McValve Series M-Type Electrically Operated Zone Valves

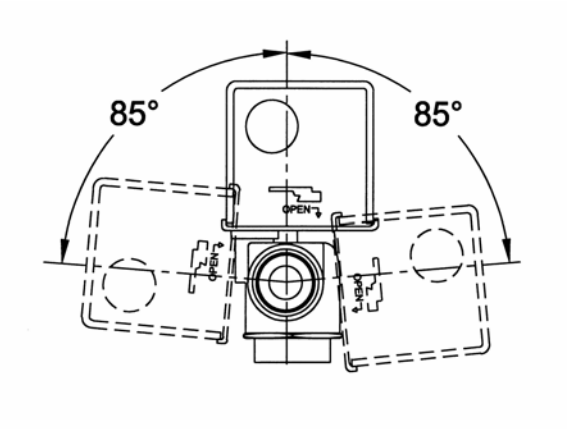
Installation and Operating Instructions

Safety Information

Read this entire instruction sheet to ensure proper installation.

! CAUTION !

Wire the zone valves in accordance with local, regional and national code requirements. To prevent electrical shock, disconnect electric power to system at main fuse or circuit breaker box until installation is complete. When end switch is installed, more than one disconnect switch may be required to de-energize this device for servicing.



Mounting Position

Location

Electric valves, like all other mechanical equipment, should be installed with a degree of accessibility to enable quick and economical servicing or replacement. In high-rise buildings, use reducing valves on branch lines on lower floors.

Mounting

The valve can be mounted vertically or horizontally. If mounted horizontally, the valve should be mounted within 85° of upright position. See picture on right. If mounted vertically, care should be taken to ensure moisture does not drip onto motor. The valve should never be mounted upside down.

Threaded Connections

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 threads.

Sweat Connections

Prior to soldering, place valve in manually-open position by moving manual operating lever to retaining notch. Ends of water supply piping must be thoroughly clean for a minimum distance of 25 mm from end. Use lead or tin-based solder with melting point below 300 °C (600 °F). Avoid over-heating the end connections. Direct flame tip away from valve. Cool valve quickly with a wet rag.

Piping & Installation

The zone valves must be piped so that the paddle always closes against the direction of flow, except in diverting configurations. The manual operating lever, provided on all 2-way normally-closed and all 3-way valves, can be used to allow flushing of the hydronic system after installation. Owing to condensation in chilled water applications, install the valve over a drip pan. Zone valves are designed for use in closed hydronic heating and cooling systems. Use in systems which have substantial make-up water (open systems) is not recommended. High levels of dissolved oxygen and chlorine found in open systems may attack the valve materials and result in premature failure.

Manual Operating Lever

Move the manual operating lever slowly to the open position and hold in the retaining notch until the gear is taken up by the return spring. When valves are placed in the open position with the manual operating lever, the paddle is removed from the seat or port.

THE MANUAL OPERATING LEVER WILL RESET TO THE AUTOMATIC POSITION THE FIRST TIME THE VALVE IS CYCLED ELECTRICALLY.

BODY CONFIGURATION

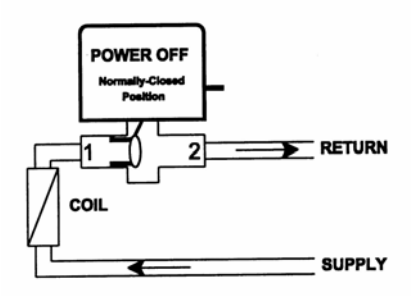


Fig. 1: 2-Way Valve Normally Closed to the Coil in De-energized Mode

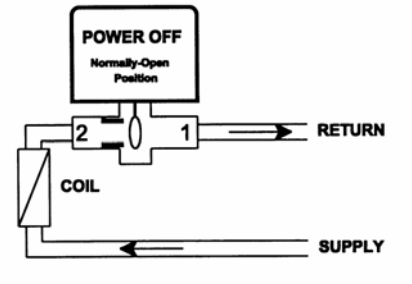


Fig. 2: 2-Way Valve Normally Open to the Coil in De-energized Mode

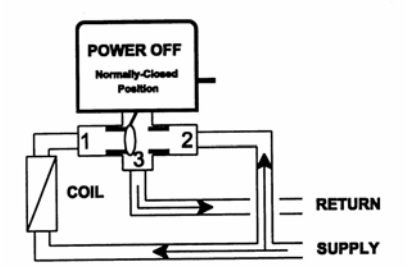


Fig. 3: 3-Way Valve in Mixing Configuration, Normally Closed to the Coil in De-energized Mode

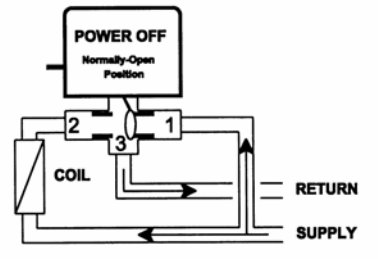


Fig. 4: 3-Way Valve in Mixing Configuration, Normally Open to the Coil in De-energized Mode

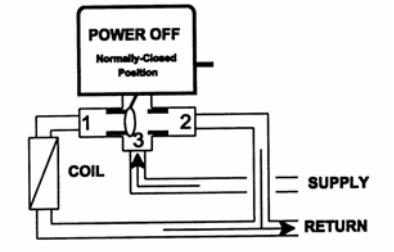


Fig. 5: 3-Way Valve in Diverting Configuration, Normally Closed to the Coil in De-energized Mode

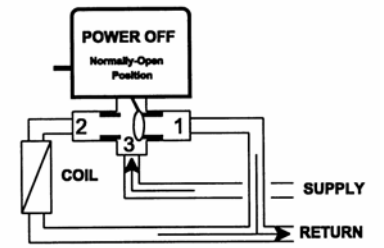


Fig. 6: 3-Way Valve in Diverting Configuration, Normally Open to the Coil in De-energized Mode

ACTUATOR WIRING

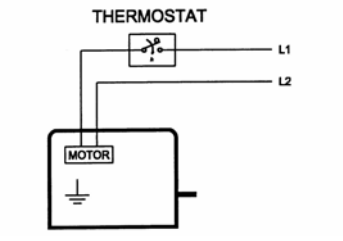


Fig. 7: Wiring with No Options

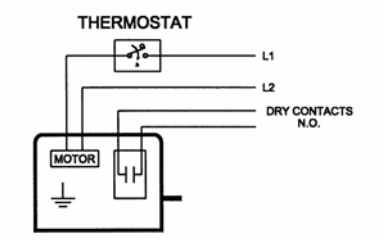


Fig. 8: Wiring with End Switch

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