MEP-7200/7500/7800 Series

Direct-Coupled, ControlSet® Actuators (120/180/320 in-lbs.)

Description and Application

These powerful, efficient, durable, direct-coupled actuators provide tri-state or proportional control for large control air dampers or valves in HVAC systems. A minimum torque of 120, 180, or 320 in-lbs. 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 **0–10 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 on the actuator and valve packing or damper components (from unnecessary miniscule position changes caused by undamped analog input signals). A user-initiated, **auto-mapping** feature provides more precise equipment control by reassigning the (0–10 VDC or 4–20 mA) input signal range over a reduced rotation range (from 45° to 94°). These models also feature a switch-selectable, **0–5 or 0–10 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 (±10%), three-wire **potentiometer feedback output**.

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 damper and/or gear train 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	Rotary aux. cam switch, single
CME-7002	Rotary aux. cam switch, double
HCO-1152	Weather shield kit
HLO-1020	Crank arm kit
HMO-4535	Replacement non-rotation bracket
HMO-4536	Adjustable end stop kit

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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" NPS conduit fittings
- Direct mounting to standard shaft sizes
- Gear disengagement button for manual positioning
- Optional adjustable end stop (HMO-4536) and adjustable auxiliary switches (CME-7001/7002)

Models

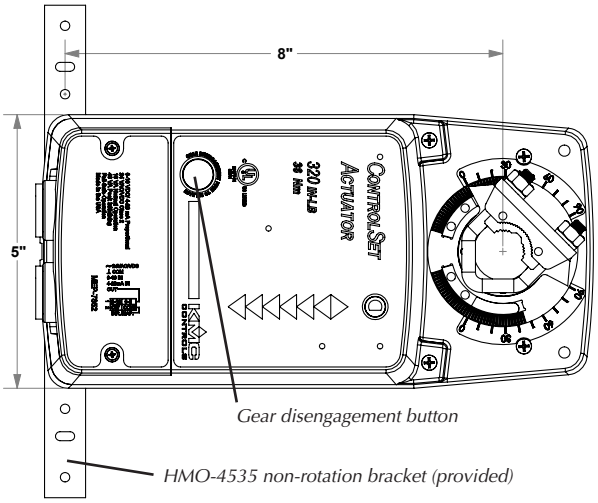
Model # MEP-	Torque			Control		Built-in Options		
	120 in-lbs. min. (13.5 N•m)	180 in-lbs. min. (20 N•m)	320 in-lbs. min. (36 N•m)	Tri-state (Floating)	0–10 VDC or 4–20 mA Proportional	Feedback: 10k ohm Potentiometer	Feedback: 0–5 or 0–10 VDC	Fail Safe (Switch Selectable Direction)
7x01	7200 series (x=2)	7500 series (x=5)	7800 series (x=8)	•				
7x02					•		•	
7x03				•		•		
7x51				•				•
7x52					•		•	•
7x53				•		•		•

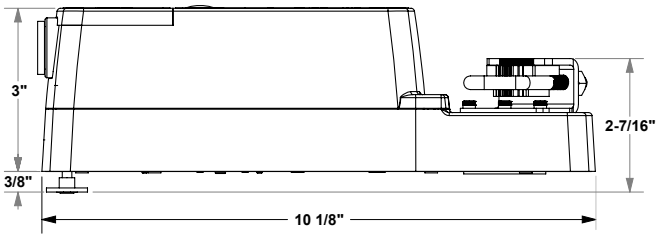
MEP-7200 series (120 in-lbs.) replaces MEP-1200 series (100 in-lbs.)
MEP-7500 series (180 in-lbs.) replaces MEP-7000 series (150 in-lbs.)
MEP-7800 series (320 in-lbs.) replaces MEP-7700 series (300 in-lbs.)

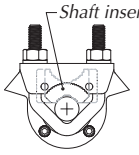
Specifications and design subject to change without notice.

Dimensions

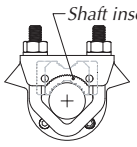
All dimensions are in inches



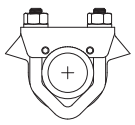




Position insert as shown for 3/8" to 9/16" round shafts or 5/16" to 3/8" square shaft (1/2" round shafts on center)



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

Supply Voltage	24 VAC (+20%/–15%) Class 2, or 22–35 VDC
Supply Power	
MEP-720x/750x	6 VA
MEP-725x/755x	8 VA normal (25 VA peak while initializing)
MEP-780x	8 VA
MEP-785x	10 VA normal (40 VA peak while initializing)
Control Input	
Tri-state	(See Supply Voltage)*
Proportional	0–10 VDC or 4–20 mA
Feedback	
Tri-state	10K ohm (±10%) potentiometer (MEP-7xx3 models only)
Proportional	0–5 VDC or 0–10 VDC (switch selectable)
Angular Rotation	94°; fully adjustable with HMO-4536 stop kit
Motor Timing	(Powered)
MEP-72xx	75–90 seconds, load dependent
MEP-75xx/78xx	90–115 sec., load dependent
Fail-Safe Timing	(Switch-selectable clockwise, counter-clockwise, or off; up to 40 second delay while charging capacitor after initial connection to power)
MEP-725x	65–100 sec., load dependent
MEP-755x/785x	80–115 sec., load dependent

*NOTE: Tri-state, fail-safe MEP-7x51/7x53 models can also be wired for 2-position operation.

Torque	
MEP-72xx	120 in-lb. (13.5 N•m)
MEP-75xx	180 in-lb. (20 N•m)
MEP-78xx	320 in-lb. (36 N•m)
Connections	Wire clamp type; 14–22 AWG, copper
Mounting	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"
Dimensions	10-1/8 x 5 x 3 inches (257 x 127 x 76 mm)
Weight	MEP-7x0x: 5 lb. (2.3 kg); MEP-7x5x: 5.4 lb. (2.5 kg)
Enclosure	Flame retardant polymer
Noise Level	< 45 dbA max. at 1 meter
Approvals	UL 873 Temperature Indicating and Regulating Equipment FCC Class B, Part 15, Subpart B
Environmental Limits	
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)

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