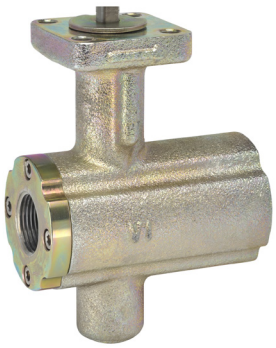
B2100VB-024 Technical Data Sheet

Hardened Chrome Plated Carbon Steel Body, Stainless Steel Ball and Stem



2-year warranty

Application

Water-side control of air handling apparatus in ventilation and air-conditioning system.
Water/Steam control in heating system.
300:1 rangeability.
The dimensions and drilling of end flanges conform to the American cast iron flange standard, Class 150 (ANSI B16.1).

Product Features

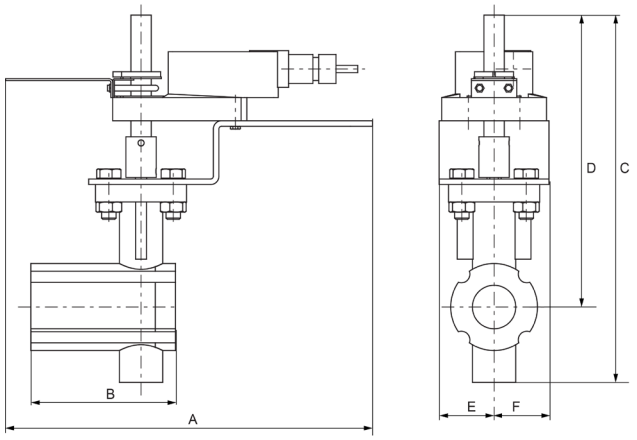
Fast quarter turn open or closed operation, stainless-steel ball and stem, positive isolation, two-piece body construction

Suitable Actuators

	Non-Spring	Spring	Electronic fail-safe
B2100VB-024	SY1, AMB(X), PRB(X)	NF	PKRB(X)

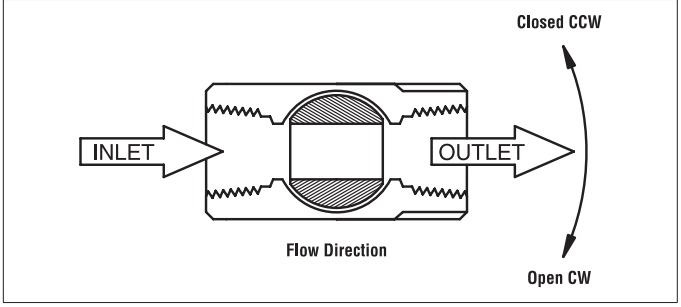
Technical Data	
Fluid	chilled or hot water, up to 60% glycol, steam
Flow characteristic	equal percentage
Controllable flow range	75°
Valve Size [mm]	1" [25]
Pipe connection	NPT female ends
Housing	WCC grade carbon steel
Ball	stainless steel
Stem	stainless steel
Stem seal	PTFE V-ring
Seat	PTFE
Body Pressure Rating	ANSI Class 300
ANSI Class	300
Maximum Inlet Pressure (Steam)	200 psi
Max Differential Pressure (Steam)	100 psi
Maximum differential pressure (water)	150 psi
Close-off pressure Δps	150 psi
Close-Off Pressure (Steam)	200 psi
Rangeability Sv	300:1
Cv	24
Weight	9.02 lb [4.1 kg]
Fluid Temp Range (water)	-22...380°F [-30...193°C]
Fluid Temp Range (steam)	-22...380°F [-30...193°C]
Leakage rate	ANSI Class IV

Dimensions (Inches [mm])



A	B	C	D	E	F
11.8" [299]	5.0" [127]	12.6" [320]	10.1" [256]	1.8" [46]	

Flow/Mounting Details



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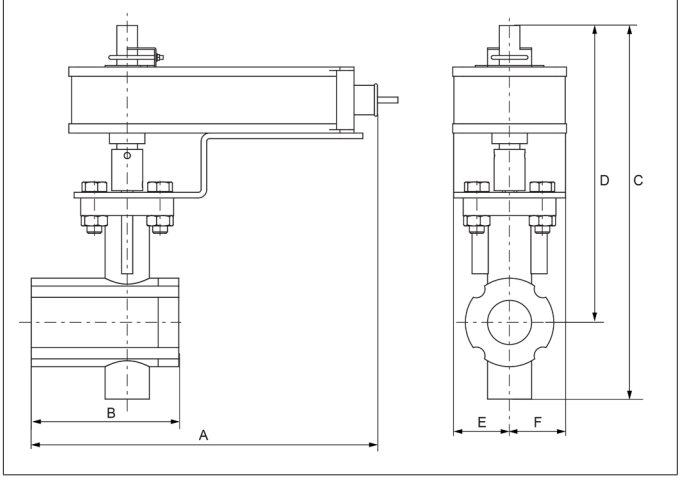
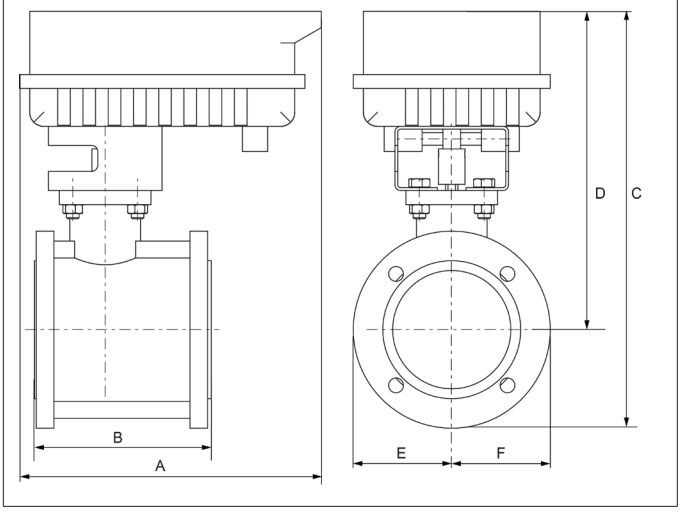


A	B	C	D	E	F
11.7” [298]	5.0” [127]	12.6” [320]	10.1” [256]	1.9” [48]	

Dimensions (Inches [mm])



A	B	C	D	E	F
11.8” [299]	5.0” [127]	15.0” [380]	12.6” [321]	3.9” [100]	

AMX24-MFT-X1 Technical Data Sheet

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

5-year warranty

Technical Data	
Power Supply	24 VAC, ±20%, 50/60 Hz, 24 VDC, ±10%
Power consumption in operation	3.5 W
Power consumption in rest position	1.3 W
Transformer sizing	6 VA
Electrical Connection	18 GA plenum cable, 3 ft [1 m], with 1/2" conduit connector (10 ft [3 m] and 15 ft [5 m] available)
Overload Protection	electronic throughout 0...95° rotation
Operating Range	2...10 V (default), 4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor), variable (VDC, PWM, on/off, floating point)
Operating range Y variable	Start point 0.5...30 V End point 2.5...32 V
Input Impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA, 1500 Ω for PWM, On/Off and Floating point
Position Feedback	2...10 V, Max. 0.5 mA, VDC variable
Angle of rotation	Max. 95°, adjustable with mechanical stop
Direction of motion motor	selectable with switch 0/1
Position indication	Mechanically, integrated, two-section
Manual override	external push button
Running Time (Motor)	default 150 s, variable 90...350 s
Ambient humidity	max. 95% r.H., non-condensing
Ambient temperature	-22...150°F [-30...65°C]
Storage temperature	-40...176°F [-40...80°C]
Degree of Protection	IP54, NEMA 2, UL Enclosure Type 2
Housing material	UL94-5VA
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	45 dB(A)
Servicing	maintenance-free
Quality Standard	ISO 9001
Weight	4.9 lb [2.0 kg]

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

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.

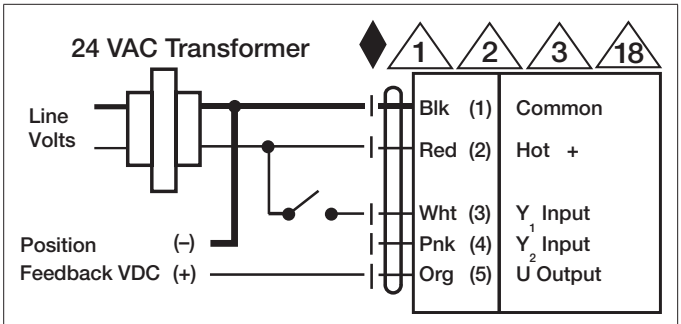
11 Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.

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

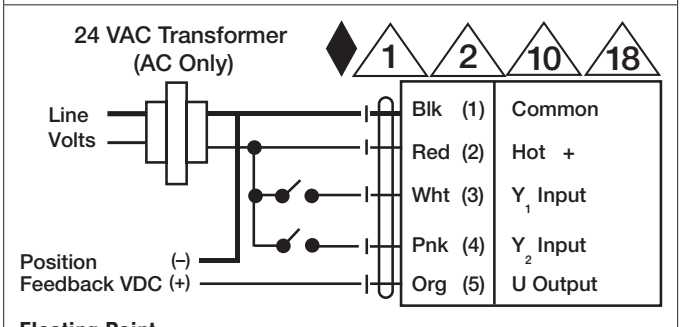
◆ Meets cULus requirements without the need of an electrical ground connection.

WARNING! LIVE ELECTRICAL COMPONENTS!

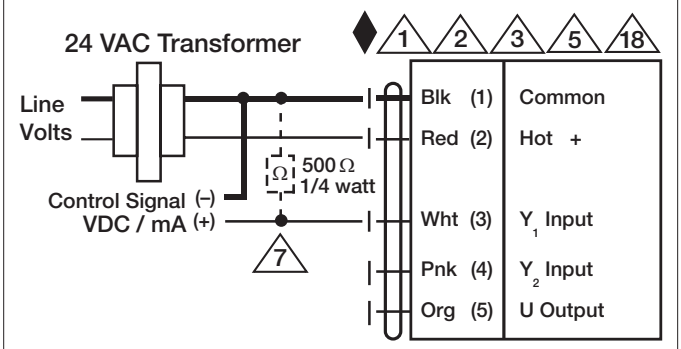
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow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



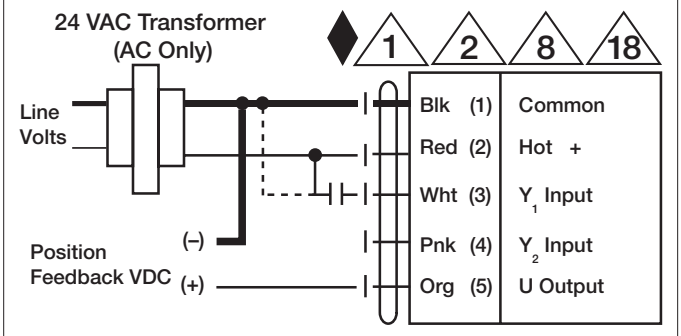
On/Off



Floating Point



VDC/mA Control



PWM Control

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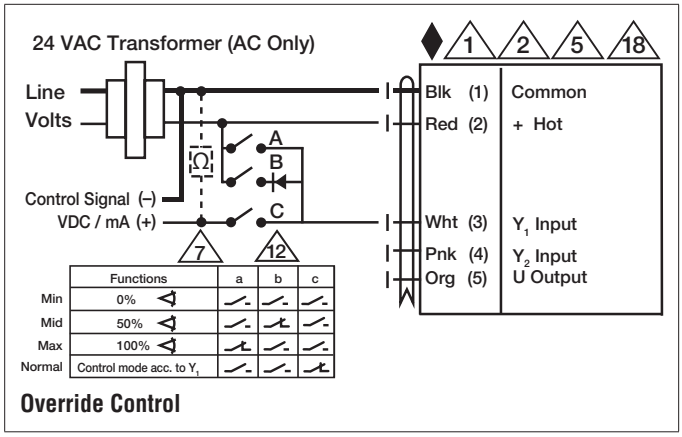

Override Control