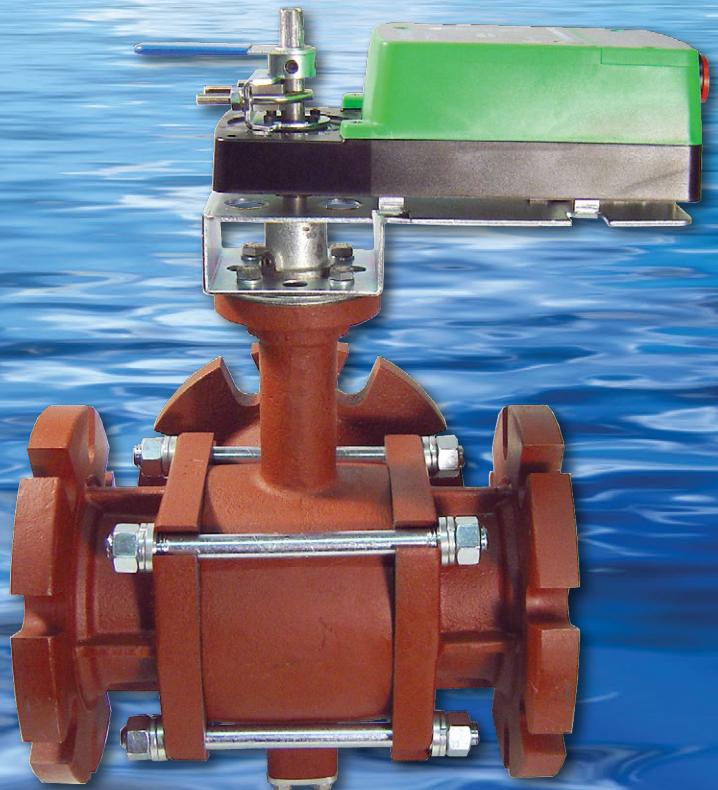




ControlSet® Actuators

**Unsurpassed Value for
Air and Hydronic Applications**



Tools for a Variety of Needs

From palm-sized-but-powerful to industrial-strength actuators, KMC ControlSet® actuators precisely and efficiently control the most demanding applications. These actuators were designed to provide continual, dependable control of air dampers and valves in building automation systems.

First with the Best

KMC Controls, an ISO-9001 registered company, is the only privately held manufacturer of a full line of HVAC and building automation controls in the United States. KMC's ControlSet direct-coupled actuators were the first in the industry to carry a full five-year warranty. These actuators are designed to rigorous performance criteria and manufactured in the U.S.A. to the industry's most exacting quality control standards, and, as a result, they perform perfectly day in and day out. Few manufacturers offer this kind of performance because KMC's commitment to extreme quality production standards is unmatched.



In test fixtures, under load, MEP-4000 actuators have exceeded 150,000 cycles of operation

To give ControlSet actuators a warranty for the long-term, KMC instituted the most exacting quality control program in the industry. The key elements in this program include:

- **Demanding production standards**—Every KMC production employee goes through comprehensive quality control training and periodic retraining to ensure quality procedures don't drift from the standard.
- **Increased supplier expectations**—Evaluated on every shipment, KMC's vendors must live up to the toughest quality code in the industry.
- **Zeroing in on zero defects**—Every KMC actuator made is functionally tested during the production process. Sample units in each production run are fully examined to ensure complete quality standard compliance. The total quality control process is so effective that KMC consistently records near zero-ppm-defects in every product line.



Still . . . Made in the U.S.A.



Advanced Features and Benefits

ControlSet actuators are available in different torque ratings from 10 to 320 inch-pounds to satisfy almost any damper or valve requirement. Every ControlSet actuator directly couples to damper and valve shafts. Linkage kits, however, are also available. Models are available in two-position (two-wire or three-wire), tri-state (three-wire floating), or proportional control (2–10 VDC and/or 4–20 mA).

Fail-safe models will drive the actuator to the desired home position during a loss of power to the actuator. Capacitor-driven fail-safe models provide switch-selectable direction and (because extra motor torque to overcome spring resistance on every cycle is not needed) higher energy efficiency over spring-return actuators. Also, spring returns drive much faster and have excessive torque during fail-safe mode, potentially damaging equipment, but capacitor-driven actuators provide consistent torque during fail-safe as well as powered modes.

In addition, ControlSet actuator installation couldn't be simpler. Slide the actuator over the shaft, position and lock it, screw down the anti-rotation bracket, and wire the terminals. Setup for proportional models is a switch for CW or CCW rotation for an increase in control signal voltage. Setup for fail-safe models is another switch for CW or CCW rotation during a power loss. All models also have a gear disengagement feature to make manual positioning quick and easy.

Model	Fail-Safe	Torque	Applications
MEP-4101	No	10 in-lb.	Smaller Valves, Dampers, and VAV Terminal Units
MEP-425x	Yes	25 in-lb.	
MEP-40xx	No	40 in-lb.	
MEP-455x	Yes	45 in-lb.	
MEP-48xx	No	80 in-lb.	
MEP-495x	Yes	90 in-lb.	
MEP-75xx	Optional	180 in-lb.	Large Valves and Dampers
MEP-78xx	Optional	320 in-lb.	



MEP-4001

MEP-40xx/48xx non-fail-safe actuators are designed to regulate smaller control air dampers, VAV terminal units, and valves.

- Despite their compact size, these direct-coupled actuators provide a minimum torque of 40 or 80 in-lb. (available over its 95° angular rotation), making them ideal for places where space is at a premium.
- Proportional models accept a 2–10 VDC control signal input from a thermostat or controller. “Anti-jitter” circuitry significantly reduces hunting and needless wear on the actuator and valve 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 input signal range over the desired reduced rotation range. A 1–5 or 2–10 VDC (switch-selectable) feedback voltage output is proportional to the actuator position.
- Tri-state/two-position models are designed for use with floating thermostats or controllers.
- A fully adjustable built-in auxiliary switch, for remote position indication or controller and equipment interface, is available on selected models.



MEP-4252

MEP-42xx/45xx/49xx fail-safe actuators add these options.

- Torques of 25, 45, or 90 in-lb. are available.
- MEP-4xx1 tri-state/two-position (three-wire) models are designed for use with floating thermostats or controllers.
- MEP-4xx4/4xx5 two-position (two-wire) models are available in 24 VAC/VDC or 100–240 VAC models.
- Up to two auxiliary switches are available.
- MEP-4201/4501/4901 tri-state/two-position actuators offer similar features but without fail-safe.



MEP-7852

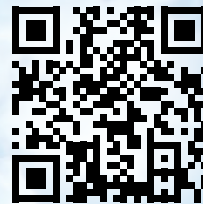
MEP-75xx/78xx fail-safe or non-fail-safe actuators are designed to regulate large air dampers and valves.

- Models offer 180 or 320 in-lb. of torque.
- Proportional models accept a 2–10 VDC or 4–20 mA control signal input. These models also have “anti-jitter” circuitry, auto-mapping, and switch-selectable, feedback voltage output.
- Some tri-state models have a 10K ohm potentiometer feedback output. Tri-state models with fail-safe can optionally be wired for two-position operation.
- Adjustable single or dual SPDT auxiliary switches can also be field-installed on any model.
- All models have built-in overload protection, eliminating the need for end or limit switches.

More Information

- For more information about these actuators (including those mounted on VEB-43/46/53/56 and VEF-53/56 valves), see their respective data sheets. All these documents and more information can be downloaded from the award-winning KMC Controls web site (kmccontrols.com).
- See also the video “When Failure Is not an Option: The Evolution of Fail-Safe Actuators” at youtube.com/user/kmccontrols.





19476 Industrial Drive
New Paris, IN 46553, U.S.A.
Telephone: 877.444.5622 (574.831.5250)
Fax: 574.831.5252
Web: www.kmcccontrols.com
Email: info@kmcccontrols.com

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