JF
双金属轴套
BIMETAL BUSHING

产品介绍
Product introduction

JF双金属轴承,是以低碳钢板为基体,表面烧结青铜合金。 合金表面轧制油穴或油醋槽，便于储存油脂，有效降低磨 损。钢背根据需要镀防腐层。适用于中载、中到高速，以 及大冲击载荷的轴承，如内燃机主轴瓦、连杆衬套、摇臂 衬套；油泵侧摩擦片等。

It is backed with high quality low carbon steel with tin–lead–bronze alloy sintered on its surface. To effectively decrease abrasion, its alloy surface can be machined with ball shaped oil sockets for easier oil storage. When necessary, an anti–erosive coating can be plated on the steel back. It can be applied to conditions of mediate load with mediate or high running velocity and conditions with enormous impact load. In mechanical applications, It is used to make wrapped bushes, thrust washer and bushes on connecting rod level of gas engine.

使用参数
The use of parameters

参数 Parameters	**JF 800** 双金属轴套 Bimetal Bushing	**JF 720** 双金属轴套 Bimetal Bushing	**JF 700** 双金属轴套 Bimetal Bushing	**FB08G** 双金属轴套 Bimetal Bushing	**JF 20** 双金属轴套 Bimetal Bushing
					
材料型号 Material type	CuPb10Sn10/ CuSn6Zn6Pb3	CuPb24Sn4	CuPb30	CuPb10Sn10+Graphite	AlSn20Cu
合金层硬度 Hardmess of bronze alloy	70~100HB	45~70HB	30~45HB	60~90HB	30~40HB
最大荷载 Max. dynamic Load	65N/mm^2	38N/mm^2	25N/mm^2	90N/mm^2	30N/mm^2
“蓝宝石”疲劳级 Mpa Sapphire" fatigue class	125	115	105	–	105
磨擦系数（油） Friction coefficient(oil)	0.06~0.14	0.06~0.16	0.08~0.16	<0.08	0.08~0.17
允许PV值(脂) PV limit(Grease)	2.8N/mm^2.M/s	2.8N/mm^2.M/s	2.5N/mm^2.M/s	2.8N/mm^2.M/s	–
允许PV值(油) PV limit(Oil)	10N/mm^2.M/s	10N/mm^2.M/s	8N/mm^2.M/s	10N/mm^2.M/s	6N/mm^2.M/s
最高使用温度 Max. temperature	260°C	200°C	170°C	200°C	150°C
最高静承载压力 Load limit	150N/mm^2	130N/mm^2	120N/mm^2	90N/mm^2	100N/mm^2
最高速度（油） Speed limit v max.	5m/s	10m/s	15m/s	5m/s	25m/s
对磨轴硬度 Hardness of mating surface	53 HRC	50 HRC	270 HB	53 HRC	250 HB
拉伸强度 Tensile strength	150N/mm^2	150N/mm^2	200N/mm^2	185N/mm^2	200N/mm^2

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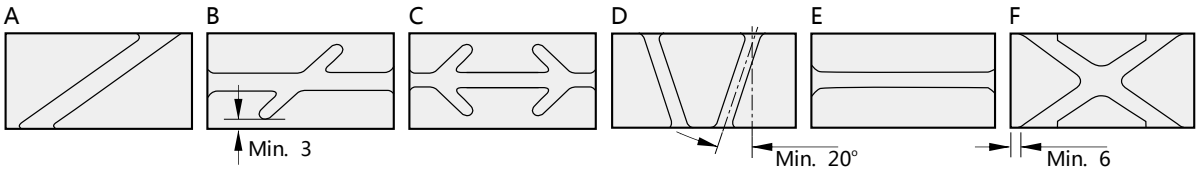
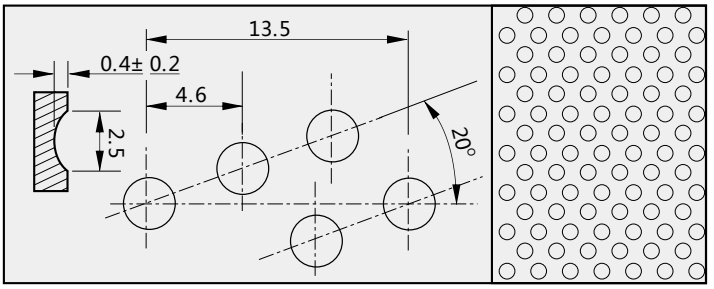
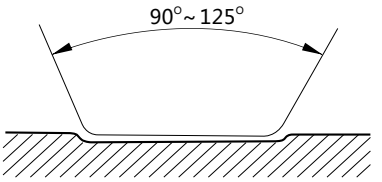
JF Bimetal Bushing

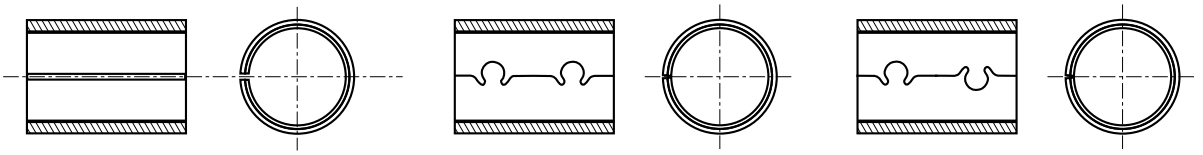
双金属轴套的油槽油穴形式（可按客户要求定制）
Types for JF bush`s grooves &indentations (or as client's options)







双金属轴套的接口形式（可按客户要求定制）
Clinch lock of JF wrapped bushes (or as client's options)



JF 型双金属轴套的油孔设计
The designing of oil indentations

为了使JF双金属轴套在使用中，能得到充分的油润滑，因此推荐如下尺寸油孔，客户需油孔而无特殊要求的，都按此油孔标准制作。

In order to fully lubricate the bush when in the performance, the indentations with size as follow are recommended. They should be manufactured according to the standard below if without special requirements.

轴承外径 Bush O.D	14~22	22~40	40~50	50~100	100~180
油孔直径 Lubricating hole	3	4	5	6	7

油孔的位置应避开接缝处和承载区域，这有利于进油。
The lubricating hole should be away from butt joint and loading area and designed to be easy-oil-feding as well.

JF双金属板材厚度尺寸及公差
Normal thickness of the JF bimetal and their tolerances

公差厚度 Nominal Thickness	1	1.5	2	2.5	3	3.5	4	5
钢基厚度 Thickness of steel backing	0.6	1	1.4	1.9	2.3	2.8	3.2	4
有效合金厚度 Thickness of bronze layer	0.4	0.5	0.6	0.6	0.7	0.7	0.8	1.0
可加工轴套壁厚 Manufacturable wall thickness	$1^{+0.25}_{+0.15}$	$1.5^{+0.25}_{+0.15}$	$2^{+0.25}_{+0.15}$	$2.5^{+0.25}_{+0.15}$	$3^{+0.25}_{+0.15}$	$3.5^{+0.25}_{+0.15}$	$4^{+0.25}_{+0.15}$	$5^{+0.25}_{+0.15}$
已加工轴套壁厚 Manufactured wall thickness	$1_{-0.025}$	$1.5_{-0.03}$	$2_{-0.035}$	$2.5_{-0.04}$	$3_{-0.045}$	$3.5_{-0.05}$	$4_{-0.055}$	$5_{-0.06}$

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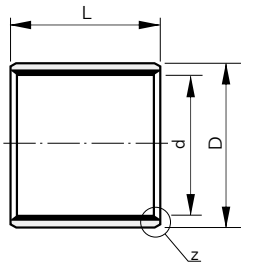

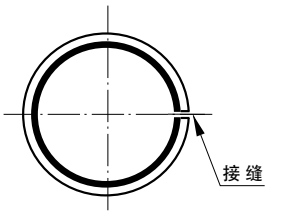

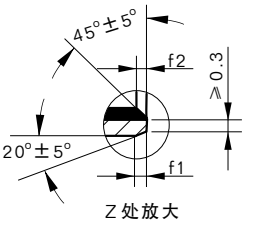

单位Unit: mm

D	压入座孔后的内径 I.D.after fixed	壁厚 Wall Thickness	座孔 Bore H7 Housing	轴径 Shaft Dia. f7	f1	f2	L $^{0}_{-0.40}$ (d ≤ Φ30 L − 0.3 ; d > Φ30 L − 0.4)										
							10	15	20	25	30	40	50	60	80	90	100
12 $^{+0.065}_{+0.030}$	10 $^{+0.022}$		12 $^{+0.018}$	10 $^{-0.013}_{-0.028}$			●	●	●								
14 $^{+0.065}_{+0.030}$	12 $^{+0.027}$		14 $^{+0.018}$	12 $^{-0.016}_{-0.034}$	0.5	0.3	●	●	●								
16 $^{+0.065}_{+0.030}$	14 $^{+0.027}$	1 $^{-0.025}$	16 $^{+0.018}$	14 $^{-0.016}_{-0.034}$			●	●	●								
17 $^{+0.065}_{+0.030}$	15 $^{+0.027}$		17 $^{+0.018}$	15 $^{-0.016}_{-0.034}$			●	●	●								
18 $^{+0.065}_{+0.030}$	16 $^{+0.027}$		18 $^{+0.018}$	16 $^{-0.016}_{-0.034}$			●	●	●								
20 $^{+0.075}_{+0.035}$	18 $^{+0.033}$		20 $^{+0.021}$	18 $^{-0.016}_{-0.034}$	0.8	0.4	●	●	●	●							
23 $^{+0.075}_{+0.035}$	20 $^{+0.033}$		23 $^{+0.021}$	20 $^{-0.020}_{-0.041}$			●	●	●	●							
25 $^{+0.075}_{+0.035}$	22 $^{+0.033}$	1.5 $^{-0.030}$	25 $^{+0.021}$	22 $^{-0.020}_{-0.041}$			●	●	●	●							
27 $^{+0.075}_{+0.035}$	24 $^{+0.033}$		27 $^{+0.021}$	24 $^{-0.020}_{-0.041}$			●	●	●	●	●						
28 $^{+0.075}_{+0.035}$	25 $^{+0.033}$		28 $^{+0.021}$	25 $^{-0.020}_{-0.041}$	1.0	0.5		●	●	●	●						
30 $^{+0.075}_{+0.035}$	26 $^{+0.033}$		30 $^{+0.021}$	26 $^{-0.020}_{-0.041}$				●	●	●	●						
32 $^{+0.085}_{+0.045}$	28 $^{+0.033}$		32 $^{+0.025}$	28 $^{-0.020}_{-0.041}$				●	●	●	●	●					
34 $^{+0.085}_{+0.045}$	30 $^{+0.039}$		34 $^{+0.025}$	30 $^{-0.020}_{-0.041}$				●	●	●	●	●					
36 $^{+0.085}_{+0.045}$	32 $^{+0.039}$	2 $^{-0.035}$	36 $^{+0.025}$	32 $^{-0.025}_{-0.050}$				●	●	●	●	●					
39 $^{+0.085}_{+0.045}$	35 $^{+0.039}$		39 $^{+0.025}$	35 $^{-0.025}_{-0.050}$	1.2	0.6			●	●	●	●	●				
42 $^{+0.085}_{+0.045}$	38 $^{+0.039}$		42 $^{+0.025}$	38 $^{-0.025}_{-0.050}$					●	●	●	●	●				
44 $^{+0.085}_{+0.045}$	40 $^{+0.039}$		44 $^{+0.025}$	40 $^{-0.025}_{-0.050}$					●	●	●	●	●				
50 $^{+0.085}_{+0.045}$	45 $^{+0.039}$		50 $^{+0.025}$	45 $^{-0.025}_{-0.050}$					●	●	●	●	●				
55 $^{+0.100}_{+0.055}$	50 $^{+0.039}$		55 $^{+0.030}$	50 $^{-0.030}_{-0.060}$							●	●	●	●			
60 $^{+0.100}_{+0.055}$	55 $^{+0.046}$		60 $^{+0.030}$	55 $^{-0.030}_{-0.060}$							●	●	●	●			
65 $^{+0.100}_{+0.055}$	60 $^{+0.046}$		65 $^{+0.030}$	60 $^{-0.030}_{-0.060}$							●	●	●	●			
70 $^{+0.100}_{+0.055}$	65 $^{+0.046}$	2.5 $^{-0.040}$	70 $^{+0.030}$	65 $^{-0.030}_{-0.060}$	1.5	1.0					●	●	●	●			
75 $^{+0.100}_{+0.055}$	70 $^{+0.046}$		75 $^{+0.030}$	70 $^{-0.030}_{-0.060}$							●	●	●	●	●		
80 $^{+0.100}_{+0.055}$	75 $^{+0.046}$		80 $^{+0.030}$	75 $^{-0.030}_{-0.060}$							●	●	●	●			
85 $^{+0.120}_{+0.070}$	80 $^{+0.054}$		85 $^{+0.035}$	80 $^{-0.030}_{-0.060}$								●	●	●	●		
90 $^{+0.120}_{+0.070}$	84 $^{+0.054}$		90 $^{+0.035}$	84 $^{-0.036}_{-0.071}$								●	●	●	●		
95 $^{+0.120}_{+0.070}$	89 $^{+0.054}$		95 $^{+0.035}$	89 $^{-0.036}_{-0.071}$								●	●	●	●		
100 $^{+0.120}_{+0.070}$	94 $^{+0.054}$		100 $^{+0.035}$	94 $^{-0.036}_{-0.071}$									●	●	●	●	
105 $^{+0.120}_{+0.070}$	104 $^{+0.054}$	3 $^{-0.045}$	105 $^{+0.035}$	99 $^{-0.036}_{-0.071}$	1.8	1.2							●	●	●	●	
110 $^{+0.120}_{+0.070}$	104 $^{+0.054}$		110 $^{+0.035}$	104 $^{-0.036}_{-0.071}$									●	●	●		
115 $^{+0.120}_{+0.070}$	109 $^{+0.054}$		115 $^{+0.035}$	109 $^{-0.036}_{-0.071}$									●	●	●		
125 $^{+0.170}_{+0.100}$	119 $^{+0.054}$		125 $^{+0.035}$	119 $^{-0.036}_{-0.071}$									●	●	●		
130 $^{+0.170}_{+0.100}$	123 $^{+0.054}$		130 $^{+0.040}$	123 $^{-0.043}_{-0.083}$									●	●	●		●
135 $^{+0.170}_{+0.100}$	128 $^{+0.063}$		135 $^{+0.040}$	128 $^{-0.043}_{-0.083}$									●	●	●		●
140 $^{+0.170}_{+0.100}$	133 $^{+0.063}$		140 $^{+0.040}$	133 $^{-0.043}_{-0.083}$									●	●	●		●
145 $^{+0.170}_{+0.100}$	138 $^{+0.063}$	3.5 $^{-0.050}$	145 $^{+0.040}$	138 $^{-0.043}_{-0.083}$										●	●		●
150 $^{+0.170}_{+0.100}$	143 $^{+0.063}$		150 $^{+0.040}$	143 $^{-0.043}_{-0.083}$	2	1.5								●	●		●
155 $^{+0.170}_{+0.100}$	148 $^{+0.063}$		155 $^{+0.040}$	148 $^{-0.043}_{-0.083}$										●	●	●	
160 $^{+0.170}_{+0.100}$	153 $^{+0.063}$		165 $^{+0.040}$	153 $^{-0.043}_{-0.083}$										●	●	●	
165 $^{+0.170}_{+0.100}$	158 $^{+0.063}$		185 $^{+0.046}$	158 $^{-0.043}_{-0.083}$										●	●		●