

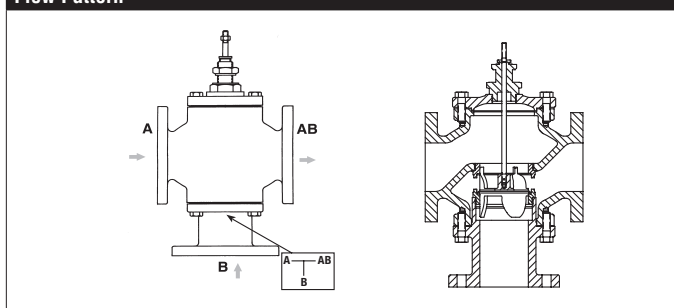
G780, 3-Way, Mixing Flanged Globe Valve



Technical Data

| | |
|-----------------------------------|--|
| Service | chilled, hot water, up to 60% glycol |
| Flow Characteristic | linear |
| Controllable Flow Range | stem up - open B to AB |
| Size [mm] | 3" [80] |
| End Fitting | 125 lb flanged |
| Body | cast iron - ASTM A126 Class B (ASME B16.1) |
| Stem | stainless steel |
| Stem Packing | NLP EPDM (no lip packing) |
| Seat | 316 stainless steel |
| Plug | bronze |
| 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 350°F [0°C to 176°C] |
| Max Differential Pressure (Water) | 25 psi (172 kPa) |
| Rangeability | 50:1 |
| Cv | 85 |
| Weight | 80.9 lb [36.7 kg] |
| Leakage | ANSI Class III |
| Servicing | Repack/Rebuild kits available |

Flow Pattern



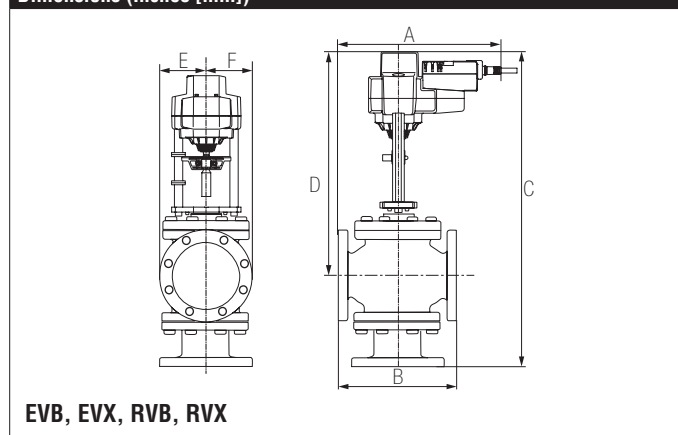
Application

This valve is typically used in large Air Handling Units (AHU) on heating or cooling coils. This valve is suitable for use in a hydronic system with variable flow.

Suitable Actuators

| | Non-Spring | Spring | Electronic Fail-Safe |
|------|----------------|------------------|----------------------|
| G780 | EVB(X), RVB(X) | AFB(X), 2*AFB(X) | AVKB(X), 2*GKB(X) |

Dimensions (Inches [mm])



EVB, EVX, RVB, RVX

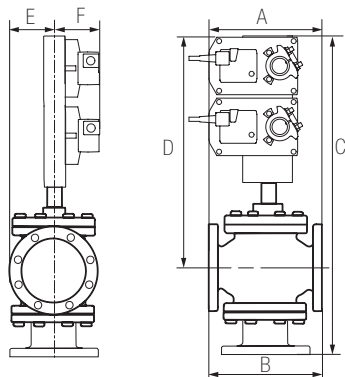
| A | B | C | D | E | F |
|-------------|-----------|-----------|-----------|-------------|---|
| 12.2" [310] | 10" [254] | 27" [686] | 19" [483] | 3.94" [100] | |

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.

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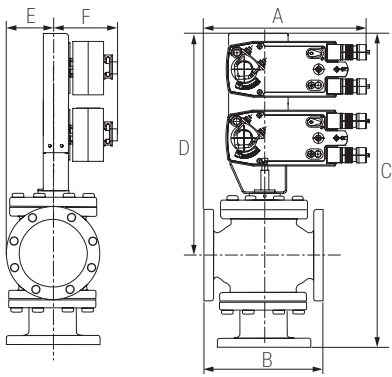
Dimensions (Inches [mm])



2*GMB, 2*GMX, 2*GKB, 2*GKX

| A | B | C | D | E | F |
|-------------|-----------|--------------|-------------|------------|-------------|
| 12.2" [310] | 10" [254] | 30.53" [775] | 22.5" [572] | 3.75" [95] | 5.25" [135] |

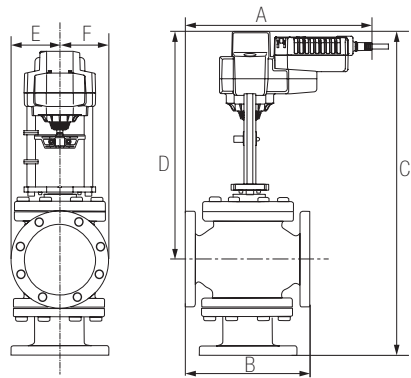
Dimensions (Inches [mm])



2*AFB, 2*AFX

| A | B | C | D | E | F |
|-------------|-----------|--------------|-------------|------------|-------------|
| 12.2" [310] | 10" [254] | 30.53" [775] | 22.5" [572] | 3.75" [95] | 5.25" [135] |

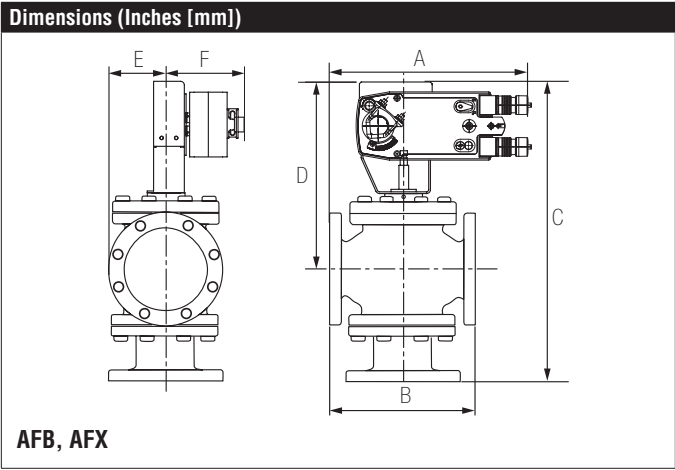
Dimensions (Inches [mm])



AVKB, AVKX

| A | B | C | D | E | F |
|-----------|-----------|-----------|-----------|-------------|---|
| 13" [332] | 10" [254] | 27" [686] | 19" [483] | 3.94" [100] | |

G780, 3-Way, Mixing Flanged Globe Valve



| A | B | C | D | E | F |
|-------------|-----------|-------------|-------------|------------|-------------|
| 12.2" [310] | 10" [254] | 25.6" [650] | 17.5" [445] | 3.75" [95] | 5.25" [135] |

EVB24-MFT

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



Technical Data

| | |
|-------------------------------|--|
| Power Supply | 24 VAC, $\pm 20\%$, 50/60 Hz, 24 VDC, $\pm 10\%$ |
| Power Consumption Running | 5 W |
| Power Consumption Holding | 1.5 W |
| Transformer Sizing | 7.5 VA (class 2 power source) |
| Electrical Connection | 3ft [1m], 18 GA plenum rated cable with 1/2" conduit connector protected NEMA 2 (IP54) |
| Overload Protection | electronic throughout full stroke |
| Electrical Protection | actuators are double insulated |
| 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) |
| Input Impedance | 100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA, 1500 Ω for PWM, floating point and On/Off |
| Feedback Output U | 2 to 10 VDC |
| Stroke | 0.75" [19 mm] |
| Actuating force motor | 562 lbf [2500 N] |
| Direction of Rotation (Motor) | reversible with built-in switch |
| Position Indication | stroke indicator on bracket |
| Manual Override | 5 mm hex crank (3/16" Allen), supplied |
| Running Time (Motor) | default 90 sec, variable 90...150 sec |
| Ambient Humidity | 5 to 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 1, IP54, UL Enclosure Type 1 |
| Housing Material | Aluminum die cast and plastic casing |
| Agency Listings† | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC |
| Noise Level (Motor) | <60 dB (A) |
| Servicing | maintenance free |
| Quality Standard | ISO 9001 |
| Weight | 5.7 lb [2.6 kg] |
| Degree of Protection IEC/EN | IP54 |

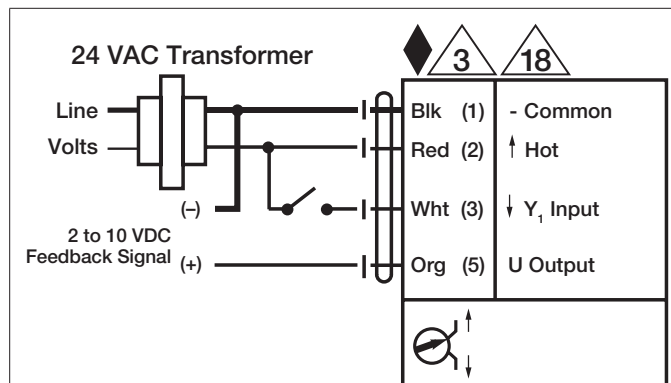
† Use flexible metal conduit. Push the listed conduit fitting device over the actuator's cable to butt against the enclosure. Screw in conduit connector. Jacket the actuators input wiring with listed flexible conduit. Properly terminate the conduit in a suitable junction box. Rated impulse Voltage 800V. Type of action 1. Control pollution degree 3.

Wiring Diagrams

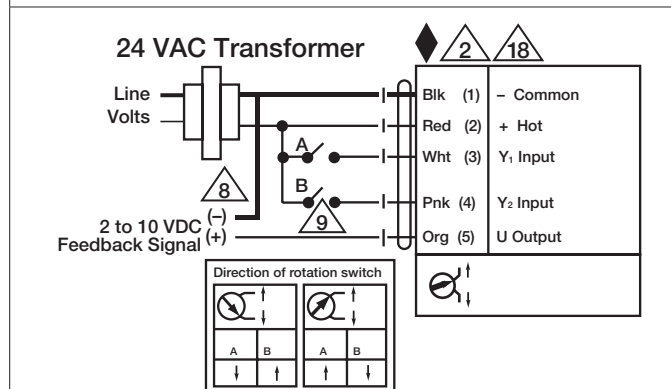
INSTALLATION NOTES

- 2 Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- 3 Actuators may also be powered by 24 VDC.
- 7 A 500 Ω resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.
- 8 Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- 9 For triac sink the common connection from the actuator must be connected to the hot connection of the controller. Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
- 10 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.
- 12 IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).
- 18 Actuators with plenum cable do not have numbers; use color codes instead.
- Meets cULus requirements without the need of an electrical ground connection.

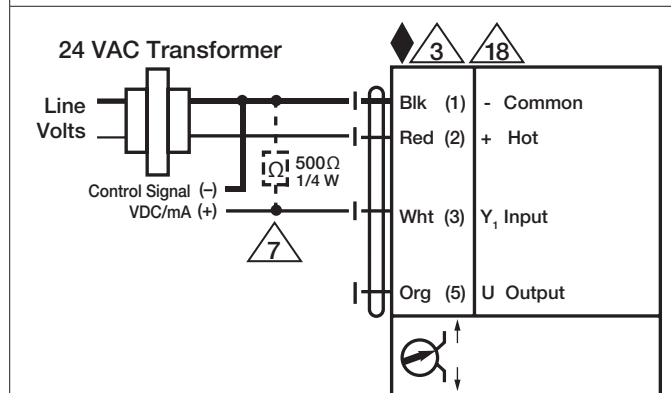
WARNING! LIVE ELECTRICAL COMPONENTS!
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components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



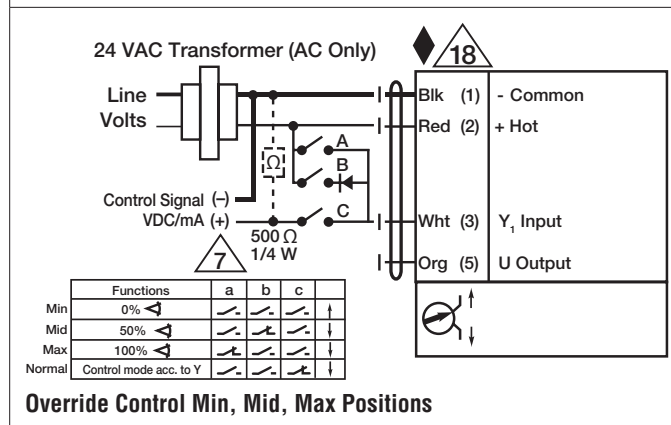
On/Off



Floating Point



VDC / 4 to 20 mA



Override Control Min, Mid, Max Positions