



Structure

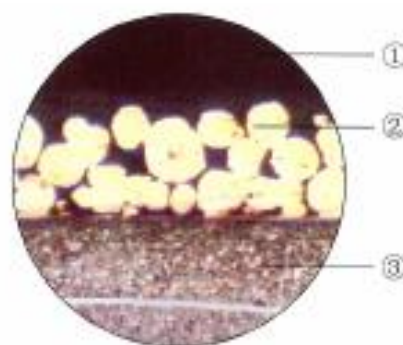
1 Surface de glissement PTFE/Fibres épaisseur 0,01-0,03 mm, apporte les propriétés tribologiques pour établir la propriété d'autolubrification

2 Couche de poudre de bronze frittée épaisseur 0,20-0,35 mm assure la liaison mécanique entre le support et la surface de glissement.

3 Support en acier assure la résistance mécanique.

Caractéristiques

Le palier autolubrifiant CSB-50 et ses dérivés présentent une bonne résistance à l'usure, un faible coefficient de frottement sous diverses charges, vitesse et températures. Il convient aux applications où la lubrification est difficile ou impossible. Recommandé pour des mouvements oscillants, rotatifs et linéaires.



Propriétés du palier		Unité	Valeur
Pression spécifique	Statique	N/mm ²	250
	Dynamique	N/mm ²	140
Température de fonctionnement	Maxi	°C	+280
	Mini	°C	-195
Vitesse de glissement	à sec	m/s	2,0
	Lubrifié	m/s	≥ 2,0
Facteur « pv » à sec		N/mm ² x m/s	1,8
Coefficient de frottement à sec			0,03-0,20
Conductibilité thermique		W(m*K) ⁻¹	42
Coefficient de dilatation thermique		10 ⁻⁶ /K	11
Rugosité de l'arbre	Rectifié	Ra	<0,4
Dureté de l'arbre	Mini	HB	> 200

Applications

Les applications automobiles comprennent les systèmes de direction, les amortisseurs, les charnières de porte, les mécanismes d'inclinaison de siège, les armatures de siège et les électrovannes. Elles sont largement utilisées dans l'industrie en général, notamment pour les pompes à engrenages, les pompes à palettes, les pompes à pistons, les vérins pneumatiques et les vérins hydrauliques. Parmi les autres applications, on trouve les machines de manutention, les machines d'emballage, les machines textiles, les machines forestières et les appareils électroménagers,...

CSB-50 Steel Bronze Powder with PTFE/Fibre Dry Bearings

RoHS



Features

Suitable for dry running with a low coefficient of friction, low wear rate, good sliding characteristics, the transfer film created will protect the mating metal surface. Suitable for rotary and oscillating movement, high chemical resistance, lower absorption of water and reduced swelling. Also performs well with lubrication.

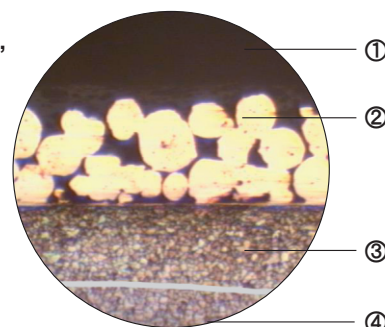
Structure

1. PTFE/Fibre mixture thickness 0.01~0.03mm, provides an excellent initial transfer film, which effectively coats the mating surfaces of the bearing assembly, forming an oxide type solid lubricant film.

2. Sintered bronze powder thickness 0.20-0.35mm, provides Max. thermal conductivity away from the bearing surface, also serves as a reservoir for the PTFE-Fibre mixture.

3. Low-carbon steel, gives exceptionally high load carrying capacity, excellent heat dissipation.

4. Copper/Tin plating thickness 0.002mm, provides good corrosion resistance.



Tech. Data

Max. load	Static	250N/mm ²	Friction coefficient		0.03~0.20
	Very low speed	140N/mm ²	Max. speed	Dry running	2m/s
	Rotating oscillating	60N/mm ²		Hydrodynamic operation	>2m/s
Max. PV dry running	Short-term operation	3.6N/mm ² *m/s	Thermal conductivity		42 W(m*K) ⁻¹
	Continuous operation	1.8N/mm ² *m/s	Coefficient of thermal expansion		11*10 ⁻⁶ *K ⁻¹
Temp. limit		-195°C~+280°C			

Typical Applications

This material meets the demanding criteria for long life and trouble-free performance with or without lubrication.

Automotive: tractors, combines, crop sprayers, earth-movers, graders and other construction, auto machines, specific uses in power steering cylinders, steering gear thrust washers, disc brakes, calipers and pistons, shock absorbers, governor linkage, windshield wiper motor, tilt gear assemblies...

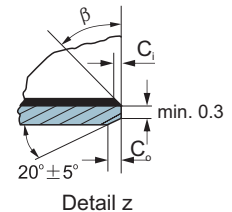
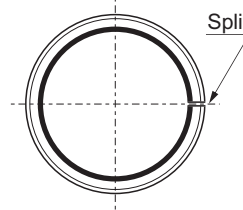
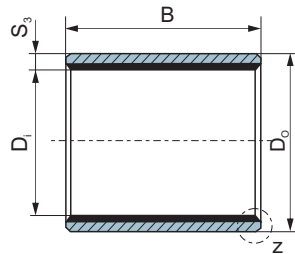
Business machines: photocopy machines, typewriters, mail sorters, postage meter systems, computer terminal

printers and peripheral equipment, automatic printing devices, mail processing machinery...

Hydraulics and valves: pumps including gear, rotary, water, axial piston, and other types, ball, butterfly, poppet steam, and other valves and valve trunnions...

Home appliances: tape recorders, refrigerators, air conditioners, cleaners, polishers, sewing machines, ovens, dishwashers, clothes washing machines...And materials handling, marine engine, packaging, textile equipment, tools...etc.

CSB-50 Metric Cylindrical Bushes



ID and OD chamfers

S ₃	C ₀	C ₁	β	S ₃	C ₀	C ₁	β
0.75	0.5±0.3	0.25±0.2	30° ±5°	2.00	1.2±0.4	0.50±0.3	30° ±5°
1.00	0.6±0.3	0.30±0.2	30° ±5°	2.50	1.8±0.6	0.60±0.3	45° ±5°
1.50	0.7±0.3	0.50±0.3	30° ±5°				

Unit:mm

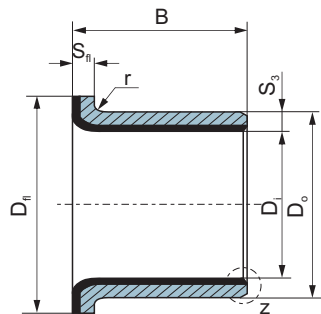
Shaft D _s	Housing H7 D _H	OD tolerance D ₀	ID after fixed D _{1,a}	Clearance C ₀	Wall thick- ness S ₃	B ⁰ (d ≤ φ 30 B -0.3) -0.40 (d > φ 30 B -0.4)									
						6	8	10	12	15	20	25	30	40	50
6 ^{-0.010 -0.022}	8 ^{+0.015}	8 ^{+0.055 +0.025}	6.055 5.990	0.077 0.000	1.005 0.980	CSB-50 0606	CSB-50 0608	CSB-50 0610							
8 ^{-0.013 -0.028}	10 ^{+0.015}	10 ^{+0.055 +0.025}	8.055 7.990	0.083 0.003		CSB-50 0806	CSB-50 0808	CSB-50 0810	CSB-50 0812	CSB-50 0815					
10 ^{-0.013 -0.028}	12 ^{+0.018}	12 ^{+0.065 +0.030}	10.058 9.990	0.086 0.003		CSB-50 1006	CSB-50 1008	CSB-50 1010	CSB-50 1012	CSB-50 1015	CSB-50 1020				
12 ^{-0.016 -0.034}	14 ^{+0.018}	14 ^{+0.065 +0.030}	12.058 11.990			CSB-50 1206	CSB-50 1208	CSB-50 1210	CSB-50 1212	CSB-50 1215	CSB-50 1220	CSB-50 1225			
13 ^{-0.016 -0.034}	15 ^{+0.018}	15 ^{+0.065 +0.030}	13.058 12.990					CSB-50 1310			CSB-50 1320				
14 ^{-0.016 -0.034}	16 ^{+0.018}	16 ^{+0.065 +0.030}	14.058 13.990	0.092 0.006				CSB-50 1410	CSB-50 1412	CSB-50 1415	CSB-50 1420	CSB-50 1425			
15 ^{-0.016 -0.034}	17 ^{+0.018}	17 ^{+0.065 +0.030}	15.058 14.990					CSB-50 1510	CSB-50 1512	CSB-50 1515	CSB-50 1520	CSB-50 1525			
16 ^{-0.016 -0.034}	18 ^{+0.018}	18 ^{+0.065 +0.030}	16.058 15.990					CSB-50 1610	CSB-50 1612	CSB-50 1615	CSB-50 1620	CSB-50 1625			
17 ^{-0.016 -0.034}	19 ^{+0.021}	19 ^{+0.075 +0.035}	17.061 16.990	0.095 0.006	1.505 1.475			CSB-50 1710	CSB-50 1712		CSB-50 1720				
18 ^{-0.016 -0.034}	20 ^{+0.021}	20 ^{+0.075 +0.035}	18.061 17.990					CSB-50 1810	CSB-50 1812	CSB-50 1815	CSB-50 1820	CSB-50 1825			
20 ^{-0.020 -0.041}	23 ^{+0.021}	23 ^{+0.075 +0.035}	20.071 19.990					CSB-50 2010	CSB-50 2012	CSB-50 2015	CSB-50 2020	CSB-50 2025	CSB-50 2030		
22 ^{-0.020 -0.041}	25 ^{+0.021}	25 ^{+0.075 +0.035}	22.071 21.990	0.112 0.010				CSB-50 2210	CSB-50 2212	CSB-50 2215	CSB-50 2220	CSB-50 2225	CSB-50 2230		
24 ^{-0.020 -0.041}	27 ^{+0.021}	27 ^{+0.075 +0.035}	24.071 23.990		2.005 1.970					CSB-50 2415	CSB-50 2420	CSB-50 2425	CSB-50 2430		
25 ^{-0.020 -0.041}	28 ^{+0.021}	28 ^{+0.075 +0.035}	25.071 24.990					CSB-50 2510	CSB-50 2512	CSB-50 2515	CSB-50 2520	CSB-50 2525	CSB-50 2530	CSB-50 2540	CSB-50 2550
28 ^{-0.020 -0.041}	32 ^{+0.025}	32 ^{+0.085 +0.045}	28.085 27.990	0.126 0.010						CSB-50 2815	CSB-50 2820	CSB-50 2825	CSB-50 2830	CSB-50 2840	
30 ^{-0.020 -0.041}	34 ^{+0.025}	34 ^{+0.085 +0.045}	30.085 29.990						CSB-50 3012	CSB-50 3015	CSB-50 3020	CSB-50 3025	CSB-50 3030	CSB-50 3040	
32 ^{-0.025 -0.050}	36 ^{+0.025}	36 ^{+0.085 +0.045}	32.085 31.990								CSB-50 3220		CSB-50 3230	CSB-50 3240	
35 ^{-0.025 -0.050}	39 ^{+0.025}	39 ^{+0.085 +0.045}	35.085 34.990	0.135 0.015					CSB-50 3512	CSB-50 3515	CSB-50 3520	CSB-50 3525	CSB-50 3530	CSB-50 3540	CSB-50 3550
38 ^{-0.025 -0.050}	42 ^{+0.025}	42 ^{+0.085 +0.045}	38.085 37.990							CSB-50 3815			CSB-50 3830	CSB-50 3840	
40 ^{-0.025 -0.050}	44 ^{+0.025}	44 ^{+0.085 +0.045}	40.085 39.990						CSB-50 4012		CSB-50 4020	CSB-50 4025	CSB-50 4030	CSB-50 4040	CSB-50 4050

CSB-50 Metric Cylindrical Bushes

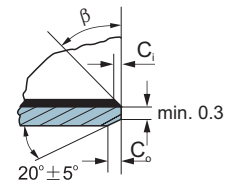
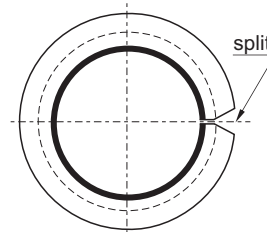
Unit:mm

Shaft D _s	Housing H7 D _H	OD tolerance D _o	ID after fixed D _{l,a}	Clearance C _o	Wall thick- ness S ₃	B ⁰ _{-0.40}											
						20	25	30	40	50	60	70	80	100	115		
45 ^{-0.050 -0.025}	50 ^{+0.025}	50 ^{+0.085 +0.045}	45.105 44.990	0.155 0.015	2.505 2.460	CSB-50 4520	CSB-50 4525	CSB-50 4530	CSB-50 4540	CSB-50 4550							
50 ^{-0.050 -0.025}	55 ^{+0.030}	55 ^{+0.100 +0.055}	50.110 49.990	0.160 0.015		CSB-50 5020		CSB-50 5030	CSB-50 5040	CSB-50 5050	CSB-50 5060						
55 ^{-0.060 -0.030}	60 ^{+0.030}	60 ^{+0.100 +0.055}	55.110 54.990	0.170 0.020				CSB-50 5530	CSB-50 5540	CSB-50 5550	CSB-50 5560						
60 ^{-0.060 -0.030}	65 ^{+0.030}	65 ^{+0.100 +0.055}	60.110 59.990						CSB-50 6030	CSB-50 6040	CSB-50 6050	CSB-50 6060	CSB-50 6070				
65 ^{-0.060 -0.030}	70 ^{+0.030}	70 ^{+0.100 +0.055}	65.110 64.990						CSB-50 6530	CSB-50 6540	CSB-50 6550	CSB-50 6560	CSB-50 6570				
70 ^{-0.060 -0.030}	75 ^{+0.030}	75 ^{+0.100 +0.055}	70.110 69.990							CSB-50 7040	CSB-50 7050	CSB-50 7060	CSB-50 7070	CSB-50 7080			
75 ^{-0.060 -0.030}	80 ^{+0.030}	80 ^{+0.100 +0.055}	75.110 74.990						CSB-50 7530	CSB-50 7540	CSB-50 7550	CSB-50 7560	CSB-50 7570	CSB-50 7580			
80 ^{-0.046}	85 ^{+0.035}	85 ^{+0.120 +0.070}	80.155 80.020	0.201 0.020	2.490 2.440				CSB-50 8040	CSB-50 8050	CSB-50 8060	CSB-50 8070	CSB-50 8080	CSB-50 80100			
85 ^{-0.054}	90 ^{+0.035}	90 ^{+0.120 +0.070}	85.155 85.020	0.209 0.020						CSB-50 8540		CSB-50 8560		CSB-50 8580	CSB-50 85100		
90 ^{-0.054}	95 ^{+0.035}	95 ^{+0.120 +0.070}	90.155 90.020							CSB-50 9040	CSB-50 9050	CSB-50 9060		CSB-50 9080	CSB-50 90100		
95 ^{-0.054}	100 ^{+0.035}	100 ^{+0.120 +0.070}	95.155 95.020								CSB-50 9550	CSB-50 9560		CSB-50 9580	CSB-50 95100		
100 ^{-0.054}	105 ^{+0.035}	105 ^{+0.120 +0.070}	100.155 100.020								CSB-50 10050	CSB-50 10060		CSB-50 10080		CSB-50 100115	
105 ^{-0.054}	110 ^{+0.035}	110 ^{+0.120 +0.070}	105.155 105.020									CSB-50 10560		CSB-50 10580		CSB-50 105115	
110 ^{-0.054}	115 ^{+0.035}	115 ^{+0.120 +0.070}	110.155 110.020									CSB-50 11060		CSB-50 11080		CSB-50 110115	
120 ^{-0.054}	125 ^{+0.040}	125 ^{+0.170 +0.100}	120.210 120.070	0.264 0.070	2.465 2.415						CSB-50 12060		CSB-50 12080	CSB-50 120100			
125 ^{-0.063}	130 ^{+0.040}	130 ^{+0.170 +0.100}	125.210 125.070	0.273 0.070								CSB-50 12560			CSB-50 125100	CSB-50 125115	
130 ^{-0.063}	135 ^{+0.040}	135 ^{+0.170 +0.100}	130.210 130.070									CSB-50 13060		CSB-50 13080	CSB-50 130100		
140 ^{-0.063}	145 ^{+0.040}	145 ^{+0.170 +0.100}	140.210 140.070										CSB-50 14060		CSB-50 14080	CSB-50 140100	
150 ^{-0.063}	155 ^{+0.040}	155 ^{+0.170 +0.100}	150.210 150.070										CSB-50 15060		CSB-50 15080	CSB-50 150100	
160 ^{-0.063}	165 ^{+0.040}	165 ^{+0.170 +0.100}	160.210 160.070										CSB-50 16060		CSB-50 16080	CSB-50 160100	CSB-50 160115
180 ^{-0.063}	185 ^{+0.046}	185 ^{+0.210 +0.130}	180.216 180.070	0.279 0.070	2.465 2.415								CSB-50 18080	CSB-50 180100			
190 ^{-0.072}	195 ^{+0.046}	195 ^{+0.210 +0.130}	190.216 190.070	0.288 0.070										CSB-50 19080	CSB-50 190100		
200 ^{-0.072}	205 ^{+0.046}	205 ^{+0.210 +0.130}	200.216 200.070									CSB-50 20060		CSB-50 20080	CSB-50 200100		
220 ^{-0.072}	225 ^{+0.046}	225 ^{+0.210 +0.130}	220.216 220.070											CSB-50 22080	CSB-50 220100		
250 ^{-0.072}	255 ^{+0.052}	255 ^{+0.260 +0.170}	250.222 250.070	0.294 0.070	2.465 2.415								CSB-50 25080	CSB-50 250100			
260 ^{-0.081}	265 ^{+0.052}	265 ^{+0.260 +0.170}	260.222 260.070	0.303 0.070										CSB-50 26080	CSB-50 260100		
280 ^{-0.081}	285 ^{+0.052}	285 ^{+0.260 +0.170}	280.222 280.070												CSB-50 28080	CSB-50 280100	
300 ^{-0.081}	305 ^{+0.052}	305 ^{+0.260 +0.170}	300.222 300.070												CSB-50 30080	CSB-50 300100	

CSB-50 Metric Flange Bushes



S_3	1.0	1.5	2.0	2.5
r	$1^{+0.5}$	1 ± 0.5	1.5 ± 0.5	2 ± 0.5

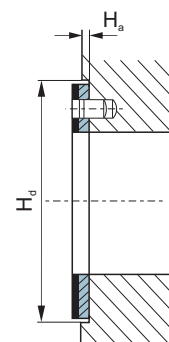
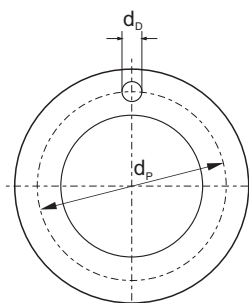
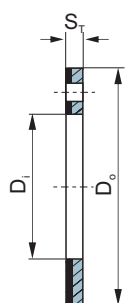


Unit:mm

Shaft D _s	Housing H7 D _H	OD tolerance D _O	ID after fixed D _{i,a}	Clearance C _D	Designation	Wall thickness S ₃	Dimension				
							D _i	D _O	D _n ± 0.5	B±0.25	S _n -0.2
6 ^{-0.013 -0.028}	8 ^{+0.015}	8 ^{+0.055 +0.025}	6.055 5.990	0.077 0.000	CSB-50F06040	1.005 0.980	6	8	12	4	1
					CSB-50F06070					7	
8 ^{-0.013 -0.028}	10 ^{+0.015}	10 ^{+0.055 +0.025}	8.055 7.990	0.083 0.003	CSB-50F08055		8	10	15	5.5	
					CSB-50F08075					7.5	
10 ^{-0.016 -0.034}	12 ^{+0.018}	12 ^{+0.055 +0.025}	10.058 9.990	0.086 0.003	CSB-50F10070		10	12	18	7	
					CSB-50F10090					9	
					CSB-50F10120					12	
12 ^{-0.016 -0.034}	14 ^{+0.018}	14 ^{+0.065 +0.030}	12.058 11.990	0.092 0.006	CSB-50F12070		12	14	20	7	
					CSB-50F12090					9	
					CSB-50F12120					12	
14 ^{-0.016 -0.034}	16 ^{+0.018}	16 ^{+0.065 +0.030}	14.058 13.990		CSB-50F14120		14	16	22	12	
					CSB-50F14170					17	
					CSB-50F15090		15	17	23	9	
CSB-50F15120	12										
CSB-50F15170	17										
16 ^{-0.016 -0.034}	18 ^{+0.018}	18 ^{+0.065 +0.030}	16.058 15.990		CSB-50F16120		16	18	24	12	
					CSB-50F16170					17	
					18 ^{-0.016 -0.034}		20 ^{+0.021}	20 ^{+0.075 +0.035}	18.061 17.990	CSB-50F18120	
CSB-50F18170	17										
CSB-50F18200	20										
20 ^{-0.020 -0.041}	23 ^{+0.021}	23 ^{+0.075 +0.035}	20.071 19.990	0.112 0.010	CSB-50F20115	1.505 1.475	20	23	30	11.5	1.5
					CSB-50F20165					16.5	
					CSB-50F20215					21.5	
22 ^{-0.020 -0.041}	25 ^{+0.021}	25 ^{+0.075 +0.035}	22.071 21.990		CSB-50F22150		22	25	32	15	
					CSB-50F22200					20	
25 ^{-0.020 -0.041}	28 ^{+0.021}	28 ^{+0.075 +0.035}	25.071 24.990		CSB-50F25115		25	28	35	11.5	
					CSB-50F25165					16.5	
					CSB-50F25215					21.5	
30 ^{-0.025 -0.050}	34 ^{+0.025}	34 ^{+0.075 +0.035}	30.085 29.990	0.126 0.010	CSB-50F30160	2.005 1.970	30	34	42	16	2
					CSB-50F30260					26	
35 ^{-0.025 -0.050}	39 ^{+0.025}	39 ^{+0.085 +0.045}	35.085 34.990	0.135 0.015	CSB-50F35160		35	39	47	16	
					CSB-50F35260					26	
40 ^{-0.025 -0.050}	44 ^{+0.025}	44 ^{+0.085 +0.045}	40.085 39.990		CSB-50F40260		40	44	53	26	
					CSB-50F40400					40	

CSB-50 Metric Thrust Washer and Strip

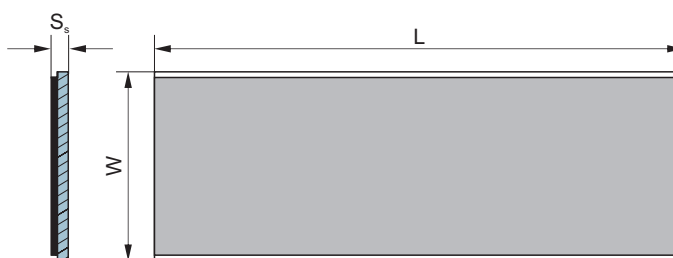
Metric thrust washer



Unit:mm

Shaft D _s	Designation	Washer dimension				Installation size		H _d +0.12
		D _i +0.25	D _o -0.25	S _T -0.05	d _p ±0.125	d _d ^{+0.4} _{+0.1}	H _s ±0.2	
8	CSB-50WC10	10	20	1.5	15	1.5	1	20
10	CSB-50WC12	12	24		18			24
12	CSB-50WC14	14	26		20			26
14	CSB-50WC16	16	30		23	2		30
16	CSB-50WC18	18	32		25			32
18	CSB-50WC20	20	36		28			36
20	CSB-50WC22	22	38		30	3		38
22	CSB-50WC24	24	42		33			42
24	CSB-50WC26	26	44		35			44
26	CSB-50WC28	28	48		38	4		48
30	CSB-50WC32	32	54		43			54
36	CSB-50WC38	38	62		50			62
40	CSB-50WC42	42	66	54	66			
46	CSB-50WC48	48	74	2	61	1.5	74	
50	CSB-50WC52	52	78		65		78	
60	CSB-50WC62	62	90		76		90	

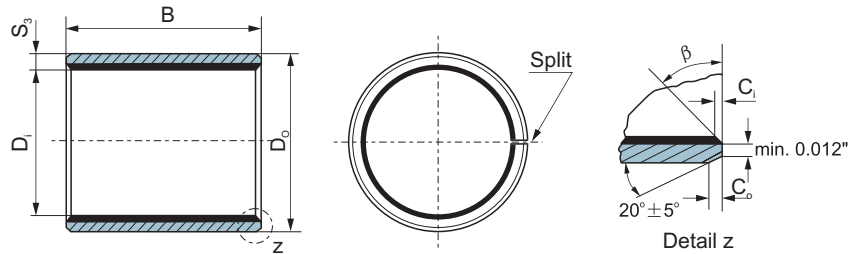
Metric standard strip



Unit:mm

Type	Length ± 1	Width ± 1	Thickness -0.05
CSB-50SP	500	150	1.0
CSB-50SP	500	150	1.5
CSB-50SP	500	150	2.0
CSB-50SP	500	150	2.5

CSB-50 Inch Cylindrical Bushes



ID and OD chamfers

S_3	C_0	C_1	β	S_3	C_0	C_1	β
0.0315	0.008-0.030	0.002-0.018	$30^\circ \pm 5^\circ$	0.0787	0.030-0.060	0.008-0.032	$30^\circ \pm 5^\circ$
0.0472	0.012-0.035	0.006-0.022	$30^\circ \pm 5^\circ$	0.0945	0.050-0.095	0.020-0.043	$45^\circ \pm 5^\circ$
0.0630	0.015-0.040	0.008-0.032	$30^\circ \pm 5^\circ$				

Unit: inch"

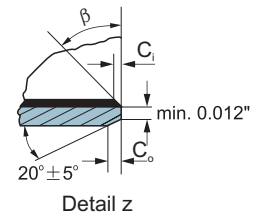
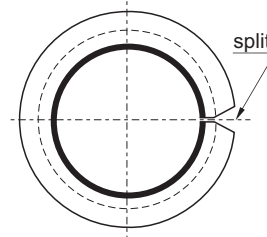
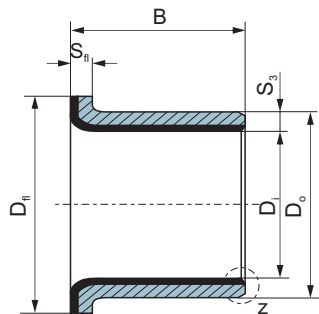
Shaft D_s	Housing H7 D_H	ID after fixed D_{1a}	Clearance C_D	Length ± 0.010					
0.1243 0.1236	0.1878 0.1873	0.1268 0.1243	0.0032 0.0000	CSB-50 02IB02	CSB-50 02IB03				
0.1554 0.1547	0.2191 0.2186	0.1581 0.1556	0.0034 0.0002	CSB-50 025IB025	CSB-50 025IB04				
0.1865 0.1858	0.2503 0.2497	0.1893 0.1867	0.0035 0.0002	CSB-50 03IB03	CSB-50 03IB04	CSB-50 03IB06			
0.2490 0.2481	0.3128 0.3122	0.2518 0.2492	0.0037 0.0002	CSB-50 04IB04	CSB-50 04IB06				
0.3115 0.3106	0.3753 0.3747	0.3143 0.3117		CSB-50 05IB06	CSB-50 05IB08				
0.3740 0.3731	0.4691 0.4684	0.3769 0.3742	0.0038 0.0002	CSB-50 06IB03	CSB-50 06IB04	CSB-50 06IB06	CSB-50 06IB08	CSB-50 06IB10	CSB-50 06IB12
0.4365 0.4355	0.5316 0.5309	0.4394 0.4367	0.0039 0.0002	CSB-50 07IB08	CSB-50 07IB12				
0.4990 0.4980	0.5941 0.5934	0.5019 0.4992		CSB-50 08IB04	CSB-50 08IB06	CSB-50 08IB08	CSB-50 08IB10	CSB-50 08IB12	CSB-50 08IB14
0.5615 0.5605	0.6566 0.6559	0.5644 0.5617		CSB-50 09IB06	CSB-50 09IB08	CSB-50 09IB10	CSB-50 09IB12		
0.6240 0.6230	0.7192 0.7184	0.6270 0.6242	0.0040 0.0002	CSB-50 10IB04	CSB-50 10IB08	CSB-50 10IB10	CSB-50 10IB12	CSB-50 10IB14	CSB-50 10IB16
0.6865 0.6855	0.7817 0.7809	0.6895 0.6867		CSB-50 11IB14					
0.7491 0.7479	0.8755 0.8747	0.7525 0.7493	0.0046 0.0002	CSB-50 12IB04	CSB-50 12IB06	CSB-50 12IB08	CSB-50 12IB10	CSB-50 12IB12	CSB-50 12IB16
0.8116 0.8104	0.9380 0.9372	0.8150 0.8118		CSB-50 13IB12	CSB-50 13IB18				
0.8741 0.8729	1.0005 0.9997	0.8775 0.8743		CSB-50 14IB04	CSB-50 14IB06	CSB-50 14IB12	CSB-50 14IB16	CSB-50 14IB20	
0.9991 0.9979	1.1255 1.1247	1.0025 0.9993		CSB-50 16IB06	CSB-50 16IB08	CSB-50 16IB12	CSB-50 16IB16	CSB-50 16IB20	CSB-50 16IB24
1.1238 1.1226	1.2818 1.2808	1.1278 1.1240	0.0052 0.0002	CSB-50 18IB06	CSB-50 18IB10	CSB-50 18IB12	CSB-50 18IB16		
1.2488 1.2472	1.4068 1.4058	1.2528 1.2490	0.0056 0.0002	CSB-50 20IB06	CSB-50 20IB12	CSB-50 20IB14	CSB-50 20IB16	CSB-50 20IB20	CSB-50 20IB28
1.3738 1.3722	1.5318 1.5308	1.3778 1.3740		CSB-50 22IB12	CSB-50 22IB12	CSB-50 22IB24	CSB-50 22IB28		
1.4988 1.4972	1.6568 1.6558	1.5028 1.4990		CSB-50 24IB08	CSB-50 24IB16	CSB-50 24IB18	CSB-50 24IB20	CSB-50 24IB24	CSB-50 24IB32
1.6238 1.6222	1.7818 1.7808	1.6278 1.6240		CSB-50 26IB16	CSB-50 26IB24				
1.7487 1.7471	1.9381 1.9371	1.7535 1.7489	0.0064 0.0002	CSB-50 28IB16	CSB-50 28IB24	CSB-50 28IB32			

CSB-50 Inch Cylindrical Bushes

Unit: inch"

Shaft D _s	Housing H7 D _H	ID after fixed D _{l,a}	Clearance C _D	Length ± 0.010									
1.8737 1.8721	2.0633 2.0621	1.8787 1.8739	0.0066 0.0002	CSB-50 30IB12	CSB-50 30IB16	CSB-50 30IB36							
1.9987 1.9969	2.1883 2.1871	2.0037 1.9989	0.0068 0.0002	CSB-50 32IB08	CSB-50 32IB16	CSB-50 32IB24	CSB-50 32IB28	CSB-50 32IB32	CSB-50 32IB40				
2.1257 2.1239	2.3130 2.3118	2.1326 2.1262		CSB-50 34IB48									
2.2507 2.2489	2.4377 2.4365	2.2573 2.2509		CSB-50 36IB28	CSB-50 36IB32	CSB-50 36IB40	CSB-50 36IB48	CSB-50 36IB56	CSB-50 36IB60	CSB-50 36IB64	CSB-50 36IB72		
2.5011 2.4993	2.6881 2.6869	2.5077 2.5013		CSB-50 40IB16	CSB-50 40IB26	CSB-50 40IB32	CSB-50 40IB40	CSB-50 40IB48	CSB-50 40IB56	CSB-50 40IB60	CSB-50 40IB64	CSB-50 40IB72	CSB-50 40IB76
2.7500 2.7482	2.9370 2.9358	2.7566 2.7502		CSB-50 44IB32	CSB-50 44IB36	CSB-50 44IB40	CSB-50 44IB48	CSB-50 44IB56	CSB-50 44IB60	CSB-50 44IB64	CSB-50 44IB72	CSB-50 44IB76	CSB-50 44IB76
2.8752 2.8734	3.0623 3.0610	2.8819 2.8754	0.0085 0.0002	CSB-50 46IB32	CSB-50 46IB36	CSB-50 46IB40	CSB-50 46IB48	CSB-50 46IB56	CSB-50 46IB60	CSB-50 46IB64	CSB-50 46IB72	CSB-50 46IB76	CSB-50 46IB76
3.0000 2.9982	3.1872 3.1858	3.0068 3.0002	0.0086 0.0002	CSB-50 48IB32	CSB-50 48IB36	CSB-50 48IB40	CSB-50 48IB48	CSB-50 48IB56	CSB-50 48IB60	CSB-50 48IB64	CSB-50 48IB72	CSB-50 48IB76	CSB-50 48IB76
3.2500 3.2480	3.4372 3.4358	3.2568 3.2502	0.0088 0.0002	CSB-50 52IB32	CSB-50 52IB36	CSB-50 52IB40	CSB-50 52IB48	CSB-50 52IB56	CSB-50 52IB60	CSB-50 52IB64	CSB-50 52IB72	CSB-50 52IB76	CSB-50 52IB76
3.5000 3.4978	3.6872 3.6858	3.5068 3.5002		CSB-50 56IB32	CSB-50 56IB36	CSB-50 56IB40	CSB-50 56IB48	CSB-50 56IB56	CSB-50 56IB60	CSB-50 56IB64	CSB-50 56IB72	CSB-50 56IB76	CSB-50 56IB76
3.6250 3.6228	3.8122 3.8108	3.6318 3.6252		CSB-50 58IB32	CSB-50 58IB36	CSB-50 58IB40	CSB-50 58IB48	CSB-50 58IB56	CSB-50 58IB60	CSB-50 58IB64	CSB-50 58IB72	CSB-50 58IB76	CSB-50 58IB76
3.7500 3.7478	3.9372 3.9358	3.7568 3.7502		CSB-50 60IB32	CSB-50 60IB36	CSB-50 60IB40	CSB-50 60IB48	CSB-50 60IB56	CSB-50 60IB60	CSB-50 60IB64	CSB-50 60IB72	CSB-50 60IB76	CSB-50 60IB76
4.0000 3.9978	4.1872 4.1858	4.0068 4.0002		CSB-50 64IB32	CSB-50 64IB36	CSB-50 64IB40	CSB-50 64IB48	CSB-50 64IB56	CSB-50 64IB60	CSB-50 64IB64	CSB-50 64IB72	CSB-50 64IB76	CSB-50 64IB76
4.2500 4.2478	4.4372 4.4358	4.2568 4.2502		CSB-50 68IB32	CSB-50 68IB36	CSB-50 68IB40	CSB-50 68IB48	CSB-50 68IB56	CSB-50 68IB60	CSB-50 68IB64	CSB-50 68IB72	CSB-50 68IB76	CSB-50 68IB76
4.3750 4.3728	4.5622 4.5608	4.3818 4.3752		CSB-50 70IB32	CSB-50 70IB36	CSB-50 70IB40	CSB-50 70IB48	CSB-50 70IB56	CSB-50 70IB60	CSB-50 70IB64	CSB-50 70IB72	CSB-50 70IB76	CSB-50 70IB76
4.5000 4.4978	4.6872 4.6858	4.5068 4.5002		CSB-50 72IB32	CSB-50 72IB36	CSB-50 72IB40	CSB-50 72IB48	CSB-50 72IB56	CSB-50 72IB60	CSB-50 72IB64	CSB-50 72IB72	CSB-50 72IB76	CSB-50 72IB76
4.7500 4.7478	4.9374 4.9358	4.7572 4.7502	0.0094 0.0002	CSB-50 76IB32	CSB-50 76IB36	CSB-50 76IB40	CSB-50 76IB48	CSB-50 76IB56	CSB-50 76IB60	CSB-50 76IB64	CSB-50 76IB72	CSB-50 76IB76	CSB-50 76IB76
4.9986 4.9961	5.1860 5.1844	5.0056 4.9988		CSB-50 80IB32	CSB-50 80IB36	CSB-50 80IB40	CSB-50 80IB48	CSB-50 80IB56	CSB-50 80IB60	CSB-50 80IB64	CSB-50 80IB72	CSB-50 80IB76	CSB-50 80IB76
5.2500 5.2475	5.4374 5.4358	5.2570 5.2502		CSB-50 84IB32	CSB-50 84IB36	CSB-50 84IB40	CSB-50 84IB48	CSB-50 84IB56	CSB-50 84IB60	CSB-50 84IB64	CSB-50 84IB72	CSB-50 84IB76	CSB-50 84IB76
5.5000 5.4975	5.6874 5.6858	5.5070 5.5002		CSB-50 88IB32	CSB-50 88IB36	CSB-50 88IB40	CSB-50 88IB48	CSB-50 88IB56	CSB-50 88IB60	CSB-50 88IB64	CSB-50 88IB72	CSB-50 88IB76	CSB-50 88IB76
5.7500 5.7475	5.9374 5.9358	5.7570 5.7502		CSB-50 92IB32	CSB-50 92IB36	CSB-50 92IB40	CSB-50 92IB48	CSB-50 92IB56	CSB-50 92IB60	CSB-50 92IB64	CSB-50 92IB72	CSB-50 92IB76	CSB-50 92IB76
6.0000 5.9975	6.1874 6.1858	6.0070 6.0002		CSB-50 96IB32	CSB-50 96IB36	CSB-50 96IB40	CSB-50 96IB48	CSB-50 96IB56	CSB-50 96IB60	CSB-50 96IB64	CSB-50 96IB72	CSB-50 96IB76	CSB-50 96IB76
6.2500 6.2475	6.4374 6.4358	6.2570 6.2502		CSB-50 100IB32	CSB-50 100IB36	CSB-50 100IB40	CSB-50 100IB48	CSB-50 100IB56	CSB-50 100IB60	CSB-50 100IB64	CSB-50 100IB72	CSB-50 100IB76	CSB-50 100IB76
6.5000 6.4975	6.6874 6.6858	6.5070 6.5002		CSB-50 104IB32	CSB-50 104IB36	CSB-50 104IB40	CSB-50 104IB48	CSB-50 104IB56	CSB-50 104IB60	CSB-50 104IB64	CSB-50 104IB72	CSB-50 104IB76	CSB-50 104IB76
6.7500 6.7475	6.9374 6.9358	6.7570 6.7502		CSB-50 108IB32	CSB-50 108IB36	CSB-50 108IB40	CSB-50 108IB48	CSB-50 108IB56	CSB-50 108IB60	CSB-50 108IB64	CSB-50 108IB72	CSB-50 108IB76	CSB-50 108IB76
6.9954 6.9929	7.1830 7.1812	7.0026 6.9956	0.0097 0.0002	CSB-50 112IB32	CSB-50 112IB36	CSB-50 112IB40	CSB-50 112IB48	CSB-50 112IB56	CSB-50 112IB60	CSB-50 112IB64	CSB-50 112IB72	CSB-50 112IB76	CSB-50 112IB76

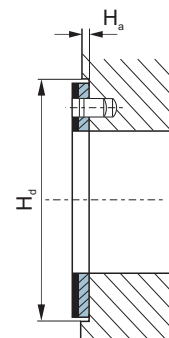
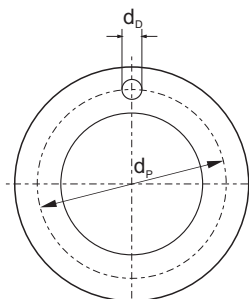
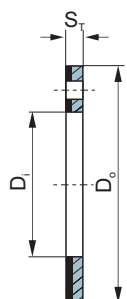
CSB-50 Inch Flange Bushes



Unit: inch"

Shaft D_s	Housing H7 D_H	ID after fixed $D_{i,a}$	Clearance C_D	Nominal Flange D_{fl}	Flange Thickness S_{fl}	Length ± 0.010			
0.3750 0.3740	0.4691 0.4684	0.3779 0.3752	0.0039 0.0002	0.7075 0.6675	0.052 0.044	CSB-50 06FIB04	CSB-50 06FIB06	CSB-50 06FIB08	CSB-50 06FIB12
0.5000 0.4990	0.5941 0.5934	0.5029 0.5002	0.0039 0.0002	0.8325 0.7925	0.052 0.044	CSB-50 08FIB04	CSB-50 08FIB06	CSB-50 08FIB08	CSB-50 08FIB12
0.6250 0.6240	0.7192 0.7184	0.6280 0.6252	0.0040 0.0002	0.9575 0.9175	0.052 0.044	CSB-50 10FIB06	CSB-50 10FIB08	CSB-50 10FIB10	CSB-50 10FIB12
0.7500 0.7488	0.8755 0.8747	0.7534 0.7502	0.0046 0.0002	1.1450 1.1050	0.068 0.060	CSB-50 12FIB06	CSB-50 12FIB08	CSB-50 12FIB12	CSB-50 12FIB16
0.8750 0.8738	1.0005 0.9997	0.8784 0.8752	0.0046 0.0002	1.2200 1.1800	0.068 0.060	CSB-50 14FIB08	CSB-50 14FIB12	CSB-50 14FIB16	CSB-50 14FIB20
1.0000 0.9988	1.1255 1.1247	1.0034 1.0002	0.0046 0.0002	1.3950 1.3550	0.068 0.060	CSB-50 16FIB08	CSB-50 16FIB12	CSB-50 16FIB16	CSB-50 16FIB20
1.2500 1.2484	1.4068 1.4058	1.2540 1.2502	0.0056 0.0002	1.7700 1.7300	0.083 0.075	CSB-50 20FIB16	CSB-50 20FIB20	CSB-50 20FIB24	
1.5000 1.4984	1.6568 1.6558	1.5040 1.5002	0.0056 0.0002	2.0200 1.9800	0.083 0.075	CSB-50 24FIB16	CSB-50 24FIB24	CSB-50 24FIB32	
1.7500 1.7484	1.9381 1.9371	1.7548 1.7502	0.0064 0.0002	2.3950 2.3550	0.098 0.090	CSB-50 28FIB16	CSB-50 28FIB24	CSB-50 28FIB32	

CSB-50 Inch Thrust Washer



Unit: inch"

Designation	Washer dimension				Installation size		
	Inner side D _i +0.010	Outside D _o -0.010	S _T	d _p -0.01	d _b +0.010	H _a ±0.010	H _d +0.010
CSB-50WC06IB	0.500	0.875	0.0630 0.0610	0.692	0.067	0.04	0.875
CSB-50WC07IB	0.562	1.000		0.786			1.000
CSB-50WC08IB	0.625	1.125		0.880	0.099		1.125
CSB-50WC09IB	0.687	1.187		0.942			1.187
CSB-50WC10IB	0.750	1.250		1.005			1.250
CSB-50WC11IB	0.812	1.375		1.099			1.375
CSB-50WC12IB	0.875	1.500		1.192	0.130		1.500
CSB-50WC13IB	0.937	1.625		1.286			1.625
CSB-50WC14IB	1.000	1.750		1.380	0.161		1.750
CSB-50WC16IB	1.125	2.000		1.567			2.000
CSB-50WC18IB	1.250	2.125		1.692			2.125
CSB-50WC20IB	1.375	2.250		1.817			2.250
CSB-50WC22IB	1.500	2.500		2.005	0.192	0.07	2.500
CSB-50WC24IB	1.625	2.625		2.130			2.625
CSB-50WC26IB	1.750	2.750		2.255			2.750
CSB-50WC28IB	2.000	3.000	0.0930	2.505			3.000
CSB-50WC30IB	2.125	3.125	0.0910	2.630			3.125
CSB-50WC32IB	2.250	3.250		2.755			3.250