



Ranein

Tankless Electric Water Heaters

Instruction For Installation And Use

Model:RE6.5K / RE9K / RE11K



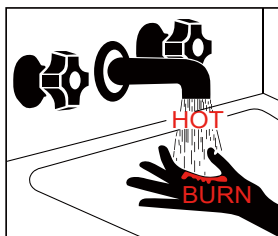
Contact Service

www.raneinrv.com

service@raneinrv.com

IMPORTANT SAFETY INFORMATION. READ ALL INSTRUCTIONS BEFORE USING

⚠ DANGER



Water temperature over 125°F (52°C) can cause severe burns instantly or death from scalds. Children, disabled and elderly are at highest risk of being scalded. See instruction manual before setting temperature at water heater. Feel water before bathing or showering.



CLICK FOR
ON / OFF



PRESS 5
SECONDS °C/°F

Rotate right for higher temperature (up to 131°F (55°C)) or rotate left for cooler temperature (as low as 86°F (30°C)) will be displayed on the screen above the knob.

⚠ NOTICE

Mixing valves are recommended for reducing point of use water temperature by mixing hot and cold water in branch water lines. It is recommended that a mixing valve complying with the Standard for Temperature Actuated Mixing Valves for Hot Water Distribution Systems, ASSE 1017 be installed.

Read and Save These Instructions Installer: leave this manual with the homeowner.

Before installing, debugging, using, maintaining and repairing this tankless electric water heater, please take the time to read and understand the installation and safety manual thoroughly and carefully. This manual contains important safety tips and instructions.

Important Information

This water heater must be grounded.

This unit should be installed by a qualified electrician or plumber in accordance with Federal, State and local electrical and plumbing codes.

This water heater is used to provide domestic hot water for household use and can provide multiple outputs.

Cut off the connection with power supply when the water heater is not used in order to avoid a hazard.

If it is not used for a long time in winter, drain the water from the the water heater to avoid water frozen which would damage the container. Cut off the power supply before emptying.

Keep this instructions after installation. You may need it later to get more information and support.

The thermomate and/or distributor is not responsible for any losses resulted from failure to comply with the requirements of this manual and faulty operation, including but not limited to electric leakage, water leakage and other consequences.

⚠ NOTICE

This unit has multiple power inputs. Shut off all breakers before Installation and maintenance.

Read the safety information

To Ensure your safety and the safety of others, we have included important safety warnings throughout this manual.

All safety messages will follow the safety alert symbol and the words: "CAUTION", "DANGER" "WARNING" or "NOTICE".

These words mean:

⚠ CAUTION

A potentially hazardous situation that may result in minor or moderate injury.

⚠ DANGER

An imminently hazardous situation that will result in death or serious injury.

⚠ WARNING

A potentially hazardous situation that could result in death or serious injury and/or damage to property.

⚠ NOTICE

Attention is called to observe a specified procedure or maintain a specific condition.

Contents

Important Information...01	Installation Guide.....11
	Water Connections.....12
User Instructions.....04	Electrical Connections.....12
Warning.....04	Operating Instructions.....14
Technical Specification.....05	Normal Maintenance.....15
Operation Instructions.....05	Circuit Diagram.....16
	Product Inner Structure.....17
Installation Instructions...07	
Warning.....07	Maintenance Instructions...18
Product Dimensions.....08	Troubleshooting.....18
Mounting Your Water Heater...09	Product Warranty.....18

Product Warranty

Ranein warranties this water heater to be free of defects in material and/or workmanship for a period of two (2) years commencing on the day on which the product is purchased. During this 2-year warranty period, we will at our option, at no charge to the customer, repair or replace this product if found defective, with a new or reconditioned product, but not to include costs of removal or installation. Warranty services provided shall neither prolong the warranty period nor initiate a new warranty period. All return goods must be shipped with transportation charges prepaid.

This warranty shall not cover errors due to improper installation or incorrect usage, incorrect operating conditions or defective maintenance or repair work. Normal wear and tear such as lime scaling shall also be excluded under this warranty. The warranty will not be valid if the problem is caused by extreme values of drinking water.

This warranty shall not include compensation, withdrawal from the agreement, reduction in price or any reimbursement for consequential loss due to defects.

The owner and not the thermomate nor his agent/representative shall be liable for and shall pay for all field charges for labor or other expenses incurred in the removal and/or repair of the water heater or any expense incurred by the Owner in order to repair the waterheater

User Instructions

Warning

- To ensure your own safety and that of others you need to read the installation and user instruction carefully before using the unit for the first time. Failure to comply with the instruction may cause property damage, serious injury or death.
- DO NOT install this unit in a location where it may be subject to freezing temperatures. If the water inside your tankless water heater freezes, it can cause severe and permanent damage that is not covered under the warranty.
- Water temperature over 125°F (52°C) can cause severe scalding. If the set temperature of the unit is too high, there is the possibility of hot water scalding. Children, disabled persons or the elderly in small households may need to set the temperature of the product below 113°F (45°C) in order to prevent possible harm caused by hot water or use after mixing hot and cold water.
- Where children or persons with limited physical, sensory or mental capabilities are to be allowed to control this appliance, ensure that this will only happen under supervision or after appropriate instructions by a person responsible for their safety. Children should be supervised to ensure that they never play with the appliance.
- This unit has more than one power-supply connection point, Disconnect all power supplies before servicing.
- To avoid damage, the unit needs to be kept dry, Keep unit away from direct sunlight, moisture, dust, steam, and other liquids. Do not install this unit in places with water leaks (such as under air conditioning lines that might leak or condense moisture or water pipes).
- The outlet water pipe can get very hot. Make sure that the outlet water pipe is out of the reach of children and insulated
- This product can only be used to heat water. Do not use it to heat any other liquids. Damage caused by water quality is not covered by the warranty.
- Make sure all circuit breakers and disconnect switches are off before installation and maintenance.
- Do not store inflammables and explosives near the water heater.
- The water heater will produce steam or high temperature water and cause severe burns if dry burning without water. Make sure to fill water in water heater, If dry burning happen, disconnect power and water immediately, stop using, and call the service hotline for repair.
- After the water heater installation and using, the user should check and maintain it regularly. If there is any abnormality, the user should stop using it immediately and call the service hotline for repair.
- If any part is soaked in water, it should be inspected or repaired by professionals before use.

- Please do not use damaged wires, aging, loose or non fixed power socket, otherwise will cause electric shock, short circuit, fire and other accidents.
- In case of any abnormal situation of grounding system outside of the product, stop water heater immediately, unplug or disconnect all power supply circuit and call the service hotline for repair.

Technical Specification

Model	RE6.5K	RE9K	RE11K			
Voltage	240 V~	240 V~	240 V~			
Power	6.5 kW	9 kW	11 kW			
Min. Required Circuit Breaker Size	1x30 AMP	1x40 AMP	1x60 AMP			
Max. Amperage	27 A	37.5 A	45.8 A			
Recommended Wire Size	12 AWG	10 AWG	8 AWG			
Min. Water Flow to Activate the Unit	0.475 GPM 1.8L/min	0.475 GPM 1.8L/min	0.475 GPM 1.8L/min			
Safe Operating Pressure	2.9 PSI - 87.02 PSI	2.9 PSI - 87.02 PSI	2.9 PSI - 87.02 PSI			
Water Connections	1/2" NPT	1/2" NPT	1/2" NPT			
Installation	Wall mounted	Wall mounted	Wall mounted			
Temperature Setting	Digital Panel	Digital Panel	Digital Panel			
Temp. Increase Per GPM	0.8 GPM	57°F	0.8 GPM	79°F	0.8 GPM	98°F
	1.0 GPM	47°F	1.0 GPM	66°F	1.0 GPM	83°F
	1.2 GPM	42°F	1.2 GPM	56°F	1.2 GPM	67°F
	1.5 GPM	33°F	1.5 GPM	42°F	1.5 GPM	49°F
Dimensions	14" × 8 4/5" × 3 "	14" × 8 4/5" × 3 "	14" × 8 4/5" × 3 "			
Weight	5.5 lbs	5.8 lbs	6.5 lbs			

▲ NOTICE

The temperature rise data is measured under the conditions of inlet water temperature of 3°C (37°F)

Operation Instructions

Power on

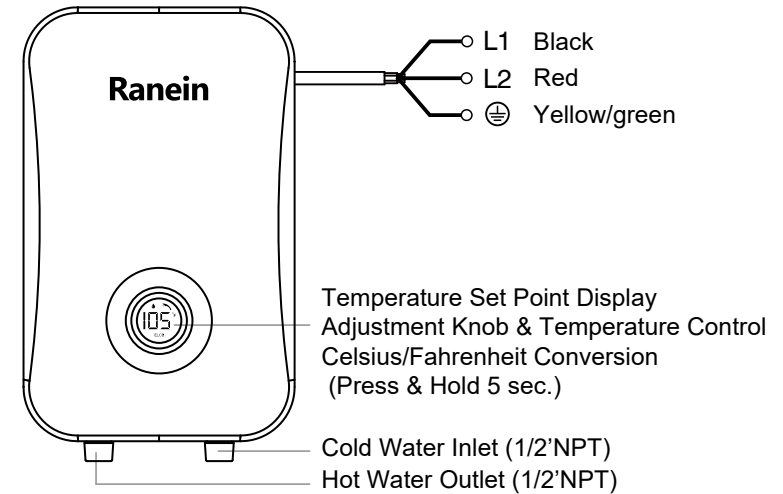
When the mains power supply is switched on, the buzzer beeps once and all the indicators light up for three seconds and then go out except power indicator. Power indicator is on green, heating indicator and display screen are not on.

Operation

1. Press the knob (a beep can be heard) to turn on the water heater power, the

LED display will turn on showing the actual outlet water temperature. Heating indicator is on red in the state of heating. Note: The unit will not work and the heating indicator is not on if there is no water flow, or the water flow does not meet the start-up requirements (0.4GPM / 1.5L/min - 0.79GPM / 3.0L/min).

2. If the unit is frequently used and the intermediate interval is short, initially a short burst of very hot water from the unit will flow out. Wait a few seconds for the water to cool down to the set temperature before using. Caution: Regularly clean the inlet filter and the shower head to get enough flow.



Temperature control

In the state of heating, the outlet water temperature can be adjusted by turning the knob. Turn the knob clockwise to increase the outlet temperature, and turn the knob counterclockwise to decrease the outlet temperature between 86°F-131°F (30°C-55°C). When the setting temperature is turned to the maximum or minimum, it will not be changed and two beeps will be heard at the same time.

Fahrenheit/ celsius switch

- The factory set temperature of the unit is in Fahrenheit.
- In the state of heating, press the knob for 5 seconds, the display will switch between Fahrenheit and Celsius.
- When Fahrenheit is displayed, the last text shows F. When Celsius is displayed, the last text shows C.

▲ NOTICE

When the outlet water temperature reaches 167°F (75°C) the unit will stop heating.



Fahrenheit display



Celsius display

Installation Instructions

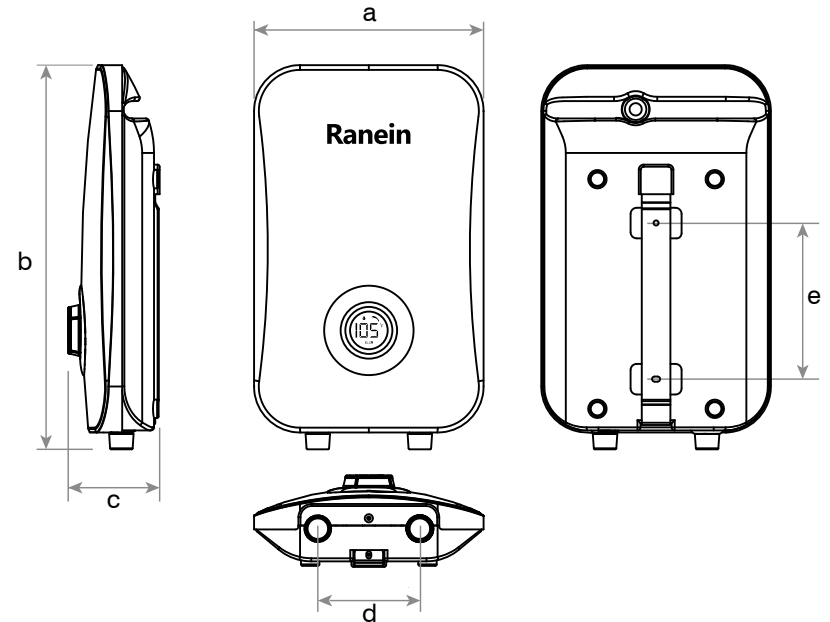
Warning

- To ensure your own safety and that of others you need to read the installation and user instruction carefully before using the unit for the first time. Failure to comply with the instruction may cause property damage, serious injury or death.
- This unit should be installed by a qualified electrician or plumber in accordance with Federal, State and local electrical and plumbing codes.
- When installing or using any high voltage electrical appliance, basic safety precautions should always be followed.
- DO NOT install this unit in a location where it may be subject to freezing temperatures. If the water inside the tankless water heater freezes, it can cause severe and permanent damage that is not covered under the warranty.
- This unit has more than one power-supply connection point. Disconnect all power supplies before servicing.
- To avoid damage, the unit needs to be kept dry. Keep unit away from direct sunlight, moisture, dust, steam, and other liquids. Do not install this unit in places with water leaks (such as under air conditioning lines that might leak or condense moisture or water pipes) or space with water spray.
- Be sure that the water heater are out of the reach of children so that they cannot adjust the temperature knob at will.
- The outlet water pipe can get very hot, Make sure that the outlet water pipe is out of the reach of children and insulated.
- Damage caused by water quality is not covered by the warranty.
- Make sure all circuit breakers and disconnect switches are off before installation and maintenance.
- Piping that has been treated with boiler seal, chromates, or other chemicals is not allowed to use.
- Special branch circuit shall be used for circuit connection of water heater. Check whether the voltage, circuit breaker, wire diameter, electrical switch, etc. meet the parameter requirements of the water heater, and the connection is reliable
- If the pressure of the inlet water supply system exceeds 150 PSI, a pressure relief valve should be installed between the valve and the water heater. The pressure relief valve must be equipped with a diversion pipe which must be continuously downward. The water overflowing from the drain pipe should be discharged into the floor drain.

- There must be a well drained floor drain near the water heater, and the installation area of the water heater should be able to ensure that the leakage of the water heater or joint will not cause damage to the articles in the adjacent area or the lower layer of the building.
- If installation personnel find that the power supply in the user's home is not standardized, a leakage protector should be installed in the circuit of the water heater.

Attentions: This water heater must be connected to a reliable earth connection at all times, and ground wire and neutral line should be strictly separated.

Product Dimensions



Model	RE6.5K / RE9K / RE11K
a	8.9"(225mm)
b	14.2"(360mm)
c	3.5"(88mm)
d	3.9"(100mm)
e	6"(153mm)

Mounting Your Water Heater

Before mounting

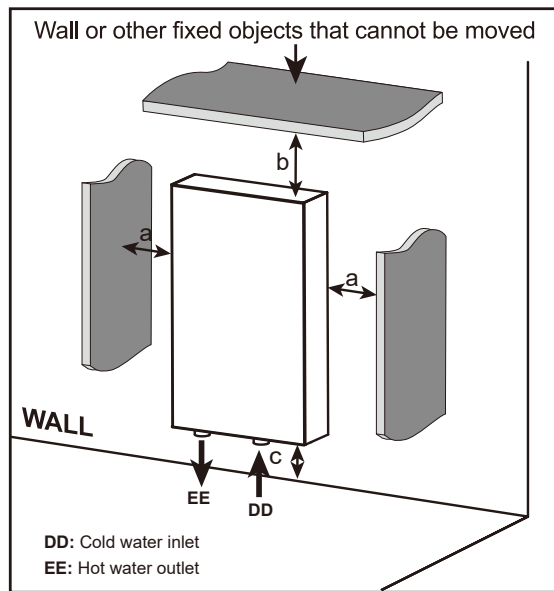
- THE UNIT MUST BE INSTALLED BY QUALIFIED ELECTRIC ENGINEER
1. The wall for installation of the water heater must be firm and solid and can bear four times the weight of the water heater.
 2. Indoor installation only. Do not install this water heater near flammable, volatile substances or strong magnetic fields. The unit must be installed in vertical position with water pipe ports downwards.
 3. Be sure that the external power harness and air-opening meet the standard requirements.
 4. Gloves are required during installation.

Installation location

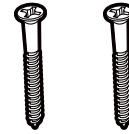
There should be a certain space around the machine for installation and future maintenance.

Suggestion: a (side gap): minimum 12" (305mm)
b (top gap): minimum 15" (381mm)

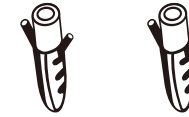
Warning: c (bottom gap): keep a distance out of the reach of children



Accessories contents



2 screws st 4.2x30



2 expansion boltes

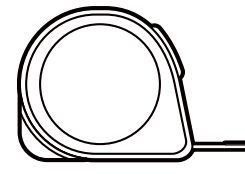


2 gaskets



1 user manua

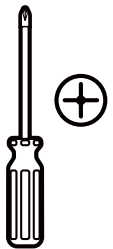
Tools/materials required (not included)



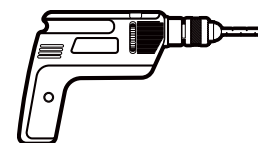
Measuring tape



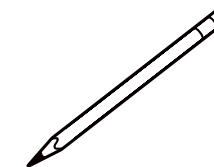
Safety gloves



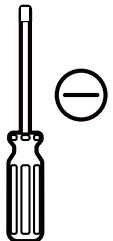
Phillips screwdriver



Electric drill



Pencil



Slotted screwdriver

Installation Guide

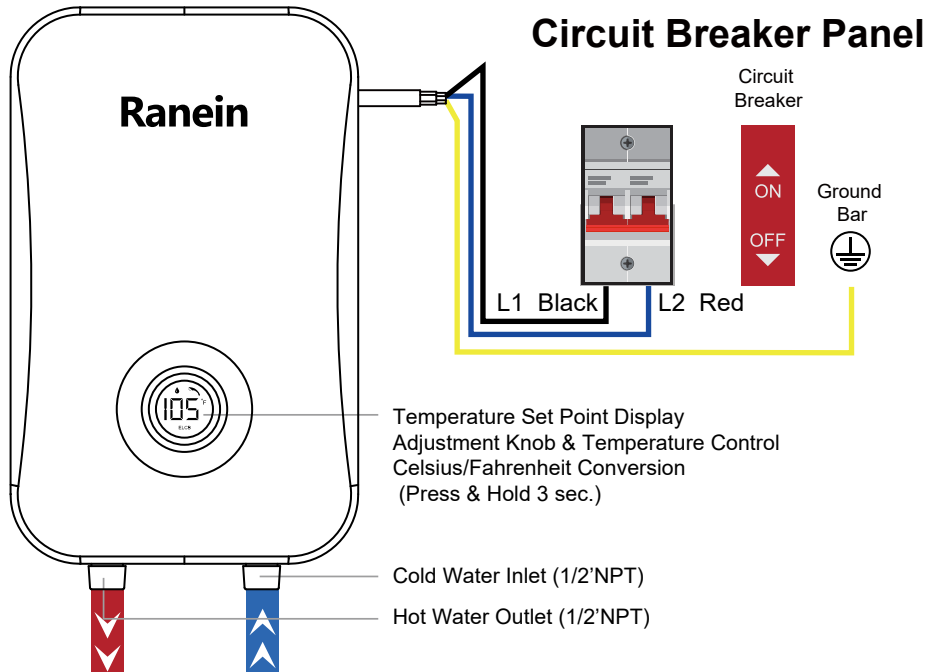
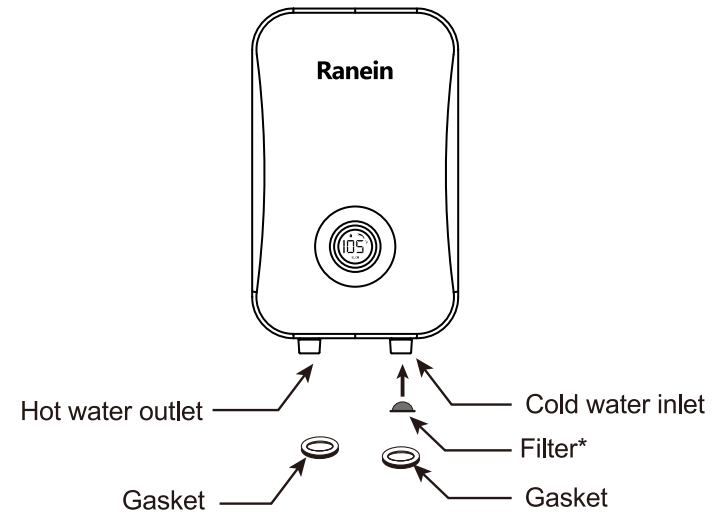
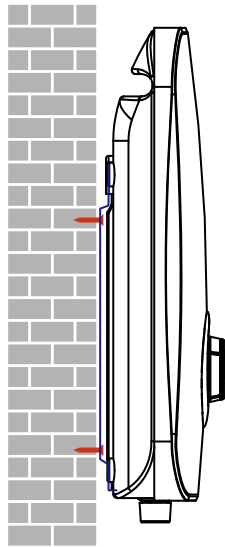
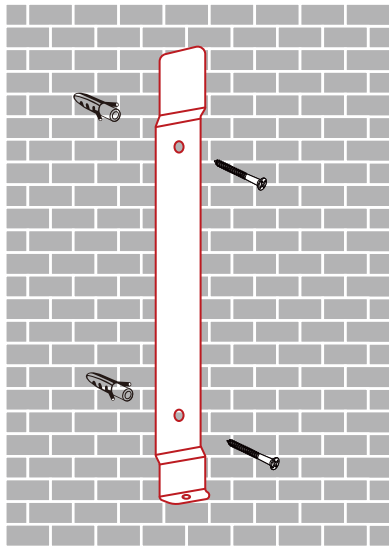
1. The RE6.5KRE9KRE11K instant water heater must be installed professionally, with 240V power source, double pole circuit breaker, fine Grounding connection.
2. For the best service and lifespan of the hot water unit, it is advised that a descaler device should be installed inline to the supply line (cold) to avoid any potential damage due to scale build-up.
3. Steps for installation:
 - (1) Determine where to place the hot water unit, drill hole for mounting bracket and get them fixed with anchors and screws provided.
 - (2) Hang the hot water heater unit in place and drag it down sides, make sure it sits tight.
 - (3) Before pipe connection, run water for more than 10 seconds to flush all the loose particles, so as to avoid clogging the machine.
 - (4) Use the rubber washers to avoid water leaking issue when you do pipe connection and make sure they are placed evenly.
 - (5) Use a monkey wrench to tighter pipe connection, but don't apply excessive force and make sure the pipe not be damaged.
 - (6) Turn on the faucet to run water through for 3 minutes, purge all the air out of the unit. Failure to do so may cause damage to the unit and its lifespan.
 - (7) Insert the 240V Double Pole Breaker into right place in the breaker panel, run a set of 10AWG wires with Grounding wire from the breaker panel to the hot water heater.
 - (8) Connect the 2 hot wires separately to the Black(L1) and Red(L2) cable of the unit so as to get 240V power supply, the Grounding wire must be connected to the green cable of the unit and Make sure that all of the wires are connected properly before turning on the switch at your breaker panel.
 - (9) Switch on power supply on the breaker panel, run water through and then press the Power button of the unit to turn on.
 - (10) Set outlet temperature with knobs, temp rises in seconds, which can be seen on the screen.
 - (11) If you can see only "Actual temp" on the display, it means no water running through or water pressure is not enough to activate the unit, increase waterflow to that.
 - (12) In cold days, you should reduce flowrate to very slow to keep water running through but not enough to activate heating, so as to avoid frozen damage. In extreme cold days, please drain water out of the unit if it is not used. When the unit is supposed to get any frozen issue inside, it is forbidden to start heating until all ice has been melt, failure to do so will result in serious damage to the unit.

Water Connections

1. All water pipes 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 the pipe with water to remove any debris or loose particles before pipe connections, so as to avoid clogging.**
3. It is required to use 1/2"NPT water connections to fit the models on RE6.5K \ RE9K \ RE11K.
4. Flexible water hose are recommended to use with your hot water heater as part of installation, it makes future maintenance more convenient. Please remember to install rubber seal rings at the connections. When all water connections are completed, check for leaks and take the necessary actions before proceeding.
5. Install a shut off valve (Not Supplied) and descaler device (Not Supplied) to prevent any particles entering the unit that may clog or damage the internal parts.
6. When you do pipe connection to the unit, use a wrench to hold connection of the unit and use another wrench to tighten flexible water hose to the hot water unit. Over tighten must be avoided.

Electrical Connections

1. All electrical work must comply with national and applicable state and local electrical codes.
2. This water heater must be permanently connected to the direct main breaker panel. The use of a plug and socket is forbidden.
3. The unit must be connected to a properly grounded dedicated branch circuit of proper voltage rating.
4. The **RE6.5K** hot water unit needs 30AMP double pole breaker, a set of 12AWG/2 wires \ The **RE9K** hot water unit needs 40AMP double pole breaker, a set of 10AWG/2 wires \ The **RE11K** hot water unit needs 60AMP double pole breaker, a set of 8AWG/2 wires with Grounding wire for 240V proper power supply.
5. Before beginning any work on the electric connections, make sure that the main breaker panel switch is OFF to avoid any danger of electric shock.
6. All mounting and plumbing must be completed before proceeding with electrical hook-up.
7. While connecting the wires to the circuit breaker please make sure the metal wire ends and the circuit breaker touch completely. Then tighten the screws to make sure the full current can go through.
8. Connect the wires to circuit breaker and fully tighten them as follow.
Connect the live wire (Black) to the circuit breaker L1.
Connect the live wire (Red) to the circuit breaker L2.
Connect the Grounding wire to the ground bar E.



Electrical Specifications by Heater Input

HEATER INPUT	6.5 kw	9 kw	11 kw
ELEMENTS	2	3	3
VOLTAGE	240 v	240 v	240 v
MAX kW	6.5 kw	9 kw	11 kw
MAX AMPERAGE DRAW	27 AMPS	37.5 AMPS	45.8 AMPS
REQUIRED BREAKERS	30 AMP	40 AMP	60 AMP
REQUIRED WIRE GAUGE	12 AWG	10 AWG	8 AWG

Operating Instructions

IMPORTANT WARNING:

Open water source and allow water to run through the water heater for at least 2 to 3 minutes. This will purge the air out of the unit and must be performed prior to turning on the power at the unit. Failure to Do So Will Cause Serious Damage to Heating Elements.

1. Open the water faucet for 3 minutes until the water flow is continuous and all the air has been purged from the water pipes.

2. Turn on the circuit breaker to supply electrical power to the unit.
3. After the unit is supplied with power, a beep sound can be heard and LED lights up and stays; if there is no other operation, the appliance keeps standby.
4. Press Power button on the unit to turn ON/OFF the appliance. Press and A to adjust the outlet water temperature, Temperature setting range is 86-131°F/30-55°C.
5. When the unit is working, LED lights show "the shower head spraying", "HEAT", "water flowrate" and the water temperature.
6. When you need to change setting for temp display, please turn off the unit by the on the screen and then press and hold the same for about 3s, then you could see setting change, after that, press once again to restart working.
7. If the unit has been paused, you may initially get a short burst of very hot water when you turn it on again. Please run the water through for a few seconds to let the temperature settle down. Please check the hot water with your hand before using again.
8. There is an automatic memory function to avoid repetitive operation. When you turn on the appliance, the default setting temperature will be the same as last time setting.
9. **If the unit is not used in winter drain out the water completely so that the heater does not freeze.**
10. **Please clean the inlet filter periodically in order to keep a proper water flow.**

Normal Maintenance

Note: Do not attempt to repair this water heater yourself if the unit is not working properly. Call a technician for assistance. The power supply always needs to be shut off before these operations are carried out.

To ensure consistent Maximum performance of the unit, it is recommended to follow these instructions:

1. Periodically remove scales and dirt that may build up at the filter of the gasket for inlet pipe.
2. There is built-in filter and flow sensor at the inlet connection which should be cleaned from time to time. Please cut the water supply before doing this. If Water heater is not heating at all. You should get to the Ranein service with video or other detail information to get professional assistance.

Important Note

1. Any maintenance performed on the water heater unit may introduce air into plumbing pipes, it is important to purge all the air out before power on again. Failure to do so could cause serious damage to the heating element.

2. If you have a water supply with high level of mineralization (hard water), you should increase the frequency of your maintenance. Check the declear device regularly to see if it is functional.
3. Do not use thinner, alcohol, petrol, or any other organic solutions to clean the unit, use only a damp cloth with mild detergent.

Circuit Diagram

Electrical installation

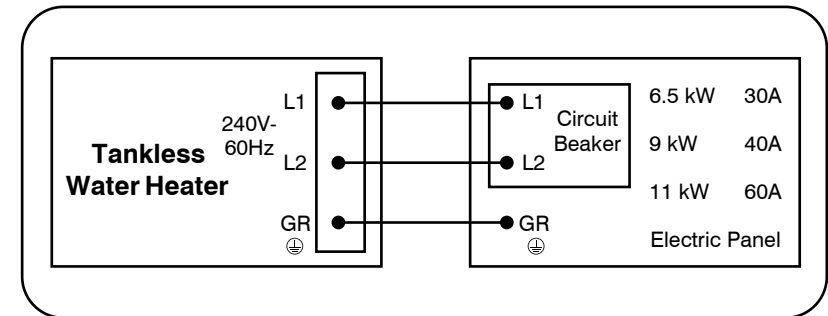
The appliance must be permanently connected to fixed wiring.

The device has been prepared for connection to the electrical supply.

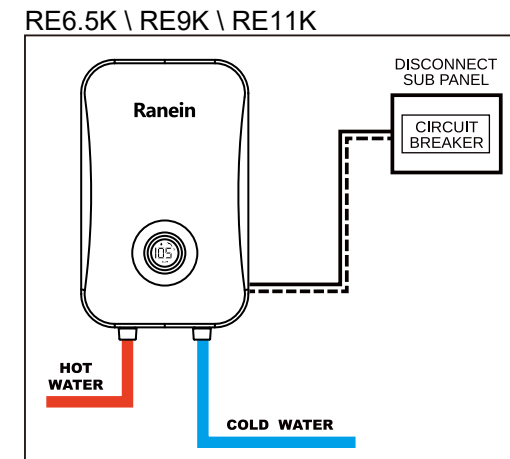
These units require a 240V, single-phase supply.

Please take reference of the rating plate on device.

Please take reference of the following diagram to connect power supply.

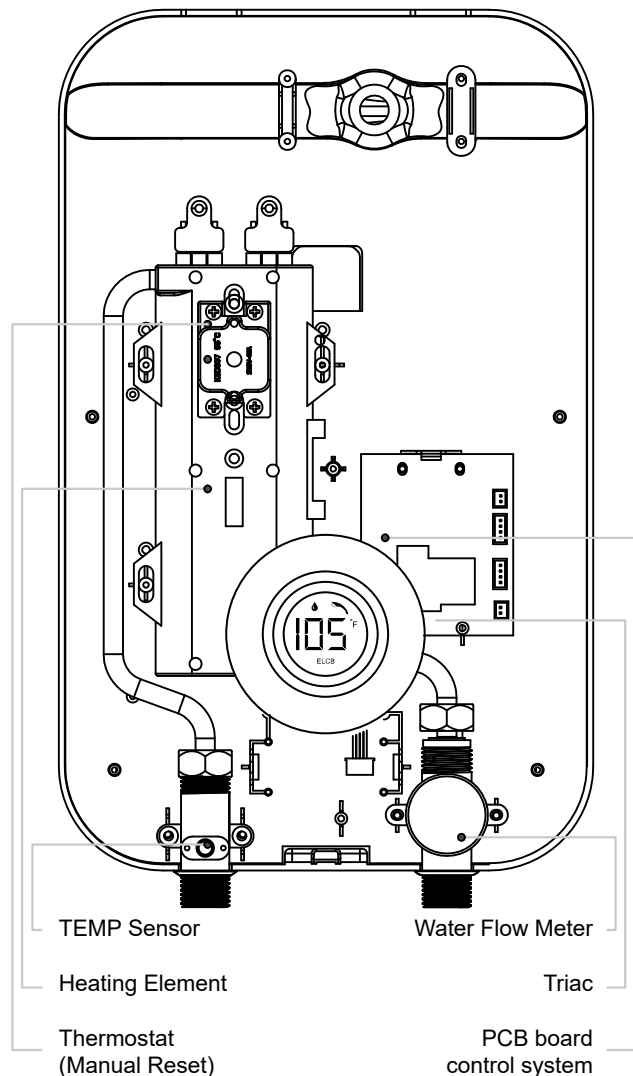


Installation diagram



Product inner structure

RE6.5K \ RE9K \ RE11K



Maintenance Instructions

Troubleshooting

Failure Phenomeno	Possible Reason	Treatment
Leakage in the joint of Inlet and outlet pipe	A.Poor connection of inlet and outlet pipe. B.The rubber washer is damaged.	A.Reconnect the pipe. B.Replace the gasket.
The water temperature is too high	A. Water flow is too small. B. Pipeline jam. C. The power or temperature is set too high.	A.Adjust the valve to increase the water flow. B.Clear the inlet filter and shower head. C.Select lower power level or turn down the temperature.
The water is too cold	A.The flowrate is too high. B.The voltage is less than 240V. C.The Temp set is too low. D.Mixing too much cold water.	A.Adjust the valve to decrease B. Check if the voltage is too low or not. C.Select higher Tempt set. D.Mix less cold water.
Water temperature is unstable	The voltage or water pressure is unstable.	The voltage water pressure are back to normal.
The water is smaller and smaller	The inlet filter is blocked by water impurities.	Remove the inlet pipe, clean the inlet filter/shower.
Circuit breaker switch off the power	A.Leakage of electricity. B.The circuit breaker aging. C.The AMPS load is not enough.	A. Don't use it, send it back to after-sales service to repair. B.Change the circuit breaker. C.Using circuit breaker with high current.
The screen has no display	A.Power is not connected. B.The screen is damaged. C.Not 240V power.	A.Close the switch to connect the power. B.Replace the screen. C.Chang to 240V power supply.

Malfunction Code

Show	Failure analysis	Solution
E1	Temperature exceed 131°F/55°C.	A.Select lower power level or turn down the temperature. B.Increase water flow.
E2	Leakage of electricity.	Send to after-sales service.
E3	Inlet water temp sensor failure	Contact Ranein service
E4	Outlet water temp sensor failure	Contact Ranein service