



自润滑和免维护滑动轴承

工匠精神

SELF-LUBRICATING MAINTENANCE-FREE BEARINGS



嘉善晋信自润滑轴承有限公司

JIASHAN JINXIN SELF-LUBRICATING BEARING CO., LTD.



INTRODUCTION

晋信自润轴承&特沃姆机械介绍

嘉善晋信自润滑轴承有限公司公司成立于2008年1月，座落于浙江省嘉善县魏塘街道南星路168号，公司是专业研发、生产、销售自润滑轴承的高科技企业。下属有二家控股子公司（浙江晋信自润轴承科技有限公司、嘉善特沃姆机械制造有限公司），占地面积13320平方米。目前已成为国内自润滑产品最主要的生产商之一。2017年5月，公司顺利通过ISO9001-2015国际质量体系认证。公司注册商标：

2014年，公司取得自营进出口权，产品主要出口到美国、欧盟、澳洲、中东、日本、东欧等国家。

为全球客户提供满意的产品和服务是JINXIN最高经营目标。

Jiashan JINXIN self-lubricating Bearing Co., LTD is specialized in the manufacture and sales of sliding bearing, Since the establishment, we have focused on reserch and development of self lubricating bearings and new lubrication materials. Make effort for popularization and applicationo of new product and new area .We pursue the customer demand as our orientation, continuous innovation orientation, continuous innovation to meet customer's requirement. At present,we has become one of the main producers for self-lubricating products in China. In May 2017, the company passed ISO9001-2015 international quality system authentication.

Offer global customers with satisfactory products and service is the highest business objectives of JINXIN.

In 2014, the company obtained the right to import and export, the products are mainly exported to the European Union, Australia, the Middle East, America, Japan, Eastern Europe and other countries.



保护地球环境
为建设理想社会而做出贡献的

晋信轴承

“晋”者，上进也。“信”者，诚信也。

所谓“晋信”，即取“求上进而讲诚信”之意。

上进易，而诚信难。今日之世界，更应倡导诚信，呼唤诚信。惟有诚信，才是企业立足之本，是基业常青之妙法。

晋信轴承经营理念：诚信 专业 高效 双赢

自润树脂类、复层类、“全产品”
已经实现了无铅化。

自润树脂类复层类制品已经可以对应RoHS指令。

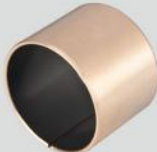
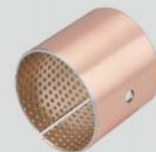
RoHS

可对应RoHS指令的产品有此标记



目录

Contents

 CRB-10 碳钢自润滑轴套 Carbon Steel Self-lubricating Bushes P-01、08、09	 CRB-11 铜基无铅自润滑轴套 Bronze Pb-Free Self-lubricating Bushes P-02	 CRB-10F 碳钢基自润滑翻边轴套 Carbon Steel Self-lubricating Flanged Bushes P-10	 CRB-10WC 复合止推垫片 Compound Thrust Washer P-11	 CRB-20Y 碳钢基边界无铅自润滑轴套 Carbon Steel Marginal Pb-Free Self-lubricating Bushes P-12、14、15
 CRB-20WC 复合止推垫片 Compound Thrust Washer P-16	 CRB-80 碳钢基耐高温边界自润滑轴套 Carbon Steel High temperature Marginal Self-lubricating Bushes P-13	 CRB-30 不锈钢基无给油轴承 Stainless steel +PTFE layer P-03	 CRB-40 碳钢基自润滑轴套 Carbon Steel Self-lubricating Bushes P-03	 CRB-LBP 不锈钢基冲孔无给油轴承 Stainless steel mesh+PTFE layer P-04
 CRB-TEX 碳钢基/不锈钢基PTFE织物轴承 Stainless steel mesh+PTFE layer P-05	 CRB-FR 铜网+PTFE/固体润滑剂 Bronze mesh+PTFE/Solid lubricants P-06	 CRB850BM 钢基铜合金弥散型固体润滑轴承 Metal backed bronze powder with solid lubricants P-07、18、19	 JF800 双金属卷制轴套 Bimetal Wrapped Bushes P-17、20、21	 FB090 青铜卷制轴套 Bronze-Wrapped Bushes P-22、23、26、27
 FBB090 青铜卷制翻边轴套 Bronze-Wrapped Flange Bushes P-30	 FT090 青铜卷制轴套 Bronze-Wrapped Bushes P-24、25、28、29	 FTB090 青铜卷制翻边轴套 Bronze-Wrapped Flange Bushes P-31	 CRB-EPB 树脂自润滑轴套 Plastic Compound Bushes P-32、33	 CRB-EPF 树脂自润滑翻边轴套 Plastic Compound Flange Bushes P-34、35

目录

Contents



CRB600 (JDB600)

铜基精加工轴承

Solid Bronze Turned Bushes

P-36



CRB650 (JDB650)

固体自润滑直套轴承

Solid-Self-Lubricating Straight Bushes

P-37-43



CRB650F (JFB650)

固体自润滑翻边轴承

Solid-Self-Lubricating Flange Bushes

P-44、45



JDBB650

固体自润滑翻边轴套

Solid-Self-Lubricating Flange Bushes

P-46、47



JTW650

止推垫片

Metric Thrust Washer

P-48



JPBW

自润滑轴套(高力黄铜+石墨)

Solid-Self-Lubricating Straight Bushes (650#+Graphite)

P-49



JPBFC

自润滑轴套(铸铁+石墨)

Solid-Self-Lubricating Straight Bushes (FC250#+Graphite)

P-49



CRB650GT

钢基铜合金自润滑轴套

Steel shell cast bronze with graphite plug

P-50、51、52



CRB200

钢基精加工轴套

Harden steel turned bushes

P-53、54、55



CRB250

钢基自润滑轴套

Steel oilless bushes

P-53、54、56



JFFB

固体自润滑轴瓦

Half-Bushes

P-57



JDBS

自润滑关节轴承

Metric Spherical Plain Bushes

P-58



CRB650GT SP

钢基铜合金自润滑板

Steel shell cast bronze oilless Wear Plate

P-59

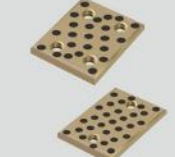


JESW

自润滑板

Oilless Wear Plate

P-60



JTW P

自润滑板

Oilless Wear Plate

P-61



JUWP

自润滑板

Oilless Wear Plate

P-62



JOLP

自润滑板

Oilless Wear Plate

P-63



JOML

自润滑板

Oilless Wear Plate

P-64



JTL P

自润滑板

Oilless Wear Plate

P-65



JGLDW

自润滑导轨

Oilless Guide Rail

P-66

目录 Contents



JTGLW
自润导轨
Oilless Guide Rail

P-67



JSOL
自润滑板
Oilless Wear Plate

P-68



JGBF
自润滑翻边导向套
Oilless Ejector Guide Bushings

P-69



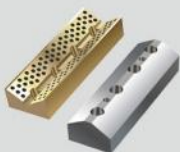
DIN9834
自润导套
Oilless Guide Bushes

P-70



JEGB, JEGBK
塑胶模射出座导套
Oilless Ejector Guide Bushing

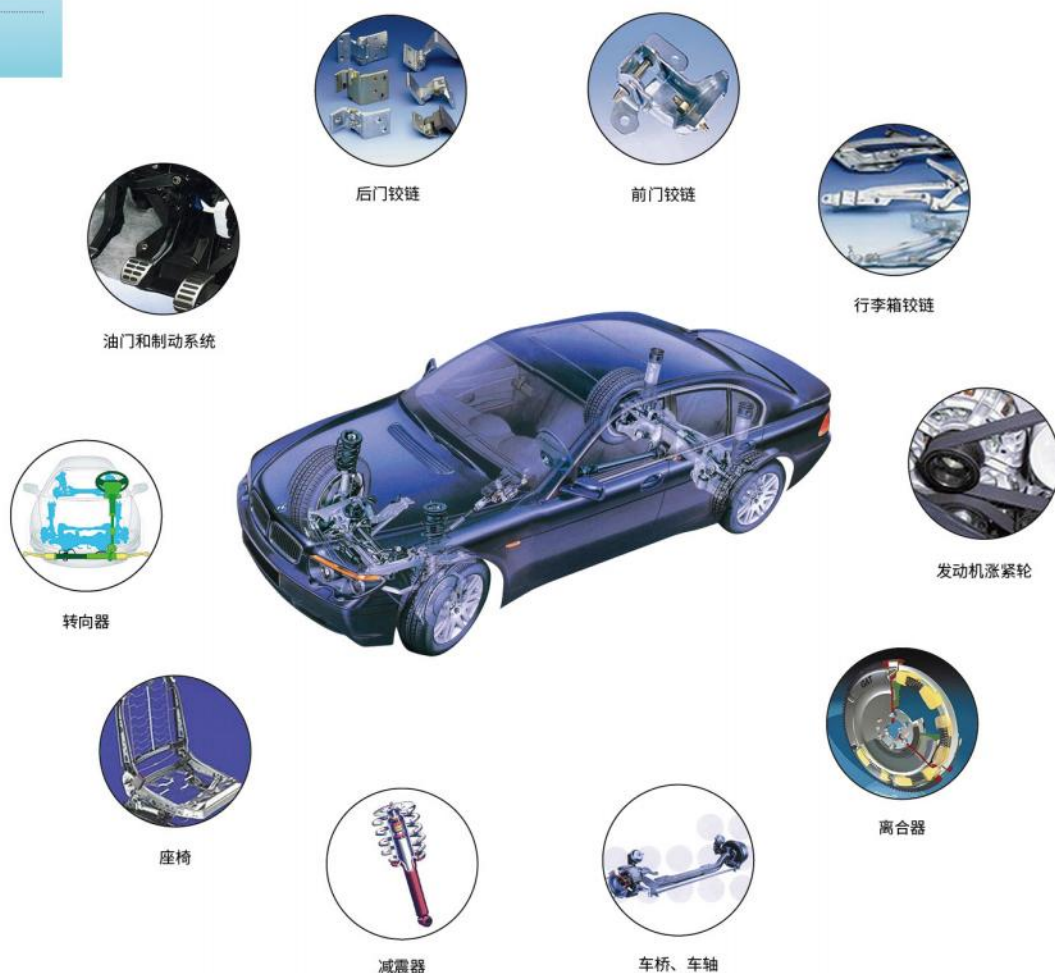
P-71



JCBS, JCBSP
凸轮底部导板
JCBS, JCBSP Oilless Cam Bstroke Guide Plate

P-72

未完待续...
To be continued...



CRB-10 碳钢基自润滑轴套

CRB-10 Carbon Steel Self-lubricating Bushes



该产品以优质低碳钢为基体，中间烧结球形青铜层，表面轧制聚四氟乙烯(PTFE)的混合物。它具有较好的自润滑、耐磨损、摩擦系数低、走合性能好、低噪音等性能，产品广泛应用于各种机械的滑动部位。

CRB-10 carbon steel self-lubricating bearings, used high quality low-carbon steel plate as base, sintered porous bronze as its interlayer and the compound of PTFE as its surface. It offers the property of good self-lubrication, low wear, low friction, good sliding characteristics, low noise.

应用特点 Application Feature

1. 无油润滑或少油润滑，适用于无法加油或较难加油的场合，可以在使用时不保养或少保养；
2. 耐磨性能好，摩擦系数小，使用寿命长；
3. 可在-195℃~+280℃范围内使用；
4. 走合性能好，低噪音，无污染；
5. 薄壁结构，质量轻，可缩小机械体积；
6. 在运作时能形成转移膜，起到保护对磨轴的作用，无咬轴现象；
7. 对磨轴的硬度要求低，未经调质处理的轴都可使用，从而降低了相关零件的加工难度；
8. 无吸水、吸油性，热膨胀系数小，散热性好，尺寸稳定；
9. 钢背面可电镀多种金属，因此可在腐蚀性介质中使用，不会生锈；

目前已广泛应用于各种机械的滑动部位，如自动化机械设备(伸缩、摇摆、滑动、弯曲、回旋、回转部位)油压气缸导套、齿轮泵、纺织机械、自动售货机、塑胶成型机、压铸机、橡胶机械、烟草机、健身器材、办公机械、液压搬运车、汽机车、摩托车、农林机械等。

1. Working under oilless or minim oil state, maintenance free or just need a little maintenance.
 2. Resist Abrasion, low coefficient of friction long operating life.
 3. Operating in -195℃~+280℃.
 4. Good mending, low-noise, non-pollution.
 5. Thin-walled structure, light in weight, which can reduce the machine to small size.
 6. Forming a transferred film during operation to protect shaft and trouble free.
 7. Low demand to the shaft even no surface hardness treatment, which lower the cost of the mating components.
 8. No absorption to water/oil, small coefficient of Thermal emption, good thermal conductivity and size stability.
 9. The back of the steel strip can be plated with various metals, anti-corrosion.
- The products have been used in sliding components of different machines, such as auto machines, piston pump, gear pump, textile machine, auto-sides machine, Injection Machine, sports Machine office equipment etc.

技术参数 Technical Data

最大承载 Max.load	静承载 Static	250N/mm ²
	低速运转 Very low speed	140N/mm ²
	旋转、摇摆运动 Roatating oscillating	60N/mm ²
最大PV值 (干摩擦) Max. PV (dry running)	间断性运作 Short-term operation	3.6N/mm ² ·m/s
	长期运作 Continuous operation	1.8N/mm ² ·m/s
使用温度 Temp. limit		-195℃~+280℃
摩擦系数 Friction coefficient		0.05~0.20μ
最大线速度 Max. speed	干摩擦 Dry running	2m/s
	流体润滑 Hydrodynamic operation	>2m/s
导热系数 Thermal conductivity		42 W/(m·k) ⁻¹
线胀系数 Coefficient of thermal expansion		11×10 ⁻⁶ ·K ⁻¹



材料组织 Material Structure



1. 聚四氟乙烯与纤维混合物0.01-0.03mm
 2. 球形青铜粉0.2-0.3mm
 3. 钢背0.7-2.3mm
 4. 电镀层:镀锡层厚0.005mm, 或镀铜层厚0.008mm
1. PTFE with fiber 0.01~0.03mm
 2. Porous bronze 0.2~0.3mm
 3. Steel backing 0.7~2.3mm
 4. Tin-plating 0.005mm or copper plating 0.008mm

可供非标产品:

直套，翻边轴套，止推垫片，板材，轴瓦，滑板，钢套组合件。

Non-Standard Size:

Stright Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

CRB-11 铜基无铅自润滑轴套

CRB-11 Bronze Pb-free Self-lubricating Bushes

CRB-11青铜基轴承，是以锡青铜为基体，中间烧结青铜球粉，表面轧制聚四氟乙烯(PTFE)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。目前已广泛应用于冶金钢铁工业，连铸机方坯滚道、高温炉前设备，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。桥梁支座滑动部位，就是采用CRB-11耐磨层加厚的产品以取代纯PTFE板，达到130N/mm²轴载使用的要求。

CRB-11 is one of high safety factor, and particularly appropriate for high temperature environment where no oil is efficient 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 conveyers for cement. It can also be composed in steel housing or fabricated into Flanged bushes which can move both in radial and in axial directions.

It can be applied in bridge bearing plate because of thicker inner surface layer to arrive 130N/mm².

应用特点 Application Feature

1. 聚四氟乙烯与亲油性纤维混合物在运动时可形成很好的转移膜保护对磨轴。
2. 烧结层与铜基板具有良好的导热性，可迅速转移运作过程中产生的热量。
3. 铜具有自润滑性能，可用于长期运作而无法停机检修的部位。
4. 基体铜具有良好的抗腐蚀能力，可应用于弱酸、强碱场合。
5. 具有良好的承载能力。
6. 产品已广泛应用于冶金钢铁工业、高温炉钢环部位、水泥灌浆泵、螺旋式输送机、港口机械及船舶机械上等。
7. 可在外部组合钢套；或制成翻边，达到内孔、端面同时使用的效果。

1. PTFE and lipophilic Fiber can protect the shaft, while the machine in operation.
2. Bronze have good thermal conductivity, it'll divert heat while the machine operating.
3. It can be applied in the machine, working long time, which examine and repair is incapable, because the bronze can lubricate itself.
4. It is used in the feeble acid and alkali condition because of good anti-corrosion of bronze backing.
5. Good load capacity.
6. It is widely used in steel metallurgy industry, such as bushes for roller grooves of successive casting machines, cement grouting pumps and screw conveyers of machine.
7. It can be composed in steel housing, or fabricated into flanged bushes which result in function for motion both on flange and I.D.

技术参数 Technical Data

最大承载 Max. load	静承载 Static	250N/mm ²
	低速运转 Very low speed	140N/mm ²
	旋转、摇摆运动 Rotating oscillating	60N/mm ²
最大PV值 (干摩擦) Max. PV (dry running)	间断性运作 Short-term operation	3.6N/mm ² ·m/s
	长期运作 Continuous operation	1.8N/mm ² ·m/s
使用温度 Temp. limit		-195°C~+280°C
摩擦系数 Friction coefficient		0.03~0.20μ
最大线速度 Max. speed	干摩擦 Dry running	2m/s
	流体润滑 Hydrodynamic operation	>2m/s
导热系数 Thermal conductivity		60 W/(m·K) ⁻¹
线胀系数 Coefficient of thermal expansion		18 × 10 ⁻⁶ ·K ⁻¹



材料组织 Material Structure



1. 聚四氟乙烯与亲油性纤维混合物
0.01-0.03mm
2. 球形青铜粉0.2-0.3mm
3. 铜背0.7-2.3mm

1. PTFE with Fiber 0.01~0.03mm
2. Porous bronze 0.2~0.3mm
3. Bronze backing 0.7~2.3mm

可供非标产品:

直套，翻边轴套，止推垫片，板材，轴瓦，滑板，钢套组合件。

Non-Standard Size:

Straight Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

尺寸公差参照CRB-10, P:08、09

CRB-30 不锈钢基无给油轴承 CRB-30 Stainless Steel Oilless Bearings



不锈钢基板+铜粉+PTFE Stainless steel+Bronze powder+PTFE

适用于无法加油或较难加油的工作部位，耐磨性能好、摩擦系数小、使用寿命长；走合性能好、低噪音、无污染、耐磨蚀性好；运转中形成的转移膜起到保护对磨轴的作用，无咬轴现象；由于基板是不锈钢，因此比CRB-10/11具有更好的耐腐蚀性。

Suitable for dry running, low coefficient of friction, lower wear, good sliding characteristics, forming a transfer film can protect the mating metal surface, suitable for rotary and oscillating movement. Stainless steel backing provides improved corrosion resistance.



尺寸公差参照CRB-10, P:08、09

技术参数 Tech. Data

最大承载 Max. load	静承载 Static	250N/mm ²	使用温度 Temp.	-195°C~+280°C
	动承载 Dynamic	140N/mm ²	摩擦系数 Friction coefficient	0.03~0.20
最高线速度 Max. speed	干 Dry	2m/s	导热系数 Thermal conductivity	42W (m*k) ⁻¹
	流体 Lubrication	>2m/s		
最大PV (干) Max. PV (Dry)	短时间 Short-time	3.6N/mm ² ·m/s	热膨胀系数 Coefficient of thermal expansion	15*10 ⁻⁶ K ⁻¹
	连续 Continuous	1.8N/mm ² ·m/s		

CRB-40 碳钢基无铅无给油轴承 CRB-40 Carbon Steel Oilless Bearings

碳钢基板+铜粉+PTFE/纤维 Steel+Bronze powder+PTFE/fibre

液压专用轴承，是在CRB-10的基础上结合油缸及减震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，该产品队具有CRB10的优点外，特别适用于往复频繁的大侧向力场合，其性能与国外DP4相似，目前该产品逐步替代SF-1产品。

(也称为SF-1D或DP4)

CRB-40 is developed for high duty,oil lubricated,hydraulic applications;
With excellent wear resistance and low static/dynamic friction coefficient,special suitable for frequently reciprocating motion,with or without the strong stocks from side directions.

(also known as SF-1D or similar to DP4)



尺寸公差参照CRB-10, P:08、09

技术参数 Tech. Data

最大承载 Max. load	静承载 Static	250N/mm ²	使用温度 Temp.	-195°C~+280°C
	动承载 Dynamic	140N/mm ²	摩擦系数 Friction coefficient	0.03~0.20
最高线速度 Max. speed	干 Dry	2m/s	导热系数 Thermal conductivity	42W (m*k) ⁻¹
	流体 Lubrication	>2m/s		
最大PV (干) Max. PV (Dry)	短时间 Short-time	3.6N/mm ² ·m/s	热膨胀系数 Coefficient of thermal expansion	11*10 ⁻⁶ K ⁻¹
	连续 Continuous	1.8N/mm ² ·m/s		

CRB-LBP 不锈钢基冲孔无给油轴承 CRB-LBP Metal mesh with PTFE layer bearings

不锈钢冲孔基+PTFE Stainless steel mesh +PTFE layer

基材特性 Material Features

CRB-LBP以规则不锈钢网为基材，表面附着以PTFE为主的耐磨材料。产品广泛运用于化工行业、食品工业、港口机械等，如化工阀门，需在海水中润滑的部件等。此产品大大提高了耐腐蚀性，耐强酸、强碱性，而且又起到了自润滑的效果。

CRB-LBP consists of a stainless steel mesh shell laminated with compounded PTFE tape. This material structure enables the final goods have more light. The stainless steel provides good corrosion resistance. It is widely been used in chemical industries like chemical valves, medical industries, food industries, Port Machinery etc.



技术参数 Tech. Data

技术参数 Tech. Data		
最大承载 Max. load	静承载 Static	80N/mm ²
	动承载 Dynamic	40N/mm ²
最高线速度 Max. speed	干 Dry	1m/s
	油 Oil	>1m/s
使用温度 Temp.		-195°C~+260°C
摩擦系数 Friction coefficient		0.03~0.20

标准壁厚	0.80mm	+0.10 0
	1.20mm	0.75
	1.63mm	0 -0.18

尺寸可以按照图纸加工

碳钢基+PTFE织物 Steel+PTFE fibre woven

该材料以各种优质金属为基体，表面覆着以PTFE和其它添加剂为主的低磨擦耐磨编织物材料。这种材料结构相比一般三层复合材料具有更高的承载能力和更长的使用寿命。基材可以为低碳钢(CRB-TEX)、不锈钢(CRB-TEX3)、铜(CRB-TEXB)等。主要运用于农用机械、建筑机械、汽机车底盘零部件、球阀、蝶阀各种阀门，水泵及化工工业等重载低速而无法加油的场合。

This new material use the PTFE fibre fabric overlay on metal backings, the fabric have very high load capacity and much longer operating life compare with conventional 3-layer bushes. The metal can be carbon steel(CRB-TEX). stainless steel(CRB-TEX3), bronze(CRB-TEXB)etc. Now have been used IIKe suspenslon and auxiliary of agriculture and construction machines. cranes and hydraulic and mechanical jibs, ball butterfly and sluice valves, water pumps. chemical industries etc.



技术参数 Tech. Data

最大承载 Max. load	静承载 Static	350N/mm ²
	动承载 Dynamic	180N/mm ²
最高线速度 Max. speed	干 Dry	0.5m/s
	流体 Lubrication	>2m/s
最大PV (干) Max. PV (Dry)	短时间 Short-time	3.6N/mm ² ·m/s
	连续 Continuous	1.8N/mm ² ·m/s
使用温度 Temp.		-50°C~+250°C
摩擦系数 Friction coefficient		0.03~0.20
导热系数 Thermal conductivity		42W (m*k) ⁻¹
热膨胀系数 Coefficient of thermal expansion		11*10 ⁻⁶ K ⁻¹

尺寸公差参照CRB-10, P: 08、09

CRB-FR 铜网+PTFE/固体润滑剂 Bronze mesh+PTFE/Solid lubricants

碳钢基+PTFE织物 Steel+PTFE fibre woven

CRB-FR 以金属铜网为基材，内填充以PTFE为主的耐磨材料，这种材料结构使产品的重量更轻，安装更方便。目前被广泛运用于化工行业、食品工业、阀门控制机构、办公事物机械、纺织机械、汽车门窗铰链等轻载低速但需要自润滑的场合。

CRB-FR consists of a bronze mesh shell, filled with PTFE and solid lubricants. This material structure enables the bearing to be lighter and easier to install. It is widely used for light load and lower speed applications such as chemical industries, medical industries, food industries, textile machines, OA machines, door and window hinges, valve controllers etc.



技术参数 Tech. Data

最大承载 Max. load	静承载 Static	80N/mm ²
	动承载 Dynamic	40N/mm ²
最高线速度 Max. speed	干 Dry	1m/s
	油 Oil	>1m/s
使用温度 Temp.		-195°C~+260°C
摩擦系数 Friction coefficient		0.03~0.20

CRB850BM 钢基铜合金弥散型固体润滑轴承 Metal backed bronze powder with solid lubricants



金属基+铜合金粉+固体润滑剂 Metal Base+Bronze Powder with Graphite

CRB850BM以金属基为基体表面烧结含有固体润滑剂的铜合金粉，由于润滑剂弥散于工作表面因此润滑性更为充分。适用于高载低速而无法加油或无法形成润滑膜の場合，并具有较好的耐酸、碱性。产品被广泛用于水轮机、注塑机、汽车轮胎模具等。

CRB850BM metal backed bronze with graphite lined bearing materials, sintered layers are of special copper alloy containing uniformly dispersed solid lubricants. Suitable for hostile environments, for high load application which lubrication is difficult. Now CRB850BM been widely used in water turbines, injection molding machinery, packing machines, construction equipment, tire moulds etc.



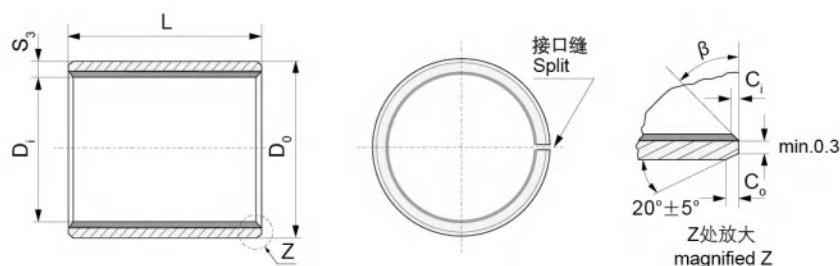
技术参数 Tech. Data

CRB标准 CRB standard 金属基材 Backing Metal		CRB850BM1	CRB850BM2	CRB850BM3	CRB850BM4
		碳钢 steel	碳钢 steel	不锈钢 S316	铜 Bronze
耐磨层 Lining layer	成份 Composition	CuSn12	CuSn10Pb10	CuSn12	CuSn12
	固体润滑剂 Solid Lubricants	6%	6%	6%	6%
	硬度 Hardness	>40HB	>40HB	>40HB	>40HB
	压缩变形 Compression deformation 150Mpa	<0.005mm	<0.005mm	<0.005mm	<0.005mm
最大承载 Max. Load	静承载 Static	150N/mm2	120N/mm2	150N/mm2	150N/mm2
	动承载 Dynamic	100N/mm2	80N/mm2	100N/mm2	100N/mm2
最大线速度	Max. Speed	0.5m/s	0.5m/s	0.5m/s	0.5m/s
最大PV	Max. PV N/mm2*m/s	1.5	1.5	1.5	1.5
摩擦因数	Coefficient of friction	0.05~0.2	0.03~0.2	0.05~0.2	0.05~0.2
使用温度℃	Temp.℃	-195~+280	-195~+280	-195~+280	-195~+280



CRB-10(SF-1) 轴套规格及公差

CRB-10(SF-1) Sleeve Bushing Specification & Tolerance



内外倒角 ID and OD chamfers

S_3	C_0	C_1	β
0.75	0.5 ± 0.3	0.25 ± 0.2	$30^\circ \pm 5^\circ$
1.00	0.6 ± 0.3	0.30 ± 0.2	$30^\circ \pm 5^\circ$
1.50	0.7 ± 0.3	0.50 ± 0.3	$30^\circ \pm 5^\circ$

S_3	C_0	C_1	β
2.00	1.2 ± 0.4	0.50 ± 0.3	$30^\circ \pm 5^\circ$
2.50	1.8 ± 0.6	0.60 ± 0.3	$45^\circ \pm 5^\circ$

单位Unit: mm

轴径(f7) Shaft D_s	座孔(H7) Housing D_H	(OD) 外径公差 Tolerance D_0	(ID)压装后 内孔公差 After fixed $D_{i,a}$	配合间隙 Clearance D_0	壁厚 Wall thick- ness S_3	长度 L ($d \leq \Phi 28$ L-0.30 $d > \Phi 30$ L-0.40)									
						6	8	10	12	15	20	25	30	40	50
6	-0.010 -0.022	8	+0.015	8	+0.055 +0.025	6.055 5.990	0.077 0.000								
8	-0.013 -0.028	10	+0.015	10	+0.055 +0.025	8.055 7.990	0.083 0.003								
10	-0.013 -0.028	12	+0.018	12	+0.065 +0.030	10.058 9.990	0.086 0.003								
12	-0.016 -0.034	14	+0.018	14	+0.065 +0.030	12.058 11.990									
13	-0.016 -0.034	15	+0.018	15	+0.065 +0.030	13.058 12.990									
14	-0.016 -0.034	16	+0.018	16	+0.065 +0.030	14.058 13.990									
15	-0.016 -0.034	17	+0.018	17	+0.065 +0.030	15.058 14.990									
16	-0.016 -0.034	18	+0.018	18	+0.065 +0.030	16.058 15.990									
17	-0.016 -0.034	19	+0.021	19	+0.075 +0.035	17.061 16.990									
18	-0.016 -0.034	20	+0.021	20	+0.075 +0.035	18.061 17.990									
20	-0.020 -0.041	23	+0.021	23	+0.075 +0.035	20.071 19.990									
22	-0.020 -0.041	25	+0.021	25	+0.075 +0.035	22.071 21.990									
24	-0.020 -0.041	27	+0.021	27	+0.075 +0.035	24.071 23.990									
25	-0.020 -0.041	28	+0.021	28	+0.075 +0.035	25.071 24.990									
28	-0.020 -0.041	32	+0.025	32	+0.085 +0.045	28.085 27.990									
30	-0.020 -0.041	34	+0.025	34	+0.085 +0.045	30.085 29.990									
32	-0.025 -0.050	36	+0.025	36	+0.085 +0.045	32.085 31.990									
35	-0.025 -0.050	39	+0.025	39	+0.085 +0.045	35.085 34.990									
38	-0.025 -0.050	42	+0.025	42	+0.085 +0.045	38.085 37.990									
40	-0.025 -0.050	44	+0.025	44	+0.085 +0.045	40.085 39.990									

CRB-10(SF-1) 轴套规格及公差

CRB-10(SF-1) Sleeve Bushing Specification & Tolerance

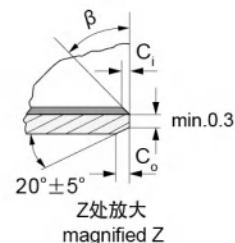
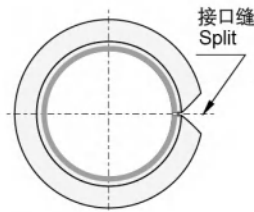
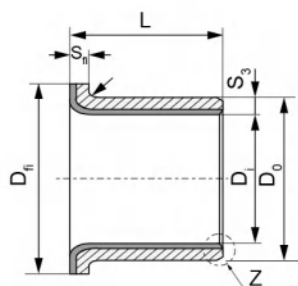


单位Unit: mm

轴径(f7) Shaft D _s	座孔(H7) Housing D _H	(OD) 外径公差 Tolerance D _O	(ID)压装后 内孔公差 After fixed D _{I,a}	配合间隙 Clearance D _D	壁厚 Wall thick- ness S ₃	长度 L									
						20	25	30	40	50	60	70	80	100	115
45 -0.050 -0.025	50 +0.025	50 +0.085 +0.045	45.105 44.990	0.155 0.015	2.505 2.460	4520	4525	4530	4540	4550					
50 -0.050 -0.025	55 +0.030	55 +0.100 +0.055	50.110 49.990	0.160 0.015		5020	5025	5030	5040	5050	5060				
55 -0.060 -0.030	60 +0.030	60 +0.100 +0.055	55.110 54.990	0.170 0.020				5530	5540	5550	5560				
60 -0.060 -0.030	65 +0.030	65 +0.100 +0.055	60.110 59.990					6030	6040	6050	6060	6070			
65 -0.060 -0.030	70 +0.030	70 +0.100 +0.055	65.110 64.990					6530	6540	6550	6560	6570			
70 -0.060 -0.030	75 +0.030	75 +0.100 +0.055	70.110 69.990					7030	7040	7050	7060	7070	7080		
75 -0.060 -0.030	80 +0.030	80 +0.100 +0.055	75.110 74.990					7530	7540	7550	7560	7570	7580		
80 -0.045	85 +0.035	85 +0.120 +0.070	80.155 80.020	0.201 0.020	2.490 2.440				8040	8050	8060	8070	8080	80100	
85 -0.054	90 +0.035	90 +0.120 +0.070	85.155 85.020	0.209 0.020					8540	8550	8560	8570	8580	85100	
90 -0.054	95 +0.035	95 +0.120 +0.070	90.155 90.020						9040	9050	9060	9070	9080	90100	
95 -0.054	100 +0.035	100 +0.120 +0.070	95.155 95.020							9550	9560	9570	9580	95100	
100 -0.054	105 +0.035	105 +0.120 +0.070	100.155 100.020							10050	10060	10070	10080	100100	100115
105 -0.054	110 +0.035	110 +0.120 +0.070	105.155 105.020								10560	10570	10580	105100	105115
110 -0.054	115 +0.035	115 +0.120 +0.070	110.115 110.020								11060	11070	11080	110100	110115
120 -0.054	125 +0.040	125 +0.170 +0.100	120.210 120.070	0.264 0.070	2.465 2.415						12060	12070	12080	120100	120115
125 -0.063	130 +0.040	130 +0.170 +0.100	125.210 125.070	0.273 0.070							12560	12570	12580	125100	125115
130 -0.063	135 +0.040	135 +0.170 +0.100	130.210 130.070								13060	13070	13080	130100	130115
140 -0.063	145 +0.040	145 +0.170 +0.100	140.210 140.070								14060	14070	14080	140100	140115
150 -0.063	155 +0.040	155 +0.170 +0.100	150.210 150.070								15060	15070	15080	150100	150115
160 -0.063	165 +0.040	165 +0.170 +0.100	160.210 160.070								16060	16070	16080	160100	160115
180 -0.063	185 +0.046	185 +0.210 +0.130	180.216 180.070	0.279 0.070	2.465 2.415						18060	18070	18080	180100	
190 -0.072	195 +0.046	195 +0.210 +0.130	190.216 190.070	0.288 0.070							19060	19070	19080	190100	
200 -0.072	205 +0.046	205 +0.210 +0.130	200.016 200.070								20060	20070	20080	200100	
220 -0.072	225 +0.046	225 +0.210 +0.130	220.216 220.070								22060	22070	22080	220100	
250 -0.072	255 +0.052	255 +0.260 +0.170	250.222 250.070	0.294 0.070	2.465 2.415								25080	250100	
260 -0.081	265 +0.052	265 +0.260 +0.170	260.222 260.070	0.303 0.070									26080	260100	
280 -0.081	285 +0.052	285 +0.260 +0.170	280.222 280.070										28080	280100	
300 -0.081	305 +0.052	305 +0.260 +0.170	300.222 300.070										30080	300100	

CRB-10F(SF-1F) 翻边轴套规格及公差

CRB-10F(SF-1F) Flange Bushing Specification & Tolerance



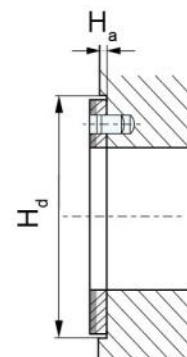
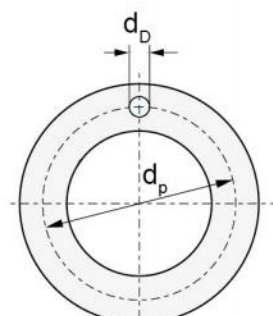
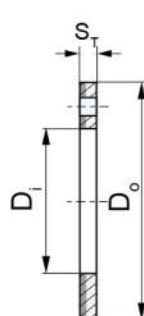
S ₃	1.0	1.5	2.0	2.5
r	1 ^{-0.5}	1±0.5	1.5±0.5	2±0.5

单位Unit: mm

轴径(f7) Shaft D _s	座孔(H7) Housing D _H	(OD) 外径公差 Tolerance D _O	(ID)压装后 内孔公差 After fixed D _{i,a}	配合间隙 Clearance C _O	Designation 型号规格	壁厚 Wall thickness S ₃	尺寸 Dimension				
							D _i	D _O	D _{fi} ±0.5	L±0.25	S _{fi} -0.2
6 -0.013 -0.028	8 +0.015	8 +0.055 +0.025	6.055 5.990	0.077 0.000	CRB-10F06040	1.005 0.980	6	8	12	4	1
					CRB-10F06070					7	
8 -0.013 -0.028	10 +0.015	10 +0.055 +0.025	8.055 7.990	0.083 0.003	CRB-10F08055		8	10	15	5.5	
					CRB-10F08075					7.5	
10 -0.016 -0.034	12 +0.018	12 +0.055 +0.025	10.058 9.990	0.086 0.003	CRB-10F10070		10	12	18	7	
					CRB-10F10090					9	
					CRB-10F10120					12	
					CRB-10F12070					7	
12 -0.016 -0.034	14 +0.018	14 +0.065 +0.030	12.058 11.990	0.092 0.006	CRB-10F12090		12	14	20	9	
					CRB-10F12120					12	
					CRB-10F14120					12	
14 -0.016 -0.034	16 +0.018	16 +0.065 +0.030	14.058 13.990		CRB-10F14170		14	16	22	12	
					CRB-10F15090					17	
					CRB-10F15120					9	
15 -0.016 -0.034	17 +0.018	17 +0.065 +0.030	15.058 14.990		CRB-10F15170		15	17	23	12	
					CRB-10F16120					17	
					CRB-10F16170					12	
16 -0.016 -0.034	18 +0.018	18 +0.065 +0.030	16.058 15.990		0.095 0.006		CRB-10F18120	16	18	24	
				CRB-10F18170			12				
18 -0.016 -0.034	20 +0.021	20 +0.075 +0.035	18.061 17.990	CRB-10F18200			18	20	26	17	
					20						
				20 -0.020 -0.041	23 +0.021	23 +0.075 +0.035				20.071 19.990	0.112 0.010
CRB-10F20165	16.5										
CRB-10F20215	21.5										
22 -0.020 -0.041	25 +0.021	25 +0.075 +0.035	22.071 21.990	CRB-10F22150	22	25	32	15			
				CRB-10F22200				20			
25 -0.020 -0.041	28 +0.021	28 +0.075 +0.035	25.071 24.990	CRB-10F25115	25	28	35	11.5			
				CRB-10F25165				16.5			
				CRB-10F25215				21.5			
30 -0.025 -0.050	34 +0.025	34 +0.075 +0.035	30.085 29.990	0.126 0.010	CRB-10F30160	2.005 1.970	30	34	42	16	
					CRB-10F30260					26	
35 -0.025 -0.050	39 +0.025	39 +0.085 +0.045	35.085 34.990	0.135 0.015	CRB-10F35160		35	39	47	16	
					CRB-10F35260					26	
40 -0.025 -0.050	44 +0.025	44 +0.085 +0.045	40.085 39.990		CRB-10F40260		40	44	53	26	
					CRB-10F40400					40	

CRB-10WC 垫片规格及公差

CRB-10WC Thrust Washer Specification & Tolerance

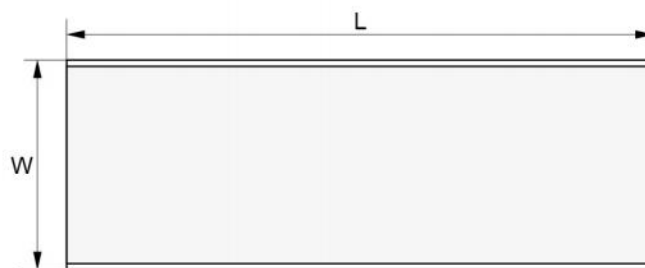
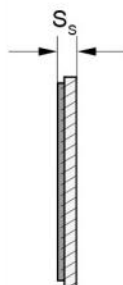


单位Unit: mm

轴径 Shaft D _s	型号规格 Standard No.	垫片尺寸 Washer size				安装尺寸 Assemble size			H _d +0.12
		D _i +0.25	D _o -0.25	S _T -0.05	d _p ±0.125	d _D	+0.4 +0.1	H _a ±0.2	
8	W10	10	20	1.5	15	1.5	1	20	
10	W12	12	24		18			24	
12	W14	14	26		20			26	
14	W16	16	30		23	2		30	
16	W18	18	32		25			32	
18	W20	20	36		28			36	
20	W22	22	38		30	3		38	
22	W24	24	42		33			42	
24	W26	26	44		35			44	
26	W28	28	48		38	4		48	
30	W32	32	54		43			54	
36	W38	38	62		50			62	
40	W42	42	66		54	1.5		66	
46	W48	48	74	61	74				
50	W52	52	78	65	78				
60	W62	62	90	76	90				

CRB-10SP 板材规格及公差

CRB-10SP Strip Specification & Tolerance



单位Unit: mm

型号规格 Standard No.	长度 L±1	宽度 W±1	厚壁 Wall thickness S _s -0.05
SP	500	150	1.0
SP	500	150	1.5
SP	500	150	2.0
SP	500	150	2.5

CRB-20Y 边界无铅自润滑轴套

CRB-20Y Marginal Pb-free Self-lubricating Bushes

在边界润滑条件下可长期使用而不加油，耐磨层表面有储油坑。产品广泛应用于冶金机械、矿山机械、水利机械、汽机车、建筑机械、农用机械、轧钢行业等。

It can work for certain long time without oil in the condition of prelubricated with lubrication indents. Widely applied in metallurgy machinery, Mining machinery, water conservancy machinery, automobile, building machinery, agriculture machinery, rolling steel industry etc.

应用特点 Application Feature

1. 承载好，耐磨性能良好。 2. 适用于高载低速下的旋转运动、摇摆运动及经常在载荷下启闭频繁而不易形成流体动力润滑的场合。 3. 在边界润滑条件下可长期不加油保养，而在过层中加油使轴承使用寿命更长。 4. 表面塑料层在加工成型时可留一定的余量，装配压入座孔后可自行加工，以达到更好的装配尺寸。 5. 产品主要应用于汽车底盘、冶金机械、矿山机械、水利机械、建筑机械、农用机械、轧钢设备等。 6. 因其不含铅，故可广泛应用于无铅领域。

1. Good load capacity and anti-wear. 2. It is used in high load capacities and low speed with rotational, oscillating or frequent stop-start motion. 3. It can work for a long time without oil in the condition of boundary lubrication, under oil or grease lubrication interval, the working-life will be longer. 4. It is machinable for the thicker of POM. 5. The bushes can be applied in auto chassis, forging machine, metallurgical, civil engineering, power station, strip rolling industries etc. 6. CRB-20Y is widely used in the machine where Lead is unacceptable.

技术参数 Technical Data

最大承载 Max. load	静承载 Static	250N/mm ²
	低速运转 Very low speed	140N/mm ²
	旋转、摇摆运动 Rotating oscillating	70N/mm ²
最大PV值（干摩擦）Max. PV (dry running)		3N/mm ² ·m/s
使用温度 Temp. limit	-40°C~+110°C	
摩擦系数 Friction coefficient	0.05~0.20μ	
最大线速度 Max. speed	脂润滑 Grease Lubrication	2m/s
	持续给油 Oil continued to	>2m/s
导热系数 Thermal conductivity		4W/(m·K) ⁻¹
线胀系数 Coefficient of thermal expansion		11×10 ⁻⁶ ·K ⁻¹
最初装配时必须在油穴中涂满润滑油脂 Initial pre-lubrication at assembly is strongly recommended		



材料组织 Material Structure



1. 聚甲醛与纤维混合物0.3-0.5mm
2. 球形青铜粉0.2-0.3mm
3. 钢背0.4-2.2mm
4. 电镀层：镀锡层厚0.005mm
或镀铜层厚0.008mm

1. POM with fiber 0.3~0.5mm
2. Porous bronze 0.2~0.3mm
3. Steel backing 0.4~2.2mm
4. Plated coating: Tin plating 0.005mm or
Copper plating 0.008mm

可供非标产品：

直套，止推垫片，板材，轴瓦，滑板，钢套组合件。

Non-Standard Size:

Stright Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

1. PEEK+PTFE 0.30~0.50mm 聚醚醚酮与PTFE的混合物，具有很好的耐磨性能和较低的摩擦系数，表面有规律的储油穴排布可以确保油脂的最佳分布。
2. 铜粉层0.20~0.35mm，具有很好的承载能力和耐磨性，良好的导热性能可及时转移轴承运作过程中产生的热量。复合材料可渗入到铜粉球的间隙中，提高了结合强度。
3. 低碳钢，提高轴承的承载能力和热转移作用。
4. 铜/锡电镀层0.002mm，使轴承有很好的耐腐蚀功能。

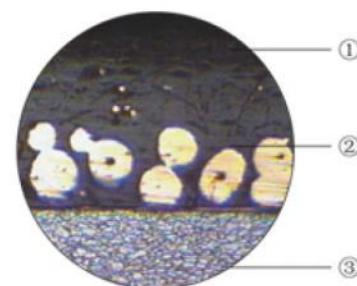
1. PEEK+PTFE 0.30~0.50mm, gives high wear resistance and low friction even only minute quantities of lubricant are supplied. This bearing surface carries a pattern of circular indents which should be filled with grease on assembly of the bearing.
2. Bronze layer 0.20~0.35mm, provides max. thermal conductivity away from the bearing surface, also serves as a reservoir for the PTFE/PEEK mixture.
3. Steel backing, provides mechanical strength and high load carrying capacity.
4. Copper/Tin plating 0.002mm, provides good corrosion resistance.

适用于边界自润滑下长期使用而无需维护；建议初始油脂润滑，轴承表面的储油穴可以保证最佳的油脂分布，而过程加油可以大大提高产品的使用寿命；适用于重载低速下的旋转运动和摇摆运动；优秀的承载能力，较低的摩擦系数和很低的耐磨率；无吸水性和吸油性，尺寸稳定；轴承在压装后可以再次加工以得到更好的公差。

Applied in boundary lubricating with maintenance free operation, the bearing surface carries a pattern of circular indents which should be filled with grease on assembly initially, the cyclical greasing can greatly extension the bearing service life. High static and dynamic load capacity suitable for rotating, oscillating and sliding movement, the bearing lining can be machinable after fixed.



材料组织 Material Structure



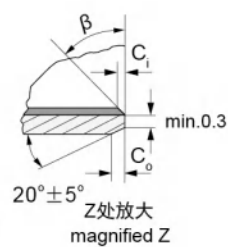
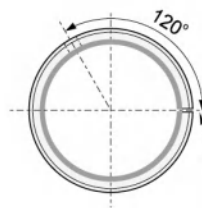
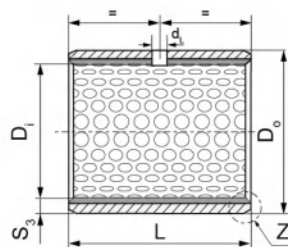
技术参数 Tech. Data

最大承载 Max. load	静承载 Static	250N/mm ²	使用温度 Temp.	-150°C~+250°C
	动承载 Dynamic	140N/mm ²	摩擦系数 Friction coefficient	0.03~0.20
最高线速度 Max. speed	脂润滑 Grease	2m/s	导热系数 Thermal conductivity	4W (m*k) ⁻¹
	流体润滑 Oil lubrication	>2m/s		
最大PV (干) Max. PV (Dry)	短时间 Short-time	3.6N/mm ² ·m/s	热膨胀系数 Coefficient of thermal expansion	11*10 ⁻⁶ K ⁻¹
	连续 Continuous	1.8N/mm ² ·m/s		

尺寸公差参照CRB-20Y, P: 14、15

CRB-20Y(SF-2Y) 轴承规格及公差

CRB-20Y(SF-2Y) Sleeve Bushing Specification & Tolerance



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
1.0	0.6 ± 0.3	0.30 ± 0.2	$30^\circ \pm 5^\circ$
1.5	0.7 ± 0.3	0.50 ± 0.2	$30^\circ \pm 5^\circ$

S_3	C_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	$30^\circ \pm 5^\circ$
2.50	1.8 ± 0.6	0.80 ± 0.3	$45^\circ \pm 5^\circ$

单位Unit: mm

轴径 Shaft D _s h8	座孔 Housing H7 D _H	(OD) 外径公差 Tolerance D _O	(ID)压装后 内孔公差 After fixed D _{i,a}	配合间隙 Clearance D _O	壁厚 Wall thick- ness S ₃	油孔 Oil hole d _L	长度 L ⁰ -0.40												
							10	15	20	25	30	35	40	45	50	60			
10 _{-0.022}	12 ^{+0.018}	12 _{+0.065 +0.030}	10.108 10.040	0.130 0.040	0.980 0.955	4	1010	1015	1020										
12 _{-0.027}	14 ^{+0.018}	14 _{+0.065 +0.030}	12.108 12.040	0.135 0.040			1210	1215	1220										
14 _{-0.027}	16 ^{+0.018}	16 _{+0.065 +0.030}	14.108 14.040					1415	1420										
15 _{-0.027}	17 ^{+0.018}	17 _{+0.065 +0.030}	15.108 15.040					1515	1520	1525									
16 _{-0.027}	18 ^{+0.018}	18 _{+0.065 +0.030}	16.108 16.040					1615	1620	1625									
18 _{-0.027}	20 ^{+0.021}	20 _{+0.075 +0.035}	18.111 18.040	0.138 0.040				1815	1820	1825									
20 _{-0.033}	23 ^{+0.021}	23 _{+0.075 +0.035}	20.131 20.050	0.164 0.050	1.475 1.445	6		2015	2020	2025	2030								
22 _{-0.033}	25 ^{+0.021}	25 _{+0.075 +0.035}	22.131 22.050					2215	2220	2225	2230								
25 _{-0.033}	28 ^{+0.021}	28 _{+0.075 +0.035}	25.131 25.050					2515	2520	2525	2530								
28 _{-0.033}	32 ^{+0.025}	32 _{+0.085 +0.045}	28.155 28.060	0.188 0.060	1.970 1.935				2820	2825	2830								
30 _{-0.033}	34 ^{+0.025}	34 _{+0.085 +0.045}	30.155 30.060						3020	3025	3030	3035	3040						
35 _{-0.039}	39 ^{+0.025}	39 _{+0.085 +0.045}	35.155 35.060	0.194 0.060					3520	3525	3530	3535	3540						
40 _{-0.039}	44 ^{+0.025}	44 _{+0.085 +0.045}	40.155 40.060						4020	4025	4030	4035	4040	4045	4050				
45 _{-0.039}	50 ^{+0.025}	50 _{+0.085 +0.045}	45.195 45.080	0.234 0.080	2.460 2.415	8			4520	4525	4530	4535	4540	4545	4550				
50 _{-0.039}	55 ^{+0.030}	55 _{+0.100 +0.055}	50.200 50.080	0.239 0.080							5030	5035	5040	5045	5050	5060			
55 _{-0.046}	60 ^{+0.030}	60 _{+0.100 +0.055}	55.200 55.080	0.246 0.080							5530	5535	5540	5545	5550	5560			
60 _{-0.046}	65 ^{+0.030}	65 _{+0.100 +0.055}	60.200 60.080								6030	6035	6040	6045	6050	6060			

CRB-20Y(SF-2Y)轴承规格及公差

CRB-20Y(SF-2Y) Sleeve Bushing Specification & Tolerance

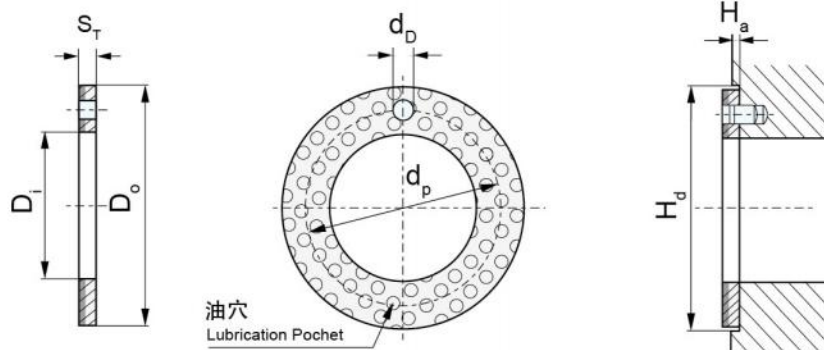


单位Unit: mm

轴径 Shaft D _s h8	座孔 Housing H7 D _H	(OD) 外径公差 Tolerance D _O	(ID)压装后 内孔公差 After fixed D _{I,a}	配合间隙 Clearance D _D	壁厚 Wall thick- ness S ₃	油孔 Oil hole d _L	长度 L ⁰ _{-0.40}										
							40	50	60	80	90	95	100	110	120		
65 _{-0.046}	70 ^{+0.030}	70 ^{+0.100} _{+0.055}	65.200 65.080	0.246 0.080	2.460 2.415	8	6540	6550	6560								
70 _{-0.046}	75 ^{+0.030}	75 ^{+0.100} _{+0.055}	70.200 70.080				7040	7050	7060	7080							
75 _{-0.046}	80 ^{+0.030}	80 ^{+0.100} _{+0.055}	75.200 75.080				7540	7550	7560	7580							
80 _{-0.046}	85 ^{+0.035}	85 ^{+0.120} _{+0.070}	80.265 80.100	0.313 0.100	2.450 2.385	9.5	8040	8050	8060	8080							
85 _{-0.054}	90 ^{+0.035}	90 ^{+0.120} _{+0.070}	85.265 85.100	8540			8550	8560	8580								
90 _{-0.054}	95 ^{+0.035}	95 ^{+0.120} _{+0.070}	90.265 90.100	9040			9050	9060	9080	9090							
100 _{-0.054}	105 ^{+0.035}	105 ^{+0.120} _{+0.070}	100.265 100.100				10050	10060	10080	10090	10095						
105 _{-0.054}	110 ^{+0.035}	110 ^{+0.120} _{+0.070}	105.265 105.100					10550	10560	10580	10590	10595	105100	105110			
110 _{-0.054}	115 ^{+0.035}	115 ^{+0.120} _{+0.070}	110.265 110.110					11050	11060	11080	11090	11095	110100	110110			
120 _{-0.054}	125 ^{+0.040}	125 ^{+0.170} _{+0.100}	120.270 120.110	0.324 0.100					12050	12060	12080	12090	12095	120100	120110		
125 _{-0.063}	130 ^{+0.040}	130 ^{+0.170} _{+0.100}	125.270 125.110						12550	12560	12580	12590	12595	125100	125110		
130 _{-0.063}	135 ^{+0.040}	135 ^{+0.170} _{+0.100}	130.270 130.110						13050	13060	13080	13090	13095	130100	130110		
140 _{-0.063}	145 ^{+0.040}	145 ^{+0.170} _{+0.100}	140.270 140.110						14050	14060	14080	14090	14095	140100	140110		
150 _{-0.063}	155 ^{+0.040}	155 ^{+0.170} _{+0.100}	150.270 150.110						15050	15060	15080	15090	15095	150100	150110		
160 _{-0.063}	165 ^{+0.040}	165 ^{+0.170} _{+0.100}	160.270 160.110				0.339 0.110	9.5		16050	16060	16080	16090	16095	160100	160110	
170 _{-0.063}	175 ^{+0.040}	175 ^{+0.170} _{+0.100}	170.270 170.110								17050	17060	17080	17090	17095	170100	170110
180 _{-0.063}	185 ^{+0.046}	185 ^{+0.210} _{+0.130}	180.276 180.110							18050	18060	18080	18090	18095	180100	180110	
190 _{-0.072}	195 ^{+0.046}	195 ^{+0.210} _{+0.130}	190.276 190.110						19050	19060	19080	19090	19095	190100	190110	190120	
200 _{-0.072}	205 ^{+0.046}	205 ^{+0.210} _{+0.130}	200.276 200.110						20050	20060	20080	20090	20095	200100	200110	200120	
220 _{-0.072}	225 ^{+0.046}	225 ^{+0.210} _{+0.130}	220.276 220.110	0.354 0.110		9.5			22050	22060	22080	22090	22095	220100	220110	220120	
240 _{-0.072}	245 ^{+0.046}	245 ^{+0.210} _{+0.130}	240.276 240.110								24050	24060	24080	24090	24095	240100	240110
250 _{-0.072}	255 ^{+0.052}	255 ^{+0.260} _{+0.170}	250.282 250.110							25050	25060	25080	25090	25095	250100	250110	250120
260 _{-0.081}	265 ^{+0.052}	265 ^{+0.260} _{+0.170}	260.282 260.110							26050	26060	26080	26090	26095	260100	260110	260120
280 _{-0.081}	285 ^{+0.052}	285 ^{+0.260} _{+0.170}	280.282 280.110							28050	28060	28080	28090	28095	280100	280110	280120
300 _{-0.081}	305 ^{+0.052}	305 ^{+0.260} _{+0.170}	300.282 300.110							30050	30060	30080	30090	30095	300100	300110	300120

CRB-20YWC(SF-2YWC) 垫片规格及公差

CRB-20YWC (SF-2YWC) Thrust Washer Specification & Tolerance

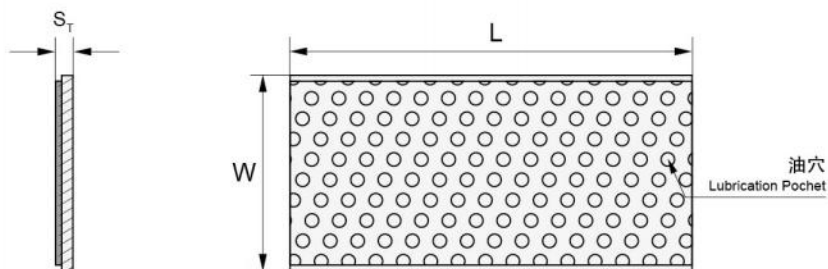


单位Unit: mm

轴径 Shaft D _s	型号规格 Standard No.	垫片尺寸 Washer size				安装尺寸 Assemble size		
		D _i +0.25	D _o -0.25	S _T -0.05	d _p ±0.125	d _o ^{+0.4} _{+0.1}	H _a ±0.2	H _d +0.12
8	W10	10	20	1.5	15	1.5	1	20
10	W12	12	24		18			24
12	W14	14	26		20			26
14	W16	16	30		23	2		30
16	W18	18	32		25			32
18	W20	20	36		28	3		36
20	W22	22	38		30			38
22	W24	24	42		33			42
24	W26	26	44		35			44
26	W28	28	48		38	4		48
30	W32	32	54		43			54
36	W38	38	62		50			62
40	W42	42	66		54			66
46	W48	48	74	2	61	1.5	74	
50	W52	52	78		65		78	
60	W62	62	90		76		90	

CRB-20YSP(SF-2YSP) 板材标准公制尺寸

CRB-20YSP(SF-2YSP) Strip Standard Metric Size



单位Unit: mm

型号规格 Standard No.	长度 $L \pm 1$	宽度 $W \pm 1$	厚壁 Wall thickness $S_s - 0.05$
P	500	150	1.0
P	500	150	1.5
P	500	150	2.0
P	500	150	2.5

JF800 双金属自润滑轴套

JF800 Bimetallic Self-lubricating Bushes



JF800系列双金属轴套、轴瓦、止推垫片，以优质低碳钢为基体，表面烧结青铜粉，适用于高载低速下的旋转，摇摆运动。具有摩擦系数低、耐磨性能好、使用寿命长、抗咬合性能好等特点，铜合金层可根据要求加工出各种类型的油穴、油槽。产品被广泛应用于矿山机械、汽机车、建筑机械、农用机械、轧钢机械等。

JF800 Bimetallic self-lubricating bearing used high quality low-carbon steel plate as base, sintered porous bronze as its surface, suitable for rotatory oscillating, reciprocating movements on the conditions of high load, low speed, low friction, well wear resistance, long lifetime and better prevent from holding-on. The bronze layer surface can be machined with various of grooves, oil pockets in terms of different work condition. The product is widely used in mining machinery, automobile, building machinery, agriculture equipment, rolling steel industry etc.

卷制轴承搭口形式

Material Characterisitc

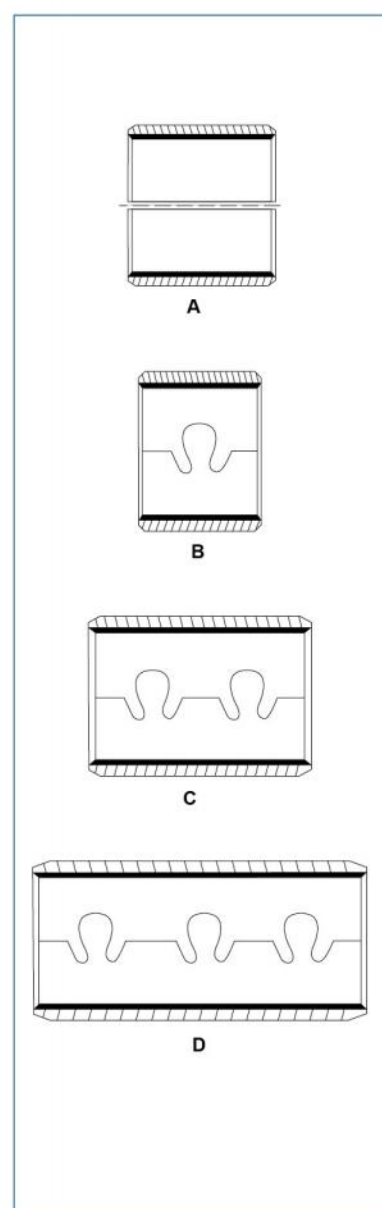


材料特性 Material Characterisitc

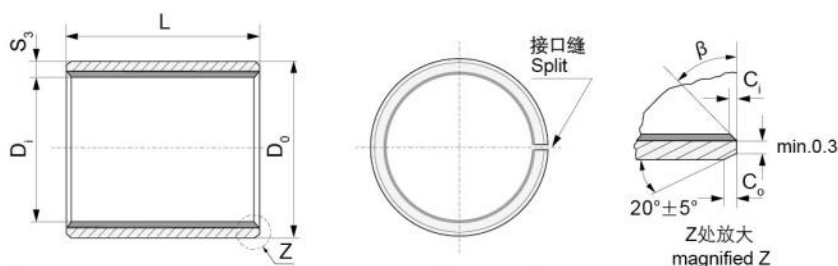
材料牌号 Material Trademark	合金成份 Alloy Composition	合金硬度 Alloy Hardness	国际标准 International Standard
JF800	CuPb10Sn10	70~100HB	SAE-797. DIN CuPb10Sn. JIS-LBC3. UNS C93700. Clevite F100. Daido L10. D. A. B. D57. Federal Mogul HF2. Glacier SY. Glyco66. Miba2. 1010.Taiho HF2. Kar I Schmiat KS940SSAE-797. DIN CuPb10Sn. JIS-LBC3. UNS C93700. Clevite F100. Daido L10. D. A. B D57. Federal Mogul HF2 Glacier SY. Glyco66. Miba2. 1010. Taiho HF2. Karl Schmiat Ks940s
JF720	CuPb24Sn4	45~70HB	SAE=799. GLYCO 68. JIS-LBC6. DAIDO L23. Claciersx. ACLF250
JF700	CuPb30	30~45HB	SAE-783. GLYCO74. JIS-AJL
JF20	AlSn20Cu	30~40HB	SAE-48. JIS-KJ3
JF930	CuPb6.5P0.1	69~90HB	

技术参数 Technical Data

性能指标 Performance index	型号 Type	JF800	JF720	JF700	JF20	JF930
最大承载 P (N/mm ²) Max Load Capacity		150	130	120	100	150
拉伸强度 (N/mm ²) Tensile Strength		185	150	200	200	185
最大线速度 (油润滑) V(m/s) Max Sliding Speed (Oil Lubrication)		5	10	15	25	5
摩擦系数μ Friction coefficient		0.05~0.20	0.06~0.16	0.08~0.16	0.08~0.17	0.06~0.16
最高PV值 N/mm ² ·m/s Max PV Value Limit	脂润滑 Grease lubrication	2.8	2.8	2.5	—	2.8
	油润滑 Oil lubrication	10	10	8	6	-



CRB850BM 轴套规格及公差 CRB850BM Metric Cylindrical Bushes



内外倒角 ID and OD chamfers

S_3	C_0	C_1	β
0.75	0.5 ± 0.3	0.25 ± 0.2	$35^\circ \pm 5^\circ$
1.00	0.6 ± 0.3	0.30 ± 0.2	$35^\circ \pm 5^\circ$
1.50	0.7 ± 0.3	0.50 ± 0.3	$35^\circ \pm 5^\circ$

S_3	C_0	C_1	β
2.00	1.2 ± 0.4	0.50 ± 0.3	$35^\circ \pm 5^\circ$
2.50	1.8 ± 0.6	0.60 ± 0.3	$45^\circ \pm 5^\circ$

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 ⁰ _{-0.40}						
								10	15	20	25	30	40	50
10	12	10 _{-0.022}	12 ^{+0.018}	+0.148 +0.010	0.170 0.010	0.995 0.935	4	1010	1015	1020				
12	14	12 _{-0.027}	14 ^{+0.018}		0.175 0.010			1210	1215	1220				
14	16	14 _{-0.027}	16 ^{+0.018}					1410	1415	1420				
15	17	15 _{-0.027}	17 ^{+0.018}					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	1.490 1.430	6	1810	1815	1820	1825			
20	23	20 _{-0.033}	23 ^{+0.021}	+0.161 +0.020	0.194 0.020			2010	2015	2020	2025			
22	25	22 _{-0.033}	25 ^{+0.021}					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	1.980 1.920	8		2615	2620	2625	2630		
28	32	28 _{-0.033}	32 ^{+0.025}	+0.185 +0.040	0.218 0.040				2815	2820	2825	2830	2840	
30	34	30 _{-0.033}	34 ^{+0.025}					3015	3020	3025	3030	3040		
32	36	32 _{-0.039}	36 ^{+0.025}					3215	3220	3225	3230	3240		
35	39	35 _{-0.039}	39 ^{+0.025}						3520	3525	3530	3540	3550	
38	42	38 _{-0.039}	42 ^{+0.025}						3820	3825	3830	3840	3850	
40	44	40 _{-0.039}	44 ^{+0.025}							4020	4025	4030	4040	4050

CRB850BM 轴套规格及公差

CRB850BM Metric Cylindrical Bushes

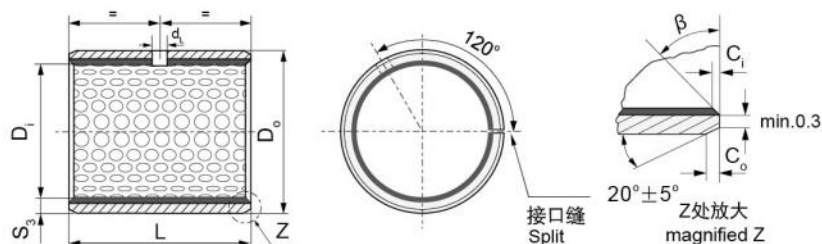


单位unit:mm

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 _{1a}	配合间隙 Clearance C _D	壁厚 Wall thickness S ₃	油孔 Oil hole d _L	长度 L ⁰ _{-0.40}							
								25	30	40	50	60	80	90	100
45	50	45 ⁻ _{0.039}	50 ⁺ _{0.025}	+0.225 +0.080	0.264 0.080	2.460 2.400	8	4525	4530	4540	4550				
50	55	50 ⁻ _{0.039}	55 ⁺ _{0.030}	+0.230 +0.080	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}					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}	+0.235 +0.080	0.281 0.080		9.5		7530	7540	7550	7560	7580		
80	85	80 ⁻ _{0.046}	85 ⁺ _{0.035}						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}								9550	9560	9580	9590	95100
100	105	100 ⁻ _{0.054}	105 ⁺ _{0.035}								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}								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	0.303 0.080						12050	12060	12080	12090	120100
125	130	125 ⁻ _{0.063}	130 ⁺ _{0.040}									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

JF800 双金属轴承规格及公差

JF800 Bimetal Sleeve Bushing Specification & Tolerance



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 ⁰ -0.40						
								10	15	20	25	30	40	50
10	12	10 _{-0.022}	12 ^{+0.018}	+0.148 +0.010	0.170 0.010	0.995 0.935	4	1010	1015	1020				
12	14	12 _{-0.027}	14 ^{+0.018}		0.175 0.010			1210	1215	1220				
14	16	14 _{-0.027}	16 ^{+0.018}					1410	1415	1420				
15	17	15 _{-0.027}	17 ^{+0.018}					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	1.490 1.430	6	1810	1815	1820	1825			
20	23	20 _{-0.033}	23 ^{+0.021}	+0.161 +0.020	0.194 0.020			2010	2015	2020	2025			
22	25	22 _{-0.033}	25 ^{+0.021}					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	1.980 1.920	8		2615	2620	2625	2630		
28	32	28 _{-0.033}	32 ^{+0.025}	+0.185 +0.040	0.218 0.040				2815	2820	2825	2830	2840	
30	34	30 _{-0.033}	34 ^{+0.025}					3015	3020	3025	3030	3040		
32	36	32 _{-0.039}	36 ^{+0.025}					3215	3220	3225	3230	3240		
35	39	35 _{-0.039}	39 ^{+0.025}						3520	3525	3530	3540	3550	
38	42	38 _{-0.039}	42 ^{+0.025}							3820	3825	3830	3840	3850
40	44	40 _{-0.039}	44 ^{+0.025}							4020	4025	4030	4040	4050

JF800 双金属轴承规格及公差

JF800 Bimetal Sleeve Bushing Specification & Tolerance



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 _{1a}	配合间隙 Clearance C _D	壁厚 Wall thickness S ₃	油孔 Oil hole d _L	长度 L ⁰ _{-0.40}							
								25	30	40	50	60	80	90	100
45	50	45 ⁻ _{0.039}	50 ⁺ _{0.025}	+0.225 +0.080	0.264 0.080	2.460 2.400	8	4525	4530	4540	4550				
50	55	50 ⁻ _{0.039}	55 ⁺ _{0.030}	+0.230 +0.080	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}					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}	+0.235 +0.080	0.281 0.080		9.5		7530	7540	7550	7560	7580		
80	85	80 ⁻ _{0.046}	85 ⁺ _{0.035}						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}								9550	9560	9580	9590	95100
100	105	100 ⁻ _{0.054}	105 ⁺ _{0.035}								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}								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	0.303 0.080						12050	12060	12080	12090	120100
125	130	125 ⁻ _{0.063}	130 ⁺ _{0.040}									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

FB090 系列青铜卷制轴套 FB090 Bronze-Wrapped Bushes

FB090系列青铜卷制轴承套是我公司在钢-铜铅双金属轴套产品基础上开发设计的新一代轴套。该产品在国外应用十分普遍，随着我国引进机械的设备新机种的日益增多，设计师们寻找新型摩擦材料、轴套的要求也日益需要，因此该产品在我们机械制造中有着广泛应用领域和实用价值。

FB090系列轴套最大特点是薄壁结构，不占据很大的装配空间。轴套材料采用特殊配方高密度铜合金带材。它与传统的铺型铜套相比，具有密度高，无气缩孔、承载能力大，又有耐磨耐疲劳等优点。轴套制造采用先进的工装模具，可在带材摩擦面上加工出适用各种工程条件的油穴、油坑、油槽，从而使轴套在使用可储存大量润滑油脂，延长加油间隔时间，有效的提高了使用寿命。

FB090系列轴套广泛应用于农业机械、建筑机械、工程机械、汽车行业等。

FB090 serie bronze rolled bushing is our new generation bushing based upon steel-bronze lead double metal bushings. This product is widely applied overseas. With the increase of our country's bring-in of foreign machineries, designers requirement on new abrasive materials and bushings are accordingly increasing. Therefore, our products have a wide application scope and practical value in machinery production.

The major feature of FB090 serie bushing is their thin-wall structure, which doesn't take up too large assembly space. Specially formulated high-density bronze alloy bands are used for the building of the bushing, which compared with traditional bushings, is featured in the high density, no shrinkage blowholes, high load sustainability and anti-wearing and anti-fatigue. The production of the bushing is by means of advanced fixture and molds, able to make oil holes, hole dents and grooves on the friction surfaces of the bands to suit various engineering applications, making it possible for the bushing to store large amount of lubricating grease when working. Therefore, the lubrication interval is prolonged and the service hours are effectively lengthened.

FB090 serie bearings are widely used in applications such as agricultural machineries, construction machineries, engineering machineries and automobile industry.



可供非标产品：

直套，翻边轴套，止推垫片，板材，轴瓦，滑板，钢套组合件。

Non-Standard Size:

Stright Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

产品优点 Product Benefits

1. 节约大量铜材、节省车制铜套工时；

2. 与车制轴套、滚动轴承相比其重量轻、成本低；

3. 可在摩擦面加工出各种有穴、有坑、储存一定油脂，延长加油的时间是铜套的5倍；

4. 极高的承载能力，特别是适用于粗糙的摩擦面；

1. Saving large amount of bronze material and save the working hours normally spent for lathing the bronze bushing.

2. Compared with lathed bushings and roller bearings, it is light in weight and more cost-effective.

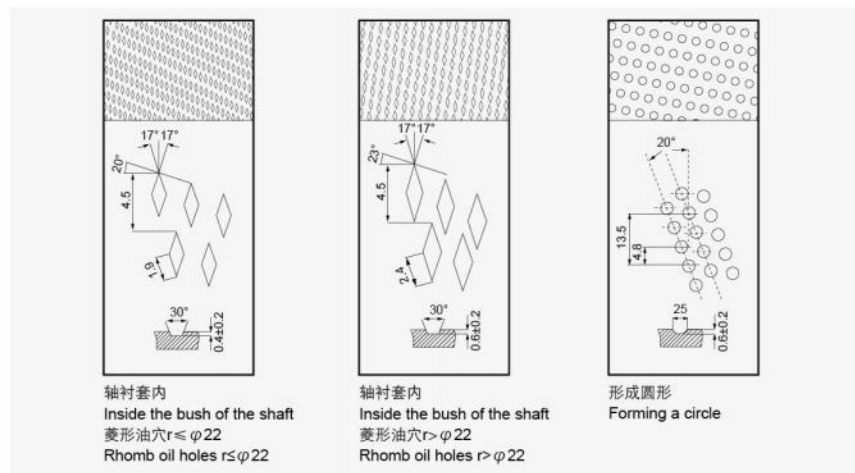
3. Various holes and dents can be made on the friction surface for grease storage, prolonging the lubrication interval to 5 times as long as required by the bronze bushing.

4. Extremely high load sustainability, especially suitable for coarse abrasion surfaces.

材料结构 Material Structure

采用高密度青铜卷制成形或球形油袋、油穴特殊合成内部表面以减少磨损延长使用时间并且很好的做到防腐功能。

High-density bronze is rolled into shape or oil bags and oil holes specially integrated into the inner surface to reduce the wearing and prolong the service hours. Besides, it has excellent anti-corrosion functions.



应用范围 Application scope

此系列轴承广泛应用于农用、建设机械以及工程机械等。

This series of bearing is widely applied to agricultural, construction and engineering machineries, etc.

油穴类别(依据 DIW1494/ISO3457)。

Categories of oil holes (As per to DIW1494/ISO3457)。

化学成分 Chemical Composition

材料 Material: CuSn8P	铜 Cu	锡 Sn	磷 P
---------------------	------	------	-----

物理特性 Physical Property

型号 Type	密度 Density	散热热胀 Heat Emission and Expansion	热传导 Heat Conducting	硬度 Hardness	抗压强度 Compression strength	延伸率 Extensile
FB090	8.8g/cm ³	$18.5 \times 10^{-6} \times K^{-1}$	58W(m·k)	90~150HB	470N/mm ²	40%

标准衬套公差 (依据 DIW W91/1503547) Standard tolerance for bushes (As per to DIW W91/1503547)

标准直径 Standard Dia.	衬套外径尺寸 O.D.Size	相配座孔 Housing Bore	衬套内径尺寸 I.D.Size	相配轴径 Axle
10~18	+0.065 +0.030	+0.018 0	+0.046 0	- 0.016 - 0.043
18~30	+0.075 +0.035	+0.021 0	+0.052 0	- 0.020 - 0.020
30~50	+0.085 +0.045	+0.025 0	+0.062 0	- 0.025 - 0.064
50~80	+0.100 +0.055	+0.030 0	+0.074 0	- 0.030 - 0.076
80~120	+0.120 +0.070	+0.035 0	+0.087 0	- 0.036 - 0.090
120~180	+0.170 +0.100	+0.400 0	+0.100 0	- 0.043 - 0.106
180~250	+0.210 +0.130	+0.046 0	+0.115 0	- 0.050 - 0.122
250~315	+0.260 +0.170	+0.052 0	+0.130 0	- 0.056 - 0.137

FT090 系列青铜卷制轴套 FT090 Bronze-Wrapped Bushes

FT090系列青铜卷制轴承是与FB090材料结构相同，我单位根据国外同类产品基础上开发出的新一代产品轴套，能改良产品设计、替代原有铜套，能降低采购成本，因此产品在我们机械制造中有着广泛实用价值和应用领域。

FT090系列轴套最大特点是薄壁结构，不占据很大的装配空间。轴套材料采用特殊配方高密度铜合金带材。它与传统的铺型铜套相比，可在带材摩擦面上加工出适用各种工程条件的油穴、油坑、油槽，排列润滑通孔，从而使轴套在使用可储存大量润滑油脂，延长加油间隔时间，有效的提高了使用寿命。

FT090系列轴承广泛应用于农业机械、建筑机械、工程机械、高载低速场合等。

FT090 serie bronze rolled bushing is our new generation bushing based upon steel-bronze lead double metal bushings. It has same structure with FB090. We based on the same type of overseas products and make further development to produce. The design has be improved and can make a replacement of original one and cut down the cost. Therefore, our products have a wide application scope and practical value in machinery production.

The major feature of FT090 serie bushing is their thin-wall structure, which doesn't take up too large assembly space. Specially formulated high-density bronze alloy bands are used for the building of the bushing, which compared with traditional bushings, is featured in the high density, no shrinkage blowholes, high load sustainability and anti-wearing and anti-fatigue. The production of the bushing is by means of advanced fixture and molds, able to make oil holes, hole dents and grooves on the friction surfaces of the bands to suit various engineering applications, making it possible for the bushing to store large amount of lubricating grease when working. Therefore, the lubrication interval is prolonged and the service hours are effectively lengthened.

FT090 serie bearings are widely used in applications, such as agricultural machineries, construction machineries, engineering machineries and automobile industry.



可供非标产品：

直套，翻边轴套，止推垫片，板材，轴瓦，滑板，钢套组合件。

Non-Standard Size:

Stright Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

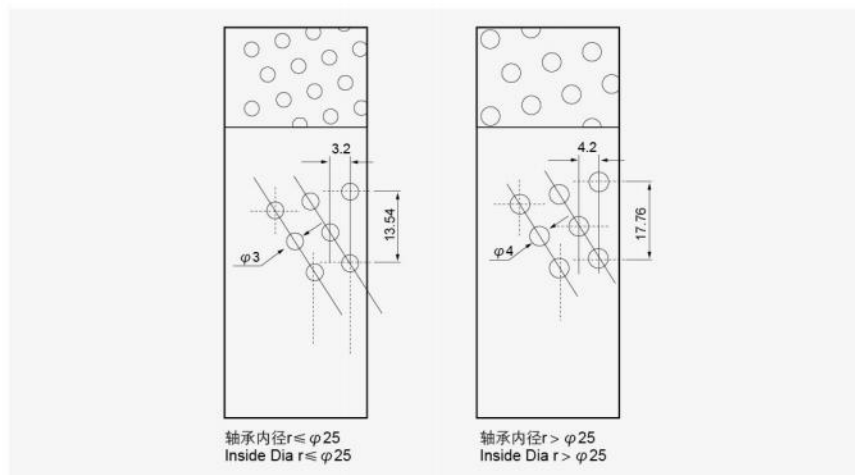
产品优点 Product Benefits

1. 节约大量铜材、节省车制铜套工时；
 2. 与车制轴套、滚动轴承相比其重量轻、成本低；
 3. 可在摩擦面加工出各种有穴、有坑、储存一定油脂，延长加油的时间是铜套的5倍；
 4. 极高的承载能力，特别是适用于粗糙的摩擦面；
1. Saving large amount of bronze material and save the working hours normally spent for lathing the bronze bushing.
 2. Compared with lathed bushings and roller bearings, it is lights and more cost-effective.
 3. Various holes and dents can be made on the friction surface for grease storage, prolonging the lubrication interval to 5 times as long as required by the bronze bushing.
 4. Extremely high load sustainability, especially suitable for coarse abrasion surfaces.

材料结构 Material Structure

采用高密度青铜卷制成形或球形油袋、油穴特殊合成内部表面以减少磨损延长使用时间并且很好的做到防腐功能。

High-density bronze is rolled into shape or oil bags and oil holes, specially integrated into the inner surface to reduce the wearing and prolong the service hours. Besides, it has excellent anti-corrosion functions.



应用范围 Application scope

此系列轴承广泛应用于农用、建设机械以及工程机械等。

This series of bearing is widely applied to agricultural, construction and engineering machineries, etc.

化学成分 Chemical Composition

材料 Material: CuSn8P	铜 Cu	锡 Sn	磷 P
---------------------	------	------	-----

物理特性 Physical Property

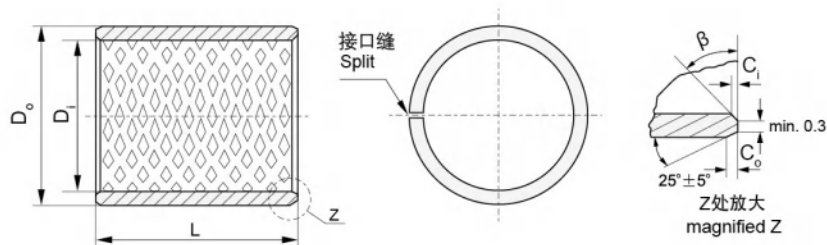
型号 Type	密度 Density	散热热胀 Heat Emission and Expansion	热传导 Heat Conducting	硬度 Hardness	抗压强度 Compression strength	延伸率 Extensile
FT090	8.8g/cm ³	$18.5 \times 10^{-6} \times K^{-1}$	58W(m·k)	90~150HB	470N/mm ²	40%

标准衬套公差 (依据 DIW W91/1503547) Standard tolerance for bushes (As per to DIW W91/1503547)

标准直径 Standard Dia.	衬套外径尺寸 O.D.Size	相配座孔 Housing Bore	衬套内径尺寸 I.D.Size	相配轴径 Axle
10~18	+0.065 +0.030	+0.018 0	+0.046 0	- 0.016 - 0.043
18~30	+0.075 +0.035	+0.021 0	+0.052 0	- 0.020 - 0.020
30~50	+0.085 +0.045	+0.025 0	+0.062 0	- 0.025 - 0.064
50~80	+0.100 +0.055	+0.030 0	+0.074 0	- 0.030 - 0.076
80~120	+0.120 +0.070	+0.035 0	+0.087 0	- 0.036 - 0.090
120~180	+0.170 +0.100	+0.400 0	+0.100 0	- 0.043 - 0.106
180~250	+0.210 +0.130	+0.046 0	+0.115 0	- 0.050 - 0.122
250~315	+0.260 +0.170	+0.052 0	+0.130 0	- 0.056 - 0.137

FB090 青铜轴套规格及公差

FB090 Bronze Sleeve Bushing Specification & Tolerance



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

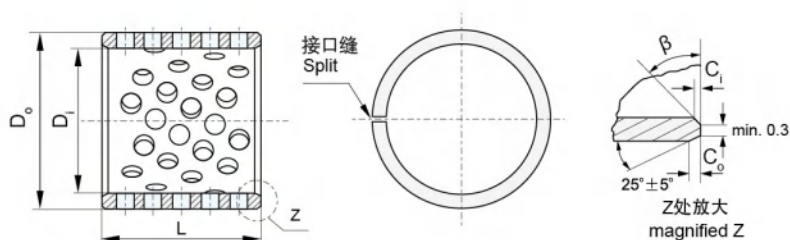
内径 D _i φd	外径 D _o φD	长度 L ⁰ _{-0.40}												
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	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

单位Unit: mm

内径 D_i ϕd	外径 D_o ϕD	长度 $L \begin{smallmatrix} 0 \\ -0.40 \end{smallmatrix}$									
		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

FT090 青铜轴套规格及公差

FT090 Bronze Sleeve Bushing Specification & Tolerance



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	$35^\circ \pm 5^\circ$
1.00	0.6 ± 0.3	0.30 ± 0.2	$35^\circ \pm 5^\circ$
1.50	0.7 ± 0.3	0.50 ± 0.3	$35^\circ \pm 5^\circ$

S_3	C_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	$35^\circ \pm 5^\circ$
2.50	1.8 ± 0.6	0.60 ± 0.3	$45^\circ \pm 5^\circ$

单位Unit: mm

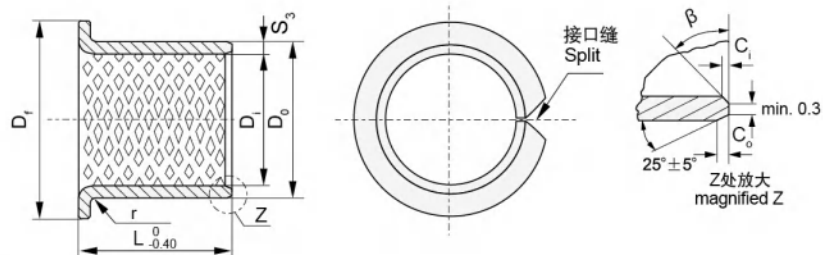
内径 D _i φd	外径 D _o φD	长度 L ⁰ _{-0.40}													
		10	15	20	25	30	35	40	50	60	70	80	90	100	
10	12	1010	1015	1020											
12	14	1210	1215	1220											
14	16	1410	1415	1420	1425										
15	17	1510	1515	1520	1525										
16	18	1610	1615	1620	1625										
18	20	1810	1815	1820	1825										
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	

单位Unit: mm

内径 D_i ϕd	外径 D_o ϕD	长度 $L \begin{smallmatrix} 0 \\ -0.40 \end{smallmatrix}$									
		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

FBB090 青铜翻边轴套规格及公差

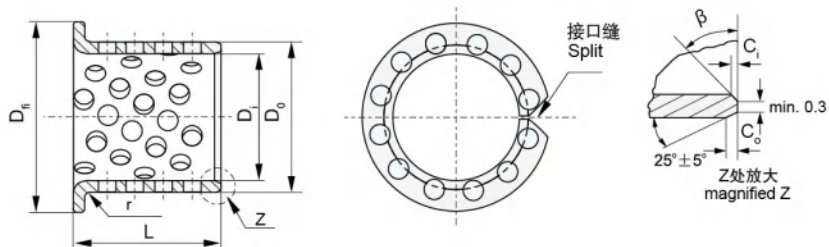
FBB090 Bronze Flange Bushing Specification & Tolerance



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 _f	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



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 _f	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	95					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	165								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

CRB-EPB 轴套(80B) CRB-EPB Bushes (80B)

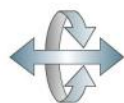


请从适用的内径、外径、长度中选择零件号
(例)内径15mm、长度10mm的情况下

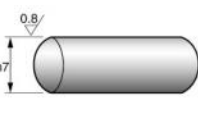
CRB-EPB - 1510

请指定上述零件号

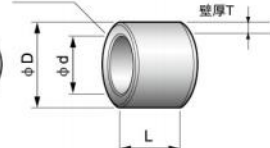
运动方向



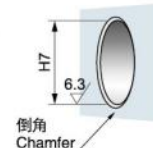
对偶轴



轴套

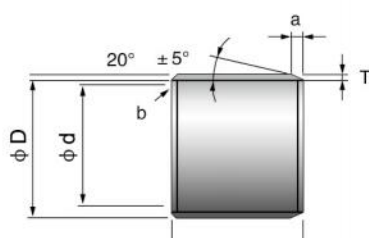


轴承座



单位Unit: mm

轴		轴套安装		内径		外径		长度 L 公差						
尺寸	h7 公差	寸法	H7 公差	ϕd	公差	ϕD	公差	2	3	4	5	6	8	10
2	$\begin{smallmatrix} 0 \\ -0.010 \end{smallmatrix}$	4	$\begin{smallmatrix} +0.012 \\ 0 \end{smallmatrix}$	2	$\begin{smallmatrix} +0.065 \\ +0.015 \end{smallmatrix}$	4	$\begin{smallmatrix} +0.107 \\ +0.032 \end{smallmatrix}$	0202	0203	0204				
3	"	5	"	3	$\begin{smallmatrix} +0.080 \\ +0.030 \end{smallmatrix}$	5	"		0303	0304	0305	0306		
4	$\begin{smallmatrix} 0 \\ -0.012 \end{smallmatrix}$	6	"	4	$\begin{smallmatrix} +0.095 \\ +0.045 \end{smallmatrix}$	6	"		0403	0404	0405	0406		
5	"	7	$\begin{smallmatrix} +0.015 \\ 0 \end{smallmatrix}$	5	"	7	$\begin{smallmatrix} +0.157 \\ +0.045 \end{smallmatrix}$		0503	0504	0505	0506	0508	
6	"	8	"	6	"	8	"			0604	0605	0606	0608	0610
7	$\begin{smallmatrix} 0 \\ -0.015 \end{smallmatrix}$	9	"	7	"	9	"				0705	0706	0708	0710
8	"	10	"	8	$\begin{smallmatrix} +0.120 \\ +0.060 \end{smallmatrix}$	10	"				0805	0806	0808	0810
9	"	11	$\begin{smallmatrix} +0.018 \\ 0 \end{smallmatrix}$	9	"	11	$\begin{smallmatrix} +0.193 \\ +0.058 \end{smallmatrix}$				0905	0906		0910
10	"	12	"	10	"	12	"				1005	1006	1008	1010
12	$\begin{smallmatrix} 0 \\ -0.018 \end{smallmatrix}$	14	"	12	"	14	"					1206	1208	1210
14	"	16	"	14	"	16	"							1410
15	"	17	"	15	"	17	"							1510
16	"	18	"	16	"	18	"							1610
18	"	20	$\begin{smallmatrix} +0.021 \\ 0 \end{smallmatrix}$	18	"	20	$\begin{smallmatrix} +0.221 \\ +0.071 \end{smallmatrix}$							1810
20	$\begin{smallmatrix} 0 \\ -0.021 \end{smallmatrix}$	23	"	20	$\begin{smallmatrix} +0.145 \\ +0.075 \end{smallmatrix}$	23	"							
22	"	25	"	22	"	25	$\begin{smallmatrix} +0.231 \\ +0.081 \end{smallmatrix}$							
24	"	27	"	24	"	27	"							
25	"	28	"	25	$\begin{smallmatrix} +0.170 \\ +0.090 \end{smallmatrix}$	28	"							
28	"	32	$\begin{smallmatrix} +0.025 \\ 0 \end{smallmatrix}$	28	"	32	$\begin{smallmatrix} +0.290 \\ +0.095 \end{smallmatrix}$							
30	"	34	"	30	"	34	"							
32	$\begin{smallmatrix} 0 \\ -0.025 \end{smallmatrix}$	36	"	32	$\begin{smallmatrix} +0.215 \\ +0.115 \end{smallmatrix}$	36	"							
35	"	39	"	35	"	39	"							
38	"	42	"	38	"	42	$\begin{smallmatrix} +0.340 \\ +0.115 \end{smallmatrix}$							
40	"	44	"	40	"	44	"							
45	"	50	"	45	$\begin{smallmatrix} +0.235 \\ +0.135 \end{smallmatrix}$	50	"							
50	"	55	$\begin{smallmatrix} +0.030 \\ 0 \end{smallmatrix}$	50	"	55	$\begin{smallmatrix} +0.430 \\ +0.130 \end{smallmatrix}$							



a:外径倒角 (mm)

ϕd	~6	~35	~50
a	※	1	2

b:内径倒角 (mm)

ϕd	~10	~35	~40	~50
b	C0.3	R0.4	R0.6	R0.8

※内径倒角 内径 $\phi 6$ 以下的外径倒角 (mm)

L	2	~4	~10
a	0.3	0.5	1注

- CRB-EPB轴套为注塑品。
- 内径公差为 $\phi D \pm 0.002$ 的塞规压入后的数值。
- 0℃以下使用时，由于热胀冷缩，轴套会脱落，请设置止动措施。

单位Unit: mm

长度 L 公差 $\begin{smallmatrix} 0 \\ -0.5 \end{smallmatrix}$							内径
12	15	20	25	30	40	50	ϕd
							2
							3
							4
							5
							6
							7
0812	0815						8
0912	0915						9
1012	1015	1020					10
1212	1215	1220					12
1412	1415	1420					14
1512	1515	1520	1525	1530			15
1612	1615	1620	1625	1630			16
1812	1815	1820	1825	1830			18
	2015	2020	2025	2030			20
		2220		2230			22
	2415	2420	2425				24
	2515	2520	2525	2530			25
		2820	2825	2830			28
		3020	3025	3030	3040		30
		3220		3230	3240		32
		3520	3525	3530	3540		35
		3820		3830	3840		38
		4020	4025	4030	4040	4050	40
		4520		4530	4540	4550	45
		5020		5030	5040	5050	50

CRB-EPF 轴套(80F) CRB-EPF Bushes (80F)



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

CRB-EPF - 1510

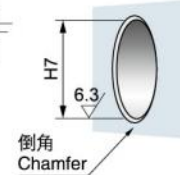
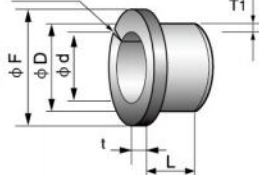
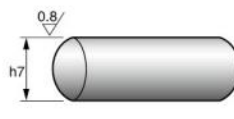
请指定上述零件号

运动方向

对偶轴

法兰轴套

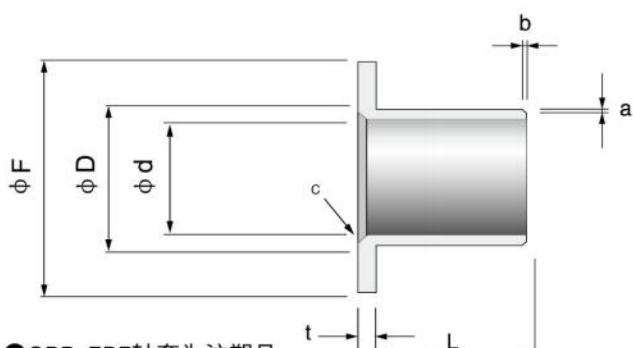
轴承座



※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

内径		外径		法兰			长度 L 公差 $\begin{smallmatrix} 0 \\ -0.3 \end{smallmatrix}$							
φd	公差	ΦD	公差	ΦF	t	公差	2	3	4	5	6	7	8	10
2	$\begin{smallmatrix} +0.065 \\ +0.015 \end{smallmatrix}$	4	$\begin{smallmatrix} +0.107 \\ +0.032 \end{smallmatrix}$	6	1	$\begin{smallmatrix} 0 \\ -0.10 \end{smallmatrix}$	0202	0203	0204					
3	$\begin{smallmatrix} +0.080 \\ +0.030 \end{smallmatrix}$	5	"	8	"	"		0303	0304	0305	0306			
4	$\begin{smallmatrix} +0.095 \\ +0.045 \end{smallmatrix}$	6	"	9	"	"		0403	0404	0405	0406			
5	"	7	$\begin{smallmatrix} +0.157 \\ +0.045 \end{smallmatrix}$	10	"	"		0503	0504	0505	0506	0507		
6	"	8	"	12	"	"		0603		0605	0606		0608	0610
7	"	9	"	13	"	"		0703		0705		0707		0710
8	$\begin{smallmatrix} +0.120 \\ +0.060 \end{smallmatrix}$	10	"	15	"	"		0803		0805	0806		0808	0810
9	"	11	$\begin{smallmatrix} +0.193 \\ +0.058 \end{smallmatrix}$	16	"	"		0903		0905	0906			0910
10	"	12	"	18	"	"		1003		1005	1006		1008	1010
12	"	14	"	20	"	"					1206		1208	1210
14	"	16	"	22	"	"								1410
15	"	17	"	23	"	"								1510
16	"	18	"	24	"	"								1610
18	"	20	$\begin{smallmatrix} +0.221 \\ +0.071 \end{smallmatrix}$	26	"	"								1810
20	$\begin{smallmatrix} +0.145 \\ +0.075 \end{smallmatrix}$	23	"	31	1.5	$\begin{smallmatrix} 0 \\ -0.15 \end{smallmatrix}$								2010
22	"	25	$\begin{smallmatrix} +0.231 \\ +0.081 \end{smallmatrix}$	33	"	"								2210
25	$\begin{smallmatrix} +0.170 \\ +0.090 \end{smallmatrix}$	28	"	36	"	"								2510
30	"	34	$\begin{smallmatrix} +0.290 \\ +0.095 \end{smallmatrix}$	42	2	"								3010
32	$\begin{smallmatrix} +0.215 \\ +0.115 \end{smallmatrix}$	36	"	46	"	"								
35	"	39	"	49	"	"								3510
38	"	42	$\begin{smallmatrix} +0.340 \\ +0.115 \end{smallmatrix}$	52	"	"								
40	"	44	"	54	"	"								
45	$\begin{smallmatrix} +0.235 \\ +0.135 \end{smallmatrix}$	50	$\begin{smallmatrix} +0.430 \\ +0.130 \end{smallmatrix}$	60	2.5	"								
50	"	55	"	65	"	"								



- CRB-EPF轴套为注塑品。
- 内径公差为 $\phi D \pm 0.002$ 的塞规压入后的数值。
- 0°C以下使用时，由于热胀冷缩，轴套会脱落，请设置止动措施。

a b:外径倒角 (mm)

ϕd	2	~35	~50
a	0.3	0.3	0.5
b	注	1	2

c:内径倒角(mm)

ϕd	~10	~35	~40	~50
c	C0.3	R0.4	R0.6	R0.8

单位Unit: mm

长度 L 公差 $\begin{smallmatrix} 0 \\ -0.5 \end{smallmatrix}$							内径
12	15	20	25	30	40	50	ϕd
							2
							3
							4
							5
							6
							7
0812	0815						8
0912	0915						9
1012	1015	1020					10
1212	1215	1220					12
1412	1415	1420					14
1512	1515	1520	1525	1530			15
1612	1615	1620	1625	1630			16
1812	1815	1820	1825	1830			18
2012	2015	2020	2025	2030			20
	2215	2220	2225	2230			22
2512	2515	2520	2525	2530			25
3012		3020	3025	3030	3040		30
		3220	3225	3230	3240		32
3512		3520	3525	3530	3540		35
		3820		3830	3840		38
4012		4020	4025	4030	4040	4050	40
		4520	4525	4530	4540	4550	45
		5020		5030	5040	5050	50

CRB600 铜基精加工轴承 CRB600 Solid Bronze Turned Bushes

基材特征 Structure

精加工铜合金轴套提供了简单、经济的轴承运用方式，具有承载高，耐腐蚀性好，尺寸加工任意性等特点。同时CRB可以根据不同的使用工况提供不同牌号的铜合金，并按照要求加工出不同的形式，它比卷制类铜轴承具有更高尺寸精度。材质有高力黄铜CuZn25Al6Mn4Fe3；锡青铜CuSn5Pb5Zn5，CuSn12；铝青铜CuAl10Ni5Fe5，CuAl10Fe3；铍青铜，YS/T334-1995的QBe2.0合金，QBe1.9合金，铍青铜材；铍镍铜材；铍钴铜材。

The finished copper alloy bushing provides a simple and economical way of bearing operation, which has the characteristics of high load, good corrosion resistance and arbitrary dimensional processing. At the same time, CRB can provide different grades of copper alloys according to different working conditions, and process different forms according to the requirements, which has higher dimensional accuracy than coil copper bearings. The material is high force brass CuZn25Al6Mn4Fe3; Tin bronze CuSn5Pb5Zn5, CuSn12; Aluminum bronze CuAl10Ni5Fe5, CuAl10Fe3; Beryllium bronze, QBe2.0 alloy of YS/T334-1995, QBe1.9 alloy, beryllium bronze; Beryllium nickel copper; Beryllium cobalt copper.



油槽 Oil Grpve



技术参数 Technical Data

材料牌号	600	600S1	600S2	600S3	600S4	600S5
	CuZn25Al6Mn4Fe3	CuSn5Pb5Zn5	CuAl10Ni5Fe5	CuSn12	CuAl10Fe3	CuZn25Al6Mn4Fe3
密度	8.0	8.9	7.8	8.9	8.5	8.0
屈服强度N/mm ²	>450	>90	>260	>150	>160	>450
抗拉强度N/mm ²	>750	>200	>600	>260	>590	>800
延伸率 %	>12	>15	>10	>8	>15	>8
硬度 HB	>210	>70	>150	>95	>160	>250

CRB650产品特长 Product Features

1. 无需供油装置、注油孔、油槽加工

供油装置的费用、加工费、组装费等多余的成本与时间的节省，能大幅降低制造成本。

2. 运行成本的降低

大幅降低润滑油的使用量与设备的维护保养费，另外也免除了由于供油不足造成的风险。

3. 设计时间的缩短

无油化可以使设计，结构等大幅简化，降低成本，节约设计时间，此外，使用自润滑轴承还可以提高机械性能，延长使用寿命及提高可靠性等方面获得显著效果。

4. 润滑油的回收和环保

无需废油回收处理，有利于环境保护。

CRB650 自润滑轴承作为机械行业零部件，有一定广义上的使用。为了使机械传动运行正常，下了不少功夫。将轴承区分为滚动轴承和滑动轴承。一般的滑动轴承在高负荷运动方式、异物混入、温度条件、供油、维护保养不完善等情况下，会引起拉毛。像这样一般的滑动轴承无法使用的严酷条件下，固体镶嵌型金属自润滑轴承的耐磨性，耐拉毛性上，发挥轴承应有的性能，实现机械的高性能化和免维护保养的作用。

1. No need to oil installations, the filling hole processing tank
The cost of oil installations, processing fees, assembly fees, the extra cost and time savings can significantly reduce manufacturing costs.

2. Lower operating costs

Substantially reduce the use of lubricants and equipment maintenance costs, while also eliminating the risk caused due to insufficient oil supply.

3. The shortening of design time

Non-oil can make the design, structure, and greatly simplify and reduce costs, save design time and to obtain significant results, in addition, the use of self-lubricating bearings can also improve the mechanical properties and extend the service life and higher reliability.

4. Lubricating oil recycling and environmental protection

No need to waste oil recycling, are environmentally friendly.

CRB650, self-lubricating bearing parts of the machinery industry, the use of certain generalized. In order to make the mechanical drive is operating normally, a lot of effort. The bearing area is divided into Rolling and plain bearings. Sliding bearings in high-load movement, foreign substances, temperature, fuel, maintenance, imperfect circumstances, can cause galling. Like sliding bearings can not be used under harsh conditions, the solid inlaid metal self-lubricating bearings, wear resistance, resistance to galling, to play the bearings of the due performance, the role of mechanical performance and maintenance-free.



使用注意事项 Application Notes

1. 在可能情况下，设计时尽量采用标准规格；
2. 装配时请注意表面有无异物；
3. 使用后的滑动面，因固体润滑剂形成的油膜导致表面有黑色或灰黑色现象，请不要擦洗，照常使用；
4. 装配前，若以润滑油涂于对磨件上，可减短磨合期，利于机械操作、运转；
5. 装配时应徐徐压入，严禁敲打，以免损伤轴承及引起变形；
6. 设计时，不同的部位应选用适当的材质，以便提高机械性能，延长轴承的使用寿命；
7. 在高承载，往复运动中，建议使用螺钉固定；
8. 在淡水中、海水中及在海上作业时，对磨轴建议使用不锈钢或表面镀铬。

1. Use standard designation when designing if possible;
2. Note if there are any foreign matters on the surface when assembling;
3. Do not erase the black or grey phenomenon on the sliding surface caused by the oil film that is formed by the solid lubricant after using;
4. It is good for mechanical operation and running if lay the lubricant on the corresponding friction set before installing;
5. Pressing should be carried out slowly when installing. Do not beat in the event of damaging the bushing or causing the distortion to the bushing;
6. Using proper material in different parts when designing in order to enhance the mechanical properties and prolong the service life of the bushing;
7. It would be better to fix with bolt in high load and reciprocating motion;
8. It is recommended to use stainless steel or plate chrome on the surface of the corresponding friction shaft when working in the water or in the sea.

CRB650 铜基镶嵌固体润滑轴承 CRB650 Cast Bronze Bearings With Graphite

选择使用CRB自润滑轴承的基体材料:

材料成份和性能 Material Composition and Properties								
TONREN Code	JDB650	JDB650S1	JDB650S2	JDB650S3	JDB650S4	JDB650S5	JDB (HT250)	JDB (Gcr15)
材料牌号 Code	CuZn25Al5Mn3Fe3	CuSn5Pb5Zn5	CuAl10Ni5Fe5	CuSn12	CuAl10Fe3	CuZn25Al5Mn3Fe3	HT250	Gcr15
密度 Density	8.0	8.9	7.8	9.05	8.5	8.0	7.3	7.8
硬度 Hardness HB	>210	>70	≥150	>80	>160	>250	>190	HRC>58
抗拉强度 N/mm ² Tensile strength	>750	>200	≥500	>260	>590	>800	>250	>1500
伸长率 Elongation%	>12	>10	≥10	>8	>15	>8	>5	>15
热胀系数 Coefficient of linear expansion 10 ⁻⁶ /°C	1.9	1.8	1.6	1.8	1.9	1.9	1.0	1.1
温度 Limit Temp °C	-40~+300	-40~+400	-40~+400	-40~+400	-40~+400	-40~+300	-40~+400	-40~+400
最大动承载 Max.load N/mm ²	100	60	50	70	150	150	80	200
最大线速度 m/min Max.speed (Dry)	15	10	20	10	20	15	8	5
Max.PV最大PV N/mm ² *m/min	200	60	60	80	60	200	40	150
压缩永久变形量 300N/mm ²	<0.01	<0.05	<0.04	<0.05	<0.04	<0.005	<0.015	<0.002

材料对应表 Base Material Interchange								
材料代号 Material Codes	中国 China Brands GB1176-87	国际 Intenational ISO 1338	德国 Germany DIN	日本 Japan JIS	美国 America ASTM(UNS)	英国 England BS	法国 France NF	适用情况 Applicable conditions
JDB650 高力合金铜	ZCuZn25Al6Fe3Mn3	GCuZn25Al6Fe3Mn3	DIN1709 G-CuZn25Al5	H5102 CAC304	B30-92 C86300	HTB2		高载荷, 低速, 一般用 High-load, low speed Commonly used
JDB650S1 铸造锡青铜	ZCuSn5Pb5Zn5	GCuPb5Sn5Zn5	DIN1705 G-CuSn5Zn5Pb	H5111 BC6	B30-92 C83600	LG2	CuPb5Sn5Zn5	中载荷, 低速 Mid-load, low speed
JDB650S4 铸造铝青铜	CuAl10Fe3	CuAl10Fe3	DIN17656 GB- CuAl10Ni/2.1096	H5114 CAC703	B30-92 C95800			中载荷, 中速, 一般用 Mid-load, mid-speed, Commonly used
JDB650S5 高力合金铜	ZCuZn25Al6Fe3Mn3	GCuZn25Al6Fe3Mn3	DIN1709 G-CuZn25Al5	H5102 CAC304	B30-92 C86300	HTB2		超高载荷, 低速, 高承载用 Over high load, low speed, High load used
JDB(HT250) 铸铁	GB5675-85HT250			FC250	ASTM Class40			中载荷, 低速 Mid-load, low speed

固体润滑剂 Solid Lubricant		
固体润滑剂 Lubricant	特性 Features	典型用途 Typical application
SL1 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°C Excellent resistance against chemical attacks and low friction, Temp limit 400°C	应用于一般机械, 在大气中使用 Suit for general machines and under atmosphere
SL4 PTFE+添加剂 PTFE+add	极低的摩擦系数和很好的水润性, 使用温度<300°C Lowest in friction and good of water Lubrication, Temp limit 300°C	应用于水、海水润滑、如船舶, 水工弧门, 水轮机, 制药饮料 机械等。 Ship, hydraulic turbine, gas turbine etc.

轴承的寿命 The Life The Bushing

CRB650固体润滑轴承的寿命，除急剧的烧焦外，通常由轴承内径的磨损量来决定，磨损量主要受摩擦条件的影响，而摩擦又受承载、速度、杂质、材质、表面粗糙度、工作温度、不同运行方式、所使用润滑剂等条件影响，因此，磨损量只能是一个理论估计值，轴承的寿命取决于各种复杂的条件。

The life of CRB650 Solid-lubricant-inlaid depends on the wear depth of the inside diameter of the bushing except such condition as acute Singe, etc. The wear depth is influenced by the load speed, foreign matter, material, surface roughness, working temperature, different operating methods and the lubricant used. So the wear depth is only a theoretical estimate value and the life of the bushing depends on all kinds of the complex conditions.

若因供油不良，杂质渗入而使磨损急剧变化时，就很难预测磨损情形。下式为正常情况下由实验得出的磨损量计算式。

If the oil is not provided well, it is hard to estimat the abrasion state when the foreign matters intermingling. the following formula is the computing method.

$$W=K \times P \times V \times T$$

K:摩擦系数 Coefficient of Friction
[mm/(N/mm²·m/min. hr)]

W:磨损量 Wear Depth (mm)

P:承载压力 Load Pressure (N/mm²)

V:线速度 Linear speed (m/min)

T:磨损时间 Wear Time (hr)

从上式中可以看出，若摩擦系数(K)已知，便可根据承载压力(P)、线速度(V)和磨损时间(T)计算出轴承实际磨损量。但是，在各种实际条件下准确计算出摩擦系数K是件非常困难的事情。在理想条件下，摩擦系数K由影响其值的因素因子Ci来决定。

工况条件 Working Conditions

1. 承载压力 Loading pressure

通常所谓承载压力是指轴承承受载荷时，轴承支持的最大载荷除以受压面积。所谓受压面积，当轴承为圆柱时，取与轴承接触部分的载荷方向的投影面积。

2. 线速度 Linear speed

轴承的发热量，主要是由轴承的摩擦作用引起的，根据经验可知，对摩擦面温度的上升，滑动速度V的影响远大于承载压力P的影响。轴承若使用同一PV值，速度V愈大，轴承面温度上升愈快，因此在高温使用时，最好能供给润滑油，增大冷却效果和流 体润滑；以求降低摩擦系数，以防高磨损和烧焦现象的发生。

From the above formula you can see that if the coefficient of the friction "K" is known the real wear depth can be computed according to the pressure "P". linear speed "V" and wear time "T". But it is very difficult to calculate "K" under various actual conditions. Under ideal conditions. "K" depends on the factor "Ci" which influences it.

即i. e. $K=C_i \times k$

Ci: 影响磨损量的因素因子 $C_i=C_1 \times C_2 \times C_3 \times \dots$

Ci: $C_i=C_1 \times C_2 \times C_3 \times \dots$ Factor genes that influence the wear depth.

K: 理想条件下的摩擦系数 And k is the coefficient of friction under ideal conditions.

$K=(1-5) \times 10^{-8} [\text{mm}/(\text{N}/\text{mm}^2 \cdot \text{m}/\text{min. hr})]$

C₀: 滑动条件系数 Coefficient of sliding conditions

C ₀		线速度 Linear speed V(m/min)		
		≤1	1~10	10~30
承载压力 Loading pressure P(N/mm ²)	≤5	8~10	10~12	12~18
	5~25	12~18	18~25	25~30
	25~50	18~25	25~30	30~40

C₁: 温度条件系数 Coefficient of temperature conditions

工作温度 Working temperature(°C)	≤100	100~200	200~400
C ₁	1~2	3~5	5~10

C₂: 环境条件系数 Coefficient of surrounding temperature

环境 Surrounding	一般场所 general place	室外 outside	粉尘较多场合 Places with much powder
C ₂	1~2	5~10	10~30

C₃: 使用场所系数 Coefficient of places used

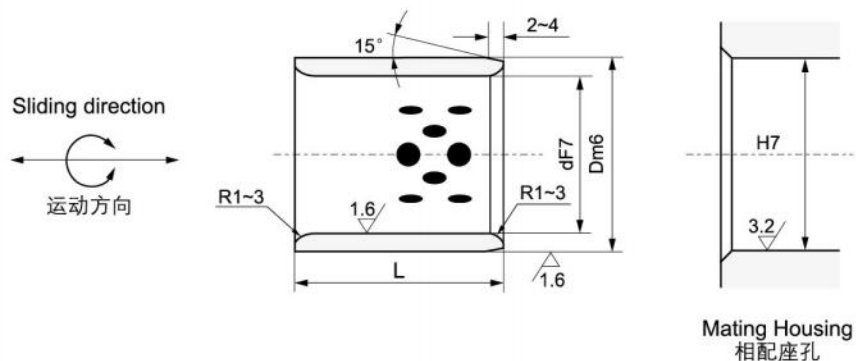
使用场所 Places used	大气中 Atmosphere	水中 Water	海水中 Sea
C ₃	1.9	0.8	1.2

The so-called loading pressure generally means that when the bushing is loading, the max load it bears divides the pressed area. And the loading pressed area means the projection area of

the connecting parts when the bushing is cylindrical.

The heat radiated by the bushing is mainly caused by the friction of the bushing. According to the experience we know that the sliding speed "V" affects more than load pressure "P" to the surface temperature. If the bushing uses the same PV value, the higher speed the more quickly temperature ascends. So it would

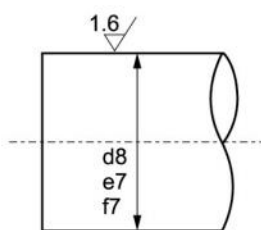
CRB650(JDB650) 自润滑轴套 CRB650(JDB650) Metric Cylindrical Bushes



单位Unit: mm

内径		外径		长度 L ^{-0.1} _{-0.3}								
Ø d		Ø 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	+0.021 +0.008	121808	121810	121812	121815	121816	121819	121820	121825	
13		19			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	+0.025 +0.009				192615			192620
20	28			202810		202812	202815	202816	202819	202820	202825	
	30			203010		203012	203015	203016		203020	203025	
22	32					223212	223215			223220	223225	
25	33					253312	253315	253316		253320	253325	
	35					253512	253515	253516		253520	253525	
28	38	40	+0.030 +0.011							283820	283825	
30						303812	303815			303820	303825	
	31.5	+0.050 +0.025	40			304012	304015			304020	304025	
32												
35	42								324220			
	44								354420	354425		
38	45								354520	354525		
	48											
40	50					405015			405020	405025		
	55					405515						
45	56											
	60											

CRB650(JDB650) 自润滑轴套 CRB650(JDB650) Metric Cylindrical Bushes



d8: High load 高负荷
e7: Light load 轻负荷
f7: High precision 高精度

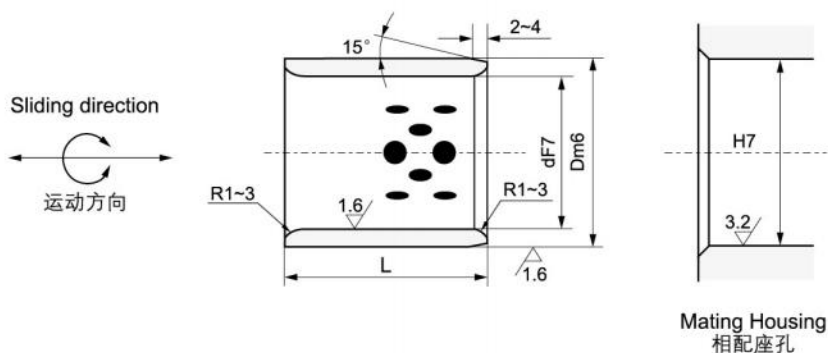
Mating Shaft
相配轴

Material	650#+Graphite
材质	高力黄铜 + 石墨

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		JTW	Ø 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
								2005*	19
202830	202835	202840	202850				+0.037 +0.016	2005	20
203030	203035	203040	203050					2505*	
								2505	22
253330	253335	253340	253350	253360				3005*	25
253530	253535	253540	253550	253560				3005	28
283830		283840							30
303830	303835	303840	303850	303860				3505	31.5
304030	304035	304040	304050	304060			+0.046 +0.021		32
314030		314040						3505	35
324230		324240						4007*	
354430	354435	354440	354450	354460				4007	40
354530	354535	354540	354550	354560				4507*	
		384840							45
405030	405035	405040	405050	405060	405070	405080			
405530	405535	405540	405550	405560			+0.045 +0.020	4507	
455530	455535	455540	455550	455560					
455630	455635	455640	455650	455660					
456030	456035	456040	456050	456060	456070	456080			

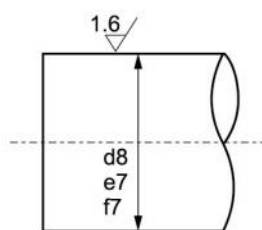
CRB650(JDB650) 自润滑轴套 CRB650(JDB650) Metric Cylindrical Bushes



单位Unit: mm

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

CRB650(JDB650) 自润滑轴套 CRB650(JDB650) Metric Cylindrical Bushes



d8: High load 高负荷
e7: Light load 轻负荷
f7: High precision 高精度

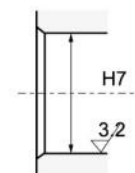
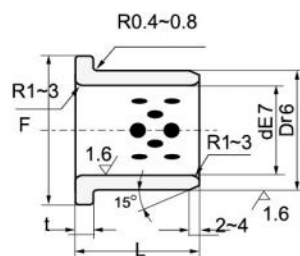
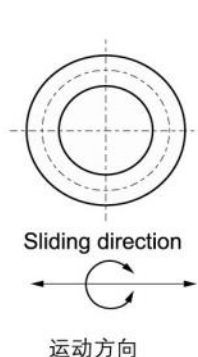
Mating Shaft
相配轴

Material	650#+Graphite
材质	高力黄铜 + 石墨

单位Unit: mm

长度 L ^{-0.1} / _{-0.3}							I.D.After Press-Fitting 压装后内孔	JTW 适用垫片	内径
90	100	120	130	140	150	200			Ø d
							+0.045 +0.020	50	50
	5065100								
							+0.055 +0.025	55	55
								60	60
	6075100							65	63
									65
	7085100						+0.054 +0.024	70	70
								75	75
	7590100								
	7595100							80	80
	8096100	8096120							
	80100100	80100120		80100140			+0.065 +0.030	90	85
9011090	90110100	90110120							90
10012090	100120100	100120120		100120140				100	100
	110130100	110130120							
							+0.064 +0.029	120	110
12014090	120140100	120140120		120140140					120
	125145100	125145120					+0.076 +0.036	-	125
									130
	130150100		130150130						140
	140160100			140160140					150
	150170100				150170150				160
	160180100				160180150				170
	170190100				170190150				180
	180200100				180200150				190
	190210100				190210150		+0.088 +0.042		200
					200230150	200230200			

CRB650F(JFB650) 自润滑翻边轴套 CRB650F(JFB650) Metric Flange Bushes

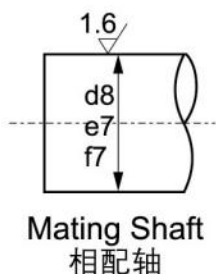


Mating Housing
相配座孔

单位Unit: mm

内径		外径		法兰		长度 L ^{-0.1 -0.3}								
Ø d		Ø 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	+0.041 +0.028	25	3		1210	1212	1215			1220		1225
13		19		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		45					2515			2520		2525
30		40		50								3020		3025
31.5	+0.075 +0.050	45	+0.050 +0.034	60	7.5							3120		
35		50		65							3520		3525	
40		55		70							4020		4025	
45		60		75										
50		65		80										
55		70		85										
60	+0.060 +0.060	75	+0.060 +0.041	90	10									
63		80		95										
65		85		105										
70		90		110										
75		95		120										
80		100		130										
90	+0.107 +0.072	110	+0.062 +0.043	150	10									
100		120		170										
120		140		180										
130		150		190										
140		160		200										
150		170		210										
160	+0.125 +0.085	180	+0.093 +0.068											

CRB650F(JFB650) 自润滑翻边轴套 CRB650F(JFB650) Metric Flange Bushes



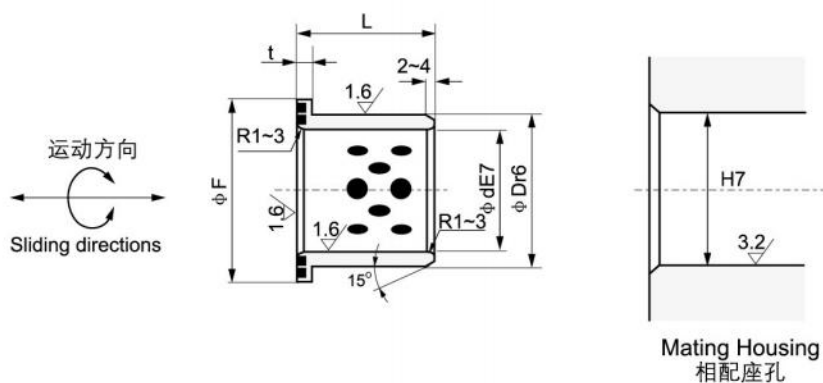
d8: High load 高负荷
e7: Light load 轻负荷
f7: High precision 高精度

Material	650#+Graphite
材质	高力黄铜 + 石墨

单位Unit: mm

长度 L ^{-0.1} / _{-0.3}									压入后 内径公差	内径 Ø d
30	35	40	50	60	67.5	80	100	120		
									+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

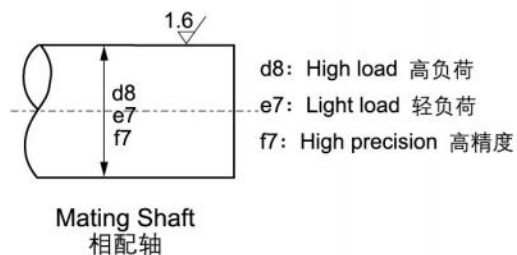
JDBB Metric Flange Bushes



单位Unit: mm

内径		外径		法兰			长度 L ^{-0.1} _{-0.3}									
Ø d	公差	Ø D	公差	Ø F	t	公差	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	18	30					1211			1218		1223				
13	19						1313		1318		1323					
15	+0.050 +0.032	21	+0.041 +0.028	35					1513		1518		1523			
16		22						1613		1618		1623	1625			
18		24		40						1818		1823				
20	+0.061 +0.040	28		45			5	0 -0.04						2020		2025
25		33							50				2520		2525	
30		38		55						3020		3025				
35	+0.075 +0.050	44	+0.050 +0.034	65							3520		3525			
40		50		70	7											
50		62		+0.060 +0.041	90	8										
60	+0.090 +0.060	74	+0.062 +0.043	110	10											
70		85	+0.073 +0.051	120												
80		96		140												

JDBB 自润滑翻边轴套 JDBB Metric Flange Bushes



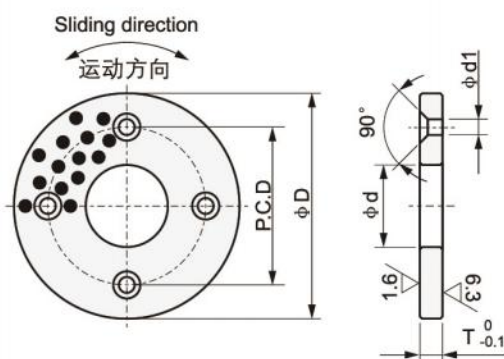
Material	650#+Graphite
材质	高力黄铜 + 石墨

单位Unit: mm

长度 L ^{-0.1} / _{-0.3}												压入后 内径公差	内径 Ø d
27	35	37	38	47	48	50	58	60	68	80	90	+0.016 +0.004	6
												+0.021 +0.006	8
												+0.031 +0.013	10
												+0.026 +0.008	12
												+0.037 +0.016	13
												+0.032 +0.011	15
												+0.046 +0.021	16
												+0.040 +0.015	18
	3035											+0.053 +0.023	20
	3535											+0.046 +0.016	25
4027		4037		4047								+0.046 +0.016	30
			5038		5048		5058					+0.046 +0.016	35
			6038		6048		6058		6068			+0.046 +0.016	40
						7075				7080		+0.046 +0.016	50
								8060			8090	+0.046 +0.016	60
												+0.046 +0.016	70
												+0.046 +0.016	80

JTW650 止推垫片

JTW650 Metric Thrust Washer



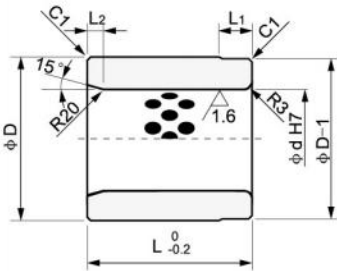
Material	650#+Graphite
材质	高力黄铜 + 石墨

单位Unit: mm

Parts No.	内径		外径	厚度		定位孔			
	Ø d		Ø D	T		P.C.D	个数	定位螺栓	d1
JTW-0603	6.2	+0.2 +0.1	25	3	0 -0.1	15	2	M3	3.5
JTW-0803	8.2		28			18			
JTW-1003	10.2		30			20			
JTW-1203	12.2		40			28			
JTW-1203N						无定位孔			
JTW-1303	13.2					28	2	M3	3.5
JTW-1403	14.2					35			
JTW-1503	15.2		50			无定位孔			
JTW-1603	16.2					35	2	M3	3.5
JTW-1603N						无定位孔			
JTW-1803	18.2					35	2	M3	3.5
JTW-2005	20.2		40			M5		6	
JTW-2505	25.2		55	无定位孔					
JTW-2505N			60	45		2	M5	6	
JTW-3005	无定位孔								
JTW-3005N	50			2		M5	6		
JTW-3505	70		50			2	M5	6	
JTW-4007	80	60	M6				7		
JTW-4507	90	70							
JTW-5008	50.3	100		75		4		M8	9
JTW-5508	55.3	110	85						
JTW-6008	60.3	120	90						
JTW-6508	65.3	125	95						
JTW-7010	70.3	130	10	100		M10	11		
JTW-7510	75.3	140		110					
JTW-8010	80.3	150		120					
JTW-9010	90.5	170		140					
JTW-10010	100.5	190		160					
JTW-12010	120.5	200		175					



JPBF	FC250#+Graphite 铸铁 + 石墨
JPBW	650#+Graphite 高力黄铜 + 石墨



单位Unit: mm

Material	d	d H7		D		L	L ₁	L ₂
JPBW JPBF	25	25	+0.021 0	40	±0.008	40	10	5
	30	30		50		50		
	35	35	+0.025 0	60	±0.0095	55	15	
	40	40		70		60	10	
	50	50		80		75	15	
	60	60	+0.030 0	100	±0.01	90	20	10
	80	80		120		120		
	100	100	+0.035 0	140	±0.0125	150	25	
	120	120		180				

CRB650GT 钢基铜合金镶嵌型固体润滑轴承 CRB650GT Steel shell cast bronze with graphite plug



材料特点 Material Properties

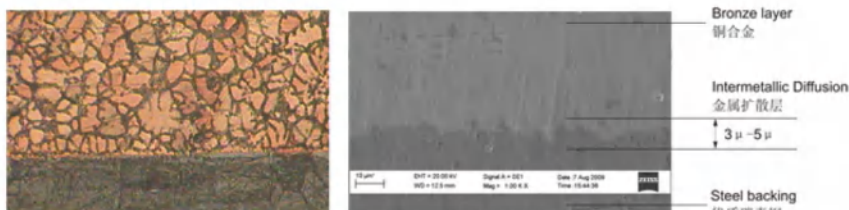
1. 结合了铜合金的耐磨性和钢的高机械强度性能；
 2. 可以根据工况要求铸造不同的铜合金材料包括低摩擦性能的铅铜合金；
 3. 由于内外层材料具有的不同摩擦系数，可以防止轴承在高载低速工况下的窜动和走外圆；
 4. 可以根据需要在工作面覆盖或镶嵌固体润滑剂以达到自我润滑的目的；
 5. 相比纯铜套更具有成本优势，节约利用资源；
 6. 可以进行后期加工，比如钢基体的热处理、合金层车加工等；
 7. 可以根据设计需要在不同的面或者复杂的面上进行一层或多层的铜合金铸造；
 8. 与传统的铜套在使用特性上具有类似的特性，可以适合于不同温度下不同润滑条件下的工况；
 9. 相比纯铜套具有更好的机械承载性能，特别是抗冲击强度。
1. Combined with the resistance of copper alloy and high mechanical strength properties of steel;
 2. Different cast copper alloy material is available according to work condition, including lower friction lead bronze;
 3. The different coefficient of friction of the inner and outer material can protect the axial and rotating movement of the bearing in the housing under extremely high load with low speed;
 4. The solid lubricant plug can be embedded to achieve the self-lubricating performance;
 5. Compare with pure bronze bearing, the cost is reduced obviously;
 6. The steel backing allowed to heat treatment to get high hardness, meanwhile the inner layer can be re-machined if necessary;
 7. The bronze layer can be casted on one or more layers to complex structure;
 8. This material has same characteristic as pure bronze bearing, suitable for wide temperature range, different oil condition;
 9. The CRB650GT has better mechanical load performance compare with bronze material, especially the impact strength.

基材特征Structure

在优质碳钢表面浇铸高强度铜合金作为轴承的基础材料，这种制造工艺使得铜和钢结合面达到完全的冶金结合，在降低了材料成本的同时也提高了其承载能力；而根据使用工况在其工作面镶嵌固体润滑剂大大降低了轴承的摩擦系数并达到了自我润滑的目的。

Steel shell with cast bronze bearing material liner with specially formulated solid lubricants embedded into the holes in the liner material. The process of casting bronze on steel achieves an integral metallurgical structure between bronze and steel with an increased carrying capacity while the material cost is considerably reduced. The solid lubricant can reduce the coefficient of friction and performs the self-lubricating function.

金相组织Features



从金相图可以看出临界区的钢与铜合金之间产生了相互扩散，这种在铸造过程中产生的扩散层大约在 $3\mu\sim 5\mu$ 之间使得两种材料达到了完全的冶金结合形成了很好的结合强度，在任何情况下这种机械强度超过了铜合金本身。

钢和铜相互之间扩散的组织结构提供了这种材料优秀的机械性能，同时可将轴承运作过程中产生的热量及时转移。薄壁的铜合金层使得这种双层材料的热膨胀系数相近，因此650GT材料可以在铸造后根据需要进行热处理，也就是说这种新型的材料可以确保在使用过程中保持很高的精度和机械配合。

结合了铜合金的耐磨性和钢的高机械强度性能；

- 可以根据工况要求铸造不同的铜合金材料包括低摩擦性能的铅铜合金；
- 由于内外层材料具有的不同摩擦系数，可以防止轴承在高载低速工况下的窜动和走外圆；
- 可以根据需要在工作面覆着或镶嵌固体润滑剂以达到自我润滑的目的；
- 相比纯铜套更具有成本优势，节约利用资源；
- 可以进行后期加工，比如钢基体的热处理、合金层车加工等；
- 可以根据设计需要在不同的面或者复杂的面上进行一层或多层的铜合金铸造；
- 与传统的铜套在使用特性上具有类似的特性，可以适合于不同温度下不同润滑条件下的工况；
- 相比纯铜套具有更好的机械承载性能，特别是抗冲击强度

CRB650GT combines the advantages of a metallic bearing and the self lubricating of graphite. It is particularly good for low-speed and high load applications, where external lubrication is not practical. The new based material provides economic solution and even good resistance to shock loads.

Cylindrical bushes

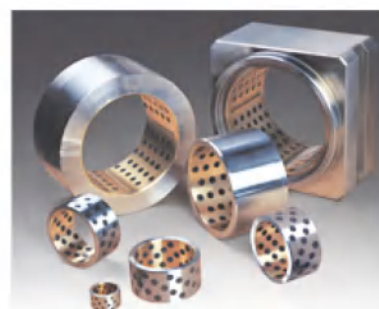
Thrust washers

Flange bushes

Non-standard parts as design

CRB650GT supplied by customer ordering, the tolerance is according to CRB650 standard dimension.

This type of products can be widely used under high temperature and high load with low speed conditions, such as successive casting machinery, mineral machinery, injection molding machinery, dock machinery and so on



石墨镶嵌方式 Graphite plug embedded type



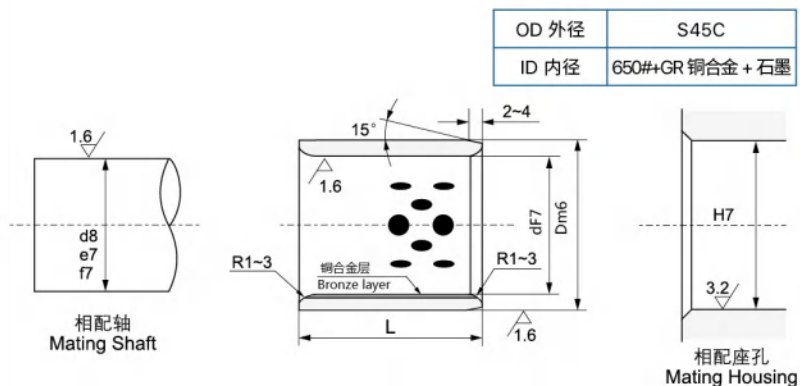
A: 内径 (ID) ≤ 100



B: 内径 (ID) ≥ 100

CRB650GT 自润滑轴套

CRB650GT Metric Cylindrical Bushes



单位Unit: mm

ID	F7	OD	m6	Wall Thick 壁厚	Bronze Thick 铜层厚	L-0.10/0.30													
						30	35	40	50	60	70	80	90	100	120	130	140	150	200
50	+0.050 +0.025	60	+0.030 +0.011	5	1.5	■	■	■	■	■	■	■							
		65		7.5	1.5	■	■	■	■	■	■	■	■						
55	70	7.5		1.5	■	■	■	■	■	■	■								
60	75	7.5		1.5	■	■	■	■	■	■	■	■	■						
65	80	7.5		1.5				■	■	■	■								
70	+0.060 +0.030	85	+0.035 +0.013	7.5	1.5		■	■	■	■	■	■	■	■					
		90		10	1.5			■	■	■	■								
75		90		7.5	1.5				■	■	■	■	■						
		95		10	1.5				■	■	■	■	■	■					
80		95		7.5	1.5			■	■	■	■	■	■	■	■	■			
		100	10	1.5			■	■	■	■	■	■	■	■	■	■			
85		100		7.5	1.5			■	■	■	■	■	■	■	■	■	■		
90	+0.071 +0.036	110		10	2				■	■	■	■	■	■	■	■	■		
100		120	10	2					■	■	■	■	■	■	■	■			
110		130	10	2						■	■	■	■	■	■	■			
120		140	10	2						■	■	■	■	■	■	■			
125		145	10	2								■	■	■	■	■			
130	+0.083 +0.043	150	+0.040 +0.015	10	2							■	■	■	■	■			
140		160		10	2						■	■	■	■	■				
150		170		10	2							■	■	■	■				
160		180		10	2							■	■	■	■	■			
170			190		10	2							■	■	■	■	■		
180		200	+0.046 +0.017	10	2								■	■	■	■	■		
190	210	10		2								■	■	■	■	■	■		
200	+0.096 +0.050	230	+0.046 +0.017	15	3									■	■	■	■		
225		255		15	3								■	■	■	■	■		
250		280		15	3									■	■	■	■	■	
280	+0.108 +0.056	320	+0.057 +0.021	20	4									■	■	■	■		
300		340		20	4									■	■	■	■		
350		390		20	4										■	■	■	■	
400	+0.119 +0.062	450		+0.063 +0.023	25	5											■	■	
450		500	25		5											■	■		



CRB200C/CRB200G

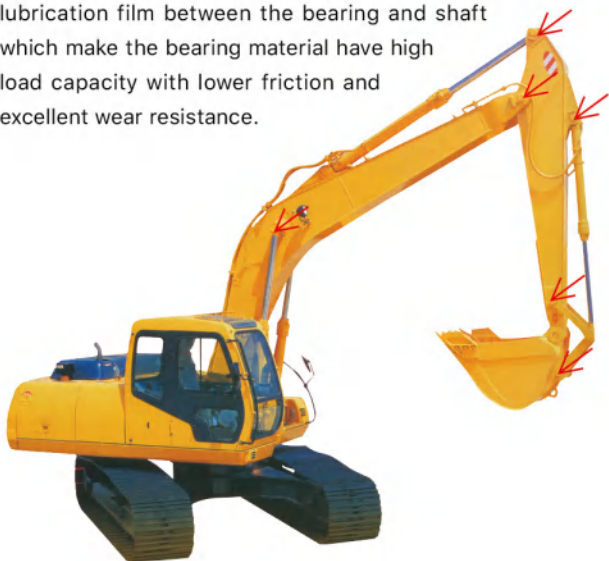


CRB250C/CRB250G

材料特性 Material Characteristic

CRB200以优质碳素钢为基体，通过合理的油路设计，在装配时涂上油脂使得其在工作时能较长时间的储存所需要的足够油脂，并且能均匀的分布在轴承及轴的表面上，从而达到了延长使用寿命缩短加油频率的目的；同时由于特殊的油路系统能够存入工作时侵入轴承的灰尘和其它异物，从而最大限度的降低对轴承使用过程中的影响。CRB200另外一个特殊性是在轴承的工作表面经过一种特殊工艺的处理，使其表面覆盖了一层特殊的固体润滑剂，这层特殊的润滑剂在起始动作时能很快的转移到对磨轴的表面上，从而较快的降低了起始摩擦系数，提高了轴承的耐磨性。

CRB200 is produced by carbon steel with oil groove, the initial grease given can be deposited the mass lubrication for long time working. The work surface has been sprayed a special solid lubricant, this solid lubricant can be transfer to the mating material during the operation and forming a solid lubrication film between the bearing and shaft which make the bearing material have high load capacity with lower friction and excellent wear resistance.



CRB250则在CRB200的基础上进行了改良，以固体润滑剂嵌入替代了原有的披覆方式，使得产品在使用过程中提供了源源不断的润滑源，从而达到免维护的目的。

The CRB250 bearing material is developed from the CRB200, the solid lubricant have been embedded instead of covering on surface which can provide the solid lubricant for much long time during the operation even without any oil given. This material provides a maintenance-free design solution, particularly for high load, intermittent of oscillating motion with lower speed and excellent wear resistance required.

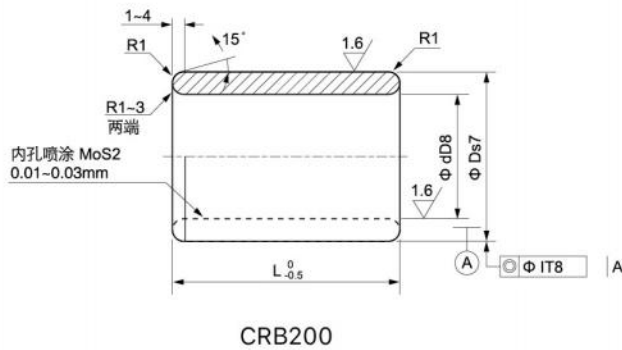


钢基系列高承载轴承 High loading series harden steel bushes

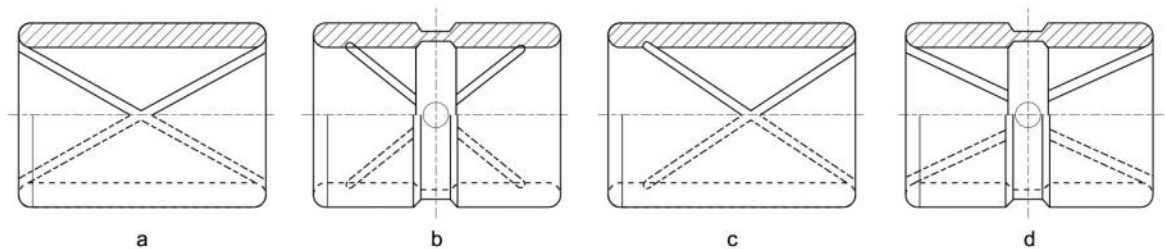
材料特性 Material Characteristic

CRB标准 Standard	CRB200C	CRB200G	CRB250C	CRB250G
基材 Base material	S45C	Gcr15	S45C	Gcr15
线胀系数 Coe. of linear expansion	1.1×10 ⁻⁵ /°C	1.1×10 ⁻⁵ /°C	1.1×10 ⁻⁵ /°C	1.1×10 ⁻⁵ /°C
使用温度 Temp. °C	-100～+300	-100～+300	-100～+300	-100～+300
硬度 Hardness	HRC≥40	HRC≥50	HRC≥40	HRC≥50
最大承载 Max. Load (Mpa)	150Mpa	200Mpa	150Mpa	200Mpa
最大线速度 Max. Speed (m/min)	10	10	15	15
润滑剂形式 Solid Lubricant	表面覆盖 With film		镶嵌于基体 Solid embed	
	0.01-0.03mm			
公差配合 Mating tolerance	装配座孔 Mating Housing: H7 相配轴 Mating shaft: ef/f7			

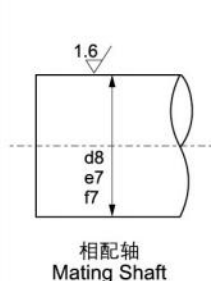
轴套示意图 Bushes sketch



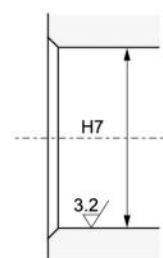
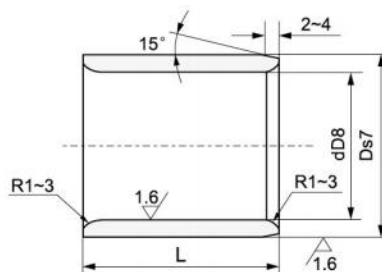
典型油槽形式 Typical oil groove type



CRB200 系列尺寸表 CRB200 Series Standard Size



相配轴
Mating Shaft

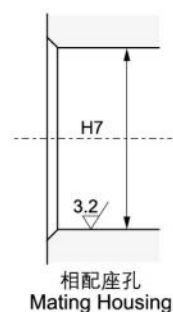
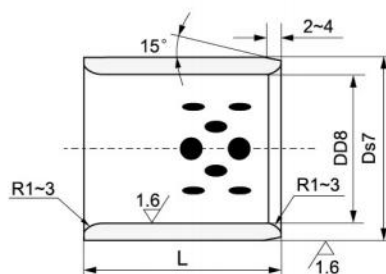
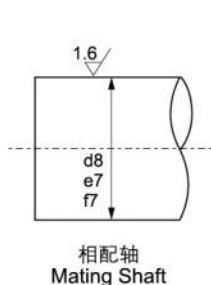


相配座孔
Mating Housing

单位Unit: mm

d	D8	D	s7	L 0/-0.5										
				20	25	30	35	40	50	60	70	80	100	120
30	+0.098	38	+0.068 +0.043	■	■	■	■	■	■					
30	+0.065	40		■	■	■	■	■	■					
32	+0.119 +0.080	42		■		■		■						
35		45		■	■	■	■	■	■	■				
38		48		■		■		■						
40		50		■	■	■	■	■	■	■	■			
40		55	+0.083 +0.053	■		■	■	■	■	■				
45		60				■	■	■	■	■	■			
50		60				■	■	■	■	■	■			
50		62				■		■	■	■	■			
50		65				■		■	■	■	■	■	■	
55	+0.146 +0.100	70	+0.089 +0.059			■	■	■	■	■	■			
60		75				■	■	■	■	■	■	■	■	
65		80						■	■	■	■	■	■	
70		85	+0.106 +0.071			■	■	■	■	■	■	■	■	
75		90							■	■	■	■	■	
75		95								■	■	■	■	
80		95						■	■	■	■	■	■	
80		100						■	■	■	■	■	■	
85		100								■		■		
90	+0.174 +0.120	110	+0.114 +0.079					■	■	■		■	■	
100		120	+0.132 +0.092					■	■	■	■	■	■	
110		130						■	■		■	■	■	■
120		140	+0.140 +0.100								■	■	■	■
130	+0.208 +0.145	150										■	■	■
140		160											■	■
150		170	+0.148 +0.108									■	■	■

CRB250 系列尺寸表 CRB250 Series Standard Size

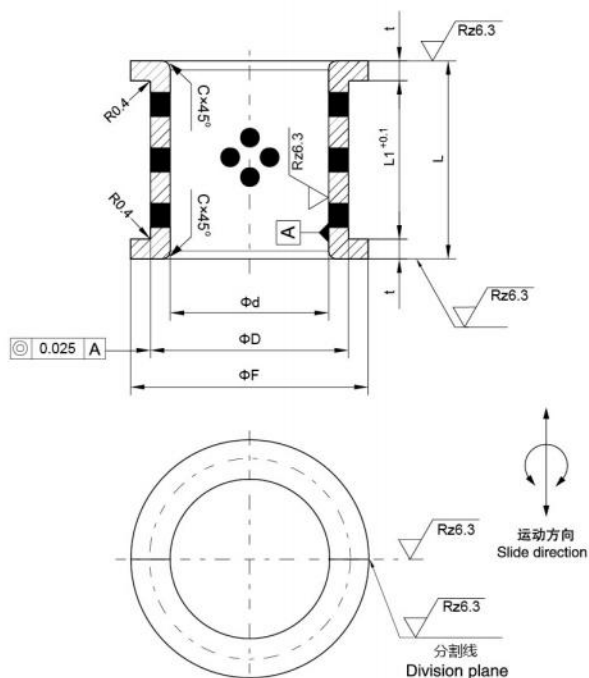


单位Unit: mm

d	D8	D	s7	L 0/-0.5										
				20	25	30	35	40	50	60	70	80	100	120
30	+0.098 +0.065	38	+0.068 +0.043	■	■	■	■	■	■					
30		40		■	■	■	■	■	■					
32	+0.119 +0.080	42		■		■		■						
35		45		■	■	■	■	■	■	■				
38		48		■		■		■						
40		50		■	■	■	■	■	■	■	■			
40		55	+0.083 +0.053	■		■	■	■	■	■				
45		60				■	■	■	■	■	■			
50		60				■	■	■	■	■	■			
50		62				■		■	■	■	■			
50		65				■		■	■	■	■	■	■	
55	+0.146 +0.100	70	+0.089 +0.059			■	■	■	■	■	■			
60		75				■	■	■	■	■	■	■	■	
65		80						■	■	■	■	■	■	
70		85	+0.106 +0.071			■	■	■	■	■	■	■	■	
75		90							■	■	■	■	■	
75		95								■	■	■	■	
80		95						■	■	■	■	■	■	
80		100						■	■	■	■	■	■	
85		100								■		■		
90	+0.174 +0.120	110	+0.114 +0.079					■	■	■		■	■	
100		120						■	■	■	■	■	■	
110		130	+0.132 +0.092					■	■		■	■	■	■
120		140									■	■	■	■
130	+0.208 +0.145	150	+0.140 +0.100									■	■	■
140		160											■	■
150		170	+0.148 +0.108									■	■	■



材料：高力黄铜+固体润滑剂
Material: CuZn25Al5Mn4Fe3
+Graphite(500#SP)



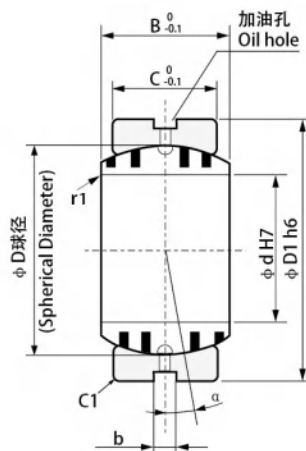
单位Unit: mm

产品代号 Part No.	I.D. Φd 内径 H7	O.D. ΦD 外径		ΦF d11	L h12	L1 +0.1 0	t	C
JFFB-030	30	38	s6	48	34	22	6	1
JFFB-035	35	45	”	55	45	32	6.5	”
JFFB-040	40	50	”	60	50	35	7.5	”
JFFB-045	45	55	”	65	55	40	7.5	”
JFFB-050	50	60	”	70	60	45	7.5	”
JFFB-060	60	70	”	80	70	50	10	2
JFFB-070	70	85	”	95	80	60	10	”
JFFB-080	80	95	”	110	95	70	12.5	”
JFFB-090	90	105	”	120	105	80	12.5	”
JFFB-100	100	115	”	130	115	90	12.5	”
JFFB-110	110	125	r6	140	125	100	12.5	”
JFFB-120	120	135	”	150	140	110	15	”
JFFB-140	140	160	”	175	160	120	20	”
JFFB-160	160	180	”	200	180	140	20	”

JDBS 自润滑关节轴承 JDBS Metric Sphericar Plain Bushes

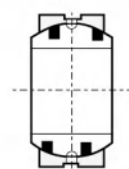


内圈 Inner ring
材料: 高力黄铜+固体润滑剂
Material: CuZn25Al5Mn3Fe3
+Graphite (500#SP)
外圈 Outer ring
材料 Material: S45C
硬度 Hardness: HRC 25~30

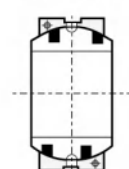


Spherical bushing assembly
关节轴承的装配

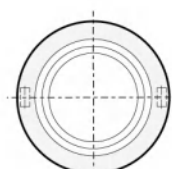
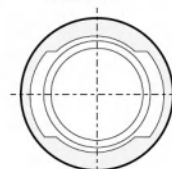
• JDBS 015~090



• JDBS ≥ 100



Fixing direction
安装方向



单位Unit: mm

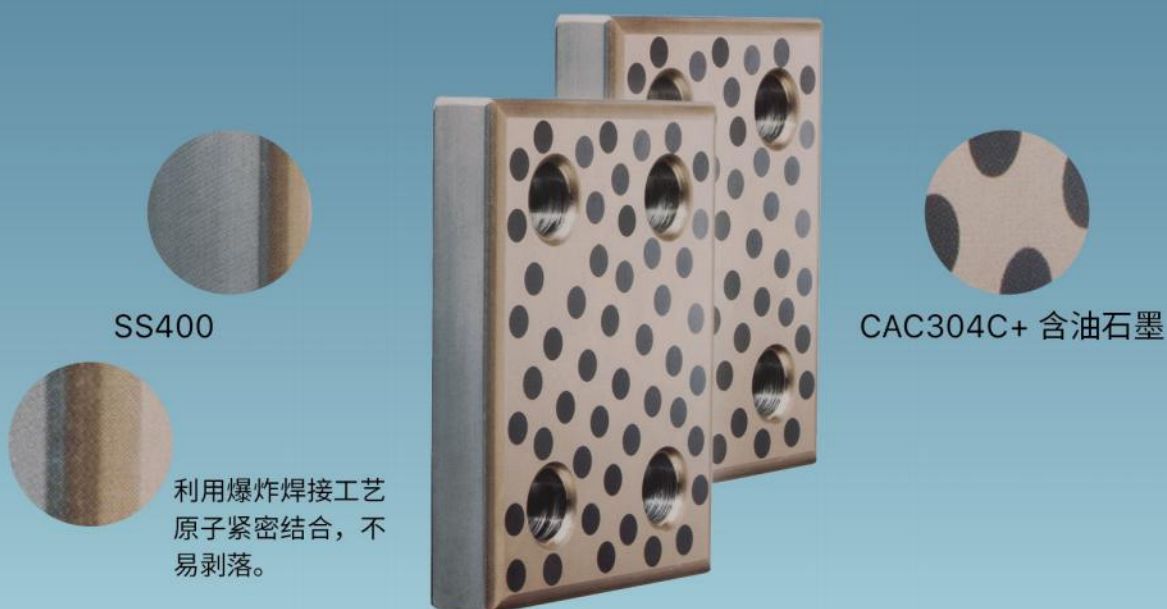
产品代号 Part No.	d	H7	D1	h6	B	C	D	b	调整角度 Alignment Angle α°	径向承载 Allowable Radial Load (kN)	径向承载 Allowable Thrust Load (kN)
JDBS-015	15	$^{+0.018}_0$	26	$^{0}_{-0.013}$	12	9	22	4	8	6.5	0.5
JDBS-020	20	$^{+0.021}_0$	32	$^{0}_{-0.016}$	16	14	28	"	4	12.6	1.4
JDBS-025	25	"	42	"	21	18	36	"	5	21.8	2.5
JDBS-030	30	"	50	"	27	23	44	"	6	32.0	3.5
JDBS-035	35	$^{+0.025}_0$	55	$^{0}_{-0.019}$	30	26	49	"	5	43.7	4.8
JDBS-040	40	"	62	"	33	28	55	"	6	54.7	5.7
JDBS-045	45	"	72	"	36	31	62	"	5	69.7	7.2
JDBS-050	50	"	80	"	42	36	70	"	"	92.4	10
JDBS-060	60	$^{+0.030}_0$	100	$^{0}_{-0.022}$	53	45	90	"	6	143	16
JDBS-070	70	"	110	"	58	50	99	"	5	181	20
JDBS-080	80	"	130	"	70	60	115	"	6	254	30
JDBS-090	90	$^{+0.035}_0$	140	$^{0}_{-0.025}$	76	65	125	"	"	313	36
JDBS-100	100	"	160	"	88	75	145	6	"	544	64
JDBS-110	110	"	170	"	93	80	155	"	5	642	73
JDBS-120	120	"	190	$^{0}_{-0.029}$	105	90	17	"	6	797	94
JDBS-130	130	$^{+0.040}_0$	200	"	110	95	180	"	5	880	105
JDBS-140	140	"	210	"	90	70	"	"	7	668	56
JDBS-150	150	"	220	"	120	105	200	"	5	1135	129
JDBS-160	160	"	230	"	105	80	"	"	8	891	73
JDBS-180	180	"	260	$^{0}_{-0.032}$	105	"	225	"	6	1002	74
JDBS-200	200	$^{+0.046}_0$	290	"	130	100	250	"	7	1434	117
JDBS-220	220	"	320	$^{0}_{-0.036}$	135	"	275	"	8	1577	118
JDBS-240	240	"	340	"	140	"	300	9	"	1720	"
JDBS-260	260	$^{+0.052}_0$	370	"	150	110	325	"	7	2072	143
JDBS-280	280	"	400	"	155	120	350	"	6	2455	172
JDBS-300	300	"	430	$^{0}_{-0.040}$	165	120	375	"	7	2630	"



晋信双合金导板

节约成本 30% 以上

性能与高力黄铜导板完全相同

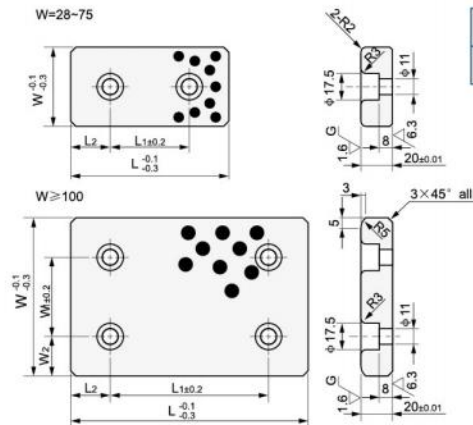


晋信双合金导板 4 大优势



1. 采用钢位基体、内层为高力黄铜的双合金新型导板，节约成本 30% 以上！
2. 嵌入世界顶级石墨柱，应用自主研发的独特石墨排列技术和石墨孔加工方式，配合先进的真空浸油技术，使其自润滑导向性能发挥的淋漓尽致。
3. 晋信双合金导板采用爆炸焊接工艺，能够让原子紧密结合，增加了产品强度，使用时更加耐磨。
4. 铜合金表面硬度检测达标，HB180 以上；平行度、平面度可以绝对保证；耐热试验，证明形状无任何改变，膨胀系数极小；抗弯试验，正面、反面均无剥落现象发生；可以根据客户来图定制。
5. 材料特点详见 P: 45、46 ；尺寸参照 JESW, P:56

JESW 自润滑板 JESW Oilless Wear Plate

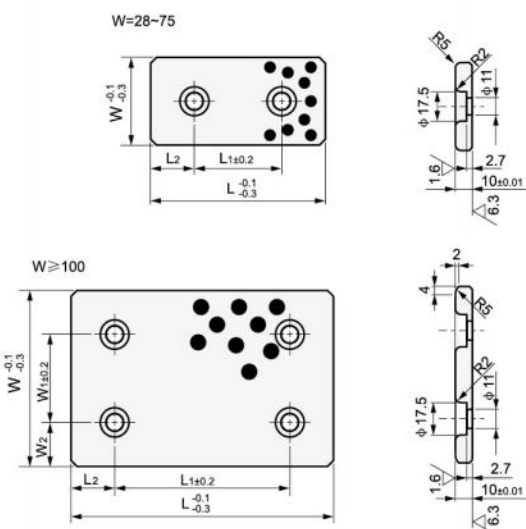


Material	650#+Graphite
材质	高力黄铜 + 石墨

运动方向
 $W=28 \cdot 38$ $W \geq 48$

单位Unit: mm

Parts No.	宽		长度		厚度		定位孔间隙						定位孔 个数
	W		L		T		W ₁		W ₂	ℓ ₁		ℓ ₂	
JESW-28x75	28	-0.1 -0.3	75	-0.1 -0.3	20	±0.01	±0.2			45	±0.2	15	2
JESW-28x100									50	25			
JESW-28x150									100				
JESW-38x75	38		75						45	15			
JESW-38x100			100						50	25			
JESW-38x150			150						100				
JESW-48x75	48		75						45	15			
JESW-48x100			100						50	25			
JESW-48x125			125						75				
JESW-48x150			150						100				
JESW-48x200			200						150				
JESW-58x75	58		75						45	15			
JESW-58x100			100						50	25			
JESW-58x150			150						100				
JESW-75x75	75		75						25				
JESW-75x100			100						50				
JESW-75x125			125						75				
JESW-75x150			150						100				
JESW-75x200			200						150				
JESW-100x100	100		100					50	25		50		
JESW-100x125			125								75		
JESW-100x150			150								100		
JESW-100x200			200							150			
JESW-100x250			250							200	50		
JESW-100x300	300												
JESW-125x125	125		125				50		37.5	75	25		
JESW-125x150			150							100			
JESW-125x200			200							150			
JESW-125x250			250							200		50	
JESW-125x300			300							75			
JESW-125x350			350										
JESW-150x150	150		150					100	25	100	25		
JESW-150x200			200							150			
JESW-150x250			250							200			



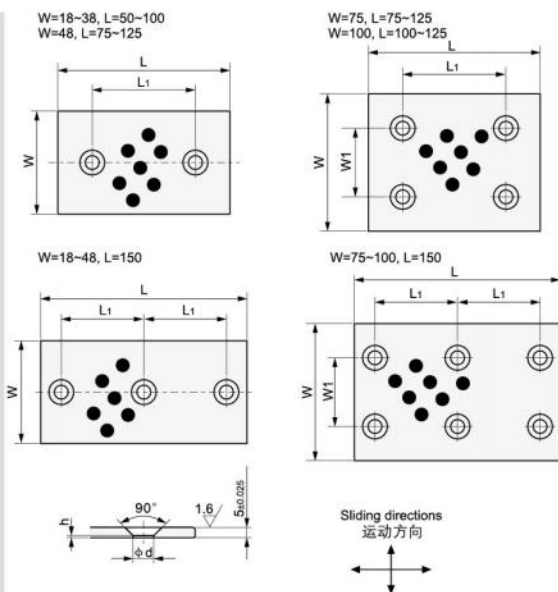
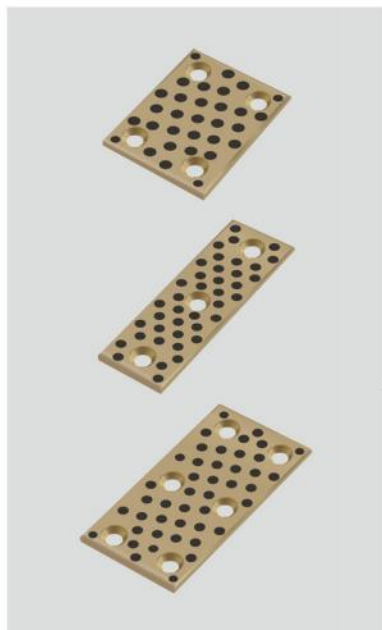
Material	650#+Graphite
材质	高力黄铜 + 石墨



单位Unit: mm

Parts No.	宽		长度		厚度		定位孔间隙				定位孔 个数	
	W		L		T		W ₁	W ₂	ℓ ₁	ℓ ₂		
JTWP-28x75	28	-0.1 -0.3	75	-0.1 -0.3	10	±0.01	±0.2	-	-	45	15	2
JTWP-28x100			100							50		
JTWP-28x125			125							75	25	
JTWP-28x150			150							100		
JTWP-38x75	38		75							45	15	
JTWP-38x100			100							50		
JTWP-38x125			125							75	25	
JTWP-38x150			150							100		
JTWP-48x75	48		75							45	15	
JTWP-48x100			100							50		
JTWP-48x125			125							75	25	
JTWP-48x150			150							100		
JTWP-48x200	58		200							150		
JTWP-58x75			75							45	15	
JTWP-58x100			100							50		
JTWP-58x150			150							100	±0.2	
JTWP-75x75	75	75	25		4							
JTWP-75x100		100	50									
JTWP-75x125		125	75									
JTWP-75x150		150	100									
JTWP-75x200	100	200	150									
JTWP-100x100		100	50									
JTWP-100x125		125	75	25								
JTWP-100x150		150	100									
JTWP-100x200	150	200	150									
JTWP-100x250		250	200									
JTWP-125x150		150	100									
JTWP-125x200		200	150									
JTWP-125x250	150	250	200									
JTWP-150x150		150	100									
JTWP-150x200		200	150									

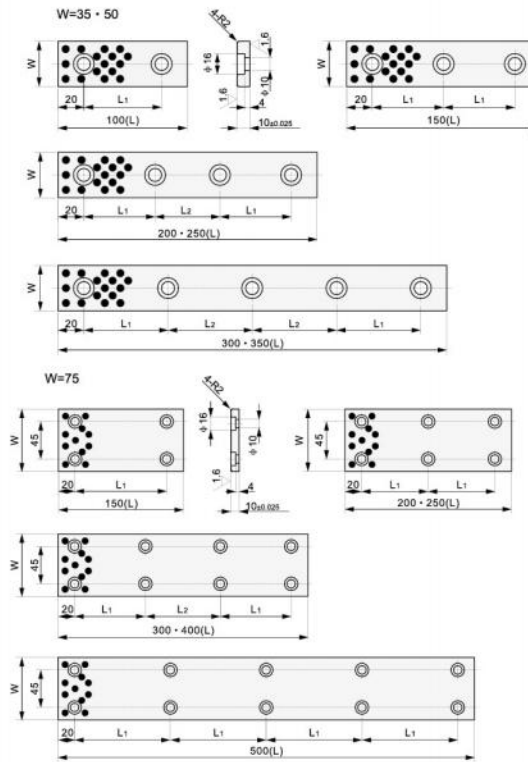
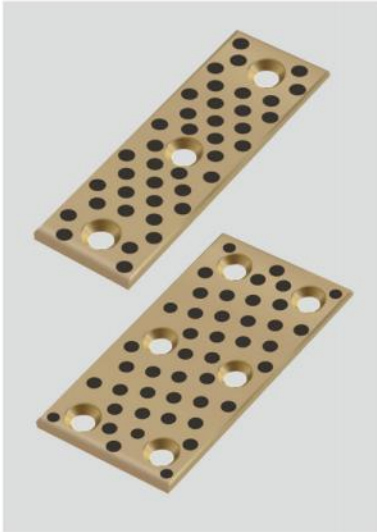
JUWP 自润滑板 JUWP Oilless Wear Plate



Material	650#+Graphite
材质	高力黄铜 + 石墨

单位Unit: mm

Parts No.	宽	长度	定位孔间隙		定位孔内径	倒角厚度	螺栓
	W	L	W_1	ℓ_1	d	h	Mounting
JUWP-18x50	18	50	10	20	6.5	1.5	M6
JUWP-18x75		75		45			
JUWP-18x100		100		70			
JUWP-18x150		150		60			
JUWP-28x50	28	50		20	10	0.8	M8
JUWP-28x75		75		45			
JUWP-28x100		100		70			
JUWP-28x150		150		60			
JUWP-38x50	38	50		20			
JUWP-38x75		75		45			
JUWP-38x100		100		70			
JUWP-38x150		150		60			
JUWP-48x75	48	75		45			
JUWP-48x100		100		70			
JUWP-48x125		125		95			
JUWP-48x150		150		60			
JUWP-75x75	75	75		45			
JUWP-75x100		100		70			
JUWP-75x125		125		95			
JUWP-75x150		150		60			
JUWP-100x100	100	100		70			
JUWP-100x125		125		95			
JUWP-100x150		150		60			



Material	650#+Graphite
材质	高力黄铜 + 石墨

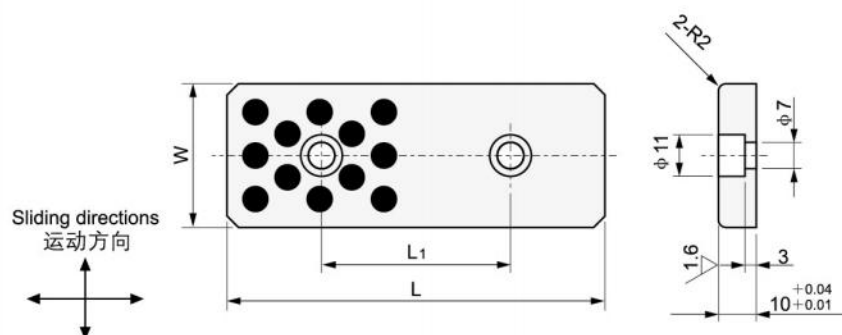
单位Unit: mm

Parts No.	宽	长	螺栓位置		螺栓数量
	W	L	L ₁	L ₂	
JOLP-35x100	35	100	60	-	2
JOLP-35x150		150	55	-	3
JOLP-35x200		200	55	50	4
JOLP-35x250		250	70	70	4
JOLP-35x300		300	65	65	5
JOLP-35x350		350	80	75	5
JOLP-50x100	50	100	60	-	2
JOLP-50x150		150	55	-	3
JOLP-50x200		200	55	50	4
JOLP-50x250		250	70	70	4
JOLP-50x300		300	65	65	5
JOLP-50x350		350	80	75	5
JOLP-75x150	75	150	110	-	4
JOLP-75x200		200	80	-	6
JOLP-75x250		250	105	-	6
JOLP-75x300		300	85	90	8
JOLP-75x400		400	120	120	8
JOLP-75x500		500	115	-	10

JOML 自润滑板 JOML Oilless Wear Plate



Material	650#+Graphite
材质	高力黄铜 + 石墨



单位Unit: mm

Parts No.	宽	长	螺栓位置
	W	L	L ₁
JOML-18x75	18	75	45
JOML-18x100		100	50
JOML-18x125		125	75
JOML-18x150		150	100
JOML-28x75	28	75	45
JOML-28x100		100	50
JOML-28x125		125	75
JOML-28x150		150	100
JOML-38x75	38	75	45
JOML-38x100		100	50
JOML-38x125		125	75
JOML-38x150		150	100
JOML-48x75	48	75	45
JOML-48x100		100	50
JOML-48x125		125	75
JOML-48x150		150	100

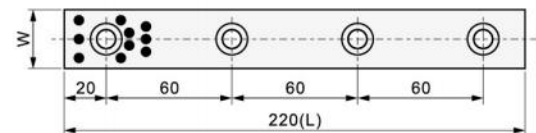
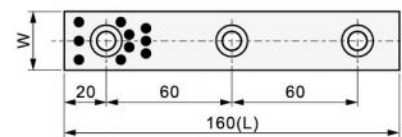
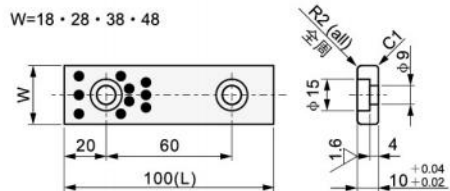
JTLP 自润滑板 JTLP Oilless Wear Plate

JinxinTM

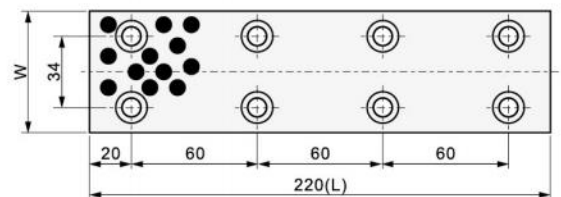
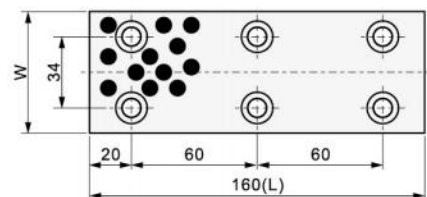
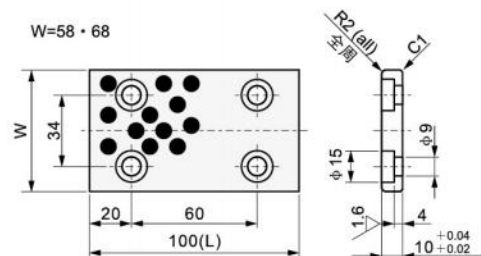


Material	650#+Graphite
材质	高力黄铜 + 石墨

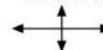
W=18 • 28 • 38 • 48



W=58 • 68



Sliding directions
运动方向



单位Unit: mm

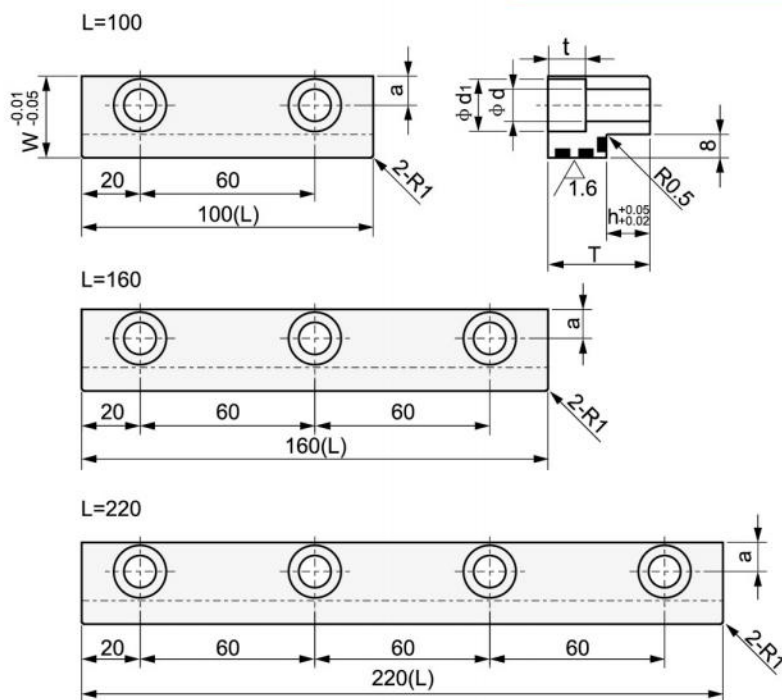
Parts No.	宽	长
	W	L
JTLP-18x100	18	100
JTLP-18x160		160
JTLP-18x220		220
JTLP-28x100	28	100
JTLP-28x160		160
JTLP-28x220		220
JTLP-38x100	38	100
JTLP-38x160		160
JTLP-38x220		220
JTLP-48x100	48	100
JTLP-48x160		160
JTLP-48x220		220
JTLP-58x100	58	100
JTLP-58x160		160
JTLP-58x220		220
JTLP-68x100	68	100
JTLP-68x160		160
JTLP-68x220		220

JGLDW 自润导轨

JGLDW Oilless Guide Rail



Material	650#+Graphite
材质	高力黄铜 + 石墨



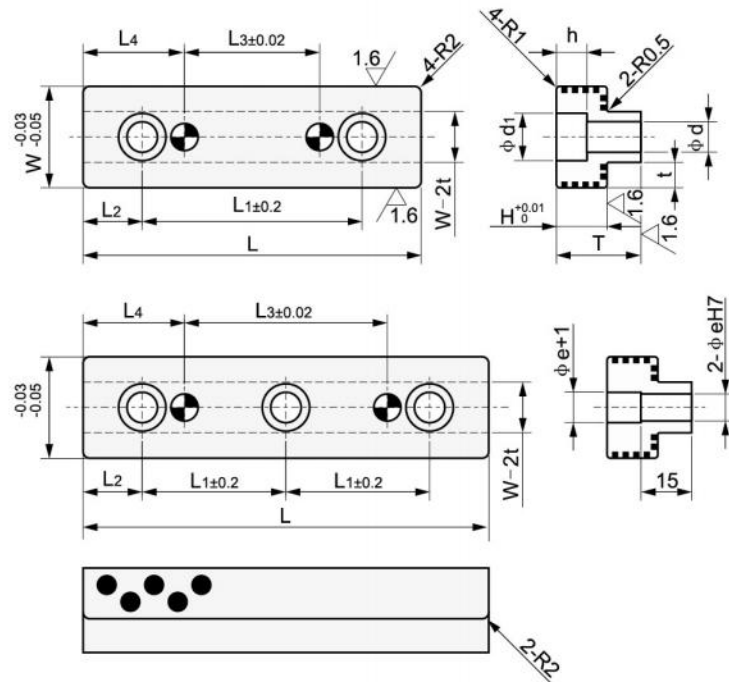
单位Unit: mm

Parts No.	W	L	T	a	d	d ₁	h	t
JGLDW-23x100	23	100	30	7.5	7	11	15	7
JGLDW-23x160		160						
JGLDW-23x220		220						
JGLDW-23x100		100	41				26	
JGLDW-23x160		160						
JGLDW-23x220		220						
JGLDW-28x100	28	100	25	10	11	18	10	13
JGLDW-28x160		160						
JGLDW-28x220		220						
JGLDW-28x100		100	35				15	
JGLDW-28x160		160						
JGLDW-28x220		220						
JGLDW-28x100		100	56				26	
JGLDW-28x160		160						
JGLDW-28x220		220						



Material	650#+Graphite
材质	高力黄铜 + 石墨

Sliding directions
运动方向



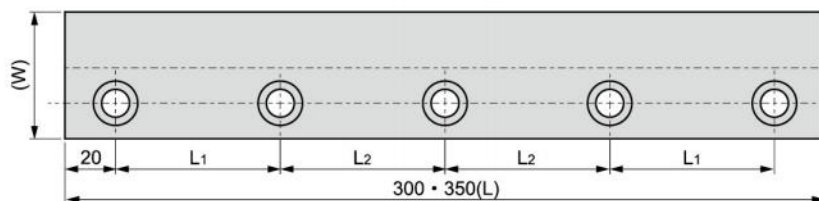
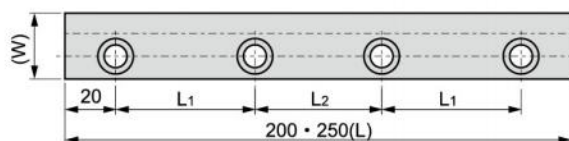
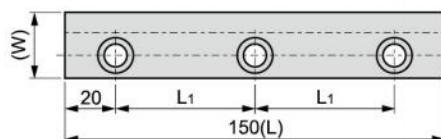
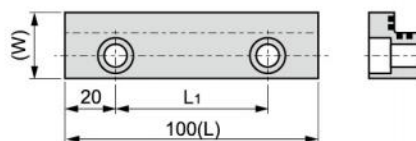
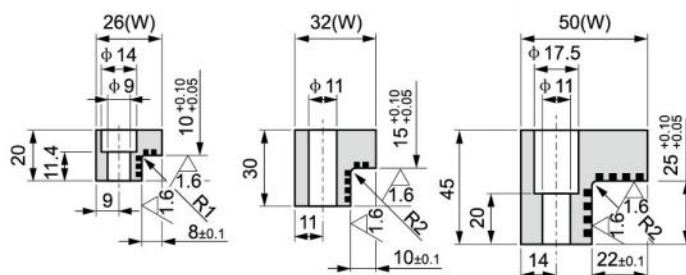
单位Unit: mm

Parts No.	W	L	L ₁	L ₂	L ₃	L ₄	T	H	t	d	d ₁	h	e H7
JTGLW-20x60	20	60	35	12.5	15	22.5	15	8	4.5	5.5	9.5	6	6 ^{+0.012} ₀
JTGLW-20x80		80	55		35								
JTGLW-20x100		100	75		55								
JTGLW-25x80	25	80	50	15	20	30	20	10	5.5	6.5	11	7	6 ^{+0.012} ₀
JTGLW-25x100		100	70		40								
JTGLW-25x120		120	45		60								
JTGLW-30x100	30	100	65	17.5	40	40	25	15	7.5	9	14	9	8 ^{+0.015} ₀
JTGLW-30x120		120	42.5		60								
JTGLW-30x140		140	52.5		80								
JTGLW-40x120	40	120	40	20	40	40	30	15	11	11	18	11	8 ^{+0.015} ₀
JTGLW-40x140		140	50		60								
JTGLW-40x160		160	60		80								
JTGLW-40x180		180	70		100								

JSOL 自润滑板 JSOL Oilless Wear Plate



Material	650 # + Graphite
材质	高力黄铜+石墨



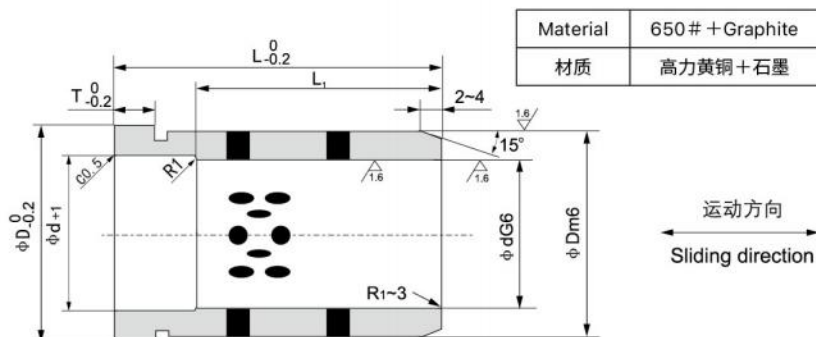
Sliding directions
运动方向

单位Unit: mm

型号规格 Standard No.	W	L	螺栓孔位置 Bolt Position		螺栓孔 Mounting Bolt	
			L1	L1	尺寸 Size	数量 Quantity
JSOL-26×100	26	100	60	-	M8	2
JSOL-26×150		150	55			50
JSOL-26×200		200		4		
JSOL-32×100	32	100	60	-	M10	2
JSOL-32×150		150	55			50
JSOL-32×200		200		4		
JSOL-32×250		250	70	70		4
JSOL-50×200	50	200	55	50		
JSOL-50×250		250	70	70		
JSOL-50×300		300	65	65		
JSOL-50×350		350	80	75	5	

JGBF 自润滑翻边导向套 JGBF Oilless Ejector Guide Bushings

JinxinTM



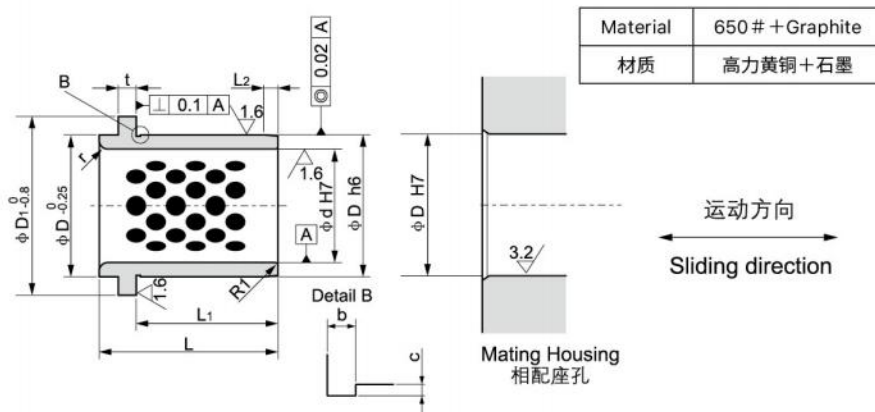
单位Unit: mm

单位Unit: mm

型号规格 Standard No.	d	L	d G6	D m6	D ₁	T	L ₁
JGBF-12×19	12	19	12	18	$+0.018$ $+0.007$	25	4
JGBF-12×24		24					
JGBF-12×29		29					
JGBF-12×34		34					
JGBF-16×19	16	19	$+0.016$ $+0.006$	25	30	6	19
JGBF-16×24		24					24
JGBF-16×29		29					29
JGBF-16×34		34					34
JGBF-16×39		39					30
JGBF-16×49		49					40
JGBF-20×24	20	24	20	30	$+0.025$ $+0.009$	35	24
JGBF-20×29		29					29
JGBF-20×34		34					34
JGBF-20×39		39					39
JGBF-20×49		49					40
JGBF-20×59		59					50
JGBF-25×24	25	24	25	35	$+0.025$ $+0.007$	40	24
JGBF-25×29		29					29
JGBF-25×34		34					34
JGBF-25×39		39					39
JGBF-25×49		49					49
JGBF-25×59		59					50
JGBF-25×69		69					60
JGBF-30×29	30	29	30	42	$+0.025$ $+0.009$	47	29
JGBF-30×34		34					34
JGBF-30×39		39					39
JGBF-30×49		49					49
JGBF-30×59		59					59
JGBF-30×69		69					60

型号规格 Standard No.	d	L	d G6	D m6	D ₁	T	L ₁
JGBF-35×39	35	39	35	48	$+0.025$ $+0.009$	54	39
JGBF-35×49		49					49
JGBF-35×59		59					59
JGBF-35×69		69					69
JGBF-35×79		79					70
JGBF-35×89	40	89	40	55	$+0.025$ $+0.009$	61	70
JGBF-35×99		99					70
JGBF-40×39		39					39
JGBF-40×49		49					49
JGBF-40×59		59					59
JGBF-40×69	40	69	40	55	$+0.025$ $+0.009$	61	69
JGBF-40×79		79					79
JGBF-40×89		89					80
JGBF-40×99		99					80
JGBF-40×109		109					80
JGBF-50×49	50	49	50	70	$+0.030$ $+0.011$	76	49
JGBF-50×59		59					59
JGBF-50×69		69					69
JGBF-50×79		79					79
JGBF-50×89		89					89
JGBF-50×99		99					90
JGBF-50×109		109					90
JGBF-50×119		119					90
JGBF-60×99	60	99	60	80	$+0.029$ $+0.010$	86	99
JGBF-60×109		109					109
JGBF-60×119		119					110
JGBF-60×129		129					110
JGBF-60×149		149					110

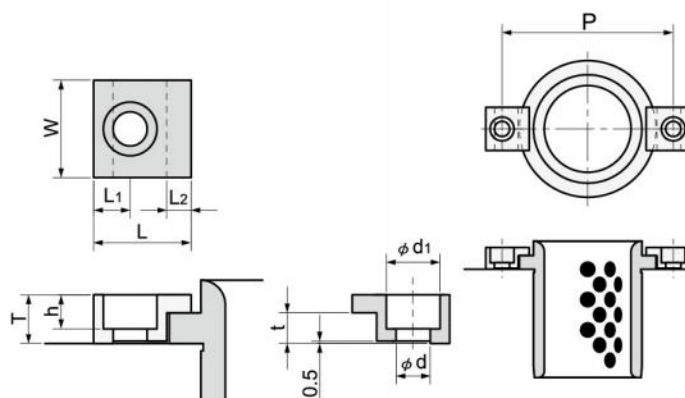
DIN9834 自润导套 DIN9834 Oilless Guide Bushes



单位Unit: mm

型号规格 Standard No.	d H7		D h6		L	D ₁	L ₁	L ₂	t	r	bxc	P
DIN9834 -025	25	$+0.021$ 0	32		40	40	30	3	6.3	3	0.6x0.3	58
DIN9834 -032	32	$+0.025$ 0	40	0 -0.016	50	50	40	4				66
DIN9834 -040	40		50		63	63	50	5				79
DIN9834 -050	50	$+0.030$ 0	63	0 -0.019	71	71	56	6.3		5		89
DIN9834 -063	63		80		80	90	63	8	10	6	1.0x0.4	123
DIN9834 -080	80		100	0 -0.022	100	112	80	10		8		143
DIN9834 -100	100		125	0 -0.025	125	140	106	12.5		10		168
DIN9834 -125	125	$+0.040$ 0	160		160	180	132	16		12		203
DIN9834 -160	160		200	0 -0.029	200	220	170	16		18		243

Clamp FVDI-KL(DIN9834)

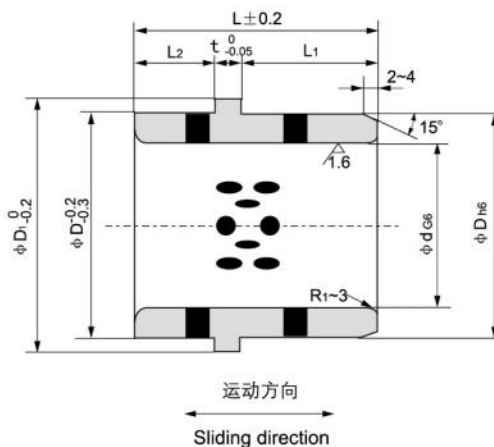


单位Unit: mm

型号规格 Standard No.	W	L	T	L ₁	L ₂	t	d	d ₁	h	Applicable bushes ID
FVDI-KL-6	20	20	10	7.5	5	6.3	7	11	7	Ø25~Ø50
FVDI-KL-10	32	32	16	11	10	10	11.5	17.5	11.5	Ø63~Ø160

JEGB, JEGBK 塑胶模射出座导套 JEGB, JEGBK Oilless Ejector Guide Bushing

JinxinTM



Material	650 # + Graphite
材质	高力黄铜 + 石墨

单位Unit: mm

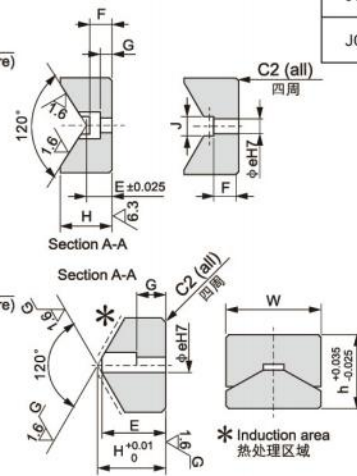
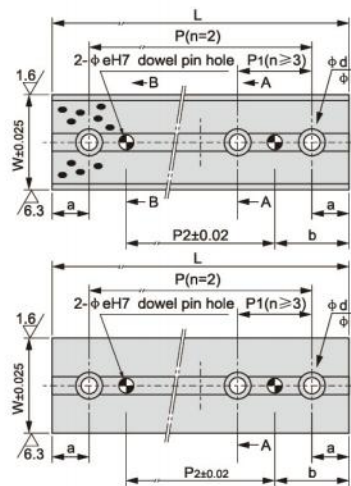
型号规格 Standard No.	d	L	d G6	D h6	D1	L1	L2	t
JEGB-16×26	16	26	16	25	30	12	10	4
JEGB-16×28		28				14		
JEGB-16×33		33				19		
JEGB-16×38		38				24		
JEGB-20×26	20	26	20	30	35	12	10	4
JEGB-20×28		28				14		
JEGB-20×33		33				19		
JEGB-20×38		38				24		
JEGB-25×26	25	26	25	35	40	12	15	20
JEGB-25×28		28				14		
JEGB-25×33		33				19		
JEGB-25×38		38				24		
JEGB-30×33	30	33	35	46	50	14	24	20
JEGB-30×38		38				19		
JEGB-30×46		43				24		
JEGB-35×38		35				19		
JEGB-35×43	35	43	50	62	67	24	29	20
JEGB-35×48		48				29		
JEGB-40×48		40				24		
JEGB-40×53		53				29		
JEGB-50×48	50	48	50	62	67	24	29	20
JEGB-50×53		53				29		

单位Unit: mm

型号规格 Standard No.	d	L	d G6	D h6	D1	L1	L2	t
JEGBK-25×33	25	33	25	35	40	19	6	8
JEGBK-25×38		38				24		
JEGBK-30×48	30	48	30	42	47	29	15	20
JEGBK-30×47		47				24		
JEGBK-30×52		52				29		
JEGBK-35×63	35	63	35	45	50	39	16	20
JEGBK-40×60	40	60	40	50	55	32	21	25
JEGBK-40×70		70				42		
JEGBK-40×78		78				49		
JEGBK-40×57	40	57	40	55	60	24	30	21
JEGBK-40×67		67				29		
JEGBK-45×88		88				59		
JEGBK-45×95	45	95	45	62	67	69	40	20
JEGBK-50×67		67				29		
JEGBK-50×87		87				39		
JEGBK-60×67	60	67	60	74	82	29	30	20
JEGBK-60×87		87				39		

JCBS, JCBSP 凸轮底部导板

JCBS, JCBSP Oilless Cam Btroke Guide Plate



JCBSP	S45C+Graphite
	钢基+石墨 HRC≥55
JCBS	650#+Graphite
	高力黄铜+石墨

W	h	d	D
35	35	9	14
50	50	11	17.5
65	65	11	17.5

单位Unit: mm

型号规格 Standard No.	W	L	H	a	b	P	P1	No. of Bolt Holes 螺栓数量	e	P2	E	F	G	J					
JCBS-75×35	35	75	24	15	30	45	—	2	8	15	15	4	11						
JCBS-100×35		100		20	40	60				20									
JCBS-125×35		125				85				45									
JCBS-150×35		150				110				70									
JCBS-75×50	50	75	31	15	30	45	—	2	10	15	18	8	13						
JCBS-100×50		100		20	40	60				20									
JCBS-125×50		125		25	50	75				25									
JCBS-150×50		150				100				50									
JCBS-100×65	65	100	35	20	40	60	50	3		20				15	100	150	200		
JCBS-150×65		150		25	50	—		4		50									
JCBS-200×65		200								5								6	100
JCBS-250×65		250																	150
JCBS-300×65		300																	

单位Unit: mm

型号规格 Standard No.	W	L	H	a	b	P	P1	No. of Bolt Holes 螺栓数量	e	P2	E	G			
JCBSP-75×35	35	75	20	15	30	45	—	2	8	15	17	4			
JCBSP-100×35		100		20	40	60				20					
JCBSP-125×35		125				85				45					
JCBSP-150×35		150				110				70					
JCBSP-75×50	50	75	32	15	30	45		2	10	15	29	10			
JCBSP-100×50		100		20	40	60				20					
JCBSP-125×50		125		25	50	75				25					
JCBSP-150×50		150				100				50					
JCBSP-100×65	65	100	47	20	40	60				50	3	20	44	20	
JCBSP-150×65		150		25	50	—						50			50
JCBSP-200×65		200					4								100
JCBSP-250×65		250					5								150
JCBSP-300×65		300					6								200

P值/V值/PV值的概念

P值：轴承所承载的最大负荷（W）与在轴承上的投影面积（ $\phi d \times L$ ）相除后即为面压P。

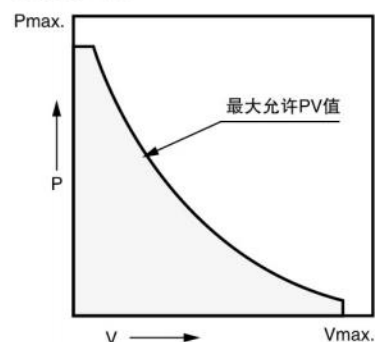
V值：速度V是对偶轴与轴承之间的相对速度。

PV值：轴承面压P与速度V的乘积为PV值。

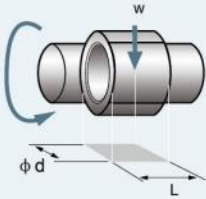
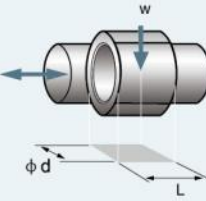
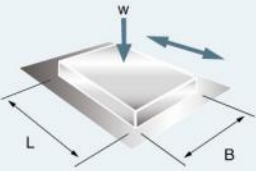
P值、V值、PV值并不是各自独立的最大允许值，而是相互关联的设计参数。

设计中，请在图表表示的范围内选择参数。

最大允许PV值



最大允许PV值 < 最大允许面压：Pmax. × 最大允许速度：Vmax.

轴套	P值N/mm ² [kgf/cm ²]	V值m/s[m/min]	PV值N/mm ² ·m/s[kgf/cm ² ·m/min]
单向旋转运动 	$P = \frac{W}{\phi d \times L}, \left[\frac{10^2 W}{\phi d \times L} \right]$ 负荷 W: N{kgf} 内 径 φd: mm 长 度 L: mm 计算例 内径20mm、长度10mm的轴承、 1000N的径向负荷的情况下。 $\frac{1000}{20 \times 10} = 5 \text{ (N/mm}^2\text{)}$	$v = \frac{\pi \phi d n}{10^3}, \left[\frac{\pi \phi d n}{10^3} \right]$ 转 数 n : s-1{rpm} 内 径 φd : mm 计算例 内径20mm 的 轴承、转 数 120rpm 的情况 下。 $\frac{\pi \times 20 \times 120}{10^3} = 0.126 \text{ (m/s)}$	$PV = \frac{\pi W n}{10^3 \times L}, \left[\frac{\pi W n}{10^3 \times L} \right]$ 负 荷 W : N{kgf} 转 数 n : s-1{rpm} 长 度 L : mm 计算例 内径20mm、长度10mm的轴承、 转数120rpm、1000N的径向负荷 的情况下。 $\frac{\pi \times 1000 \times 120}{10^3 \times 10} = 0.63 \text{ (N/mm}^2\text{·m/s)}$
往复运动 	$P = \frac{W}{\phi d \times L}, \left[\frac{10^2 W}{\phi d \times L} \right]$ 负 荷 W : N{kgf} 内 径 φd : mm 长 度 L : mm	$v = \frac{2cS}{10^3}, \left[\frac{2cS}{10^3} \right]$ 往复周期速度 c : s-1{cpm} 行程距离 S : mm	$PV = \frac{2WcS}{10^3 \times \phi d \times L}, \left[\frac{WcS}{5 \times \phi d \times L} \right]$ 负 荷 W : N{kgf} 周期速度 c : s-1{cpm} 行程距离 s : mm 内 径 φd : mm 长 度 L : mm
板块	P值N/mm²[kgf/cm²]	V值m/sec[m/min]	PV值N/mm²·m/s[kgf/cm²·m/min]
平面往复运动 	$P = \frac{W}{B \times L}, \left[\frac{10^2 W}{B \times L} \right]$ 负 荷 W : N{kgf} 长 度 L : mm 宽 度 B : mm	$v = \frac{2cS}{10^3}, \left[\frac{2cS}{10^3} \right]$ 周期速度 c : s-1{cpm} 行程距离 S : mm	$PV = \frac{2WcS}{10^3 \times B \times L}, \left[\frac{WcS}{5 \times B \times L} \right]$ 负 荷 W : N{kgf} 周期速度 c : s-1{cpm} 行程距离 s : mm 长 度 L : mm 宽 度 B : mm

对偶材的选择

轴承性能和对偶轴的材质、硬度、表面粗糙度、有无表面处理等有很大影响，以下推荐对偶材料可供参考。另外，在海水、化学液体等腐蚀条件下，请施加二重或三重镀铬处理。

轴承	面压 N/mm^2 { kgf/cm^2 }	材质	硬度	表面粗糙度Ra(Ry)
金属类	~24.5{250}	机械构造用碳钢、合金钢（例：S45C、SNC415、SCM435） 腐蚀环境下用耐腐蚀钢（例：SUS304、SUS403、SUS420）	HB150以上	1.6a(6.3s)以下
	24.5{250}~49.0{500}	以上材质进行高频淬火、渗碳等表面处理	HB250以上	
	49.0{500}~98.0{1,000}	以上材质进行渗碳、镀铬等表面处理	HRC50以上	
树脂类 复层类	~49.0{500}	机械构造用碳钢、合金钢（例：S45C、SNC415、SCM435） 腐蚀环境下用耐腐蚀钢（例：SUS304、SUS403、SUS420）	HB120以上	0.8a(3.2s)以下
	49.0{500}~98.0{1,000}	以上材质进行高频淬火、渗碳、渗氮、镀铬等表面处理	HRC45以上	

自润滑轴承的冷装配要领

冷装配方法

(1) 必须材料

冷媒：液氮、干冰

容器：保温容器（足够大的尺寸，四周敷保温材料的容器）

(2) 作业步骤

- ① 作为冷媒的液氮或干冰的标准冷冻温度为 $-40\sim-70^{\circ}\text{C}$ 。
- ② 冷冻时间一般为1小时以上。冷冻时间在配合公差较小的情况下，有必要延长冷冻时间。
另外，冷冻时间较短的情况下，和液压压入方法并用也十分有效
- ③ 再次测量轴承的外轴尺寸以及套筒的内径尺寸。
在装配过程中，如果异常没有及时发现，可能会造成重大故障。
- ④ 将轴套装入套筒时，边转动边迅速装入。
在中途如果中断的话，尺寸将还原，拔出再装配将非常困难。
- ⑤ 在摩擦面涂上润滑剂。

注）冬季等温度差不是很大的情况下，将套筒加热至 $20\sim 30^{\circ}\text{C}$

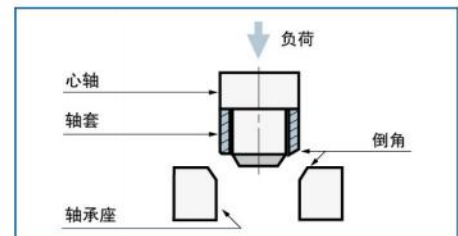
注）有关不明之处，请咨询晋信轴承销售部。

自润滑轴承的压入方法

自润滑轴承和一般的滑动轴承一样，装配进轴承座后使用的情况较多。

压入轴承的情况下，利用心轴或使用液压方式装入轴承座内。

压入间隙较小的金属轴承的情况下，对轴承的外径及轴承座的内径进行倒角，使用心轴能轻易压入。



◎ 轴承选型 Bearing Selection

晋信轴承根据不同的工况条件设计了不同的轴承材料。一般来说，用户在使用和设计时应当根据轴承的使用温度、轴承的承载面压、线速度、耐磨性能要求、运动类型、安装情况、轴承成本等各方面因素综合考虑。

CRB bearing have developed kinds of bearing material According to difference work condition, The user can select the material base on bearing work environment, load, speed, wear resistance request, moving method, installation, the cost of the material etc.

◎ 面压计算 Bearing Load:

○ 直套、翻边产品 Cylindrical bushes, flange bushes

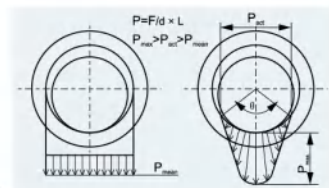
$$P = \frac{F}{d \times L} \quad (\text{N/mm}^2)$$

F =轴承承载值 Load (N)
 d =轴径 Shaft (mm)
 L =轴承长度 Bearing Length (mm)

○ 止推垫片 Thrust washer

$$P = \frac{4F}{\pi(D^2 - d^2)} \quad (\text{N/mm}^2)$$

F =垫片承载值 Load (N)
 D =垫片外径 Washer OD (mm)
 d =垫片内径 Washer ID (mm)



由于受配合间隙、材料强度、轴承倒角、内部油槽等原因的影响，轴承的真正承载面压(P_{act})会大于理论计算值(P_{mean})。As the factor of clearance, bushes chamfer, oil groove etc., The actually load (P_{act}) is higher than theory of calculation (P_{mean}).

◎ 线速度计算 Velocity:

○ 旋转运动 Rotating motion

$$V = \frac{\pi \times d \times n}{1000 \times 60} \quad (\text{m/s})$$

d =轴径 Shaft (mm)
 n =转速/分 Rpm

○ 往复运动 Reciprocating motion

$$V = \frac{2s \times c}{60} \quad (\text{m/s})$$

s =行程长度 Stoke distance (m)
 c =往复频率 frequency (次数/分)

○ 摇摆运动 Oscillating motion

$$V = \frac{\pi \times d \times C \times \theta}{1000 \times 360 \times 60} \quad (\text{m/s})$$

d =轴径 Shaft (mm)
 C =摇摆频率 frequency (次数/分)
 θ =摇摆角度 Oscillating angle

◎ PV值计算 $PV = P \times V$ ($\text{N/mm}^2 \times \text{m/s}$)

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关系。因此建议设计时尽量使用比较低的安全的PV值，以确保轴承会有更长的使用寿命。同时在选择材料时也要注意不能超过承载、线速度、使用温度等极限值，并尽可能地小。

PV is the product of the specific bearing load P and the sliding speed V which is very important design data. We recommend design lower PV value will leads to longer service life. Also don't exceed the max. of material load, speed, temp. and lower if possible.

滑动轴承与座孔的装配 The Installation of The Sliding Bushing And The Housing

SF系列轴承在装配前宜先用煤油或柴油清洗干净，然后在机油内浸油、沥干。轴承与座孔装配时，即要保证轴承在座孔中不发生转动和轴向移动，要使轴承外表面与座孔充分接触，一般应保证接触面积大于70%以上，以利于承受载荷和传导摩擦热，SF系列轴承内表面是自润滑塑料，外表面是铜背，钢对钢的摩擦系数比钢对塑料的摩擦系数大，因此采用较轻盈配合，既保证使用时衬套不会在座孔内发生相对移动，又不会使衬套外径过大致使衬套内孔变形较大。

对于工作压力较高的场合为避免轴套走外圆，推荐用以下二方法：

1、加大轴套外径尺寸，内孔变形用较正芯棒校正。

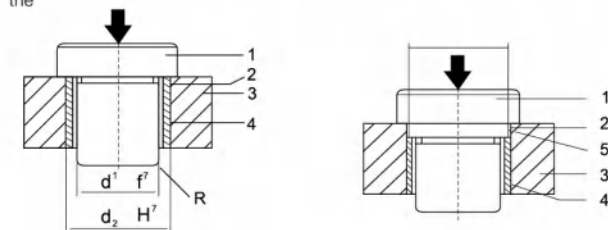
2、安装时，座孔涂ZY801厌氧胶，增强轴套与座孔的结合强度。

对于外 < 55cm 的轴承可按图A所示，利用一个带有手柄的压头芯轴，小心操作，轻轻压力座孔中。

当轴承外径 > 55cm 时可按图B所示，利用带台肩的手柄以及一个“O”形圈和一个辅助圈小心操作，将轴承压入座孔中。

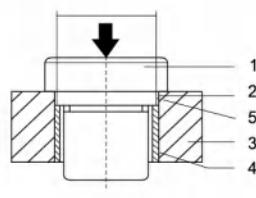
The Installation of SF Bush

SF bushes should be cleaned in kerosene or diesel oil first, immersed in engine oil and then dried up. When the bush is installed into housing, make sure the bush not rotating in the housing or moving in the axial direction and at the same time make the



(图A a) 平面式安装
(Fig A a) Plane Installation

- 1、压入芯轴
- 2、轴承座孔倒角 $0.8 \times 15^\circ$
- 3、轴承座
- 4、SF轴承
- 5、嵌入肩直径
- R、芯轴端圆角半径



(b) 嵌入式安装
(B) Inset Installation

- 1、Press the core axle into bushing
- 2、Housing chamfer at end: $0.8 \times 15^\circ$
- 3、Housing
- 4、SF bush
- 5、Diameter of inset shoulder
- R、Radius of the round angle of the core axle end

outer surface surface fully contact to the base hole, generally guarantee the contact area over 70%, thus to improve load capacity and transmission of friction heat. The inner surface of SF bush is made of self-lubricating plastic, the outer surface steel backing. The friction coefficient of steel to steel is bigger than that of steel to plastic. So we should choose the light-graded tight fit, preventing the axle sleeve from moving in the base when working, and also preventing the inner holes from getting deformed and too big because of the large tight fit of the outer diameter.

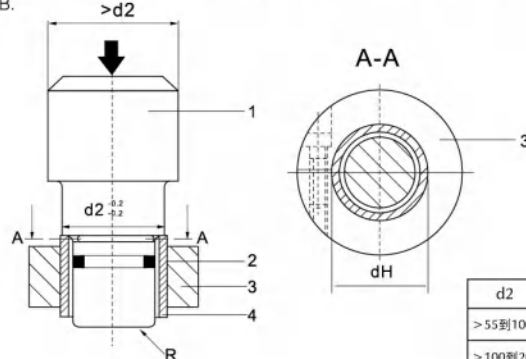
Out circle of the axle sleeve should be avoided in the high-pressure working conditions. Two methods are recommended here:

1. Increase the outer diameter of the axle sleeve, and the deformation of inner holes can be calibrated with calibrating core stick.

2. When installing, apply ZY 801 Oxygen-hatred glue in the housing to streng then the combination strength between the axle sleeve and base hole.

For bush (outer diameter < 55mm), press the bush into the housing gently and carefully using an core axle with a handle. Fig A.

For bush (outer diameter > 55mm), press the bush into the housing gently and carefully using a handle with a shoulder, an "O" ring and an assisting circle. Fig B.



d2	dH
> 55到100	$d2_{+0.28}^{+0.25}$
> 100到200	$d2_{+0.40}^{+0.36}$
> 200到305	$d2_{+0.50}^{+0.40}$

检测设备 Testing Equipment



硬度检测仪器
Hardness Testing



拉力试验机
Tensile testing machine



金相检测
Metallographical testing



材料成分检测
chemical elements testing



量具汇总
Measuring tool summary



产品检测
Product testing





制造商：

**嘉善晋信自润滑轴承有限公司
嘉善特沃姆机械制造有限公司**

地址：浙江省嘉善县

魏塘街道南星路168号

电话：0573-84772911/84772992

传真：0573-84773512

邮箱：jinxin@crb-bearing.com

网址：www.crb-bearing.com

Manufacture:

**Jiashan jinxin self-lubricating Bearing Co.,Ltd.
Jiashan Tayomo Machinery Manufacture Co.,Ltd.**

Add: No.168, Nanxing Road, Weitang Street,

Jiashan County, Zhejiang Province, China.

Tel: 0573-84772911/84772992

Fax: 0573-84773512

E-mail: jinxin@crb-bearing.com

Http: //www.crb-bearing.com

欢迎访问晋信自润滑轴承&特沃姆机械

Welcome to jinxin oiles bearing & tayomo Machinery