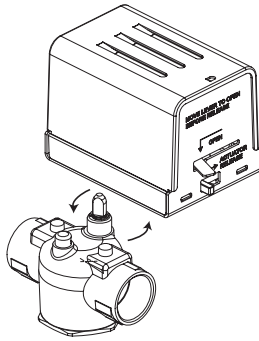


TAC Erie™ Zone Valves

Three-Way Mixing or Diverting Spring Return



1/2 to 1 in. Female NPT Ends
Three-Way Mixing or Diverting Spring Return
Normally Closed (B Port)
General Close-Off Two-Position

| | |
|--------------------------------|--|
| Flow Type | 1 to 4 Cv equal % 8 Cv linear |
| Material | Body Forged brass |
| | Seat Brass |
| | Stem Nickel plated brass |
| | Paddle Highly saturated nitrile (VS), Buna N (VS) |
| Fluid Temperature | VT Series: 32 to 200 °F @ 104 °F ambient (0 to 93 °C @ 40 °C) |
| | VS Series: 32 to 250 °F @ 169 °F ambient (0 to 121 °C @ 76 °C) |
| Maximum Static Pressure | 300 psi (20.6 bar) |
| Seat Leakage | ANSI IV |

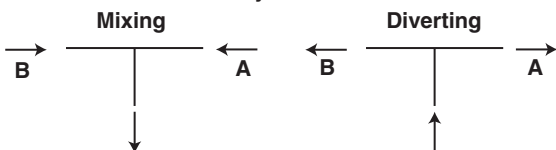
| Size in. | Cv (K _{vs}) | Close Off psig (kPa) | VT Series 32 to 200 °F | VS Series - High Temp 32 to 250 °F | Voltage Vac |
|----------|-----------------------|----------------------|------------------------|------------------------------------|-------------|
| 1/2 | 1 (0.8) | 60 (413) | VT3221G13A020 | VS3221G14A020 | 24 |
| | | | VT3221G13B020 | VS3221G14B020 | 120 |
| | 2.5 (2.2) | 40 (275) | VT3222G13A020 | VS3222G14A020 | 24 |
| | | | VT3222G13B020 | VS3222G14B020 | 120 |
| | 3.5 (3) | 25 (172) | VT3223G13A020 | VS3223G14A020 | 24 |
| | | | VT3223G13B020 | VS3223G14B020 | 120 |
| 3/4 | 2.5 (2.2) | 40 (275) | VT3322G13A020 | VS3322G14A020 | 24 |
| | | | VT3322G13B020 | VS3322G14B020 | 120 |
| | 3.5 (3) | 25 (172) | VT3323G13A020 | VS3323G14A020 | 24 |
| | | | VT3323G13B020 | VS3323G14B020 | 120 |
| | 5 (4.3) | 20 (138) | VT3325G13A020 | VS3325G14A020 | 24 |
| | | | VT3325G13B020 | VS3325G14B020 | 120 |
| | 7.5 (6.5) | 17 (117) | VT3327G13A020 | VS3327G14A020 | 24 |
| | | | VT3327G13B020 | VS3327G14B020 | 120 |
| 1 | 8 (6.9) | 17 (117) | VT3427G13A020 | VS3427G14A020 | 24 |
| | | | VT3427G13B020 | VS3427G14B020 | 120 |

Zone Valves

Actuator Code Table.

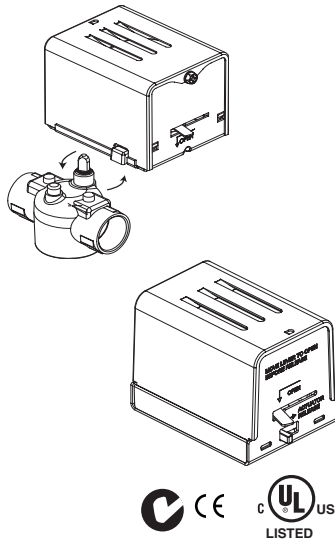
| Actuator Model (Reference pages 146 thru 148) | Description | Wiring Diagrams | | Dimension Information | |
|---|-------------|-----------------|--------|-----------------------|--------|
| | | Page | Figure | Page | Figure |
| AG13A020, AG14A020 | 2-Position | 152 | 1 | 206 | 102 |
| AG13B020, AG14B020 | 2-Position | 152 | 1 | 206 | 102 |

Three-Way Flow Patterns



For normally open, reverse pipe A and B ports. B port is normally closed.

TAC Erie™ AG, AH Series Spring Return Actuator Two-Position



Connections: 18 in. leads.
Housing: NEMA 1.
Dimensions: G Series: 2-3/8 H x 2-3/8 W x 3-11/16 D in. (60 x 60 x 96 mm)
 H Series: 2-7/16 H x 2-5/8 W x 3-11/16 D in. (62 x 67 x 93 mm)
Override: Manual (normally closed models only).
Motor Type: Hysteresis synchronous.
General Instructions: Refer to F-26496.
Agency Listing:

UL-873. Underwriters Laboratories (File #E9429 Category Temperature Indicating and Regulating Equipment).
 European Community: EMC Directive (89/336/EEC). Low Voltage Directive (72/23/EEC).
 CUL: UL listed for use in Canada by Underwriters Laboratory. Canadian Standards C22.2 No. 24.
 Australia: This product meets requirements to bear the C-Tick Mark according to the terms specified by the Communications Authority under the Radio Communications Act of 1992.

Zone Valves

| General Close-Off, 2-Position, Power (Open or Close): 9 to 11 Seconds; Spring Return (Open or Close): 4 to 5 Seconds | | | | | | | |
|--|----------|-----|---|---|----------------------|------------------------|---|
| Model No. | Volts AC | VA | Electrical Position | Temperature Range F (C) | End Of Travel Switch | Wiring | |
| AG13A020 | 24 | 7.5 | Normally Closed | 32 to 200°F (Fluid) @ 104°F (Ambient) (0 to 93°C @ 40°C) | No | 18 in. (45.7 cm) Leads | |
| AG13B020 | 120 | | | 32 to 250°F (Fluid) @ 169°F (Ambient) (0 to 121°C @ 76°C) | | | |
| AG14A020 | 24 | | | Normally Open (can only be used on 2-way valve) | | | 32 to 200°F (Fluid) @ 104°F (Ambient) (0 to 93°C @ 40°C) |
| AG14B020 | 120 | | | | | | 32 to 250°F (Fluid) @ 169°F (Ambient) (0 to 121°C @ 76°C) |
| AG23A020 | 24 | | 32 to 200°F (Fluid) @ 104°F (Ambient) (0 to 93°C @ 40°C) | | | | |
| AG24A020 | 24 | | 32 to 250°F (Fluid) @ 169°F (Ambient) (0 to 121°C @ 76°C) | | | | |
| AG23B020 | 120 | | 32 to 200°F (Fluid) @ 104°F (Ambient) (0 to 93°C @ 40°C) | | | | |
| AG24B020 | 120 | | 32 to 250°F (Fluid) @ 169°F (Ambient) (0 to 121°C @ 76°C) | | | | |

| High Close Off, 2-Position, Power (Open or Close): 13 to 18 Seconds; Spring Return (Open or Close): 4 to 5 Seconds | | | | | | | |
|--|----------|-----|---|---|----------------------|------------------------|---|
| Model No. | Volts AC | VA | Electrical Position | Temperature Range F (C) | End Of Travel Switch | Wiring | |
| AH13A020 | 24 | 7.5 | Normally Closed | 32 to 200°F (Fluid) @ 104°F (Ambient) (0 to 93°C @ 40°C) | No | 18 in. (45.7 cm) Leads | |
| AH13B020 | 120 | | | 32 to 250°F (Fluid) @ 169°F (Ambient) (0 to 121°C @ 76°C) | | | |
| AH14A020 | 24 | | | Normally Open (can only be used on 2-way valve) | | | 32 to 200°F (Fluid) @ 104°F (Ambient) (0 to 93°C @ 40°C) |
| AH14B020 | 120 | | | | | | 32 to 250°F (Fluid) @ 169°F (Ambient) (0 to 121°C @ 76°C) |
| AH23A020 | 24 | | 32 to 200°F (Fluid) @ 104°F (Ambient) (0 to 93°C @ 40°C) | | | | |
| AH23B020 | 120 | | 32 to 250°F (Fluid) @ 169°F (Ambient) (0 to 121°C @ 76°C) | | | | |
| AH24A020 | 24 | | 32 to 200°F (Fluid) @ 104°F (Ambient) (0 to 93°C @ 40°C) | | | | |
| AH24B020 | 120 | | 32 to 250°F (Fluid) @ 169°F (Ambient) (0 to 121°C @ 76°C) | | | | |

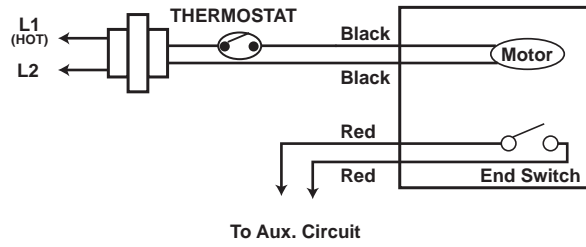


Figure 1 AG/AH TAC Erie PopTop with Wire Leads.

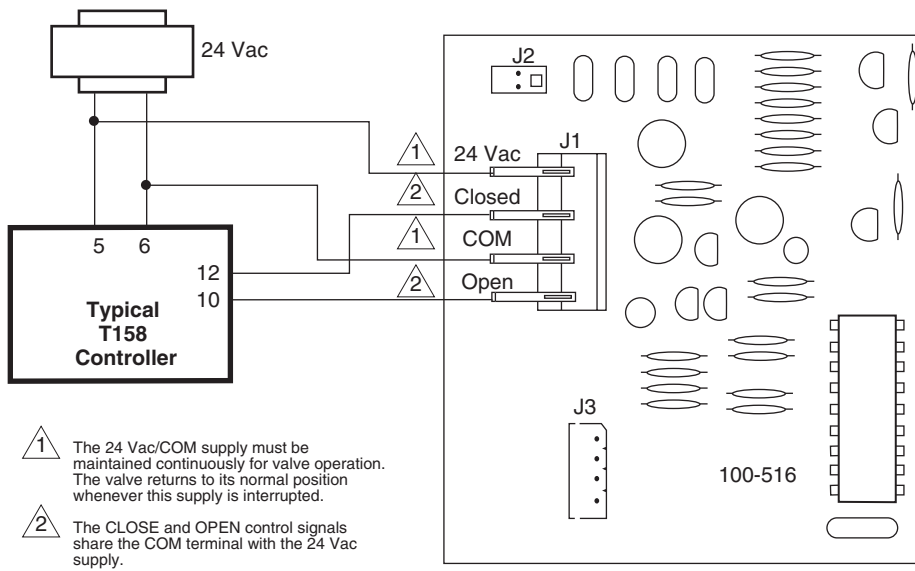


Figure 2 ATx3A00T TAC Erie PopTop 3-Wire Floating Actuator with Time-Out.

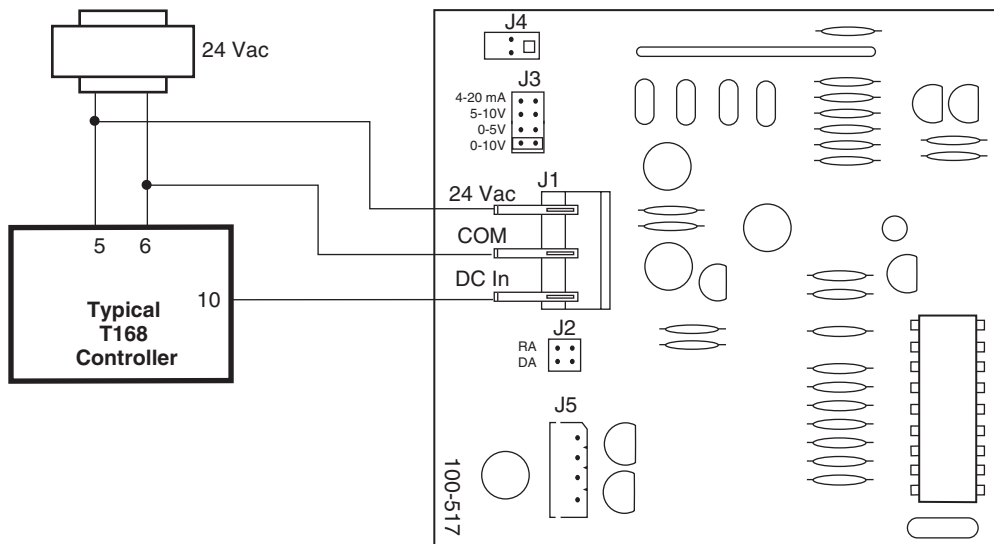
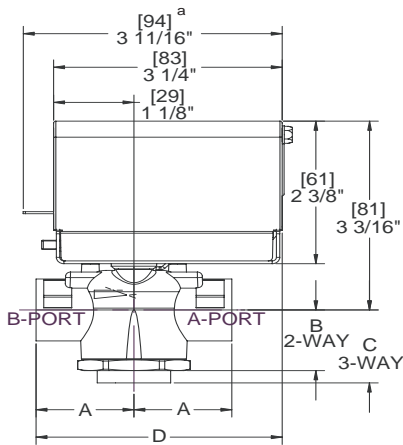


Figure 3 APx3A000 TAC Erie PopTop Three-Wire Proportional Actuator.

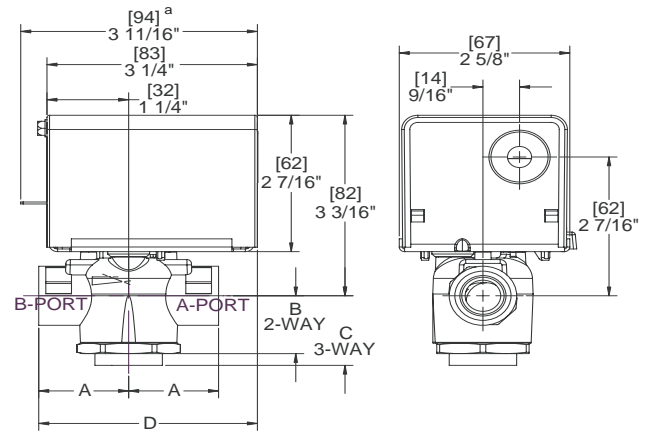
Dimensions — 1/2" to 1" Zone Valve Assemblies

| Valve Body Size inches | Valve Dimensions in inches (millimeters) | | | | |
|---------------------------|--|------------|--------------|--|--|
| | A | B 2-Way | C 3-Way | D (General Close-Off) (Refer to Figure 102) | D (High Close-off) (Refer to Figure 103) |
| 1/2" Sweat | 1-5/16 (33) | 15/16 (23) | 1-5/16 (33) | 3-5/16 (84) | 3-5/8 (92) |
| 3/4" Sweat | 1-3/8 (35) | 15/16 (23) | 1-11/16 (43) | 3-3/8 (86) | 3-3/4 (95) |
| 1" Sweat | 1-11/16 (43) | 15/16 (23) | 1-11/16 (43) | 3-5/8 (92) | 4 (102) |
| 1-1/4" Sweat | 1-7/8 (47) | 1 (25) | 1-13/16 (46) | 3-11/16 (94) | 4-1/8 (105) |
| 1/2" NPT | 1-3/8 (35) | 15/16 (23) | 1-5/16 (33) | 3-3/8 (86) | 3-3/4 (95) |
| 3/4" NPT | 1-11/16 (43) | 15/16 (23) | 1-7/16 (37) | 3-5/8 (92) | 4 (102) |
| 1" NPT | 1-7/8 (47) | 1 (25) | 1-11/16 (43) | 3-11/16 (94) | 4-1/8 (105) |



^a Normally closed model only.

Figure 102 VT/VS AG Series General Close-Off.



^a Normally closed model only.

Figure 103 VT/VS AH Series High Close-Off.