

2-Way Zone Valves, Brass Threaded, Sweat, Flare, Inverted Flare (1/2 to 1-1/4 in.) with Electric Actuators

Part Numbering System Modulating Spring and Non-Spring Return Zone Valve

① V M 2 X X X X X 3 A 00 X ②

Body Type
M = Modulating

Configuration
2 = 2-Way

Valve Size
2 = 1/2"
3 = 3/4"
4 = 1"
5 = 1-1/4"

Connection Type	Availability
1 = Sweat	1/2", 3/4", 1", 1-1/4"
2 = Threaded NPT	1/2", 3/4", 1"
3 = Threaded Rp	1/2", 3/4", 1"
4 = Inverted Flare (Retrofit) ④	3/4"
5 = SAE Flare	1/2"

CV Size			
	2-way	Size	Connection Type
1 =	1.0	1/2"	1, 2, 3, 5
		3/4"	4
2 =	2.5	1/2"	1, 2, 3, 5
		3/4"	1, 2, 3, 4
3 =	3.5	1/2"	1, 2, 3, 5
		3/4"	1, 2, 3, 4
		1"	1
7 =	7.5	3/4"	1, 2, 3
		1"	1, 2, 3
	8.0	1-1/4"	1

Actuator Type
T = Three-wire Floating
P = Proportional, 0-10 Vdc, 0-5 Vdc,
5-10 Vdc or 4-20 mA, Jumper Selectable

Options
Non-Spring Return Actuators
0 = No Options
T = Three-Wire Signal Time-Out
Spring Return Actuators
T = Time-Out ③

Electrical Leads
00 = No leads

Voltage
A = 24 Vac Only

Temperature Ratings
3 = General Temperature

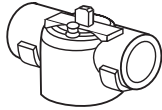
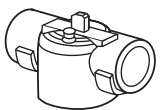
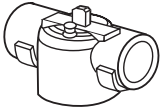
Action
1 = Spring Return Normally closed
2 = Spring Return Normally opened
3 = Non-Spring Return

- ① When ordering valve body only: use the first six positions to configure the valve.
- ② When ordering actuator only: use the last seven positions to configure the actuator. Prefix with the letter "A".
- ③ This feature is standard for spring return actuators. It must be included in the part number.
- ④ Invensys inverted flare fittings must be ordered separately. See actuator accessories for fitting part numbers.

Available Actuators				
Part Number	Action	Position	Actuator Type	Option
AT13A00T	Spring Return	N.C.	Three Wire Floating	With Time-Out
AT23A00T	Spring Return	N.O.	Three Wire Floating	With Time-Out
AT33A000	Non-Spring Return		Three Wire Floating	None
AT33A00T	Non-Spring Return		Three Wire Floating	With Time-Out
AP13A000	Spring Return	N.C.	Proportional	None
AP23A000	Spring Return	N.O.	Proportional	None
AP33A000	Non-Spring Return		Proportional	None

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TABLE 1. Select **Valve Body** (Valve Size, Cv Rating, Configuration) less actuator or select **Valve Assembly** with correct Input Signal (Refer to Pages 846 to 853 for Valve Sizing).

	Application		
	200°F (93°C)	260°F (151°C)	200°F (93°C)
			

NOTE: These charts are color coded as shown below to assist valve selection. Note it is only possible to select a valve assembly or component parts (actuator, valve body).

ORDERING EXAMPLES:

1. **Valve Assembly:**

VT2215G13B02





□ **Valve Body: VT2215**

□ **Actuator: G13B02**

Size	1/2 to 1-1/4 in.		
Valve Body	VT2XXX	VS2XXX	VM2XXX
Flow Type	On/Off		Modulating
Material	Body	Forged Brass	
	Seat	Brass	
	Stem	Nickel Plated Brass	
	Paddle/Plug	Buna N	Highly Saturated Nitrile
Maximum Static Pressure	300 psi (2068 kPa)		
Maximum Inlet Pressure Steam	—	15 psi (103 kPa)	—

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TABLE 2. Use the zone valve numbering system on pages 736 and 737 to configure the valve body. Select the actuator type with correct input signal and having sufficient close-off for the application. Use the zone valve numbering system on pages 736 and 737 to configure the actuator or the valve/actuator assembly.

											
Actuator		AGXXXXXX	AHXXXXXX	AX33A00X	AXX3A00X						
Input Signal		2 Position SPST	2 Position SPST	ATXXXXXX = 24 Vac Three Wire Floating APXXXXXX = Jumper Selectable: 0 to 10V, 4 to 20 mA, 0 to 5 Vdc or 5 to 10 Vdc							
Voltage Impedance		—	—	Voltage 200K Ω Current 300K Ω		Open/Close Current 3.9K Ω					
		ACTUATOR CLOSE-OFF PRESSURE RATING - PSI (kPa) ^{a b}									
Valve Body	Size in.	Cv (Kv)	Close-off ΔP (kPa)	Cv (Kv)	Close-off ΔP (kPa)	Cv (Kv)	Close-off ΔP (kPa)	Cv (Kv)	Close-off ΔP (kPa)		
									Non-Spring Return Driven Closed	Spring Return Spring Closed	
VT22X1	1/2	1.0 (0.9)	50 (350)	1.0 (0.9)	75 (525)	—	—	—	—	—	
VT23X1	3/4										
VT22X2	1/2	2.5 (2.2)	30 (210)	2.5 (2.2)	50 (350)						
VT23X2	3/4										
VT22X3	1/2	3.5 (3.0)	20 (140)	3.5 (3.0)	30 (210)						
VT23X3	3/4										
VT2413	1	5.0 (4.3)	13 (90)	5.0 (4.3)	25 (175)						
VT23X5	3/4										
VT2415	1	7.5 (6.5)	10 (70)	7.5 (6.5)	15 (105)						
VT23X7	3/4										
VT24X7	1	8.0 (7.5)	15 (103)	8.0 (7.5)	20 (140)						
VT2517	1-1/4										
VS22X1	1/2	1.0 (0.9)	15 (103)	1.0 (0.9)	15 (103)	—	—	—	—	—	
VS23X1	3/4										
VS22X2	1/2	2.5 (2.2)	15 (103)	2.5 (2.2)	15 (103)						
VS23X2	3/4										
VS22X3	1/2	3.5 (3.0)	15 (103)	3.5 (3.0)	15 (103)						
VS23X3	3/4										
VS2413	1	5.0 (4.3)	15 (103)	5.0 (4.3)	15 (103)						
VS23X5	3/4										
VS2415	1	7.5 (6.5)	15 (103)	7.5 (6.5)	15 (105)						
VS23X7	3/4										
VS24X7	1	8.0 (7.5)	15 (103)	8.0 (7.5)	20 (140)						
VS2517	1-1/4										
VM22X1	1/2	—	—	—	—	1.0 (0.9)	50 (344)	1.0 (0.9)	50 (344)	50 (344)	
VM23X1	3/4					2.0 (1.8)	50 (344)	2.0 (1.8)	50 (344)	20 (137)	
VM22X2	1/2					4.0 (3.5)	35 (242)	4.0 (3.5)	35 (242)	20 (137)	
VM23X2	3/4										
VM22X3	1/2					7.5 (6.5)	35 (242)	7.5 (6.5)	35 (242)	35 (242)	
VM23X3	3/4										
VM2413	1					8.0 (7.5)	35 (242)	8.0 (7.5)	35 (242)	35 (242)	
VM23X7	3/4										
VM24X7	1					8.0 (7.5)	35 (242)	8.0 (7.5)	35 (242)	35 (242)	
VM2517	1-1/4										

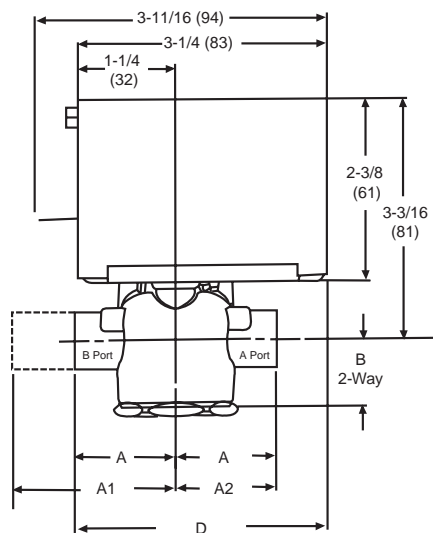
^a Close-off rated for ANSI IV (.01%) with pressure at inlet (port B).

^b Close-off pressure ratings describe only the differential pressure which the actuator can close-off with adequate seating force. Consult valve body specifications for other limitations.

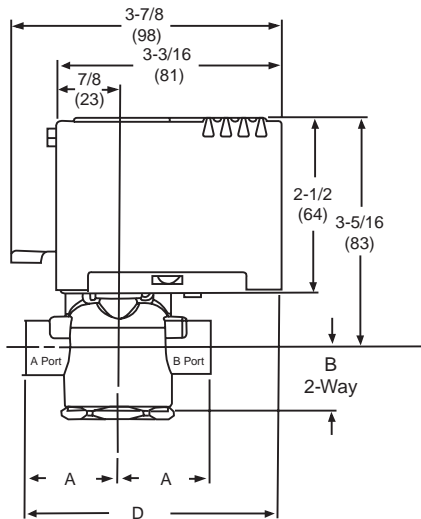
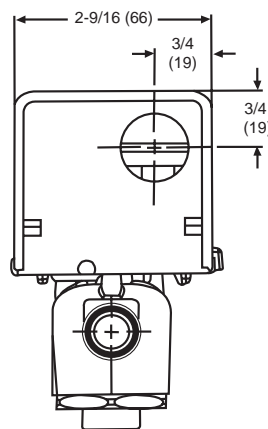
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TABLE 3. Dimensions in Inches (Millimeters).

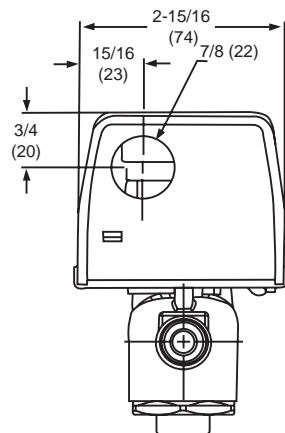
Valve Body				Actuator Series		
				AGXXXXXX	AHXXXXXX	AX33A00X AXX3A00X
Part Number	Size In.	A	B	D	D	D
VTXXXX VSXXXX VMXXXX	1/2 Sweat	1.29 (33)	0.9 (23)	3.30 (84)	3.62 (92)	—
	3/4 Sweat	1.37 (35)	0.9 (23)	3.38 (86)	3.74 (95)	—
	1 Sweat	1.69 (43)	0.9 (23)	3.62 (92)	4.0 (102)	—
	1-1/4 Sweat	1.85 (47)	1 (25)	3.70 (94)	4.13 (105)	—
	1/2 NPT, Rp	1.37 (35)	0.9 (23)	3.38 (86)	3.62 (92)	—
	3/4 NPT, Rp	1.69 (43)	0.9 (23)	3.62 (92)	4.0 (102)	—
	1 NPT Rp	1.85 (47)	1 (25)	3.70 (94)	4.13 (105)	—
	1/2 SAE Flare	2.24	0.31 (8)	—	—	—
VTXXXX VSXXXX	3/4 Inverted Flare	A1	A2	0.9 (23)	3.38 (86)	3.62 (92)
		2.20 (56)	1.32 (34)			



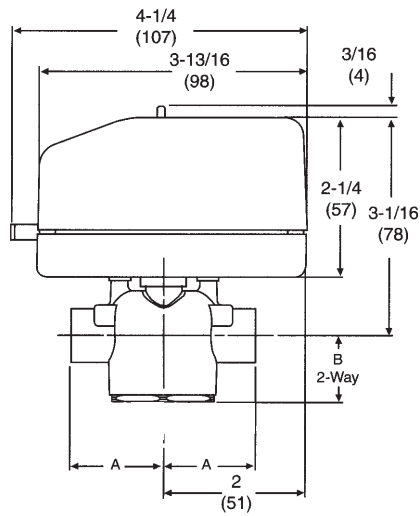
VT2XXXGXXXXXX



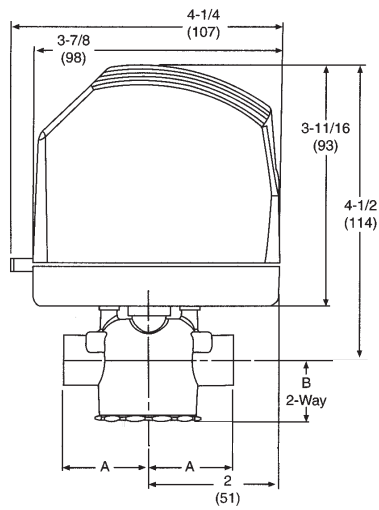
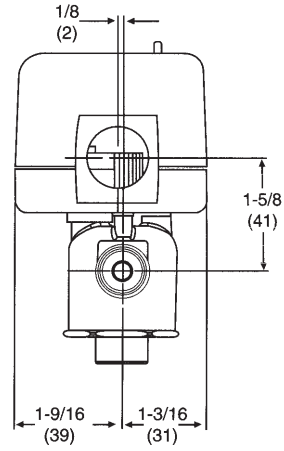
VS2XXXHXXXXXX



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VM2XXXX33A00X



VM2XXXXX3A00X

