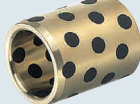


# Oil-Free Bushings (Copper Alloy Straight Standard)

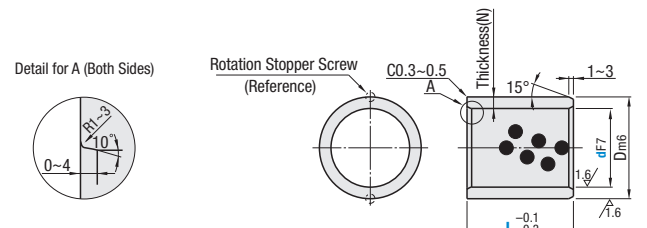
Thin Wall I.D. F7 O.D. m6

Oil-Free Bushings – Standard I.D. F7 O.D. m6



**RoHS10**

**MPBZ**  
Standard I.D. F7 O.D. m6



Detail for A (Both Sides)

Rotation Stopper Screw (Reference)

Material: High Tensile Brass Alloy Solid Lubricant Embedded (Graphite)

d8: General Purpose (High-Load)  
e7: General Use (Light Load)

f8: High Precision Use  
g6: High Precision Use (Intermittent Operation)

Ⓢ Recommended Mating Shaft of I.D. F7 Type  
Ⓢ Use of Rotation Stopper Screws is recommended to affix bushings.

Part Number		L	Dm6		Thickness (N)	Housing Dia. (Reference)		*Rotation Stopper Screw (Reference)
Type	df7		D	Tolerance H7		D	Tolerance H7	
MPBZ	5	8 9 10 12 15	9	+0.015	9	+0.015	M4x8	
	6	8 9 10 12 15 16 19 20	10	+0.006	10	0		
	8	8 9 10 12 15 16 19 20 25	12	+0.018 +0.007	12	+0.018 0		
	10	8 9 10 12 15 16 19 20 25 30	14		14			
	12	8 9 10 12 15 16 19 20 25 30 35	18	+0.021 +0.008	18	+0.021 0		
	13	9 10 12 15 16 19 20 25 30 35	19		19			
	15	9 10 12 15 16 19 20 25 30 35 40	21		21			
	16	9 10 12 15 16 19 20 25 30 35 40	22		22			
	18	9 10 12 15 16 19 20 25 30 35 40	24	+0.025 +0.009	24	+0.025 0		
	20	9 10 12 15 16 19 20 25 30 35 40 50 60	28		28			
	20A	9 10 12 15 16 19 20 25 30 35 40 50	30		30			
	25	12 15 16 19 20 25 30 35 40 50 60	33		33			
	25A	12 15 16 19 20 25 30 35 40 50 60	35	+0.030 +0.011	35	+0.030 0		
	30	12 15 16 19 20 25 30 35 40 50 60 70	38		38			
	35	20 25 30 35 40 50 60 70	44		44			
	40	20 25 30 35 40 50 60 70 80	50		50			
	50	30 35 40 50 60 70 80	62	+0.035 +0.013	62	+0.035 0		
	60	50 60 70 80	75		75			
	80	60 70 80	96		96			
	100	80 100	120		120			


Ⓢ For housing diameter, tolerance H7 (\*2) to D dimensions (\*1) is recommended. (Refer to Table 1)  
\*Indicated dimensions of Rotation Stopper Screw are recommended dimensions.

Part Number Example: **MPBZ10** - **15**

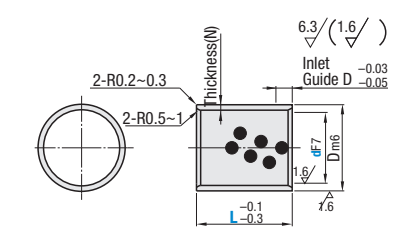
# Oil-Free Bushings (Copper Alloy Straight Standard)

Thin Wall I.D. F7 O.D. m6, continued

Oil-Free Bushings – Thin Wall I.D. F7 O.D. m6



**MPBZU**  
Thin Wall I.D. F7 O.D. m6



Material: High Tensile Brass Alloy Solid Lubricant Embedded Graphite

d8: General Purpose (High-Load)  
e7: General Use (Light Load)

f8: High Precision Use  
g6: High Precision Use (Intermittent Operation)

Ⓢ Recommended Mating Shaft of I.D. F7 Type  
Ⓢ Use of Rotation Stopper Screws is recommended to affix bushings.

Part Number		L	Dm6		Thickness (N)	Housing Dia. (Reference)		*Rotation Stopper Screw (Reference)
Type	df7		D	Tolerance H7		D	Tolerance H7	
MPBZU	5	8 10 12	7	+0.015 +0.006	7	+0.015 0	M4x8	
	6	8 10 12 15 16	8		8			
	8	8 10 12 15 16 20	10		10			
	10	8 10 12 15 16 20 25	12		12			
	12	10 12 15 16 20 25	15		15			
	13	10 12 15 16 20 25	16		16			
	15	10 12 15 16 20 25 30	18		18			
	16	10 12 15 16 20 25 30	20		20			
	18	12 15 16 20 25 30	22		22			
	20	15 16 20 25 30 40	24		24			
	25	15 16 20 25 30 40	29	29				
	30	15 16 20 25 30 40	34	34				
	35	20 25 30 40	40	40				
	40	20 25 30 40 50	45	45				
	50	30 40 50	55	55				

### Features of Thin Wall Type

- Thin wall to be comparable to Multi-Layer LF Bushings.
- Applicable to both reciprocal and oscillating motions.
- Suitable for use in limited space.
- Excels in abrasion resistance compared to Multi-Layer LF Bushings or Resin Bushings. Usable under high-load conditions.

### Outer Diameter Comparison Table

d	Dimension Difference		Thin Type MPBZU		Standard Type MPBZ	
	Dm6	Thickness (N)	Dm6	Thickness (N)	Dm6	Thickness (N)
5	-2	-1	7	1	9	2
6	-2	-1	8			
8	-2	-1	10			
10	-2	-1	12			
12	-3	-1.5	15	1.5	18	3
13	-3	-1.5	16			
15	-3	-1.5	18			
16	-2	-1	20	2	22	4
18	-2	-1	22			
20	-4	-2	24			
25	-4	-2	29			
30	-4	-2	34	2.5	38	4.5
35	-4	-2	40			
40	-5	-2.5	45			
50	-7	-3.5	55			

Part Number Example: **MPBZU16** - **20**