产品目录

自润滑和免维护滑动轴承





嘉善晋信自润滑轴承有限公司

Jiashan jinxin Self-lubricating Bearing Co., Ltd.



INTRODUCTION

公司简介

嘉善晋信自润滑轴承有限公司是专业制造并销售自润滑轴承的实体企业,自公司成立以来,一直专注于自润滑轴承,新型润滑材料的研究与开发,致力于新产品、新领域的推广和应用,以客户需求为导向,不断创新来满足客户需求。目前已成为国内自润滑产品最主要的生产商之一。2010年12月,公司顺利通过ISO9001-2008国际质量体系认证。公司注册商标: dinxip

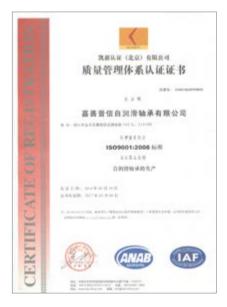
2014年,公司取得自营进出口权,产品主要出口到美国、欧盟、澳洲、中东、日本、东欧等国家。

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 December 2010, the company passed ISO9001-2008 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.





JINXIN PRECISION MECHINERY

晋信产品汽车行业的应用



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CRB-10 碳钢基无铅无给油轴承 Dry Bearings

RoHS

低碳钢+铜粉+PTFE/纤维 Steel+Bronze powder+PTFE/fibre



◎ 基材特性 Material Features

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; 对磨轴的加工要求降低, 减轻了用户加工成本。

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. High chemical resistance, lower adsorption of water and swelling, Also performs well with lubrication.

◎ 技术参数 Tech. Data

最大承载	静承载 Static	250N/mm ²	
Max. load	动承载 Dynamic	140N/mm ²	
最高线速度	干 Dry	2m/s	
Max. speed	流体 Lubrication	>2m/s	
最大PV(干)	短时间 Short-time	3.6N/mm ^{2*} ·m/s	
Max. PV (Dry)	连续 Continuous	1.8N/mm ^{2*} ·m/s	

使用温度 Temp.	-195℃~+280℃
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

CRB-11 铜基无给油轴承 Dry Bearings

RoHS

青铜基板+铜粉+PTFE Bronze backing+Bronze powder+PTFE



◎ 基材特性 Material Features

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;由于基板是青铜,因此比CRB-10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. Lower absorption of water and swelling. Also performs well with lubrication. Broze backing provides improved corrosion resistance compared with CRB-10.

最大承载	静承载 Static	250N/mm ²		使用温度 Temp.	-195℃~+280℃	
Max. load	动承载 Dynamic	140N/mm ²		摩擦系数 Friction coefficient	0.03~0.20	
最高线速度	∓ Dry	2m/s		导热系数	70W (m*k) ⁻¹	
Max. speed	流体 Lubrication	>2m/s		Thermal conductivity	70W (III*K)	
最大PV(干)	短时间 Short-time	3.6N/mm ^{2*} ·m/s	热膨胀系数 Coefficient of thermal expansion		17*10 ⁻⁶ K¹	
Max. PV (Dry)	连续 Continuous	1.8N/mm ^{2*} ·m/s			17*10 K	



CRB-40 碳钢基无铅无给油轴承 Dry Bearings

RoHS

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



◎ 基材特性 Material Features

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; 同时CRB-40特殊的耐磨层设计为在润滑条件上比CRB-10具有更好的耐磨性与极低的摩擦系数。

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, Lower absorption of water and swelling. The CRB-40 improved the friction and much good wear resistance over the common CRB-10 under lubricated operation.

◎ 技术参数 Tech. Data

最大承载	静承载 Static	250N/mm ²
Max. load	动承载 Dynamic	140N/mm²
最高线速度	干 Dry	2m/s
Max. speed	流体 Lubrication	>2m/s
最大PV(干)	短时间 Short-time	3.6N/mm ^{2*} ·m/s
Max. PV (Dry)	连续 Continuous	1.8N/mm ^{2*} ·m/s
PV 流体润滑	PV Hydrodynamic	30N/mm ^{2*} ·m/s

使用温度 Temp.	-195℃~+280℃
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

CRB-30 不锈钢基无给油轴承 Dry Bearings

RoHS

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



◎ 基材特性 Material Features

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.

最大承载	静承载 Static	250N/mm ²		使用温度 Temp.	-195℃~+280℃	
Max. load	动承载 Dynamic	140N/mm ²		摩擦系数 Friction coefficient	0.03~0.20	
最高线速度	∓ Dry	2m/s		导热系数	42W (m*k) ⁻¹	
Max. speed	流体 Lubrication	>2m/s		Thermal conductivity	42VV (III*K)	
最大PV(干)	短时间 Short-time	3.6N/mm ^{2*} ·m/s	热膨胀系数		15*10⁻⁶Ƙ¹	
Max. PV (Dry)	连续 Continuous	1.8N/mm ^{2*} ·m/s		Coefficient of thermal expansion	1210 K	



CRB-32 不锈钢基薄壁无给油轴承 Dry Bearings

RoHS

不锈钢基板+PTFE Staninless steel+PTFE



◎ 基材特性 Material Features

CRB-32以不锈钢为基体,表面喷涂聚四氟乙烯。它具有较好的耐酸、耐 碱、耐海水、环保等特点。产品广泛用于化工中酸碱流量计、泵、阀以及海 洋工业耐腐蚀部位等。

CRB-32 Stainless steel Pb-free self-lubricating bearing used stinless steel material as base, spray painting PTFE on the surface. It is characterized by acid-resistant, alkaline-resistant, ocean water resistant and environmental protection. It is t is used widely as fluid valve of measuring acid and alkalizing flow in chemical industry, and corrosion resisting sliding position in marine industry.

◎ 技术参数 Tech. Data

最大承载	静承载 Static	250N/mm ²
Max. load	动承载 Dynamic	140N/mm²
最高线速度	干 Dry	2m/s
Max. speed	流体 Lubrication	>2m/s
最大PV(干)	短时间 Short-time	3.6N/mm ^{2*} ·m/s
Max. PV (Dry)	连续 Continuous	1.8N/mm ^{2*} ·m/s

使用温度 Temp.	-195℃~+280℃
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	15*10 ⁻⁶ K ⁻¹

CRB-LBP 不锈钢基冲孔无给油轴承

RoHS

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 etc.

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



CRB-TEX 碳钢基PTFE织物轴承

RoHS

碳钢基+PTFE织物 Steel+PTFE fibre woven



◎ 基材特性 Material Features

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 suspension 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	静承载 Static	350N/mm ²	
Max. load	动承载 Dynamic	180N/mm ²	
最高线速度 Max. speed	于 Dry	0.5m/s	
	流体 Lubrication	>2m/s	
最大PV(干)	短时间 Short-time	3.6N/mm ^{2*} ·m/s	
Max. PV (Dry)	连续 Continuous	1.8N/mm ^{2*} ·m/s	

使用温度 Temp.	-50℃~+250℃
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℃

CRB-20 碳钢基边界润滑轴承 Marginal lubrication bearing

RoHS

碳钢基板+铜粉+POM Steel+Bronze powder+PTOM



◎ 基材特性 Material Features

适用于高载低速下的旋转、摇摆运动以及在重载下经常启闭而无法加油的部位,在边界润滑条件下可长期使用而不用加油,过程加油将会大大提高轴套的使用寿命。耐磨层表面有规格的油穴可以作为储油孔使用。目前已广泛使用于冶金机械、矿山机械、水利机械、汽机车、建筑机械、农用机械、轧钢机械等。

High wear resistance and low friction even only minute quantities of lubricant are supplied, the bearing surface carries a pattern of circular indents which should be filled with grease on assembly. Now this materials have been widely used in metallurgy machines, mine machines, water conservancy industries, automotive, agriculture machines, rolling mill etc which for rotary and oscillating movement.

最大承载	静承载 Static	250N/mm ²	摩擦系数 Friction coefficient		0.05~0.20
Max. load	动承载 Dynamic	140N/mm ²	导热系数 Thermal conductivity		4W (m*k) ⁻¹
最高线速度	Max. speed	2m/s			400 (M*K)
最大PV值	Max. PV	3N/mm²*⋅m/s	热膨胀系数 Coefficient of thermal expansion		11*10⁻6K⁻¹
使用温度 Temp.		-40℃~+110℃			1110 K



CRB-80 碳钢基板+铜粉+PEEK/添加物 Steel+bronze power+PEEK/filler

RoHS



◎ 基材特性 Material Features

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;轴承在压装后可以进行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.

◎ 技术参数 Tech. Data

最大承载	静承载 Static	250N/mm ²		使用温度 Temp.	-150℃~+250℃	
Max. load	动承载 Dynamic	140N/mm ²		摩擦系数 Friction coefficient	0.03~0.20	
最高线速度	脂润滑 Grease	2m/s	导热系数 Thermal conductivity		4W (m*k) ⁻¹	
Max. speed	流体润滑 Oil ubrication	>2m/s			400 (111"K)	
最大PV(干)	短时间 Short-time	3.6N/mm ^{2*} ·m/s		热膨胀系数	11*10 ⁻⁶ K ⁻¹	
Max. PV (Dry)	连续 Continuous	1.8N/mm ^{2*} ·m/s		Coefficient of thermal expansion	11*10 -K-	

CRB650#(JDB650) 铜基镶嵌式固体润滑轴承 Cast bronze with graphite bearings



◎ 基材特性 Material Features

铜合金镶嵌式固体润滑剂自润滑轴承,结合了铜合金的耐磨性及固体润滑剂的自润滑性能,使其在使用过程中无需加油维护。产品被广泛用于高载、间歇性或摇摆运动,如汽机车生产流水线、水轮机、水库工作/事故门、塑胶机械等。根据使用的工况,CRB可以提供各种类型的铜合金。

This material provides a maintenance-free bearing solution, particularly for high load, intermittent of oscillating motion. Solid lubricants within a bronze combines the strength of the bronze with the wear resistance and low friction. The application including automotive products line, water engineering, dam gate, plastic industries etc. Different bronze alloy type can be available according to the work condition.

最大承载	静承载 Static	250N/mm ²	使用温度 Temp.	-100℃~+300℃
Max. load	动承载 Dynamic	100N/mm²	摩擦系数 Friction coefficient	0.03~0.20
最高线速度	于 Dry	0.3m/s	导热系数 Thermal conductivity	60W (m*k) ⁻¹
Max. speed	流体 Lubrication	1.0m/s	热膨胀系数 Coef. of thermal expansion	19*10 ⁻⁶ K ⁻¹
最大PV	Max. PV	1.65N/mm ^{2*} ·m/s	延伸率 Elongation	12%
拉抗强度	Tensile strength	750N/mm ²	硬度 Hardness	HB>210



CRB600# 铜基精加工轴承 Solid bronze turned bearings



◎ 基材特性 Material Features

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。

Machined Cast bronze bearings offer technically and economically favorable bearings solutions. High loading capability, low weight, good corrosion resistance, CRB can offered different type bronze alloys according to the life time, service etc. The tolerance is much tighter than wrapped bronze bushes.

◎ 基本铜合金材料表 Standard alloys of Material Data

牌号 Grade	650#	650S1	650S2	650S3	650S5
材料 Material	CuZn25Al5Mn4Fe3	CuSn5Pb5Zn5	CuAl10Ni5Fe5	CuSn12	CuZn25Al5Mn4Fe3
密度 Density	8	8.9	7.8	8.9	8
硬度HB Hardness	>210	>70	>150	>95	>235
抗拉强度 Tensile Strength N/mm ²	>750	>200	>600	>260	>780
屈服强度 Yield Strength N/mm ²	>450	>90	>260	>150	>450
伸长率 % Elongation	>12	>15	>10	>8	>8
线胀系数 Coefficient of linear expansion	1.9×10⁻⁵/°C	1.8×10 ⁻⁵ /°C	1.6×10⁻⁵/℃	1.8×10⁻⁵/°C	1.9×10 ⁻⁵ /°C
使用温度 Max.Temp.	-40~+300℃	-40~+400℃	-40~+400℃	-40~+400℃	-40~+400℃
最大动承载 Max. Load N/mm²	100	60	50	70	120
最大线速度(干) Max. Speed(Dry) m/min	15	10	20	10	15
最大PV值(润滑) Max. PV N/mm ² *m/s(Lubrication)	200	60	60	80	200
压缩变形300N/mm ² Compression deformation	<0.01mm	<0.05mm	<0.04mm	<0.05mm	<0.005mm

CRB200# 特殊钢基轴承 Special treatment steel bearings



◎ 基材特性 Material Features 以优质低碳钢为基体精加工而成的适用于重素

以优质低碳钢为基体精加工而成的适用于重载低速环境恶劣工作部位的边界 润滑轴套,轴套工作表面可按照工况条件加工出各种形式的油槽以起到充分 润滑的作用。由于该材料经过了特殊工艺的处理,具有极高的承载,同时具 有摩擦系数低,耐磨性能好的特点。广泛运用于建筑机械、工程车辆、农用 机械、塑胶机械、钢铁工业等。

Carbon steel machined slide bearings, the oil groove can be produced according to the bearing work condition if needed. The bushes have been treated by special techniques can supply high load capacity with lower friction and excellent wear resistance. The application including construction equipment, refuse truck, agriculture machines, plastic machines, steel industries etc.

最大承载	静承载 Static	250N/mm ²	
Max. load	动承载 Dynamic	150N/mm²	
最高线速度	Max. speed	0.6m/s	
最大PV	Max. PV	1.2N/mm ^{2*} ·m/s	
抗拉强度	Tensile strength	400N/mm ²	
屈服强度	Yield point	300N/mm ²	

硬度 Hardness	HRC>50
延伸率 Elongation	15%
使用温度 Temp.	-100℃~+250℃
摩擦系数 Friction coefficient	0.05~0.25
导热系数 Thermal conductivity	60W (m*k) ⁻¹
热膨胀系数Coef. of thermal expansion	15*10 ⁻⁶ K ⁻¹



CRB-090 (FB090) 铜基卷制轴承 Bronze wrapped bearings

RoHS



◎ 基材特性 Material Features

该轴套以CuSn8青铜为基材卷制而成的一种具有承载高,耐磨性能好的经济型轴承。产品工作表面布满规则的菱形油穴,起到储油的作用,在起始运动时能较容易的形成油膜从而降低起始摩擦系数。主要运用于农用机械、建筑机械等高载低速场合。

The bearings are wrapped of a cold formable homogenous bronze(CuSn8). which will obtain exceptional material properties. The standard size are fitted with diamond shaped lubrication indents on the bearing surface. These indents serve as lubricant reservoirs to rapidly build up a lubrication film in the start movement and therewith reduce the start friction. The material suitable for constructions. agriculture etc.

◎ 技术参数 Tech. Data

最大承载	静承载 Static	120N/mm ²	
Max. load	动承载 Dynamic	40N/mm ²	
最高线速度	Max. speed	2m/s	
最大PV	Max. PV	2.8N/mm ^{2*} ·m/s	
抗拉强度	Tensile strength	450N/mm ²	
屈服强度	Yield point	250N/mm ²	

硬度 Hardness	HB 110-150
延伸率 Elongation	40%
使用温度 Temp.	-100℃~+200℃
摩擦系数 Friction coefficient	0.08~0.25
导热系数 Thermal conductivity	60W (m*k) ⁻¹
热膨胀系数Coef. of thermal expansion	15*10⁻⁶Ƙ¹

CRB-09G(FB09G) 含固体润滑剂铜基卷制轴承 Bronze with graphite wrapped bearings



◎ 基材特性 Material Features

具有相同的生产工艺及使用场合,但在其菱形油穴内填充了以石墨为主的固体润滑剂,使产品在起始运用阶段及过程中能有更低的摩擦系数, 在短时间断油的情况下仍能保持良好的工作状态。因此被广泛使用在工程机械、齿轮箱传动部件、汽机车离合器等高载中速部位。

The same produce process and application except overlay the solid lubricants into the diamond shaped lubrication indents on the bearing surface, which will offer good friction at the start and process works and keep good condition even no oil giving at short time. So can be used in construction machines, gears, automotive clutch parts etc.

取八升和	静承载 Static	120N/mm ²	硬度 Hardness
Max. load	动承载 Dynamic	40N/mm ²	延伸率 Elonga
最高线速度	Max. speed	2.5m/s	使用温度 Temp
最大PV	Max. PV	2.8N/mm ^{2*} ·m/s	摩擦系数 Fricti
抗拉强度	Tensile strength	450N/mm ²	导热系数 Ther
屈服强度	Yield point	250N/mm ²	热膨胀系数Coe

硬度 Hardness	HB>110
延伸率 Elongation	40%
使用温度 Temp.	-100℃~+200℃
摩擦系数 Friction coefficient	0.05~0.25
导热系数 Thermal conductivity	60W (m*k) ⁻¹
热膨胀系数Coef. of thermal expansion	15*10⁻⁶Ƙ¹



CRB-T90(FT090) 铜基冲孔卷制轴承 Bronze with through holes wrapped bearings

RoHS



◎ 基材特性 Material Features

该轴套以CuSn8青铜为基材卷制而成的一种具有承载高。耐磨性能好的经济型轴承。标准的产品工作表面布满规则的油孔,在起始运动时能较容易的形成油膜从而降低起始摩擦系数。主要运用于农用机械、建筑机械等高载低速场合。

The bearings are wrapped of a cold formable homogenous bronze (CuSn8), which will obtain exceptional material properties. The standard size are fitted with holes. which are dispersed in a special Way over the whole bearing surface. These indents serve as lubricant reservoirs to rapidly build up a lubrication film in the start movement and therewith reduce the start friction. The material suitable for construcctions, agriculture etc where high load and slow movement are occurring.

◎ 技术参数 Tech. Data

	最大承载	静承载 Static	120N/mm²	
	Max. load	动承载 Dynamic	40N/mm ²	
	最高线速度	最高线速度 Max. speed		
	最大PV	Max. PV	2.8N/mm ^{2*} ·m/s	
	抗拉强度	Tensile strength	450N/mm ²	
	屈服强度	Yield point	250N/mm ²	

硬度 Hardness	HB110-150
延伸率 Elongation	40%
使用温度 Temp.	-100℃~+200℃
摩擦系数 Friction coefficient	0.08~0.25
导热系数 Thermal conductivity	60W (m*k) ⁻¹
热膨胀系数Coef. of thermal expansion	15*10⁻⁶Ƙ¹

CRB-800(JF800) 双金属卷制轴承 Bimetal wrapped bearings

碳钢基板+铜粉 Steel+Bronze Powder



◎ 基材特性 Material Features

以碳钢为基体表面烧结铜粉,适用于高载低速下的旋转、摇摆运动,铜粉面可根据要求加工出各种油孔、油槽。目前已广泛使用于矿山机械、汽机车、建筑机械、农用机械、轧钢机械等。

Steel backed lead bronze lined bearing material for lubricated applications, high load capacity and good fatigue properties, have been widely used in automotive, common industrial like steering gear, power steering, pedal bushes, king-pin bushes, tailgate pivots, mechanical handling, lifting equipment, hydraulic motors, agricultural machines etc.

材料型号 Material	合金层成份 Alloy Composition	相当标准 Stand.as	合金层硬度 Alloy Hardness
JF800	CuPb10Sn10	JIS-LBC3/SAE-797	HB70-100
JF720	CuPb24Sn4	JIS-LBC6/SAE-799	HB45-70
JF700	CuPb30	JIS-KJ3/SAE-48	HB30-45
JF20	AlSn20Cu	JIS-AJL/SAE-783	HB30-40

最大承载	静承载 Static	250N/mm ²	屈服强度 Yield point	240N/mm ²
Max. load	动承载 Dynamic	140N/mm ²	使用温度 Temp.	-40℃~+250℃
最高线速度	Max. speed	2m/s	摩擦系数 Friction coefficient	0.08~0.20
最大PV	Max. PV	2.8N/mm ^{2*} ·m/s	导热系数 Thermal conductivity	60W (m*k) ⁻¹
抗剪切强度	Breaking Load	350N/mm ²	热膨胀系数Coef. of thermal expansion	14*10 ⁻⁶ K ⁻¹



CRB850S 双合金弥散型自润滑轴承 Metal base bronze powder with graphite



◎ 基材特性 Material Features

CRB850S以金属为基体表面烧结有固体润滑剂的镍合金粉,产品有滑板、卷制轴套、整体烧结轴套等。由于固体润滑剂和润滑油弥散于工作表面和合金层内部因此自润滑性更为充分。适用于高载低速而无法加油或无法形成润滑的场合,并具有较好的耐酸碱特性。产品被广泛用于建设机械、注塑机械,汽车模具等场合。

CRB850S is a composite multi-layer bearing composed of special sintered material used as sliding surfaces and steel material as backing metal, Sintered layers are of a special copper-nickel alloy containing uniformly dispersed solid lubricant, the main component of which is graphite. The solid lubricants will be released at the bearing surface as wear occurs, this will ensure have lower coefficient of friction during operation. In addition, these sintered layers have been processed by the oil impregnation treatment. Application like automotive die wear plate, industrial robots, injection wear plate, injection Tie-bar bushes, construction machines self-lubricating bearings etc.

◎ 技术参数 Tech. Data

最大承载	Max. load	50N/mm ²	摩擦系数 Friction coefficient	0.10~0.20
最高线速度	Max. speed	1m/s	合金层硬度 Alloy hardness	>45HB
最大PV	Max. PV	1.5N/mm ^{2*} ·m/s	热膨胀系数Coef. of thermal expansion	14*10 ⁻⁶ K ⁻¹
推荐温度	Recommend temp	-40℃~+120℃	含油率 Oil volume	10 vol%

CRB-850BM 双合金弥散型自润滑轴承 Metal base bronze powder with graphite

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



◎ 基材特性 Material Features

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的场合,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.

CRB 标准 CRB stand.		CRB850BM1	CRB850BM2	CRB850BM3	CRB850BM4
金属基材 Backing Metal		碳钢 steel	碳钢 steel	不锈钢 S316	铜 Bronze
	成份 Composition	CuSn12	CuSn12Pb2	CuSn12	CuSn12
耐磨层	固体润滑剂 Solid Lubricants	6%	10%	6%	6%
Lining layer	硬度 Hardness	>40HB	>40HB	>40HB	>40HB
	抗压强度 Compressive Strength	320N/mm ²	300N/mm ²	300N/mm ²	300N/mm ²
最大承载	静承载 Static	150N/mm ²	120N/mm ²	150N/mm ²	150N/mm ²
Max. Load	动承载 Dynamic	100N/mm ²	80N/mm ²	100N/mm ²	100N/mm ²
最高线速度	Max. speed	0.5m/s	0.5m/s	0.5m/s	0.5m/s
最大PV	Max. PV	1.5	1.5	1.5	1.5
摩擦系数	Friction coefficient	0.1~0.3	0.05~0.3	0.1~0.3	0.1~0.3
使用温度 ℃	Temp.℃	-150~+250	-150~+250	-150~+250	-150~+250



CRB450 钢基铜合金高精度导套 Steel with bronze high precision bushes

钢基+铜合金(固体润滑剂) Steel+Bronze Alloy With Or Without Solid Lubricant



◎ 基材特性 Material Features

CRB450以优质钢为基体,内孔覆以特种耐磨铜合金材料。同时根据客户 要求可在铜合金表面加工出规则的油槽,以提高润滑性能。CRB450G则在 CRB450的基础上镶嵌环形固体润滑剂,以起到自润滑性能,该种材料具有 墨擦系数小、耐磨性能好,尺寸精度高,耐冲击、耐高温的特性。可用于高 精度冲压模具,汽车覆盖模具等频繁工作的往复运动导套。

CRB450 is Steel backed bronze alloy lined bearing material, CRB450G is of steel backed bronze alloy lined with solid lubricants for high load capacity and high speed application like the high speed press die etc.

◎ 技术参数 Tech. Data

钢基 Steel: HRC45

最高线速度 Max. Speed: 1m/s

最大动承载 Max. Dynamic Load: 30N/mm²

最大PV Max. PV: 1.2N/mm2*·m/s 使用温度 Temp.: -50℃~+250℃

◎ 公差 Tolerance

产品 Item	内径 ID	外径 OD	相配轴 Shaft	相配座孔 mating Housing
CRB-450	H5	h5	h4	Н6
CRB-450G	-0.003/-0.008	h4	-0.010/-0.015	H5

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



◎ 基材特性 Material Features

在优质碳钢表面特殊工艺结合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。CRB650GT结合了金属与非金属的优点,特 别适合于高载低速而又无法加油或不能加油的工作场合,如大型港口机械、轧 钢机械、冶金机械、模具行业以及冲压设备等。

Steel shell with cast bronze bearing material liner which has finely finshed surfaces with holes, into which a specially formulated solid lubricant is embedded. The process of casting bronze on steel achieves an integral metallurgical structure between bronze and steel with an increased carrying with the material cost is considerably reduced. The solid lubricant can reduce the coefficient of friction and is selflubricating.CRB650GT combines the advantages of a metallic bearing and the self lubrication of graphite, particularly good for low-speed and high load applications, where external lubrication is not practical, such as major port machinery, rolling machinery, dies and stamping equipment.

最大承载	静承载 Static	250N/mm ²
Max. load	动承载 Dynamic	100N/mm²
最高线速度	干摩擦 Dry	0.5m/s
Max. speed	润滑 Lubrication	1.0m/s
最大PV(润滑)	Max.PV(Lubrication)	3.25N/mm ^{2*} ·m/s
硬度Hardness		HB > 210

使用温度 Temp.	-40℃~+300℃
摩擦系数 Friction coefficient	0.03~0.20
导热系数 Thermal conductivity	60W (m*k) ⁻¹
热膨胀系数 Coef. of thermal expansion	12*10 ⁻⁶ K ⁻¹
合金层结合强度 Interlay bonding strenth	≥150N/mm²



CRB-SNF 粉末冶金轴承 Powder Sintered Bearings



◎ 基材特性 Material Features

铜基粉末冶金轴承 Bronze

铜基含MoS2粉末冶金轴承 Bronze with Mos2 铜铁合金粉末冶金轴承 Bronze with Iron

铁基粉末冶金轴承 Iron

其它特殊基材粉末冶金轴承 Special Materials

粉末冶金轴承作为一种经济而理想的自润滑轴承被广泛用于无法加油、高载高速、耐腐蚀等场合,如汽机车行业、办公机械、电动工具等。

Sintered self-lubricating bearings are the ideal and economical solution for applications where lubrication is difficulty or can not given. like electrical motors, office machines, automotive etc.

◎ 可供形式 Availability

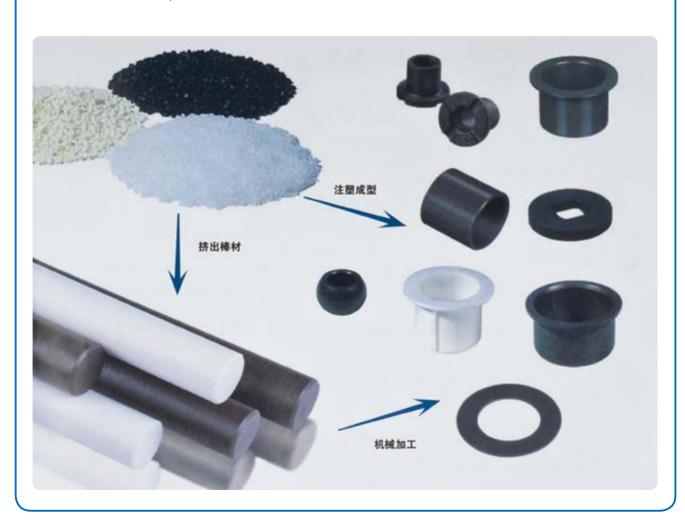
直套、翻边、止推垫片及其他非标品部件等

Cylindrical bushes, flange bushes, thrust washers and non-standard parts as the clients supplied drawing etc

◎ 公差 Tolerance

标准外径公差为r7,内径公差为F7

Standard OD tolerance r7, ID tolerance F7





CRB-EP 热塑成型自润滑轴承 Injection moulded thermoplastic bearings



◎ 基材特性 Material Features

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

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

◎ 技术参数 Tech. Data

最佳工作温度	连续工作温度	短期工作温度
Most suitable temperature	Continuous work temperature	Short-time work temperature
50℃~210℃	80℃~250℃	120℃~350℃

单位 Unit m/s	旋转运动 Rotating motion	摇摆运动 Oscillating motion	直线运动 Linear motion
连续工作 Continuous work	1.0	1.5	3.0
短期运行 Short-time work	1.2	2.5	4.0

可根据具体不同的工况选型(CRB-EP、EP1、EP2、EP3、EP4、EP5、EP6、EP7)

CRB-CP 加工成型自润滑轴承 Processing and forming of self lubricating bearing



◎ 基材特性 Material Features

CRB-CP是以一类独特的半结晶工程塑料为基体,添加特殊的增强材料和润滑材料复合而成的一种新型自润材料。这种材料具有优良的摩擦性能、机械性能、刚性、耐热老化及抗化学腐蚀和耐油性能,即使在恶劣的环境下,仍保持良好的摩擦磨损性能、较高的机械强度、较好的电气性能,是一种优良的自润滑材料。

CRB-EP is a new type of Self--lubricating material, which use the crystal engineering plastic as backing metal additive with special intensifier and lubricant. This material has excellent wear resistance. engineer capability and rigidity intrinsic anti—wear capability and anti—drug capability.

最佳工作温度	连续工作温度	短期工作温度
Most suitable temperature	Continuous work temperature	Short-time work temperature
60℃	100℃	150℃

单位 Unit m/s	旋转运动 Rotating motion	摇摆运动 Oscillating motion	直线运动 Linear motion
连续工作 Continuous work	1.0	1.5	3.0
短期运行 Short-time work	1.2	2.5	4.0



技术资料 Selection and calculation of bearing

◎ 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 Cylidrncal bushes, flange bushes

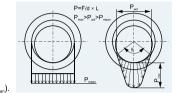
F=轴承承载值 Load (N) L=轴承长度 Bearing Length (mm) ○ 止推垫片 Thrust washer

F=热片承载值 Load (N) -(N/mm²) D=垫片外径 Washer OD(mm) d=垫片内径 Washer ID (mm)

○ 往复运动 Reciprocating motion

 $V = \frac{2s \times c}{60}$ (m/s) $\begin{array}{c} s = 772 \times c \\ c = 25 \times c \end{array}$ (m/s) $\begin{array}{c} s = 772 \times c \\ c = 25 \times c \end{array}$ (m/s) $\begin{array}{c} c = 772 \times c \\ c = 12 \times c \end{array}$ (m/s)

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_{nea}) 会大于理论计算值 (P_{mean}) 。 As the factor of clearance, bushes chamfer, oil groove etc., The actually load (P_{sct}) is higher than theory of calculation (P_{mean})



○ 线速度计算 Velocity:

○ 旋转运动 Rotating motion

 $\pi \times d \times n$ (m/s) d=轴径 Shaft (mm) 1000×60 n=转数/分 Rpm

○ 摇摆运动 Oscillating motion d=轴径 Shaft(mm)

 $\frac{\pi \times d \times C \times \theta}{1000 \times 360 \times 60} \text{(m/s)}$ C=摇摆频率 frequency (次数/分) θ =摇摆角度 Oscillating angle

◎ PV值计算 PV=P×V (N/mm²×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,既保证使用时衬衫套不会在座孔 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轴芯,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。

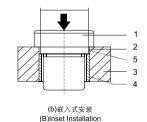
The Installation of SF Bush

SF bushes should de 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

 d^1 d. (图Aa)平面式安装

(Fig A a)Plane Installation 1、压入芯轴

- 2、轴承座孔倒角0.8×15°
- 3、轴承座
- 4. SF轴承
- 5、嵌入肩直径
- R、芯轴端圆角半径



- 1. Press the core axle into bushing
- 2. Housing chamfer at end: 0.8 x 15°
- 3、Housing
- 4. SF bush
- 5. Diameter of inset shoulder
- R. Radius of the round angle of the core axle end

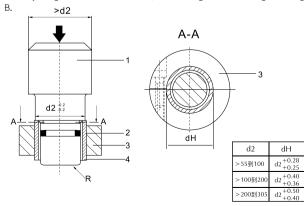
outer surface surface fully contact to the base hole, generally guarantee the contact area over 70%, thus to improve load capacity and transmission of friction heat. The inner surface of SF bush is made of self-lubricating plastic, the outer surface steel backing, The friction coefficient of steel to steel is bigger 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 dia meter 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







产品应用 Applications

















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邮箱:jinxin@crb-bearing.com 网址:www.crb-bearing.com

Manufacture:

Jiashan jinxin self-lubricating Bearing Co.,Ltd.

Add: No.162 Xiangjia Road, Lize Industrial Park,

Jiashan, Zhejiang, China.

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