Operation Manual

Electric Water Heater

MODEL: CGEW15F02/CGEW25G02

Thank you for selecting CG Electric Water Heater
Before Operating this unit, Please Read this Operation Manual Completely

Touching life everyday
ORIENT STORAGE WATER HEATER

Thank you for choosing Orient Storage Water Heaters. These are domestic water heating appliances use a water storage tank to maximize their heating capacity and provide ample hot water. Every water heater is ISI-marked and adheres to the highest quality standards. Not only are these water heaters fast and efficient, but they are also loaded with safety features. Each storage water heater comes equipped with cutting edge features such as a heavy copper element, PUF insulation, and much more.

KNOW YOUR WATER HEATER

Tank: Orient Storage Water Heaters come with two types of tanks:
- Glassline-Coated Tank: Made of mild steel with glass enamel coating on the inside and tested at double-rated pressure to normal working pressure. This prevents corrosion and leads to high performance of the tank. Hence, suitable for both hard water and soft water.
- High-Grade Stainless Steel Tank: Made of 304L grade stainless steel. It is suitable for both hard and soft water and is tested to withstand from double-rated pressure to normal working pressure.

Heating Element: It is a direct immersion and mineral element, housed in a copper tube, and defines the rate of heating and energy efficiency of the water heater. Orient offers you two types of heating elements:
- Glassline-Coated Heating Element that provides enhanced protection against corrosion and leads to effective heating of water.
- Heavy Copper Heating Element with nickel-coated tank that provides efficient heating while saving energy.

Magnetik Rod: These are customised alloy rods that work in different water conditions and are used to protect the inside metal surface of your water heater tank components for a long time. Orient Water Heaters have a 27% heavier magnetik rod that prevents harmful compounds from corroding the water heater.

Multi-Function Valve: Orient Water Heaters have valves that are specifically placed for safety purposes and prevent the heater from malfunctioning during abnormal conditions, like high pressure. The four functions of this tamper-proof valve are:
- Pressure Relief Valve: Used to release excess pressure created inside the tank while heating, thereby protecting it from explosion.
- Vacuum Relief Valve: It is used to allow air to enter into the piping system to prevent a vacuum. It prevents siphoning of the water heater.
- Non-Return Valve: It avoids the return of water from the water heater back to supply, thereby preventing dry heating.

- Drain Valve: The drain valve is used for cleaning and maintenance when the water heater is not in use or there is less water coming out of the outlet tube.
- PUF Insulation: It is an effective and durable heating insulation that has a long life and is relatively low-maintenance. PUF insulation keeps the tank heated, thereby keeping the water warm for long hours while preventing the external body from heating up. Our models are also free from CFCs (Chlorofluorocarbons) compounds that contribute to ozone depletion in the upper atmosphere, thereby preventing the depletion of the ozone layer.
- Pressure Rating CLASS I: Our water heaters are designed to work at maximum pressure at the inlet. It is recommended that maximum line pressure of water at the inlet is checked and an appropriate model is selected to ensure a trouble-free performance. Special care is taken while installing the water heater in multi-storied / high-rise buildings, or at locations where hydro-pneumatic pumping systems are being used to supply water.
- Light Indicator: Green and red indicators mounted on the water heater depict operation. The red “Power” indicator and green “Heating” indicator remain ON while there is power to the system. The green indicator will turn off when the water temperature reaches the preset level.
- Thermostat: Orient Water Heaters have a thermostat, which is a primary safety device designed to control or maintain the temperature within a safe range in the tank.
- Thermal Cut-Out: Orient Water Heaters have a thermal cut-out, which is a secondary safety device to cut off power at a preset temperature if the thermostat fails. This also helps in preventing dry heating of the element. In case there is no water in the tank.
- Power Cable With Moulded 3-Pin Plug: We provide an ISI-marked cable that gives you a guarantee of authenticity.

SOME OF THE KEY FEATURES THAT MAKE ORIENT WATER HEATERS THE BEST

TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Capacity (litres)</th>
<th>Power Consumption (kW)</th>
<th>Heating Element</th>
<th>Energy Efficiency Rating</th>
<th>Tank Type</th>
<th>Outer Body</th>
<th>Insulation</th>
<th>Pressure Rating (bar)</th>
<th>Multi-Function Valve</th>
<th>Inner-Outter Covering Testing</th>
<th>Thermostat Type</th>
<th>Dimensions (mm)</th>
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<table>
<thead>
<tr>
<th>Width</th>
<th>Depth</th>
<th>Height</th>
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<tbody>
<tr>
<td>250</td>
<td>100</td>
<td>400</td>
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</table>

*Applicable to model only.
INSTALLATION GUIDE

- Always get a qualified plumber/electrician for the installation, in compliance with the local authority regulations.

- There should be enough space around the water heater for easy installation and servicing.

- This water heater should be installed on a solid wall. If the strength of the wall cannot bear the load equal to two times that of the total weight of the heater filled fully with water, it is then necessary to install a special support.

- In case of a hollow brick wall, ensure to fill it with cement concrete completely.

- Fix the water heater in a perfectly straight position at a suitable height from the floor, or on the loft with bolts. This will ensure easy removal whenever required.

- The water heater should be operated in a splash-proof condition. For this, please keep a minimum distance of 1.8 meters between the floor and the bottom of the water heater.

- If the installation space is less, the water heater should be installed at another place. The length of the connecting pipes should be less in order to reduce pipeline heat losses.

- After selecting a proper location, install the mounting bracket on a solid wall with anchors and fasteners, securing the brackets firmly.

- Install the supply socket in the wall. The power supply should be 230V~50Hz.

WHAT TO DO

- It's advisable to switch OFF the power supply when the unit is not in use.

- Use mild detergent to remove dirt and clean with a wet cloth.

WHAT NOT TO DO

- Safety devices like safety thermostat, pressure release valve, etc. are pre-set and sensitive devices. Complete care is taken in manufacturing and testing this process to ensure long-term, smooth operation of these devices. Do not tamper with them at any cost as this could be hazardous and may even nullify the warranty.

- In case you observe any abnormality of operation or sound coming from inside the water heater, immediately switch OFF the main power supply and contact the nearest authorized service centre.

- Never install a pressure reducer valve at the inlet.

WATER SUPPLY AND CONNECTION

- We recommend the use of Orient connecting pipes.

- Connect the water heater via a dead weight valve if the water pressure is more than 65 Ω/cm² and 80 Ω/cm².

- The minimum head difference between the water heater and water supply should be 2 meters.

- In case of a direct municipal water supply, a vacuum relief valve (VRV) should be used.

- Do not connect cold and hot water supplies directly to the water heater.

- Always use flexible hosepipe connections. Never use plastic tubes, especially at the outlet, as they cannot withstand the heat produced in extensive use. In case of a direct connection, lightening of couplings through wrench can damage the water heater.

- The dimension of each pipe is 1/2", the massive pressure of the inlet should use Ω as the unit. The minimum pressure of the inlet should use Ω as the unit.

- Always use control/gate valve at the inlet 6 outlet. Do ensure that the valve at the inlet is always open when in use.

ELECTRICAL WIRING

- The electrical connection must be done by a qualified electrician.

- All electrical connections in the water heater are completed at the factory. The water heater is provided with a supply cord and a plug (31 certified fire retardant cable).

- The electrical supply is connected directly to the connector provided with the earth connection.

- The ground wire must be green/yellow in color and attached to the terminal marked by the symbol.

- The red light indicates that the electricity supply is on.
**ELECTRICAL WIRING**

**ECOWONDER DIGITAL PANEL DISPLAY (AS SHOWN):**

- 1. "I" is the "ON/OFF" button
- 2. "2" button is "+" to adjust the setting temperature
- 3. "3" button is "-" to adjust the setting temperature
- 4. "4" is the "HEATING" indicator light
- 5. "5" is the "ECO" indicator light
- 6. "6" is the "ECO" button
- 7. "7" is the temperature display

**FACTORY SETTINGS**

<table>
<thead>
<tr>
<th>Function</th>
<th>Temperature Setting</th>
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<tbody>
<tr>
<td>Factory Setting</td>
<td>75°C</td>
</tr>
<tr>
<td>ECO Mode</td>
<td>55°C</td>
</tr>
</tbody>
</table>

**FAULT DIAGNOSIS**

- **Dry Heat**: When the system detects the interior temperature rise slope ≥15°C/min or when rising slope ≥4°C/30s, and the temperature exceeds 80°C, the display flashes the fault code "E3".
- **Overheat**: When interior temperature sensor temperature exceeds 90 degrees, it is determined that over-temperature, display flashes error code "E3".
- **Sensor Fault**: In case of sensor open circuit, short circuit, display flashes error code "E4".

**ERROR CODE FOR SERVICE TECHNICIAN USE**

- **E2**: Dry Heat - Top up with water and re-heat.
- **E3**: Overheat - Check the heating system or replace it.
- **E4**: Sensor Fault - Check the sensor or replace it.

**OPERATING INSTRUCTIONS**

- Do not switch on the power supply before filling the water heater or else it will damage the heating element.
- The pressure release valve is the most important pre-calibrated safety device provided with the water heater to prevent the inside pressure from increasing. Kindly do not tamper with it.
- Open the hot water outlet valve.
- Open the inlet valve to allow water to fill inside the water heater until it starts flowing from the water outlet valve.
- Check all the piping connections for leakage before turning ON the electric power of the water heater.
- Always keep the inlet valve open.
- You can switch on the power supply. The glowing green light indicates that water is heating. When water is heated to a prefixed temperature, the green light indicator switches OFF and a red light glows. The red light continues to glow until the power supply is switched OFF.
- The thermostat ensures that the electric supply is always switched ON & OFF. Check the working of lights, to ensure the thermostat & thermal cut-out are operational.
- Turn ON the main electrical power supply and then adjust the temperature knob clockwise for a higher temperature & anti-clockwise for a lower temperature.
- The water heater needs to be turned ON for a certain period of time to reach the desired temperature.
- During the heating process, it is normal to see a slight drip at the safety valve. Please do not cover the safety valve outlet.
- This water heater must be installed with a mono-directional safety valve at the inlet pipe (blue indicator) when the tank's pressure is over 0.8 Mpa. This will automatically activate the safety valve and water will exit the drainpipe outlet. This outlet must not be blocked under any circumstance.

**CAUTION AND MAINTENANCE**

In order to avoid a hazard due to an inadvertent resetting of the thermal cut-out, the water heater must not be supplied through an external switching device such as a timer, or connected to a circuit that is regularly switched ON and OFF by the utility.

- The supply socket must be earthed reliably. The rated current of the socket should not be lower than 16A. The socket and plug should be kept dry to prevent electrical leakage.
- When using the heater for the first time (or the first use after maintenance), the heater cannot be switched on until it is full of water. When filling water, at least one of the valves at the outlet of the heater must be opened to exhaust air. This valve can be closed after the heater has been filled with water.
- The water heater is not intended for use by people (including children) with reduced physical, sensory or mental capabilities, or a lack of experience and knowledge, unless they have been given supervision or instructions concerning the use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the heater.
- During heating, there may be droplets of water dripping from the pressure relief hole of the pressure relief valve. This is a normal phenomenon. If there is a large amount of water leaking, please contact an authorised service centre for repair. This pressure release hole should, under no circumstances, be blocked, otherwise it may damage the appliance and may result in accidents.
- The drainage pipe connected to the pressure release hole must be kept sloping downwards. Since the water temperature inside the heater can reach up to 75°C, avoid exposure to human bodies when initially used. Adjust the water temperature to a suitable temperature to avoid scalding.
- If the flexible power supply cord is damaged, the special supply cord provided by the manufacturer must be selected, and replaced by professional maintenance personnel.
- If any parts or components of this water heater are damaged, please contact the Orient Helpline Number for repair.
- Remove sediments regularly from the element and tank.
- The maximum inlet water pressure is 0.8 Mpa or 0.65 Mpa; the minimum inlet water pressure is 0.1 Mpa. This is necessary for correct operation of the appliance.
The water may drip from the discharge pipe of the pressure relief device and this pipe must be left open to the atmosphere. The pressure relief device is to be operated regularly to remove lime deposits and to verify that it is not blocked.

If the water heater is not used for a long time, especially in regions with low air temperature (below 0°C), it is necessary to drain water from the tank to prevent damage due to freezing. To do so, contact an authorised service agent.

In order to drain away the water in the inner container, use the pressure release valve. Turn the threading screw of the pressure release valve off, and lift the drain handle upwards. A discharge pipe connected to the pressure relief device is to be installed in a continuously downward direction and in a frost-free environment.

Check the power plug and outlet as often as possible. Secure electrical contact and also provide proper grounding. The plug and outlet must not heat excessively.

To ensure long, reliable water heater operation, it is recommended to regularly clean the internal tank and remove deposits on the electric heating element of the water heater, as well as check the condition (fully decomposed or not) of the magnesium anode. If necessary, replace it with a new one (in case of full decomposition). Tank cleaning frequency depends on the hardness of water located in the territory. Cleaning must be performed by special maintenance services. You can ask the seller for the address of the service center.

The water heater is equipped with a thermal switch, which cuts off the power supply of the heating element upon water overheating or its absence in the water heater. If the water heater is connected to the mains, but water has not heated and the indicator does not light up, then the thermal switch is switched off. To reset, contact the authorised service centre.

### TROUBLESHOOTING

<table>
<thead>
<tr>
<th>No.</th>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
</table>
| 1.  | Indicator light does not light up | 1. The power source is not connected or improperly connected  
2. Indicator may be damaged  
3. Thermal cut-out is activated | 1. Check for power supply or try plugging the product in a different power socket  
2. Get a qualified technician to check the electrical wiring and indicators  
3. If the problem persists, visit the nearest authorised service centre |
| 2.  | Water temperature of the water is low | 1. The water supply to the water heater  
2. Check if there is any wad in the water heater  
3. The element may be defective  
4. Thermostat is at low setting | 1. Check for power supply or try plugging the product in a different power socket  
2. Use a water filter (recommended for hard water)  
3. Contact the sail-free Orient helpline number for assistance |
| 3.  | Water from the warm water tap | Main water valve is not switched on | Turn ON the main water supply |
| 4.  | Electric shock from the water heater | Any of the internal parts may be defective | 1. Check the earthing of the green wire  
2. Contact the sail-free Orient helpline number for assistance |
| 5.  | Water leakages | 1. Leakage from the plumbing connection  
2. Leakage at the gasket | 1. Get the connection tightened  
2. Tighten the element or replace the gasket through an authorised service centre |
| 6.  | Electrical mains tripped | 1. Short circuit of the heating element  
2. Low MCB rating | 1. Contact the sail-free Orient helpline number for assistance  
2. Check if the MCB rating to which the water heater is connected. Connect only to 15A-25A MCBs rated suitable for CHW |
| 7.  | Cable failure (plug, cord, wiring, insulation) | Cable may be defective | Contact the sail-free Orient helpline number for assistance |
| 8.  | The water heater creates an abnormal noise | Scaling of the heating element | Contact the sail-free Orient helpline number for assistance |
| 9.  | Water leakage | 1. Loose water tank  
2. Water tank Bottoming or opening end | 1. Contact the sail-free Orient helpline number for assistance  
2. Push-out the water tank to the open end of the water heater |
| 10. | Damaged parts from the water heater | Unit has not been used for many days | 1. Replace the parts of the water tank as necessary  
2. Push-out the water tank to the open end of the water heater |