



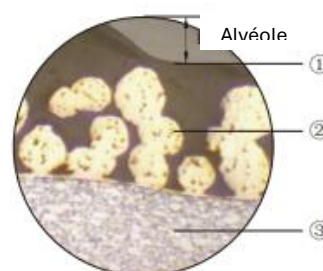
1 . Surface de glissement POM épaisseur 0,30-0,50 mm, apporte les propriétés tribologiques. Des alvéoles sur polymère forment des réservoirs pour retenue de graisse.

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 lisse CSB-20 convient aux applications en lubrification limite ou initiale. Les alvéoles retiennent le lubrifiant pour une lubrification optimale. Le faible coefficient de frottement, la bonne résistance à l'usure et la capacité de charge fiable du palier garantissent des applications adaptées en rotation et oscillation à basse vitesse. La surface de glissement de la version CSB-20M est lisse et est réusinable en place après assemblage..

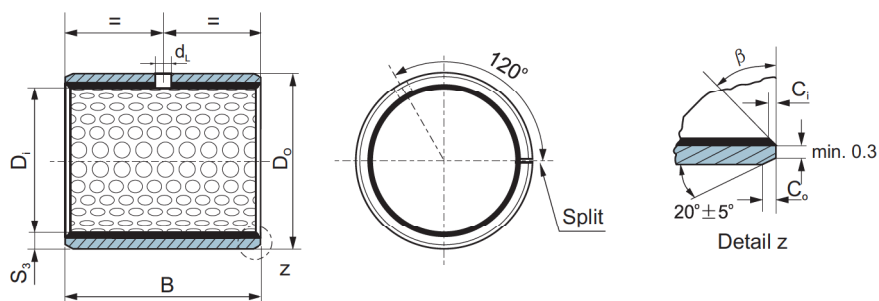


Propriétés du palier		Unité	Valeur
Pression spécifique	Statique	N/mm ²	250
	Dynamique	N/mm ²	140
Température de fonctionnement	Maxi	°C	+110
	Mini	°C	-40
Vitesse de glissement	à sec	m/s	2,0
	Lubrifié	m/s	≥ 2,0
Facteur « pv » graissé		N/mm ² x m/s	3
Coefficient de frottement graissé			0,05-0,20
Conductibilité thermique		W(m*K) ⁻¹	50
Coefficient de dilatation thermique		10 ⁻⁶ /K	11
Rugosité de l'arbre	Rectifié	Ra	<0,4
Dureté de l'arbre	Mini	HB	> 200

Applications

Ce matériau présente une bonne résistance à l'usure et convient aux applications à charge moyenne et élevée, dans des conditions de travail caractérisées par des chocs et un environnement poussiéreux. Une lubrification initiale est recommandée avant le montage. Ce matériau est utilisé pour les essieux de véhicules commerciaux, les systèmes de freinage, les systèmes de suspension, les machines agricoles, les machines forestières et les engins de manutention, motorcycle,...

CSB-20 Metric Cylindrical Bushes



ID and OD chamfers

S ₃	C _o	C _i	β	S ₃	C _o	C _i	β
1.0	0.6±0.3	0.30±0.2	30° ±5°	2.0	1.2±0.4	0.50±0.3	30° ±5°
1.5	0.7±0.3	0.50±0.2	30° ±5°	2.5	1.8±0.6	0.80±0.3	45° ±5°

Unit:mm

Shaft D _s h8	Housing H7 D _H	OD tolerance D _o	ID after fixed D _{i,a}	Clearance C _D	Wall thickness S ₃	Oil hole d _L	B ⁰ _{-0.40}										
							10	15	20	25	30	35	40	45	50	60	
10 _{-0.022}	12 ^{+0.018}	12 ^{+0.065} _{+0.030}	10.108 10.040	0.130 0.040	0.980 0.955	4	CSB-20 1010	CSB-20 1015	CSB-20 1020								
12 _{-0.027}	14 ^{+0.018}	14 ^{+0.065} _{+0.030}	12.108 12.040	0.135 0.040			CSB-20 1210	CSB-20 1215	CSB-20 1220								
14 _{-0.027}	16 ^{+0.018}	16 ^{+0.065} _{+0.030}	14.108 14.040					CSB-20 1415	CSB-20 1420								
15 _{-0.027}	17 ^{+0.018}	17 ^{+0.065} _{+0.030}	15.108 15.040				CSB-20 1515	CSB-20 1520	CSB-20 1525								
16 _{-0.027}	18 ^{+0.018}	18 ^{+0.065} _{+0.030}	16.108 16.040				CSB-20 1615	CSB-20 1620	CSB-20 1625								
18 _{-0.027}	20 ^{+0.021}	20 ^{+0.075} _{+0.035}	18.111 18.040				0.138 0.040	CSB-20 1815	CSB-20 1820	CSB-20 1825							
20 _{-0.033}	23 ^{+0.021}	23 ^{+0.075} _{+0.035}	20.131 20.050	0.164 0.050	1.475 1.445	6	CSB-20 2015	CSB-20 2020	CSB-20 2025	CSB-20 2030							
22 _{-0.033}	25 ^{+0.021}	25 ^{+0.075} _{+0.035}	22.131 22.050				CSB-20 2215		CSB-20 2225								
25 _{-0.033}	28 ^{+0.021}	28 ^{+0.075} _{+0.035}	25.131 25.050	0.188 0.060	1.970 1.935			CSB-20 2515	CSB-20 2520	CSB-20 2525	CSB-20 2530						
28 _{-0.033}	32 ^{+0.025}	32 ^{+0.085} _{+0.045}	28.155 28.060						CSB-20 2820		CSB-20 2830						
30 _{-0.033}	34 ^{+0.025}	34 ^{+0.085} _{+0.045}	30.155 30.060						CSB-20 3020	CSB-20 3025	CSB-20 3030		CSB-20 3040				
35 _{-0.039}	39 ^{+0.025}	39 ^{+0.085} _{+0.045}	35.155 35.060				0.194 0.060		CSB-20 3520		CSB-20 3530	CSB-20 3535	CSB-20 3540				
40 _{-0.039}	44 ^{+0.025}	44 ^{+0.085} _{+0.045}	40.155 40.060	2.460 2.415	8			CSB-20 4020		CSB-20 4030		CSB-20 4040		CSB-20 4050			
45 _{-0.039}	50 ^{+0.025}	50 ^{+0.085} _{+0.045}	45.195 45.080			0.234 0.080		CSB-20 4520		CSB-20 4530		CSB-20 4540	CSB-20 4545	CSB-20 4550			
50 _{-0.039}	55 ^{+0.030}	55 ^{+0.100} _{+0.055}	50.200 50.080			0.239 0.080				CSB-20 5030		CSB-20 5040		CSB-20 5050	CSB-20 5060		
55 _{-0.046}	60 ^{+0.030}	60 ^{+0.100} _{+0.055}	55.200 55.080			0.246 0.080				CSB-20 5530		CSB-20 5540		CSB-20 5550	CSB-20 5560		
60 _{-0.046}	65 ^{+0.030}	65 ^{+0.100} _{+0.055}	60.200 60.080								CSB-20 6030		CSB-20 6040		CSB-20 6050	CSB-20 6060	

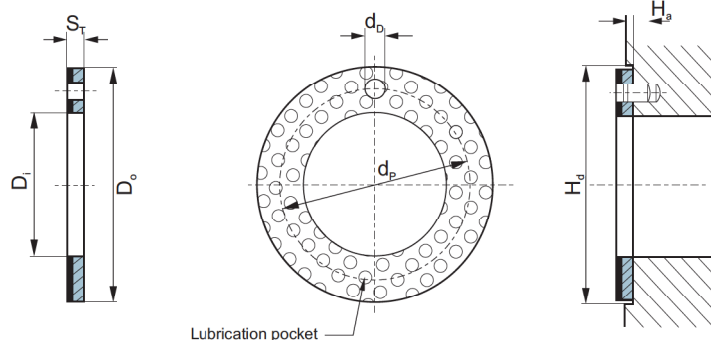
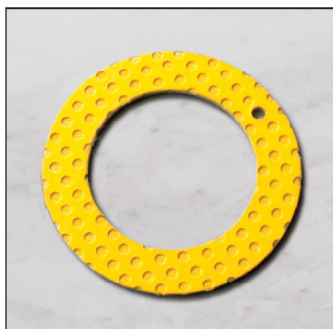
CSB-20 Metric Cylindrical Bushes

Unit:mm

Shaft D _s h8	Housing H7 D _H	OD tolerance D _O	ID after fixed D _{i,a}	Clearance C _D	Wall thickness S ₃	Oil hole d _L	B ⁰ _{-0.40}									
							40	50	60	80	90	95	100	110	120	
65 _{-0.046}	70 ^{+0.030}	70 ^{+0.100} _{+0.055}	65.200 65.080	0.246 0.080	2.460 2.415	8	CSB-20 6540		CSB-20 6560							
70 _{-0.046}	75 ^{+0.030}	75 ^{+0.100} _{+0.055}	70.200 70.080				CSB-20 7040	CSB-20 7050		CSB-20 7080						
75 _{-0.046}	80 ^{+0.030}	80 ^{+0.100} _{+0.055}	75.200 75.080				CSB-20 7540		CSB-20 7560	CSB-20 7580						
80 _{-0.046}	85 ^{+0.035}	85 ^{+0.120} _{+0.070}	80.265 80.100	0.313 0.100	2.450 2.385	9.5	CSB-20 8040		CSB-20 8060	CSB-20 8080						
85 _{-0.054}	90 ^{+0.035}	90 ^{+0.120} _{+0.070}	85.265 85.100	CSB-20 8540				CSB-20 8560	CSB-20 8580							
90 _{-0.054}	95 ^{+0.035}	95 ^{+0.120} _{+0.070}	90.265 90.100	CSB-20 9040				CSB-20 9060	CSB-20 9080	CSB-20 9090						
100 _{-0.054}	105 ^{+0.035}	105 ^{+0.120} _{+0.070}	100.265 100.100				CSB-20 10050		CSB-20 10080		CSB-20 10095					
105 _{-0.054}	110 ^{+0.035}	110 ^{+0.120} _{+0.070}	105.265 105.110					CSB-20 10560	CSB-20 10580		CSB-20 10595		CSB-20 105110			
110 _{-0.054}	115 ^{+0.035}	115 ^{+0.120} _{+0.070}	110.265 110.110					CSB-20 11060	CSB-20 11080		CSB-20 11095		CSB-20 110110			
120 _{-0.054}	125 ^{+0.040}	125 ^{+0.170} _{+0.100}	120.270 120.110	0.324 0.110					CSB-20 12060	CSB-20 12080				CSB-20 120110		
125 _{-0.063}	130 ^{+0.040}	130 ^{+0.170} _{+0.100}	125.270 125.110						CSB-20 12560					CSB-20 125110		
130 _{-0.063}	135 ^{+0.040}	135 ^{+0.170} _{+0.100}	130.270 130.110					CSB-20 13050	CSB-20 13060	CSB-20 13080			CSB-20 130100			
140 _{-0.063}	145 ^{+0.040}	145 ^{+0.170} _{+0.100}	140.270 140.110					CSB-20 14050	CSB-20 14060	CSB-20 14080			CSB-20 140100			
150 _{-0.063}	155 ^{+0.040}	155 ^{+0.170} _{+0.100}	150.270 150.110					CSB-20 15050	CSB-20 15060	CSB-20 15080			CSB-20 150100			
160 _{-0.063}	165 ^{+0.040}	165 ^{+0.170} _{+0.100}	160.270 160.110						CSB-20 16050	CSB-20 16060	CSB-20 16080			CSB-20 160100		
170 _{-0.063}	175 ^{+0.040}	175 ^{+0.170} _{+0.100}	170.270 170.110						CSB-20 17050		CSB-20 17080			CSB-20 170100		
180 _{-0.063}	185 ^{+0.046}	185 ^{+0.210} _{+0.130}	180.276 180.110			0.339 0.110	9.5		CSB-20 18050	CSB-20 18060	CSB-20 18080			CSB-20 180100		
190 _{-0.072}	195 ^{+0.046}	195 ^{+0.210} _{+0.130}	190.276 190.110					CSB-20 19050	CSB-20 19060	CSB-20 19080			CSB-20 190100		CSB-20 190120	
200 _{-0.072}	205 ^{+0.046}	205 ^{+0.210} _{+0.130}	200.276 200.110					CSB-20 20050	CSB-20 20060	CSB-20 20080			CSB-20 200100		CSB-20 200120	
220 _{-0.072}	225 ^{+0.046}	225 ^{+0.210} _{+0.130}	220.276 220.110					CSB-20 22050	CSB-20 22060	CSB-20 22080			CSB-20 220100		CSB-20 220120	
240 _{-0.072}	245 ^{+0.046}	245 ^{+0.210} _{+0.130}	240.276 240.110	9.5				CSB-20 24050	CSB-20 24060	CSB-20 24080			CSB-20 240100		CSB-20 240120	
250 _{-0.072}	255 ^{+0.052}	255 ^{+0.260} _{+0.170}	250.282 250.110					CSB-20 25050	CSB-20 25060	CSB-20 25080			CSB-20 250100		CSB-20 250120	
260 _{-0.081}	265 ^{+0.052}	265 ^{+0.260} _{+0.170}	260.282 260.110					CSB-20 26050	CSB-20 26060	CSB-20 26080			CSB-20 260100		CSB-20 260120	
280 _{-0.081}	285 ^{+0.052}	285 ^{+0.260} _{+0.170}	280.282 280.110					CSB-20 28050	CSB-20 28060	CSB-20 28080			CSB-20 280100		CSB-20 280120	
300 _{-0.081}	305 ^{+0.052}	305 ^{+0.260} _{+0.170}	300.282 300.110	0.354 0.110				CSB-20 30050	CSB-20 30060	CSB-20 30080			CSB-20 300100		CSB-20 300120	

CSB-20 Metric Thrust Washer and Strip

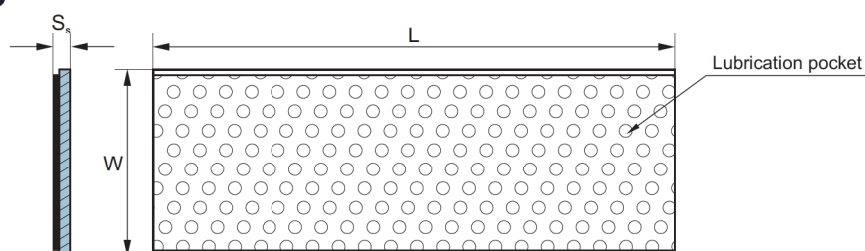
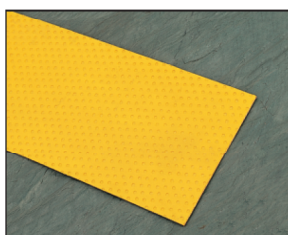
Metric thrust washer



Unit:mm

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

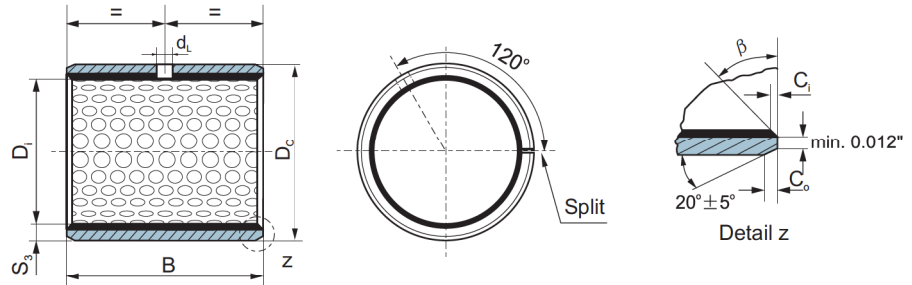
Metric standard strip



Unit:mm

Type	Length ± 1	Width ± 1	Thickness -0.05
CSB-20SP	500	150	1.0
CSB-20SP	500	150	1.5
CSB-20SP	500	150	2.0
CSB-20SP	500	150	2.5

CSB-20 Inch Cylindrical Bushes



ID and OD chamfers

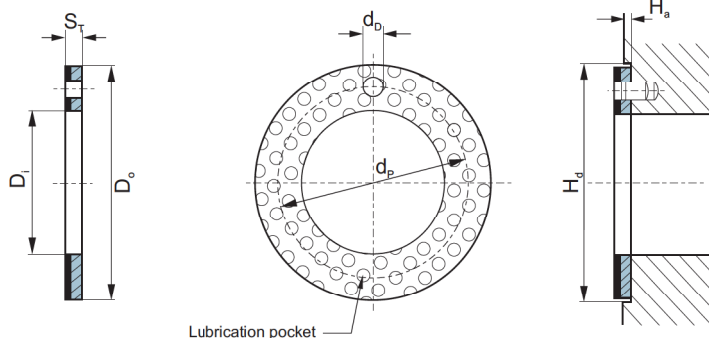
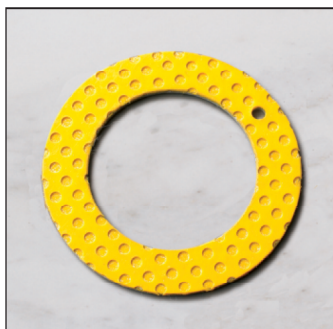
S ₃	C _o	C _i	β	S ₃	C _o	C _i	β
0.0505	0.012-0.035	0.004-0.020	30° ± 5°	0.0971	0.047-0.095	0.020-0.043	45° ± 5°
0.0663	0.016-0.040	0.008-0.030	30° ± 5°	0.0978	0.047-0.095	0.020-0.043	45° ± 5°
0.0817	0.030-0.063	0.008-0.030	30° ± 5°				

Unit: inch"

D _i	D _o	Shaft D _s	Housing H7 D _H	ID after fixed D _{1a}	Clearance C _D	Wall thickness S ₃	Oil hole d _L	Length ± 0.010			
3/8	15/32	0.3648 0.3639	0.4694 0.4687	0.3694 0.3667	0.0055 0.0019	0.0510 0.0500	—	CSB-20 06IB06	CSB-20 06IB08	CSB-20 06IB12	
7/16	17/32	0.4273 0.4263	0.5319 0.5312	0.4319 0.4292	0.0056 0.0019			CSB-20 07IB08	CSB-20 07IB12		
1/2	19/32	0.4897 0.4887	0.5944 0.5937	0.4944 0.4917	0.0057 0.0020			CSB-20 08IB06	CSB-20 08IB08	CSB-20 08IB10	CSB-20 08IB14
9/16	21/32	0.5522 0.5512	0.6569 0.6562	0.5569 0.5542	0.0057 0.0020			CSB-20 09IB08	CSB-20 09IB12		
5/8	23/32	0.6146 0.6136	0.7195 0.7178	0.6195 0.6167	0.0059 0.0021			CSB-20 10IB08	CSB-20 10IB10	CSB-20 10IB12	CSB-20 10IB14
11/16	25/32	0.6770 0.6760	0.7820 0.7812	0.6820 0.6792	0.0060 0.0022			CSB-20 11IB14			
3/4	7/8	0.7390 0.7378	0.8758 0.8750	0.7444 0.7412	0.0066 0.0022	0.0669 0.0657	5/32	CSB-20 12IB08	CSB-20 12IB12	CSB-20 12IB16	
7/8	1	0.8639 0.8627	1.0008 1.0000	0.8694 0.8662	0.0067 0.0023			CSB-20 14IB12	CSB-20 14IB14	CSB-20 14IB16	
1	1 1/8	0.9888 0.9876	1.1258 1.1250	0.9944 0.9912	0.0068 0.0024			CSB-20 16IB12	CSB-20 16IB16	CSB-20 16IB24	
1 1/8	1 9/32	1.1138 1.1126	1.2822 1.2812	1.1202 1.1164	0.0076 0.0026			CSB-20 18IB12	CSB-20 18IB16		
1 1/4	1 13/32	1.2387 1.2371	1.4072 1.4062	1.2452 1.2414	0.0081 0.0027	0.0824 0.0810	1/4	CSB-20 20IB12	CSB-20 20IB16	CSB-20 20IB20	CSB-20 20IB28
1 3/8	1 17/32	1.3635 1.3619	1.5322 1.5312	1.3702 1.3664	0.0083 0.0029			CSB-20 22IB16	CSB-20 22IB22	CSB-20 22IB28	
1 1/2	1 21/32	1.4884 1.4868	1.6572 1.6562	1.4952 1.4914	0.0084 0.0030			CSB-20 24IB16	CSB-20 24IB20	CSB-20 24IB24	
1 5/8	1 25/32	1.6133 1.6117	1.7822 1.7812	1.6202 1.6164	0.0085 0.0031			CSB-20 26IB16	CSB-20 26IB24		CSB-20 24IB32
1 3/4	1 15/16	1.7383 1.7367	1.9385 1.9375	1.7461 1.7415	0.0094 0.0032	0.0980 0.0962	5/16	CSB-20 28IB16	CSB-20 28IB24	CSB-20 28IB28	
1 7/8	2 1/16	1.8632 1.8616	2.0637 2.0625	1.8713 1.8665	0.0097 0.0033			CSB-20 30IB16	CSB-20 30IB30	CSB-20 30IB36	CSB-20 28IB32
2	2 3/16	1.9881 1.9863	2.1887 2.1875	1.9963 1.9915	0.0100 0.0034			CSB-20 32IB16	CSB-20 32IB24	CSB-20 32IB32	
2 1/4	2 7/16	2.2378 2.2360	2.4387 2.4375	2.2463 2.2415	0.0103 0.0037			CSB-20 36IB32	CSB-20 36IB36	CSB-20 36IB40	CSB-20 32IB40
2 1/2	2 11/16	2.4875 2.4857	2.6887 2.6875	2.4963 2.4915	0.0106 0.0040			CSB-20 40IB32	CSB-20 40IB40		
2 3/4	2 15/16	2.7351 2.7333	2.9387 2.9375	2.7457 2.7393	0.0124 0.0042			CSB-20 44IB32	CSB-20 44IB40	CSB-20 44IB48	
3	3 3/16	2.9849 2.9831	3.1889 3.1875	2.9959 2.9893	0.0128 0.0044	0.0991 0.0965	3/8	CSB-20 48IB32	CSB-20 48IB48	CSB-20 48IB60	
3 1/2	3 11/16	3.4844 3.4822	3.6889 3.6875	3.4959 3.4893	0.0137 0.0049			CSB-20 56IB40	CSB-20 56IB48	CSB-20 56IB60	CSB-20 44IB56
4	4 3/16	3.9839 3.9817	4.1889 4.1875	3.9959 3.9893	0.0142 0.0054			CSB-20 64IB48	CSB-20 64IB60	CSB-20 64IB76	

CSB-20 Inch Thrust Washer

Inch Thrust washer



Unit:inch"

Specification	Dimension				installation size		
	inner side D _i +0.010	outside D _o -0.010	S _T	d _p -0.010	d _D +0.010	H _a ±0.010	H _d +0.010
CSB-20 WC06IB	0.500	0.875	0.0660 0.0625	0.692	0.067	0.04	0.875
CSB-20 WC07IB	0.562	1.000		0.786			1.000
CSB-20 WC08IB	0.625	1.125		0.880	0.099		1.125
CSB-20 WC09IB	0.687	1.187		0.942			1.187
CSB-20 WC10IB	0.750	1.250		1.005			1.250
CSB-20 WC11IB	0.812	1.375		1.099			1.375
CSB-20 WC12IB	0.875	1.500		1.192	0.130		1.500
CSB-20 WC13IB	0.937	1.625		1.286			1.625
CSB-20 WC14IB	1.000	1.750		1.380	0.161		1.750
CSB-20 WC16IB	1.125	2.000		1.567			2.000
CSB-20 WC18IB	1.250	2.125		1.692			2.125
CSB-20 WC20IB	1.375	2.250		1.817			2.250
CSB-20 WC22IB	1.500	2.500		2.005	0.192		2.500
CSB-20 WC24IB	1.625	2.625		2.130			2.625
CSB-20 WC26IB	1.750	2.750		2.255			2.750
CSB-20 WC28IB	2.000	3.000	2.505	0.07		3.000	
CSB-20 WC30IB	2.125	3.125	2.630		3.125		
CSB-20 WC32IB	2.250	3.250	2.755		3.250		