

# Oil Free Bushings

-Bronze Straight I.D.F7 O.D.m6 · I.D.E7 O.D.r6 Type / Bronze Shoulder Type-



CAD Data

For features, see below.

**Straight Type** **RoHS 10**

**SHBZ** (I.D.F7 O.D.m6 Type)  
**SHBR** (I.D.E7 O.D.r6 Type)

Features of Bronze Type:  
- Suited for high speed and low load under lubricated conditions.  
- Excels in friction, heat and corrosion resistance under lubricated conditions.  
- Lubrication frequency can be reduced.  
- Alterations on Overall Length are available.

Material: Special Bronze Castings  
Allowable Temperature: -40~150°C

Ensure the bushing remains well lubricated.

Part Number	Type	d	L					D	Thickness (N)	* Housing Dia.		* Rotation Stopper Screws (Reference)
			F7	E7						m6	r6	
SHBZ (I.D. F7 O.D. m6 Type)	5	+0.022	+0.032	8	10	12	15	9	+0.015	+0.028	M4x8	
	6	+0.010	+0.020	8	10	12	15	10	+0.006	+0.019		
	8	+0.028	+0.040	8	10	12	15	12				
	10	+0.013	+0.025	8	10	12	15	14	+0.018	+0.034		
	12			10	12	15	20	18	+0.007	+0.023		
	13			10	12	15	20	19				
	15	+0.034	+0.050	10	12	15	20	21	+0.021	+0.041		
	16	+0.016	+0.032	10	12	15	20	22	+0.008	+0.028		
	20			15	20	25	30	28				
	25	+0.041	+0.061	20	25	30	40	33	+0.025	+0.050		
SHBR (I.D. E7 O.D. r6 Type)	30	+0.020	+0.040	25	30	40	50	38	+0.009	+0.034	M5x8	
											M6x16	

\* Indicated dimensions of Housing Dia. and Rotation Stopper Screws are recommended dimensions. For working on SHBZ, Rotation Stopper Screws are recommended.

**Shoulder Type** **RoHS 10**

**SHFZ**

Features of I.D.E7 O.D.r6:  
- Less likely to pull-out than I.D.F7 O.D.m6 Type.  
- Inner Diameter after Press-Fit is almost equal to I.D.F7 O.D.m6 Type.

Material: Special Bronze Castings  
Allowable Temperature: -40~150°C

Ensure the bushing remains well lubricated.

Part Number	Type	d	L					D	Thickness (N)	H	t	* Housing Dia.	€ Unit Price						
			F7	E7									L10	L12	L15	L20	L25	L30	L40
SHFZ	5	+0.032	10	12	14	16	9	+0.028	14	2	0.1	9							
	6	+0.020	10	12	15	20	10	+0.019	16	2	0.1	10							
	8	+0.040	10	12	15	20	12		12	3	0.1	12							
	10	+0.025	10	12	15	20	14	+0.034	14	3	0.1	14							
	12		10	12	15	20	18	+0.023	18	3	0.1	18							
	13	+0.050	10	12	15	20	19		19	3	0.1	19							
	15	+0.032	10	12	15	20	21	+0.041	21	3	0.1	21							
	16		12	15	20	25	22	+0.028	22	3	0.1	22							
	20		15	20	25	30	30		30	5	0.1	30							
	25	+0.061					35	+0.050	35	5	0.1	35							
30	+0.040					40	+0.034	40	5	0.1	40								

\* Housing diameters listed here are recommended dimensions.

**Price** **Volume Discount** (Round down to one Cent.) P87

Quantity	1-49	50-64	65-79	80-99
Discount Rate	5%	10%	15%	18%
Days to Ship	Standard			

For orders larger than indicated amounts, please request a quotation.

**SHBZ · SHFZ**

Quantity	1-9	10-19	20-39	40-99
Discount Rate	10%	20%	25%	30%

Order Example: Part Number - L, SHBZ12 - 15, SHBR16 - 20, SHFZ16 - 20

Days to Ship: 6 Days P87, 2 Days

Alterations: Part Number - L, LC, SHBZ20 - 20 - LC10, 8 Days

Alteration	Code	Spec.			Price Adder
		d	min		
LC	Full Length Specify in 1mm Increment. Order Code min:LC<L	5	5	7	d5-d20 2.00
		6	5	7	
		8	5	7	
		10	5	7	
		12	5	7	
		13	7	10	d25-30 3.00
		15	7	10	
		16	7	10	
		20	7	10	
		30	7	10	

Type	d	€ Unit Price						
		L8	L10	L12	L15	L20	L25	L30
SHBZ	5							
	6							
	8							
	10							
	12							
	13							
	15							
	16							
	20							
	25							
SHBR	30							

Type	d	€ Unit Price						
		L8	L10	L12	L15	L20	L25	L30
SHBZ	5							
	6							
	8							
	10							
	12							
	13							
	15							
	16							
	20							
	25							
SHBR	30							

# Oil Free Bushings

-Bronze Standard Flanged Type / Oil Free Bushings with Male Thread Housing (Built-in Copper Alloy)-

CAD Data

**Standard Flanged Type** **RoHS 10**

**SHTZ** (Round Flange)  
**SHTNZ** (Compact)

Material: Special Bronze Castings  
Allowable Temperature: -40~150°C

Accessories: Hexagon Socket Low Head Cap Screws 2-4 pcs.

Ensure the bushing remains well lubricated.

Part Number	Type	d	L	D <sub>H7</sub>	H	T	t	d <sub>1</sub>	d <sub>2</sub>	P.C.D.	F	A	Accessories	
													Hexagon Socket Low Head Cap Screw	Hexagon Socket Low Head Cap Screw
SHTZ	6	+0.022	15	10	0	25	4	2.2	3.5	6	17	17	M3-10x2	
	8	+0.028	20	12	-0.015	27	4	2.9	4.5	6	19	19	M4-12x2	
	10	+0.013	25	14	0	29	5	3	5.5	7.5	21	21	M4-12x4	
	12	+0.034	25	18	-0.018	36	6	3	6.5	9	26	26	M5-16x4	
	16	+0.016	30	22	0	40	7	3	7.5	10	30	30	M5-16x4	
	20	+0.041	30	28	-0.021	49	8	4	8.5	11	38	38	M6-20x4	
	25	+0.020	30	33	0	54	9	4	9.5	12	43	43	M6-20x4	
	30	+0.020	35	38	-0.025	63	10	4	10.5	13	50	50	M6-20x4	

**Price** **Volume Discount** (Round down to one Cent.) P87

Quantity	1-29	30-34	35-39	40-49
Discount Rate	5%	10%	15%	18%
Days to Ship	Standard			

For orders larger than indicated amounts, please request a quotation.

**Alterations** Part Number - L, LC, SHTZ20 - 30 - LC20, 8 Days

Type	d	€ Unit Price							Alteration	Code	Spec.	Price Adder
		L15	L20	L25	L30	L35	L40	L50				
SHTZ	6								LC	Full Length Specify in 1mm Increment. Order Code min:LC<L	d6-d20 2.00	
	8											
	10											
	12											
	16											
	20											
	25											
	30											

**Order Example** Part Number - L, SHTZ16 - 25, SHTNZ16 - 40

**Days to Ship** 6 Days P87

**Features** Machining and assembly process to the assembling plate can be reduced by changing from the conventional tapping hole x 4 to H7 hole x 1. Removing counterbored holes for screw mounting from the flange made the flange diameter up to 17mm smaller, resulting in space savings. The nut was developed for this product with a compact design with opposite sides and angles are the same thickness as JIS Type 3.

**With Male Thread Housing Oil Free Bushings**

Case	Type	Housing	Tightening Nut	Bushings
		Material	Surface Treatment	Material
Single	MPNT	1.0038/ S235JR	Electroless Nickel Plating	High Tensile Brass Alloy
Double	MPNTW	1.1191/C45E	Electroless Nickel Plating	Solid Lubricant Embedded

Recommended Mating Shafts f8 or g6

Part Number	Type	d	D	L		L <sub>1</sub>	T	H	B	M	m	(e)	€ Unit Price		-Dimensions of Special Nuts-			
				Single	Double								MPNT	MPNTW	M	m	Special nut	JIS Type 3
Single MPNT	6	14	22	37	5	5	20	17	14x1.5	8	19.6	14	8	17	19.6	22	25.4	
	8	18	27	47	5	5	25	21	18x1.5	11	24.3	18	11	21	24.3	27	31.2	
	10	20	32	57	5	6	30	24	20x1.5	12	27.7	20	12	24	27.7	30	34.6	
	12	22	32	57	10	6	32	27	22x1.5	13	31.2	22	13	27	31.2	32	37.0	
	13	24	32	57	10	6	35	30	24x1.5	14	34.6	24	14	30	34.6	36	41.6	
	16	27	37	67	10	6	40	32	27x1.5	16	37.0	27	16	32	37.0	41	47.3	
	20	33	42	77	10	8	45	38	33x1.5	20	43.9	33	20	38	43.9	50	57.7	
	25	40	58	108	10	8	55	46	40x1.5	25	53.1	40	25	46	53.1	-	-	
	30	48	68	128	10	10	65	55	48x1.5	29	63.5	48	29	55	63.5	75	86.5	

**Order Example** Part Number - L, MPNT6, MPNTW16

**Days to Ship** 6 Days P87

**Price** **Volume Discount** (Round down to one Cent.) P87

Quantity	1-9	10-14	15-19	20-29
Discount Rate	5%	10%	15%	18%
Days to Ship	Standard			

For orders larger than indicated amounts, please request a quotation.