G7100S, 3-Way, Mixing Flanged Globe Valve

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.

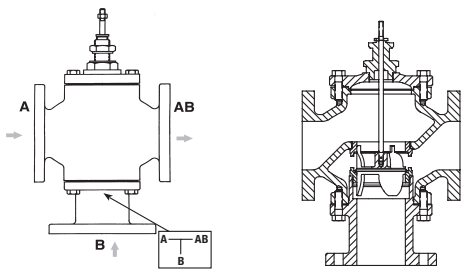
Suitable Actuators

	Non-Spring	Spring	Electronic Fail-Safe
G7100S	EVB(X), RVB(X)	2*AFB(X)	2*GKB(X)

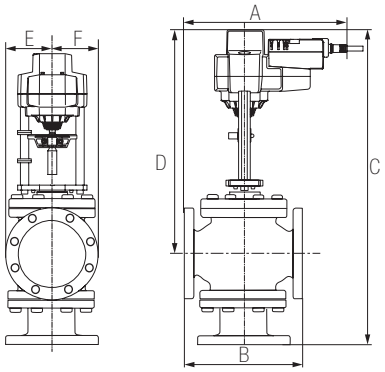
Technical Data

Service	chilled, hot water, up to 60% glycol
Flow Characteristic	linear
Controllable Flow Range	stem up - open B to AB
Size [mm]	4" [100]
End Fitting	125 lb flanged
Body	cast iron - ASTM A126 Class B (ASME B16.1)
Stem	316 stainless steel with Heater
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	8
Max Inlet Pressure (Water)	150 psi (1034 kPa) @ 250°F
Media Temperature Range (Water)	-20°F to 350°F [-30°C to 176°C]
Max Differential Pressure (Water)	50 psi (345 kPa)
Ambient Temperature Range	**STEM HEATER**AC 24 V ± 10%, 50/60 Hz ± 5% approx 60 w
Rangeability	50:1
Cv	190
Weight	136.9 lb [62.1 kg]
Leakage	ANSI Class III
Servicing	Repack/Rebuild kits available

Flow Pattern



Dimensions (Inches [mm])



EVB, EVX, RVB, RVX

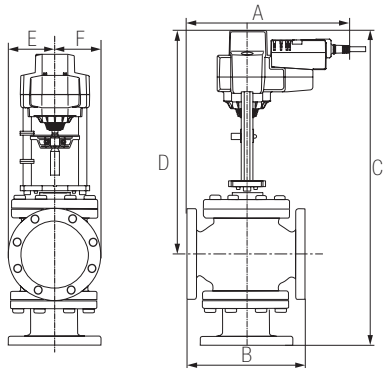
A	B	C	D	E	F
13.7" [348]	13" [330]	29.69" [754]	19.75" [502]	4.5" [114]	

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.

G7100S, 3-Way, Mixing Flanged Globe Valve

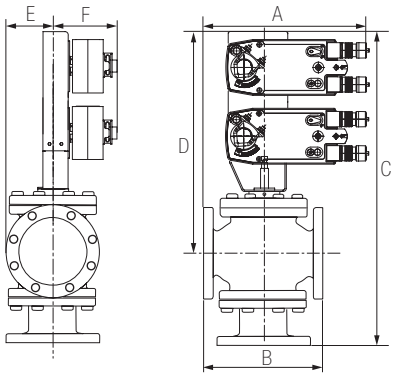
Dimensions (Inches [mm])



EVB, EVX, RVB, RVX

A	B	C	D	E	F
13.7” [348]	13” [330]	29.69” [754]	19.75” [502]	4.5” [114]	

Dimensions (Inches [mm])

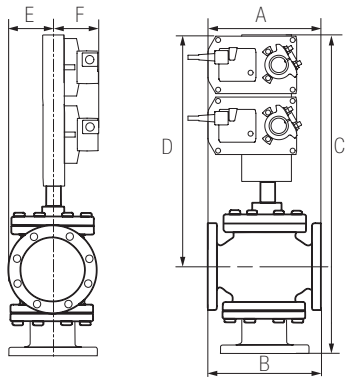


2*AFB, 2*AFX

A	B	C	D	E	F
13.7” [348]	13” [330]	33.25” [844]	23.4” [594]	4.5” [114]	5.25” [135]

G7100S, 3-Way, Mixing Flanged Globe Valve

Dimensions (Inches [mm])



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

A	B	C	D	E	F
15.08" [383]	13" [330]	33.25" [844]	23.4" [594]	4.5" [114]	5.25" [135]

2*GKX24-MFT-X1

Modulating, Electronic Fail-Safe, 24 V, for 2 to 10 VDC or 4 to 20 mA Control Signal

Technical Data	
Power Supply	24 VAC ± 20%, 50/60 Hz, 24 VDC ± 10%
Power Consumption Running	12 W
Power Consumption Holding	3 W
Transformer Sizing	40VA (class 2 power source)
Electrical Connection	18 GA plenum rated cable with 1/2" conduit connector protected NEMA 2 (IP54) 3ft [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, 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, 0.5 mA max, VDC variable
Angle of Rotation	max. 95°, adjustable with mechanical stop
Direction of Rotation (Motor)	reversible with built-in switch
Direction of Rotation (Fail-Safe)	reversible with switch
Position Indication	reflective visual indicator (snap on)
Manual Override	external push button
Running Time (Motor)	150 sec (default), variable (95 to 150 sec)
Running Time (Fail-Safe)	35 sec
Bridge Time	programmable 0 to 10 sec (2 sec default) delay before fail-safe activates
Pre-charging Time	5 to 20 seconds
Humidity	5 to 95% RH non condensing (EN 60730-1)
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	UL94-5VA
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)	<45 dB (A)
Noise Level (Fail-Safe)	<45 dB (A)
Servicing	maintenance free
Quality Standard	ISO 9001
Weight	9 lb [4.1 kg]

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

2*GKX24-MFT-X1

Modulating, Electronic Fail-Safe, 24 V, for 2 to 10 VDC or 4 to 20 mA Control Signal

Wiring Diagrams

INSTALLATION NOTES

(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).

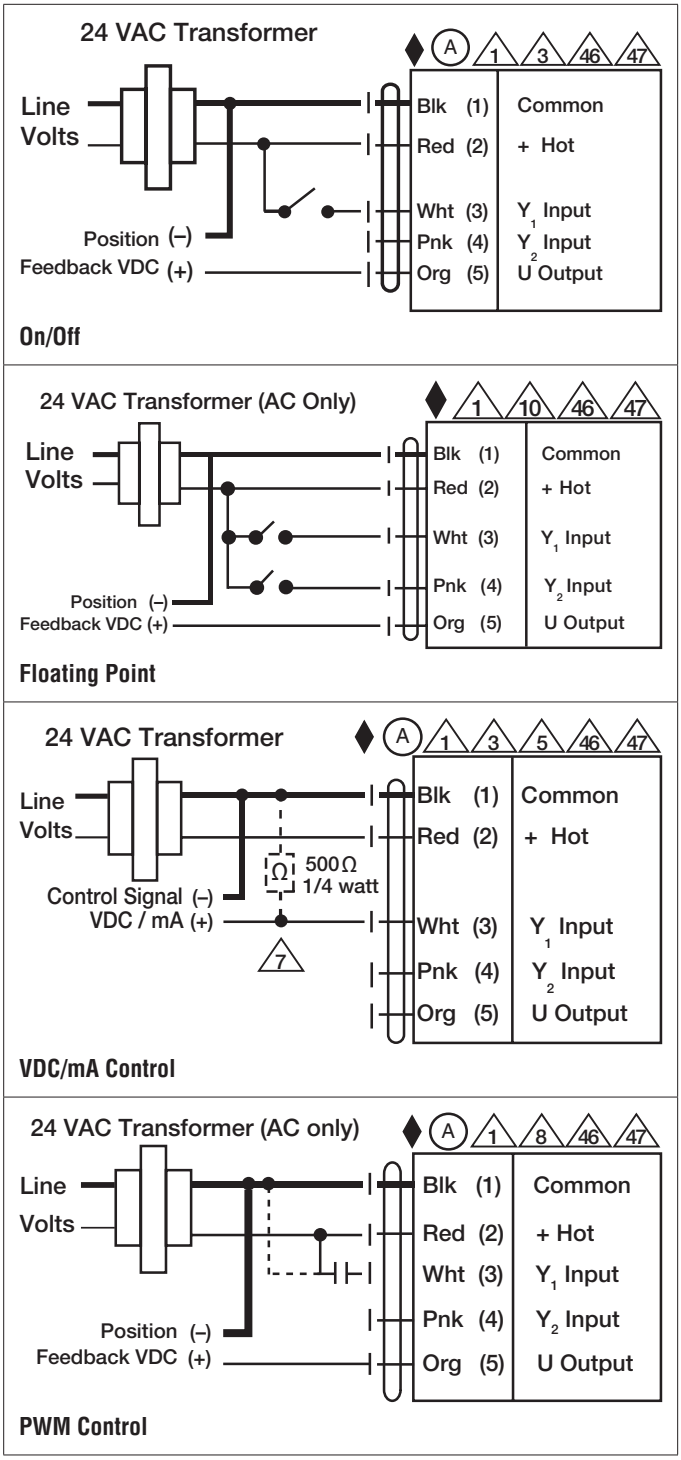
△46 Actuators may be controlled in parallel. Current draw and input impedance must be observed.

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

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

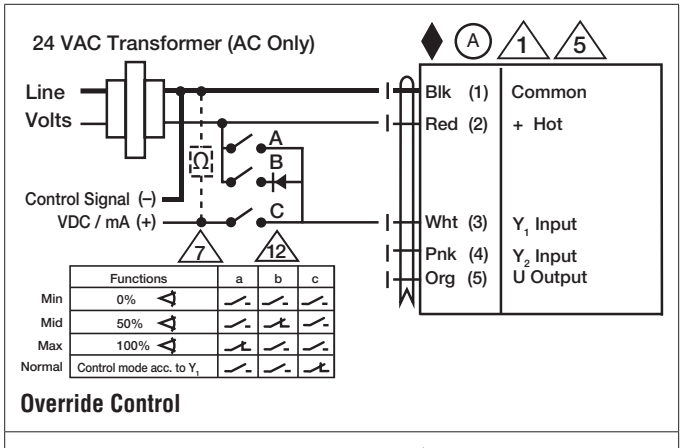
△! WARNING! LIVE ELECTRICAL COMPONENTS!

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.

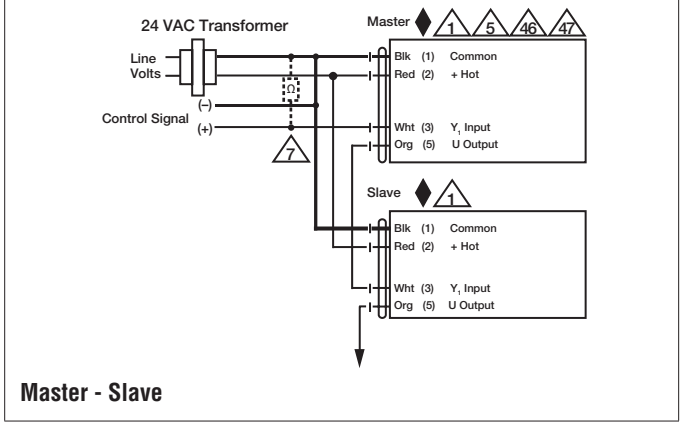


2*GKX24-MFT-X1

Modulating, Electronic Fail-Safe, 24 V, for 2 to 10 VDC or 4 to 20 mA Control Signal



Override Control



Master - Slave