

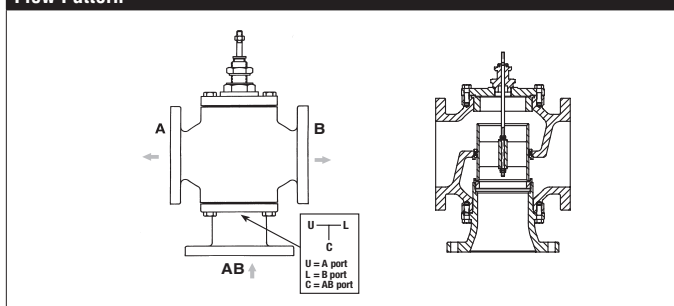
G780DS, 3-Way, Diverting Flanged Globe Valve



Technical Data

| | |
|-----------------------------------|--|
| Service | chilled, hot water, up to 60% glycol |
| Flow Characteristic | linear |
| Controllable Flow Range | stem up - open AB to B |
| Size [mm] | 3" [80] |
| End Fitting | 125 lb flanged |
| Body | cast iron - ASTM A126 Class B (ASME B16.1) |
| Stem | 316 stainless steel |
| Stem Packing | NLP EPDM (no lip packing) |
| Seat | 316 stainless steel |
| Plug | stainless steel |
| Body Pressure Rating [psi] | ANSI 125 |
| ANSI Class | ANSI 125 (up to 175 psi below 150°F) |
| Number of Bolt Holes | 4 |
| Max Inlet Pressure (Water) | 150 psi (1034 kPa) @ 250°F |
| Media Temperature Range (Water) | 32°F to 300°F [0°C to 149°C] |
| Max Differential Pressure (Water) | 50 psi (345 kPa) |
| Rangeability | 50:1 |
| Cv | 85 |
| Weight | 78 lb [35.4 kg] |
| Leakage | ANSI Class III |
| Servicing | Repack/Rebuild kits available |

Flow Pattern



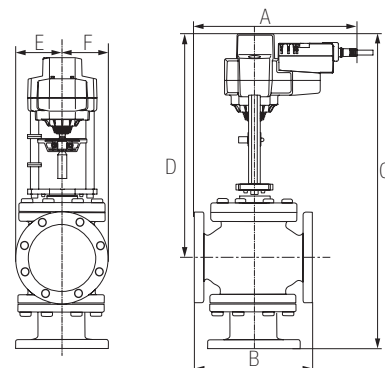
Application

This valve is typically used in Large Air Handling Units on heating or cooling coils. This valve is suitable for use in a hydronic system with variable flow. These valves are to be used in Diverting applications only.

Suitable Actuators

| | Non-Spring | Spring | Electronic Fail-Safe |
|--------|------------|--------|----------------------|
| G780DS | EVB(X) | AFB(X) | AVKB(X) |

Dimensions (Inches [mm])



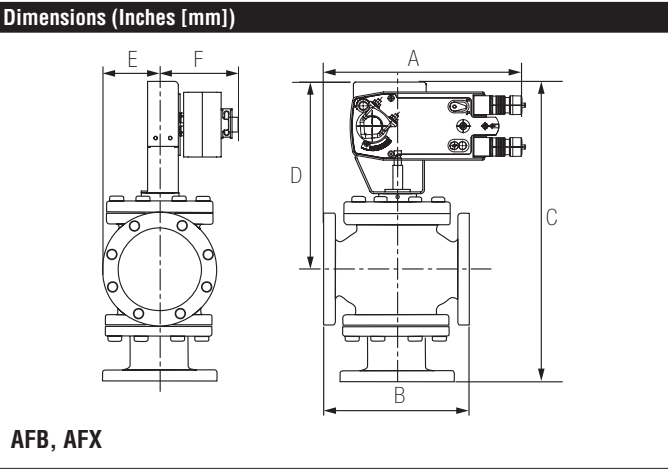
EVB, EVX, RVB, RVX

| A | B | C | D | E | F |
|-------------|-----------|--------------|-----------|-------------|---|
| 12.2" [310] | 10" [254] | 27.27" [693] | 19" [483] | 3.94" [100] | |

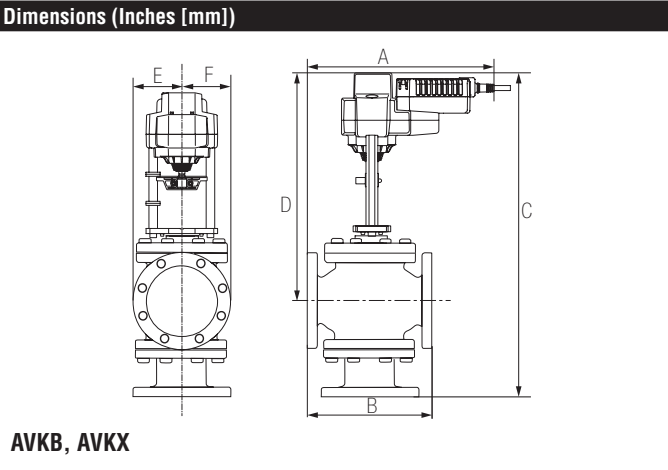
Piping

The valves should be mounted in a weather-protected area in a location that is within the ambient limits of the actuator. Allow sufficient room for valve with actuator and for service. The preferred mounting position of the valve is with the valve stem vertical above the valve body, for maximum life. However, the assemblies can be mounted with valve stem vertical above the valve or up to 45 degrees in relation to the horizontal pipe. The actuators should never be mounted underneath the valve, as condensation can build up and result in a failure of the actuators. Do not reverse flow direction.

G780DS, 3-Way, Diverting Flanged Globe Valve



| A | B | C | D | E | F |
|-------------|-----------|-------------|--------------|-------------|-------------|
| 12.2" [310] | 10" [254] | 25.6" [650] | 17.75" [451] | 3.94" [100] | 5.25" [135] |



| A | B | C | D | E | F |
|-------------|-----------|--------------|-----------|-------------|---|
| 12.2" [310] | 10" [254] | 27.27" [693] | 19" [483] | 3.94" [100] | |

AFX24-MFT-X1

Modulating, Spring Return, 24 V, Multi-Function Technology®



| Technical Data | |
|-----------------------------------|--|
| Power Supply | 24 VAC±20%, 50/60Hz, 24 VDC+20%/-10% |
| Power Consumption Running | 7.5 W |
| Power Consumption Holding | 3 W |
| Transformer Sizing | 10 VA (class 2 power source) |
| Electrical Connection | 18 GA appliance rated cable with 1/2" conduit connector protected NEMA 2 (IP54) 3 ft [1m] 10 ft [3m] and 16 ft [5m] |
| Overload Protection | electronic throughout 0° to 95° rotation |
| Operating Range Y | 2 to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor), variable (VDC, PWM, floating point, on/off) |
| Feedback Output U | 2 to 10 VDC, 0.5 mA max, VDC variable |
| Angle of Rotation | 95° (adjustable with mechanical end stop, 35° to 95°) |
| Direction of Rotation (Motor) | reversible with built-in switch |
| Direction of Rotation (Fail-Safe) | reversible with CW/CCW mounting |
| Position Indication | visual indicator, 0° to 95° (0° is full spring return position) |
| Manual Override | 5 mm hex crank (3/16" Allen), supplied |
| Running Time (Motor) | 150 sec (default), variable (70 to 220 sec) |
| Running Time (Fail-Safe) | <20 sec |
| Override Control | min. position = 0% , mid. Position = 50% , max. position = 100% (Default) |
| Humidity | max. 95% RH non-condensing |
| Ambient Temperature Range | -22°F to +122°F [-30°C to +50°C] |
| Storage Temperature Range | -40°F to +176°F [-40°C to +80°C] |
| Housing | NEMA 2, IP54, UL enclosure type 2 |
| Housing Material | zinc coated metal and plastic casing |
| Agency Listings† | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC |
| Noise Level (Motor) | <40 dB (A) |
| Noise Level (Fail-Safe) | <62 dB (A) |
| Servicing | maintenance free |
| Quality Standard | ISO 9001 |
| Weight | 4.6 lb [2.1 kg] |

*Variable when configured with MFT options.

†Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

Date created, 09/01/2016 - Subject to change. © Belimo Aircontrols (USA), Inc.

Wiring Diagrams

WARNING! LIVE ELECTRICAL COMPONENTS!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.



Meets cULus requirements without the need of an electrical ground connection.



Actuators with appliance cables are numbered.



Provide overload protection and disconnect as required.



Actuators may also be powered by 24 VDC.



Only connect common to negative (-) leg of control circuits.



A 500 Ω resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.



Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.



For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller; the actuator internal common reference is not compatible.



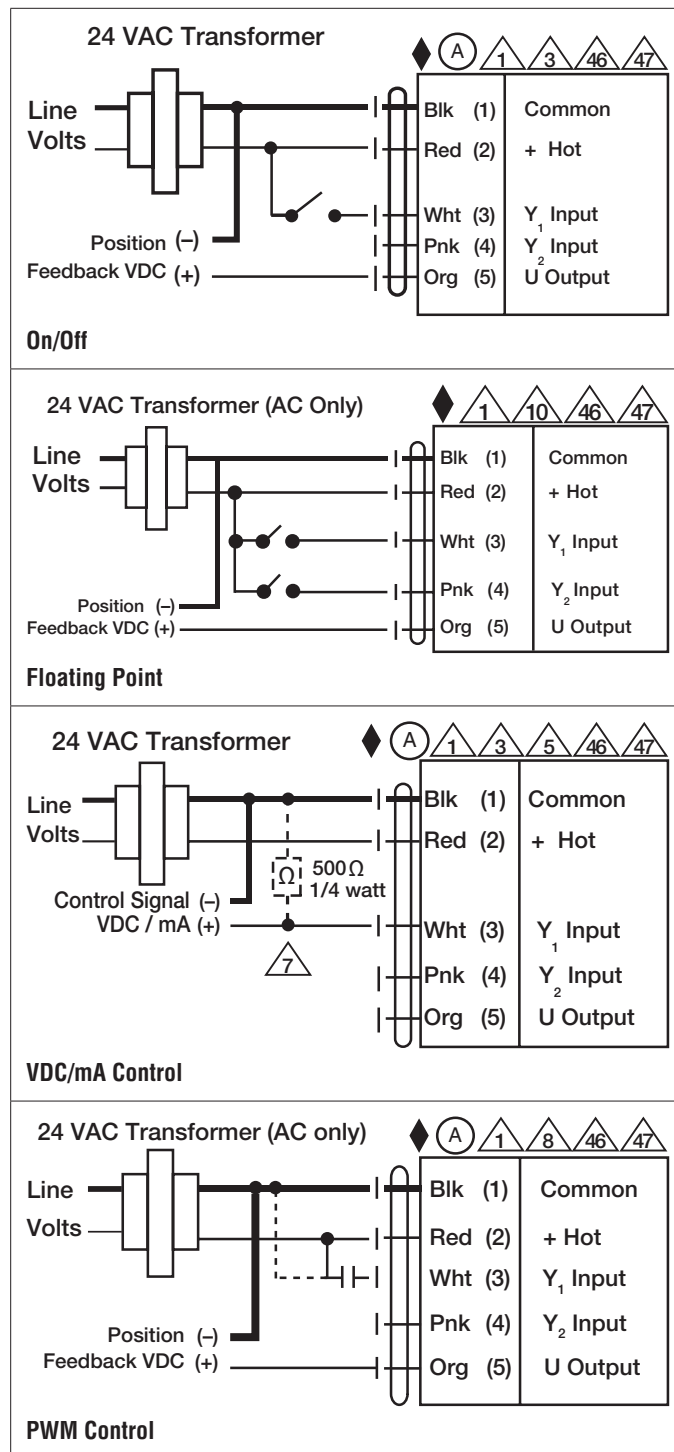
IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).



Actuators may be controlled in parallel. Current draw and input impedance must be observed.



Master-Slave wiring required for piggy-back applications. Feedback from Master to control input(s) of Slave(s).



AFX24-MFT-X1
Modulating, Spring Return, 24 V, Multi-Function Technology®

