


TROUBLESHOOTING

Problem	Possible Cause	Remedy
<p>Alternate overheating and overcooling or rapid cycling from heat to cool.</p>	<p>Poor water flow Small connectors or small water passages</p> <p>Long connecting lines or long serpentine flow</p> <p>Blocked water line in the process</p> <p>Quick disconnect fitting with check valves</p> <p>Lime buildup in the piping or fittings</p> <p>Poor connection or failure of thermocouple (temperature sensor)</p> <p>Failure of the microprocessor controller</p>	<p>Increase connector and line sizes</p> <p>Shorten lines</p> <p>Clean water lines in the process</p> <p>Remove check valves</p> <p>Clean pipes</p> <p>Check connection, replace thermocouple if necessary</p> <p>Replace controller</p>
	<p>Note: The unit can be checked out for normal control by the use of a short line of 3/4" or 1/2" hose connected directly from the supply to the return line. This will provide a condition for high flow rate capacity and will establish whether the blockage is in the unit or the piping.</p>	

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Unable to heat properly (when the temperature will not rise above a certain point, the cause may be traced to continuous loss of water from the system, allowing cooling water to enter).	Solenoid valve stuck in a partially opened position.	Flush out the solenoid valve by adjusting the "Set Point" up and down several times to open and close the solenoid. If it continues to leak, stop the unit and turn off the electric power and water. Take the solenoid valve apart for cleaning or replacement.
	Leaking connection and/or the manual pressure relief valve is in an open condition.	Check for leaks, check valve
	Immersion heater might be inoperative or defective.	Have a qualified electrician check
	Failure of microprocessor	Replace controller
	Failure of thermocouple	Replace thermocouple
Problem	Possible Cause	Remedy
No heat at all (heater units only).	Faulty heater contactor	Adjust the microprocessor set point up and down the scale. The contactors should engage in and out as the setting passes actual temperature. Consult factory for additional information.
	Heater failure	Follow steps for <i>Unable to heat properly</i> . If heater still not functioning, check it by using an ammeter. If all 3 legs draw equal current, the heater is working.
	Failure of microprocessor	Replace controller

Problem	Possible Cause	Remedy
<p>Unable to cool (in order to cool, the unit must pass water directly to the cooling water return or through the heat exchanger - if equipped).</p>	<p>Cooling water supply is available or pressure is not high enough</p> <p>Water is not flowing to the cooling water return.</p> <p>Solenoid valve is not functioning.</p> <p>Plugged heat exchanger</p> <p>High back pressure in the cooling water out line</p>	<p>Keep cooling water supply available at all times while unit is in operation.</p> <p>Check return line</p> <p>Observe the drain. Water should flow to the drain in response to the solenoid action. If the drain cannot be seen, check by "feel" the drain piping at the unit, with the solenoid alternately open and closed.</p> <p>Clean heat exchanger</p> <p>Reduce pressure</p>
Problem	Possible Cause	Remedy
<p>Heater burn out (a direct visual indicator of heater burnout is the presence of scorched or discolored paint on the heater tank).</p>	<p>Unit not filled with water and purged of air upon start-up</p> <p>A faulty heater (tank discoloration not always present)</p> <p>A plugged system or badly obstructed flow</p>	<p>Fill unit with water and turn it on to vent air. Replace heater.</p> <p>Replace heater</p> <p>Clean system and remove obstruction. Replace heater.</p>