

# 3-Way MB (Mini B)

Direct Acting Valves - Miniature  
#10-32 Ports, 1/8 NPT & Manifolder  
Plastic Body Valves/Zinc Manifold Base



## General Description:

MB Series valves are designed for the actuation of small air cylinders and clamps, and are suited for applications requiring low air flow.

For manifolding, 2 or 3 station bases are offered. Manifolds can be bolted together to provide the desired banking combination.

The valves are direct acting, multipurpose valves with all ports in the body. The valve body is molded from plastic, while the internal parts are nylon, polyester and stainless steel. The valves will operate at up to 150 PSI, consuming only 4 watts per coil on AC operation, 5 watts per coil on DC.



Specialty

Functional design flexibility is assured given the wide variety of available valve configurations. The listed accessories enable the user to customize MB Series valves as 2-way normally open or normally closed by plugging one port; 3-way normally open, normally closed or directional control.

### Installation

Valves can be mounted in any position. The preferred orientation is with the coil vertical and upright.

### Compatible Fluids

Lubricated air, non-lubricated air, and inert gases compatible with materials of construction.

### Standard Materials of Construction

- Body—plastic
- Seals—NBR
- Sleeve—stainless steel (305)
- Plunger—stainless steel (430FR)
- Stop—stainless steel (430FR)
- Spring—stainless (17-7PH)
- Shading ring—copper (AC valves only)
- Manifold base—zinc

### Operating Speed

- Up to 1000 cycles per minute

### Coil Classification

- Class A Taped, leaded coil standard

### Response Time (approximate):

- AC: 3-12 ms to open  
5-16 ms to close
- DC: 8-14 ms to open  
5-15 ms to close

## Electrical Characteristics:

### Voltages

- AC—24/60, 120/60, 240/60
- DC—12, 24 & 120

### Power Consumption

- 4 watts AC per coil
- 5 watts DC per coil

Maximum allowable internal seat leakage is 3 SCCM @125 psi.

No allowable external leakage.

## 3-Way Direct Acting Valves

Port Size	Orifice Diameter		Cv Factor		Operating Pressure (PSI)		Wattage		Class A Tapped Leaded Coil	Valve Ref.
	NC Port	NO Port	NC Port	NO Port	Minimum	Maximum	AC	DC		
#10-32 Ports	3/64	3/64	0.032	0.028	0	150	4	5	MBD002	D3
Manifold Mounted	3/64	3/64	0.032	0.028	0	150	4	5	MBD005	D4

## Valve Accessories

Accessories	Contents	Part Number	Valve Reference
2-Station Manifold Base Kit (for mounting 2 valves)	4 Port plugs 4 No. 5 self tapping screws	MB-60-S001	--
3-Station Manifold Base Kit (for mounting 3 valves)	5 Port plugs 6 No. 5 self tapping screws	MB-60-S002	--
Manifold Interface Kit (connects 2 manifold bases)	1 No. 8 screw 2 "O" rings	MB-60-S003	--
Manifold Blank Station Kit (for sealing an unused station)	1 Plate 2 "O" rings 2 Screws	MB-60-S004	--
2-Station Manifold Base const. ref. 234	1 MB-01-003 manifold block 2 V1-31-254 nuts assembled	MB-60-S005	D5
3-Station Manifold Base const. ref. 234	1 MB-01-004 manifold block 2 V1-31-254 nuts assembled	MB-60-S006	D5

## Ordering Instructions for Multiple Station Manifolds

**Step 1:** Determine the number of valve stations required. This will equal the number of subbase valves to order (MBD005).

**Step 2:** Select the combination of two and three-station manifolds that sum to equal the number of valve stations required (i.e. five stations total = one three-station and one two-station manifold).

**Step 3:** Choose the accessory kits required to complete the system and determine if you want the valves assembled to the manifolds at the factory.

**Step 4:** Specify the required voltage.  
Example:

- You have selected a valve which is to be manifolded.
- Your system requires a five-station manifold (i.e. one three-station manifold attached to one two-station manifold).

3. You require the manifold bases and an interface kit. You decide to assemble the valves and manifolds. If they were to be assembled by the factory, there would be a price-add.

4. Your system is 120/60 watts AC:  
Your order should read:  
5-MBD005, 120/60  
1-MB-60-S001  
1-MB-60-S002  
1-MB-60-S003  
1-MB-60-S005  
1-MB-60-S006

Fig. 1

Voltage	24/60*	120/60	240/60*	12VDC	24VDC
Coil Code	AB215A	AB619A	AB820A	DC116A	DC218A
Coil Part Number*	CMB2230N18	CMB2238N18	CMB2240N18	CMB2231N18	CMB2234N18

\*When ordering a replacement coil, use Coil Part Number (not Coil Code)

Select the MB series pressure vessel number from above and follow with the coil/enclosure number based on voltage from Fig. 1. Example MBD005 for 120/60 becomes part number MBD005AB619A

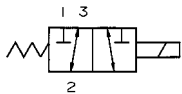
\*Not active - consult factory

AC Power Consumption		DC Power Consumption		
VA holding	VA inrush	12VDC	24VDC	120VDC
6.5	12.0	0.42	0.21	0.04

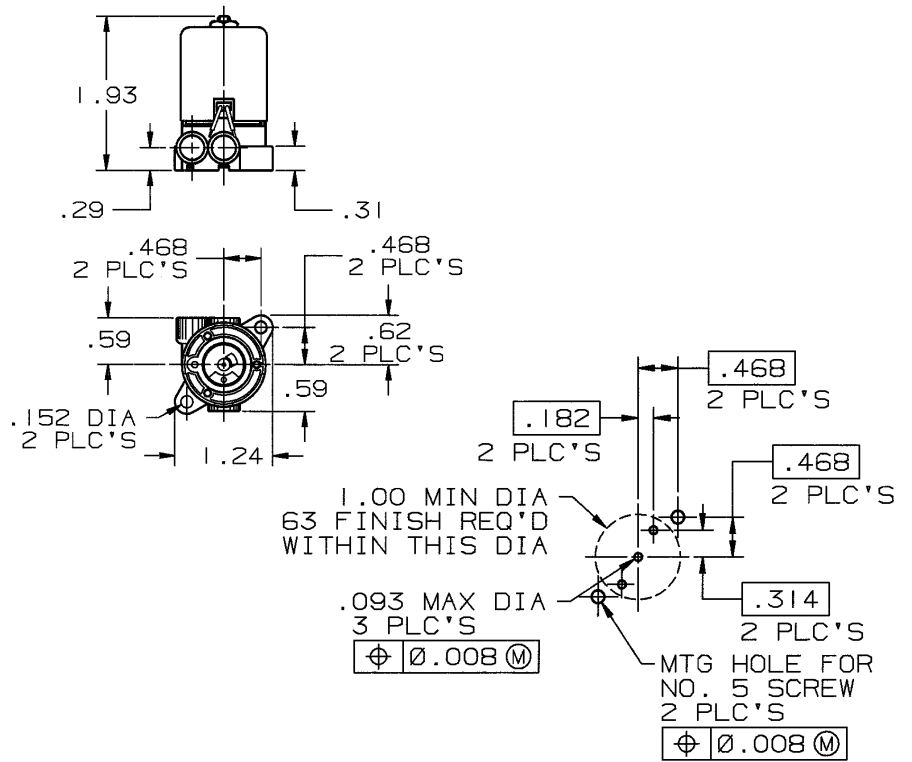


Specialty

## Valve Reference D3

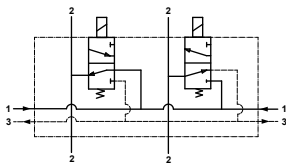


3-Way Universal  
Port Identification  
1-NC / 2-COMMON / 3-NO



MANIFOLD MOUNTING SURFACE DIAGRAM

## Valve Reference D4



3-way,  
two station Universal

