LAWLER
MANUFACTURING CO., INC.

INSTALLATION & MAINTENANCE MANUAL

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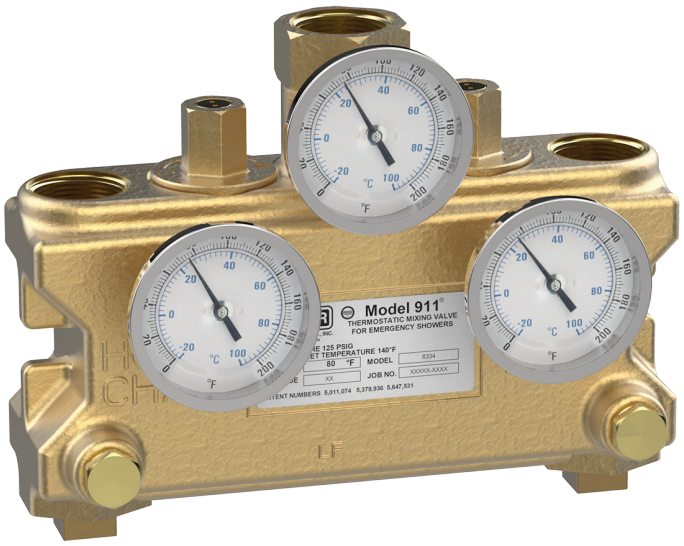
NOTICE! No mixing valve will work satisfactorily if improperly installed. We suggest, therefore, that you read these instructions carefully before installing and follow directions as outlined. Handle the mixing valve with care.



Model 911®
Thermostatic Mixing Valve
Emergency Shower

CAPACITIES – MODEL 911

Pressure Drop PSI	5	10	20	30	45
Tempered Flow GPM	25	35	50	60	72
Tempered Flow LPM	74	132	189	227	273

BYPASS CAPACITIES – MODEL 911

Pressure Drop PSI	5	10	20	30	45
Cold Bypass GPM	14	20	28	40	45
Cold Bypass LPM	53	75	106	151	170

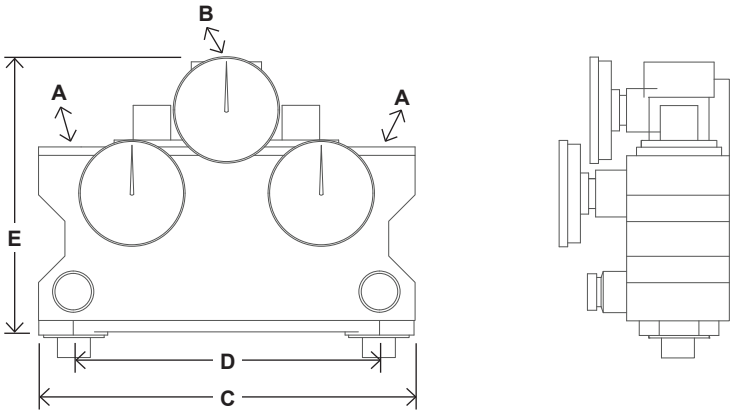
Gallon per minute ratings may vary depending upon incoming water temperatures and pressures. Hot and cold water inlet pressures must be equal.

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.

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.

CAUTION: When maintaining and adjusting the mixing valve, all fixtures should be isolated from use. Lawler Manufacturing Co., Inc. 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 installation & maintenance manual covers all configurations of the Model 911.



DIMENSIONS

Valve Number	A N.P.T.	B N.P.T.	C	D	E
911	1-1/4”	1-1/4”	11”	9”	8”

Dimensions are for reference purposes only. For rough-in dimensions please refer to Lawler’s Revit/BIM models found at temperedwater.com.

Maximum Inlet Pressure: 125 PSI

Recommended Supply Pressure: 65 PSI

Recommended Inlet Temperature: 120°F

When supplying 140°F or greater, additional outlet controls should be used.

Set Point: 85°F

ASSE 1071 Approved
ASSE Lead Free Certified

Design and specifications subject to change without notice. Please refer to **temperedwater.com** to ensure most current data sheet and other design solutions.

temperedwater.com/patents
ENG. NO. 8334-A

Operating Principle

The Model 911 Mixing Valve is made of two independent thermostats housed in a single lead free brass 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 Model 911 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.

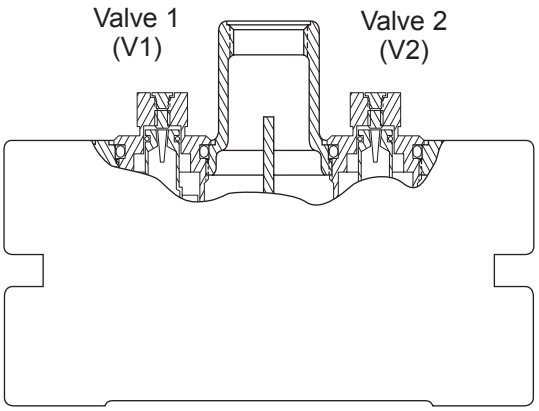
Thermometers T1, T2, and T3 should be checked at least every six months.

Installation

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

Testing the Mixing Valve

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



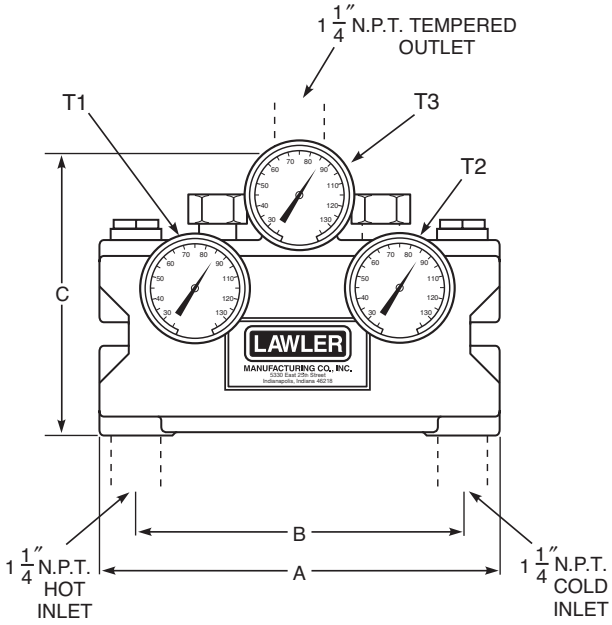
Valve temperature test procedure is as follows:

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 by-pass and hot water shut down features of the mixing valve should be tested weekly.

The test procedure is as follows:

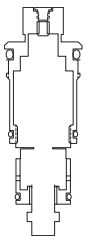
1. Test valve temperature as described in Step 1 and Step 2 above.
2. Shut off the hot water supply to the mixing valve. Observe the outlet flow from the emergency fixtures to ensure an adequate flow of cold water. A slight drop in flow may occur after shutting down the hot water supply to the mixing valve; however, the drop should be minimal and for a short duration.
3. Open the hot water supply to the 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.



Replacing a Thermostat Cartridge

The thermostat replacement procedure is as follows:

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 the 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.”



Cartridge Kit
Part Number 8334-50

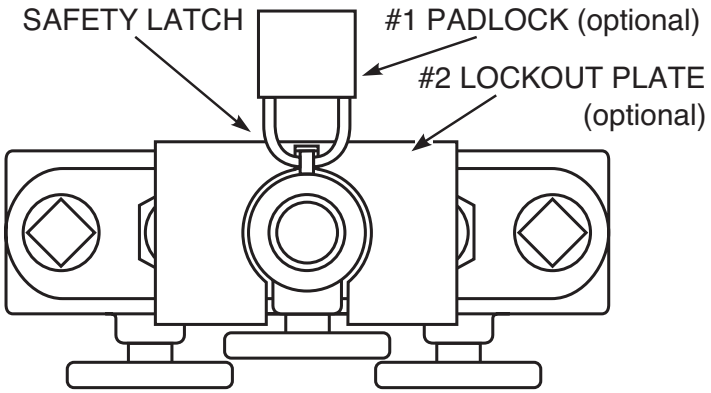
Thermometer
Part Number 6679-00

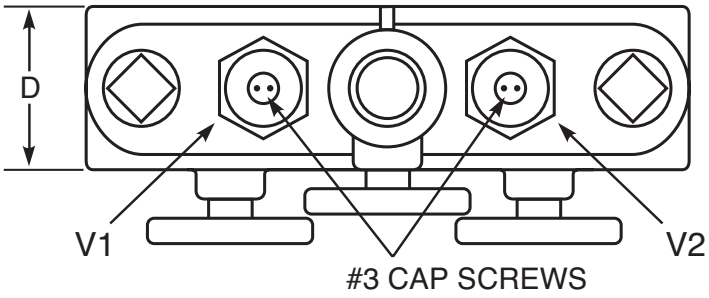
Setting the Mixing Valve

Prior to adjusting the temperature on the emergency mixing valve be aware that prior to shipping this valve was tested and set at the factory. Please make sure that isolation valves and check valves are installed and that incoming hot and cold pressures are equal before any adjustment is made. If these parameters are not present, DO NOT proceed to “Setting the Mixing Valve” until these parameters are met. IT IS ADVISED TO CALL THE FACTORY PRIOR TO DOING ANY TEMPERATURE ADJUSTMENTS ON ANY LAWLER EMERGENCY THERMOSTATIC MIXING VALVE.

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.
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 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.





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:

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

Notes: 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.

The mixing valve must be installed with inlet check valves and the shower or the Eyewash/Facewash fixture should be installed 4 to 10 feet from the mixing valve. Hot and cold water inlet pressures must be equal.

Provisions shall be made to thermally isolate the valve.

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

(Installer: California law requires that this warning be given to the consumer.)

For more information: www.oehha.org/prop65

CAUTION: The cold water line must be installed so that it is not affected 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.

Figure 1

Valve must be installed with check valves

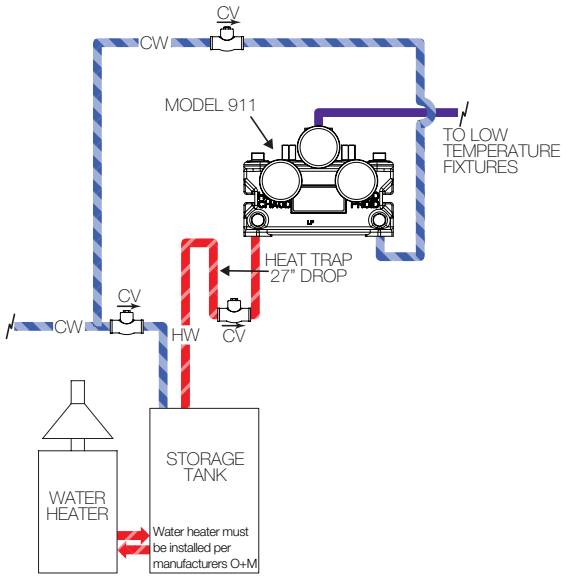
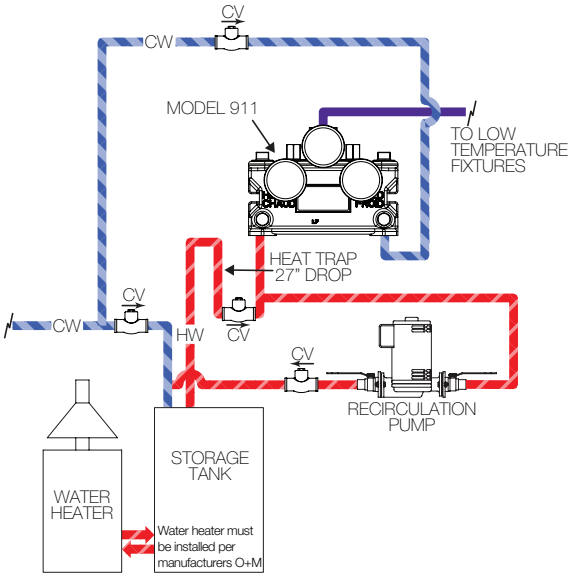


Figure 2

Valve must be installed with check valves



GUARANTEE

We guarantee the Lawler 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 us to be defective. We 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.

Series 911 Test Record
Location _____

Date	T1	T2	T3
Jan			
Feb			
March			
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YEAR

YEAR

YEAR

YEAR

Date	T1	T2	T3
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YEAR

YEAR

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.