

**LANGFORD SHOWER/ HAND SHOWER KIT**

**SS-THVD2 -1/2" THERMOSTATIC VALVE WITH 2 WAY DIVERTER**

**Features:**

- Ability to pre-select water temperature – thus conserving water
- Paraffin wax element maintains water temperature within  $\pm 1.8^{\circ}\text{F}$
- Compensates for water pressure fluctuations preventing scalding
- Safety button at  $100^{\circ}\text{F}$  prevents accidental scalding
- High flow rates allow for multiple shower applications

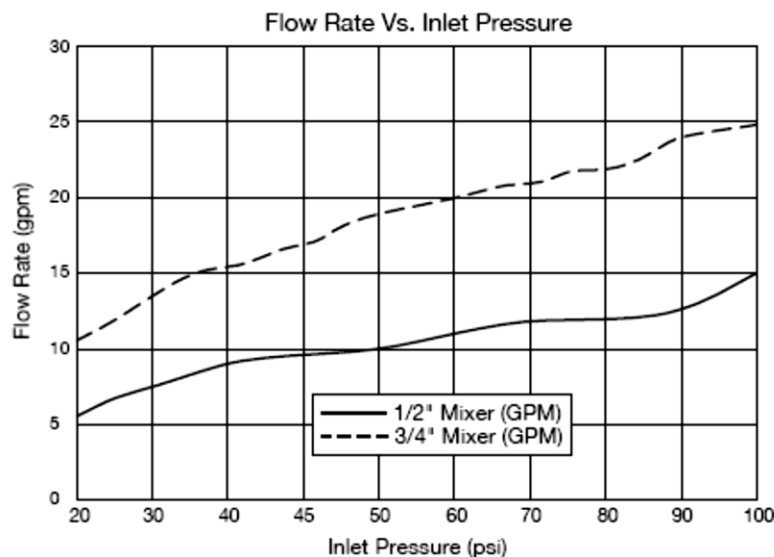
**Specifications:**

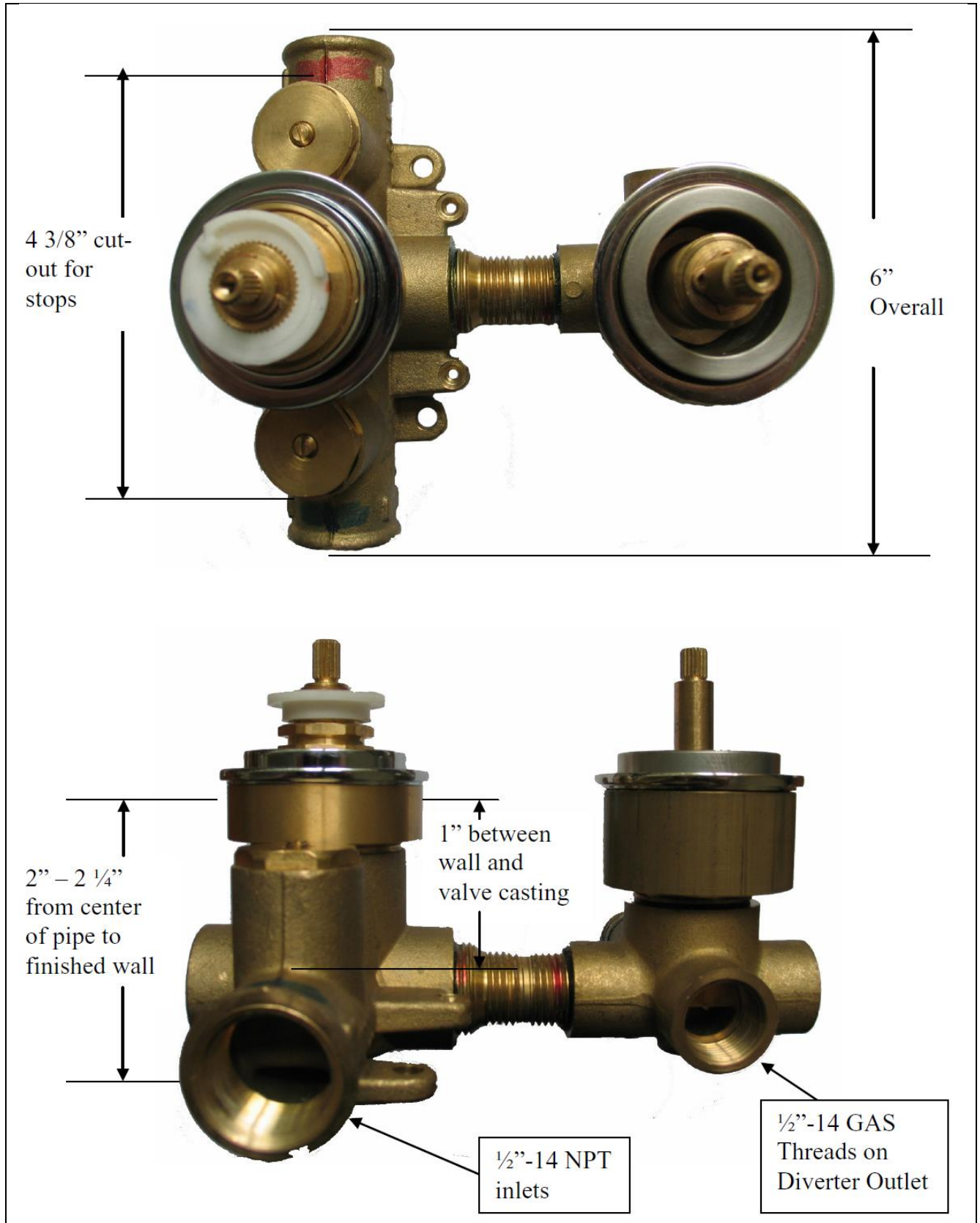
- Operating pressure is 2 PSI to 72 PSI
- When pressure is higher than 72 PSI a pressure reducer (fitted before the valve) is required.
- Temperature range is  $50^{\circ}\text{F}$  to  $180^{\circ}\text{F}$
- Recommended setting is 29 PSI and  $149^{\circ}\text{F}$

**Note:**

- USE TEFLON TAPE OR PIPE SEALANT FOR THREADED CONNECTIONS
- DO NOT USE PLUMBER'S PUTTY ON ANY OF THE BRASS COMPONENTS  
This will cause the finish to tarnish and void the warranty. A non-corrosive Alkoxy Silicone is recommended.
- DURING SWEATING OF LINES DO NOT OVERHEAT CASTING  
Overheating may cause damage to internal mechanism and void the manufacturer's warranty as well as increase the risk of scalding.
- COPPER ADAPTORS MAY BE REQUIRED TO COMPLETE YOUR INSTALLATION

- Listed by IAPMO, CSA, NSF, and other municipalities
- Shipping weight (lbs.): 18
- Shipping dimension (in.): 11 x 13 x 22.5





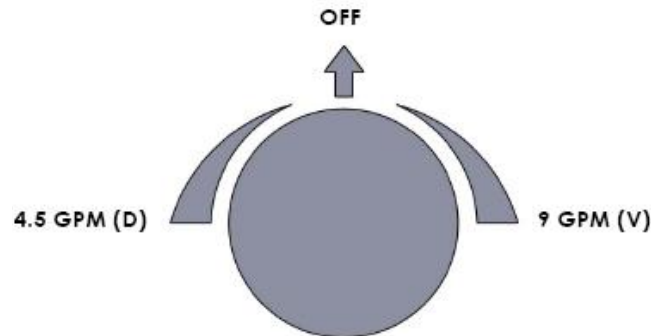
**Valve Installation**

1. Flush the lines of all dirt and debris. Failure to completely flush the lines will cause valve failure and will void the manufacturer's warranty
2. Fit the valve on the wall without removing the plastic cover on the control spindle. Turning the control spindle will change the temperature setting which is pre-calibrated at the factory
3. Connect the hot water supply to the left inlet of the valve (HOT marked with RED paint) and cold supply to the right inlet (COLD marked with BLUE paint).
4. Use the plastic mud guard template (part of the package) to position the valve on the wall. This is done by checking the label on the outer template for the minimum/ maximum settings which is 1 ½" to 2 1/8" from the center of the valve inlets to the finished wall.
5. Connect the outlet pipe(s). Refer to Diagram 2 for SS-THVD2 valve.

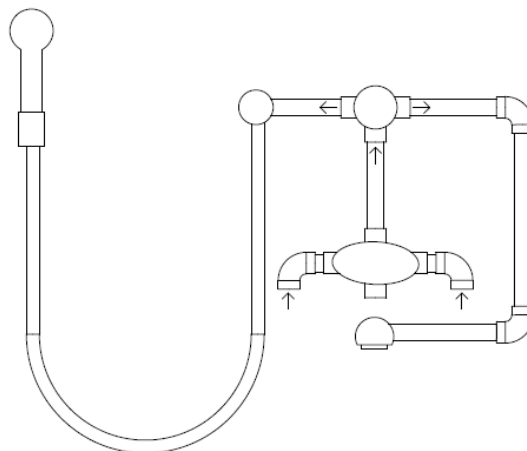
**NOTE: Port marked V will output 9 gpm and port marked D will put out 4.5 gpm.**

Ensure bottom outlet is plugged if not being used.

Diagram 2 – thermostatic valve with 2 way diverter

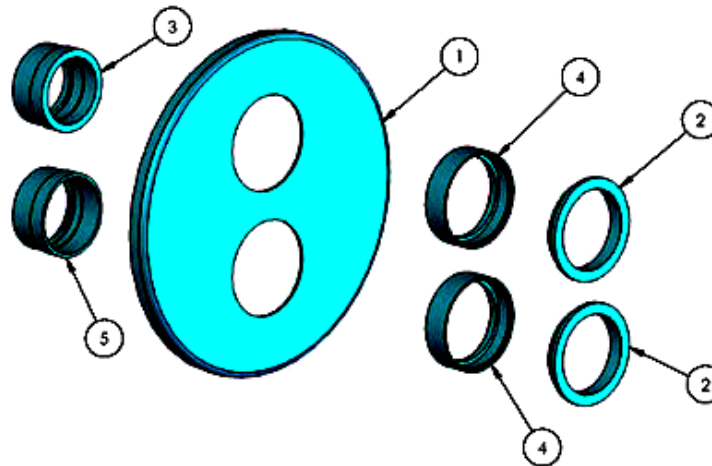


Sample Setup



**Trim Installation**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	SS-TFP200	THERMO FACE PLATE	1
2	THERMO-DOME-LKRG	THERMO FACE PLATE LOCK RING	2
3	THERMO-DOME-VOL	VOLUME CONTROL DOME, screws on the valve	1
4	THERMO-DOME-SLEEVE	DOME SLEEVE, screws on both Domes	2
5	THERMO-DOME-TEMP	Temperature Control Dome, screws on the valve	1



- a. Screw **Temperature Control Dome (5)** and **Volume Control Dome (3)** onto valve.
  - o *Please note that the **Temperature Control Dome (5)** has a larger opening than the **Volume Control Dome (3)**.*
- b. Secure the **Thermostatic Face Plate (1)** onto the valve by sliding over the **Temperature Control Dome (5)** and **Volume Control Dome (3)**
- c. Screw **Dome Sleeve (4)** onto **Temperature Control Dome (5)** and **Volume Control Dome (3)**.
- d. Lock the **Thermostatic Face Plate (1)** securely against the wall using the **Thermostatic Face Plate Lock Ring (2)**.

Ensure Temperature Stop ring is installed with red dot at 12 o'clock position, and thermostatic handle is installed with push button at 12 o'clock position.

### Temperature Setting

The delivered temperature of the valve varies depending on the temperature of the supplied hot water. The valve is factory set at a supplied temperature of 149°F under balanced pressures. Depending on your preferred hot water temperature setting, it may be necessary to adjust the calibrations of the valve. The limit override button is preset at 100°F and can be adjusted as described below.

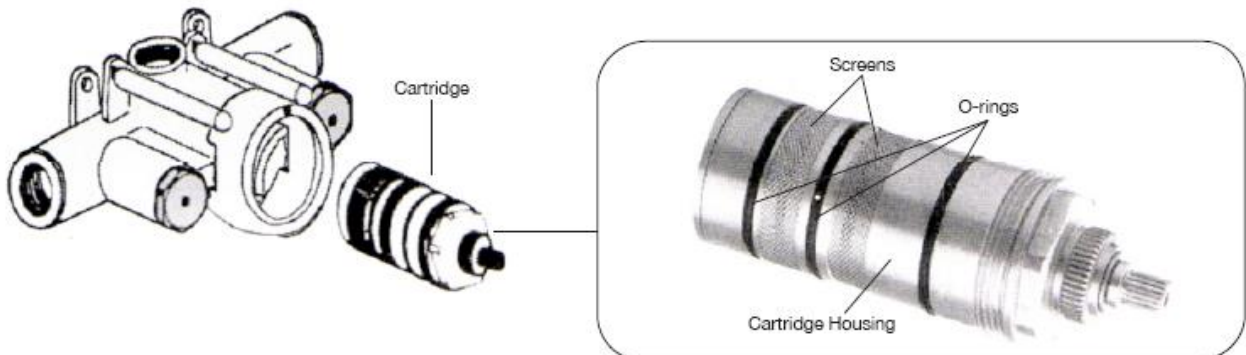
1. Select 100°F on the control handle.
2. Without turning the handle, remove the handle by unscrewing the screw and pulling off (screw may be concealed and/or fastened with set screws).
3. Use a thermometer to check the delivered temperature on one of the outlets.
4. Adjust water temperature to 100°F by hand turning the cartridge stem slowly left or right.
5. Ensure that the temperature stop-ring is installed with red dot at 12 o'clock position.  
Push the handle back on the valve with the push button at the 12 o'clock position.

### Removal and Maintenance of Cartridge

This thermostatic valve has screens to prevent dirt and unwanted particles from damaging the valve. Clogged screens can cause reduced flow and inefficient temperature mixture by the valve. You can easily clean the screens by following the instructions below.

1. Unscrew the two screws on the cover faceplate and remove the plate.
2. Shut off the water inlets by tightening the two screws at the two check stop valves.
3. Remove the handle by unscrewing the screw and pulling off (screw may be concealed and/or fastened with set screws).
4. Pull off the temperature stop-ring.
5. Unscrew the cartridge with a 24 mm wrench or other adjustable wrench in a counter-clockwise position and gently pull it out.
6. Clean the screens and rinse with water. If necessary, soak in a 50/50 mix of white vinegar/ water or a de-scaling agent until all dirt is dissolved. Grease the o-rings with a silicone based grease and wipe the housing with a wet cloth before reassembling.
7. Reassemble the valve by reversing these instructions. Make sure the indentation on the shroud, the red dot on the temperature limit-ring, and push button on the handle are all in the aligned in the 12 o'clock position.

**Note:** To prevent the handle from accumulating mineral build up, which can cause the handle to “lock up”, the handle must be turned on an occasional basis.



Parts Checklist		
Carefully remove all parts from the box. The following parts should be included.		
ID 3	Description	Qty
1	Shower arm	1
2	Shower arm flange	1
6	Shower head	1
7	ELB-6001 wall elbow	1
10	SH-FRS20 hand shower	1
11	Pos. Bar Post and mounting kit	2
17	Pos. bar and slider	1
31	SS-TFP200 face plate	1
32	Temp shroud kit	1
34	Vol. cntrl shroud kit	1
42	Temp handle	1
43	Vol. cntrl. Handle	1
46	DS-4079 shower hose	1

Technical drawings showing dimensions for the shower arm, shower head, and shower head mounting hardware.

- Shower arm length:  $16\frac{7}{8}''$
- Shower arm length to shower head:  $13\frac{7}{8}''$
- Shower head diameter:  $\phi 2\frac{3}{4}''$
- Shower head mounting height:  $5\frac{5}{8}''$
- Shower head mounting offset:  $8\frac{7}{8}''$
- Shower head mounting depth:  $3\frac{5}{8}''$
- Shower head mounting hole diameter:  $\phi 2\frac{3}{8}''$
- Shower head mounting hole offset:  $2\frac{3}{4}''$
- Shower head mounting hole diameter:  $\phi 7\frac{1}{2}''$
- Shower head mounting hole offset:  $1\frac{3}{8}''$
- Shower head mounting hole diameter:  $\phi 6''$
- Shower head mounting hole diameter:  $\phi 2\frac{3}{8}''$
- Shower head mounting hole diameter:  $\phi 2''$
- Shower head mounting hole diameter:  $5\frac{3}{8}''$
- Shower head mounting hole diameter:  $21\frac{1}{4}''$
- Shower head mounting hole diameter:  $\phi 3\frac{3}{4}''$

**Troubleshooting**

<b>Malfunction</b>	<b>Cause</b>	<b>Remedy</b>
Cannot regulate temperature	Dirt in check valves	Remove and clean check valves
	Water supply reversed	Reverse hot and cold supply lines
	Valve installed upside down	Reverse valve
Hot and cold water do not mix	Lack of water pressure at one of the inlets	Correct water pressure at source
	Blocked shower head	Remove shower head and clean debris. If necessary, soak in a 50/50 mix of white vinegar/ water or a de-scaling agent until all dirt is dissolved.
Water not hot enough / Water too hot	Debris in check valves	Remove and clean check valves
	Valve not properly calibrated	Calibrate valve following instructions on previous page
	Water heater setting incorrect	Adjust water heater temperature setting
Temperature selected on handle is different than actual water temperature	Debris in check valves	Remove and clean check valves
	Valve not properly calibrated	Calibrate valve following instructions on previous page
	Uneven hot & cold water pressure	Check and adjust water pressure for both hot & cold supply lines
Handle does not turn	Mineral build up	Remove and clean cartridge following instructions above
Low water pressure	Low water pressure	Check and adjust water pressure at source
	Debris in cartridge	Remove and clean cartridge following instructions above
	Debris in check valves	Remove and clean check valves
	Blocked shower head	Remove shower head and clean debris. If necessary, soak in a 50/50 mix of white vinegar/ water or a de-scaling agent until all dirt is dissolved.
Leaking shower head	Fault cartridge in wall stop/ volume control	Repair or replace cartridge in wall stop/ volume control
Valve body too deep into wall	The measured rough in or finished wall surface is incorrect	Install the proper extension kit: SS-EXT50 (need to specify finish)

Rev. 5/12

