

**Standard Size:**

Straight Bearing P20, Flange Bearing P22.

Non-Standard Size:

Straight Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

可供标准产品:

直套, 翻边轴套。

可供非标产品:

直套, 翻边轴套, 止推垫片, 板材, 轴瓦, 滑板, 钢套组合件。

5120 serie bronze rolled bushing is our new generation bushing based upon steel-bronze lead double metal bushings. This product is widely applied overseas. With the increase of our country's bring-in of foreign machineries, designers requirement on new abrasive materials and bushings are accordingly increasing. Therefore, our products have a wide application scope and practical value in machinery production.

The major feature of 5120 serie bushing is their thin-wall structure, which doesn't take up too large assembly space. Specially formulated high-density bronze alloy bands are used for the building of the bushing, which compared with traditional bushings, is featured in the high density, no shrinkage blowholes, high load sustainability and anti-wearing and anti-fatigue. The production of the bushing is by means of advanced fixture and molds, able to make oil holes, hole dents and grooves on the friction surfaces of the bands to suit various engineering applications, making it possible for the bushing to store large amount of lubricating grease when working. Therefore, the lubrication interval is prolonged and the service hours are effectively lengthened.

5120 serie bearings are widely used in applications such as agricultural machineries, construction machineries, engineering machineries and automobile industry.

5120 系列青铜卷制轴承套是我公司在钢-铜铅双金属轴套产品基础上开发设计的新一代轴套。该产品在国外应用十分普遍, 随着我国引进机械的设备新机种的日益增多, 设计师们寻找新型摩擦材料、轴套的要求也日益需要, 因此该产品在我们机械制造中有着广泛应用领域和实用价值。

5120系列轴套最大特点是薄壁结构, 不占据很大的装配空间。轴套材料采用特殊配方高密度铜合金带材。它与传统的铺型铜套相比, 具有密度高, 无气缩孔、承载能力大, 又有耐磨耐疲劳等优点。轴套制造采用先进的工装模具, 可在带材摩擦面上加工出适用各种工程条件的油穴、油坑、油槽, 从而使轴套在使用可储存大量润滑油脂, 延长加油间隔时间, 有效的提高了使用寿命。

5120系列轴套广泛应用于农业机械、建筑机械、工程机械、汽车行业等。

Product Benefits 产品优点

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 light in weight and more cost-effective.
3. Various holes and dents can be made on the friction 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.

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有穴、有坑、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;



Application scope 应用范围

此系列轴承广泛应用于农用、建设机械以及工程机械等。

This series of bearing is widely applied to agricultural, construction and engineering machineries, etc.

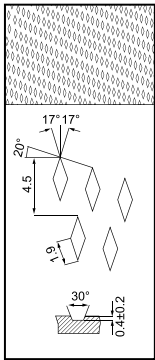
油穴类别(依据 DIW1494/ISO3457)。

Categories of oil holes (As per to DIW1494/ISO3457)。

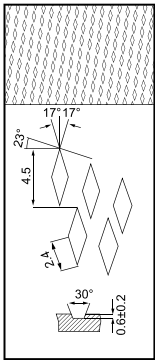
Material Structure 材料结构

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

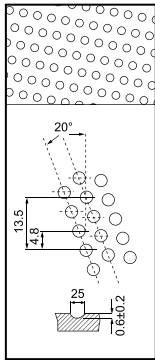
采用高密度青铜卷制成形或球形油袋、油穴特殊合成内部表面以减少磨损延长使用时间并且很好的做到防腐功能。



轴衬套内
Inside the bush of the shaft
菱形油穴 $r \leq \varphi 22$
Rhomb oil holes $r \leq \varphi 22$



轴衬套内
Inside the bush of the shaft
菱形油穴 $r > \varphi 22$
Rhomb oil holes $r > \varphi 22$



形成圆形
Forming a circle

Chemical Composition 化学成分

材料 Material: CuSn8P	铜 Cu	锡 Sn	磷 P
	余量	7-8	0.1-0.4

Physical Property 物理特性

型号 Type	密度 Density	散热热胀 Heat Emission and Expansion	热传导 Heat Conducting	硬度 Hardness	抗压强度 Compression strength	延伸率 Extensile
5120	8.8g/cm ³	$18.5 \times 10^{-6} \times K^{-1}$	58W(m·k)	90~150HB	470N/mm ²	40%

Standard tolerance for bushes (As per to DIW W91/1503547)
标准衬套公差 (依据 DIW W91/1503547)

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 Axle
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

**Standard Size:**

Straight Bearing, Flange Bearing.

Non-Standard Size:

Straight Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

可供标准产品:

直套, 翻边轴套。

可供非标产品:

直套, 翻边轴套, 止推垫片, 板材, 轴瓦, 滑板, 钢套组合件。

5131 series bronze rolled bushing is our new generation bushing based upon steel-bronze lead double metal bushings. It has same structure with 5120. We based on the same type of overseas products and make further development to produce. The design has been improved and can make a replacement of original one and cut down the cost. Therefore, our products have a wide application scope and practical value in machinery production.

The major feature of 5131 series bushing is their thin-wall structure, which doesn't take up too large assembly space. Specially formulated high-density bronze alloy bands are used for the building of the bushing, which compared with traditional bushings, is featured in the high density, no shrinkage blowholes, high load sustainability and anti-wearing and anti-fatigue. The production of the bushing is by means of advanced fixture and molds, able to make oil holes, hole dents and grooves on the friction surfaces of the bands to suit various engineering applications, making it possible for the bushing to store large amount of lubricating grease when working. Therefore, the lubrication interval is prolonged and the service hours are effectively lengthened.

5131 series bearings are widely used in applications, such as agricultural machineries, construction machineries, engineering machineries and automobile industry.

5131系列青铜卷制轴承是与5120材料结构相同, 我单位根据国外同类产品基础上开发出的新一代产品轴套, 能改良产品设计、替代原有铜套, 能降低采购成本, 因此产品在我们机械制造中有着广泛实用价值和应用领域。

5131系列轴套最大特点是薄壁结构, 不占据很大的装配空间。轴套材料采用特殊配方高密度铜合金带材。它与传统的铸型铜套相比, 可在带材摩擦面上加工出适用各种工程条件的油穴、油坑、油槽, 排列润滑通孔, 从而使轴套在使用可储存大量润滑油脂, 延长加油间隔时间, 有效的提高了使用寿命。

5131系列轴承广泛应用于农业机械、建筑机械、工程机械、高载低速场合等。

Product Benefits 产品优点

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 lighter and more cost-effective.
3. Various holes and dents can be made on the friction 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.

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有穴、有坑、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;



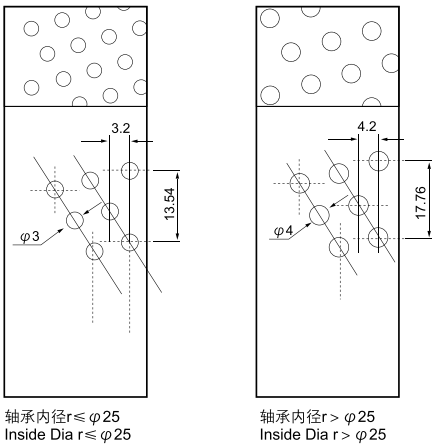
Material Structure 材料结构

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

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。

Application scope 应用范围

This series of bearing is widely applied to agricultural, construction and engineering machineries, etc.此系列轴承广泛应用于农、建设机械以及工程机械等。



轴承内径 $r \leq \varnothing 25$
Inside Dia $r \leq \varnothing 25$

轴承内径 $r > \varnothing 25$
Inside Dia $r > \varnothing 25$

Chemical Composition 化学成分

材料 Material: CuSn8P	铜 Cu	锡 Sn	磷 P
	余量	7-8	0.1-0.4

Physical Property 物理特性

型号 Type	密度 Density	散热热胀 Heat Emission and Expansion	热传导 Heat Conducting	硬度 Hardness	抗压强度 Compression strength	延伸率 Extensile
5131	8.8g/cm ³	18.5 × 10 ⁻⁶ × K ⁻¹	58W(m-k)	90~150HB	470N/mm ²	40%

Standard tolerance for bushes (As per to DIW W91/1503547)
标准衬套公差 (依据 DIW W91/1503547)

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 Axle
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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

**Standard Size:**

Straight Bearing, Flange Bearing.

Non-Standard Size:

Straight Bearing, Flange Bearing, Thrust washer, Strip, Bearing bushing, Wear strips, Steel combine units.

可供标准产品:

直套, 翻边轴套。

可供非标产品:

直套, 翻边轴套, 止推垫片, 板材, 轴瓦, 滑板, 钢套组合件。

The same produce process and application with 5120, except overlay the solid lubricants into the diamond shaped lubrication indents on the bearing surface, which will offer good friction at the start and process works and keep good condition even no oil giving at short time. So it can be used in construction machines, gears, automotive clutch pads etc.

与5120具有相同的生产工艺及使用场合, 其基体为青铜基板, 在其菱形油穴内填充了以石墨为主的固体润滑剂, 使产品在起始运用阶段及过程中能有更低的摩擦系数, 在短时间断油的情况下仍能保持良好的工作状态。因此被广泛使用在工程机械、齿轮箱传动部件、汽机车离合器等高载中速部位、户外高空设备的转动部位。

最大承载 Max.load	静承载 Static	120N/mm ²
	动承载 Dynamic	40N/mm ²
最大PV值 (干摩擦) Max. PV (dry running)		2.8N/mm ² ·m/s
使用温度 Temp. limit		-100°C~+200°C
摩擦系数 Friction coefficient		0.05~0.25μ
最大线速度 Max. speed	脂润滑 Grease Lubrication	2.5m/s
导热系数 Thermal conductivity		58W/(m·K) ⁻¹
线胀系数 Coefficient of thermal expansion		18.5 × 10 ⁻⁶ ·K ⁻¹
硬度 Hardness		HB > 110
抗拉强度 Tensile strength		450N/mm ²
伸长 Elongation		40%

公差 Tolerance

一般推荐座孔公差为H7, 轴径公差为f7。

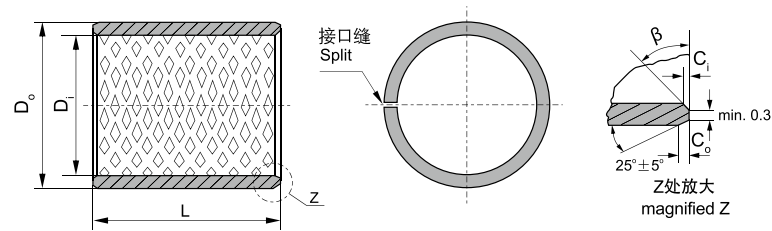
Recommend housing tolerance H7 and the shaft as f7.



It is based on high density bronze material of special formula. The alloy surface is rolled to oil grooves or hole according to customer require. It has good load capacity and wear-resistant. The product is applied to vehicle, construction machinery and machine tool etc.

该产品是以特殊配方的黄铜材料为基体, 表面可根据客户要求轧制油穴或油槽等, 它有一定的承载压力, 很好的耐磨性, 产品运用于汽车、建筑机械、机床工业等。

性能指标 Performance Index	有关数据 Data
密度 Y Density Y	8.4 g/cm ³
抗压强度 α _c Compression Strength	440N/mm ²
导热系数 Coefficient of Heat Conduction	71W/m·K
线膨胀系数 α _l Coefficient of Linear Expansion	19.2 × 10 ⁻⁶ /K
硬度 Hardness	80~110HB
延伸率 Elongation	30%
材料名称 Alloy Material	CuZn31Si



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5 ± 0.3	0.25 ± 0.2	$35^\circ \pm 5^\circ$
1.00	0.6 ± 0.3	0.30 ± 0.2	$35^\circ \pm 5^\circ$
1.50	0.7 ± 0.3	0.50 ± 0.3	$35^\circ \pm 5^\circ$

S_3	C_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	$35^\circ \pm 5^\circ$
2.50	1.8 ± 0.6	0.60 ± 0.3	$45^\circ \pm 5^\circ$

单位Unit: mm

5120 Bronze Sleeve Bushing Specification & Tolerance 5120 青铜轴套规格及公差																															
内径 D _i φd	10	12	14	15	16	18	20	22	24	25	28	30	32	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	
外径 D _o φD	12	14	16	17	18	20	23	25	27	28	31	34	36	39	44	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	
10	●	●	●	●	●	●	●	●																							
15	●	●	●	●	●	●	●	●	●	●	●	●	●	●																	
20	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●														
25			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●													
30								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●						
35												●	●	●	●	●	●	●	●	●	●	●	●	●	●						
40												●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
50															●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
60																●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
70																		●	●	●	●	●	●	●	●	●	●	●	●	●	●
80																				●	●	●	●	●	●	●	●	●	●	●	●
90																								●	●	●	●	●	●	●	●
100																										●	●	●	●	●	●

5120 Bronze Sleeve Bushing Specification & Tolerance

5120 青铜轴套规格及公差

内径 D _i φd	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	215	225	230	240	250	260	270	280	290	300
外径 D _o φD	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	210	220	230	235	245	255	265	275	285	295	305	
25																												
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60	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
80	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
90	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●



Order 订购

Catalog No. 目录号

5120

D_i

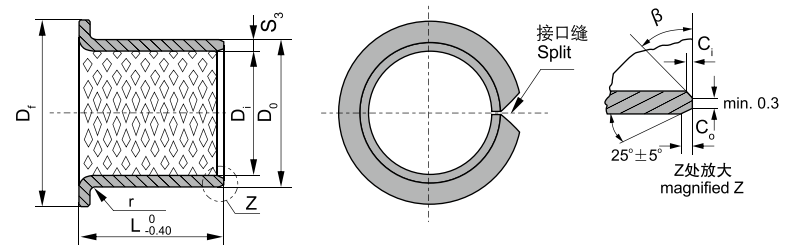
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D_o

023

L

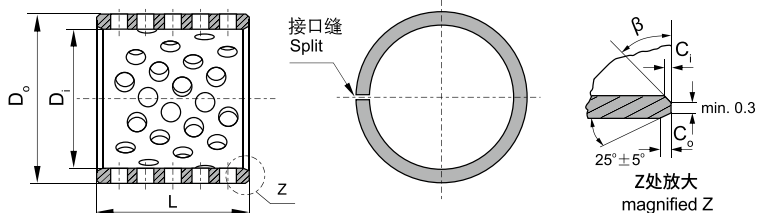
020



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

5141 Bronze Flange Bushing Specification & Tolerance 5141 青铜翻边轴套规格及公差																																	
内径 D _i φd	25	30	35	40	45	50	55	60	65	70	75	80	90	100	110	120	130	140	150	160	170	180	190	200	225	250	265	285	300				
外径 D _o φd	28	34	39	44	50	55	60	65	70	75	80	85	95	105	115	125	135	145	155	165	175	185	195	205	230	255	270	290	305				
法兰 外径 D _f	35	45	50	55	60	65	70	75	80	85	90	100	110	120	130	140	155	165	180	190	200	215	225	135	260	290	305	325	340				
15	●																																
20	●	●	●																														
25	●	●	●	●																													
30		●	●	●	●	●	●	●	●																								
35			●	●	●	●	●	●	●	●	●	●																					
40				●	●	●	●	●	●	●	●	●																					
50					●	●	●	●	●	●	●	●	●	●	●	●																	
60								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
70										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
80												●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
90													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		



内外倒角 ID and OD chamfers

S_3	C_o	C_i	β
0.75	0.5 ± 0.3	0.25 ± 0.2	$35^\circ \pm 5^\circ$
1.00	0.6 ± 0.3	0.30 ± 0.2	$35^\circ \pm 5^\circ$
1.50	0.7 ± 0.3	0.50 ± 0.3	$35^\circ \pm 5^\circ$

S_3	C_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	$35^\circ \pm 5^\circ$
2.50	1.8 ± 0.6	0.60 ± 0.3	$45^\circ \pm 5^\circ$

单位Unit: mm

5131 Bronze Sleeve Bushing Specification & Tolerance

5131 青铜轴套规格及公差

内径 D_i φd	10	12	14	15	16	18	20	22	24	25	28	30	32	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105
外径 D_o φd	12	14	16	17	18	20	23	25	27	28	31	34	36	39	44	50	55	60	65	70	75	80	85	90	95	100	105	110
10	●	●	●	●	●	●	●	●																				
15	●	●	●	●	●	●	●	●	●	●	●	●	●	●														
20	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●										
25			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
30								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
35												●	●	●	●	●	●	●	●	●	●	●	●	●	●			
40												●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
50															●	●	●	●	●	●	●	●	●	●	●	●	●	●
60																	●	●	●	●	●	●	●	●	●	●	●	●
70																		●	●	●	●	●	●	●	●	●	●	●
80																				●	●	●	●	●	●	●	●	●
90																								●	●	●	●	●
100																										●	●	●



5131 Bronze Sleeve Bushing Specification & Tolerance
5131 青铜轴套规格及公差

内 径 D _i φd	110	115	120	125	130	135	140	145	150	155	160	165	170	175	185	185	190	195	200	205	215	225	230	240	250	260	270	280	290	300
外 径 D _o φd	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	220	230	235	245	255	265	275	285	295	305
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50	●	●																												
60	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
70	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
80	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
90	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

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