

MP8000 Series

# Pneumatic Valve Actuators



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### Description

MP8000 Series Pneumatic Valve Actuators are designed to accurately position chilled water, hot water, and steam control valves in response to a pneumatic signal from a controller. A pneumatic or electric valve positioner can be ordered separately for use in applications where sequential operation is desired or additional positioning power is necessary. MP8000 Series Actuators have a molded, synthetic rubber diaphragm contained in a sturdy, corrosion-resistant housing that protects against dirt and damage. This molded diaphragm provides a constant effective area throughout the actuator stroke.

### Features

- universal-application design allows for use in hot water, chilled water, and steam
- field-reversible action allows for selectable spring-return-up or spring-return-down action on N.O. valves
- strong, corrosion-resistant housing ensures long life
- position indicator, included with every actuator, provides visual indication of valve stem position

### To Order

Specify the code number from the following selection charts.

### Mounting Kits (For Field Assembly)

| Code Number | Description   |
|-------------|---|
| MP8000-6201 | Mounting Kit for MP82, MP83, MP84, or MP85 Series Actuators Mounted to 2-1/2, 3, or 4 in. VG2000, V-5252, V-5462, or V-5842 Cast Iron Flanged Globe Valves with 3/8 in. Stem (Kit Includes: Two Stem Hex Jam Nuts and One Locknut)                          |
| MP8000-6203 | Mounting Kit for MP86 or MP87 Series Actuators Mounted to 3, 4, 5, or 6 in. VG2000, V-5252, V-5462, or V-5842 Cast Iron Flanged Globe Valves with 1/2 in. Stem (Kit Includes: Two Stem Hex Jam Nuts and One Locknut)  |
| MP8000-6501 | Mounting Kit for MP82 or MP83 Series Actuators Mounted to 1-1/2 or 2 in. V-5254, V-5464, or V-5844 Series Cage Trim Valves with 1/4 in. Stem (Kit Includes: One Stem Nut, One Stem Extender, Two Stem Extender Nuts, and One Yoke Nut)                      |
| MP8000-6701 | Mounting Kit for MP82 or MP83 Series Actuators Mounted to 1/2 or 3/4 in. VG7000 Series Bronze Control Valves with Stainless Steel Trim (Kit Includes: One Stem Nut, One Stem Extender, Two Stem Extender Nuts, and One Yoke Nut)                            |
| MP8000-6702 | Mounting Kit for MP82 or MP83 Series Actuators Mounted to 1 through 2 in. VG7000 Series Bronze Control Valves with 1/4 in. Stem and Stainless Steel or Brass Trim (Kit Includes: One Stem Nut, One Stem Extender, Two Stem Extender Nuts, and One Yoke Nut) |
| MP8000-6703 | Mounting Kit for MP84 or MP85 Series Actuators Mounted to 1-1/2 or 2 in. VG7000 Series Bronze Control Valves with 3/8 in. Stem and Stainless Steel Trim (Kit Includes: Two Stem Nuts and One Yoke Nut)  |

### Positioners and Positioner Mounting Kits (Order Separately)

| Code Number | Description   |
|-------------|---|
| V-9502-95   | Pneumatic Valve Actuator Positioner (Less Spring and Mounting Hardware)   |
| MP8000-6002 | Mounting Kit for V-9502-95 Pneumatic Valve Actuator Positioner (Kit Includes All Necessary Mounting Hardware and Six Springs) |
| EPP-1000-8  | Electro-Pneumatic Valve Actuator Positioner (Less Mounting Hardware)  |
| MP8000-6003 | Mounting Kit for EPP-1000-8 Electro-Pneumatic Valve Actuator Positioner (Kit Includes All Necessary Mounting Hardware)        |

### Specifications

| MP8000 Series Pneumatic Valve Actuators |  |
|---|--|
| Effective Diaphragm Area                | MP82/MP83 Series Actuators 25 sq in. (Size 150)                          |
|   | MP84/MP85 Series Actuators 50 sq in. (Size 300)                          |
|   | MP86/MP87 Series Actuators 100 sq in. (Size 600)                         |
| Maximum Control Pressure                | 25 psig (172 kPa)  |
| Air Connection                          | Barbed Fitting for 1/4 in. O.D. Poly tubing                              |
| Ambient Operating Temperature Limits    | -20 to 150°F (-29 to 66°C)   |
| Ambient Storage Temperature Limits      | -40 to 176°F (-40 to 80°C)   |
| Materials                               | Housing Die-Formed Carbon Steel (Coated with Corrosion-Resistant Finish) |
|   | Diaphragm EPDM (Ethylene Propylene Diene Monomer)                        |
|   | Stem Seals Nitrile U-Cups  |
|   | Bearings Reinforced Thermoplastic  |
|   | Yoke Formed Steel (Coated with Corrosion-Resistant Finish)               |
|   | Spring Chrome-Silicon Steel (Coated with Corrosion-Resistant Finish)     |
|   | Stem Components Stainless Steel  |
| Shipping Weight                         | MP82/MP83 Series Actuators 14.0 lb (6.4 kg)                              |
|   | MP84/MP85 Series Actuators 31.0 lb (14.1 kg)                             |
|   | MP86/MP87 Series Actuators 47.0 lb (21.3 kg)                             |

## MP8000 Series Pneumatic Valve Actuators (Continued)

### Repair Parts (Order Separately)

| Code Number     | Description   |
|-----------------|---|
| MP8000-6001     | Seal Kit for All MP8000 Series Actuators  |
| MP8000-6325     | Diaphragm and Seal Kit for MP82 and MP83 Series Actuators   |
| MP8000-6350     | Diaphragm and Seal Kit for MP84, MP85, MP86, and MP87 Series Actuators (Two Kits Required for MP86 and MP87 Series Actuators) |
| MP8000-6012 (a) | Repair Tool Kit (Required for Diaphragm and Seal Replacement) (a)   |

(a) This kit includes a strap handle and polyester strap, stem wrench, and 7/16 in. hex tool.

### Selection Chart

| M                        | P | 8 |   |   |   |   |   |   |    | Pneumatic Valve Actuator             |   |
|--------------------------|---|---|---|---|---|---|---|---|----|--------------------------------------|---|
| 1                        | 2 | 3 |   |   |   |   |   |   |    | 2                                    | 4   |
|                          |   |   |   |   |   |   |   |   |    | <b>Size and Action</b>               | 2 = 25 sq in. (Size 150), Spring-Return-Up<br>3 = 25 sq in. (Size 150), Spring-Return-Down<br>4 = 50 sq in. (Size 300), Spring-Return-Up<br>5 = 50 sq in. (Size 300), Spring-Return-Down<br>6 = 100 sq in. (Size 600), Spring-Return-Up<br>7 = 100 sq in. (Size 600), Spring-Return-Down  |
|                          |   |   |   |   |   |   |   |   |    | <b>Stroke</b>                        | 1 = 5/16 in. (MP82 and MP83 Series Actuators)<br>2 = 1/2 in. (MP82 and MP83 Series Actuators)<br>3 = 3/4 in. (MP82, MP83, MP84, and MP85 Series Actuators)<br>4 = 1 in. (MP84 and MP85 Series Actuators)<br>5 = 1-1/8 in. (MP84, MP85, MP86, and MP87 Series Actuators)<br>7 = 1-1/2 in. (MP86 and MP87 Series Actuators)   |
|                          |   |   |   |   |   |   |   |   |    | <b>Spring Range</b>                  | C = 3 to 7 psig (Suggested for N.O. Valves with Positioner)<br>D = 4 to 8 psig (Suggested for Three-Way Valves with Positioner)<br>E = 9 to 13 psig (Suggested for N.C. Valves with Positioner)   |
|                          |   |   |   |   |   |   |   |   |    | <b>Yoke</b>                          | 001 = Factory-Mounted Yoke  |
|                          |   |   |   |   |   |   |   |   |    | <b>Valve Mounting Kit (Optional)</b> | A = 1, 1-1/4, 1-1/2, and 2 in. Valves (VG7000 Series Stainless Steel or Brass Trim, MP82 or MP83 Actuator)<br>B = 1/2 and 3/4 in. Valves (VG7000 Series Stainless Steel Trim, MP82 or MP83 Actuator)<br>C = 1-1/2 and 2 in. Valves (VG7000 Series Stainless Steel Trim, MP84 or MP85 Actuator)<br>D = 1-1/2 and 2 in. Valves (V-5000 Series Cage Trim, MP82 or MP83 Actuator)<br>E = 2-1/2 and 3 in. Valves with "L" Stem (3/8 in.) (VG2000 Series Flanged Cast Iron, MP82 or MP83 Actuator)<br>F = 2-1/2, 3, and 4 in. Valves with "M" Stem (3/8 in.) (VG2000 Series Flanged Cast Iron, MP84 or MP85 Actuator)<br>G = 3, 4, 5, and 6 in. Valves with "N" Stem (1/2 in.) (VG2000 Series Flanged Cast Iron, MP86 or MP87 Actuator) |
| 1                        | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | = Field                              |   |
| M                        | P | 8 | 2 | 1 | C | 0 | 0 | 1 | B  |                                      |   |
| Pneumatic Valve Actuator |   |   |   |   |   |   |   |   |    |                                      |   |

Example: Pneumatic valve actuator, 25 sq in. (size 150), spring-return-up, 5/16 in. stroke, 3 to 7 psig spring range, with factory-mounted yoke and optional valve mounting kit.