

Installation

S59-2006

Bradley Thermostatic Mixing Valve for Individual Showers

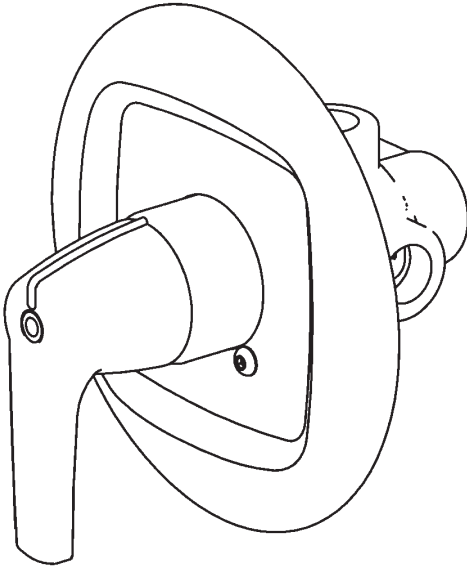


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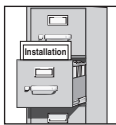
Inlet Connections: 1/2" NPT

Outlet Connections: 1/2" NPT

Temperature Range: 90 – 110°F

Maximum Pressure: 125 PSIG

IMPORTANT!



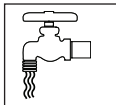
Read this entire installation manual to ensure proper installation. When finished with the installation, file this manual with the owner or maintenance department. Compliance and conformity to local codes and ordinances is the responsibility of the installer.



Hot limit screw is set in the maximum temperature position. Failure to adjust properly may result in serious scalding. This valve may not protect from scalding if there is a failure of other temperature-controlling devices elsewhere in the plumbing system. Excessive heat may cause damage to internal parts.



Separate parts from packaging and make sure all parts are accounted for before discarding packaging material. If any parts are missing, do not begin installation until you obtain the missing parts.



Make sure that all water supply lines have been flushed and then completely turned off before beginning installation. Debris in supply lines can cause valves to malfunction.



Product warranties may be found under “Products” on our web site at www.bradleycorp.com.



Supplies recommended for installation

- Lockable shut-off on the outlet if tempered water is supplied to one or more remote fixtures
- Lockable shut-off on the inlets/supplies
- Unions on all connections to facilitate removal of valve

Tools required for temperature adjustment

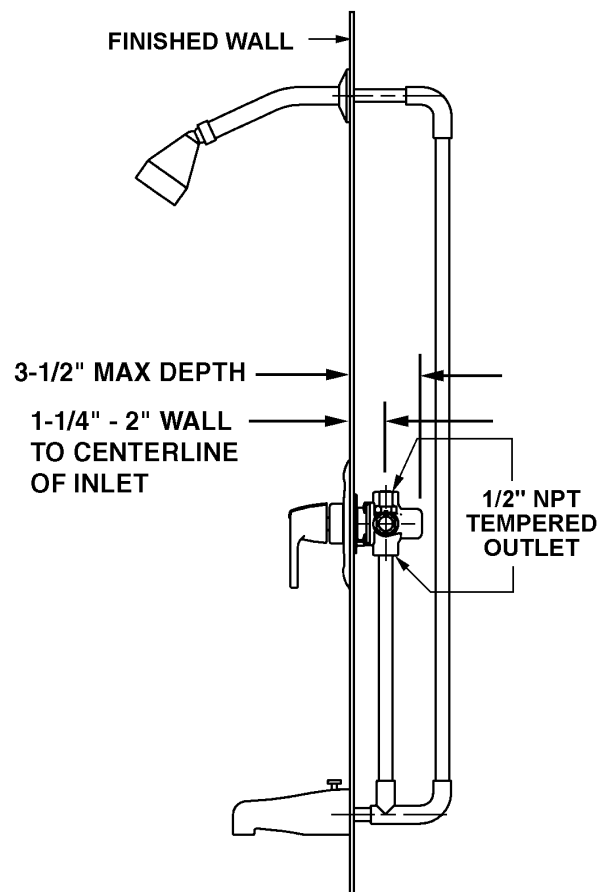
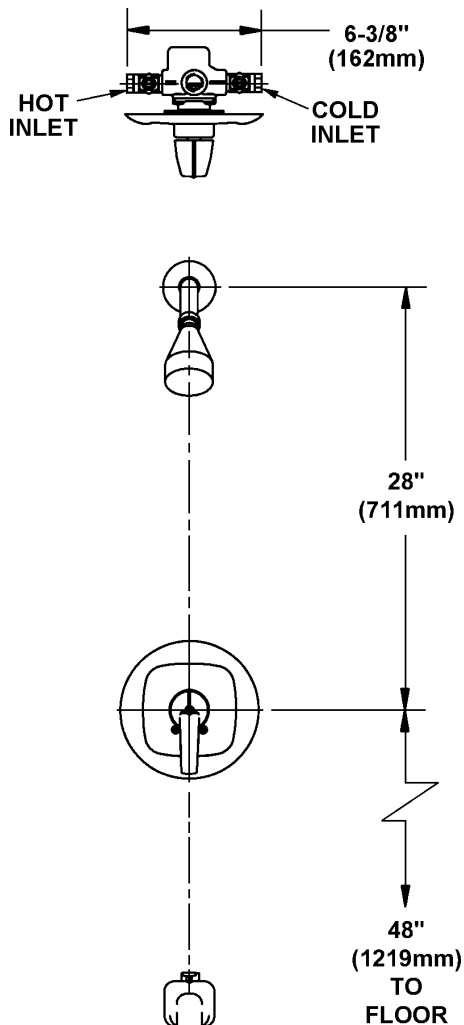
- 3/32" Allen wrench

Tools required for maintenance/troubleshooting

- 7/8" socket wrench and needle-nose pliers (for piston liner removal)
- 1/2" deep well socket wrench (for piston assembly upper seat removal)
- Phillips-head screwdriver
- OPTIONAL: blade screwdriver (for check/stop cover screw removal)

1 Rough-in

- Rough-in 1/2" NPT hot and cold water supply piping (supplied by installer) as shown below.
- For finished wall, make a 4-1/2" hole in the wall where the shower handle is desired.



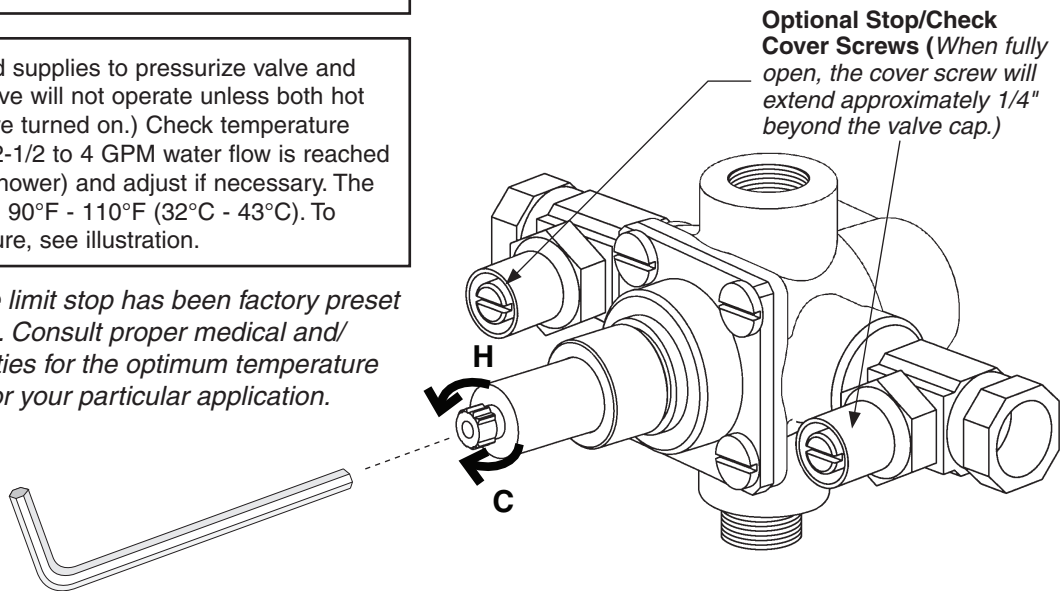
2 Connect Valve and Adjust Valve Temperature

A Connect valve to hot and cold supplies and showerhead or tub spout supplies (see rough-in diagram.)

B Turn on hot and cold supplies to pressurize valve and check for leaks. (Valve will not operate unless both hot and cold supplies are turned on.) Check temperature with approximately 2-1/2 to 4 GPM water flow is reached (equivalent to one shower) and adjust if necessary. The range of the valve is 90°F - 110°F (32°C - 43°C). To adjust the temperature, see illustration.



The temperature limit stop has been factory preset for 105°F (41°C). Consult proper medical and/or safety authorities for the optimum temperature recommended for your particular application.



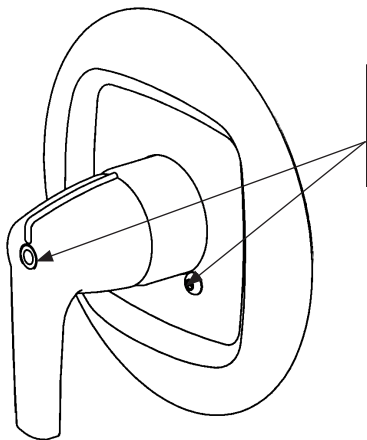
3 Test Unit

DO NOT SKIP THIS STEP!!!

Shut the hot water inlet off by closing hot water inlet valve. While the hot water supply is turned off, check to make sure the cold water flow is reduced to .5 GPM or less. If the cold water is reduced properly, reopen the hot water supply.

Shut the cold water inlet off by closing the cold water inlet valve. While the cold water supply is off, check to make sure that the hot water flow has shut down.

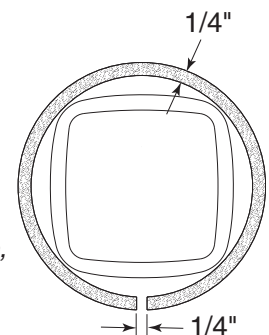
4 Attach Escutcheon and Handle



A Place the escutcheon and handle on the wall over the valve and secure with the screws provided.



The included foam rim seal may be applied to the back of the escutcheon 1/4" from the outer edge, with the seam at the bottom.



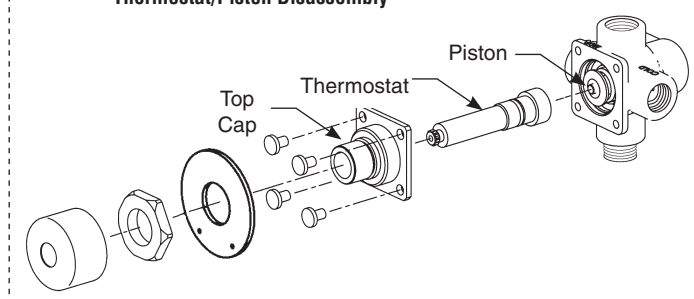
Troubleshooting Thermostatic Mixing Valve

Before attempting to troubleshoot the valve or disassemble the components, check for the following:

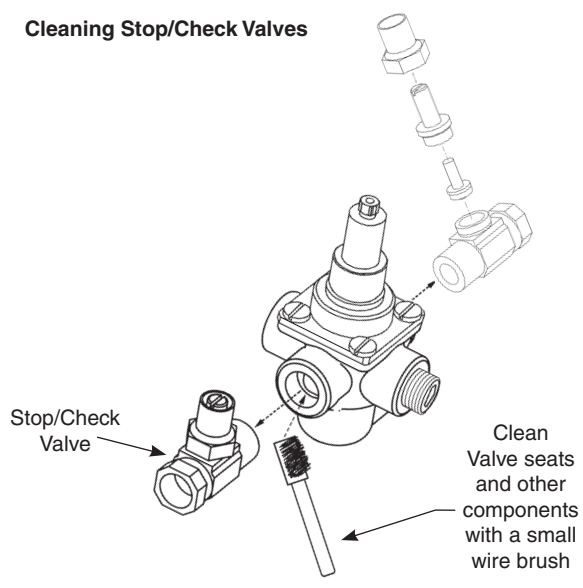
- Stop/check valves are fully open (the slotted stem extends out 1/4" beyond the stop/check cap) and that all inlet and outlet shut-off valves are open
- Hot and cold inlet pipes are connected properly, and that there are no cross-connections or leaking stop/check valves
- Water heater output is at least 15° F above the set temperature.

Be sure to close the appropriate shut-off valves prior to disassembly of the valve and reopen the valves after inspection and repair is complete.

Thermostat/Piston Disassembly

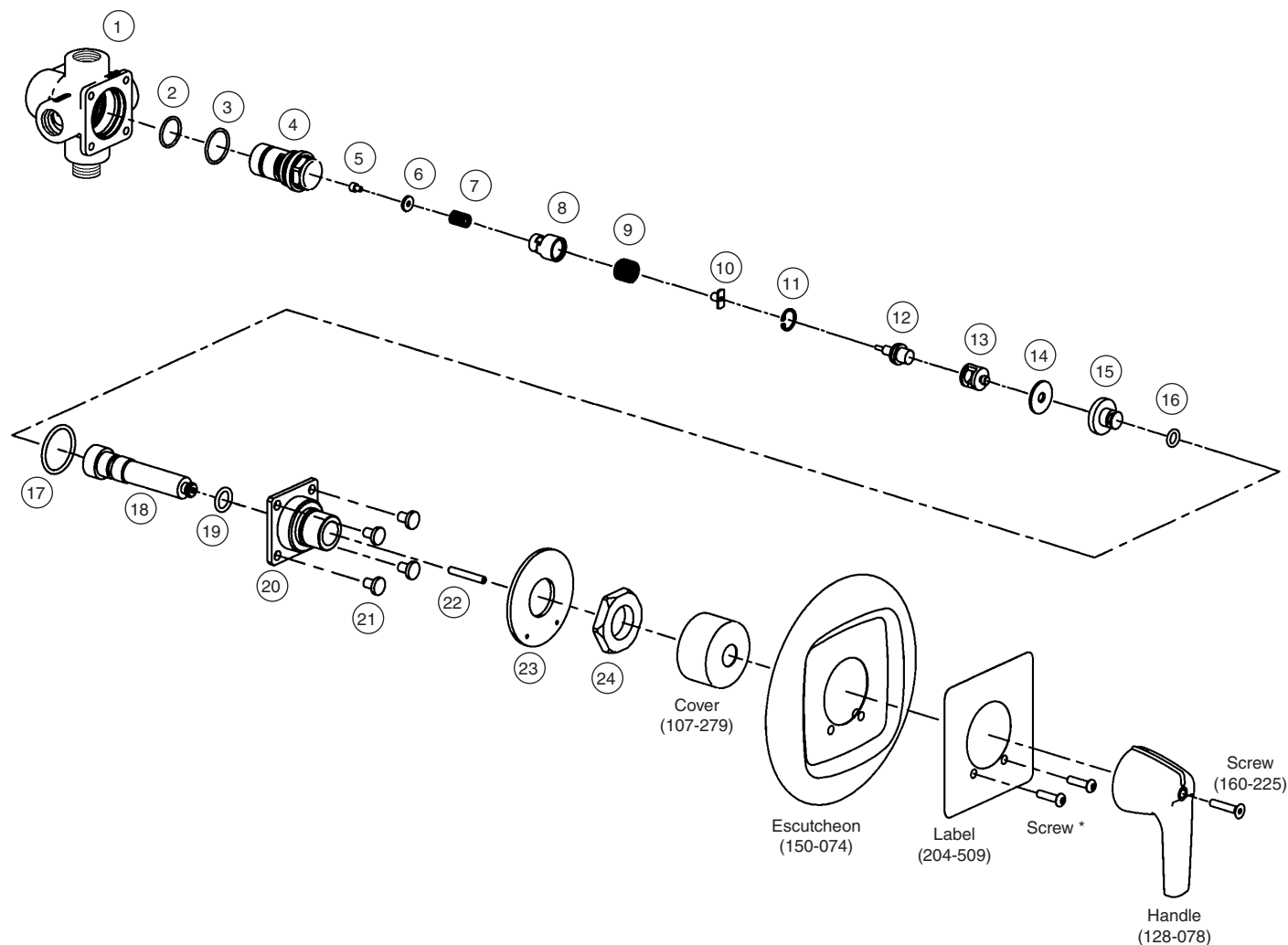


Cleaning Stop/Check Valves



Problem	Cause	Solution
External leaks in the system	Either the NPT joints or the o-rings have been damaged.	Replace the NPT joints and/or o-rings where necessary. For replacement of o-rings, contact your Bradley representative and ask for O-Ring Seal Kit (S65-202).
No hot water flow (cold water flow only)	The thermostat has failed and, subsequently, the safety shut-off has engaged.	Inspect Thermostat: <ol style="list-style-type: none"> 1. Remove the top cap and pull out the thermostat. 2. Place the thermostat into a small container filled with 115° water. The thermostat's pushrod should pop out of the thermostat approximately 1/10". 3. If the thermostat pushrod length is not in the proper range, the thermostat must be replaced (it cannot be repaired). Contact your Bradley representative and ask for Thermostat Kit (S65-201).
Limited water flow	The inlet shut-off valve may be partially closed or there has been a significant decrease in water pressure.	
	Dirt and debris have collected on the check screen or seat, limiting the movement of the stop and checks.	Clean Stop/Check Valves: Remove the stop and checks, clean the screen and seat and reassemble the valve. Do not remove the seat. The components may be brushed with a small wire brush to remove debris. If the optional stop/check valves need to be replaced, contact your Bradley representative and ask for Stop/Check Valve (part number S27-292).
Temperature fluctuation or improper Temperature	The stop and check sections of the valve do not move freely.	Clean Stop and Check Valves as described above.
	Thermostat is slowly failing.	Check Thermostat as described above, or replace.
	Inlet supply line to the mixing valve is being shared by other pieces of equipment that are used only periodically, such as laundry appliances or washdown stations. It may reduce the inlet pressure to the mixing valve to less than 3 PSI. The supply line size may not be large enough to supply both the valve and the other appliances.	Enlarge the supply line size, reconfigure the supply line or regulate the supply usage.
	Piston does not move freely and must be cleaned.	See above for piston disassembly and cleaning directions.

Parts Breakdown



* For 1/16" — 3/8" wall thickness, order part no. 160-142 (#10 x 3/4" screw)
 For 3/8" — 3/4" wall thickness, order part no. 160-177 (#10 x 1-1/8" screw)

Piston & Liner Kit S65-205

Item	Qty.	Description
2	1	O-Ring
3	1	O-Ring
4	1	Liner
5	1	Screw
6	1	Seal
7	1	Spring
8	1	Piston
9	1	Spring
10	1	Retainer
11	1	Retaining Ring

Seat Assembly Kit S68-006

Item	Qty.	Description
13	1	O-Ring
14	1	O-Ring
15	1	Seal
16	1	O-Ring

Thermostat Kit S65-201

Item	Qty.	Description
12	1	Thermostat
16	1	O-Ring

O-Ring & Seal Kit S65-202

Item	Qty.	Description
2	1	O-Ring
3	1	O-Ring
6	1	Seal
16	1	O-Ring
17	1	O-Ring
19	1	O-Ring

Cover Kit S65-206

Item	Qty.	Description
17	1	O-Ring
18	1	Stem
19	1	O-Ring
20	1	Cap
21	4	Screw
22	1	Screw
23	1	Plate
24	1	Nut, Hex