

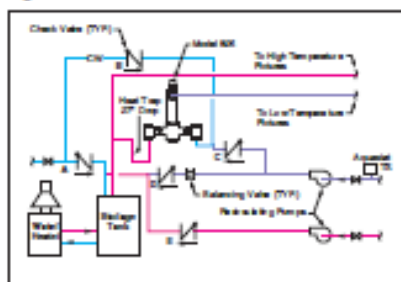
August 29nd ~ Monday Morning Minutes:

Plumbing Topic: Domestic Water Recirculation Systems Part 8 “Dual Temperature Systems and Mixing Valves” “Performance Conditions of a Mixing Valve”

Last week the R L Deppmann Monday Morning Minute article examined the addition of a mixing valve. Today we will examine the re-circulation system with dual temperature requirements and answer questions about the term “Performance Conditions” mentioned in the Lawler literature. Lawler manufactures a wide variety of thermostatic mixing valves, exceeding the ASSE 1017 standards.

DUAL TEMPERATURE SYSTEMS: In the literature for the **LAWLER 805 MASTER CONTROLLER** shown below, there is a diagram showing the piping when you have a design using dual temperatures. In this operation, Lawler suggests a re-circulating pump from both the low temperature and high temperature system. As we mentioned last week, R. L. Deppmann recommends the use of a balance valve on the discharge of each pump to read and set the total flow rate from the system.

Figure 2





LAWLER MODEL 805[®]

Part of the 800 Series[®] of High-Low Master Controllers

Product Description
Lawler's Model 805[®] is a single valve high-low master controller that delivers precisely maintained tempered water over a wide range of flows. The 805[®] features Lawler's exclusive Three-Way Protection[™] that protects against runaway temperatures, thermal shock, or scalding should the thermostat, hot or cold water supply fail. The 805[®] is engineered to perform under both low- and high-flow conditions while eliminating the problems other valves and expensive manifold systems experience particularly under low-flow conditions. The 805[®] is the right choice for the capacities described in the chart below. Multiple 805[®] valves can also be installed in parallel – expanding your maximum and minimum flows.

CAPACITIES MODEL 805 [®]								
Pressure Drop-PSI	5	10	20	30	45	60	80	Minimum Flow*
GPM	24	36	72	108	162	216	288	5
LPM	345	510	1020	1530	2295	3024	4032	19

*10 GPM when properly installed in a recirculated system.

Product Performance
Lawler's Model 805[®] accurately maintains outlet temperature to ASSE 1017 standards. In addition, Lawler's Model 805[®] exceeds 1017 performance standards by shutting down upon thermostat failure (protecting against the risk of runaway temperatures).

PERFORMANCE CONDITIONS

- Regulation to ± 0.1°F
- ± 30°F change in hot water temperatures
- ± 30°F change in cold water temperatures
- 50% drop in hot supply pressure

TEMPERATURE RANGE	SET POINT
80°F to 140°F	120°F
100°F to 160°F	130°F

Features

- Three-Way Protection[™]
- Thermostat Protection
- Hot Supply Protection
- Cold Supply Protection
- Single Valve Technology
- Rugged Construction
- Powerful Liquid Motor
- Stainless Steel
- Paton & Lane
- Single Wheel Control Adjustment
- Full Flow Maintenance
- Fully Adjustable Valve (through 300° & Outside through 300° to 40° increments)
- Patented Design
- Patent Fillets
- 1-200,000
- 1-500,000

Benefits

- Protects Against Runaway Temperatures
- Thermal Shock
- Scalding
- Change Simplicity, Space & Cost Efficiency
- Greater Dependability and Reliability
- Operates in Full and Long Full Installation and Tough in Hardship
- Proven, Proven Performance Advantages

Applications

- Nursing Homes
- Hospitals
- Schools
- Sports Facilities
- Hotels
- (30 and use Lawler's 805[®] for emergency applications)

Options

- Lawler's 805[®] high-low master controller is available with stop & check, thermostatic shut-off, cabinet assemblies, and a range of finishes.
- Through Flows
- Polished Chrome
- White Chrome
- PTFE Coating
- Nickel Coating
- Special

Applicable Standards

- ASSE 1017
- CSA B141.5

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PERFORMANCE CONDITIONS: Imagine you are riding a 5 speed bicycle up an incline and you have set the gear for the incline and effort. You pedal away and work harder if the incline increases a bit and ease off if it drops a bit. You are able to maintain the same speed. But now the incline suddenly rises significantly and a strong wind hits your face. *To maintain speed, you must change gears.* The Lawler performance conditions are similar. Our valve is designed to maintain temperature, once it is adjusted, after installation. Just like the bicycle example, the valve will operate fine and maintain temperature as loads change. If there is a significant change from the inlet conditions when the valve was adjusted, the temperature will not remain steady. These significant changes for the Master Controller model 805, shown here, are: a 30°F change in hot or cold water temperatures, a 50% reduction in hot or cold water inlet pressure, or a flow rate below 5 GPM. If any of these conditions occur, the valve may not be able to maintain the set temperature and a manual re-adjustment of the valve may be necessary.

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