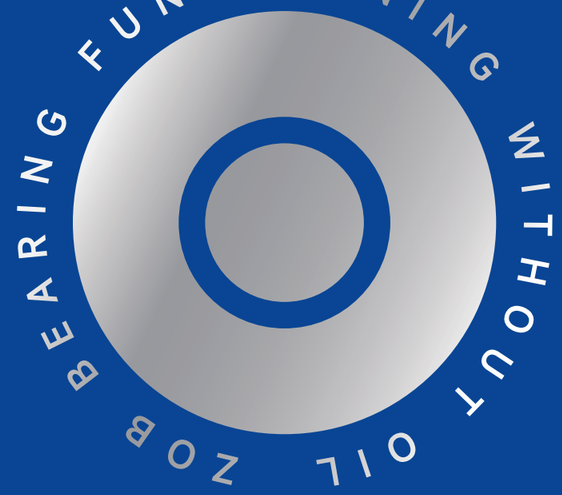
ZHEJIANG SF OILLESS BEARING CO,.LTD.

Sale:
0573-8451 8018
info@sf-bearing.com

No. 18 North Hongwei Road, Jiashan, Zhejiang Province
www.sf-bearing.com



ZOB® SF-BEARING

INTELLIGENT MECHANICAL JOINTS
SUPPORTS EFFICIENT OPERATION

LEADING OILLESS BEARING ENTERPRISES IN CHINA

Founded in 1988, Zhejiang SF Oilless Bearing Co., Ltd. is a GEM (Growth Enterprise Market) listed company specializing in the production of sliding bearing products in China, a state-level high-tech enterprise, a leading enterprise of self-lubrication bearing in Jiashan, and a national green factory.

"ZOB Bearings, Functioning without Oil!"
More than 30 years of R&D, production and sales, the company has accumulated a lot of valuable experience
ZOB trademark has been recognized by the State Intellectual Property Office as a well-known trademark on bearing, Full product range including: self-lubrication bearing water-lubrication bearing, solid-lubricant-embedded bearing, boundary-lubrication bearing, oil-lubrication bearing, and grease-lubrication bearing.
Main industries ZOB products applied:
Automotive industry (passenger cars, commercial vehicles, and new energy vehicles),
Engineering machinery, construction machinery, agricultural machinery; fluid transmission, wind power generation, photovoltaic power generation, steel metallurgy, industrial automation, food machinery, and office equipment, etc.
Over 45% of ZOB products exported to more than 40 countries and regions including Germany, Italy, Japan, USA, Canada and Korea.
ZOB emphasizes on cultural construction, our company policy:
" Innovation and excellence, harmony and Win-Win, becoming stronger and bigger, benefiting the local community ".
ZOB is the Secretariat unit of Self-lubrication Bearings Technical Sub-Committee of National Technical Committee for the Standardization of Sliding Bearings.
ZOB now has "Academician Workstation", Sliding Bearing Research Institute and Zhejiang Provincial Technology Center.
A professional technical team loyal to the company, many new product projects pass the provincial new product appraisal every year.
Acquired 7 systems certifications including ISO 9001, IATF16949, ISO14001 & GB/T29490

Company policy:

Innovation and Excellence, harmony and Win-Win, becoming stronger and bigger, benefiting the local community.

Goal and Vision:

Building a ten billion enterprise with century-old history.

DEVELOPMENT HISTORY

1988

Jiashan Metal Plastic Self-Lubrication Bearing Joint Factory was established

1991

The first trade union committee of Jiashan Oilless Bearing Factory was established
The party branch of Jiashan Oilless Bearing Factory was established

1994

Obtained aerospace trusted product certificate

1995

Won the gold medal at the second China Famous Products Expo for Science and Technology New Product

1996

National model workers' home of China's famous brand products
National key new products

1998

Excellent high-tech products in Zhejiang Province
Acquired ISO9002 quality system certification

2000

Zhejiang SF Oilless Bearing Co., Ltd. was established

2001

Acquired ISO9001 quality system certification

2002

SF-1B bronze-based bearing was honored as the annual national key new products

2003

Zhejiang private economy demonstration research base
National Torch Plan Project certificate
ZOB brand bearings were honored as famous brand products in Zhejiang Province
Zhejiang grade 3A contract-abiding and credit-worthy unit

2004

Advanced collective for Talent Work in Jiaxing City

2005

" ZOB" is a well-known business name in Zhejiang Province
SF series products have been granted high-tech product certificate
Grade AAA taxpaying enterprise in Zhejiang Province
Zhejiang Enterprise Technology Center

2006

Zhejiang high-tech enterprise identification
Top 100 learning-oriented SMEs in Zhejiang Province
ZOB brand oilless bearings was honored brand products in Zhejiang province

2007

Provincial high-tech R&D center
ZOB is a famous trademark in Zhejiang Province
Certificate of membership of China Internal Combustion Engine Industry Association

2008

Patent demonstration enterprise in Zhejiang Province
Provincial SME Technology Center
Zhejiang safety production standardization enterprise for machinery manufacturing

2009

Zhejiang Standard Innovative Enterprise
Zhejiang Industrial and Commercial Enterprise Credit Grade AAA "Contract-abiding Credit" Unit
ZOB is a well-known business name in Zhejiang Province

2010

The general branch of the party in Zhejiang SF Oilless Bearing Co., Ltd. was established
Innovative pilot enterprise in Zhejiang Province

2011

Zhejiang SF Oilless Bearing Co., Ltd. was established
Zhejiang backbone enterprises of polymer materials high-tech characteristic industrial base
Zhejiang High-tech Enterprise Certificate

2012

Zhejiang Province famous export brand

2013

The Party Committee of Zhejiang SF Oilless Bearing Co., Ltd. was established
The Discipline Inspection Committee of Zhejiang SF Oilless Bearing Co., Ltd. was established
Member of the 9th Council of Zhejiang Quality Association
Jiaxing Academician Expert Workstation Unit

2014

Jiashan Demonstration Enterprise for Parent School
Jiashan "Robots Replace Human Workers" top ten demonstration enterprises

2015

Jiashan Top Ten Emerging Industry Development Demonstration Enterprises
Jiashan Benevolence Enterprise

2016

First Prize of the First National Quality Innovation Competition
National Excellent Quality Management Team

2017

Green enterprise in Zhejiang Province
Jiashan "Unicorn" shortlisted enterprises

2018

Annual output of 35 million sets of sliding bearing technology transformation project

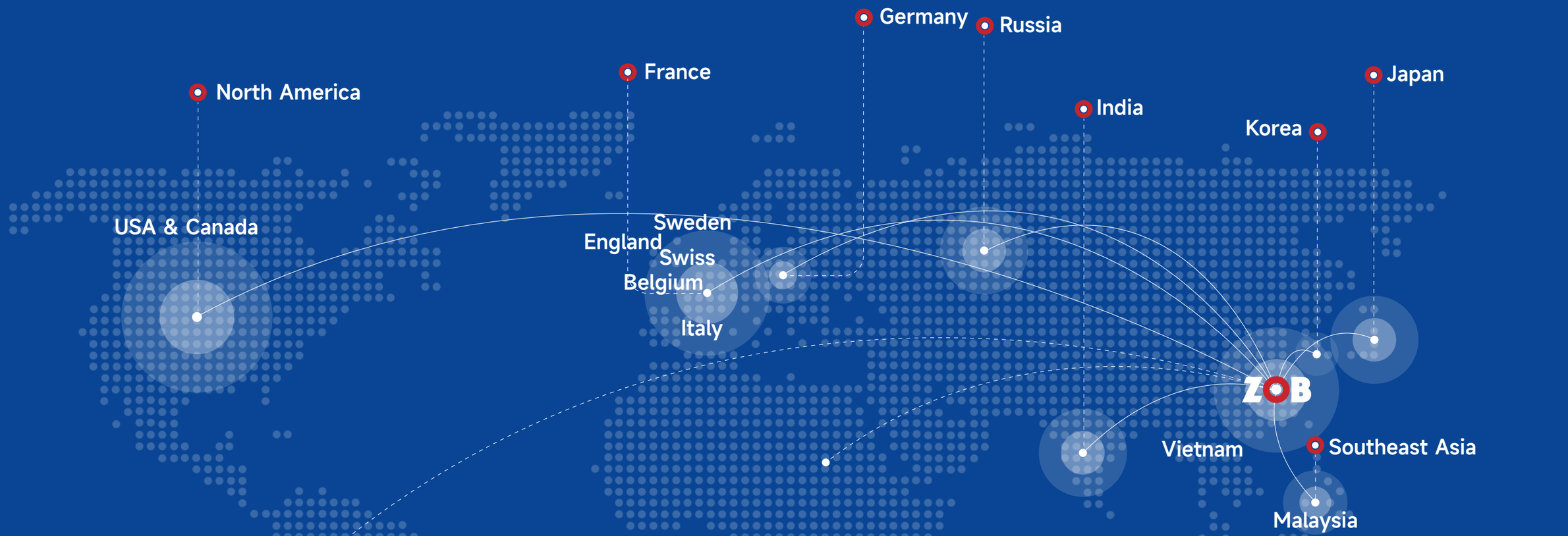
2020

Listed on the Growth Enterprise Market of Shenzhen Stock Exchange

2021

The future is here...

MARKETING NETWORK



Export to more than 40 countries around the world

Provide customized product solutions

Light up the future of the enterprise with innovation

SF-BEARING

ADVANCED MANUFACTURING

01

02

03

04

APPLICATION

Hydraulic system

ZOB offers solutions with a complete range of sliding bearing for users of hydraulic systems including: gear pumps, vane pumps, piston pumps with aluminum bushing blocks, side plates, distribution plates, slippery cradle, bushings, etc.

Automotive industry

Aiming at different use characteristics of each part of the car, ZOB has developed different self-lubrication bushings suitable for different parts.

Construction machinery

ZOB brand plain bearing is widely used in chassis system, body system, hydraulic system of engineering machinery and construction machinery.

Mold industry

We provide all kinds of self-lubrication wear plates, guide bush and cam driver of automotive tyre molds, injection molds and stamping dies.

Aerospace

In the aerospace industry, every detail counts. Even small deficiencies can affect cost, passenger experience and safety.

Iron and steel metallurgy

ZOB cooperates with users to carry out technological innovation, bearings suitable for high temperature and high load are designed, which greatly extends the service life of the bearing at the molten steel bale lug and reduces the frequency of maintenance.

Industrial automation

In the case of linear movement, ZOB bearing is widely used in cylinders and automation guides for the characteristics of low noise and self-lubrication.

Agricultural machinery

Due to their own structural characteristics of good foreign body embedding, ZOB brand boundary lubrication bearing and grease lubrication bearing can be applied under dusty and conditions difficult to maintain.

Clean energy

ZOB brand self-lubrication and pre-lubrication bearing is suitable for wind power generation and photovoltaic power generation equipment, and life-long maintenance free.

Oil platform

ZOB supplies a large number of JSP wear plates for jack-up oil rigs; self-lubrication, maintenance-free bushings for oil and gas transmission systems.

Medical devices

No matter it is telescopic or joint part, ZOB brand of lead-free and environmentally friendly self-lubrication bushings can achieve oilless lubrication and meet the requirements of damping forces, so that the equipment stops where you want.

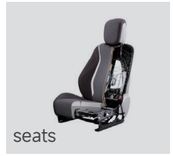
Injection molding/Die casting

ZOB has been committed to R&D of new product, performance improvement of material, the improved JDB series solid embedded self-lubrication bushing with high strength, wear resistance, maintenance-free and other characteristics, The product has been successfully supplied to a number of world-renowned injection molding machine, die casting machine manufacturers.

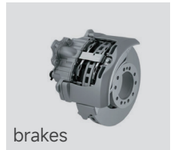
SF series Bearings

Leading products of the Company. SF means three-layer composite.Structure： steel backing -- porous bronze--PTFE. Roles of each layer:
Steel backing: assembly positioning and pressure carrying;
Porous bronze: connecting media for steel backing and PTFE overlayer and friction reduction.
PTFE overlayer: wear resistance and self-lubrication.
Features: self-lubrication without oil, low noise, thin-wall & compact designing, and long-term wear resistance. It is a new type of bearing that replaces needle bearing, powder metal bearing and copper bearing.
Highlights: Producing the product with high-end equipment; strong automatic production capacity; small tolerance of wall thickness; high accuracy and advanced formulation technology; To satisfy the customized requirements; quality & research technology are at the international advanced and domestic leading level.



shock absorbers

seats

gear pumps

cylinders

brakes

tensioner pulley

JF series bearings

The 2nd leading products of the Company. JF means bimetal.
Structure： Steel back-- copper alloy. It can replace copper bushings, babbitt alloys, and roller bearings if bushing working with oil lubrication.
Advantages: low cost; thin-wall thickness, compact design; good wear resistance performance for different working conditions required by customers; oil grooves and oil holes can be designed according to application and mass production can be realized.
Highlights: Producing with high-end equipment & precision molds; strong automatic production capacity; Independent research, development and production of materials; satisfy customer’ s design requirements in different working conditions; High accuracy and good quality consistency; lead-free bimetal material JF870 type developed by ZOB, acquired invention patents, with excellent performance, traditional lead—Sn-Cu product can be replaced; quality & research technology are at the international advanced and domestic leading level.



Connecting rods of automobile engine

gearbox

oil pumps

track rollers

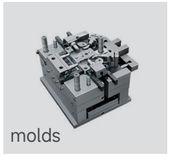
piston pumps

automobile rear axle

JDB series bearings

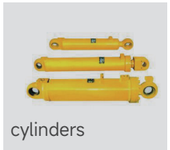
The 3rd leading products of the company.
Structure: self-lubrication bronze bearing with solid lubricant.
Advantages:
Superior performance when used under conditions of high load and no oil lubrication.
Precision bearing can be replaced under high-pressure, high-temperature and high-precision conditions.
cost-effective, adaptable and wear-resistant.
JDB products can satisfy special needs that normal copper bushing cannot meet.
Highlights: Produce with high-end equipment; adopt digital application technology; high accuracy; small geometric tolerance; solid lubrication performance has reached the international advanced level.



Injection molding machines

molds

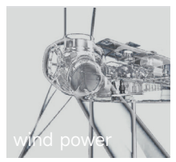
molten iron bales

valves

excavators

cylinders

Other series bearings

The other series of bearing is self-lubrication bearings in addition to the three major products, including bearings with two-layer adhesive material, three-layer adhesive material; sintered embedded; press sintering; surface spray coating etc. They’ re supplementary products for the three major bearings, suitable for the development of emerging fields, meeting customers' special working conditions better.
Company highlight: Strong R&D capability in new product; sufficient technical force;complete application of digital technology; and we can provide customers with solutions of bearing design. Through the research and trial production of tribology principles, solid lubrication technology, polymer materials, metallography and other disciplines, we have continuously developed new types of sliding bearings that can work normally for a long time under various harsh working conditions, such as extreme high temperature, extreme low temperature, high speed, heavy load, aerospace, military industry, nuclear radiation, deep sea, fields of maintenance free etc.



wind power

petroleum

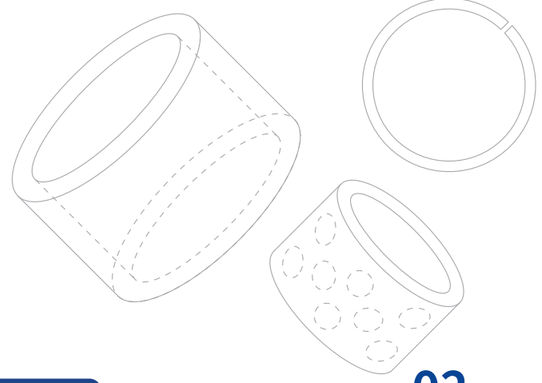
electric vehicles

photovoltaic power generation

aerospace

robots

PRODUCT SOLUTIONS



SF series 01

SF-1 series

- SF-1W (P4) high performance lead free oilless bearing
- SF-1A (ZOB-10) bearing specially for shock absorber
- SF-1D bearing for hydraulic industry
- SF-1H high-pressure and wear-resistant bearing for hydraulic
- SF-1P reciprocating bearing
- SF-1W lead-free bearing
- SF-1B bronze-based bearing
- SF-1CS automotive transmission planetary gears bearing
- SF-1S stainless steel corrosion-resistant bearing
- SF-1SS stainless steel spray coating bearing
- SF-1L wear-resistant bearing for car seats
- SF-1PI polyimide self-lubrication bearing

SF-2 series

- SF-2Y boundary lubricating lead-free bearing
- SF-2X boundary lubricating bearing
- SF-2S oilless lubricating bearing
- SF-2L boundary lubricating lead-free bearing

SF Other series

- SF-3 nylon self-lubrication bearing
- SF-PK (ZOB301A) PEEK self-lubrication bearing

JF series 02

JF lead-containing series

- JF-800 bimetal bearing
- JF-800C bimetal wear plate
- JF-720 high lead & tin bimetal bearing
- JF-700 high lead bimetal bearing
- JF-MP friction-welding bimetal bearing

JF lead-free series

- JF-20 high tin aluminum bearing
- JF-930 (ZOB-090) lead-free bimetal bearing
- ZOB-870 lead-free bimetal bearing
- ZOB-910 lead-free bimetal bearing
- ZOB-850 lead-free bimetal bearing
- ZOB-790 lead-free bimetal bearing

JDB series 03

JDB series

- JDB-1 high-strength brass bearing embedded with solid lubricants
- JDB-1M high strength brass bearing embedded with solid lubricants
- JDB-1H extra hardness brass embedded solid lubricated bearing
- JDB-1U casting bronze bearing with oil grooves
- JDB-2 bronze bearing embedded with solid lubricants
- JDB-4 casting iron bearing embedded with solid lubricants

JDB series

- JDB-5 steel bearing embedded with solid lubricants
- JDB-6 steel-copper casting bearing embedded with solid lubricants
- JDB-1C copper alloy bearing with grooves embedded with graphite
- JDB-1W copper alloy bearing for water lubrication
- JDB-4C cast iron with grooves embedded with graphite
- JDB-6U steel-copper casting bearing with oil grooves
- JDB-5P high wear resistant bearing embedded with solid lubricants
- JDB-S high strength brass bearing embedded with solid lubricants
- JTW-1 copper alloy bearing embedded with solid lubricants
- JSP-1 copper alloy wear plates embedded with solid lubricants
- JSP-6 steel-copper casting wear plates embedded with solid lubricants

SF Other series 04

FB series

- FB090 bronze bearing
- FB092 bronze bearing with holes
- FB09G bronze bearing filled with solid lubricant
- FB08G bimetallic bearing filled with solid lubricant

FR metal mesh series

- FR bearing with soft PTFE belt

PF spray-coating series

- PF spray-coating sliding plates

FD soft belt series

- FD-1 copper-PTFE belt
- FD-2 graphite-PTFE belt
- FD-3 modified PTFE belt
- FD-B banded piston
- FD-AL aluminum-plastic linear bearing

TF series

- TF-1 graphite loose-embedded alloy bearing
- TF-2 nickel graphite loose-embedded alloy bearing

FU series

- FU-1 sintered copper powder bearing
- FU-2 sintered iron powder bearing
- FU-3 sintered copper-iron powder bearing

EF adhesive product series

- EF-1 adhesive solid lubricated bearing
- EF-1L aluminum-based adhesive solid lubricated bearing
- EF-2 modified adhesive solid lubricated bearing
- ZOB-FRB three-layer composite bronze mesh soft belt bearing
- ZOB-FRC three-layer composite stretched bronze soft bearing
- ZOB-BF composite bearing with metal-based fiber fabrics

HT steel sleeve series

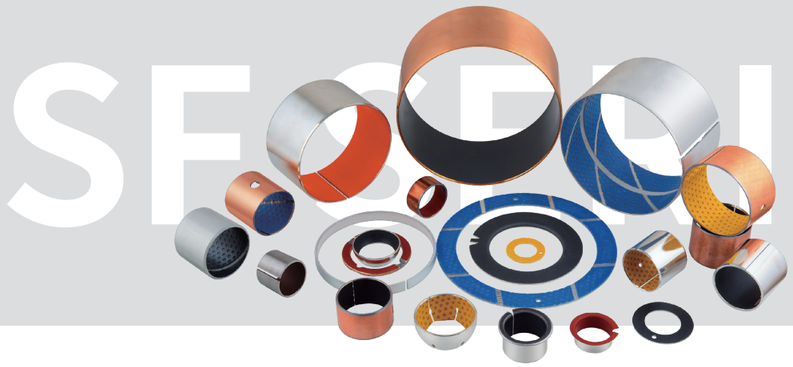
- HT-M spring steel bearing
- HT-C high wear resistant thin-walled steel bushing

Assembly series

- SF-FU rod guide assembly
- SF-CB bushing block for gear pump

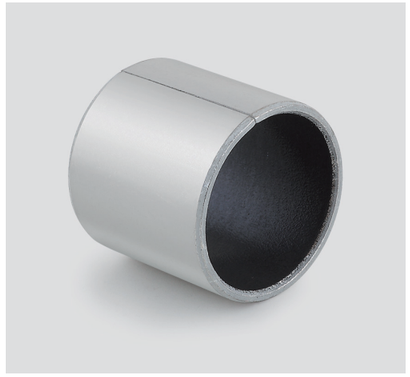
SF Series Bearings

SF series Bearings -- Leading products of the Company. SF stands for three-layer composite.Structure： steel backing -- porous bronze--PTFE. Roles of each layer:Steel backing: assembly positioning and pressure carrying; Porous bronze: connecting media for steel backing and PTFE overlayer and friction reduction.PTFE overlayer: wear resistance and self-lubrication.
Features: self-lubrication without oil, low noise, thin-wall & compact designing, and long-term wear resistance. It is a new type of bearing that replaces needle bearing, powder metal bearing and copper bearing.
Highlights: Producing the product with high-end equipment; strong automatic production capacity; small tolerance of wall thickness; high accuracy and advanced formulation technology; To satisfy the customized requirements; quality & research technology are at the international advanced and domestic leading level.



SF-1W(P4)

SF-1W (P4) high-performance environmentally friendly oilless bearing is a plain bearing made of steel plate as base material, sinter porous bronze powder in the middle, and a mixture of rolled PTFE and environmentally friendly polymer materials on the surface. Advantages of the product: lead-free, excellent wear resistance, high bonding strength of plastic layer and copper layer, fatigue resistance, good impact resistance, etc., and has completely replaced our company's SF-1X, SF-1T, SF-1P, SF-1D bearing. After two years of testing and trial, the product has been well accepted by customers. It has successfully passed the 1 million times impact test of CBK1 pump of Yangtze River Hydraulic Parts Factory and the 1 million times of bench test of Shanchuan Shock Absorber Company and the plastic layer of the bushing surface after the test remains intact and basically no wear. It is a new product developed by our company, and the quality is at the leading level in China.



Max load	140N/mm²	Friction coefficient μ	0.04-0.20
Temperature range	-195°C-280°C	Max PV (dry)	3.8N/mm²·m/s
Max sliding speed	3m/s	Max PV (oil)	50N/mm²·m/s

SF-1D

SF-1D hydraulic bearing. It is newly designed material based on the SF-1P combined with the cylinder and shock absorber working principle, in dry conditions, it shows better wear-resistant performance. In addition to the advantages of SF-1P, SF-1D is especially suitable for conditions of large side force with frequent reciprocating. Its performance is similar to that of the foreign product DP4, and currently gradually replacing SF-1P products, suitable for automobiles, motorcycle shock absorbers and various hydraulic cylinders.

Max load	140N/mm²	Friction coefficient μ	0.03-0.18
Temperature range	-195°C-280°C	Max PV (dry)	4.3N/mm²·m/s
Max sliding speed	10m/s	Max PV (oil)	60N/mm²·m/s

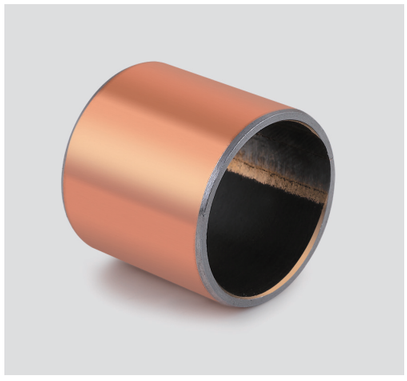
SF-1A(ZOB-10)

SF-1A (ZOB-10) bearing specially for shock absorber
ZOB-10 is specially developed for shock absorber of high-end automobile, motorcycle,
Advantage: long-life, high wear resistance, excellent self-lubrication performance; smaller friction coef. than the normal three-layer composite self-lubrication bearing in the low-speed reciprocating movement; smaller friction fluctuation, effectively solve the crawling problem of shock absorber, the shock absorption effect is more smooth; upgraded material formula, on the basis of the original three-layer composite lubrication bearing material formula, polyimide, polyphenylene and other high-performance self-lubrication materials have been added, the wear resistance of the product is further improved, and because the added self-lubrication material has good protection for the shaft, it can effectively reduce the strain of the piston rod, prevent oil leakage of the shock absorber, and the special lubrication surface with taper design can shorten the initial running-in time in practice and further improve the service life of the shock absorber.

Max load	140N/mm²	Friction coefficient μ	0.03-0.18
Temperature range	-195°C-280°C	Max PV (dry)	4.3N/mm²·m/s
Max sliding speed	10m/s	Max PV (oil)	60N/mm²·m/s

SF-1H

SF-1H high hydraulic wear-resistant bearing is a sliding bearing specially developed for gear pumps under working conditions of medium and high pressure, which has the characteristics of good impact resistance, high pressure load, good wear resistance & lead-free. The product passed one million impact tests at 30MPa force.



Max load	140N/mm²	Friction coefficient μ	0.03-0.18
Temperature range	-195°C-280°C	Max PV (dry)	4.3N/mm²·m/s
Max sliding speed	10m/s	Max PV (oil)	60N/mm²·m/s

SF-1P

SF-1P reciprocating motion bearing is a new product designed according to the special working conditions of reciprocating motion on the basis of the structure of SF-1X, and its performance is similar to that of foreign product DD2. With the advantages of strong self-lubrication ability under oil loss conditions, good wear resistance, and keeping the oil film clear, the product can better protect the surface of the grinding shaft from wear. At present, the product has been widely used in automotive shock absorbers, motorcycle shock absorbers, various hydraulic cylinders, hydraulic motors, pneumatic components and other fields.

Max load	140N/mm²	Friction coefficient μ	0.04-0.20
Temperature range	-195°C-280°C	Max PV (dry)	3.6N/mm²·m/s
Max sliding speed	2.5m/s	Max PV (oil)	50N/mm²·m/s

SF-1W

SF-1W lead-free bearing is a new product developed on the basis of SF-1X and according to international environmental protection requirements. In addition to being widely used in general machinery, the product is especially suitable for food machinery, pharmaceutical machinery, tobacco machinery, and the lead-free effect meets the European environmental protection requirements, which is the direction of the development of self-lubrication bearing.

Max load	140N/mm²	Friction coefficient μ	0.04-0.20
Temperature range	-195°C-280°C	Max PV (dry)	3.6N/mm²·m/s
Max sliding speed	5m/s	Max PV (oil)	50N/mm²·m/s

SF-1B

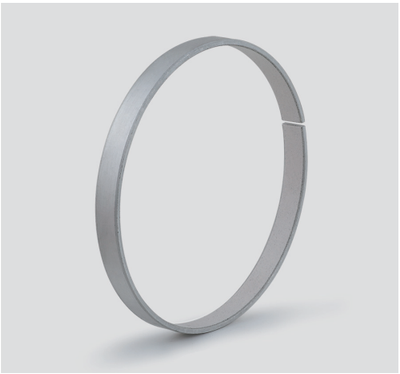
SF-1B bronze-based bearing is made of tin bronze as base material, sintered porous bronze powder in the middle, and rolled with PTEE and high-temperature resistant filling materials on the surface. It has a high safety factor and is particularly suitable for places where continuous work cannot be stopped for repair and where lubricating is difficult at high temperatures. At present, it has been widely used in the metallurgical steel industry, continuous casting machine billet raceway, high-temperature furnace front equipment, cement grout pump and screw conveyor. It can be combined with a steel sleeve on the outside, or it can be made into a flange to achieve the effect of friction both on the end face and the inner hole at the same time.
In application of the sliding part of the bridge support, the SF-1B with thicker wear-resistant layer replaces the pure PTFE plate. The requirements of 130 N/mm² load can be met.

Max load	140N/mm²	Friction coefficient μ	0.03-0.18
Temperature range	-195°C-300°C	Max PV (dry)	4.3N/mm²·m/s
Max sliding speed	5m/s	Max PV (oil)	50N/mm²·m/s

SF-1CS

SF-1CS automotive transmission planetary gear self-lubrication bearing, is based on SF-1W, according to the special working conditions of the transmission planetary gear, new formula lead-free product meets environmental protection is designed, its surface plastic layer is white, the performance is similar to foreign product P141, with good self-lubrication performance, excellent wear resistance, high fatigue strength, long service life and other advantages. The product is recommended for use in the sliding parts of the transmission planetary gear, fork, various types of solenoid valves.

Max load	140N/mm²	Friction coefficient μ	0.04-0.20
Temperature range	-195°C-280°C	Max PV (dry)	3.6N/mm²·m/s
Max sliding speed	5m/s	Max PV (oil)	50N/mm²·m/s



SF-1S

SF-1S corrosion-resistant bearing, takes stainless-steel material as base material, sintered corrosion-resistant alloy powder in the middle, and overlayer of low-friction material based on PTFE on the surface. The rolled SF-1S bearing has characteristics of oil, acid, alkali, seawater and abrasion resistance, and the surface of the PTEE material is lead-free. It is suitable for corrosion-resistant sliding parts in food and beverage machinery, chemical medium acid and alkali flow pump valves, pharmaceutical machinery, printing and dyeing machinery, chemical machinery, marine industry.

Max load	140N/mm²	Friction coefficient μ	0.04-0.20
Temperature range	-195°C-280°C	Max PV (dry)	3.6N/mm²·m/s
Max sliding speed	2.5m/s	Max PV (oil)	50N/mm²·m/s

SF-1SS

SF-1SS stainless steel plastic-spraying bearing is a highly corrosion-resistant and wear-resistant bearing, composed of stainless-steel material as base material and spray with PTFE on the surface. The product is especially suitable for strong acid, strong alkali, light load in the low and medium speed applications, its wear resistance is significantly better than the monomer PTFE bearing and graphite bearing. At present, the product has been widely used in chemical acid and alkali flow meters, pumps, valves and sliding parts that require corrosion resistance and wear resistance in the marine industry.

Max load	100N/mm²	Friction coefficient μ	0.03-0.18
Temperature range	-195°C-280°C	Max PV (dry)	3.0N/mm²·m/s
Max sliding speed	2.5m/s	Max PV (oil)	40N/mm²·m/s

SF-1L

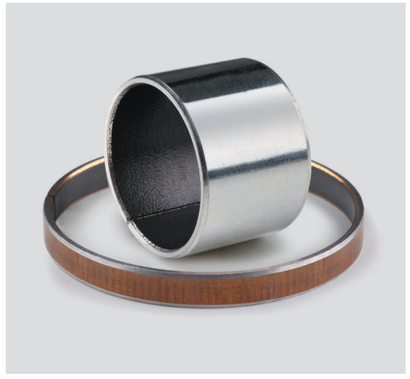
SF-1L seat wear-resistant bearing is specially developed for the mechanical adjustment for car seats. With flexible rotation, low friction coefficient, smooth operation, low noise and other advantages, through the improvement in surface wear layer formula, the wear resistance performance of the product is further improved by more than 30%, the application needs of car seats can fully be met.

Max load	140N/mm²	Friction coefficient μ	0.04-0.20
Temperature range	-195°C-280°C	Max PV (dry)	3.8N/mm²·m/s
Max sliding speed	3m/s	Max PV (oil)	50N/mm²·m/s

SF-1PI

SF-1PI oilless bearing is made of low carbon steel plate as base material, the surface is sintered with porous bronze powder, and then coated with a layer of polyimide (PI) modified PTFE material, and the plate is rolled into a bushing and other types. Due to the polyimide is a high mechanical strength of organic polymer materials, it can withstand high-strength alternating loads, good fatigue resistance, and does not absorb water, corrosion resistance, so the product is very suitable for automotive tensioner and other applications of high loads, frequent changes in the swing; in addition, polyimide materials have good thermal stability, it can be used for a long time at 300°Ctemperature, so the product can also be used for high temperature applications such as electronic baking.

Max load	140N/mm²	Friction coefficient μ	0.04-0.20
Temperature range	-195°C-300°C	Max PV (dry)	3.6N/mm²·m/s
Max sliding speed	3m/s	Max PV (oil)	50N/mm²·m/s



SF-2Y

SF-2Y boundary lubrication lead-free bearing is improved type based on SF-2X. Its performance same as SF-2, but the surface is lead-free, so it can be used in environmentally friendly areas. At present, the product has been applied to imported textile equipment, swing parts of piston pump, control rod and other applications of medium load, medium speed, grease lubrication.

Max load	70N/mm²	Friction coefficient μ	0.05-0.25
Temperature range	-40°C-130°C	Max PV (dry)	22N/mm²·m/s
Max sliding speed	2.5m/s		

SF-2X

SF-2X boundary lubricated bearing is based on steel plates, sintered porous bronze powder in the middle, rolled modified POM oil indentations on the surface. It is suitable for conditions under low speed and medium load under normal temperature, costs reduced and service life prolonged by replacing traditional copper bushings. Lubricating frequency can be reduced and replacement procedures will be simplified when using on rolling mills. The product has been widely used in automotive chassis, forging machine, metallurgical mining machinery, engineering machinery, hydropower, rolling steel industry and other fields.

Max load	70N/mm²	Friction coefficient μ	0.05-0.25
Temperature range	-40°C-130°C	Max PV (dry)	22N/mm²·m/s
Max sliding speed	2.5m/s		

SF-2S

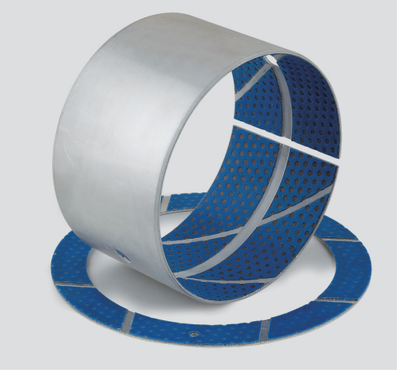
SF-2S self-lubrication bearing is an improved product of SF-2, with steel back as base material, sintered porous tin bronze powder in the middle, and a polymer with acetal resin and containing lipophilic fibers and special lubricants. It is similar with foreign products DS, which are suitable for dry friction and less oil lubrication under normal temperature conditions, and have the advantages of low friction coefficient, good wear resistance and self-lubrication. At present, the products have been used in rocking movement, easy to wear, easy to corrode applications, such as hoist machine, bulldozer, printing and dyeing machine, coal mining machine, crane, driving aerial work machine and other applications.

Max load	70N/mm²	Friction coefficient μ	0.04-0.20
Temperature range	-40°C-130°C	Max PV (dry)	25N/mm²·m/s
Max sliding speed	5m/s		

SF-2L

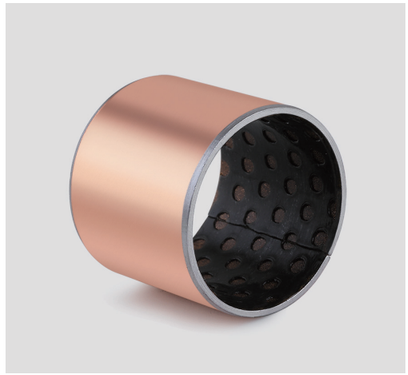
SF-2L boundary lubrication lead-free bearing, it' s improved material based on SF-2X. With advantages of low friction coefficient, good wear resistance, long service life, Due to the product is lead free, the product can be used for food machinery and other applications with higher environmental protection requirements.

Max load	70N/mm²	Friction coefficient μ	0.04-0.20
Temperature range	-40°C-130°C	Max PV (dry)	25N/mm²·m/s
Max sliding speed	5m/s		



SF-3

SF-3 nylon self-lubrication bearing, is a new type of plain bearing composed of steel plate, bronze powder layer, modified PA46 material, the key points lies in the modified PA46 on the surface, its excellent high temperature resistance performance makes it possible to withstand temperature higher than 160 ° C and maintaining hardness, fatigue resistance, friction resistance and other mechanical properties at the same time. The product can be used under working conditions of low-speed heavy load rotation, swing or rectilinear reciprocating etc.



Max load	80N/mm²	Friction coefficient μ	0.05-0.20
Temperature range	-80°C-160°C	Max PV (dry)	30N/mm²·m/s
Max sliding speed	2.5m/s		

SF-PK (ZOB301A)

SF-PK three-layer composite bearing, is a new type of plain bearing composed of steel plate, bronze powder layer, modified PEEK, the main performance depending on the modified PEEK on the surface, it is polymer, temperature-resistant, wear-resistant, corrosion-resistant materials. The performance is superior especially in the case of water lubrication and less oil lubrication. With a 0.1mm thickness of wear-resistant PEEK layer, its service life is significantly longer than normal SF-1, with high-performance, it is currently used in guiding parts of high-quality shock absorber, tanks, rocket lifting parts and machine tool slide guides.

Max load	100N/mm²	Friction coefficient μ	0.05-0.20
Temperature range	-195°C-300°C	Max PV (dry)	3.0N/mm²·m/s
Max sliding speed	2.5m/s	Max PV (oil)	40N/mm²·m/s

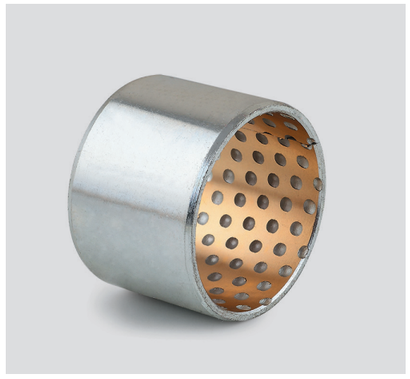
ZOB OILLESS BEARING

JF Series Bearings

The 2nd leading products of the Company. JF stands for bimetal product.
Structure: Steel back--bronze alloy. It can replace copper bushings, babbitt alloys, and roller bearings if bushing working with oil lubrication.
Features: low cost; thin, compact design; good wear resistance performance for different working conditions; Oil grooves and oil holes can be designed according to application and mass production can be realized.
Highlights: Produce with high-end equipment & precision molds; strong automatic production capability; Independent research, development and production of materials; Satisfy customer' s design requirements in different working conditions; High accuracy and good quality consistency; Lead-free bimetal material developed by ZOB has acquired invention patents, with excellent performance, traditional lead-bronze bimetal bearing can be replaced; quality & research technology are at the international advanced and domestic leading level.

JF-800

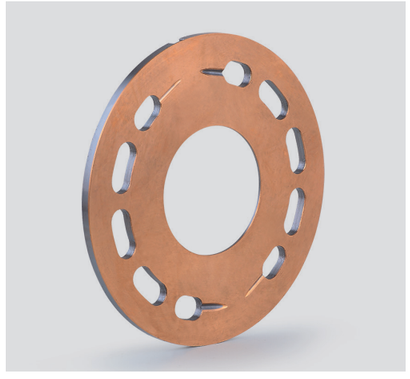
JF-800 bimetal bearing is steel and bronze alloy products with low-carbon steel plate as base material and surface sintered CuPb10Sn10 or CuSn6Zn6Pb3 material, it is a material with strongest load capacity among bimetal bearing, Application: bushing & washers for balance suspension of heavy-duty trucks; driven wheel & track roller of bulldozers; king pin bushing. It has a wide range of applications under high-load low-speed.



Alloy material	CuPb10Sn10/CuSn6Zn6Pb3		
Max load	65N/mm²	Alloy hardness	HB70-100
Max temperature	260°C		

JF-800C

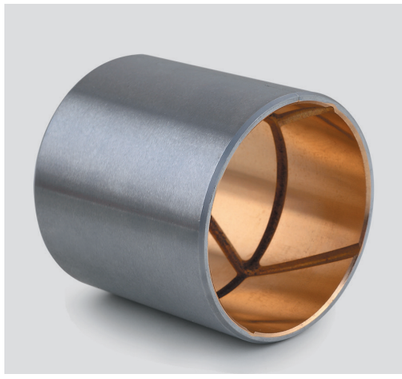
JF-800C bimetal wear plate is based on low-carbon steel backing, surface sintering CuSn10Pb10 lead bronze alloy powder. The material will be rolled after multiple sintering to get the material strip, a high-precision bimetal wear plates are made with processes including stamping, machining, double-sided grinding etc. The product is a key part for high-pressure piston pump, friction pairs will be formed between the cylinder body of piston pump and the wear plate, relative friction is generated between the surface of the cylinder and the wear plate, due to the superior self-lubrication performance of CuSn10Pb10 alloy, the wear plate can significantly reduce the friction heat during high-speed operation, problems such as burning plate or seizure can be avoided, in addition, the low carbon steel backing has a high mechanical strength, so deformation is small under pressure, the wear plate can always be in uniform contact with the cylinder surface, so low noise during operation. The product has the advantages of saving copper alloy material, high accuracy, low friction coefficient, good wear resistance and long service life.



Alloy material	CuPb10Sn10/CuSn6Zn6Pb3		
Max pressure	65N/mm²	Alloy hardness	HB70-100(standard)HB100-130(harden)
Max temperature	260°C		

JF-720

JF-720 high lead tin bimetallic bearing is based on steel backing, sinter CuPb24Sn4 alloy on the surface. The product has good anti-fatigue and high load capacity. Suitable for working condition of medium speed medium load with oil lubrication. When coating soft alloy on the surface, it can be used as engine bearing and connecting rod bushing for high-speed internal combustion, so that to achieve good anti-wear and anti-fatigue performance.



Alloy material	CuPb24Sn4	Max temperature	170°C
Max load	38N/mm²	Alloy hardness	HB45-70

JF-700

JF-700 high lead bimetallic bearing is a product with steel backing as base material and sintered CuPb30 on the surface, due to its high lead content, it has good resistance to seizure shaft and foreign body embedment. If the working surface is plated with soft alloy material, it can be used as main engine bearing, connecting rod for Internal combustion engine with high-speed, medium and low load; rocker arm bushing; side plates for oil pump.

Alloy material	CuPb30	Max temperature	170°C
Max load	25N/mm²	Alloy hardness	HB45-70

JF-MP

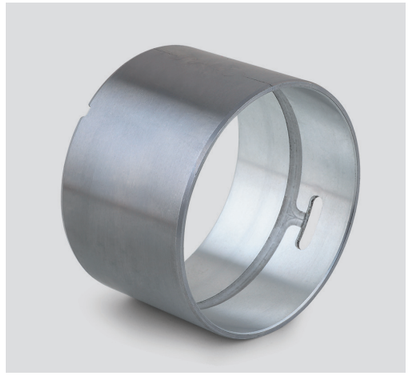
JF-MP friction welded bimetallic bearing is an important part of construction machinery, which are made of a combination of rolled bimetal bushing and bimetal thrust washer by friction welding. When bronze alloy contacts with the shaft in the sliding part, the shaft and shoulder on the shaft can be better lubricated and protected in operation. Steel backing has stronger load capacity and cost effective. The product can withstand both axial and radial loads suitable for medium and low speed and high load rotation, swing and other applications, it has been widely used in all kinds of chassis parts of construction machinery, including track roller, idler & carrier roller of bulldozers and excavators.

Alloy material	CuSn10Pb10	bonded strength of alloy & steel back	≥150Nmm²
Max load	65N/mm²	bonded strength of flange and bushing	≥150Nmm²
Max temperature	260°C		

JF-20

JF-20 high tin aluminum-based bearing is based on steel backing, rolling with AlSn20Cu on the surface. The product suits for working condition of medium fatigue strength and bearing capacity, with good corrosion resistance, good sliding performance, commonly used as engine bearing for small and medium power internal combustion, bushings for automobile gearbox, air compressor bushings, it is a new product to replace the Babbitt alloy.

Alloy material	AlSn20Cu	Max temperature	150°C
Max load	30N/mm²	Alloy hardness	HB30-40



JF-930(ZOB-090)

JF-930 lead-free bimetallic bearing is a lead-free bimetal bearing, with low carbon steel back as base material and sintered CuSn6.5P0.1 alloy on the surface. The product has high fatigue strength and load capacity, good sliding properties, it can replace bimetal bushing or bronze bushing with lead in many applications.

Alloy material	CuSn6.5P0.1	Max temperature	200°C
Max load	65N/mm²	Alloy hardness	HB70-100

ZOB-870

ZOB-870 environmental protection bimetal bearing is lead free, which is low carbon steel plate as base material and sintered CuSn10Bi3 on the surface. The product has high fatigue strength and load capacity, good sliding properties, it can replace bimetal bushing or bronze bushing with lead in many applications.

Alloy material	CuSn10Bi3	Max temperature	200°C
Max load	140N/mm²	Hardness	HB90-120

ZOB-910

ZOB-910 environmental protection bimetal bearing is lead free, which is mild steel back as base material and sintered CuSn8Ni1 material on the surface. The product has high fatigue strength and bearing capacity, good sliding properties, it can replace bimetal bushing or bronze bushing with lead in many applications.

Alloy material	CuSn8Ni1	Max temperature	260°C
Max load	65N/mm²	Hardness	HB90-120

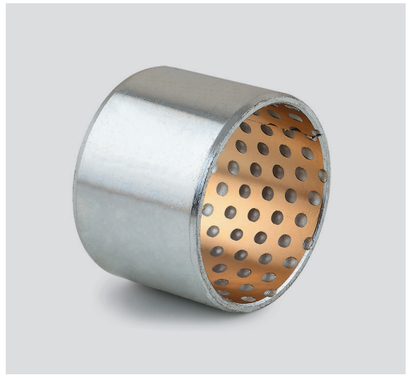
ZOB-850

ZOB-850 environmental protection bimetal bearing is lead free, which is mild steel plate as base material and sintered CuSn6Ni9 material on the surface. The product has high fatigue strength and load capacity, good sliding properties, it can replace bimetal bushing or bronze bushing with lead in many applications.

Alloy material	CuSn6Ni9	Max temperature	260°C
Max load	65N/mm²	Hardness	HB100-140

ZOB-790

ZOB-790 environmental protection bimetal bearing is lead free, which is with low carbon steel plate as base material and surface sintered CuSn10Bi7.5Zn3.5 material. The product has high fatigue strength and load capacity, good sliding properties, it can replace bimetal bushing or bronze bushing with lead in many applications.



Alloy material	CuSn10Bi7.5Zn3.5	Max temperature	200°C
Max load	140N/mm²	Hardness	HB70-100

INTELLIGENT MECHANICAL JOINTS SUPPORT EFFICIENT OPERATION

JDB Series Bearing

JDB series bearing is the third main product of the company, it is a high-strength metal embedded with solid lubricant. It shows obvious advantages using under conditions of heavy load and no oil lubrication, it can replaces rolling bearings and copper alloy bearings in applications of high-pressure, high-temperature and high-precision. Better price-to-performance ratio, strong adaptability, wear resistance, JDB product is a good choice for special needs that general copper bushings cannot meet.
Highlight: JDB series bearing is produced with high-end equipment, using digital application technology, high accuracy, small geometric tolerance range, solid lubrication performance has reached the international advanced level.

JDB-1

JDB-1high-strength brass embedded bearing, a high-performance solid lubrication product based on high-strength brass, embedded with graphite or MoS2 solid lubricants. It breaks through the limitations of the oil film lubrication which conventional bearings relying on. In the process of use, the solid lubrication is rubbed with the shaft through frictional heat, forming excellent conditions for oil and powder to coexist and lubricate, which not only protects the shaft from wear, but also makes the solid lubrication characteristics eternal. Its hardness is twice higher than ordinary brass bushing, and its wear resistance is also doubled. At present, it has been widely used in metallurgical continuous casting machines, train supports, rolling equipment, mining machinery, ships, gas turbines and other applications of high-temperature, high-load, low-speed heavy load

Base material	CuZn25A16Fe3Mn3	Ultimate dynamic load	100N/mm²
Hardness	HB210-245	Friction coef μ	0.04-0.16
Max temperature	300°C	Max sliding speed	Dry0.4m/sOil5m/s

JDB-1H

JDB-1H extra-high hardness brass embedded solid lubricant bearing is based on JDB-1 bearing, through the adjustment of the casting process, hardness of the high-strength brass is further increased, so the load capacity and wear resistance of the product can be greatly improved. It is not recommended to use under large impact loads, for increasing hardness will lead to decreasing elongation. Meanwhile, due to the higher hardness of the bushing, it is better to choose mating shaft with higher hardness in the designing to prevent the shaft from premature wear. The products are widely used in mining machinery, engineering machinery, injection molding machinery etc.

Base material	CuZn25A16Fe3Mn3	Ultimate dynamic load	100N/mm²
Hardness	HB>275	Friction coef μ	0.04-0.16
Max temperature	300°C	Max sliding speed	Dry0.4m/sOil5m/s

JDB-1M

JDB-1M high hardness brass embedded solid lubricated bearing is based on JDB-1 bearing, further improved the bearing capacity and wear resistance of the product by increasing the hardness of the high-strength of brass. Products are widely used in continuous casting rolling mills, mining machinery, engineering machinery, injection molding machinery etc. High hardness makes it difficult for machining, it is not recommended if the load is not particularly high.

Base material	CuZn25A16Fe3Mn3	Ultimate dynamic load	120N/mm²
Hardness	HB245-275	Friction coef μ	<0.16
Max temperature	300°C	Max sliding speed	Dry0.4m/sOil5m/s

JDB-1U

JDB-1U brass bushing is a kind of high-strength brass bearing lubricated by oil through oil-groove. The product has the traditional function of tin bronze bearing, due to the hardness of the high-strength brass doubled, the service life also doubled than general bronze bushing in low-speed applications, in addition, its high load pressure makes it adaptable to heavy duty application. At present, the product is mainly used in the stressed joint of excavators and large gearboxes.

Base material	CuZn25A16Fe3Mn3	Ultimate dynamic load	100N/mm²
Hardness	HB210-270	Friction coef μ	0.04-0.16
Max temperature	170°C	Max sliding speed	1.5m/s

JDB-2

JDB-2 bronze embedded bearing is a solid lubrication product with 6-6-3 bronze as base material and graphite and MoS2 embedded as solid lubricants. Due to the density of 6-6-3 bronze is higher than that of high-strength brass, it shows superior performance of wear-resistant in the conditions of high temperature and low load, it has been applied to low-load, high-temperature and medium-speed applications such as fireplace doors, oven raceways, rubber machinery, light industrial machinery, and machine tool industry.

Base material	CuSn6Zn6Pb3	Ultimate dynamic load	60N/mm²
Hardness	HB80-100	Friction coef μ	<0.15
Max temperature	350°C	Max sliding speed	2m/s

JDB-4

JDB-4 cast iron embedded bearing is new products with HT250 as base material embedded with solid lubricants, which is a typical material-saving product. If the pressure less than 145N/mm² or mechanical properties requirements can be met, the product can be used as substitution for JDB-2 material. Costs greatly reduced and requirements can be satisfied. For example: guide column of mold, mold base of injection molding machine and other fields can be used.

Base material	HT250	Ultimate dynamic load	60N/mm²
Hardness	HB180-230	Friction coef μ	0.04-0.18
Max temperature	400°C	Max sliding speed	0.5m/s

JDB-5

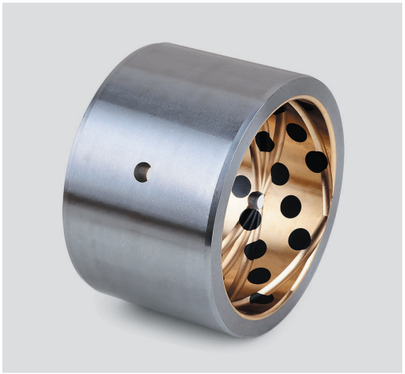
JDB-5 steel-based embedded bearing, is a reinforced product with high compressive properties, it can discharge lubrication particles in working process, forming a layer of diaphragm between the shaft and the bushing, showing a better bite resistance performance than bushing made of single metal. It particularly adapted application in the supporting parts of lifting machinery. Example: Hoist support, crane support, but not suitable to use in water, acid or alkali.

Base material	GCr15	Ultimate dynamic load	250N/mm²
Hardness	HRC58-60		
Friction coefficientμ	<0.17	Max sliding speed	0.1m/s
Max temperature	350°C	Max PV (dry)	2.5N/mm²·m/s

JDB-6

JDB-6 steel-copper casting bushing embedded solid lubricant, it is self-lubrication bearing with high-strength and material-saving, comparing with the general copper alloy embedded solid lubricant bearing, the outer part of this products is low-carbon steel with a lower price, the inner surface is 1 ~ 2mm copper alloy embedded solid lubrication bearing, the copper alloy is exactly the same copper material, so the material cost of the product is significantly reduced, in addition, due to the use of substrate low carbon steel in the product, its impact resistance is better comparing with the high strength brass with high hardness produced by centrifugal casting, cracking does not occur when subjected to large impact loads. The product is suitable for application of low speed, heavy load with shock load.

Base material	Low carbon steel+CuZn25A16Fe3Mn3		
Ultimate dynamic load	150N/mm²		
Friction coef μ	0.04-0.20	Max temperature	350°C



JDB-1C

JDB-1C brass alloy graphite groove solid lubricant bearing is a high wear-resistant solid lubrication bearing made of aluminum brass as base material, annular oil grooves with same spacing is processed on the inner diameter of the bearing, the inner and outer diameter will be precisely machined after solid lubricants embedded in the groove. Due to the effect of frictional heat in application, the solid lubricant in the inside groove will be slightly expanded, it will touch the shaft first and cause friction, and a transfer film will be formed on the shaft, so the friction coef. will be lowered, the wear of the shaft and the bushing will be reduced, and the service life prolonged. The product is especially suitable to be used as guide bush in precision mold, precision guide rails and other conditions of reciprocating linear movement.

Base material	CuZn25A16Fe3Mn3	Friction coef μ	0.04-0.18
Hardness	HB210-270	Max temperature	200°C

JDB-1W

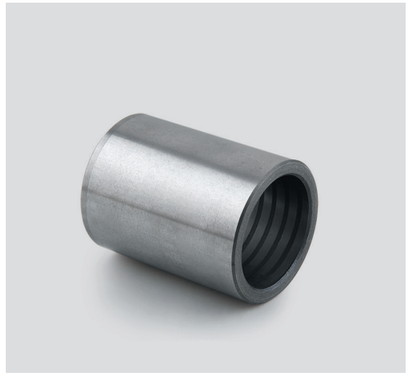
JDB-1W water lubricated bearing is a self-lubrication bearing with aluminum brass alloy as base material and modified PTFE embedded as solid lubricant. PTEE material has a good anti-friction and wear-resistant effect, especially in a humid and seawater environment, comparing with bearing with graphite as lubricant, PTFE will not cause electrical corrosion with the shaft, so the product is especially suitable for use in port machinery, island wind power and other equipment.

Base material	CuZn25A16Fe3Mn3	Ultimate dynamic load	100N/mm²
Friction coef μ	0.04-0.20	Max temperature	200°C

JDB-4C

JDB-4C cast iron graphite groove solid lubrication bearing is a high-strength cast iron as base material, certain spiral grooves will be machined in the inner diameter of the bearing, lubricant made of MoS2 will be embedded in the groove, the inner and outer diameter are precisely machined. The product is especially suitable to be used as guide bush in precision mold, precision guide rails and other conditions of reciprocating linear movement. Due to the frictional heat produced in application, the solid lubricant in the inside groove will be slightly expanded, so it will touch the shaft first and cause friction, and a transfer film will be formed on the shaft, so the friction coef. will be lowered, the wear of the shaft and the bushing will be reduced, and the service life prolonged.

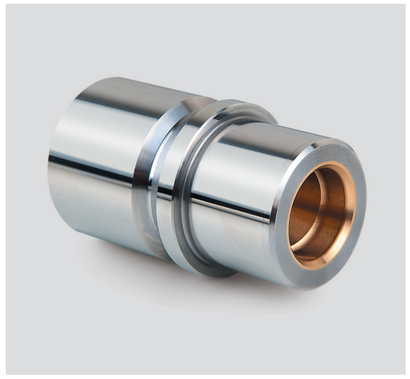
Base material	HT 250	Friction coef μ	0.04-0.20
Hardness	HB180-230	Max temperature	200°C



JDB-6U

JDB-6U casted steel- copper bearing with oil groove is a high-strength and material-saving sliding bearing, comparing with the ordinary copper bushing, the steel back is made of medium carbon or low carbon steel with higher strength and toughness, so its load capacity is higher, the impact resistance performance is better. It also can be welded between the steel housing, even under large loads, the bearing will not easily loose or take off.

Base material	Low carbon steel+CuZn25A16Fe3Mn3		
Hardness	HB210-270		
Friction coef μ	0.04-0.20	Max temperature	200°C



JDB-5P

JDB-5P high wear resistance bearing embedded with solid lubricant is coated with a layer of polymer wear resistance on the surface of JDB-5 bearing, in some harsh working environments, it can quickly form a dense transfer film on the mating surface, the initial friction coef. will be reduced, the running-in period will be shortened, failure due to the high initial friction coef. will be avoided, and the service life can be improved significantly.

Base material	GCr15	Ultimate dynamic load	250N/mm²
Hardness	HRC58-62		
Friction coefficientμ	0.04-0.20	Max sliding speed	0.1m/s
Max temperature	350°C	Max PV (dry)	2.5N/mm²·m/s

JDB-S

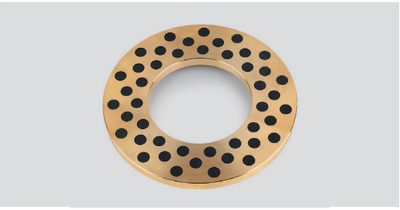
JDB-S is a joint spherical type of copper alloy embedded solid lubricant bearing, which is mainly used in the inner ball part of the spherical bearing, which plays a role in reducing frictional resistance, extending the refueling interval, and prolong the service life. The product can be used with or without oil lubrication.

Base material	CuZn25A16Fe3Mn3	Ultimate dynamic load	100N/mm²
Hardness	HB210-245	Friction coef μ	0.04-0.16
Max temperature	300°C	Max sliding speed	Dry0.4m/sOil5m/s

JTW-1

JTW-1 is a copper alloy thrust washer embedded with solid lubricant, mainly used in rotation or swing reciprocating surface friction applications, play a role in protecting the shaft shoulder, it can be used with or without oil lubrication.

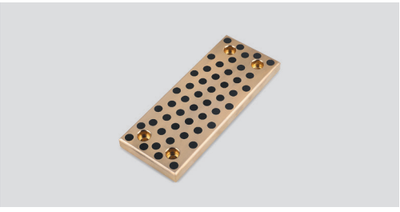
Base material	CuZn25A16Fe3Mn3	Ultimate dynamic load	100N/mm²
Hardness	HB210-245	Friction coef μ	0.04-0.16
Max temperature	300°C	Max sliding speed	Dry0.4m/sOil5m/s



JSP-1

JSP-1 is a copper alloy wear plates embedded with solid lubricant, mainly used in linear reciprocating surface friction applications, play a role in protecting the mating parts, it can be used with or without oil lubrication.

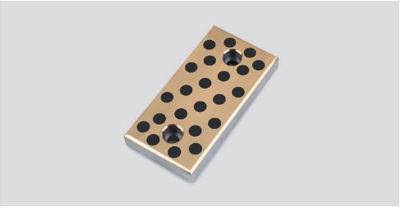
Base material	CuZn25A16Fe3Mn3	Ultimate dynamic load	100N/mm²
Hardness	HB210-245	Friction coef μ	0.04-0.16
Max temperature	300°C	Max sliding speed	Dry0.4m/sOil5m/s



JSP-6

JSP-6 is casting steel-copper wear plates embedded with solid lubricant, mainly used in linear reciprocating surface friction applications, play a role in protecting the mating parts, it can be used with or without oil lubrication.

Base material	Low carbon steel+CuZn25A16Fe3Mn3		
Ultimate dynamic load	250N/mm²		
Friction coef μ	0.04-0.20	Max temperature	200°C



Other Series Bearing

Other series bearing are self-lubrication bearings in addition to the three major products. It includes two-layer adhesive, three-layer adhesive, sintered inlay, pressed sintering, surface spraying and other technical production methods. Aiming to meet the special working conditions of customers, it is a complementary product to the three major bearings and a new product suitable for the development of emerging fields.

Our company has a strong advantage in new product research and development, sufficient technical personnel, complete application of digital technology, strong development capabilities, we can provide customers with bearing application solutions. Through the research and trial production of tribological principles, solid lubrication technology, polymer materials, metal science and other multidisciplinary research, we have continuously developed new varieties of sliding bearing that can work stably for a long time under various harsh working conditions, such as extremely high temperature, extremely low temperature, high speed, heavy load, aerospace, military, wind power, new energy, nuclear radiation, deep sea, maintenance-free field etc.

FB090

FB090 bronze bearing, using special formulation of high-density copper alloy strip as base material, rolling diamond or hemispherical oil indentation or oil grooves on the surface according to customers' requirement. With the advantages of high density, heavy load capacity, good wear resistance and long service life, it can replace the traditional casting bronze bushing, reduce the volume of the machine and reduce the cost. FB090 has been widely used in lifting machinery, construction machinery, chassis of car and tractor, machine tool industry and mining machinery, it can be made into different shapes including half bearing, flange bushing, thrust washer and cup bearing etc.

Base material	CuSn8P0.3/CuSn6.5P0.1		
Hardness	HB90-120(standard) HB120-150(hardened)	Applicable temperature range	-80°C-200°C
Ultimate dynamic load	75N/mm²	Max sliding speed	2.5m/s

FB09G

FB09G bronze solid lubrication bearing is made of bronze and the surface is filled with solid lubricant. Due to the base material copper alloy is of high elongation, it can be used to produce rolled bushings with ultra-thin wall thickness, with the ideal filling material as lubricant, it can be used as wear-resistant bushing in the automotive drive shaft, as well as applications without oil lubrication.

Base material	CuSn6.5P0.1+graphite		
Ultimate dynamic load	65N/mm²	Friction coef μ	0.06-0.20
Max temperature	260°C	Max sliding speed	4m/s

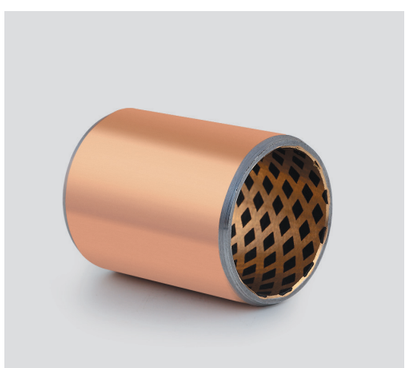
FB092

FB092 bronze bearing is a thin-walled bearing made of bronze as base material, rolled up after punching uniformly and orderly oil injection holes, injected with lubricating grease after assembly, with seals on both ends of the bearing. The bearing has the advantages of large oil storage, convenient installation, small design volume, it can replace bronze bushing, which can greatly reduce costs, and the product has been applied to conveyors, lifts, hoists, levelers and other medium-load, low-speed applications.

Base material	CuSn8P0.3/CuSn6.5P0.1		
Hardness	HB90-120(standard) HB120-150(hardened)	Applicable temperature range	-100°C-200°C
Ultimate dynamic load	60N/mm²	Max sliding speed	2.5m/s

FB08G

FB08G bearing with solid lubricant are novel thin-walled bearing with solid lubricant, it takes JF800 bimetal material as base material and alloy layer filled with special solid lubricants. Due to the base material is of high-strength, the ideal filling material can act as wear agent, the lubrication area can reach more than 25% with reasonable designing of diamond lubrication form, as a result, the superior lubrication and anti-wear performance can be maximized. Products have been used in automotive gearbox, generator, lift, crane and metallurgical machinery and other industries.



Base material	CuSn10Pb10+Alloy material		
Ultimate dynamic load	65N/mm²	Friction coef μ	0.06-0.20
Max temperature	260°C	Max sliding speed	4m/s

FR

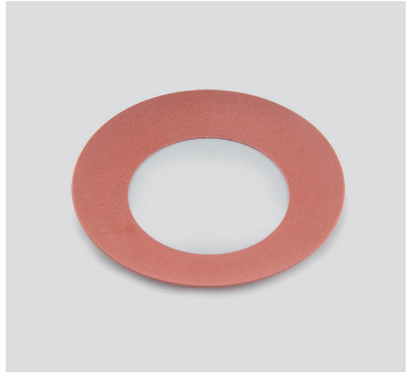
FR PTFE soft belt bearing, using bronze wire mesh as base material, pressing a mixture of PTFE and other filled friction reduction materials on the surface by special sintering process. It has good performance of low friction coef. and good wear resistance. With good flexibility, FR can be used as a separation film for steel and mating steel parts, achieving the ideal purpose of no clearance, no noise, oilless lubrication, free of maintenance, and no pollution. At present, products have been widely used in textile machinery, joint bearing, automotive door hinges and other applications.

Ultimate dynamic load	100N/mm²	Friction coef μ	0.05-0.20
Applicable temperature range	-40°C-280°C	Max sliding speed	1.0m/s

FD-1

FD-1 copper-containing PTFE strip is made of PTFE as main raw material, filled with copper powder and other wear-resistant, processed by molding and sintering. It has good wear resistance. Its tensile strength can meet the conditions of which of piston rings made of monomer material, low friction coef., it works well no matter with or without oil lubrication. It is an ideal choice for automotive shock absorbers and piston rings. At present, FAW Audi and Volkswagen Santana, It is widely used in shock absorber of premium cars, it can maintain a low friction coef. and wear resistance for a long time.

Ultimate dynamic load	22N/mm²	Friction coef μ	0.09-0.20
Applicable temperature range	-100°C-250°C	Max sliding speed	1.5m/s



FD-2

FD-2 graphite PTFE belt is made of PTFE as the main material, filled with graphite and other wear-resistant materials, processed by molding and sintering. The material has a low friction coef., good toughness, good wear resistance, and is suitable for the combination with metal. The product can be used as pistons for shock absorber, cylinder pistons, guide rail veneers of machine tool and other application.

Ultimate dynamic load	20N/mm²	Friction coef μ	0.06-0.20
Applicable temperature range	-100°C-250°C	Max sliding speed	1.5m/s

FD-3

FD-3 modified PTFE strip, it is made of PTFE as main material and filled with special wear-resistant. processed by molding and sintering, which has good wear resistance, impact resistance and sealing performance. It works well in gasoline without any chemical reaction, so it can be used as a fuel dispenser flow pump live-off, washers for connecting rod and sealing ring.

Ultimate dynamic load	22N/mm²	Friction coef μ	0.09-0.20
Applicable temperature range	-100°C-250°C	Max sliding speed	1.5m/s

FD-B

FD-B banded piston is specially developed for automotive shock absorber application. The product has the advantages of good wear resistance and low friction resistance performance. It can make the shock absorption performance of the shock absorber in a good state of long-term stability. It is a good choice for shock absorbers with long service life. The product has high density, good wear resistance, good combination between PTFE and base material, the quality has reached the level of similar products abroad.

Base material	Iron-based powder metallurgy+PTFE		
Applicable temperature range	-80°C-260°C	Friction coef	<0.05

FD-AL

FD-Al aluminum-plastic linear bearing, is a linear motion product without oil lubrication, used on the sliding platform of precision machinery to replace rolling bearing with steel balls, to meet the purpose of low noise, low cost and long service life without oil lubrication. Therefore, it is widely used on the sliding platform of mold and precision instrument.

Base material	Aluminium alloy+PTFE		
Ultimate dynamic load	20N/mm²	Friction coef μ	0.03-0.20
Applicable temperature range	-100°C-250°C		

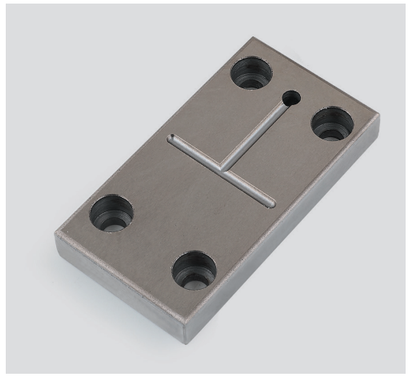
TF-1

TF-1 graphite loose-embedded alloy bearing, is an improved products based on JF800 bimetallic bearing, In addition to the advantage of pressure resistance and wear resistance performance of JF800 bimetallic bearing, the loose embedded graphite makes oilless lubrication possible. Seizing shaft can be avoided completely due to the friction coef. is low under the condition of less oil or no oil. The product is suitable for the guiding part of the rubber tire mold, the sliding part of the lifting equipment, the high-speed sliding part of the water turbine and other applications of high-temperature, high-speed, and when refueling not possible for a long time.

Copper alloy material	CuSnPb+C	Friction coef μ	0.05-0.18
Max temperature	300°C	Ultimate dynamic load	150N/mm²

TF-2

TF-2 nickel graphite loose-embedded alloy bearing is a novel product among bearings with solid lubricant. It shows better performance of rust resistance and temperature resistance comparing with TF-1. In railway switch slide application, it is well adapted to the working condition of open-air with the advantage of wear-resistant and maintenance free, it also suitable for use as wear plates in automotive mold, guide plates of high-speed punch and metallurgical equipment working in high-temperature.



Alloy layer material	CuFeNi+C	Friction coef μ	0.03-0.18
Max temperature	600°C	Ultimate dynamic load	73.5N/mm²

FU-1

FU-1 copper-based oil-containing bearing is made of tin bronze powder as raw materials, pressed by the mold, sintered under high temperature and shaped, which has fine, uniform pores, and is formed after vacuum impregnation of lubricating oil. The product has the characteristics of working without lubrication for short time, low cost, high accuracy of inner and outer diameters, and is suitable for use in places with medium speed and low load. Products have been widely used in micro motors, household appliances, electric tool, textile machinery, chemical machinery, automotive industry and office equipment etc.

Base material	CuSn10		
Ultimate dynamic load	35N/mm²	Friction coef μ	0.12-0.18
Applicable temperature range	-80°C-160°C		

FU-2

FU-2 iron-based oil-containing bearing is iron-based powder metallurgy products. Seizing shaft can be avoided due to the oil-containing effect. At low loads, its wear resistance performance is similar to that of copper-based powder metallurgy product. The product is widely used in textile machinery, shock absorbers of automobiles and motorcycle and sliding part of electric tools. It can be used as base for guiding positioning bushings in static status.

Material	Fe	Friction coef μ	0.15-0.20
Applicable temperature range	-80°C-160°C	Ultimate dynamic load	45N/mm²

FU-3

FU-3 copper-iron oil-containing bearing, is a powder metallurgy product combined with FU-1 and FU-2, the ratio of Fe and Cu composition can be determined according to the customer's requirements, so both the working condition and cost reduction can be considered. Among mechanical parts, it is the most ideal products meeting customer's individual needs.

Material	Fe+Cu+C	Friction coef μ	0.12-0.20
Applicable temperature range	-80°C-160°C	Ultimate dynamic load	45N/mm²

EF-1

EF-1 adhesive solid lubricated bearing takes galvanized steel strip as base material, through the polymer bonding layer agent, modified PTFE soft belt with excellent wear resistance is bonded with the galvanized strip, and then rolled into shape. The product has the advantages of high accuracy, light weight, corrosion resistance, low friction coef. and long service life. Suitable for working condition of oilless lubrication at low load and medium speed, such as sports equipment, hinges of automobile door, etc.

Friction coef μ	0.03-0.20		
Applicable temperature range	-200°C-260°C	Ultimate dynamic load	100N/mm²

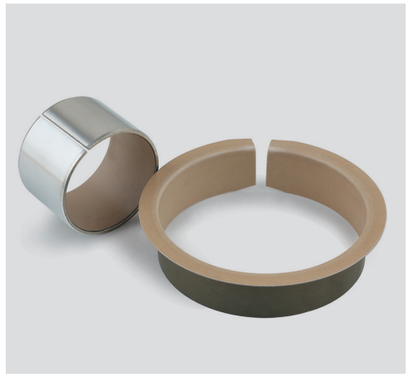
EF-1L

EF-1L adhesive solid lubricated bearing is based on high-strength aluminum plate, through the polymer bonding layer agent, a layer of modified PTFE soft belt with excellent wear resistance is bonded with the aluminum plate, then rolled into shape, the product has the advantages of high accuracy, light weight, corrosion resistance, low friction coef., long service life. Suitable for working condition of oilless lubrication at low load and medium speed. Such as photovoltaic energy, tensioner of automobile etc.

Friction coef μ	0.03-0.20	Ultimate dynamic load	100N/mm²
Applicable temperature range	-200°C-260°C		

EF-2

EF-2 modified adhesive solid lubricated bearing is based on galvanized steel sheet, through the polymer bonding layer, bonded on the surface of the galvanized sheet with a layer of polyphenylene modified PTFE soft belt material with excellent wear resistance, and make bushing by rolling. The product has the advantages of high accuracy, light weight, low friction coef., good wear resistance and long service life. Suitable for application at low load and medium speed without oil lubrication including front forks of bicycle, automobile clutches etc.



Friction coef μ	0.03-0.20	Ultimate dynamic load	100N/mm²
Applicable temperature range	-200°C-260°C		

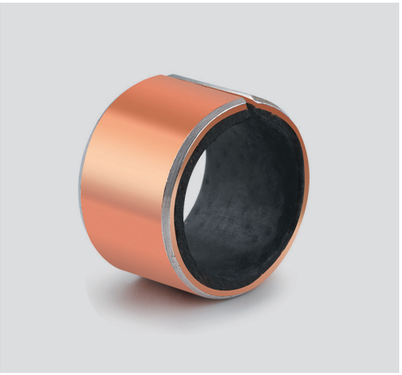
ZOB-FRB

ZOB-FRB three-layer composite bearing with copper mesh soft belt, takes steel plate as the base material, bonded with braided copper mesh impregnated with PTFE, then make product by rolling process. The performance of anti-pressure and wear resistance improved with copper mesh strengthened PTFE layer. The product is used in the sliding parts of the door hinges of automobile, engine compartment and trunk hinge, wiper, etc., it works well even if no oil lubrication, no clearance status can be met with the elasticity of the material, so the noise in working can be avoided.

Friction coef μ	0.03-0.20	Ultimate dynamic load	140N/mm²
Applicable temperature range	-200°C-260°C		

ZOB-FRC

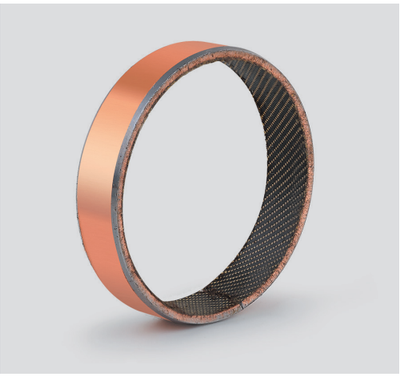
ZOB-FRC three-layer composite hole stretching copper mesh soft belt bearing, steel plate as base material, the surface is bonded with holes-stretched copper mesh overlaid with PTFE, product is made by rolling. Comparing with ZOB-FRB, the friction coef. of the anti-wear layer is relatively balanced, the performance effect can maintain for a long time, it is more suitable for the occasion of frequent dry friction. In addition to the same application of ZOB-FRB products, it can also use in textile machinery and printing and dyeing machinery.



Friction coef μ	0.03-0.20	Ultimate dynamic load	150N/mm²
Applicable temperature range	-200°C-260°C		

ZOB-BF

ZOB-BF metal-based fiber fabric composite bearing, uses a steel plate as base material, the surface bonded woven fabric of PTFE and aramid, it can be made into different shape: bushings by rolling or washers by The product has the characteristics of high precision, high load capacity, superior performance under low speed etc. It is widely used in heavy-duty equipment such as construction machinery and agricultural and forestry machinery.



Friction coef μ	0.03-0.20	Ultimate dynamic load	150N/mm²
Applicable temperature range	-200°C-260°C		

HT-M

HT-M spring steel rolled bearing is made of spring steel plate as base material, and have overall quenching and ground on the inner and outer surfaces. With moderate hardness, strong load capacity, good wear resistance and other advantages, the product can replace the ordinary steel bushings, Due to the elasticity of the product itself, it has a cushioning protection on the shaft when it is under severe impact loads, it is suitable to use in the rocker arms, grabs and other parts of large construction machinery.

Base material	50CrV4		
Ultimate dynamic load	100N/mm²	Max sliding speed	0.1m/s
Applicable temperature range	200°C		

HT-C

HT-C high wear-resistant bearing with thin wall thickness, is made of low carbon steel and make the product by stamping and rolling, after treatment of a special environmentally friendly nitrocarburizing process, a layer of high hardness wear-resistant will be formed on the working surface of the bearing, the product has the advantages of stability in dimension, uniform hardness, high wear resistance, high toughness, impact resistance, long service life, etc., it is widely used in rocker arms of engine and other parts.

Alloy layer material	SPCC or DC01	Hardness	HV700-800
Friction coef μ	0.05-0.23		

PF

PF double-sided lubrication bearing, coated with a layer of polymer wear-resistant layer with solid lubrication on the surface of JF bimetal bearing, in some harsh working environments, it can quickly form a dense transfer film on the mating surface, reduce the initial friction coef., shorten the running-in period of the product, avoid the failure of the product due to the initial friction coef. is too large, and can significantly improve the service life of the product.

Friction coef μ	0.03-0.20	Maximum bearing pressure	65N/mm²
Max temperature	260°C		

SF-CB

SF-CB assembly in gear pump is a core component installed on both sides of the shaft gear of the gear pump, for the purpose of supporting and friction reduction, volumetric efficiency and service life of the gear pump depends on the accuracy and wear resistance of the product. The assembly is composed of two parts, two three-layer composite bushings pressed into a "8" shaped aluminum block, which has the advantages of high load capacity, high accuracy and good wear resistance performance. All the parts of SF-CB bushing block assembly are produced by our company, automatic pressing and automatic detection on key sizes can effectively solve the problem of tolerance accumulation and product accuracy decline in pressing process, so that to ensure to provide 100% qualified products to our customers.

SF-FU

SF-FU rod guide assembly for shock absorber, an assembly of SF-1 self-lubrication bushings and rod guide made of sintered iron powder metal according to the market demand, more convenient for customers for it can avoid the problem of failure caused by the tolerances accumulation if customer assemble the assembly by themselves.

ENVIRONMENTAL PROTECTION MEASURES

Our company takes positive measures to protect the global environment

Reduce environmental load

Reduce environmental load

Efforts will be made to reduce the environmental load caused by business activities.
Strive to reduce or recycle waste to realize waste free production.

Environmental measures

Environmental measures

Strive to achieve resource conservation and energy savings.
Actively take measures to protect the environment in the whole life cycle from product design, production, sales, use to abandonment.

Official public account

www.sf-bearing.com

IATF16949 ISO9000 ISO14001

Response to environmentally hazardous substances generated by bearing products.

"All products" of resin and lamination have achieved lead-free.
Resin and laminated products comply with the RoHS/ELV Directive.
※ In the self-lubrication bearing, except for a few products, all have achieved lead-free.
※ The self-lubrication bearing products comply with RoHS/ELV directives except for a few products.
※ The base metal contains lead

ECOLOGICAL FACTORY

VOLATILE ORGANIC COMPOUNDS

WASTE

CO_2