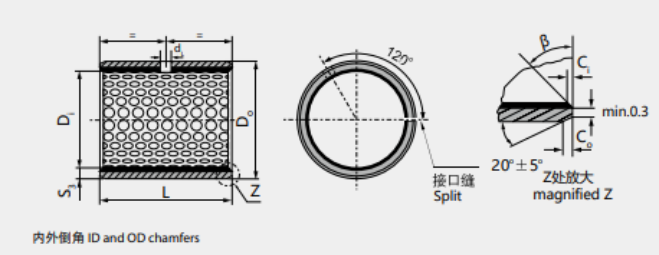
JBM-20 Prelubricated Bearings

Boundary Lubricating Oilless Bearings — Metric Sizes

ID AND OD CHAMFERS



Overview

JBM-20 is a steel-backed, sintered porous-bronze, POM (with lead) surface metal-polymer plain bearing. Regularly distributed oil pockets on the sliding surface are pre-lubricated with grease at assembly to deliver low-friction, long-life boundary lubrication.

Widely used in automotive, construction machinery, hydraulic and general industrial equipment under oscillating and low-speed rotary conditions. Supplied as a split (bent) bushing for easy press-fit installation.

Structure

1	POM with lead	0.3 - 0.5 mm
2	Porous bronze	0.2 - 0.3 mm
3	Steel backing	–
4	Copper plating	0.002 mm

Technical Data

Max. Load	Static	250 N/mm²
	Dynamic	140 N/mm²
	Oscillating	60 N/mm²
PV Limit	Dry	2.8 N/mm²·m/s
	Oil lubricated	22 N/mm²·m/s
Temp. Limit	Range	-40 ℃ ~ +130 ℃

Friction coefficient	0.05 ~ 0.25 μ
Speed limit (oil)	2.5 m/s
Thermal conductivity	2.03 Kcal/M.br.℃
Coeff. of linear expansion	51×10^{-6} per ℃
Assembly	Pre-lubrication required

Dimensions & Part Numbers — Shaft Ø10 – 60 mm

Part Number = Shaft dia. + Length. Example: Ø20 × L30 → JBM-20 **2030**; Ø100 × L50 → JBM-20 **10050**. Other lengths to order.

STANDARD SIZES — SHAFT Ø10 – 60 MM

Shaft D_s h8	Housing D_H H7	OD D_O Tolerance	ID D_LA After fixed	Clearance D_D	Wall S_3 Thickness	Oil hole d_L	Part No. (= Shaft + Length) Available lengths L
10 $^{-0.022}$	12 $^{+0.018}$	12 $^{+0.065}_{+0.030}$	10.108 10.040	0.130 0.040	0.980 0.955	4	1010 1015 1020
12 $^{-0.027}$	14 $^{+0.018}$	14 $^{+0.065}_{+0.030}$	12.108 12.040	0.130 0.040	0.980 0.955	4	1210 1215 1220
14 $^{-0.027}$	16 $^{+0.018}$	16 $^{+0.065}_{+0.030}$	14.108 14.040	0.135 0.040	0.980 0.955	4	1415 1420
15 $^{-0.027}$	17 $^{+0.018}$	17 $^{+0.065}_{+0.030}$	15.108 15.040	0.135 0.040	0.980 0.955	4	1515 1520 1525
16 $^{-0.027}$	18 $^{+0.018}$	18 $^{+0.065}_{+0.030}$	16.108 16.040	0.135 0.040	0.980 0.955	4	1615 1620 1625
18 $^{-0.027}$	20 $^{+0.021}$	20 $^{+0.075}_{+0.035}$	18.111 18.040	0.138 0.040	0.980 0.955	4	1815 1820 1825
20 $^{-0.033}$	23 $^{+0.021}$	23 $^{+0.075}_{+0.035}$	20.131 20.050	0.164 0.050	1.475 1.445	4	2015 2020 2025 2030
22 $^{-0.033}$	25 $^{+0.021}$	25 $^{+0.075}_{+0.035}$	22.131 22.050	0.164 0.050	1.475 1.445	4	2215 2220 2225 2230
25 $^{-0.033}$	28 $^{+0.021}$	28 $^{+0.075}_{+0.035}$	25.131 25.050	0.164 0.050	1.475 1.445	4	2515 2520 2525 2530
28 $^{-0.033}$	32 $^{+0.025}$	32 $^{+0.085}_{+0.045}$	28.155 28.060	0.188 0.060	1.970 1.935	6	2820 2825 2830
30 $^{-0.033}$	34 $^{+0.025}$	34 $^{+0.085}_{+0.045}$	30.155 30.060	0.188 0.060	1.970 1.935	6	3020 3025 3030 3035 3040
35 $^{-0.039}$	39 $^{+0.025}$	39 $^{+0.085}_{+0.045}$	35.155 35.060	0.194 0.060	1.970 1.935	6	3520 3525 3530 3535 3540
40 $^{-0.039}$	44 $^{+0.025}$	44 $^{+0.085}_{+0.045}$	40.155 40.060	0.194 0.060	1.970 1.935	6	4020 4025 4030 4035 4040 4045 4050
45 $^{-0.039}$	50 $^{+0.025}$	50 $^{+0.085}_{+0.045}$	45.195 45.080	0.234 0.080	1.970 1.935	6	4520 4525 4530 4535 4540 4545 4550
50 $^{-0.039}$	55 $^{+0.030}$	55 $^{+0.100}_{+0.055}$	50.200 50.080	0.239 0.080	2.460 2.415	8	5030 5035 5040 5045 5050 5060
55 $^{-0.046}$	60 $^{+0.030}$	60 $^{+0.100}_{+0.055}$	55.200 55.080	0.239 0.080	2.460 2.415	8	5530 5535 5540 5545 5550 5560
60 $^{-0.046}$	65 $^{+0.030}$	65 $^{+0.100}_{+0.055}$	60.200 60.080	0.246 0.080	2.460 2.415	8	6030 6035 6040 6045 6050 6060

Tolerance

OD is toleranced to the housing bore before assembly; ID reaches the working size (D_LA) after press-fit.

Installation

Press-fit installation; chamfered housing bore aids insertion. Apply lubricating grease inside the bore at assembly.

Custom

With oil hole, flange, split and non-standard sizes available to drawing.

Dimensions & Part Numbers — Shaft Ø65 – 280 mm

All dimensions in mm. Length tolerance L 0 / -0.40. Other lengths to order.

LARGE SIZES — SHAFT Ø65 – 280 MM

Shaft D_s h8	Housing D_H H7	OD D_O Tolerance	ID D_LA After fixed	Clearance D_D	Wall S_3 Thickness	Oil hole d_L	Part No. (= Shaft + Length) Available lengths L
65 -0.046	70 +0.030	70 +0.100 +0.055	65.200 65.080	0.246 0.080	2.460 2.415	8	6540 6550 6560
70 -0.046	75 +0.030	75 +0.100 +0.055	70.200 70.080	0.246 0.080	2.460 2.415	8	7040 7050 7060 7080
75 -0.046	80 +0.030	80 +0.100 +0.055	75.200 75.080	0.246 0.080	2.460 2.415	8	7540 7550 7560 7580
80 -0.046	85 +0.035	85 +0.120 +0.070	80.265 80.100	0.313 0.100	2.460 2.415	8	8040 8050 8060 8080
85 -0.054	90 +0.035	90 +0.120 +0.070	85.265 85.100	0.313 0.100	2.460 2.415	8	8540 8550 8560 8580
90 -0.054	95 +0.035	95 +0.120 +0.070	90.265 90.100	0.313 0.100	2.460 2.415	8	9040 9050 9060 9080 9090
100 -0.054	105 +0.035	105 +0.120 +0.070	100.265 100.100	0.321 0.100	2.450 2.385	9.5	10050 10060 10080 10090 10095
105 -0.054	110 +0.035	110 +0.120 +0.070	105.265 105.100	0.321 0.100	2.450 2.385	9.5	10550 10560 10580 10590 10595 105100 105110
110 -0.054	115 +0.035	115 +0.120 +0.070	110.265 110.110	0.321 0.100	2.450 2.385	9.5	11050 11060 11080 11090 11095 110100 110110
120 -0.054	125 +0.040	125 +0.170 +0.100	120.270 120.110	0.324 0.100	2.450 2.385	9.5	12050 12060 12080 12090 12095 120100 120110
125 -0.063	130 +0.040	130 +0.170 +0.100	125.270 125.110	0.324 0.100	2.450 2.385	9.5	12550 12560 12580 12590 12595 125100 125110
130 -0.063	135 +0.040	135 +0.170 +0.100	130.270 130.110	0.324 0.100	2.450 2.385	9.5	13050 13060 13080 13090 13095 130100 130110
140 -0.063	145 +0.040	145 +0.170 +0.100	140.270 140.110	0.324 0.100	2.450 2.385	9.5	14050 14060 14080 14090 14095 140100 140110
150 -0.063	155 +0.040	155 +0.170 +0.100	150.270 150.110	0.324 0.100	2.450 2.385	9.5	15050 15060 15080 15090 15095 150100 150110
160 -0.063	165 +0.040	165 +0.170 +0.100	160.270 160.110	0.324 0.100	2.450 2.385	9.5	16050 16060 16080 16090 16095 160100 160110
170 -0.063	175 +0.040	175 +0.170 +0.100	170.270 170.110	0.324 0.100	2.450 2.385	9.5	17050 17060 17080 17090 17095 170100 170110
180 -0.063	185 +0.046	185 +0.210 +0.130	180.276 180.110	0.339 0.110	2.450 2.385	9.5	18050 18060 18080 18090 18095 180100 180110
190 -0.072	195 +0.046	195 +0.210 +0.130	190.276 190.110	0.339 0.110	2.450 2.385	9.5	19050 19060 19080 19090 19095 190100 190110 190120
200 -0.072	205 +0.046	205 +0.210 +0.130	200.276 200.110	0.339 0.110	2.450 2.385	9.5	20050 20060 20080 20090 20095 200100 200110 200120
220 -0.072	225 +0.046	225 +0.210 +0.130	220.276 220.110	0.339 0.110	2.450 2.385	9.5	22050 22060 22080 22090 22095 220100 220110 220120
240 -0.072	245 +0.046	245 +0.210 +0.130	240.276 240.110	0.339 0.110	2.450 2.385	9.5	24050 24060 24080 24090 24095 240100 240110 240120
250 -0.072	255 +0.052	255 +0.260 +0.170	250.282 250.110	0.354 0.110	2.450 2.385	9.5	25050 25060 25080 25090 25095 250100 250110 250120
260 -0.081	265 +0.052	265 +0.260 +0.170	260.282 260.110	0.354 0.110	2.450 2.385	9.5	26050 26060 26080 26090 26095 260100 260110 260120
280 -0.081	285 +0.052	285 +0.260 +0.170	280.282 280.110	0.354 0.110	2.450 2.385	9.5	28050 28060 28080 28090 28095 280100 280110 280120