

B224VSS, 2-Way, Ball Valve

Stainless Steel Body, Ball and Stem



Application

These threaded valves are designed to provide modulating or two position control of hot or chilled water and saturated steam systems under 50 psi. Typical applications include reheat coils, VAV terminal control, unit ventilators, and air handlers, especially in areas which have minimum profile requirements. Up to 50 psi steam
 1/2" - 2000 PSIG WOG, Cold Non-Shock
 Federal Specification: WW-V-35C, Type II
 Composition: SS
 Style: 3

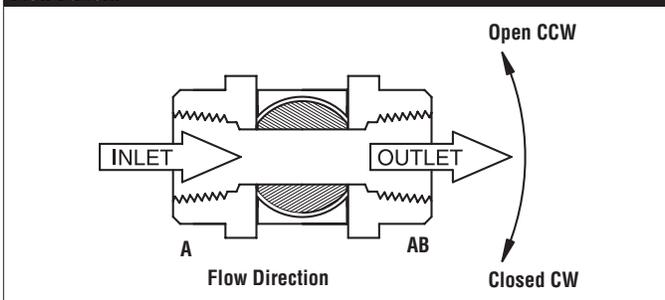
Suitable Actuators

	Non-Spring	Spring
B224VSS	AMB(X), SY1	AFB(X)

Technical Data

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	modified equal percentage
Controllable Flow Range	90° rotation, A to AB open CCW, B to AB open CW
Size [mm]	1" [25]
End Fitting	sae npt (female connections)
Body	A351-CF8M 316 Stainless Steel
Body Seal	PTFE
Ball	316 stainless steel
Gland	A276-316
Stem	316 stainless steel
Stem Packing	reinforced PTFE
Stem Bearing	reinforced PTFE
Jam Nut	stainless steel
Seat	reinforced PTFE w/ Durafill
Body Pressure Rating [psi]	1500 psig WOG
Max Inlet Pressure (Steam)	50 psi
Media Temperature Range (Water)	-22°F to 298°F [-30°C to 148°C]
Maximum Differential Pressure (Steam)	50 psi
Max Differential Pressure (Water)	<600 psig
Close-Off Pressure	1000 psi
Maximum Velocity	15 FPS
Cv	43
Weight	1.8 lb [0.8 kg]
Leakage	ANSI Class VI

Flow Pattern



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AFBUP-S-X1

On/Off, Spring Return, 24 VAC/DC



Technical Data	
Power Supply	24...240 VAC, -20% / +10%, 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
Electrical Connection	(2) 3ft [1m], 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°
Torque motor	Min. 180 in-lbs [20 Nm]
Direction of Rotation (Motor)	reversible with CW/CCW mounting
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 sec
Running Time (Fail-Safe)	<20 sec
Ambient 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 and 2006/95/EC
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]
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.

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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.
- (UP)** Universal Power Supply (UP) models can be supplied with 24 VAC up to 240 VAC, or 24 VDC up to 125 VDC.
- ⚡** 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.
- 1** Provide overload protection and disconnect as required.
- 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.
- 45** Actuators may be powered in parallel. Power consumption must be observed.
- 48** Parallel wiring required for piggy-back applications.

