



Jiashan TD Composite Bearing Factory

嘉善天地复合轴承厂



SF-2

Marginal Pb-free Self-lubricating Bearing

碳钢基边界自润滑轴承



基材特性 Material Features

该产品以优质低碳钢为基体，中间烧结球形青铜层，表面轧制改性聚甲醛(POM)。在边界润滑条件下可长期使用而不加油，耐磨层表面有储油坑。产品广泛应用于冶金机械、矿山机械、水利机械、汽机车、建筑机械、农用机械、轧钢行业等。

SF-2 Marginal Pb-free self-lubricating bearing is used steel-backing as its structure, sintered porous bronze as its interlayer, surface inlaid the modified POM. Suitable for marginally lubricated and dry operation on the conditions of lubrication indents grease. It has been widely applied to metallurgical machinery, Mine machinery, water conservancy machinery, vapor locomotive, building machinery, agriculture machinery, steel rolling industry etc.

应用特点 Application Feature

1.承载好，耐磨性能良好。 2.适用于高载低速下的旋转运动、摇摆运动及经常在载荷下启闭频繁而不易形成流体动力润滑的场合。 3.在边界润滑条件下可长期不加油保养，而在过层中加油使轴承使用寿命更长。 4.表面塑料层在加工成型时可留一定的余量，装配压入座孔后可自行加工，以达到更好的装配尺寸。 5.产品主要运用于汽车底盘、冶金机械、矿山机械、水利机械、建筑机械、农用机械、轧钢设备等。

1.Good load capacity and anti-wear. 2.It is used in high load capacities and low speed with rotational,oscillating or frequent stop-start motion. 3.It can work long time without oil in the condition of boundary lubrication,under oil or grease lubrication interval, the work is longer. 4.It is machinable for the thicker of POM. 5.The bushes can be applied in auto chassis,forging machine, metallurgical, civil engineering, power station, strip rolling industries etc.

主要参数 Specification

性能指标 Performance Index		有关数据 Data
最大承载压力 P Max Load Capacity P	静载 Static Load	250N/mm ²
	动载 Dynamic Load	140N/mm ²
最大线速度 V Max Line Speed V	脂润滑 Grease Lubrication	2.5m/s
最高PV值 Maximum PV Value	脂润滑 Grease Lubrication	2.8N/mm ² · m/s
摩擦系数 μ Friction Coef μ	脂润滑 Grease Lubrication	0.05~0.25
工作温度 Working Temperature		-40℃~+130℃
导热系数 Thermal Conductivity		4W/m · k
线膨胀系数 Coefficient of Linear Expansion		11 × 10 ⁻⁶ /K

材料组织 Material Structure



- 1.聚甲醛与纤维混合物0.3-0.5mm
- 2.球形青铜粉0.2-0.3mm
- 3.钢背0.4-2.2mm
- 4.电镀层：镀锡层厚0.005mm或镀铜层厚0.008mm

- 1.POM with fiber 0.3~0.5mm
- 2.Porous bronze 0.2~0.3mm
- 3.Steel backing 0.4~2.2mm
- 4.Copper plating 0.008mm

SF-2Y

Marginal Pb-free Self-lubricating Bearing

碳钢基边界自润滑轴承



基材特性 Material Features

该产品与SF-2具有相同结构和使用性能，在边界润滑条件下可长期使用而不加油，耐磨层表面有储油坑。产品广泛应用于冶金机械、矿山机械、水利机械、汽机车、建筑机械、农用机械、轧钢行业等。

SF-2Y has the same structure and functional performance with SF-2. It can work long time without oil in the condition of prelubricated with lubrication indents. Widely applied to metallurgy machinery, Mining machinery, water conservancy machinery, automobile, building machinery, agriculture machinery, rolling steel industry etc.

应用特点 Application Feature

1. 承载好，耐磨性能良好。 2. 适用于高载低速下的旋转运动、摇摆运动及经常在载荷下启闭频繁而不易形成流体动力润滑的场合。 3. 在边界润滑条件下可长期不加油保养，而在过层中加油使轴承使用寿命更长。 4. 表面塑料层在加工成型时可留一定的余量，装配压入座孔后可自行加工，以达到更好的装配尺寸。 5. 产品主要运用于汽车底盘、冶金机械、矿山机械、水利机械、建筑机械、农用机械、轧钢设备等。 6. 因其不含铅，故可广泛运用于无铅领域。

1. Good load capacity and anti-wear. 2. It is used in high load capacities and low speed with rotational, oscillating or frequent stop-start motion. 3. It can work long time without oil in the condition of boundary lubrication, under oil or grease lubrication interval, the work is longer. 4. It is machinable for the thicker of POM. 5. The bushes can be applied in auto chassis, forging machine, metallurgical, civil engineering, power station, strip rolling industries etc. 6. SF-2Y is widely used in the machine that Lead is unacceptable.

主要参数 Specification

性能指标 Performance Index		有关数据 Data
最大承载压力 P Max Load Capacity P	静载 Static Load	250N/mm ²
	动载 Dynamic Load	140N/mm ²
最大线速度 V Max Line Speed V	脂润滑 Grease Lubrication	2.5m/s
最高PV值 Maximum PV Value	脂润滑 Grease Lubrication	2.8N/mm ² · m/s
摩擦系数 μ Friction Coef μ	脂润滑 Grease Lubrication	0.05~0.25
工作温度 Working Temperature		-40℃~+130℃
导热系数 Thermal Conductivity		4W/m · k
线膨胀系数 Coefficient of Linear Expansion		11 × 10 ⁻⁶ /K

材料组织 Material Structure



1. 聚甲醛与纤维混合物 0.3~0.5mm
 2. 球形青铜粉 0.2~0.3mm
 3. 钢背 0.4~2.2mm
 4. 电镀层: 镀锡层厚 0.005mm 或 镀铜层厚 0.008mm
1. POM with fiber 0.3~0.5mm
 2. Porous bronze 0.2~0.3mm
 3. Steel backing 0.4~2.2mm
 4. Copper plating 0.008mm

SF-2S

Marginal Pb-free Self-lubricating Bearing

碳钢基边界自润滑轴承



基材特性 Material Features

该产品以优质低碳钢为基体，中间烧结球形青铜层，表面轧制以缩醛树脂/亲油性纤维的特殊树脂。具有摩擦系数低、耐磨性能好、无油条件下润滑的特点。产品广泛应用于卷场机、推土机、印染机、采煤机、冲床、吊车/行车高空作业等领域。

SF-2S Marginal Pb-free self-lubricating bearing based on steel backing, sintered porous bronze as its interlayer, surface rolled by acetal resin and polymer material constaining oleophylcity fiber and perform well on low friction factor, well wear performance and oil free condition lubrication. It has been widely applied to winding engines, printing and dyeing machinery, coal-cutters, punch, winch truck, traveling crane etc.

应用特点 Application Feature

1.承载好，耐磨性能良好。 2.适用于高载低速下的旋转运动、摇摆运动及经常在载荷下启闭频繁而不易形成流体动力润滑的场合。 3.在边界润滑条件下可长期不加油保养，而在过层中加油使轴承使用寿命更长。 4.表面塑料层在加工成型时可留一定的余量，装配压入座孔后可自行加工，以达到更好的装配尺寸。 5.产品主要运用于汽车底盘、冶金机械、矿山机械、水利机械、建筑机械、农用机械、轧钢设备等。 6.因其不含铅，故可广泛运用于无铅领域。

1.Good load capacity and anti-wear. 2.It is used in high load capacities and low speed with rotational,oscillating or frequent stop-start motion. 3.It can work long time without oil in the condition of boundary lubrication,under oil or grease lubrication interval, the work is longer. 4.It is machinable for the thicker of POM. 5.The bushes can be applied in auto chassis,forging machine, metallurgical, civil engineering, power station, strip rolling industries etc. 6.SF-2S is widely used in the machine that Lead is unacceptable.

主要参数 Specification

性能指标 Performance Index		有关数据 Data
最大承载压力 P Max Load Capacity P	静载 Static Load	250N/mm ²
	动载 Dynamic Load	110N/mm ²
最大线速度 V Max Line Speed V	脂润滑 Grease Lubrication	2.5m/s
最高PV值 Maximum PV Value	脂润滑 Grease Lubrication	3.2N/mm ² · m/s
摩擦系数 μ Friction Coef μ	脂润滑 Grease Lubrication	0.03~0.20
工作温度 Working Temperature		-60℃~+130℃
导热系数 Thermal Conductivity		4W/m · k
线膨胀系数 Coefficient of Linear Expansion		11 × 10 ⁻⁶ /K

材料组织 Material Structure



- 1.聚甲醛与纤维混合物0.3~0.5mm
 - 2.球形青铜粉0.2~0.3mm
 - 3.钢背0.4~2.2mm
 - 4.电镀层：镀锡层厚0.005mm或镀铜层厚0.008mm
- 1.POM with fiber 0.3~0.5mm
 - 2.Porous bronze 0.2~0.3mm
 - 3.Steel backing 0.4~2.2mm
 - 4.Copper plating 0.008mm

SF-2/2Y/2S

Metric Standard Bushing

SF-2系列自润滑轴承

轴套外径公差表 Bushing O.D.Tolerances Table

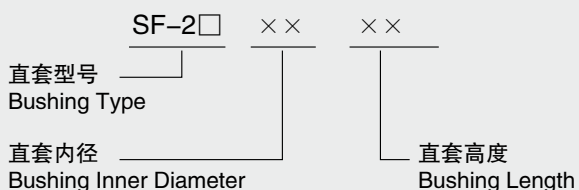
外径 ΦD Outer Diameter ΦD	外径公差 Outer Diameter Tolerance
$\Phi D \leq 10$	+0.055 +0.025
$10 < \Phi D \leq 18$	+0.065 +0.030
$18 < \Phi D \leq 30$	+0.075 +0.035
$30 < \Phi D \leq 50$	+0.085 +0.045
$50 < \Phi D \leq 80$	+0.100 +0.055
$80 < \Phi D \leq 120$	+0.120 +0.070
$120 < \Phi D \leq 180$	+0.170 +0.100
$180 < \Phi D \leq 250$	+0.210 +0.130
$250 < \Phi D \leq 305$	+0.260 +0.170

轴套壁厚公差表 Bushing Wall Thickness Tolerance Table

内径 Φd Inner Diameter Φd	壁厚公差 Wall Thickness Tolerance
$8 \leq \Phi d \leq 18$	1.0 -0.020 -0.045
$18 < \Phi d \leq 25$	1.5 -0.025 -0.055
$25 < \Phi d < 45$	2.0 -0.030 -0.065
$45 \leq \Phi d < 80$	2.5 -0.040 -0.085
$\Phi d \geq 80$	2.5 -0.055 -0.115

可供标准产品的标注方式 Standard Bushing Label Mode

■ 直套标注方式 Bushing Label Mode



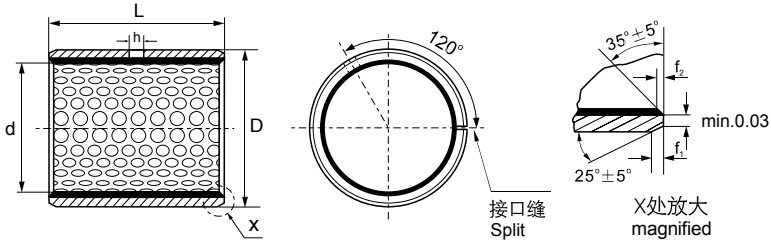
■ 垫片标注方式 Washer Label Mode



SF-2/2Y/2S

Marginal-lubricating Bearings Metric Size

边界润滑轴承尺寸



单位unit:mm

d	D	h ₈ 相配轴径 Axle	H ₇ 相配座孔 Housing	壁厚 Wall Thickness		油孔 Hole Dia. H	f ₁	f ₂	L ⁰ -0.40													
				最小 Min.	最大 Max.				10	15	20	25	30	35	40	45	50	60				
10	12	10 _{-0.022}	12 ^{+0.018}	0.955	0.980	4	0.5	0.3	1010	1015	1020											
12	14	12 _{-0.027}	14 ^{+0.018}						1210	1215	1220											
14	16	14 _{-0.027}	16 ^{+0.018}						1415	1420												
15	17	15 _{-0.027}	17 ^{+0.018}						1515	1520	1525											
16	18	16 _{-0.027}	18 ^{+0.018}						1615	1620	1625											
18	20	18 _{-0.027}	20 ^{+0.021}						1815	1820	1825											
20	23	20 _{-0.033}	23 ^{+0.021}	1.445	1.475	6	0.8	0.4	2015	2020	2025	2030										
22	25	22 _{-0.033}	25 ^{+0.021}						2215		2225											
25	28	25 _{-0.033}	28 ^{+0.021}						2515	2520	2525	2530										
28	32	28 _{-0.033}	32 ^{+0.025}	1.935	1.970	8	1.0	0.6			2820	2830										
30	34	30 _{-0.033}	34 ^{+0.025}						3020	3025	3030	3040										
35	39	35 _{-0.039}	39 ^{+0.025}						3520		3530	3535	3540									
40	44	40 _{-0.039}	44 ^{+0.025}						4020		4030	4040	4050									
45	50	45 _{-0.039}	50 ^{+0.025}	2.415	2.460	8	1.2	0.8			4520	4530	4540	4545	4550							
50	55	50 _{-0.039}	55 ^{+0.030}						5030		5040	5050	5060									
55	60	55 _{-0.046}	60 ^{+0.030}						5530		5540	5550	5560									
60	65	60 _{-0.046}	65 ^{+0.030}						6030		6040	6050	6060									

SF-S/2Y/2S

Marginal-lubricating Bearings Metric Size

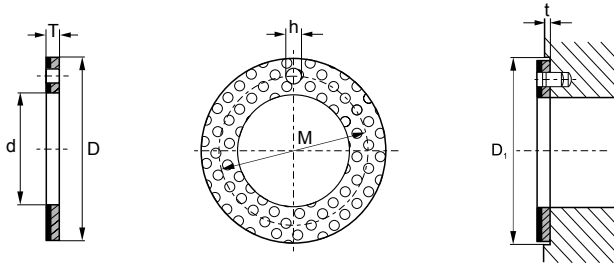
边界润滑轴承尺寸

单位unit:mm

d	D	h ₈ 相配轴径 Axle	H ₇ 相配座孔 Housing	壁厚 Wall Thickness		油孔 Hole Dia. H	f ₁	f ₂	L ⁰ -0.40									
				最小 Min.	最大 Max.				40	50	60	80	90	95	100	110	120	
65	70	65 ^{-0.046}	70 ^{+0.030}						6540		6560							
70	75	70 ^{-0.046}	75 ^{+0.030}	2.415	2.460	8	1.2	0.8	7040	7050		7080						
75	80	75 ^{-0.046}	80 ^{+0.030}						7540		7560	7580						
80	85	80 ^{-0.046}	85 ^{+0.035}						8040		8060	8080						
85	90	85 ^{-0.054}	90 ^{+0.035}						8540		8560	8580						
90	95	90 ^{-0.054}	95 ^{+0.035}						9040		9060	9080	9090					
100	105	100 ^{-0.054}	105 ^{+0.035}							10050		10080		10095				
105	110	105 ^{-0.054}	110 ^{+0.035}								10560	10580		10595		105110		
110	115	110 ^{-0.054}	115 ^{+0.035}								11060	11080		11095		110110		
120	125	120 ^{-0.054}	125 ^{+0.040}								12060	12080				120110		
125	130	125 ^{-0.063}	130 ^{+0.040}								12560					125110		
130	135	130 ^{-0.063}	135 ^{+0.040}							13050	13060	13080				130100		
140	145	140 ^{-0.063}	145 ^{+0.040}							14050	14060	14080				140100		
150	155	150 ^{-0.063}	155 ^{+0.040}	2.385	2.450	9.5	1.4	0.8		15050	15060	15080				150100		
160	165	160 ^{-0.063}	165 ^{+0.040}							16050	16060	16080				160100		
170	175	170 ^{-0.063}	175 ^{+0.040}							17050		17080				170100		
180	185	180 ^{-0.063}	185 ^{+0.046}							18050	18060	18080				180100		
190	195	190 ^{-0.072}	195 ^{+0.046}							19050	19060	19080				190100		190120
200	205	200 ^{-0.072}	205 ^{+0.046}							20050	20060	20080				200100		200120
220	225	220 ^{-0.072}	225 ^{+0.046}							22050	22060	22080				220100		220120
240	245	240 ^{-0.072}	245 ^{+0.046}							24050	24060	24080				240100		240120
250	255	250 ^{-0.072}	255 ^{+0.052}							25050	25060	25080				250100		250120
260	265	260 ^{-0.081}	265 ^{+0.052}							26050	26060	26080				260100		260120
280	285	280 ^{-0.081}	285 ^{+0.052}							28050	28060	28080				280100		280120
300	305	300 ^{-0.081}	305 ^{+0.052}							30050	30060	30080				300100		300120

SF-2WC

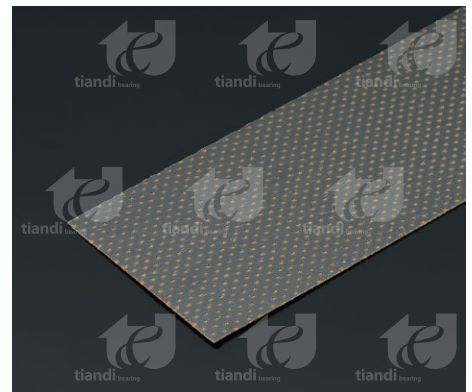
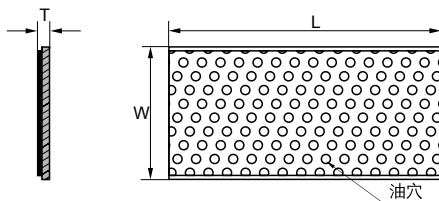
Thrust Washer Metric Size 止推垫片尺寸



单位unit:mm

轴径 Axle	代号 Code number	垫片尺寸 Washer size				安装尺寸 Install size		
		d +0.25	D -0.25	T -0.05	M ± 0.125	$\begin{matrix} +0.4 \\ h+0.1 \end{matrix}$	t ± 0.2	D ₁ +0.12
8	WC 10	10	20	1.5	15	1.5	1	20
10	WC 12	12	24		18			24
12	WC 14	14	26		20			26
14	WC 16	16	30		23			30
16	WC 18	18	32		25			32
18	WC 20	20	36		28	36		
20	WC 22	22	38		30	38		
22	WC 24	24	42		33	42		
24	WC 26	26	44		35	44		
26	WC 28	28	48		38	48		
30	WC 32	32	54	43	54			
36	WC 38	38	62	50	62			
40	WC 42	42	66	54	66			
46	WC 48	48	74	61	74			
50	WC 52	52	78	2	65	1.5	78	
60	WC 62	62	90		76		90	

SF-2P Strips Metric Size 板材



单位unit:mm

代号 Code number	长度(L) ± 1	宽度(W) ± 1	壁厚(T) -0.05
P	500	150	1.0
P	500	150	1.5
P	500	150	2.0
P	500	150	2.5



嘉善天地复合轴承厂

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