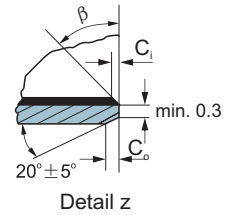
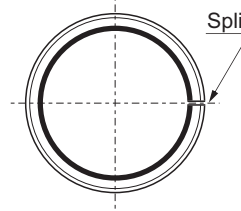
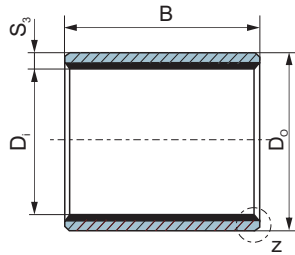


CSB-50 Metric Cylindrical Bushes



ID and OD chamfers

S ₃	C ₀	C _i	β	S ₃	C ₀	C _i	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

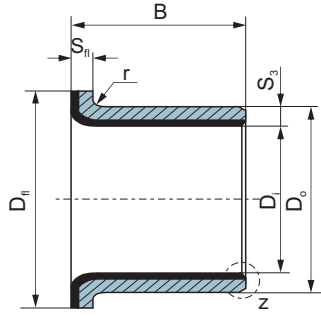
Shaft D _s	Housing H7 D _H	OD tolerance D _o	ID after fixed D _{i,a}	Clearance C _o	Wall thick- ness S ₃	B ⁰ _{-0.40} (d ≤ φ30 B-0.3) d > φ30 B-0.4													
						6	8	10	12	15	20	25	30	40	50				
6 -0.010 -0.022	8 +0.015	8 +0.055 +0.025	6.055 5.990	0.077 0.000	1.005 0.980	CSB-50 0606	CSB-50 0608	CSB-50 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	0.092 0.006		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			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	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	0.112 0.010	1.505 1.475		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			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						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	0.135 0.015	2.005 1.970				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			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

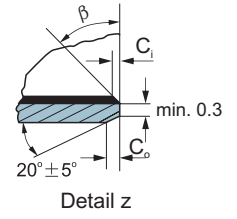
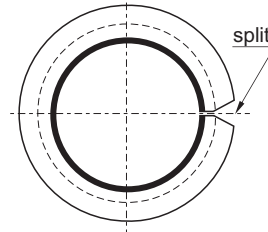
Unit:mm

Shaft D _s	Housing H7 D _H	OD tolerance D _O	ID after fixed D _{I,a}	Clearance C _D	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

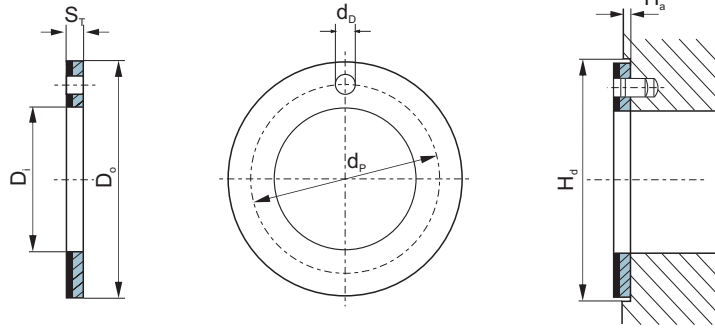


Unit:mm

Shaft D_s	Housing $H7$ D_H	OD tolerance D_o	ID after fixed $D_{i,a}$	Clearance C_o	Designation	Wall thickness S_3	Dimension				
							D_i	D_o	$D_n \pm 0.5$	$B \pm 0.25$	$S_n - 0.2$
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	1.005 0.980	8	10	15	5.5	1
					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	1.005 0.980	10	12	18	7	1
					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	1.005 0.980	12	14	20	7	1
					CSB-50F12090					9	
					CSB-50F12120					12	
14 -0.016 -0.034	16 $+0.018$	16 $+0.065$ $+0.030$	14.058 13.990	0.092 0.006	CSB-50F14120	1.005 0.980	14	16	22	12	1
					CSB-50F14170					17	
					CSB-50F15090					9	
15 -0.016 -0.034	17 $+0.018$	17 $+0.065$ $+0.030$	15.058 14.990	0.092 0.006	CSB-50F15120	1.005 0.980	15	17	23	12	1
					CSB-50F15170					17	
					CSB-50F16120					12	
16 -0.016 -0.034	18 $+0.018$	18 $+0.065$ $+0.030$	16.058 15.990	0.092 0.006	CSB-50F16120	1.005 0.980	16	18	24	12	1
					CSB-50F16170					17	
					CSB-50F18120					12	
18 -0.016 -0.034	20 $+0.021$	20 $+0.075$ $+0.035$	18.061 17.990	0.095 0.006	CSB-50F18120	1.005 0.980	18	20	26	12	1
					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	0.112 0.010	CSB-50F22150	1.505 1.475	22	25	32	15	1.5
					CSB-50F22200					20	
					CSB-50F25115					11.5	
25 -0.020 -0.041	28 $+0.021$	28 $+0.075$ $+0.035$	25.071 24.990	0.112 0.010	CSB-50F25165	1.505 1.475	25	28	35	16.5	1.5
					CSB-50F25215					21.5	
					CSB-50F30160					16	
30 -0.025 -0.050	34 $+0.025$	34 $+0.075$ $+0.035$	30.085 29.990	0.126 0.010	CSB-50F30260	2.005 1.970	30	34	42	26	2
					CSB-50F35160					16	
35 -0.025 -0.050	39 $+0.025$	39 $+0.085$ $+0.045$	35.085 34.990	0.135 0.015	CSB-50F35260	2.005 1.970	35	39	47	26	2
					CSB-50F40260					26	
40 -0.025 -0.050	44 $+0.025$	44 $+0.085$ $+0.045$	40.085 39.990	0.135 0.015	CSB-50F40400	2.005 1.970	40	44	53	40	2

CSB-50 Metric Thrust Washer and Strip

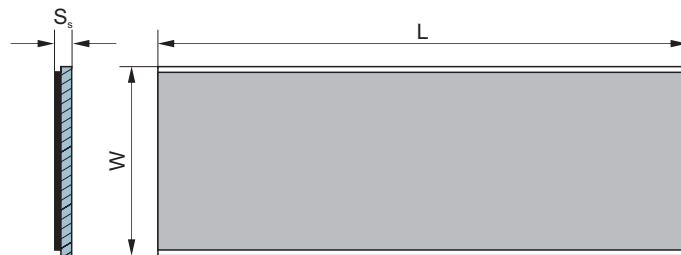
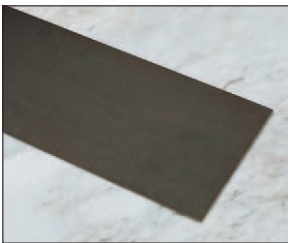
Metric thrust washer



Unit:mm

Shaft D_s	Designation	Washer dimension				Installation size		$H_b+0.12$
		$D_i+0.25$	$D_o-0.25$	$S_r-0.05$	$d_p\pm 0.125$	$d_b^{+0.4}_{+0.1}$	$H_a\pm 0.2$	
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	30		
16	CSB-50WC18	18	32		25	32		
18	CSB-50WC20	20	36		28	36		
20	CSB-50WC22	22	38		30	38		
22	CSB-50WC24	24	42		33	42		
24	CSB-50WC26	26	44		35	44		
26	CSB-50WC28	28	48		38	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		61	74		
50	CSB-50WC52	52	78	2	65	1.5	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