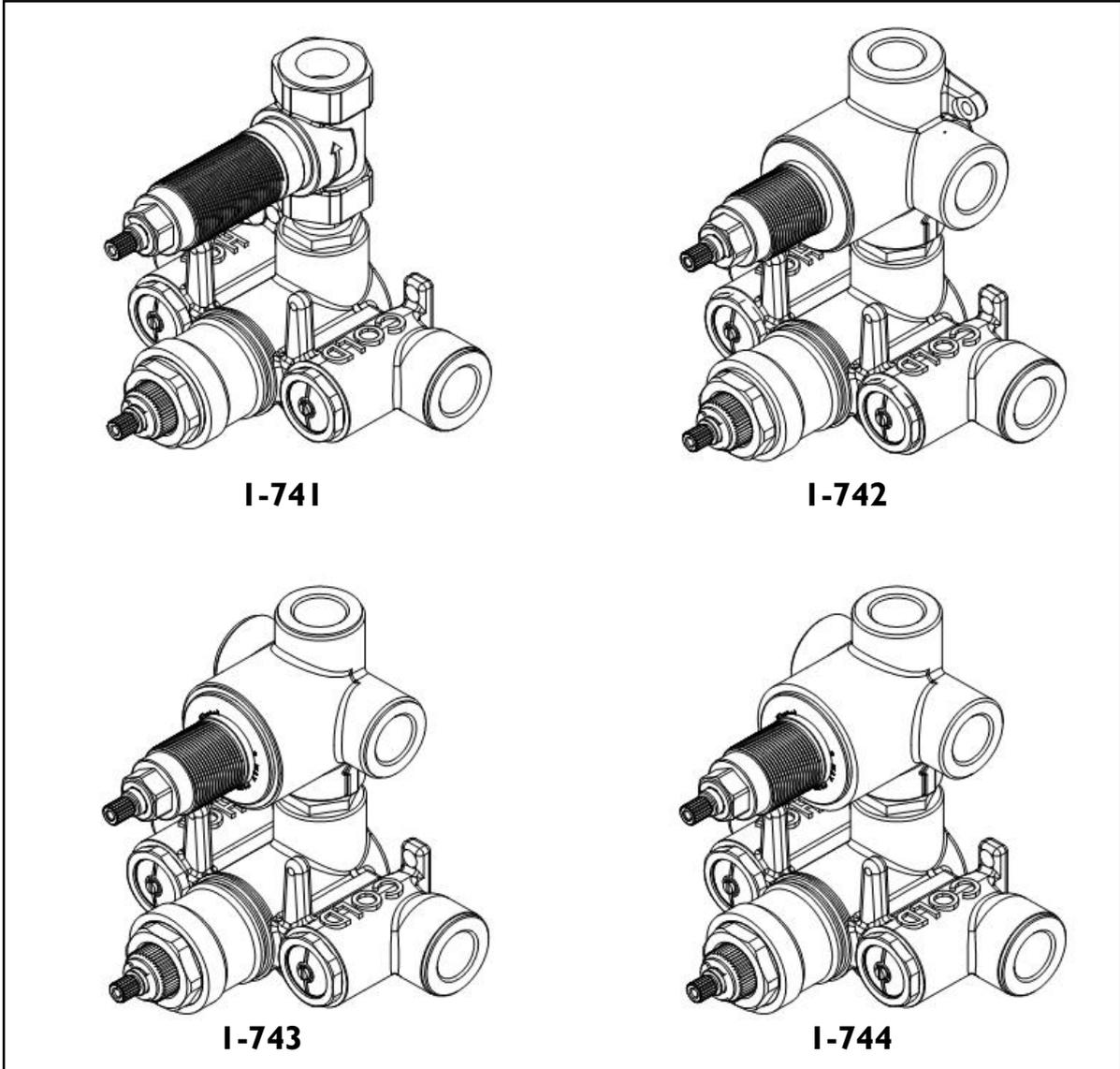


INSTALLATION INSTRUCTIONS 1/2" THERMOSTATIC VALVE AND TRIM

Valve Model No's: I-741, I-742, I-743, I-744



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General Characteristics

In case of instantaneous heaters, hot water flow has to at least meet flow required by heater and maintain burning. (Specified by heater manufacturer)

Operating Specifications

Hot water supply temperature:

Maximum: 185°F (85°C).

Note 1: Maximum temperature through this valve is limited by that of the hot water supply (up to a maximum of 120°F when accurately calibrated).

Note 2: Minimum difference between hot and mixed temperature is 18°F (10°C).

Cold water supply temperature:

Minimum: 41°F (5°C)

Operating Pressure:

Maximum: 80 PSI

Minimum: 20 PSI

Operating pressure (on hot and cold line) should be kept as balanced as possible in order to assure maximum efficiency.

When the pressure is greater than 80 PSI, a pressure reducer is required to be fitted before valve.

Technical Data

The temperature control knob is graduated from 75°F to 120°F with auto stop at 100° to avoid scalding.

Plumbing Recommendations

- An independent water supply for both hot and cold is required. Do not pipe off ring main.
- Large runs of pipe work will cause frictional loss of pressure.
- The recommended main water supply piping to valve shall be 1/2" minimum
- If more than one valve is installed, the recommended main water supply piping to valve shall be 3/4" minimum, reducing to 1/2" within 24" of each valve.
(Ensure adequate supply from both hot and cold water can be maintained.)

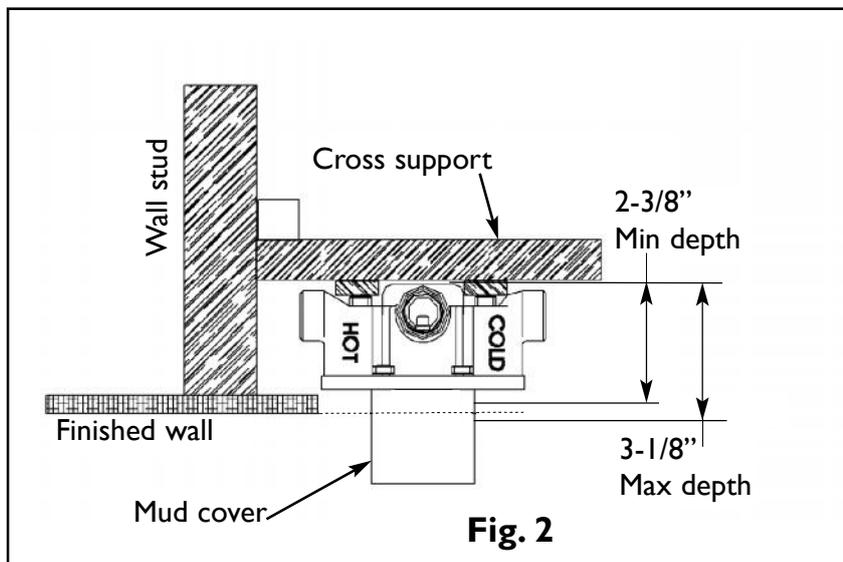
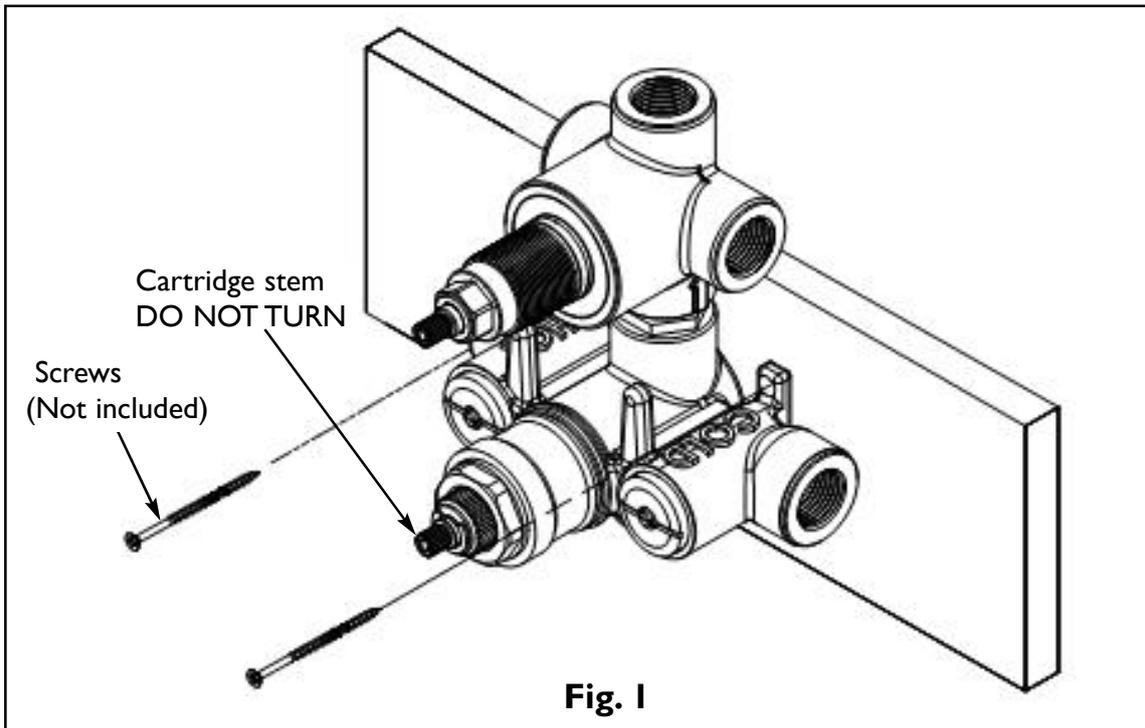
Water By-Laws

The mixing valve should be installed in compliance with the water by-laws. For further details refer to the latest copy of by-laws guide or your local water authority.

I. Rough in Valve Installation

Note: Use plumbers tape or equivalent to seal all threaded port joints.

1. Do not remove mud cover from valve before locating mounting surface depth in the wall.
2. Do not turn the cartridge stem - temperature settings are pre-calibrated at the factory.
3. Mount valve to cross support using screws (not included). Valve shall be perpendicular and fixed firmly to cross support to achieve proper trim attachment.(See Fig 1).
4. Place the cross support with valve between wall studs. The min./max. valve depth and vertical height desired within tub/shower enclosure determines the exact cross support placement. Attach cross support to wall studs.(See Fig 2).
5. Ensure opening in finished wall comes in contact with the mudcover to ensure seal with Thermo Wall Plate shown in Fig. 4. (See TEMPLATE FOR FINISHED WALL OPENING in Fig 9).



II. Connecting Water Supply

1. Thoroughly flush supply lines to remove any debris, metallic shavings, flux, etc.
2. Shut off water supply to valve.
3. Hot and cold water supplies **MUST** be connected to designated sides for proper operation of valve.
4. If solder/brazing the fitting connections, pre-assemble hot & cold adapter fittings to copper piping. Use plumbers tape or equivalent to attach adapter to appropriate inlet / outlet port.
Important: All excessive heat shall be a minimum of 4" from valve.
5. Connect outlet pipes to various end device(s).
6. Turn on water supply to valve and check for leaks.

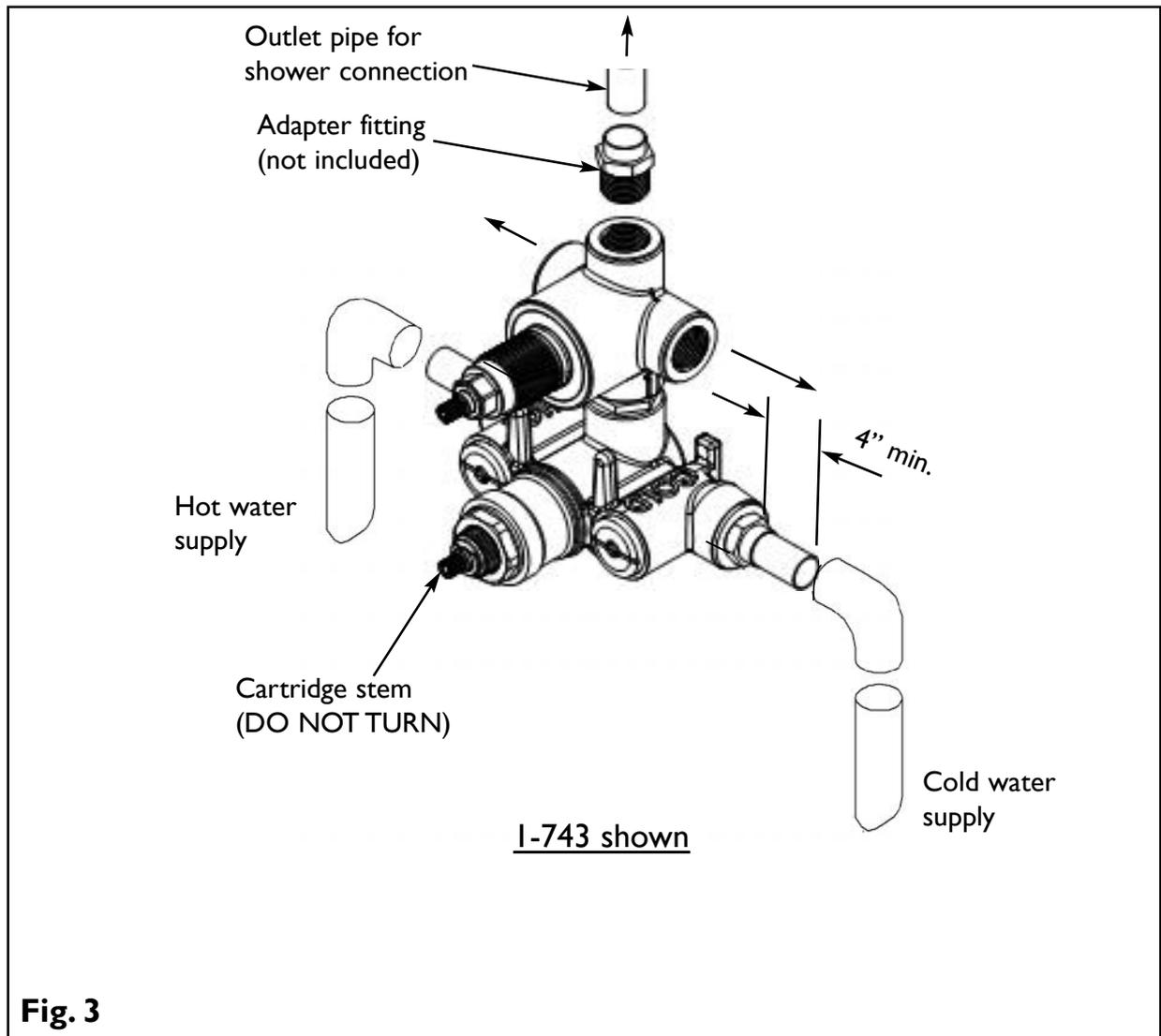
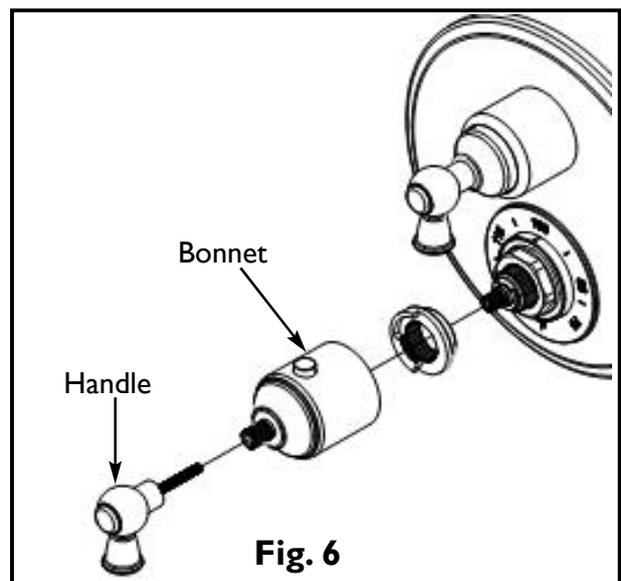
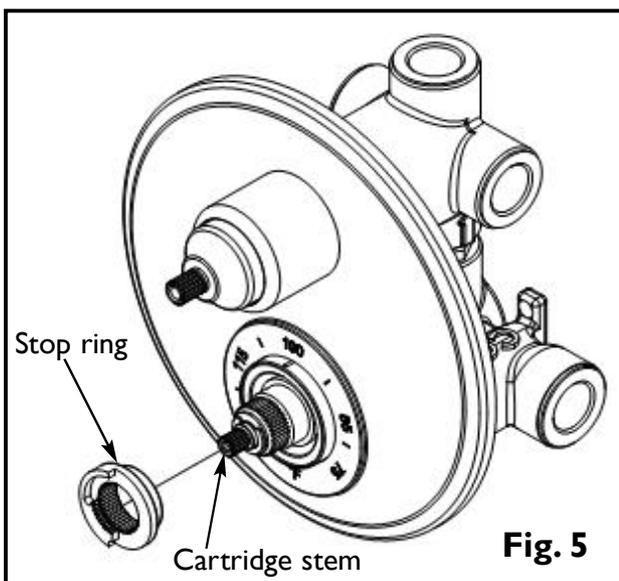
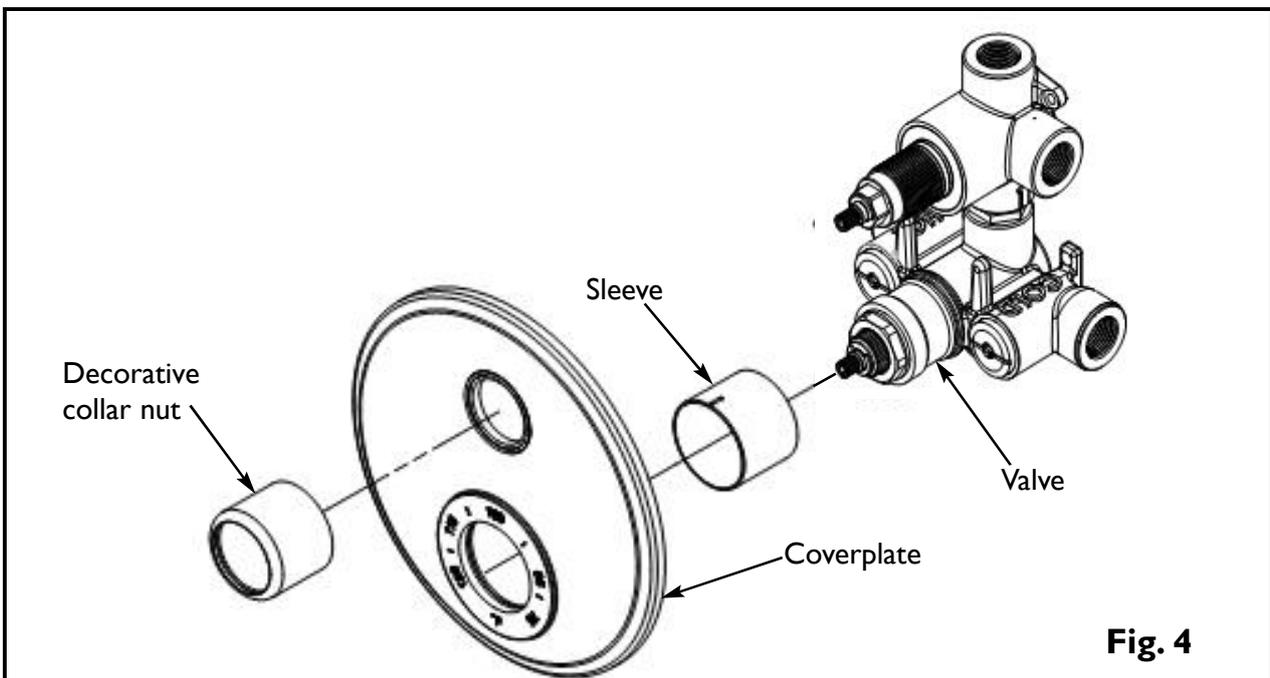


Fig. 3

III. Installing Trim

1. Remove and discard mud cover and screws.
2. Slide sleeve over valve body with grooved notch to topside.
3. Slide cover plate with gasket over sleeve and secure with decorative collar nut. (See Fig. 4).
4. Orient and position stop ring as shown below (See Fig. 5).
5. Open shut-off valve and verify water temperature at outlet device by using a thermometer.
NOTE: The safe and factory set temperature is 100°F. If the temperature needs to be adjusted follow step 6, otherwise skip to step 7.
6. Rotate cartridge stem to adjust temperature:
(clockwise = colder or counterclockwise = hotter)
7. Place thermo bonnet onto cartridge stem with red button (100°F) positioned straight up and inline with notch on the sleeve (See Fig. 6). Install thermo handle.
8. Install thermo bonnet and then thermo and diverter handles (See Fig. 6).

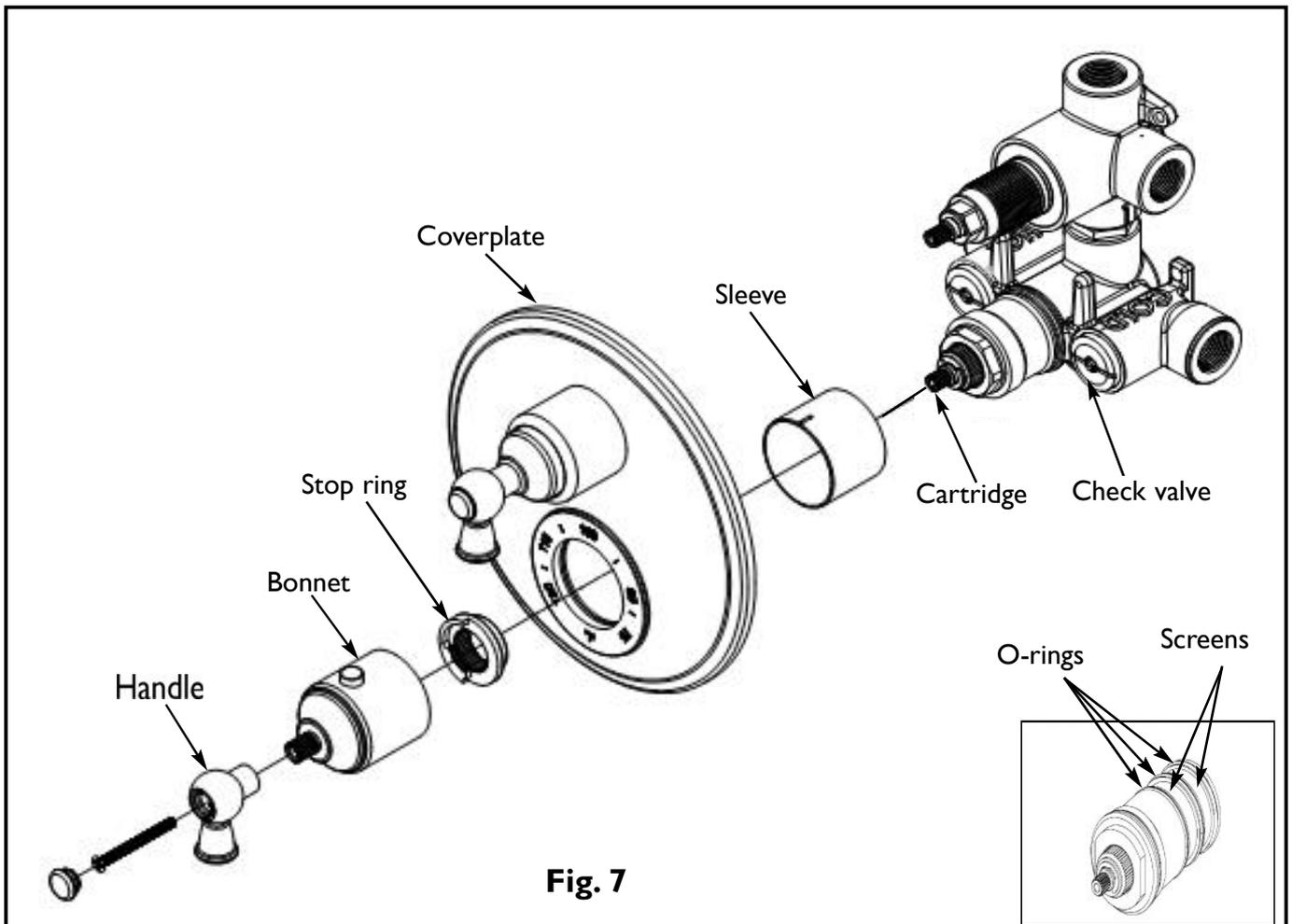


IV. Maintenance and Troubleshooting

The thermostatic valve has various screens that filter debris and unwanted particles that may damage the valves' cartridge and operation. Though years of use these screens may build up with impurities and limescale, restricting the flow of water through the cartridge and or check valves. The following steps describe removal and cleaning procedure.

Cartridge (Reference Fig. 7)

1. Carefully remove the handle, bonnet, stop ring, cover plate and sleeve.
2. Shut off the water to cartridge by tightening center screw on each check valve.
3. Unscrew the thermo cartridge using 1-3/16" or adjustable wrench; gently remove cartridge from housing.
4. Clean the screens by rinsing the cartridge under running water. If necessary, soak in a 50/50 mix of white vinegar and water to remove limescale.
5. Wipe cartridge and housing with wet cloth and apply a thin film of non-petroleum grease to o-rings. Do not use Vaseline.
6. Carefully install cartridge into housing and tighten to 10 ft-lbs.
7. Fully open check valves and inspect for leaks.
8. Check operation and flow. If improved, proceed to step 9, otherwise see checkvalve section below.
9. Reinstall trim and set temperature per section III.



Check valve (Reference Fig. 8)

1. Turn water supply to valve inlets off.
2. Tighten center screw on check valve inward until it clears bottom on check valve slot.
3. Unscrew check valve with large bladed screwdriver.
4. Remove check valve and clean per step 4 and 5 above.
5. Replace valve back into housing, unscrew center and re-close to 7 turns max.
6. Turn on water supply to valve inlets.
7. Fully open the check valve screws and inspect for leaks.
8. Reinstall trim and set temperature per section III.

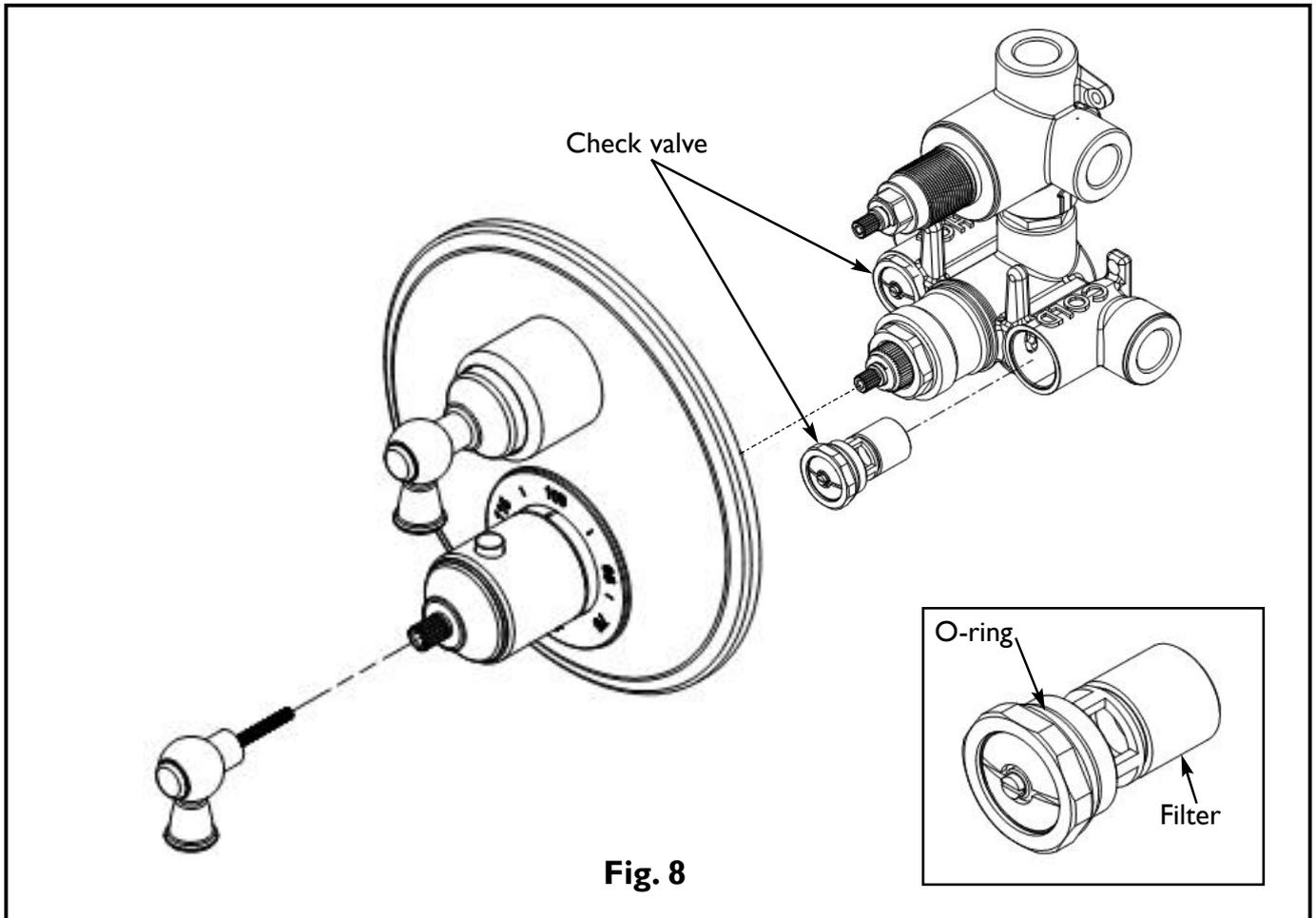
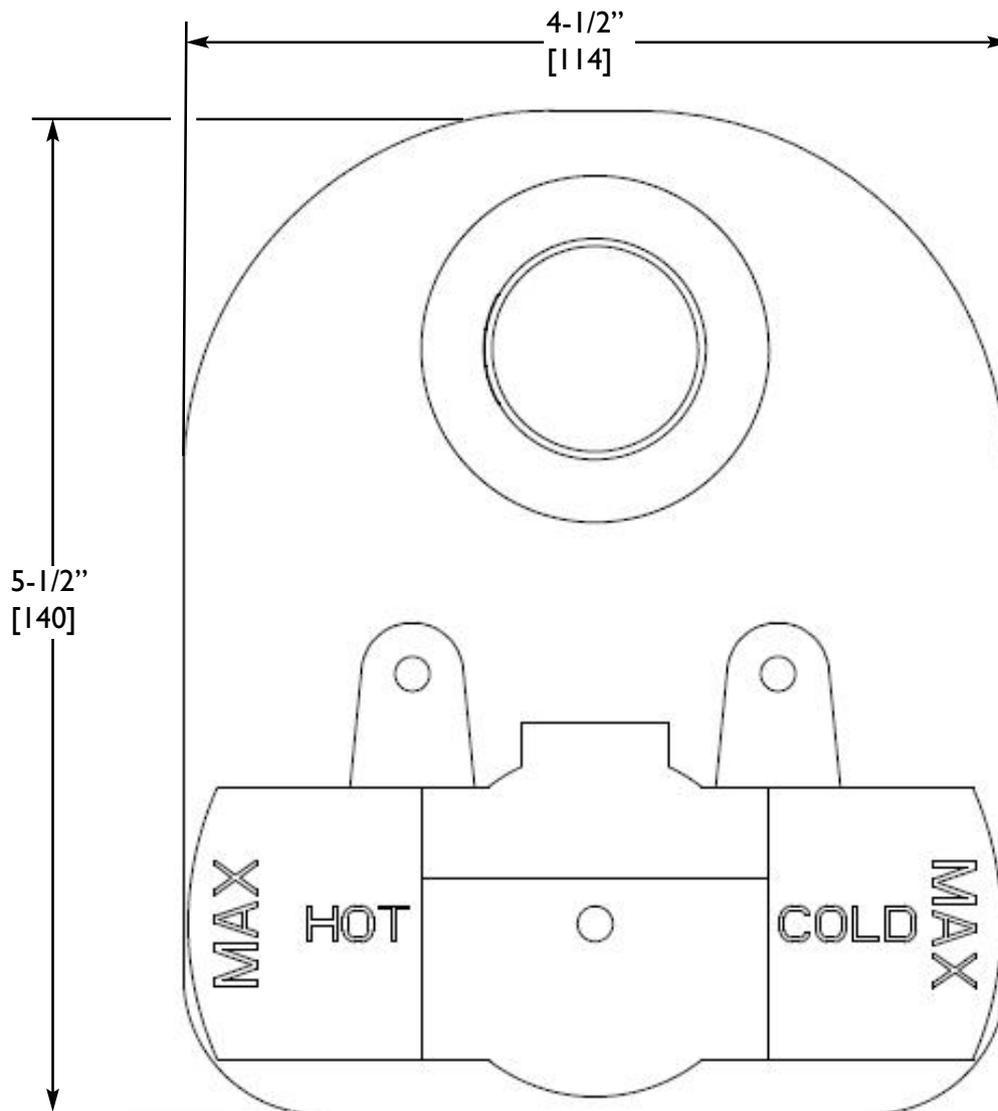


Fig. 8

TEMPLATE FOR FINISHED WALL OPENING



1:1 SCALE

Fig. 9