MCP-3631 Series

Rotary Pneumatic Damper Actuator

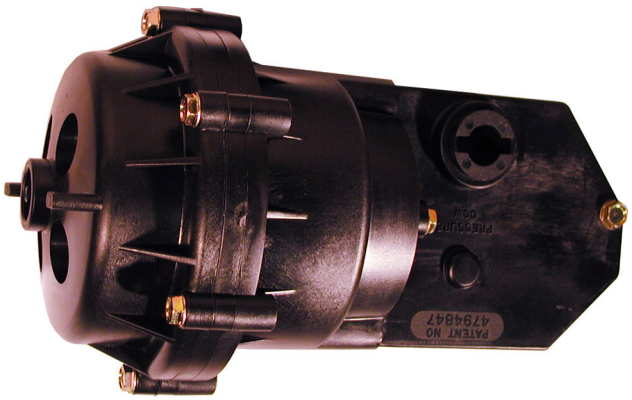
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Description and Application

These pneumatic rotary actuators are designed for use on VAV terminal units and other small dampers in HVAC systems.

Models ending in "000" will mount to 1/2-inch diameter damper shafts or (using the HLO-1011 shaft adapter) to 3/8-inch diameter shafts. Models ending with a "001" will mount to 3/8-inch square damper shafts.

Actuators may be mounted with either side toward the damper to allow clockwise or counterclockwise rotation. A non-rotation bracket is supplied with each actuator and a variety of options are available to lock the actuator's drive hub to the damper shaft.



Features

- Mounts on 1/2-inch and 3/8-inch round or 3/8-inch square shafts.
- Units can rotate clockwise or counterclockwise
- Variety of options for securing the hub and damper shaft

Models

Actuators for 1/2-inch or 3/8-inch diameter shafts

MCP-3631-2000	3 to 12 psi range (21 to 83 kPa)
MCP-3631-3000	5 to 10 psi range (34 to 69 kPa)
MCP-3631-5000	8 to 13 psi range (55 to 90 kPa)
MCP-3631-8000	3 to 8 psi range (21 to 55 kPa)

Actuators for 3/8-inch square shafts

MCP-3631-3001	5 to 10 psi range (34 to 69 kPa)
MCP-3631-5001	8 to 13 psi range (55 to 90 kPa)
MCP-3631-8001	3 to 8 psi range (21 to 55 kPa)

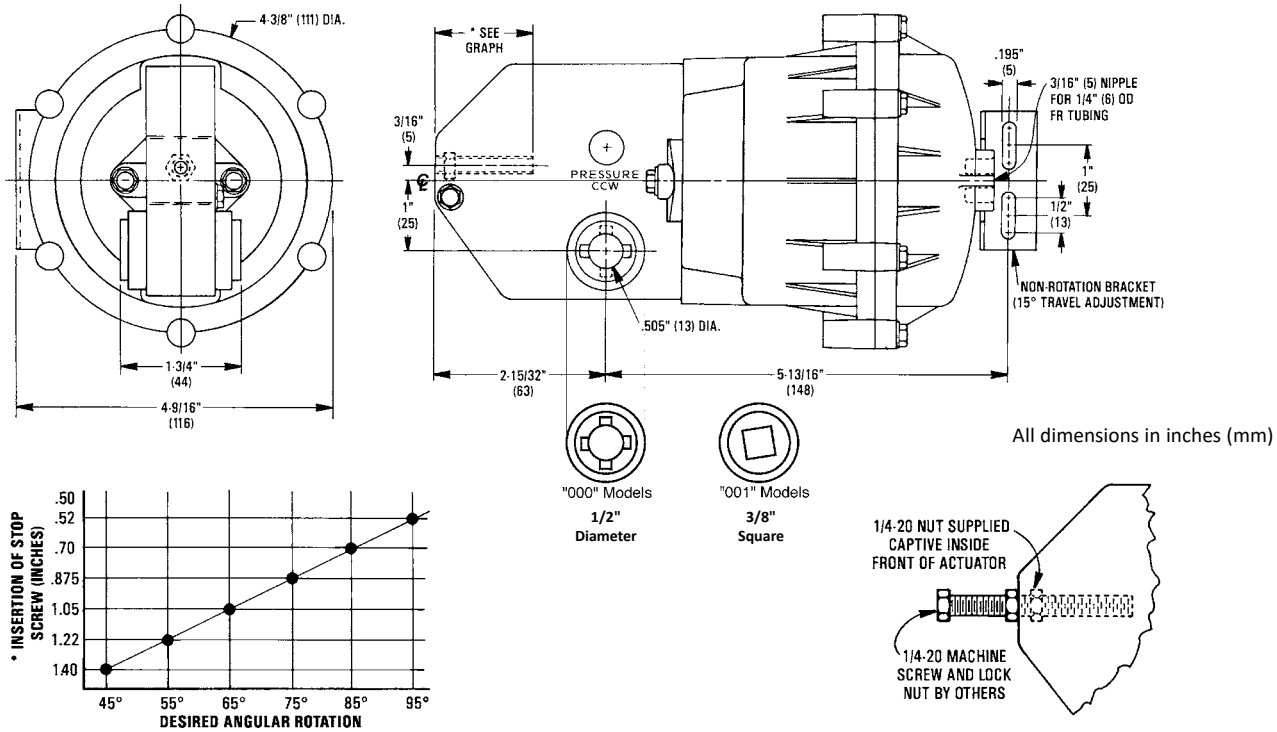
Accessories and Replacement Parts

HLO-1004	Drive bushing/collar, 1/2" shaft
HLO-1006	Drive bushing, 1/2" round or 3/8" square shaft
HLO-1011	Adaptor for 3/8" shaft
HLO-1016	Collar for 1/2" round or 3/8" square shaft
HMO-1003	Non-rotation bracket
HPO-0038	Replacement diaphragm
HPO-5072	Ball valve to actuator repair kit
ICI-1005	2" pressure gauge, 0–30 psi (0–2 Bar), back-connected, 1/8" MPT

⚠ 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.

Dimensions



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: If damper manufacturer does not provide information about the required minimum actuator torque, use the following general guidelines to calculate the required torque.

Specifications

Effective Area 8 sq. in. (52 sq. cm)

Normal Rotation 100°

Supply Pressure 0 to 20 psi (138 kPa) operating; 30 psi (207 kPa) maximum (see note under Temperature Limits)

Temperature Limits

NOTE: If the application requires operation near the maximum temperature and maximum pressure, add a tubing restraint to the actuator connection.

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

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

Weight 1.5 lbs. (0.68 kg)

Spring Range and Retracted/ Extended Torque*

**Based on 0 and 20 psi applied*

3 to 12 psi; 25/68 in-lb. (21 to 83 kPa; 3/8 N•m)

5 to 10 psi; 42/85 in-lb. (34 to 69 kPa; 5/10 N•m)

8 to 13 psi; 68/59 in-lb. (55 to 90 kPa; 8/7 N•m)

3 to 8 psi; 25/102 in-lb. (28 to 55 kPa; 3/12 N•m)

Material

Body	Glass-filled nylon
Diaphragm	Neoprene

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