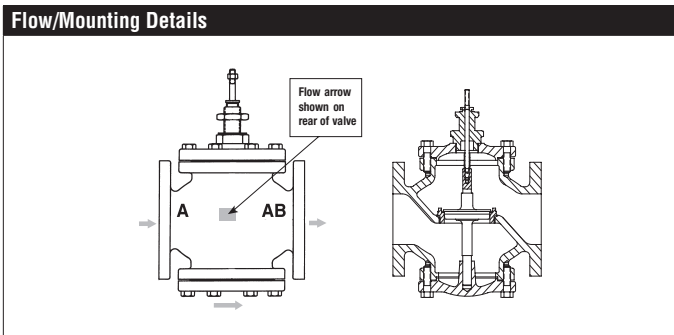


# G680LCS Technical Data Sheet



| Technical Data                    |                                               |
|-----------------------------------|-----------------------------------------------|
| Fluid                             | chilled or hot water, up to 60% glycol, steam |
| Flow characteristic               | linear                                        |
| Controllable flow range           | stem up - open A – AB                         |
| Valve Size [mm]                   | 3" [80]                                       |
| Pipe connection                   | 125 lb flanged                                |
| Housing                           | Cast iron - ASTM A126 Class B                 |
| Stem                              | 316 stainless steel                           |
| Stem seal                         | NLP EPDM (no lip packing)                     |
| Seat                              | Stainless steel AISI 316                      |
| Valve plug                        | Stainless steel                               |
| Body Pressure Rating              | ANSI Class 125, up to 175 psi below 150°F     |
| ANSI Class                        | 125                                           |
| Number of Bolt Holes              | 4                                             |
| Maximum Inlet Pressure (Steam)    | 100 psi [690 kPa]                             |
| Max Differential Pressure (Steam) | 50 psi [345 kPa]                              |
| Rangeability Sv                   | 91:1                                          |
| Cv                                | 90                                            |
| Weight                            | 74.97 lb [34 kg]                              |
| Fluid Temp Range (water)          | 32...350°F [0...176°C]                        |
| Leakage rate                      | ANSI Class III                                |
| Servicing                         | repack/rebuild kits available                 |



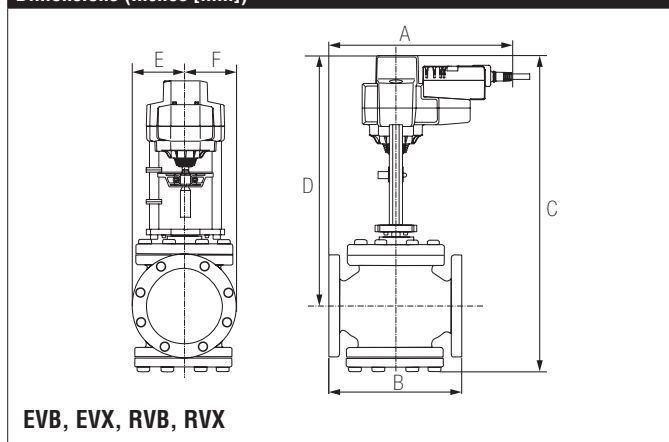
## Application

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. Bronze or stainless steel trim valves can be used for steam applications, depending on actuator and close-off combination.

## Suitable Actuators

|         | Non-Spring | Spring | Electronic fail-safe |
|---------|------------|--------|----------------------|
| G680LCS | EVB(X)     | AF     | AVKB(X)              |

## Dimensions (Inches [mm])



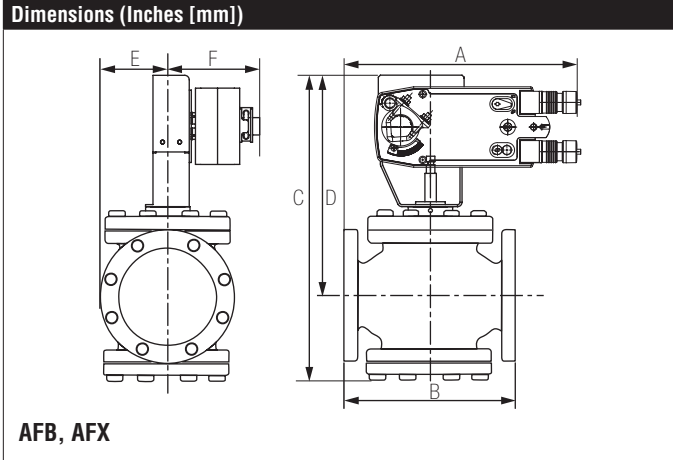
| A           | B           | C           | D           | E          | F |
|-------------|-------------|-------------|-------------|------------|---|
| 12.2" [310] | 10.0" [254] | 24.6" [626] | 19.3" [489] | 3.9" [100] |   |

## Safety Notes

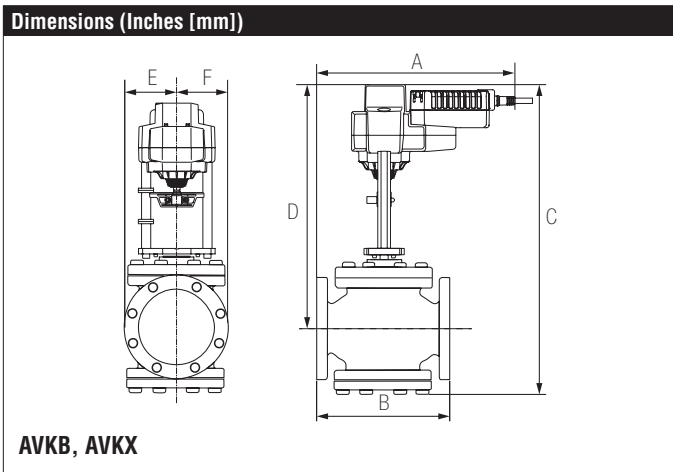
**WARNING:** This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

## 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° 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.



| A           | B           | C           | D           | E          | F          |
|-------------|-------------|-------------|-------------|------------|------------|
| 12.2" [310] | 10.0" [254] | 22.7" [577] | 17.8" [453] | 3.9" [100] | 5.3" [135] |



| A           | B           | C           | D           | E          | F |
|-------------|-------------|-------------|-------------|------------|---|
| 12.2" [310] | 10.0" [254] | 24.6" [626] | 19.3" [489] | 3.9" [100] |   |

# AFBUP-X1 Technical Data Sheet

On/Off, Spring Return, AC 24...240 V



5-year warranty



| Technical Data                     |                                                                                           |
|------------------------------------|-------------------------------------------------------------------------------------------|
| Power Supply                       | 24...240 VAC, -20% / +10%, 50/60 Hz, 24...125 VDC, ±10%                                   |
| Power consumption in operation     | 7 W                                                                                       |
| Power consumption in rest position | 3.5 W                                                                                     |
| Transformer sizing                 | 7 VA @ AC 24 V (class 2 power source), 8.5 VA @ AC 120 V, 18 VA @ AC 240 V                |
| Electrical Connection              | 18 GA appliance cable, 3 ft [1 m], with 1/2" conduit connector                            |
| Overload Protection                | electronic throughout 0...95° rotation                                                    |
| Angle of rotation                  | 95°                                                                                       |
| Torque motor                       | 180 in-lb [20 Nm]                                                                         |
| Direction of motion motor          | selectable by ccw/cw mounting                                                             |
| Direction of motion fail-safe      | reversible with cw/ccw mounting                                                           |
| Position indication                | Mechanical                                                                                |
| Manual override                    | 5 mm hex crank (3/16" Allen), supplied                                                    |
| Running Time (Motor)               | 75 s                                                                                      |
| Running time fail-safe             | <20 s                                                                                     |
| Ambient humidity                   | max. 95% r.H., non-condensing                                                             |
| Ambient temperature                | -22...122°F [-30...50°C]                                                                  |
| Storage temperature                | -40...176°F [-40...80°C]                                                                  |
| Degree of Protection               | IP54, NEMA 2, UL Enclosure Type 2                                                         |
| Housing material                   | Galvanized steel and plastic housing                                                      |
| Agency Listing                     | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU and 2014/35/EU |
| Noise level, motor                 | 50 dB(A)                                                                                  |
| Noise level, fail-safe             | 62 dB(A)                                                                                  |
| Servicing                          | maintenance-free                                                                          |
| Quality Standard                   | ISO 9001                                                                                  |
| Weight                             | 4.6 lb [2.1 kg]                                                                           |

†Rated Impulse Voltage 4kV, Type of action 1.AA, Control Pollution Degree 3.

Date created, 04/03/2020 - 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.

**UP** Universal Power Supply (UP) models can be supplied with 24 VAC up to 240 VAC, or 24 VDC up to 125 VDC.

**A** Actuators with appliance cables are numbered.

**⚡** Apply only AC line voltage or only UL-Class 2 voltage to the terminals of auxiliary switches. Mixed or combined operation of line voltage/safety extra low voltage is not allowed.

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

**1** Provide overload protection and disconnect as required.

**45** Actuators may be powered in parallel. Power consumption must be observed.

**48** Parallel wiring required for piggy-back applications.

