

Oil Free Bushings / Oil Free Bushing Housing Units - Standard Flanged

High Precision Built-In Multi-Layer LF Bushings

■ Features: More precise linear and rotary motion compared to Multi-Layer LF Bushings - Straight (MDZB) can be achieved by keeping the clearance between bushings and g6 shafts small.

High Precision

BFLB

Fluor resin Layer

- ⚡ BFLB is specifically effective if the mating material is soft such as stainless steel, aluminum, brass, etc. (Soft mating material is hardly damaged.)
- ⚡ Excels in relative wear amount: $1.6 \times 10^{-7} \text{ mm}^3/\text{N} \cdot \text{m}$ and abrasion resistance. (It varies depending on condition of use.)

Material: Base Material: EN AW-2017 Equiv.
Sliding Material: Fluororesin
* Base and sliding materials are bonded.
Allowable Temperature: -50~140°C

Applicable to linear and rotary motion.
Loctite (thread locking adhesive) is recommended to affix bushings.

RoHS10

Part Number Type	d	L					D	Tolerance	T	Unit Price		
		5	6	8	10	12				L5-8	L10-15	L20-25
BFLB	4	5	6				7	0 -0.015	1.5			
	5	5	6	8			8					
	6	5	6	8	10	12	9					
	8	6	8	10	12	15	11					
	10	6	8	10	12	15	13					
	12						15					
	16						19					

Ordering Example: Part Number BFLB10 - L 10

■ Features: Suitable for vertical use. Reduces the time of manufacturing and assembling the housing.

Flanged

MDRA (Round Flange, Single)
MDSA (Square Flange, Single)
MDRAW (Round Flange, Double)
MDSAW (Square Flange, Double)

MDCA (Compact Flange, Single)
MDCAW (Compact Flange, Double)

d=6-12
d=16-30

Bushing: MDZB (P398)
Seals: NBR (O-Ring)
* Housing Relief When D≤28, D -0.1 to -0.3; When D≥32, D -0.3 to -0.5

- ⚡ Perpendicularity of flange bottom plane to surface D is 0.02 or less.
- ⚡ Effective length of D Tolerance below is L1.
- ⚡ 2 Oil Free Bushings are included in Single Type d25, d30.

Material: Aluminum Alloy (Housing)
Surface Treatment: Clear Anodize

RoHS10

Part Number Type	d	Tolerance	D	Tolerance	L		L1	S		H	T	d1	d2	t	P.C.D.	K	F	A	Unit Price							
					Single	Double		Single	Double										MDRA	MDRAW	MDSA	MDSAW	MDCA	MDCAW		
MDRA (Round Flange)	6	+0.065	12	0	19	32	5	13	26	28	5	3.5	6	3.1	20	22	20									
	8	0	15	-0.013	24	38		18	32	32												24	25			
	10		19		29	50		21	42	40												29	30			
MDSA (Square Flange)	12	+0.068	21	0	30	51	10	21.6	42.6	42	6	4.5	7.5	4.1	32	32	32									
	16	0	28	-0.016	37	63		26.6	52.6	48												38	37	22	31	
	20		32		42	73		31.6	62.6	54												43	42	24	36	
MDCA (Compact Flange)	25	+0.081	40	0	59	103	10	48.6	92.6	62	10	6.6	11	6.1	60	58	35	49								
	16	0	45	-0.019	64	115		51.6	102.6	74													51	50	32	40
	30	+0.085																								

⚡ Flanged Height-Adjusting Spacers are selectable from P.330.

Ordering Example: Part Number MDRA10

Oil Free Bushing Housing Units - Blocks

Built-In Multi-Layer LF Bushings - Tall Blocks / Tall Blocks Compact / Wide Blocks

■ Features: Best suitable for horizontal use. Reduces the time of manufacturing and assembling the housing. Compact in width (W Dimension) compared to Wide Blocks Type.

Tall Blocks Standard Type

MDBA (Single with Seal)
MDBAW (Double with Seal)

Bushing: MDZB (P398)
Seals: NBR (O-Ring)

Material: Aluminum Alloy (Housing)
Surface Treatment: Clear Anodize

RoHS10

Part Number Type	d	Tolerance	h	W	H	D	Single				Double				ℓ	M1	M2	d1xt	Unit Price	
							L	L1	L2	S	L	L1	L2	S					MDBA	MDBAW
MDBA MDBAW	6	+0.065	14	16	22	8.1	27	18	9	21	-	-	-	-	5	M4	M4	6x5 (for M3 Screws)		
	8	0	16	20	26	10.1	32	20	10	26	-	-	-	-						
	10	+0.068	19	26	32	12.2	39	27	15	31	62	36	50	54	6	M5	M5	8x6 (for M4 Screws)		
	12	0	20	28	34	14.3	40	32	18	32	78	52	65	54	7	M6	M6	9x7 (for M5 Screws)		
	16		27	36	49	18.3	47	32	18	37	85	58	70	75	8	M8	M8	11x8 (for M6 Screws)		
	20	+0.081	31	42	54	23.4	52	36	18	42	85	58	70	75	8	M8	M8	11x8 (for M6 Screws)		
	25	0	37	52	65	28.4	69	42	22	59	120	80	100	110	9	M10	M10	14x10 (for M8 Screws)		
	30	+0.085	40	58	71	34.4	74	44	22	62	128	90	110	116	9	M10	M10	14x10 (for M8 Screws)		

■ Features: Best suitable for horizontal use. Reduces the time of manufacturing and assembling the housing. More compact housing compared to Housing Unit - Tall Blocks - Standard Type.

Tall Blocks Compact Type

MDBAC

Bushing: MDZB (P398)
Seals: NBR (O-Ring)

Material: Aluminum Alloy (Housing)
Surface Treatment: Clear Anodize

RoHS10

Part Number Type	d	Tolerance	h	W	H	D	L	L1	L2	S	ℓ	M1	M2	d1xt	Unit Price
12	+0.068	18	22	28	14.3	40	26	14	32	5					
16	0	21	28	35	18.3	47	28	15	37	5.5					
20	+0.081	24	34	40	23.4	52	34	21	42	5.5	M8	M8	11x8 (for M6 Screws)		
25	0	30	42	50	28.4	69	42	25	59	8					
30	+0.085	33	48	57	34.4	74	54	37	62	8					

■ Features: Best suitable for horizontal use. Reduces the time of manufacturing and assembling the housing. Sufficient clamping strength can be obtained with 4 Mounting Holes.

Wide Blocks Standard Type

MDWBA

Bushing: MDZB (P398)
Seals: NBR (O-Ring)

Material: Aluminum Alloy (Housing)
Surface Treatment: Clear Anodize

RoHS10

Part Number Type	d	Tolerance	h	W	H	D	L	L1	S	W1	W2	M	d1	ℓ	A	Unit Price
8	0	11	34	20	10.1	32	18	26	24	5	M4	3.4	8	10		
10		13	44	30	12.2	39	21	31	28	8	M5	4.3	12	20		
12	+0.068	15	44	30	14.3	40	26	32	30.5	6.75	M5	4.3	12	20		
16	0	19	54	42	18.3	47	34	37	36	9	M5	4.3	12	26		
20	+0.081	21	54	42	23.4	52	40	42	40	7	M6	5.2	12	26		
25	0	26	78	60	28.4	67	50	59	54	12	M8	7	18	38		
30	+0.085	30	78	60	34.4	74	58	62	58	10	M8	7	18	38		

Ordering Example: Part Number MDBA10, MDBAC12, MDWBA16