ECO0045 | ECO085
ELECTRIC TANKLESS WATER HEATER
INSTRUCTION MANUAL

Keep this manual with you after your unit has been installed, you may need it for further technical information.
Congratulations!

You’ve just purchased a new Marey ECO045 | ECO085 tankless water heater and will soon begin to enjoy the benefits of “going tankless.”

Please take the time to thoroughly read and understand this safety and installation manual in its entirety before you attempt to install your new tankless water heater, as it contains important safety tips and instructions.

Please carefully read all instructions and warnings. Should you have any questions, please visit www.marey.com for installation videos and FAQ.

Please keep this manual for future reference and technical information.
ECO045 | ECO085

1) Mounting
Mark the two mounting holes on the wall according to the slots in the back of the unit, then drill two holes of 6.00mm diameter. Place expansion bolts in the holes, then screw self-tapping-screw into expansion bolts, now affix the water heater on the installation screws.

2) Water Connections
Plumbing connections are ½” NPT, both the inlet and outlet can be found at the bottom of the unit. The cold water inlet is on the right side it should be preceded by a high pressure discharge valve and a shut off valve in that order. The hot water outlet is on the left side and runs to your hot water source. NEVER USE PVC ON HOT WATER OUTLET. Use instead CPVC or other heat rated materials. Run water through the heater for a few minutes to purge all air from the system. Shut off flow at faucet to pressurize system. At this point check for and fix any leaks. If no leaks are present move to next step.

3) Electrical Connections
Before beginning any work on the electric installation, be sure that main breaker panel switch is OFF to avoid any danger of electric shock, all mounting and plumbing must be completed before proceeding with electrical hook-up. All electrical work must comply with national and applicable state and local electrical codes. The heater must be connected to a properly grounded dedicated branch circuit of proper voltage rating. ECO045/ECO085 can be connected to a single circuit, use a supply cable protected by a double pole breaker, please make sure the metal wire ends and the terminal blocks touch completely. Then tighten the screws up to make sure the full current can go through.

4) Operation
Turn on the water faucet for a few minutes until water flow is continuous and all air is purged from water pipes. Next, turn on the circuit breaker to bring electrical power to the unit. The range of options for the temperature setting is 30-60°C/86-140°F. When the units is ON, but not working, turn it on and off (5) times to convert the temperature display between Fahrenheit and Celsius. When you set the setting temperature, the LED display screen will blink for 3 seconds; the temperature switches automatically to the real-time temperature.

WARNING

This is not a do-it-yourself project. Failure to have this appliance installed by a licensed plumber and electrician will void all warranties.

Under no circumstances should you attempt to install, repair or disassemble the MAREY tankless electric water heater without first shutting off all power to the unit directly at the circuit breaker box.

Installation of this product is restricted to indoor locations and should only be installed by licensed plumbing or electrical contractors.

IMPORTANT SAFETY INSTRUCTIONS

1. The installation must be in compliance with the National Electrical Code and your local electrical and plumbing codes.

2. This appliance must be GROUNDED.

3. All wiring and installation must be supervised by a qualified electrician.

4. CAUTION: This product has more than one power-supply connection point. Disconnect all power supplies before servicing.

5. This appliance is not intended for use by persons (include children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

6. This appliance MUST be permanently connected to the fixed circuit breaker and it must be installed vertically. DO NOT install this appliance near a pile of tinder or strong magnetic field.

7. This appliance MUST NOT be switch on if you think it may be frozen, as this could result in serious damage to the unit. Wait until you are sure that it has completely thawed out before you switch it on.

8. Please feel the outlet hot water temperature with hand to make sure it is suitable for showering before taking shower to avoid getting scalded.

9. Before connecting pipes to the water heater hoses, it is extremely important to FLUSH the pipes to wash away all plumbing paste or residue in the pipes.

10. The heating chamber is treated with composite nano insulation material; it is natural if there might be a bit of smell or green blue smoke when the unit is used for the first time.
11. If there is damage to the wiring, you must contact qualified electrician to replace it.

12. CAUTION: FOR HOUSEHOLD AND INDOOR USE ONLY

13. CAUTION: Risk of electric shock. CONNECT ONLY TO A CIRCUIT THAT IS PROTECTED BY A GROUND-FAULT CIRCUIT INTERRUPTER (GFCI).

14. Save this instruction booklet.

**PRODUCT FEATURES**

The MAREY tankless electric water heaters are built national patent technology with multi-safety devices.

Also, the unit has the following features.


2. Micro-computer control, adopting patent heating technology. Water is completely separated from electricity by multi-layers of composite nano insulation material.

3. Over temperature protection: when the outlet water temp. reaches over 162°F/72°C, the electricity will be cut off to avoid getting scalded and the screen displays E1. the appliance will start to work automatically after the while temperature drop to the setting temperature.

4. Malfunction of sensor - when there is malfunction with the temperature sensor, the heater stops working and displays E3

5. Conversion between degree Fahrenheit and degree Celsius.

These units use SMART technology, which means that the units read the incoming water temperature and the flow rate of the fixture being used, and applies only the power necessary to heat the water to your desired set point. This allows the unit to be very efficient, and not waste power by only heating the water that is being used.

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>ECO045</th>
<th>ECO085</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>120V</td>
<td>220V</td>
</tr>
<tr>
<td>Power</td>
<td>4.5kW</td>
<td>8.5kW</td>
</tr>
<tr>
<td>Rated Current</td>
<td>37.5A</td>
<td>38.6A</td>
</tr>
<tr>
<td>Min. Required Circuit Breaker</td>
<td>50A</td>
<td></td>
</tr>
<tr>
<td>Recommended Wire Size</td>
<td>8 AWG</td>
<td></td>
</tr>
<tr>
<td>Min. Water Flow to Activate the Unit</td>
<td>0.48 GPM - 1.5 L/min</td>
<td></td>
</tr>
<tr>
<td>Max. Water Flow Rate</td>
<td>3.0 GPM - 11.3 L/min</td>
<td></td>
</tr>
<tr>
<td>Recomended Min. Flow Activation</td>
<td>0.5 PSI</td>
<td></td>
</tr>
<tr>
<td>Safe Operating Pressure</td>
<td>5 PSI - 100 PSI</td>
<td></td>
</tr>
<tr>
<td>Water Conections</td>
<td>½” NPT Brass</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>11” x 10.2” x 4.5”</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>5 lbs</td>
<td></td>
</tr>
</tbody>
</table>

**Temp. Increase per GPM**

<table>
<thead>
<tr>
<th>Temp. Increase per GPM</th>
<th>ECO045</th>
<th>ECO085</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>45°F</td>
<td>45°F</td>
</tr>
<tr>
<td>1.25</td>
<td>40°F</td>
<td>40°F</td>
</tr>
<tr>
<td>1.5</td>
<td>33°F</td>
<td>33°F</td>
</tr>
<tr>
<td>1.75</td>
<td>30°F</td>
<td>30°F</td>
</tr>
<tr>
<td>2.0</td>
<td>26°F</td>
<td>26°F</td>
</tr>
<tr>
<td>2.25</td>
<td>23°F</td>
<td>23°F</td>
</tr>
<tr>
<td>2.5</td>
<td>20°F</td>
<td>20°F</td>
</tr>
<tr>
<td>2.75</td>
<td>19°F</td>
<td>19°F</td>
</tr>
<tr>
<td>3.0</td>
<td>18°F</td>
<td>18°F</td>
</tr>
</tbody>
</table>

Note: *suitable recognized strain relief means shall be provided when the product installed.
PRODUCT INNER STRUCTURE

INSTALLATION GUIDELINE

The installation must be in compliance with the National Electrical Code, your local electrical and plumbing codes.

1. Make sure the appliance is intact, and the fittings are secure.

2. Please make sure the main power supply, water pressure, grounding condition, electrical breaker and wire reach the standard of installation requirement.

3. The appliance must be connected to a properly grounded dedicated circuit of proper voltage rating. Ground must be brought to the “grounding bar” at the circuit breaker panel.

4. This appliance MUST be permanently connected to the fixed circuit breaker. If you don't use the heater, please switch off the circuit breaker.

5. DO NOT install this appliance near tinder or a strong magnetic field. The unit must only be mounted in a VERTICAL position near the water fittings. Please electrify try the machine after getting through waterway.

INSTALLATION METHOD

• Fixed installation on the wall
  Locate an appropriate place on a section of wall as above mentioned.

Fig 1: Front and back of the appliance

Fig 2: Mark two mounting holes on the wall according to the following picture, then drill two holes of 6.00mm diameter. Put expansion bolts in the holes, screw self-tapping-screw into expansion bolts, then fix the water heater on the installation screws.
Fig 3: Connect the water pipe to the water inlet and water outlet connections, please remember to install the rubber seal ring.

- **Water connections**
  1. All water pipe must comply with national and applicable state and local water pipe codes.
  2. The unit should be connected directly to the main water supply. Flush pipe with water to remove any debris or loose particles before connecting to the unit.
  3. It is required that use 1/2"NPT water connections to fit the models of ECO045/ECO085.
  4. Please remember to install rubber seal rings at the connections. When all water connections are completed, check for leaks and take corrective action before proceeding.

- **Electrical connection**
  1. All electrical work must comply with national and applicable state and local electrical codes.
  2. All units must be connected to a properly grounded dedicated circuit of proper voltage rating.
  3. ECO045 can be connected to a single-pole circuit, please use the supplied cable. The ECO085 must be protected by a double pole breaker.

4. Please make sure the wiring and the terminal blocks touch completely and are secure. Also, tighten the screws completely on the terminal blocks to make sure the full current can go through.

5. Before beginning any work on the electric installation, be sure that main breaker panel switch is OFF to avoid any danger of electric shock, all mounting and plumbing must be completed before proceeding with electrical hook-up.

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**OPERATION INSTRUCTIONS**

1. Open water faucet for a few minutes until water flow is continuous and all air is purged from water pipes.

2. Turn on the circuit breaker to bring electrical power to the unit.

3. The range of options for the temperature setting is 30-60°C/86-140°F.

4. When the unit is ON, but not working, then turn the unit on and off 3-4 times to convert the temperature display between Fahrenheit and Celsius.

5. Centigrade display: when the setting temperature is 45°C, outlet hot water temperature will be 45°C, Fahrenheit display: when the setting temperature is 113°F, outlet hot water temperature will be 113°F.

6. When you set the setting temperature, LED display screen will twinkle 3 seconds; the temperature switched automatically to real-time temperature.

7. When the unit is ON, the LED display screen will display the actual temperature, if it does not start working for 30 seconds, the screen will switch to the screen saver mode, the LED display screen will be off. When you touch the knob switch, the LED display screen will light up again and display the actual temperature again.

8. The dry heat protection temperature is 90°C/194°F, water heater is with manual reset unipolar protector.

9. There is an automatic memory function to avoid repetitive adjustments. When you turn on the appliance, the default set temp will be the same as last time used.
### TROUBLE-SHOOTING

<table>
<thead>
<tr>
<th>Problems</th>
<th>Possible Causes</th>
<th>Corrective Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inlet and outlet fittings leaking</td>
<td>A. Fittings not tight</td>
<td>A. Tighten fittings.</td>
</tr>
<tr>
<td></td>
<td>B. Rubber washer worn-out</td>
<td>B. Change rubber washer.</td>
</tr>
<tr>
<td>2. LED not coming on</td>
<td>A. Power not connected.</td>
<td>A. Connect power to the unit.</td>
</tr>
<tr>
<td></td>
<td>B. LCD damaged.</td>
<td>B. Change LCD.</td>
</tr>
<tr>
<td>3. Functional keys not working</td>
<td>A. No water flow from fixture.</td>
<td>A. Open valve to get water.</td>
</tr>
<tr>
<td></td>
<td>B. Water flow too low.</td>
<td>B. Open valve to get pressure.</td>
</tr>
<tr>
<td></td>
<td>C. PCB damaged.</td>
<td>C. Change key or PCB.</td>
</tr>
<tr>
<td>4. Water too hot</td>
<td>A. Too high temperature set point.</td>
<td>A. Set a lower temperature.</td>
</tr>
<tr>
<td></td>
<td>B. Water flow too low.</td>
<td>B. Open valve bigger.</td>
</tr>
<tr>
<td>5. Water too cold</td>
<td>A. Low temperature set point.</td>
<td>A. Set a higher temperature.</td>
</tr>
<tr>
<td></td>
<td>B. Water flow too high.</td>
<td>B. Reduce water flow.</td>
</tr>
<tr>
<td>6. Outlet gets water smaller and smaller</td>
<td>Inlet strainer or shower clogged.</td>
<td>Clean strainer and shower.</td>
</tr>
<tr>
<td>7. LED displays E1</td>
<td>Outlet temp. is over 72°C/162°F</td>
<td>A. Reduce the temperature.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Turn up the water flow.</td>
</tr>
<tr>
<td>8. LED displays E3</td>
<td>Temperature sensor failure</td>
<td>Please contact with your local dealer.</td>
</tr>
</tbody>
</table>

7 and 8 should only be performed by qualified electrician. The person who initially installed the unit is the best one to contact for help.

### NORMAL MAINTENANCE

**Note:** Do not attempt to repair this water heater yourself. Call a service person for assistance. Always turn off of these operations the power supply needs to be shut off.

It is not required any regular maintenance. However, to ensure consistent water flow, it is recommended following maintenance.

1. periodically remove scale and dirt that may build up at the aerator of the faucet or in the shower head.

2. there is a built in filter screen at inlet connection which should be cleaned from time to time. Please turn off the water flow before doing this.

### CUSTOMER SERVICE

At Marey, we pride ourselves on the excellence of our customer service and support team.

Please feel free to contact us if you have any questions about our products, warranty service, or if you need assistance installing a unit. We also strive for continuous improvement, so we welcome your comments, feedback and suggestions.

1-855-MAREY-55
customerservice@marey.com

### OTHER PRODUCTS

Please visit our website to get to know more about other Marey products.