G350, 3-Way, Globe Valve, Bronze Trim, Mixing

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 constant or variable flow. 3-way valves are available with mixing or diverting flow patterns.

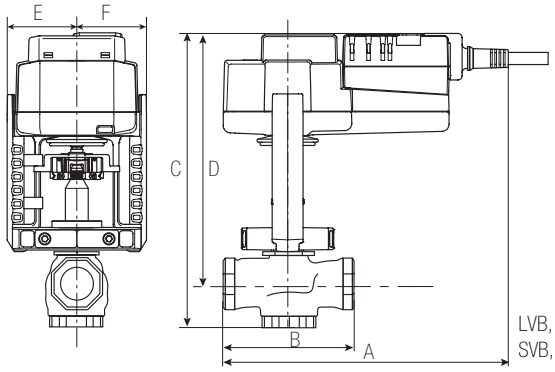
Suitable Actuators

	Non-Spring	Spring	Electronic Fail-Safe
G350	SVB(X)	AFB(X)	SVKB(X)

Technical data

Service	chilled, hot water, up to 60% glycol
Flow Characteristic	linear
Controllable Flow Range	stem up - open B to AB
Size [mm]	2" [50]
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)
Media Temperature Range (Water)	20°F to 280°F [-7°C to 138°C]
Max Differential Pressure (Water)	35 psi (241 kPa)
Leakage	ANSI Class III
Rangeability	A-port 100:1, B-port 500:1
Cv	41
Weight	8.6 lb [3.9 kg]
Servicing	Repack/Rebuild kits available

Dimensions (Inches [mm])

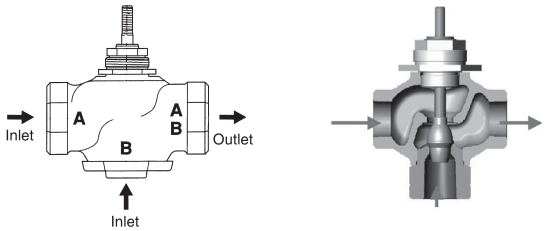


A	B	C	D	E	F
9.3" [236]	6.12" [156]	10.5" [267]	9.1" [231]	1.95" [49]	

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.

Flow Pattern



Stem Up- Open B to AB

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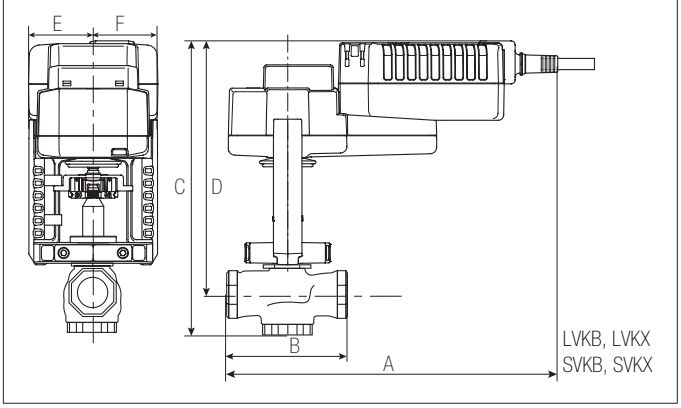
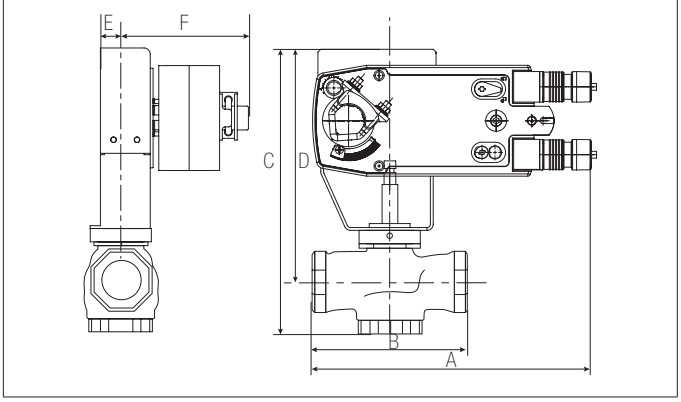
Dimensions (Inches [mm])



A	B	C	D	E	F
10” [254]	6.12” [156]	10.3”’ [262]	9.1” [231]	1.95” [49]	

Dimensions (Inches [mm])



A	B	C	D	E	F
11” [279]	6.12” [156]	10.75” [273]	9.5” [241]	1.5” [38]	5” [127]

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 applicance 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	2 to 10 VDC, 4 to 20 mA (default), variable (VDC, PWM, floating point, on/off)
Position Feedback	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
Sound power level	<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

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.

(A) Actuators with appliance cables are numbered.

△1 Provide overload protection and disconnect as required.

△3 Actuators may also be powered by 24 VDC.

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

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

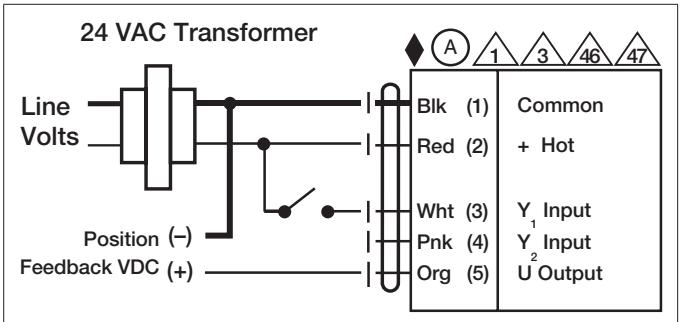
△8 Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.

△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.

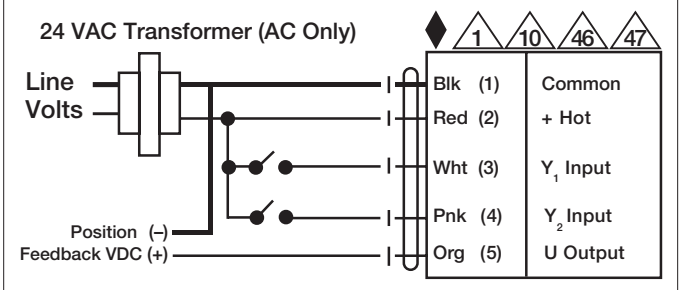
△12 IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).

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

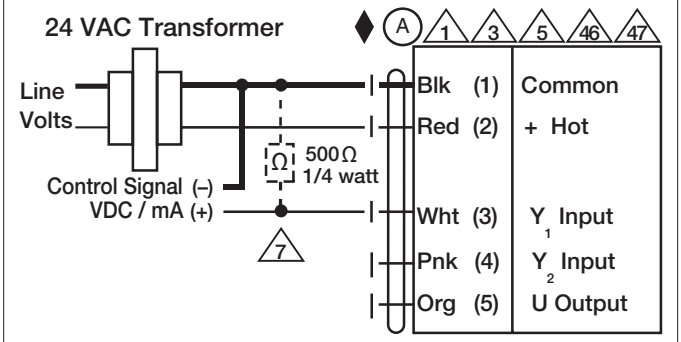
△47 Master-Slave wiring required for piggy-back applications. Feedback from Master to conrol input(s) of Slave(s).



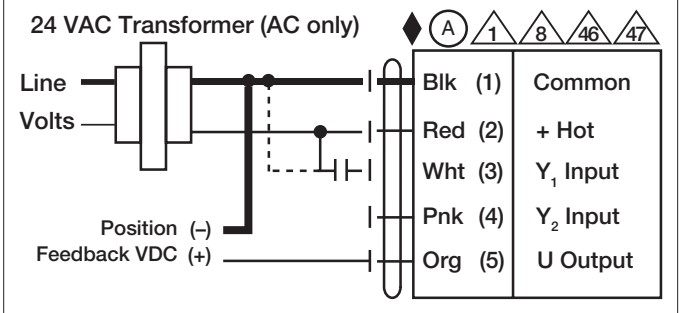
On/Off



Floating Point



VDC/mA Control



PWM Control

AFX24-MFT-X1

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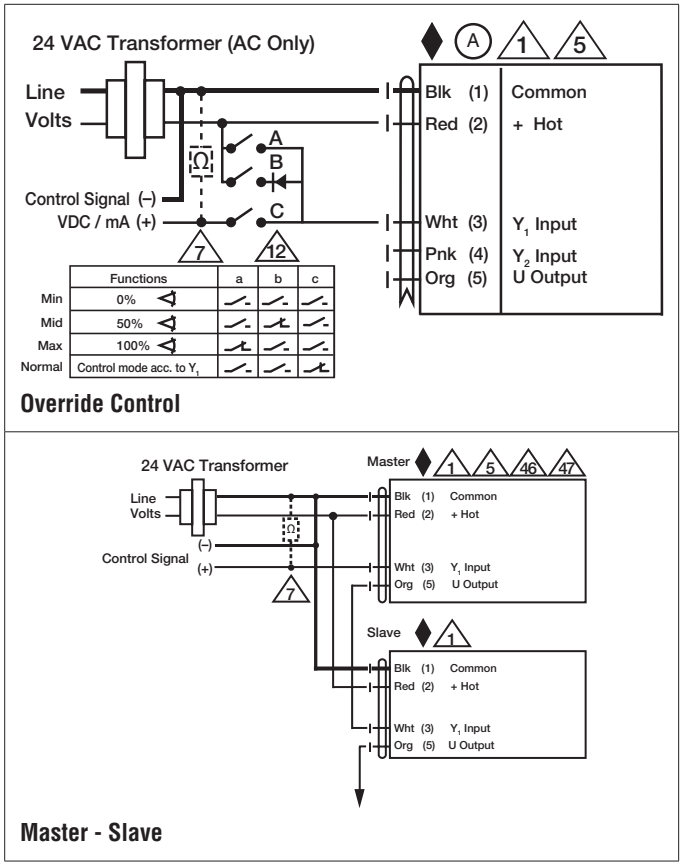

Override Control

Master - Slave