

INSTALLATION GUIDE

SINGLE TANK GAS
VALVE BLOCK KIT

PRODUCT CODE: BLOC 001 001



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1. INTRODUCTION

Thank you for purchasing the Heliodyne valve block assembly kit. This kit is a pre-assembled set of piping components consisting of fittings, a sensor well, stainless steel flex hoses, and a Honeywell mixing valve. **The valve block kit has two main benefits:**

- 1) It will save you valuable time with the piping of your solar water heating system.
- 2) It ensures SRCC OG-300 compliance that is required in order to qualify the system for any rebates and incentives.

This kit is designed to fit the Bradford White Power Vent series of electronic ignition residential gas water heaters. A compatibility guide is presented in Section 2 of this document.

As with any Heliodyne product, it is highly recommended that you thoroughly read the installation guide completely before beginning any work. Video tutorials may also be available for Heliodyne equipment installations. Visit Heliodyne's YouTube channel (youtube.com/user/heliodynesolar) for a complete list of tutorials.

2. TANK COMPATIBILITY GUIDE

Block kit BLOC 001 001 is a mixing valve block assembly kit designed to comply with SRCC OG-300 standards for a "single tank with auxiliary heating" hot water system. It is designed for 100% compatibility with those specific Bradford White tanks listed below. This kit may or may not be compatible with other Bradford White or non Bradford White tanks. Heliodyne cannot guarantee compatibility on any tanks not listed below.

Gas Power Vent Models	Gas Power Direct Vent Models	Dual Coil Heat Exchanger
Gas Power Vent Models ¹ : U-2-TW-50T6FRN U-2-TW-65T6FRN M-2-TW-50T6BN M-2-TW-65T6BN M-2-TW-75T6BN ²	Gas Power Vent Direct Vent Models ³ PDX2-50T6FBN PDX2-65T6FBN PDX2-75T6FBN	Dual Coil heat Exchanger Backup: S-DC-DWZ-65R6SW S-DC-DEZ-75R6SW

¹ Gas power vent draws combustion air from surroundings. ² Complies with California Lo Nox requirement.
³ Power direct vent draws combustion air from outside.

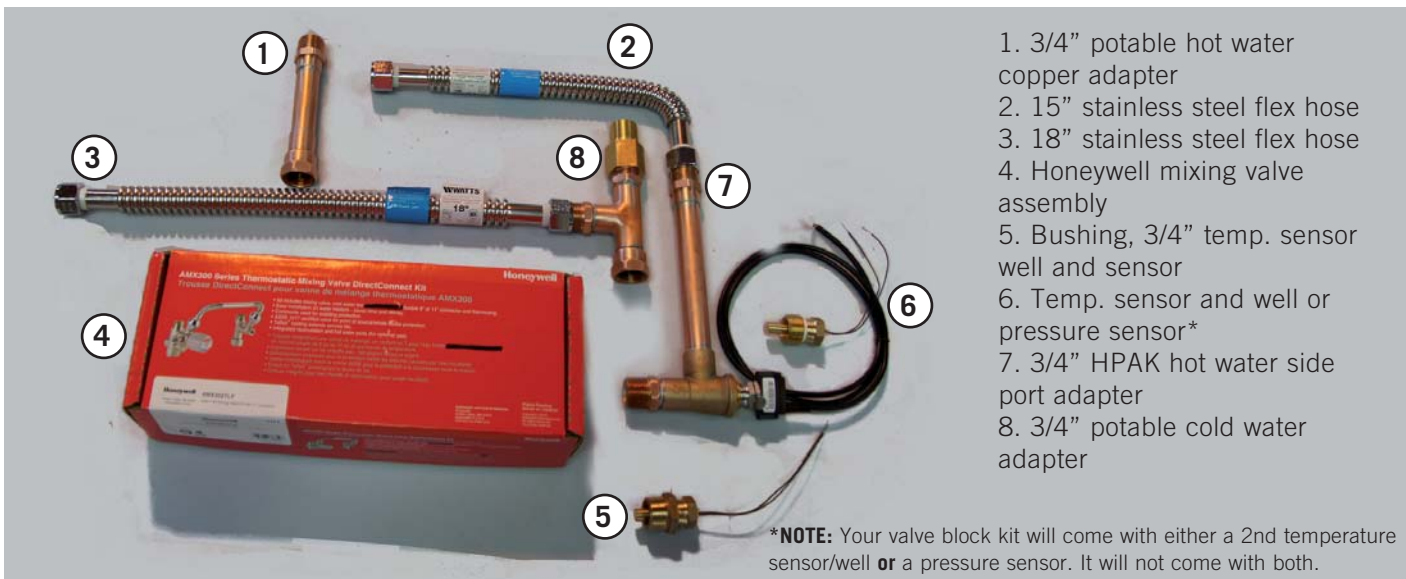
3. PRE-INSTALLATION GUIDELINES

Before installing the valve block kit on your water heater, make sure the following steps are completed.

- Connect the gas supply and ensure the residence cold and hot water supply have shutoff valves which are located approximately one foot above the top of the new hot water tank.
- Read through this installation guide and make sure the hot water storage tank is in its final location.
- Do not plug the HPAK into a power supply at any point during this valve block installation procedure.
- Ensure you have the HPAK manual with you as you may need to reference it during the installation process.

NOTE: To save time and ensure parts fit with no interference, assemble this kit in the order presented.

4. KIT COMPONENTS



1. 3/4" potable hot water copper adapter
2. 15" stainless steel flex hose
3. 18" stainless steel flex hose
4. Honeywell mixing valve assembly
5. Bushing, 3/4" temp. sensor well and sensor
6. Temp. sensor and well or pressure sensor*
7. 3/4" HPAK hot water side port adapter
8. 3/4" potable cold water adapter

*NOTE: Your valve block kit will come with either a 2nd temperature sensor/well or a pressure sensor. It will not come with both.

5. INSTALLATION

5-1 Remove the top and bottom side tank plugs using a 1/2" driver. (Bottom plug pictured).



5. INSTALLATION (CONTINUED)

5-2 Using pipe sealant such as Teflon thread tape, install the $\frac{3}{4}$ " to $\frac{1}{2}$ " bushing and temperature sensor well into the lower side-port on the tank.

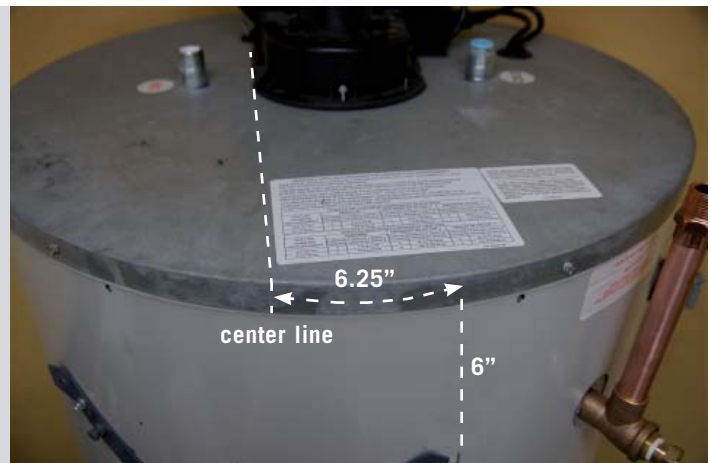


5-3 Using pipe sealant, install the HPAK hot water side port adapter (part # 7) into the tank top side port.

After the tank connection has been installed, attach the $\frac{1}{2}$ " temp. sensor well into the adaptor as shown.



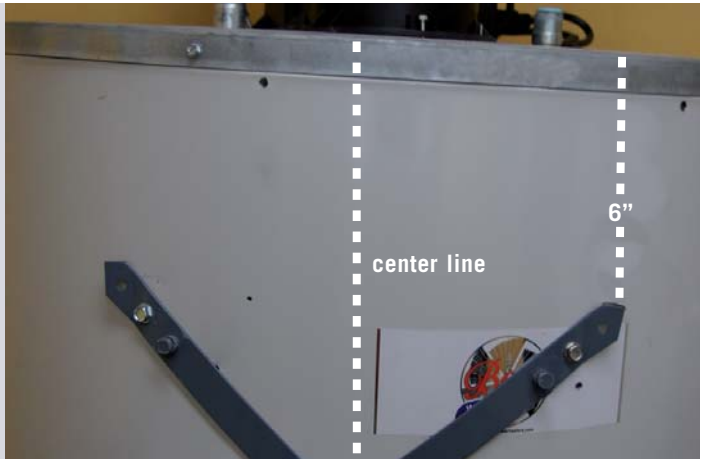
5-4 Measure the top of the tank for optimal positioning of the HPAK. Pay attention to the location of the outlets and vent on the top of the tank. The ideal method for measuring is to start at the left side of the plastic vent housing. Align a straight edge and measure a straight line to the edge of the tank. This will be the center line where the center of the HPAK mounting X bracket should be placed. From there, measure 6.25 inches to the right and down 6 inches. This will be where the top right corner of the X bracket is positioned.



5. INSTALLATION (CONTINUED)

5-5 Install the HPAK X bracket. For ideal positioning, install it so that the top of the X bracket is 6 inches down from the top of the tank and the middle of the bracket is under the center line mark you measured from the previous step. This will result in the top of the HPAK being aligned with the top of the tank.

NOTE: It is best to first mark only 1 location on the tank and attach the x-bracket with a single stainless steel self-tapping screw. Once this is done, it is easy to correctly position the other 3 mounting points based on the holes in the x-bracket



5-6 Using Teflon thread tape, install the cold and hot water copper adapters. The cold water adapter has a check valve and connection for the HPAK cold supply.

Mount the HPAK onto the X bracket.



5-7 Install the 15" flexible stainless steel tube, connecting the hot outlet on the HPAK to the top tank side port.

NOTE: Do not use Teflon tape and DO NOT over tighten as this could cause damage to the rubber gaskets inside the threaded connections.



5. INSTALLATION (CONTINUED)

5-8 Install the 18" flexible stainless steel tube (part # 3), connecting the HPAK cold inlet to the tank.

NOTE: Do not use Teflon tape and do not over tighten.



5-9 Using Teflon thread tape, install the Honeywell mixing valves (part # 4) to the hot-water adapter located on the top of tank.



5-10 Using pipe sealant such as Teflon thread tape, install the Honeywell cold-water manifold (part # 4) to the cold-water adapter located on the right side top of tank.



5. INSTALLATION (CONTINUED)

5-11 Connect the stainless steel flex hose (part # 4) between the Honeywell mixing valve and the cold water manifold.

NOTE: Do not use Teflon tape.

NOTE: Experience has shown that lubricating the inside of the flared portion of the flexible tube with a small amount of pipe dope improves the ability to achieve a leak free connection.



5-12 Connect the expansion tank to the HPAK using the supplied 15" stainless steel flexible tube.

NOTE: The expansion tank and 15" tube come packaged with the HPAK. Do not use Teflon tape and do not over tighten.



6. COMPLETION

- Connect the residence cold and hot water supply to the open connections of the valve block kit.
- Refer to the HPAK installation guide for HPAK and sensor connection information.
- Refer to the detailed commissioning instruction sheet for specific glycol filling and commissioning instructions, or view the tutorial videos on YouTube.

