

CONTROL VALVES

MODULATING POPTOP™ ZONE VALVES VM SERIES



Schneider
Electric



3



CONTROL VALVES

DESCRIPTION

The **Schneider Electric VM Series Modulating PopTop™ Zone Valves** offer a wide variety of Cv ranges and control signal options for hot and chilled water. The PopTop™ valves are designed with removable actuators with tri-state or proportional control and either non-spring or spring return action. The valves are available in two- and three-way body patterns, 1/2" to 1-1/4" sizes, and in NPT or sweat pipe connections. An optional motor timeout actuator is available for controllers that do not automatically turn off their signals after the full stroke of the valve.



AP23A000
with VM2313



VM2211

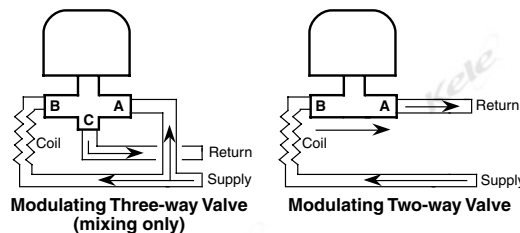


AT33A000

FEATURES

- Two- or three-way mixing body patterns
- Removable and replaceable actuator
- NPT or sweat connections
- Manual override
- Time-out option (tri-state actuator)
- Non-spring or spring return actuators

PIPING



Note: Piping is the same for N.O. or N.C. type valves.
Normal (Open, Closed) position refers to flow through the coil.

SPECIFICATIONS

Size	1/2", 3/4", 1", 1-1/4"	Signal Input	AT actuators: tri-state (floating); AP actuators: proportional (0-5, 0-10, 5-10 VDC or 4-20 mA) jumper selectable
Cv Range	1.0 to 8.0	Input Impedance	200 kΩ (0-10 VDC); 300Ω (4-20 mA)
Connections	FNPT, Sweat, or 1/2" SAE flare valve body connections	Wiring	Terminals
Flow Characteristic	Equal Percentage for Cv 1 to 4; linear for Cv 7.0 to 8.0	Action	Two-way valves: N.O./N.C. determined by choice of actuator; three-way valves: use only N.C. actuator
Leakage Rating	ANSI Class IV (0.01% of rated capacity)	Actuator Compatibility	AT (tri-state) or AP (proportional 0-10 VDC, 4-20 mA) type actuators only
Maximum Closeoff Pressure	Cv 1.0: 50 psid (344 kPa) Cv 2.0: 50 psid (344 kPa), 20 psid (137 kPa) spring return Cv 4.0: 35 psid (241 kPa), 20 psid (137 kPa) spring return Cv 8.0: 35 psid (241 kPa), 15 psid (103 kPa) spring return	Actuator Mounting	Poptop®
Maximum Pressure Rating	300 psig (2067 kPa)	Drive Time	150 seconds @ 60 Hz
Materials Of Construction	Brass valve body and seat, chrome-plated stem, thermoplastic plug; high-temperature plastic actuator housing	Spring Return Time	9 seconds maximum
Media Compatibility	Hot or chilled water; 50% or less ethylene glycol	Manual Override	Combination override lever and position indicator, all actuators
Media Temperature Range	32° to 200°F (0° to 93°C)	Operating Temperature	Maximum ambient 125°F (52°C)
Supply Voltage	24 VAC ±15% @ 10 VA (max), 50/60 Hz	Operating Humidity	5 to 95% RH non-condensing
		Enclosure Rating	NEMA 1
		Weight	Valve plus actuator assembly, <1.9 lb (0.86 Kg)
		Approvals	UL File #E9429 CSA C22.2 No. 24; CE, C-Tick
		Warranty	2 years

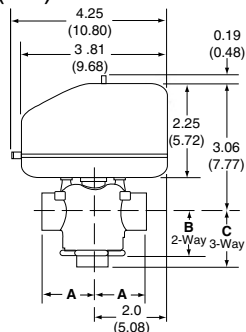


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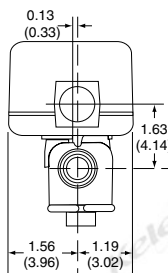
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DIMENSIONS

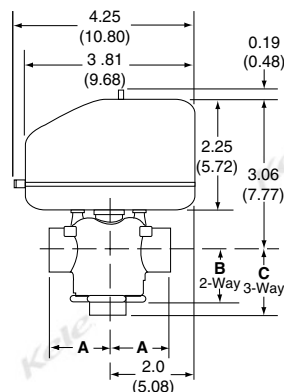
in
(cm)



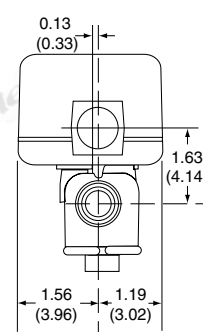
Spring Return



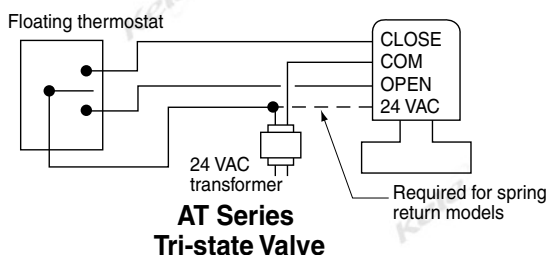
VALVE BODY SIZE	DIMENSIONS		
	A	B	C
1/2" sweat	1-5/16 (3.33)	15/16 (2.38)	1-5/16 (3.33)
3/4" NPT	1-3/8 (3.49)	15/16 (2.38)	1-11/16 (3.33)
1" sweat	1-11/16 (4.29)	15/16 (2.38)	1-11/16 (3.33)
1-1/4" sweat	1-7/8 (4.76)	1 (2.54)	1-13/16 (4.76)
1/2" NPT/BSP	1-2/8 (3.49)	15/16 (2.38)	1-5/16 (3.33)
3/4" NPT/BSP	1-11/16 (4.29)	15/16 (2.38)	1-7/16 (3.65)
1" NPT/BSP	1-7/8 (4.76)	1 (2.54)	1-11/16 (4.29)
1/2" SAE flare	2-5/16 (11.59)	15/16 (0.31)	1-5/16 (5.72)



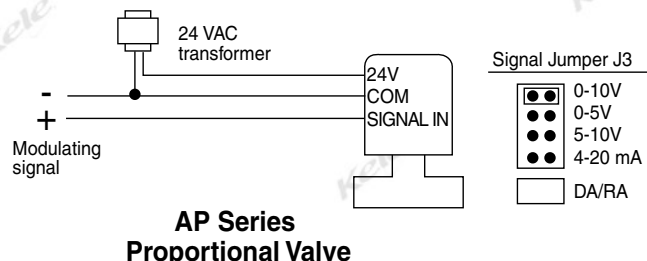
Non-Spring Return



WIRING



AT Series
Tri-state Valve



AP Series
Proportional Valve

ORDERING INFORMATION

VALVE

MODEL	DESCRIPTION
VM	Modulating PopTop electric valve
CONFIGURATION	
2	Two-way
3	Three-way
VALVE SIZE	
2	1/2"
3	3/4"
4	1"
5	1-1/4"
CONNECTION	
1	Sweat - 1/2", 3/4", 1", 1-1/4"
2	Threaded NPT - 1/2", 3/4", 1"
5	1/2" SAE flare
CV	
1	1.0
2	2.0
3	4.0
7	8.0
SIZE	
1/2"	1/2"
1/2", 3/4"	1/2", 3/4"
1", 1-1/4"	1", 1-1/4"

VM - 2 - 2 - 2 - 1 Example: VM2221

ACTUATOR

MODEL	DESCRIPTION
A	VM Series actuator
CONTROL	
T	Three-wire floating
P	Proportional, 0-10 VDC, 4-20 mA
ACTION	
1	Normally closed spring return*
2	Normally open spring return
3	Non-spring return
TEMPERATURE RATINGS	
3	General temperature only
VOLTAGE	
A	24 VAC only
LEADS	
00	No leads
TIMEOUT CONFIGURATION	
T	Time-out for AT models
0	No timeout for AT models All AP models

A - T - 3 - 3 - A - 00 - 0 Example: AT33A000

* Three-way valves are compatible only with N.C. actuators.
For N.O. simply turn the valve around.

BODY AND ACTUATOR REQUIREMENTS

Spring Return Action Configurations

Body Configuration
V X X X X X

2 = Two-way
3 = Three-way
If body configuration is 2, actuator action can be 1 or 2.
If body configuration is 3, actuator action must be 1.

Actuator Spring Return Mode
A X T X X X X

1 = Normally Closed
2 = Normally Open
If actuator action is 1, body configuration can be 2 or 3.
If actuator action is 2, body configuration must be 2.