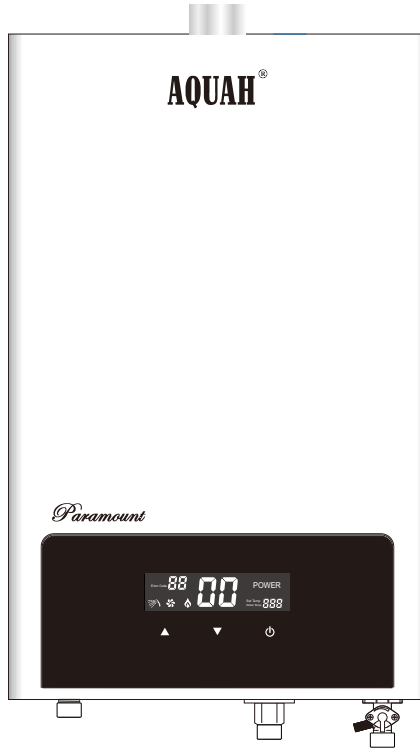


AQUAH™

INSTANT GAS WATER HEATER

JSG32-K



USER OPERATION MANUAL

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PREFACE

This manual is intended 1) to provide the installer with basic directions and recommendations for the proper installation and adjustment of the water heater; 2) to explain to the owner/operator the features, safety precautions, operation, maintenance and troubleshooting of the water heater. It is imperative that the installer and operator of this water heater read the instructions carefully so as to understand how to install and operate these units properly. If you do not understand the instructions or any terms in the manual, seek professional advice.

Any questions regarding the operation, maintenance, service or warranty of the water heater should be directed to the seller from whom it was purchased. Please read this manual carefully and keep it in a safe place for future reference.

SAFETY INSTRUCTIONS

1. Please make sure to read and understand the entire manual before attempting to install and use the water heater. Operate the unit only as instructed in this manual. Improper use or operation of this water heater may cause fire, electric shock, or serious bodily injury or death.
2. Use the correct power supply and gas type as indicated in this manual.
3. The water heater must be installed and used in a well-ventilated place.
4. The manufacturer-supplied exhaust pipe must be installed to vent the waste gases. Inspect the flue terminal for proper installation at initial start-up and at least annually thereafter.
5. To avoid electric shock, do not attempt to open or repair the electronic control unit yourself. Such an attempt will also void your warranty.
6. Do not attempt to repair gas piping, burners, vent connectors or any safety devices. Contact only authorized service personnel for examination, adjustment or repair.
7. Do not touch the control panel or electric plug with wet hand.
8. Do not install or use this water heater in areas where gasoline, paint, explosive and/or flammable materials and/or liquids are handled, used, or stored.
9. Plug the water heater into a properly grounded electric outlet only!
10. Incorrect installation or poor maintenance may result in serious bodily injury or death, and/or property damage.
11. If this water heater is sold or transferred to a different owner, please make sure that this manual is handed over with it.
12. Installation, maintenance and repair must be done by qualified personnel in compliance with current regulatory standards and in accordance with the instructions of the manufacturer.

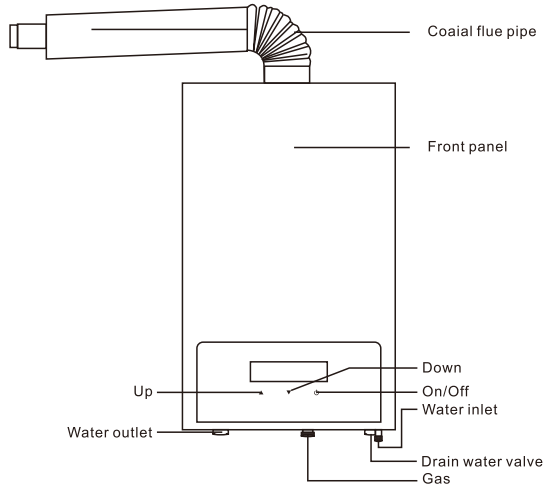
What to do if you smell gas :

- Open windows;
- Close gas valve;
- Do not try to light any appliance;
- Do not touch any electric switch;
- Do not use any phone in your building. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions. If you cannot reach your gas supplier, call the fire department.

Note: Symptoms of CO poisoning include dizziness, headache, nausea, vision problems, loss of muscle control, weakness, shortness of breath, unclear thinking, and unconsciousness.

PRODUCT DESCRIPTIONS

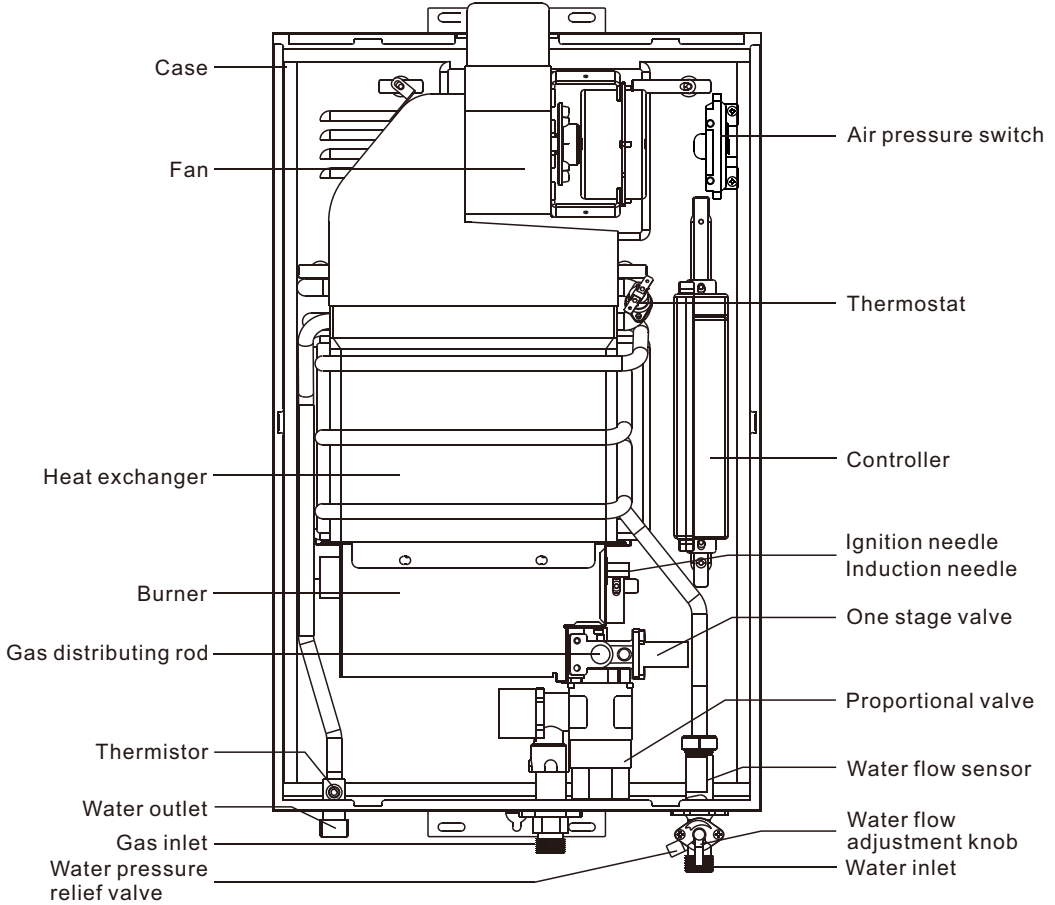
1. This water heater is compact, highly efficient and ideal for indoor use for whole house, camper, trailer, RV, yacht, etc.
2. The water temperature, once set at any point between 32°C (89°F) and 65°C (149°F), will always remain constant regardless of fluctuations in water flow, water pressure, or gas flow.
3. This water heater will start to run automatically once water starts to flow through the unit. There is no need for any user intervention.
4. Water flow is automatically controlled and adjusted.
5. The heating chamber of the water heater is sealed air-tight. Air for combustion is completely drawn into the heating chamber from outside of the house and, at the same time, waste gases are 100% blown to the outside through the direct vent system. There is no pollution or consumption of air in the house and, therefore, no space requirements for combustion. All these make this water heater one of the safest to use.
6. Other safety features include:
 - 6.1 Anti-freezing device to prevent the water heater from freeze damaging by lighting up the burner and heating up the heat exchanger when temperature in the environment falls below 6°C (42°F).
 - 6.2 Overheating prevention device, by shutting off the water heater, to prevent overheating caused by overly high water temperature or by dry burning when water flow is too low.
 - 6.3 Flame failure detection device to instantly shut down the gas valve when flame is unexpectedly out.
 - 6.4 Water pressure releasing valve/water drain plug to relieve water pressure when it exceeds the allowable limit in order to prevent the water heater from being damaged.



Technical Data

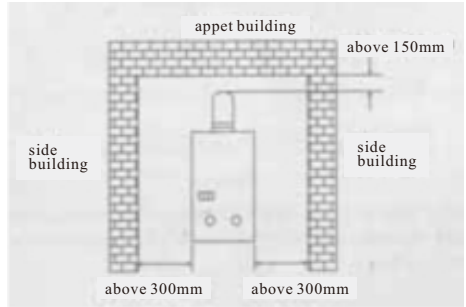
Product Name	Instantaneous Direct Vent Gas Water Heater	
Model	JSG 32-K	
Rated heat power(max)	32KW(109,260BTU/hr)	
Rated heat power (min)	6.5KW(29.300BTU/hr)	
Thermal efficiency	≥88%	
Dimensions	570 x358x128mm 22"x14"x5½"	
Gas category	11 2H 3B/P	
Gas pressure	LPG-2800pa,NG-2000pa	
Ignition type	Automatic electronic	
Vent type	Direct exhaust	
Control type	Water flow control	
Water pressure	0.01-0.8Mpa(4-116 psi)	
Flue pipe diameter	∅ 60(exhaust)/∅ 90(intake air) pipe length≤3m (10 ft), 90°elbow≤2pcs	
Cold water inlet	1/2"	
Hot water outlet	1/2"	
Gas inlet	1/2"	1/2", 3/4"
Rated electrical power	40W	
Power supply	AC110V, 60Hz	

Main Components

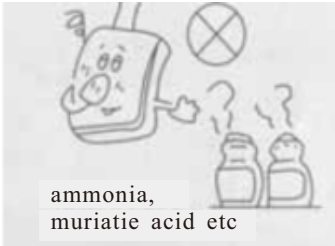


INSTANLLATION CAUTIONS

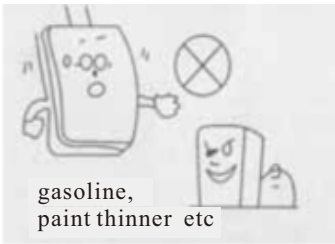
1. Be sure to use the correct gas type and power supply as indicated on the gas water heater. Use of wrong gas type or power supply may damage the water heater and cause a fire or accident.
2. The manufacturer-supplied flue pipe must be installed to vent the waste gas out of the house. This water heater cannot be installed for use outdoors.



3. This water heater should be installed as such that enough space is left for the convenience of future maintenance.



4. Try to install the water heater on the wall where there is no window nearby. If there is a window on the wall, be it above or aside of the water heater, it is recommended to keep the water heater at least two (2) feet away from the window.

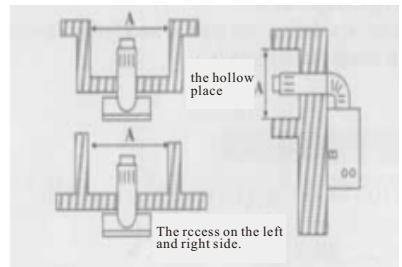


5. This water heater shall not be installed in an area where flammable and/or explosive materials or liquids are handled, used or stored. Neither shall it be installed over any appliances that produce vapor or steam, such as gas stove, cooker, or under gas pipes, power lines, or electric appliances.

6. The exhaust flue pipe should be installed on the wall, facing the outside. Do not install the exhaust flue pipe at a hollow place or a place where air does not circulate

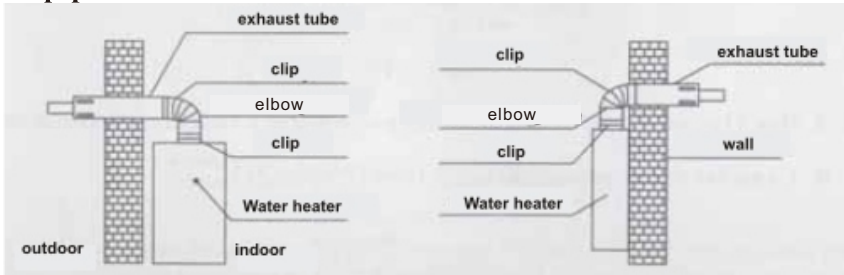
well. Refer to details in the figure bellow. Distance A shown in the figure shall be at least five (5) feet.

7. Insulate the water heater with fire-proof material if it is hung on a flammable wall.
8. Use the exhaust pipe supplied by the manufacturer only. The total length of the flue pipe cannot be reduced to less than 0.5M(1½ feet).

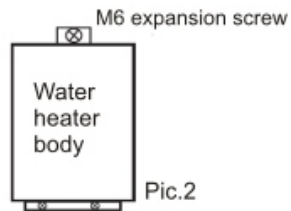
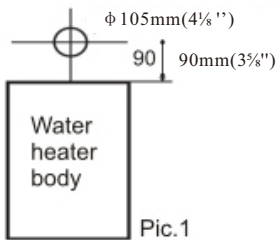


INSTALLATION

1.Flue pipe installation



- 1.1 Installation must be done by qualified personnel. This water heater must be installed vertically with the vent port at the top and water/gas inlets/outlet at the bottom.
- 1.2 The flue pipe of this gas water heater must be installed through an external wall to the outside of the house. The heater cannot be installed outdoors. The flue pipe of the heater shall not be connected to a common natural draft flue.
- 1.3 Select the installation place and drill a hole of 105mm (4 $\frac{1}{8}$ "") for the flue pipe.



- 1.4 Drill a small hole in the wall and use a M6 expansion screw to mount the water heater, drill two more holes at the bottom and use two screws to stabilize the water heater as shown in Picture 2 above.
- 1.5 The flue pipe should be installed in a 3-degree downward inclination to the outside to prevent rain from flowing into the heater and damaging it. The part of the flue pipe sticking outside of the house shall not be shorter than 100mm (4"). The section of the flue pipe that goes through the wall to the outside must be covered with fire-proof material. If the standard flue pipe is not long enough, an extension pipe can be purchased from the seller or manufacturer.

- 1.6 Connect the elbow to the flue, and wrap and seal the joint with aluminum foil. Install the flue after the heater body is mounted on the wall. Put the flue through the hole in the wall, gently insert the elbow into the exhaust pipe of the heater and seal the joint with aluminum foil.

Note: 1) The flue system supplied by the manufacturer must be used for this water heater. The use of any alternative flues is strictly prohibited and will void the warranty. 2) The whole length of the flue shall not exceed 6½ feet, and the number of the elbows used shall not be more than three (3). Otherwise, malfunctions, such as explosive combustion, flame out, etc. may occur.

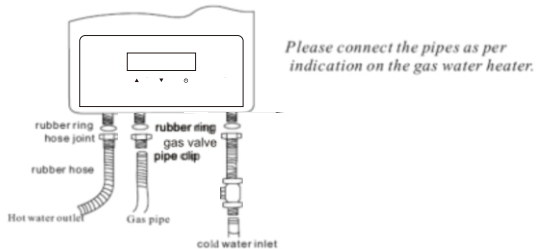
2. Gas and water pipe installation

- 2.1 For the model, JSG 32-K, a 3/4" gas line is strongly recommended although a 1/2" gas line may be sufficient for this model depending on the applicable gas pressure. A gas pressure regulator is required for LPG water heaters unless the regulator is already built in the propane tank.
- 2.2 In the United States: The installation must conform with the local codes or, in the absence of local codes, the National Fuel Gas Code ANSI Z223.1/NFPA54.

Note: The gas pressure regulator is not supplied with the gas water heater. Check with local retailers or gas suppliers for detailed information regarding the gas pressure regulator.

- 2.3 Do not connect to an unregulated or high pressure propane line or to a high pressure commercial natural gas line.
- 2.4 Install a manual gas shut-off valve on the supply line.
- 2.5 Install a union when connecting gas supply.
- 2.6 Attach a gas pressure regulator, if necessary, to the inlet gas line.
- 2.7 After installation is completed, check for gas leaks at all joints. Apply some gas leak detection solution to all gas fittings. Bubbles are a sign of a leak. A combustible gas detector may be also used to check for leaks.
- 2.8 For water connections, keep the water inlet and water outlet pipes to no less than ½" to allow full flow capacity. It is recommended that water valves or unions be installed when plumbing is connected to the water heater. This will facilitate any necessary cleaning and servicing in the future.
- 2.9 Never sweat any rigid piping directly to or beneath the water connections or damage may occur to the internal water valve from heating of the pipe.

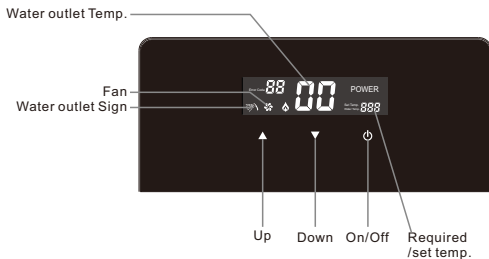
2.10 When connecting the gas/water pipes to the water heater, make sure to seal all the connections properly by using the correct rubber rings. Refer to the following figure for details.



OPERATION

Operation of this water heater is easy. After installation is completed, turn on gas, water, and electricity, and then proceed with the following steps to operate the water heater.

1. Read the instructions on the front panel sticker for the function of each button.
2. Turn water on. Make sure that water runs through the water heater.
3. Plug into the power supply. Press the on/off button. The buzzer will beep once, and on the LCD screen will be shown "Set Temp". Press "up" or "down" button to set the temperature desired.
4. Turn the gas valve on.
5. Turn a fixture on and the water heater will start to work. The fan will start to run before the burner is ignited. At the same time, an image of a running fan will be shown on the LCD screen. Also, a sign of showering will be displayed on the left lower corner of the screen.
6. Now, the burner will be ignited. The power indicator on the screen will start blinking, and the bar of the power indicator will move in correspondence with the set water temperature.



7. Press the "Up" or "Down" button to set the water temperature as desired. The temperature will change by 1°C if you press the "Up" or "Down" button once. However, if you press and hold the "Up" or

“ Down ” button over two seconds , the temperature will change at 11°C/sec, up or down.

Note:

1) On first time use after initial installation, existence of air in the gas supply line and in the water heater line may cause some ignition delay. In that case, repeat the ignition process until all the air has been purged.

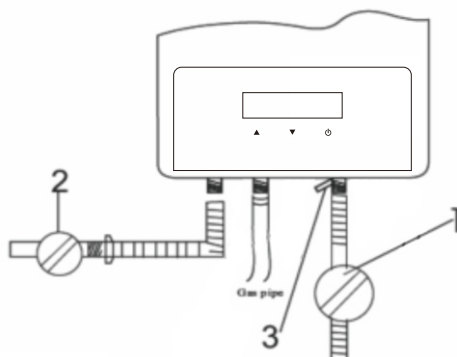
2)When the water valve is turned off, the heater will stop working, but the fan will still blow the chamber for a few seconds. If power is not turned off after use, the next time when the water valve is turned on, the heater will heat water up to the water temperature set last time.

SAFETY PRECAUTIONS

1. Before using hot water, please check the water temperature to avoid scalding.
2. Turn off the gas valve and the power supply after use.
3. When you smell gas, cut off the gas valve on the gas inlet pipe, cut off the main gas valve, open all the windows to let gas out of the house. DO NOT turn on or off any electrical appliance and DO NOT plug or unplug any electrical devices or sparks may cause explosion or fire.
4. Do not drink water directly from the water heater.
5. It is mandatory that the coaxial pipe supplied by the manufacturer be used with the water heater. Since this product uses forced exhaust and supplies for combustion with a dual chamber coaxial pipe, the air needed for combustion is completely drawn from outdoors, and the waste gas produced by combustion is discharged to the outside. Therefore, the air indoors wouldn't be consumed or polluted. This removes the danger factor of insufficient oxygen and monoxide poisoning. This model can be installed anywhere in the home with an outside wall.
6. The heat exchanger should be inspected at least once a year for dust, and dirt, soot buildup or any other foreign material such as spider web. Clean out any debris found in the fins of the heat exchanger. Cleanup should be done by qualified personnel only.
7. Freeze prevention: When temperature in the environment falls below 6° C (42° F), the anti-freezing device is activated and the burner is lit up to heat up the heat exchanger. Normally, the burner will be kept on and off at 2-second intervals. The anti-freezing device will stop working after the heat exchanger is heated up to 32° C (90° F). Once the anti-freezing device is activated, the device will check the temperature once every three (3) minutes unless the water heater is in use (water flowing through the heat exchanger).

However, the anti-freezing device in the water heater will not work if the water heater is unplugged from the power source. Therefore, without power supply to activate the anti-freezing device, water in the heat exchanger may get frozen and freeze damage the water tubes in the water heater when the temperature in the environment falls near or below the freezing point. In this case, please follow the procedure below to prevent freeze damage,

- 1) Turn off the cold water inlet valve (1)
- 2) Turn on the hot water outlet valve (2)
- 3) Unscrew the water drain plug (3) by hand to let the water out.
- 4) After the heater is drained completely, restore the drain plug back to the heater by hand.



MAINTENANCE

1. Use damp soft fabrics to clean the case of the water heater regularly, but do not use cleaning chemicals which will make the paint fade.
2. Check the gas pipe regularly to make sure that there is no crack on it. Use soapy water to check each connection of the gas pipe for gas leaks.
3. Check, through the small window on the case, whether or not the flame is blue to ensure that gas is burned completely.
4. Clean up the water inlet filter regularly. A clogged filter will reduce the water flow/pressure.
5. Ask a technician to check and clean annually the burner, blower, flue, ignition electrodes, heat exchanger, etc.
6. Check the electricity leakage protection switch once a month to make sure it works normally.
7. Keep the area where the water heater is installed well ventilated.

8. If the water heater is not to be used for a long period of time, shut off the gas valve and water valve, drain the water heater, and unplug the unit from power supply.

Troubleshooting

Causes		Troubles										Solutions
		Flame out during operation	Heater does not fire up after water starts to flow	Deflagration	Yellow flame and smoke	Abnormal flame and gassy smell	Abnormal sound at firing	Water lukewarm even when temp adjuster is set high	Water too hot even when temp adjuster is set low	Water too hot even when temp adjuster is set low	Flame extinguish when low temperature	
Gas valve not open or no gas supply			●									Open gas valve. If there is no gas flow, contact gas supplier.
Gas valve half open		●						●				Open gas valve fully.
Air in gas line			●									Turn a fixture on and off repeatedly till flame is on. Wait 5 seconds after each operation.
Abnormal gas pressure	high			●			●					Ask service personnel to check gas pressure adjuster.
	low	●						●				
Freezing			●									Contact service personnel.
Insufficient inlet water pressure		●	●								●	Contact service personnel.
Clogged burner					●	●	●					Contact service personnel.
Clogged heat exchanger		●			●	●						Contact service personnel.
Water valve fault		●	●					●	●		●	Contact service personnel.
Faulty spark controller		●	●									Contact service personnel, and connect the loose wire correctly.
Loose wire		●	●								●	Contact service personnel, and connect the loose wire correctly.
Micro switch failure			●									Contact service personnel.
Faulty fan		●	●									Contact service personnel.
Solenoid failure		●	●									Contact service personnel.
Faulty flame detector		●										Contact service personnel.
Abnormal positioning of spark needles				●								Adjust positioning of spark needles. Contact service personnel.
No power		●	●									Turn power switch on.
Valve not open for cold water supply			●									open the water inlet valve fully.
Incorrect water temperature setting								●	●			Check and reset water temperature.
Insufficient air supply					●	●	●					Increase air ventilation.
Duct clogged or high wind outside		●	●									Clean up the duct or turn the heater on again after wind dies down.

● Unauthorized dismantling is prohibited.

ERROR CODE DISPLAY

This water heater uses a smart computer control system. Whenever some malfunction occurs, the water heater will shut itself off automatically. The buzzer will beep and, at the same time, the corresponding error code will be displayed on the LCD screen.

When an error code is displayed, please write down the error code, and turn off water and electricity. Wait a short period of time and turn on the gas water heater again. Normally, the water heater will return to normal after the reset. However, if the same error code shows up again after the “reset” , please seek for professional help.

The following are the error codes:

E0	NTC thermistor fault
E1	Ignition failure
E2	False flame detection
E3	Dry combustion/overheating
E5	Air pressure switch fault
E6	Temperature $\geq 90^{\circ}\text{C}$ (194°F)
E7	Gas modulation valve fault

Note: Repair should be done only by authorized personnel. Any unauthorized repair or alteration Will avoide the warranty.

WARRANTY

Heat Exchanger

If the heat exchanger fails within one (1) year after the original installation and operation, the manufacturer will furnish a replacement heat exchanger.

Exceptions

This warranty will not apply:

1. To defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with the printed instructions provided.
2. To damage or abuse, accident, negligence or freezing and other acts of nature.
3. To damage resulting from operation with either the flame sensor rod or overheat sensor removed.
4. To failure of the heat exchanger resulting from the operation of the

water heater in a corrosive atmosphere or at water temperatures exceeding the maximum rating, or if the water heater is not supplied with portable water.

5. To defects or damage caused by any attachment or modification, including any energy-saving device.

All Other Parts

If any other part fails within one (1) year after original installation and operation, the manufacturer or retailer will furnish a replacement part free of charge.

Shipping Costs

Any parts or product claimed to be defective must be shipped freight prepaid to the manufacturer or retailer and the repaired or replaced product or parts will be returned to the sender freight at customer's expense.

Service Labor Costs

This warranty does not cover any labor costs associated with services, removal or re-installation of part(s). All such costs must be borne by the Purchaser. Additionally, this warranty does not cover any labor costs associated with services, removal or re-installation of the original water heater or a replaced water heater.

Note: the water heater must be free of damaging scale deposits and not subject to gas pressures greater than those shown on the rating plate, which must not be altered, defaced or removed.

How to make a claim

Any claim for warranty parts should be made to your local dealer, distributor or manufacturer. In most cases, the dealer or distributor will be able to promptly honor your claim. However, all replacements are made subject to validation by dealer or distributor of in-warranty coverage. The damaged or defective item must be made available in exchange for the replacement.

Miscellaneous

No one is authorized to make any other warranties on behalf of the manufacturer. It is expressly understood that the replacement warranty of manufacturer shall be in lieu of any and all other warranties, express or implied, including warranties of merchantability or fitness for a particular use or purchase, and further that the manufacturer shall not be

liable for any loss or damage directly or indirectly arising from the use of the hot water heater, or for any consequential damages arising from such use, (including damages from water leakage). The manufacturer's sole liability with respect to any defect shall be for the replacement of the defective part(s). Some states do not allow such limitations and exclusions, so the above may not apply to you.