

### Description and Application

These powerful, efficient, durable, direct-coupled actuators provide tri-state or proportional control for large control dampers or valves in HVAC systems. A minimum torque of 180 or 320 in.-lb. is available over the 94° angular rotation. Capacitor-driven fail-safe models provide efficient operation with switch-selectable fail direction.

The **proportional** actuator models accept a **2–10 VDC or 4–20 mA control signal** input from a thermostat, controller, or building automation system. “**Anti-jitter**” circuitry significantly reduces hunting and needless wear (from unnecessary miniscule position changes caused by undamped analog input signals) on the actuator and valve packing or damper components. A user-initiated, **auto-mapping** feature provides more precise equipment control by reassigning the (2–10 VDC or 4–20 mA) input signal range over a reduced rotation range. These models also feature a switch-selectable, **1–5 or 2–10 VDC voltage feedback** output that is proportional to the actuator position.

The **tri-state** models are designed for use with floating thermostats, controllers, or building automation systems. They feature an optional 10K ohm ( $\pm 10\%$ ), three-wire potentiometer **feedback** output. Fail-safe models also allow two-position control as well.

All actuators mount directly on 3/8" up to 1.05" round or 5/16" up to 5/8" square shafts, eliminating the need for expensive and complicated linkages. A non-rotation bracket, to prevent lateral movement, is included with each actuator. A gear disengagement button allows manual positioning of the shaft without energizing the actuator. Removable terminals and 1/2" NPS conduit fittings make wiring easier. The actuators are protected against overloading and do not require end or limit switches.

### Accessories

CME-7001	Auxiliary switch, single SPDT
CME-7002	Auxiliary switch, dual SPDT
HCO-1152	Weather shield enclosure kit
HLO-1020	Crank arm kit
HMO-4535	Replacement non-rotation bracket
HMO-4536	Adjustable end stop kit



### Features

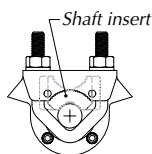
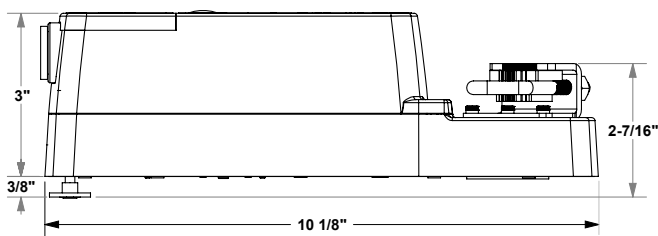
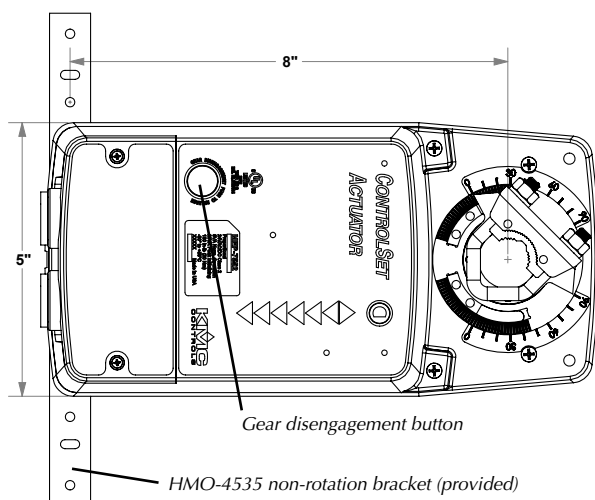
- ◆ More powerful and less load-dependent (reduced spread between no-load and full-load timing) than earlier MEP-1200/7000/7700 series actuators they replace
- ◆ Proportional models include “anti-jitter” circuitry and optional auto-mapping of the full input signal range over a reduced actuator stroke
- ◆ Efficient, durable, capacitor-driven fail-safe option with switch-selectable direction provides consistent torque in both powered and fail-safe modes
- ◆ Potentiometer or voltage feedback option
- ◆ Removable terminals and 1/2" conduit fittings
- ◆ Direct mounting to standard shaft sizes, and a gear disengagement button for manual shaft positioning

### Models

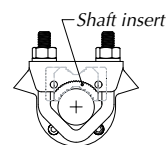
Model #	Torque		Control		Built-in Options			
	180 in.-lb. min. (20 N•m)	320 in.-lb. min. (36 N•m)	Tri-state (Floating)	2–10 VDC or 4–20 mA Proportional	Feedback: 10K ohm Potentiometer	Feedback: 1–5 or 2–10 VDC	Fail Safe (Switch Selectable Direction)	
MEP-7x01	7500 series (x=5)	7800 series (x=8)	✓					
MEP-7x02				✓		✓		
MEP-7x03			✓			✓		
MEP-7x51			✓					✓
MEP-7x52						✓		✓
MEP-7x53			✓				✓	✓
MEP-7200 series (120 in.-lb.) has been discontinued. Use an MEP-75xx (180 in.-lb.)—or, if less torque is required, an MEP-48xx (80 in.-lb., non-fail-safe) or MEP-49xx (90 in.-lb., fail-safe) instead. MEP-7500 series (180 in.-lb.) replaces MEP-7000 series (150 in.-lb.) MEP-7800 series (320 in.-lb.) replaces MEP-7700 series (300 in.-lb.)								

## Dimensions

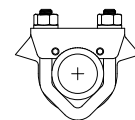
All dimensions are in inches



Position insert as shown for 3/8" to 9/16" round shafts or 5/16" to 3/8" square shaft (1/2" round shafts on center)



Position insert as shown for 5/8" to 13/16" round shafts or 1/2" to 5/8" square shafts (3/4" round shafts on center)



Remove insert for 7/8" to 1.05" round shafts (1.05" round shafts on center)

## Specifications

<b>Supply Voltage</b>	24 VAC (+20%/–15%) Class 2 Only, or 22–35 VDC
<b>Supply Power</b>	
MEP-750x	6 VA
MEP-755x	8 VA normal (25 VA peak while initializing)
MEP-780x	8 VA
MEP-785x	10 VA normal (40 VA peak while initializing)
<b>Control Input</b>	
Tri-state	(See Supply Voltage; fail-safe MEP-7x51/7x53 models can also be wired for 2-position operation)
Proportional	2–10 VDC or 4–20 mA
<b>Feedback</b>	
Tri-state	10K ohm ( $\pm 10\%$ ) potentiometer (MEP-7xx3 models only)
Proportional	1–5 VDC or 2–10 VDC (switch selectable)
<b>Angular Rotation</b>	94°; fully adjustable with HMO-4536 stop kit
<b>Motor Timing</b>	90–115 sec., load dependent (powered)
<b>Fail-Safe Timing</b>	80–115 sec., load dependent (switch-selectable CW, CCW, or Off; up to 40-second delay while charging capacitor after initial connection to power)
<b>Torque</b>	
MEP-75xx	180 in-lb. (20 N•m)
MEP-78xx	320 in-lb. (36 N•m)

<b>Connections</b>	Wire clamp type; 14–22 AWG, copper
<b>Mounting</b>	Direct mounting on 3/8" to 1.05" round or 5/16" to 5/8" square shaft by adjustable "V" bolt and non-rotational bracket HMO-4535 (supplied); minimum recommended damper shaft length is 2.5"
<b>Dimensions</b>	10-1/8 x 5 x 3 inches (257 x 127 x 76 mm)
<b>Weight</b>	MEP-7x0x: 5 lb. (2.3 kg); MEP-7x5x: 5.4 lb. (2.5 kg)
<b>Enclosure</b>	Flame retardant polymer
<b>Noise Level</b>	< 45 dbA max. at 1 meter
<b>Approvals</b>	UL 873 Temperature Indicating and Regulating Equipment FCC Class B, Part 15, Subpart B
<b>Environmental Limits</b>	
Operating	–22 to 131° F (–30 to 55° C)
Shipping	–40 to 176° F (–40 to 80° C)
Humidity	5 to 95% RH (non-condensing)

NOTE: For more on accessories, troubleshooting, master/slave wiring, torque selection, applications, and other information, see the [MEP-7xxx Applications Guide](#).

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