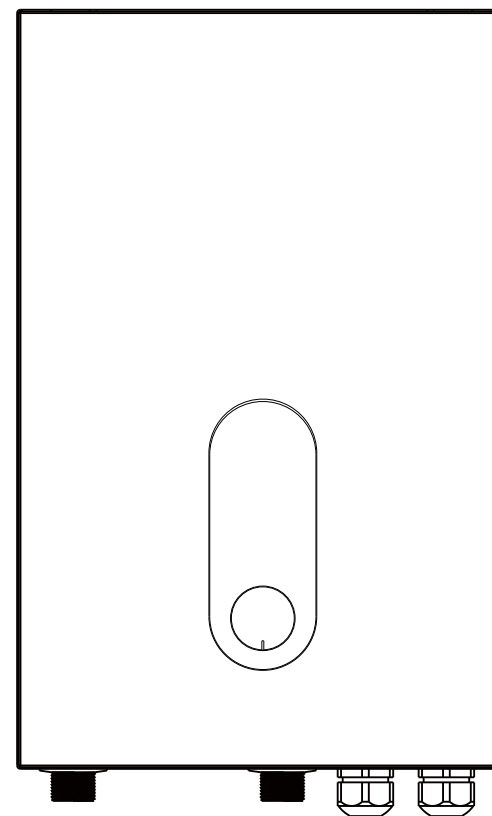


INSTRUCTION MANUAL OF ELECTRIC INSTANT WATER HEATER



KF640007US-03AK-001
KF640007US-04AK-001

Preface

Dear Users:

We sincerely thank you for choosing our Electric Instant Water Heater. Your wise choice will bring you a comfortable experience! Before using this Product, please carefully read this Manual for proper installation and better use of this Heater, maximizing its features for your enhanced comfortable experience of quality life. For any problems encountered during your installation or use, please contact your local dealer or our after-sales service department directly. We will do our best to serve you.

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Safety precautions

1. We bear no liability for improper installation of this Water Heater. It must be installed by qualified professionals.
2. Before installing the electric water heater, first determine whether the electric power of the electric water heater matches the capacity of the electricity meter and the power wiring.
3. The Electric Water Heater must be reliably grounded. Do Not connect the earth wire to L1, L2 or any tap-water pipe. The junction box or leakage protection switch (circuit breaker) must be grounded, and L1 and L2 should be strictly distinguished; otherwise, an electric shock accident may occur.
4. The Electric Water Heater is powered by 240V AC 50/60Hz supply. The power cord of the Heater shall be connected via a ground fault circuit interrupter (GFCI) with secure and reliable wiring, instead of using an plug-in socket to avoid danger.
5. The installation location of this Heater must have a floor drain with proper drainage to prevent water leak from damaging any adjacent object or the lower floor of the building.
6. For a stationary water heater with no power cable and plug, a all-pole disconnecter with a contact gap of at least 3mm must be used for connection of fixed wiring.
7. After the Heater is installed for use, users should conduct regular inspections and necessary maintenance based on its usage; and report any abnormalities to our after-sales service department for repair to ensure normal, safe and reliable operation of the Heater.
8. Before any maintenance or repair of the water heater, please make sure to disconnect the power supply. Non-professionals are not allowed to adjust or repair the water heater.
9. Hot water in the Heater may cause severe scald, so please be sure mix hot water with cold water before your use.
10. If the Heater is working with no water (dry-burning), high-temperature steam or hot water maybe produced and potentially cause severe scald. Therefore, it is necessary to ensure that there is continuous water flow when the water heater is working. If dry burning occurs, it should be repaired by professional maintenance personnel before it can be used.
11. If any part of the water heater is soaked by water, it should be repaired by professional maintenance personnel before it can be used.
12. The power cord, if damaged, must be replaced by the manufacturer, the maintenance service personnel or similar qualified professional to avoid hazard.
13. The junction box of this Water Heater should be installed in a dry place inaccessible to water spray (preferably equipped with a waterproof enclosure). Do Not touch the power switch with a wet hand.
14. The exposed parts of the water heater and the connecting water pipes are at high temperatures. Do not allow children to approach and touch them so as to avoid danger.
15. Warning: Do Not power the Heater if water inside may freeze.
16. This Electric Water Heater is not intended for use by persons (including children) with physical, sensory or mental disabilities, or lack of experience/knowledge, unless supervised or instructed by someone responsible for their safety regarding the use of the Heater. Guardians must take good care of their children to prevent them from playing with the Heater.
17. This Electric Water Heater should not be used in any region of more than 2,000m above sea level.
18. After prolonged use, the showerhead may accumulate scale and should be descaled regularly to prevent clogging.
19. Note: To avoid any danger caused by thermal circuit breaker mis-reset, the Device should not be powered through an external switchgear.
20. The water outlet of the water heater must not be connected to any faucet or connector unspecified.
21. The minimum inlet water pressure is 0.1Mpa and the maximum inlet water pressure is 0.6Mpa. Be sure to use new hose assemblies provided with the Heater; Do Not reuse any old hose assemblies.

1. Special Tips

- The water heater must be securely grounded. The earth wire, L1 and L2 must be strictly separated and never misconnected.
- An additional certified leakage protection switch must be installed in the power supply circuit.
- The power supply line must be installed vertically. Do Not reverse the inlet pipe (blue) and the outlet pipe (red); and please Do Not power on the Heater for testing until there is water flowing.
- Never power on the Heater when water inside may freeze.
- Regularly clean the inlet filter and showerhead to ensure unobstructed water flow.
- When adjusting water temperature, Do Not keep the showerhead aimed at any person, but please first check the water temperature by hand, and in order to avoid scalding, please Do Not use the water until its temperature is confirmed appropriate.
- Elderly or children must be guided by someone familiar with the product operation when using the Heater.
- Close the inlet valve and remove the inlet pipe to drain water from the Heater.
- Please read this Manual thoroughly. Failure to follow all guidelines, instructions, rules and warnings may result in personal injury or property damage.
- Any improper installation, modification, maintenance or use of this device may cause serious injury.

2. Product Features

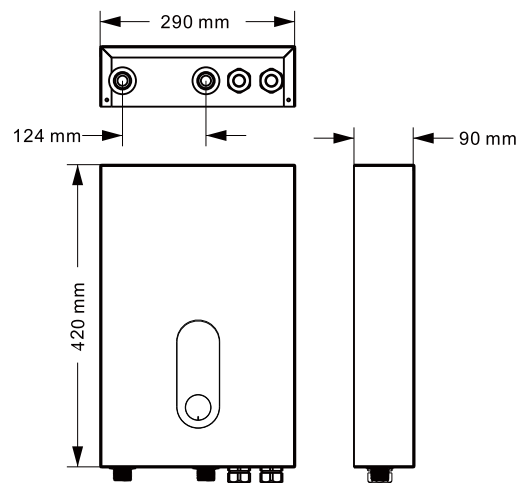
1. Safety: Featured isolation of water and electric power and protection against dry burning.
2. Advanced: Leading control technology, being safe and reliable.
3. Energy efficiency and pro-environment: High thermal efficiency with no hazardous byproduct.
4. Convenient: Instantly usable, with no need for waiting, and can be used continuously.
5. Practicality: Personalized design with output of constant-temperature water and touch control.

3. Technical Parameters

Product Model and Parameter

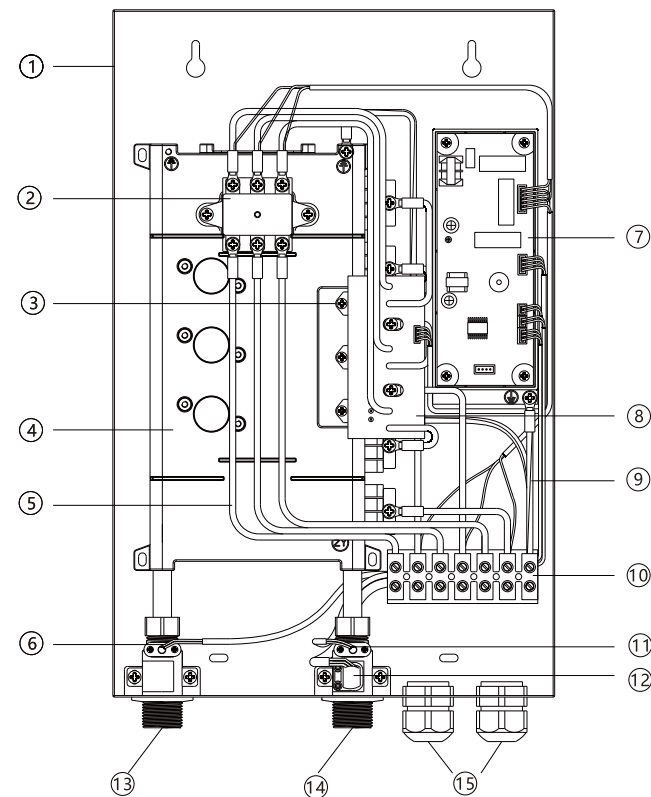
Product Model	Rated Voltage (V~)	Rated Frequency (Hz)	Power Range (W)	Rated Water Pressure (MPa)	Waterproof Rating	Rated Current (A)	Wire Diameter (mm)
KF640007US-03AK-001	240	50/60	27000	0	IPX4	112.5	8AWG
KF640007US-04AK-001	240	50/60	27000	0	IPX4	112.5	8AWG

4. Diagram of Boundary Dimensions



Model	KF640007US-03AK-001 KF640007US-04AK-001
Rated Voltage	240V~
Rated power	27000W
Rated Frequency	50/60Hz
Rated Current	112.5A
Cross-Sectional Area of Copper-Core Power Cord	8AWG
Thermal Breaker Protection Switch	3X40A
Start-up Flow Rate	0.8GPM
Net Weight	8.1kg
Gross Weight	9.1kg
Thread Specification of Inlet/Outlet Connectors	3/4" NPT
Body Dimension	420*290*90mm
Packing Dimension	525*360*165mm

5. Internal Structure



1. Bottom Shell	2. Snap-action Temperature Limiter	3. Thyristor	4. Cast Aluminum Heating Element	13. Outlet Connector
5. High-temperature Conductor	6. Outlet Temperature Sensor	7. Power Panel	8. Thyristor Board	14. Inlet Connector
9. Earth Wire	10. Terminal Block	11. Inlet Water Temperature Sensor	12. Inlet Water Flow Sensor	15. Cable Connector

6. Precautions for Installation

1. The water heater is installed on the wall and should be placed in a place where the indoor ambient temperature is above 0°C. The piping should be centralized. The outlet of the water heater should not be too far from the hot water outlet point. If longer than 3m, the hot water pipe shall be thermal-insulated to minimize heat loss;
2. The installation location of this Heater must have a floor drain with proper drainage to prevent water leak from damaging any adjacent object or the lower floor of the building;
3. No combustibles should be placed around the installation area of the Heater and no heat sources are allowed below the Heater to prevent the occurrence of fire accident;
4. Check whether the diameter of incoming wire from the outdoor power grid can match the load of all electrical appliances (please consult a qualified electrician), whether the diameter of dedicated power cord for the indoor water heater is matched or not (refer to the power load table), and whether the intermediate connection is secure or not;
5. Check whether the energy meter and the leakage protection switch in your house match with each other, and there must be a reliable earth wire connected to the water heater.
6. We provide standardized packing accessories for the water heater, the water outlet of which should not be connected to any unspecified faucet or connector;
7. The capacity of branch circuit for electrical connection should be more than 1.5 times the maximum current value of the water heater;
8. The water heater must be installed by professional installers. The selection of installation accessories and the installation of the water heater shall comply with the general principles of standard installation specifications and safety technical regulations, as well as relevant laws, regulations or standards issued by national and local governmental authorities on electricity, construction and environmental protection as well as the Product Specification;
9. The installation location should avoid areas where flammable gas leaks occur or environments with strong corrosive gases, as well as areas directly affected by strong electric and magnetic fields. Any place prone to vibration should also be avoided.
10. The power switch shall be placed in a safe location free from electrocution risk. Where water splashing is possible, waterproof measures shall be taken for the power source;
11. The installation position of electronically controlled water heaters should be kept away from any electromagnetic interference source;
12. Electrical safety inspection and operational check shall be performed after the water heater is installed to ensure all performance indicators align with the Specification;
13. Do Not disassemble the machine nor replace any part of the water heater without authorization;
14. When wall-mounted, the Device shall be kept 3mm away from the installation surface;
15. The water inlet of the Heater shall not be connected to any input water source from any other water heating system;
16. During normal operation of the Heater, the priority of water temperature setting by temperature controller at the shower outlet shall be higher than that at any other outlet.

Key Points Requiring Special Attention:

1. The Device must be installed in a circuit capable of withstanding over-current, and must also be grounded at the circuit breaker panel;
2. This Device must be permanently connected to a fixed circuit breaker. If you will no longer use the Device, please turn off the circuit breaker. Please Do Not install the Device in a flammable region or a strong magnetic field;

3. The Device must be installed vertically. Please connect the water supply first before power-on;
4. The Device is only suitable for indoor installation; however, if installed outdoors, it must be housed in a protective enclosure resistant to rain, splashed water, low temperature, strong light, debris and insect;
5. The Device shall be installed as close as possible to the primary hot water outlet;
6. The Device shall be installed in a frost-free place. If frost is likely to occur, the Device shall be removed before the temperature has dropped below freezing. A clearance of at least 120mm shall be reserved from all sides for convenience of maintenance, repair and operation;
7. Do Not install the Device below any water pipe or AC duct, as leaked or condensed water may drip onto the Device;
8. Never install anything above the electrical box or junction box.

⚠ NOTICE: The Heater should not be placed where water leakage could damage the adjacent region or the lower floor of the building.
If such situation cannot be avoided, it is recommended to install a suitable drainage container beneath the Heater, which must have an adequate function of drainage.

7. Installation Instructions

● Due to the high power rating of this Heater, please carefully check the energy meter, circuit wire gauge, fuse and whether the circuit leading to the water heater has a switch installed before this water heater is installed; ensure that the above devices can reach the rated current of this water heater as required (please refer to the List of Technical Parameters).

1. Select the optimal location for installation before proceeding; A. Do Not install the Heater in a place where it may be directly exposed to water splashed; B. The wall for installation should be flat, not affecting the installation nor causing wear to the bottom shell.
2. For installation of the Heater body: please first mount the bracket on the wall, then align and hang the Heater with the mounting hole position; be sure to keep the Heater body installed vertically to avoid affecting the normal use of the Heater.
3. Installation of Water Inlet and Outlet Pipes First, turn on the tap water outlet that is connected to the water heater to drain the water to prevent impurities from entering the water heater. There are two pipe openings at the lower end, with the right one as the inlet, and the left one as the outlet. Install a triangle valve (or equivalent) on the tap water connection, and then connect one end of the hose to the triangular valve and the other to the water inlet of the Heater. Connect one end of the delivery hose to the outlet of the Heater and the other to the showerhead or the hot water pipe, and install seal rings between connections.
4. Installation of the Power Supply The installation of the power supply should be carried out by designated installation technicians or qualified professionals. Select appropriate electricity meters, power lines, leakage protectors, air switches, etc. based on the electric power of the water heater. The water heater should have a dedicated power supply line and cannot share the power line with high-power electrical appliances. In the process of wiring, please distinguish L1, L2 and the earth wire.

⚠ NOTICE: Seal gaskets must be added to inlet/outlet pipe couplers. When fastening hose connector screws with a wrench, Do Not apply excessive force to prevent gasket damage, leakage or equipment failure.

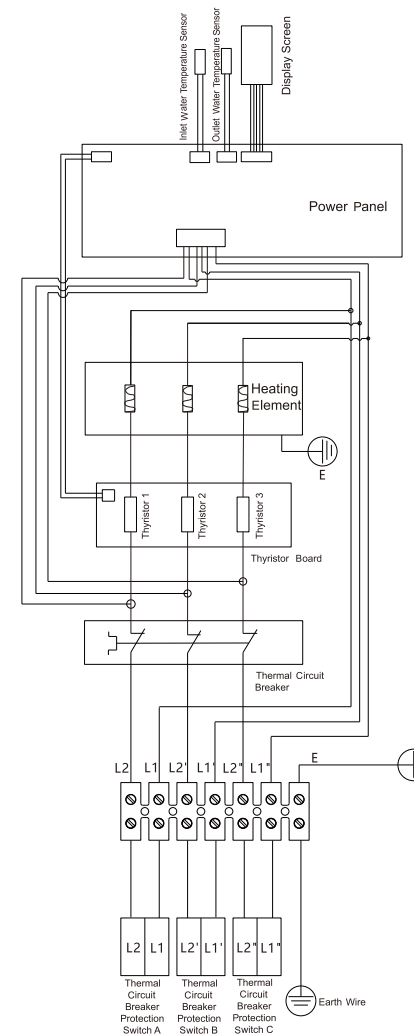
⚠ WARNINGS

1. The Device must be installed by a licensed electrician and plumber.
2. Installation of the Device must comply with all national, state and local plumbing and electrical codes. Failure to follow installation and operation instructions or improper use would void the warranty.
3. Before any installation, adjustment, modification or maintenance on the Device, be sure to disconnect all circuit breakers or isolation switches powering the Device first. Never remove the enclosure without disconnecting the power supply to the Device, as this may result in serious injury or fatality.
4. The Device must be properly grounded. Failure to ground may cause severe injury or fatality.
5. The Device must be installed vertically with the water connection facing downward.
6. Never install the Device in any place frequently exposed to water splashed, otherwise, any electric shock accident would be caused.
7. The hot water outlet pipe may be felt extremely hot when detached from the Device. All $\phi < 0.9\text{m}$ hot water pipes must be insulated due to the risk of scalding children.
8. The Device should not be installed in any place where the temperature may drop below 2°C . If the Device may experience extreme cold, all water must be drained from the Device. Failure to comply with these instructions will void all warranties. The Device should be installed in a place where no water leaked from the Device or any connection would damage the surroundings. If such location cannot be avoided, it is recommended to install a drip tray beneath the Device.
9. Please keep the Product in good condition and make sure all accessories are provided together. Make sure that the main power supply, water pressure, grounding condition, ammeter and wiring meet the requirement for installation.

⚠ Caution

The Device must not be used for supply of drinking water.

8. Circuit Diagram



9. Unit Operating Instructions

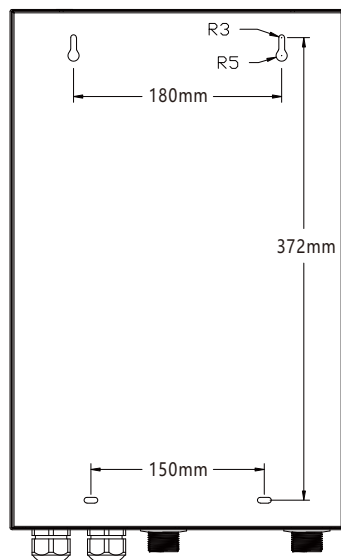
Components/Accessories included in the Product:

1. Water heater
2. User manual
3. Accessory kit
4. Installation template

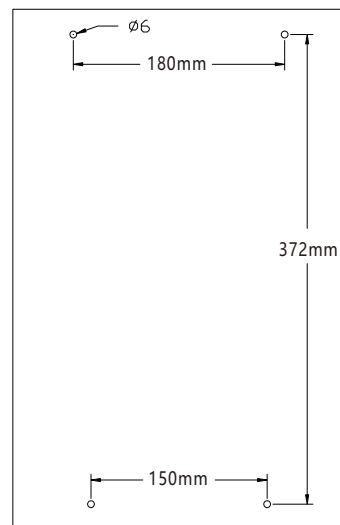
Tools required for installation:

1. Screwdriver
2. Hammer
3. Handheld electric drill
4. Tape measure
5. Gloves
6. Pencil

Installation Dimension:

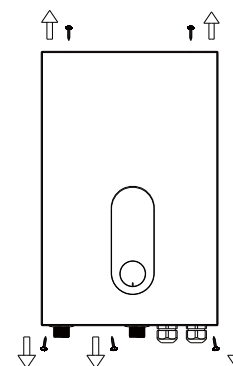


Installation Template:

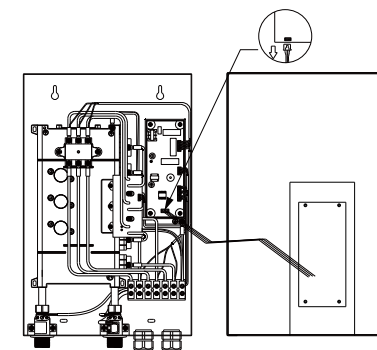


Installation Method:

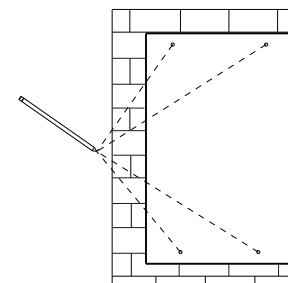
1. Use a screwdriver to remove the five ST4×10 screws from the top and the bottom.



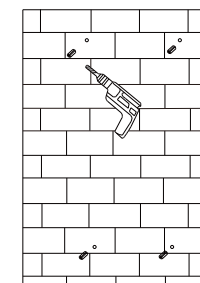
2. For easier installation, please slide open the front cover and carefully disconnect the display cable from the Heater's power panel.



3. Determine the installation position of the Heater and use a pencil to mark the position of the 4 mounting holes on the wall according to the Heater installation template.

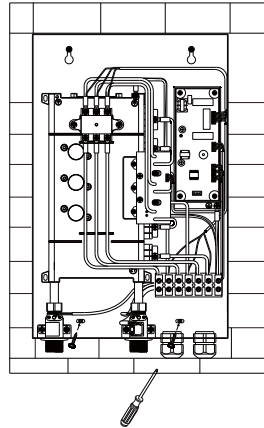
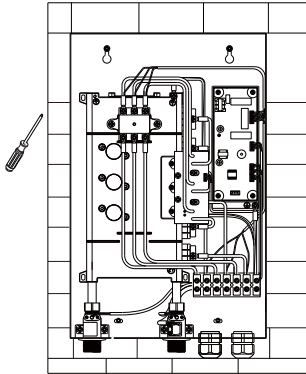


4. Use an handheld electric drill to bore a hole on the wall according to the marked position and ensure that the borehole have a 6-mm diameter and a depth from 28 mm to 30 mm. Then, insert the four matched M7 expansion plugs into the boreholes.



5. First, partially thread two ST4×30 screws into the upper holes, leaving an approximate 3-5mm gap (do not fully tighten). Then hang the water heater onto the screws.

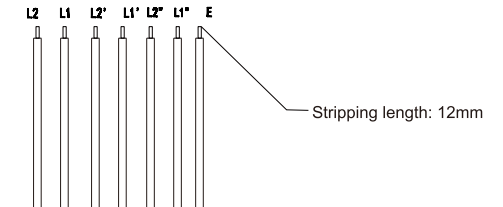
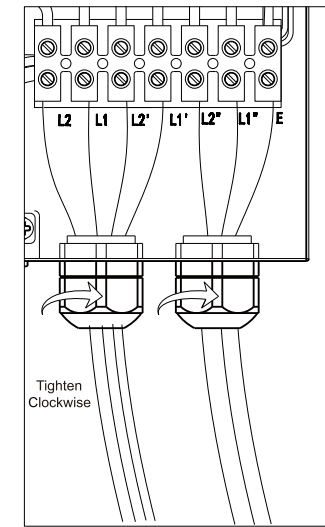
6. Secure the two lower screws, then fully tighten all four upper and lower screws to fasten the water heater firmly in place, ensuring a complete and stable installation.



NOTE

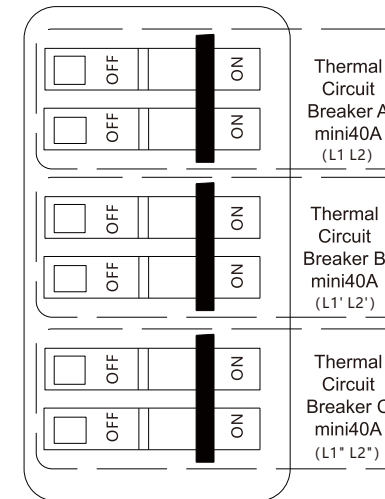
The distance between the Heater and the wall must not be less than 3mm.

7. Circuit Layout



Shear the PVC cable to an appropriate length and strip the outer sheath.

Wires must pass through cable clamps (see "Circuit Layout"). Live wires should connect to slots marked L1 and L2 on the terminal block. The earth wire should be connected to the slot marked with the GND symbol.



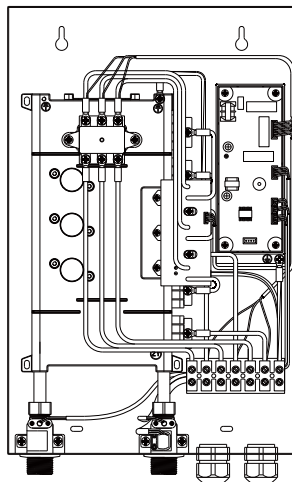
1. These devices require three independent circuits. Please use three sets of power cords, each protected by an independent double-pole circuit breaker.
2. They must be connected to three groups of 240V power. Each group of power must be connected to a double-pole circuit breaker. Lines L1 and L2 must be connected to Thermal Breaker A; L1' and L2' must be connected to Thermal Breaker B; L1'' and L2'' must be connected to Thermal Circuit Breaker C;

Terminal Block Torque
Reference Table

Screw Size (mm)	Minimum Torque (N·cm)	Minimum Torque (lbf·in)
M4	100 - 140	8.9 - 12.4

Securing the wire to the Terminal block with correct torque as specified will help prevent personal injury or property damage.

9. Water Pipe Connection:



Two φ24*3 Sealing Rings

NOTE

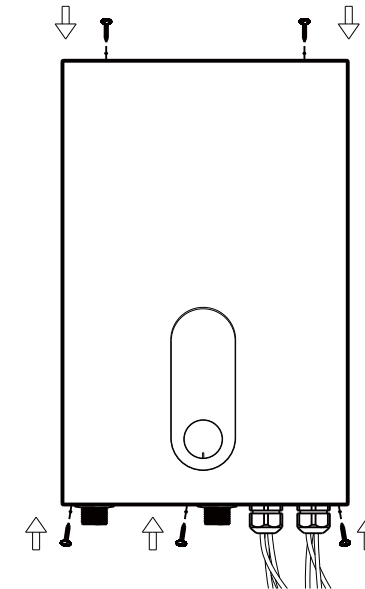
Hard water (with high mineral content) may damage the Device. Damage caused by scale or mineral deposit is not covered within the scope of warranty service.

⚠ WARNINGS

DO NOT install this water heater with iron piping. The system should be installed only with new piping that is suitable for potable (drinkable) water such as copper, CPVC, or polybutylene. **DO NOT** use PVC water piping.

DO NOT use any pumps, valves, or fittings that are not compatible with potable water.

- After completing all plumbing and electrical connections, please reconnect the display cable to the Heater's power panel, install the front cover, and tighten the five screws (on the top and bottom) with a screwdriver.

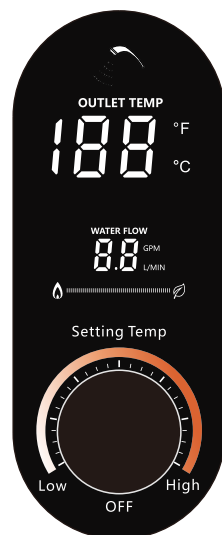
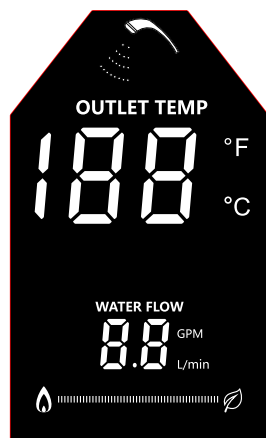


⚠ WARNINGS

Before performing any electrical work, please keep the main circuit breaker panel switch in the "OFF" position to prevent electric shock. All installation and plumbing works must be completed before electrical connection. As required by local or national electrical specifications, the circuit must be equipped with a "Ground Fault Circuit Interrupter (GFCI)".

The Device must be properly grounded in accordance with local regulations; If no such local specifications are applicable, grounding should comply with national or international electrical specifications. Failure to properly ground the product may result in serious personal injury or fatality.

10. Operation Instructions



1. Operation Method: Turn the knob to control the power switch and adjust the temperature.
2. When a fault code appears, the buzzer will beep six times: "beep, beep, beep, beep, beep, beep".
3. Outlet Water Temperature Sensor Fault Protection: If the temperature sensor fails, "E2" will flash and the buzzer will alarm six times. Heating stops.
4. When the outlet water temperature exceeds 167°F, the fault code "E3" will be displayed, heating will stop, and the buzzer (30dB) will sound six times. Heating resumes when the outlet water temperature drops to or below the set temperature.
5. Inlet Water Temperature Sensor Fault Protection: If the temperature sensor fails, "E4" will flash and the buzzer will alarm six times. The machine stops heating until the fault is resolved and normal operation resumes.
6. If a short circuit occurs in the signal wire of the flat cable connecting the display screen and the power board, "E9" will flash and the buzzer will alarm six times. The machine stops heating until the fault is resolved and normal operation resumes.

Recommendation:

Before each use, please open the water valve first, then press the Switch key for power-on. After the use, please press the Switch key for power-off first, then close the water valve till the water is cooled down (in several seconds).

11. Precautions for Operation

1. Before use, please verify that inlet/outlet valves are open and the power connection is secure to prevent dry burning and damage to the Heater.
2. Hot water from the Heater cannot be drunk directly.
3. To prevent the water output from decreasing, please regularly clean the scale deposit and residue on the filter screen to prevent the mesh from getting clogged.
4. All the year round, you can flexibly adjust the heating mode and heating temperature according to the change of atmospheric temperature and set the temperature as low as possible to reduce high-temperature corrosion and extend the service life of the Heater.
5. During the use of the Heater, if the outlet valve is temporarily closed and then opened again, there will be hot water flowing out instantly, by this time, please take more care to avoid scald injury.

⚠ WARNINGS

Warning: Hot water above 50°C (122°F) may cause scalding, so for the safety of you, your family and children, please exercise caution when setting the temperature above 50°C.
Warning: If water in the Heater has shown any sign of freezing, please Do Not power on.

12. Maintenance and Service

1. Declaration: This Water Heater should only be serviced by qualified personnel. Incorrect repair methods may cause serious injury or property damage, before opening or servicing the Heater, please be sure to disconnect the power supply first.
2. Regularly check the power cord and air switch for proper contact, and ensure reliable grounding.
3. External cleaning: Be sure to disconnect the power supply first before cleaning, wipe with a damp cloth and mild neutral detergent, never use gasoline or any other solvent, dry thoroughly with a clean cloth and avoid using any abrasive, acidic, chemical or polishing agents for cleaning.
4. If the showerhead sprayed water weakly or water flow decreased in use, please detach the showerhead and the inlet pipe to clean debris from the filter, and then rinse both with water.
5. Tap water contains numerous impurities. Without regular cleaning, deposits may accumulate in the showerhead holes and filters, causing flow reduction or blockage that damage the Heater, so periodic descaling and cleaning are required.
6. When the inlet water temperature approaches 0°C, ice may form inside the heating element, then please Do Not power on the Heater until the ice has completely melted.
7. Be sure to open the water valve before power-on. After use, press the Power Button to turn off the unit first, wait for a few seconds until the water cools down, and then turn off the water supply.

13. Hazardous Substances for the Electric Water Heater

Identification Label on Restricted Use of Hazardous Substances for the Electric Water Heater Product

Part Name	Names and Contents of Hazardous Substances in the Product					
	Hazardous Substances					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Panel	○	○	○	○	○	○
Mainboard Assembly	×	○	×	○	○	○
Transformer	○	○	○	○	○	○
Accessories	×	○	○	○	○	○
Power Cord and Connector Wire	○	○	○	○	○	○
Shockproof Wall	×	○	×	○	○	○
Enclosure	○	○	○	○	○	○
Heater	○	○	○	○	○	○
Printed Matter	○	○	○	○	○	○

○ :means that the content of this hazardous substance in all homogeneous materials of this Component is below the limit required in GB/T26572.

×

 :means that the content of this hazardous substance in all homogeneous materials of this Component has exceeded the limit required in GB/T 26572. Marking the Component "X" indicates that due to current global technological and process limitations, complete substitution of non-pro-environment substances or elements cannot be achieved. Subsequent improvement will be made with the progress made in technology.

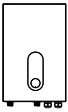
* :means that this Component is only included in certain models.

 Marking for Restricted Use of Hazardous Substances	Pro-environmental service life of 10 years: means that hazardous substances contained in this Product will not leak or mutate; when used normally as described in the Manual, the Product will not cause severe environmental pollution or significant harm to the health/property of users within this period. Arrow recycling symbol: signifies that this Product is recyclable. If the service life has expired or the Product cannot be used after repair, please Do Not discard arbitrarily, but hand it over to a formal recycling channel or a company qualified for disposal of waste electrical and electronic product; for proper disposal methods, please refer to national or local regulations on disposal of waste electrical and electronic product.
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 Consumables like batteries should be replaced in time. After failure, it is recommended to follow relevant environmental management requirement or contact the battery manufacturer for consultation and disposal.

 **Warning:**
This product contains a chemical known to the State of California to cause cancer, birth defect or other reproductive harm.
For more information, go to www.P65warnings.ca.gov.

14. Packing List

No.	Description	Quantity	Image	Remark
1	Instant electric water heater	1		
2	Instruction manual	1		Keep id for future reference
3	Rubber	5		For water heater installation
4	screw	5		
5	Installation guide card	1		For quick product installation
6	φ24×3 sealing ring	2		For water heater installation

NOTE

The packing list is subject to the actual product received.

15. Common Faults and Troubleshooting Methods

Fault Phenomenon	Fault Analysis	Solutions
Water Leakage	A. The water inlet pipe is not properly connected B. The rubber ring is damaged C. Heating element leaking water	A. Reconnect B. Replace the rubber ring C. Replace the heating element
No Display	A. Power not connected B. Cable not plugged in tightly C. Overheat protector has tripped D. Circuit board is damaged	A. Connect to power supply B. Plug in the cable tightly C. Open the cover and perform manual reset D. Replace the circuit board
Water Flow Sensor Malfunction	A. The water pressure is too low B. The water passage is blocked C. The turbine is stuck	A. Increase water pressure B. Clean the filter screen or shower head C. Replace the turbine
It Will Continue Heating Up In A "Dry-Burning" Mode With No Water Supply But Power On.	The circuit board of the water flow sensor is damaged	Send for professional repair
Display "E2"	Outlet water temperature sensor fault	Turn off the main power supply and replace the probe
Display "E3"	If the outlet water temperature exceeds 167°F, it indicates overheating.	Reduce the set temperature or increase the water output
Display "E4"	Inlet water temperature sensor fault	Turn off the main power supply and replace the probe
Display "E9"	Communication error alert	Send for professional repair
The Temperature Display Is Incorrect	A. The temperature probe is damaged B. The circuit board is damaged	A. Replace the temperature probe B. Replace the circuit board
The Outlet Water Flow Becomes Smaller And Smaller	The filter screen, shower head, and flow regulating valve are clogged	Clean and remove scale deposit