

AUTOMATIC BY-PASS VALVE KIT (P/N 462048) FOR MASTERTEMP® AND MAX-E-THERM® POOL AND SPA HEATERS

INSTALLATION INSTRUCTIONS



FAILURE TO FOLLOW ALL INSTRUCTIONS AND WARNINGS CAN RESULT IN SERIOUS BODILY INJURY OR DEATH. THIS PRODUCT SHOULD BE INSTALLED AND SERVICED ONLY BY A QUALIFIED POOL SERVICE PROFESSIONAL. INSTALLERS, POOL OPERATORS AND OWNERS MUST READ THESE WARNINGS AND ALL INSTRUCTIONS IN THE HEATER INSTALLATION AND USER'S GUIDE BEFORE USING THIS PRODUCT. THESE INSTRUCTIONS MUST BE LEFT WITH THE POOL OWNER.

Pentair Water Pool and Spa heater related products are available at:
<https://www.pentair.com/en/products/pool-spa-equipment/pool-heaters.html>
Call (800) 831-7133 for additional free copies of these instructions.

IMPORTANT SAFETY INSTRUCTIONS READ AND FOLLOW ALL INSTRUCTIONS - SAVE THESE INSTRUCTIONS

Automatic By-pass Valve Overview

In conjunction with a Pentair IntelliFlo VF pump the automatic by-pass valve functionality of the latest MasterTemp heater will improve the head loss through the pool system, reduction of pump power consumption and the longevity of the heater by automatically taking the heater mostly out of the flow loop when not in use.

The following instructions describe how to configure your pool/spa hydraulics for a 3-way or 2-way automatic by-pass valve.

Related manuals:

IntelliValve Valve Actuator Manuals (P/N 522301)

Contents

- 2" 3-Way Valve (Pentair P/N 263026)
- IntelliValve Actuator (Pentair P/N 521485)
- 2" Check Valve (Pentair P/N 263042)

AUTOMATIC BY-PASS VALVE SETUP INSTRUCTIONS

When installing this kit, **basic safety precautions** should always be followed. Read and follow all instructions.

Required installation tools:

- #2 Phillips screwdriver
- Hacksaw (for cutting plumbing)
- 1/4" Nut driver

CAUTION! Before starting: Always disconnect AC power to the pool pump.

Automatic By-pass Valve Setup

Plumbing

1. Cut the heater inlet plumbing and install the 2" 3-Way valve (Pentair P/N 263026) as shown in Figure 1 & 2.

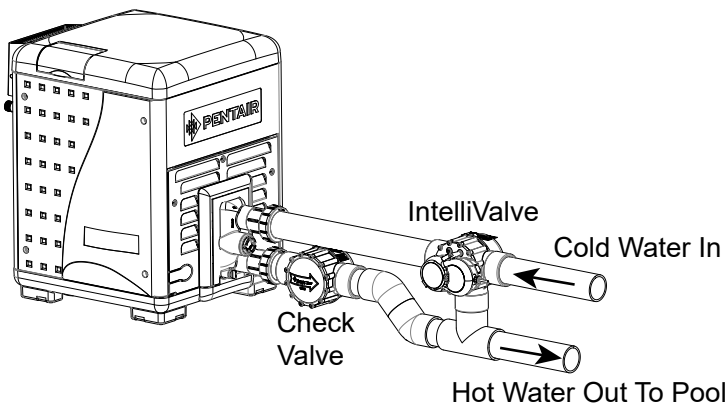


Figure 1. Valve positioned left side of heater

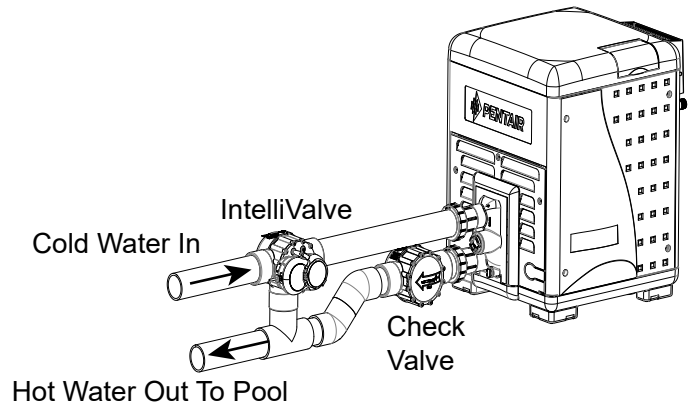


Figure 2. Valve positioned left side of heater

2. And the 2" check valve (Pentair P/N 263042).
3. Unscrew and remove the diverter valve knob and handle.

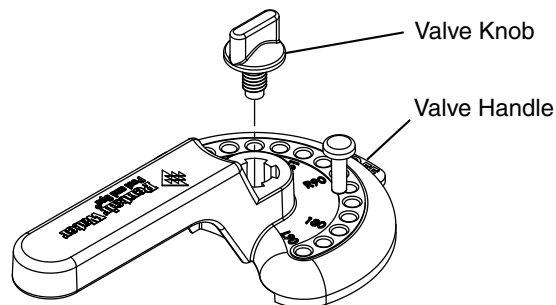


Figure 3. Diverter Handle/Knob

AUTOMATIC BY-PASS VALVE SETUP INSTRUCTIONS

4. Remove the four (4) screws from the valve assembly top cover. See Figures 4 and 5 depending on where your heater is located relative to your valve.

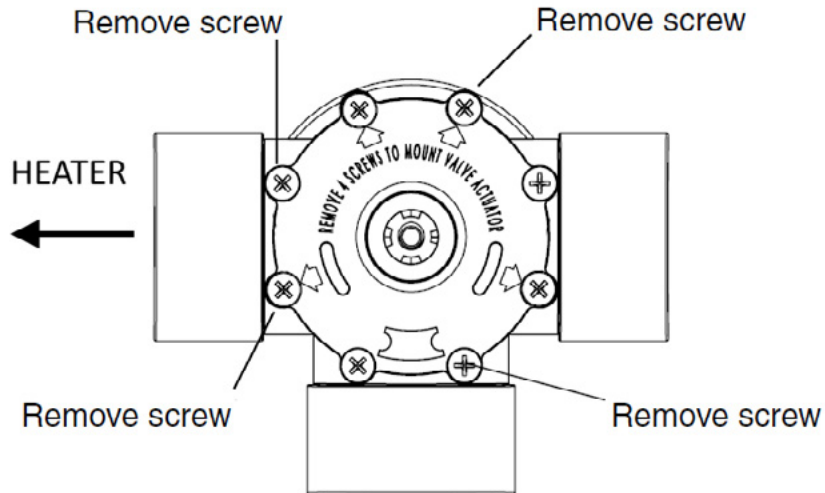


Figure 4. Heater to Left of Valve

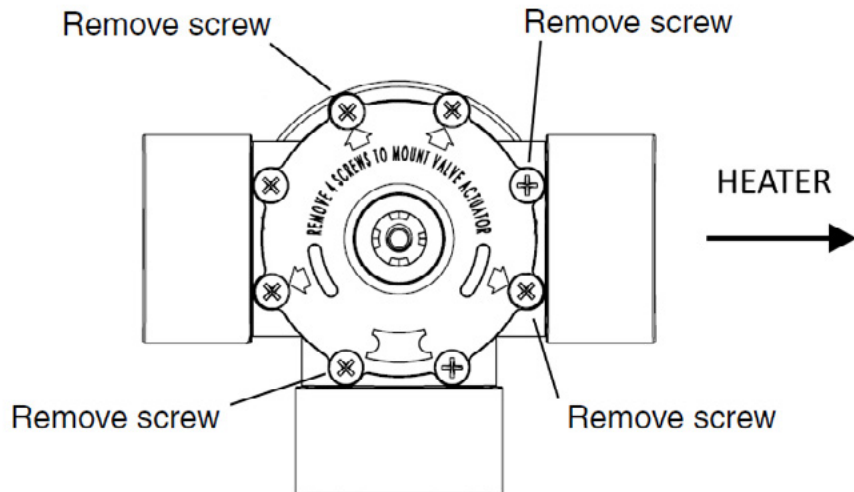


Figure 5. Heater to Right of Valve

AUTOMATIC BY-PASS VALVE SETUP INSTRUCTIONS

Mount the IntelliValve Valve Actuator onto the Valve

Note: Similar to a standard actuator, the IntelliValve® Valve Actuator factory default diverter end point positions are 0 and 24 with the “Home” position at 0. This is the diverter end point at which the diverter normally resides. Positions 0 and 24 LEDs represent the center of the diverter and are equivalent to OFF (no water flow through outlet) on a standard actuator.

1. Align the splines of the IntelliValve valve actuator shaft over the shaft of the valve. *Note: The keyed square spline notch (as shown below) indicates the position of the diverter. Note: End point at 0 (OFF) is the default position of the IntelliValve valve actuator.*

Note: There is silicone on the actuator assembly and spline. While mounting the IntelliValve, be careful not to get silicone on the bottom of the IntelliValve assembly.

2. With the IntelliValve valve actuator attached to the valve, rotate the actuator so the 0 or 24 position aligns with the bypass port of the 3-way valve. Ensure the screw holes in the valve body align with the screws of the actuator, (depending on heater location). See Figures 6 and 7.
3. Mount the IntelliValve valve actuator onto the valve assembly and secure it with the four 2¼ inch mounting screws provided. See Figure 6 and Figure 7. Note: DO NOT over tighten the mounting screws.

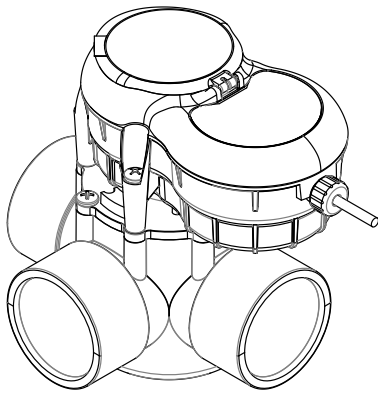


Figure 6. Valve positioned left side of heater

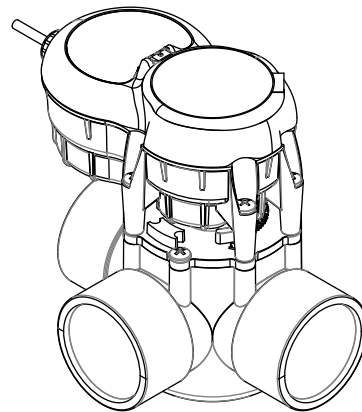
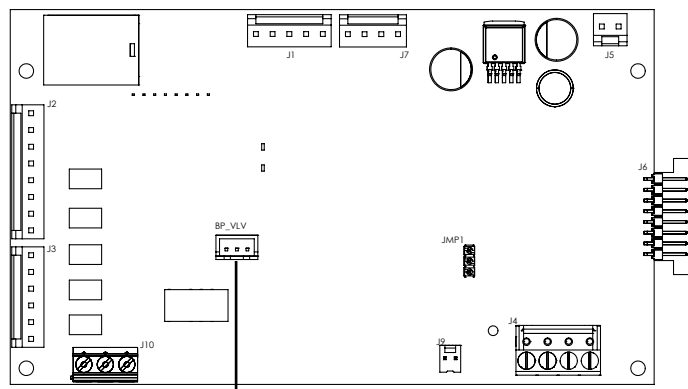


Figure 7. Valve positioned right side of heater

4. Once the actuator is installed, route the wire from your IntelliValve into the heater through the louvers in the side panel and plug into the connector on the back of the heater PCBA labelled **BP_VLV**, see Figure 8.



BP_VLV Connector

Figure 8. Heater PCB

AUTOMATIC BY-PASS VALVE SETUP INSTRUCTIONS

Setting Home and End Positions

(For installations where the heater is to the left side of the valve)

1. Apply power to the heater and ensure the pump and heater are both off. The valve will power up and the SET LED will flash blue then the Auto LED will illuminate.
2. Press the MODE button until the SET LED is ON. The 0 LED should illuminate. Press the SAVE button to set the open position of the valve, the Red LED will flash. See Figure 9.
3. Press and hold the Yellow arrow button on the IntelliValve actuator until the Red LED indicates position 7.
4. Press the SAVE button. All the LEDs in the path of travel will flash five (5) times, then the LED for the last set end point will remain on.
5. The START and end points are now established and the MODE changes to Service (Yellow LED on).
6. Press and release the MODE button and the AUTO LED (Green) turns on and the diverter stays in or moves to the home position and the diverter location LED will remain lit (Red).
7. With the heater off, if the valve moves to the 0 position then you will need to swap the rotation of the valve. Press both arrows on the IntelliValve actuator to do this. The valve should then turn to position 7.
8. After the home and end points have been established, enable the bypass valve in the heater menu. Press the Menu button then press the Down arrow until BYPASS is selected. Press Select to enter the menu.
9. Press the UP arrow button to show enabled. Press Select to save the value. Press the back button to return to the main screen.
10. After enabling the by-pass valve, turn the heater off and then back on again. Press the Heater Off button followed by the Pool/Spa button.
11. Once set you should notice that when there is a call for heat the valve will turn on and move to the 0 position directing all of the flow through the heater.

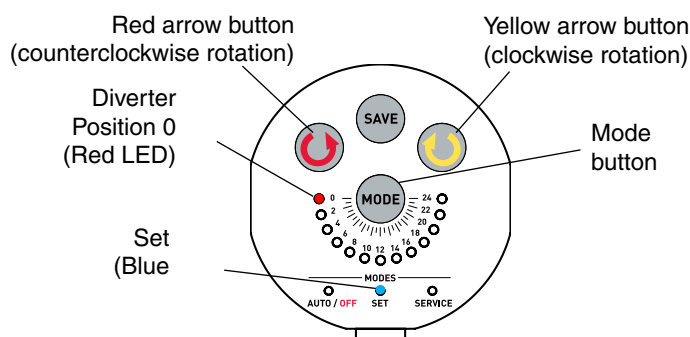


Figure 9. Home position 0 LED (Default Setting)

AUTOMATIC BY-PASS VALVE SETUP INSTRUCTIONS

Setting Home and End Positions

(For installations where the heater is to the right side of the valve)

1. Apply power to the heater and ensure the pump and heater are both off. The valve will power up and the SET LED will flash blue then the Auto LED will illuminate.
2. Press the MODE button until the SET LED is ON. The 0 LED should illuminate.
3. Press and hold the Yellow arrow button on the IntelliValve actuator until the Red LED indicates position 24. Press the SAVE button to set the open position of the valve, the Red LED will flash. See Figure 10.
4. Press and hold the Red arrow button on the IntelliValve actuator until the Red LED indicates position 17. Press the SAVE button. All the LEDs in the path of travel will flash five (5) times, then the LED for the last set end point will remain on.
5. The START and end points are now established and the MODE changes to Service (Yellow LED on).
6. Press and release the MODE button and the AUTO LED (Green) turns on and the diverter stays in or moves to the home position and the diverter location LED will remain lit (Red).
7. With the heater off, if the valve moves to the 24 position then you will need to swap the rotation of the valve. Press both arrows on the IntelliValve actuator to do this. The valve should then turn to position 17.
8. After the home and end points have been established, enable the bypass valve in the heater menu. Press the Menu button then press the Down arrow until BYPASS is selected. Press Select to enter the menu.
9. Press the UP arrow button to show enabled. Press Select to save the value. Press the back button to return to the main screen.
10. After enabling the by-pass valve, turn the heater off and then back on again. Press the Heater Off button followed by the Pool/Spa button.
11. Once set you should notice that when there is a call for heat the valve will turn on and move to the 24 position directing all of the flow through the heater.

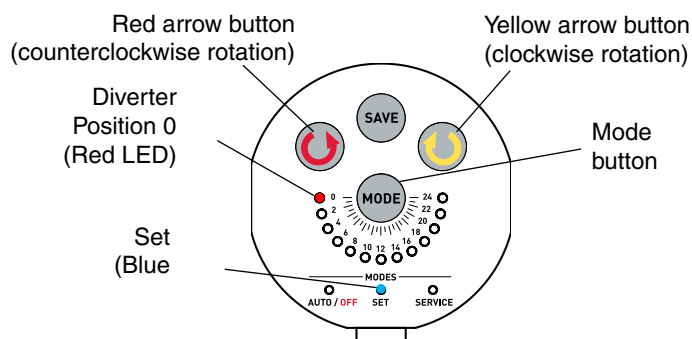


Figure 10. Home position 0 LED (Default Setting)



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P/N 462050.A 9/2020