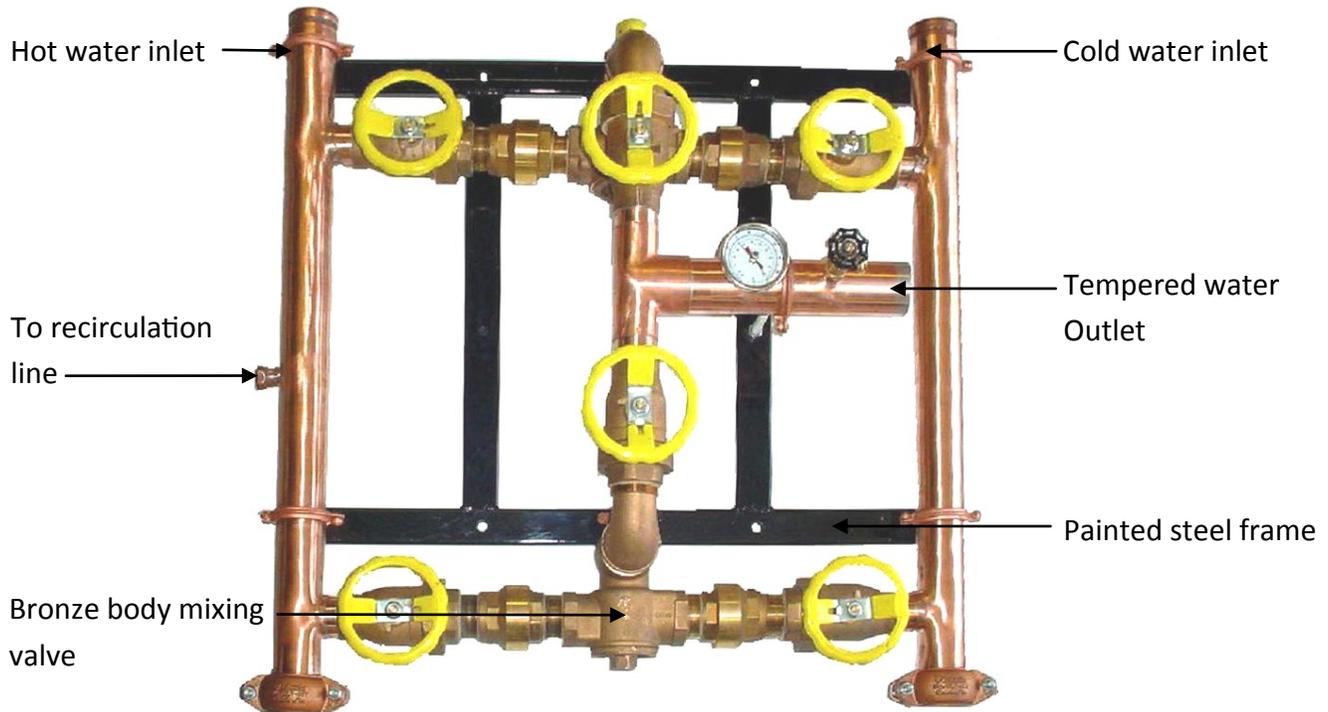


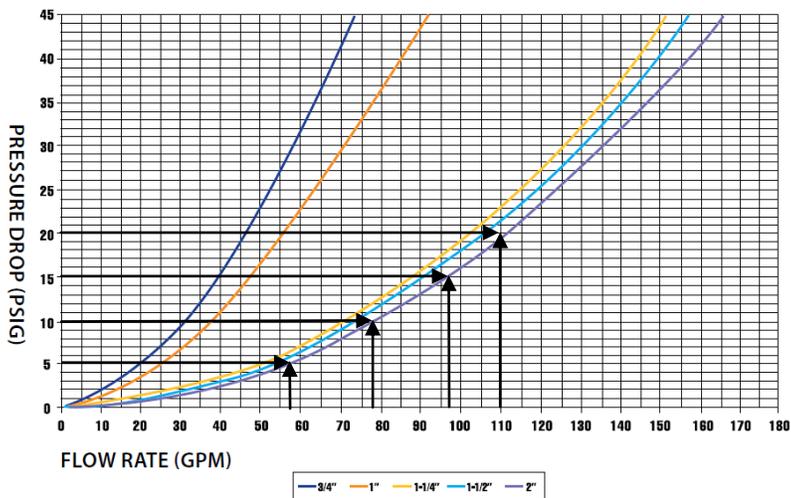
TW S2200 Duplex 2"
Thermostatic Mixing Valve



Pressure drop chart

Pressure drop [PSI]	5	10	15	20
GPM	114	154	194	220

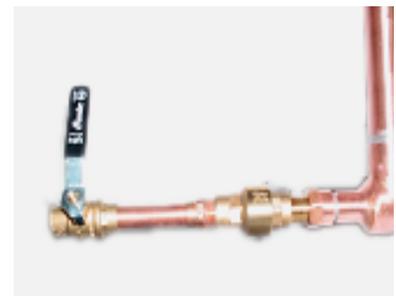
Pressure drop curve



Easily replaceable cartridge



Recirculation line components



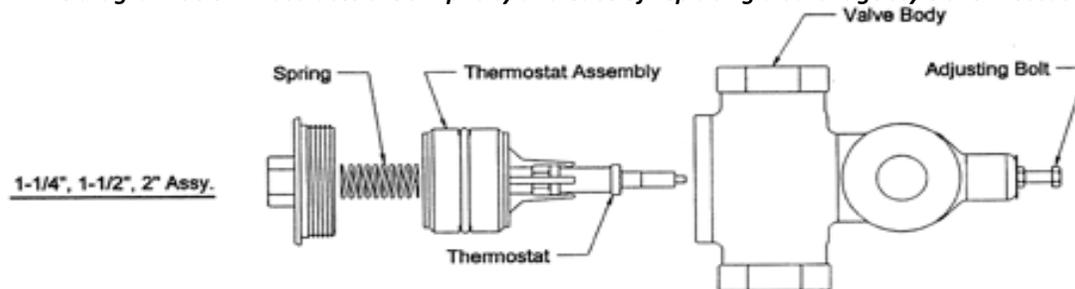
Included with the mixing valve

Features and Benefits:

The single system SIMPLICITY mixer provides a cost effective thermostatic hot water mixing valve for the systems with either high or low volume requirements.

- A single moving part in a bronze body with large waterways eliminates the issues faced with an old fashioned high/low mixer styles. The bronze body eliminates the build up of rust and scale, keeping the valve clean, thus reducing failure. Eliminates tight tolerances, multiple moving parts and gumming, sticking associated with old fashioned hot water mixing valves.
- Replaceable cartridge for the mixer dramatically reduces repair costs.
- All mixing valves have "Ball valve shut-offs" as a standard feature, allowing independent temperature adjustment by isolating single and multi unit stations.
- System is complete with check valves, ball valves, thermometer, local drain and recirculation line to facilitate easy installation.
- Valve is designed to operate between water velocities of 7.5 to 10 feet per second.
- Mixing begins between 1 – 2 GPM.

The diagram below illustrates the simplicity and ease of replacing a cartridge style thermostat



Requirements:

The SIMPLICITY temperature actuated mixing valve is approved to control water temperature in domestic potable hot water systems from the hot water source.

- The system will supply hot water between 100 °F and 140 °F.
- The temperature of the supplied hot water should be at least 20 °F higher than the expected outlet temperature.
- The maximum working pressure in the system should not exceed 125 PSI.
- The system shall meet ASSE 1017
- The maximum pressure differential between the incoming cold and hot water should not exceed 30 PSI.
- Circulators and Aquastat requirements begin at 100 feet developed length. Consult factory for water systems without circulators.
- 90% of all recirculation must return to the mixer and 10% must go to the storage tank.

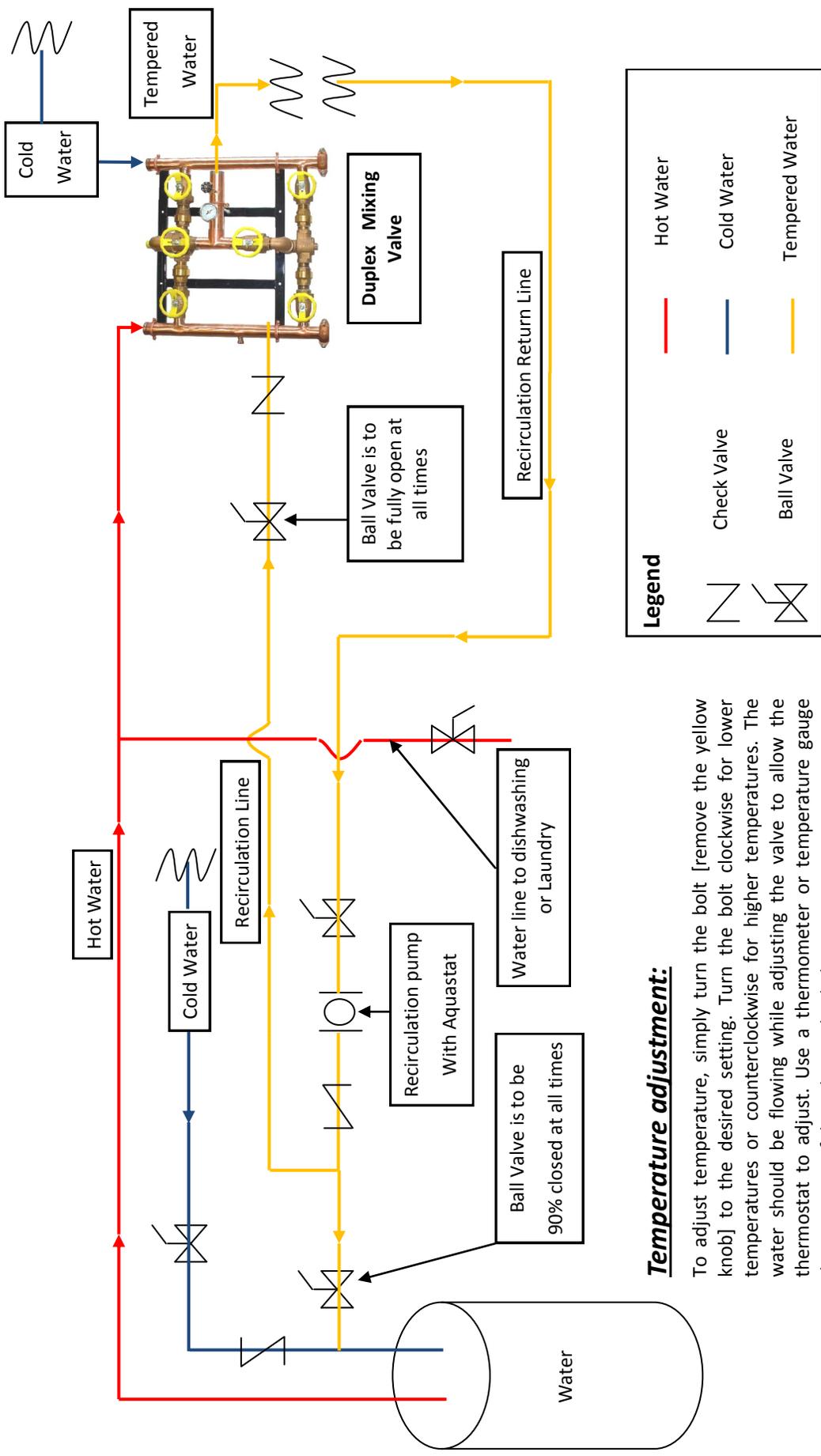
VALVE BODY:	Cast Bronze	SHUTTLE:	Noryl	O-RINGS:	Buna-N
THERMAL	Bronze/	RETURN	Stainless steel	OVERTRAVEL	Stainless steel
ELEMENT:	Stainless steel	SRPING:		SRPING:	
RETAINER:	Brass (3/4" - 1")				
	Cast Bronze (1 1/4" - 2")				

Problem

Possible Solution

<p>1] Fluctuating or erratic hot water temperature</p> <ul style="list-style-type: none"> • Large demand for hot water • Unbalanced pressures 	<p>Large demands for hot water will cause the mixing valve to operate incorrectly. This valve is not designed to compensate for flow rates exceeding specifications. When hot water is removed faster than the heating source can reheat the water, the temperature will drop below the valve set temperature.</p> <p>If the pressure differential between the hot and cold water inlet lines is greater than 30 PSI, a balancing or throttling valve may be needed on the cold water line to make up for the heat loss in the heating source.</p>
<p>2] Hot water backing up in cold water line</p> <ul style="list-style-type: none"> • City water pressure drops causing hot water pressure to override cold water pressure 	<p>Install a check valve in the cold water line</p>
<p>3] Water temperature does not adjust to the desired temperature</p> <ul style="list-style-type: none"> • Unbalanced pressures • Heating source inadequate 	<p>If the pressure differential between the hot and cold water inlet is greater than 30 PSI, a balancing or throttling valve may be needed on the cold water line to make up for the heat loss in the heating source.</p> <p>The heating source may not produce enough hot water to maintain the desired temperature.</p>
<p>4] Failure of Thermostat</p> <ul style="list-style-type: none"> • Thermostat exposed to extreme high temperature • Build up of mineral deposits due to corrosive water conditions • Electrolysis 	<p>Thermostat on heating source may be set too high causing water temperatures to exceed 210°F. Turn thermostat on heater down. The mixing valve must be located at least 8" to 12" below the hot water source.</p> <p>Cleaning the thermostat frequently and removing deposits will help prolong life of thermostat</p> <p>Electrically ground the piping system or install dielectric unions</p>

Piping Schematic



Temperature adjustment:

To adjust temperature, simply turn the bolt [remove the yellow knob] to the desired setting. Turn the bolt clockwise for lower temperatures or counterclockwise for higher temperatures. The water should be flowing while adjusting the valve to allow the thermostat to adjust. Use a thermometer or temperature gauge down stream of the valve to check the water temperature.