

B3...VS Series, 3-Way, Ball Valve Bronze Body, Stainless Steel Ball and Stem



- 316 Stainless Ball and Stem
- Reinforced PTFE seats and stuffing box
- Blow-out proof stem design
- Adjustable packing gland

Application

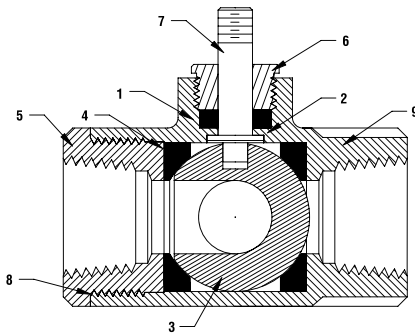
These threaded valves are designed to provide modulating or two position control of hot or chilled water.

Typical applications include reheat coils, VAV terminal control, unit ventilators, and air handlers, especially in areas which have minimum profile requirements.

- 400 PSIG WOG, Cold Non-Shock

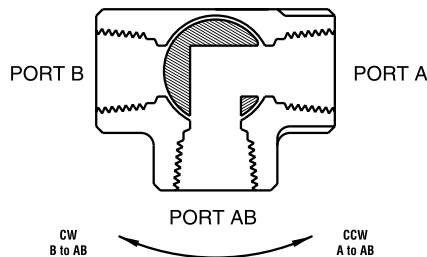
Technical Data	
Media	chilled or hot water, glycol
Flow characteristic	modified equal percentage
Action	90° rotation A to AB open CCW, B to AB open CW
Sizes	½", ¾", 1", 1¼", 1½", 2"
Type of end fitting	SAE NPT (female connection)
Materials:	
1 Stem Packing	PTFE
2 Stem Bearing	PTFE
3 Ball	316 Stainless Steel
4 Seat (x2)	PTFE w/ Durafill
5 Retainer	B16 (½" - 1") Brass B584 (1¼" - 2") Brass
6 Gland	ASTM B16 Brass
7 Stem	316 Stainless steel
8 Jam Nut	PTFE (1¼" - 2")
9 Body Seal	B584-C84400 Bronze

C _v	Valve Nominal Size		Type	Suitable Return Actuators		
	Inches	DN (mm)		Spring		Non-Spring
4.8	½	15	B315VS	LF	NF	LM
11	¾	20	B320VS	AF Series		NM Series
21	1	25	B325VS			
33	1¼	32	B332VS	AF Series		AM Series
49	1½	40	B340VS			
91	2	50	B350VS	AF Series		GM Series

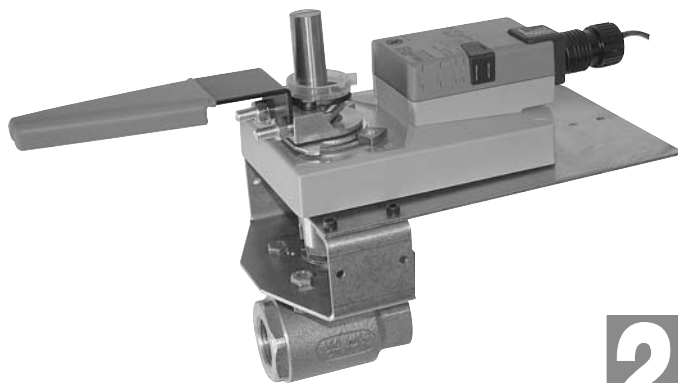


Pressure rating	400 psig WOG
Media temp. range	-22°F to 250°F (-30°C to 120°C)
Close-off pressure	400 psig @ 100°F
Maximum differential pressure (ΔP)	<75 psig

Flow Patterns



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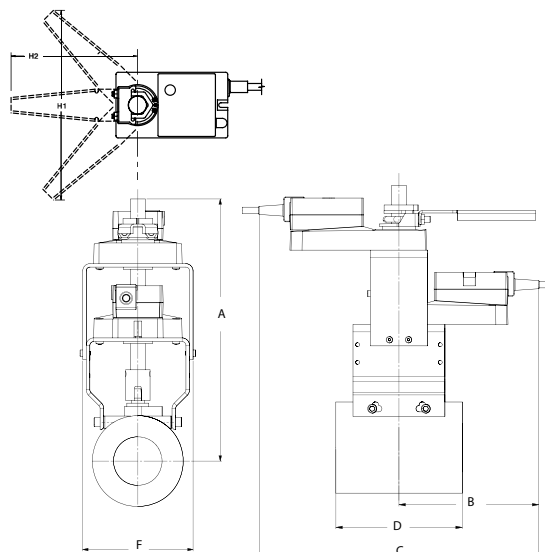


Models

- GMX24-MFT-X1
- 2" GMX24-MFT-X1
- GMX24-MFT95

Technical Data	
Control	on/off, floating point, 2 to 10 VDC
Power supply	24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
Power consumption	running 4.5 W holding 3 W
Transformer sizing	7 VA (Class 2 power source)
Electrical connection	3 ft [1m] 18 GA plenum rated cable ½" 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 according to UL 60730-1A/-2-14, CAN/CSA E60730-1, CSA C22.2 No. 24-93, CE according to 89/336/EEC
Noise level	<45 dB(A)
Quality standard	ISO 9001

Dimensions with 2-Way Valve

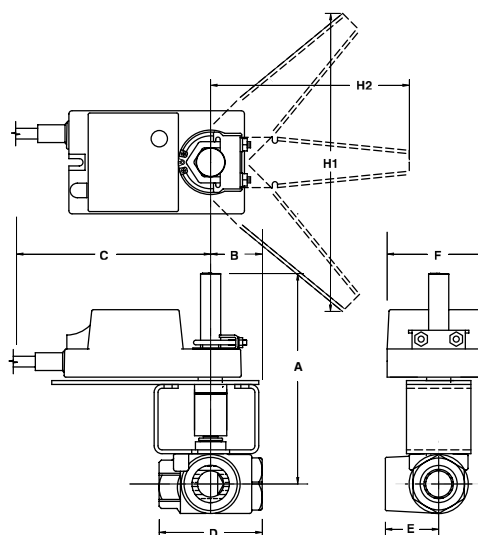


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Valve Nominal Size Dimensions (Inches)

Valve Body	COP	Inches	DN [mm]	A	B	C	D	F	H1	H2
B2150VS-177	400	1½	40	8.65	7.00	8.50	4.80	4.60	9.75	8.50
B2200VS-389	400	2	50	8.65	7.00	8.50	5.40	4.60	9.75	8.50
B2300VS-370	400	3	80	8.65	7.00	8.50	6.80	4.60	9.75	8.50
2*B2250VS-503	200	2½	65	8.65	7.00	11.90	6.50	5.62	9.75	8.50
B2250VSS-503	1000	2½	65	8.65	7.00	8.50	6.80	4.60	9.75	8.50
2*B2300VSS-370	1000	3	80	8.65	7.00	8.50	6.80	4.60	9.75	8.50

Dimensions with 3-Way Valve



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Valve Nominal Size Dimensions (Inches)

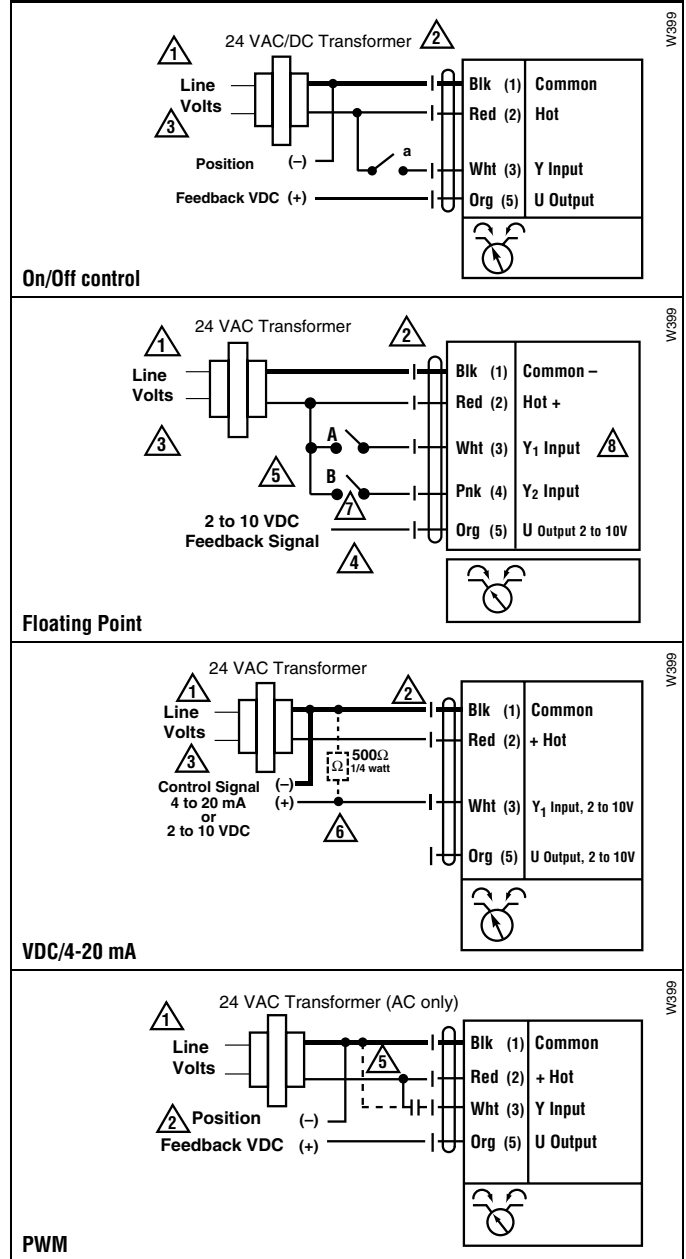
Valve Body	COP	Inches	DN [mm]	A	B	C	D	E	F	H1	H2
B332VS	200	1¼	32	7.00	2.00	8.00	4.44	2.25	6.25	9.75	8.50
B340VS	75	1½	40	7.00	2.00	8.00	4.44	2.25	6.25	9.75	8.50
B350VS	75	2	50	15.00	8.00	8.00	5.38	2.75	6.25	9.25	8.50
B350VS	200	2	50	15.00	8.00	8.00	5.38	2.75	6.25	9.75**	8.50**

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

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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.
- 6 ZG-R01 may be used.
- 7 Contact closures A & B also can be triacs.
- 8 For triac sink the common connection from the actuator must be connected to the hot connection of the controller.



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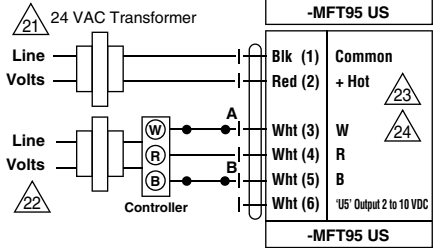
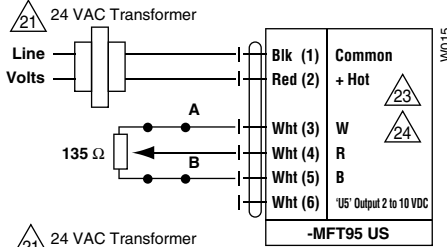
INSTALLATION NOTES

- 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. No resistor is used for one actuator. Honeywell® resistor kits may also be used.
- 25** To reverse control rotation, use the reversing switch.

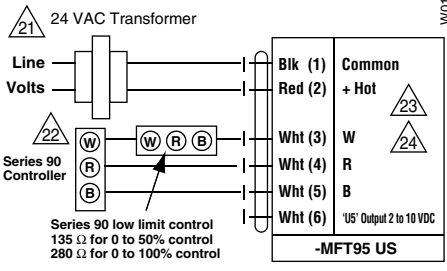
Override

Switch A	Switch B	Damper Position
		Damper Open
		Damper Closed

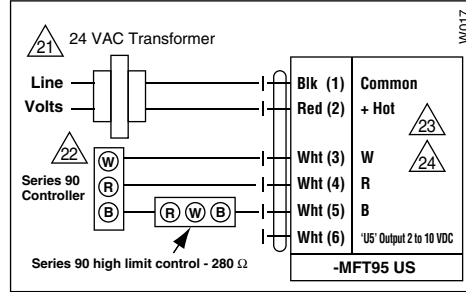
The direction of rotation switch is set so that the fail safe position and the position of the damper is closed with no signal at wire R.



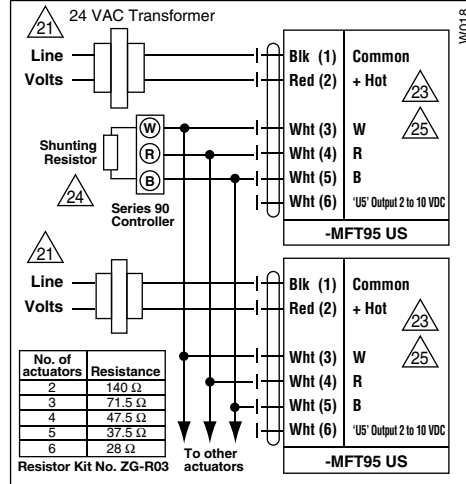
Low Limit Control



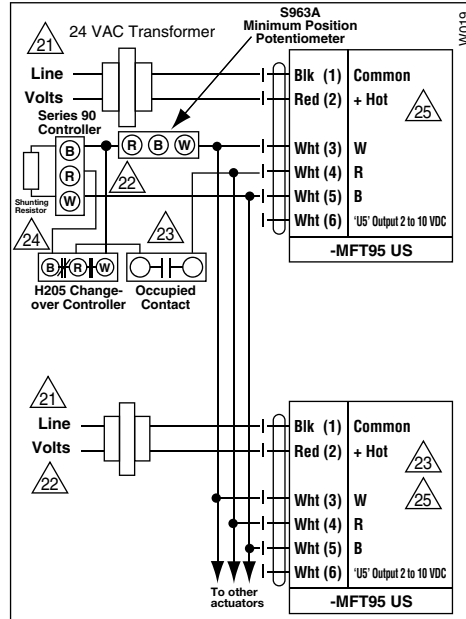
High Limit Control



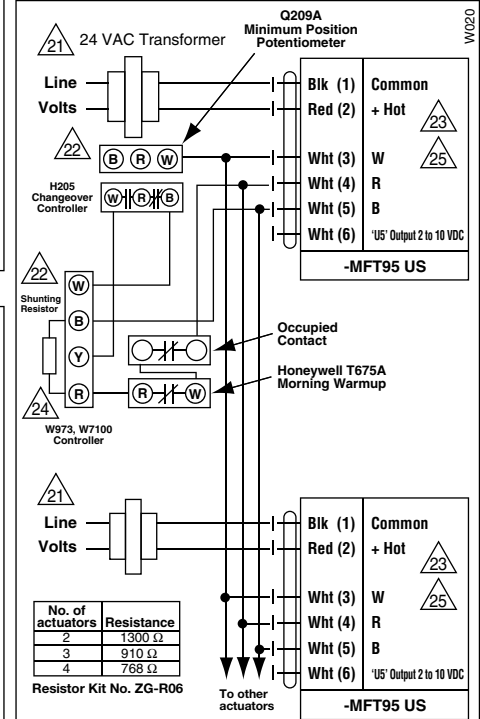
Wiring Multiple Actuators to a Series 90 Controller



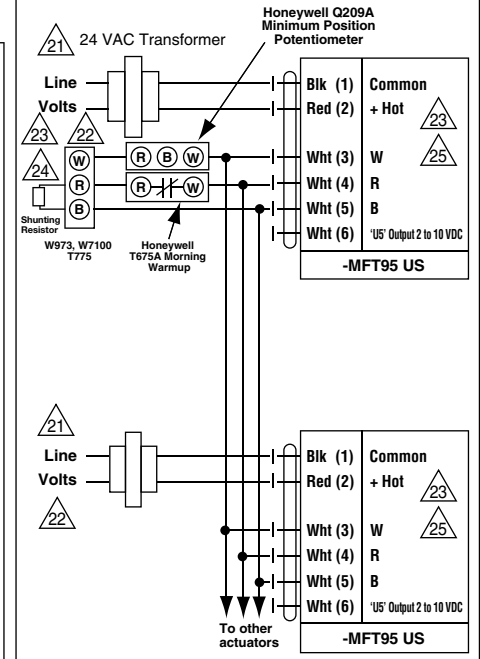
Wiring Multiple Actuators to a Series 90 Controller using a Minimum Position Potentiometer



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



Used with the W973 and W7100 controllers



APPLICATION NOTES

- Meets cULus or UL and CSA 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.