- **Live-load packing set**
- **Stainless steel ball & stem**
- **Blow-out proof stem design**

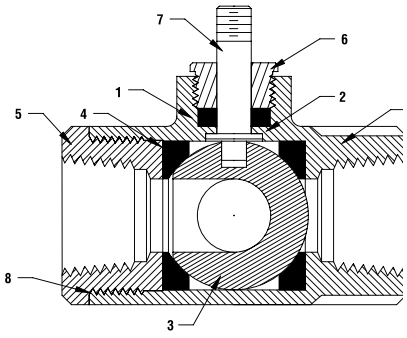
Application

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.

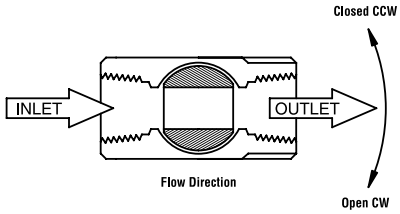
- Up to 50 psi steam
- 1/2" - 2000 PSIG WOG, Cold Non-Shock.
- Federal Specification: WW-V-35C,Type II,
  Composition: SS
  Style: 3

Technical Data	
Media	Chilled or hot water, glycol, 50# steam
Flow Characteristic	Modified equal percentage
Action	90° rotation valve open CW, valve closed CCW
Sizes	½", ¾", 1", 1¼", 1½", 2", 2½"
Type of end fitting	SAE NPT (Female Connections)
Materials:	
1 Stem Packing	Reinforced PTFE
2 Stem Bearing	Reinforced PTFE
3 Ball	316 Stainless Steel
4 Seat (x2)	Reinforced PTFE w/ Durafill
5 Retainer	B16 (¾" - 1") Brass B584 (1¼" - 3") Brass
6 Gland	A276-316
7 Stem	316 Stainless Steel
8 Jam Nut	Stainless Steel
9 Body Seal	PTFE (1¼" to 3")
10 Body	A351-CF8M 316 Stainless Steel

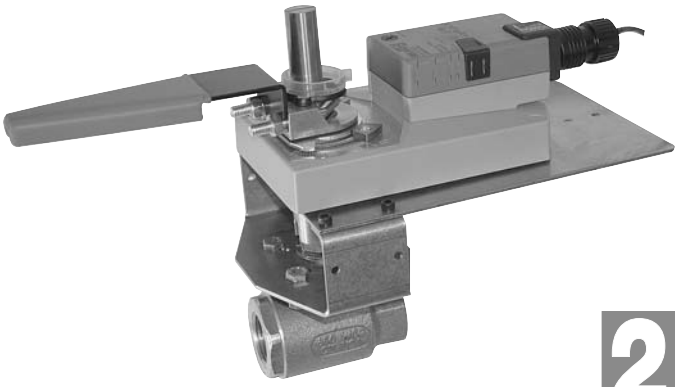


Pressure rating	2000 psig WOG (½" - 1")
Media temp. range	-22°F to 298°F (-30°C to 148°C)
Close-off pressure	600 psig @ 100°F
Maximum differential pressure (ΔP)	<600 psig

Flow Patterns



	Valve Nominal Size		Type	Suitable Return Actuators	
C_v	Inches	DN [mm]	2-way NPT	Spring	Non- Spring
15	½	15	B2050VSS-15	LF Series	NM Series, SY Series
30	¾	20	B219VSS		
43	1	25	B224VSS	AF Series	AM Series, SY Series
48	1¼	32	B232VSS		
84	1½	40	B239VSS		GM Series, SY Series
108	2	50	B249VSS		
503	2½	65	B265VSS		



2 YEAR WARRANTY

CE LISTED 94 05 TEMP.IND. & REG.EQUIP. c UL us BRUSHLESS dc motor

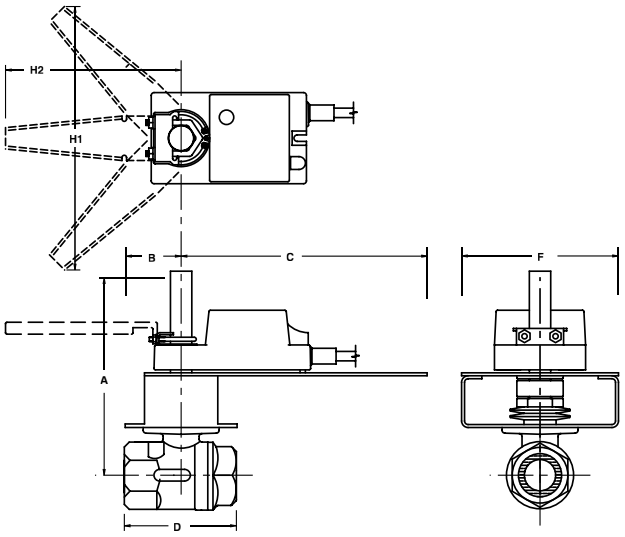
Models

GMB24-3-X1
2xGMB24-3-X1

Technical Data		
Control		On/Off, Floating Point
Power supply		24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
Power consumption	running	4 W
	holding	2 W
Transformer sizing		6 VA (Class 2 power source)
Electrical connection		❑ 3 ft [1m] 18 GA plenum rated cable ½" conduit connector
Overload protection		electronic throughout stroke
Angle of rotation		95°
Direction of rotation		reversible with ↷/↶ switch
Position indication		reflective visual indicator (snap-on)
Running time		150 seconds, constant independent of load
Humidity		5 to 95% RH non-condensing
Ambient temperature		-22°F to 122°F [-30°C to 50°C]
Housing		NEMA 2/IP54 with cable entry down
Housing material		UL94-5V (flammability rating)
Agency listings		cULus acc. to UL 60730-1A/-2-14, CAN/CSA E60730-1, CSA C22.2 No. 24-93, CE acc. to 89/336/EEC
Noise level		<45 dB(A)
Quality standard		ISO 9001

Dimensions with 2-Way Valve

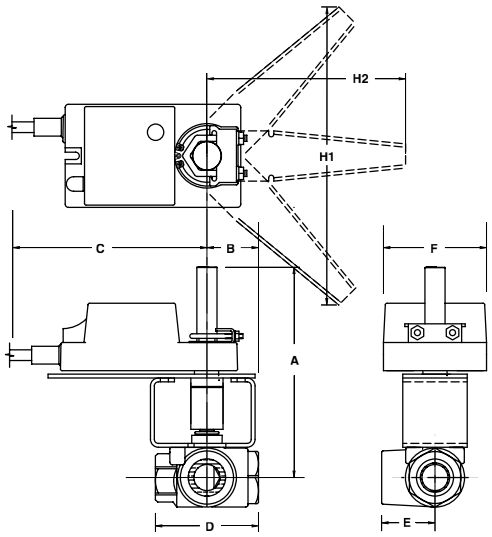
PAGE7



Valve Nominal Size				Dimensions (Inches)						
Valve Body	COP	Inches	DN [mm]	A	B	C	D	F	H1	H2
B239VS	400	1½	40	7.50	3.00	8.00	4.37	6.25	9.75	8.50
B249VS	200	2	50	7.50	3.00	8.00	4.68	6.25	9.75	8.50
B239VSS	1000	1½	40	7.50	3.00	8.00	4.37	6.25	9.75	8.50
B249VSS	400	2	50	7.50	3.00	8.00	4.68	6.25	9.75	8.50

Dimensions with 3-Way Valve

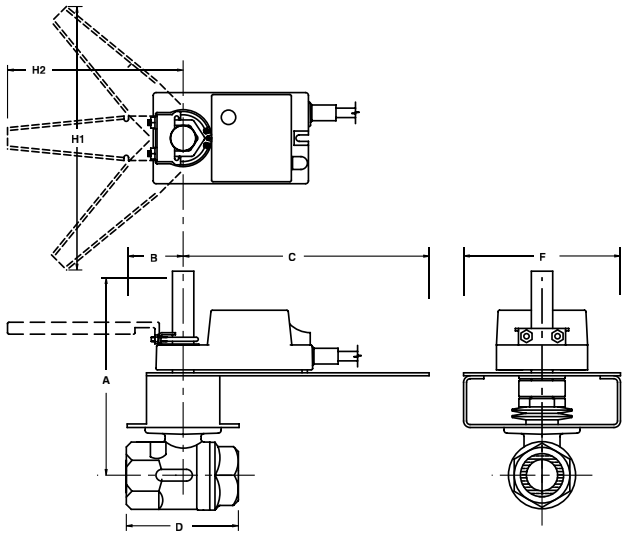
PAGE11



Valve Nominal Size				Dimensions (Inches)							
Valve Body	COP	Inches	DN [mm]	A	B	C	D	E	F	H1	H2
B340VS	75	1½	40	7.00	2.00	8.00	4.44	2.25	6.25	9.75	8.50
B350VS	75	2	50	15.00	8.00	8.00	5.38	2.75	6.25	9.25	8.50

Dimensions with 2xGM… and 2-Way Valve

PAGE7

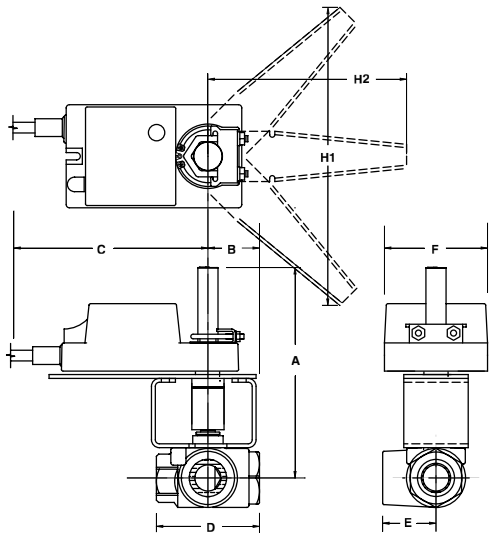


Valve Nominal Size				Dimensions (Inches)						
Valve Body	COP	Inches	DN [mm]	A	B	C	D	F	H1*	H2*
B240VS	400	1½	40	7.50	3.00	8.00	4.75	6.25	9.75	8.50
B250VS	200	2	50	15.00	3.00	8.00	5.37	6.25	9.75	8.50
B265VS	100	2½	65	15.00	3.00	8.00	6.25	6.25	9.75	8.50
B280VS	50	3	80	15.00	3.00	8.00	6.75	6.25	9.75	8.50
B249VSS	1000	2	50	7.50	3.00	8.00	4.68	6.25	9.75	8.50
B265VSS	200	2½	65	15.00	3.00	8.00	6.25	6.25	9.75	8.50

*Handles not available on spring return series or dual mounted actuators

Dimensions with 2xGM… and 3-Way Valve

PAGE11



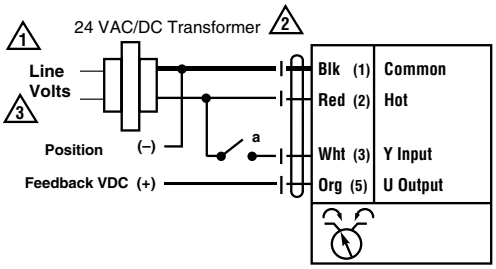
Valve Nominal Size				Dimensions (Inches)							
Valve Body	COP	Inches	DN [mm]	A	B	C	D	E	F	H1*	H2*
B350VS	200	2	50	15.00	8.00	8.00	5.38	2.75	6.25	9.75	8.50

*Handles not available on spring return series or dual mounted actuators

Wiring Diagrams

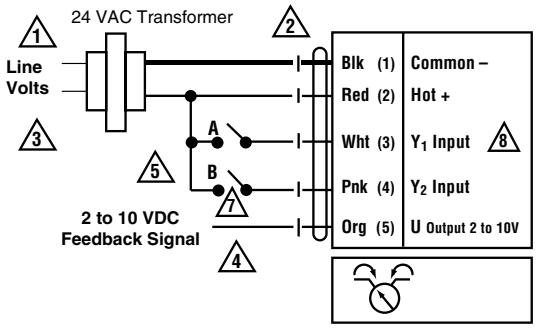
1. Provide overload protection and disconnect as required.
2. Actuators may be connected in parallel if not mechanically mounted to the same shaft. Power consumption and input impedance must be observed.
3. Actuators may also be powered by 24 VDC.
4. Position feedback cannot be used with Triac sink controller. The actuator internal common reference is not compatible.
5. Control signal may be pulsed from either the Hot (source) or the Common (sink) 24 VAC line.
7. Contact closures A & B also can be triacs. A& B should both be closed for triac source and open for triac sink.
8. For triac sink the common connection from the actuator must be connected to the hot connection of the controller.

W369



On/Off control

W369



Floating Point

Piping

The valve 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. Allow 6" for cover removal and 12" for complete actuator removal. The assembly can be mounted with the actuator 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.