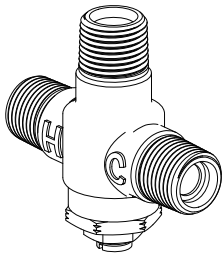
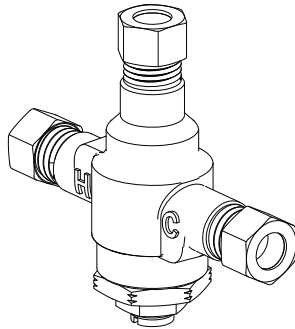


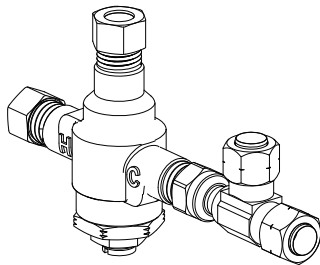
# Installation and Maintenance Guide



S59-4100



S59-4100A



S59-4100BY



## S59-4100 Series

### Navigator® Thermostatic Mixing Valve for Sinks/ Faucets

S59-4100 1/2" Male NPT Connection

S59-4100A 3/8" Compression Fittings

S59-4100BY 3/8" Compression Cold Side Bypass

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Inlet Connections: 1/2" NPT or 3/8" Compression  
Outlet Connection: 1/2" NPT or 3/8" Compression  
Maximum Pressure: 125 PSIG (861 kPa)  
Maximum Hot Water Temperature: 180°F (82°C)  
Minimum Flow: 0.25 gpm (1.0 Lpm)

Hot Water Inlet Temperature: 120–180°F (49–82°C)  
Cold Water Inlet Temperature: 40–80°F (4–27°C)  
Temperature Range: 80–120°F (27–49°C)  
Minimum Temperature Differential  
(from valve set point with equal pressure): 5°F (3°C)



**Read the instructions in this manual before beginning installation. Save these instructions and refer to them for inspection, maintenance, and troubleshooting information.**

For questions regarding the operation, installation or maintenance of this product, visit [bradleycorp.com](http://bradleycorp.com) or call 800.BRADLEY (800.272.3539).

Product warranties and parts information may also be found under "Resources" on our website at [bradleycorp.com/customerservice/warranty](http://bradleycorp.com/customerservice/warranty).

## Safety Information

**To ensure proper operation:**

### Installation

**Failure to comply with proper installation and maintenance instructions could contribute to a valve failure resulting in severe bodily injury including scalding, chilling, and/or death depending upon system water pressure changes and/or supply water temperature changes.**

Use this thermostatic mixing valve in accordance with ASSE standard 1070.

When installed in accordance with ASSE standard 1070, the valve is designed to be installed at fixtures such as sinks and lavatories. When installed as an ASSE 1070 valve, the valve does not function as an ASSE 1016, ASSE 1017, or ASSE 1069 valve.

This valve should not be used where ASSE 1016 devices are required such as for final temperature control to showers.

This valve does not provide protection from pipe freezing.

Installation of this system must be completed by a qualified plumber in compliance with all national and local codes.

Compliance and conformity to local codes and ordinances is the responsibility of the installer. Should these codes differ from the information in the manual, follow the local codes. Inquire with governing authorities for additional local requirements.

### Inspection

Regular checking and cleaning of the valve's internal components and check valves is necessary for maximum life and proper product function. **Periodic inspection and yearly maintenance by a licensed contractor is required.** Corrosive water conditions and/or unauthorized adjustments or repairs could render the valve ineffective for its intended service. Frequency of cleaning and inspection depends upon local water conditions.

Output temperature of each valve section must be individually checked and adjusted at initial installation and on a quarterly basis.

### Water Temperature

Final temperature adjustment is the responsibility of the installer. Refer to the Product Performance & Specification section on the cover for maximum temperature information.

## Supplies Required

- Shut-off on the outlet if tempered water is supplied to a remote location
- Shut-off on the inlets/supplies

## Tools Required

- Adjustable wrench
- Slotted-head screwdriver

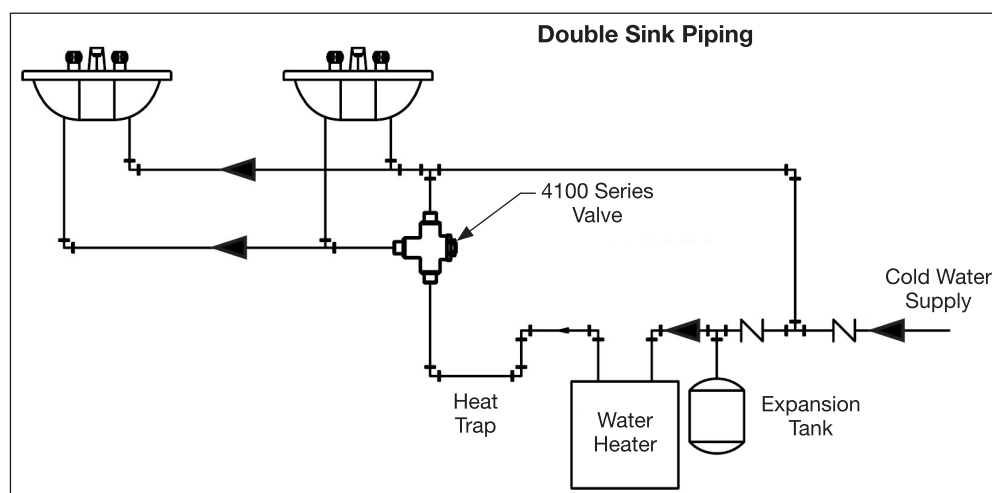
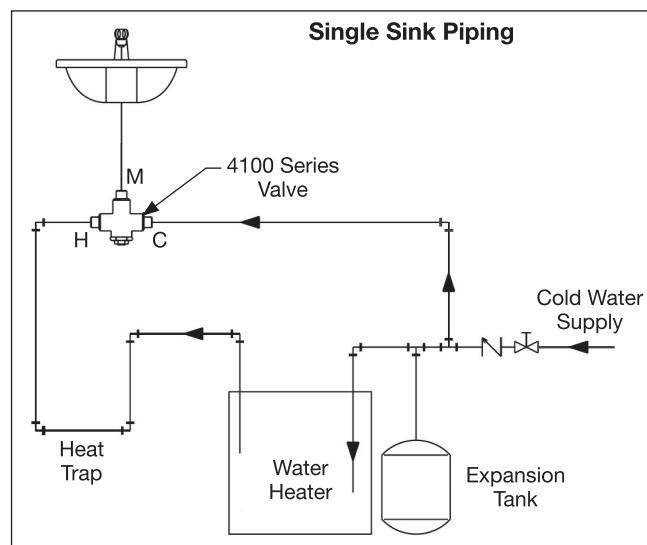
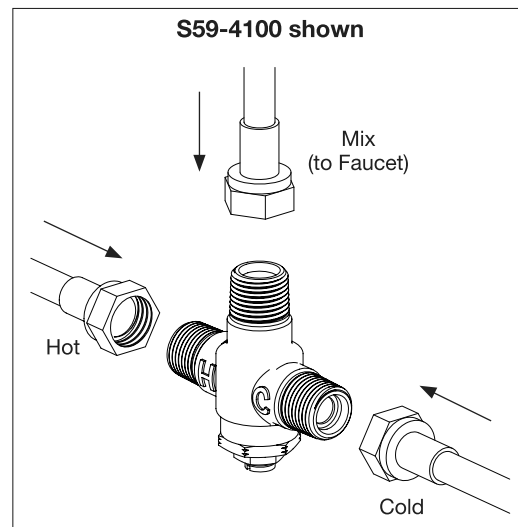
# 1 Connect Supply Lines

**A** Thoroughly flush all piping before installation.

**B** Locate a place for the tempering valve that is easily accessible for service and adjustment and is as close to the point-of-use as possible.

**C** Connect hot and cold supplies to valve and tempering valve outlet to fixture(s) using 1/2" or 3/8" compression connectors (depending on model). Recommended piping diagrams are shown below.

**D** Turn on hot and cold water supplies. Check for leaks. Tighten connections as necessary to stop leaks before proceeding.



2

Adjust Water Temperature



This valve is factory preset to 105°F (41°C). Upon installation, the temperature of this valve must be checked and adjusted to ensure delivery of a safe water temperature. **Water in excess of 110°F (43°C) may cause scalding.**

A

Loosen the locknut.

B

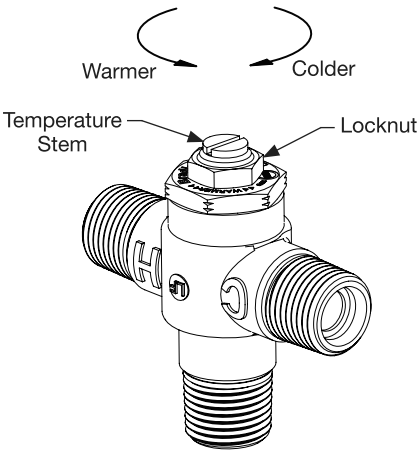
Turn on the fixture and run water for at least two minutes to allow supply temperature to stabilize.

C

To **increase** temperature, turn temperature stem **counterclockwise**.  
To **decrease** temperature, turn temperature stem **clockwise**.

D

Tighten locknut to prevent accidental or unauthorized temperature adjustment, and then recheck outlet temperature.



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. 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.

Troubleshooting: Thermostatic Mixing Valve

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

  - If stop valves are used, make sure that they are fully open.
  - Make sure that the hot and cold inlet pipes are connected properly, and that there are no cross-connections or leaking stop valves.
  - Check the hot water heater output to make sure that it is at least 5°F (3°C) 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.

| Problem                                                | Cause                                                      | Solution                                                                                                                                                                                                                                 |
|--------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Improper water temperature or temperature fluctuation. | Hot water supply is not 5°F (3°C) above desired set point. | Increase hot water supply temperature                                                                                                                                                                                                    |
|                                                        | Valve temperature is not properly set.                     | Adjust the temperature as shown on page 3 step 2.                                                                                                                                                                                        |
| Limited water flow.                                    | Dirt and debris have built up in the valve or strainer.    | 1. Check to make sure both hot and cold supplies are connected to the Navigator mixing valve and that they have water flow.<br><br>2. Disconnect hot and cold supply connections and clean filter screens and check valves as necessary. |