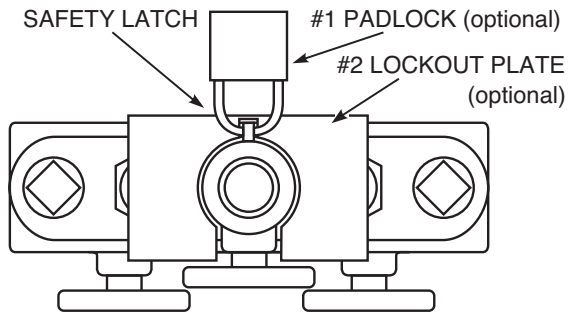
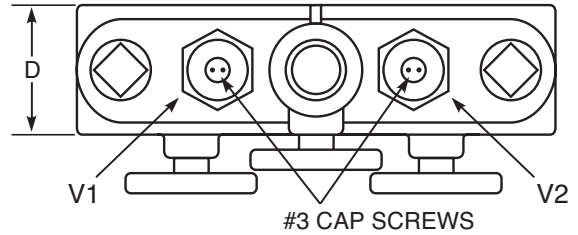
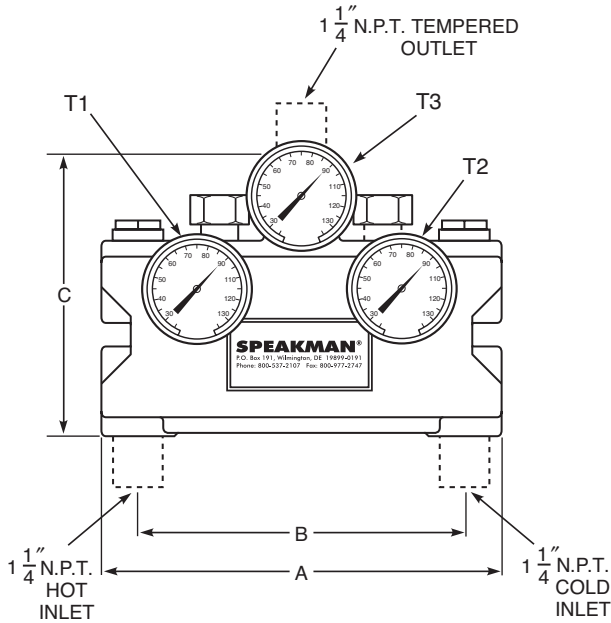


# SE-350 Emergency Shower Valve



**DIMENSIONS:**

Valve Number	A	B	C	D
SE 350	11"	9"	8"	4 1/4"

**CAPACITIES - SE 350**

Pressure Drop PSI	5	10	20	30	45
Tempered Flow	25	35	50	60	72
Cold Water Bypass	14	20	28	40	45

**Caution:** When maintaining and adjusting the mixing valve the delivered flushing fluid temperature shall be 60°F (15°C) to 95°F (35°C). In circumstances where chemical reaction is accelerated by flushing fluid temperature, a medical advisor should be consulted for the optimum temperature for each application.

**Setting the Mixing Valve**

**Caution:** When maintaining and adjusting the mixing valve, all fixtures should be isolated from use. Speakman recommends that you work safely at all times and in a manner consistent with the OSHA Lock/Tagout standard, 29 CFR 1910.147 and other applicable standards.

This mixing valve has been set at the factory to deliver 85°F outlet flow. Should the valve require adjustment, or an application require a different set temperature, proceed as follows:

1. Contact the proper medical and safety authorities to determine correct water temperature for the specific application.

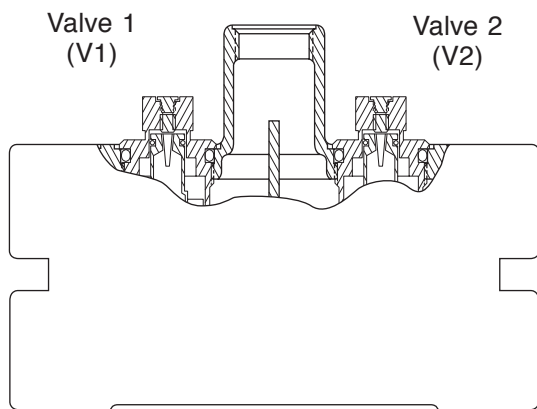
**Note:** Valve must be installed with check valves. If shut off valves are installed in the shower line for maintenance purposes, provisions shall be made to prevent unauthorized shut off.

2. If the valve is outfitted with a padlock #1 and lockout plate #2, unlock and remove.
3. Use a spanner wrench to remove the tamper-resistant cap screws #3.
4. Create a draw on the mixing valve by opening a downstream shower fixture.

5. Insert a  $\frac{5}{32}$ " allen key into the cap opening of valve 1 (V1) and seat in the adjustment screw (not shown). Set the outlet temperature by turning the adjustment screw clockwise to reduce temperature, counterclockwise to increase temperature. Use thermometer (T1) to measure the outlet temperature.
6. Adjust valve 2 (V2) using the same procedure used to adjust valve 1 (V1).
7. Examine thermometers T1 and T2. Valve 1 and valve 2 should be set to the same temperature and the outlet temperature should be 85°F or as specified for your application. Adjust if necessary.
8. Replace cap screws #3, lockout plate #2 and padlock #1.

## Testing the Mixing Valve

The mixing valve and the emergency fixtures it serves should be tested weekly for proper operation.



Valve temperature test procedure is as follows:

1. Activate shower fixtures to observe and record the temperature of the thermometers T1, T2, and T3. The valve is functioning properly if the T1 and T2 temperatures are equal and T3 is at the proper outlet temperature. If the temperature of thermometers T1 and T2 are not equal, readjust the mixing valve according to the section "Setting the Mixing Valve." Slight variations between the valve set temperatures and the outlet temperatures may occur.
2. Observe the flow from the emergency fixtures to ensure an adequate flow of water.

In addition to testing for proper temperature, the cold water bypass and hot water shut down features of the mixing valve should be tested weekly.

The test procedure is as follows:

1. Test valve temperature as described in Step 1 and Step 2 above.
2. Shut off the hot water supply to the mixing valve. Observe the outlet flow from the emergency fixtures to ensure an adequate flow of cold water. A slight drop in flow may occur after shutting down the hot water supply to the mixing valve, however, the drop should be minimal and for a short duration.
3. Open the hot water supply to mixing valve. Thermometers T1 and T2 should return to their set temperatures and T3 to the proper outlet temperature.
4. Shut off the cold water supply to the mixing valve. The flow of water should shut down rapidly.
5. Open the cold water supply. Thermometers T1 and T2 should return to their set temperatures and T3 to the proper outlet temperature.

**Note:** Thermometers T1, T2, and T3 should be checked at least every six months.

## Replacing a Thermostat Cartridge

The thermostat replacement procedure is as follows:

**NOTE:** Speakman recommends that you work safely at all times and in a manner consistent with the OSHA Lock/Tagout standard, 29 CFR 1910.147 and other applicable standards.

1. Shut off the hot water supply and cold water supply to the mixing valve.
2. Unscrew valve V1 or V2 (depending on which valve is not operating properly) and install a new thermostat cartridge assembly.
3. Open the hot water supply and the cold water supply to mixing valve. Check the temperature to see if the replacement cartridge is operating correctly. If the temperature requires adjustment refer to the section "Setting the Mixing Valve."

## Operating Principle

The SE-350 Valve is made of two independent thermostats housed in a single casting. The twin thermostatic cartridges respond independently to incoming hot and cold water temperatures and provide backup protection against element failure. If one element fails, the other should continue to function properly. If only one element is operating the valve will experience a decrease in outlet temperature (T3). For this reason the valve requires testing and maintenance on a regular basis. In the event of element failure, the cartridge will

provide full cold water flow. The resulting temperature difference between the two valves will be reflected by T1 and T2.

## Installation

After installing the mixing valve, be sure to flush the system thoroughly. Speakman recommends isolation and check valves for proper maintenance.

### Typical Installation *Figure 1*

When installed at or near the water heater and without a recirculation system:

Install the valve as shown in *Figure 1* with the mixing valve positioned below the hot water tank or heater. If this is not possible, pipe in a heat trap as shown.

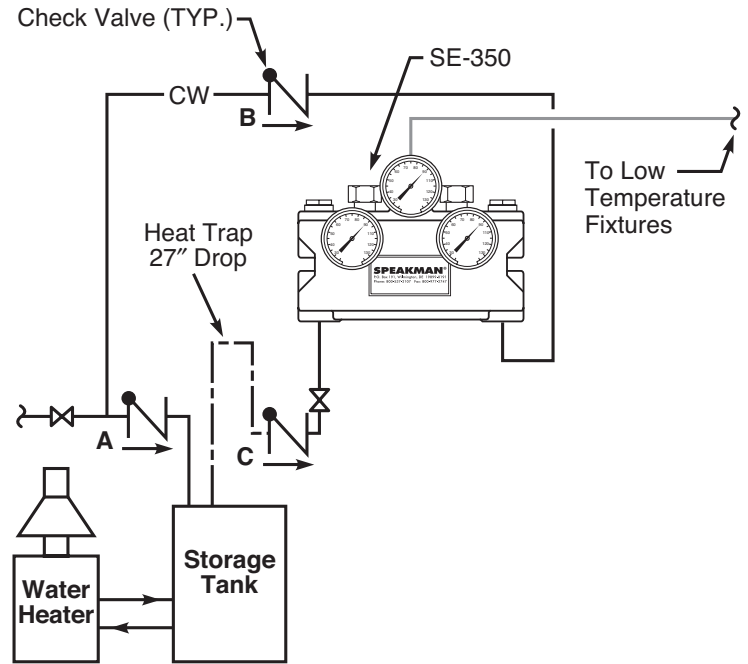
### Typical Installation *Figure 2*

When installed away from the water heater with a recirculating pump on the hot water supply line:

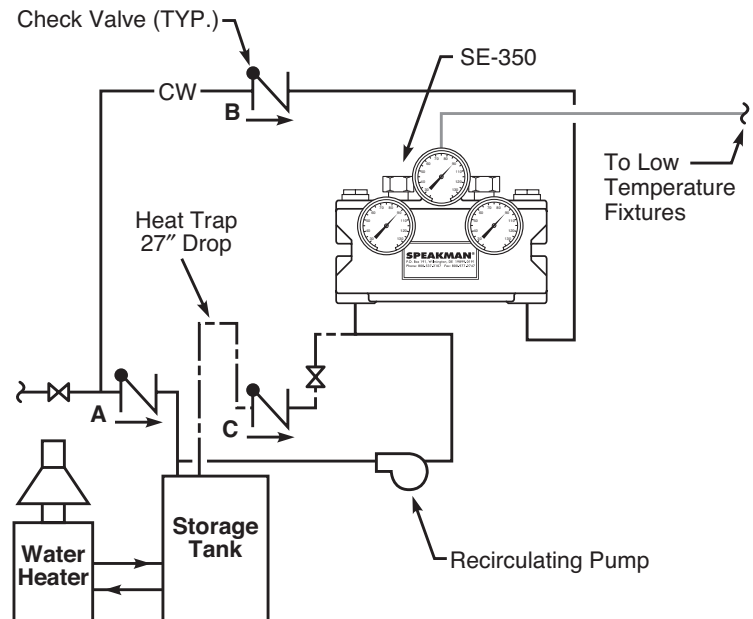
**Note:** If the valve is installed 20 feet or more from the water heater, it is important to recirculate the hot water supply to the mixing valve.

Install the mixing valve as shown in *Figure 2*. The non-circulated loop should be limited to 10 feet and must be flushed periodically.

**Figure 1**  
Typical installation. Valve must be installed with check valves.



**Figure 2**  
Typical recirculating installation. Valve must be installed with check valves.



**Caution:** The cold water line must be installed so that it is not effected by excessively hot ambient temperatures. Provisions shall be made to thermally isolate the valve. Cold water pipe installed in the ceilings of boiler rooms or rooms that increase ambient temperature require a recirculating pump.

**Caution:** When maintaining and adjusting the mixing valve, the delivered flushing fluid temperature shall be 60°F (15°C) to 95°F (35°C). In circumstances where chemical reaction is accelerated by flushing fluid temperature, a medical advisor should be consulted for the optimum temperature for each application.

**Note:** Gallon per minute ratings vary dependent upon incoming water temperatures and pressures. Hot and cold water inlet pressures must be equal.

## GUARANTEE

We guarantee the Speakman Mixing Valve to be free from defects in workmanship and material, and, for a period of one year from date of purchase, will replace any parts found by Speakman to be defective. Speakman will not be held

responsible, however, for any labor incidental to, or for any damages caused by, defective material. Each mixing valve is thoroughly inspected and tested under actual conditions at our factory.

# SE 350 Test Record

Location \_\_\_\_\_

		Date	T1	T2	T3			Date	T1	T2	T3
YEAR		Jan				YEAR		July			
		Feb						Aug			
		March						Sept			
		April						Oct			
		May						Nov			
		June						Dec			
		July						Jan			
		Aug						Feb			
		Sept						March			
		Oct						April			
		Nov						May			
		Dec						June			
YEAR		Jan				YEAR		July			
		Feb						Aug			
		March						Sept			
		April						Oct			
		May						Nov			
		June						Dec			
		July						Jan			
		Aug						Feb			
		Sept						March			
		Oct						April			
		Nov						May			
		Dec						June			
YEAR		Jan				YEAR		July			
		Feb						Aug			
		March						Sept			
		April						Oct			
		May						Nov			
		June						Dec			

*Before you use this chart please make a copy for future testing records.*

**Caution:** When maintaining and adjusting the mixing valve. The delivered flushing fluid temperature shall be 60°F (15°C) to 95°F (35°C). In circumstances where chemical reaction is accelerated by flushing fluid temperature, a medical advisor should be consulted for the optimum temperature for each application.