

## Descriptions and Applications

KMC MCP-8031 Pneumatic Actuators are designed to control small dampers in HVAC air handling systems or air terminal units. They feature a right-angle bracket for mounting to the side of VAV terminals, ductwork, or damper frame. The metal body is also suited to ceiling plenum installations where non-metallic actuators are not allowed.

The actuator may be rotated in its bracket (supplied on most models) so air connections can be made where needed. Actuators are supplied with a clevis and optional clevis/cotter pins or crank arm linkage.

## Accessories

|          |                              |   |
|----------|------------------------------|---|
| HPO-0004 | Retainer, bracket            |    |
| HPO-0005 | Clevis pin                   |    |
| HPO-0006 | Cotter pin                   |    |
| VTD-1611 | Push rod                     |   |
| VTD-1403 | Short crank arm, 3/8" shafts |  |
| VTD-1404 | Short crank arm, 1/2" shafts |  |

## Models

### Bronze Bushing with Clevis and Cotter Pins

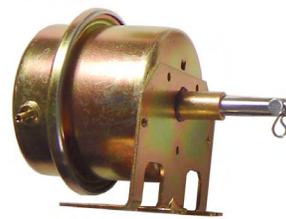
|              |                          |
|--------------|--------------------------|
| MCP-80312101 | 3 to 12 psi spring range |
| MCP-80313101 | 5 to 10 psi spring range |
| MCP-80315101 | 8 to 13 psi spring range |
| MCP-80318101 | 4 to 8 psi spring range  |

### Bronze Bushing WITHOUT Clevis and Cotter Pins

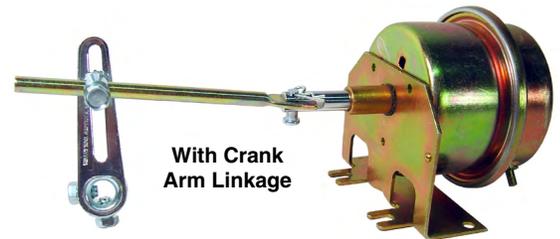
|              |                          |
|--------------|--------------------------|
| MCP-80312100 | 3 to 12 psi spring range |
| MCP-80313100 | 5 to 10 psi spring range |
| MCP-80315100 | 8 to 13 psi spring range |
| MCP-80318100 | 4 to 8 psi spring range  |

### Delrin (Plastic) Bushing WITHOUT Clevis and Cotter Pins

|              |                          |
|--------------|--------------------------|
| MCP-80312102 | 3 to 12 psi spring range |
| MCP-80313102 | 5 to 10 psi spring range |
| MCP-80315102 | 8 to 13 psi spring range |
| MCP-80318102 | 4 to 8 psi spring range  |



With Clevis and Cotter Pins



With Crank Arm Linkage

## Features

- ◆ The metal body is ideal for ceiling installations
- ◆ Mounting bracket supplied on all models except -2099 and -3003
- ◆ Crank arm linkage or direct connection between damper and actuator shaft available

### Delrin (Plastic) Bushing with Clevis and Cotter Pins but WITHOUT Mounting Bracket\*

|              |                          |
|--------------|--------------------------|
| MCP-80313003 | 5 to 10 psi spring range |
|--------------|--------------------------|

### Bronze Bushing (w/ Special 1" Stroke) WITHOUT Clevis and Cotter Pins or Mounting Bracket\*

|              |                         |
|--------------|-------------------------|
| MCP-80312099 | 3 to 8 psi spring range |
|--------------|-------------------------|

### Bronze Bushing w/ Linkage for 1/2" Damper Shaft

|              |                          |
|--------------|--------------------------|
| MCP-80312111 | 3 to 12 psi spring range |
| MCP-80313111 | 5 to 10 psi spring range |
| MCP-80315111 | 8 to 13 psi spring range |
| MCP-80318111 | 4 to 8 psi spring range  |

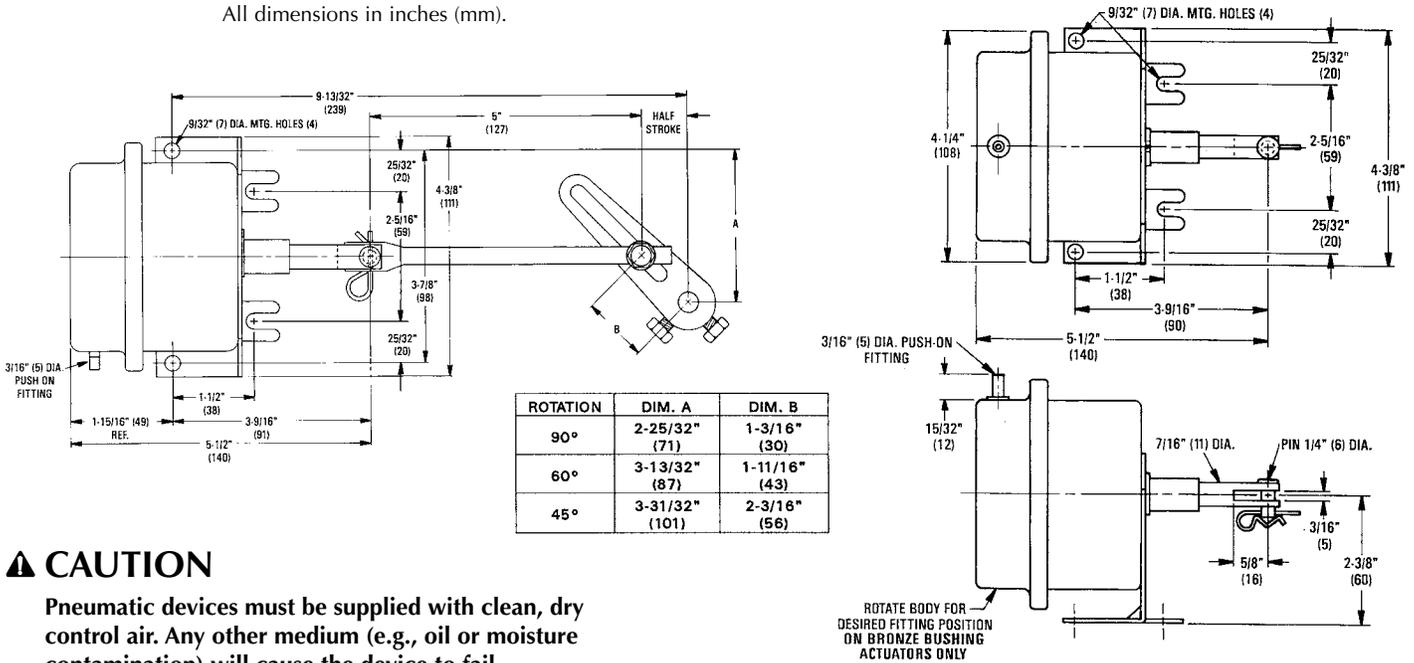
### Bronze Bushing w/ Linkage for 3/8" Damper Shaft

|              |                          |
|--------------|--------------------------|
| MCP-80312112 | 3 to 12 psi spring range |
| MCP-80313112 | 5 to 10 psi spring range |
| MCP-80315112 | 8 to 13 psi spring range |
| MCP-80318112 | 4 to 8 psi spring range  |

\*NOTE: All models except -2099 and -3003 have a right-angle mounting bracket.

## Details

All dimensions in inches (mm).



### CAUTION

Pneumatic devices must be supplied with clean, dry control air. Any other medium (e.g., oil or moisture contamination) will cause the device to fail.

| DAMPER TYPE                  | Up to 1000 FPM     | 1000 to 2500 FPM      | 2500 to 3000 FPM    |
|------------------------------|--------------------|-----------------------|---------------------|
| Opposed Blade without seals  | 3 in.-lb. / sq.-ft | 4.5 in.-lb. / sq.-ft  | 6 in.-lb. / sq.-ft  |
| Parallel Blade without seals | 4 in.-lb. / sq.-ft | 6.0 in.-lb. / sq.-ft  | 8 in.-lb. / sq.-ft  |
| Opposed Blade with seals     | 5 in.-lb. / sq.-ft | 7.5 in.-lb. / sq.-ft  | 10 in.-lb. / sq.-ft |
| Parallel Blade with seals    | 7 in.-lb. / sq.-ft | 10.5 in.-lb. / sq.-ft | 14 in.-lb. / sq.-ft |

## Specifications

|                   |  |
|-------------------|--|
| Effective Area    | 8 sq. inches (52 sq. cm)                                     |
| Stroke            | 1-11/16" (43 mm)   |
| Supply Connection | 3/16" (5 mm) OD metal fittings                               |
| Supply Pressure   | 0 to 20 psi (138 kPa) operating,<br>30 psi (207 kPa) maximum |

**NOTE:** If application requires operation near maximum temperature AND maximum pressure, install a tubing restraint at the actuator connection.

### Temperature Limits

|           |                              |
|-----------|------------------------------|
| Operating | -20 to 180° F (-29 to 82° C) |
| Shipping  | -40 to 180° F (-40 to 82° C) |

### Material

|           |                              |
|-----------|------------------------------|
| Body      | CRS with zinc and dichromate |
| Diaphragm | Neoprene                     |
| Bearings  | Bronze or Delrin (plastic)   |
| Shaft     | CRS with nickel plating      |

**Weight** 2.0 lb. (0.9 kg)

### Damper Rating @ 1000 fpm (5.08 m/s)

|              |                         |
|--------------|-------------------------|
| Gradual      | 8 sq. ft. (0.74 sq. m)  |
| Two-position | 10 sq. ft. (0.93 sq. m) |

### Spring Ranges and Retracted/Extended Torque

(Based on 0 and 20 psi applied)

|                       |                               |
|-----------------------|-------------------------------|
| 3-8 psi (21-55 kPa),  | 20/81 in.-lb. (2/9 N•m) @ 90° |
| 4-8 psi (28-55 kPa),  | 27/81 in.-lb. (3/9 N•m) @ 90° |
| 3-12 psi (21-83 kPa), | 20/54 in.-lb. (2/6 N•m) @ 90° |
| 5-10 psi (34-69 kPa), | 34/67 in.-lb. (4/8 N•m) @ 90° |
| 8-13 psi (55-90 kPa), | 54/47 in.-lb. (6/5 N•m) @ 90° |

**Tolerance** +0.5/-1.0 psi at start point and +/-1.0 psi at finish point

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