



WRAPPED BRONZE BUSHINGS



嘉兴中达自润轴承工业有限公司
JIAXING COB BEARING INC.

INTRODUCTION

JIASHAN ZHONGDA BEARING CO., LTD. AND JIAXING COB BEARING INC. IS SPECIALIZED IN RESEARCHING, DEVELOPING AND MANUFACTURING OILLESS BEARINGS .

NEW ERA PROVIDES SPACE TO DEVELOP AND SCIENCE PROVIDES POWER TO GROW. MEMBERS OF ZHONGDA ARE READY TO FACE CHALLENGE, COMPETITION AND ARE EAGER TO MAKE PROGRESS. WE HAVE BEEN EMPHASIZED HIGH QUALITY AND WILL NEVER GIVE UP IMPROVING OUR WORK UNDER THE STANDARDS OF ISO 9002, QS 9000 AND VDA 6.1. ZHONGDA PROMISES TO OFFER YOU HIGH QUALITY PRODUCTS AND SATISFACTORY SERVICES.

AFTER MORE THAN TEN YEARS' UPS AND DOWNS, WITH THE EFFORTS OF OVER THREE HUNDRED MEMBERS, ZHONGDA NOW BECOMES ONE OF THE LARGEST OILLESS BEARINGS MANUFACTURERS IN CHINA WITH SCIENCE, INDUSTRY AND TRADE.

INTRODUCTION OF COB 090(FB090)

■ STRUCTURE OF THE MATERIAL

Using high-density bronze material rolled diamond shape or spherical oil pockets on the surface with a special composition as its backing, COB 090 bushing has a good performance of anti-fatigue and anti-abrasion as well as anti-corrosion.

■ CHEMICAL COMPOSITION

MATERIAL	Cu	Sn	P	Pb	Zn
CuSn8	91.3%	8.5%	0.2%		

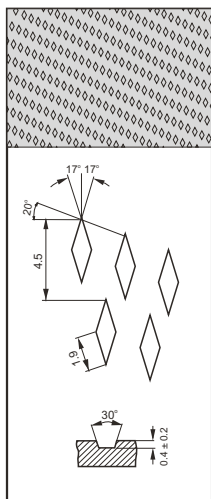
■ PHYSICAL PROPERTY

TYPE	DENSITY	COEFFICIENT OF THERMAL EXPANSION (20°C~300°C)	THERMAL CONDUCTIVITY	HARDNESS	TENSILE STRENGTH R_m	ELONGATION A
COB 090	8.8g/cm ³	18.5*10 ⁻⁶ *k ⁻¹	58w(m*k)	90~120HB	470N/mm ²	40%

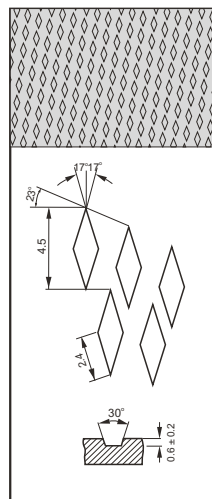
■ FIELD OF APPLICATION

This series of products is widely used in agricultural, construction and engineering machinery, etc.

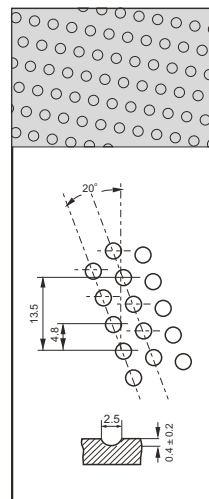
■ TYPES OF OIL POCKETS (ACCORDING TO DIN 1494 / ISO 3547)



Diamond shape for bushings with inside diameter 22

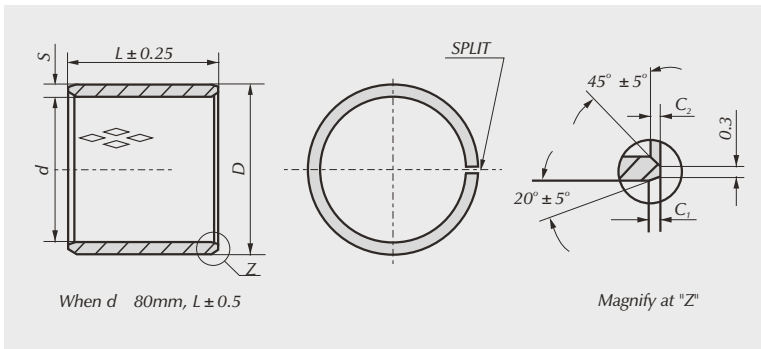


Diamond shape for bushings with inside diameter > 22



Spherical shape

STANDARD SIZES OF COB 090 (FB090) WRAPPED BRONZE BUSHINGS



INSIDE AND OUTSIDE CHAMFER DIMENSIONS

S	C ₁	C ₂
1	0.6 ± 0.4	max. 0.4
1.5	0.6 ± 0.4	0.4 ± 0.3
2	1.2 ± 0.4	0.4 ± 0.3
2.5	1.8 ± 0.6	0.6 ± 0.4

STANDARD BUSHING TOLERANCE (ACCORDING TO DIN 1494 / ISO 3547)

Unit: mm

BASIC DIMENSION	O.D.DIMENSION D	MATCHED HOUSING D _h (H7)	I.D.DIMENSION d (H9)	MATCHED SHAFT DIAMETER d ₁ (f8)*
10 ~ 18	+ 0.065 + 0.030	+ 0.018 0	+ 0.043 0	- 0.016 - 0.043
18 ~ 30	+ 0.075 + 0.035	+ 0.021 0	+ 0.052 0	- 0.020 - 0.053
30 ~ 50	+ 0.085 + 0.045	+ 0.025 0	+ 0.062 0	- 0.025 - 0.064
50 ~ 80	+ 0.100 + 0.055	+ 0.030 0	+ 0.074 0	- 0.030 - 0.076
80 ~ 120	+ 0.120 + 0.070	+ 0.035 0	+ 0.087 0	- 0.036 - 0.090
120 ~ 180	+ 0.170 + 0.100	+ 0.040 0	+ 0.100 0	- 0.043 - 0.106
180 ~ 250	+ 0.210 + 0.130	+ 0.046 0	+ 0.115 0	- 0.050 - 0.122
250 ~ 315	+ 0.260 + 0.170	+ 0.052 0	+ 0.130 0	- 0.056 - 0.137

Note: * tolerance f8 for shaft diameter of bushing in installation.

COB 090 WRAPPED BRONZE BUSHINGS

Unit: mm

TYPE & SPECIFICATION	<i>d</i>	<i>D</i>	<i>L</i>	TYPE & SPECIFICATION	<i>d</i>	<i>D</i>	<i>L</i>
COB 090 B 1010 D			10	COB 090 B 2820 D			20
COB 090 B 1015 D	10	12	15	COB 090 B 2825 D	28	31	25
COB 090 B 1020 D			20	COB 090 B 2830 D			30
COB 090 B 1210 D			10	COB 090 B 2840 D			40
COB 090 B 1215 D	12	14	15	COB 090 B 2850 D			50
COB 090 B 1220 D			20	COB 090 B 3025 D			15
COB 090 B 1410 D			10	COB 090 B 3020 D			20
COB 090 B 1415 D			15	COB 090 B 3025 D			25
COB 090 B 1420 D	14	16	20	COB 090 B 3030 D	30	34	30
COB 090 B 1425 D			25	COB 090 B 3040 D			40
COB 090 B 1430 D			30	COB 090 B 3050 D			50
COB 090 B 1510 D			10	COB 090 B 3060 D			60
COB 090 B 1515 D			15	COB 090 B 3220 D			20
COB 090 B 1520 D	15	17	20	COB 090 B 3225 D			25
COB 090 B 1525 D			25	COB 090 B 3230 D	32	36	30
COB 090 B 1530 D			30	COB 090 B 3240 D			40
COB 090 B 1610 D			10	COB 090 B 3250 D			50
COB 090 B 1615 D			15	COB 090 B 3260 D			60
COB 090 B 1620 D	16	18	20	COB 090 B 3520 D			20
COB 090 B 1625 D			25	COB 090 B 3525 D			25
COB 090 B 1630 D			30	COB 090 B 3530 D	35	39	30
COB 090 B 1810 D	10	COB 090 B 3540 D	40				
COB 090 B 1815 D	15	COB 090 B 3550 D	50				
COB 090 B 1820 D	18	21	20	COB 090 B 3560 D			60
COB 090 B 1825 D			25	COB 090 B 4020 D			20
COB 090 B 2010 D			10	COB 090 B 4025 D			25
COB 090 B 2015 D			15	COB 090 B 4030 D	40	44	30
COB 090 B 2020 D	20	23	20	COB 090 B 4040 D			40
COB 090 B 2025 D			25	COB 090 B 4050 D			50
COB 090 B 2030 D			30	COB 090 B 4060 D			60
COB 090 B 2040 D			40	COB 090 B 4525 D			25
COB 090 B 2215 D			15	COB 090 B 4530 D			30
COB 090 B 2220 D			20	COB 090 B 4540 D	45	50	40
COB 090 B 2225 D	22	25	25	COB 090 B 4550 D			50
COB 090 B 2230 D			30	COB 090 B 4560 D			60
COB 090 B 2240 D			40	COB 090 B 4580 D			80
COB 090 B 2250 D			50	COB 090 B 5025 D			25
COB 090 B 2515 D			15	COB 090 B 5030 D			30
COB 090 B 2520 D			20	COB 090 B 5040 D	50	55	40
COB 090 B 2525 D	25	28	25	COB 090 B 5050 D			50
COB 090 B 2530 D			30	COB 090 B 5060 D			60
COB 090 B 2540 D			40	COB 090 B 5080 D			80
COB 090 B 2550 D			50	COB 090 B 5525 D	55	60	25
COB 090 B 2815 D	28	31	15	COB 090 B 5530 D			30

COB 090 WRAPPED BRONZE BUSHINGS

Unit: mm

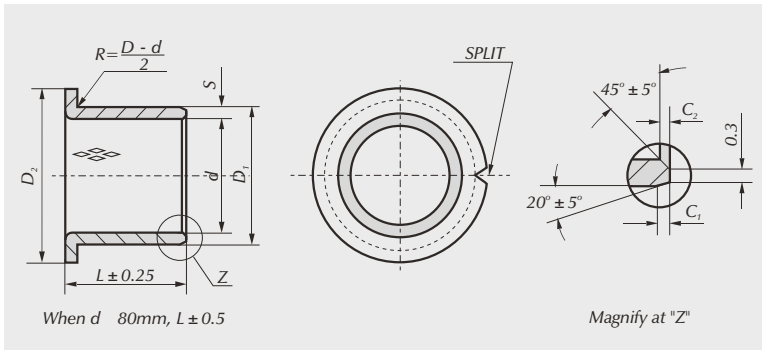
TYPE & SPECIFICATION	<i>d</i>	<i>D</i>	<i>L</i>	TYPE & SPECIFICATION	<i>d</i>	<i>D</i>	<i>L</i>
COB 090 B 5540 D	55	60	40	COB 090 B 9095 D	90	95	95
COB 090 B 5550 D			50	COB 090 B 90100 D			100
COB 090 B 5560 D			60	COB 090 B 9530 D			30
COB 090 B 5580 D			80	COB 090 B 9540 D	40		
COB 090 B 6025 D	60	65	25	COB 090 B 9550 D	95	100	50
COB 090 B 6030 D			30	COB 090 B 9560 D			60
COB 090 B 6040 D			40	COB 090 B 9580 D			80
COB 090 B 6050 D			50	COB 090 B 9590 D			90
COB 090 B 6060 D	65	70	60	COB 090 B 9595 D	100	105	95
COB 090 B 6080 D			80	COB 090 B 95100 D			100
COB 090 B 6525 D			25	COB 090 B 10030 D			30
COB 090 B 6530 D			30	COB 090 B 10040 D			40
COB 090 B 6540 D	70	75	40	COB 090 B 10050 D	110	115	50
COB 090 B 6550 D			50	COB 090 B 10060 D			60
COB 090 B 6560 D			60	COB 090 B 10095 D			95
COB 090 B 6580 D			80	COB 090 B 100100 D			100
COB 090 B 7025 D	75	80	25	COB 090 B 10560 D	120	125	60
COB 090 B 7030 D			30	COB 090 B 10580 D			80
COB 090 B 7040 D			40	COB 090 B 105100 D			100
COB 090 B 7050 D			50	COB 090 B 11060 D			60
COB 090 B 7060 D	80	85	60	COB 090 B 11080 D	130	135	80
COB 090 B 7080 D			80	COB 090 B 110100 D			100
COB 090 B 7525 D			25	COB 090 B 11560 D			60
COB 090 B 7530 D			30	COB 090 B 11580 D			80
COB 090 B 7540 D	85	90	40	COB 090 B 115100 D	140	145	100
COB 090 B 7550 D			50	COB 090 B 12060 D			60
COB 090 B 7560 D			60	COB 090 B 12080 D			80
COB 090 B 7580 D			80	COB 090 B 120100 D			100
COB 090 B 8030 D	90	95	30	COB 090 B 12560 D	150	155	60
COB 090 B 8040 D			40	COB 090 B 12580 D			80
COB 090 B 8050 D			50	COB 090 B 125100 D			100
COB 090 B 8060 D			60	COB 090 B 13060 D			60
COB 090 B 8080 D	95	100	80	COB 090 B 13080 D	155	160	80
COB 090 B 8530 D			30	COB 090 B 130100 D			100
COB 090 B 8540 D			40	COB 090 B 13560 D			60
COB 090 B 8550 D			50	COB 090 B 13580 D			80
COB 090 B 8560 D	100	105	60	COB 090 B 135100 D	160	165	100
COB 090 B 8580 D			80	COB 090 B 14060 D			60
COB 090 B 9030 D			30	COB 090 B 14080 D			80
COB 090 B 9040 D			40	COB 090 B 140100 D			100
COB 090 B 9050 D	105	110	50	COB 090 B 14560 D	165	170	60
COB 090 B 9060 D			60	COB 090 B 14580 D			80
COB 090 B 9080 D			80	COB 090 B 145100D			100
COB 090 B 9090 D			90	COB 090 B 15060 D			60

COB 090 WRAPPED BRONZE BUSHINGS

Unit: mm

TYPE & SPECIFICATION	d	D	L	TYPE & SPECIFICATION	d	D	L
COB 090 B 15080 D	150	155	80	COB 090 B 225100D	225	230	100
COB 090 B 150100D			100	COB 090 B 23060 D			60
COB 090 B 15560 D			60	COB 090 B 23080 D			230
COB 090 B 15580 D	155	160	80	COB 090 B 230100 D			100
COB 090 B 155100D			100	COB 090 B 23560 D			60
COB 090 B 16060 D			60	COB 090 B 23580 D			235
COB 090 B 16080 D	160	165	80	COB 090 B 235100 D			100
COB 090 B 160100D			100	COB 090 B 24060 D			60
COB 090 B 16560 D			60	COB 090 B 24080 D			240
COB 090 B 16580 D	165	170	80	COB 090 B 240100 D			100
COB 090 B165100D			100	COB 090 B 24560 D			60
COB 090 B 17060 D			60	COB 090 B 24580 D			245
COB 090 B 17080 D	170	175	80	COB 090 B 245100 D			100
COB 090 B170100D			100	COB 090 B 25060 D			60
COB 090 B 17560 D			60	COB 090 B 25080 D			250
COB 090 B 17580 D	175	180	80	COB 090 B 250100 D			100
COB 090 B175100D			100	COB 090 B 25560 D			60
COB 090 B 18060 D			60	COB 090 B 25580 D			255
COB 090 B 18080 D	180	185	80	COB 090 B 255100 D			100
COB 090 B180100D			100	COB 090 B 26060 D			60
COB 090 B 18560 D			60	COB 090 B 26080 D			260
COB 090 B 18580 D	185	190	80	COB 090 B 260100 D			100
COB 090 B 185100 D			100	COB 090 B 26560 D			60
COB 090 B 19060 D			60	COB 090 B 26580 D			265
COB 090 B 19080 D	190	195	80	COB 090 B 265100 D			100
COB 090 B 190100 D			100	COB 090 B 27060 D			60
COB 090 B 19560 D			60	COB 090 B 27080 D			270
COB 090 B 19580 D	195	200	80	COB 090 B 270100 D			100
COB 090 B195100D			100	COB 090 B 27560 D			60
COB 090 B 20060 D			60	COB 090 B 27580 D			275
COB 090 B 20080 D	200	205	80	COB 090 B 275100 D			100
COB 090 B200100 D			100	COB 090 B 28060 D			60
COB 090 B 20560 D			60	COB 090 B 28080 D			280
COB 090 B 20580 D	205	210	80	COB 090 B 280100 D			100
COB 090 B 205100 D			100	COB 090 B 28560 D			60
COB 090 B 21060 D			60	COB 090 B 28580 D			285
COB 090 B 21080 D	210	215	80	COB 090 B 285100 D			100
COB 090 B 210100 D			100	COB 090 B 29060 D			60
COB 090 B 21560 D			60	COB 090 B 29080 D			290
COB 090 B 21580 D	215	220	80	COB 090 B 290100 D			100
COB 090 B215100 D			100	COB 090 B 29560 D			60
COB 090 B 22060 D			60	COB 090 B 29580 D			295
COB 090 B 22080 D	220	225	80	COB 090 B 295100 D			100
COB 090 B 220100 D			100	COB 090 B 30060 D			60
COB 090 B 22560 D			60	COB 090 B 30080 D			300
COB 090 B 22580 D	225	230	80	COB 090 B 300100 D			100

STANDARD SIZES OF COB 090 (FBB090) FLANGED WRAPPED BRONZE BUSHINGS



INSIDE AND OUTSIDE CHAMFER DIMENSIONS

S	C ₁	C ₂
1	0.6 ± 0.4	max. 0.4
1.5	0.6 ± 0.4	0.4 ± 0.3
2	1.2 ± 0.4	0.4 ± 0.3
2.5	1.8 ± 0.6	0.6 ± 0.4

STANDARD BUSHING TOLERANCE (ACCORDING TO DIN 1494 / ISO 3547)

Unit: mm

BASIC DIMENSION	O.D.DIMENSION D	MATCHED HOUSING D _h (H7)	I.D.DIMENSION d (H9)	MATCHED SHAFT DIAMETER d ₁ (f8)*
10 ~ 18	+ 0.065 + 0.030	+ 0.018 0	+ 0.043 0	- 0.016 - 0.043
18 ~ 30	+ 0.075 + 0.035	+ 0.021 0	+ 0.052 0	- 0.020 - 0.053
30 ~ 50	+ 0.085 + 0.045	+ 0.025 0	+ 0.062 0	- 0.025 - 0.064
50 ~ 80	+ 0.100 + 0.055	+ 0.030 0	+ 0.074 0	- 0.030 - 0.076
80 ~ 120	+ 0.120 + 0.070	+ 0.035 0	+ 0.087 0	- 0.036 - 0.090
120 ~ 180	+ 0.170 + 0.100	+ 0.040 0	+ 0.100 0	- 0.043 - 0.106
180 ~ 250	+ 0.210 + 0.130	+ 0.046 0	+ 0.115 0	- 0.050 - 0.122
250 ~ 315	+ 0.260 + 0.170	+ 0.052 0	+ 0.130 0	- 0.056 - 0.137

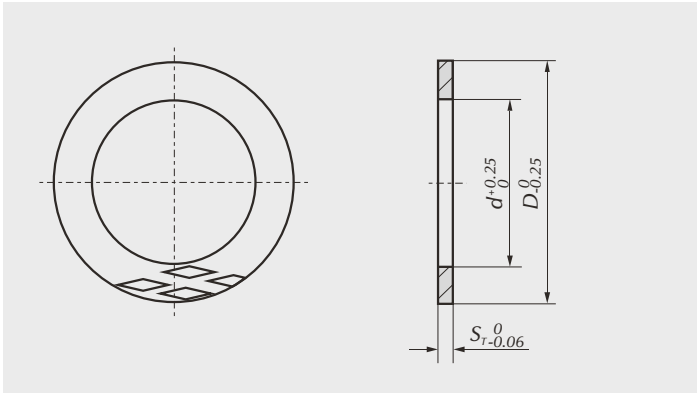
Note: * tolerance f8 for shaft diameter of bushing in installation.

COB 090 WRAPPED BRONZE BUSHINGS

Unit: mm

TYPE & SPECIFICATION	d	D ₁	D ₂	L	TYPE & SPECIFICATION	d	D ₁	D ₂	L
COB 090 F 1215 D	12	14	20	15	COB 090 F 8050 D				50
COB 090 F 2015 D	20	23	30	15	COB 090 F 8060 D	80	85	100	60
COB 090 F 2020 D				20	COB 090 F 8080 D				80
COB 090 F 2515 D				15	COB 090 F 9040 D				40
COB 090 F 2520 D	25	28	35	20	COB 090 F 9050 D	90	95	34	50
COB 090 F 2525 D				25	COB 090 F 9090 D				90
COB 090 F 3015 D				15	COB 090 F 10035 D				35
COB 090 F 3020 D	30	34	45	20	COB 090 F 10050 D	100	105	120	50
COB 090 F 3030 D				30	COB 090 F 10060 D				60
COB 090 F 3520 D				20	COB 090 F 10090 D				90
COB 090 F 3525 D				25	COB 090 F 11050 D				50
COB 090 F 3530 D	35	39	60	30	COB 090 F 11060 D	110	115	130	60
COB 090 F 3535 D				35	COB 090 F 11090 D				90
COB 090 F 3545 D				45	COB 090 F 12045 D				45
COB 090 F 4025 D	40	44	55	25	COB 090 F 12050 D	120	125	140	50
COB 090 F 4030 D				35	COB 090 F 12060 D				60
COB 090 F 4530 D				30	COB 090 F 12090 D				90
COB 090 F 4545 D	45	50	60	45	COB 090 F 13060 D	130	135	155	60
COB 090 F 4560 D				60	COB 090 F 13090 D				90
COB 090 F 5030 D				30	COB 090 F 14060 D				60
COB 090 F 5035 D	50	55	65	35	COB 090 F 14090 D	140	145	165	90
COB 090 F 5040 D				40	COB 090 F 15060 D				60
COB 090 F 5050 D				50	COB 090 F 15090 D	150	155	180	90
COB 090 F 5520 D				20	COB 090 F 16060 D				160
COB 090 F 5525 D	55	60	70	25	COB 090 F 16090 D				
COB 090 F 5530 D				30	COB 090 F 17060 D	60			
COB 090 F 5550 D				50	COB 090 F 17090 D	170	175	200	90
COB 090 F 6020 D				20	COB 090 F 18060 D				180
COB 090 F 6025 D				25	COB 090 F 18090 D				
COB 090 F 6030 D				30	COB 090 F 19060 D	190	195	225	60
COB 090 F 6035 D	60	65	75	35	COB 090 F 19090 D				
COB 090 F 6045 D							45	COB 090 F 20060 D	200
COB 090 F 6050 D				50	COB 090 F 20090 D				
COB 090 F 6060 D				60	COB 090 F 22560 D	225	230	260	60
COB 090 F 6530 D				30	COB 090 F 22590 D				
COB 090 F 6540 D	65	70	80	40	COB 090 F 25060 D	250	255	290	60
COB 090 F 6560 D				60	COB 090 F 25090 D				90
COB 090 F 7035 D				35	COB 090 F 26560 D	265	270	305	60
COB 090 F 7040 D	70	75	85	40	COB 090 F 26590 D				
COB 090 F 7070 D							70	COB 090 F 28560 D	285
COB 090 F 7540 D	75	80	90	40	COB 090 F 28590 D				
COB 090 F 7570 D							70	COB 090 F 30060 D	300
COB 090 F 8040 D	80	85	100	40	COB 090 F 30090 D				

STANDARD SIZES OF COB 090 (FB090) THRUST WASHERS

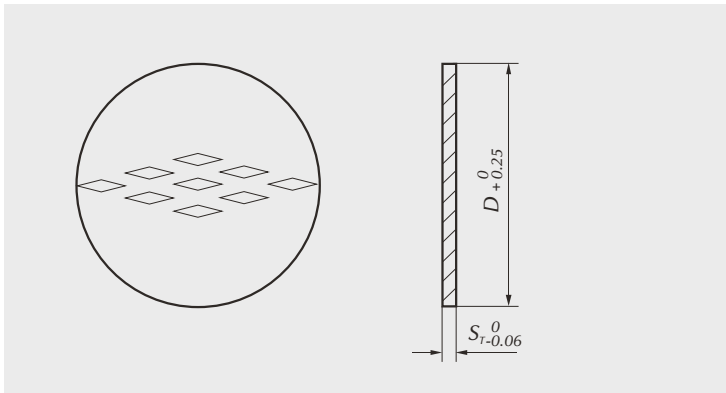


Unit: mm

TYPE & SPECIFICATION	$d^{+0.25}_0$	$D^{0}_{-0.25}$	$S_T^{0}_{-0.06}$
COB 090 W 02 D	18.5	42	1.0
COB 090 W 04 D	20	40	2.0
COB 090 W 06 D	24.5		
COB 090 W 08 D	40	53	
COB 090 W 10 D		64	
COB 090 W 12 D	46	65.5	
COB 090 W 14 D	10	25	
COB 090 W 16 D	25	35	
COB 090 W 18 D	44	70	
COB 090 W 20 D	45	76	
COB 090 W 22 D	44	90	2.5
COB 090 W 24 D	56		
COB 090 W 26 D	60.5	99.8	
COB 090 W 28 D	70		
COB 090 W 30 D	76	108	
COB 090 W 32 D	65		
COB 090 W 34 D	71	110	
COB 090 W 36 D	90		

COB 090 WRAPPED BRONZE BUSHINGS

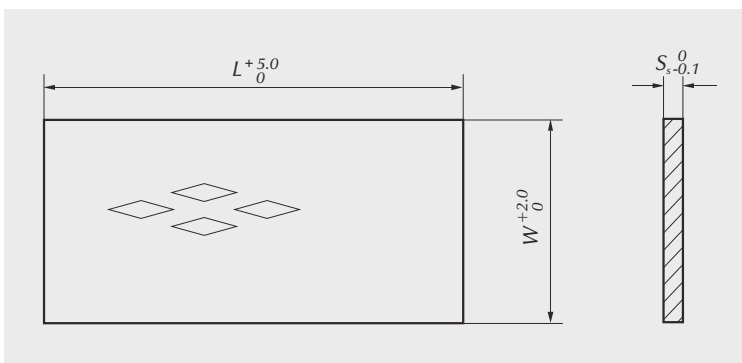
STANDARD SIZES OF COB 090 (FB090) BLANKS



Unit: mm

TYPE AND DESIGNATION	$D \begin{smallmatrix} 0 \\ -0.25 \end{smallmatrix}$	$S_T \begin{smallmatrix} 0 \\ -0.06 \end{smallmatrix}$
COB 090 W 261.5 D	26	1.5
COB 090 W 321.5 D	32	
COB 090 W 402.0 D	40	2.0
COB 090 W 462.0 D	46	
COB 090 W 442.5 D	44	
COB 090 W 452.5 D	45	2.5
COB 090 W 562.5 D	56	
COB 090 W 602.5 D	60	
COB 090 W 702.5 D	70	
COB 090 W 712.5 D	71	
COB 090 W 762.5 D	76	
COB 090 W 912.5 D	91	

STANDARD SIZES OF COB 090 (FB090) PLATES



Unit: mm

TYPE AND DESIGNATION	$L \begin{smallmatrix} +5.0 \\ 0 \end{smallmatrix}$	$W \begin{smallmatrix} +2.0 \\ 0 \end{smallmatrix}$	$S_s \begin{smallmatrix} 0 \\ -0.1 \end{smallmatrix}$
COB 090 P 10125 D	500	125	1.0
COB 090 P 15125 D			1.5
COB 090 P 20125 D			2.0
COB 090 P 25125 D			2.5

INTRODUCTION OF COB 092(FB092)

■ STRUCTURE OF THE MATERIAL

Using high-density bronze material and adopting special processing technology. COB 092 bushing with holes arranged in certain angles and densities and has a lubricating area of more than 20% of the whole area.

■ CHEMICAL COMPOSITION

MATERIAL	Cu	Sn	P	Pb	Zn
CuSn8	91.3%	8.5%	0.2%		

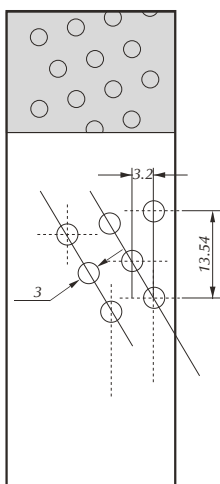
■ PHYSICAL PROPERTY

TYPE	DENSITY	COEFFICIENT OF THERMAL EXPANSION (20°C~300°C)	THERMAL CONDUCTIVITY	HARDNESS	TENSILE STRENGTH R_m	ELONGATION A
COB 092	8.8g/cm ³	18.5*10 ⁻⁶ *k ⁻¹	58w(m*k)	90~120HB	470N/mm ²	40%

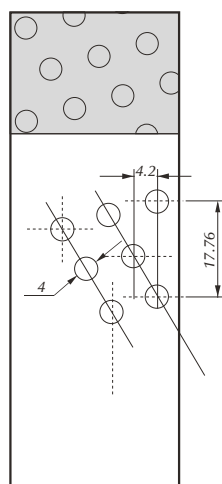
■ FIELD OF APPLICATION

This series of products is widely used in agricultural, construction and engineering machinery, etc.

■ TYPES OF OIL HOLES



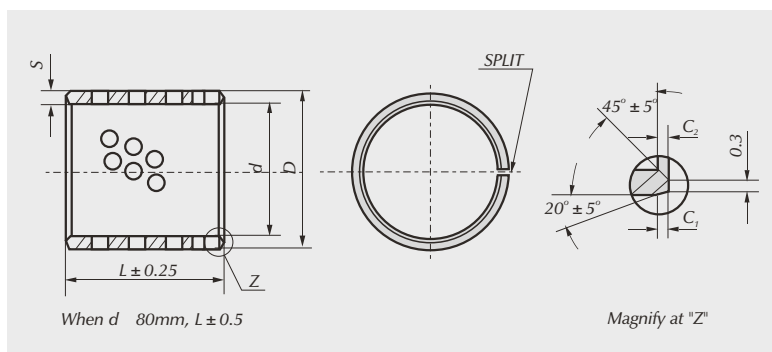
Spherical shape for bushings with inside diameter 25



Spherical shape for bushings with inside diameter > 25

COB 092 WRAPPED BRONZE BUSHINGS

STANDARD SIZES OF COB 092 (FB092) WRAPPED BRONZE BUSHINGS



INSIDE AND OUTSIDE CHAMFER DIMENSIONS

S	C ₁	C ₂
1	0.6 ± 0.4	max. 0.4
1.5	0.6 ± 0.4	0.4 ± 0.3
2	1.2 ± 0.4	0.4 ± 0.3
2.5	1.8 ± 0.6	0.6 ± 0.4

STANDARD BUSHING TOLERANCE (ACCORDING TO DIN 1494 / ISO 3547)

Unit: mm

BASIC DIMENSION	O.D.DIMENSION D	MATCHED HOUSING D _h (H7)	I.D.DIMENSION d (H9)	MATCHED SHAFT DIAMETER d _f (f8)*
10 ~ 18	+0.065 +0.030	+0.018 0	+0.043 0	-0.016 -0.043
18 ~ 30	+0.075 +0.035	+0.021 0	+0.052 0	-0.020 -0.053
30 ~ 50	+0.085 +0.045	+0.025 0	+0.062 0	-0.025 -0.064
50 ~ 80	+0.100 +0.055	+0.030 0	+0.074 0	-0.030 -0.076
80 ~ 120	+0.120 +0.070	+0.035 0	+0.087 0	-0.036 -0.090
120~180	+0.170 +0.100	+0.040 0	+0.100 0	-0.043 -0.106
180~250	+0.210 +0.130	+0.046 0	+0.115 0	-0.050 -0.122
250~315	+0.260 +0.170	+0.052 0	+0.130 0	-0.056 -0.137

Note: * tolerance f8 for shaft diameter of bushing in installation.

COB 092 WRAPPED BRONZE BUSHINGS

Unit: mm

TYPE & SPECIFICATION	d	D	L	TYPE & SPECIFICATION	d	D	L
COB 092 B 1010 D			10	COB 092 B 2820 D			20
COB 092 B 1015 D	10	12	15	COB 092 B 2825 D			25
COB 092 B 1020 D			20	COB 092 B 2830 D	28	31	30
COB 092 B 1210 D			10	COB 092 B 2840 D			40
COB 092 B 1215 D	12	14	15	COB 092 B 2850 D			50
COB 092 B 1220 D			20	COB 092 B 3025 D			15
COB 092 B 1410 D			10	COB 092 B 3020 D			20
COB 092 B 1415 D			15	COB 092 B 3025 D			25
COB 092 B 1420 D	14	16	20	COB 092 B 3030 D	30	34	30
COB 092 B 1425 D			25	COB 092 B 3040 D			40
COB 092 B 1430 D			30	COB 092 B 3050 D			50
COB 092 B 1510 D			10	COB 092 B 3060 D			60
COB 092 B 1515 D			15	COB 092 B 3220 D			20
COB 092 B 1520 D	15	17	20	COB 092 B 3225 D			25
COB 092 B 1525 D			25	COB 092 B 3230 D			30
COB 092 B 1530 D			30	COB 092 B 3240 D	32	36	40
COB 092 B 1610 D			10	COB 092 B 3250 D			50
COB 092 B 1615 D			15	COB 092 B 3260 D			60
COB 092 B 1620 D	16	18	20	COB 092 B 3520 D			20
COB 092 B 1625 D			25	COB 092 B 3525 D			25
COB 092 B 1630 D			30	COB 092 B 3530 D			30
COB 092 B 1810 D			10	COB 092 B 3540 D	35	39	40
COB 092 B 1815 D			15	COB 092 B 3550 D			50
COB 092 B 1820 D	18	21	20	COB 092 B 3560 D			60
COB 092 B 1825 D			25	COB 092 B 4020 D			20
COB 092 B 2010 D			10	COB 092 B 4025 D			25
COB 092 B 2015 D			15	COB 092 B 4030 D			30
COB 092 B 2020 D			20	COB 092 B 4040 D	40	44	40
COB 092 B 2025 D	20	23	25	COB 092 B 4050 D			50
COB 092 B 2030 D			30	COB 092 B 4060 D			60
COB 092 B 2040 D			40	COB 092 B 4525 D			25
COB 092 B 2215 D			15	COB 092 B 4530 D			30
COB 092 B 2220 D			20	COB 092 B 4540 D			40
COB 092 B 2225 D			25	COB 092 B 4550 D	45	50	50
COB 092 B 2230 D	22	25	30	COB 092 B 4560 D			60
COB 092 B 2240 D			40	COB 092 B 4580 D			80
COB 092 B 2250 D			50	COB 092 B 5025 D			25
COB 092 B 2515 D			15	COB 092 B 5030 D			30
COB 092 B 2520 D			20	COB 092 B 5040 D			40
COB 092 B 2525 D			25	COB 092 B 5050 D	50	55	50
COB 092 B 2530 D	25	28	30	COB 092 B 5060 D			60
COB 092 B 2540 D			40	COB 092 B 5080 D			80
COB 092 B 2550 D			50	COB 092 B 5525 D			25
COB 092 B 2815 D	28	31	15	COB 092 B 5530 D	55	60	30

COB 092 WRAPPED BRONZE BUSHINGS

Unit: mm

TYPE & SPECIFICATION	<i>d</i>	<i>D</i>	<i>L</i>	TYPE & SPECIFICATION	<i>d</i>	<i>D</i>	<i>L</i>		
COB 092 B 5540 D	55	60	40	COB 092 B 9095 D	90	95	95		
COB 092 B 5550 D			50	COB 092 B 90100 D			100		
COB 092 B 5560 D			60	COB 092 B 9530 D		30			
COB 092 B 5580 D			80	COB 092 B 9540 D		40			
COB 092 B 6025 D	60	65	25	COB 092 B 9550 D	95	100	50		
COB 092 B 6030 D			30	COB 092 B 9560 D			60		
COB 092 B 6040 D			40	COB 092 B 9580 D			80		
COB 092 B 6050 D			50	COB 092 B 9590 D			90		
COB 092 B 6060 D			60	COB 092 B 9595 D	95				
COB 092 B 6080 D			80	COB 092 B 95100 D	100				
COB 092 B 6525 D			65	70	25	COB 092 B 10030 D	100	105	30
COB 092 B 6530 D					30	COB 092 B 10040 D			40
COB 092 B 6540 D	40	COB 092 B 10050 D			50				
COB 092 B 6550 D	50	COB 092 B 10060 D			60				
COB 092 B 6560 D	60	COB 092 B 10095 D			95				
COB 092 B 6580 D	80	COB 092 B 100100 D			100				
COB 092 B 7025 D	70	75			25	COB 092 B 10560 D	105	110	60
COB 092 B 7030 D					30	COB 092 B 10580 D			80
COB 092 B 7040 D			40	COB 092 B 105100 D	100				
COB 092 B 7050 D			50	COB 092 B 11060 D	60				
COB 092 B 7060 D			60	COB 092 B 11080 D	80				
COB 092 B 7080 D			80	COB 092 B 110100 D	100				
COB 092 B 7525 D			75	80	25	COB 092 B 11560 D	115	120	60
COB 092 B 7530 D					30	COB 092 B 11580 D			80
COB 092 B 7540 D	40	COB 092 B 115100 D			100				
COB 092 B 7550 D	50	COB 092 B 12060 D			60				
COB 092 B 7560 D	60	COB 092 B 12080 D			80				
COB 092 B 7580 D	80	COB 092 B 120100 D			100				
COB 092 B 8030 D	80	85			30	COB 092 B 12560 D	125	130	60
COB 092 B 8040 D					40	COB 092 B 12580 D			80
COB 092 B 8050 D			50	COB 092 B 125100 D	100				
COB 092 B 8060 D			60	COB 092 B 13060 D	60				
COB 092 B 8080 D			80	COB 092 B 13080 D	80				
COB 092 B 8530 D			85	90	30	COB 092 B 130100 D	135	140	100
COB 092 B 8540 D					40	COB 092 B 13560 D			60
COB 092 B 8550 D					50	COB 092 B 13580 D			80
COB 092 B 8560 D	60	COB 092 B 135100 D			100				
COB 092 B 8580 D	80	COB 092 B 14060 D			60				
COB 092 B 9030 D	90	95			30	COB 092 B 14080 D	145	150	80
COB 092 B 9040 D					40	COB 092 B 140100 D			100
COB 092 B 9050 D					50	COB 092 B 14560 D			60
COB 092 B 9060 D			60	COB 092 B 14580 D	80				
COB 092 B 9080 D			80	COB 092 B 145100 D	100				
COB 092 B 9090 D			90	COB 092 B 15060 D	60				

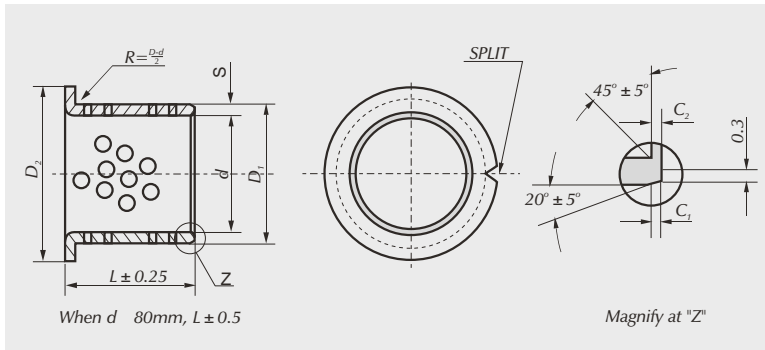
COB 092 WRAPPED BRONZE BUSHINGS

Unit: mm

TYPE & SPECIFICATION	<i>d</i>	<i>D</i>	<i>L</i>	TYPE & SPECIFICATION	<i>d</i>	<i>D</i>	<i>L</i>
COB 092 B 15080 D	150	155	80	COB 092 B 225100 D	225	230	100
COB 092 B 150100 D			100	COB 092 B 23060 D			60
COB 092 B 15560 D	155	160	60	COB 092 B 23080 D	230	235	80
COB 092 B 15580 D			80	COB 092 B 230100 D			100
COB 092 B 155100 D			100	COB 092 B 23560 D			60
COB 092 B 16060 D	160	165	60	COB 092 B 23580 D	235	240	80
COB 092 B 16080 D			80	COB 092 B 235100 D			100
COB 092 B 160100 D			100	COB 092 B 24060 D			60
COB 092 B 16560 D			60	COB 092 B 24080 D			80
COB 092 B 16580 D	165	170	80	COB 092 B 240100 D	240	245	100
COB 092 B 165100 D			100	COB 092 B 24560 D			60
COB 092 B 17060 D	170	175	60	COB 092 B 24580 D	245	250	80
COB 092 B 17080 D			80	COB 092 B 245100 D			100
COB 092 B 170100 D			100	COB 092 B 25060 D			60
COB 092 B 17560 D	175	180	60	COB 092 B 25080 D	250	255	80
COB 092 B 17580 D			80	COB 092 B 250100 D			100
COB 092 B 175100 D			100	COB 092 B 25560 D			60
COB 092 B 18060 D			60	COB 092 B 25580 D			80
COB 092 B 18080 D	180	185	80	COB 092 B 255100 D	255	260	100
COB 092 B 180100 D			100	COB 092 B 26060 D			60
COB 092 B 18560 D	185	190	60	COB 092 B 26080 D	260	265	80
COB 092 B 18580 D			80	COB 092 B 260100 D			100
COB 092 B 185100 D			100	COB 092 B 26560 D			60
COB 092 B 19060 D	190	195	60	COB 092 B 26580 D	265	270	80
COB 092 B 19080 D			80	COB 092 B 265100 D			100
COB 092 B 190100 D			100	COB 092 B 27060 D			60
COB 092 B 19560 D			60	COB 092 B 27080 D			80
COB 092 B 19580 D	195	200	80	COB 092 B 270100 D	270	275	100
COB 092 B 195100 D			100	COB 092 B 27560 D			60
COB 092 B 20060 D	200	205	60	COB 092 B 27580 D	275	280	80
COB 092 B 20080 D			80	COB 092 B 275100 D			100
COB 092 B 200100 D			100	COB 092 B 28060 D			60
COB 092 B 20560 D	205	210	60	COB 092 B 28080 D	280	285	80
COB 092 B 20580 D			80	COB 092 B 280100 D			100
COB 092 B 205100 D			100	COB 092 B 28560 D			60
COB 092 B 21060 D			60	COB 092 B 28580 D			80
COB 092 B 21080 D	210	215	80	COB 092 B 285100 D	285	290	100
COB 092 B 210100 D			100	COB 092 B 29060 D			60
COB 092 B 21560 D	215	220	60	COB 092 B 29080 D	290	295	80
COB 092 B 21580 D			80	COB 092 B 290100 D			100
COB 092 B 215100 D			100	COB 092 B 29560 D			60
COB 092 B 22060 D	220	225	60	COB 092 B 29580 D	295	300	80
COB 092 B 22080 D			80	COB 092 B 295100 D			100
COB 092 B 220100 D			100	COB 092 B 30060 D			60
COB 092 B 22560 D			60	COB 092 B 30080 D			80
COB 092 B 22580 D	225	230	80	COB 092 B 300100 D	300	305	100

COB 092 WRAPPED BRONZE BUSHINGS

STANDARD SIZES OF COB 092 (FB092) WRAPPED BRONZE BUSHINGS



INSIDE AND OUTSIDE CHAMFER DIMENSIONS

S	C ₁	C ₂
1	0.6 ± 0.4	max. 0.4
1.5	0.6 ± 0.4	0.4 ± 0.3
2	1.2 ± 0.4	0.4 ± 0.3
2.5	1.8 ± 0.6	0.6 ± 0.4

STANDARD BUSHING TOLERANCE (ACCORDING TO DIN 1494 / ISO 3547)

Unit: mm

BASIC DIMENSION	O.D.DIMENSION D	MATCHED HOUSING D ₁ (H7)	I.D.DIMENSION d (H9)	MATCHED SHAFT DIAMETER d ₁ (f8)*
10 ~ 18	+0.065 +0.030	+0.018 0	+0.043 0	-0.016 -0.043
18 ~ 30	+0.075 +0.035	+0.021 0	+0.052 0	-0.020 -0.053
30 ~ 50	+0.085 +0.045	+0.025 0	+0.062 0	-0.025 -0.064
50 ~ 80	+0.100 +0.055	+0.030 0	+0.074 0	-0.030 -0.076
80 ~ 120	+0.120 +0.070	+0.035 0	+0.087 0	-0.036 -0.090
120~180	+0.170 +0.100	+0.040 0	+0.100 0	-0.043 -0.106
180~250	+0.210 +0.130	+0.046 0	+0.115 0	-0.050 -0.122
250~315	+0.260 +0.170	+0.052 0	+0.130 0	-0.056 -0.137

Note: * tolerance f8 for shaft diameter of bushing in installation.

COB 092 WRAPPED BRONZE BUSHINGS

Unit: mm

TYPE & SPECIFICATION	d	D ₁	D ₂	L	TYPE & SPECIFICATION	d	D ₁	D ₂	L
COB 092 F 1215 D	12	14	20	15	COB 092 F 8050 D				50
COB 092 F 2015 D	20	23	30	15	COB 092 F 8060 D	80	85	100	60
COB 092 F 2020 D				20	COB 092 F 8080 D				80
COB 092 F 2515 D				15	COB 092 F 9040 D				40
COB 092 F 2520 D	25	28	35	20	COB 092 F 9050 D	90	95	34	50
COB 092 F 2525 D				25	COB 092 F 9090 D				90
COB 092 F 3015 D				15	COB 092 F 10035 D				35
COB 092 F 3020 D	30	34	45	20	COB 092 F 10050 D	100	105	120	50
COB 092 F 3030 D				30	COB 092 F 10060 D				60
COB 092 F 3520 D				20	COB 092 F 10090 D				90
COB 092 F 3525 D				25	COB 092 F 11050 D				50
COB 092 F 3530 D	35	39	60	30	COB 092 F 11060 D	110	115	130	60
COB 092 F 3535 D				35	COB 092 F 11090 D				90
COB 092 F 3545 D				45	COB 092 F 12045 D				45
COB 092 F 4025 D	40	44	55	25	COB 092 F 12050 D	120	125	140	50
COB 092 F 4030 D				35	COB 092 F 12060 D				60
COB 092 F 4530 D				30	COB 092 F 12090 D				90
COB 092 F 4545 D	45	50	60	45	COB 092 F 13060 D	130	135	155	60
COB 092 F 4560 D				60	COB 092 F 13090 D				90
COB 092 F 5030 D				30	COB 092 F 14060 D				60
COB 092 F 5035 D	50	55	65	35	COB 092 F 14090 D	140	145	165	90
COB 092 F 5040 D				40	COB 092 F 15060 D				60
COB 092 F 5050 D				50	COB 092 F 15090 D	150	155	180	90
COB 092 F 5520 D				20	COB 092 F 16060 D				160
COB 092 F 5525 D	55	60	70	25	COB 092 F 16090 D				
COB 092 F 5530 D				30	COB 092 F 17060 D	60			
COB 092 F 5550 D				50	COB 092 F 17090 D	170	175	200	90
COB 092 F 6020 D				20	COB 092 F 18060 D				180
COB 092 F 6025 D				25	COB 092 F 18090 D				
COB 092 F 6030 D				30	COB 092 F 19060 D	190	195	225	60
COB 092 F 6035 D	60	65	75	35	COB 092 F 19090 D				
COB 092 F 6045 D							45	COB 092 F 20060 D	200
COB 092 F 6050 D				50	COB 092 F 20090 D				
COB 092 F 6060 D				60	COB 092 F 22560 D	225	230	260	60
COB 092 F 6530 D				30	COB 092 F 22590 D				
COB 092 F 6540 D	65	70	80	40	COB 092 F 25060 D	250	255	290	60
COB 092 F 6560 D				60	COB 092 F 25090 D				90
COB 092 F 7035 D				35	COB 092 F 26560 D	265	270	305	60
COB 092 F 7040 D	70	75	85	40	COB 092 F 26590 D				
COB 092 F 7070 D							70	COB 092 F 28560 D	285
COB 092 F 7540 D	75	80	90	40	COB 092 F 28590 D				
COB 092 F 7570 D							70	COB 092 F 30060 D	300
COB 092 F 8040 D	80	85	100	40	COB 092 F 30090 D				

INTRODUCTION OF COB 094(FB092T)

■ STRUCTURE OF THE MATERIAL

Using special components and high-density bronze material, adopting special processing technology, with two seals on both sides, COB 094 bushing is a kind of bushing with holes arranged in certain angles and densities. It has a lubricating area of more than 20% of the whole area.

■ CHEMICAL COMPOSITION

MATERIAL	Cu	Sn	P	Pb	Zn
CuSn8	91.3%	8.5%	0.2%		

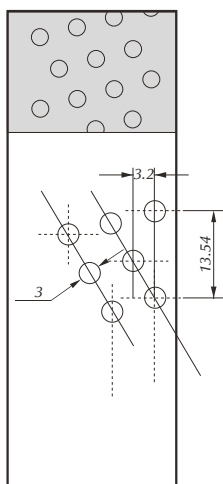
■ PHYSICAL PROPERTY

TYPE	DENSITY	COEFFICIENT OF THERMAL EXPANSION (20°C~300°C)	THERMAL CONDUCTIVITY	HARDNESS	TENSILE STRENGTH R_m	ELONGATION A
COB 094	8.8g/cm ³	18.5*10 ⁻⁶ *k ⁻¹	58w(m*k)	90~120HB	470N/mm ²	40%

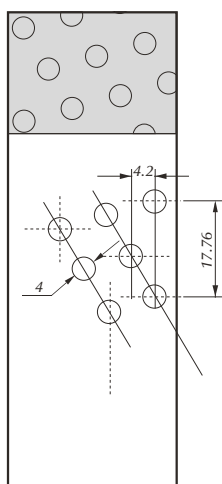
■ FIELD OF APPLICATION

This series of products is widely used in agricultural, construction and engineering machinery, etc.

■ TYPES OF OIL HOLES

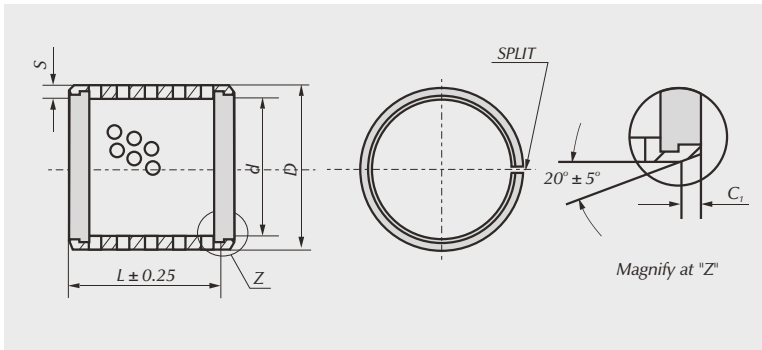


Spherical shape for bushings with inside diameter 25



Spherical shape for bushings with inside diameter > 25

STANDARD SIZES OF COB 094 (FB092T) WRAPPED BRONZE BUSHINGS



INSIDE AND OUTSIDE CHAMFER DIMENSIONS

S	C ₁
2	1.2 ± 0.4
2.5	1.8 ± 0.6

STANDARD BUSHING TOLERANCE (ACCORDING TO DIN 1494 / ISO 3547)

Unit: mm

BASIC DIMENSION	O.D.DIMENSION D	MATCHED HOUSING D ₁ (H7)	I.D.DIMENSION d (H9)	MATCHED SHAFT DIAMETER d ₁ (f8)*
10 ~ 18	+0.065 +0.030	+0.018 0	+0.043 0	-0.016 -0.043
18 ~ 30	+0.075 +0.035	+0.021 0	+0.052 0	-0.020 -0.053
30 ~ 50	+0.085 +0.045	+0.025 0	+0.062 0	-0.025 -0.064
50 ~ 80	+0.100 +0.055	+0.030 0	+0.074 0	-0.030 -0.076

Note: * tolerance f8 for shaft diameter of bushing in installation.

Unit: mm

TYPE & SPECIFICATION	d	D ₁	L	TYPE & SPECIFICATION	d	D ₁	L
COB 094 B 3030 D	30	34	30	COB 094 B 5030 D	50	55	30
COB 094 B 3040 D			40	COB 094 B 5040 D			40
COB 094 B 3530 D			30	COB 094 B 5060 D			60
COB 094 B 3540 D	35	39	40	COB 094 B 6030 D	60	65	30
COB 094 B 4030 D			30	COB 094 B 6040 D			40
COB 094 B 4040 D	40	44	40	COB 094 B 6060 D	65	70	60
COB 094 B 4050 D			50	COB 094 B 6540 D			40
COB 094 B 4530 D	45	50	30	COB 094 B 6560 D	70	75	60
COB 094 B 4540 D			40	COB 094 B 7040 D			40
COB 094 B 4550 D			50	COB 094 B 7080 D			80
COB 094 B 4560 D	50	55	60	COB 094 B 8040 D	80	85	40
COB 094 B 5030 D			30	COB 094 B 8080 D			80

INTRODUCTION OF COB 095(FB090G)

■ STRUCTURE OF THE MATERIAL

Using high-density phosphor bronze as its backing and inserting into special solid lubricant, COB 095 is a new kind of material with superior property of lubrication and anti-abrasion.

■ CHEMICAL COMPOSITION

MATERIAL	Cu	Sn	P	Pb	Zn
CuSn8	91.3%	8.5%	0.2%		

■ PHYSICAL PROPERTY

TYPE	DENSITY	COEFFICIENT OF THERMAL EXPANSION (20°C~300°C)	THERMAL CONDUCTIVITY	HARDNESS	TENSILE STRENGTH R _m	ELONGATION A
COB 095	8.3g/cm ³	18.5*10 ⁻⁶ *k ⁻¹	58w(m*k)	90~120HB	470N/mm ²	40%

■ FIELD OF APPLICATION

This series of products is widely used in agricultural, construction and engineering machinery, etc.

■ TYPES AND DESIGNATIONS

The designation of COB 095 wrapped bronze bushing, washer, strips and the tolerance of sizes should be according to that of the drawings or samples offered by customers.

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