

SF-1X Self Lubricating Bushing is wall wrapped bearings made of triple layer composites material which consists of a steel backing, a sintered porous bronze particles interlayer and calendared with PTFE and Pb mixture as surface layer. It is of low friction coefficient, anti-wear, anti-corrosion and can be used without oil, or only as needed. Moreover, it is of low cost, low vibration and low noise compact and light.

Color Metallograph



- 1 ---PTFE with lead, 0.01~0.03mm
- 2 ---Porous bronze, 0.2~0.3mm
(CuSn8Zn3:Sn<=8%;Zn<=3%;Cu=Balance)
- 3 ---Steel backing, 0.7~2.3mm
- 4 ---Copper(0.008mm) or Tin(0.005mm) Plating



Steel Backing Technical Data

Code	Equal Code				Chemical Composition%					Physical Properties		
	ASTM	DIN	BS	JIS	C	Mn	P	S	Al	Yield Strength ≤N/mm ²	Tensile Strength N/mm ²	Elongation %
ST12	1010 1008	CK10(1.1121) C10(1.0301)	040A10 050A10 060A10	S10C S09CK	0.10	0.5	0.035	0.035	--	280	270~410	28

Physical Properties

Load Capacity	Temperature Limit	PV Limit (dry)	PV Limit (oil)	Friction Coef	Speed Limit
140N/mm ²	-195℃~280℃	3.6N/mm ²	50N/mm ²	0.03~0.18	10m/s

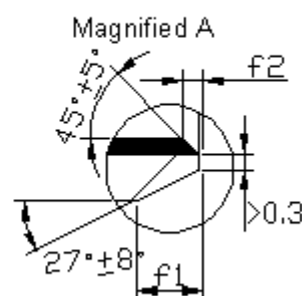
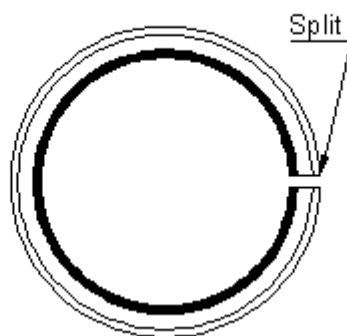
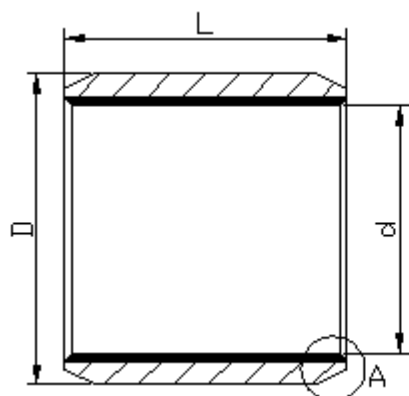
Application Case

1. Dry or only a trace of grease or oil required maintenance free.
2. Low friction and with long life.
3. Load will spread over a wider area due to the bearing material's elastic nature.
4. Low stick slip properties ensuring accuracy of machine operation under low sliding speeds.
5. Low vibration, low noise and non-pollution in operation.
6. PTFE and lead film is transferred to the mating to improve running properties.
7. It can be used in low hardness of mating shaft, so the shafts processing is easy.
8. The machine will be compact because of the thin thickness and low weight of the bush.
9. Electroplating is possible to prevent corrosion. It is widely used in various sliding motions of different kind of machines such as textile machine, tobacco machines, hydraulic vehicles, automobiles, agriculture machines and so on.



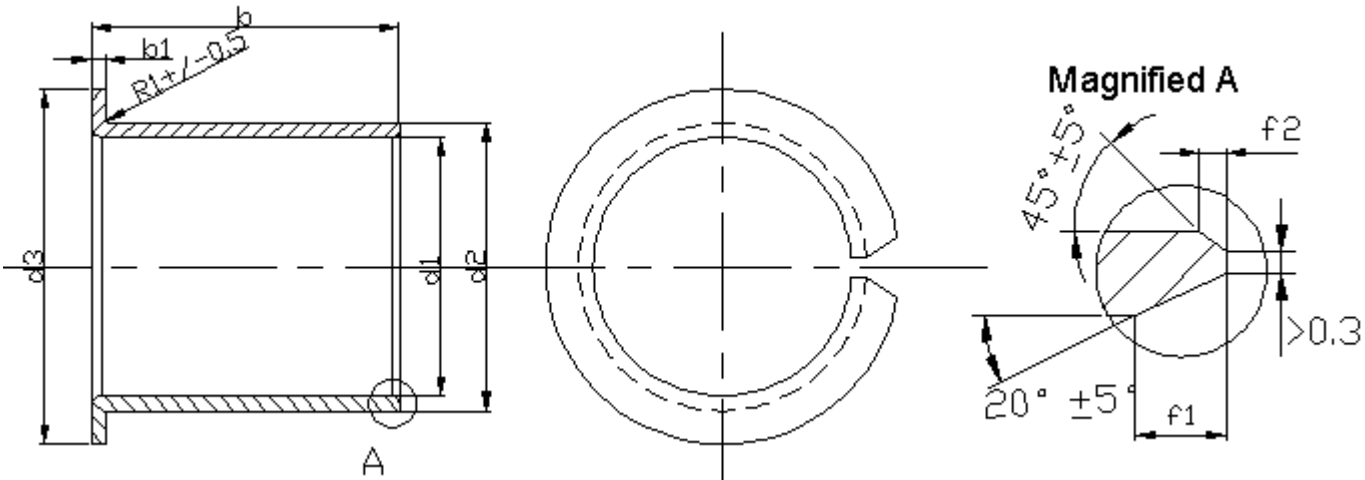
Size Specification

Cylinder Series Specification



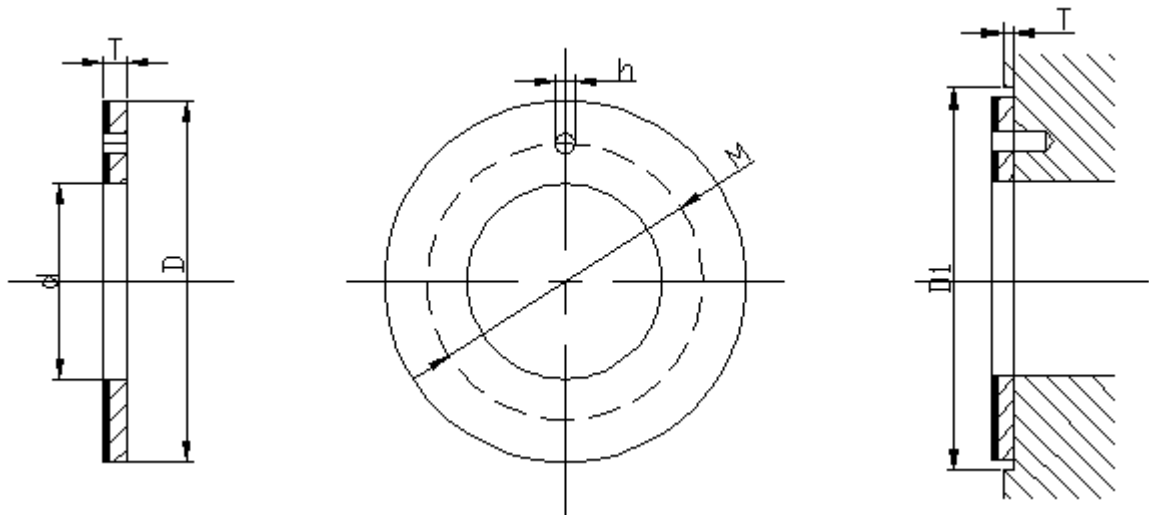
d	D	L	Housing Bore H7	Wall Thickness		f1	f2	L									
				Min	Max			6	8	10	12	15	20	25	30	40	50
6	8	6	8	0.980	1.005	0.5	0.3	0606	0608	0610							
8	10	8	10					0806	0808	0810	0812	0815					
10	12	10	12					1006	1008	1010	1012	1015	1020				
12	14	12	14					1206	1208	1210	1212	1215	1220	1225			
13	15	13	15							1310			1320				
14	16	14	16							1410	1412	1415	1420	1425			
15	17	15	17							1510	1512	1515	1520	1525			
16	18	16	18							1610	1612	1615	1620	1625			
17	19	17	19							1710	1712		1720				
18	20	18	20							1810	1812	1815	1820	1825			
20	23	20	23	1.475	1.505	0.8	0.4			2010	2012	2015	2020	2025	2030		
22	25	22	25							2210	2212	2215	2220	2225	2230		
24	27	24	27									2415	2420	2425	2430		
25	28	25	28							2510	2512	2515	2520	2525	2530	2540	2550
28	32	28	32	1.970	2.005	1.0	0.5					2815	2820	2825	2830	2840	
30	34	30	34								3012	3015	3020	3025	3030	3040	
32	36	32	36										3220		3230	3240	
35	39	35	39								3512	3515	3520	3525	3530	3540	3550
38	42	38	42									3815			3830	3840	
40	44	40	44								4012		4020	4025	4030	4040	4050
d	D	L	Housing Bore H7	Wall Thickness		f1	f2	L									
				Min	Max			20	25	30	40	50	60	70	80	100	
45	50	45	50	2.460	2.505	1.2	0.6	4520	4525	4530	4540	4550					
50	55	50	55					5020		5030	5040	5050	5060				
55	60	55	60							5530	5540	5550	5560				
60	65	60	65							6030	6040	6050	6060	6070			
65	70	65	70							6530	6540	6550	6560	6570			
70	75	70	75								7040	7050	7060	7070	7080		
75	80	75	80							7530	7540	7550	7560	7570	7580		
80	85	80	85	2.440	2.490	1.4	0.7				8040	8050	8060	8070	8080	80100	
85	90	85	90								8540		8560		8580	85100	
90	95	90	95								9040	9050	9060		9080	90100	
95	100	95	100									9550	9560		9580	95100	
100	105	100	105									10050	10060		10080		
105	110	105	110										10560		10580		
110	115	110	115										11060		11080		
120	125	120	125	2.415	2.465	1.6	0.8						12060		12080	120100	
125	130	125	130										12560			125100	
130	135	130	135										13060		13080	130100	
140	145	140	145										14060		14080	140100	
150	155	150	155									15050	15060		15080	150100	
160	165	160	165										16060		16080	160100	
180	185	180	185												18080	180100	
190	195	190	195												19080	190100	
200	205	200	205										20060		20080	200100	
220	225	220	225												22080	220100	
250	255	250	255												25080	250100	
260	265	260	265												26080	260100	
280	285	280	285												28080	280100	
300	305	300	305												30080	300100	

Flange Series Specification



Shaft Dia.	Housing (H7)	Size						
		d1	d2	d3+0.5	b+0.25	b1-0.2	f1	f2
-0.013 6 ^{-0.028}	8	6	8	12	4	1	0.5	0.4
					7			
-0.013 8 ^{-0.028}	10	8	10	15	5.5			
					7.5			
-0.016 10 ^{-0.034}	12	10	12	18	7			
					9			
					12			
-0.016 12 ^{-0.034}	14	12	14	20	7			
					9			
					12			
-0.016 14 ^{-0.034}	16	14	16	22	12			
					17			
-0.016 15 ^{-0.034}	17	15	17	23	9	1.5	0.8	0.4
					12			
					17			
-0.016 16 ^{-0.034}	18	16	18	24	12			
					17			
-0.016 18 ^{-0.034}	20	18	20	26	12			
					17			
					20			
-0.020 20 ^{-0.041}	23	20	23	30	11.5			
					16.5			
					21.5			
-0.020 22 ^{-0.041}	25	22	25	32	15	2	1.0	0.5
					20			
-0.020 25 ^{-0.041}	28	25	28	35	11.5			
					16.5			
					21.5			
-0.025 30 ^{-0.050}	34	30	34	42	16			
					26			
-0.025 35 ^{-0.050}	39	35	39	47	16			
					26			
-0.025 40 ^{-0.050}	44	40	44	53	26			
					40			

Washer Series Specification



Shaft Dia.	Size of Washer				Size For Installation		
	$d_{+0.25}$	$D_{-0.25}$	$T_{-0.05}$	$M_{\pm 0.12}$	$H_{+0.4/-0.1}$	$T_{\pm 0.2}$	$D_{+0.12}$
8	10	20	1.5	15	1.5	1	20
10	12	24	1.5	18	1.5	1	24
12	14	26	1.5	20	2	1	26
14	16	30	1.5	23	2	1	30
16	18	32	1.5	25	2	1	32
18	20	36	1.5	28	3	1	36
20	22	38	1.5	30	3	1	38
22	24	42	1.5	33	3	1	42
24	26	44	1.5	35	3	1	44
25	28	48	1.5	38	4	1	48
30	32	54	1.5	43	4	1	54
35	38	62	1.5	60	4	1	62
40	42	66	1.5	54	4	1	66
45	48	74	1.5	61	4	1.5	74
50	52	78	2	65	4	1.5	78
60	62	90	2	76	4	1.5	90