WARNING
BEFORE ATTEMPTING INSTALLATION OF THIS UNIT OR MAKING ANY
ADJUSTMENTS TO THE UNIT, ALWAYS BE SURE CIRCUIT BREAKER IS OFF
TO PREVENT DANGER OF SERIOUS ELECTRIC SHOCK.
FAILURE TO GROUND THE SYSTEM MAY RESULT IN SERIOUS INJURY OR DEATH

INSTALLER/ CONSUMER RESPONSIBILITIES
READ THIS MANUAL CAREFULLY BEFORE ATTEMPTING TO INSTALL OR
OPERATE THIS WATER HEATER. IF THE SAFETY RULES ARE NOT FOLLOWED,
THE UNIT WILL NOT OPERATE PROPERLY AND IT COULD CAUSE DEATH,
SERIOUS BODILY INJURY AND/OR PROPERTY DAMAGE.
WARRANTY OF THIS WATERHEATER WILL DEPEND
ON PROPER INSTALLATION AND OPERATION. THE WARRANTY
WILL BE VOID IF THE DESIGN HAS BEEN ALTERED IN ANY WAY
WHATEVER. THE MANUFACTURER OF THIS HEATER WILL NOT BE LIABLE
FOR ANY DAMAGES BECAUSE OF FAILURE TO COMPLY WITH THE INSTALLATION
AND OPERATING INSTRUCTIONS OUTLINED ON THE FOLLOWING PAGES.

THE INSTALLATION MUST CONFORM WITH THE INSTRUCTIONS IN THIS
MANUAL AND LOCAL CODES, OR IN THE ABSENCE OF
LOCAL CODES, WITH THE LATEST EDITION OF THE
NATIONAL ELECTRICAL CODE. THIS PUBLICATION IS AVAILABLE FROM
YOUR LOCAL GOVERNMENT, ELECTRIC CO., PUBLIC LIBRARY, OR BY
WRITING UNDERWRITERS LABORATORIES, 333 PFINGSTEN RD.,
NORTHBROOK, IL. 60062

IF YOU REQUIRE HELP OR HAVE ANY QUESTIONS RELATING TO THE
INSTALLATION OR PERFORMANCE OF THIS HEATER, PLEASE CALL
OUR TECHNICAL SERVICE DEPARTMENT TOLL FREE: 1-800-543-6163.
HAVE THE INFORMATION LISTED BELOW BEFORE CALLING:
MODEL NO. ______ SERIAL NO. ______ INSTALLATION DATE ______

Eemax Inc., 353 Christian St. Oxford, CT. 06478
TEL: 1-800-543-6163, 203-267-7890, FAX: 203-267-7975, e-mail: eemaxinc@aol.com

Replacement Parts for “Thermostatic” Units

TRIAC
PART # EX 18

ELEMENT CARTRIDGE
HEATER MODEL/ORDER REF. CARTRIDGE REF #
EX2412T EX610
EX3012T EX480
EX3512T EX410
EX 55T EX 1050
EX 65T EX 890
EX 75T EX 770
EX 95T EX 630
EX 8208T EX 520
EX 60T EX 1280
EX 90T EX 960
EX 90T EX 850
EX 100T EX 760

CONTROL BOARD
EX 100/240 for 240v, 208v
EX 100/277 for 277V

COMPRESSION SLEEVE
PART # EX16

COMPRESSION NUT
PART # EX17

GROUNDB WIRE

COMPRESS SLEEVE

RELAY

TRIAC

PART # EX 18

THOEROSTATIC

ELECTRIC INSTANTANEOUS WATER HEATER
INSTALLATION GUIDE AND OWNERS MANUAL

INSTANT COMFORT...ENDLESS SAVINGS

Eemax Inc., 353 Christian St. Oxford, CT. 06478
TEL: 1-800-543-6163, 203-267-7890, FAX: 203-267-7975, e-mail: eemaxinc@aol.com
**GENERAL**

The Eemax “Thermostatic” heater is specifically designed to take in cold or preheated water and heat it to temperatures suitable for the normal domestic usage up to a maximum of 140°F. To obtain optimum performance and energy savings, the unit should be located as close as possible to the point of use. The unit is supplied with compression rings and nuts suitable for direct coupling to 1/2” copper or plastic piping. Do not use additional screwed fittings or pipe dope. Doing so will void the warranty. **DO NOT SOLDER PIPES WHILE THE UNIT IS INSTALLED** (serious damage to the electronic flow switch will result).

This heater must have its own independent circuit, using a correctly rated breaker and wires suitable for at least 75 °C operation.

Failure to ground this system may result in death or serious injury.

1) **MOUNTING THE UNIT**

1) The unit should be mounted as close to the point of use as possible.

2) This unit must only be mounted in the vertical position with the water fittings at the bottom of the unit. Mounting other than in the vertical position WILL cause element burn out.

3) The cold water inlet is on the right hand side and the hot water outlet is on the left hand side. Under NO circumstances can these be reversed.

4) Leave a minimum of 8” above the unit for easy replacement of the element.

5) The heater should be fixed to the wall using the four mounting holes at each corner of the backplate.

NOTE: The heater should be installed below the level of all hot water outlets serviced by this heater.

NOTE: PRESSURE RELIEF DEVICE

This unit is not required by UL to have a Pressure and Temperature safety relief valve (PTRV). You should check with local codes to find out if one is required in your area.

If local codes require the use of temperature and pressure relief valve it should be installed on the outlet hot water pipe before the outlet ball valve.

**TROUBLE SHOOTING**

**SYMPTOM: NO HEAT INDICATOR LIGHT OFF**

1) **ELECTRIC SUPPLY IS OFF**
   Turn on the main breaker.

2) Check the ECO (red re-set button) if tripped please call tech support

3) **NO OR LOW WATER FLOW**
   Ensure that the minimum flow rate to switch on your heater is met.
   “EX100T, 95T, 90T, 8208T” Models minimum flow rate = 0.75 gpm
   “EX80T, 75T, 65T” Models minimum flow rate = 0.6 gpm
   “EX60T, 55T” 2412T,3012T, 3512T Models minimum flow rate = 0.5 gpm
   Also check that the inlet filter screen is clear from any debris. This is located in the brass inlet boss.

4) **WATER CONNECTIONS ARE REVERSED**
   Cold water inlet = right side, hot water outlet = left side.

5) **ELEMENT BURNT OUT**
   **TURN OFF THE breaker!**
   Using an ohmmeter test the resistance of the heating element across the two threaded termination rods on top of the element. The resistance reading should be under 10 ohms.
   If the resistance is much greater than this value, call Eemax for a replacement element.

**SYMPTOM: NO HEAT OR LOW TEMPERATURE WITH INDICATOR LIGHT ON**

1) **WATER FLOW TOO HIGH**
   Reduce the water flow by using an outlet ball valve. See page 3 for temperature rise at various flow rates.

2) **INCORRECT POWER SUPPLY**
   Make sure that the unit is connected to the voltage supply specified on the rating label on the the front cover of the unit and no other.

3) **ELEMENT BURNT OUT**
   **TURN OFF THE breaker!**
   Repeat the steps from paragraph 4 above.
4) COMMISSIONING YOUR HEATER

IMPORTANT
Before switching “on” the power at the breaker make sure that the hot water circuit is free of air pockets or premature failure of the heating element will occur. To do this open all hot water faucets one at a time for a minute or two until the water flow is continuous and free from “gulping” and from visible air pockets.

1) With inlet and outlet BALL VALVES fully open, turn on all hot water outlets.

2) Run for 5 minutes, turning faucet “on” and “off” repeatedly.

3) Switch on electric supply at breaker.

4) The power indicator light should now come on with water flowing. (see Fig. 1).
NOTE: At this point water temperature may not be very hot.

5) Using the OUTLET BALL VALVE slowly reduce water flow until desired temperature is achieved at hot water outlet. This should be 120 to 140°F without mixing cold water.

6) Now, turn the temperature adjustment screw counter-clockwise about 1/8 of a turn, wait for 10-15 seconds and see if the indicator light begins to pulse. If it does not, turn another 1/8 of a turn, wait and again see if lamp begins to pulse. Repeat until the light is pulsing regularly which indicates the temperature has stabilized at the set temperature. Check that the temperature is what you require.

NOTE: The water temperature is proportional to the flow through the heater. The lower the flow the higher the temperature and vice versa.

6) Check performance of flow switch by opening and closing outlet valve a few times. The power indicator light should be on ONLY when water is flowing through the unit. For expected temperature rise at various rates of flow see chart.

NOTE: An EX95T (9.5 kW) unit at 240 V will deliver 1 gallon per minute at 65°F temperature rise. For example, with incoming water temperature at 45°F the unit will produce 1 gallon per minute at 110°F.

7) It is possible that drawing off cold water at comparatively high rates of flow elsewhere in the building at the same time that the heater is working, could cause premature element failure. Care should be taken not to starve the unit of cold water. To prevent this from happening, open fully the main valve on the cold supply to the building and throttle back the control valves to the other cold water outlets.

2) PLUMBING HOOK-UP

1) The unit is supplied with compression fittings. USE THESE: DO NOT USE THREADED PIPE FITTINGS. DO NOT USE PIPE DOPE OR TEFLON TAPE ON THIS INSTALLATION. Ensure the inlet filter supplied with this unit is in place.

2) Take care to ensure that the pipes are correctly aligned with the inlet and outlet bosses in order to avoid excessive stress on the heater body molding.

NOTE: Run water through the supply pipe to remove all debris from the pipe before connecting the heater. Failure to do so could damage the flow switch.

3) Install isolating valves (full flow ball valve type) on both inlet and outlet pipes. This allows unit to be isolated for maintenance purposes. (Fig. 2)

4) When all plumbing is complete, fully check the system for water leaks at all plumbing connections. If leak is present take corrective action. If leak is at the compression fitting, slowly tighten compression nut until it stops. Ensure compression fittings are tightly to 18FT.LB. Fully open both inlet and outlet ball valves.
Run all hot water outlets fed by this heater one at a time for a minute or two until the water flow is continuous, free from “gulping” and from all visible air pockets.

NOTE: ALL PLUMBING MUST BE COMPLETED BEFORE YOU PROCEED WITH THE ELECTRICAL HOOK-UP.

TEST THE INSTALLATION FOR LEAKS BEFORE CONNECTING THE ELECTRICAL SUPPLY.
3) ELECTRICAL HOOK-UP

WARNING
BEFORE BEGINNING ANY WORK ON THE INSTALLATION
BE SURE THAT THE BREAKER IS "OFF"
TO AVOID ANY DANGER OF SHOCK.

Your Eemax heater must have its own independent circuit using insulated, UL listed, 3 wire cable of the appropriate size suitable for use up to 75 °C protected by the correctly rated circuit breaker.

RATINGS OF "EX T " UNITS

<table>
<thead>
<tr>
<th>Model</th>
<th>Power (W)</th>
<th>TEMP</th>
<th>ADJ.KNOB</th>
<th>RELAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>EX012T</td>
<td>120</td>
<td>3,000</td>
<td>25</td>
<td>40</td>
</tr>
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<td>EX0512T</td>
<td>120</td>
<td>3,500</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>EX35T*</td>
<td>240</td>
<td>3,500</td>
<td>15</td>
<td>48</td>
</tr>
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<td>75</td>
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<td>27</td>
<td>88</td>
</tr>
<tr>
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</tr>
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<td>81</td>
</tr>
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<td>29</td>
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<td>EX8208T</td>
<td>208</td>
<td>8,300</td>
<td>39</td>
<td>-</td>
</tr>
</tbody>
</table>

* The heaters are rated at 240 Volts. If the actual voltage supplied is lower there will be a proportional drop in output.

1) Wire entry into the unit should be made through the lower right hand corner of the backplate via one of the two “knockout” holes provided.

2) The “mains” wires should be connected to the slots in the terminal block marked L1 and L2 or N. The ground lead must be connected to the slot marked . Failure to ground the system may result in death or serious injury.

WARNING:
This water heater must not be switched “on” if there is a possibility that the water in the heater is frozen.