SRI03
双金属轴套
BIMETAL BUSHING

SRI03-800 双金属轴套
SRI03-800 Bimetel Bushing

钢 + CuPb10Sn10
Steel + CuPb10Sn10

SRI03–800 双金属轴承，是以低碳钢板为基体材料，表面烧结了 CuPb10Sn10 或者 CuSn6Zn6Pb3 材料的钢铜合金产品。该产品是双合金轴承中承载能力最强的一种，重型车的平衡桥衬套，均使用该产品。它是一种用途很广的高载低速运动轴承。

SRI03–800 bimetal bushing is based on steel and sintered with CuPb10Sn10 or CuSn6Zn6Pb3 as a lining layer. The strongest type of bimetal bushings and widely applicated in so many fields. This type has the best performance within the range of Cu–Pb alloy constructured bushing.Thereforce it has a wide application and is mostly suitable for where is middle speed and high impact etc.

材料型号 Material type	CuPb10Sn10/CuSn6Zn6Pb3	对磨轴硬度 Hardness of mating surface		53HRC
合金层硬度 Hardness of bronze alloy	70~100HB	最高使用温度 Max. temperature		260℃
最大荷载 Max. dynamic Load	65N/mm^2	最高静承载压力 Load limit		150N/mm^2
拉伸强度 Tensile strength	150N/mm^2	最高速度 Speed limit v max.		5m/s
摩擦系数 (油) Friction coef(Oill)	0.06~0.14	允许 PV 值 PV limit	脂 Grease	2.8N/mm^2.m/s
“蓝宝石”疲劳级 Mpa Sapphire Fatigue Calss	125		油 oil	10N/mm^2.m/s

SRI03-720 双金属轴套
SRI03-720 Bimetel Bushing

钢 + CuPb24Sn4
Steel + CuPb24Sn4

SRI03–720 双金属轴承，是以钢板为基体 , 表面烧结 CuPb24Sn4 材料的产品。该产品具有较好的疲劳强度和承载能力。适用于中速中载，有油润滑的场合表面镀软合金时，可用作高速内燃机轴承、连杆衬套，达到良好的耐磨、耐疲劳效果。

SRI03–720 is a bimetal bushing with steel as backing and sintered CuPb24Sn24 as lining layer. This type has fairly good performance in anti–fatigue and load capacity. It is suitable for middle speed and middle load. When over plated certain soft alloy, it can be applied in high–speed internal combustion engine and as connect rod.

材料型号 Material type	CuPb24Sn4	对磨轴硬度 Hardness of mating surface		50HRC
合金层硬度 Hardness of bronze alloy	45~70HB	最高使用温度 Max. temperature		200℃
最大荷载 Max. dynamic Load	38N/mm^2	最高静承载压力 Load limit		130N/mm^2
拉伸强度 Tensile strength	150N/mm^2	最高速度 Speed limit v max.		10m/s
摩擦系数 (油) Friction coef(Oill)	0.06~0.16	允许 PV 值 PV limit	脂 Grease	2.8N/mm^2.m/s
“蓝宝石”疲劳级 Mpa Sapphire Fatigue Calss	115		油 oil	10N/mm^2.m/s

SRI03 双金属轴套
SRI03 Bimetal Bushing

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SRI03-700 双金属轴套
SRI03-700 Bimetel Bushing

钢 + CuPb30
Steel + CuPb30

SRI03–700 双金属轴承，是以钢板为基体，表面烧结 CuPb30 材料的产品。该产品由于含铅量高，所以具有良好的抗咬轴性和异物埋没性。工作表面需镀软合金材料，可用作高速、中低载的内燃机主轴瓦、连杆衬套、摇臂衬套；油泵侧摩擦片。

SRI03–700 is a bimetal bushing with steel as backing and sintered CuPb30 as lining layer. It has good performance in anti–seizing, alien substance contamination. It is necessary to be overplated certain soft alloy and mostly applied in internal combustion engine under high speed and middle to low load, e.g. main bushing of inner–combustion engine and connect–rod bushing.

材料型号 Material type	CuPb30	对磨轴硬度 Hardness of mating surface		270HRC
合金层硬度 Hardness of bronze alloy	30~45HB	最高使用温度 Max. temperature		170℃
最大荷载 Max. dynamic Load	25N/mm^2	最高静承载压力 Load limit		120N/mm^2
拉伸强度 Tensile strength	200N/mm^2	最高速度 Speed limit v max.		15m/s
摩擦系数 (油) Friction coef(Oill)	0.08~0.16	允许 PV 值 PV limit	脂 Grease	2.5N/mm^2.m/s
“蓝宝石”疲劳级 Mpa Sapphire Fatigue Calss	105		油 oil	8N/mm^2.m/s

SRI03-20 双金属轴套
SRI03-20 Bimetel Bushing

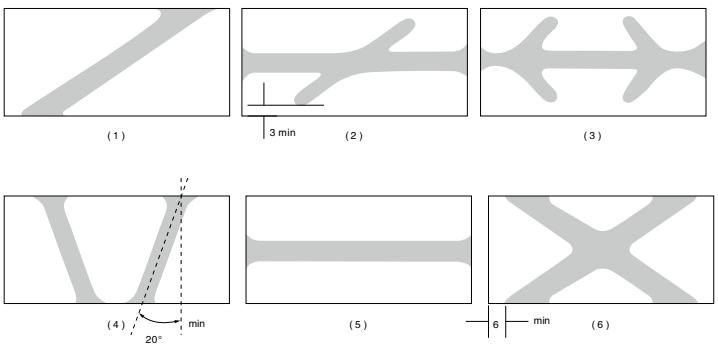
钢 + AlSn20Cu
Steel +AlSn20Cu

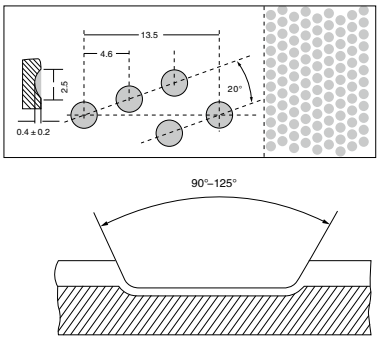
SRI03–20 高锡铝基轴承是以钢板为基体，表面辊压 AlSn20Cu 材料的产品。该产品具有中等疲劳强度和承载能力，良好抗腐蚀性能，较好的轴承滑动性能等特点，常用作中小功率的内燃机轴瓦、火车发动机轴瓦、空气压力机轴套、制冷机轴承，是取代巴氏合金的新颖产品。

SRI03–20 is a high tin and aluminum based bushing, which adopts steel as backing and is coated a lining of AlSn20Cu through rolling treatment. It is a fairly good fatigue resistance, load capatity and good anti–corrosion and also performs well in Bushing's sliding properties. It is widely applied under high speed and low load such as in internal combustion engine, air compressor and cooling machine.

材料型号 Material type	AlSn20Cu	对磨轴硬度 Hardness of mating surface		250HRC
合金层硬度 Hardness of bronze alloy	30~40HB	最高使用温度 Max. temperature		150℃
最大荷载 Max. dynamic Load	30N/mm^2	最高静承载压力 Load limit		100N/mm^2
拉伸强度 Tensile strength	200N/mm^2	最高速度 Speed limit v max.		25m/s
摩擦系数 (油) Friction coef(Oill)	0.08~0.17	允许 PV 值 PV limit	脂 Grease	——
“蓝宝石”疲劳级 Mpa Sapphire Fatigue Calss	105		油 oil	6N/mm^2.m/s

双金属自润滑轴承的油槽油穴形式
Type for Bi-Metaltic Bushing Grooves and Indents





SRI03 双金属轴套
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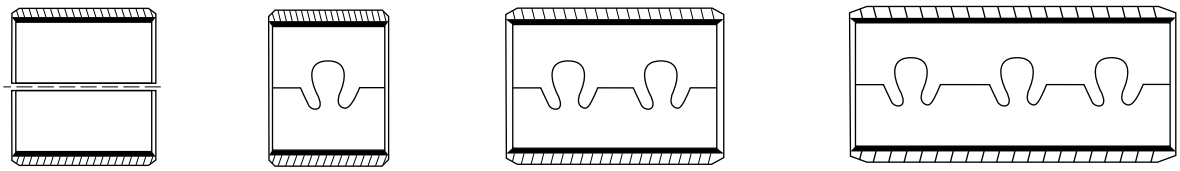
SRI03双金属轴套合金化学成分
Composition analysis of alloy

化学元素 chemical elements	SRI03–800 CuPb10Sn10	SRI03–800 CuPb24Sn4	SRI03–700 CuPb30	SRI03–20 AlSn20Cu
Cu	余量 Remainder	余量 Remainder	余量 Remainder	1.7~1.3
Pb	9.0~11.0	21.0~27.0	26.0~33.0	——
Sn	9.0~11.0	3.0~4.5	0.5	17.5~22.5
Zn	0.5	0.5	0.5	——
P	0.1	0.1	0.1	——
Fe	0.7	0.7	0.7	0.7
Ni	0.5	0.5	0.5	0.1
Sb	0.2	0.2	0.2	——
Al	——	——	——	余量 Remainder
Si	——	——	——	0.7
Mn	——	——	——	0.7
Ti	——	——	——	0.2
其他 Other	0.5	0.5	0.5	0.5

双金属自润滑轴承的搭扣形式
Lock Types for Bi-Metaltic Bushing



A　　B　　C　　D

SRI03型双金属轴套的油孔设计
The designing of oil indentations

为了使 SRI03 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	12~23	25~39	42~80	85~155
油孔直径 Lubricating hole	4	6	8	9.5

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.

SRI03双金属板材厚度尺寸及公差
Normal thickness of the SRI03 bimetal and their tolerances

公差厚度 Tolerance 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 leyer	0.4	0.5	0.6	0.6	0.7	0.7	0.8	1.0
可加工轴承壁厚 Manufactuable wall thickness	$1^{+0.25}_{+0.15}$	$1.5^{+0.25}_{+0.15}$	$2^{+0.25}_{+0.15}$	$2.5^{+0.25}_{+0.15}$	$3^{+0.25}_{+0.15}$	$1^{+0.25}_{+0.15}$	$1^{+0.25}_{+0.15}$	$1^{+0.25}_{+0.15}$
已加工轴承壁厚 Manufactued wall thickness	$1^{\ }_{-0.025}$	$1.5^{\ }_{-0.03}$	$2^{\ }_{-0.035}$	$2.5^{\ }_{-0.04}$	$3^{\ }_{-0.045}$	$3.5^{\ }_{-0.05}$	$4^{\ }_{-0.055}$	$5^{\ }_{-0.06}$

板材合金厚度可以根据要求定制。

The thickness of the plate alloy should be according to customer's request.

SRI03 标准公制轴套
SRI03 Normal Metric Bushing

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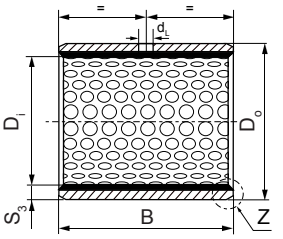

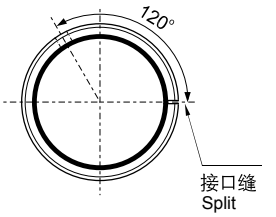

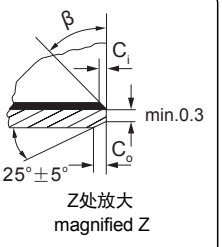

内外倒角

S_3	C_o	C_i	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_o	C_i	β
2.00	1.2 ± 0.4	0.50 ± 0.3	30° ± 5°
2.50	1.8 ± 0.6	0.60 ± 0.3	45° ± 5°

※标准直套标注方式：Standard Bushing Label Mode SRI03–800

单位unit:mm

型号规格 Designation	D_i	D_O	轴径(h8) D_s	座(H7) D_H	压装后内孔公差 $D_{i,a}$	配合间隙 C_D	壁厚 S_3	油孔 d_L	B $^{0}_{-0.40}$ 10	15	20	25	30	40	50
SRI03-800	10	12	$10^{}_{-0.022}$	$12^{+0.018}$	+0.148 +0.010	0.170 0.010	0.995 0.935	4	1010	1015	1020				
SRI03-800	12	14	$12^{}_{-0.027}$	$14^{+0.018}$		0.175 0.010			1210	1215	1220				
SRI03-800	14	16	$14^{}_{-0.027}$	$16^{+0.018}$					1410	1415	1420				
SRI03-800	15	17	$15^{}_{-0.027}$	$17^{+0.018}$					1510	1515	1520				
SRI03-800	16	18	$16^{}_{-0.027}$	$18^{+0.018}$					1610	1615	1620				
SRI03-800	18	20	$18^{}_{-0.027}$	$20^{+0.021}$	+0.151 +0.010	0.178 0.010			1810	1815	1820	1825			
SRI03-800	20	23	$20^{}_{-0.033}$	$23^{+0.021}$	+0.161 +0.020	0.194 0.020	1.490 1.430		2010	2015	2020	2025			
SRI03-800	22	25	$22^{}_{-0.033}$	$25^{+0.021}$				6	2210	2215	2220	2225			
SRI03-800	24	27	$24^{}_{-0.033}$	$27^{+0.021}$					2410	2415	2420	2425	2430		
SRI03-800	25	28	$25^{}_{-0.033}$	$28^{+0.021}$						2515	2520	2525	2530		
SRI03-800	26	30	$26^{}_{-0.033}$	$30^{+0.021}$	+0.181 +0.040	0.214 0.040				2615	2620	2625	2630		
SRI03-800	28	32	$28^{}_{-0.033}$	$32^{+0.025}$	+0.185 +0.040	0.218 0.040				2815	2820	2825	2830	2840	
SRI03-800	30	34	$30^{}_{-0.033}$	$34^{+0.025}$						3015	3020	3025	3030	3040	
SRI03-800	32	36	$32^{}_{-0.039}$	$36^{+0.025}$		0.224 0.040	1.980 1.920			3215	3220	3225	3230	3240	
SRI03-800	35	39	$35^{}_{-0.039}$	$39^{+0.025}$							3520	3525	3530	3540	3550
SRI03-800	38	42	$38^{}_{-0.039}$	$42^{+0.025}$				8			3820	3825	3830	3840	3850
SRI03-800	40	44	$40^{}_{-0.039}$	$44^{+0.025}$							4020	4025	4030	4040	4050

SRI03 标准公制轴套
SRI03 Normal Metric Bushing

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单位unit:mm

型号规格 Designation	D_i	D_O	轴径(h8) D_s	座(H7) D_H	压装后内孔公差 $D_{i,a}$	配合间隙 C_D	壁厚 S_3	油孔 d_L	$B^{0}_{-0.40}$							
									25	30	40	50	60	80	90	100
SRI03-800	45	50	$45^{-0.039}$	$50^{+0.025}$	+0.225 +0.080	0.264 0.080	2.460 2.400	8	4525	4530	4540	4550				
SRI03-800	50	55	$50^{-0.039}$	$55^{+0.030}$	+0.230 +0.080	0.269 0.080				5030	5040	5050	5060			
SRI03-800	55	60	$55^{-0.046}$	$60^{+0.030}$		0.276 0.080				5530	5540	5550	5560			
SRI03-800	60	65	$60^{-0.046}$	$65^{+0.030}$						6030	6040	6050	6060			
SRI03-800	65	70	$65^{-0.046}$	$70^{+0.030}$						6530	6540	6550	6560			
SRI03-800	70	75	$70^{-0.046}$	$75^{+0.030}$						7030	7040	7050	7060	7080		
SRI03-800	75	80	$75^{-0.046}$	$80^{+0.030}$				9.5		7530	7540	7550	7560			
SRI03-800	80	85	$80^{-0.046}$	$85^{+0.035}$	+0.235 +0.080	0.281 0.080					8040	8050	8060	8080		
SRI03-800	85	90	$85^{-0.054}$	$90^{+0.035}$		0.289 0.080				8530		8550	8560	8580		85100
SRI03-800	90	95	$90^{-0.054}$	$95^{+0.035}$								9050	9060	9080		90100
SRI03-800	95	100	$95^{-0.054}$	$100^{+0.035}$									9560	9580	9590	95100
SRI03-800	100	105	$100^{-0.054}$	$105^{+0.035}$									10060	10080	10090	100100
SRI03-800	105	110	$105^{-0.054}$	$110^{+0.035}$									10560	10580		105100
SRI03-800	110	115	$110^{-0.054}$	$115^{+0.035}$									11060	11080		110100
SRI03-800	115	120	$115^{-0.054}$	$120^{+0.035}$								11550		11580		
SRI03-800	120	125	$120^{-0.054}$	$125^{+0.040}$	+0.240 +0.080							12050	12030			120100
SRI03-800	125	130	$125^{-0.063}$	$130^{+0.040}$		0.303 0.080										125100
SRI03-800	130	135	$130^{-0.063}$	$135^{+0.040}$									13060			130100
SRI03-800	135	140	$135^{-0.063}$	$140^{+0.040}$									13560	13580		
SRI03-800	140	145	$140^{-0.063}$	$145^{+0.040}$									14060	14080		140100
SRI03-800	150	155	$150^{-0.063}$	$155^{+0.040}$									15060	15080		150100

注：内孔公差是轴套压入 0 位座孔时的公差

Note: In addition to the above specifications of size, manufactured according to customer drawings .

SRI03 标准公制翻边轴套
SRI03 Normal Metric Flange Bushing

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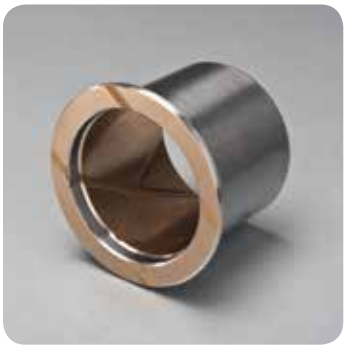

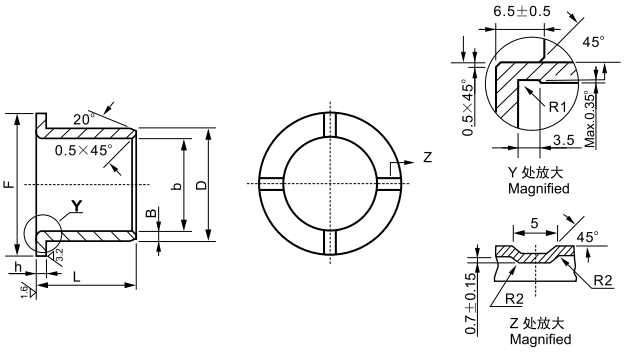

单位unit:mm

规格型号 Type	F	D	d	L	h	B
4040	60	46	40	39.5	3.5	3.0
4035	62	47	40	35	3.5	3.5
4055	68	55	45	55	3.5	5.0
5040A	72	57	50	40	3.5	3.5
5040B	70	57	50	40	3.5	3.5
5050	70	57	50	50	3.5	3.5
5460	92	60.6	54	60	3.5	3.3
6053	83	67	60	53	3.5	3.5
6060	87	67	60	60	3.5	3.5
6065	77	67	60	65	3.5	3.5
6060A	88	68	60	60	4.0	4.0
6060B	87	68	60	60	4.0	4.0
6465	102.6	70.4	63.5	65	3.5	3.5
6473	103	70.8	63.8	73	3.5	3.5
6553	85	72	65	53	3.5	3.5
6564	87	72	65	64	3.5	3.5
6575	108	72	65	75	3.5	3.5
7060	93	77	70	60	3.5	3.5
7090	108	80	70	90	5.0	5.0
7560	100	82	75	60	3.5	3.5
8060	105	87	80	68	3.5	3.5
8580	127	92	85	80	3.5	3.5
85103	128	92.6	85	103.5	3.5	3.8
89126	138	97.5	89.2	126.5	4.2	4.2
95127	144	105	95	127	5.0	5.0