MCP-1020/02xx Series
2-Inch Pneumatic Damper Actuators

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Description

KMC MCP-1020/02xx series pneumatic damper actuators have an actuation range of two-inches of linear movement. They are designed to position automatic air dampers in pneumatically controlled systems. They may be used for gradual or two-position applications.

Models are available with right-angle bracket mounting and several linkage options.

Features

- Gradual or two-position action
- Post or right-angle mounting bracket
- Fits 1/2-inch or 3/8-inch damper shafts
- Variety of spring ranges, mounting brackets, and linkages provide flexibility

Models

MCP-1020 *X* *YYY*

"*X*" Spring Ranges and Retracted/Extended Torque
(Based on 0 and 20 psi applied, at 90°)

2: 3 to 12 psi; 10/26 in-lb. (21 to 83 kPa; 1/3 N•m)

3: 5 to 10 psi; 16/32 in-lb. (34 to 69 kPa; 2/4 N•m)

5: 8 to 13 psi; 26/22 in-lb. (55 to 90 kPa; 3/2 N•m)

6: 10 to 15 psi; 32/16 in-lb. (69 to 103 kPa; 4/2 N•m)

8: 4 to 8 psi; 13/38 in-lb. (28 to 55 kPa; 1/4 N•m)

NOTE: For "bare" MCP-02xx actuators without linkage, see the Accessories and Repair Parts section.

"*Y*" Linkage

308: with ball joint

311: with 1/2" crank arm

312: with 3/8" crank arm



(Crank Arm Shown)

Accessories and Repair Parts

CMC-1001	Non-metallic positive positioner
VTD-0803	Ball joint, 1/4-20 male x 5/16-24 female for use on end of actuator shafts
VTD-0804	Ball joint, 1/4-20 male x 1/4-20 female for use with VTD-1400 series crank arms
VTD-0903	Right-angle bracket for MCP-1020 series
VTD-1414	3-hole crank arm for 3/8" damper shafts
VTD-1415	3-hole crank arm for 1/2" damper shafts
VTD-1630	Push rod, 5/16 x 6-1/4"
VTD-9422	Replacement actuator diaphragm
MCP-0202	3 to 12 psi actuator, female-end shaft*
MCP-0203	5 to 10 psi actuator, female-end shaft*
MCP-0205	8 to 13 psi actuator, female-end shaft*
MCP-0206	10 to 15 psi actuator, female-end shaft*
MCP-0208	4 to 8 psi actuator, female-end shaft*
MCP-0243	5 to 10 psi actuator, male-end shaft**
MCP-0245	8 to 13 psi actuator, male-end shaft**
MCP-0248	4 to 8 psi actuator, male-end shaft**

***NOTE:** Shafts with **female** ends have 1/4-20 interior threads 5/8-inch deep.

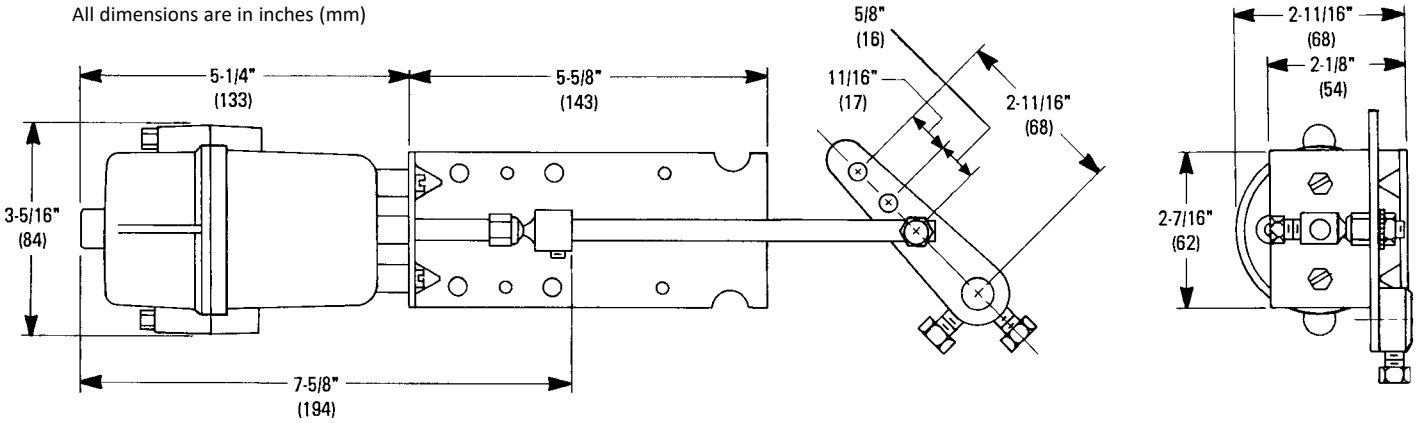
****NOTE:** Shafts with **male** ends have (1/16 x 1/16 x 0.235-inch diameter) slotted ends and 5/16-24 exterior threads.

⚠ 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.

Details

All dimensions are in inches (mm)



Damper Type	Up to 1000 FPM	1000 to 2500 FPM	2500 to 3000 FPM
Opposed Blades Without Seals	3 in-lb. per square foot	4.5 in-lb. per square foot	6 in-lb. per square foot
Parallel Blades Without Seals	4 in-lb. per square foot	6 in-lb. per square foot	8 in-lb. per square foot
Opposed Blades With Seals	5 in-lb. per square foot	7.5 in-lb. per square foot	10 in-lb. per square foot
Parallel Blades With Seals	7 in-lb. per square foot	10.5 in-lb. per square foot	14 in-lb. per square foot

NOTE: Damper manufacturers should provide information about required minimum actuator torque. If that information is not available, this chart provides general guidelines for actuator selection.

Specifications

Effective Area 3 square inches (19 sq. cm)

Stroke 2 inches (51 mm)

Material

Body	Glass-filled nylon (Nylatron GS63-13)
Diaphragm	Neoprene
Piston	Glass-filled nylon (Nylatron GS63-13)
Shaft	Cold rolled steel with nickel plating
Bearings	Glass-filled nylon (Nylatron GS63-13)

Damper Ratings @ 1,000 fpm

Gradual	3 sq. ft. (0.28 sq. m)
Two Position	4.5 sq. ft. (0.42 sq. m)

Weight 1.2 lb. (0.54 kg)

Control Signal Pressure Input*

0–20 psi (138 kPa) operating, 30 psi (207 kPa) maximum **(see the Note under the Temperature Limits section)**

Supply Connection 3/16" (5 mm) fitting for 1/4" (6 mm) O.D. polyethylene tubing

Temperature Limits*

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

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

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