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Gas Water Heater

Instruction For Installation And Use

Model: RO5K-Y/RO8K-Y/RO11K-Y

⚠ WARNING

FIRE OR EXPLOSION HAZARD

If you smell gas:

1. Do not attempt to light the appliance, and ensure that it is in the OFF position.
2. Extinguish any nearby flames.
3. Shut off the cylinder fuel supply valve if equipped. If using a disposable fuel cylinder, disconnect it.
4. Leave the area immediately.
5. Allow the gas to dissipate for 5 minutes.
6. If the gas smell has cleared from the area, the appliance, and the fuel supply, follow steps 1-5 again and have the appliance serviced.

Failure to follow these instructions may result in fire or explosion, causing property damage, personal injury, or death.

Improper installation, use, adjustment, alteration, service, or maintenance can cause injury or property damage. Refer to this manual for guidance. For assistance or additional information, consult a qualified installer, service agency, or gas supplier.

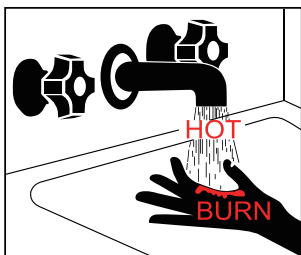
Keep this appliance away from all combustible materials. Minimum clearance requirements: Rear: 20 inches, Sides: 40 inches, Top: 40 inches.

Turn the gas off at the cylinder valve after use. Disconnect and remove the cylinder before storing this appliance indoors.

*Please retain this instruction manual for future reference.

Do not store or use gasoline or other flammable vapors and liquids near this or any other appliance.

⚠ DANGER



Water temperatures over 125°F (52°C) can cause severe burns instantly or even death from scalds.

Children, the disabled, and the elderly are at the highest risk of being scalded.

Always consult the instruction manual before adjusting the temperature on the water heater.

Always check the water temperature before bathing or showering.

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You're All Set!

Thank you for purchasing your new Ranein RO5K-Y/RO8K-Y/ROK11-Y gas water heater. This convenient, safe, and high-efficiency product will provide you with endless hot water. We highly recommend that you take the time to read through all of the safety and installation procedures in this manual before attempting to install your new water heater. Always remember, we're here for you via our online helpdesk located at

www.ranein.net

Read This Manual

Inside, you will find many helpful hints on how to use and maintain your water heater properly. A little preventive care on your part can save you time and money over the life of your water heater. You'll find answers to common problems in the Troubleshooting Guide. If you review the chart of Troubleshooting Tips first, you may not need to call for service.

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 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.

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Important Safety Information: Read All Instructions Before Using

Be sure to read and understand the entire Use and Care Manual before attempting to install or operate this water heater. It may save you time and money. Pay particular attention to the safety instructions. Failure to follow these warnings could result in serious bodily injury or death. If you have trouble understanding the instructions in this manual, or have any questions, STOP and seek help from a qualified service technician or the local gas utility.



⚠ DANGER

Proper Installation of the Water Heater

Failure to properly install the water heater outdoors as outlined in the Installation Instructions in this manual can result in unsafe operation. To avoid the risk of fire, explosion, or asphyxiation from carbon monoxide, never operate this water heater unless it is installed correctly and has an adequate air supply for safe operation. Be sure to inspect the flue terminal for proper installation at initial start-up and at least annually thereafter. Refer to the Care and Cleaning section of this manual for more information regarding flue terminal inspection.

⚠ WARNING

Gasoline, along with other flammable materials and liquids (such as adhesives, solvents, paint thinners, etc.), and the vapors they produce, are extremely dangerous. Do NOT handle, use, or store gasoline or any other flammable or combustible materials near the water heater or any other appliance. Be sure to read and follow the labels on the water heater, as well as the warnings in this manual. Failure to do so can result in property damage, bodily injury, or death.

Vapors from flammable liquids can explode and ignite, causing death or severe burns.

Do not use or store flammable products, such as gasoline, solvents, or adhesives, in the same room or area as the water heater.

Keep flammable products:

1. Far away from the heater
2. In approved containers
3. Tightly closed
4. Out of children's reach

The water heater has a main burner flame. The main burner flame:

1. Can come on at any time and any where
2. Will ignite flammable vapors

Vapors:

1. Cannot be seen
2. Are heavier than air
3. Go a long way on the floor
4. Can be carried from other rooms to the main burner flame by air currents

Installation:

Do not install the water heater where flammable products will be stored or used unless the main burner flame is at least 18 inches above the floor. This will reduce, but not eliminate, the risk of vapors being ignited by the main burner flame.

Read and follow the water heater warnings and instructions. If the owner's manual is missing, contact the retailer or manufacturer.

⚠ DANGER

Liquefied Petroleum Gas Models

- Propane gas has an odorant added to help detect gas leaks. Some people may not physically be able to smell or recognize this odorant. If you are unsure or unfamiliar with the smell of propane gas, ask the gas supplier. Other conditions, such as "odorant fade," which causes the odorant to diminish in intensity, can also hide or camouflage a gas leak. Always check for leaks using a commercial leak detector or soapy water.
- Gas detectors are recommended for propane gas applications, and their installation should be in accordance with the detector manufacturer's recommendations and/or local laws, rules, regulations, or customs.
- To avoid possible equipment damage, personal injury, or fire, do not connect the water heater to a fuel type that does not match the specifications on the portable tankless water heater data plate. These portable tankless water heaters are designed only for propane gas and are not certified for any other fuel type.
- Propane appliances should not be installed in an unventilated place (for example, in a basement) if such installation is prohibited by federal, state, and/or local laws, rules, regulations, or customs.
- Propane gas must be used with great caution. It is heavier than air and will collect first in lower areas, making it hard to detect at nose level.
- Before attempting to light the water heater, always check for gas leaks by looking and smelling for gas. Use a soapy solution to check all gas fittings and connections. Bubbling at a connection indicates a leak that must be corrected. When checking for gas leaks by smell, be sure to sniff near the floor as well.
- It is recommended to use multiple methods, such as a soapy solution and gas detectors, to detect leaks in gas applications.

Notice: If a gas leak is present or suspected:

- **DO NOT attempt to locate the source of the leak yourself.**
- **DO NOT attempt to ignite the water heater.**
- **DO NOT operate any electrical switches or devices.**

⚠ WARNING

California Proposition 65:

This appliance contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

If the information in these instructions is not followed exactly, a fire or explosion may result, causing property damage, personal injury, or death.

⚠ WARNING

1. Do not leave unattended.
2. The exhaust gas and top of the water heater are HOT! Do not place hands or any foreign objects near the top of the heater.
3. This water heater is only intended for use with non-potable water (such as a portable shower). Do not connect it to potable water, as it poses a health risk and/or consequences if used for heating water for human consumption.
4. This water heater is for point-of-use applications (dishwashing, washing, showering, etc.) for temporary water heating and is not intended for connection to a permanent inlet water system or a water distribution system supplying multiple outlets. It is not suitable for drinking or cooking.
5. Do not use in high wind conditions.
6. If the smell of gas is detected, turn off the gas valve at the cylinder immediately! Do not use a flame for leak detection.
7. Use only propane gas.
8. The minimum environmental temperature for safe storage and operation of the water heater must be above 32°F. If not, it may cause damage to the water heater and pose a danger.
9. CARBON MONOXIDE HAZARD - USING THIS APPLIANCE IN AN ENCLOSED SPACE WILL CAUSE DEATH - DO NOT USE IN CARAVANS, TENTS, MARINE CRAFT, CARS, MOBILE HOMES, OR SIMILAR LOCATIONS.

Intended Purpose and Benefits of the RANEIN Gas Water Heater

The RANEIN gas water heater is a propane-fired water heater. The water heater features standard 5/8"-18UNF NPT pipe fittings and an adapter for using a standard garden hose for the inlet water supply.

Gas should be supplied with a maximum 20lb propane cylinder (not included). A CSA-certified regulator and hose are included with the appliance.

A showerhead with an on/off switch and multiple spray patterns is included. Ignition is automatic and powered by 2 size D batteries (not included). The burner will ignite when water flows and will shut off when the water flow stops. No pilot light!

Ideal operating pressure is between 10-110 PSI / 70-760 kPa.

Product Breakdown & Features

- Water-controlled automatic ignition: Water pressure between 10-110 PSI / 70-760 kPa opens the ignition circuit for easy and convenient operation.

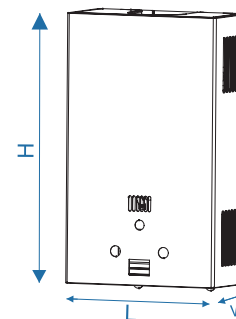
- Auto cut-off protection: The auto cut-off protection will shut off the gas supply immediately in the event of flameout, reducing the risk of gas leakage.
- Removable drain plug: Helps avoid water pipe and regulator damage caused by freezing water.
- Anti-dry combustion protection: The water heater will shut off the gas supply if water stops flowing through the heater.
- Maintenance tip: Refer to the maintenance section for instructions on draining the water heater completely to avoid freeze-related issues.

Technical Specifications

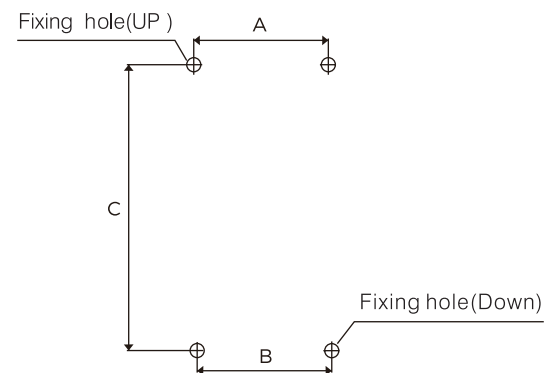
Model	RO5K-Y	RO8K-Y	RO11K-Y
Fuel Type	Propane Gas		
Colour	Frosted gray		
Btu/hr	48,000	68,000	85,300
Max Water Pressure	110.0 PSI / 760 kPa		
Inlet Gas Pressure	11"w.c. (2.74 kPa)		
Ignition	Electric pulse,size D battery powered (No electrical connection required)		
Protections	Auto-cut off water control,automatic ignition, ant-dry combustion protection,over-pressure overheating and flameout protection.		
Pipe Fittings	1/2" BSP for gas inlet,water inlet and water outlet		

Product information

Product dimensions

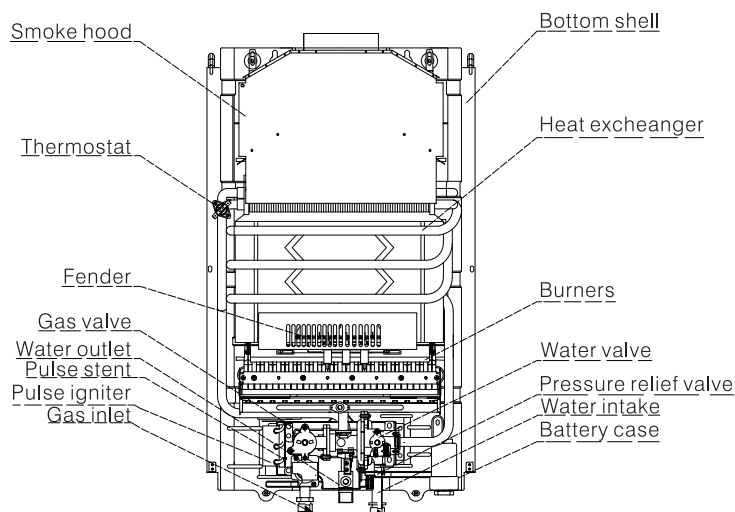


Dimension (inch)	L	W	H
RO5K-Y	12.6	6.1	20.5
RO8K-Y	13	7.1	21.7
RO11K-Y	13.8	7.1	24



Dimension (inch)	A	B	C
RO5K-Y	5.9	5.9	19.9
RO8K-Y	6.2	6.3	21.2
RO11K-Y	7.2	7.4	23.6

Construction & Components



For parts replacement, please find below for obtaining replacement parts.

Parts Replacement

Parts Ordering

⚠ WARNING

For your safety, DO NOT attempt to disassemble, repair, or replace any portion of this unit.

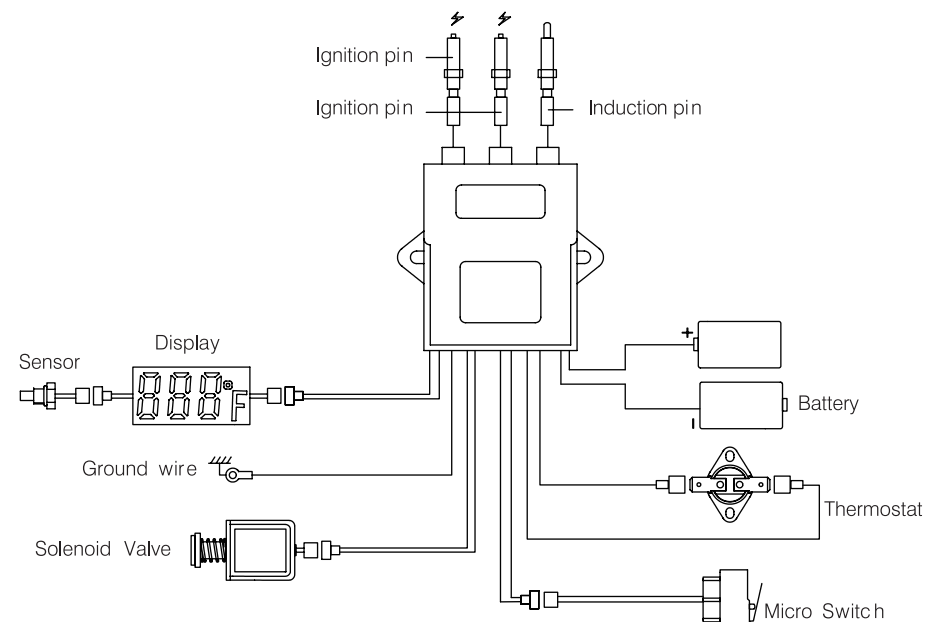
Refer all repairs, service, and/or adjustments to a qualified serviceman. Address all parts orders to the distributor or manufacturer where the water heater was purchased. All parts orders should include:

1. The model and serial number of the water heater from the rating label.
2. A description of the part(s) (as shown above).

⚠ CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

THIS CONNECTION IS FOR LOW-VOLTAGE BATTERY ONLY. DO NOT CONNECT TO 120 OR 240 VOLTS AC.



Getting Started

1. Check the carton box for damage. Damages caused during shipment must be reported immediately. Please contact us on our support page at www.ranein.net.
2. Make sure you have all the parts.
3. If using a standard garden hose, attach the 3/4" GHT garden hose adapter to the fitting marked "Water Inlet." Check to make sure the filter inside the water inlet is in place and clean. Then, attach your water inlet/garden hose.

⚠ NOTICE

Included parts and accessories may vary depending on the country and regulations. (Please refer to the alphabetical letter below on page 12 to ensure all items are included.)

- **ON/OFF switch Showerhead with 5-foot gray hose and snap-on connector**
- **CSA-certified gas regulator with 5-foot hose**
- **Gas compression fitting (fixed to gas inlet)**
- **1/2" BSP female x 3/4" GHT male adapter, 1/2" BSP female x 3/4" GHT female garden hose adapter**



- To prevent gas leakage, the gas regulator is pre-installed at the factory. You can connect the gas supply line to the portable tankless water heater directly. Always remove and reinstall the gas regulator using a wrench if necessary. DO NOT OVER-TIGHTEN. OVER-TIGHTENING MAY CRACK THE GAS REGULATOR AND CAUSE A GAS LEAK. Check for gas leaks before operation.
 - Attach the shower hose to the fitting marked "Water Outlet." Do not over-tighten.
 - Install 2 size D batteries in the compartment on the bottom right of the heater. Ensure that the batteries are facing the correct direction.
 - Use the top tab on the water heater to suspend it from a mounted screw. Position it at a comfortable height without putting stress on the gas hose.
 - Connect the gas regulator and gas inlet brass fitting using wrenches with a torque force between 20-28 N/m.
 - In accordance with the specifications for LP gas cylinders from the U.S. Department of Transportation (DOT) or the Standard for Cylinders, Spheres, and Tubes for the Transportation of Dangerous Goods and Commission, CAN/CSA B339, as applicable.
 - Place the dust cap on the cylinder valve outlet whenever the cylinder is not in use. Only install the type of dust cap that is provided with the cylinder valve. Other types of caps or plugs may result in propane leakage.
- LP gas supply cylinders to be used must be:**
- Constructed and marked in accordance with the specifications for LP gas cylinders of the Tubes for Transportation of Dangerous Goods and Commission. CAN/CSA-B339, as applicable.
 - Provided with a listed overfilling prevention device.
 - Provided with a cylinder connection device compatible with the connection.
- With low discharge frequency, the exhaust gas will mix with the air in the combustion chamber when the battery voltage is low. The water heater will produce a loud combustion sound and a yellow flame once the mixed gas in the combustion chamber is ignited.

NEVER use a returned or defective unit. Please contact Ranein for a brand new replacement. We provide a 48-hour turnaround for defective units at no cost, and a one-year warranty for all RANEIN products. For any questions, repairs, or parts replacements, please contact us with your order information and address at service@ranein.net.
LEAVE THE GAS CYLINDER VALVE IN THE "OFF" POSITION.

⚠ WARNING

GAS HOSE ADAPTER WATER HEATERS HAVE 5/8"-18UNF ADAPTER ALREADY ATTACHED TO THE GAS INLET ON THE WATER HEATER. ALWAYS CHECK FOR GAS LEAKS BEFORE USING HEATER.

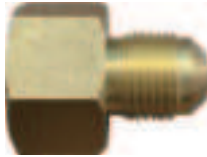
In The Box

Item	Description	Identification	Quantity
A	Ranein gas water heater		1 piece
B	Shower head		1 set
C	Gas regulator with 5 feet hose		1 set
D	1/2" BSP female x 5/8" GHT male (Already connected to the water heater)		1 piece
E	Hardware pack		1 set
F	1/2" BSP female x 3/4" GHT male		1 set

Installation Instructions

How to Use the Garden Hose

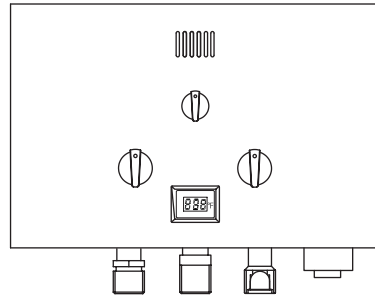
1. Garden Hose



1/2" BSP female x 5/8" GHT male

⚠ NOTICE

MAKE SURE TO PUT THE RUBBER GASKET IN ALL FITTINGS BEFORE CONNECTION.

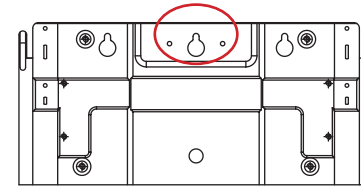


2. Preparation

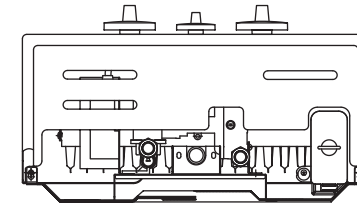
CARBON MONOXIDE HAZARD – USING THIS APPLIANCE IN AN ENCLOSED SPACE WILL CAUSE DEATH. DO NOT USE IN CARAVANS, TENTS, MARINE CRAFT, CARS, MOBILE HOMES, OR SIMILAR LOCATIONS.

- Use the appliance only with LP (propane) gas and the regulator valve assembly supplied.
- Installation must conform with local codes, or in the absence of such, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Propane Installation Code, CSA B149.1, or the Propane Storage and Handling Code, CSA B149.2.
- Reinforcement of the wall is required where the wall must be strong enough to hold the water heater. The mounting location for the water heater should allow for easy access and operation.

- Take the appliance out of the carton box and remove the foam and plastic bag. Position the upper mounting bracket and partially install the center mounting screw.



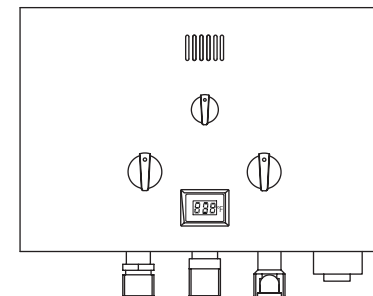
- Install 2 size D batteries (NOT included) in the battery box on the bottom of the appliance. Check that the batteries are facing the correct direction.



- Use shifting wrenches to attach the supplied gas regulator (with the brass connector already attached) to the appliance. Connect it to the bottom of the appliance marked "Gas Inlet." **Do not over-tighten. Over-tightening may cause a gas leak!** Ensure that you use the supplied washers on all connectors and check for any gas smell. Please connect with a torque force between 20-28 N/m.

Before ignition, as instructed, make sure the gas inlet connector and water inlet connector are screwed all the way on.

Tighten the fittings using wrenches on both the brass adapter fitting on the appliance and the brass connector on the end of the hose.



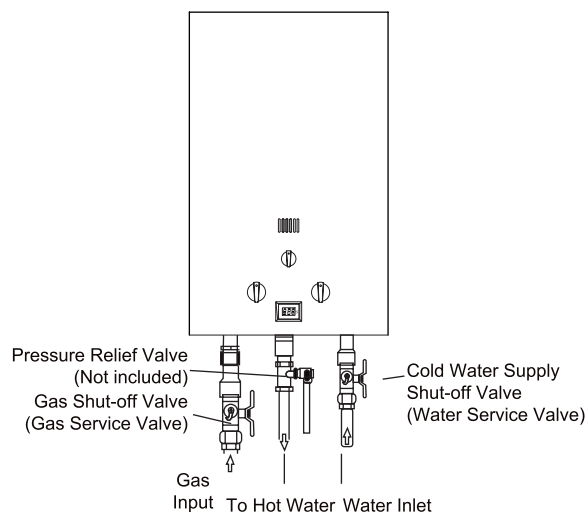
- Attach the water output device (shower head) to the fitting marked "Water Outlet." DO NOT OVER-TIGHTEN! Make sure to insert the supplied rubber gasket at the connections. Tighten by hand only.
- Only use the gas regulator and hose supplied with this appliance.
- A new pressure relief valve, complying with the standard for relief valves and automatic gas shut-off devices for hot water supply systems, ANSI Z21.22/CSA 4.4, must be installed at the hot water outlet connection of the water heater during installation. Local codes shall govern the installation of any relief valve. Relief valve is NOT attached with gas water heater.

Water Supply Installation

1. Install a COLD water shut-off valve near the inlet line on the water heater. This valve will be used for servicing and draining purposes.
2. Before attaching the water line to the water heater, open the shut-off valve. Run the water until it has purged all contaminants (sand, debris, air, caulking, etc.).
3. Install a service valve at the end of the COLD water supply line and connect it to the water inlet on the water heater.
4. Open the shut-off valve in the COLD water inlet line to check the water flow through the water heater.
5. Close the shut-off valve and remove, clean, and replace the water filter.

⚠ WARNING

If overheating occurs or the gas supply fails to shut off, turn off the manual gas control valve to the appliance.



- Place the unit at a comfortable height without putting stress on the gas hose. If the unit is to be permanently mounted, use screws to securely attach the bottom tab.
- Before opening the LP cylinder valve, check the coupling nut for tightness. When the appliance is not in use, turn off the LP cylinder valve on the supply cylinder.
- Never use an LP cylinder that is visibly rusted, damaged, or out of date.
- Clean and inspect the hose before each use of the appliance. If there is evidence of abrasion, wear, cuts, or leaks, the hose must be replaced before the appliance is put into operation.

⚠ WARNING

GAS WATER HEATER IS CAPABLE OF PRODUCING SCALDING WATER TEMPERATURES!

Connecting, Disconnecting From Gas Cylinder And Storage

This appliance shall only be connected to a 20lb (Size 1: 12 5/16" * H17 5/16", Size 2: 11 13/16" * H17 7/16") cylinder with a POL cylinder valve certified to CAN/CSA-B339. The LP-gas cylinder(s) must be constructed and marked in accordance with the specifications for Cylinders, Spheres, and Tubes for the Transportation of Dangerous Goods, CSA B339. Always use the cylinder in an upright position for vapor withdrawal. Connect the certified gas regulator QCC-1 to the LP gas supply cylinder by hand. Then, use a wrench to connect the regulator hose to the appliance's gas inlet fitting.



Connecting to Cylinder:
Connect the gas regulator to the gas cylinder, tightening it using the two finger support posts.



Disconnecting from Cylinder:
Disconnect the gas regulator from the gas cylinder, loosening it using the two finger support posts.

Please inspect the hose before each use of the appliance. If there is excessive abrasion, wear, or any cuts on the hose, it must be replaced before the appliance is put into operation. The replacement hose assembly must be the one specified by the manufacturer.

⚠ WARNING

Never use an open flame to test for gas leaks, as it may result in death, personal injury, and/or property damage. The water heater and its gas connections **MUST** be leak tested at normal operating pressures before the unit is placed into operation.

Turn on the gas shut-off valve to the water heater. Use a soapy water solution to test for leaks at all the connections and fittings. If bubbles are seen, it indicates a gas leak that must be corrected. Contact a qualified service technician. The gas must be turned off at the LP gas supply cylinder when the water heater is not in use.

When the LP gas supply cylinder is not disconnected from the water heater, both the water heater and cylinder must be stored outdoors in a well-ventilated space, out of the reach of children. They must **NOT** be stored in a building, garage, or any other enclosed area.

Storage of the water heater indoors is permissible only if the cylinder is disconnected and removed from the water heater.

Cylinders must be stored outdoors, in a well-ventilated space, out of the reach of children, and must **NOT** be stored in a building, garage, or any other enclosed area.

⚠ NOTICE

Should overheating occur or if the gas supply fails to shut off, turn off the manual gas control valve to the water heater.

- Do not store a spare LP gas cylinder under or near this appliance.
- Never fill the cylinder beyond 80% full.
- If the information in A and B above is not followed exactly, it may result in a fire, causing death.

Before Going To The Use Section

Check the surrounding area for flammable materials, especially gasoline or other vapors that may ignite. The exhaust and top of the portable tankless water heater will get **HOT!** Ensure there are no foreign objects around the gas water heater or that have fallen into the top.

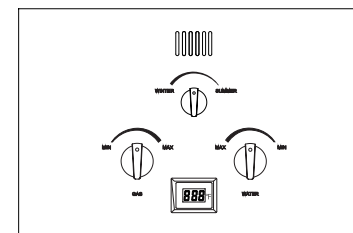
Use And Starting

⚠ WARNING

The water heater must not be exposed to flammable vapors or liquids during ignition.

1. Turn on the incoming water supply. Ensure that you have adequate water pressure between 10-110 PSI (70-760 kPa) for ideal operation.
2. Turn your water output device to its "off" position.
3. Turn the gas valve on the cylinder all the way open.
4. IF THE SMELL OF GAS IS DETECTED, TURN OFF THE GAS VALVE IMMEDIATELY!

Gas flow adjustment knob ("Min" position is lowest temperature)

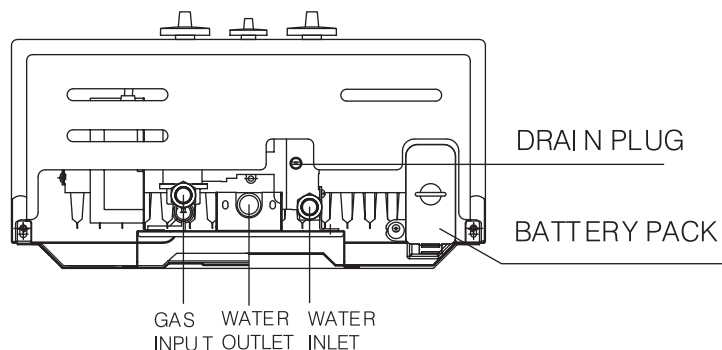


Water flow adjustment knob ("MAX" position is maximum flow)

5. Turn on your water output device to the "on" position and adjust to the desired water flow.
6. There will be a series of audible clicks, and the burner will ignite. Please note that the water heater must not be exposed to flammable vapors or liquids during ignition. If the burner does not ignite after 5 seconds, turn off the gas and refer to the "Troubleshooting" section.
7. Upon completion of use or storage, open the drain valve (ribbed cylindrical stem next to the water input valve) to ensure the water is drained.
8. Turn off your gas supply.

⚠ WARNING

If the outside temperature is around or below freezing (32°F/0°C), ensure that the drain plug is opened and water is drained from the portable tankless water heater after each use to avoid internal damage to the heat exchanger. You will also need to unhook the outgoing water line to ensure that any water in the heat exchanger is drained. Failure to properly drain your portable tankless water heater may result in water damage, which may or may not be repairable.



Before operating the drain plug, make sure to:

1. Ensure that the water heater is disconnected from the gas supply.
2. Ensure that the water heater is disconnected from the water supply (turn off the cold water inlet valve).
3. Turn the shower switch to "ON."
4. Ensure that the shower hose is disconnected from the water heater.

Adjustment:

The temperature of the outgoing water depends on the temperature of the incoming water, balanced with the amount of heat applied. Use extreme caution when setting the outlet water temperature.

1. With the water knob set to Max and the gas knob set to Min, feel the outgoing water. This is the lowest setting available.
2. To initially raise the outgoing temperature, slowly turn the gas valve towards maximum. Adjust slowly and check the temperature frequently. There will be a slight delay between increasing the gas supply and the increase in water temperature.

Common Issues With Solutions

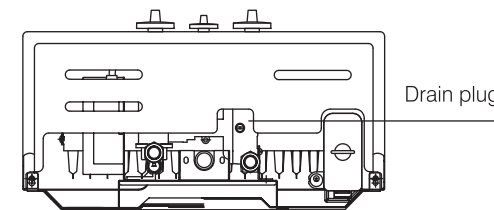
Issue	Indication	Solution
Water pressure too high	If water pressure is over 110 PSI/760kPa, the water-out valve will release water and lower the pressure	Increase the valve pressure limit according to local water supply pressure
Water pressure too low	If water pressure is below 3.6 PSI/25kPa, the water heater cannot be ignited	Use the water heater later when pressure becomes higher
Low battery	The power of battery will become less after use for some time, thus the water heater cannot be ignited	Change Batteries
Over heat protection	Water heater automatically shuts off when water temperature is 185°F (85°C)	Re-start water heater later when water becomes cooler

Please Protect Your Water Heater from Freeze Damage!

When the water heater is not in use, the temperature inside and outside the unit will equalize. Water will expand when the temperature reaches 32°F (0°C), which can even cause the water pipe to break. This is a normal phenomenon and not a quality issue. To prevent freeze damage, open the drain plug to drain any residual water from the water heater, then screw it tightly when the temperature in the environment where the water heater is installed drops below 32°F (0°C). This will help protect the water heater from cold damage.

⚠ WARNING

To drain the residual water completely, please keep the water heater in a vertical position while draining the water.



Care and Maintenance

Proper maintenance of your water heater will provide years of dependable, trouble-free service. It is recommended that a periodic inspection of the burner, water filter, and top exhaust be performed by service personnel qualified in gas appliances. Repairs may be necessary if components have come loose or are no longer connected. It is suggested that a routine preventive maintenance program be established and followed by the user.

*It is recommended to perform maintenance once a year.

Inspect the area around the water heater to ensure a safe operating environment. Keep the water heater area clear and free from combustible materials, gasoline, and other flammable vapors and liquids. Do not obstruct the flow of combustion and ventilation air. Ensure the

unit has not been damaged. If there is any damage or denting, contact service personnel to verify proper operation.

Check for any abnormal sounds during the normal operation of the water heater. Check the burner flames through the visible flame window to make sure combustion is normal during operation.

1. A burner with a pure blue flame indicates proper ventilation and adequate combustion.
2. A burner with a yellow/red flame indicates insufficient combustion, likely due to inadequate air intake or blockage at the appliance bottom.
3. A burner with a lift-flame suggests over-gas pressure or high wind conditions.
4. Maximum gas but a small flame suggests insufficient gas pressure.

All piping should be checked for gas and/or water leaks. Refer to page 5 of this manual for instructions on leak testing.

The air intake and cold water supply filters should be cleaned monthly. To clean the panel surface, dust it off and use a kitchen cleaner if necessary.

DO NOT operate the water heater if you suspect something is wrong with the unit. DO NOT allow children to operate or handle the unit.

DANGER

Before disconnecting the water supply, make sure no one will be exposed to the danger of hot water being released.

The water may be hot enough to create a scald hazard. The water should be directed into a suitable drain to prevent injury or property damage.

DANGER

Hotter water increases the risk of hot water scalds.

DANGER

Failure to perform the recommended routine preventive maintenance can affect the proper operation of the water heater, potentially leading to carbon monoxide hazards, excessive hot water temperatures, and other dangerous conditions.

If You Need Service

For all questions, adjustments, repairs, or spare parts replacement, please contact our support service at service@ranein.net.

Troubleshooting

Water heater will not start — there are no audible clicks at startup:

1. The first thing to check is to ensure that the incoming water is on the "right" side of the water heater. If the incoming and outgoing water lines are reversed, the water heater will not work. The incoming water is on the far right, and the outgoing is in the middle.
2. Check to make sure you have fresh batteries installed in the correct position.
3. The top reason the water heater does not ignite is insufficient water pressure. A minimum of 3.6 PSI (25 kPa), sustained, is required. Municipal water should supply enough water pressure.

Adjustment:

1. It's possible that some debris or epoxy might have entered the water inlet pipe. Check to see if the filter screen on the water inlet is clear of debris. You can also reverse the hookup by connecting your water source to the water outlet side and backflushing the system.
2. Propane gas cylinders may sometimes be contaminated with air, especially new cylinders after their first filling. Cycle the water heater by turning off and on your output flow or similar. If the water heater fails to ignite or stay lit after 10 cycles, please contact us via email at service@raneinrv.net.

Gas Water Heater Starts, Then Shuts Off:

1. The gas water heater requires a minimum flow rate of about 0.44 gallons per minute (1.5 liters) and a minimum pressure of about 3.6 PSI (25 kPa). **Note: Water pressure at the lower end of the operating parameters may not be sufficient. You will need a sustained water pressure of approximately 35-65 PSI (240-450 kPa) for adequate use if you are using a 12/18/120-volt pump.**
2. Out of Gas or Low on Gas. Propane gas is sometimes contaminated with air, especially in new tanks after their first filling. Cycle the water heater on and off by using the showerhead switch several times to purge the air from the gas. If this doesn't clear the air, the tank must be purged.
3. One of the ignition sensors may be bent or too close to the burner. Check to ensure that the ignition pins and the heat sensor are completely vertical and positioned at a 90-degree angle to the back of the box. If they are not straight (e.g., at a 45-degree

angle), you can straighten them with pliers.

4. The gas sensor wire (which looks like a black ground wire on the gas regulator) may have come loose or is no longer connected.
5. A faulty heat sensor can usually be diagnosed by removing the front case of the water heater and letting it run. If it continues to operate, one of the sensors and/or the wire harness needs to be replaced. This issue may also be caused by insufficient clearance at the back of the water heater where the majority of the air intake occurs.
6. Ensure that the valve on the propane tank is fully open.
7. Fresh batteries are required for the ignition spark. Make sure the batteries are aligned in the proper polarity (+/-).

The Water Does Not Get Hot Enough:

1. You are operating the gas water heater above 2,000 feet (600 meters). We recommend using it only at elevations below 2,000 feet.
2. Look through the viewer panes (middle horizontal windows on the front cover) to see if there is a blue flame. If the flame is yellow, there may be a cracked gas regulator. Do not attempt to use the gas water heater.

Water is Flowing, But There is No Hot Water Coming Out:

1. Ensure that the incoming and outgoing water supplies are connected properly. Your water supply should be attached to the incoming connection (located on the far right), and the showerhead should be attached to the outgoing water (located in the middle).
2. Ensure that you have adequate water pressure of at least 3.6 PSI (25 kPa), sustained.
3. Ensure that you have enough gas in your propane bottle and that the LP regulator is threaded all the way onto the gas water heater.
4. Fresh batteries are required for the ignition spark. Make sure the batteries are aligned in the proper polarity (+/-).

Gas Water Heater Does Nothing:

1. Ensure that your water source is hooked up to the water inlet side (far-right connection) and the showerhead is hooked up to the water outlet side (middle connection).
2. Ensure that you have an adequate supply of propane.
3. Ensure that you have fresh batteries.

Ranein, Enjoy Outdoor Life! Limited Warranty Information

Ranein hereby warrants that this product will be free from material defects in materials and workmanship when installed and operated according to Ranein's installation and operating instructions. This Limited Warranty extends to the original purchaser and subsequent owners, but only while the product remains at the site of the original installation. This Limited Warranty terminates if the product is moved or reinstalled at a new location. There are no warranties, express or implied, other than those contained in this Limited Warranty. No agent, employee, or representative of Ranein has any authority to bind Ranein to any representation or warranty concerning the product not contained in this Limited Warranty.

Except as expressly set forth herein, THERE ARE NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ANY GOODS SOLD HEREUNDER. BUYER'S EXCLUSIVE REMEDY IS LIMITED TO REPAIR OR REPLACEMENT OF THE GOODS SOLD, AT RANEIN'S DISCRETION. RANEIN SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Item Period of Coverage

Heat Exchanger 1 year

All other parts 1 year

Free Accessories (Showerhead, hose, regulator etc) 30 days

Coverage is void if the unit is used in a hot water circulation loop, in series with a circulation system, or where an on-demand recirculation system is not incorporated.

The owner is responsible for all other costs incidental to repair, such as labor, shipping, delivery, and permits. Proof of purchase is required. Products that are repaired will be covered under this Limited Warranty for the remainder of the term of the original purchase.

This Limited Warranty becomes null and void if any of the following are determined to be contributing factors to the failure of the product:

1. Abuse, misuse, alteration, neglect, or misapplication;
2. Improper or inadequate maintenance;
3. Inadequate water quality;
4. Installation in a corrosive or otherwise destructive environment;
5. Freeze damage;

6. Scale buildup;
7. Incorrect gas or water pressure;
8. Acts of force majeure.

This product is not to be used as a pool or spa heater.

Within the first 30 days of purchase, Ranein will cover all ground shipping costs for warranty-related issues, excluding AK, HI, Canada, and any location outside of the continental U.S. After the first 30 days of purchase, Ranein will cover all shipping costs to the customer for warranty-related issues, excluding AK, HI, Canada, and any location outside of the continental U.S. After the first 30 days of purchase, the customer is responsible for all shipping costs to Ranein, regardless of the reason or circumstance. The method for warranty-related shipping will be ground equivalent with the provider of Ranein's choosing.

AK, HI, Canada, and any location outside of the continental U.S. will be responsible for all shipping costs, regardless of the reason or circumstance.

All shipments of any type of product coming to Ranein for any reason must have an RGA (Return Goods Authorization) for repairs to be made. Please contact Ranein to obtain an RGA number prior to shipping anything to Ranein. Failure to do so could result in the loss of the product. Ranein will not be responsible for replacement due to loss or damage if these steps are not properly followed.