

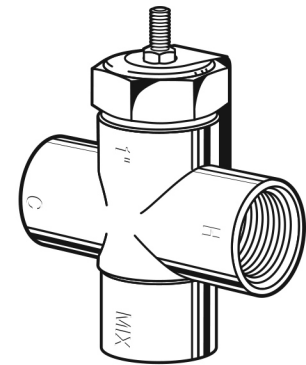


Hoffman Specialty® Series 21 Tempering Valve

OPERATION

Adjustable Temperature Range

Model	°F (°C)
21	140 – 200 (60 – 93)
21H	100 – 200 (38 – 93)
21LT	100 – 140 (38 – 60)



Series 21

CAUTION

Series 21 Tempering Valves contain leaded brass and must not be used for potable water service.

WARNING



- Before using this product read and understand instructions.
- Save these instructions for future reference.



- All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of plumbing, steam, and electrical equipment and/or systems in accordance with all applicable codes and ordinances.



- Do not use tempering valves as anti-scald devices. Tempering valves may need to be used in conjunction with an anti-scald device.



- To prevent serious burns, wear heat resistant gloves when opening and closing valves, or handling hot equipment.
- Turn off water before servicing valve.
- Open supply valves slowly to prevent water hammer or sudden shock.



- This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to: www.P65Warnings.ca.gov.

Failure to follow this warning can cause serious burns, personal injury or death.

INSTALLATION

1. Prior to installation, The water supply lines must be flushed to remove any debris or other foreign materials to ensure proper valve operation.

⚠ WARNING

To prevent damage to the Tempering Valve from excessive heat, remove the Post Stat Assembly and the O-Ring from the Tempering Valve before soldering nearby.

Failure to follow this warning can cause serious burns, personal injury or death.

2. Install the tempering valve correctly by connecting the hot and cold water inlets, as well as the mixed outlet, as indicated on the valve body.
3. For typical hot water installation refer to Figures 1 and 2 below.

Figure 1 Radiant Heating Installation

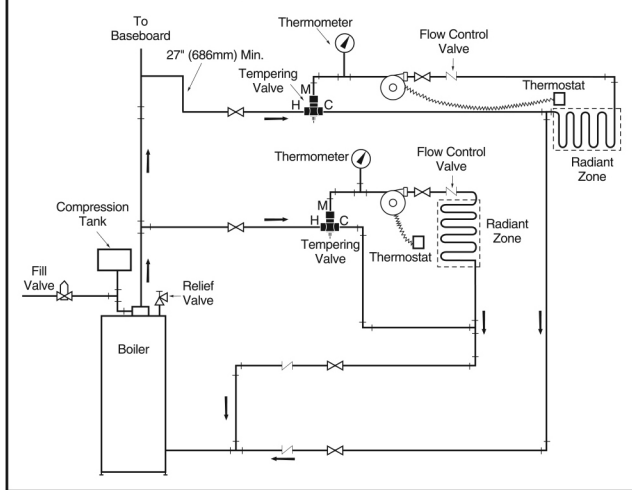
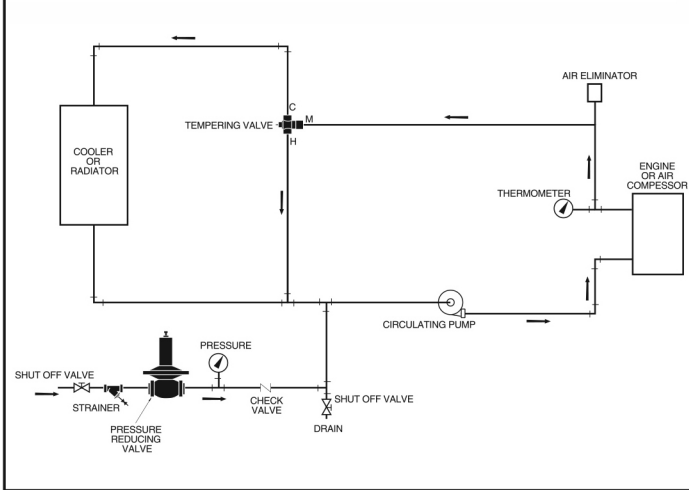


Figure 2 Engine Jacket Temperature Control Installation

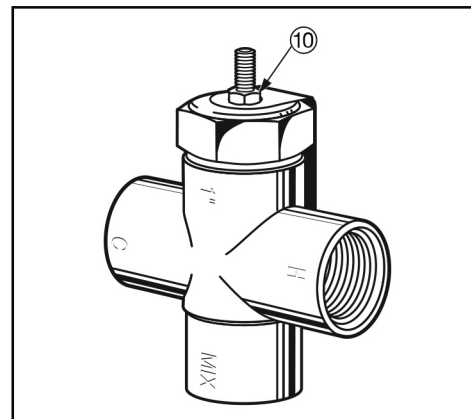


⚠ CAUTION

In order for the tempering valve to function as intended, the hot water supply must be at least 20°F (11°C) above the required mixed temperature setting.

SETTING TEMPERATURE OF MIXED WATER

1. Operate system and allow temperature to stabilize.
2. Loosen nut (10)
3. In one-half (1/2) turn increments, turn adjustment screw:
 - Clockwise to reduce temperature.
 - Counter-clockwise to increase temperature.
4. Allow the system to stabilize. When temperature reaches the desired value, tighten nut (10).



INSTALLATION COMPLETE

INSPECTION AND MAINTENANCE

CAUTION



- Turn off water before servicing tempering valve.
- To prevent serious burns, wear heat resistant gloves when opening and closing valves or handling hot equipment. Failure to follow this caution could cause personal injury.

If tempering valve fails to regulate temperature, proceed as follows: (refer to Figure 3).

1. Disassemble

- Secure all water flow and allow tempering valve to cool.
- Unscrew and remove Bonnet (8). Do not remove the Pushrod assembly (5) from the Bonnet
- Remove the Post Stat Assembly (1) and Overheat Spring Assembly (4).
- Remove Piston (3).

2. Clean (Only if parts are dirty or have scale build-up)

- Clean all contact surfaces with a crocus cloth.
- If all parts are clean and free moving, and the tempering valve still doesn't operate, the Post Stat Assembly (1) has probably lost charge and must be replaced.

3. Reassemble

- Install the Body O-Ring (11), Spring (2) and Piston (3) in the Valve Body (13).

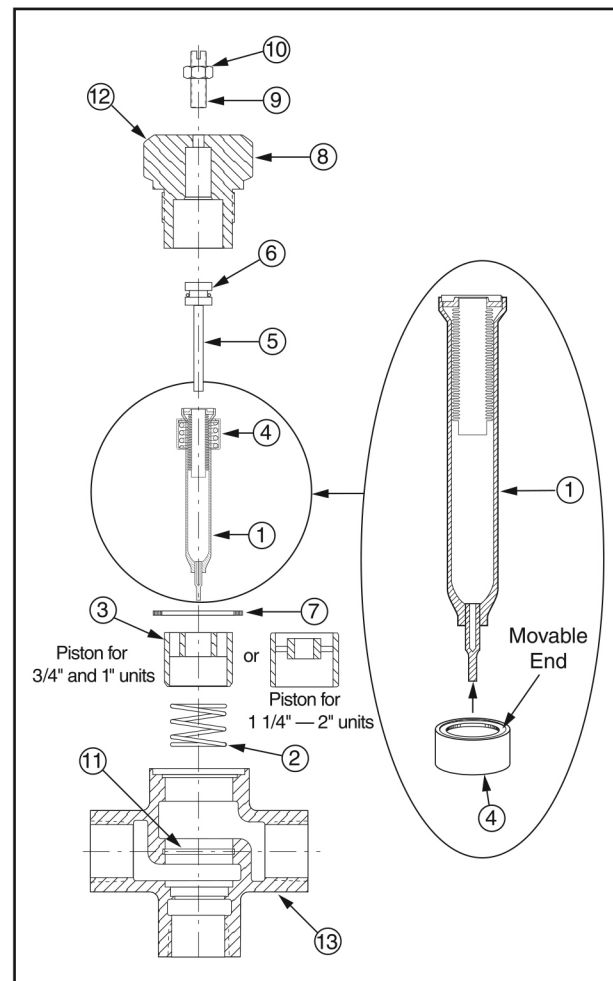


Figure 3

PARTS LIST

Number	Part	Repair Kit	Thermostat Kit
1	Post Stat Assembly	X	X
2	Piston Spring	X	
3	Piston	X	
4	Overheat Spring Assembly	X	X
5	Pushrod Assembly	X	X
6	Pushrod O-Ring	X	X
7	Body Gasket	X	X
8	Bonnet	X	
9	Adjustment Screw	X	
10	Nut	X	
11	Body O-Ring	X	X
12	Nameplate	X	

Table 1

- Install the Post Stat Assembly (1) and Overheat Spring Assembly (4). Ensure that the **movable end** of the Overheat Spring Assembly faces the Bonnet (8).
- Make sure gasket surface areas are clean. Lubricate new gasket (7) with a high temperature silicone-based lubricant and install it.
- Install Bonnet (8) with Pushrod Assembly (5&6).
- Return to Service and readjust temperature following Setting Temperature of Mixed Water section on page 2.

MAINTENANCE SCHEDULE

- Initially and every 6 months thereafter.
- Replace tempering valve every 15 years. More frequent replacement of the tempering valve is required if it is used in locales where significant water treatment is required, or where more frequent cleaning is necessary.

REPAIR/THERMOSTAT KIT REPLACEMENT

- Refer to applicable steps in inspection and maintenance section.

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Warranty. For goods sold to commercial buyers, Seller warrants the goods sold to Buyer hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be (i) be built in accordance with the specifications referred to in the quotation or sales form, if such specifications are expressly made a part of this Agreement, and (ii) free from defects in material and workmanship for a period of one (1) year from the date of installation or two (2) years from the date of manufacture, whichever shall occur first, unless a longer period is specified in the product documentation (the "Warranty").

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Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer's failure to comply with Seller's repair or replacement directions shall terminate Seller's obligations under this Warranty and render this Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. The Warranty is conditioned on Buyer giving written notice to Seller of any defects in material or workmanship of warranted goods within ten (10) days of the date when any defects are first manifest.

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To make a warranty claim, check first with the dealer from whom you purchased the product or call +1-847-966-3700 for the name and location of the nearest dealer providing warranty service.

xylem
Let's Solve Water

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