

# MOTORIZED 3-WAY VALVE APPLICATION INSTRUCTIONS FOR LOW TEMPERATURE PROTECTION

## KIT 100323618

### MODELS PB 2500 - 5000

#### **⚠ WARNING**

**Electrical Shock Hazard**-- For your safety, turn OFF electrical power supply before making any electrical connections to avoid possible electric shock hazard. Failure to do so can cause severe personal injury or death.

### List of kit components

Kit Part Number	Model	Part Number	Component Description
100323618	PB 2500 - 5000	100321866	Valve, 3-way, 4"
		100321867	Actuator, Damper
		100173334	18 GA Blue Wire
		100173340	18 GA Yellow Wire
		100173335	18 GA Pink Wire
		100276197	Instruction Sheet

#### **CAUTION**

Valve is intended for indoor use only.

### Valve technical data

**Power Supply:** 24 VAC 20%, -15% 24VDC

**Max. Power Consumption:** 6VA

**Control Signals:** 3 Wire 3 Point Floating

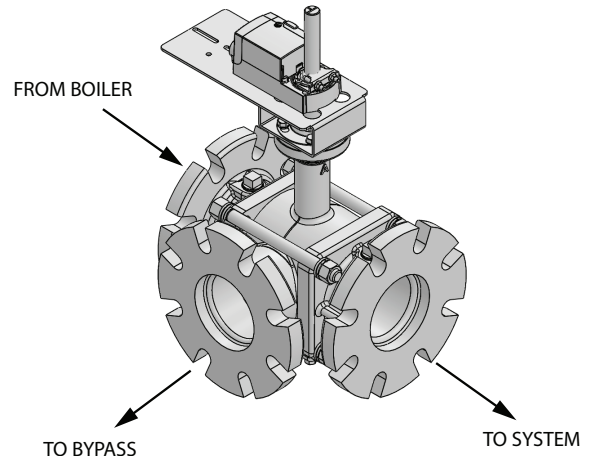
**Torque:** 175 in. lb. at Rated Voltage

**Rotation Time:** 90 Seconds Through 95°

**End Connections:** 4" Flanged

**Max. Close-Off Pressure:** 70 PSI

**Figure 1 4" Motorized 3-Way Valve**



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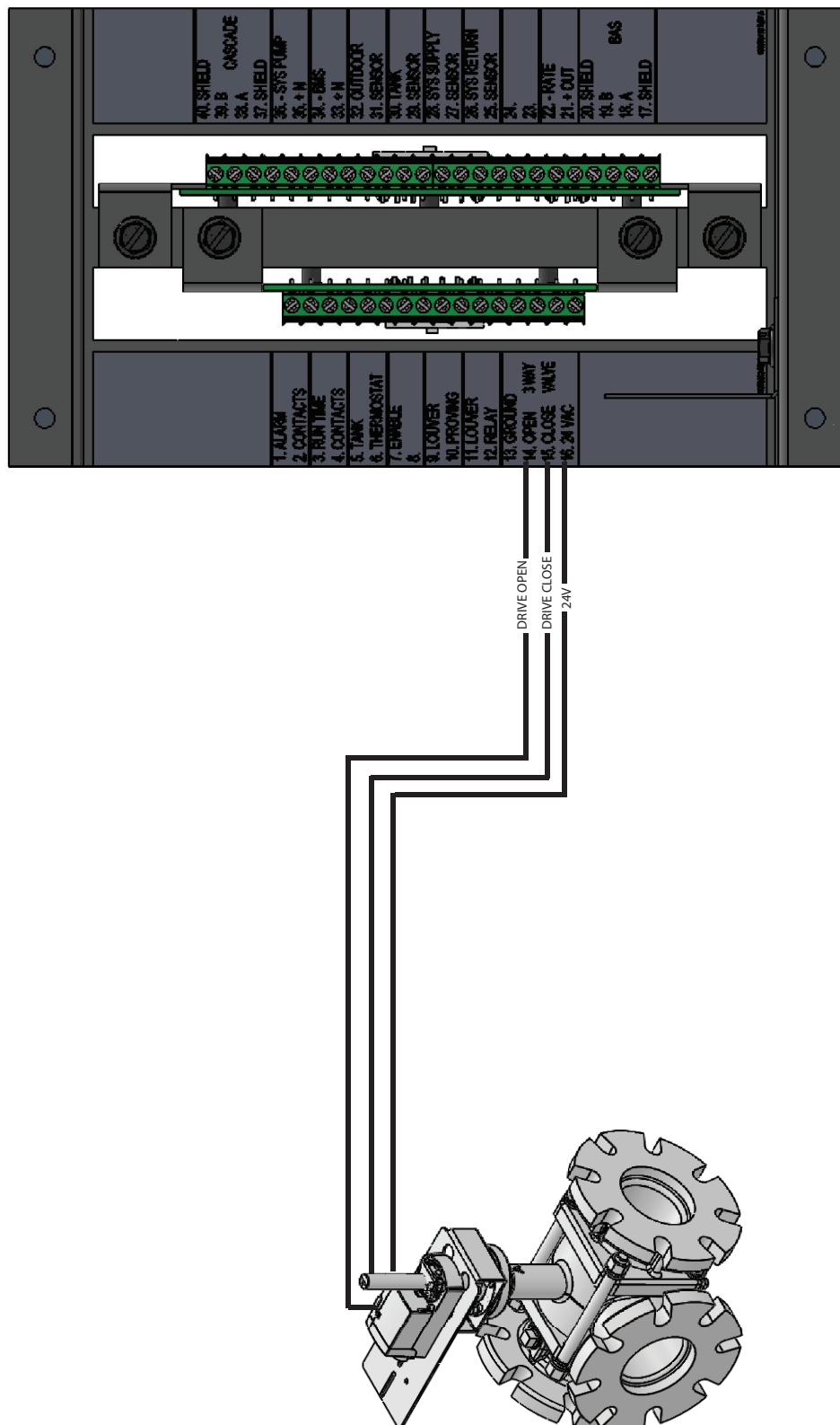
### Wiring instructions

1. Locate the 18 GA blue, yellow, and pink wires provided in the kit. As indicated in the steps below, route each wire from the connection board inside the motorized 3-way valve to the connection board (FIG. 2).

**NOTE:** The connection board is located inside the junction box on the back of the unit. Lift the cover on the motorized 3-way valve to gain access to the connection board.

2. Route the yellow wire from the #2 terminal on the valve to the #16 terminal on the connection board.
3. Route the blue wire from the #3 terminal on the valve to the #15 terminal on the connection board.
4. Route the pink wire from the #4 terminal on the valve to the #14 terminal on the connection board.

**Figure 2** Route wires to connection boards



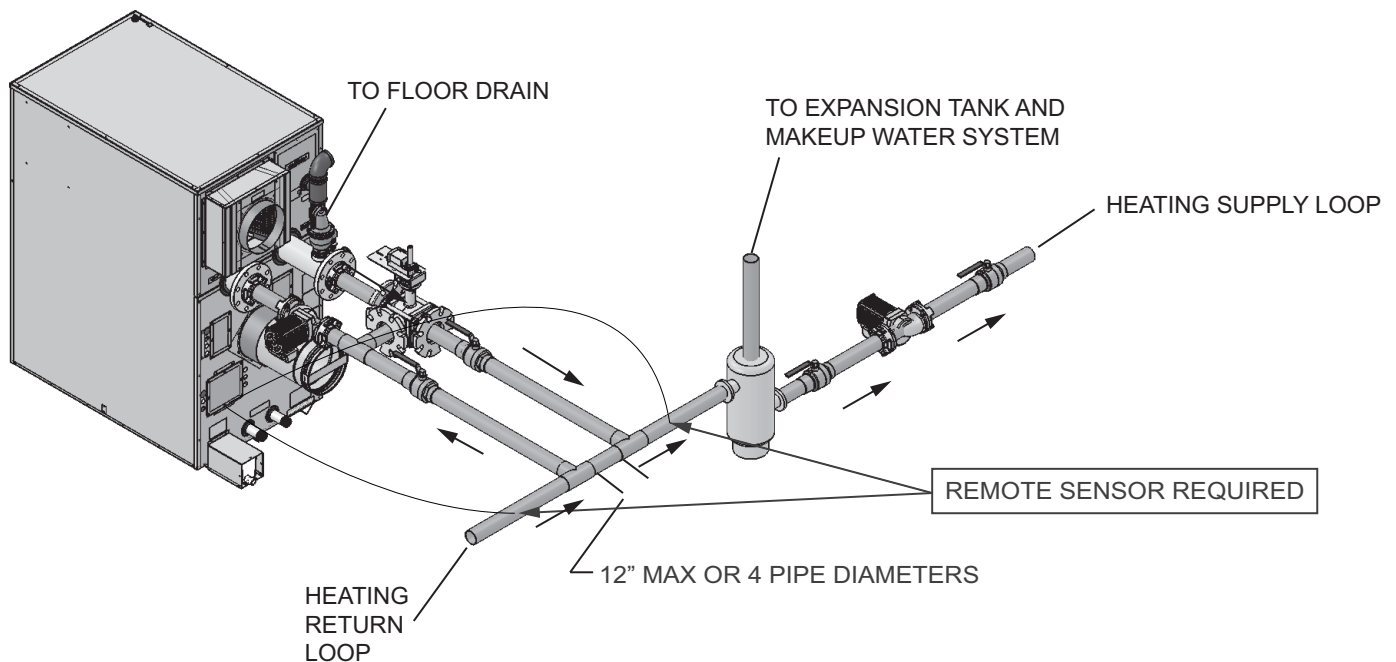
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# Typical piping applications:

## Installation instructions

1. Install the motorized 3-way valve in the piping as shown in FIG. 3.
2. Unit(s) high limit must be set at max.
3. Inlet and outlet connections to the boiler are shown for reference only. Actual connections may vary from those represented here. Consult the Installation and Operation Manual for actual locations.
4. Unit(s) pump should operate only during firing periods.

**Figure 3** Primary/Secondary Piping of a Single Boiler



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## Startup instructions

1. When there is no call for the heat, the valve will remain at its default position of 0° where it will be closed to bypass.
2. Observe the unit when there is a call for heat.
3. Check to see that the valve slowly opens to the bypass water, to bring the inlet temperature to the boiler up to 140°F.
4. Monitor the valve to make sure it maintains a constant temperature and does not make dramatic jumps.
5. As the return water heats up to 140°F or above, the valve will close to the bypass.

**Revision Notes:** Revision A (PCP# 3000004170 / CN# 500004429) initial release.

Revision B (PCP #3000036758 / CN #500025028) reflects an update to the kit components and valve technical data.

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