔炼


水平连铸


离心浇铸


下料


毛坯加工


车铣一体精加工


内外径精加工


镶嵌石墨


钻孔


毛坯检验

割断

平面倒角

检验

包装

发运

PRODUCT DISPLAY

板材生产流程


剪板


镀痛


球粉板烧结


粗轧


烘干


铺粉


塑化


精轧


校平包装

BORAN TECHNOLOGY CO.
LTD.

PRODUCT DISPLAY

复合轴承生产流程


冲床下料


整理板材


自动卷整


自动倒角机


清洗烘干涂油


整理包装


打包发货

BORAN TECHNOLOGY CO.
LTD.

Product Series

固体镶嵌式自润滑轴承系列

JDB以高强度铜合金作为基础材料，根据使用工况按一定比例在其工作面加工出孔穴并填入固体润滑剂。高强度的铜合金提供了很高的承载能力而固体润滑剂则可以形成较低的摩擦副。在干摩擦条件下我们在轴承表面设计一层预润滑膜可以确保在最短的时间内将固体润滑剂转移到对偶件上并形成有效的固体润滑膜。

JDB materials consist of highly wear-resistance copper cast alloy whose sliding surfaces are evenly provided with a certain percentage of solid lubricant plugs according to work condition. High-strength copper alloy provides bearings with high load-carrying capacity while the solid lubhcant can be formed of low friction film. Under technical dry running conditions, the bearing surface is designed with thick running-in film which enables the solid lubricant to be transferred to the mating part at the first contact.

自润滑轴承的介绍及优点
Introduction and Advantages of Self-Lubricating Bearings

现代设计对今天的自润滑轴承材料正在产生巨大的需求。即使在严重的极端作业环境和最大负荷条件下也要求免维护。随着成本要求的不断提高，企业对设备和工厂运行的可靠性要求也越来越高。金属自润滑轴承可以满足免维护以及在长期使用条件下的自我润滑，由此使得设计可靠的长期的自润滑系统成为可能。金属型自润滑轴承材料可以广泛的运用于高承载低速度条件下的旋转、摆动和直线往复运动，同时也适用于传统润滑无法达到或被禁止使用的场合，或者在特殊工况比如粉尘、冲击负载或辐照等条件下需要长期而稳定使用的。

Modern designs have enormous demands on today's self-lubricating bearing materials and require free maintenance operating even under severe environment and extreme load conditions Moreover, the constant pressure on costs request increasing machines and plant availability without any loss of reliability. The metallic self-lubricating bearing materials developed by BORAN meet the needs of maintenance-free as well as self-lubricated at long-term operating, which make the design of long-term reliable self-lubricating system be possible. BORAN metallic self-lubricating bearing materials can be applied to a wide range of low speed-and high-load conditions like the rotating, swing and straight-line reciprocating motion. Meanwhile, this kind of bearing material is suitable for the tradition lubdcation cannot given or prohibited occasion, or in special conditions such as dust, radiation, impact load but required stability and long-term use.

SF-1 自润滑轴承

FB090 青铜卷制轴承

BORAN TECHNOLOGY CO.
LTD.

Product Series

卷制类复合轴承系列

自润滑轴承的介绍
Introduction of Rolled Composite Bearing Series

SF-1 金属复合自润滑材料以优质低碳钢为基板，中间烧结球形多孔铜粉层，表面扎制以PTFE为主的耐磨润滑材料作为轴承工作层，这种材料具有优异的机械承载能力，中间铜粉层不但可以及时传递轴承运行过程中产生的热量，同时也提高了塑料层与基板的结合强度。

SF-2 边界润滑轴承是以填充四氟改性的聚甲醛塑料为表面层三层复合自润滑材料，它是一种良性的边界润滑材料，因此特别适用与高载低速下的旋转运动，摇摆运动以及经常在载荷下启闭而不易形成流体动力润滑的轴承，止推垫片、滑块、球座等磨擦零件。

FB090 青铜卷制轴承，以锡青铜合金CuSn8为材料，表面轧制菱形油穴，起储存油脂作用，它具有良好的疲劳强度和承载能力、耐腐蚀、抗磨损。广泛运用于农业机械、建筑机械、工程机械等高载低速场合。

JF-800 双金属轴承适用于高载、中高速下的旋转、摇摆运动工况。实际运用中根据使用工况的不同，表面可以烧结不同合金层。

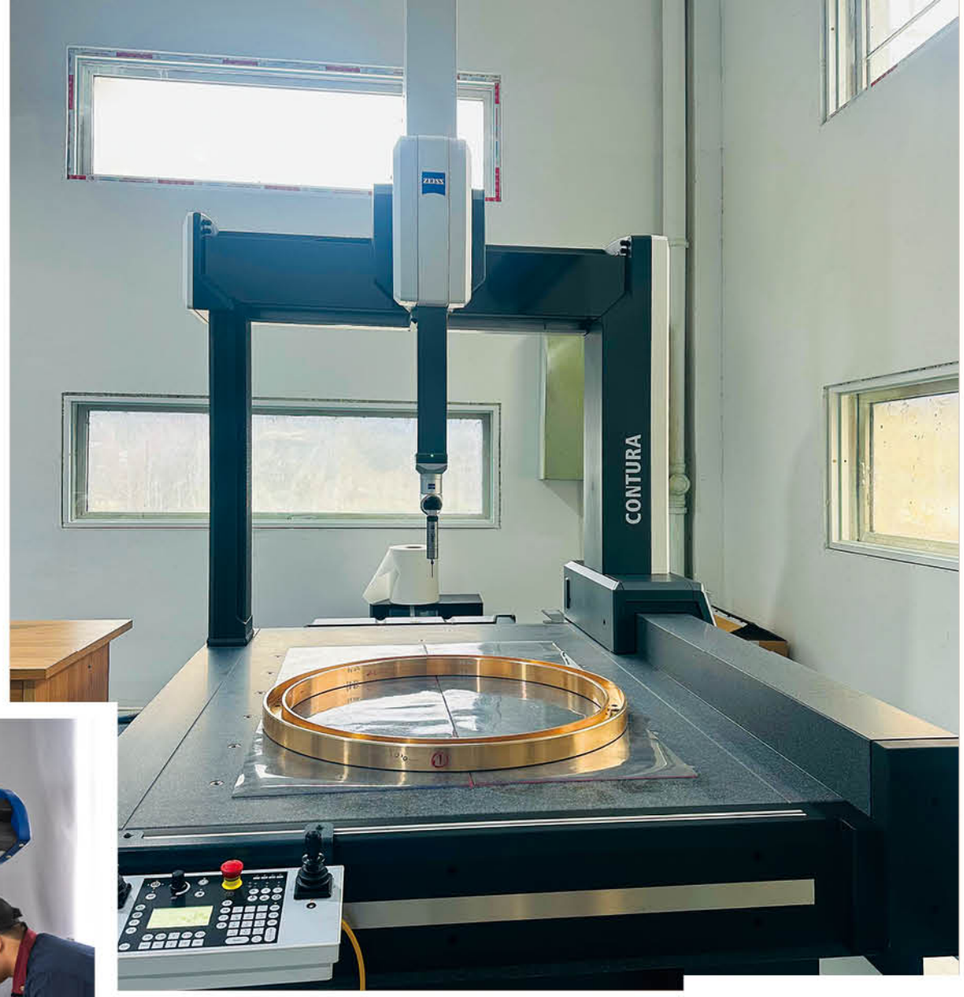
SF-1 metal composite self-lubricating material is based on high-quality low-carbon steel, a spherical porous copper powder layer is sintered in the middle, and a wear-resistant lubricating material mainly made of PTFE is used as the bearing working layer on the surface. This material has excellent mechanical bearing capacity . The middle copper powder layer can not only transfer the heat generated during the bearing operation in time, but also improve the bonding strength of the plastic layer and the substrate.

SF-2 边界润滑轴承

SF-2 marginal lubrication bearing is a three-layer composite self-lubricating material filled with tetrafluoroethylene modified polyoxymethylene plastic as the surface layer. It is a benign boundary lubricating material, so it is especially suitable for high-load and low-speed rotation and swing Motion and frequent opening and closing under load are not easy to form hydrodynamic lubrication bearings, thrust washers, sliding blocks, ball seats and other friction parts.

FB090 Bronze rolled bearing is made of tin bronze alloy CuSn8, with diamond-shaped oil pockets rolled on the surface to store grease. It has good fatigue strength and bearing capacity, corrosion resistance, and wear resistance. It is widely used in high-load and low-speed occasions such as agricultural machinery, construction machinery, and construction machinery.

JF-800 bimetallic bearings are suitable for rotating and rocking motion conditions under high load, medium and high speed. In actual application, different alloy layers can be sintered on the surface according to different working conditions.



蔡司三坐标测量仪

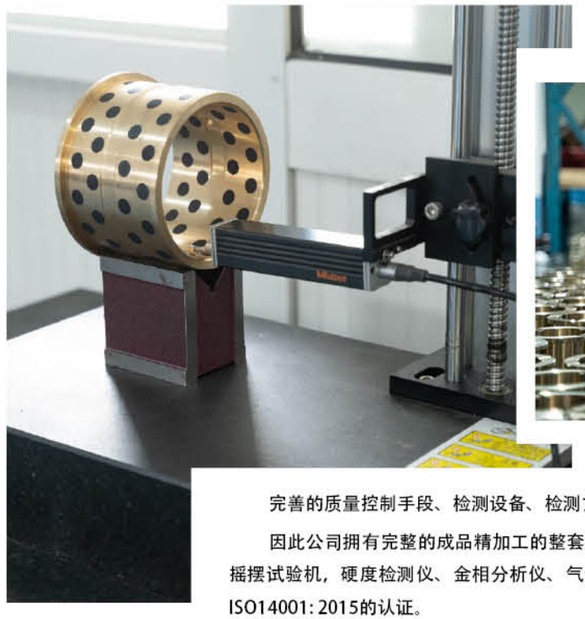
三坐标测量仪是一种具有可作三个方向移动的探测器，可在三个相互垂直的导轨上移动，此探测器以接触或非接触等方式传送讯号，三个轴的位移测量系统（如光学尺）经数据处理器或计算机等计算出工件的各点坐标(X、Y、Z)及各项功能测量的仪器。三坐标测量仪的测量功能应包括尺寸精度测量、定位精度测量、几何精度测量及轮廓精度测量等。任何形状都是由三维空间点组成的，所有的几何量测量都可以归结为三维空间点的测量，因此精确地进行空间点坐标的采集，是评定任何几何形状的基础。

Coordinate measuring instrument is a kind of detector that can move in three directions, can move on three mutually perpendicular guide rails, the detector transmits signals in contact or non-contact mode, and the displacement measurement system of three axes (such as optical ruler) calculates the coordinates of each point of the workpiece (X, Y, Z) and various functional measurement instruments by data processor or computer. The measurement function of the coordinate measuring instrument should include dimensional accuracy measurement, positioning accuracy measurement, geometric accuracy measurement and contour accuracy measurement. Any shape is composed of three-dimensional space points, and all geometric measurements can be reduced to the measurement of three-dimensional space points, so the accurate acquisition of space point coordinates is the basis for evaluating any geometric shape.

BORAN TECHNOLOGY CO.
LTD.

Finished Product Inspection

成品检验检测



完善的质量控制手段、检测设备、检测方法是质量控制过程中不可或缺的保障。

因此公司拥有完整的成品精加工的整套质量管控体系，具备了如三坐标、光谱分析仪、拉力试验机、摇摆试验机，硬度检测仪、金相分析仪、气动量仪等全套检测设备，并于2019年获得了ISO9001: 2015及ISO14001: 2015的认证。

Perfect quality control means, testing equipment and testing methods are indispensable guarantees in the quality control process.

Therefore, the company has a complete set of quality control system for finished product finishing, with a full set of testing equipment such as three coordinates, spectrum analyzer, tensile testing machine, swing testing machine, hardness tester, metallographic analyzer, pneumatic measuring instrument, etc., and obtained the certification of ISO9001: 2015 and ISO14001: 2015 in 2019.

BORAN TECHNOLOGY
CO. LTD.

Packaging Warehousing

打标包装入库

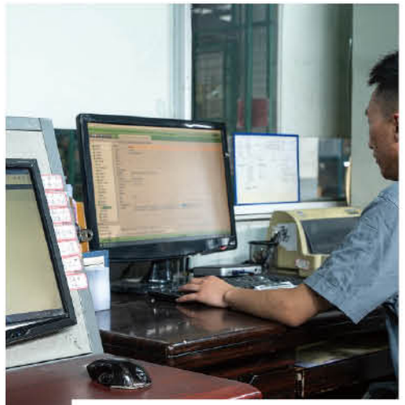
拥有4000平米的标准化仓库，全系列标准化产品的库存备库，终端客户的计划性备库，大大提升了产品交付时间及服务质量。

所有产品检验结束，会进行严格的包装，再系统化的放置相应库位，方便我们的终端客户随时随地用手机、PC端查看库存。出库会再次进行严格的出库检验。

Packaging Warehousing

With a standardized warehouse of 4,000 square meters, a full range of standardized product inventory, and end-customer planned inventory, it greatly improves product delivery time and service quality.

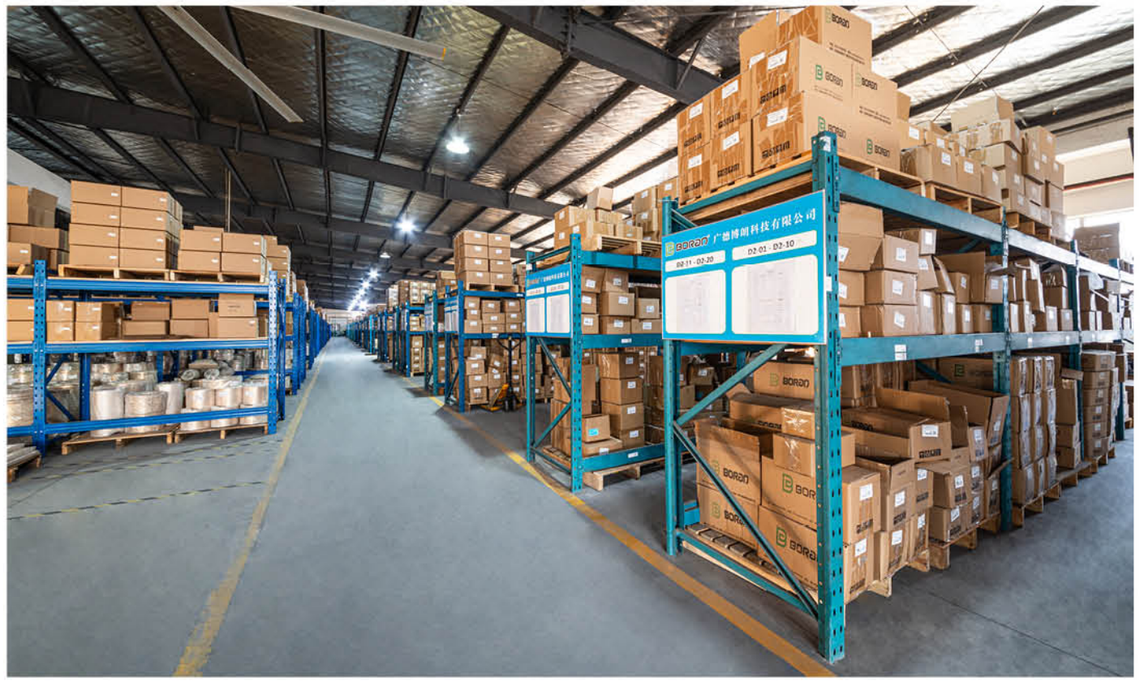
After all products are inspected, strict packaging will be carried out, and the corresponding storage locations will be systematically placed, so that our end customers can use their mobile phones and PC terminals to check inventory anytime and anywhere. Strict outbound inspections will be carried out again when leaving the warehouse.



BORAN TECHNOLOGY CO.
LTD.

Finished Goods Warehouse

成品仓库



Boran的数字化成品仓库，占地1900㎡，仓库储量450吨~500吨。

仓库中各类标准件齐全，满足一般主机厂及经销商现货秒发的需求，提高了客户体验感；数字化仓库系统针对部分重点客户开放有大客户模块，大客户模块可以让客户直接查询订单产品的库存数量，加工状态，面对各位主机厂的部分加急件有更快的响应速度。

Boran's digital finished product warehouse covers an area of 1900 square meters, with a warehouse storage capacity of 450 tons ~ 500 tons.

All kinds of standard parts in the warehouse are complete, which can meet the needs of general OEMs and dealers for spot delivery in seconds, and improve the customer experience; The digital warehouse system is open to some key customers with a large customer module, which allows customers to directly query the inventory quantity and processing status of the order products, and has a faster response speed in the face of some urgent parts of the main engine factory.

BORAN TECHNOLOGY CO.
LTD.

ProductApplication

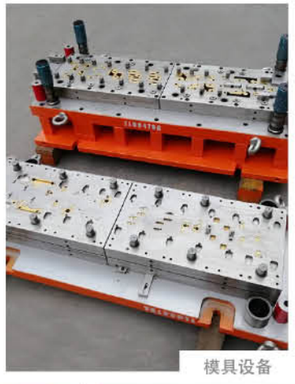
产品应用

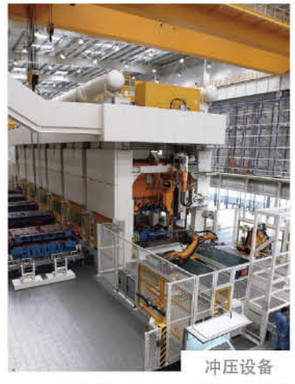
我们的产品广泛应用于工程机械、塑料机械、冶金设备、海洋设备、锻压行业、模具行业、水利工程、自动化行业等领域。


汽车应用


工程机械

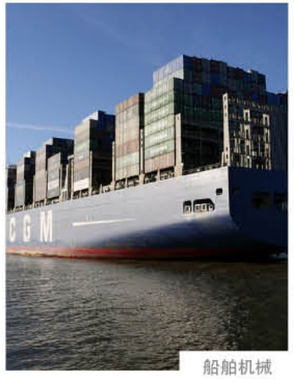

再生能源


模具设备

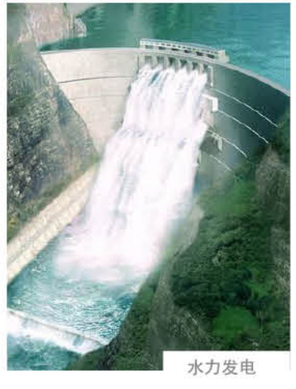

冲压设备

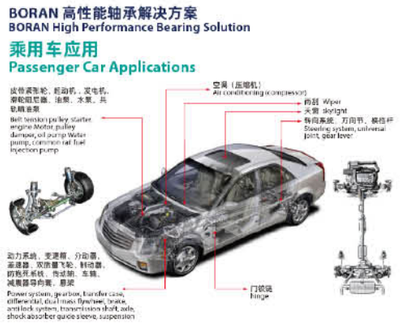

注塑机械


冶金机械


船舶机械


矿山机械


水力发电



Our products are widely used in construction machinery, plastic machinery, metallurgical equipment, marine equipment, forging industry, mold industry, water conservancy engineering, automation industry and other fields.

Our Partners

合作伙伴

长城汽车 Great Wall
上汽通用五菱 SGMW
XCMG 徐工集团
SANY
SDJL 金利集团
Hengli
海天 HAITIAN 集团 GROUP
震雄 CHEN HSONG
YIZUMI 伊之密
HMD 华美达
中国一重 CFHI
泰尔 TAIER
SINOSTEEL 中钢集团
ZPMC
LKM 龙记集团 LUNG KEE GROUP
HGRM
EDPS PRESSES
SUNWARD
CML 大同机械 COSMOS MACHINERY
德力佳
厦工 XGMA
SONGZ 松芝股份
SIJIN
STAL 三丰
ZPMC
永生重工 YONGSHENG HEAVY INDUSTRY

BORAN Solid-lubricating and Maintenance-Free Sliding Bearings

产品介绍（复层类）Proddrts Introddrtion (Composite Series)

最大承载压力	Load capacity	140N/mm²
摩擦系数 μ	Friction coef(u)	0.04~0.20
适用温度范围	Temperature	-195℃~280℃
最高滑动速度	Speed limit	5m/s
允许最高PV值（干）	PV limit(dry)	3.6N/mm².m/s
允许最高PV值（油）	limit(oil)	50N/mm².m/s

BR1

钢基-复合轴承

Composite Substrate-Self-lubricating Bearing

BR1 无油润滑轴承，是以钢板为基体，中间烧结球形青铜粉，表面轧制聚四氟乙烯（PTFE）和铅的混合物，卷制而成的滑动轴承。它具有摩擦系数小、耐磨、抗腐蚀性好，无油润滑的特点。使用该产品能降低成本、缩小机械体积、避免咬轴现象和降低机械噪音等优点。产品已广泛应用于各种机械的滑动部位，如印刷机、升降机、纺织机、烟草机、健身器、液压搬运车、微电机、电磁阀、汽车、摩托车与农林机械等。

BR1 oil-free lubrication bearing is a sliding bearing made of steel plate as the matrix, sintered spherical bronze powder in the middle, and rolled with a mixture of polytetrafluoroethylene (PTFE) and lead on the surface. It has the characteristics of low friction coefficient, wear resistance, good corrosion resistance, and oil-free lubrication. The use of this product has the advantages of reducing costs, reducing mechanical volume, avoiding shaft biting, and reducing mechanical noise. The product has been widely used in various sliding parts of machinery, such as printing machines, elevators, textile machines, tobacco machines, fitness equipment, hydraulic transport vehicles, micro motors, solenoid valves, automobiles, motorcycles, and agricultural and forestry machinery.

最大承载压力	Load capacity	140N/mm²
摩擦系数 μ	Friction coef(u)	0.03~0.18
适用温度范围	Temperature	-195℃~300℃
最高滑动速度	Speed limit	5m/s
允许最高PV值（干）	PV limit(dry)	4.3N/mm².m/s
允许最高PV值（油）	limit(oil)	50N/mm².m/s

BR1B

青铜基轴承

Bronze Base Bearing

BR1B 青铜基轴承，是以锡青铜为基体，中间烧结青铜球形粉，表面轧制PTEE和耐高温填充材料而成。它具有很高的安全系数，在连续工作不能停机修理的场所和高温不能加油的场所特别适用。 目前该产品已广泛应用在冶金钢铁工业，连铸机方坯滚道、高温炉炉前设备，水泥灌浆泵和螺旋式输送机上。它可以在外部组合钢套，也可以制成翻边，达到端面、内孔同时摩擦使用的效果。 桥梁支座滑动部分，就是采用SF-1B耐磨层加厚的产品以取代纯PTFE板。达到130N/mm² 承载使用的要求。

BR1B bronze bushing is made of bronze base, sinter with bronze powder and PTFE layer with filling material of anti-high temperature. It has high safety factor, and is particularly appropriate for high temperature environment where no oil is effcient and where the machine must be under successive long period working condition. This is widely used in steel metallurgy industry such as bushes for roller grooves of successive casting machines.cement grouting pumps and screw type converyers for cement. It can also be composed in steel housing or fabricated into flanged bushes which both outer surface and inside bore can be used as working surface. Wear plate made of YL01B material can be applied in sliding part of bridge surporter instead of PTFE plate, and it can reach the requirement of load capacity of 130N/mm².

产品介绍（复层类）Proddrts Introddrtion (Composite Series)

BR1P

往复运动轴承
Reciprocating Motion Bearings

BR1P 往复运动轴承，是在BR1材料的基础上，根据往复运动的特殊工况条件而设计的新颖配方产品，其性能与国外DD2相似。具有断油条件下自润滑能力强、耐磨性能好、保持油膜清晰等优点，该产品能较好地保护对磨轴表面不受磨损。 目前该产品已广泛应用于汽车减震器、摩托车减震器、各种液压油缸、液压马达、气动元件等领域。

BR1P is particularly suitable for bushes in reciprocating motion, and the properties are similar to DD2 type product in foreign country. It is wear resistant, and so can keep the lubricating oil clear after long period of working. Meanwhile it can protect the mating surface from wearing. It is widely used as oil damping vibrating absorber of automobiles, motorcYLles and various hydraulic cylinders, hydraulic motors and pneumatic elements.

最大承载压力	Load capacity	140N/mm²
摩擦系数 μ	Friction coef(u)	0.04~0.20
适用温度范围	Temperature	-195℃~280℃
最高滑动速度	Speed limit	5m/s
允许最高PV值（干）	PV limit(dry)	3.6N/mm².m/s
允许最高PV值（油）	limit(oil)	50N/mm².m/s

BR1D

液压专用轴承
Hydraulic Bushing

BR1D 液压专用轴承。是在BR1P的基础上结合油缸及减震器工作原理而设计的一种新型材料，在无油的条件下显得更耐磨，该产品除具有BR1P的优点外，特别适用于往复频繁的大倾向力场合。其性能与国外DP4相似，目前该产品逐步替代BR1P产品，适用于汽车、摩托车减震器以及各种液压缸等领域。

BR1D hydraulic bushing is developed on the basis of BR1P and meanwhile considering the working principle of oil pump and damper. It shows better performance under working condition of without oil lubrication. It is the substitution of and parallels in performance with DP4 type product abroad.In addition to covering the same usage of BR1P, BR1D in particular fits frequently reciprocating motion with a high side force. It is a tendency to gradually replace BR1P with BR1D, the latter will Cover a wide application in automobile, motor damper and oil pumps, etc.

最大承载压力	Load capacity	140N/mm²
摩擦系数 μ	Friction coef(u)	0.04~0.20
适用温度范围	Temperature	-195℃~280℃
最高滑动速度	Speed limit	3m/s
允许最高PV值（干）	PV limit(dry)	3.8N/mm².m/s
允许最高PV值（油）	limit(oil)	50N/mm².m/s

产品介绍（复层类）Proddrts Introddrtion (Composite Series)

BR1T

齿轮泵专用轴承
Gear Pump Special Bearing

BR1T 齿轮泵专用轴承，是在BR1材料的结构基础上，根据齿轮油泵的高PV值工况条件而设计推出的特殊配方产品。产品具有特殊的抗疲劳冲击优点。适用的油泵压力：16-25Mpa，线速度为3.5-5m/s。在流体润滑境界下PV值可达120 N/mm².m/s，是各种齿轮油泵、柱塞泵、叶片泵的最佳选择。

BR1T bushing is specialy designed for gear pumps. It is made on the basis of BR1, suits for working condition of high PV value of gear pump. It has good performance of anti-fatigue and anti-punching.It shows the benefit of low friction coefficient, wear resistant and anti-impact properties. At hydrodynamic lubrication, the PV limit reaches to 120N/mm².m/s.

最大承载压力	Load capacity	140N/mm²
摩擦系数 μ	Friction coef(u)	0.03~0.18
适用温度范围	Temperature	-195℃~280℃
最高滑动速度	Speed limit	5m/s
允许最高PV值（干）	PV limit(dry)	4.3N/mm².m/s
允许最高PV值（油）	limit(oil)	60N/mm².m/s

BR1W

无铅轴承
Lead-free Bearing

BR1W 无铅轴承无铅轴承，是在BR1材料基础上根据国际环保要求而开发的一种新产品。 该产品除广泛适用于一般通用机械外，对食品机械、制药机械、烟草机械尤其适用，无铅效果符合欧洲环保要求，是无油润滑轴承发展的方向。

BR1W is a new type lead free bushing which is developed for the aim of increasing demands on environmental protection.Besides its wide application on general machines, BR1 is particularly suitable for food machine,pharmaceutical machine, tobacco machine etc.

最大承载压力	Load capacity	140N/mm²
摩擦系数 μ	Friction coef(u)	0.04~0.20
适用温度范围	Temperature	-195℃~300℃
最高滑动速度	Speed limit	5m/s
允许最高PV值（干）	PV limit(dry)	3.6N/mm².m/s
允许最高PV值（油）	limit(oil)	50N/mm².m/s

产品介绍（复层类）Proddrts Introddrtion (Composite Series)

BR1S

不锈钢自润滑轴承
Stainless Steel Self-lubricating Bearing

BR1S 不锈刚耐腐蚀轴承，是以不锈钢材料为基体，中间烧结耐腐蚀合金粉末，表面轧制以聚四氟乙烯为主的低摩擦材料，经过卷制成型的一种十分有效的耐腐蚀材料。它具有耐油、耐酸、耐碱、耐海水和耐磨损的特点，表面的PTFE材料不含铅成分。在食品饮料机械、化工中度酸碱流量的泵阀、制药机械、印染机械、化工机械、海洋工业耐腐蚀滑动部位最适合使用。

BR1S is of oil resistant,acid resistant,alkali resistant and seawater resistant,more over,there is no lead in the PTFE surface layer and so is particularly fit for application in food machinery,alkali flow meters,pumps motion elements in pharmaceutical machines,printing machines chemical engineering machines and other ocean industry. The bushing is a triple layers composites one,the base material is stainless steel back and a film of heat resistant power filled PTFE being calendered onto the sintered spherical bronze interlayer.

最大承载压力	Load capacity	140N/mm^2
摩擦系数 μ	Friction coef(u)	0.04~0.20
适用温度范围	Temperature	-195℃~280℃
最高滑动速度	Speed limit	2.5m/s
允许最高PV值（干）	PV limit(dry)	3.6N/mm^2.m/s
允许最高PV值（油）	limit(oil)	50N/mm^2.m/s

BR1SS

不锈钢喷塑轴承
Stainless Steel Spray Bearing

BR1SS不锈钢喷塑轴承，是以不锈钢材料为基体，表面涂喷PTFE组成的高耐蚀、耐磨轴承。该材料特别适应强酸、强碱、轻载中低速的场合，其耐磨性能明显优于单体PTFE轴承和石墨轴承。 目前该产品已广泛用于化工酸碱流量计、泵、阀以及海洋工业中耐腐蚀滑动的部位。

BR1SS bushing is based on stainless steel back and spay-painted PTFE on the surface.It has good performance of anti-acid,anti-alkali,anti-salty liquid and can be widely used in chemical industry such as acid/alkali flow indicator,pumps,valves etc and also in the sliding position where anti-corrosion is a necessity mostly in marine industry.

最大承载压力	Load capacity	100N/mm^2
摩擦系数 μ	Friction coef(u)	0.03~0.18
适用温度范围	Temperature	-195℃~280℃
最高滑动速度	Speed limit	2.5m/s
允许最高PV值（干）	PV limit(dry)	3.0N/mm^2.m/s
允许最高PV值（油）	limit(oil)	40N/mm^2.m/s

产品介绍（复层类）Proddrts Introddrtion (Composite Series)

BR2

钢基-边界润滑轴承
Metal Substrate-Boundary Lubrication Bushing

BR2 碳钢基-聚甲醛（POM）树脂复合轴承，是以钢板为基体、中间烧结球形青铜粉，表面轧制改性聚甲醛（POM），并含有储油坑。它适用于常温条件下，低速中载的场所，取代传统铜套既降低成本又延长使用寿命。在轧钢机上使用，能节省加油频次、简化更换程序。 该产品已广泛应用于汽车底盘、锻压机床、冶金矿山机械、工程机械、水电、轧钢行业等领域。

BR2 boundary lubrication bushing is based on a composite material with 3 firmly bonded layers:steel as backing.,intered bronze spherical powder as inter layer and modified POM as lining layer.It has oil pocket for oil lubrication.It fits well for slow speed,heavy duty under normal temperature.It can save cost and prolong working life when replacing normal bronze bushings.It can lower frquency of adding oil, simplify replaement process when it is used on rolling mill. It is widely applied in chassis of automobile,forging machine, metallurgical machine and mining machine,construction machinery,hydropower,rolling mill etc.

最大承载压力	Load capacity	70N/mm^2
摩擦系数 μ	Friction coef(u)	0.05~0.25
适用温度范围	Temperature	-40℃~130℃
最高滑动速度	Speed limit	2.5m/s
允许最高PV值	limit(oil)	22N/mm^2.m/s

BR2S

钢基-边界润滑轴承
Metal Substrate-Boundary Lubrication Bushing

BR2S 碳钢基-边界润滑轴承，是BR2的改进型产品，以铜背为基体，中间烧结球形锡青铜粉，表面轧制以缩醛树脂并含有亲油性纤维和特殊润滑剂的聚合物材料。国外的相同产品为DS轴承，适应常温条件下工作的干摩擦和少油润场合，具有摩擦系数低、耐磨性能好、无油润滑的优点。 目前该产品已应用在摇摆运动、易磨损、易腐蚀的场合，如卷场机、推土机、印染机、采煤机及吊车、行车高空作业机等场合。

BR2S sliding bearing is improved from BR2, based on steel backing plus sintered bronze, rolling POM on surface. It is similar with DS bushing in foreign countries, it is of low Friction, anti-corrosion and is of long life. Now it is used in machines under oscillating motion and in open field or in corrosive Environment such as windlass, bulldozer, tower cranes and printing or dyeing machines for textiles industry.

最大承载压力	Load capacity	70N/mm^2
摩擦系数 μ	Friction coef(u)	0.04~0.20
适用温度范围	Temperature	-40℃~130℃
最高滑动速度	Speed limit	5m/s
允许最高PV值	limit(oil)	25N/mm^2.m/s

产品介绍（复层类）Proddrts Introddrtion (Composite Series)

BR2Y

金属基-边界润滑轴承
Metal Substrate-Boundary Lubrication Bushing

BR2Y 碳钢基-边界润滑轴承，是在BR2的基础上改进而成。其性能与BR2相同，但表面不含铅，使用领域可以扩展至有环保要求的领域。 目前该产品已应用于进口纺织设备、柱塞泵摆动部位、汽车操纵杆部位等中载、中速、油脂润滑的场合。

BR2Y lead free boundary lubrication bearing is improved on the basis of BR2. It can be Applied in the field where environment protection is required. Now it' widely used on textile machines, piston pump, steering system of automobile etc.

最大承载压力	Load capacity	70N/mm^2
摩擦系数 μ	Friction coef(u)	0.05~0.25
适用温度范围	Temperature	-40℃~130℃
最高滑动速度	Speed limit	2.5m/s
允许最高PV值	limit(oil)	22N/mm^2.m/s

BR2L

金属基-边界润滑轴承
Metal Substrate-Boundary Lubrication Bushing

BR2L 碳钢基-边界润滑轴承，是在BR2的基础上改进而成。具有摩擦系数低，耐磨性能好，使用寿命长等优点，由于产品不含铅，产品可用于食品机械等环保要求较高的场合。

BR2L lead free boundary lubrication bearing is improved from BR2. It has low friction Coefficient, good anti-wear performance and long life etc. It is lead free, so it is used in places which has high requirement of environmental protection such as food machinery etc.

最大承载压力	Load capacity	70N/mm^2
摩擦系数 μ	Friction coef(u)	0.04~0.20
适用温度范围	Temperature	-40℃~130℃
最高滑动速度	Speed limit	5m/s
允许最高PV值	limit(oil)	25N/mm^2.m/s

产品介绍（金属类）Proddrts Introddrtion (Metal Series)

BR3

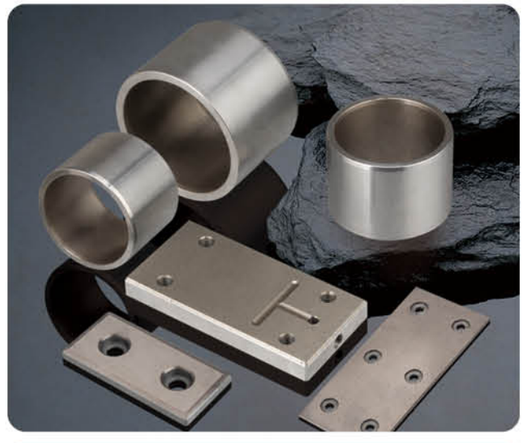
塑料轴承
Plastic Bearing

BR3 材料是以部分结晶的工程塑料为基体，加入适当的增强剂和润滑剂，经过双螺杆挤出机加工而成的热塑性工程塑料。由于增强剂的加入使制品的刚性和高温机械性能大大提高，同时，线膨胀系数、成型收缩率和蠕变性能降低，从而提高了产品的尺寸稳定性，扩大了BR3材料的使用范围，且保持了基体工程塑料原有的耐磨性、耐疲劳性和耐药性。

BR3 series material is a thermal mould character plastic processed by crystal engineering plastic as basic material with proper intensifier and lubricant The rigidity and high temperatu re engineer capability is greatly improved because of the use of intensifier, at the same time, the coefficient of thermal expansion, moulding shrinking rate and wriggle capability decrease, consequently, the size stability is improved, and BR3 series material range is enlarged and keeps the intrinsic anti-wear capability and anti-drug capability.

典型运用 Application

办公事务机械	Office machinery
电子产业	Electronic products
纺织机械	Textile machinery
健身设备	Fitness machines
农用机械	Agricultural machinery
包装、食品、物流机械	Packaging machinery
汽机车零部件	Automotive industry



BR4

钢背润滑分散型轴承
Oil-retaining Bimetallic Bearing
(steel backing+copper sinter with solid lubricating dispersed)

BR4 是由多孔质特殊含油耐磨材料与金属钢背构成的复合材料轴承。特殊耐磨层由特质铜合金粉末和主要成分为石墨的固体润滑剂分散高温烧结而成，经含油处理从而获得卓越的摩擦磨损特性。

特点

- 自由运动的任何方向由于固体润滑剂分散均匀，具有高性能甚至非常小的运动可以适用；
- 应用于自润状态。
- 高承载，出色的耐磨，极好的速度特性。
- 可以提供标准产品和各种规格的板材用于二次加工；

BR4 is bimetallic bearing material, based on steel backing, and a layer of copper sinter, which is composed of special copper powder with solid lubricants (major ingredient is graphite) dispersed, acts as wear resistant surface and processed through oil-impregnating treatment.

Features

- Freedom of motions to any direction due to solid lubricant dispersed evenly, with high performance even for very small motions.
- Applicable in self-lub state.
- Outstanding load durability, velocity characteristics and wear resistance.
- Available of standard products with various sizes and plates for additional machining.

max. P	干摩擦 dry	动载荷 dynamic	N/mm^2	24.5
	定期注油 geschmiert			49
	-	静载荷 / 微小运动，static		73.5
max. v	干摩擦 dry		m/s	0.5
	定期注油 geschmiert			1
Pv max.	干摩擦 dry		N/mm^2 • m/s	1.63
	定期注油 geschmiert			2.45
工况温度 service temperature range			° C	-40~+400
密度 Density			kg/dm^3	6.3
抗拉强度 Tensile strength			N/mm^2	>400
硬度 hardness			HRM	60 -95

产品介绍（金属类）Proddrts Introddrtion (Metal Series)

BR5

高力黄铜基固体润滑剂镶嵌轴承
Solid Lubricants-embedded High Strength Brass Bearing

BR5是以采用高科技工艺铸造的高力黄铜为基材，在其相应的抗磨面按一定比例钻孔并镶嵌固体润滑剂而成的无给油轴承。该产品机械强度和硬度高，适合重载低速工况场合之应用。

BR5 is an oil-free bearing made of high-strength brass cast using high-tech technology as the substrate, with corresponding wear-resistant surfaces drilled in a certain proportion and embedded with solid lubricant. This product has high mechanical strength and hardness, making it suitable for applications in heavy-duty and low-speed working conditions.

基体材质	Base material	CuZn25A16Fe3Mn4
极限动载荷	Dynanic load	100N/mm^2
基本硬度	Base hardness	HB210~240
摩擦系数 μ	Friction Coef.	<0.16
最高使用温度	Temperature limit	300℃
最高滑动速度	Speed limit	干0.4m/s 油5m/s

BR52

高硬度特殊铜合金基固体润滑剂镶嵌轴承
Solid Lubricants-embedded High Hardness Special Copper Bearing

BR52是以高硬度铜合金为基材，在其相应的抗磨面按一定比例钻孔并镶嵌固体润滑剂而成的无给油轴承。该产品的机械强度和硬度比BR5更高。

BR52 is an oil-free bearing made of high hardness copper alloy as the substrate, with corresponding wear-resistant surfaces drilled in a certain proportion and embedded with solid lubricant. The mechanical strength and hardness of this product are higher than those of BR5.

基体材质	Base material	CuSn6Zn6Pb3
极限动载荷	Dynanic load	60N/mm^2
基本硬度	Base hardness	HB240~270
摩擦系数 μ	Friction Coef.	<0.15
最高使用温度	Temperature limit	350℃
最高滑动速度	Speed limit	2m/s

产品介绍（金属类）Proddrts Introddrtion (Metal Series)

BR53

铝青铜基(9-4)固体润滑剂镶嵌轴承
Solid lubricants-embedded aluminum bronze bearing

BR53 是以铝青铜合金为基材，在其相应的抗磨面按一定比例钻孔并镶嵌固体润滑剂而成的无给油轴承。

BR53 is made of aluminum bronze alloy as the substrate, with a certain amount of wear resistance on its corresponding wear-resistant surface A non oil bearing made by drilling proportionally and embedding solid lubricant.

基体材质	Base material	CuZn25A16Fe3Mn4
极限动载荷	Dynanic load	100N/mm^2
基本硬度	Base hardness	HB120~150
摩擦系数 μ	Friction Coef.	<0.16
最高使用温度	Temperature limit	300℃
最高滑动速度	Speed limit	干0.4m/s 油5m/s

BR54

锡青铜基(6-6-3)固体润滑剂镶嵌轴承
Solid lubricants-embedded bronze bearing

BR54锡青铜基(6-6-3)固体润滑剂镶嵌轴承，是以锡青铜6-6-3为基材，在其相应的抗磨面按一定比例钻孔并镶嵌固体润滑剂而成的无给油轴承。

BR54 tin bronze based (6-6-3) solid lubricant embedded bearing is a non oil bearing made of tin bronze 6-6-3 as the substrate, with corresponding wear-resistant surfaces drilled in a certain proportion and embedded with solid lubricant.

基体材质	Base material	CuSn6Zn6Pb3
极限动载荷	Dynanic load	100N/mm^2
基本硬度	Base hardness	HB60~80
摩擦系数 μ	Friction Coef.	<0.15
最高使用温度	Temperature limit	300℃
最高滑动速度	Speed limit	干0.4m/s 油5m/s

BR55

铸铁基(HT250)固体润滑剂镶嵌轴承
Solid Lubricants-embedded Cast Iron Bearing

BR55 铸铁基(HT250)固体润滑剂镶嵌轴承，是以HT250为基材嵌入固体润滑剂的新产品，是一种典型的省材产品。若在压力<14.5N/mm² 或机械性能要求的场合，可作BR52材料的取代品。能大大降低成本，满足使用要求。例如：模具导柱，注塑机模架等领域完全可以使用。

BR55 cast iron based (HT250) solid lubricant embedded bearing is a new product that uses HT250 as the substrate to embed solid lubricant, and is a typical material saving product. If the pressure is less than 14.5N/mm2 or mechanical performance requirements are met, it can be used as a substitute for BR52 material. It can greatly reduce costs and meet usage requirements. For example, mold guide pillars, injection molding machine frames, and other fields can be fully used.

基体材质	Base material	CuZn25A16Fe3Mn4
极限动载荷	Dynanic load	60N/mm2
基本硬度	Base hardness	HB180~230
摩擦系数 μ	Friction Coef.	<0.18
最高使用温度	Temperature limit	400℃
最高滑动速度	Speed limit	0.5m/s

BR56

钢基自润滑轴承
Steel Matrix Self Lubricating Bearing

BR56 钢基自润滑轴承，是加强型产品，具有较高的抗压性能，在工作时能够排出润滑颗粒，使轴与套之间产生一层隔膜，起到了比单体油润滑更抗咬合的优点，在起重机械的支撑部位特别适应。例如：卷场机支撑，吊车支撑，但不宜在水中或酸碱场合使用。

BR56 steel based self-lubricating bearing is a reinforced product with high compressive performance. It can discharge lubricating particles during operation, creating a layer of diaphragm between the shaft and sleeve, which has the advantage of being more anti biting than single oil lubrication. It is particularly suitable for supporting parts of lifting machinery. For example, support from a rolling mill or a crane, but not suitable for use in water or acidic or alkaline environments.

基体材质	Base material	GCr15
极限动载荷	Dynanic load	250N/mm²
基本硬度	Base hardness	HRC58~60
摩擦系数 μ	Friction Coef.	<0.17
最高滑动速度	Speed limit	0.1m/s
最高使用温度	Temperature Max.	350℃
使用极限PV值	PV limit	2.5N/mm².m/s

BORAN TECHNOLOGY

产品介绍（金属类）Proddrts Introddrtion (Metal Series)

BR6

油沟铜套
Oil Groove Copper Sleeve

BR6 油沟铜套，是一种以油沟通油作为润滑的高力黄铜轴承。该产品具有传统的锡青铜轴承功能，由于采用高力黄铜后，它的硬度提高了一倍，所以在低速的场合使用该产品，比一般青铜套寿命可延长一倍，而且其承载压力大，能适应重载的场合使用。目前，该产品主要用于挖掘机的受力关节部位和大型齿轮箱内。

BR6 oil groove copper sleeve is a high-strength brass bearing lubricated with oil. This product has the traditional function of tin bronze bearings. Due to the use of high-strength brass, its hardness has doubled. Therefore, when used in low-speed situations, the lifespan of this product can be extended by twice compared to ordinary bronze sleeves. Moreover, its load-bearing pressure is large and it can adapt to heavy-duty situations. At present, this product is mainly used in the load-bearing joints of excavators and large gearboxes.

基体材质	Base material	CuZn25A16Fe3Mn4
极限动载荷	Dynanic load	100N/mm2
基本硬度	Base hardness	HB210~270
摩擦系数 μ	Friction Coef.	<0.16
最高使用温度	Temperature limit	170℃
最高滑动速度	Speed limit	1.5m/s

BR7

钢浇铜自润轴承
Steel Casting Copper Self-lubricating Bearing

BR7 钢浇铜自润轴承 是在钢套的基体内，整体烧结锡青铜粉后嵌入固体润滑剂的固体润滑产品，除具有BR52的功能外，还能节省成本，提高抗压强度。它的端面可以与基体焊接安装使用，因此适用于冶金机械、建筑机械和输油机械等不可以加油的领域。

BR7 steel cast copper self-lubricating bearing is a solid lubricating product embedded with solid lubricant after sintering tin bronze powder in the matrix of the steel sleeve. In addition to the function of BR52, it can also save costs and improve compressive strength. Its end face can be welded and installed with the substrate, making it suitable for fields such as metallurgical machinery, construction machinery, and oil transportation machinery that cannot be refueled.

基体材质	Base material	Bronze+CuSn6Zn6Pb3
极限动载荷	Dynanic load	70N/mm²
基本硬度	Base hardness	HB60~90
摩擦系数 μ	Friction Coef.	<0.15
最高使用温度	Temp. Max.	300℃
最高滑动速度	Speed limit	2m/s

产品介绍（金属类）Proddrts Introddrtion (Metal Series)

BR8

双金属轴承

Bi-Metal Bushing

BR8双金属轴承，是以低炭钢板为基体材料，表面烧结CuPb10Sn10或CuSn6Zn6Pb3材料的钢铜合金产品。该产品是双合金轴承中承载能力最强的一种，重型车的平衡桥衬套、垫片；推土机的从动轮；汽车钢板衬套，均使用该产品。 它是一种用途很广的高载低速滑动轴承。

BR8 bimetallic bearing is a steel copper alloy product made of low-carbon steel plate as the matrix material and surface sintered with CuPb10Sn10 or CuSn6Zn6Pb3 materials. This product is the strongest load-bearing capacity among dual alloy bearings, including balance bridge bushings and gaskets for heavy-duty vehicles; Driven wheel of bulldozer; Car steel plate liners all use this product. It is a widely used high load and low speed sliding bearing.

合金层材质	Liner material	CuPb10Sn10或CuSn6Zn6Pb3
最大承载压力	Load capacity	65N/mm²
最高使用温度	Temperature Max	260℃
合金层硬度	Liner hardness	HB70~100

BR82

双金属轴承

Bi-Metal Bushing

BR82 双金属轴承，是以钢板为基体，表面烧结CuPb24Sn4合金材料的产品。该产品有较好的抗疲劳强度和承载能力。适用于中速中载。有油滑动的场合。表面镀软合金时，可以作高速内燃机轴承、连杆衬套，达到良好的耐磨，耐疲劳效果。表面镀软合金时，可以作高速内燃机轴承、连杆衬套，达到良好的耐磨，耐疲劳效果。

BR82 bimetallic bearing is a product made of steel plate as the substrate and surface sintered CuPb24Sn4 alloy material. This product has good fatigue resistance and load-bearing capacity. Suitable for medium speed and medium load. In situations where there is oil sliding. When the surface is coated with soft alloy, it can be used as bearings and connecting rod bushings for high-speed internal combustion engines, achieving good wear resistance and fatigue resistance. When the surface is coated with soft alloy, it can be used as bearings and connecting rod bushings for high-speed internal combustion engines, achieving good wear resistance and fatigue resistance.

合金层材质	Liner material	CuPb24Sn4
最大承载压力	Load capacity	38N/mm2
最高使用温度	Temperature Max	170℃
合金层硬度	Liner hardness	HB45~70

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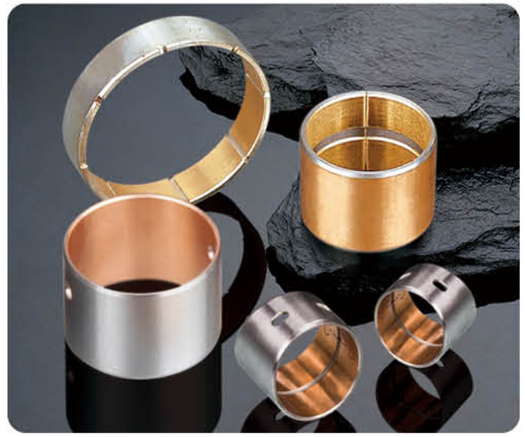
产品介绍（金属类）Proddrts Introddrtion (Metal Series)



BR83

双金属轴承

Bi-Metal Bushing

BR83双金属轴承，是以钢板为基体，表面烧结CuPb30材料的产品。该产由于含铅量高，所以既有良好的抗咬轴性和异物埋没性。工作表面若镀软合金材料，可用作高速、中低载荷的内燃机主轴瓦、连杆衬套、摇臂衬套；油汞侧摩擦片。

BR83 bimetallic bearing is a product made of steel plate as the substrate and surface sintered CuPb30 material. Due to its high lead content, this product has good anti bite and anti foreign object burial properties. If the working surface is coated with soft alloy material, it can be used as the main bearing, connecting rod liner, and rocker arm liner for high-speed, medium and low load internal combustion engines; Oil mercury side friction plate.

合金层材质	Liner material	CuPb30
最大承载压力	Load capacity	25N/mm²
最高使用温度	Temperature Max	170℃
合金层硬度	Liner hardness	HB30~45

BR84

双金属轴承

Bi-Metal Bushing

BR84 双金属轴承，是以钢板为基体，表面辊压AlSn20Cu材料的产品。该产品具有中等疲劳强度和承载能力，良好的抗腐蚀性能，较好的滑动性能等特点。 该产品常用作中小功率的内燃机轴瓦、火车发动机轴瓦、空气压轴机轴套，是取代巴氏合金的新颖产品。

BR84 bimetallic bearing is a product made of steel plate as the substrate and AlSn20Cu material rolled on the surface. This product has characteristics such as moderate fatigue strength and load-bearing capacity, good corrosion resistance, and good sliding performance. This product is commonly used as a bearing for small and medium-sized internal combustion engines, train engines, and air compressors. It is a novel product that replaces Babbitt alloy.

合金层材质	Liner material	AlSn20Cu
最大承载压力	Load capacity	30N/mm²
最高使用温度	Temperature Max	150℃
合金层硬度	Liner hardness	HB30~40

产品介绍（金属类）Proddrts Introddrtion (Metal Series)

BR8G

双金属固体润滑轴承

Embedded With Solid Lubricating Bushing

BR8G 双金属固体润滑轴承，是以BR8双金属材料为基体，合金层埋入特殊固体润滑剂制作而成的新颖薄壁固体润滑轴承。由于采用高强度承载的合金材料作基体，理想的填充材料为耐磨剂，合理的菱形块状润滑设计，润滑面积达25%以上，因此，能发挥良好的润滑性和抗磨耗性能。 产品已应用于汽车变速齿轮箱、发电机、升降机、起重机及冶金机械等行业。

BR8G embedded with solid lubricating bushing, it is based on BR8 bi-metal material, embedding special solid lubricant in the alloy layer. Owing to the high strength, high load capacity and the spirally distributed diamond embedded with solid lubricant, with a lubrication area of 25% on the bushing surface, the bushing shows good performance in lubricating property and anti-wear. It is particularly used in gear box for automobiles, generators, lifters, cranes and machines for metallurgical industry.

表面材质	Liner material	CuSn10Pb10+石墨
最大承载压力	Load capacity	65N/mm2
摩擦系数 μ	Friction coef(u)	0.06~0.2
最高使用温度	Temperature limit	260℃
最高滑动速度	Speed limit	4m/s

BR9

青铜基卷制轴承

Wrapped Bronze Bearing

BR9青铜基卷制轴承，采用特殊配方的高密度铜合金带材为基体，表面可以按用户要求轧制菱形或半球形油穴、油槽。具有密度高、承载能力大、耐磨性能好、使用寿命长等优点，以取代传统的铸造铜套，可以缩小机械体积，减低成本。 BR9已广泛应用于起重机械、建筑机械、汽车拖拉机底盘、机床工业及采矿机械中，还可以制成轴瓦、翻边轴套、止推垫片和球碗等形式。

BR9 is wrapped by bronze strip. The material is made of particular formulation with high specific gravity and on its surface may be incorporated with spherical or diamond Shaped indentations or oil grooves as required by customer. It is of high load capacity and Long life. It can act as substitution of traditional bronze bushing for low cost and Performance of anti-higher compact. It is widely used in hoisting machines, construction machines, automobiles, tractors, trucks, machine tools and some mining industy.

材质	Material	CuSn8P0.3或CuSn6.5P0. 1
硬度	Hardness	HB90~120
适用温度范围	Temperature limit	-80℃~200℃
最大承载压力	Load capacity	75N/mm2
最高滑动速度	Speed limit	2.5m/s

BORAN TECHNOLOGY

产品介绍（金属类）Proddrts Introddrtion (Metal Series)

BR91

青铜基卷制轴承

Wrapped Bronze Bearing

BR91青铜基卷制轴承，采用特殊配方的高密度铜合金带材为基体，表面可以按用户要求轧制菱形或半球形油穴、油槽。具有密度高、承载能力大、耐磨性能好、使用寿命长等优点，以取代传统的铸造铜套，可以缩小机械体积，减低成本。 BR91已广泛应用于起重机械、建筑机械、汽车拖拉机底盘、机床工业及采矿机械中，还可以制成轴瓦、翻边轴套、止推垫片和球碗等形式。

BR91 bronze based rolled bearings are made of high-density copper alloy strips with a special formula as the substrate. The surface can be rolled with diamond or hemispherical oil pits and grooves according to user requirements. It has the advantages of high density, high load-bearing capacity, good wear resistance, and long service life to replace traditional cast copper sleeves, which can reduce mechanical volume and cost. BR91 has been widely used in lifting machinery, construction machinery, automotive tractor chassis, machine tool industry, and mining machinery. It can also be made into forms such as bearing shells, flanged shaft sleeves, thrust washers, and ball bowls.

材质	Material	CuSn8P0.3或CuSn6.5P0. 1
硬度	Hardness	HB90~120
适用温度范围	Temperature limit	-80℃~200℃
最大承载压力	Load capacity	75N/mm^2
最高滑动速度	Speed limit	2.5m/s

BR92

青铜基卷制轴承

Wrapped Bronze Bearing

BR92青铜基卷制轴承，是以青铜材料为基体，加工均匀有序的注油孔，经卷制而成的薄壁轴承，在装配后注入润滑油脂，再配置端面密封而使用。该轴承具有存油量大、安装方便、设计体积小的优点，而且可以取代铜套使用，能大大地降低成本。 目前该产品已应用于输送机、升降机、卷场机、校平机等中载、低速的场合。

BR92 bronze based rolling bearing is a thin-walled bearing made of bronze material as the substrate, processed with uniform and orderly oil injection holes, and rolled. After assembly, lubricating grease is injected and end face sealing is configured for use. This bearing has the advantages of large oil storage, convenient installation, and small design volume, and can replace copper sleeves, greatly reducing costs. At present, this product has been applied in medium and low-speed situations such as conveyors, elevators, winding machines, leveling machines, etc.

材质	Material	CuSn8P0.3或CuSn6.5P0. 1
硬度	Hardness	HB90~120
适用温度范围	Temperature limit	-100℃~200℃
最大承载压力	Load capacity	60N/mm^2
最高滑动速度	Speed limit	2.5m/s

产品介绍（金属类）Proddrts Introddrtion (Metal Series)

BR94

青铜基卷制轴承

Wrapped Bronze Bearing

BR94青铜基卷制轴承，采用特殊配方的高密度铜合金带材为基体，表面可以按用户要求轧制菱形或半球形油穴、油槽。具有密度高、承载能力大、耐磨性能好、使用寿命长等优点，以取代传统的铸造铜套，可以缩小机械体积，减低成本。 BR9已广泛应用于起重机械、建筑机械、汽车拖拉机底盘、机床工业及采矿机械中，还可以制成轴瓦、翻边轴套、止推垫片和球碗等形式。

BR94 is wrapped by bronze strip. The material is made of particular formulation with high specific gravity and on its surface may be incorporated with spherical or diamond Shaped indentations or oil grooves as required by customer. It is of high load capacity and Long life. It can act as substitution of traditional bronze bushing for low cost and Performance of anti-higher compact. It is widely used in hoisting machines, construction machines, automobiles, tractors, trucks, machine tools and some mining industy.

材质	Material	CuSn8P0.3或CuSn6.5P0.1
硬度	Hardness	HB90~120
适用温度范围	Temperature limit	-80℃~200℃
最大承载压力	Load capacity	75N/mm^2
最高滑动速度	Speed limit	2.5m/s

BR9G

青铜基固体润滑卷制轴承

Bronze Embedded With Solid Lubricating Bushing

BR9G青铜基固体润滑卷制轴承，是以青铜材料为基体，表面埋入固体润滑剂制作而成。由于以延伸率较高的铜合金材料作为基体，所以可以制成特薄的卷制轴套，再加上理想的填充材料为润滑剂。 因此该产品应用于汽车传动轴内作为耐磨轴套使用，也可以在无油润滑的其他场合使用。

BR9G bronze embedded with solid lubricating bushing. Due to it is made of bronze which has good performance in elongation rate, it can be made into wrapped bushing with very thin wall thickness, in addition, the embedded lubricant is ideal for lubrication, the bushing can be used in auto transmission shaft and other conditions without oil lubrication.

表面材质	Liner material	CuSn6.5Pb0.1+石墨
最大承载压力	Load capacity	65N/mm^2
摩擦系数μ	Friction coef(u)	0.06~0.2
最高使用温度	Temperature limit	260℃
最高滑动速度	Speed limit	4m/s

BORAN TECHNOLOGY

产品介绍（金属类）Proddrts Introddrtion (Metal Series)

BR100

铜基粉末冶金

Copper Based Powder Metallurgy

BR100 铜基粉末冶金，是以锡青铜粉末为原料，经过模具压 制， 在高温中烧结后整形而成。它的基体有细微、均布的孔隙， 经润滑油真空浸渍后形成含油状态。该产品具有短期不加油润滑， 使用成本低，内外径尺寸可变化等特点， 适应于中速、低载荷的场 所使用。产品已广泛应用于家用电机、电动工具、纺织机械、化工 机械、汽车工业和办公设备等场合。

BR100 its copper oil-retaining bearing, bronze powder in zion as raw material, through the mould pressing, sintering temperature after in plastic. It is fine, the matrix of the pore, oil vacuum macerate formed after oil. This product has the short-term oil lubrication, using low cost, can change od characteristics, such as low speed, suitable for use of load. The products have been widely applied in household motor, electric tools, textiles machinery, chemical machinery, automobile industry and office equipment etc.

基本材质	Base material	CuSn6Zn6Pb3或CuSn10
最大承载压力	Load capacity	35N/mm^2
摩擦系数μ	Friction coef(u)	0.12~0.18
适用温度范围	Temperature	-80℃~160℃

BR101

铁基粉末冶金

Iron Base Powder Metallurgy

BR101 铁基粉末冶金具有生产效力高、加工工时少、花费成本 低、耗损材料省等优点。用一般切削加工法制造零件时材料利用率 为40-50%甚至更低，而粉末冶金法的材料利用率可达95%以上并 且在许多情况下可用铁基粉末冶金轴套代替铜合金轴套，从而节省 大量有色金属，而且生产的制品零件性能平稳、耐磨、精度要求 高，与其它金属切削方法制造的零件具有明显的经济效益。

BR101 iron-based oil bearing has several advantages, such as high production efficiency, less processing time, cost-efficient, and less wear and tear. With the general method of manufacturing machining parts, material utilization can be 40-50% or even lower, while the powder metallurgy method of material utilization uses up to 95% and in many cases can be used instead of iron-based powder metallurgy copper alloy sleeve bushings , thus saving a lot of non-ferrous metals, and the production of products, parts, steady performance, wear resistance, high precision, and other parts made of metal cutting method has obvious economic benefits.

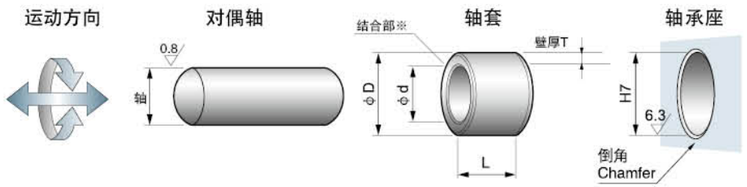
基本材质	Base material	Fe
最大承载压力	Load capacity	45N/mm^2
摩擦系数μ	Friction coef(u)	0.15~0.20
适用温度范围	Temperature limit	-80℃~160℃

BR1 轴套 Cylindrical Bushes (内径I.D⊠5～⊠40)

请从适用的内径、外径、长度中选择零件号
(例)内径15mm、长度10mm的情况下

BR1 - 1510

请指定上述零件号



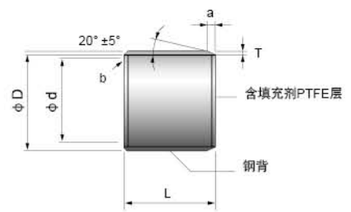
※结合部对于轴旋转没有影响，但尽量避免安装在负荷大的部位处压入。

单位Unit: mm

轴 shaft		座孔housing		内径	外径		壁厚		长度 L $^{0}_{-0.40}$				
		H7		⊠d	⊠D		T		4	5	6	8	10
5	-0.010 -0.022	7	+0.015 0	5	7	+0.055 +0.025	1.0	+0.005 -0.020		0505			
6	-0.013 -0.028	8	"	6	8	"	"	"	0604		0606	0608	0610
7	"	9	"	7	9	"	"	"					
8	"	10	"	8	10	"	"	"			0806	0808	0810
10	"	12	+0.018 0	10	12	+0.065 +0.030	"	"				1008	1010
12	-0.016 -0.034	14	"	12	14	"	"	"				1208	1210
13	"	15	"	13	15	"	"	"					1310
14	"	16	"	14	16	+0.065 +0.035	"	"		1405			1410
15	"	17	"	15	17	"	"	"					1510
16	"	18	"	16	18	"	"	"					1610
17	"	19	+0.021 0	17	19	+0.075 +0.035	"	"					1710
18	"	20	"	18	20	"	"	"					1810
20	-0.020 -0.041	23	"	20	23	"	1.5	+0.005 -0.025					2010
22	"	25	"	22	25	"	"	"					2210
24	"	27	"	24	27	"	"	"					
25	"	28	"	25	28	"	"	"					2510
28	"	32	+0.025 0	28	32	+0.085 +0.045	2.0	+0.005 -0.030					
30	"	34	"	30	34	"	"	"					
32	-0.025 -0.050	36	"	32	36	"	"	"					
35	"	39	"	35	39	"	"	"					
37	"	41	"	37	41	"	"	"					
38	"	42	"	38	42	"	"	"					
40	"	44	"	40	44	"	"	"					

BORAN TECHNOLOGY

BR1 轴套 Cylindrical Bushes (内径I.D⊠5～⊠40)



a:外径倒角 内径⊠10以上(mm)

T	1.0	1.5	2.0
a	0.5	0.8	1.0

b:内径倒角 内径⊠10以上(mm)

T	1.0	1.5	2.0
b	C0.5	C0.8	C1.0

※内径⊠10不到的内外径倒角去除毛刺程度即可

单位Unit: mm

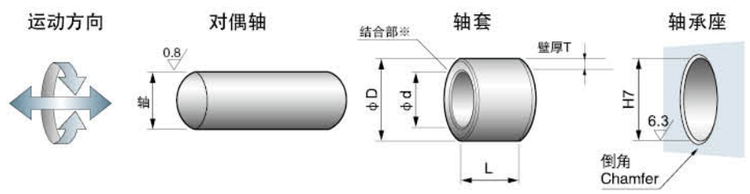
长度 L $^{0}_{-0.40}$								内径
12	15	20	25	30	35	40	50	⊠d
								5
								6
								7
0812	0815							8
1012	1015	1020						10
1212	1215	1220	1225					12
		1320						13
1412	1415	1420	1425					14
1512	1515	1520	1525					15
1612	1615	1620	1625					16
		1720						17
	1815	1820	1825					18
	2015	2020	2025	2030				20
	2215	2220	2225	2230				22
	2415	2420	2425	2430				24
	2515	2520	2525	2530			2550	25
	2815	2820	2825	2830				28
	3015	3020	3025	3030		3040	3050	30
		3220		3230				32
		3520		3530	3535	3540		35
		3720						37
		3820		3830		3840		38
		4020		4030		4040	4050	40

BR1 轴套 Cylindrical bushes (内径I.D☒45～☒260)

请从适用的内径、外径、长度中选择零件号
(例)内径60mm、长度50mm的情况下

BR1 - 6050

请指定上述零件号



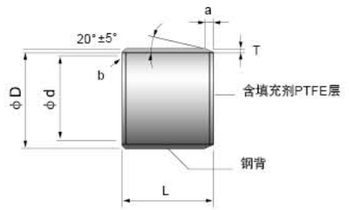
※结合部对于轴旋转没有影响，但尽量避免安装在负荷大的部位处压入。

单位Unit: mm

轴 shaft		座孔housing		内径	外径		壁厚		长度 L $^{0}_{-0.40}$		
		H7		☒d	☒D		T		20	25	30
45	-0.025 -0.050	50	+0.025 0	45	50	+0.085 +0.045	2.5	+0.005 -0.040	4520	4525	4530
50	"	55	+0.030 0	50	55	+0.100 +0.055	"	"	5020		5030
55	-0.030 -0.060	60	"	55	60	"	"	"			5530
60	"	65	"	60	65	"	"	"			6030
65	"	70	"	65	70	"	"	"			6530
70	"	75	"	70	75	"	"	"			
75	"	80	"	75	80	"	"	"			7530
80	0 -0.030	85	+0.035 0	80	85	+0.120 +0.070	"	-0.010 -0.060			
85	0 -0.035	90	"	85	90	"	"	"			
90	"	95	"	90	95	"	"	"			
95	"	100	"	95	100	"	"	"			
100	"	105	"	100	105	"	"	"			
105	"	110	"	105	110	"	"	"			
110	"	115	"	110	115	"	"	"			
115	"	120	"	115	120	"	"	"			
120	"	125	+0.040 0	120	125	+0.170 +0.100	"	-0.035 -0.085			
125	0 -0.040	130	"	125	130	"	"	"			
130	"	135	"	130	135	"	"	"			
135	"	140	"	135	140	"	"	"			
140	"	145	"	140	145	"	"	"			
150	"	155	"	150	155	"	"	"			
160	"	165	"	160	165	"	"	"			
180	"	185	+0.046 0	180	185	+0.210 +0.130	"	"			
190	0 -0.046	195	"	190	195	"	"	"			
200	"	205	"	200	205	"	"	"			
220	"	225	"	220	225	"	"	"			
250	"	255	+0.052 0	250	255	+0.260 +0.170	"	"			
260	"	265	"	260	265	"	"	"			

BORAN TECHNOLOGY

BR1 轴套 Cylindrical bushes (内径I.D☒45～☒260)



a:外径倒角(mm)

T	2.0	2.5
a	1.0	1.0

b:内径倒角(mm)

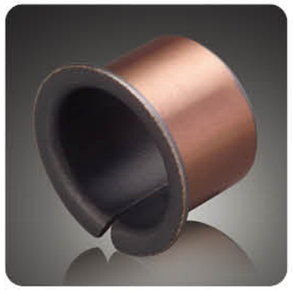
T	2.0	2.5
b	C0.5	C0.5

单位Unit: mm

长度 L $^{0}_{-0.40}$							内径
40	50	60	70	80	100	115	☒d
4540	4550						45
5040	5050	5060					50
5540	5550	5560					55
6040	6050	6060	6070				60
6540	6550	6560	6570				65
7040	7050	7060	7070	7080			70
7540	7550	7560	7570	7580			75
8040	8050	8060	8070	8080	80100		80
8540		8560		8580	85100		85
9040	9050	9060		9080	90100		90
	9550	9560		9580	95100		95
	10050	10060		10080		100115	100
		10560		10580		105115	105
		11060		11080		110115	110
		11560		11580			115
		12060		12080	120100		120
					125100		125
		13060		13080	130100		130
				13580	135100		135
		14060		14080	140100		140
		15060		15080	150100		150
		16060		16080	160100	160115	160
				18080	180100		180
				19080	190100		190
		20060		20080	200100		200
				22080	220100		220
				25080	250100		250
				26080	260100		260

BR1F

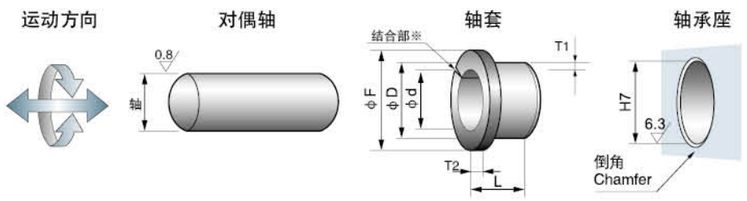
法兰轴套 Flanged bushes



请从适用的内径、外径、长度中选择零件号
(例)内径20mm、长度10mm的情况下

BR1F - 2010

请指定上述零件号



※结合部对于轴旋转没有影响，但尽量避免安装在负荷大的部位处压入。

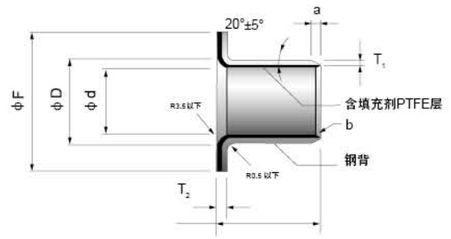
单位Unit: mm

轴 shaft		座孔housing		内径	外径	法兰		壁厚		长度 L±0.25			
		H7		☒d	☒D	☒ $F_{\pm 0.5}$	T_2 $^{0}_{-0.2}$	T1		3	4	5	6
5	-0.010 -0.022	7	+0.015 0	5	7	10	1.0	1.0	+0.005 -0.020			0505	0506
6	-0.013 -0.028	8	"	6	8	12	"	"	"			0605	0606
7	"	9	"	7	9	13	"	"	"			0705	
8	"	10	"	8	10	15	"	"	"				0806
9	"	11	+0.018 0	9	11	17	"	"	"				
10	"	12	"	10	12	18	"	"	"				1006
12	-0.016 -0.034	14	"	12	14	20	"	"	"				1206
13	"	15	"	13	15	21	"	"	"				
14	"	16	"	14	16	22	"	"	"				
15	"	17	"	15	17	23	"	"	"				
16	"	18	"	16	18	24	"	"	"				
18	"	20	+0.021 0	18	20	26	"	"	"				
20	-0.020 -0.041	23	"	20	23	30	1.5	1.5	+0.005 -0.025				
22	"	25	"	22	25	32	"	"	"				
24	"	27	"	24	27	34	"	"	"				
25	"	28	"	25	28	35	"	"	"				
26	"	30	"	26	30	38	2.0	2.0	+0.005 -0.030				
28	"	32	+0.025 0	28	32	40	"	"	"				
30	"	34	"	30	34	42	"	"	"				
31	-0.025 -0.050	35	"	31	35	43	"	"	"				
32	"	36	"	32	36	44	"	"	"				
35	"	39	"	35	39	47	"	"	"				
38	"	42	"	38	42	52	"	"	"				
40	"	44	"	40	44	53	"	"	"				
45	"	50	"	45	50	60	2.5	2.5	+0.005 -0.040				
50	"	55	+0.030 0	50	55	65	"	"	"				
55	-0.030 -0.060	60	"	55	60	70	"	"	"				
60	"	65	"	60	65	75	"	"	"				

BORAN TECHNOLOGY

BR1F

法兰轴套 Flanged bushes



a:外径倒角 内径☒10以上(mm)

T	1.0	1.5	2.0
a	0.5	0.8	1.0

b:内径倒角 内径☒10以上(mm)

T	1.0	1.5	2.0
b	C0.5	C0.8	C1.0

※内径☒10不到的内外径倒角去毛刺程度即可。

单位Unit: mm

长度 L±0.25									内径
7	8	10	12	15	20	25	30	40	☒d
									5
0607	0608								6
0707									7
	0808	0810	0812						8
		0910							9
1007	1008	1010	1012	1015					10
1207	1208	1210	1212	1215					12
		1310		1315					13
		1410	1412	1415					14
		1510	1512	1515	1520				15
		1610		1615	1620				16
		1810	1812	1815	1820				18
		2010	2012	2015	2020	2025			20
		2210	2212	2215	2220				22
				2415	2420	2425			24
		2510	2512	2515	2520	2525			25
				2615	2620				26
			2812	2815	2820				28
			3012	3015	3020	3025	3030		30
						3125			31
					3220	3225	3230		32
			3512		3520	3525	3530	3540	35
					3820				38
			4012		4020	4025	4030	4040	40
					4520	4525	4530	4540	45
					5020		5030	5040	50
							5530	5540	55
							6030	6040	60

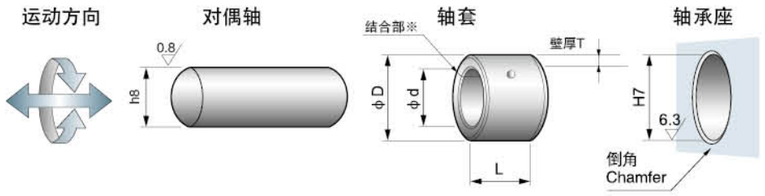
BR2

轴套 Cylindrical bushes (内径I.D⊠10～⊠60)

请从适用的内径、外径、长度中选择零件号
(例)内径15mm、长度10mm的情况下

BR2 - 1510

请指定上述零件号



※结合部对于轴旋转没有影响，但尽量避免安装在负荷大的部位处压入。

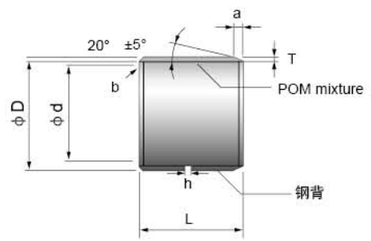
单位Unit: mm

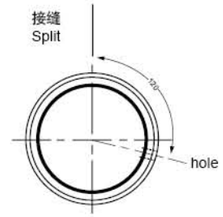
轴 shaft		座孔 housing		内径	外径	壁厚	油孔	长度 L $^{0}_{-0.40}$					
h8		H7		⊠d	⊠D	T	h-⊠	10	12	15	20	25	30
10	$^{0}_{-0.022}$	12	$^{+0.018}_{0}$	10	12	0.980 0.955	4	1010	1012	1015	1020		
12	$^{0}_{-0.027}$	14	"	12	14	"	"	1210	1212	1215	1220	1225	
14	"	16	"	14	16	"	"			1415	1420	1425	
15	"	17	"	15	17	"	"	1510	1512	1515		1525	
16	"	18	"	16	18	"	"			1615	1620	1625	
18	"	20	$^{+0.021}_{0}$	18	20	"	"			1815	1820	1825	
20	$^{0}_{-0.033}$	23	"	20	23	1.475 1.445	"			2015	2020	2025	2030
22	"	25	"	22	25	"	6			2215	2220	2225	2230
24	"	27	"	24	27	"	"			2415	2420	2425	2430
25	"	28	"	25	28	"	"			2515	2520	2525	2530
28	"	32	$^{+0.025}_{0}$	28	32	1.970 1.935	"				2820	2825	2830
30	"	34	"	30	34	"					3020		3030
32	$^{0}_{-0.039}$	36	"	32	36	"	"				3220		3230
35	"	39	"	35	39	"	"				3520		3530
36	"	40	"	36	40	"	"						
37	"	41	"	37	41	"	"				3720		
40	"	44	"	40	44	"	8				4020		4030
45	"	50	"	45	50	2.460 2.415	"				4520		4530
50	"	55	$^{+0.030}_{0}$	50	55	"	"						
55	$^{0}_{-0.046}$	60	"	55	60	"	"				5520		
60	"	65	"	60	65	"	"						

BORAN TECHNOLOGY

BR2

轴套 Cylindrical bushes (内径I.D⊠10～⊠60)





a:外径倒角 内径⊠10以上(mm)

T	1.0	1.5	2.0
a	0.5	0.8	1.0

b:内径倒角 内径⊠10以上(mm)

T	1.0	1.5	2.0
b	C0.3	C0.5	C0.5

※内径⊠10不到的内外径倒角去除毛刺程度即可。

单位Unit: mm

长度 L $^{0}_{-0.40}$									内径
35	40	50	60	70	80	100	110	120	⊠d
									10
									12
									14
									15
									16
									18
									20
									22
									24
									25
									28
	3040								30
3235	3240								32
3535		3550							35
									36
									37
	4040	4050							40
	4540	4550							45
	5040	5050	5060						50
	5540	5550	5560						55
	6040		6060	6070					60

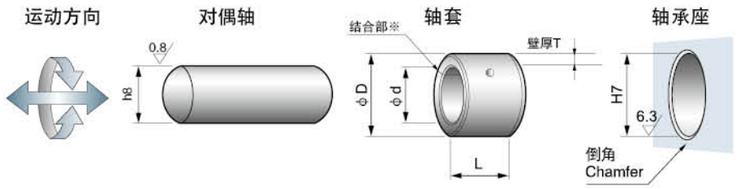
BR2

轴套 Cylindrical bushes (内径I.D⊠65～⊠300)

请从适用的内径、外径、长度中选择零件号
(例)内径60mm、长度50mm的情况下

BR2 - 6050

请指定上述零件号



※结合部对于轴旋转没有影响，但尽量避免安装在负荷大的部位处压入。

单位Unit: mm

轴 shaft		座孔housing		内径	外径	壁厚	油孔	长度 L $^{0}_{-0.40}$					
h8		H7		⊠d	⊠D	T	h-⊠	30	40	50	60	65	70
65	$^{0}_{-0.046}$	70	$^{+0.030}_{0}$	65	70	2.460 2.415	8	6530	6540	6550	6060		6570
70	"	75	"	70	75	"	"		7040	7050		7065	7070
75	"	80	"	75	80	"	"		7540		7560		
80	"	85	$^{+0.035}_{0}$	80	85	2.450 2.385	9.5				8060		
85	$^{0}_{-0.054}$	90	"	85	90	"	"	8530	8540		8560		
90	"	95	"	90	95	"	"		9040		9060		
95	"	100	"	95	100	"	"				9560		
100	"	105	"	100	105	"	"			10050	10060		
105	"	110	"	105	110	"	"				10560		
110	"	115	"	110	115	"	"				11060		
115	"	120	"	115	120	"	"						11570
120	"	125	$^{+0.040}_{0}$	120	125	"	"				12060		
125	$^{0}_{-0.063}$	130	"	125	130	"	"				12560		
130	"	135	"	130	135	"	"			13050	13060		
135	"	140	"	135	140	"	"			13550	13560		
140	"	145	"	140	145	"	"				14060		
150	"	155	"	150	155	"	"			15050	15060		
160	"	165	"	160	165	"	"			16050	16060		
170	"	175	"	170	175	"	"			17050	17060		
180	"	185	$^{+0.046}_{0}$	180	185	"	"			18050	18060		
190	$^{0}_{-0.072}$	195	"	190	195	"	"			19050	19060		
200	"	205	"	200	205	"	"			20050	20060		
220	"	225	"	220	225	"	"			22050	22060		
240	"	245	"	240	245	"	"			24050	24060		
250	"	255	$^{+0.052}_{0}$	250	255	"	"			25050	25060		
260	$^{0}_{-0.081}$	265	"	260	265	"	"			26050	26060		
280	"	285	"	280	285	"	"			28050	28060		
300	"	305	"	300	305	"	"			30050	30060		

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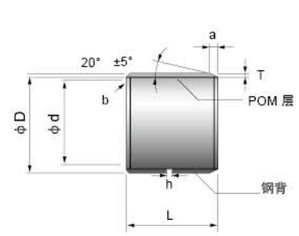
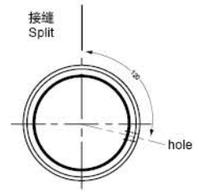
BR2

轴套 Cylindrical bushes (内径I.D⊠65～⊠300)





a:外径倒角 (mm)

T	2.0	2.5
a	1.0	1.0

b:内径倒角 (mm)

T	2.0	2.5
b	C0.5	C0.5

单位Unit: mm

长度 L $^{0}_{-0.40}$							内径
80	90	95	100	110	115	120	⊠d
							65
7080							70
7580							75
8080				80110			80
8580			85100	85110			85
9080	9090		90100	90110			90
				95110			95
10080		10095			100115		100
					105115		105
				110110	110115		110
							115
			120100	120110			120
			125100	125110			125
13080			130100				130
13580							135
14080			140100				140
15080			150100				150
16080			160100				160
17080			170100				170
18080			180100				180
19080			190100			190120	190
20080			200100			200120	200
22080			220100			220120	220
24080			240100			240120	240
25080			250100			250120	250
26080			260100			260120	260
28080			280100			280120	280
30080			300100			300120	300

BR1W

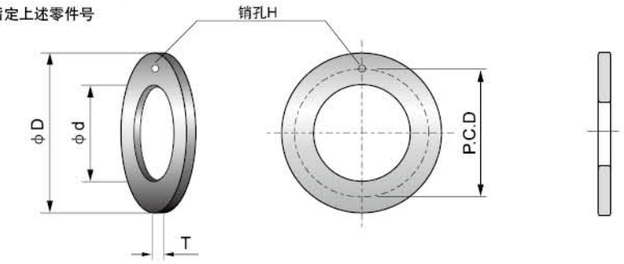
止推垫圈 Thrust washers

●摩擦面为树脂层。

请从适用的内径、外径、厚度中选择零件号
(例)内径20mm、厚度1.5mm的情况下

BR1W - 482

请指定上述零件号



单位Unit: mm

型号 Parts No.	内径 ☒d		外径 ☒D		厚度 T		销孔 H	柱销位置 P.C.D	
BR1W-1015	10	+0.25 0	20	0 -0.25	1.5	0 -0.05	1.10～1.50	15	±0.12
BR1W-1215	12	"	24	"	"	"	1.625～1.875	18	"
BR1W-1415	14	"	26	"	"	"	2.125～2.375	20	"
BR1W-1615	16	"	30	"	"	"	"	22	"
BR1W-1815	18	"	32	"	"	"	"	25	"
BR1W-2015	20	"	36	"	"	"	3.125～3.375	28	"
BR1W-2215	22	"	38	"	"	"	"	30	"
BR1W-2415	24	"	42	"	"	"	"	33	"
BR1W-2615	26	"	44	"	"	"	"	35	"
BR1W-2815	28	"	48	"	"	"	4.125～4.375	38	"
BR1W-3215	32	"	54	"	"	"	"	43	"
BR1W-3815	38	"	62	"	"	"	"	50	"
BR1W-4215	42	"	66	"	"	"	"	54	"
BR1W-4820	48	"	74	"	2.0	"	"	61	"
BR1W-5220	52	"	78	"	"	"	"	65	"
BR1W-6220	62	"	90	"	"	"	"	76	"

BR2W

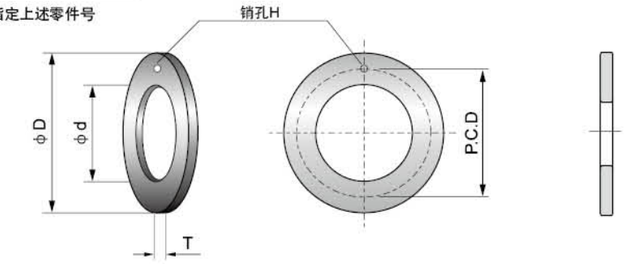
止推垫圈 Thrust washers

●摩擦面为树脂层。

请从适用的内径、外径、厚度中选择零件号
(例)内径48mm、厚度2.0mm的情况下

BR2W - 482

请指定上述零件号



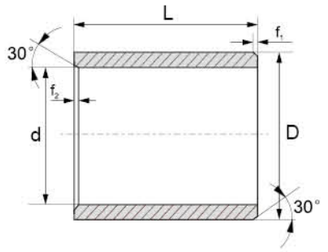
单位Unit: mm

型号 Parts No.	内径 ☒d		外径 ☒D		厚度 T		销孔 H	柱销位置 P.C.D	
BR2W-1015	10	+0.25 0	20	0 -0.25	1.5	0 -0.05	1.10～1.50	15	±0.12
BR2W-1215	12	"	24	"	"	"	1.625～1.875	18	"
BR2W-1415	14	"	26	"	"	"	2.125～2.375	20	"
BR2W-1615	16	"	30	"	"	"	"	22	"
BR2W-1815	18	"	32	"	"	"	"	25	"
BR2W-2015	20	"	36	"	"	"	3.125～3.375	28	"
BR2W-2215	22	"	38	"	"	"	"	30	"
BR2W-2415	24	"	42	"	"	"	"	33	"
BR2W-2615	26	"	44	"	"	"	"	35	"
BR2W-2815	28	"	48	"	"	"	4.125～4.375	38	"
BR2W-3215	32	"	54	"	"	"	"	43	"
BR2W-3815	38	"	62	"	"	"	"	50	"
BR2W-4215	42	"	66	"	"	"	"	54	"
BR2W-4820	48	"	74	"	2.0	"	"	61	"
BR2W-5220	52	"	78	"	"	"	"	65	"
BR2W-6220	62	"	90	"	"	"	"	76	"

BR3

轴套 Cylindrical Bushes

●摩擦面为树脂层。



推荐安装公差 Recommend fitting tolerance:

座孔 Housing: H7

轴 Shaft: h9

订货型号Order:

BY-6 -0608-06

d D L

材料 Material

d	f_1	f_2
d≤10	0.5	0.5
10<d≤30	0.8	0.5
30<d	1.2	0.5

单位Unit: mm

型号 Parts No.	d mm	d-公差 After fitting mm	D mm	L(h13) mm
BR3-0304-05	3	+0.014 +0.054	4.5	5
BR3-0304-06	3	+0.014 +0.054	4.5	6
BR3-0305-05	3	+0.014 +0.054	5.5	5
BR3-0405-04	4	+0.020 +0.068	5.5	4
BR3-0405-06	4	+0.020 +0.068	5.5	6
BR3-0406-06	4	+0.020 +0.068	6	6
BR3-0507-05	5	+0.020 +0.068	7	5
BR3-0507-08	5	+0.020 +0.068	7	8
BR3-0507-10	5	+0.020 +0.068	7	10
BR3-0507-18	5	+0.020 +0.068	7	18
BR3-0608-04	6	+0.020 +0.068	8	4
BR3-0608-05	6	+0.020 +0.068	8	5
BR3-0608-06	6	+0.020 +0.068	8	6
BR3-0608-08	6	+0.020 +0.068	8	8
BR3-0608-10	6	+0.020 +0.068	8	10
BR3-0810-05	8	+0.025 +0.083	10	5
BR3-0810-06	8	+0.025 +0.083	10	6
BR3-0810-08	8	+0.025 +0.083	10	8
BR3-0810-10	8	+0.025 +0.083	10	10
BR3-0810-12	8	+0.025 +0.083	10	12
BR3-0810-15	8	+0.025 +0.083	10	15
BR3-1012-04	10	+0.025 +0.083	12	4
BR3-1012-05	10	+0.025 +0.083	12	5
BR3-1012-06	10	+0.025 +0.083	12	6
BR3-1012-07	10	+0.025 +0.083	12	6
BR3-1012-08	10	+0.025 +0.083	12	8

型号 Parts No.	d mm	d-公差 After fitting mm	D mm	L(h13) mm
BR3-1012-09	10	+0.025 +0.083	12	6
BR3-1012-10	10	+0.025 +0.083	12	10
BR3-1012-12	10	+0.025 +0.083	12	12
BR3-1012-15	10	+0.025 +0.083	12	15
BR3-1012-18	10	+0.025 +0.083	12	18
BR3-1012-20	10	+0.025 +0.083	12	20
BR3-1214-04	12	+0.032 +0.102	14	6
BR3-1214-06	12	+0.032 +0.102	14	6
BR3-1214-08	12	+0.032 +0.102	14	8
BR3-1214-09	12	+0.032 +0.102	14	9
BR3-1214-10	12	+0.032 +0.102	14	10
BR3-1214-12	12	+0.032 +0.102	14	12
BR3-1214-14	12	+0.032 +0.102	14	12
BR3-1214-15	12	+0.032 +0.102	14	15
BR3-1214-20	12	+0.032 +0.102	14	20
BR3-1214-25	12	+0.032 +0.102	14	25
BR3-1315-07	13	+0.032 +0.102	15	7
BR3-1315-10	13	+0.032 +0.102	15	10
BR3-1315-15	13	+0.032 +0.102	15	15
BR3-1416-08	14	+0.032 +0.102	16	8
BR3-1416-10	14	+0.032 +0.102	16	10
BR3-1416-15	14	+0.032 +0.102	16	15
BR3-1416-20	14	+0.032 +0.102	16	20
BR3-1416-25	14	+0.032 +0.102	16	25
BR3-1517-10	15	+0.032 +0.102	17	10
BR3-1517-12	15	+0.032 +0.102	17	12

BORAN TECHNOLOGY

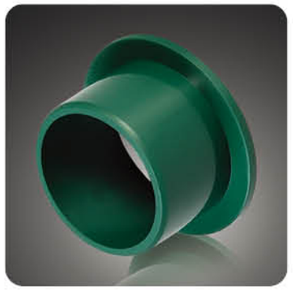
BR3 轴套 Cylindrical Bushes

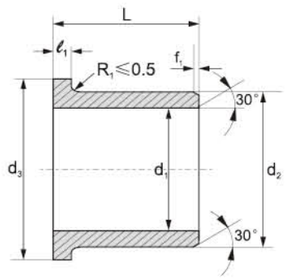
型号 Parts No.	d mm	d-公差 After fitting mm	D mm	L(h13) mm
BR3-1517-15	15	+0.032 +0.102	17	15
BR3-1517-17	15	+0.032 +0.102	17	17
BR3-1517-20	15	+0.032 +0.102	17	20
BR3-1517-25	15	+0.032 +0.102	17	25
BR3-1618-10	16	+0.032 +0.102	18	10
BR3-1618-12	16	+0.032 +0.102	18	12
BR3-1618-15	16	+0.032 +0.102	18	15
BR3-1618-20	16	+0.032 +0.102	18	20
BR3-1618-25	16	+0.032 +0.102	18	25
BR3-1820-10	18	+0.032 +0.102	20	10
BR3-1820-12	18	+0.032 +0.102	20	12
BR3-1820-15	18	+0.032 +0.102	20	15
BR3-1820-20	18	+0.032 +0.102	20	20
BR3-1820-25	18	+0.032 +0.102	20	25
BR3-2022-12	20	+0.040 +0.124	22	12
BR3-2022-15	20	+0.040 +0.124	22	15
BR3-2022-28	20	+0.040 +0.124	22	28
BR3-2023-10	20	+0.040 +0.124	23	10
BR3-2023-15	20	+0.040 +0.124	23	15
BR3-2023-20	20	+0.040 +0.124	23	20
BR3-2023-23	20	+0.040 +0.124	23	23
BR3-2023-25	20	+0.040 +0.124	23	25
BR3-2023-30	20	+0.040 +0.124	23	30
BR3-2225-15	22	+0.040 +0.124	25	15
BR3-2225-20	22	+0.040 +0.124	25	20
BR3-2225-25	22	+0.040 +0.124	25	25
BR3-2225-30	22	+0.040 +0.124	25	30
BR3-2528-10	25	+0.040 +0.124	28	10
BR3-2528-12	25	+0.040 +0.124	28	12
BR3-2528-15	25	+0.040 +0.124	28	15
BR3-2528-20	25	+0.040 +0.124	28	20
BR3-2528-25	25	+0.040 +0.124	28	25
BR3-2528-30	25	+0.040 +0.124	28	30
BR3-2832-15	28	+0.040 +0.124	32	15
BR3-2832-20	28	+0.040 +0.124	32	20

型号 Parts No.	d mm	d-公差 After fitting mm	D mm	L(h13) mm
BR3-2832-25	28	+0.040 +0.124	32	25
BR3-2832-30	28	+0.040 +0.124	32	30
BR3-3034-15	30	+0.040 +0.124	34	15
BR3-3034-20	30	+0.040 +0.124	34	20
BR3-3034-25	30	+0.040 +0.124	34	25
BR3-3034-30	30	+0.040 +0.124	34	30
BR3-3034-40	30	+0.040 +0.124	34	40
BR3-3236-20	32	+0.050 +0.150	36	20
BR3-3236-25	32	+0.050 +0.150	36	25
BR3-3236-30	32	+0.050 +0.150	36	30
BR3-3236-40	32	+0.050 +0.150	36	40
BR3-3539-20	35	+0.050 +0.150	39	20
BR3-3539-25	35	+0.050 +0.150	39	25
BR3-3539-30	35	+0.050 +0.150	39	30
BR3-3539-40	35	+0.050 +0.150	39	40
BR3-3539-50	35	+0.050 +0.150	39	50
BR3-4044-20	40	+0.050 +0.150	44	20
BR3-4044-30	40	+0.050 +0.150	44	30
BR3-4044-40	40	+0.050 +0.150	44	40
BR3-4044-50	40	+0.050 +0.150	44	50
BR3-4550-30	45	+0.050 +0.150	50	30
BR3-4550-40	45	+0.050 +0.150	50	40
BR3-4550-50	45	+0.050 +0.150	50	50
BR3-5055-20	50	+0.050 +0.150	55	20
BR3-5055-25	50	+0.050 +0.150	55	25
BR3-5055-30	50	+0.050 +0.150	55	30
BR3-5055-40	50	+0.050 +0.150	55	40
BR3-5055-50	50	+0.050 +0.150	55	50
BR3-5560-40	55	+0.060 +0.180	60	40
BR3-5560-50	55	+0.060 +0.180	60	50
BR3-5560-60	55	+0.060 +0.180	60	60
BR3-6065-30	60	+0.060 +0.180	65	30
BR3-6065-40	60	+0.060 +0.180	65	40
BR3-6065-50	60	+0.060 +0.180	65	50
BR3-7580-40	75	+0.060 +0.180	80	40

BR3F

法兰轴套 Flanged bushes





推荐安装公差 Recommend fitting tolerance:

座孔 Housing: H7

轴 Shaft: h9

订货型号Order:

BY-6F - 0608-06

d_1 d_2 L

翻边轴套 Flange bushes

材料 Material

d	f_1
d≤10	0.5
10<d≤30	0.8
30<d	1.2

单位Unit: mm

型号 Parts No.	d_1 mm	d_1-公差 After fitting mm	d_2 mm	d_3 (d13) mm	L(h13) mm	l-0.14 mm
BR3F-0304-05	3	+0.014 +0.054	4.5	7.5	5	0.75
BR3F-0405-04	4	+0.020 +0.068	5.5	9.5	4	0.75
BR3F-0405-06	4	+0.020 +0.068	5.5	9.5	6	0.75
BR3F-0507-04	5	+0.020 +0.068	7	11	4	1
BR3F-0507-05	5	+0.020 +0.068	7	11	5	1
BR3F-0608-04	6	+0.020 +0.068	8	12	4	1
BR3F-0608-05	6	+0.020 +0.068	8	12	5	1
BR3F-0608-06	6	+0.020 +0.068	8	12	6	1
BR3F-0608-08	6	+0.020 +0.068	8	12	8	1
BR3F-0608-10	6	+0.020 +0.068	8	12	10	1
BR3F-0810-05	8	+0.025 +0.083	10	15	5	1
BR3F-0810-07	8	+0.025 +0.083	10	15	7	1
BR3F-0810-09	8	+0.025 +0.083	10	15	9	1
BR3F-0810-10	8	+0.025 +0.083	10	15	10	1
BR3F-0810-12	8	+0.025 +0.083	10	15	12	1
BR3F-1012-05	10	+0.025 +0.083	12	18	5	1
BR3F-1012-06	10	+0.025 +0.083	12	18	6	1
BR3F-1012-07	10	+0.025 +0.083	12	18	7	1
BR3F-1012-08	10	+0.025 +0.083	12	18	8	1
BR3F-1012-09	10	+0.025 +0.083	12	18	9	1
BR3F-1012-10	10	+0.025 +0.083	12	18	10	1
BR3F-1012-12	10	+0.025 +0.083	12	18	12	1
BR3F-1012-15	10	+0.025 +0.083	12	18	15	1
BR3F-1012-17	10	+0.025 +0.083	12	18	17	1
BR3F-1214-04	12	+0.032 +0.102	14	20	4	1
BR3F-1214-05	12	+0.032 +0.102	14	20	5	1
BR3F-1214-06	12	+0.032 +0.102	14	20	6	1

型号 Parts No.	d_1 mm	d_1-公差 After fitting mm	d_2 mm	d_3 (d13) mm	L(h13) mm	l-0.14 mm
BR3F-1214-07	12	+0.032 +0.102	14	20	7	1
BR3F-1214-09	12	+0.032 +0.102	14	20	9	1
BR3F-1214-10	12	+0.032 +0.102	14	20	10	1
BR3F-1214-12	12	+0.032 +0.102	14	20	12	1
BR3F-1214-13	12	+0.032 +0.102	14	20	13	1
BR3F-1214-15	12	+0.032 +0.102	14	20	15	1
BR3F-1214-17	12	+0.032 +0.102	14	20	17	1
BR3F-1214-20	12	+0.032 +0.102	14	20	20	1
BR3F-1416-06	14	+0.032 +0.102	16	22	6	1
BR3F-1416-08	14	+0.032 +0.102	16	22	8	1
BR3F-1416-10	14	+0.032 +0.102	16	22	10	1
BR3F-1416-12	14	+0.032 +0.102	16	22	12	1
BR3F-1416-17	14	+0.032 +0.102	16	22	17	1
BR3F-1517-05	15	+0.032 +0.102	17	23	5	1
BR3F-1517-09	15	+0.032 +0.102	17	23	9	1
BR3F-1517-12	15	+0.032 +0.102	17	23	12	1
BR3F-1517-17	15	+0.032 +0.102	17	23	17	1
BR3F-1517-20	15	+0.032 +0.102	17	23	20	1
BR3F-1618-09	16	+0.032 +0.102	18	24	9	1
BR3F-1618-12	16	+0.032 +0.102	18	24	12	1
BR3F-1618-17	16	+0.032 +0.102	18	24	17	1
BR3F-1820-06	18	+0.032 +0.102	20	26	6	1
BR3F-1820-12	18	+0.032 +0.102	20	26	12	1
BR3F-1820-17	18	+0.032 +0.102	20	26	17	1
BR3F-1820-20	18	+0.032 +0.102	20	26	20	1
BR3F-2023-11	20	+0.040 +0.124	23	30	11	1.5
BR3F-2023-115	20	+0.040 +0.124	23	30	11.5	1.5

BORAN TECHNOLOGY

BR3F 法兰轴套 Flanged bushes

型号 Parts No.	d_1 mm	d_1-公差 After fitting mm	d_2 mm	d_3 (d13) mm	L(h13) mm	l-0.14 mm
BR3F-2023-16	20	+0.040 +0.124	23	30	16	1.5
BR3F-2023-165	20	+0.040 +0.124	23	30	16.5	1.5
BR3F-2023-21	20	+0.040 +0.124	23	30	21	1.5
BR3F-2023-215	20	+0.040 +0.124	23	30	21.5	1.5
BR3F-2225-115	22	+0.040 +0.124	25	32	11.5	1.5
BR3F-2528-11	25	+0.040 +0.124	28	35	11	1.5
BR3F-2528-115	25	+0.040 +0.124	28	35	11.5	1.5
BR3F-2528-16	25	+0.040 +0.124	28	35	16	1.5
BR3F-2528-165	25	+0.040 +0.124	28	35	16.5	1.5
BR3F-2528-21	25	+0.040 +0.124	28	35	21	1.5
BR3F-2528-215	25	+0.040 +0.124	28	35	21.5	1.5
BR3F-3034-16	30	+0.040 +0.124	34	42	16	2
BR3F-3034-26	30	+0.040 +0.124	34	42	26	2
BR3F-3034-32	30	+0.040 +0.124	34	42	32	2
BR3F-3034-37	30	+0.040 +0.124	34	42	37	2
BR3F-3236-16	32	+0.050 +0.150	36	40	16	2

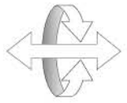
型号 Parts No.	d_1 mm	d_1-公差 After fitting mm	d_2 mm	d_3 (d13) mm	L(h13) mm	l-0.14 mm
BR3F-3236-26	32	+0.050 +0.150	36	40	26	2
BR3F-3539-16	35	+0.050 +0.150	39	47	16	2
BR3F-3539-26	35	+0.050 +0.150	39	47	26	2
BR3F-3539-36	35	+0.050 +0.150	39	47	36	2
BR3F-4044-30	40	+0.050 +0.150	44	52	30	2
BR3F-4044-40	40	+0.050 +0.150	44	52	40	2
BR3F-4044-50	40	+0.050 +0.150	44	52	50	2
BR3F-4550-30	45	+0.050 +0.150	50	58	30	2
BR3F-4550-50	45	+0.050 +0.150	50	58	50	2
BR3F-5055-20	50	+0.050 +0.150	55	63	20	2
BR3F-5055-30	50	+0.050 +0.150	55	63	30	2
BR3F-5055-40	50	+0.050 +0.150	55	63	40	2
BR3F-5055-50	50	+0.050 +0.150	55	63	50	2
BR3F-6065-30	60	+0.060 +0.180	65	73	30	2
BR3F-6065-50	60	+0.060 +0.180	65	73	50	2
BR3F-100105-100	100	+0.072 +0.212	105	113	100	2.5

BR4 钢背润滑分散型轴承

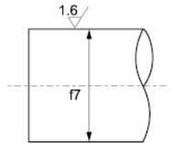
请从适用的内径、外径、长度中选择零件号
（例）内径20mm、外径30mm、长度15mm的情况下

BR4 - 203015

请指定上述零件号



运动方向
sliding direction

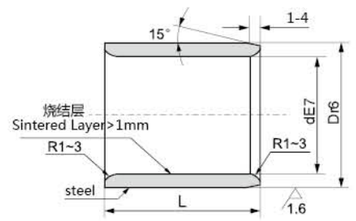


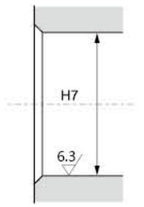
相配轴
Matching Shaft

单位Unit: mm

内径 Inner diameter		外径 Outer diameter		长度 Length $^{-0.1}_{-0.3}$						
Φd	Tolerance	ΦD	Tolerance	10	12	15	16	19	20	25
20	+0.073 +0.040	30	+0.049 +0.028			203015	203016		203020	203025
25	"	33	+0.059 +0.034		253312	253315	253316		253320	253325
25	"	35	"			253515	253516		253520	253525
28	"	38	"						283820	283825
30	"	38	"		303812	303815			303820	303825
30	"	40	"			304015			304020	304025
35	+0.089 +0.050	44	"						354420	354425
35	"	45	"						354520	354525
40	"	50	"			405015			405020	405025
45	"	55	+0.071 +0.041							
45	"	60	"							
50	"	60	"						506020	
50	"	62	"							
50	"	65	"							
55	+0.106 +0.060	70	+0.073 +0.043							
60	"	74	"							
60	"	75	"							
65	"	80	"							
70	"	85	+0.086 +0.051							
70	"	90	"							
75	"	90	"							
75	"	95	"							
80	"	96	"							
80	"	100	"							
90	+0.126 +0.072	110	+0.089 +0.054							
100	"	120	"							

BR4 Oil-retaining Bimetallic Bearing





相配座孔
Matching Housing

单位Unit: mm

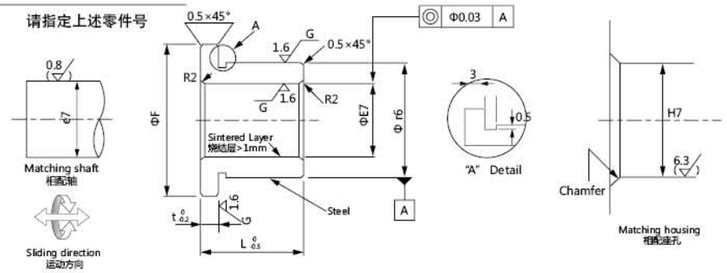
长度 Length $^{-0.1}_{-0.3}$									
30	35	40	50	60	70	80	90	100	120
203030	203035	203040	203050						
253330	253335	253340	253350	253360					
253530	253535	253540	253550	253560					
283830		283840							
303830	303835	303840	303850	303860					
304030	304035	304040	304050	304060					
354430	354435	354440	354450	354460					
354530	354535	354540	354550	354560					
405030	405035	405040	405050	405060	405070	405080			
455530	455535	455540	455550	455560					
456030		456040	456050	456060	456070	456080			
506030	506035	506040	506050	506060	506070	506080			
506230		506240	506250	506260	506270				
506530		506540	506550	506560	506570	506580		5065100	
557030		557040	557050	557060	557070				
607430	607435	607440	607450	607460	607470	607480			
607530	607535	607540	607550	607560	607570	607580		6075100	
		658040	658050	658060	658070	658080			
708530	708535	708540	708550	708560	708570	708580		7085100	
			709050	709060	709070	709080			
			759050	759060	759070	759080		7590100	
						759580		7595100	
		809640	809650	809660	809670	909680		8096100	8096120
		8010040	8010050	8010060	8010070	8010080		80100100	80100120
			9011050	9011060	9011070	90111080	9011090	90110100	90110120
			10012050	10012060	10012070	10012080	10012090	100120100	100120120

BR4F 法兰轴套 Flanged bushes

请从适用的内径、长度中选择零件号
（例）内径20mm、长度30mm的情况下

BR4F - 2030

请指定上述零件号



单位Unit: mm

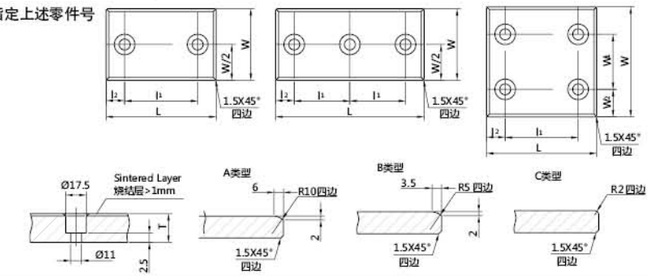
型号 Parts No.	⊠d		⊠D		⊠F	t		L	
BR4F-2030	20	+0.061 +0.040	30	+0.041 +0.028	35	7	0 -0.2	30	0 -0.5
BR4F-2040	20	"	30	"	35	7	"	40	"
BR4F-3030	30	+0.075 +0.050	40	+0.050 +0.034	45	7	"	30	"
BR4F-3060	30	"	40	"	45	7	"	60	"
BR4F-4040	40	"	50	+0.060 +0.041	55	10	"	40	"
BR4F-4080	40	"	50	"	55	10	"	80	"
BR4F-5050	50	+0.090 +0.060	62	"	67	10	"	50	"
BR4F-50100	50	"	62	"	67	10	"	100	"
BR4F-6060	60	"	74	+0.062 +0.043	79	10	"	60	"
BR4F-60120	60	"	74	"	79	10	"	120	"
BR4F-8080	80	+0.107 +0.072	100	+0.076 +0.054	105	10	"	80	"
BR4F-100100	100	"	120	+0.088 +0.063	125	10	"	100	"
BR4F-120100	120	+0.125 +0.085	140	+0.090 +0.065	145	10	"	100	"
BR4F-140100	140	"	160	+0.093 +0.068	165	10	"	100	"
BR4F-160120	160	"	180	+0.106 +0.077	185	10	"	120	"

BR4P20 滑板 Wear Plate（T: 20mm）

请从适用的厚度、宽度、长度中选择零件号
（例）厚度20mm、宽度28mm、长度75mm的情况下

BR4P20 - 2875

请指定上述零件号



单位Unit: mm

型号 Parts No.	宽度 Width		长度 Length		厚度 Thickness		Mounting holes Pitch						Number of Screw holes	Chamfered shape
	W	Tol.	L	Tol.	T	Tol.	W1	Tol.	W2	L1	Tol.	L2		
BR4P20-2875	28	-0.1 -0.3	75	-0.1 -0.3	20	±0.01	-	-	-	45	±0.2	15	2	C
BR4P20-28100	28	"	100	"	20	"	-	-	-	50	"	25	"	"
BR4P20-28150	28	"	150	"	20	"	-	-	-	100	"	25	"	"
BR4P20-3875	38	"	75	"	20	"	-	-	-	45	"	15	"	"
BR4P20-38100	38	"	100	"	20	"	-	-	-	50	"	25	"	"
BR4P20-38150	38	"	150	"	20	"	-	-	-	100	"	25	"	"
BR4P20-4875	48	"	75	"	20	"	-	-	-	45	"	15	"	B
BR4P20-48100	48	"	100	"	20	"	-	-	-	50	"	25	"	"
BR4P20-48125	48	"	125	"	20	"	-	-	-	100	"	25	"	"
BR4P20-48150	48	"	150	"	20	"	-	-	-	100	"	25	"	"
BR4P20-48200	48	"	200	"	20	"	-	-	-	100	"	50	"	"
BR4P20-48250	48	"	250	"	20	"	-	-	-	45	"	25	3	"
BR4P20-5875	58	"	75	"	20	"	-	-	-	50	"	15	2	"
BR4P20-58100	58	"	100	"	20	"	-	-	-	75	"	25	"	"
BR4P20-58150	58	"	150	"	20	"	-	-	-	100	"	25	"	"
BR4P20-7575B	75	"	75	"	20	"	-	-	-	25	"	25	"	A
BR4P20-75100B	75	"	100	"	20	"	-	-	-	50	"	25	"	"
BR4P20-75125	75	"	125	"	20	"	-	-	-	75	"	25	"	"
BR4P20-75150	75	"	150	"	20	"	-	-	-	100	"	25	"	"
BR4P20-75200	75	"	200	"	20	"	-	-	-	150	"	25	"	"
BR4P20-75250	75	"	250	"	20	"	-	-	-	100	"	25	3	"
BR4P20-75300	75	"	300	"	20	"	-	-	-	100	"	50	"	"
BR4P20-100100	100	"	100	"	20	"	50	±0.2	25	50	"	25	4	"
BR4P20-100125	100	"	125	"	20	"	"	"	"	75	"	25	"	"
BR4P20-100150	100	"	150	"	20	"	"	"	"	100	"	25	"	"
BR4P20-100200	100	"	200	"	20	"	"	"	"	150	"	25	"	"
BR4P20-100250	100	"	250	"	20	"	"	"	"	200	"	25	"	"
BR4P20-100300	100	"	300	"	20	"	"	"	"	200	"	50	"	"
BR4P20-125125	125	"	125	"	20	"	"	"	37.5	75	"	25	"	"
BR4P20-125150	125	"	150	"	20	"	"	"	"	100	"	25	"	"
BR4P20-125200	125	"	200	"	20	"	"	"	"	150	"	25	"	"
BR4P20-125250	125	"	250	"	20	"	"	"	"	200	"	25	"	"
BR4P20-125300	125	"	300	"	20	"	"	"	"	200	"	50	"	"
BR4P20-150150	150	"	150	"	20	"	100	"	25	100	"	25	"	"
BR4P20-150200	150	"	200	"	20	"	"	"	"	150	"	25	"	"
BR4P20-150250	150	"	250	"	20	"	"	"	"	200	"	25	"	"

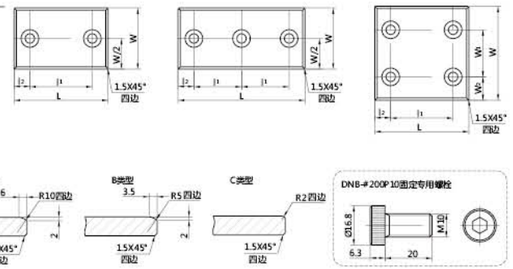
BR4P10

滑板 Wear Plate（T: 10mm）

请从适用的厚度、宽度、长度中选择零件号
（例）厚度10mm、宽度28mm、长度75mm的情况下

BR4P10 - 2875

请指定上述零件号



单位Unit: mm

型号 Parts No.	宽度 Width		长度 Length		厚度 hickness		Mounting holes Pitch						Number of Screw holes	Chamfered shape
	W	Tol.	L	Tol.	T	Tol.	W1	Tol.	W2	L1	Tol.	L2		
BR4P10-2875	28	-0.1 -0.3	75	-0.1 -0.3	10	±0.01	-	-	-	45	±0.2	15	2	C
BR4P10-28100	28	"	100	"	10	"	-	-	-	50	"	25	"	"
BR4P10-28125	28	"	125	"	10	"				75	"	25	"	"
BR4P10-28150	28	"	150	"	10	"	-	-	-	100	"	25	"	"
BR4P10-3875	38	"	75	"	10	"	-	-	-	45	"	15	"	"
BR4P10-38100	38	"	100	"	10	"	-	-	-	50	"	25	"	"
BR4P10-38125	38	"	125	"	10	"				75	"	25	"	"
BR4P10-38150	38	"	150	"	10	"	-	-	-	100	"	25	"	"
BR4P10-4875	48	"	75	"	10	"	-	-	-	45	"	15	"	B
BR4P10-48100	48	"	100	"	10	"	-	-	-	50	"	25	"	"
BR4P10-48125	48	"	125	"	10	"	-	-	-	100	"	25	"	"
BR4P10-48150	48	"	150	"	10	"	-	-	-	100	"	25	"	"
BR4P10-48200	48	"	200	"	10	"	-	-	-	100	"	50	"	"
BR4P10-48250	48	"	250	"	10	"	-	-	-	45	"	25	3	"
BR4P10-7575	75	"	75	"	10	"	-	-	-	25	"	25	2	A
BR4P10-75100	75	"	100	"	10	"	-	-	-	50	"	25	"	"
BR4P10-75125	75	"	125	"	10	"	-	-	-	75	"	25	"	"
BR4P10-75150	75	"	150	"	10	"	-	-	-	100	"	25	"	"
BR4P10-75200	75	"	200	"	10	"	-	-	-	150	"	25	"	"
BR4P10-75250	75	"	250	"	10	"	-	-	-	100	"	25	3	"
BR4P10-75300	75	"	300	"	10	"	-	-	-	100	"	50	"	"
BR4P10-100100	100	"	100	"	10	"	50	±0.2	25	50	"	25	4	"
BR4P10-100125	100	"	125	"	10	"	"	"	"	75	"	25	"	"
BR4P10-100150	100	"	150	"	10	"	"	"	"	100	"	25	"	"
BR4P10-100200	100	"	200	"	10	"	"	"	"	150	"	25	"	"
BR4P10-100250	100	"	250	"	10	"	"	"	"	200	"	25	"	"
BR4P10-100300	100	"	300	"	10	"	"	"	"	200	"	50	"	"
BR4P10-125125	125	"	125	"	10	"	"	"	37.5	75	"	25	"	"
BR4P10-125150	125	"	150	"	10	"	"	"	"	100	"	25	"	"
BR4P10-125200	125	"	200	"	10	"	"	"	"	150	"	25	"	"
BR4P10-125250	125	"	250	"	10	"	"	"	"	200	"	25	"	"
BR4P10-125300	125	"	300	"	10	"	"	"	"	200	"	50	"	"
BR4P10-150150	150	"	150	"	10	"	100	"	25	100	"	25	"	"
BR4P10-150200	150	"	200	"	10	"	"	"	"	150	"	25	"	"
BR4P10-150250	150	"	250	"	10	"	"	"	"	200	"	25	"	"

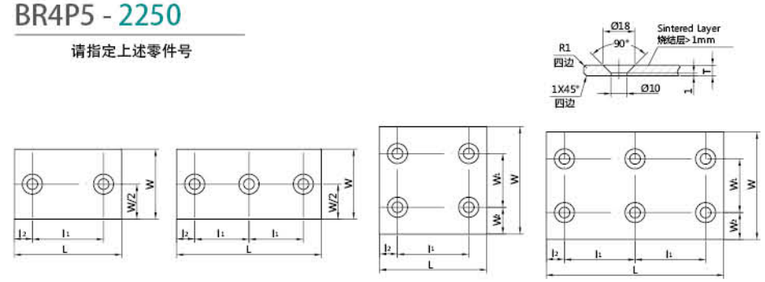
BR4P5

滑板 Wear Plate（T: 5mm）

请从适用的厚度、宽度、长度中选择零件号
（例）厚度5mm、宽度22mm、长度50mm的情况下

BR4P5 - 2250

请指定上述零件号



单位Unit: mm

型号 Parts No.	宽度 Width		长度 Length		厚度 Thickness		Mounting holes Pitch				Number of Screw holes
	W	Tolerance	L	Tolerance	T	Tolerance	W1	W2	L1	L2	
BR4P5-2250	22	0 -0.3	50	0 -0.3	5	0 -0.05	–	–	20	15	2
BR4P5-2275	22	"	75	"	5	"	–	–	45	15	2
BR4P5-22100	22	"	100	"	5	"	–	–	70	15	2
BR4P5-22150	22	"	150	"	5	"	–	–	60	15	3
BR4P5-2850	28	"	50	"	5	"	–	–	20	15	2
BR4P5-2875	28	"	75	"	5	"	–	–	45	15	2
BR4P5-28100	28	"	100	"	5	"	–	–	70	15	2
BR4P5-28150	28	"	150	"	5	"	–	–	60	15	3
BR4P5-3850	38	"	50	"	5	"	–	–	20	15	2
BR4P5-3875	38	"	75	"	5	"	–	–	45	15	2
BR4P5-38100	38	"	100	"	5	"	–	–	70	15	2
BR4P5-38150	38	"	150	"	5	"	–	–	60	15	3
BR4P5-4850	48	"	50	"	5	"	–	–	20	15	2
BR4P5-4875	48	"	75	"	5	"	–	–	45	15	2
BR4P5-48100	48	"	100	"	5	"	–	–	70	15	2
BR4P5-48150	48	"	150	"	5	"	–	–	60	15	3
BR4P5-7575	75	"	75	"	5	"	45	15	45	15	4
BR4P5-75100	75	"	100	"	5	"	45	15	70	15	4
BR4P5-75125	75	"	125	"	5	"	45	15	95	15	4
BR4P5-75150	75	"	150	"	5	"	45	15	60	15	6
BR4P5-100100	100	"	100	"	5	"	75	15	70	15	4
BR4P5-100125	100	"	125	"	5	"	75	15	95	15	4
BR4P5-100150	100	"	150	"	5	"	75	15	60	15	6

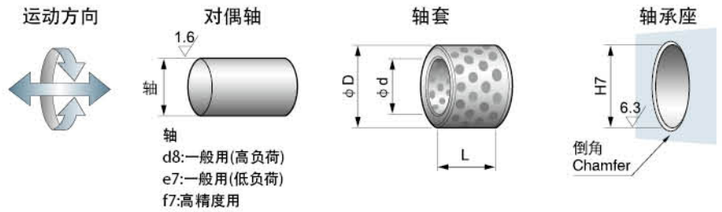
BR5A

自润滑轴套 Cylindrical bushes (内径 I.D⊠6～⊠45)

请从适用的内径、外径、长度中选择零件号
(例)内径25mm、外径33mm、长度20mm的情况下

BR5A - 253320

请指定上诉的零件号



d8:一般用(高负荷)
e7:一般用(低负荷)
f7:高精度用

单位Unit: mm

内径		外径		长度 L $^{-0.1}_{-0.3}$							
⊠d		⊠D		8	10	12	15	16	19	20	25
6	$^{+0.022}_{+0.010}$	10	$^{+0.015}_{+0.006}$	061008	061010	061012					
8	$^{+0.028}_{+0.013}$	12	$^{+0.018}_{+0.007}$	081208	081210	081212	081215				
10	"	14	"	101408	101410	101412	101415			101420	
12	$^{+0.034}_{+0.016}$	18	"	121808	121810	121812	121815	121816	121819	121820	121825
13	"	19	$^{+0.021}_{+0.008}$		131910	131912	131915			131920	131925
14	"	20	"		142010	142012	142015			142020	142025
15	"	21	"		152110	152112	152115	152116		152120	152125
16	"	22	"		162210	162212	162215	162216	162219	162220	162225
17	"	23	"				172315				
18	"	24	"		182410	182412	182415	182416		182420	182425
19	$^{+0.041}_{+0.020}$	26	"				192615			192620	
20	"	28	"		202810	202812	202815	202816	202819	202820	202825
"	"	30	"		203010	203012	203015	203016		203020	203025
22	"	32	$^{+0.025}_{+0.009}$			223212	223215			223220	223225
25	"	33	"			253312	253315	253316		253320	253325
"	"	35	"			253512	253515	253516		253520	253525
28	"	38	"							283820	283825
30	"	"	"			303812	303815			303820	303825
"	"	40	"			304012	304015			304020	304025
31.5	$^{+0.050}_{+0.025}$	"	"								
32	"	42	"							324220	
35	"	44	"							354420	354425
"	"	45	"							354520	354525
38	"	48	"								
40	"	50	"				405015			405020	405025
"	"	55	$^{+0.030}_{+0.011}$				405515				
45	"	"	"								
"	"	56	"								
"	"	60	"								

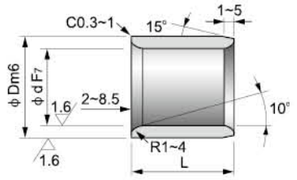
※压入后内径公差为参考值。

BORAN TECHNOLOGY

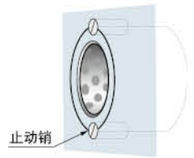
BR5A

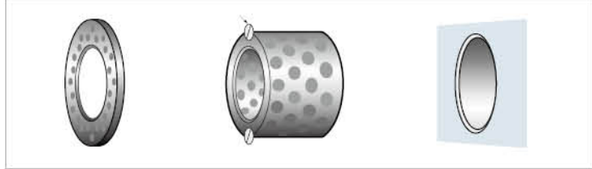
自润滑轴套 Cylindrical bushes (内径 I.D⊠6～⊠45)

●能在旋转、摇动以及往复运动中使用。
●不能在海水中使用。
●内径31.5mm・63mm的轴套能适用于油压气缸中间轴套颈套上。



为了防止脱落。推荐使用止动销





单位Unit: mm

长度 L $^{-0.1}_{-0.3}$							压入后内径公差	适用垫圈	内径
30	35	40	50	60	70	80		SPW	⊠d
							$^{+0.019}_{+0.007}$	0603	6
							$^{+0.025}_{+0.010}$	0803	8
							"	1003	10
121830							$^{+0.031}_{+0.013}$	1203	12
131930							$^{+0.030}_{+0.012}$	1303	13
142030							"	1403	14
152130	152135	152140					"	1503	15
162230	162235	162240					"	1603	16
							"	1803*	17
182430	182435	182440					"	1803	18
							$^{+0.037}_{+0.016}$	2005*	19
202830	202835	202840	202850				"	2005	20
203030	203035	203040	203050				"	2505*	"
							"	"	22
253330	253335	253340	253350	253360			"	2505	25
253530	253535	253540	253550	253560			"	3005*	"
283830		283840					"	"	28
303830	303835	303840	303850	303860			"	3005	30
304030	304035	304040	304050	304060			"	3505*	"
314030		314040					$^{+0.046}_{+0.021}$	"	31.5
324230		324240					"	"	32
354430	354435	354440	354450	354460			"	3505	35
354530	354535	354540	354550	354560			"	4007*	"
		384840					"	"	38
405030	405035	405040	405050	405060	405070	405080	"	4007	40
405530	405535	405540	405550	405560			$^{+0.045}_{+0.020}$	4507*	"
455530	455535	455540	455550	455560			"	4507	45
455630	455635	455640	455650	455660			"	"	"
456030	456035	456040	456050	456060	456070	456080	"	"	"

BR5A

自润滑轴套 Cylindrical Bushes (内径 I.D⊠50～⊠200)

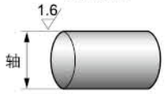
请从适用的内径、外径、长度中选择零件号
(例)内径80mm、外径96mm、长度70mm的情况下

BR5A - 809670

请指定上诉的零件号

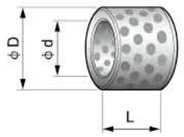
运动方向

对偶轴

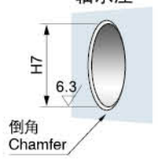


轴
d8:一般用(高负荷)
e7:一般用(低负荷)
f7:高精度用

轴套



轴承座



单位Unit: mm

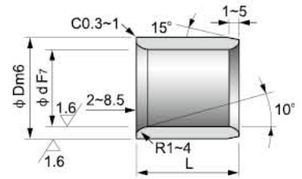
内径		外径		长度 L $^{-0.1}_{-0.3}$							
⊠d		⊠D		20	30	35	40	50	60	70	80
50	+0.050 +0.025	60	+0.030 +0.011	506020	506030	506035	506040	506050	506060	506070	506080
"	"	62	"		506230	506235	506240	506250	506260	506270	506280
"	"	65	"		506530		506540	506550	506560	506570	506580
55	+0.060 +0.030	70	"		557030	557035	557040	557050	557060	557070	
60	"	74	"		607430	607435	607440	607450	607460	607470	607480
"	"	75	"		607530	607535	607540	607550	607560	607570	607580
63	"	"	"						637560	637570	637580
65	"	80	"				658040	658050	658060	658070	658080
70	"	85	+0.035 +0.013		708530	708535	708540	708550	708560	708570	708580
"	"	90	"					709050	709060	709070	709080
75	"	"	"					759050	759060	759070	759080
"	"	95	"						759560	759570	759580
80	"	96	"				809640	809650	809660	809670	809680
"	"	100	"				8010040	8010050	8010060	8010070	8010080
85	+0.071 +0.036	"	"						8510060		8510080
90	"	110	"					9011050	9011060		9011080
100	"	120	"					10012050	10012060	10012070	10012080
110	"	130	+0.040 +0.015					11013050		11013070	11013080
120	"	140	"							12014070	12014080
125	+0.083 +0.043	145	"								
130	"	150	"								13015080
140	"	160	"								
150	"	170	"								15017080
160	"	180	"								16018080
170	"	190	+0.046 +0.017								
180	"	200	"								
190	+0.096 +0.050	210	"								
200	"	230	"								

BORAN TECHNOLOGY

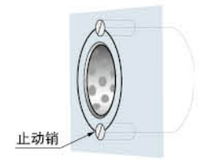
BR5A

自润滑轴套 Cylindrical Bushes (内径 I.D⊠50～⊠200)

●能在旋转、摇动以及往复运动中使用。
●不能在海水中使用。
●内径31.5mm・63mm的轴套能适用于油压气缸中间轴套颈套上。



为了防止脱落。推荐使用止动销



单位Unit: mm

长度 L $^{-0.1}_{-0.3}$							压入后 内径公差	适用垫圈	内径
90	100	120	130	140	150	200		SPW	⊠d
							+0.045 +0.020	5008	50
							"	"	"
	5065100						"	"	"
							+0.055 +0.025	5508	55
							"	6008	60
	6075100						"	"	"
							"	6508	63
							"	6508	65
	7085100						+0.054 +0.024	7010	70
							"	"	"
	7590100						"	7510	75
	7595100						"	"	"
	8096100	8096120					"	8010	80
	80100100	80100120		80100140			"	"	"
							+0.065 +0.030	9010	85
9011090	90110100	90110120					"	9010	90
10012090	100120100	100120120		100120140			"	10010	100
	110130100	110130120					+0.064 +0.029	12010	110
12014090	120140100	120140120		120140140			"	12010	120
	125145100	125145120					+0.076 +0.036	"	125
	130150100		130150130				"	"	130
	140160100			140160140			"	"	140
	150170100				150170150		"	"	150
	160180100				160180150		"	"	160
	170190100				170190150		"	"	170
	180200100				180200150		"	"	180
	190210100				190210150		+0.088 +0.042	"	190
					200230150	200230200	"	"	200

BR5B 自润滑翻边轴套 Flanged Bushes

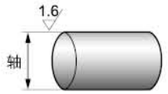
请从适用的内径、外径、长度中选择零件号
(例)内径50mm、长度30mm的情况下

BR5B - 5030

请指定上诉的零件号

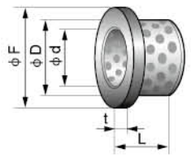
运动方向

对偶轴

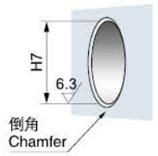


轴
d8:一般用(高负荷)
e7:一般用(低负荷)
f7:高精度用

法兰轴套



轴承座



单位Unit: mm

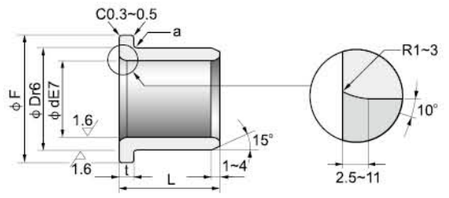
内径		外径		法兰			长度 L $^{-0.1}_{-0.3}$							
☒d		☒D		☒F	t		10	12	15	17	18	20	23	25
6	+0.032 +0.020	10	+0.028 +0.019	16	2	0 -0.1	0610	0612						
8	+0.040 +0.025	12	+0.034 +0.023	20	"	"	0810	0812	0815					
10	"	14	"	22	"	"	1010	1012	1015	1017		1020		
12	+0.050 +0.032	18	"	25	3	"	1210	1212	1215			1220		1225
13	"	19	+0.041 +0.028	26	"	"	1310	1312	1315			1320		1325
14	"	20	"	27	"	"			1415			1420		1425
15	"	21	"	28	"	"	1510	1512	1515			1520		1525
16	"	22	"	29	"	"		1612	1615		1618	1620	1623	1625
18	"	24	"	32	"	"			1815			1820		1825
20	+0.061 +0.040	30	"	40	5	"			2015			2020		2025
25	"	35	+0.050 +0.034	45	"	"			2515			2520		2525
30	"	40	"	50	"	"						3020		3025
31.5	+0.075 +0.050	"	"	"	"	"						3120		
35	"	45	"	60	"	"						3520		3525
40	"	50	"	65	"	"						4020		4025
45	"	55	+0.060 +0.041	70	"	"								
50	"	60	"	75	"	"								
55	+0.090 +0.060	65	"	80	"	"								
60	"	75	+0.062 +0.043	90	7.5	"								
63	"	"	"	85	"	"								
65	"	80	"	95	"	"								
70	"	85	+0.073 +0.051	105	"	"								
75	"	90	"	110	"	"								
80	"	100	"	120	10	"								
90	+0.107 +0.072	110	+0.076 +0.054	130	"	"								
100	"	120	"	150	"	"								
120	"	140	+0.088 +0.063	170	"	"								
130	+0.125 +0.085	150	+0.090 +0.065	180	"	"								
140	"	160	"	190	"	"								
150	"	170	+0.093 +0.068	200	"	"								
160	"	180	"	210	"	"								

※压入后内径公差为参考值。

BORAN TECHNOLOGY

BR5B 自润滑翻边轴套 Flanged Bushes

- ●能使用与旋转，摇动运动以及往复运动。
- ●在法兰部分由于没有镶嵌润滑剂，不能承受轴向负重。
- ●请避免在海水中使用。
- ●内径31.5mm・63mm是油压气缸中间轴劲套上使用的产品。



a:凸缘下端倒角(mm)
Chamfered at the lower end

☒d	~1.6	~55	~160
a	R0.3	R0.5	R1

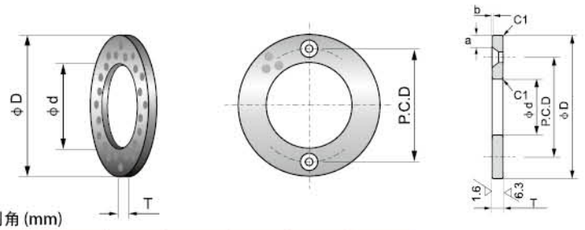
单位Unit: mm

长度 L $^{-0.1}_{-0.3}$									压入后内径公差	内径
30	35	40	50	60	67.5	80	100	120		☒d
									+0.016 +0.004	6
									+0.021 +0.006	8
									"	10
1230									+0.031 +0.013	12
1330									+0.026 +0.008	13
									"	14
1530									"	15
1630	1635	1640							"	16
1830	1835	1840							"	18
2030	2035	2040							+0.037 +0.016	20
2530	2535	2540	2550						+0.032 +0.011	25
3030	3035	3040	3050						"	30
3130	3135	3140							+0.046 +0.021	31.5
3530	3535	3540	3550						"	35
4030	4035	4040	4050						"	40
4530	4535	4540	4550	4560					+0.040 +0.015	45
5030	5035	5040	5050	5060					"	50
		5540		5560					+0.055 +0.025	55
		6040	6050	6060		6080			+0.053 +0.023	60
					6367				"	63
				6560					"	65
			7050			7080			+0.046 +0.016	70
				7560					"	75
				8060		8080	80100		"	80
				9060		9080			+0.060 +0.025	90
						10080	100100		"	100
						12080	120100		+0.052 +0.017	120
						13080	130100		+0.068 +0.028	130
						14080	140100		"	140
							150100	150120	+0.065 +0.025	150
							160100	160120	"	160

BR5C 止推垫圈 Thrust Washers

●能与JDB组合使用。

请从适用的内径、外径、长度中选择零件号
(例)内径30.2mm、厚度5mm的情况下



a b : 端面倒角 (mm)

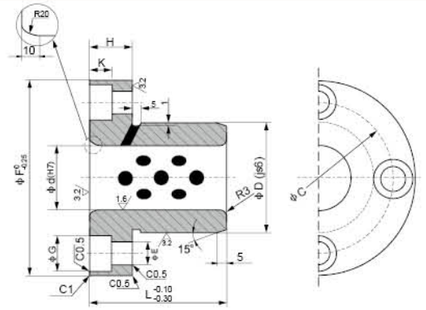
☒d	~10.2	~18.2	~35.2	~45.2	~55.3	~100.5	~120.5
a	1.5	2	2.5	3	4	5	4
b	0.3	0.4	0.4	0.5	0.6	0.8	0.8

单位Unit: mm

型号 Parts No.	内径 ☒d		外径 ☒D	厚度 T		定位孔 P.C.D	个数	定位螺栓
BR5C-0603	6.2	+0.2 +0.1	25	3	0 -0.1	15	2	M3
BR5C-0803	8.2	"	28	"	"	18	"	"
BR5C-1003	10.2	"	30	"	"	20	"	"
BR5C-1203	12.2	"	40	"	"	28	"	"
BR5C-1203N	"	"	"	"	"	无定位孔		
BR5C-1303	13.2	"	"	"	"	28	2	M3
BR5C-1403	14.2	"	"	"	"	"	"	"
BR5C-1503	15.2	"	50	"	"	35	"	"
BR5C-1603	16.2	"	"	"	"	"	"	"
BR5C-1603N	"	"	"	"	"	无定位孔		
BR5C-1803	18.2	"	"	"	"	35	2	M3
BR5C-2005	20.2	"	"	5	"	"	"	M5
BR5C-2505	25.2	"	55	"	"	40	"	"
BR5C-2505N	"	"	"	"	"	无定位孔		
BR5C-3005	30.2	"	60	"	"	45	2	M5
BR5C-3005N	"	"	"	"	"	无定位孔		
BR5C-3505	35.2	"	70	"	"	50	2	M5
BR5C-4007	40.2	+0.2 +0.1	80	7	0 -0.1	60	2	M6
BR5C-4507	45.2	"	90	"	"	70	"	"
BR5C-5008	50.3	+0.3 +0.1	100	8	"	75	4	"
BR5C-5508	55.3	"	110	"	"	85	"	"
BR5C-6008	60.3	"	120	"	"	90	"	M8
BR5C-6508	65.3	"	125	"	"	95	"	"
BR5C-7010	70.3	"	130	10	"	100	"	"
BR5C-7510	75.3	"	140	"	"	110	"	"
BR5C-8010	80.3	"	150	"	"	120	"	"
BR5C-9010	90.5	"	170	"	"	140	"	M10
BR5C-10010	100.5	"	190	"	"	160	"	"
BR5C-12010	120.5	"	200	"	"	175	"	"

BR5E 自润导向套 Oilless Guide Bushes

请从适用的内径、外径、长度中选择零件号
(例)内径30.2mm、厚度5mm的情况下

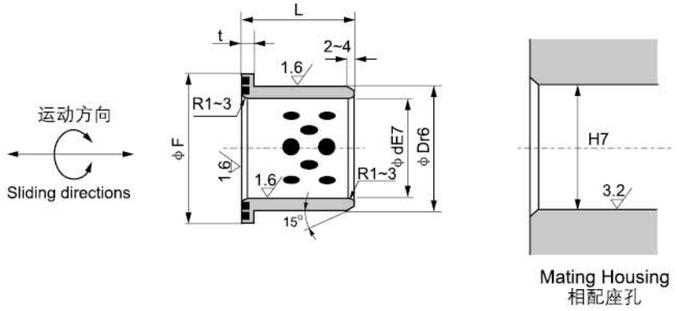


单位Unit: mm

项目	代号	尺寸	ΦF	ΦD	Φd	H	L	ΦC	ΦE	ΦG	K
1	30	90×50×30×50	90	50	30	20	50	70	11	17.5	10.8
2	40	100×60×40×65	100	60	40	20	65	80	11	17.5	10.8
3	50	125×75×50×80	125	75	50	20	80	100	11	17.5	10.8
4	60	135×85×60×100	135	85	60	20	100	110	11	17.5	10.8
5	80	170×110×80×130	170	110	80	25	130	140	14	20	13
6	100	190×130×100×160	190	130	100	25	160	160	14	20	13

BR5D

自润滑翻边轴套 Flanged Bushes



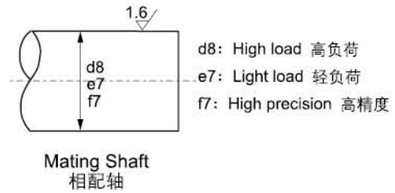
单位Unit: mm

内径 E7 I.D. φd		外径 r6 O.D. φD		翻边 Flange φF	t		长度 L 0 -0.3 10	11	12	13	15	18	20	23	25
6	+0.032 +0.020	10	+0.028 +0.019	20	3	0 -0.03	0610	0611	0612						
8	+0.040 +0.025	12	+0.034 +0.023	25	"	"			0812	0813	0815				
10	"	14	"	"	"	"				1013		1018			
12	+0.050 +0.032	18	"	30	"	"		1211				1218		1223	
13	"	19	+0.041 +0.028	"	"	"				1313		1318		1323	
15	"	21	"	35	"	"				1513		1518		1523	
16	"	22	"	"	"	"				1613		1618		1623	1625
18	"	24	"	40	"	"						1818		1823	
20	+0.061 +0.040	28	"	45	5	"							2020		2025
25	"	33	+0.050 +0.034	50	"	"							2520		2525
30	"	38	"	55	"	"							3020		3025
35	+0.075 +0.050	44	"	65	"	"							3520		3525
40	"	50	"	70	7	"									
50	"	62	+0.060 +0.041	90	8	0 -0.04									
60	+0.090 +0.060	74	+0.062 +0.043	110	"	"									
70	"	85	+0.073 +0.051	120	10	"									
80	"	96	"	140	"	"									

BORAN TECHNOLOGY

BR5D

自润滑翻边轴套 Flanged Bushes



单位Unit: mm

长度 L 0 -0.3 27	35	37	38	47	48	50	58	60	68	80	90	压装后内孔 I.D. After Press-Fitting	内径 I.D. φd
												+0.016 +0.004	6
												+0.021 +0.006	8
												"	10
												+0.031 +0.013	12
												+0.026 +0.008	13
												"	15
												"	16
												"	18
												+0.037 +0.016	20
												+0.032 +0.011	25
	3035												30
	3535											+0.046 +0.021	35
4027		4037		4047								"	40
			5038		5048		5058					+0.040 +0.015	50
			6038		6048		6058		6068			+0.053 +0.023	60
						7075				7080		+0.046 +0.016	70
								8060			8090	"	80

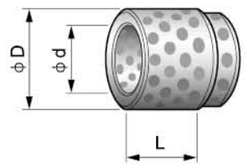
BR5F

导向轴套 Guide bushes

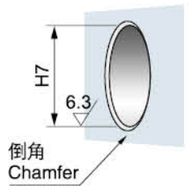
请从适用的内径、外径、长度中选择零件号
(例)内径60mm、外径80mm、长度90mm的情况下

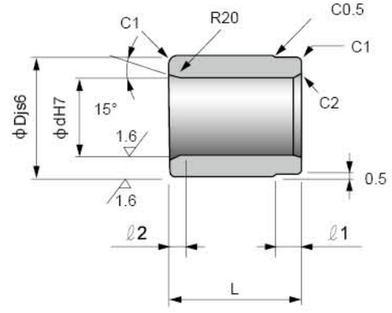
运动方向

轴套



轴承座





●往复运动中可使用。
●在使用中推荐使用内六角螺栓防止滑脱。

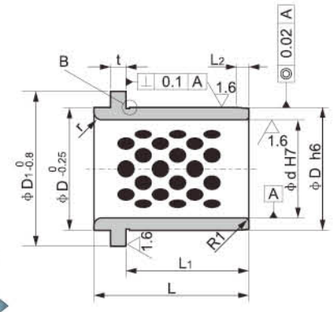
单位Unit: mm

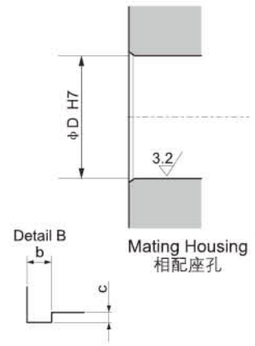
型号 Parts No.	内径 ☒d		外径 ☒D		长度 L		ℓ_1	ℓ_2
BR5F-254040	25	+0.020 0	40	±0.080	40	0 -0.2	10	5
BR5F-305050	30	"	50	"	50	"	"	"
BR5F-356055	35	+0.025 0	60	±0.095	55	"	15	"
BR5F-406055	40	"	"	"	"	"	"	"
BR5F-406060	"	"	"	"	60	"	10	"
BR5F-507075	50	"	70	"	75	"	15	10
BR5F-608090	60	+0.030 0	80	"	90	"	20	"
BR5F-80100120	80	"	100	±0.110	120	"	25	"
BR5F-100120150	100	+0.035 0	120	"	150	"	"	"
BR5F-120140180	120	"	140	±0.125	180	"	"	"

BR5G

自润导套 Oilless Guide Bushes

运动方向



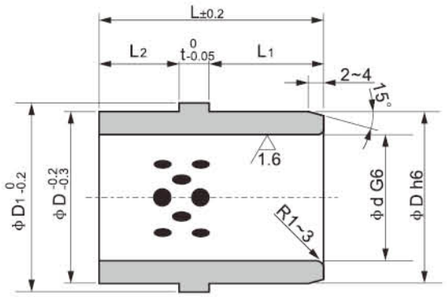


单位Unit: mm

型号 Parts No.	d H7		D h6		L	D_1	L_1	L_2	t	r	bxc	P
BR5G-025	25	+0.021 0	32	0 -0.016	40	40	30	3	6.3	3	0.6x0.3	58
BR5G-032	32	+0.025 0	40	"	50	50	40	4	"	"	"	66
BR5G-040	40	"	50	"	63	63	50	5	"	"	"	79
BR5G-050	50	"	63	0 -0.019	71	71	56	6.3	"	5	"	89
BR5G-063	63	+0.030 0	80	"	80	90	63	8	10	6	1.0x0.4	123
BR5G-080	80	"	100	0 -0.022	100	112	80	10	"	8	"	143
BR5G-100	100	"	125	0 -0.025	125	140	106	12.5	"	10	"	168
BR5G-125	125	+0.040 0	160	"	160	180	132	16	"	12	"	203
BR5G-160	160	"	200	0 -0.029	200	220	170	16	"	18	"	243

BR5H

射出座导套 Oilless Ejector Guide Bushes



单位Unit: mm

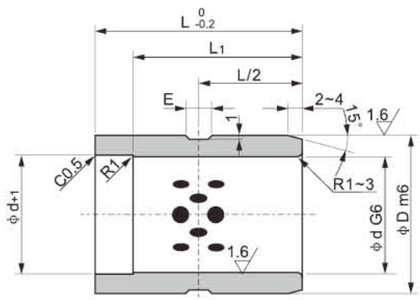
型号 Parts No.	d	L	d G6		D h6		D_1	L_1	L_2	t
BR5H-16x26	16	26	16	+0.017 +0.006	25	0 -0.013	30	12	10	4
BR5H-16x28	"	28	"	"	"	"	"	14	"	"
BR5H-16x33	"	33	"	"	"	"	"	19	"	"
BR5H-16x38	"	38	"	"	"	"	"	24	"	"
BR5H-20x26	20	26	20	+0.020 +0.007	30	"	35	12	"	"
BR5H-20x28	"	28	"	"	"	"	"	14	"	"
BR5H-20x33	"	33	"	"	"	"	"	19	"	"
BR5H-20x38	"	38	"	"	"	"	"	24	"	"
BR5H-25x26	25	26	25		35	0 -0.016	40	12	"	"
BR5H-25x28	"	28	"	"	"	"	"	14	"	"
BR5H-25x33	"	33	"	"	"	"	"	19	"	"
BR5H-25x38	"	38	"	"	"	"	"	24	"	"
BR5H-30x33	30	33	30	"	40	"	45	14	15	"
BR5H-30x38	"	38	"	"	"	"	"	19	"	"
BR5H-30x46	"	46	"	"	"	"	"	24	"	"
BR5H-35x38	35	38	35	+0.025 +0.009	46	"	50	19	"	"
BR5H-35x43	"	43	"	"	"	"	"	24	"	"
BR5H-35x48	"	48	"	"	"	"	"	29	"	"
BR5H-40x48	40	"	40	"	52	0 -0.019	57	24	20	"
BR5H-40x53	"	53	"	"	"	"	"	29	"	"
BR5H-50x48	50	48	50	"	62	"	67	24	"	"
BR5H-50x53	"	53	"	"	"	"	"	29	"	"

型号 Parts No.	d	L	d G6		D h6		D_1	L_1	L_2	t
BR5HK-25x33	25	33	25	+0.020 +0.007	35	0 -0.016	40	19	6	8
BR5HK-25x38	"	38	"	"	"	"	"	24	"	"
BR5HK-30x48	30	48	30	"	40	"	45	29	11	"
BR5HK-30x47	"	47	"	"	42	"	47	24	15	"
BR5HK-30x52	"	52	"	"	"	"	"	29	"	"
BR5HK-35x63	35	63	35	+0.025 +0.009	45	"	50	39	16	"
BR5HK-40x60	40	60	40	"	50	"	55	32	20	"
BR5HK-40x70	"	70	"	"	"	"	"	42	"	"
BR5HK-40x78	"	78	"	"	"	"	"	49	21	"
BR5HK-40x57	"	57	"	"	55	0 -0.019	60	24	25	"
BR5HK-40x67	"	67	"	"	"	"	"	29	30	"
BR5HK-45x88	45	88	45	"	"	"	"	59	21	"
BR5HK-45x95	"	95	"	"	"	"	"	69	"	"
BR5HK-50x67	50	67	50	"	62	"	67	29	30	"
BR5HK-50x87	"	87	"	"	"	"	"	39	40	"
BR5HK-60x67	60	67	60	+0.029 +0.010	74	"	82	29	30	"
BR5HK-60x87	"	87	"	"	"	"	"	39	40	"

BR5I

射出座导套 Oilless Ejector Guide Bushes

运动方向



单位Unit: mm

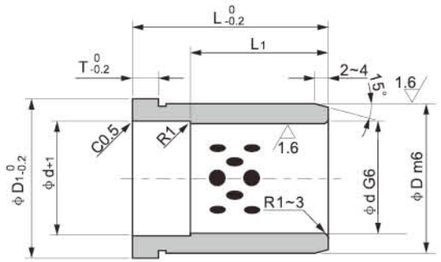
型号 Parts No.	d	L	d G6		D m6		L_1	E
BR5I-12x9	12	9	12	+0.017 +0.006	18	+0.018 +0.007	9	4
BR5I-12x14	"	14	"	"	"	"	14	"
BR5I-12x19	"	19	"	"	"	"	19	"
BR5I-12x24	"	24	"	"	"	"	24	"
BR5I-16x14	16	14	16	"	25	+0.021 +0.008	14	6
BR5I-16x19	"	19	"	"	"	"	19	"
BR5I-16x24	"	24	"	"	"	"	24	"
BR5I-16x29	"	29	"	"	"	"	29	"
BR5I-16x34	"	34	"	"	"	"	34	"
BR5I-16x39	"	39	"	"	"	"	35	"
BR5I-20x14	20	14	20	+0.020 +0.007	30	"	14	4
BR5I-20x19	"	19	"	"	"	"	19	"
BR5I-20x24	"	24	"	"	"	"	24	6
BR5I-20x29	"	29	"	"	"	"	29	"
BR5I-20x34	"	34	"	"	"	"	34	"
BR5I-20x39	"	39	"	"	"	"	39	"
BR5I-20x49	"	49	"	"	"	"	40	"
BR5I-25x24	25	24	25	"	35	+0.025 +0.009	24	8
BR5I-25x29	"	29	"	"	"	"	29	"
BR5I-25x34	"	34	"	"	"	"	34	"
BR5I-25x39	"	39	"	"	"	"	39	"
BR5I-25x49	"	49	"	"	"	"	49	"
BR5I-25x59	"	59	"	"	"	"	50	"
BR5I-30x29	30	29	30	"	42	"	29	"
BR5I-30x34	"	34	"	"	"	"	34	"
BR5I-30x39	"	39	"	"	"	"	39	"
BR5I-30x49	"	49	"	"	"	"	49	"
BR5I-30x59	"	59	"	"	"	"	59	"
BR5I-30x69	"	69	"	"	"	"	60	"
BR5I-30x79	"	79	"	"	"	"	"	"

型号 Parts No.	d	L	d G6		D m6		L_1	E
BR5I-35x29	35	29	35	+0.025 +0.009	48	+0.025 +0.009	29	8
BR5I-35x34	"	34	"	"	"	"	34	"
BR5I-35x39	"	39	"	"	"	"	39	"
BR5I-35x49	"	49	"	"	"	"	49	"
BR5I-35x59	"	59	"	"	"	"	59	"
BR5I-35x69	"	69	"	"	"	"	69	"
BR5I-35x79	"	79	"	"	"	"	70	"
BR5I-40x39	40	39	40	"	59	+0.030 +0.011	39	10
BR5I-40x49	"	49	"	"	"	"	49	"
BR5I-40x59	"	59	"	"	"	"	59	"
BR5I-40x69	"	69	"	"	"	"	69	"
BR5I-40x79	"	79	"	"	"	"	79	"
BR5I-40x89	"	89	"	"	"	"	80	"
BR5I-50x49	50	49	50	"	70	"	49	"
BR5I-50x59	"	59	"	"	"	"	59	"
BR5I-50x69	"	69	"	"	"	"	69	"
BR5I-50x79	"	79	"	"	"	"	79	"
BR5I-50x89	"	89	"	"	"	"	80	"
BR5I-50x99	"	49	"	"	"	"	49	"
BR5I-60x59	60	59	60	+0.029 +0.010	80	"	59	"
BR5I-60x69	"	69	"	"	"	"	69	"
BR5I-60x79	"	79	"	"	"	"	79	"
BR5I-60x89	"	89	"	"	"	"	89	"
BR5I-60x99	"	99	"	"	"	"	90	"
BR5I-60x109	"	109	"	"	"	"		"
BR5I-80x69	80	69	80	"	100	+0.029 +0.010	69	"
BR5I-80x79	"	79	"	"	"	"	79	"
BR5I-80x89	"	89	"	"	"	"	89	"
BR5I-80x99	"	99	"	"	"	"	99	"
BR5I-80x109	"	109	"	"	"	"		"
BR5I-80x119	"	119	"	"	"	"	100	"

BR5J

自润滑翻边导向套 Oilless Flanged Guide Bushes

运动方向



单位Unit: mm

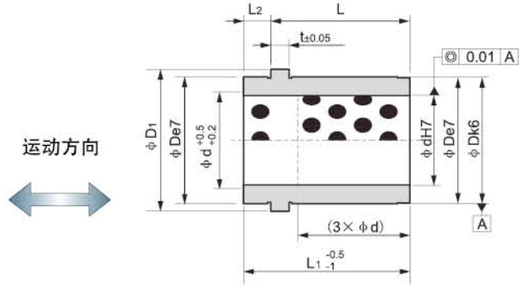
型号 Parts No.	d	L	d G6		D m6		D_1	T	L_1
BR5J-12x19	12	19	12	+0.017 +0.006	18	+0.018 +0.007	25	4	19
BR5J-12x24	"	24	"	"	"	"	"	"	24
BR5J-12x29	"	29	"	"	"	"	"	"	29
BR5J-12x34	"	34	"	"	"	"	"	"	34
BR5J-16x19	16	19	16	"	25	+0.021 +0.008	30	"	19
BR5J-16x24	"	24	"	"	"	"	"	"	24
BR5J-16x29	"	29	"	"	"	"	"	"	29
BR5J-16x34	"	34	"	"	"	"	"	"	30
BR5J-16x39	"	39	"	"	"	"	"	"	"
BR5J-16x49	"	49	"	"	"	"	"	"	"
BR5J-20x24	20	24	20	+0.020 +0.007	30	"	35	6	24
BR5J-20x29	"	29	"	"	"	"	"	"	29
BR5J-20x34	"	34	"	"	"	"	"	"	34
BR5J-20x39	"	39	"	"	"	"	"	"	39
BR5J-20x49	"	49	"	"	"	"	"	"	40
BR5J-20x59	"	59	"	"	"	"	"	"	"
BR5J-25x24	25	24	25	"	35	+0.025 +0.009	40	"	24
BR5J-25x29	"	29	"	"	"	"	"	"	29
BR5J-25x34	"	34	"	"	"	"	"	"	34
BR5J-25x39	"	39	"	"	"	"	"	"	39
BR5J-25x49	"	49	"	"	"	"	"	"	49
BR5JF-25x59	"	59	"	"	"	"	"	"	50
BR5J-25x69	"	69	"	"	"	"	"	"	"
BR5J-30x29	30	29	30	"	42	"	47	9	29
BR5J-30x34	"	34	"	"	"	"	"	"	34
BR5J-30x39	"	39	"	"	"	"	"	"	39
BR5J-30x49	"	49	"	"	"	"	"	"	49
BR5J-30x59	"	59	"	"	"	"	"	"	59
BR5J-30x69	"	69	"	"	"	"	"	"	60
BR5J-30x79	"	79	"	"	"	"	"	"	"

型号 Parts No.	d	L	d G6		D m6		D_1	T	L_1
BR5J-35x39	35	39	35	+0.025 +0.009	48	+0.025 +0.009	54	10	39
BR5J-35x49	"	49	"	"	"	"	"	"	49
BR5J-35x59	"	59	"	"	"	"	"	"	59
BR5J-35x69	"	69	"	"	"	"	"	"	69
BR5J-35x79	"	79	"	"	"	"	"	"	70
BR5J-35x89	"	89	"	"	"	"	"	"	"
BR5J-35x99	"	99	"	"	"	"	"	"	"
BR5J-40x39	40	39	40	"	55	+0.030 +0.011	61	"	39
BR5J-40x49	"	49	"	"	"	"	"	"	49
BR5J-40x59	"	59	"	"	"	"	"	"	59
BR5J-40x69	"	69	"	"	"	"	"	"	69
BR5J-40x79	"	79	"	"	"	"	"	"	79
BR5J-40x89	"	89	"	"	"	"	"	"	80
BR5J-40x99	"	99	"	"	"	"	"	"	"
BR5J-40x109	"	109	"	"	"	"	"	"	"
BR5J-50x49	50	49	50	"	70	"	76	12	49
BR5J-50x59	"	59	"	"	"	"	"	"	59
BR5J-50x69	"	69	"	"	"	"	"	"	69
BR5J-50x79	"	79	"	"	"	"	"	"	79
BR5J-50x89	"	89	"	"	"	"	"	"	89
BR5J-50x99	"	99	"	"	"	"	"	"	90
BR5J-50x109	"	109	"	"	"	"	"	"	"
BR5J-50x119	"	119	"	"	"	"	"	"	"
BR5J-60x99	60	99	60	+0.029 +0.010	80	"	86	15	99
BR5J-60x109	"	109	"	"	"	"	"	"	109
BR5J-60x119	"	119	"	"	"	"	"	"	110
BR5J-60x129	"	129	"	"	"	"	"	"	"
BR5J-60x149	"	149	"	"	"	"	"	"	"

BR5K

射出头自润导套 Ejector Guide Bushig

运动方向



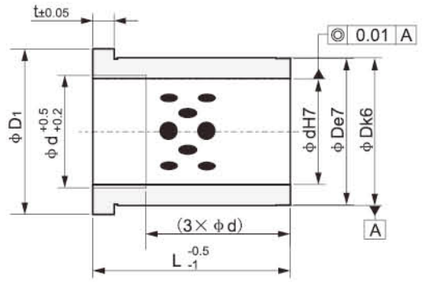
单位Unit: mm

型号 Parts No.	d	L	L_1	L_2	t	D	Toleramce e7	Toleramce k6	D_1	L_1	
BR5K-9x15	9	12	15	3	3	14	-0.032 -0.050	+0.012 +0.001	16	9	+0.015 0
BR5K-9x20	"	17	20	"	"	"	"	"	"	"	"
BR5K-9x25	"	22	25	"	"	"	"	"	"	"	"
BR5K-9x30	"	27	30	"	"	"	"	"	"	"	"
BR5K-9x39	"	36	39	"	"	"	"	"	"	"	"
BR5K-10x15	10	12	15	"	"	"	"	"	"	10	"
BR5K-10x20	"	17	20	"	"	"	"	"	"	"	"
BR5K-10x25	"	22	25	"	"	"	"	"	"	"	"
BR5K-10x30	"	27	30	"	"	"	"	"	"	"	"
BR5K-10x39	"	36	39	"	"	"	"	"	"	"	"
BR5K-14x26	14	17	26	9	6	20	-0.040 -0.061	+0.015 +0.002	25	14	+0.018 0
BR5K-14x31	"	22	31	"	"	"	"	"	"	"	"
BR5K-14x36	"	27	36	"	"	"	"	"	"	"	"
BR5K-14x45	"	36	45	"	"	"	"	"	"	"	"
BR5K-14x55	"	46	55	"	"	"	"	"	"	"	"
BR5K-14x65	"	56	65	"	"	"	"	"	"	"	"
BR5K-15x26	15	17	26	"	"	"	"	"	"	15	"
BR5K-15x31	"	22	31	"	"	"	"	"	"	"	"
BR5K-15x36	"	27	36	"	"	"	"	"	"	"	"
BR5K-15x45	"	36	45	"	"	"	"	"	"	"	"
BR5K-15x55	"	46	55	"	"	"	"	"	"	"	"
BR5K-15x65	"	56	65	"	"	"	"	"	"	"	"
BR5K-18x26	18	17	26	"	"	26	"	"	31	18	"
BR5K-18x31	"	22	31	"	"	"	"	"	"	"	"
BR5K-18x36	"	27	36	"	"	"	"	"	"	"	"
BR5K-18x45	"	36	45	"	"	"	"	"	"	"	"
BR5K-18x55	"	46	55	"	"	"	"	"	"	"	"
BR5K-18x65	"	56	65	"	"	"	"	"	"	"	"
BR5K-18x75	"	66	75	"	"	"	"	"	"	"	"
BR5K-20x26	20	17	26	"	"	"	"	"	"	20	+0.021 0
BR5K-20x31	"	22	31	"	"	"	"	"	"	"	"
BR5K-20x36	"	27	36	"	"	"	"	"	"	"	"
BR5K-20x45	"	36	45	"	"	"	"	"	"	"	"
BR5K-20x55	"	46	55	"	"	"	"	"	"	"	"
BR5K-20x65	"	56	65	"	"	"	"	"	"	"	"
BR5K-20x75	"	66	75	"	"	"	"	"	"	"	"
BR5K-22x26	22	17	26	"	"	30	"	"	35	22	"
BR5K-22x31	"	22	31	"	"	"	"	"	"	"	"
BR5K-22x36	"	27	36	"	"	"	"	"	"	"	"
BR5K-22x45	"	36	45	"	"	"	"	"	"	"	"
BR5K-22x55	"	46	55	"	"	"	"	"	"	"	"
BR5K-22x65	"	56	65	"	"	"	"	"	"	"	"
BR5K-22x75	"	66	75	"	"	"	"	"	"	"	"
BR5K-22x85	"	76	85	"	"	"	"	"	"	"	"
BR5K-22x95	"	86	95	"	"	"	"	"	"	"	"

型号 Parts No.	d	L	L_1	L_2	t	D	Toleramce e7	Toleramce k6	D_1	L_1	
BR5K-24x26	24	17	26	9	6	30	-0.040 -0.061	+0.015 +0.002	35	24	+0.021
BR5K-24x31	"	22	31	"	"	"	"	"	"	"	"
BR5K-24x36	"	27	36	"	"	"	"	"	"	"	"
BR5K-24x45	"	36	45	"	"	"	"	"	"	"	"
BR5K-24x55	"	46	55	"	"	"	"	"	"	"	"
BR5K-24x65	"	56	65	"	"	"	"	"	"	"	"
BR5K-24x75	"	66	75	"	"	"	"	"	"	"	"
BR5K-24x85	"	76	85	"	"	"	"	"	"	"	"
BR5K-24x95	"	86	95	"	"	"	"	"	"	"	"
BR5K-30x36	30	27	36	"	"	42	-0.050	-0.048	47	30	"
BR5K-30x45	"	36	45	"	"	"	"	"	"	"	"
BR5K-30x55	"	46	55	"	"	"	"	"	"	"	"
BR5K-30x65	"	56	65	"	"	"	"	"	"	"	"
BR5K-30x75	"	66	75	"	"	"	"	"	"	"	"
BR5K-30x85	"	76	85	"	"	"	"	"	"	"	"
BR5K-30x95	"	86	95	"	"	"	"	"	"	"	"
BR5K-30x105	"	96	105	"	"	"	"	"	"	"	"
BR5K-30x125	"	116	125	"	"	"	"	"	"	"	"
BR5K-32x36	32	27	36	"	"	"	"	"	"	32	+0.025
BR5K-32x45	"	36	45	"	"	"	"	"	"	"	"
BR5K-32x55	"	46	55	"	"	"	"	"	"	"	"
BR5K-32x65	"	56	65	"	"	"	"	"	"	"	"
BR5K-32x75	"	66	75	"	"	"	"	"	"	"	"
BR5K-32x85	"	76	85	"	"	"	"	"	"	"	"
BR5K-32x95	"	86	95	"	"	"	"	"	"	"	"
BR5K-32x105	"	96	105	"	"	"	"	"	"	"	"
BR5K-32x125	"	116	125	"	"	"	"	"	"	"	"
BR5K-40x68	40	56	68	12	10	54	-0.060 -0.090	+0.021 +0.002	60	40	"
BR5K-40x78	"	66	78	"	"	"	"	"	"	"	"
BR5K-40x88	"	76	88	"	"	"	"	"	"	"	"
BR5K-40x98	"	86	98	"	"	"	"	"	"	"	"
BR5K-40x108	"	96	108	"	"	"	"	"	"	"	"
BR5K-40x128	"	116	128	"	"	"	"	"	"	"	"
BR5K-40x148	"	136	148	"	"	"	"	"	"	"	"
BR5K-40x168	"	156	168	"	"	"	"	"	"	"	"
BR5K-42x68	42	56	68	"	"	"	"	"	"	42	"
BR5K-42x78	"	66	78	"	"	"	"	"	"	"	"
BR5K-42x88	"	76	88	"	"	"	"	"	"	"	"
BR5K-42x98	"	86	98	"	"	"	"	"	"	"	"
BR5K-42x108	"	96	108	"	"	"	"	"	"	"	"
BR5K-42x128	"	116	128	"	"	"	"	"	"	"	"
BR5K-42x148	"	136	148	"	"	"	"	"	"	"	"
BR5K-42x168	"	156	168	"	"	"	"	"	"	"	"

BR5L 自润滑翻边导向套 Oilless Flanged Guide Bushes

运动方向



单位Unit: mm

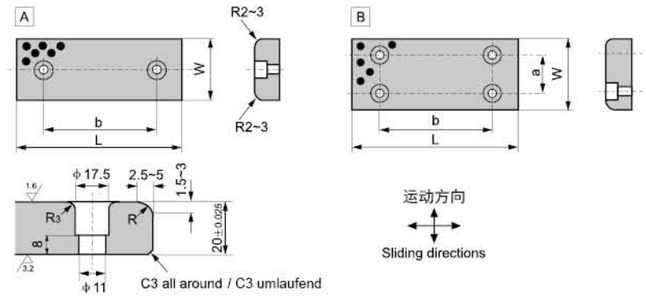
型号 Parts No.	d	L	t	D	Tolerance e7	Tolerance k6	D_1	d H7	
BR5L-9x12	9	12	3	14	-0.032 -0.050	+0.012 +0.001	16	9	+0.015 0
BR5L-9x17	"	17	"	"	"	"	"	"	"
BR5L-9x22	"	22	"	"	"	"	"	"	"
BR5L-9x27	"	27	"	"	"	"	"	"	"
BR5L-9x36	"	36	"	"	"	"	"	10	"
BR5L-10x12	10	12	"	"	"	"	"	"	"
BR5L-10x17	"	17	"	"	"	"	"	"	"
BR5L-10x22	"	22	"	"	"	"	"	"	"
BR5L-10x27	"	27	"	"	"	"	"	"	"
BR5L-10x36	"	36	"	"	"	"	"	"	"
BR5L-12x17	12	17	6	18	"	"	23	12	+0.018 0
BR5L-12x22	"	22	"	"	"	"	"	"	"
BR5L-12x27	"	27	"	"	"	"	"	"	"
BR5L-12x36	"	36	"	"	"	"	"	"	"
BR5L-14x17	14	17	"	20	-0.040 -0.061	+0.015 +0.002	25	14	"
BR5L-14x22	"	22	"	"	"	"	"	"	"
BR5L-14x27	"	27	"	"	"	"	"	"	"
BR5L-14x36	"	36	"	"	"	"	"	"	"
BR5L-14x46	"	46	"	"	"	"	"	"	"
BR5L-14x56	"	56	"	"	"	"	"	"	"
BR5L-17x17	17	17	"	"	"	"	"	25	"
BR5L-17x22	"	22	"	"	"	"	"	"	"
BR5L-17x27	"	27	"	"	"	"	"	"	"
BR5L-17x36	"	36	"	"	"	"	"	"	"
BR5L-17x46	"	46	"	"	"	"	"	"	"
BR5L-17x56	"	56	"	"	"	"	"	"	"

型号 Parts No.	d	L	t	D	Tolerance e7	Tolerance k6	D_1	d H7	
BR5L-16x17	16	17	6	22	-0.040 -0.061	+0.015 +0.002	27	16	+0.018 0
BR5L-16x22	"	22	"	"	"	"	"	"	"
BR5L-16x27	"	27	"	"	"	"	"	"	"
BR5L-16x36	"	36	"	"	"	"	"	"	"
BR5L-16x46	"	46	"	"	"	"	"	"	"
BR5L-16x56	"	56	"	"	"	"	"	"	"
BR5L-18x17	18	17	"	26	"	"	31	18	"
BR5L-18x22	"	22	"	"	"	"	"	"	"
BR5L-18x27	"	27	"	"	"	"	"	"	"
BR5L-18x36	"	36	"	"	"	"	"	"	"
BR5L-18x46	"	46	"	"	"	"	"	"	"
BR5L-18x56	"	56	"	"	"	"	"	"	"
BR5L-18x66	"	66	"	"	"	"	"	"	"
BR5L-20x17	20	17	"	"	"	"	"	20	+0.021 0
BR5L-20x22	"	22	"	"	"	"	"	"	"
BR5L-20x27	"	27	"	"	"	"	"	"	"
BR5L-20x36	"	36	"	"	"	"	"	"	"
BR5L-20x46	"	46	"	"	"	"	"	"	"
BR5L-20x56	"	56	"	"	"	"	"	"	"
BR5L-20x66	"	66	"	"	"	"	"	"	"

BR5M 滑块 Wear Plate-20mm Thick

●运动方向为纵横两方向

请从适用的长度、宽度、厚度中选择零件号
(例)内径25mm、外径33mm、长度20mm的情况下



单位Unit: mm

型号 Parts No.	W	L	a	b	图示 Sketch
BR5M-28×75	28	75	-	45	A
BR5M-28×100		100		50	
BR5M-28×150		150		100	
BR5M-38×75	38	75	-	45	
BR5M-38×100		100		50	
BR5M-38×150		150		100	
BR5M-48×75	48	75	-	45	
BR5M-48×100		100		50	
BR5M-48×125		125		75	
BR5M-48×150		150		100	
BR5M-48×200		200		150	
BR5M-58×75	58	75	-	45	
BR5M-58×100		100		50	
BR5M-58×150		150		100	
BR5M-75×75	75	75	-	25	
BR5M-75×100		100		50	
BR5M-75×125		125		75	
BR5M-75×150		150		100	
BR5M-75×200		200		150	

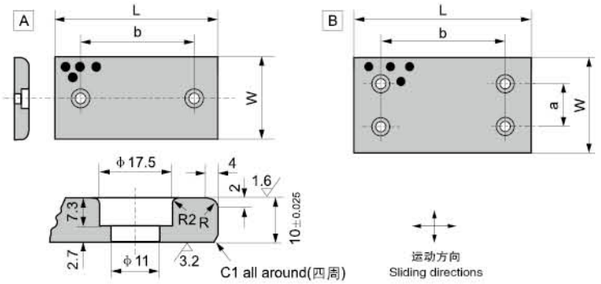
型号 Parts No.	W	L	a	b	图示 Sketch
BR5M-100×100	100	100	50	50	B
BR5M-100×125		125		75	
BR5M-100×150		150		100	
BR5M-100×200		200		150	
BR5M-100×250		250		200	
BR5M-100×300		300		200	
BR5M-125×125	125	125	50	75	
BR5M-125×150		150		100	
BR5M-125×200		200		150	
BR5M-125×250		250		200	
BR5M-125×300		300		200	
BR5M-125×350		350		200	
BR5M-150×150	150	150	100	100	
BR5M-150×200		200		150	
BR5M-150×250		250		200	

BR5N

滑块 Wear Plate-10mm Thick

●运动方向为长度方向

请从适用的长度、宽度、厚度中选择零件号
(例)宽28mm、长度150mm的情况下



单位Unit: mm

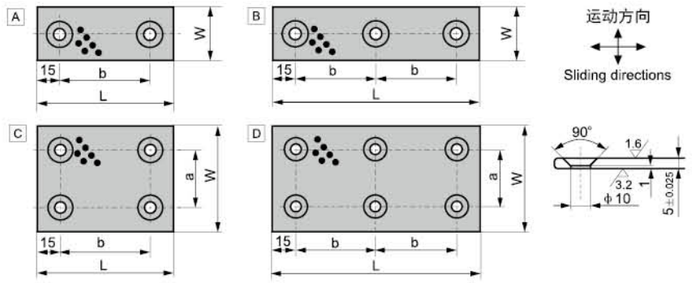
型号 Parts No.	W	L	a	b	图示 Sketch
BR5N-28×75	28	75	-	45	A
BR5N-28×100		100		50	
BR5N-28×125		125		75	
BR5N-28×150		150		100	
BR5N-38×75	38	75	-	45	
BR5N-38×100		100		50	
BR5N-38×125		125		75	
BR5N-38×150		150		100	
BR5N-48×75	48	75	-	45	
BR5N-48×100		100		50	
BR5N-48×125		125		75	
BR5N-48×150		150		100	
BR5N-48×200		200		150	
BR5N-75×75	75	75	-	25	
BR5N-75×100		100		50	
BR5N-75×125		125		75	
BR5N-75×150		150		100	
BR5N-75×200		200		150	
BR5N-100×100	100	100	50	50	B
BR5N-100×125		125		75	
BR5N-100×150		150		100	
BR5N-100×200		200		150	
BR5N-100×250		250		200	
BR5N-125×150	125	150	50	100	
BR5N-125×200		200		150	
BR5N-125×250		250		200	
BR5N-150×150	150	150	100	100	
BR5N-150×200		200		150	

BR5O

滑块 Wear Plate-5mm Thick

●运动方向为长度方向

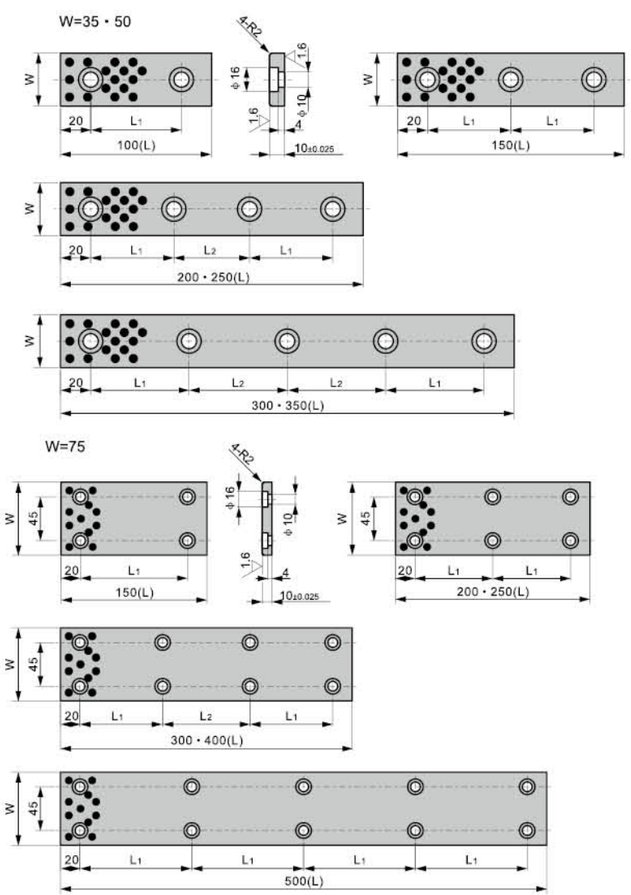
请从适用的长度、宽度、厚度中选择零件号
(例)宽28mm、长度150mm的情况下



单位Unit: mm

型号 Parts No.	W	L	a	b	图示 Sketch
BR5O-18×50	18	50	-	20	A
BR5O-18×75		75		45	
BR5O-18×100		100		70	
BR5O-18×150		150		60	B
BR5O-28×50	28	50	-	20	A
BR5O-28×75		75		45	
BR5O-28×100		100		70	
BR5O-28×150		150		60	B
BR5O-38×50	38	50	-	20	A
BR5O-38×75		75		45	
BR5O-38×100		100		70	
BR5O-38×150		150		60	B
BR5O-48×75	48	75	-	45	A
BR5O-48×100		100		70	
BR5O-48×125		125		95	
BR5O-48×150		150		60	B
BR5O-75×75	75	75	45	45	C
BR5O-75×100		100		70	
BR5O-75×125		125		95	
BR5O-75×150		150		60	D
BR5O-100×100	100	100	70	70	C
BR5O-100×125		125		95	
BR5O-100×150		150		60	D

BR5P 自润滑块 Oilless Wear Plate



单位Unit: mm

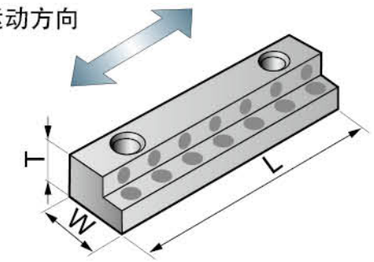
型号 Parts No.	W	L	螺栓位置 Bolt Position L_1	螺栓位置 Bolt Position L_2	螺栓数量 Bolt Q'ty
BR5P-35×100	35	100	60	-	2
BR5P-35×150		150	55	-	3
BR5P-35×200		200	55	50	4
BR5P-35×250		250	70	70	
BR5P-35×300		300	65	65	5
BR5P-35×350		350	80	75	
BR5P-50×100	50	100	60	-	2
BR5P-50×150		150	55	-	3
BR5P-50×200		200	55	50	4

型号 Parts No.	W	L	螺栓位置 Bolt Position L_1	螺栓位置 Bolt Position L_2	螺栓数量 Bolt Q'ty
BR5P-50×100	50	250	70	70	4
BR5P-50×150		300	65	65	5
BR5P-50×200		350	80	75	
BR5P-75×250	75	150	110	-	4
BR5P-75×300		200	80	-	6
BR5P-75×350		250	105	-	
BR5P-75×100		300	85	90	8
BR5P-75×150		400	120	120	
BR5P-75×200		500	115	-	10

BR5Q L滑块 Wear plate

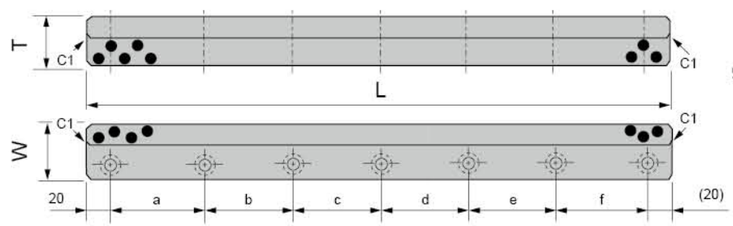
请从适用的长度、宽度、厚度中选择零件号
(例)宽50mm、长度300mm的情况下

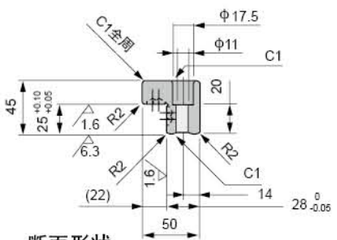
运动方向



●运动方向为长度方向

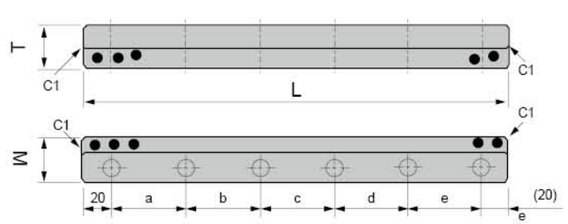
●适用于内六角螺栓

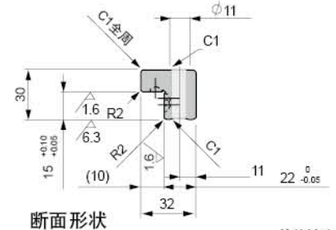




单位Unit: mm

型号 Parts No.	宽 W	长度 L	厚度 T	定位孔间隙 a	b	c	d	e	f	定位螺栓 种类	个数
BR5Q-50200A	50	200	45	55	50	55	-	-	-	M10	4
BR5Q-50250A	"	250	"	70	70	70	"	"	"	"	"
BR5Q-50300A	"	300	"	65	65	65	65	"	"	"	5
BR5Q-50350A	"	350	"	80	75	75	80	"	"	"	"
BR5Q-50500A	"	500	"	"	"	"	75	75	80	"	7





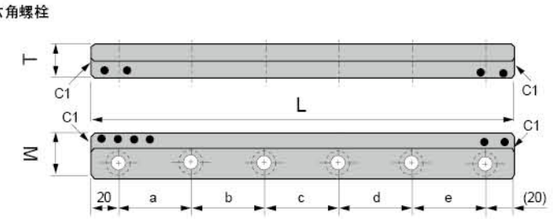
单位Unit: mm

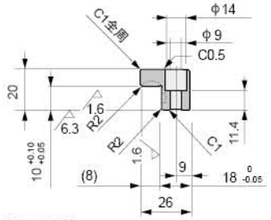
型号 Parts No.	宽 W	长度 L	厚度 T	定位孔间隙 a	b	c	d	e	定位螺栓 种类	个数
BR5Q-32100B	32	100	30	60	-	-	-	-	M10	2
BR5Q-32150B	"	150	"	55	55	"	"	"	"	3
BR5Q-32200B	"	200	"	"	50	55	"	"	"	4
BR5Q-32250B	"	250	"	70	70	50	"	"	"	"
BR5Q-32400B	"	400	"	75	"	"	70	75	"	6

BR5Q

L滑块 Wear plate

●适用于内六角螺栓

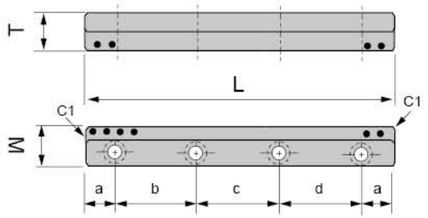


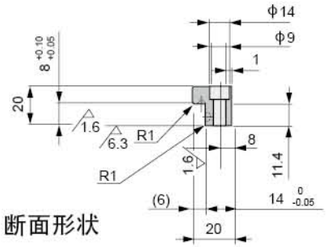


断面形状

单位Unit: mm

型号 Parts No.	宽	长度	厚度	定位孔间隙					定位螺栓	
	W	L	T	a	b	c	d	e	种类	个数
BR5Q-26100C	26	100	20	60	-	-	-	-	M8	2
BR5Q-26150C	"	150	"	55	55	"	"	"	"	3
BR5Q-26200C	"	200	"	"	50	55	"	"	"	4
BR5Q-26400C	"	400	"	75	70	70	70	75	"	6

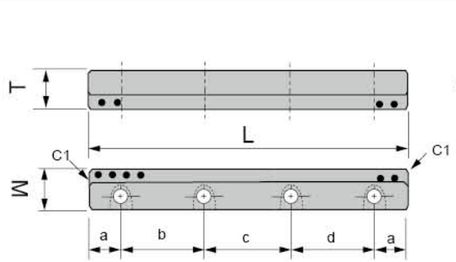


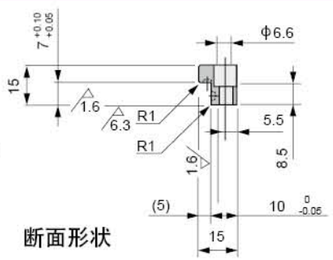


断面形状

单位Unit: mm

型号 Parts No.	宽	长度	厚度	定位孔间隙				定位螺栓	
	W	L	T	a	b	c	d	种类	个数
BR5Q-2050	20	50	20	10	30	-	-	M8	2
BR5Q-20100	"	100	"	20	60	"	"	"	"
BR5Q-20150	"	150	"	"	55	55	"	"	3
BR5Q-20200	"	200	"	"	"	50	55	"	4





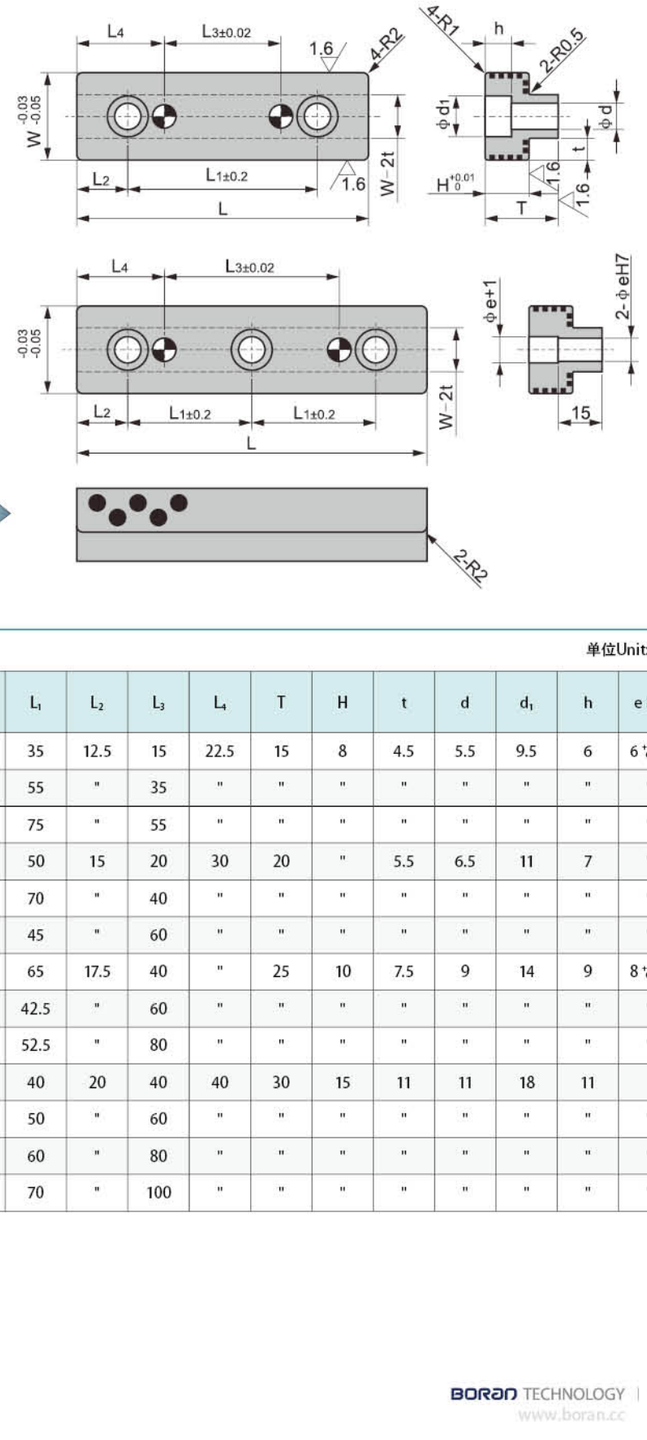
断面形状

单位Unit: mm

型号 Parts No.	宽	长度	厚度	定位孔间隙				定位螺栓	
	W	L	T	a	b	c	d	种类	个数
BR5Q-1500	15	50	15	10	30	-	-	M6	2
BR5Q-15100	"	100	"	20	60	"	"	"	"
BR5Q-15150	"	150	"	"	55	55	"	"	3
BR5Q-15200	"	200	"	"	"	50	55	"	4

BR5R

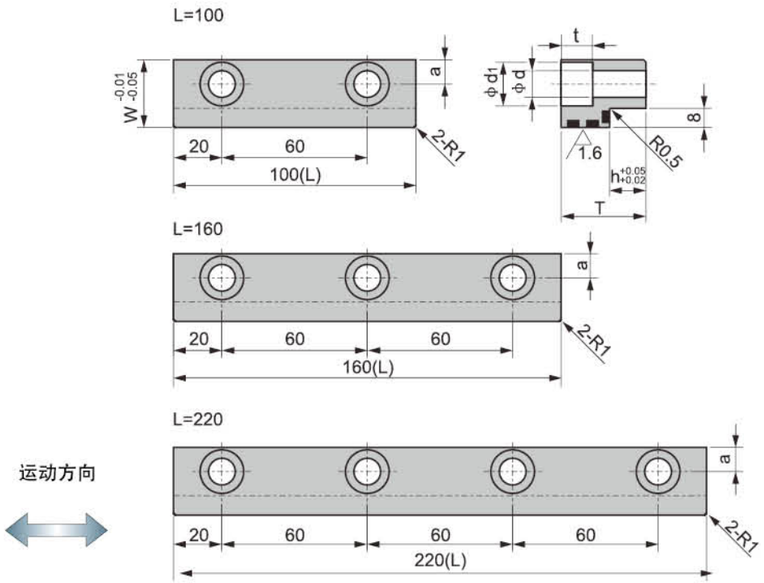
自润导轨 Oilless Guide Rail



单位Unit: mm

型号 Parts No.	W	L	L_1	L_2	L_3	L_4	T	H	t	d	d_1	h	e H7
BR5R-20x60	20	60	35	12.5	15	22.5	15	8	4.5	5.5	9.5	6	6 +0.012 0
BR5R-20x80	"	80	55	"	35	"	"	"	"	"	"	"	"
BR5R-20x100	"	100	75	"	55	"	"	"	"	"	"	"	"
BR5R-25x80	25	80	50	15	20	30	20	"	5.5	6.5	11	7	"
BR5R-25x100	"	100	70	"	40	"	"	"	"	"	"	"	"
BR5R-25x120	"	120	45	"	60	"	"	"	"	"	"	"	"
BR5R-30x100	30	100	65	17.5	40	"	25	10	7.5	9	14	9	8 +0.015 0
BR5R-30x120	"	120	42.5	"	60	"	"	"	"	"	"	"	"
BR5R-30x140	"	140	52.5	"	80	"	"	"	"	"	"	"	"
BR5R-40x120	40	120	40	20	40	40	30	15	11	11	18	11	
BR5R-40x140	"	140	50	"	60	"	"	"	"	"	"	"	"
BR5R-40x160	"	160	60	"	80	"	"	"	"	"	"	"	"
BR5R-40x180	"	180	70	"	100	"	"	"	"	"	"	"	"

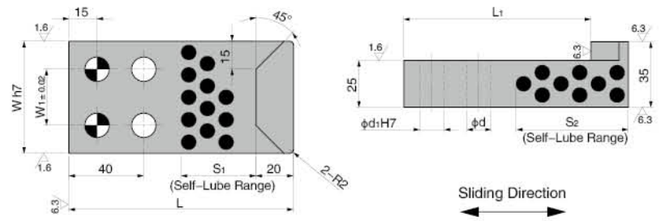
BR5S 自润导轨 Oilless Guide Rail



单位Unit: mm

型号 Parts No.	W	L	T	a	d	d_1	h	t
BR5S-23x100	23	100	30	7.5	7	11	15	7
BR5S-23x160	"	160	"	"	"	"	"	"
BR5S-23x220	"	220	"	"	"	"	"	"
BR5S-23x100	"	100	41	"	"	"	26	"
BR5S-23x160	"	160	"	"	"	"	"	"
BR5S-23x220	"	220	"	"	"	"	"	"
BR5S-28x100	28	100	25	10	11	18	10	13
BR5S-28x160	"	160	"	"	"	"	"	"
BR5S-28x220	"	220	"	"	"	"	"	"
BR5S-28x100	"	100	35	"	"	"	15	"
BR5S-28x160	"	160	"	"	"	"	"	"
BR5S-28x220	"	220	"	"	"	"	"	"
BR5S-28x100	"	100	56	"	"	"	26	"
BR5S-28x160	"	160	"	"	"	"	"	"
BR5S-28x220	"	220	"	"	"	"	"	"

BR5T 自润滑板 Oilless Wear Plate

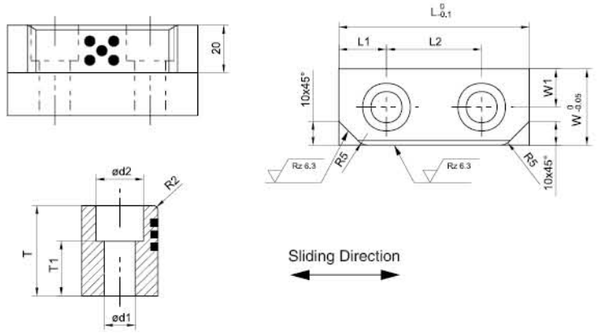


单位Unit: mm

型号 Parts No.	W	h7	L_1	L_2	S_1	S_2	W_1	d	d_1
BR5T-60×120	60	0 -0.030	120	100	40	60	30	13	13
BR5T-60×140			140	120	60	80			
BR5T-60×160			160	140	80	100			
BR5T-100×120	100	0 -0.035	120	100	40	60	70	18	16
BR5T-100×140			140	120	60	80			
BR5T-100×160			160	140	80	100			
BR5T-150×120	150	0 -0.040	120	100	40	60	120		
BR5T-150×140			140	120	60	80			
BR5T-150×160			160	140	80	100			

BR5U

自润导板 Cam Pad Guide Plate

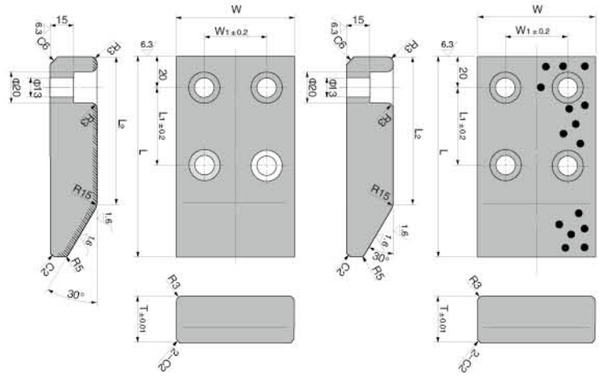


单位Unit: mm

型号 Parts No.	W×L×S	L1	L2	W1	T1	d1	d2
BR5U	25×60×30	15	30	11	18	11	17.5
BR5U	32×60×38	15	30	16	23	13	20
BR5U	32×80×38	20	40	16	23	13	20

BR5V

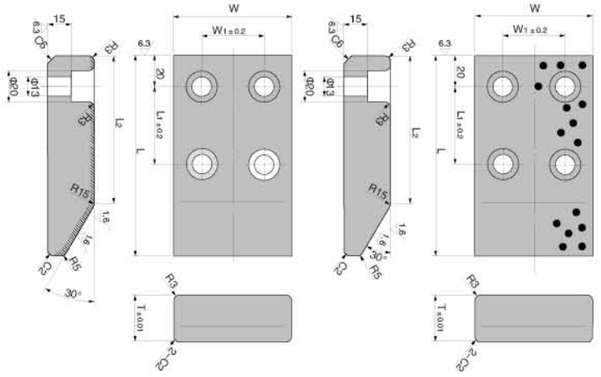
凸轮行程滑板 Cam Stroke Plate



单位Unit: mm

型号 Parts No.	W	L	T	W_1	L_1	L_2
BR5V-75×130	75	130	30	40	50	95
BR5V-75×150		150	45		45	90
BR5V-100×130		130	30		50	95
BR5V-100×150	100	150	45	60	45	90
BR5V-100×170		170	60			
BR5V-100×200		200			75	120
BR5V-125×130		130	30		50	95
BR5V-125×150	125	150	45	85	45	90
BR5V-125×170		170	60			
BR5V-125×200		200			75	120
BR5V-150×130		130	30		50	95
BR5V-150×150	150	150	45	110	45	90
BR5V-150×170		170	60			
BR5V-150×200		200			75	120

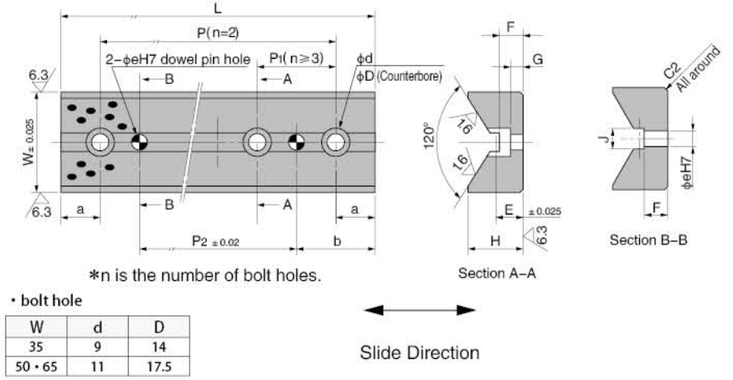
BR5W 凸轮行程滑板 Cam Stroke Plate



单位Unit: mm

型号 Parts No.	W	L	T	W_1	L_1	L_2
BR5W-75×130	75	130	30	40	50	95
BR5W-75×150		150	45		45	90
BR5W-100×130		130	30		50	95
BR5W-100×150	100	150	45	60	45	90
BR5W-100×170		170	60			
BR5W-100×200		200			75	120
BR5W-125×130		130	30		50	95
BR5W-125×150	125	150	45	85	45	90
BR5W-125×170		170	60			
BR5W-125×200		200			75	120
BR5W-150×130		130	30		50	95
BR5W-150×150	150	150	45	110	45	90
BR5W-150×170		170	60			
BR5W-150×200		200			75	120

BR5X V型导板 Cam Slide Guide

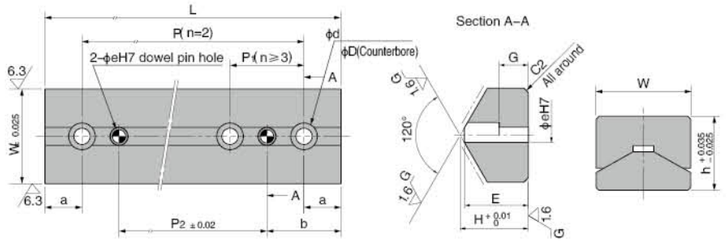


W	d	D
35	9	14
50・65	11	17.5

单位Unit: mm

型号 Parts No.	W	L	H	ℓ	ℓ_1	P	P1	n	P2	E	F	G
BR5W	65	100	35	20	40	60	-	2	20	18	15	8
		150		25	50	-	50	3	50			
		200						4	100			
		250						5	150			
		300						6	200			
BR5W	65	100	37	20	40	60	-	2	20	20	20	10
		125		25	50	75			25			
		150				100			50			
		200					75		100			
		250				-	100	3	150			
		300					125		200			

BR5Y 凸轮行程滑板 Cam Stroke Plate



*n is the number of bolt holes.

*The dowel hole effective depth is 15 mm.

• bolt hole

W	d	D
35	9	14
50 • 65	11	17.5

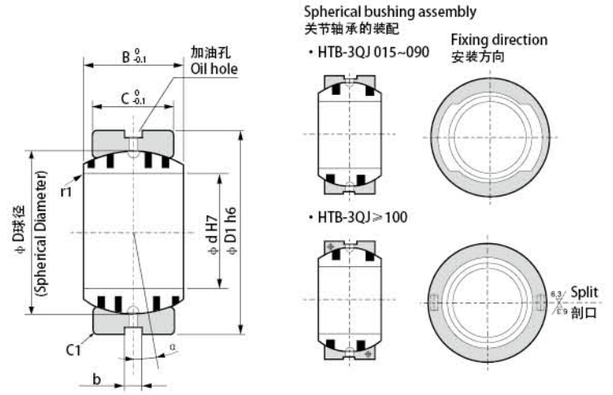
• UTotal height of Combination BR050X and BR050Y

W	H
35	35
50	50
65	65

单位Unit: mm

型号 Parts No.	W	L	H	ℓ	ℓ_1	P	P1	n	P2	E	G
BR5Y	65	100	47	25	50	-	50	2	20	44	20
		150						3	50		
		200						4	100		
		250						5	150		
		300						6	200		
BR5Y	65	100	30	25	50	60	-	2	20	26	10
		125				75			25		
		150				100	75		50		
		200				-	100	3	100		
		250					125		150		
		300							200		

BR5Z 标准自润滑球铰 Oilless Sphericar Plain Bushing



单位Unit: mm

型号 Parts No.	d H7	D1 h6	B	C	D	b	调整角度 Alignment Angle α °	径向承载 Allowable Radial Load (kN)	径向承载 Allowable Thrust Load (kN)
BR5Z-015	15 +0.018 0	26 0 -0.013	12	9	22	4	8	6.5	0.5
BR5Z-020	20 +0.021 0	32 0 -0.016	16	14	28	〃	4	12.6	1.4
BR5Z-025	25 〃	42 〃	21	18	36	〃	5	21.8	2.5
BR5Z-030	30 〃	50 〃	27	23	44	〃	6	32.0	3.5
BR5Z-035	35 +0.025 0	55 0 -0.019	30	26	49	〃	5	43.7	4.8
BR5Z-040	40 〃	62 〃	33	28	55	〃	6	54.7	5.7
BR5Z-045	45 〃	72 〃	36	31	62	〃	5	69.7	7.2
BR5Z-050	50 〃	80 〃	42	36	70	〃	〃	92.4	10
BR5Z-060	60 +0.030 0	100 0 -0.022	53	45	90	〃	6	143	16
BR5Z-070	70 〃	110 〃	58	50	99	〃	5	181	20
BR5Z-080	80 〃	130 〃	70	60	115	〃	6	254	30
BR5Z-090	90 +0.035 0	140 0 -0.025	76	65	125	〃	〃	313	36
BR5Z-100	100 〃	160 〃	88	75	145	6	〃	544	64
BR5Z-110	110 〃	170 〃	93	80	155	〃	5	642	73
BR5Z-120	120 〃	190 0 -0.029	105	90	17	〃	6	797	94
BR5Z-130	130 +0.040 0	200 〃	110	95	180	〃	5	880	105
BR5Z-140	140 〃	210 〃	90	70	〃	〃	7	668	56
BR5Z-150	150 〃	220 〃	120	105	200	〃	5	1135	129
BR5Z-160	160 〃	230 〃	105	80	〃	〃	8	891	73
BR5Z-180	180 〃	260 0 -0.032	105	〃	225	〃	6	1002	74
BR5Z-200	200 +0.046 0	290 〃	130	100	250	〃	7	1434	117
BR5Z-220	220 〃	320 0 -0.036	135	〃	275	〃	8	1577	118
BR5Z-240	240 〃	340 〃	140	〃	300	9	〃	1720	〃
BR5Z-260	260 +0.052 0	370 〃	150	110	325	〃	7	2072	143
BR5Z-280	280 〃	400 〃	155	120	350	〃	6	2455	172
BR5Z-300	300 〃	430 0 -0.040	165	120	375	〃	7	2630	〃

BR6 油沟铜套 Oil Groove Copper Sleeve (内径 I.D⊠6～⊠45)

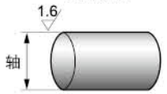
请从适用的内径、外径、长度中选择零件号
(例)内径25mm、外径33mm、长度20mm的情况下

BR6 - 253320

请指定上诉的零件号

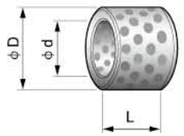
运动方向

对偶轴

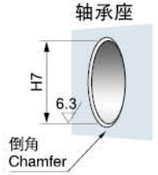


轴
d8:一般用(高负荷)
e7:一般用(低负荷)
f7:高精度用

轴套



轴承座



单位Unit: mm

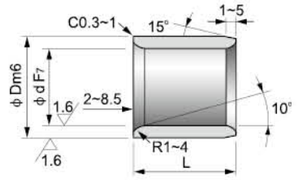
内径		外径		长度 L -0.1 -0.3							
⊠d		⊠D		8	10	12	15	16	19	20	25
6	+0.022 +0.010	10	+0.015 +0.006	061008	061010	061012					
8	+0.028 +0.013	12	+0.018 +0.007	081208	081210	081212	081215				
10	"	14	"	101408	101410	101412	101415			101420	
12	+0.034 +0.016	18	"	121808	121810	121812	121815	121816	121819	121820	121825
13	"	19	+0.021 +0.008		131910	131912	131915			131920	131925
14	"	20	"		142010	142012	142015			142020	142025
15	"	21	"		152110	152112	152115	152116		152120	152125
16	"	22	"		162210	162212	162215	162216	162219	162220	162225
17	"	23	"				172315				
18	"	24	"		182410	182412	182415	182416		182420	182425
19	+0.041 +0.020	26	"				192615			192620	
20	"	28	"		202810	202812	202815	202816	202819	202820	202825
"	"	30	"		203010	203012	203015	203016		203020	203025
22	"	32	+0.025 +0.009			223212	223215			223220	223225
25	"	33	"			253312	253315	253316		253320	253325
"	"	35	"			253512	253515	253516		253520	253525
28	"	38	"							283820	283825
30	"	"	"			303812	303815			303820	303825
"	"	40	"			304012	304015			304020	304025
31.5	+0.050 +0.025	"	"								
32	"	42	"							324220	
35	"	44	"							354420	354425
"	"	45	"							354520	354525
38	"	48	"								
40	"	50	"				405015			405020	405025
"	"	55	+0.030 +0.011				405515				
45	"	"	"								
"	"	56	"								
"	"	60	"								

※压入后内径公差为参考值。

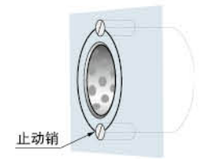
BORAN TECHNOLOGY

BR6 油沟铜套 Oil Groove Copper Sleeve (内径 I.D⊠6～⊠45)

●能在旋转、摇动以及往复运动中使用。
●不能在海水中使用。
●内径31.5mm・63mm的轴套能适用于油压气缸中间轴套颈套上。



为了防止脱落。推荐使用止动销



单位Unit: mm

长度 L -0.1 -0.3							压入后内径公差	适用垫圈	内径
30	35	40	50	60	70	80		SPW	⊠d
							+0.019 +0.007	0603	6
							+0.025 +0.010	0803	8
							"	1003	10
121830							+0.031 +0.013	1203	12
131930							+0.030 +0.012	1303	13
142030							"	1403	14
152130	152135	152140					"	1503	15
162230	162235	162240					"	1603	16
							"	1803*	17
182430	182435	182440					"	1803	18
							+0.037 +0.016	2005*	19
202830	202835	202840	202850				"	2005	20
203030	203035	203040	203050				"	2505*	"
							"	"	22
253330	253335	253340	253350	253360			"	2505	25
253530	253535	253540	253550	253560			"	3005*	"
283830		283840					"	"	28
303830	303835	303840	303850	303860			"	3005	30
304030	304035	304040	304050	304060			"	3505*	"
314030		314040					+0.046 +0.021	"	31.5
324230		324240					"	"	32
354430	354435	354440	354450	354460			"	3505	35
354530	354535	354540	354550	354560			"	4007*	"
		384840					"	"	38
405030	405035	405040	405050	405060	405070	405080	"	4007	40
405530	405535	405540	405550	405560			+0.045 +0.020	4507*	"
455530	455535	455540	455550	455560			"	4507	45
455630	455635	455640	455650	455660			"	"	"
456030	456035	456040	456050	456060	456070	456080	"	"	"

BR6

油沟铜套 Oil Groove Copper Sleeve (内径 I.D⊠6～⊠45)

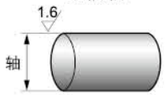
请从适用的内径、外径、长度中选择零件号
(例)内径80mm、外径96mm、长度70mm的情况下

BR6 - 809670

请指定上诉的零件号

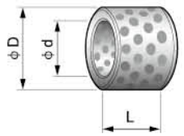
运动方向

对偶轴

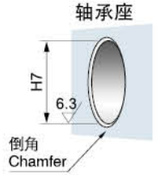


轴
d8:一般用(高负荷)
e7:一般用(低负荷)
f7:高精度用

轴套



轴承座



单位Unit: mm

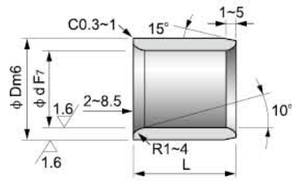
内径		外径		长度 L $^{-0.1}_{-0.3}$							
⊠d		⊠D		20	30	35	40	50	60	70	80
50	+0.050 +0.025	60	+0.030 +0.011	506020	506030	506035	506040	506050	506060	506070	506080
"	"	62	"		506230	506235	506240	506250	506260	506270	506280
"	"	65	"		506530		506540	506550	506560	506570	506580
55	+0.060 +0.030	70	"		557030	557035	557040	557050	557060	557070	
60	"	74	"		607430	607435	607440	607450	607460	607470	607480
"	"	75	"		607530	607535	607540	607550	607560	607570	607580
63	"	"	"						637560	637570	637580
65	"	80	"				658040	658050	658060	658070	658080
70	"	85	+0.035 +0.013		708530	708535	708540	708550	708560	708570	708580
"	"	90	"					709050	709060	709070	709080
75	"	"	"					759050	759060	759070	759080
"	"	95	"						759560	759570	759580
80	"	96	"				809640	809650	809660	809670	809680
"	"	100	"				8010040	8010050	8010060	8010070	8010080
85	+0.071 +0.036	"	"						8510060		8510080
90	"	110	"					9011050	9011060		9011080
100	"	120	"					10012050	10012060	10012070	10012080
110	"	130	+0.040 +0.015					11013050		11013070	11013080
120	"	140	"							12014070	12014080
125	+0.083 +0.043	145	"								
130	"	150	"								13015080
140	"	160	"								
150	"	170	"								15017080
160	"	180	"								16018080
170	"	190	+0.046 +0.017								
180	"	200	"								
190	+0.096 +0.050	210	"								
200	"	230	"								

BORAN TECHNOLOGY

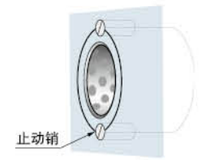
BR6

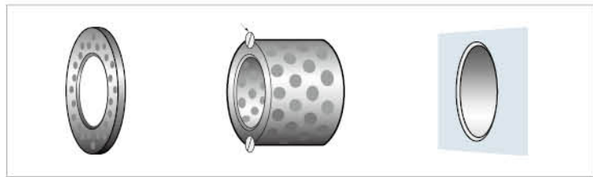
油沟铜套 Oil Groove Copper Sleeve (内径 I.D⊠6～⊠45)

●能在旋转、摇动以及往复运动中使用。
●不能在海水中使用。
●内径31.5mm・63mm的轴套能适用于油压气缸中间轴套颈套上。



为了防止脱落。推荐使用止动销





单位Unit: mm

长度 L $^{-0.1}_{-0.3}$							压入后 内径公差	适用垫圈	内径
90	100	120	130	140	150	200		SPW	⊠d
							+0.045 +0.020	5008	50
							"	"	"
	5065100						"	"	"
							+0.055 +0.025	5508	55
							"	6008	60
	6075100						"	"	"
							"	6508	63
							"	6508	65
	7085100						+0.054 +0.024	7010	70
							"	"	"
	7590100						"	7510	75
	7595100						"	"	"
	8096100	8096120					"	8010	80
	80100100	80100120		80100140			"	"	"
							+0.065 +0.030	9010	85
9011090	90110100	90110120					"	9010	90
10012090	100120100	100120120		100120140			"	10010	100
	110130100	110130120					+0.064 +0.029	12010	110
12014090	120140100	120140120		120140140			"	12010	120
	125145100	125145120					+0.076 +0.036	"	125
	130150100		130150130				"	"	130
	140160100			140160140			"	"	140
	150170100				150170150		"	"	150
	160180100				160180150		"	"	160
	170190100				170190150		"	"	170
	180200100				180200150		"	"	180
	190210100				190210150		+0.088 +0.042	"	190
					200230150	200230200	"	"	200

BR7 钢浇铜自润轴承 (内径 I.D⊠6～⊠45)

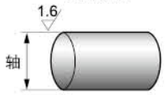
请从适用的内径、外径、长度中选择零件号
(例)内径25mm、外径33mm、长度20mm的情况下

BR7 - 253320

请指定上诉的零件号

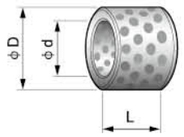
运动方向

对偶轴

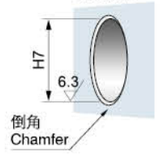


轴
d8:一般用(高负荷)
e7:一般用(低负荷)
f7:高精度用

轴套



轴承座



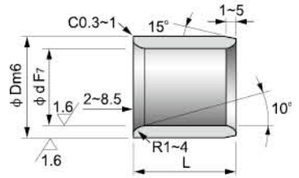
单位Unit: mm

内径		外径		长度 L -0.1 -0.3							
⊠d		⊠D		8	10	12	15	16	19	20	25
6	+0.022 +0.010	10	+0.015 +0.006	061008	061010	061012					
8	+0.028 +0.013	12	+0.018 +0.007	081208	081210	081212	081215				
10	"	14	"	101408	101410	101412	101415			101420	
12	+0.034 +0.016	18	"	121808	121810	121812	121815	121816	121819	121820	121825
13	"	19	+0.021 +0.008		131910	131912	131915			131920	131925
14	"	20	"		142010	142012	142015			142020	142025
15	"	21	"		152110	152112	152115	152116		152120	152125
16	"	22	"		162210	162212	162215	162216	162219	162220	162225
17	"	23	"				172315				
18	"	24	"		182410	182412	182415	182416		182420	182425
19	+0.041 +0.020	26	"				192615			192620	
20	"	28	"		202810	202812	202815	202816	202819	202820	202825
"	"	30	"		203010	203012	203015	203016		203020	203025
22	"	32	+0.025 +0.009			223212	223215			223220	223225
25	"	33	"			253312	253315	253316		253320	253325
"	"	35	"			253512	253515	253516		253520	253525
28	"	38	"							283820	283825
30	"	"	"			303812	303815			303820	303825
"	"	40	"			304012	304015			304020	304025
31.5	+0.050 +0.025	"	"								
32	"	42	"							324220	
35	"	44	"							354420	354425
"	"	45	"							354520	354525
38	"	48	"								
40	"	50	"				405015			405020	405025
"	"	55	+0.030 +0.011				405515				
45	"	"	"								
"	"	56	"								
"	"	60	"								

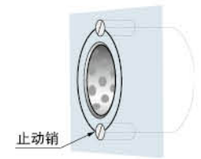
※压入后内径公差为参考值。

BR7 Steel Casting Copper Self-Lubricating Bearing (内径 I.D⊠6～⊠45)

●能在旋转、摇动以及往复运动中使用。
●不能在海水中使用。
●内径31.5mm・63mm的轴套能适用于油压气缸中间轴套颈套上。



为了防止脱落。推荐使用止动销



单位Unit: mm

长度 L -0.1 -0.3							压入后内径公差	适用垫圈	内径
30	35	40	50	60	70	80		SPW	⊠d
							+0.019 +0.007	0603	6
							+0.025 +0.010	0803	8
							"	1003	10
121830							+0.031 +0.013	1203	12
131930							+0.030 +0.012	1303	13
142030							"	1403	14
152130	152135	152140					"	1503	15
162230	162235	162240					"	1603	16
							"	1803*	17
182430	182435	182440					"	1803	18
							+0.037 +0.016	2005*	19
202830	202835	202840	202850				"	2005	20
203030	203035	203040	203050				"	2505*	"
							"	"	22
253330	253335	253340	253350	253360			"	2505	25
253530	253535	253540	253550	253560			"	3005*	"
283830		283840					"	"	28
303830	303835	303840	303850	303860			"	3005	30
304030	304035	304040	304050	304060			"	3505*	"
314030		314040					+0.046 +0.021	"	31.5
324230		324240					"	"	32
354430	354435	354440	354450	354460			"	3505	35
354530	354535	354540	354550	354560			"	4007*	"
		384840					"	"	38
405030	405035	405040	405050	405060	405070	405080	"	4007	40
405530	405535	405540	405550	405560			+0.045 +0.020	4507*	"
455530	455535	455540	455550	455560			"	4507	45
455630	455635	455640	455650	455660			"	"	"
456030	456035	456040	456050	456060	456070	456080	"	"	"

BR7 钢浇铜自润轴承 (内径 I.D⊠6～⊠45)

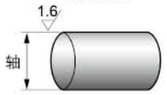
请从适用的内径、外径、长度中选择零件号
(例)内径80mm、外径96mm、长度70mm的情况下

BR7 - 809670

请指定上诉的零件号

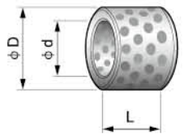
运动方向

对偶轴

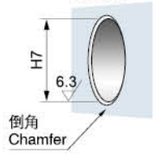


轴
d8:一般用(高负荷)
e7:一般用(低负荷)
f7:高精度用

轴套



轴承座



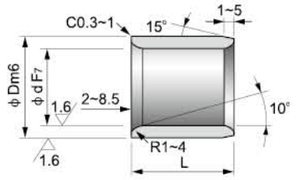
单位Unit: mm

内径		外径		长度 L -0.1 -0.3							
⊠d		⊠D		20	30	35	40	50	60	70	80
50	+0.050 +0.025	60	+0.030 +0.011	506020	506030	506035	506040	506050	506060	506070	506080
"	"	62	"		506230	506235	506240	506250	506260	506270	506280
"	"	65	"		506530		506540	506550	506560	506570	506580
55	+0.060 +0.030	70	"		557030	557035	557040	557050	557060	557070	
60	"	74	"		607430	607435	607440	607450	607460	607470	607480
"	"	75	"		607530	607535	607540	607550	607560	607570	607580
63	"	"	"						637560	637570	637580
65	"	80	"				658040	658050	658060	658070	658080
70	"	85	+0.035 +0.013		708530	708535	708540	708550	708560	708570	708580
"	"	90	"					709050	709060	709070	709080
75	"	"	"					759050	759060	759070	759080
"	"	95	"						759560	759570	759580
80	"	96	"				809640	809650	809660	809670	809680
"	"	100	"				8010040	8010050	8010060	8010070	8010080
85	+0.071 +0.036	"	"						8510060		8510080
90	"	110	"					9011050	9011060		9011080
100	"	120	"					10012050	10012060	10012070	10012080
110	"	130	+0.040 +0.015					11013050		11013070	11013080
120	"	140	"							12014070	12014080
125	+0.083 +0.043	145	"								
130	"	150	"								13015080
140	"	160	"								
150	"	170	"								15017080
160	"	180	"								16018080
170	"	190	+0.046 +0.017								
180	"	200	"								
190	+0.096 +0.050	210	"								
200	"	230	"								

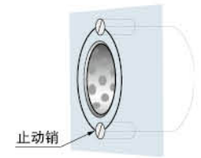
※压入后内径公差为参考值。

BR7 Steel Casting Copper Self-Lubricating Bearing (内径 I.D⊠6～⊠45)

●能在旋转、摇动以及往复运动中使用。
●不能在海水中使用。
●内径31.5mm・63mm的轴套能适用于油压气缸中间轴套颈套上。



为了防止脱落。推荐使用止动销

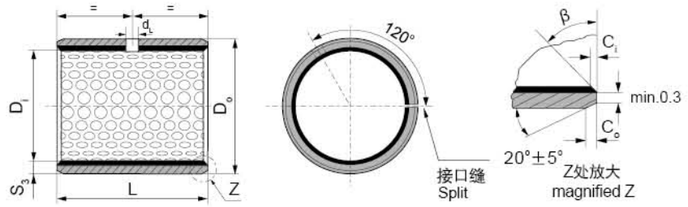


单位Unit: mm

长度 L -0.1 -0.3							压入后内径公差	适用垫圈	内径
90	100	120	130	140	150	200		SPW	⊠d
							+0.045 +0.020	5008	50
							"	"	"
	5065100						"	"	"
							+0.055 +0.025	5508	55
							"	6008	60
	6075100						"	"	"
							"	6508	63
							"	6508	65
	7085100						+0.054 +0.024	7010	70
							"	"	"
	7590100						"	7510	75
	7595100						"	"	"
	8096100	8096120					"	8010	80
	80100100	80100120		80100140			"	"	"
							+0.065 +0.030	9010	85
9011090	90110100	90110120					"	9010	90
10012090	100120100	100120120		100120140			"	10010	100
	110130100	110130120					+0.064 +0.029	12010	110
12014090	120140100	120140120		120140140			"	12010	120
	125145100	125145120					+0.076 +0.036	"	125
	130150100		130150130				"	"	130
	140160100			140160140			"	"	140
	150170100				150170150		"	"	150
	160180100				160180150		"	"	160
	170190100				170190150		"	"	170
	180200100				180200150		"	"	180
	190210100				190210150		+0.088 +0.042	"	190
					200230150	200230200	"	"	200

BR8

双金属轴承 Bimetal Sleeve Bushing



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5±0.3	0.25±0.2	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°

S_3	C_o	C_i	β
2.00	1.2±0.4	0.50±0.3	35°±5°
2.50	1.8±0.6	0.60±0.3	45°±5°

单位Unit: mm

内径 D_i φd	外径 D_O φD	轴径(h8) Shaft D_s	座孔(H7) Housing D_H	压装后内孔公差 Arter fixed D_{ia}	配合间隙 Clearance C_D	壁厚 Wall thickness S_3	油孔 Oil hole d_L	长度 L						
								10	15	20	25	30	40	50
10	12	$10_{-0.022}$	$12^{+0.018}$		0.170 0.010			1010	1015	1020				
12	14	$12_{-0.027}$	$14^{+0.018}$					1210	1215	1220				
14	16	$14_{-0.027}$	$16^{+0.018}$	+0.148 +0.010	0.175 0.010	0.995 0.935		1410	1415	1420				
15	17	$15_{-0.027}$	$17^{+0.018}$				4	1510	1515	1520				
16	18	$16_{-0.027}$	$18^{+0.018}$					1610	1615	1620				
18	20	$18_{-0.027}$	$20^{+0.021}$	+0.151 +0.010	0.178 0.010			1810	1815	1820	1825			
20	23	$20_{-0.033}$	$23^{+0.021}$					2010	2015	2020	2025			
22	25	$22_{-0.033}$	$25^{+0.021}$	+0.161 +0.020	0.194 0.020	1.490 1.430		2210	2215	2220	2225			
24	27	$24_{-0.033}$	$27^{+0.021}$					2410	2415	2420	2425	2430		
25	28	$25_{-0.033}$	$28^{+0.021}$						2515	2520	2525	2530		
26	30	$26_{-0.033}$	$30^{+0.021}$	+0.181 +0.040	0.214 0.040				2615	2620	2625	2630		
28	32	$28_{-0.033}$	$32^{+0.025}$				6		2815	2820	2825	2830	2840	
30	34	$30_{-0.033}$	$34^{+0.025}$		0.218 0.040				3015	3020	3025	3030	3040	
32	36	$32_{-0.039}$	$36^{+0.025}$	+0.185 +0.040		1.980 1.920			3215	3220	3225	3230	3240	
35	39	$35_{-0.039}$	$39^{+0.025}$		0.224 0.040					3520	3525	3530	3540	3550
38	42	$38_{-0.039}$	$42^{+0.025}$				8			3820	3825	3830	3840	3850
40	44	$40_{-0.039}$	$44^{+0.025}$							4020	4025	4030	4040	4050

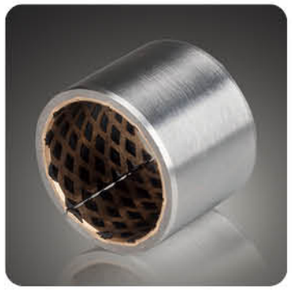
BR8

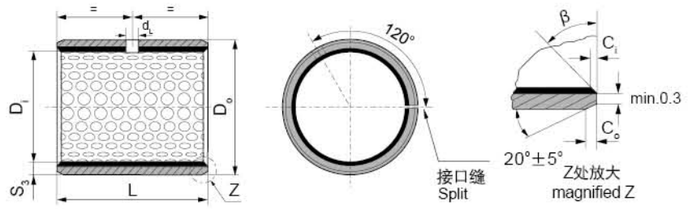
双金属轴承 Bimetal Sleeve Bushing

内径 D_i φd	外径 D_O φD	轴径(h8) Shaft D_s	座孔(H7) Housing D_H	压装后内孔公差 Arter fixed D_{ia}	配合间隙 Clearance C_D	壁厚 Wall thickness S_3	油孔 Oil hole d_L	长度 L						
								25	30	40	50	60	80	90	100
45	50	$45_{-0.039}$	$50^{+0.025}$	+0.225 +0.080	0.264 0.080			4525	4530	4540	4550				
50	55	$50_{-0.039}$	$55^{+0.030}$		0.269 0.080				5030	5040	5050	5060			
55	60	$55_{-0.046}$	$60^{+0.030}$						5530	5540	5550	5560			
60	65	$60_{-0.046}$	$65^{+0.030}$	+0.230 +0.080			8		6030	6040	6050	6060			
65	70	$65_{-0.046}$	$70^{+0.030}$		0.276 0.080				6530	6540	6550	6560			
70	75	$70_{-0.046}$	$75^{+0.030}$						7030	7040	7050	7060	7080		
75	80	$75_{-0.046}$	$80^{+0.030}$						7530	7540	7550	7560	7580		
80	85	$80_{-0.046}$	$85^{+0.035}$		0.281 0.080				8030	8040	8050	8060	8080	8090	
85	90	$85_{-0.054}$	$90^{+0.035}$						8530	8540	8550	8560	8580	8590	85100
90	95	$90_{-0.054}$	$95^{+0.035}$							9040	9050	9060	9080	9090	90100
95	100	$95_{-0.054}$	$100^{+0.035}$	+0.235 +0.080		2.460 2.400					9550	9560	9580	9590	95100
100	105	$100_{-0.054}$	$105^{+0.035}$		0.289 0.080						10050	10060	10080	10090	100100
105	110	$105_{-0.054}$	$110^{+0.035}$								10550	10560	10580	10590	105100
110	115	$110_{-0.054}$	$115^{+0.035}$				9.5				11050	11060	11080	11090	110100
115	120	$115_{-0.054}$	$120^{+0.035}$								11550	11560	11580	11590	115100
120	125	$120_{-0.054}$	$125^{+0.040}$	+0.240 +0.080							12050	12060	12080	12090	120100
125	130	$125_{-0.063}$	$130^{+0.040}$		0.303 0.080							12560	12580	12590	125100
130	135	$130_{-0.063}$	$135^{+0.040}$									13060	13080	13090	130100
135	140	$135_{-0.063}$	$140^{+0.040}$									13560	13580	13590	135100
140	145	$140_{-0.063}$	$145^{+0.040}$									14060	14080	14090	140100
150	155	$150_{-0.063}$	$155^{+0.040}$									15060	15080	15090	150100

BR8G

双金属固体润滑轴承 Bimetal Solid Lubrication Bearing





内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5±0.3	0.25±0.2	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°

S_3	C_o	C_i	β
2.00	1.2±0.4	0.50±0.3	35°±5°
2.50	1.8±0.6	0.60±0.3	45°±5°

单位Unit: mm

内径 D_i φd	外径 D_O φD	轴径(h8) Shaft D_s	座孔(H7) Housing D_H	压装后内孔公差 Arter fixed $D_{i,a}$	配合间隙 Clearance C_D	壁厚 Wall thickness S_3	油孔 Oil hole d_L	长度 L						
								10	15	20	25	30	40	50
10	12	$10_{-0.022}$	$12^{+0.018}$		0.170 0.010			1010	1015	1020				
12	14	$12_{-0.027}$	$14^{+0.018}$					1210	1215	1220				
14	16	$14_{-0.027}$	$16^{+0.018}$	+0.148 +0.010	0.175 0.010	0.995 0.935		1410	1415	1420				
15	17	$15_{-0.027}$	$17^{+0.018}$					1510	1515	1520				
16	18	$16_{-0.027}$	$18^{+0.018}$				4	1610	1615	1620				
18	20	$18_{-0.027}$	$20^{+0.021}$	+0.151 +0.010	0.178 0.010			1810	1815	1820	1825			
20	23	$20_{-0.033}$	$23^{+0.021}$					2010	2015	2020	2025			
22	25	$22_{-0.033}$	$25^{+0.021}$	+0.161 +0.020	0.194 0.020	1.490 1.430		2210	2215	2220	2225			
24	27	$24_{-0.033}$	$27^{+0.021}$					2410	2415	2420	2425	2430		
25	28	$25_{-0.033}$	$28^{+0.021}$						2515	2520	2525	2530		
26	30	$26_{-0.033}$	$30^{+0.021}$	+0.181 +0.040	0.214 0.040				2615	2620	2625	2630		
28	32	$28_{-0.033}$	$32^{+0.025}$				6		2815	2820	2825	2830	2840	
30	34	$30_{-0.033}$	$34^{+0.025}$		0.218 0.040				3015	3020	3025	3030	3040	
32	36	$32_{-0.039}$	$36^{+0.025}$			1.980 1.920			3215	3220	3225	3230	3240	
35	39	$35_{-0.039}$	$39^{+0.025}$	+0.185 +0.040	0.224 0.040					3520	3525	3530	3540	3550
38	42	$38_{-0.039}$	$42^{+0.025}$				8			3820	3825	3830	3840	3850
40	44	$40_{-0.039}$	$44^{+0.025}$							4020	4025	4030	4040	4050

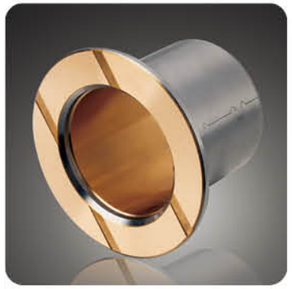
BR8G

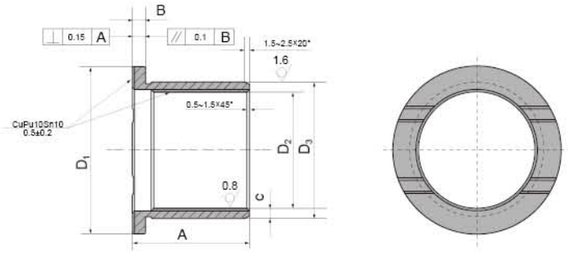
双金属固体润滑轴承 Bimetal Solid Lubrication Bearing

内径 D_i φd	外径 D_O φD	轴径(h8) Shaft D_s	座孔(H7) Housing D_H	压装后内孔公差 Arter fixed $D_{i,a}$	配合间隙 Clearance C_D	壁厚 Wall thickness S_3	油孔 Oil hole d_L	长度 L							
								25	30	40	50	60	80	90	100
45	50	$45_{-0.039}$	$50^{+0.025}$	+0.225 +0.080	0.264 0.080			4525	4530	4540	4550				
50	55	$50_{-0.039}$	$55^{+0.030}$		0.269 0.080				5030	5040	5050	5060			
55	60	$55_{-0.046}$	$60^{+0.030}$						5530	5540	5550	5560			
60	65	$60_{-0.046}$	$65^{+0.030}$						6030	6040	6050	6060			
65	70	$65_{-0.046}$	$70^{+0.030}$	+0.230 +0.080	0.276 0.080		8		6530	6540	6550	6560			
70	75	$70_{-0.046}$	$75^{+0.030}$						7030	7040	7050	7060	7080		
75	80	$75_{-0.046}$	$80^{+0.030}$						7530	7540	7550	7560	7580		
80	85	$80_{-0.046}$	$85^{+0.035}$		0.281 0.080				8030	8040	8050	8060	8080	8090	
85	90	$85_{-0.054}$	$90^{+0.035}$						8530	8540	8550	8560	8580	8590	85100
90	95	$90_{-0.054}$	$95^{+0.035}$							9040	9050	9060	9080	9090	90100
95	100	$95_{-0.054}$	$100^{+0.035}$	+0.235 +0.080							9550	9560	9580	9590	95100
100	105	$100_{-0.054}$	$105^{+0.035}$		0.289 0.080	2.460 2.400					10050	10060	10080	10090	100100
105	110	$105_{-0.054}$	$110^{+0.035}$								10550	10560	10580	10590	105100
110	115	$110_{-0.054}$	$115^{+0.035}$				9.5				11050	11060	11080	11090	110100
115	120	$115_{-0.054}$	$120^{+0.035}$								11550	11560	11580	11590	115100
120	125	$120_{-0.054}$	$125^{+0.040}$	+0.240 +0.080							12050	12060	12080	12090	120100
125	130	$125_{-0.063}$	$130^{+0.040}$		0.303 0.080							12560	12580	12590	125100
130	135	$130_{-0.063}$	$135^{+0.040}$									13060	13080	13090	130100
135	140	$135_{-0.063}$	$140^{+0.040}$									13560	13580	13590	135100
140	145	$140_{-0.063}$	$145^{+0.040}$									14060	14080	14090	140100
150	155	$150_{-0.063}$	$155^{+0.040}$									15060	15080	15090	150100

BR8F

双金属法兰轴套 Bimetal Flange Bushing





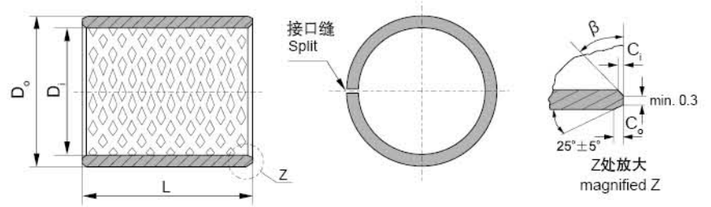
单位Unit: mm

D_1	B	D_3	D_2	A	C
42	3.5	37	30	30	3.5
43	2	34	30	28	2
44	3.5	39	32	35	3.5
47	3.5	39	32	50	3.5
48	2	39	35	37	2
52	3	41	35	35	3
55	3.5	42	35	35	3.5
55	3.5	45	38	35	3.5
55	3.5	45	38	40	3.5
60	3	41	35	42	3
60	3	46	40	62	3
63	3.5	47	40	40	3.5
65	3.5	52	45	40	3.5
68	3.5	54	47	35	3.5
70	3.5	54	47	40	3.5
70	3.5	57	50	48	3.5
72	3.5	57	50	45	3.5
72	3.5	57	50	50	3.5
75	3.5	57	50	50	3.5
77	3	60	54	55	3
83	3.5	66	59	53	3.5
85	3.5	65	58	60	3.5
87	3.5	67	60	53	3.5
87	3.5	67	60	60	3.5

D_1	B	D_3	D_2	A	C
87	3.5	67	60	65	3.5
87	4	68	60	60	4
94	3.5	72	65	60	3.5
87	3.5	72	65	65	3.5
87.5	1.95	69.12	65.22	64.5	2
88	3.5	67	60	60	3.5
88	3.5	72	65	65	3.5
92	3.5	77	70	67	3.5
93	3.5	75	68	60	3.5
94	3.5	77	70	70	3.5
95	3.5	77	70	65	3.5
95	4	78	70	70	4
97	3.48	77.14	70.18	62	3.5
97	3.5	82	75	74	3.5
100	5	85	75	70	5
103	3.525	70.8	63.75	73	3.5
105	3.5	82	75	75	3.5
105	3.5	87	80	70	3.5
107	4	83	75	74	4
115	5	100	90	75	5
128	3.8	92.6	85	103	4
108	3.5	72	65	75	3.5
108	3.5	77	70	98	3.5
108	5	80	70	90	5

BR9

青铜轴套 Bronze Sleeve Bushing



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5±0.3	0.25±0.2	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°

S_3	C_o	C_i	β
2.00	1.2±0.4	0.50±0.3	35°±5°
2.50	1.8±0.6	0.60±0.3	45°±5°

单位Unit: mm

内径 D_i φd	外径 D_o φD	长度 $L^{0}_{-0.40}$												
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100							9540	9550	9560	9570	9580	9590	95100

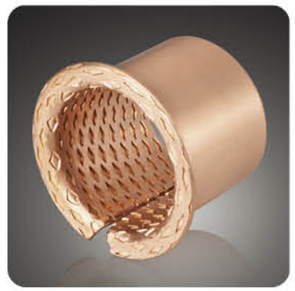
BR9

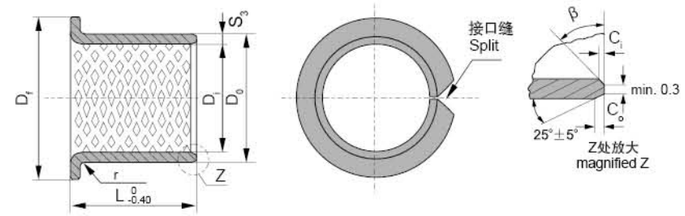
青铜轴套 Bronze Sleeve Bushing

内径 D_i φd	外径 D_o φD	长度 L									
		25	30	35	40	50	60	70	80	90	100
100	105					10050	10060	10070	10080	10090	100100
105	110					10550	10560	10570	10580	10590	105100
110	115					11050	11060	11070	11080	11090	110100
115	120					11550	11560	11570	11580	11590	115100
120	125						12060	12070	12080	12090	120100
125	130						12560	12570	12580	12590	125100
130	135						13060	13070	13080	13090	130100
135	140						13560	13570	13580	13590	135100
140	145						14060	14070	14080	14090	140100
145	150						14560	14570	14580	14590	145100
150	155						15060	15070	15080	15090	150100
155	160						15560	15570	15580	15590	155100
160	165						16060	16070	16080	16090	160100
165	170						16560	16570	16580	16590	165100
170	175						17060	17070	17080	17090	170100
175	180						17560	17570	17580	17590	175100
180	185						18060	18070	18080	18090	180100
185	190						18560	18570	18580	18590	185100
190	195						19060	19070	19080	19090	190100
195	200						19560	19570	19580	19590	195100
200	205						20060	20070	20080	20090	200100
205	210						20560	20570	20580	20590	205100
215	220						21560	21570	21580	21590	215100
225	230						22560	22570	22580	22590	225100
230	235						23060	23070	23080	23090	230100
240	245						24060	24070	24080	24090	240100
250	255						25060	25070	25080	25090	250100
260	265						26060	26070	26080	26090	260100
270	275						27060	27070	27080	27090	270100
280	285						28060	28070	28080	28090	280100
290	295						29060	29070	29080	29090	290100
300	305						30060	30070	30080	30090	300100

BR9F

青铜翻边轴套 Bronze Flange Bushing



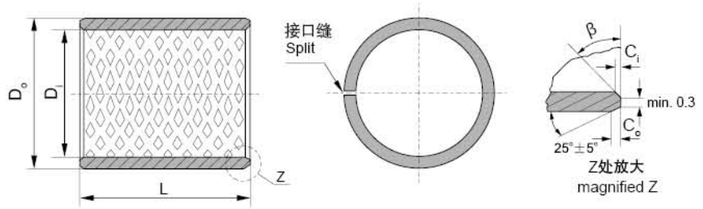


S_3	1.0	1.5	2.0	2.5
r	$1^{-0.5}$	1±0.5	1.5±0.5	2±0.5

单位Unit: mm

内径 D_i φd	外径 D_o φD	法兰外径 D_{fl}	长度 $L^{0}_{-0.40}$										
			15	20	25	30	35	40	50	60	70	80	90
25	28	35	25150	25200	25250								
30	34	45		30200	30250	30300							
35	39	50		35200	35250	35300	35350						
40	44	55			40250	40300	40350	40400					
45	50	60				45300	45350	45400	45500				
50	55	65				50300	50350	50400	50500				
55	60	70				55300	55350	55400	55500				
60	65	75				60300	60350	60400	60500	60600			
65	70	80				65300	65350	65400	65500	65600			
70	75	85					70350	70400	70500	70600	70700		
75	80	90					75350	75400	75500	75600	75700		
80	85	100					80350	80400	80500	80600	80700	80800	
90	95	110							90500	90600	90700	90800	90900
100	105	120							100500	100600	100700	100800	100900
110	115	130							110500	110600	110700	110800	110900
120	125	140							120500	120600	120700	120800	120900
130	135	155								130600	130700	130800	130900
140	145	165								140600	140700	140800	140900
150	155	180								150600	150700	150800	150900
160	165	190								160600	160700	160800	160900
170	175	200								170600	170700	170800	170900
180	185	215								180600	180700	180800	180900
190	195	225								190600	190700	190800	190900
200	205	235								200600	200700	200800	200900
225	230	260								225600	225700	225800	225900
250	255	290								250600	250700	250800	250900
265	270	305								265600	265700	265800	265900
285	290	325								285600	285700	285800	285900
300	305	340								300600	300700	300800	300900

BR91 青铜轴套 Bronze Sleeve Bushing



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5±0.3	0.25±0.2	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°

S_3	C_o	C_i	β
2.00	1.2±0.4	0.50±0.3	35°±5°
2.50	1.8±0.6	0.60±0.3	45°±5°

单位Unit: mm

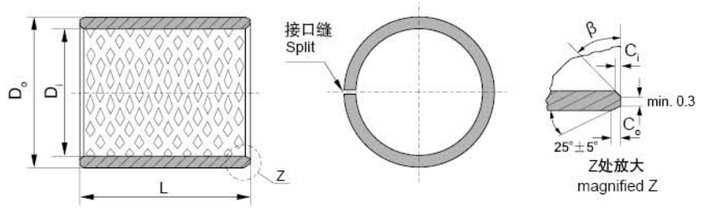
内径 D_i φd	外径 D_o φD	长度 L $^{0}_{-0.40}$												
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100							9540	9550	9560	9570	9580	9590	95100

BORAN TECHNOLOGY

BR91 青铜轴套 Bronze Sleeve Bushing

内径 D_i φd	外径 D_o φD	长度 L									
		25	30	35	40	50	60	70	80	90	100
100	105					10050	10060	10070	10080	10090	100100
105	110					10550	10560	10570	10580	10590	105100
110	115					11050	11060	11070	11080	11090	110100
115	120					11550	11560	11570	11580	11590	115100
120	125						12060	12070	12080	12090	120100
125	130						12560	12570	12580	12590	125100
130	135						13060	13070	13080	13090	130100
135	140						13560	13570	13580	13590	135100
140	145						14060	14070	14080	14090	140100
145	150						14560	14570	14580	14590	145100
150	155						15060	15070	15080	15090	150100
155	160						15560	15570	15580	15590	155100
160	165						16060	16070	16080	16090	160100
165	170						16560	16570	16580	16590	165100
170	175						17060	17070	17080	17090	170100
175	180						17560	17570	17580	17590	175100
180	185						18060	18070	18080	18090	180100
185	190						18560	18570	18580	18590	185100
190	195						19060	19070	19080	19090	190100
195	200						19560	19570	19580	19590	195100
200	205						20060	20070	20080	20090	200100
205	210						20560	20570	20580	20590	205100
215	220						21560	21570	21580	21590	215100
225	230						22560	22570	22580	22590	225100
230	235						23060	23070	23080	23090	230100
240	245						24060	24070	24080	24090	240100
250	255						25060	25070	25080	25090	250100
260	265						26060	26070	26080	26090	260100
270	275						27060	27070	27080	27090	270100
280	285						28060	28070	28080	28090	280100
290	295						29060	29070	29080	29090	290100
300	305						30060	30070	30080	30090	300100

BR92 青铜轴套 Bronze Sleeve Bushing



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5±0.3	0.25±0.2	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°

S_3	C_o	C_i	β
2.00	1.2±0.4	0.50±0.3	35°±5°
2.50	1.8±0.6	0.60±0.3	45°±5°

单位Unit: mm

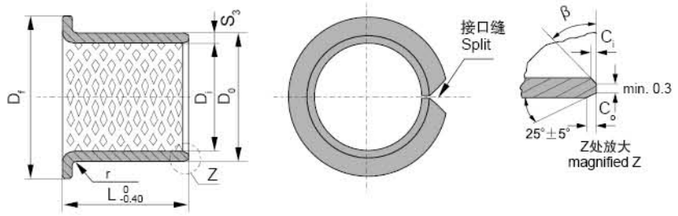
内径 D_i φd	外径 D_o φD	长度 L $^{0}_{-0.40}$												
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100							9540	9550	9560	9570	9580	9590	95100

BORAN TECHNOLOGY

BR92 青铜轴套 Bronze Sleeve Bushing

内径 D_i φd	外径 D_o φD	长度 L									
		25	30	35	40	50	60	70	80	90	100
100	105					10050	10060	10070	10080	10090	100100
105	110					10550	10560	10570	10580	10590	105100
110	115					11050	11060	11070	11080	11090	110100
115	120					11550	11560	11570	11580	11590	115100
120	125						12060	12070	12080	12090	120100
125	130						12560	12570	12580	12590	125100
130	135						13060	13070	13080	13090	130100
135	140						13560	13570	13580	13590	135100
140	145						14060	14070	14080	14090	140100
145	150						14560	14570	14580	14590	145100
150	155						15060	15070	15080	15090	150100
155	160						15560	15570	15580	15590	155100
160	165						16060	16070	16080	16090	160100
165	170						16560	16570	16580	16590	165100
170	175						17060	17070	17080	17090	170100
175	180						17560	17570	17580	17590	175100
180	185						18060	18070	18080	18090	180100
185	190						18560	18570	18580	18590	185100
190	195						19060	19070	19080	19090	190100
195	200						19560	19570	19580	19590	195100
200	205						20060	20070	20080	20090	200100
205	210						20560	20570	20580	20590	205100
215	220						21560	21570	21580	21590	215100
225	230						22560	22570	22580	22590	225100
230	235						23060	23070	23080	23090	230100
240	245						24060	24070	24080	24090	240100
250	255						25060	25070	25080	25090	250100
260	265						26060	26070	26080	26090	260100
270	275						27060	27070	27080	27090	270100
280	285						28060	28070	28080	28090	280100
290	295						29060	29070	29080	29090	290100
300	305						30060	30070	30080	30090	300100

BR92F 青铜翻边轴套 Bronze Flange Bushing

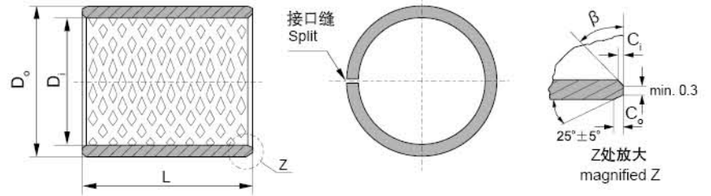


S_3	1.0	1.5	2.0	2.5
r	$1^{-0.5}$	1±0.5	1.5±0.5	2±0.5

单位Unit: mm

内径 D_i φd	外径 D_o φD	法兰外径 D_{fl}	长度 $L^{0}_{-0.40}$										
			15	20	25	30	35	40	50	60	70	80	90
25	28	35	25150	25200	25250								
30	34	45		30200	30250	30300							
35	39	50		35200	35250	35300	35350						
40	44	55			40250	40300	40350	40400					
45	50	60				45300	45350	45400	45500				
50	55	65				50300	50350	50400	50500				
55	60	70				55300	55350	55400	55500				
60	65	75				60300	60350	60400	60500	60600			
65	70	80				65300	65350	65400	65500	65600			
70	75	85					70350	70400	70500	70600	70700		
75	80	90					75350	75400	75500	75600	75700		
80	85	100					80350	80400	80500	80600	80700	80800	
90	95	110							90500	90600	90700	90800	90900
100	105	120							100500	100600	100700	100800	100900
110	115	130							110500	110600	110700	110800	110900
120	125	140							120500	120600	120700	120800	120900
130	135	155								130600	130700	130800	130900
140	145	165								140600	140700	140800	140900
150	155	180								150600	150700	150800	150900
160	165	190								160600	160700	160800	160900
170	175	200								170600	170700	170800	170900
180	185	215								180600	180700	180800	180900
190	195	225								190600	190700	190800	190900
200	205	235								200600	200700	200800	200900
225	230	260								225600	225700	225800	225900
250	255	290								250600	250700	250800	250900
265	270	305								265600	265700	265800	265900
285	290	325								285600	285700	285800	285900
300	305	340								300600	300700	300800	300900

BR94 青铜轴套 Bronze Sleeve Bushing



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5±0.3	0.25±0.2	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°

S_3	C_o	C_i	β
2.00	1.2±0.4	0.50±0.3	35°±5°
2.50	1.8±0.6	0.60±0.3	45°±5°

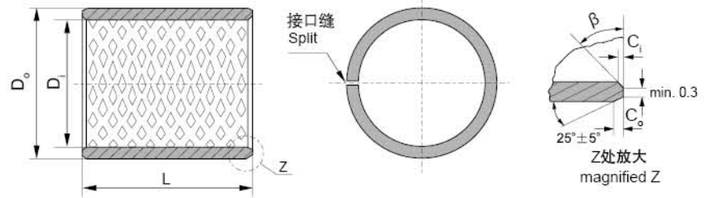
单位Unit: mm

内径 D_i φd	外径 D_o φD	长度 $L^{0}_{-0.40}$											
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100							9540	9550	9560	9570	9580	9590	95100

BR94 青铜轴套 Bronze Sleeve Bushing

内径 D_i φd	外径 D_o φD	长度 L									
		25	30	35	40	50	60	70	80	90	100
100	105					10050	10060	10070	10080	10090	100100
105	110					10550	10560	10570	10580	10590	105100
110	115					11050	11060	11070	11080	11090	110100
115	120					11550	11560	11570	11580	11590	115100
120	125						12060	12070	12080	12090	120100
125	130						12560	12570	12580	12590	125100
130	135						13060	13070	13080	13090	130100
135	140						13560	13570	13580	13590	135100
140	145						14060	14070	14080	14090	140100
145	150						14560	14570	14580	14590	145100
150	155						15060	15070	15080	15090	150100
155	160						15560	15570	15580	15590	155100
160	165						16060	16070	16080	16090	160100
165	170						16560	16570	16580	16590	165100
170	175						17060	17070	17080	17090	170100
175	180						17560	17570	17580	17590	175100
180	185						18060	18070	18080	18090	180100
185	190						18560	18570	18580	18590	185100
190	195						19060	19070	19080	19090	190100
195	200						19560	19570	19580	19590	195100
200	205						20060	20070	20080	20090	200100
205	210						20560	20570	20580	20590	205100
215	220						21560	21570	21580	21590	215100
225	230						22560	22570	22580	22590	225100
230	235						23060	23070	23080	23090	230100
240	245						24060	24070	24080	24090	240100
250	255						25060	25070	25080	25090	250100
260	265						26060	26070	26080	26090	260100
270	275						27060	27070	27080	27090	270100
280	285						28060	28070	28080	28090	280100
290	295						29060	29070	29080	29090	290100
300	305						30060	30070	30080	30090	300100

BR9G 青铜固体卷制轴套 Bronze Solid Rolling Bearing



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5±0.3	0.25±0.2	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°

S_3	C_o	C_i	β
2.00	1.2±0.4	0.50±0.3	35°±5°
2.50	1.8±0.6	0.60±0.3	45°±5°

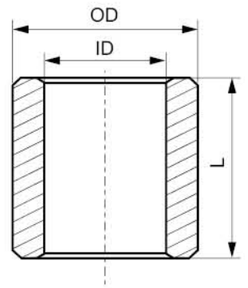
单位Unit: mm

内径 D_i φd	外径 D_o φD	长度 $L^{0}_{-0.40}$												
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100							9540	9550	9560	9570	9580	9590	95100

BR9G 青铜固体卷制轴套 Bronze Solid Rolling Bearing

内径 D_i φd	外径 D_o φD	长度 L									
		25	30	35	40	50	60	70	80	90	100
100	105					10050	10060	10070	10080	10090	100100
105	110					10550	10560	10570	10580	10590	105100
110	115					11050	11060	11070	11080	11090	110100
115	120					11550	11560	11570	11580	11590	115100
120	125						12060	12070	12080	12090	120100
125	130						12560	12570	12580	12590	125100
130	135						13060	13070	13080	13090	130100
135	140						13560	13570	13580	13590	135100
140	145						14060	14070	14080	14090	140100
145	150						14560	14570	14580	14590	145100
150	155						15060	15070	15080	15090	150100
155	160						15560	15570	15580	15590	155100
160	165						16060	16070	16080	16090	160100
165	170						16560	16570	16580	16590	165100
170	175						17060	17070	17080	17090	170100
175	180						17560	17570	17580	17590	175100
180	185						18060	18070	18080	18090	180100
185	190						18560	18570	18580	18590	185100
190	195						19060	19070	19080	19090	190100
195	200						19560	19570	19580	19590	195100
200	205						20060	20070	20080	20090	200100
205	210						20560	20570	20580	20590	205100
215	220						21560	21570	21580	21590	215100
225	230						22560	22570	22580	22590	225100
230	235						23060	23070	23080	23090	230100
240	245						24060	24070	24080	24090	240100
250	255						25060	25070	25080	25090	250100
260	265						26060	26070	26080	26090	260100
270	275						27060	27070	27080	27090	270100
280	285						28060	28070	28080	28090	280100
290	295						29060	29070	29080	29090	290100
300	305						30060	30070	30080	30090	300100

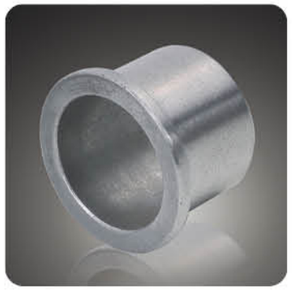
BR100 粉末冶金含油轴承 Powder Metallurgy Oil-retaining Bearing

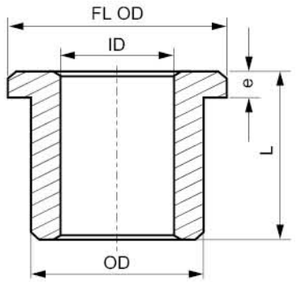


单位Unit: mm

Part No.	ID	ID	OD	L
005	04*07*08	4	7	8
636	04*08*08	4	8	8
006	04*08*10	4	8	10
007	04*08*12	4	8	12
008	04*10*10	4	10	10
647	04*12*08	4	12	8
009	05*09*05	5	9	5
010	05*09*09	5	9	9
011	05*09*11	5	9	11
012	05*10*05	5	10	5
013	05*10*10	5	10	10
014	05*10*14	5	10	14
015	06*08*08	6	8	8
016	06*10*06	6	10	6
017	06*10*10	6	10	10
018	06*10*12	6	10	12
019	06*10*14	6	10	14
020	06*12*06	6	12	6
609	06*12*10	6	12	10
021	06*12*12	6	12	12
022	06*12*15	6	12	15
625	06*12*16	6	12	16
023	06*12*25	6	12	25
024	06*14*12	6	14	12
025	07*11*08	7	11	8
026	07*11*13	7	11	13
635	07*11*14	7	11	14
027	07*14*10	7	14	10
029	08*11*16	8	11	16
030	08*12*08	8	12	8
031	08*12*10	8	12	10
032	08*12*12	8	12	12

BR100F 粉末冶金含油法兰轴承 Powder Metallurgy Oil-retaining Bearing





单位Unit: mm

SIZE	ID	OD	FLOD	e	L
6*12*14*2*8	6	12	14	2	8
6*12*14*2*13	6	12	14	2	13
6*12*14*2*20	6	12	14	2	20
7*12*16*2.5*8	7	12	16	2.5	8
7*12*16*2.5*14	7	12	16	2.5	14
7*12*16*2.5*20	7	12	16	2.5	20
8*14*18*3*8	8	14	18	3	8
8*14*18*3*14	8	14	18	3	14
8*14*18*3*20	8	14	18	3	20
10*14*18*2*10	10	14	18	2	10
10*14*18*2*14	10	14	18	2	14
10*14*18*2*20	10	14	18	2	20
10*16*20*3*10	10	16	20	3	10
10*16*20*3*16	10	16	20	3	16
10*16*20*3*20	10	16	20	3	20
12*16*20*2*12	12	16	20	2	12
12*16*20*2*16	12	16	20	2	16
12*16*20*2*25	12	16	20	2	25
12*18*22*3*12	12	18	22	3	12
12*18*22*3*18	12	18	22	3	18
12*18*22*3*25	12	18	22	3	25
14*20*25*3*14	14	20	25	3	14
14*20*25*3*20	14	20	25	3	20
14*20*25*3*25	14	20	25	3	25
15*22*28*3*15	15	22	28	3	15
15*22*28*3*22	15	22	28	3	22
15*22*28*3*30	15	22	28	3	30
16*22*28*3.5*15	16	22	28	3.5	15
16*22*28*3.5*22	16	22	28	3.5	22
16*22*28*3.5*30	16	22	28	3.5	30
17*25*32*4*17	17	25	32	4	17
17*25*32*4*25	17	25	32	4	25

BORAN TECHNOLOGY

相关设计 The Technical (铜合金成份和性能表 Material Compostion and Properties)

材料牌号 Grade	BR050	BR050-1	BR050-2	BR050-3	BR050-5
化学成分 Material	CuZn25Al5Mn4Fe3	CuSn5Pb5Zn5	CuAl10Ni5Fe5	SuSn12	CuZn25Al5Mn4Fe3
密度 Density	8.9	8.9	7.8	8.9	8.9
硬度 HB Hardness	>210	>70	>150	>95	>250
抗拉强度 N/mm^2 Tensile Strengt	>750	>200	>600	>260	>800
屈服强度 N/mm^2 Yield Strength	>450	>90	>260	>150	>450
延伸率 % Elongation	>12	>15	>10	>8	>8
线膨胀系数 Coefficient Linear Expansion	1.9×10^{-5}/℃	1.8×10^{-5}/℃	1.6×10^{-5}/℃	1.8×10^{-5}/℃	1.9×10^{-5}/℃
使用温度 ℃ Max. Temp.	-40～+300	-40～+400	-40～+400	-40～+400	-40～+400
最大动承载 N/mm^2 Max. Load	100	60	50	70	120
最大线速度 m/mm Max. Load (Dry)	15	10	20	10	15
最大PV值（润滑）N/mm^2*m/mm Max. PV (Lubrication)	200	60	60	80	200
永久压缩变形量 $300N/mm^2$ Copression Deformation	<0.01mm	<0.05mm	<0.04mm	<0.05mm	<0.05mm

固体润滑剂 Solid Lubricants

固体润滑剂 Lubricant		特性 Features	典型用途 Typical application
高纯石墨+添加剂 Graphite+add		很好的耐磨性和化学稳定性，使用温度＜400℃ Good wear performance and chemical stability, temperature limit 400℃	应用于一般机械，在大气中使用 Suit for general machines and under atmosphere
PTFE+添加剂 PTFE+add		极低的摩擦系数和很好的水润滑性，使用温度＜300℃ Lowest friction coefficient and good water lubrication, temperature limit 300℃	应用于水、海水润滑，如船舶 Suit for water and seawater lubricant, such as ship

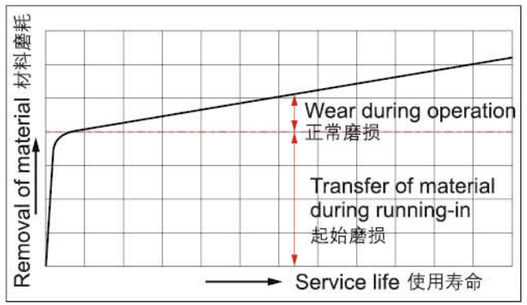
相关设计 The Technical

影响轴承使用寿命的因素 Influences on the service life

- 轴承载荷和负载方式
- 线速度
- PV 值
- 对磨件表面光洁度
- 对磨件热处理方式
- 环境温度等

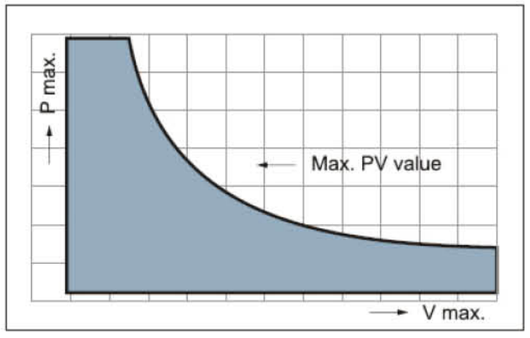
Wear and service life of the BORAN slide bearings are dependent on the following:

- Specific bearing load
- Sliding speed
- PV value
- Roughness depth of the mating surface
- Mating surface material and Temperature etc.



PV Value Calculation PV值的计算 PV=P×V(N/mm⊠×m/s)

PV 是指轴承在一定的承载和线速度条件下的乘积之和，PV 值与轴承的使用寿命成反比例关系；因此建议设计时尽量使用比较低的安全 PV 值，以确保轴承会有更长的使用寿命；虽然样本中有明确了各类材料的 PV 值，但是这些都是在径向旋转条件下测得的，而事实上设计人员在设计轴承的寿命是还需要考虑很多因素。另外环境温度是一个必须要考虑的因素，由于温度的上升会导致轴承于座孔间的配合间隙发生变化，轴与轴承内孔的配合公差也会发生变化，从而影响轴承的正常使用。

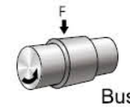
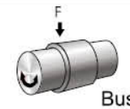
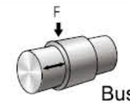
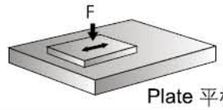


As the sum of products of a bearing under the conditions of certain loading and linear velocity, PV value is inversely proportional to the service life of the bearing, so lower safe PV value is suggested to be used during design to ensure longer service life of the bearing. Although PV values of different materials are defined in the sample, these are measured under the condition of radial rotation, as a matter of fact, designers need to consider many factors when designing bearing life. Besides, ambient temperature, as a parameter which must be considered, should consider many factors, because fit clearance between bearing and seat hole and fit tolerance between shaft and bearing bore change due to temperature rise.

BORAN TECHNOLOGY

相关设计 The Technical

运转方式和PV值的计算 Direction of motion and PV value

		Load 负载 P N/mm^2 {kgf/cm^2}	Velocity V 线速度 m/s {m/min}	PV Value PV值 $N/mm^2*m/s$ {$kgf/cm^2*m/min$}
1. Rotating motion in single direction of radial journal 旋转运动	 Bushing 轴套	$\frac{F}{dL}$ $\left\{\frac{10^2F}{dL}\right\}$	$\frac{\pi dn}{10^3}$ $\left\{\frac{\pi dn}{10^3}\right\}$	$\frac{\pi Fn}{10^3L}$ $\left\{\frac{\pi Fn}{10L}\right\}$
2. Oscillating motion 摇摆运动	 Bushing 轴套	$\frac{F}{dL}$ $\left\{\frac{10^2F}{dL}\right\}$	$\frac{dc\,\theta}{10^3}$ $\left\{\frac{\pi dc\,\theta}{180\times10^3}\right\}$	$\frac{Fc\,\theta}{10^3L}$ $\left\{\frac{\pi Fc\,\theta}{180\times10^2L}\right\}$
3. Reciprocating motion 往复运动	 Bushing 轴套	$\frac{F}{dL}$ $\left\{\frac{10^2F}{dL}\right\}$	$\frac{2cS}{10^3}$ $\left\{\frac{2cS}{10^3}\right\}$	$\frac{2FcS}{10^3dL}$ $\left\{\frac{FcS}{5dL}\right\}$
4. Thrust motion 推力运动	 Rotation 旋转 Oscillation 摇摆 Thrust washer 垫片	$\frac{4F}{\pi(D^2-d^2)}$ $\left\{\frac{400F}{\pi(D^2-d^2)}\right\}$ $\frac{4F}{\pi(D^2-d^2)}$ $\left\{\frac{400F}{\pi(D^2-d^2)}\right\}$	$\frac{\pi Dn}{10^3}$ $\left\{\frac{\pi Dn}{10^3}\right\}$ $\frac{Dc\,\theta}{10^3}$ $\left\{\frac{\pi Dc\,\theta}{180\times10^3}\right\}$	$\frac{4FDn}{10^3(D^2-d^2)}$ $\left\{\frac{4FDn}{10(D^2-d^2)}\right\}$ $\frac{4FDc\,\theta}{10^3\pi(D^2-d^2)}$ $\left\{\frac{4FDc\,\theta}{180\times10(D^2-d^2)}\right\}$
5. Plane reciprocating motion 平面滑动	 Plate 平板	$\frac{F}{BL}$ $\left\{\frac{10^2F}{WL}\right\}$	$\frac{2cS}{10^3}$ $\left\{\frac{2cS}{10^3}\right\}$	$\frac{2FcS}{10^3BL}$ $\left\{\frac{FcS}{5WL}\right\}$

F ：承载 N {kgf}
N ：转数 S^{-1} {rpm}
c ：往复或摇摆数 S^{-1} {cpm}
S ：行程 m {mm}
θ ：摇摆角度 rad
d ：轴承内径 mm {mm}
D ：轴承外径 mm {mm}
L ：轴承高度 mm {mm}
W ：轴承宽度 mm {mm}

相关设计 The Technical

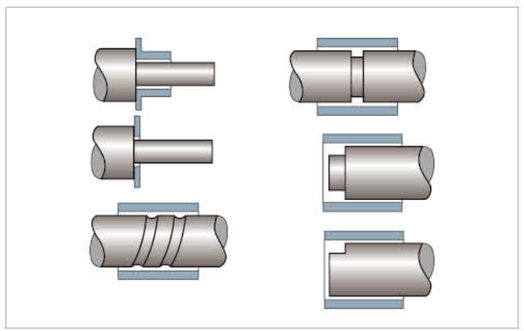
相配轴 Mating Shaft

相配轴的材料、硬度、表面粗超度和表面处理对轴承的使用有很大的影响，以下推荐材料可供参考；另外，在海水、药液等腐蚀场合下使用时建议使用不锈钢霍表面镀铬处理。

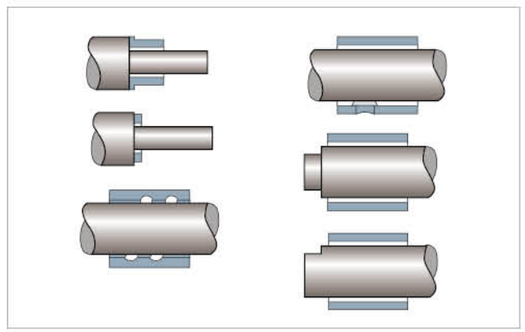
Bearing performance is influenced by the material, hardness, surface roughness and surface treatment of the mating shaft. If uesd in a corrosive environment such as in the seawater, or in the chemical liquid, double or triple chrome plating should be consideration.

Bearing material 轴承材料	Bearing load 面压	Shaft material recommend 推荐相配轴材料	Hardness 硬度	Roughness 表面粗超度
Metallic Bearing 金属基 自润滑轴承	<25Mpa	Carbon steel, structure alloy steel (S45C,SNC415,SCM435), In corrosive environment, corrosion resistant steel (SUS304,SUS403,SUS420) 优质碳钢，合金钢，腐蚀条件下使用耐腐蚀钢	>HB150	<1.6a
	25~49Mpa	Surface hardening treatment such as induction hardening and carburizing should be implemented for the above materials. 表面硬化处理如渗碳处理、感应淬火等	>HB250	<1.6a
	49~98Mpa	In addition to surface hardering treatment as above, additional surface treatment such as nitride treatment and hard chrome plating for above material. 以上处理外同时作渗氮处理、镀硬铬等	>HRC50	<1.6a

Incorrect 不正确设计



Correct 正确设计



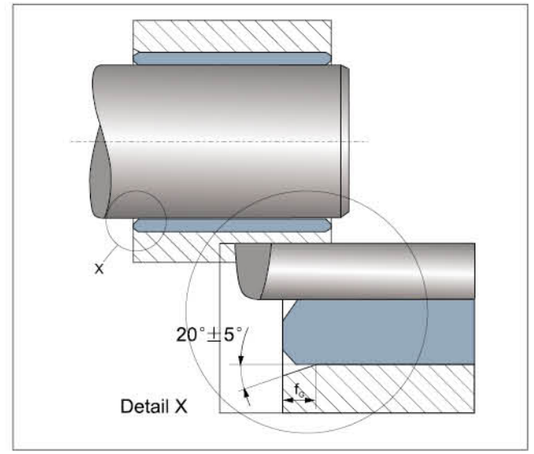
相关设计 The Technical

轴承座孔 Housing

BORAN 设计的标准轴承要求座孔必须加工到 H7 公差，最大表面粗糙度为Ra3.2。为了便于轴承的安装，轴承座孔应有 20° ±5° 的倒角。

There should be chamfers on the housing bore during the assembly. A chamfer F_G×20 ° ±5 ° is important for the easier pressing of the bushing into the housing.

Housing bore diameter d_G 座孔	Chamfer with f_G 倒角
$d_G \leqslant 30$	0.8±0.3
$30 < d_G \leqslant 80$	1.2±0.4
$80 < d_G \leqslant 180$	1.8±0.8
$180 < d_G$	2.5±1.0



壁厚设计 Wall thickness

金属自润滑轴承的壁厚可以尽可能的设计成薄壁结构已达到尺寸的最小化，建议壁厚设计如下：

Wall thickness of the metallic bearings can be made thin to realize smaller mechanical design.

ID 内径	10mm	20mm	50mm	100mm	300mm
Wall thickness 壁厚	3~4mm	3~5mm	7.5~10mm	10~15mm	20~30mm

长度设计 Length

一般来说，轴承的长度是根据轴承的长度和内径比计算得到的，比如一般工况我们建议长度和内径比为 0.5~2.0，而对于高速、高载和不平稳的接触面运用时建议长度和内径比为 0.8~1.0。

In general, length of bearing is calculated by the ratio of the bearing hength and inner side diameter, for normal application: the length/ID=0.5~2.0, for high load, high speed and uneven contact is recommend: the length/ID=0.8~1.0.

相关设计 The Technical

定期给油 Periodic Greasing

BORAN 金属基自润滑轴承设计为自润滑免维护的轴承材料，但在润滑条件下更能表现出其优越的性能。

- 降低摩擦系数，减少磨损量
- 运行更平稳，提高 PV 值
- 带走轴承运行过程中产生的热量
- 可以大大延长轴承的使用寿命
- 防止异物的侵入
- 防止对磨件的生锈现象

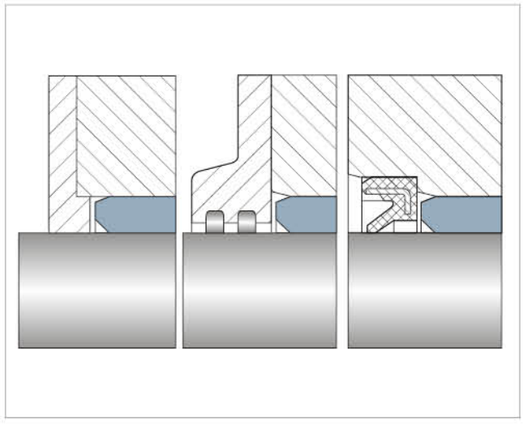
BORAN metallic self-lubricating bearings designed for maintenance-free and dry operation, but periodic greasing or oiling will improve the bearing performance and extension the service life.

- Reduction of coefficient of friction and wear amount
- Smoothly running and Increase the limited PV value
- Cooling effect
- Greatly extension the bearing service life
- Protect the contamination reach the bearing section
- Prevent mating material rust

密封件 Seals

金属基自润滑轴承允许一些不会损害轴承表面的异物进入，但当异物的侵入增加或高碾磨型物质进入时应当安装合适的密封件以提高轴承的使用寿命。

if increased levels of contamination occur or the bearing is used in an aggressive environment, the bearing section should be protected from dust and containment. The normal solution is to re-design the surrounding structure so that the contamination can not reach the bearing section. if the contamination is critical, a collar of grease or a shaft seal is recommended.



金属类轴承的安装 Metal Bushing Installation

机械压装 Pressure Assembly

通常情况下，轴承可以采用压力装配的方式进行安装，装配时应采用芯轴慢慢压入，禁止直接击打轴承以免产生变形，装配前应确保座孔内表面光洁无异物。

Typically, the bearings can be used to pressure the assembly with the installation, assembly, slowly push the mandrel should be used to prohibit the direct hit to avoid deformation of the bearing, the assembly should ensure that the seat before the hole smooth surface without foreign body.

冷冻装配 Cooling assembly

通过液氮或干冰采用冷装配压装相比采用机械压装方式更为有效，此时标准的冷冻温度为 -40℃ ~-70℃，冷冻时间一般为 1 小时以上，具体需要根据零件的壁厚和配合公差。

By liquid nitrogen or dry ice compared with cold press-fit assembly with mechanical press-fit method is more effective, then the standard freezing temperature of -40 ℃ ~ -70 ℃ , freezing time is generally 1 hour or more, according to the specific needs of parts of the wall thick and with tolerance.

轴承的收缩量可以根据以下公式计算：

Shrinkage of the bearing can be calculated according to the following companies:

$\Delta D=D\times\alpha\times\Delta T$

ΔD:OD 外径收缩量

D:OD 轴承外径

α: 线性膨胀系数 (1/105K)

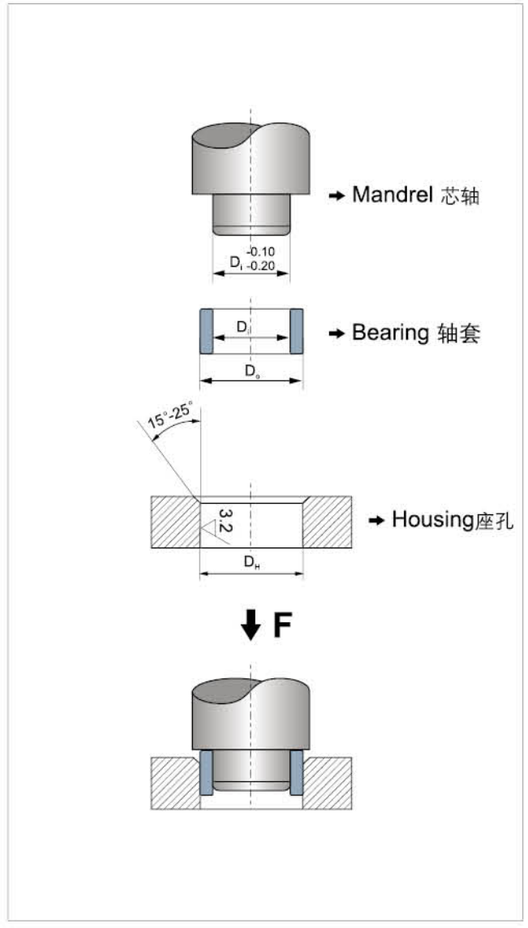
ΔT: 温度差

$\Delta D=D\times\alpha\times\Delta T$ ΔD:OD Diameter shrinkage

D:OD Bearing outer diameter

α:Linear expansion coefficient(1/105K)

ΔT:Temperature difference



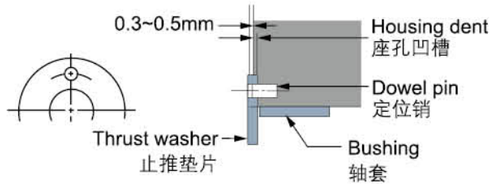
金属类轴承的安装 Metal Bushing Installation

止推垫片和滑板的安装

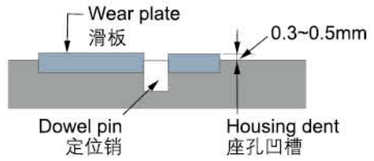
止推垫片和滑板应当安装在座孔的凹槽内，为了避免零件的移动建议使用定位销或沉头螺丝加以固定。

It is recommended to install the thrust washers and sliding plates with the hollow indented housings. To avoid the moving of such parts, a dowel pins is recommended to be installed.

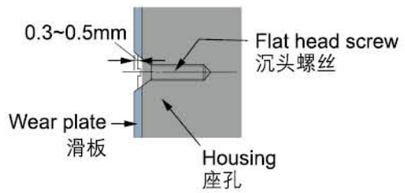
1. 定位销安装 Dowel pin application (thrust washer)



2. 镶嵌式安装 Inlaid installation（Plate）



3. 沉头螺丝安装 Flat head screw application



表面粗糙度对照表 Surface Roughness Table

CHINA 中国 GB 1031-83 ≈ISO 468-83			UK 英国 BS 1134-61		USA 美国 ASAB 46.1-62		GERMANY 德国 DIN4763-60			SWITZERLAND 瑞士 VSM 10321-62		ITALY 意大利 UNI 13963-60	POLAND 波兰 PN 58/M 042-51			CZECH 捷克 CSNo 14450-61			JAPAN 日本 JIS B0601-70			
Ra (μ)	Rz Ry (μ)	Code	Ra (μ in)(μ)	Code	Ra (μ in)(μ)	Code	Ra (μ)	Rz (μ)	Code	Ra (μ)	Code	Ra (μ)	Ra (μ)	Rz (μ)	Code	Ra (μ)	Rz (μ)	Code	Ra (μ)	Rz (μ)	Rmax (μ)	Code
0.008	0.032																					
0.01	0.04	0.012 0.006					0.01	0.04					0.01	0.05	▽14							
0.012	0.05															0.012	0.05		(0.0125a)		(0.05S)	
0.016	0.063						0.016	0.063					0.02	0.10	▽13							
0.02	0.08	0.025																				
0.025	0.10		1(0.025)		1(0.025)		0.025	0.10		0.025	N1	0.025				0.025	0.10			0.1Z	0.1S	
0.032	0.125												0.04	0.20	▽12							
0.04	0.16	0.05					0.04	0.16														
0.05	0.20		2(0.05)		2(0.05)					0.05	N2	0.05				0.05	0.20		0.05a	0.2Z	0.2S	
0.063	0.25						0.063	0.25					0.08	0.40	▽11							
0.08	0.32	0.10			3(0.08)							0.08										
0.10	0.40		4(0.10)		4(0.10)		0.10	0.40		0.1	N3	0.1				0.10	0.40		0.1a	0.4Z	0.4S	
0.125	0.50				5(0.125)							0.12	0.16	0.80	▽10							
0.16	0.63	Rz0.8			6(0.16)		0.16	0.63				0.16										
0.20	0.80		8(0.2)		8(0.2)					0.2	N4	0.2				0.20	0.80		0.2a	0.8Z	0.8S	
0.25	1				10(0.25)		0.25	1				0.25	0.32	1.60	▽9							
0.32	1.25	Rz1.6		16	13(0.32)							0.3						6.3				
0.40	1.6		16(0.4)	16 C LA or 8.16 C LA	16(0.4)		0.40	1.60		0.4	N5	0.4				0.40	1.60		0.4a	1.6Z	1.6S	
0.50	2				20(0.5)					0.5	N6	0.5	0.63	3.20	▽8							
0.63	2.5	0.80			25(0.63)		0.63	2.5				0.6										
0.8	3.2		32(0.8)		32(0.8)	16						0.8				0.80	3.2		0.8a	3.2Z	3.2S	
1	4				40(1)		1	4				1	1.25	6.30	▽7							
1.25	5	1.60			50(1.25)	16 8						1.2										
1.6	6.3		63(1.6)		63(1.6)		1.6	6.3		1.6	N7	1.6				1.6	6.3		1.6a	6.3Z	6.3S	
2	8				80(2)							2	2.5	10	▽6							
2.5	10	3.2			100(2.5)		2.5	10				2.5										
3.2	12.5		125(3.2)		125(3.2)					3.2	N8	3				3.2	12.5		3.2a	12.5Z	12.5S	
4	16				160(4)		4	16				4	5	20	▽5					(18Z)	(18S)	
5	20	6.3			200(5)							5										
6.3	25		250(6.3)		250(6.3)		6.3	25		6.3	N9	6				6.3	25		6.3a	25Z	25S	
8	32											8	10	40	▽4					35Z	35S	
10	40	Rz50					10	40				10										
12.5	50		500(12.5)		500(12.5)					12.5	N10	12				12.5	50		12.5a	50Z	50S	
16	63						16	63					20	80	▽3							
20	80	25			800(20)															(70Z)	(70S)	
25	100		1000(25)		1000(25)		25	100		25	N11	25				25	100		25a	100Z	100S	
32	125												40	160	▽2					140Z	140S	
40	160	Rz200					40	160														
125	200									50	N12					50	200		(50a)	200Z	200S	S
63	250						63	250					80	320	▽1					280Z	280S	
80	320	100																				
250	400						100	400								100	400		(100a)	400Z	400S	
							160	630	S											560Z	560S	
							250	1000														
								1600														
								2500														

μ=0.000001m=0.001mm

μin=0.000001 in=0.0254μ

轴径公差 Shaft tolerances

⩾	<	c9	d8	e7	e8	f7	g6	h5	h6	h7	h8	js6	js7	k6	m6	n6	p6	p7	r6	s6
-	3	-60 -85	-20 -34	-14 -24	-14 -28	-6 -16	-2 -8	0 -4	0 -6	0 -10	0 -14	±3	±5	+6 0	+8 +2	+10 +4	+12 +6	+16 +6	+16 +10	+20 +14
3	6	-70 -100	-30 -48	-20 -32	-20 -38	-10 -22	-4 -12	0 -5	0 -8	0 -12	0 -18	±4	±6	+9 +1	+12 +4	+16 +8	+20 +12	+24 +12	+23 +15	+27 +19
6	10	-80 -116	-40 -62	-25 -40	-25 -47	-13 -28	-5 -14	0 -6	0 -9	0 -15	0 -22	±4.5	±7	+10 +1	+15 +6	+19 +10	+24 +15	+30 +15	+28 +19	+32 +23
10	18	-95 -138	-50 -77	-32 -50	-32 -59	-16 -34	-6 -17	0 -8	0 -11	0 -18	0 -27	±5.5	±9	+12 +1	+18 +7	+23 +12	+29 +18	+36 +18	+34 +23	+39 +28
18	24	-110 -162	-65 -98	-40 -61	-40 -73	-20 -41	-7 -20	0 -9	0 -13	0 -21	0 -33	±6.5	±10	+15 +2	+21 +8	+28 +15	+35 +22	+43 +22	+41 +28	+48 +35
24	30																			
30	40	-120 -182	-80 -119	-50 -75	-50 -89	-25 -50	-9 -25	0 -11	0 -16	0 -25	0 -39	±8	±12	+18 +2	+25 +9	+33 +17	+42 +26	+51 +26	+50 +34	+59 +43
40	50	-130 -192																		
50	65	-140 -214	-100 -146	-60 -90	-60 -106	-30 -60	-10 -29	0 -13	0 -19	0 -30	0 -46	±9.5	±15	+21 +2	+30 +11	+39 +20	+51 +32	+62 +32	+60 +41	+72 +53
65	80	-150 -224																	+62 +43	+78 +59
80	100	-170 -257	-120 -174	-72 -107	-72 -126	-36 -71	-12 -34	0 -15	0 -22	0 -35	0 -54	±11	±17	+25 +3	+35 +13	+45 +23	+59 +37	+72 +37	+73 +51	+93 +71
100	120	-180 -267																	+76 +54	+101 +79
120	140	-200 -300	-145 -208	-85 -125	-85 -148	-43 -83	-14 -39	0 -18	0 -25	0 -40	0 -63	±12.5	±20	+28 +3	+40 +15	+52 +27	+68 +43	+83 +43	+88 +63	+117 +92
140	160	-210 -310																	+90 +65	+125 +100
160	180	-230 -330																	+93 +68	+133 +108
180	200	-240 -355	-170 -242	-100 -146	-100 -172	-50 -96	-15 -44	0 -20	0 -29	0 -46	0 -72	±14.5	±23	+33 +14	+46 +17	+60 +31	+79 +50	+96 +50	+106 +77	+151 +122
200	225	-260 -375																	+109 +80	+159 +130
225	250	-280 -395																	+113 +84	+169 +140
250	280	-300 -430	-190 -271	-110 -162	-110 -191	-56 -108	-17 -49	0 -23	0 -32	0 -52	0 -81	±16	±26	+36 +14	+52 +20	+66 +34	+88 +56	+108 +56	+126 +94	+190 +158
280	315	-330 -460																	+130 +98	+202 +170
315	355	-360 -500	-210 -299	-125 -182	-125 -214	-62 -119	-18 -54	0 -25	0 -36	0 -57	0 -89	±18	±28	+40 +4	+57 +21	+73 +37	+98 +62	+119 +62	+114 +108	+226 +190
355	400	-400 -540																	+150 +114	+244 +208
400	450	-440 -595	-230 -327	-135 -198	-135 -232	-68 -131	-20 -60	0 -27	0 -40	0 -63	0 -97	±20	±31	+45 +5	+63 +23	+80 +40	+108 +68	+131 +68	+166 +126	+272 +232
450	500	-480 -635																	+172 +132	+292 +252

座孔公差 Bore tolerance

金属类 Metal Series

⩾	<	B10	C9	D8	E7	E8	F7	G7	H6	H7	H8	JS7	K7	M7	N7	P7	R7	S7	T7
-	3	+180 +140	+85 +60	+34 +20	+24 +14	+28 +14	+16 +6	+12 +2	+6 0	+10 0	+14 0	±5	0 -10	-2 -12	-4 -14	-6 -16	-10 -20	-14 -24	-
3	6	+188 +140	+100 +70	+48 +30	+32 +20	+38 +20	+22 +10	+16 +4	+8 0	+12 0	+18 0	±6	+3 -9	0 -12	-4 -16	-8 -20	-11 -23	-15 -27	-
6	10	+208 +150	+116 +80	+62 +40	+40 +25	+47 +25	+28 +13	+20 +5	+9 0	+15 0	+22 0	±7	+5 -10	0 -15	-4 -19	-9 -24	-13 -28	-17 -32	-
10	14	+200 +150	+138 +95	+77 +50	+50 +32	+59 +32	+34 +16	+24 +6	+11 0	+18 0	+27 0	±9	+6 -12	0 -18	-5 -23	-11 -29	-16 -34	-21 -39	-
14	18																		
18	24	+244 +160	+162 +110	+98 +65	+61 +40	+73 +40	+41 +20	+28 +7	+13 0	+21 0	+33 0	±10	+6 -15	0 -21	-7 -28	-14 -35	-20 -41	-27 -48	- -33 -54
24	30																		
30	40	+270 +170	+182 +120	+119 +80	+75 +50	+89 +50	+50 +25	+34 +9	+16 0	+25 0	+39 0	±12	+7 -18	0 -25	-8 -33	-17 -42	-25 -50	-34 -59	-39 -64 -45 -70
40	50	+280 +180	+192 +130																
50	65	+310 +190	+214 +140	+146 +100	+90 +60	+106 +60	+60 +30	+40 +10	+19 0	+30 0	+46 0	±15	+9 -21	0 -30	-9 -39	-21 -51	-30 -60 -32 -62	-42 -72 -48 -78	-55 -85 -64 -94
65	80	+320 +200	+224 +150																
80	100	+360 +220	+257 +170	+174 +120	+107 +72	+125 +72	+71 +36	+47 +12	+22 0	+35 0	+54 0	±17	+10 -25	0 -35	-10 -45	-24 -59	-38 -73 -41 -76	-58 -93 -66 -101	-78 -113 -91 -126
100	120	+380 +240	+267 +180																
120	140	+420 +260	+300 +200	+208 +145	+125 +85	+148 +85	+83 +43	+54 +14	+25 0	+40 0	+63 0	±20	+12 -28	0 -40	-12 -52	-28 -68	-48 -88 -50 -90 -53 -93	-77 -117 -85 -125 -93 -133	-107 -147 -119 -159 -131 -171
140	160	+440 +280	+310 +210																
160	180	+470 +310	+330 +230																
180	200	+525 +340	+355 +240	+242 +170	+146 +100	+172 +100	+96 +50	+61 +15	+29 0	+46 0	+72 0	±23	+13 -33	0 -46	-14 -60	-33 -79	-60 -106 -63 -109 -67 -113	-105 -151 -113 -159 -123 -169	-149 -195 -163 -209 -179 -225
200	225	+565 +380	+375 +260																
225	250	+605 +420	+395 +280																
250	280	+690 +480	+430 +300	+271 +190	+162 +110	+191 +110	+108 +56	+69 +17	+32 0	+52 0	+81 0	±26	+16 -36	0 -52	-14 -66	-36 -88	-74 -126 -78 -130	-138 -190 -150 -202	-198 -250 -220 -272
280	315	+750 +540	+460 +330																
315	355	+830 +600	+500 +360	+299 +210	+182 +125	+214 +125	+119 +62	+75 +18	+36 0	+57 0	+89 0	±28	+17 -40	0 -57	-16 -73	-41 -98	-87 -144 -93 -150	-169 -226 -187 -224	-247 -304 -273 -330
355	400	+910 +680	+540 +400																
400	450	+1010 +760	+595 +440	+327 +230	+198 +135	+232 +135	+131 +68	+83 +20	+40 0	+63 0	+97 0	±31	+18 -45	0 -63	-17 -80	-45 -108	-103 -166 -109 -172	-209 -272 -229 -292	-307 -370 -337 -400
450	500	+1090 +840	+635 +480																

复层类轴承的安装 Composite Bushing Installation

复层类轴承轴承尺寸公差检测方法 Wrapped Bushing Dimensional Inspection

卷制类产品的制造工艺决定了开口缝的存在，使得产品在自由状态下没有很好的圈整度，同时轴套外径和座孔之间为过盈配合，轴套要最大限度地适应座孔的形状，因此不能在自由状态下直接测量产品的内外径而必须使用特殊的测量仪和设备才能检测；ISO3547 标准第 2 部分中对卷制类产品的公差检验作了明确的规定，包括：

检验方法 A：哈夫规检验外径；
检验方法 B：止通规检验外径；
检验方法 C：止通规检验内径；
检验方法 D：测量尺检验大规格产品外径
以及替代检验方法 C 的壁厚检验方法，壁厚检验方法和检验方法 C 不能同时使用。

Rolled products in the manufacturing process determine the existence of open joints, making products in the free state not habe a good whole circle shape, while sleeve diameter and the seat for the interference fit between the holes, sleeve adapted to maximize Block hole shape can not be directly measured in the free state the inner/outside diameter of the product only can be by a special measuring instrument; In ISO3547 standards measured Part 2 of the rolled products made clear tolerance test requirements, including :

Test Method A: Huff regulatory test outside diameter;
Test method B: use stop-pass gauge to test the outside diameter;
Test method C: use stop-pass gauge to test the inside diameter;
Test method D: Measure the outer diameter of large scale product and use wall-thickness test to replace test method C. (Wall-thickness test and test method C can not be used at the same time.)

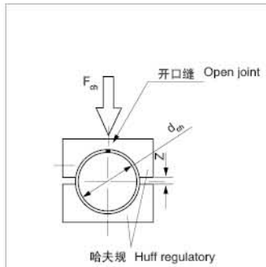
检验方法 D (ISO3547-2: Test D)

采用精确的测量尺来测量外径，一般针对大规格的轴套外径检测。

Test D (ISO 3547-2)

The test is carried out by means of a precision measuring tape.

检验方法 A Test A of ISO



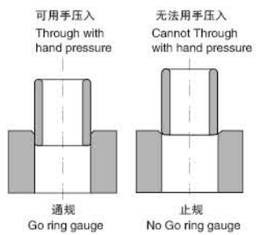
哈夫规和芯棒 d_{ch}=____mm
Checking block
and setting mandrel

检验压力 F_{ch}=____N
Torce test

极限值 $\triangle_z$=___and___mm
Limiting value

外径公差 D_o=___to___mm
OD tolerance

检验方法 B Test B of ISO



外径检验方法 External diameter test methods

检验方法 A (ISO3547-2: Test A)

采用如右视图的上下两哈夫规对外径进行检验，检验时产品的开口缝朝上哈夫规相向施加检验载荷 Fch，该载荷使卷制轴套能够按符合要求的方式就位于检验模。检验中，由于弹性变形卷制轴套外径会变小但不会产生永久变形。产品的外径可以通过检验模之间的距离 Z 的变化量△ Z 来计算。

Test A of ISO 3547 Part 2

Check the outside diameter of a wrapped bush using measuring equipment as shown to the right, with a checking block consisting of upper and lower halves and setting plugs, at a determined checking load of Fch, during the test the outside diameter of the bush is made smaller by the elastic reduction, however it is not a permanent deformation. The bushes outside diameter can be calculated from the difference in the value of z (Z)

检验方法 B (ISO3547-2: Test B)

检验采用两个环规即通规和止规，用手以最大力 250N 可将轴套推入并通过通规；在相同情况下无法进入和通过止规。在某些情况下检验精度可能受到影响，比如轴套不圆或闭合开口缝的力本身已超过 250N，此时建议采用检验方法 A 或测压入力或壁厚相结合的检验方法。

Test B of ISO 3547 Part 2

The test is carried out with two ring gauggs, a Go gauge and a No Go gauge whose diameter Shall be chosen empirically from with Table 6 of ISO3547-1:1999 and agreed upon. It shall be possible to press the bushes into the GO gauge and then push them through with hand pressure (maximum force 250N). On the other hand with the same force, it shall not be possible for them to go into and through the NO GO gauge (See ISO 12307-1)

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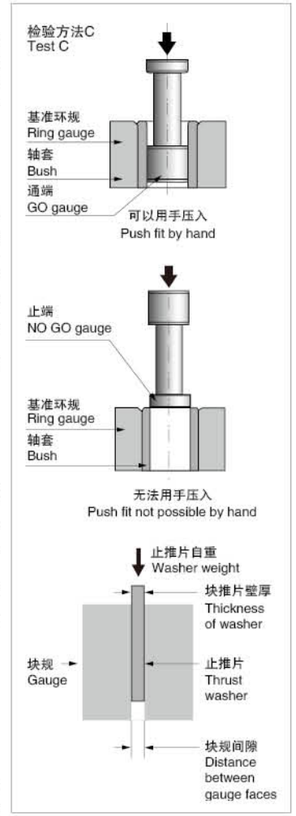
内径检验方法 Internal diameter test methods

检验方法 C (ISO3547-2: Test C)

将轴套压入基准环规后检查轴套的内径，内径的检测可以采用三点测量装置或通、止塞规检验。从实际使用考虑一般建议采用通、止塞规检验，此时在用手最大推力不超过 250N 时通端塞规可以通过轴套内孔，在相同情况下止端塞规应当无法通过轴套内孔。当轴套压入基准环规后，轴套外径可能会引起永久变形而无法正常使用。

Test C (ISO3547-2: Test C)

To check the inside diameter, the bush is to be pressed into a ring gauge, whose nominal diameter corresponds to the dimension specified in ISO3547-1:1999. The inside diameter shall be measured with a 3-point measuring instrument or checked with a GO and NO GO plug gauge. The GO plug gauge shall be inserted by a minimum effort; the NO GO plug gauge shall not be inserted by manual pressure(maximum force 250N). In order to enable the manufacturer and the customer to compare results of this test it should be agreed whether results should be obtained by measuring or by gauging.



止推片检验方法 Thrust washer test method

除了厚度公差以外，垫片的平行度对于垫片和对磨件的使用寿命同样重要。我们使用比较有效的检验方法来检测垫片的平行度，让垫片依靠自重来通过两个平行块；当然平行块必须大于垫片本身的规格。

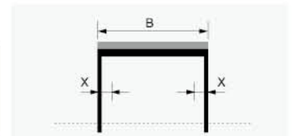
Beside the thickness, the flatness of washer is also important for washer and grinding parts' usage age. We use very helpful test in which the washer falls through the gap between two plain parallel plates of a gauge under its dead weight. The plates must be big enough to cover the whole washer.

壁厚检测方法 Wall Thickness test method

作为检验方法 C 的替代方案两则不能同时使用，壁厚根据轴套尺寸在轴向进行测量。

The wall thickness is measured at once,two or three positions axially according to the bearing dimensions.The wall thickness and the inside diameter shall not be specified together on the same drawing.

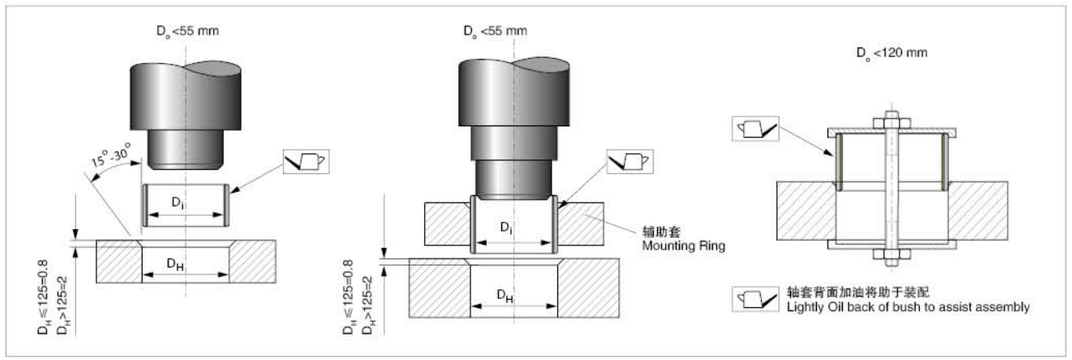
B[mm]	X[mm]	测量点 measurement position
B≤15	B/2	1
15<B≤50	4	2
50<B≤90	6 and B/2	3
B>90	8 and B/2	3



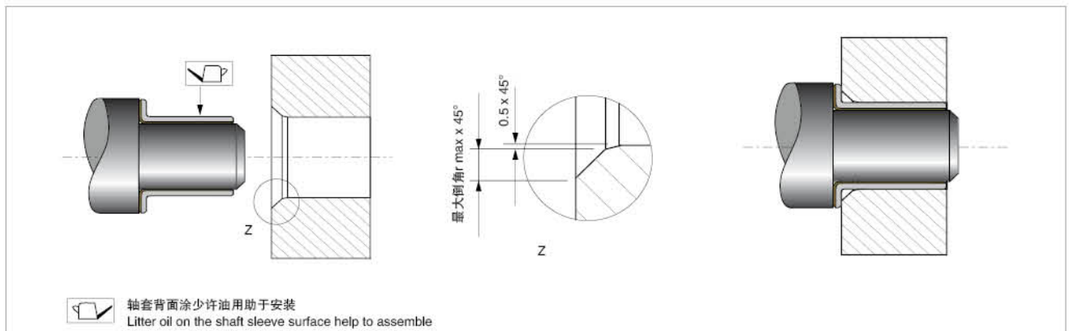
测量点
Measurement position

复层类轴承的安装 Composite Bushing Installation

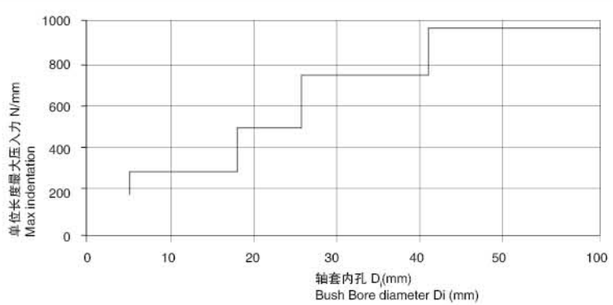
直套安装 Straight set of installation



翻边套安装 Flange set of installation



压入力计算 Indentation Calculation



复层类轴承的安装 Composite Bushing Installation

同轴度 Concentricity

精确的同轴度对于轴承的正常使用非常重要， 要求轴套在一个或者两个长度内的不同轴度以及在翻边或止推片直径内的不同轴度控制在0.02mm 内。

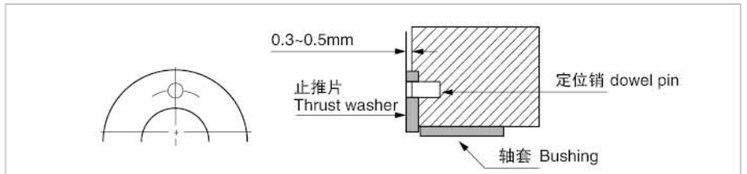
Degree of precision coaxial bearing the normal use for a very important requirement sleeve length in one or two degrees of the different axes and in the flange or thrust washer diameter of the different degree of control shaft within 0.02mm.

垫片和滑板的安装 Thrust washers and sliding plates installation

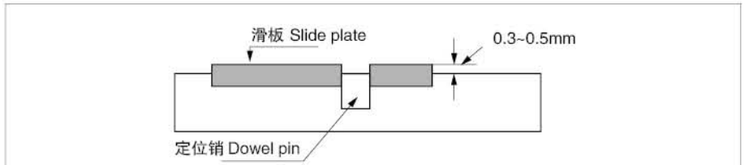
建议垫片和滑板安装在凹陷的座孔内， 为了避免移动，同时建议采用定位销加以固定。

It is reconmmended to install the thrust washers and sliding plates with the hollow indented housing. To avoid the moving of such parts, a Dowel pins is recommended to be installed.

1. 定位销在垫片上的使用 Dowel pin application (thrust waher)

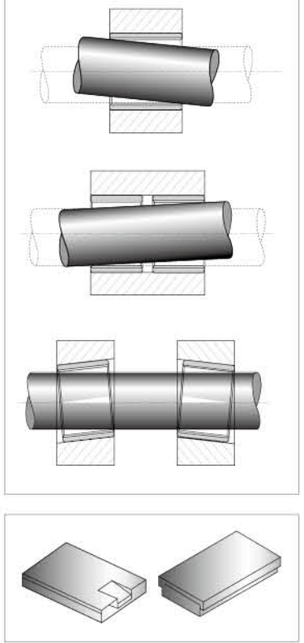


2. 定位销在滑板上的使用 Dowel pin used on slide plate



3. 平头螺丝的使用 Flat head screw application

同轴度要求
Concentricity requirements



其他固定方法 Other fixation methods

当无法使用定位销时， 可以采用激光焊接， 粘结剂和钎焊 （温度 <320℃） 的方法加以固定； 此时必须主意使用的温度不能超过轴承材料本身能够承受的范围， 轴套工作面防止与粘合剂等接触。

When the pin is not available, you can use laser welding, adhesives and brazing (temperature < 320 ℃) method to be fixed; while do in this way, temperature used must not higher then the bearing material itself can be standed, the cleeve face should be prevent from contacting with adhesives.

复层类轴承的安装 Composite Bushing Installation

PTFE基轴承的加工和安装注意事项
Processing and installation considerations of PTFE-based bearing

PTFE 基轴承一般都是成品零件，组装后内孔不再进行铰、镗等加工，若座孔按推荐的尺寸加工时，卷制类轴承内径的真圆度完全能满足使用要求；

如果客户可以接受干摩擦性能大幅度降低，可以对 PTFE 基轴承在安装后进行内孔挤压以达到更高的精度，强烈建议对挤压芯棒表面进行热处理（深度 0.6mm，HRC ＞ 55）并抛光处理至 Rz1；

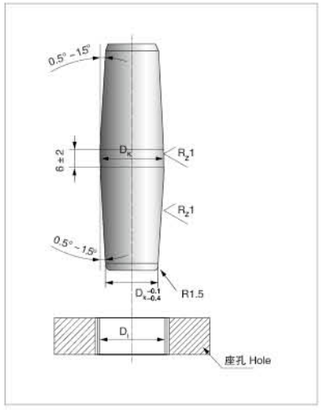
当轴承的比压力小或摆动小而要求运行平稳时，可以增大工作间隙，在高温下使用时，每升高 100℃时建议轴径减少 0.008mm；

若轴承座材质是青铜、铝或锌合金时，建议减少轴承座孔以增加轴承装配过盈量；为保证轴承座的刚性，轴承座外径通常为轴承外径的 1.5 倍，薄壁座孔使用时需要考虑压装和使用过程的产生的变形；

PTFE 轴承需要加工时，为了避免毛刺的产生建议从 PTFE 一侧进行加工或钻孔，在钻孔过程中轴套应当有足够的支撑已确保不会由于钻孔压力导致变形；带材的加工方法可以通过剪切、水切割、激光切割等方法。

PTFE-based bearings are generally finished parts, assembled in the hole without the hinge, and other processing, if the bore size of the recommended process, the rolling type bearings with bore roundness can meet the requirements;
If the client can accept a significant reduction of dry friction, extruding the inner holes on the PTFE-based bearing after the compression to achieve higher accuracy, we strongly recommend the extrusion mandrel surface treatment (depth of 0.6mm, HRC ＞ 55) and polished to Rz1;
When the bearing's specific pressure is small and required to run a smooth swing, you can increase the working space, when used at high temperatures, it is increased by 100 ℃ , the proposed reduction of shaft diameter 0.008mm;
If the material of bearing is bronze, aluminum or zinc alloy, it is recommended to reduce the bearing hole to increase the amount of interference bearing assembly; to ensure the bearing rigidity, The base of bearing's diameter is usually 1.5 times to the bearing's diameter, thin-walled bore with pressure to consider when installed and used in the process of the deformation;
PTFE bearings need processing, in order to avoid the generation of burrs from the PTFE side of the proposed processing or drilling in the drilling process should have sufficient support sleeve has been to ensure that no pressure leads to deformation of the borehole; processing methods strip can cut, water jet cutting, laser cutting and other methods.

轴承内径 Dia of the axis d	要求内径 Required ID dE	整形工具直径 Diameter of the shaping tools dk
	d	d+0.03
d	d+0.02	d+0.06
	d+0.03	d+0.08
	d+0.04	d+0.10



复层类轴承的安装 Composite Bushing Installation

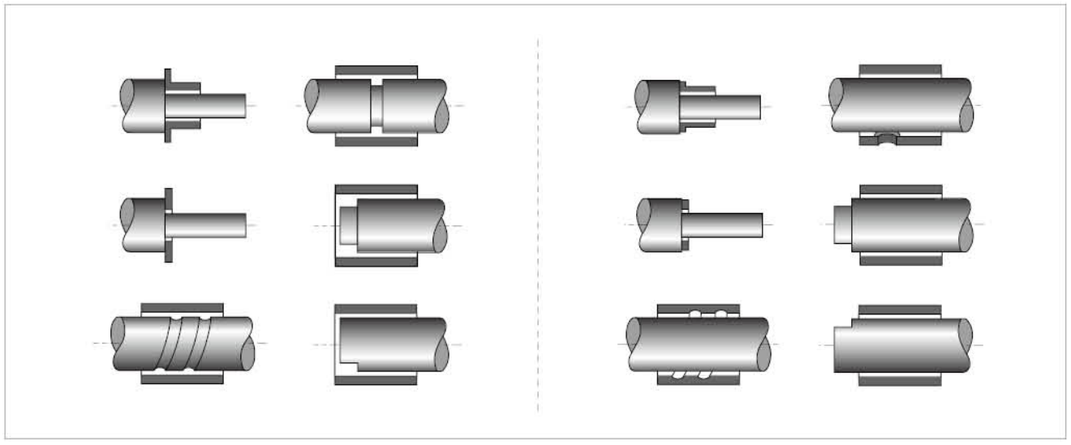
对磨轴 The Shaft

对磨件的材料、表面硬度、表面粗糙度以及表面处理方式对于轴承的使用寿命的影响很大，一般情况下我们建议轴的硬度在 HRC ＞ 50，表面粗糙度 Ra0.4 以下；在潮湿或易腐蚀的场合建议使用不锈钢、硬质铬镀层。

Grinding pieces of material, surface hardness, surface roughness and surface treatments have a great impact on the life of bearing, in general, we recommend that the hardness of the shaft HRC ＞ 50, surface roughness below Ra0.4; We suggest using stainless steel, hard chrome plating in the wet or corrosive place.

不正确的设计
Incorrect design

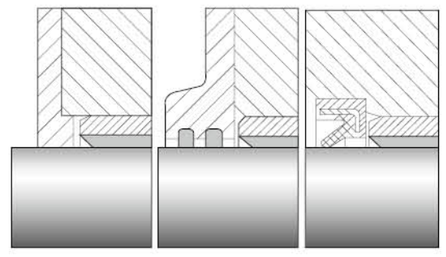
正确的设计
Correct design



轴承的密封 Seal

金属塑料基自润滑轴承允许一些不会损害轴承表面材料的异物进入，但当异物的侵入增加或高踝磨型物质进入时应当安装核实的密封圈以提高轴承的使用寿命。

If increased levels of contamination occur or the bearing is used in an aggressive environment, the bearing section should be protected from dust and containment. The normal solution is to re-design the surrounding structure so that the contamination cannot reach the bearing section. If the contamination is critical, a collar of grease or a shaft seal is recommended.



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