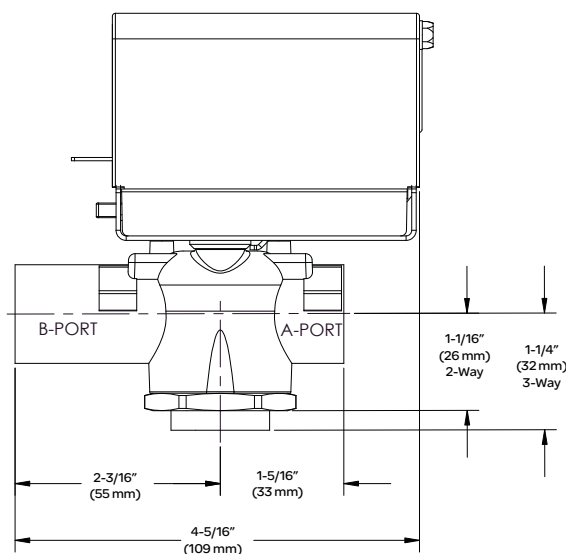


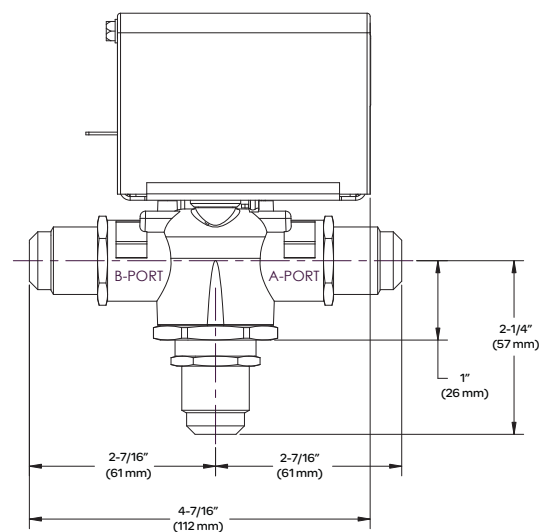
Table 4: Dimensions - inches (mm)

Valve Body Size	A in (mm)	B in (mm)	C in (mm)	D in (mm) (General Close-Off)	D in (mm) (High Close-Off)
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, Rp	1-3/8 (35)	15/16 (23)	1-5/16 (33)	3-3/8 (86)	3-5/8 (92)
3/4" NPT, Rp	1-11/16 (43)	15/16 (23)	1-7/16 (37)	3-5/8 (92)	4 (102)
1" NPT, Rp	1-7/8 (47)	1 (25)	1-11/16 (43)	3-11/16 (94)	4-1/8 (105)
Inverted Flare		See Below		4-3/16 (106)	4-7/16 (113)
SAE Flare		See Below			

Inverted Flare General Close-Off



SAE High Close-Off



Precautions

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy and may cause harmful interference if not installed and used in accordance with the instructions. Even when instructions are followed, there is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful interference to radio and television reception—which can be determined by turning the equipment off and on—the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Soldering Note: Do not solder with actuator in place, or with paddle against seat, as the heat can damage the unit. Before soldering, move the manual open lever into Open position then remove the actuator from the body. Orient pad-

dle so it is not against a seat. Use lead or tin based solder with melting point below 600 °F. Do not overheat. Direct flame tip away from valve. Cool valve quickly with a wet cloth. Body assembly can be submerged for leak testing prior to attaching the actuator.

⚡ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK

- Follow safe electrical work practices. See NFPA 70E in the USA, or applicable local codes.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Read, understand and follow the instructions before installing this product.
- Turn off all power supplying equipment before working on or inside the equipment.
- Use a properly rated voltage sensing device to confirm power is off.

DO NOT DEPEND ON THIS PRODUCT FOR VOLTAGE INDICATION

Failure to follow these instructions will result in death or serious injury.

A qualified person is one who has skills and knowledge related to the construction and operation of this electrical equipment and the installation, and has received safety training to recognize and avoid the hazards involved. NEC2011 Article 100
No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

NOTICE

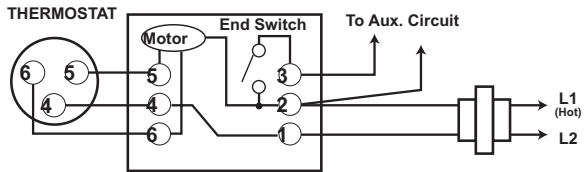
RISK OF EQUIPMENT DAMAGE

- Avoid electrical noise interference.
- Do not install near large contactors, electrical machinery, or welding equipment.
- Only use manual override when power is off.
- Do not use manual override with actuators mounted in tandem.

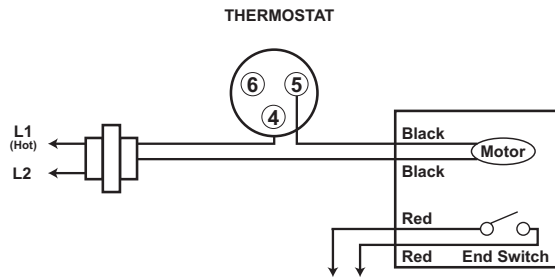
Failure to follow these instructions will result in damage to the gear train or other mechanical damage.

Typical Wiring of a PopTop to Replace a Flair or White Rodgers 3-Wire Valve

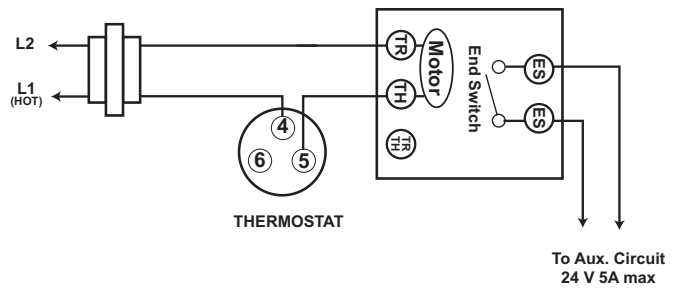
White - Rodgers (1311 or 1321)



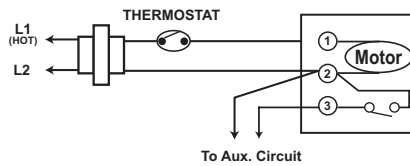
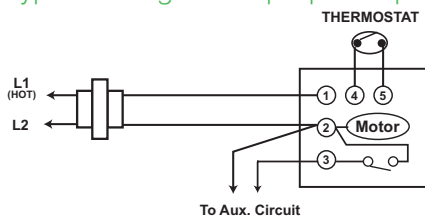
Erie Wire Leads



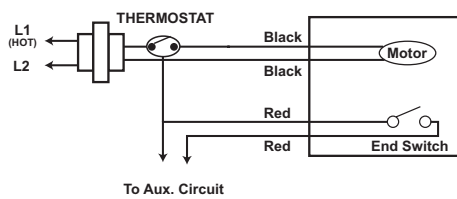
Erie Terminal Block



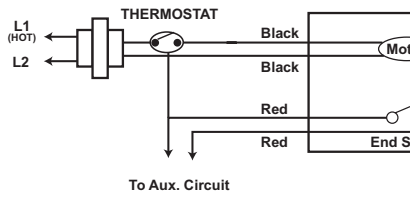
Typical Wiring of a PopTop to Replace a Flair or Taco 3-Wire Valve



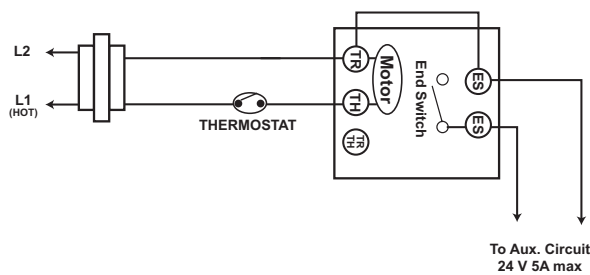
Erie Wire Leads



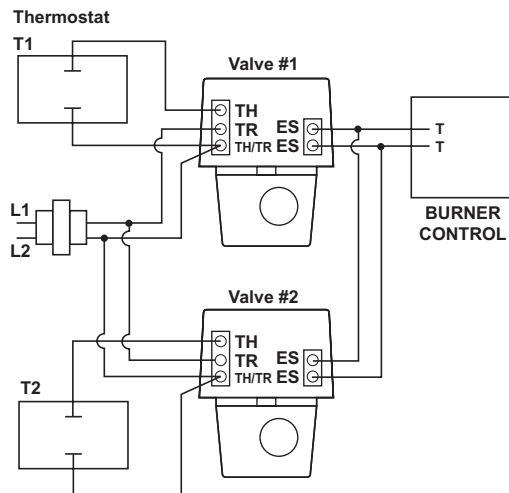
Erie Wire Leads



Erie Terminal Block



Typical Multiple Valve Wiring



Piping

Pipe the valves so the paddle closes against the direction of flow. Flow is from B to A. Refer to the figures below. When installing the actuator to a normally closed valve, place the actuator in the manually open position using the manual operating lever. The first time the valve is operated electrically, the manual operating lever of the actuator transfers to the automatic position. Use the manual operating lever flush the system after installation. The valves are designed for application in closed hydronic heating and cooling systems. High levels of dissolved oxygen and chlorine found in open systems may attack the valve materials and result in premature failure. Use a drip pan if condensation in chilled water applications occurs.

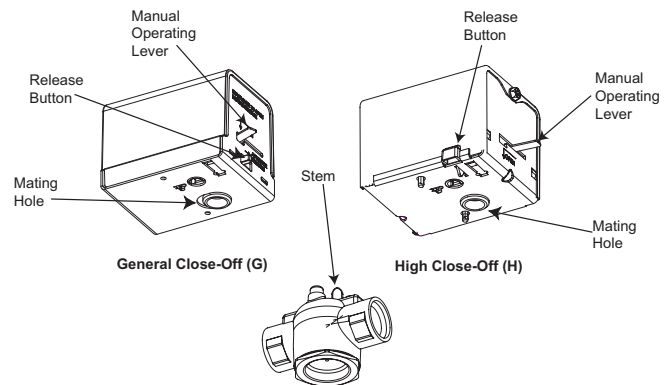
Use in systems that have substantial make-up water (open systems) is not recommended. Follow proper water treatment practices and system procedures. Refer to document F-26080-1 for Water and Steam EN205 Guidelines.

Notes:

- Three-way valves always require a normally closed actuator.
- Three-way valves are always closed at the B port when no power is applied to the motor.
- On power-up the valve closes to A port on three-way valves.
- Orient the three-way valve body as needed for normally open or normally closed flow through coil.
- For three-way N.O. applications, use a N.C. actuator and pipe the valve in reverse. The three-way examples below show normally closed actuators.
- Apply Teflon tape to all but the last two threads of male pipe thread. Hand screw the pipe into the valve, turning it as far as it will go. Use a wrench to fully tighten the valve to the pipe. Do not over tighten or strip the threads.

Inverted Flare Union Connection

Solder fittings onto the pipe. Use solder with melting point below 600°F. Mount valve to union nuts.



Installing Actuator Onto Valve Body

Slowly latch the manual operating lever in the open, engaged position (AG1 or AH1 only). Depress the release button (see figure above). Align the body with the actuator to ensure the stem is inserted into the large mating hole on the bottom side of the actuator. Engage the actuator on the body and release the button.

Do not use the valve body to manually open the actuator as damage to the valve actuator will result.

Checkout

Make sure the valve stem rotates freely before and after installing the actuator. If the stem does not operate freely it may indicate that the stem was damaged and may require that the valve be repaired or replaced. After the piping is under pressure, check the valve body and the connections for leaks. After the valve and actuator are installed, power the actuator and check the operation.

Maintenance

PopTop Series two position spring return valves are maintenance free. Replace defective modules. Actuator may be replaced without removing the valve. Regular maintenance of the total system is recommended to ensure sustained, optimum performance.

Field Repair

Replace any damaged or failed components with a new valve body or actuator.

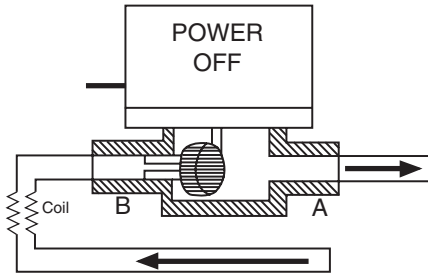
NOTICE

RISK OF EQUIPMENT DAMAGE

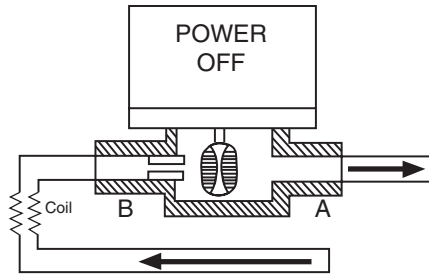
- Protect the valve body from freezing. Freezing can be caused by low ambient air temperatures or by equipment such as water source heat pumps with inadequate freeze protection.

Failure to follow these instructions may result in property damage.

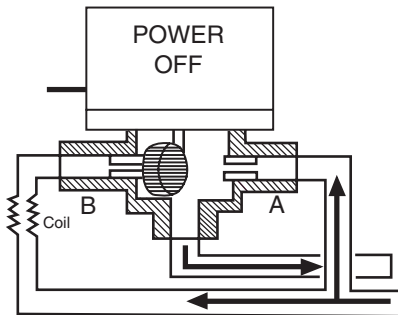
2-Way Valve with Normally Closed Actuators



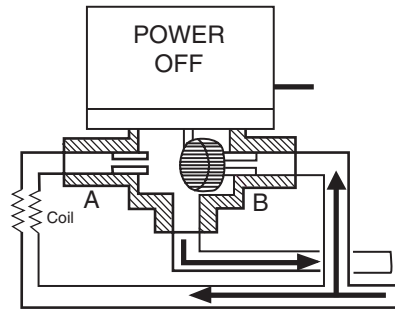
2-Way Valve with Normally Open Actuators



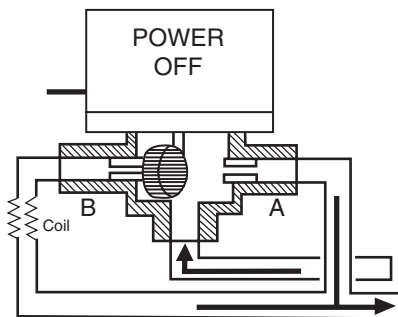
3-Way Valve in Mixing Configuration, Normally Closed to the Coil



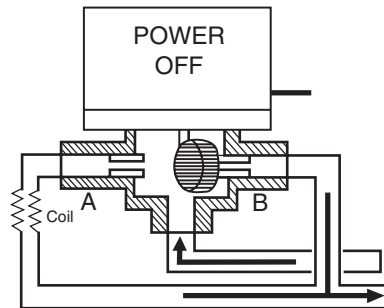
3-Way Valve in Mixing Configuration, Normally Open to the Coil



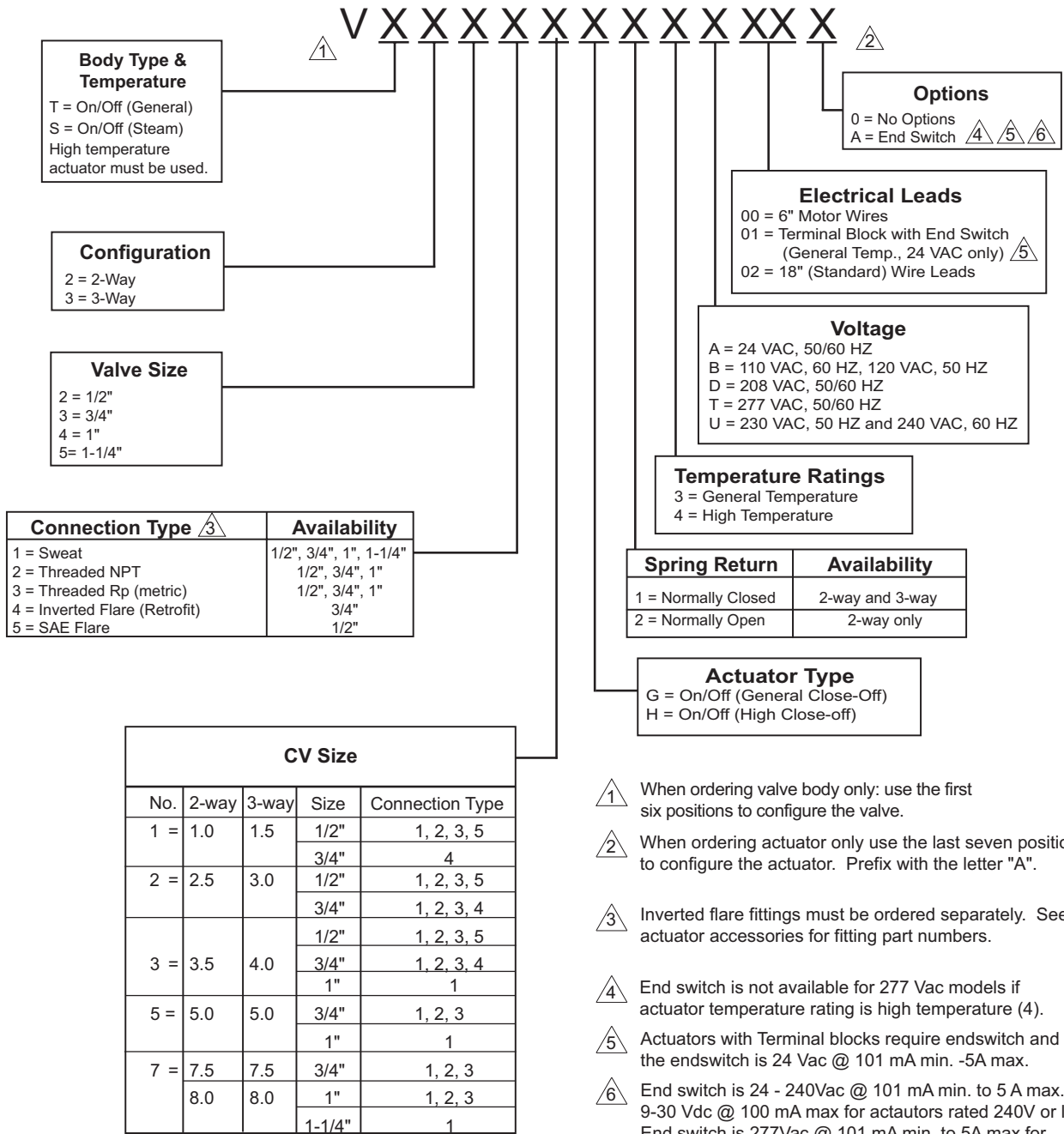
3-Way Valve in Diverting Configuration, Normally Closed to the Coil



3-Way Valve in Diverting Configuration, Normally Open to the Coil



Part Numbering System Two Position Zone Valves, Spring Return Actuators



- 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 Inverted flare fittings must be ordered separately. See actuator accessories for fitting part numbers.
- 4 End switch is not available for 277 Vac models if actuator temperature rating is high temperature (4).
- 5 Actuators with Terminal blocks require endswitch and the endswitch is 24 Vac @ 101 mA min. -5A max.
- 6 End switch is 24 - 240Vac @ 101 mA min. to 5 A max. and 9-30 Vdc @ 100 mA max for actuators rated 240V or less. End switch is 277Vac @ 101 mA min. to 5A max for actuators rated 277V.

Body & Actuator Combination Requirements

Body Configuration	Temperature Configurations
V T X X X X	Actuator Spring Return Mode A X X 3 X X X X
T = General	3 = General Temperature
S = Steam	4 = High Temperature
If body configuration is T, actuator temp rating can be 3 or 4.	If actuator temp rating is 3, body style must be T.
If body configuration is S, actuator temp rating must be 4.	If actuator temp rating is 4, body style can be S or T.