

INSTALLATION INSTRUCTIONS

HydroGuard® T/P Series e420 Complete Retrofit

WARNING



Read this Manual **BEFORE** using this equipment. Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment. Keep this Manual for future reference.



WARNING

Need for Periodic Inspection/Maintenance: This product must be tested periodically in compliance with local codes, but at least once per year or more as service conditions warrant. All products must be retested once maintenance has been performed. Corrosive water conditions, inlet temperatures over 200°F (93°C), and/or unauthorized adjustments or repair could render the product ineffective for the service intended. Regular checking and cleaning of the product's internal components helps assure maximum life and proper product function.

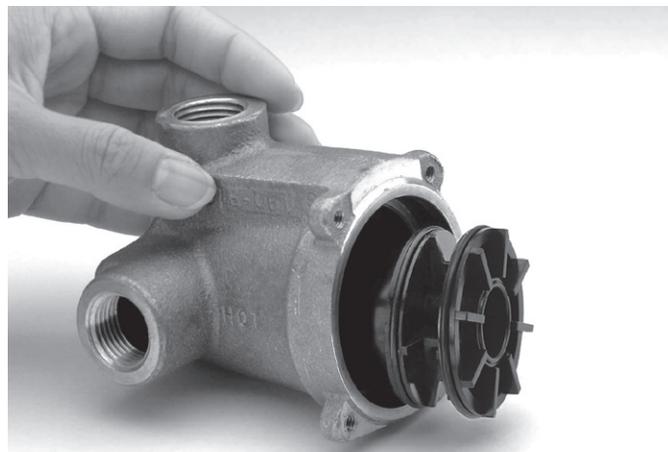
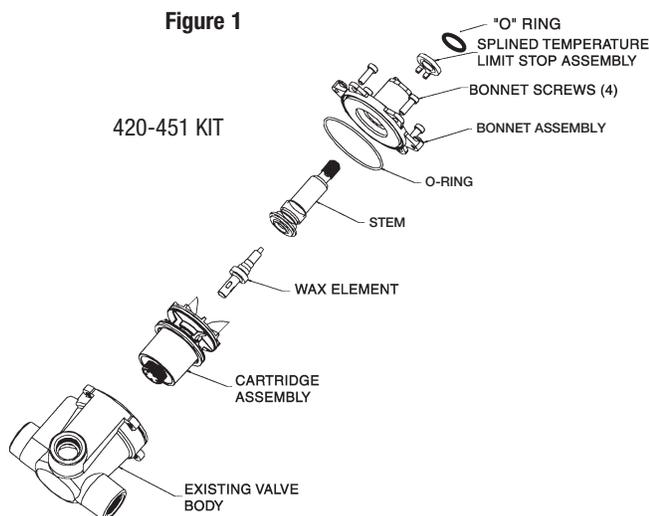


Figure 2

420 Retrofit Instructions

The following instructions explain how to retrofit your existing 420 HydroGuard to the new, enhanced version which utilizes a wax element and cartridge type design.

The combination of these design concepts results in a valve with enhanced performance. See the exploded view of this new assembly below:



Before you begin your upgrade, take the time to ensure you have all the necessary pieces. Your retrofit kit, for each valve, consists of the following (refer to figure 1 when taking inventory):

1. Cartridge Assembly (w/2 O-rings).
2. Wax Element.
3. Bonnet Assembly.
4. Spline Temperature Limit Stop (2 pieces).
5. Bonnet O-Ring.
6. Lubricant.
7. Four (4) Bonnet Screws.

After you verify that you have everything needed to complete the retrofit, proceed with the next section.

Retrofit

Follow the instructions below to perform your retrofit. Save all components until you have successfully completed your retrofit.

Disassembly

1. Turn off hot & cold water supply-stops (required for this retrofit).
 2. Remove the handle and trim plate.
 3. Remove 4 bonnet screws and bonnet assembly.
 4. Remove all internal components from valve body.
 5. Remove hot water seat using 7/8" hex socket.
 6. At this point you should have an empty valve body.
- You are now ready to put the new components into your existing valve.

Reassembly

1. Ensure the inside of the valve body is free of deposits and debris. Clean as necessary.
2. Push the cartridge into the body without the O-rings installed. The cartridge should slide in easily, and bottom out with its large fins just inside the front surface of the casting. If the cartridge is difficult to install, or does not go in all the way, remove the cartridge and clean the body or remove any obstructions. Repeat this step until the cartridge installs easily.
3. Remove the cartridge and install the 2 O-rings. Lubricate the O-rings with silicon lubricant.
4. Install the cartridge back into the body. The cartridge should go in until the large fins are just inside the front surface of the casting (same position as in step 2). If you cannot push it in all the way due to O-rings, use bonnet and two (2) screws to force in. When using bonnet screws, be sure to use a diagonal direction to ensure cartridge seats in the body evenly.
5. Lubricate the bonnet O-ring and install onto new bonnet assembly.
6. Place the wax element into the stem assembly, small end first, and place this bonnet-stem-motor assembly into/onto the valve body. Rotate the bonnet assembly to line up the bonnet screw holes and reinstall and tighten the four bonnet screws.

See figure 3 below to see how everything goes together.

7. Rotate the stem assembly clock-wise, by hand, until it bottoms out on the cartridge. At this point your valve is in the off position.
8. Turn the hot and cold water supplies back on and verify there is no leakage.

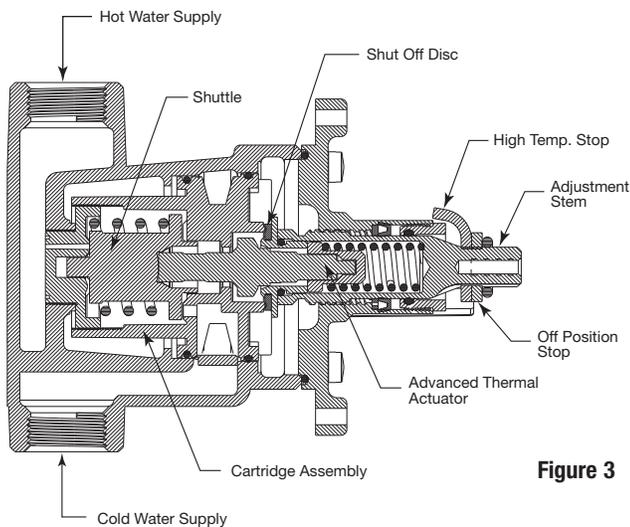


Figure 3

Maximum Temperature Setting/Handle Rotation Stop

The handle rotation setting must be adjusted to limit the distance the user can rotate the handle towards the full hot water position and the off position.

The Seller warrants that the equipment manufactured by it and covered by this order or contract is free from defects in material and workmanship and, without charge, equipment found to be defective in material or workmanship will be repaired, or at Seller's option replaced F.O.B. original point of shipment, if written notice of failure is received by Seller within one (1) year after date of shipment (unless specifically noted elsewhere), provided said equipment has been properly installed, operated in accordance with the Seller's instructions, and provided such defects are not due to abuse or decomposition by chemical or galvanic action. **THIS EXPRESS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, GUARANTEES, OR REPRESENTATIONS, EXPRESS OF IMPLIED. THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.** The Seller assumes no responsibility for repairs made on the Seller's equipment unless done by the Seller's authorized personnel, or by written authority from the Seller. The Seller makes no guarantee with respect to material not manufactured by it.

CAUTION

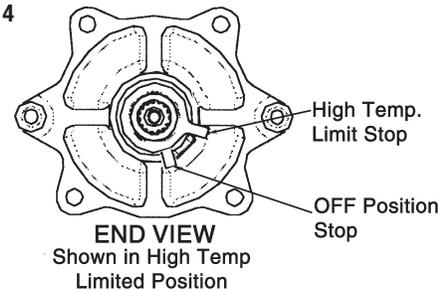
Any repair or modification of the valve may affect the high temperature setting. The maximum temperature setting must be checked by the installer before use.

9. Adjust the valve to the desired maximum outlet temperature [110°F (43°C) max]. Install the splined limit stop with its tab clockwise of the bonnet stop.
10. Turn the stem clockwise until the water stops. Install the second splined limit stop with the tab counter-clockwise of the bonnet stop.
11. Replace handle. Repeat steps 9 and 10 (see figure 4) until desired maximum outlet temperature is reached. Remove handle before final assembly.

CAUTION

Resetting of the splined stop can result in temperatures higher than 110°F [43°C].

Figure 4



NOTICE

Set valve "off" position with bare hands only! Over tightening in the off position with pliers or a wrench can cause internal valve damage.

If low flow or no hot water, cartridge is not fully installed. If flow does not stop, something is wrong with the installation. Turn off both supplies, disassemble the valve, and go back to "reassembly" – step #1.

12. Your valve should now be set properly. Verify proper operation by rotating the stem from the off position, counter-clockwise, to the high temperature position. Verify the temperature does not exceed your desired maximum temperature. Rotate stem back to the off position.
13. Replace trim plate and handle.
14. Your retrofit is complete!

If you have any problems, comments, or suggestions, please contact your Powers representative. We are interested in feedback from the field.

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