



# 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



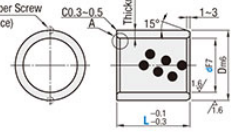
RoHS 10

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

Detail for A (Both Sides)



Rotation Stopper Screw (Reference)



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

- d8: General Purpose (High-Load)
- e7: General Use (Light Load)
- f8: High Precision Use
- g6: High Precision Use (Intermittent Operation)

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

Part Number	Type	d <sub>7</sub>	L	Dm6		Thickness (N)	Housing Dia. (Reference)		*Rotation Stopper Screw (Reference)			
				Reference Dimension	Tolerance (H7)							
5	MPBZ	+0.022	8 9 10 12 15	9	+0.015	2	9	+0.015	M4×8			
6		+0.010	8 9 10 12 15 16 19 20	10	+0.006		10	0				
8		+0.028	8 9 10 12 15 16 19 20 25	12	+0.018		12	+0.018				
10		+0.013	8 9 10 12 15 16 19 20 25 30	14			14					
12		MPBZ	+0.034 +0.016	8 9 10 12 15 16 19 20 25 30 35	18		+0.021 +0.008	3		18	+0.021	M5×8
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					24		
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	35							
30	12 15 16 19 20 25 30 35 40 50 60 70			38	38							
32	MPBZ	+0.041 +0.020	20 30 40	42	+0.025 +0.009	4.5	42	+0.025	M6×16			
35			20 25 30 35 40 50 60 70	44			44					
38			40	48			48					
40			20 25 30 35 40 50 60 70 80	50			50					
45			30 35 40 50 60	55			55					
50			30 35 40 50 60 70 80	62			62					
55			30 35 40 50 60 70	70			70					
60			50 60 70 80	75			75					
65			50 60 70 80	80			80					
70			50 60 70 80	85			85					
80	MPBZ	+0.060 +0.030	50 60 70 80	96	+0.030	7.5	96	+0.030	M8×16			
90			60 90	110			110					
100			80 100	120			120					

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



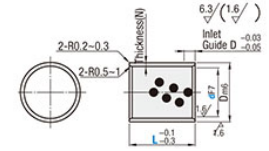
# Oil-Free Bushings (Copper Alloy Straight Standard)

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



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

- d8: General Purpose (High-Load)
- e7: General Use (Light Load)
- f8: High Precision Use
- g6: High Precision Use (Intermittent Operation)

**Material:** High Tensile Brass Alloy Solid Lubricant Embedded Graphite

Part Number	Type	d <sub>7</sub>	L	Dm6		Thickness (N)	Housing Dia. (Reference)		*Rotation Stopper Screw (Reference)					
				Reference Dimension	Tolerance (H7)									
5	MPBZU	+0.022	8 10 12	7	+0.015 +0.006	1	7	+0.015	M4×8					
6		+0.010	8 10 12 15 16	8			8							
8		+0.028	8 10 12 15 16 20	10			10							
10		+0.013	8 10 12 15 16 20 25	12			12							
12		MPBZU	+0.034 +0.016	10 12 15 16 20 25			15			+0.018 +0.007	1.5	15	+0.018	M5×8
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	MPBZU	+0.050 +0.025	30 40 50	55	+0.025 +0.009	2.5	55	+0.025	M6×16					
55			30 40 50	62			62							
60			40 50	70			70							

- 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			
18	-2	-1	22	2	24	4
20	-4	-2	24			
25	-4	-2	29			
30	-4	-2	34			
35	-4	-2	40	2.5	44	4.5
40	-5	-2.5	45			
40	-5	-2.5	45			
50	-7	-3.5	55			

