

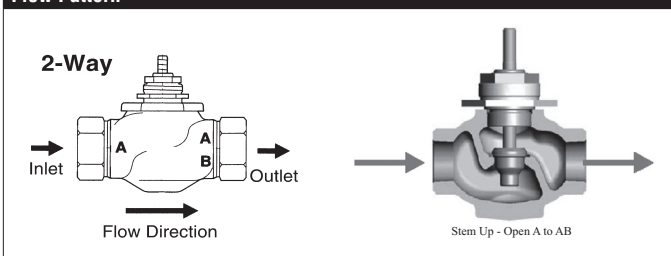
G240, 2-Way, Globe Valve, Bronze Trim



Technical data

Service	chilled or hot water, up to 60% glycol, steam
Flow characteristic	equal percentage
Controllable Flow Range	stem up - open A to AB
Size [mm]	1.5" [40]
End Fitting	NPT female ends
Body	bronze
Stem	stainless steel
Stem Packing	spring loaded Teflon V-ring
Seat	bronze
Plug	brass
Disc	composition (EPDM)
Body Pressure Rating [psi]	ANSI 250
ANSI Class	ANSI 250 (up to 400 psi below 150°F)
Max Inlet Pressure (Steam)	35 psi (241 kPa)
Media Temperature Range (Water)	20°F to 280°F [-7°C to 138°C]
Media Temperature Range (Steam)	32°F to 280°F [0°C to 138°C]
Maximum differential pressure (steam)	20 psi (103 kPa)
Max Differential Pressure (Water)	35 psi (241 kPa)
Leakage	ANSI Class IV
Rangeability	75:1
Cv	28
Weight	13 lbs
Servicing	Repack/Rebuild kits available

Flow Pattern



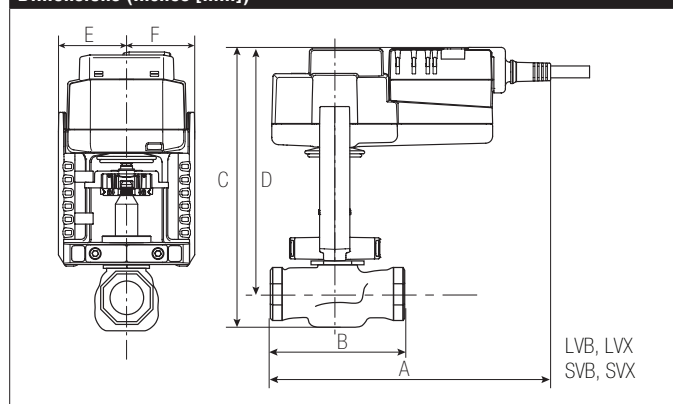
Application

This valve is typically used in Air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV box re-heat coils and bypass loops. This valve is suitable for use in hydronic system with variable flow. Bronze and stainless steel trim valves can be used for steam applications, depending on actuator and close-off combinations.

Suitable Actuators

	Non-Spring	Spring	Electronic Fail-Safe
G240	SVB(X)	AFB(X)	SVKB(X)

Dimensions (Inches [mm])

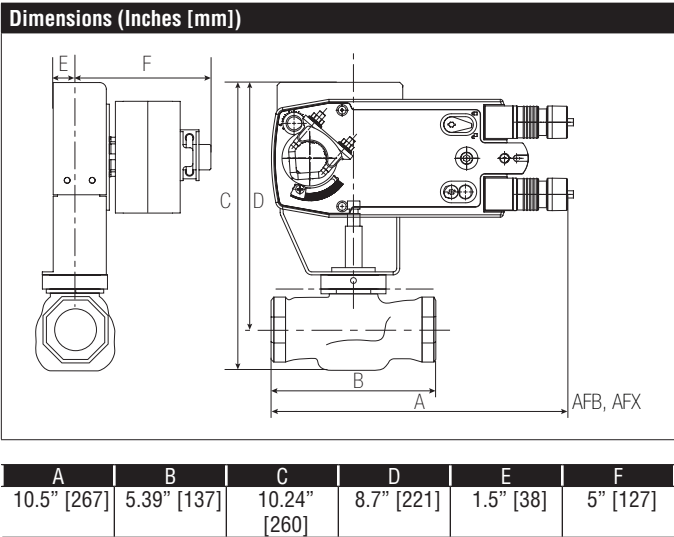
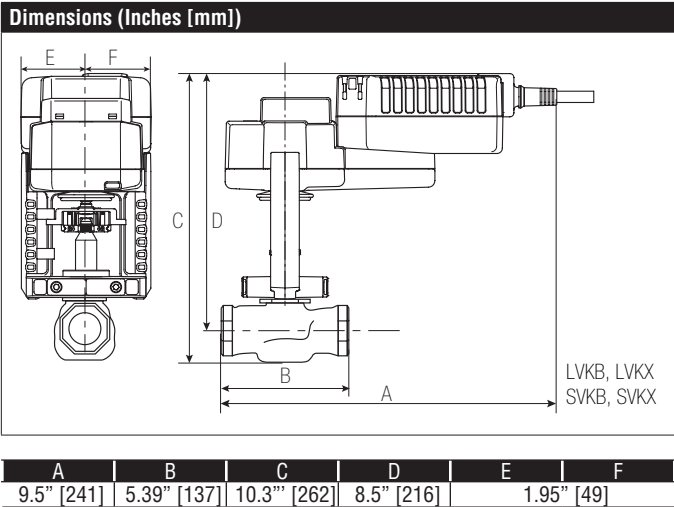


A	B	C	D	E	F
9" [229]	5.39" [137]	10" [252]	8.5" [216]	1.95" [49]	1.95" [49]

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 G2(S) and G3(D) 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 the valve stem vertical or horizontal in relation to the 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.

G240, 2-Way, Globe Valve, Bronze Trim



AFBUP-S-X1

On/Off, Spring Return, 24 VAC/DC



Technical Data	
Power Supply	24...240 VAC +10% / -20%, 50/60 Hz, 24...125 VDC ±10%
Power Consumption Running	7.5 W
Power Consumption Holding	3.5 W
Transformer Sizing	7 VA @ 24 VAC (class 2 power source), 8.5 VA @ 120 VAC, 18 VA @ 240 VAC
Shaft Diameter	1/2" to 1.05" round, centers on 1/2" and 3/4" with insert, 1.05" without insert
Electrical Connection	(2) 3 ft, 18 GA appliance cables with 1/2" conduit connectors
Overload Protection	electronic throughout 0° to 95° rotation
Operating Range Y	on/off
Feedback Output U	No Feedback
Angle of Rotation	95° (adjustable with mechanical end stop, 35° to 95°)
Torque	180 in-lbs [20 Nm] minimum
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)	<75 seconds
Running Time (Fail-Safe)	674 3217 669 673
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
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)	<40 dB (A)
Noise Level (Fail-Safe)	<45 dB (A)
Servicing	maintenance free
Quality Standard	ISO 9001
Weight	4.6 lbs [2.1 kg]
Auxiliary Switch	2 x SPDT, 3A resistive (0.5A inductive) @ 250 VAC, one set at +10°, one adjustable 10° to 90°

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

Application

For On/Off, fail-safe control of dampers in HVAC systems. Actuator sizing should be done in accordance with the damper manufacturer's specifications. Control is On/Off from an auxiliary contact or a manual switch. The actuator is mounted directly to a damper shaft up to 1.05" in diameter by means of its universal clamp. A crank arm and several mounting brackets are available for applications where the actuator cannot be direct coupled to the damper shaft. Maximum of two EF's can be piggybacked for torque loads of up to 540 in-lbs. Minimum 3/4" diameter shaft and parallel wiring.

Operation

The AF.UP-S series actuators provide true spring return operation for reliable fail-safe application and positive close off on air tight dampers. The spring return system provides constant torque to the damper with, and without, power applied to the actuator. The AF.UP-S series provides 95° of rotation and is provided with a graduated position indicator showing 0° to 95°. The actuator may be stalled anywhere in its normal rotation without the need of mechanical end switches. The AF.UP-S versions are provided with two built-in auxiliary switches. These SPDT switches provide safety interfacing or signaling, for example, for fan start-up. The switching function at the fail-safe position is fixed at +10°, the other switch function is adjustable between +10° and 90°. The AF.UP-S actuator is shipped at +5° (5° from full fail-safe) to provide automatic compression against damper gaskets for tight shut off.

Wiring Diagrams

INSTALLATION NOTES

- 1 Provide overload protection and disconnect as required.
- 2 Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- 3 Actuators may also be powered by 24 VDC.
- 4 Two built-in auxiliary switches (2x SPDT), for end position indication, interlock control, fan startup, etc.

APPLICATION NOTES

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.

