

# Honeywell Flanged Globe Valve

**2-Way and 3-Way VGF Control Globe valves 2 1/2 to 6 inches:**

Valve housing shall consist of cast iron and shall be ANSI-rated to withstand the pressures and temperatures encountered. Automatic control valves shall have flanged fittings, 2-1/2 in. through 6 in. size. Valves shall have stainless steel plugs, seats, and stems, and be constructed with replaceable spring-loaded reinforced carbon-filled Teflon packing. Straight through and diverting valves shall have a maximum seat leakage rate of 0.05% Cv at the control port and shall have 50:1 rangeability or better. Pressure-balanced valves shall have a maximum seat leakage rate of 0.01% at 175 psi differential pressure. All valves shall be provided with either linear or equal percentage contoured throttling plugs for water, glycol-water, or steam service. Three-way valves shall be available in either mixing or diverting configurations. Valves shall be manufactured by the same company that manufactures the direct coupled linear valve actuators or linkages and rotary actuators.

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 13.33 Control Valves

Flanged Globe Valves

Mounting

1. Flanged globe valves shall be cast iron with ANSI/ASME 125 and ANSI/ASME250 flanges in sizes from 2 1/2 up to 6 inches (DN65 to DN150), maximum temperature 337°F (170 C).
2. Valve dimensions will conform to ANSI/ISA S75.03.
3. Cv ratings shall be a geometric progression.
4. Valves shall offer equal percentage or linear control characteristic on the A port. Valves rated for high pressure steam shall have linear control characteristic.
5. Two-way and diverting valves shall have stainless steel stem, plug and seats. Mixing valves shall have seats integral to the body.
6. Three-way valves shall feature A-B-AB porting for mixing or diverting control. The B port shall have a linear flow characteristic.
7. Valve stroke, sizes 2 1/2 and 3 inches (DN65-80), shall be 3/4 inch (20 mm) for precise control. Undercut bonnet of 1 3/8 inch (35 mm) diameter shall allow linkage or direct-coupled actuator attachment by U-bolt, twin set screws, or mating clamp.

8. Valve stroke, sizes 4 to 6 inches (DN100-150), shall be 1 ½ inch (38 mm) for precise control. Undercut bonnet of 1 7/8 inch (48 mm) diameter shall allow linkage or direct-coupled actuator attachment by U-bolt, twin set screws, or mating clamp.

#### Control

1. Actuation shall be electric or pneumatic. Actuators may be direct-coupled linear operators, or rotary actuators attached by means of a linkage. A dual tandem linkage for rotary actuators will provide enhanced close-off ratings.
2. Electric actuators shall provide two-position, floating, or proportional control. Proportional 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 of non-fail safe actuators shall be in the form of 24 Vac power controlled by SPDT switch. Two-position control of fail safe actuators shall be in the form of 24 Vac power controlled by SPST switch.
3. Globe valves shall have minimum 50:1 rangeability with an equal percentage flow characteristic for water or linear flow characteristic for steam, chilled water, or diverting control.

#### Other

1. Valves shall have spring-loaded, self-adjusting, Teflon® packing.
2. All valves must be field serviceable without the need to remove the valve from the piping, in order to minimize future service costs.
3. Valves may not be installed with stems below the horizontal plane to prevent actuator damage due to stem seal leakage, or accumulation of particulate in the stem packing.
4. Valves controlling steam should be installed with the actuator beside the valve, not above it.
5. Operating pressure of high pressure steam-rated valves shall not exceed 100 psig (689 kPa).
6. A water filtration and treatment system shall be installed and operated according to the requirements of Division 23 25 13, Water Treatment for Closed-Loop Hydronic Systems. The presence of excess rust in the system will void the manufacturer's warranty.
7. Actuated valves shall be capable of closing off against their maximum operating differential pressure. Seat leakage when closed shall be ANSI/ASME Class III, 0.05% maximum.
8. Mixing valve shall rely on hydraulic pressure differences to control flow. A-port seat leakage for mixing valve shall be 0.5% maximum, 1% maximum on B port.
9. Differential pressure for quiet operation shall be at least 20 psid (138 kPa).
10. All valves and actuators shall be manufactured under ISO 9001 International Quality Control Standards.
11. Valves and actuators shall be as manufactured by Honeywell.

