

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

Direct-Coupled Electronic Digital 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 Honeywell globe valve from ½ to 3 inches in size (DN15 to DN80).
2. The actuator shall connect to the valve stem using an internally-threaded jackshaft.
3. The actuator shall connect to 1 ¾ inch (35 mm) valve bonnet using a U-bolt. Adapters shall be available for globe valves of other manufacture.
4. Actuators shall provide wiring terminals located within an integral access cover with conduit connections.
5. Actuators shall be available with splash-proof covers rated NEMA 3R for outdoor mounting.

Control

1. The actuator shall provide two-position or floating, or modulating control. Modulating control refers to direct acceptance of 135-270 ohm slide-wire, 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 SPDT 24 Vac power controlled by SPDT switch.
2. Valve actuator shall be capable of operating on 24 Vac or 28 Vdc power supplies.
3. Modulating actuators shall have a travel direction control switch. Floating actuator travel will be selected by choice of terminal wiring.
4. Floating model shall not require continuous power when controlled by triac-based controllers.
5. Continuously-powered models shall have 2-10 Vdc position feedback signal and SPDT pilot duty auxiliary relay as an available option.

Other

1. Non fail safe actuators shall be available with force ratings of 160 lb (710 N) with a self-adjusting, self-calibrating stroke of ½ to 1 inch (12 to 25 mm).
2. 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.
3. All actuators must be able to operate from 32 to 130°F (0 to 54 C) ambient temperature, as measured at the actuator.
4. 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.
5. All actuators shall be plenum-rated per UL873 and cUL (CSA22.2) listed, and be manufactured under ISO 9001 International Quality Control Standards.
6. Actuators shall be as manufactured by Honeywell.

