



Machining Center: We Machine Oilless Bronze Bearings in standard size or according to Clients Drawings. Graphite Plugged Bushings manufactured from a variety of Bronze Alloys, including: C86300 Manganese Bronze, C93200 Tin Bronze Bearings and C95400 Aluminum Bronze.

## Material Production Process

### Continuous Casting

Continuous casting is an advanced method of casting in which molten metal is continuously poured into a special metal mold called a mold. The solidified (encased) casting is continuously pulled out from the other end of the mold. The development of continuous casting is an important means to optimize the structure of China's metallurgical industry, which will fundamentally change the low efficiency and high consumption of China's metal material production, and promote the development of product structure to the direction of specialization. The development of advanced continuous casting technologies, such as near-final continuous casting, single crystal continuous casting, high-efficiency continuous casting and hot charging of continuous casting billet, will be very active, and will promote the development of a series of new materials.

### Centrifugal Casting

Centrifugal casting is a technique and method of pouring liquid metal into a rapidly rotating mold to fill the mold and form a casting. Because of the centrifugal motion, the liquid metal can fill the mold well in the radial direction and form the free surface of the casting. Cylindrical inner hole can be obtained without core. Helps to remove gases and inclusions from liquid metals. Affect the crystallization process of metal, thus improving the mechanical and physical properties of castings.

## Characteristics & Advantages

Maintenance free

Self-lubricating

Applications where it is difficult  
to add oil / grease lubricants

Heavy loads and low speed

## Types Of Bearings

Bearing forms made to order:

1. Straight Bushings Bronze w/Graphite
2. Flange Bronze Bushing
3. Wear Plate
4. Custom Items



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## Application

Self lubricating bushings used in die sets, metal stamping dies, molds, special machines and heavy equipment of all types

## Material Composition and Properties

viplus Code	VSB	VSB	VSB	VSB	VSB	VSB	VSB
	(500#)	(500#S1)	(500#S2)	(500#S3)	(500#S4)	(HT250)	(Gcr15)
Code	CuZn25Al	CuZn25Al	CuAl9Fe4	CuSn5P	CuSn12	HT250	Gcr15
	5Mn3Fe3	5Mn3Fe3	Ni4Mn2	b5Zn5			
Density	8	8	8.5	8.9	9.05	7.3	7.8
Hardness HB	> 210	> 250	> 150	> 70	> 80	> 190	HRC > 58
N/mm2 Tensile strength	> 750	> 800	> 800	> 200	> 260	> 250	> 1500
Elongation%	> 12	> 8	> 15	> 10	> 8	> 5	> 15
Coefficien of linear expansion 10-5/°C	1.9	1.9	1.9	1.8	1.8	1	1.1
Limit Temp °C	-40~ +300	-40~ +150	-40~ +400	-40~ +400	-40~ +400	-40~ +400	-40~ +400
Max.load N/mm2	100	120	150	60	70	80	200
m/min Max.speed (Dry)	15	15	20	10	10	8	5
Max.PV N/mm2 *m/min	200	200	60	60	80	40	150
Compressive deformation 300N/mm2	< 0.01	< 0.005	< 0.04	< 0.05	< 0.05	< 0.015	< 0.002

## Base Material Interchange

Material Codes	China Brands GB1176-87	Intenational ISO 1338	Germany DIN	Japan JIS	America ASTM(UNS)	England BS	France NF	Applicable conditions
VSB(500#)	ZCuZn25Al6 Fe3Mn3	GCuZn25Al6 Fe3Mn3	DIN1709 G-CuZn25Al5	H5102 CAC304	B30-92 C86300	HTB2		Commonly used
VSB(500#S1)	ZCuZn25Al6 Fe3Mn3	GCuZn25Al6 Fe3Mn3	DIN1709 G-CuZn25Al5	H5102 CAC304	B30-92 C86300	HTB2		Over high load · low speed · High load used
VSB(500#S2)	ZCuSn5 Pb5Zn5	GCuPb5 Sn5Zn5	DIN1705 G-CuSn5ZnPb	H5111 BC6	B30-92 C83600	LG2	CuPb5 Sn5Zn5	Mid-load · low speed
VSB(500#S3)	ZCuAl9Fe4 Ni4Mn2	GCuAl10 FeNi5	DIN17656 G-CuAl10Ni	H5114 AIBC3	B30-92 C95500	AB2	CuAl10 Fe5Ni5	Commonly used
VSB(HT250)	GB5675-85 HT250			FC250	ASTM Class40			Mid-load · low speed

## Solid Lubricant

Lubricant	Features	Typical application
Graphite+add		Suit for general machines and under atmosphere
PTFE+add	< 300°C Lowest in friction and good of water Lubrication,Temp limit 300°C	Ship, hydraulic turbine, gas turbine etc.