



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

Application

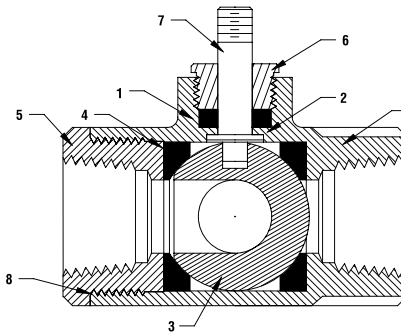
These threaded valves are designed to provide modulating or two position control of hot or chilled water and saturated steam systems under 50 psi.

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

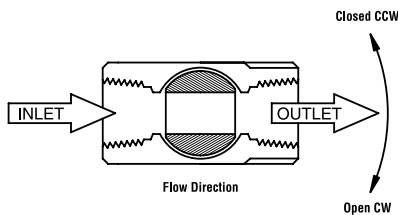
Technical Data	
Media	Chilled or hot water, glycol, 50# steam
Flow Characteristic	Modified equal percentage
Action	90° rotation valve open CW, valve closed CCW
Sizes	1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2"
Type of end fitting	SAE NPT (Female Connections)
Materials:	
1 Stem Packing	Reinforced PTFE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

C _v	Valve Nominal Size		Type	Suitable Return Actuators	
	Inches	DN [mm]		Spring	Non-Spring
15	1/2	15	B2050VSS-15	LF Series	NM Series
30	3/4	20	B219VSS		
43	1	25	B224VSS	AF Series	AM Series
48	1 1/4	32	B232VSS		
84	1 1/2	40	B239VSS		
108	2	50	B249VSS		
503	2 1/2	65	B265VSS	GM Series	SY Series

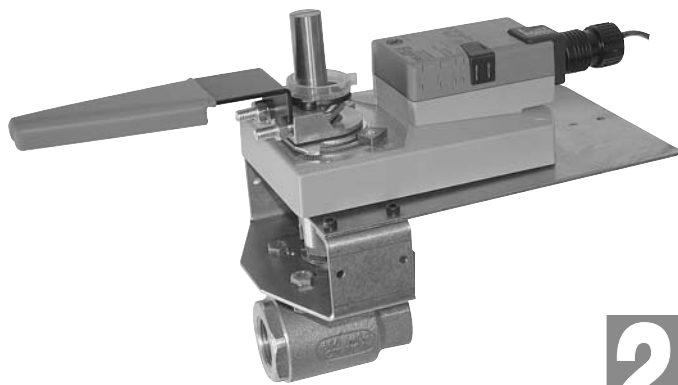


Pressure rating	2000 psig WOG (1/2" - 1")
Media temp. range	-22°F to 298°F (-30°C to 148°C)
Close-off pressure	600 psig @ 100°F
Maximum differential pressure (ΔP)	<600 psig

Flow Patterns



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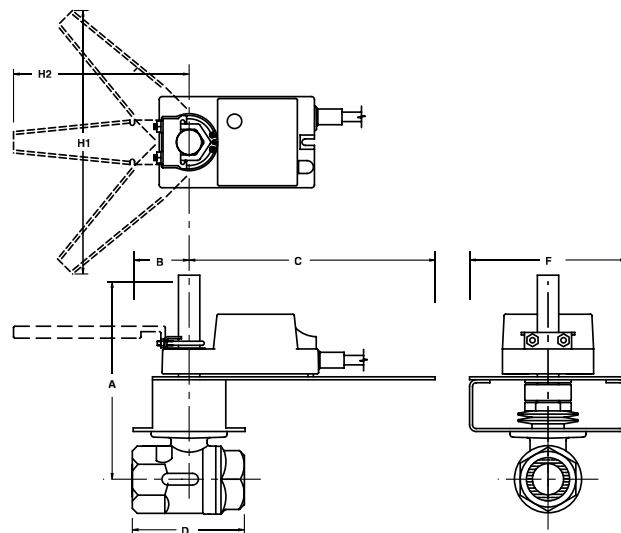
Models

GMX24-MFT-X1
 *2xGMX24-MFT-X1
 GMX24-MFT95-X1

Technical Data

Control	On/Off, Floating Point, 2 to 10 VDC
Power supply	24 VAC \pm 20% 50/60 Hz 24 VDC \pm 10%
Power consumption	running 4.5 W holding 3 W
Transformer sizing	7 VA (Class 2 power source)
Electrical connection	\square 3 ft [1m] 18 GA plenum rated cable $\frac{1}{2}$ " conduit connector
Overload protection	electronic throughout stroke
Input impedance	100k Ω for 2 to 10 VDC (0.1 mA) 500 Ω for 4 to 20 mA 750 Ω for PWM 1500 Ω for On/Off and Floating Point
Feedback	2 to 10 VDC, 0.5 mA max VDC variable
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

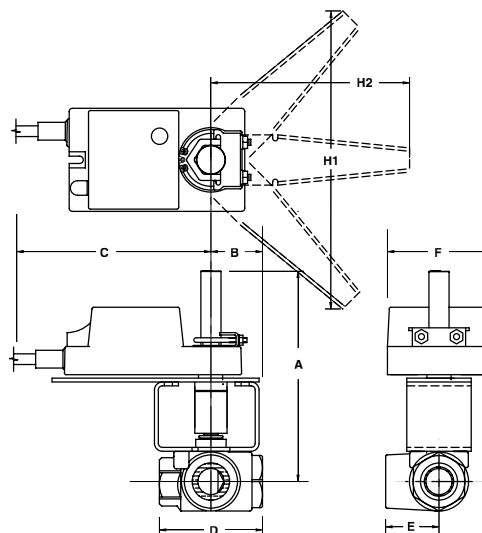


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Valve Nominal Size Dimensions (Inches)

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



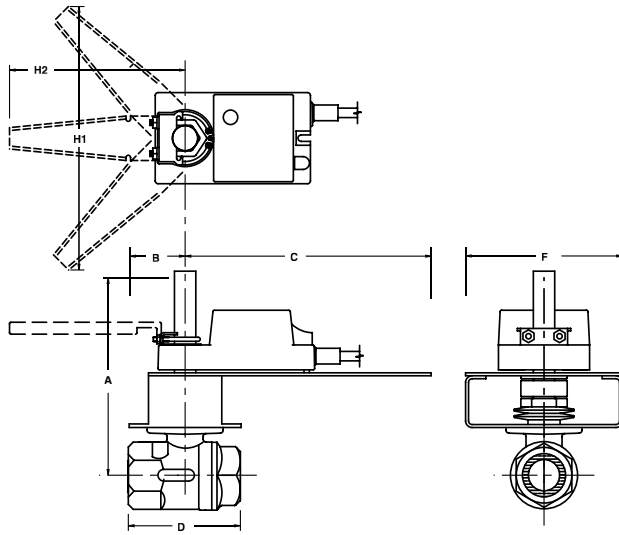
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Valve Nominal Size Dimensions (Inches)

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

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Dimensions with 2xGM... and 2-Way Valve



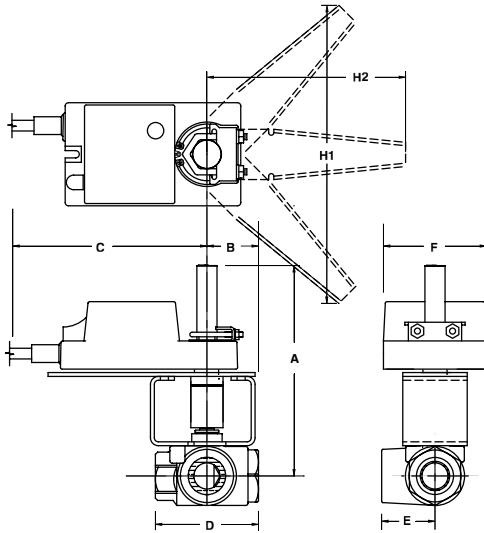
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Valve Nominal Size Dimensions (Inches)

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
B265VSS	200	2½	65	15.00	3.00	8.00	6.25	6.25	9.75	8.50
B280VSS	100	3	80	15.00	3.00	8.00	6.75	6.25	9.75	8.50

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

Dimensions with 2xGM... and 3-Way Valve



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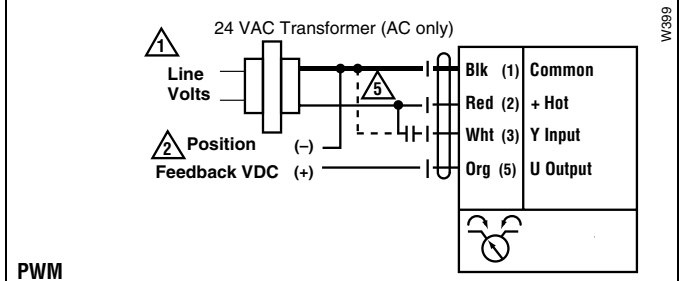
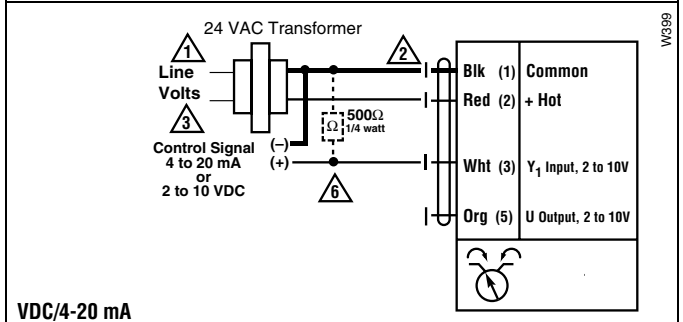
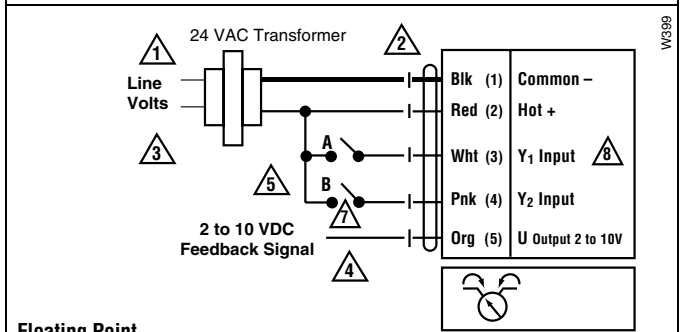
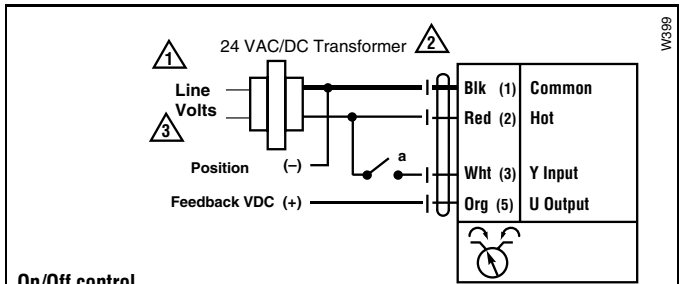
Valve Nominal Size Dimensions (Inches)

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. Control signal may be pulsed from either the Hot (source) or the Common (sink) 24 VAC line.
- 5 ZG-R01 may be used.
- 6 Contact closures A & B also can be triacs.
- 7 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.



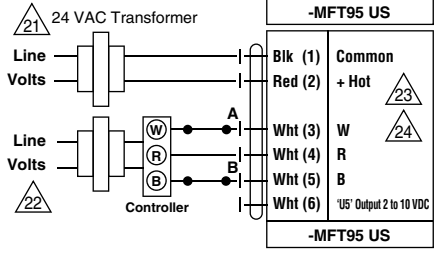
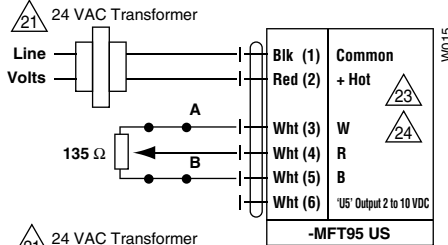
INSTALLATION NOTES

- 21 Provide overload protection and disconnect as required.
- 22 Actuators and controller must have separate transformers.
- 23 Consult controller instruction data for more detailed information.
- 24 Resistor value depends on the type of controller and the number of actuators. Honeywell® resistor kits may also be used.
- 25 To reverse control rotation, use the reversing switch.

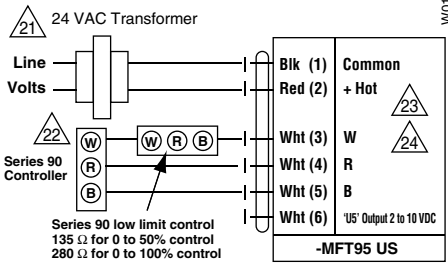
Override

Switch A	Switch B	Damper Position
		Damper Open
		Damper Closed

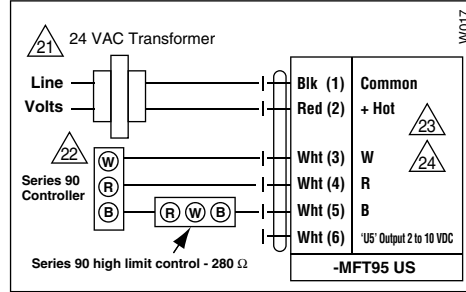
The direction of rotation switch is set so that the fail safe position and the position of the damper is closed with no signal at wire R.



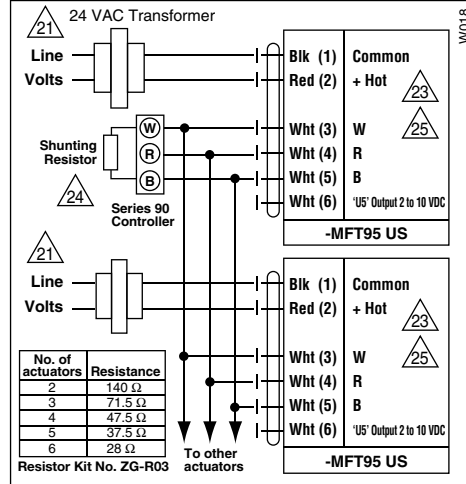
Low Limit Control



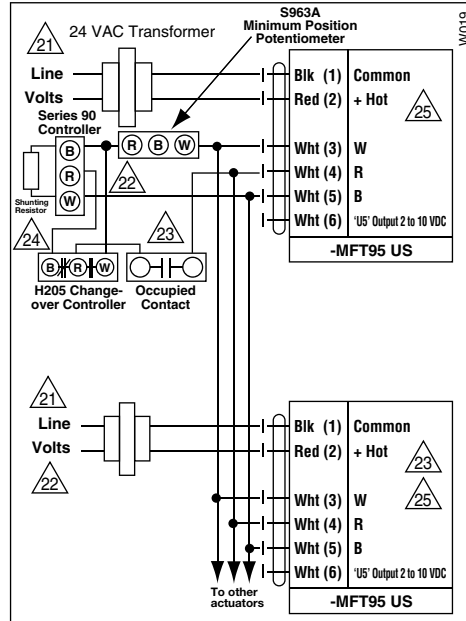
High Limit Control



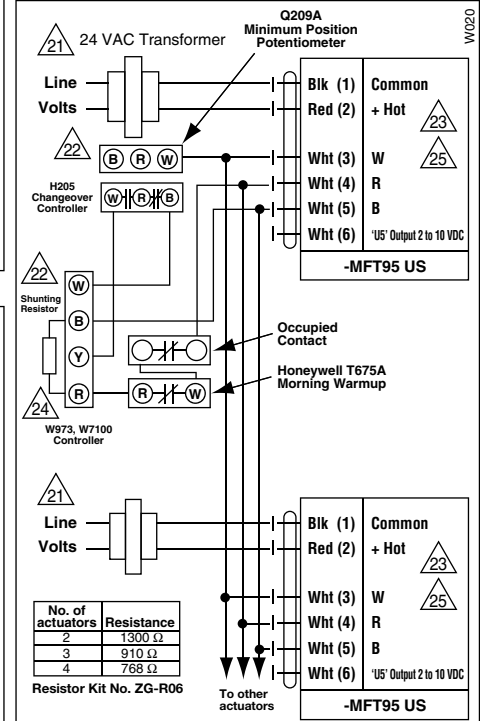
Wiring Multiple Actuators to a Series 90 Controller



Wiring Multiple Actuators to a Series 90 Controller using a Minimum Position Potentiometer



Typical wiring diagrams for multiple actuators used with the W973, W7100 and T775 controllers



Used with the W973 and W7100 controllers

