


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

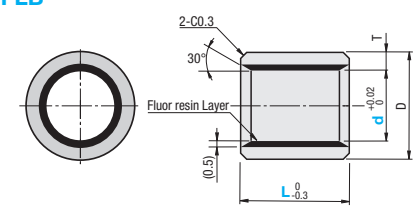
High Precision Built-In Multi-Layer LF Bushings

**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**



**RoHS10**



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.)

**M** Material: Base Material: A2017  
 Sliding Material: Fluororesin  
 \* Base and sliding materials are bonded.  
 Allowable Temperature: -50~140°C

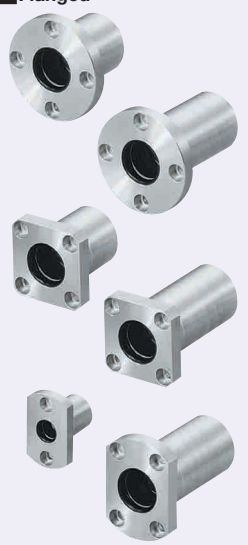
🔧 **Applicable to linear and rotary motion.**  
 🔧 Loctite (thread locking adhesive) is recommended to affix bushings.

Part Number Type	d	L						D	Tolerance	T	Unit Price		
		5	6	8	10	12	15				L5-8	L10-15	L20-25
BFLB	4	5	6				7	0 -0.015	1.5				
	5	6	8				8						
	6	8	10	12			9						
	8	10	12	15	20		11						
	10	12	15	20			13						
	12	15	20				15						
	16	20	25				19						

Ordering Example: Part Number BFLB10 - L 10

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

**Flanged**



**RoHS10**

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

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

⚙️ 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.

**M** Material: Aluminum Alloy (Housing)  
**S** Surface Treatment: Clear Anodize

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

Part Number Type	d	Tolerance	D	L		S	H	T	d1	d2	t	P.C.D.	K	F	A	Unit Price			
				Single	Double											MDRA	MDRAW	MDSA	MDSAW
MDRA MDRAW (Round Flange)	6	+0.065	12	0	19	32						20	22		20				
	8	0	15	-0.013	24	38						24	25		24				
	10		19		29	50						29	30		29				
MDSA MDSAW (Square Flange)	12	+0.068	21	0	30	51						32	32		32				
	16	0	28	-0.016	37	63						38	37	22	31				
	20		32		42	73						43	42	24	36				
MDCA MDCAW (Compact Flange)	25	+0.081	0		59	103						51	50	32	40				
	16	0	40	-0.019	64	115						60	58	35	49				
	30	+0.085	45		64	115						60	58	35	49				

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

Ordering Example: Part Number MDRA10



Lead Screw


MDRA

# Oil Free Bushing Housing Units - Blocks

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

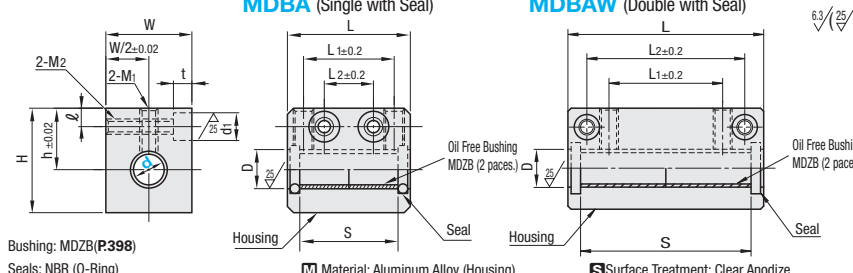
**Features:** Best suitable for horizontal use. Reduces the time of manufacturing and assembling the housing. Compact in width (W Dimension) compared to Wide Blocks Type.

**Tall Blocks Standard Type**



**RoHS10**

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




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

**M** Material: Aluminum Alloy (Housing)  
**S** Surface Treatment: Clear Anodize

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
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		19	26	32	12.2	39	27	15	31	62	36	50	54	6	M5	M5	8x6 (for M4 Screws)	
	12	+0.068	20	28	34	14.3	40	32		32	78	52	65	54	7	M6	M6	9x7 (for M5 Screws)	
	16	0	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		59	120	80	100	110	9	M10	M10	14x10 (for M8 Screws)	
	25	0	37	52	65	28.4	69	42		62	128	90	110	116					
	30	+0.085	40	58	71	34.4	74	44	22	62	128	90	110	116					

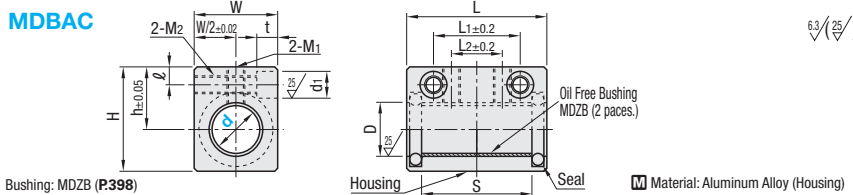
**Features:** Best suitable for horizontal use. Reduces the time of manufacturing and assembling the housing. More compact housing compared to Housing Unit - Tall Blocks - Standard Type.

**Tall Blocks Compact Type**



**RoHS10**

**MDBAC**




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

**M** Material: Aluminum Alloy (Housing)  
**S** Surface Treatment: Clear Anodize

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	M8	M8	11x8 (for M6 Screws)		
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					
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					

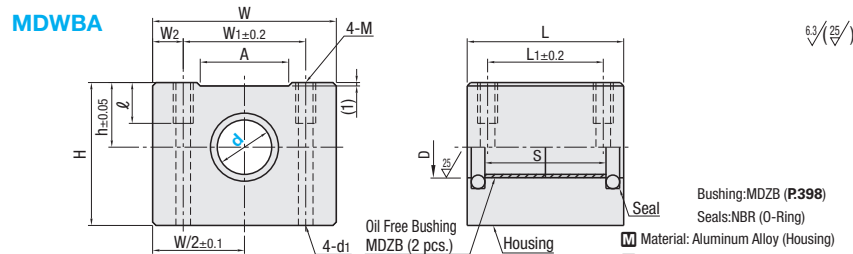
**Features:** Best suitable for horizontal use. Reduces the time of manufacturing and assembling the housing. Sufficient clamping strength can be obtained with 4 Mounting Holes.

**Wide Blocks Standard Type**



**RoHS10**

**MDWBA**



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

**M** Material: Aluminum Alloy (Housing)  
**S** Surface Treatment: Clear Anodize

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



Cylinder

MDBA