

23 00 00 HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

23 09 00 Instrumentation and Control for HVAC

23 09 13 Instrumentation and Control Devices for HVAC

23 09 13.13 Actuators and Operators

Electric Large Linear Globe Valve Actuators

Mounting and Wiring

1. Actuators shall be direct coupled type requiring neither crank-arm nor linkage and be capable of direct mounting to a globe valve.
2. The actuator shall connect to the valve stem using a quick-release engagement.
3. The actuator shall connect to the valve bonnet using set screws or U-bolt. Non-fail safe models shall be available for 1 3/8 inch (35 mm) or 1 7/8 inch (38 mm) diameter valve bonnets of undercut construction.
4. Actuators shall provide wiring terminals located within an integral access cover with conduit connections.
5. Actuators shall have splash-proof covers rated IP54.

Control

1. The actuator shall provide two-position, floating, or modulating control. Modulating control refers to direct acceptance of 0-10 Vdc, 2-10 Vdc or with addition of a 500 ohm resistor a 4-20 mA input signal. Floating control refers to direct acceptance of 24 Vac pulse-width modulated open and close commands from a tri-state (SP3T) controller. Two-position control for non-fail safe actuators shall be in the form of 24 Vac power controlled by an SPDT switch.
2. Modulating actuators shall have a travel direction control switch. Floating actuator travel will be selected by choice of terminal wiring.
3. Modulating control models shall have 0-10 or 2-10 Vdc feedback signal.
4. SPDT switch for position verification feedback shall be an available option.

Other

1. All spring return actuators must be designed for either stem extension or stem retraction fail-safe operation with a continuously engaged mechanical return spring. This spring must return the actuator to a fail-safe position within 10-15 seconds of power loss.
2. Fail-safe spring return actuators shall be available with force rating of 135 lb (600 N). Valve stroke shall be 3/4 inch (20 mm).
3. Non fail safe actuators shall be available with force ratings of 135 or 404 lb (600 or 1800 N), with valve stroke of 3/4 or 1 1/2 inch (20 or 38 mm).
4. All spring return actuators must be able to spring return from 14°F to 122°F (-10 to 70 C) ambient temperature, as measured at the actuator.
5. Valves controlling steam should be installed with the actuator beside the valve, not above it, with the actuator mounting yoke oriented to maximize convective air flow for cooling.
6. A high temperature kit shall be available for further isolation of the actuator from the valve body.
7. All actuators shall be designed for a minimum of 50,000 full-stroke cycles, and 1,000,000 repositions at rated force load and temperature.

8. All actuators shall be plenum-rated per UL873 and cUL (CSA22.2) Listed, and be manufactured under ISO 9001 International Quality Control Standards.
9. Actuators shall be as manufactured by Honeywell.

*NOTE: The above mentioned specs are specifically for Honeywell ML series globe valve actuators.

ML High Level Overview

Spring Return

[ML6425, ML7425 Spring Return Electric Linear Valve Actuators](#)

Non Spring Return

[ML6420, ML7420 Electric Linear Valve Actuators](#)

[ML6421, ML7421 Electric Linear Valve Actuators](#)

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