

LAWLER



MODEL 911® THERMOSTATIC MIXING VALVE FOR EMERGENCY SHOWER FIXTURES

Suitable for multiple drench showers

The best solution for meeting ANSI Standard Z358.1-2004.

Tepid: Moderately warm; Lukewarm

(PAT NO. 5,011,074) (PAT NO. 5,379,936)

(PAT NO. 5,647,531)

LAWLER MANUFACTURING CO. INC., Indianapolis, IN

LAWLER MODEL 911® Thermostatic Water Controller

The Solution

Complies with ANSI Standard Z358.1-2004 of 20 gpm of tepid water for emergency showers.

The Lawler Model 911 Water Controller thermostatically mixes large quantities of hot and cold water for emergency drench shower applications and eye wash units.

Dual Protection

The Model 911's twin thermostatic elements respond independently to incoming hot and cold water temperatures and provide backup protection against element failure. In the event one of the thermostatic elements should fail, the Model 911 will continue to deliver tempered water to the emergency fixtures.

Positive HotWater Shut-off

Should the cold water supply to the valve fail, the Model 911 will shut-off all incoming hot water.

Integral Cold Water Bypass

In the event the thermostatic element fails, or the hot water supply is interrupted, the 911 will still deliver enough cold water to the emergency eye/face wash equipment to satisfy ANSI's minimum flow rate safety standard of 40 gpm for two drench showers.

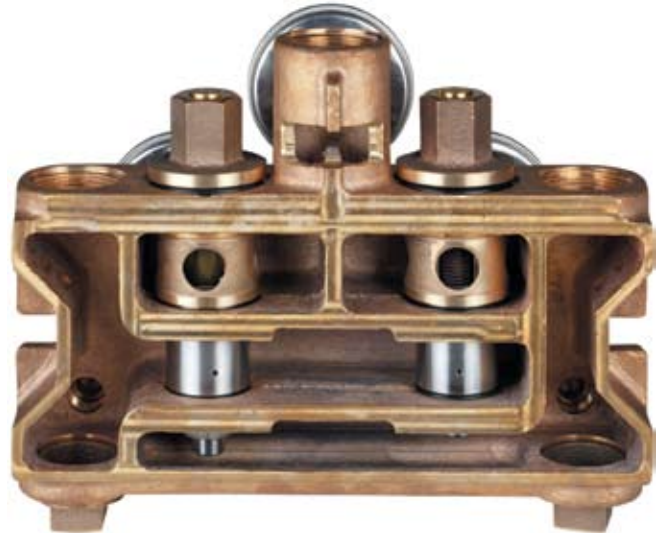
High-Low Flow Capability

The Model 911 can temper water to a wide range of flows to meet your needs. High-low flow capability allows the valve to deliver safe, tempered water to a variety of emergency fixtures supplied by the same water line. This means multiple shower and emergency fixtures can be installed on the same supply line.

Flexibility

The Model 911 is available in a variety of finishes, piping configurations and cabinet designs to meet your requirements. Bronze, brass, copper, and stainless steel construction assures years of dependable service.

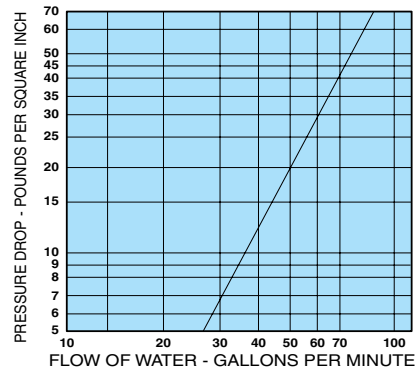
Note: Gallon per minute ratings may vary dependent upon incoming water temperatures and pressures. Hot and cold water inlet pressures must be equal.



Ambient Water Temperature Chart

	Length to Hold 1 gallon (inches)	15 min./ 20 gpm shower (inches)	15 min./ 20 gpm shower (feet)
2 inch	68	20400	1700
4 inch	18	5400	450
6 inch	8	2400	200
8 inch	4.5	1350	112.5

CAPACITY OF TYPE 911 THERMOSTATIC MIXING VALVE FOR EMERGENCY SHOWERS



CAPACITIES - MODEL 911

Pressure Drop PSI	5	10	20	30	45
Tempered Flow GPM	25	35	50	60	72
Tempered Flow LPM	94	132	189	227	275

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

Lawler Model 911 Thermostatic Mixing Valves

Benefits:

- Comfortable, tempered water for emergency fixtures encourages proper usage.
- Twin thermostatic elements provide backup protection against element failure.
- High-Low flow capability.
- Installs into existing plumbing lines.
- Easy to replace thermostatic cartridges.
- Triple thermometers allow hands-off testing.

Features:

- Built with two powerful liquid thermal motors.
- Compensates for supply line temperature and pressure changes.
- Internal cold water bypass upon thermostat failure or hot water failure.
- Single valve can supply three emergency drench showers and/or eyewashes.
- Tamper-resistant control adjustment.
- Rugged design equipped with stainless steel piston and liner.
- Valve can recirculate both hot and cold water supply.
- Easy-maintenance valve can be completely repaired without being removed from the system.
- Lockout plate and mounting bracket available.

Performance

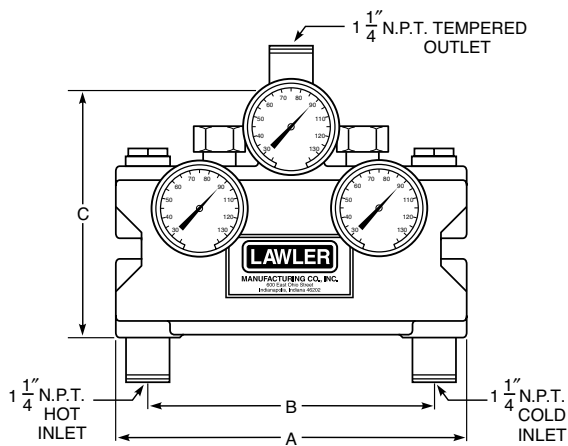
The Model 911 controllers will maintain outlet temperature to within 5°F. under any of the following conditions, providing the recommended minimum flow and minimum supply temperature differentials are met:

- reduction to 3 gpm**
- 30°F change in hot water temperature
- 30°F change in cold water temperature
- 20% drop in inlet supply pressure

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.

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

**Extreme cold water may affect minimum flow rate.



Dimensions:

Valve Number	A	B	C
911	11"	9"	8"

Typical Specification

The Emergency Shower Mixing Valve shall employ two fully independent control mechanisms which split the flow in half, blend each half to the design temperature and then integrate each stream at the outlet. The valve shall control outlet temperature over a wide range of flow and shall be suitable for deluge shower or eyewash applications. The valve shall include three thermometers to measure the temperature of each stream and the merged flow. Temperature adjustment shall be vandal resistant.

Each independent control mechanism shall employ a liquid-filled thermostatic motor to drive the valve without additional power requirements. Each control mechanism shall employ a stainless steel sliding piston control device with reverse seat closure and both fixed and variable cold water bypass.

In the event of interruption of the cold water supply, each control mechanism closes off the hot water port, stopping all flow.

In the event of interruption of the hot water supply, each control mechanism shall allow cold flow through both the fixed and variable by-pass.

In the event that one liquid motor fails, the control mechanism closes off the hot water port with the reverse seat and fully opens the internal variable bypass to allow cold water flow. The other control mechanism will be unaffected by the failure and will maintain design temperature.

Maximum Inlet Pressure: 125 PSI

Recommended Inlet Temperature: 120°F.*

Recommended Operating Pressure: 65 PSI

Connections: 1 1/4" NPT

Capacity: 60 GPM at 30 PSI

Typical Installation

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

Typical Installation #1 (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 #2 (Figure 2)

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

Design Consideration: When installed 20 feet or more from the water heater, it is important to recirculate the hot water supply to the mixing valve.

When installing the mixing valve as shown in *Figure 1 or 2*. The dead leg should be limited to 10 feet. In order to circulate stagnant water on a "dead leg" piping run, it may be necessary to install a timer and solenoid switch at the farthest point to flush the system on a weekly basis.

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, 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.

Figure 1

Typical installation. Valve must be installed with check valves.

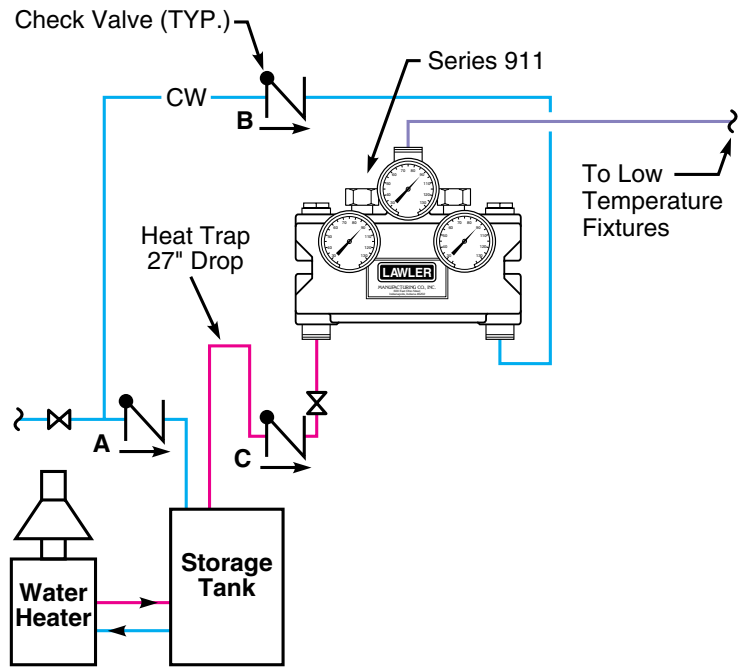
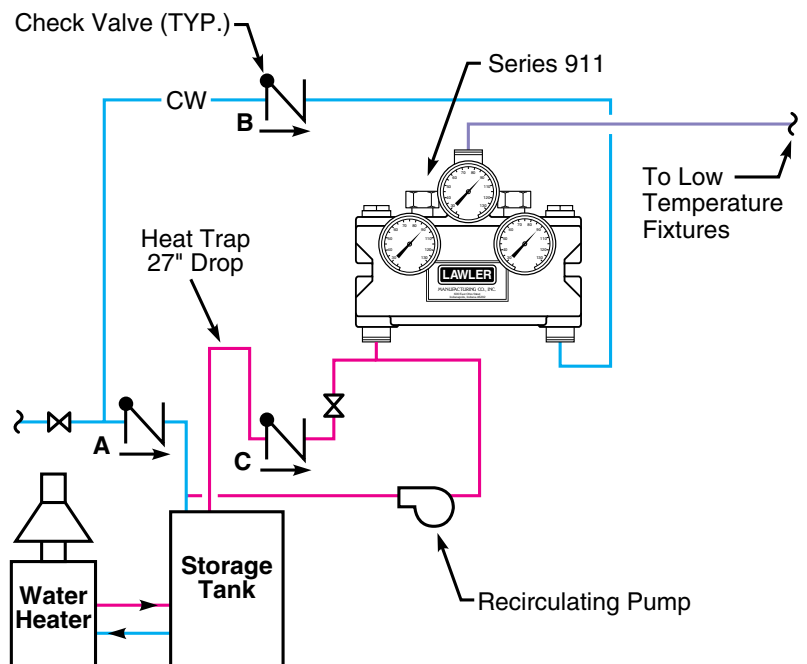


Figure 2

Typical recirculating installation. Valve must be installed with check valves.



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