

VSB-22 Wrapped Bronze Bushings

Bronze Bushing



A Wide Bushing Type to Meet Your Needs.

Bushings, thrust washers and strips Next-Level Performance Consistent. Proven. Self-lubricating Quality. A wide bushing type to meet your needs. wrapped bushing, Bronze CuSn8, DIN 1494 / ISO 3547, Low-maintenance

Wrapped Bronze Bushings

Excellent in dirty environments due to lubrication pockets
Select the right bushing for the application

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Bronze Bushing



Structure Characteristics

The bearing is made with CuSn8 bronze alloy which is featured with high load capacity and good anti-wearing characteristics.

The diamond shape indents on the surface of the bearing serve as oil reservoir to generate oil film for the lubricating during the initial running. The bearings are mainly suitable for agriculture machineries and construction machineries applications.

Material

Wrapped bronze bushings are made entirely of bronze, CuSn8 The bushings are

1.Diamond-shaped lubricant reservoirs, bushings have diamond-shaped lubrication pockets on the ID, covering about 25% of the surface.

2.Wrapped bronze bushing, large lubrication depots lubrication holes reservoirs




Wrapped bronze bushings type are available with straight and flange bushings

Application

Agricultural machine, construction machine, crane, underpan parts, conveyor, elevator, winch, planing machine...

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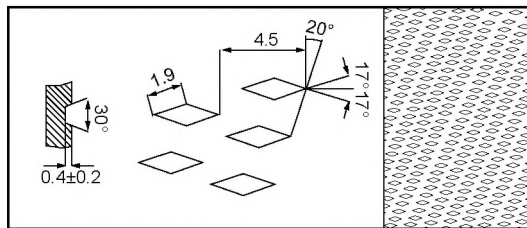
Bronze Bushing

Data	Grade	VSB-22	VSB-22	VSB-22G	
	Material	CuSn8P (Qsn8-0.3)	CuSn8P (Qsn8-0.3)	CuSn8P (Qsn8-0.3+graphite)	
<p>We can also develop according to customers special request while out of this table.</p>					
	Density g/cm ³	8.8	8.8	8.3	
	Max Dynamic Load N/mm ²	40	40	40	
	Max Linear Velocity (Grease) m/s	2.5	2.5	2.5	
	Max PV value (Grease) N/mm ² ·m/s	2.8	2.8	2.8	
	Pressure strength N/mm ²	460	460	460	
	Yield Strength	260	260	230	
	hardness HB	90~150	90~150	90~150	
		Hardness	≥50	≥50	≥50
	Mating Axis	Roughness	0.4~1.0	0.4~1.0	0.4~1.0
	Working Temperature		-40~150	-40~150	-40~150
	Friction Coefficient		0.06~0.15	0.06~0.15	0.03~0.1
	coefficient of heat conduction W/m·K		58	58	58
	Linear expansion coefficient		18.5×10 ⁻⁶ /K	18.5×10 ⁻⁶ /K	18.5×10 ⁻⁶ /K
	Pertinence applicaton		Application: hoisting,mining machinery. Forest machinery, agricultural machinery etc.	Application: Agricultural Machinery Forestry machinery, Heavy duty construction machinery etc.	Application: starting motor hoisting machines and other construction machines, automobiles, tractors, trucks, machines tools and some mineral engines

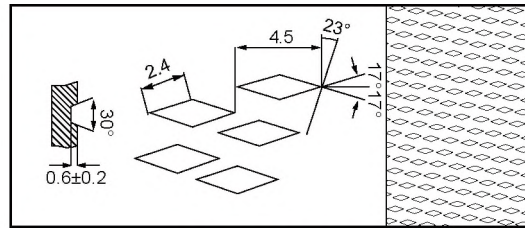
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Oil Sockets Format

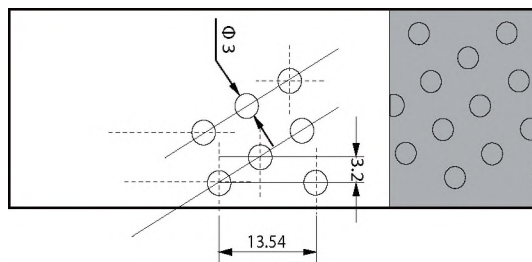


Inside Dia. ≤ 22

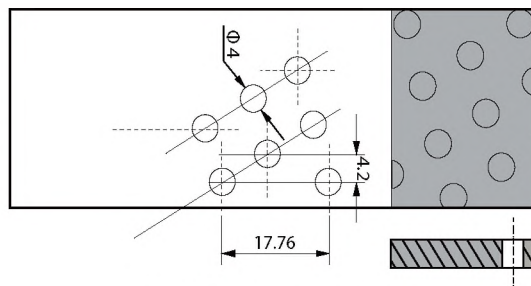


Inside Dia. > 22

Oil Apertures Format



Inside Dia. $\leq \Phi 25$



Inside Dia. $> \Phi 25$

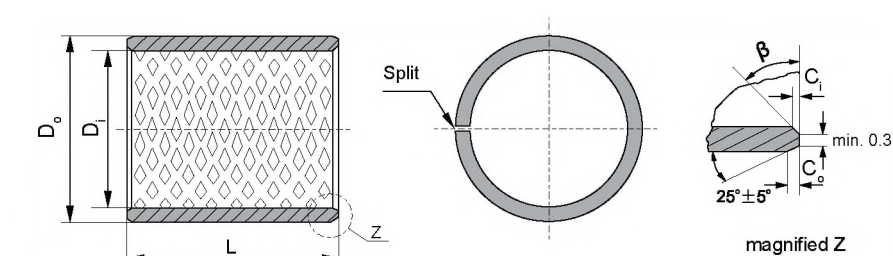
(DIW W91/1503547)

Standard tolerance for bushes (As per to DIW W91/1503547)

Standard Dia.	O.D.Size	Housing Bore	I.D.Size	Axle
10~18	+0.065 +0.030	-0.018 0	+0.046 0	-0.016 -0.043
18~30				
30~50	+0.085 +0.045	+0.025 0	+0.062 0	-0.025 -0.064
50~80				
80~120	+0.120 +0.070	+0.035 0	+0.087 0	-0.036 -0.090
120~180				
180~250	+0.210 +0.130	+0.046 0	+0.115 0	-0.050 -0.122
250~315				

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Bronze Bushing VSB-22 Straight Type



ID and OD chamfers

S_3	C_o	C_i	β	S_3	C_o	C_i	β
0.75	0.5±0.3	0.25±0.2	35°±5°	2.00	1.2±0.4	0.50±0.3	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°	2.50	1.8±0.6	0.60±0.3	45°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°				

D_i ∅ d	D_o ∅ D	$L \begin{smallmatrix} 0 \\ -0.40 \end{smallmatrix}$												
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100						9540	9550	9560	9570	9580	9590	95100	

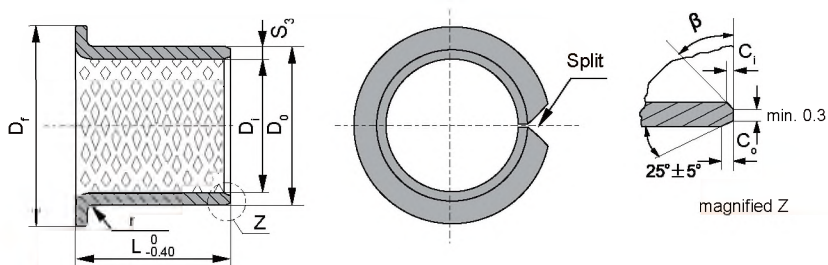
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Bronze Bushing VSB-22

∅d	∅D	L ⁰ _{-0.40}									
		25	30	35	40	50	60	70	80	90	100
100	105					10050	10060	10070	10080	10090	100100
105	110					10550	10560	10570	10580	10590	105100
110	115					11050	11060	11070	11080	11090	110100
115	120					11550	11560	11570	11580	11590	115100
120	125						12060	12070	12080	12090	120100
125	130						12560	12570	12580	12590	125100
130	135						13060	13070	13080	13090	130100
135	140						13560	13570	13580	13590	135100
140	145						14060	14070	14080	14090	140100
145	150						14560	14570	14580	14590	145100
150	155						15060	15070	15080	15090	150100
155	160						15560	15570	15580	15590	155100
160	165						16060	16070	16080	16090	160100
165	170						16560	16570	16580	16590	165100
170	175						17060	17070	17080	17090	170100
175	180						17560	17570	17580	17590	175100
180	185						18060	18070	18080	18090	180100
185	190						18560	18570	18580	18590	185100
190	195						19060	19070	19080	19090	190100
195	200						19560	19570	19580	19590	195100
200	205						20060	20070	20080	20090	200100
205	210						20560	20570	20580	20590	205100
215	220						21560	21570	21580	21590	215100
225	230						22560	22570	22580	22590	225100
230	235						23060	23070	23080	23090	230100
240	245						24060	24070	24080	24090	240100
250	255						25060	25070	25080	25090	250100
260	265						26060	26070	26080	26090	260100
270	275						27060	27070	27080	27090	270100
280	285						28060	28070	28080	28090	280100
290	295						29060	29070	29080	29090	290100
300	305						30060	30070	30080	30090	300100

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Bronze Bushing VSB-22 Flange Bushing

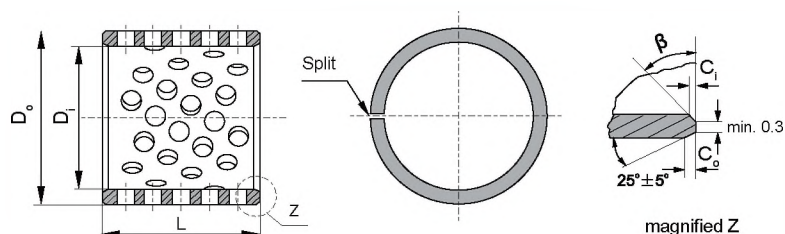


S_s	1.0	1.5	2.0	2.5
r	$1^{-0.5}$	1 ± 0.5	1.5 ± 0.5	2 ± 0.5

$\varnothing d$	$\varnothing D$	D_{fl}	$L_{-0.40}^0$											
			15	20	25	30	35	40	50	60	70	80	90	
25	28	35	25150	25200	25250									
30	34	45		30200	30250	30300								
35	39	50		35200	35250	35300	35350							
40	44	55			40250	40300	40350	40400						
45	50	60				45300	45350	45400	45500					
50	55	65				50300	50350	50400	50500					
55	60	70				55300	55350	55400	55500					
60	65	75				60300	60350	60400	60500	60600				
65	70	80				65300	65350	65400	65500	65600				
70	75	85					70350	70400	70500	70600	70700			
75	80	90					75350	75400	75500	75600	75700			
80	85	100					80350	80400	80500	80600	80700	80800		
90	95	110							90500	90600	90700	90800	90900	
100	105	120							100500	100600	100700	100800	100900	
110	115	130							110500	110600	110700	110800	110900	
120	125	140							120500	120600	120700	120800	120900	
130	135	155								130600	130700	130800	130900	
140	145	165								140600	140700	140800	140900	
150	155	180								150600	150700	150800	150900	
160	165	190								160600	160700	160800	160900	
170	175	200								170600	170700	170800	170900	
180	185	215								180600	180700	180800	180900	
190	195	225								190600	190700	190800	190900	
200	205	235								200600	200700	200800	200900	
225	230	260								225600	225700	225800	225900	
250	255	290								250600	250700	250800	250900	
265	270	305								265600	265700	265800	265900	
285	290	325								285600	285700	285800	285900	
300	305	340								300600	300700	300800	300900	

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Bronze Bushing VSB-22 Straight Type, Lubricating Holes



ID and OD chamfers

S_3	C_g	C_i	β	S_g	C_o	C_1	β
0.75	0.5±0.3	0.25±0.2	35°±5°	2.00	1.2±0.4	0.50±0.3	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°	2.50	1.8±0.6	0.60±0.3	45°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°				

$\varnothing d$	$\varnothing D$	$L \begin{smallmatrix} 0 \\ -0.40 \end{smallmatrix}$												
		10	15	20	25	30	35	40	50	60	70	80	90	100
10	12	1010	1015	1020										
12	14	1210	1215	1220										
14	16	1410	1415	1420	1425									
15	17	1510	1515	1520	1525									
16	18	1610	1615	1620	1625									
18	20	1810	1815	1820	1825									
20	23	2010	2015	2020	2025									
22	25	2210	2215	2220	2225	2230								
24	27		2415	2420	2425	2430								
25	28		2515	2520	2525	2530								
28	31		2815	2820	2825	2830								
30	34		3015	3020	3025	3030	3035	3040						
32	36		3215	3220	3225	3230	3235	3240						
35	39		3515	3520	3525	3530	3535	3540						
40	44			4020	4025	4030	4035	4040	4050					
45	50			4520	4525	4530	4535	4540	4550					
50	55			5020	5025	5030	5035	5040	5050	5060				
55	60			5520	5525	5530	5535	5540	5550	5560				
60	65				6025	6030	6035	6040	6050	6060	6070			
65	70					6530	6535	6540	6550	6560	6570			
70	75					7030	7035	7040	7050	7060	7070	7080		
75	80					7530	7535	7540	7550	7560	7570	7580		
80	85					8030	8035	8040	8050	8060	8070	8080		
85	90					8530	8535	8540	8550	8560	8570	8580	8590	
90	95					9030	9035	9040	9050	9060	9070	9080	9090	
95	100						9540	9550	9560	9570	9580	9590	95100	

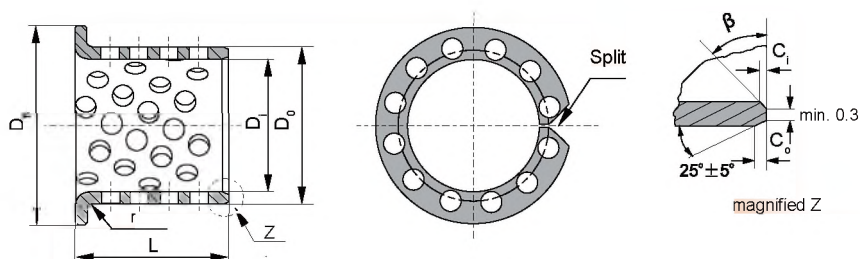
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Bronze Bushing VSB-22 Straight Type, Lubricating Holes

∅d	∅D	L $\begin{smallmatrix} 0 \\ -0.40 \end{smallmatrix}$									
		25	30	35	40	50	60	70	80	90	100
100	105					10050	10060	10070	10080	10090	100100
105	110					10550	10560	10570	10580	10590	105100
110	115					11050	11060	11070	11080	11090	110100
115	120					11550	11560	11570	11580	11590	115100
120	125						12060	12070	12080	12090	120100
125	130						12560	12570	12580	12590	125100
130	135						13060	13070	13080	13090	130100
135	140						13560	13570	13580	13590	135100
140	145						14060	14070	14080	14090	140100
145	150						14560	14570	14580	14590	145100
150	155						15060	15070	15080	15090	150100
155	160						15560	15570	15580	15590	155100
160	165						16060	16070	16080	16090	160100
165	170						16560	16570	16580	16590	165100
170	175						17060	17070	17080	17090	170100
175	180						17560	17570	17580	17590	175100
180	185						18060	18070	18080	18090	180100
185	190						18560	18570	18580	18590	185100
190	195						19060	19070	19080	19090	190100
195	200						19560	19570	19580	19590	195100
200	205						20060	20070	20080	20090	200100
205	210						20560	20570	20580	20590	205100
215	220						21560	21570	21580	21590	215100
225	230						22560	22570	22580	22590	225100
230	235						23060	23070	23080	23090	230100
240	245						24060	24070	24080	24090	240100
250	255						25060	25070	25080	25090	250100
260	265						26060	26070	26080	26090	260100
270	275						27060	27070	27080	27090	270100
280	285						28060	28070	28080	28090	280100
290	295						29060	29070	29080	29090	290100
300	305						30060	30070	30080	30090	300100

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Bronze Bushing VSB-22 Flange Bushing Lubricating Holes



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

$\varnothing d$	$\varnothing D$	D_n	$L_{-0.40}^{0.40}$											
			15	20	25	30	35	40	50	60	70	80	90	
25	28	35	25150	25200	25250									
30	34	45		30200	30250	30300								
35	39	50		35200	35250	35300	35350							
40	44	55			40250	40300	40350	40400						
45	50	60				45300	45350	45400	45500					
50	55	65				50300	50350	50400	50500					
55	60	70				55300	55350	55400	55500					
60	65	75				60300	60350	60400	60500	60600				
65	70	80				65300	65350	65400	65500	65600				
70	75	85					70350	70400	70500	70600	70700			
75	80	90					75350	75400	75500	75600	75700			
80	85	95					80350	80400	80500	80600	80700	80800		
90	95	110							90500	90600	90700	90800	90900	
100	105	120							100500	100600	100700	100800	100900	
110	115	130							110500	110600	110700	110800	110900	
120	125	140							120500	120600	120700	120800	120900	
130	135	165								130600	130700	130800	130900	
140	145	165								140600	140700	140800	140900	
150	155	180								150600	150700	150800	150900	
160	165	190								160600	160700	160800	160900	
170	175	200								170600	170700	170800	170900	
180	185	215								180600	180700	180800	180900	
190	195	225								190600	190700	190800	190900	
200	205	235								200600	200700	200800	200900	
225	230	260								225600	225700	225800	225900	
250	255	290								250600	250700	250800	250900	
265	270	305								265600	265700	265800	265900	
285	290	325								285600	285700	285800	285900	
300	305	340								300600	300700	300800	300900	