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Voke for global industry to provide quality parts



嘉善沃科汽车部件有限公司
JIASHAN VOKE AUTO PARTS CO., LTD.

FB090 青铜卷制轴承



JIASHAN VOKE AUTO PARTS



COMPANY PROFILE

公司简介

嘉善沃科汽车部件有限公司是一家研究和生产各种自润滑轴承、无油轴承、滑动轴承等系列产品的专业厂家。公司拥有专业化的团队，先进齐全的设备，科学完善的管理，产品销售遍布全球各地，深受广大国内外客户的信任与好评。

公司主要产品有：JDB系列自润滑轴承、SF系列无油轴承、JF系列双金属滑动轴承、FB系列单金属滑动轴承、FZ系列钢球保持架、垫片、滑板、轴瓦等十多种系列，上万种规格。产品质量与性能均已达到国内领先水平，广泛配套于各种机械设备的转动和滑动部位。

我们不断致力于新产品和新领域的开发和推广，为客户提供有价值的产品，用心打造完美的品质，更好的回报客户。我们始终本着：以信为本、以质取胜、开拓创新、做强做大的宗旨目标，欢迎广大客户莅临我公司参观指导，一起携手共创美好未来！

JIASHAN VOKE AUTO PARTS CO., LTD., specializes in research and production of a variety of self-lubricating bearings, oil-free bearings, sliding bearings. The company has professional teams, advanced equipments, scientific management. Products are sold throughout the world and popular by the domestic and overseas customers.

Main products are: JDB series self-lubricating bearings, SF, oil-free bearings, JF series bimetal sliding bearing, FB series single metal sliding bearings, FZ series steel ball cage, gaskets, skateboard, bearings, dozens of series, thousands of specifications. Products have taken lead in quality and performance domestically and widely used as a complete set of rotating and sliding parts in all kinds of mechanical equipments.

We are constantly committed to new products and new areas of development and promotion, to provide customers with valuable products, build perfect quality attentively, high returns. We are always in line with faith, quality, innovation, and pursue a big goals, welcome customers to visit our company for guidance, to join hands in creating a better future together!

FB090 系列青铜卷制轴承 FB090 Bronze-Wrapped Bearing

结构特性及用途

Structure Characteristics and Applications



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

FB090 wrapped bronze bearing is made of tin-bronze CuSn8 with its surface punched with diamond oil sockets which are preserved for oil saving. It has good anti-fatigue, anti-erosion anti-abrasion and load capacity. The products are widely applied in conditions of heavy load but low running velocity, such as on agricultural, buiding and engineering machines.

FB092 系列青铜卷制轴承 FB092 Bronze-Wrapped Bearing

结构特性及用途

Structure Characteristics and Applications



FB092青铜卷制轴承，以锡青铜合金CuSn8为材料，工作表面按一定角度、密度均匀排布着润滑通孔，在启动时容易形成油膜，从而降低启动摩擦系数。它具有良好的抗疲劳强度的承载能力、耐腐蚀、抗磨损。该系列产品广泛运用于农业机械、建筑机械、工程机械等高载低速场合。

FB092 wrapped bronze bearing is made of tin-bronze CuSn8 that is of high density, its surface is punched with oil apertures by certain angle and density therefore its easier to form an oil film when the bushing works. It has good anti-fatigue and load, anti-erosion anti-abrasion and load capacity. The products are widely applied in conditions of heavy load but low running velocity, such as on agricultural, buiding and engineering machines.

产品的优点 Product Benefits

1. 节约大量铜材、节省车制铜套工时； 2. 与车制轴套、滚动轴承相比其重量轻、成本低； 3. 可在摩擦面加工出各种油穴、油坑、用于储存一定油脂，延长加油的时间是铜套的5倍； 4. 极高的承载能力，特别是适用于粗糙的摩擦面；

可供产品：直套、止推垫片、翻边衬套、轴瓦、滑板、钢套组合件。

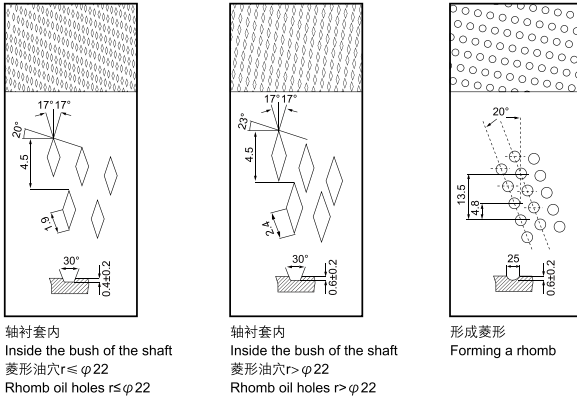
1. Saving large amount of bronze material and save the working hours normally spent for lathing the bronze bushing.
2. Compared with lathed bushings and roller bearings, it is lights and more cost-effective.
3. Various holes and dents can be made on the frication surface for grease storage, prolonging the lubrication interval to 5 times as long as required by the bronze bushing.
4. Extremely high load sustainability, especially suitable for coarse abrasion surfaces.

Standard products available: straight bushings, thrust plates and pressure bearings.

Non-standard products available: straight bushings, thrust plates, planks, bearing bushings, slide plates and steel bushing assembly.

FB090/FB092 系列青铜卷制轴承
FB090/FB092 Bronze-Wrapped Bearing

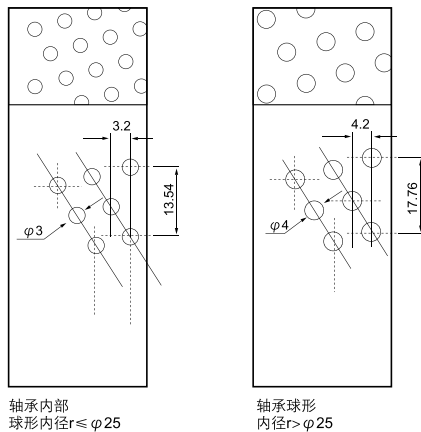
FB090 材料结构 Material Structure



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

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

FB092 材料结构 Material Structure



表面排布规则的油孔，可在装配前或装配后涂抹油脂，以便在工作中易形成转移油膜，降低摩擦系数。

具有油脂储存量大、免维护周期长等优点。产品被广泛应用于农业机械、森林机械、工程机械等。

FB092 is deriving from FB090, the difference between FB090 & FB092 is indentations on working surface, which substituted by through-holes.

These holes will allow greater capacity to collect lubricant, which build up a lubrication film at the start of movement and reduce the friction.

It is suitable for high load, lower speed application like construction, transport, and agriculture machinery.






标准衬套公差（依据 DIN ISO/3547） Standard Tolerance for Bearing (As per to DIN ISO/3547)

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

FB090 系列青铜卷制轴承 FB090 Bronze-Wrapped Bearing

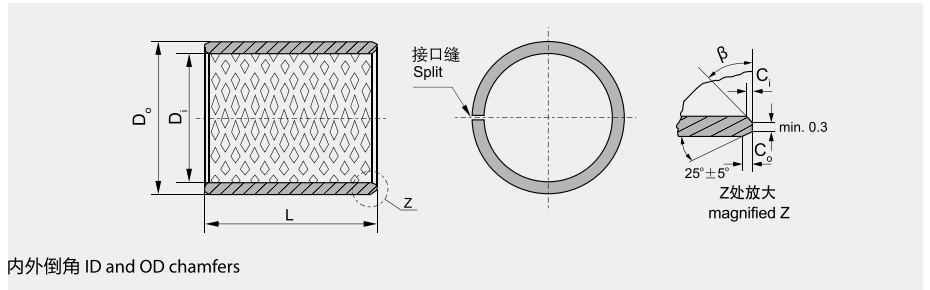
FB090青铜卷制轴承，表面轧制菱形，起储存油脂作用，它具有良好的抗疲劳强度和承载能力、耐腐蚀、抗磨损。实际运用中根据使用工况的不同，基体可以采用不同牌号的合金，表面可以加工成其他形式的油孔和油槽。由此衍生出FB090、FB091、FB092、FB094、FB09G各系列产品，其材料结构和技术参数汇总表如下：

FB090 bronze wrapped bearing, with diamond oil socket to preserve oil grease, It has good anti-fatigue, anti-erosion and anti-abrasion and load capacity. Can be produced by different tin-bronze material and the surface can be produced with other type of oil socket and oil groove in different working condition. Like FB090、FB-091、FB092、FB094、FB09G. Detail see below:

有关数据 Data	代号Grade	FB090	FB091	FB092	FB094	FB09G
	材料名称 Material	CuSn8P (Qsn8-0.3)	CuZn31Si (H68)	CuSn8P (Qsn8-0.3)	CuSn8P (Qsn8-0.3)	CuSn8P+石墨 (Qsn8-0.3+graphite)
除了目录中显示的标准产品外，还可以提供非标产品或根据客户要求订购。						
主要运用领域 Typical application		产品适用于起重机械、建筑机械、采矿机械、农业机械，森林机械等。 Application: Hoisting, mining machinery, Forest machinery, agricultural machinery etc.	产品运用于建筑机械、汽车制动系统机床工业等。 Application: construction machinery and machine tool, Brake system of Automobile etc.	产品广泛运用于农业机械、建筑机械、工程机械等。 Application: Agricultural Machinery, Forestry machinery, Heavy duty construction machinery etc	它具有防止油脂倒漏，延长润滑时间，防止灰尘、沙等物质的渗透等优点。产品广泛运用于农业机械、建筑机械、工程机械等。 Can protect the grease leak from the bushing, prevent dust Application: Agricultural	它具有很低的摩擦系数，较好的耐磨性等优点，能在无油或少油条件下工作。产品广泛应用于启动马达起升机，工程机械，汽车，卡车，拖拉机等。 Application: Starting motor hoisting machines and other construction machines, automobiles, tractors, trucks, machines tools and some mineral engines
密度 g/cm ³ Density		8.8	8.4	8.8	8.8	8.8
最大动载 N/mm ² Max Dynamic Load		100	90	120	120	100
最高线速度(脂润滑) m/s Max Linear Velocity (Grease)		2	1.5	2.5	2.5	2.5
最高PV值(脂润滑) N/mm ² ·m/s Max PV value Grease		2.8	1.65	2.8	2.8	2.8
抗拉强度 N/mm ² Pressure strength		>460	>440	>460	>460	>460
屈服强度 N/mm ² Yield Strength		>280	>230	>280	>280	>280
硬度 HB hardness		90~150	80~120	90~150	90~150	90~150
相配轴 Mating Axis	硬度 HRC Hardness	≥50	≥50	≥50	≥50	≥50
	粗糙度 Roughness	0.4~1.0	0.4~1.0	0.4~1.0	0.4~1.0	0.4~1.0
适用温度 °C Working Temperature		-40~150	-40~150	-40~150	-40~125	-40~150
摩擦系数 Friction Coefficient		0.06~0.15	0.06~0.15	0.06~0.15	0.06~0.15	0.03~0.1
导热系数 W/m·K coefficient of heat conduction		58	71	58	58	58
线膨胀系数 (轴向) Linear expansion coefficient		18.5 × 10 ⁻⁶ /K	19.2 × 10 ⁻⁶ /K	18.5 × 10 ⁻⁶ /K	18.5 × 10 ⁻⁶ /K	18.5 × 10 ⁻⁶ /K

FB090, FB092 青铜卷制轴承规格及公差

FB090, FB092 Bronze-Wrapped Bearing Specification & Tolerance



内外倒角 ID and OD chamfers

S ₃	C ₀	C ₁	β
0.75	0.5 ± 0.3	0.25 ± 0.2	35° ± 5°
1.00	0.6 ± 0.3	0.30 ± 0.2	35° ± 5°
1.50	0.7 ± 0.3	0.50 ± 0.3	35° ± 5°

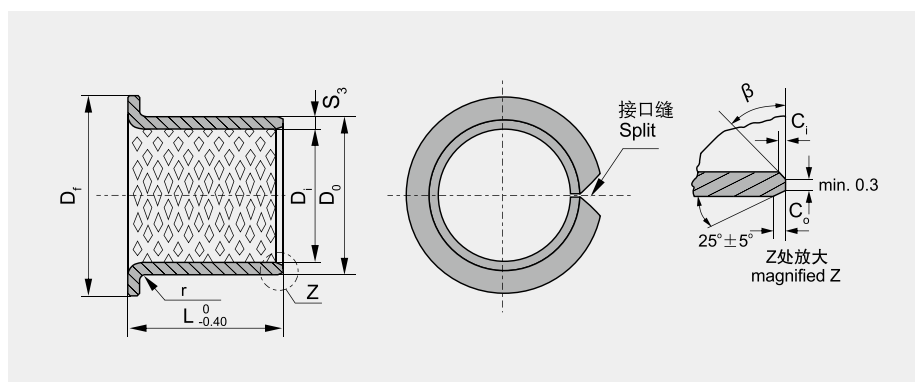
S ₃	C ₀	C ₁	β
2.00	1.2 ± 0.4	0.50 ± 0.3	35° ± 5°
2.50	1.8 ± 0.6	0.60 ± 0.3	45° ± 5°

单位Unit: mm

内径 D _i φ d	外径 D _o φ D	长度 L ⁰ _{-0.40}												
		10	15	20	25	30	35	40	50	60	70	80	90	100
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100							9540	9550	9560	9570	9580	9590	95100
100	105								10050	10060	10070	10080	10090	100100
105	110								10550	10560	10570	10580	10590	105100
110	115								11050	11060	11070	11080	11090	110100
115	120								11550	11560	11570	11580	11590	115100
120	125									12060	12070	12080	12090	120100
125	130									12560	12570	12580	12590	125100
130	135									13060	13070	13080	13090	130100
135	140									13560	13570	13580	13590	135100
140	145									14060	14070	14080	14090	140100
145	150									14560	14570	14580	14590	145100
150	155									15060	15070	15080	15090	150100
155	160									15560	15570	15580	15590	155100
160	165									16060	16070	16080	16090	160100
165	170									16560	16570	16580	16590	165100
170	175									17060	17070	17080	17090	170100
175	180									17560	17570	17580	17590	175100
180	185									18060	18070	18080	18090	180100
185	190									18560	18570	18580	18590	185100
190	195									19060	19070	19080	19090	190100
195	200									19560	19570	19580	19590	195100
200	205									20060	20070	20080	20090	200100

FB090F/FB092F 青铜翻边轴承规格及公差

FB090F/FB092F Bronze Flange Bearing Specification & Tolerance



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

单位Unit: mm

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

FB系列青铜卷制衬套
Series Bronze-Wrapped Bushings





嘉善沃科汽车部件有限公司

地址: 浙江省嘉善县干窑镇窑兴路102号一楼

电话: 0573-84615338

传真: 0573-84615338

网址: www.zjvoke.com

邮箱: info@zjvoke.com

JIASHAN VOKE AUTO PARTS CO., LTD.

Add: No. 102, Yaoxing Road, Ganyao,

Jiashan, Zhejiang, China

Tel: 0573-84615338

Fax: 0573-84615338

Website: www.zjvoke.com

E-mail: info@zjvoke.com

