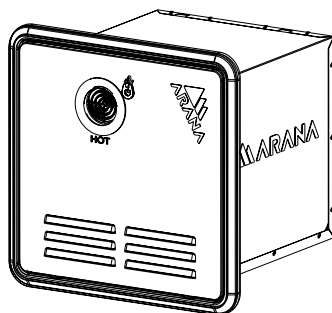


Make
A
Difference
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WATER HEATER RH09G



房车即热式燃气热水器
安装和使用说明书

CN

RV Instantaneous Gas Water Heater
Installation and Operating Instructions

AU

RV Instantaneous Gas Water Heater
Installation and Operating Instructions

US

RV chauffe-eau au gaz instantané
Instructions d'installation et d'utilisation

CA



Thanks for choosing **ARANA** RV instantaneous gas water heater. **Please read the instructions carefully before installation or first use of the device and store it in a place where all users could find it for easy reference. If the device is transferred or sold, please hand over the instructions along with it so that the new user is aware of installation methods, usage and safety requirements.**

AU

⚠ WARNING!

FOR CONTINUED SAFETY OF THIS APPLIANCE IT MUST BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

⚠ WARNING!

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

- DO NOT store or use gasoline or other flammable vapors and liquid in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS:

- Evacuate all personnel from the vehicle.
- Shut off the gas supply at the gas container or source.
- DO NOT touch an electrical switch, or use any phone or radio in the vehicle.
- DO NOT start the vehicle's engine or electric generator.
- Contact the nearest gas supplier or qualified service technician for repairs.
- If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.
- DO NOT turn on gas supply until the gas leak(s) has been repaired.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

1.0 Explanation of Symbols

AU

⚠ WARNING!

Indicates a potential hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION!

Indicates a potential hazardous situation which, if not avoided, could result in minor or moderate injury.

⚠ NOTICE!

Indicates a potential hazardous situation which, if not avoided, can result in property damage.

2.0 Safety Instructions

- Please only install it in recreational vehicles (RVs). RV's are recreation vehicles, having their own power or towed by another vehicle, designed as temporary living quarters for recreation, camping, or travel use.



- To prevent fire or explosion accidents, do not place flammable, explosive and volatile articles nearby the water heaters and exhaust pipe.



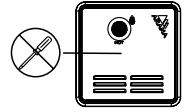
- During operation of the water heater and after use, the temperature of the exhaust pipe and the surrounding components is high. Please do not touch any of it with your hands to avoid scalding.



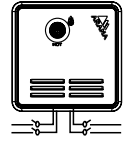
- In the shower or bath, in order to prevent scalding, you should firstly test the water temperature by hand, and then use it after confirming it is suitable for shower.



- DO NOT modify the water heater in any way. Self-modification is dangerous and will void the warranty.



- When the water heater is not used for a long time, in order prevent the water heater from hydro block, freezing and leaking, it shall be drained, and turn off the water inlet valve, turn off the gas as well as the power supply. When the environment temperature is lower than 4°C , it must be drained. Or turn on 12V DC the power supply and open the gas valve to start anti-freezing gas inlet function. (For details, refer to the relevant section of the manual.)



- During use, please perform regular maintenance as instructed in this manual. Please regularly check if the exhaust outlet and air inlet have any blockage, accumulation of snow, ice, insect nests or dirt. Make sure the water heater can draw in clean air and the exhaust gas produced by combustion can be discharged smoothly.
- Water heaters are used only for the supply of hot water and cannot be used for other purposes to prevent accidents.
- DO NOT use the battery charger to power or test the water heater.
- DO NOT alter the water heater for a positive grounding battery system.
- DO NOT test the water heater with high voltage power unless the water heater power switch is turned off.
- DO NOT use a water heater while the vehicle is in motion.
- DO NOT use the water heater while the vehicle is refueling, and turn off the water heater.
- Pay attention to protect the surrounding buildings from hot exhaust fumes.
- DO NOT connect the water heater to the exhaust system of other appliances.
- NEVER use the water heater in enclosed spaces or tents.
- This water heater is NOT designed for Marine or Space Heating applications.
- Make sure the bottom of the water heater is installed parallel to the horizontal plane. When using the water heater, choose a flat place to park the vehicle.

2.1 Installer/Operator Responsibilities

- Installation and service must be carried out by authorised installer, service agency or gas supplier.
- This product is not suitable for DIY installation.
- Read and observe all safety rules.
- Shut off gas appliances and their pilot lights(if any) when refueling.
- Keep these instructions for future reference.
- Follow all applicable State and Local Codes.
- Follow a regular schedule of maintenance as outlined in this manual.

WARNING!

Suffocation or Fire Hazard

Exhaust gases are hot and contain carbon monoxide, do not breath or obstruct the exhaust gases. Failure to follow the instruction will lead to serious injury, property damage or death.

3.0 Product Features

- **Digital constant temperature system:** microcomputer control system, which constitutes the "computer" of the whole heater, controls the water, electricity, and gas of the water heater in a coordinated manner, and controls the output water temperature to the selected temperature.
- **Low water pressure startup:** Low water pressure at startup and it will be easier to use.
- **Flameout protection:** When the water heater accidentally flames out during use, it can automatically cut off the gas to ensure that the gas will not leak.
- **Speed changing and wind resistance function:** When there is a blockage of the flue or the exhaust is blocked, the built-in microcomputer system will increase the running speed of the fan and eliminate the emission of harmful gases. When the speed reaches the predetermined maximum speed, the microcomputer system will

issue the instruction to stop heating and gas supply, effectively safeguard the heater and occupants.

- **Water and gas leakage control:** When the water supply is interrupted or the water outlet valve is closed, the water heater will automatically stop the combustion and shut down.
- **Output water temperature display:** With output water temperature display.
- **Frost protection function:**
 - When the temperature of the water pipe in the water heater is lower than $6\pm 1^{\circ}\text{C}$, the wire controller will display "Fd", the machine will start ignition and run with a certain load, and the water heater will automatically shut down after the whole machine runs for 7 seconds. When the water temperature in the working water heater reaches $32\pm 1^{\circ}\text{C}$, it will shut down automatically.
 - After shutdown, wait for 3 minutes for self-testing. When the temperature drops below $6\pm 1^{\circ}\text{C}$ or when antifreeze thermostat control stops working, it will start to run again.
 - In the process of starting the antifreeze function, when a fault occurs, the corresponding fault will be reported and the corresponding code will be displayed. After 15 minutes, the system will automatically clear the fault code. If the antifreeze activation conditions are still met, the antifreeze function will automatically restart..
- **Automatic fault diagnosis and fault code display function:** The intelligent microcomputer can monitor various safety devices in real time, gas proportional valve and other components, find faults and shut down safely when necessary. Advanced fault code display function, is easy to use and maintain.

This appliance is certified for installation in RV's and is not for use in Marine or Space Heating applications.

This appliance complies with the requirements of AS/NZS 5263.1.2 and AS 3498, with the approval of WaterMark: WMK26738, Gas Safety: SAI-400417 RCM: SAA 230512

4.0 Installation Instructions

⚠ WARNING!

THIS APPLIANCE MUST ONLY BE INSTALLED IN ACCORDANCE WITH THE ACCEPTABLE PLUMBING CONFIGURATIONS SPECIFIED IN THESE INSTRUCTIONS. FAILURE TO DO SO MAY RESULT IN CONDITIONS WHERE DELIVERY TEMPERATURE CONTROL IS INADEQUATE.

⚠ WARNING!

- **TO BE INSTALLED ON A FIRE RESISTANT MATERIAL, SUITABLE ONLY FOR INDOOR INSTALLATION.**
- **INSTALLATION SHALL CONFORM TO THE PLUMBING CODE OF AUSTRALIA(PCA).**
- **THE DOOR SHALL BE KEPT CLOSED DURING OPERATION.**

⚠ WARNING!

THIS APPLIANCE MAY DELIVER WATER AT HIGH TEMPERATURE. REFER TO THE PLUMBING CODE OF AUSTRALIA (PCA), LOCAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS TO DETERMINE IF ADDITIONAL DELIVERY TEMPERATURE CONTROL IS REQUIRED.

The installation must be done in accordance with the instructions supplied in this manual. All other relevant national, state and local regulations must also be adhered to including (but are not limited to):

- Gas Appliance Installation: AS/NZ5601
- Water Services: AS3500.1
- Heat Water Services: AS3500.4
- Electrical Installation: AS3000
- and Local Water, Gas & Electrical Authority Regulations.

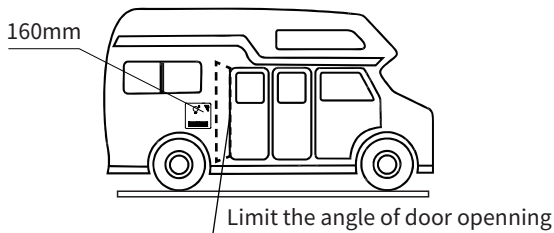
⚠ WARNING!

- Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life.
- Installation and maintenance must be carried out by a professional person, service company or gas water heater suppliers.

AU

The following instructions are applicable to the RV gas water heater. If you have any other questions about a particular installation or application, please consult to our company or the company authorized by us for installation and maintenance services.

- The water heater must be properly installed to ensure the air flow is free of air flow at any time when the air inlet louvers and exhaust pipes are in place.
- During any pressure test of the system, the device should be disconnected from the air supply piping system.
- Do not install this product under any overhanging structure such as awnings.
- This product should be installed in any place where the door will not be covered or blocked. If the condition is not allowed, please keep a minimum 160mm gap between the water heater vent and the door when the door is opened. See FIG.01.

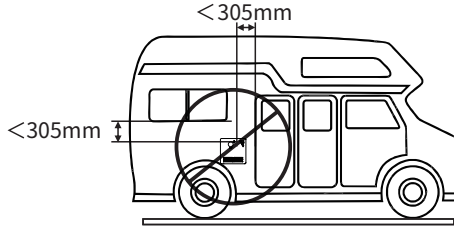
01

- If the wall is not fire-proof, the gap between the back of the product and the surrounding flammable structure and combustible materials must be filled with heat-proof and flame-resistance materials.

- The equipment should not be installed on vinyl panel, due to the difference in the vinyl panel.
- Do not install the appliance at a position where the distance from venting pipe to the door is less than 305mm. See FIG.02.

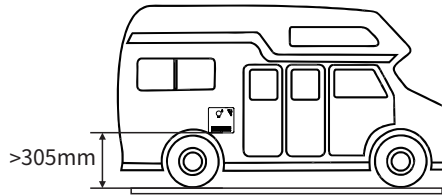
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02



- The appliance should be installed at a position with minimum 305mm height. See FIG.03.

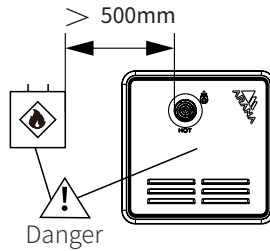
03



- Do not install the water heater or other electrical appliances in the exhaust port facing an area covered with awning, canopy or any other enclosure.
- The water heater can be installed in the trailer or under the retractable awning, but the awning must be well ventilated.
- The water heater must be installed uprightly, otherwise it will affect the normal use of the water heater.

- When the water heater is installed, it should be reliably grounded.
- Clean any dirt in the supply pipes before they are connected to the heater. An easy-to-assemble filter is required behind the pump to filter the water. If there is no filter, it will not be covered under warranty.
- Valves should be installed in gas pipe, inlet pipe and outlet pipe for easy maintenance.
- Check the gas leakage and water leakage after installation, make sure there is no any gas and water leakage.
- The minimum distance from the exhaust to the flammable surface should be >500mm. See FIG.04.

04



⚠ CAUTION!

Before usage the gas water heater, please kindly remove the carton, the foam, and the plastic bag from the gas water heater.

⚠ CAUTION!

If a relief valve discharges periodically, this may be due to thermal expansion in a closed water supply system. Contact the water supplier or local plumbing inspector to find out how to solve the issue. Do not block the relief valve.

⚠ WARNING!

Sharp edges can cause cuts and injury

Always wear protective gloves when installing and operating the equipment to avoid cuts from sharp edges.

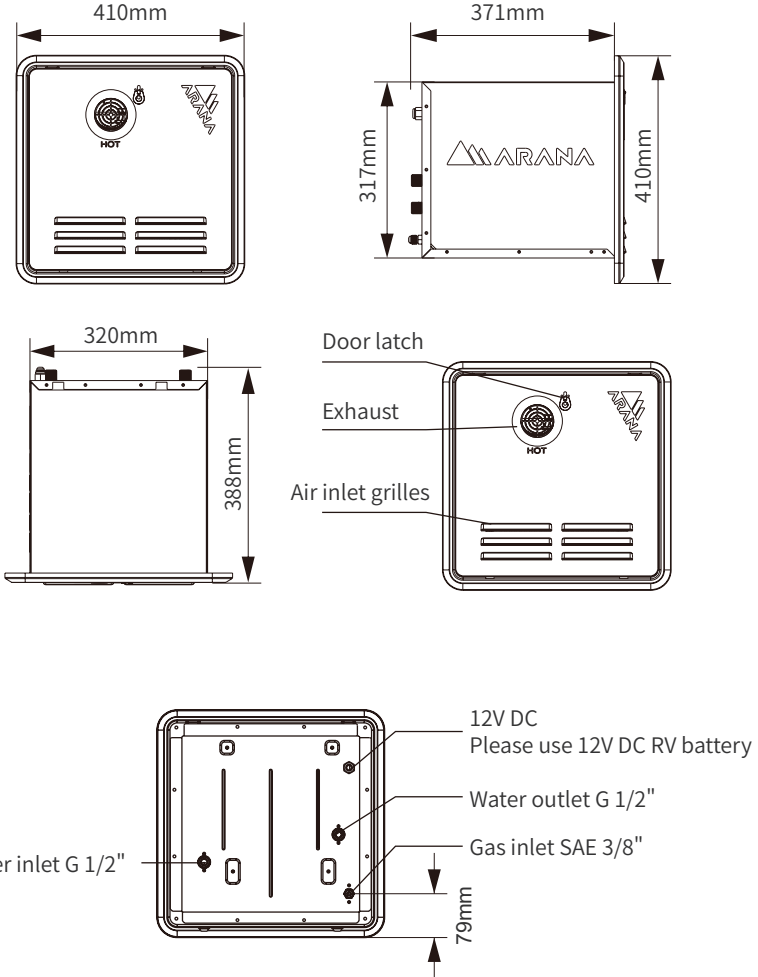
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4.1 Model and Specifications

Model	RH09G
Gas intended for	Universal LPG
Total nominal gas consumption	63.3MJ/h
Number of injector	5
Injector size	1.1mm
Max. working water pressure	0.4MPa
Min. working water pressure	0.1MPa
Nominal gas pressure	2.75KPa
Nominal manifold pressure	1.92KPa
Power input	12V DC, 3amp
Water heating capacity (temp rise 25K)	9L/min
Maximum water temp	51°C
Heat output	15.2KW
Product dimensions without door (W x H x D)	320x317x371mm
Product dimensions with door (W x H x D)	410x410x388mm

4.2 Product Overview

05

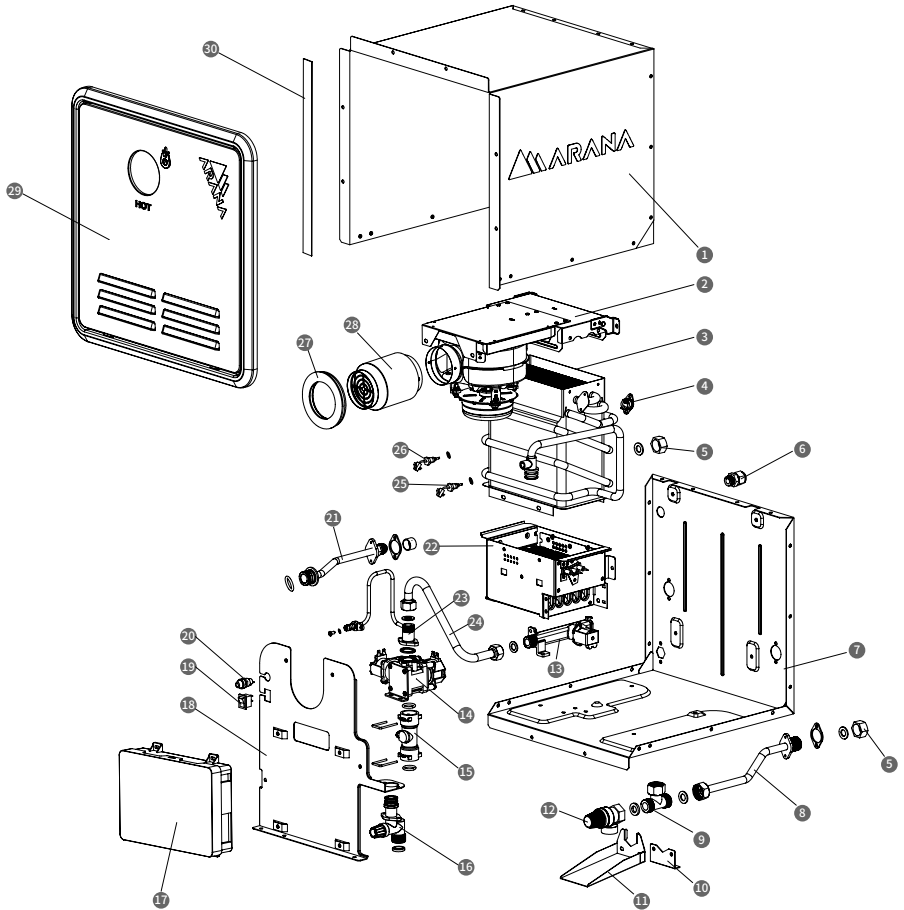


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4.3 Parts List

06

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NO.	Name	NO.	Name
1	Housing upper cover	16	Water inlet joint
2	Fanparts installation	17	Controller
3	Heat exchanger	18	Mounting plate
4	Thermostat	19	ON/OFF switch
5	Dust cap	20	Fuse
6	Mounting nut for power line	21	Gas inlet pipe
7	Housing bottom plate	22	Burner
8	Water inlet pipe	23	Piezometer
9	Three-way pipe	24	Gas lead pipe
10	Fixing plate	25	Water inlet temp probe
11	Flume	26	Water outlet temp probe
12	Relief valve	27	Seal ring of exhaust outlet
13	Manifold parts installation	28	Anti wind-back device
14	Proportional valve	29	Door
15	Water flow sensor	30	Door frame

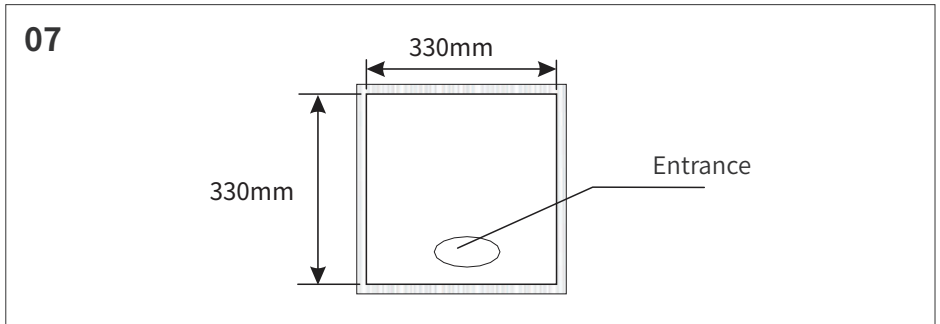
4.4 Installation Location

Choose a location to place the appliance, based on the following criteria.

- Do not install the water heater in the RV aisle.
- It should be installed on the exterior wall of the RV.
- The exhaust port should face outside the RV.
- RV hot water heater should be installed on a solid, or on a non-combustible frame. In order to install a water heater firmly, the unit's bottom should be supported by a non-combustible floor or frame.
- If the surrounding of the opening is a combustible material, use a flame-retardant insulating material such as heat-insulating felt or heat-insulating board to completely separate the back surface of the water heater from the combustible

surface. And the minimum thickness of the filling material must be greater than 20mm. The housing connection gap behind the water heater should be sealed with a high temperature sealant during installation to isolate it from the inside of the RV.

- In this way, the burning air does not come from the inside of the RV, but from the outside of the RV and the exhaust gas generated by the combustion is discharged outside the vehicle.
- The size of cutout opening is 330x330mm.
- The opening should be deep enough to accommodate gas, electrical and water lines.
- And at the bottom or back of the opening, please reserve space for gas inlet, inlet, outlet pipe, power line and other channel.
- Adequate length of gas lines, wires, and water pipes should be reserved. The recommended length is greater than 1.5 times the depth of the opening for maintenance and testing.
- Make sure the opening is with adequate weight-bearing capacity. See FIG.07.

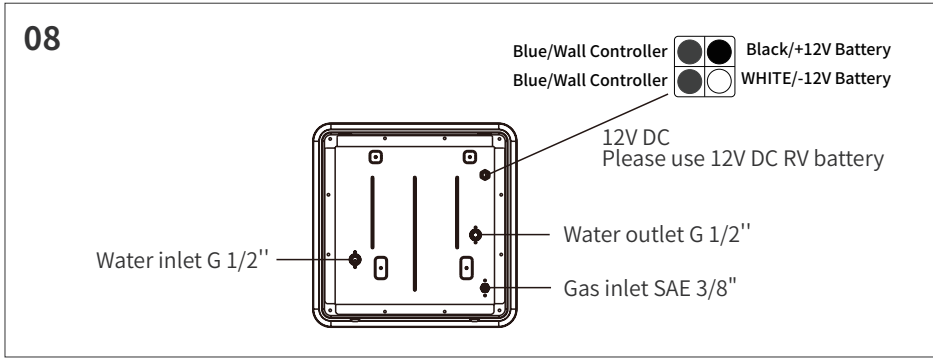


- The hole can be strengthened by adding support frames under the water heater bottom in order to ensure water heater does not make any damage on the wall of the RV.

4.5 Pipes & Lines Connection

- Correctly connect the G1/2" cold and hot water pipe to the back of the water heater.
- Correctly install the SAE 3/8" liquefied gas pipe on the back of the water heater.
- Connect the line controller with the two blue lines on the back of the water heater, it is not necessary to divide the positive and negative poles; adequate length of gas

lines, wires and water pipes should be reserved to pull the water heater from the mounting hole. See FIG.08.



- Installation of wiring and wired controller must be installed by professional person, service company or gas water heater suppliers.

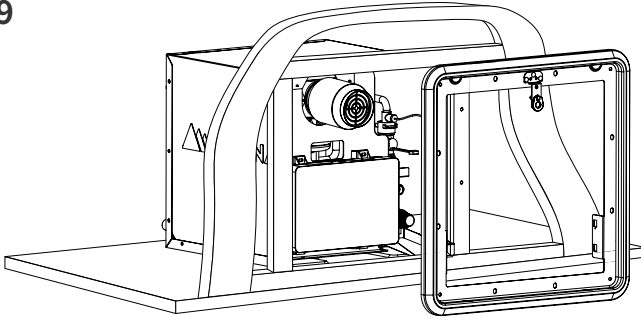
⚠ WARNING!

- **This water heater is designed for RV users. The working voltage is 12V DC RV battery and the gas source is propane.**
- **The BLACK wire is positive (+) and the WHITE wire is negative (-).**
- **Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.**
- **If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.**
- **The Maximum water inlet pressure is 0.4Mpa, and the Minimum water inlet pressure is 0.1Mpa.**
- **New hose-sets supplied with the appliance are to be used and that old hose-sets should not be reused.**

4.6 Securing The Water Heater

- Insert the door frame into the water heater housing and press the door frame firmly against the sidewall. See FIG.09.

09

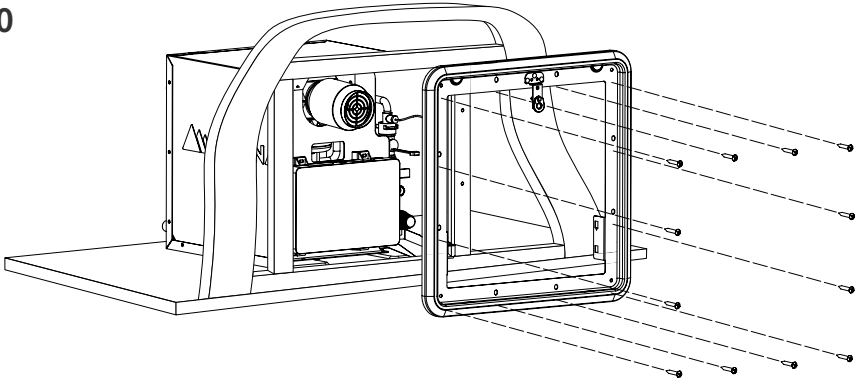


- Secure the door frame to the vehicle using ST5 x 30 large flat tapping screw through each hole along the perimeter. Verify that a tight seal exists between the side wall and the door frame. See FIG.10.

⚠ NOTICE!

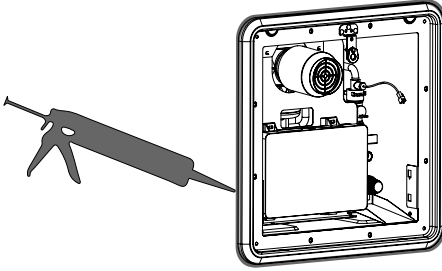
Ensure the butyl tape completes a tight seal between the RV siding and appliance door frame. If gaps exist, remove the appliance and apply a double layer of butyl tape.

10



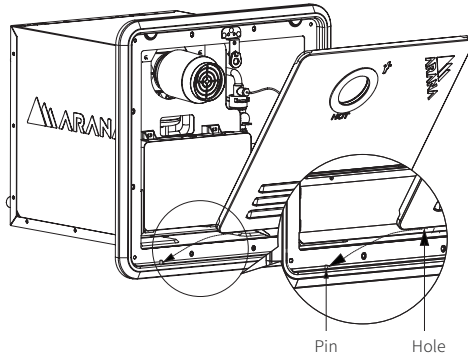
- Apply a liberal amount of sealant around the door frame to fill any gaps to the RV wall. (See FIG.11) Wipe any excess sealant.

11



- Insert the pin of the door frame into the bottom of the door. See FIG.12.

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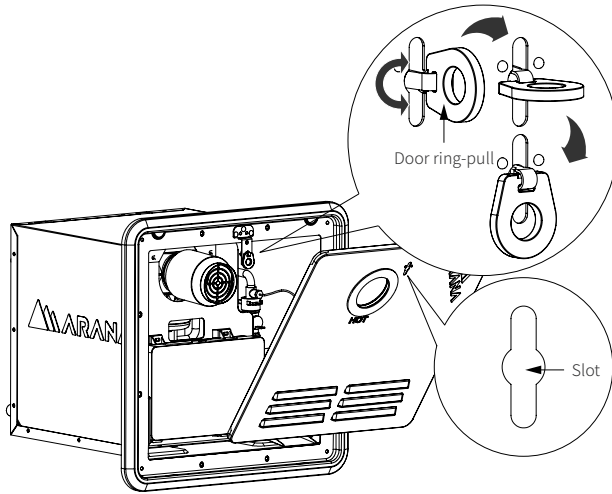


- Align the door ring-pull on the door frame with the slot on the door, then push the door and rotate the door ring-pull to lock the door into place. See FIG.13.
 - Pull and rotate the lever 90° to lock the latch.
 - Turn down the folding door ring-pull.

⚠ CAUTION!

Damage to the assembly door and the RV if the assembly door is not closed properly!
 Make sure that the assembly door is flush with the cover plate when closed.

13

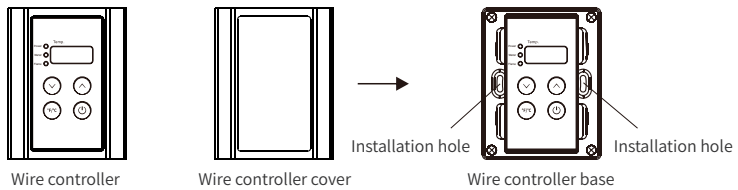


4.7 Installation The Wire Controller

Choose a convenient location to place the wire controller.

- The connection between the wire controller and the water heater should be reasonably laid out according to the specific environment.
- Firstly, remove the cover from the wire controller, use the supplied 2 screws to fix the base of the wire controller, then put on the wire controller cover.

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⚠ CAUTION!

The appliance is equipped with a water pressure relief valve that activates if the inlet pressure is too high, releasing the water and protecting the pipe from high pressure damage.

⚠ WARNING!

Please lock the door of water heater after the installation to prevent any accident.

4.8 Leak Check

Confirm there is no leakage happening between any gas connections.

- For example, put soapy water on gas connection, to see whether there are bubbles. If there are no bubbles, it means no leakage; if bubbles occur, please check connections.

Confirm there is no water leakage.

The installation person shall check the operation of water heater, after being sure there are no leakage happening between any gas connections.

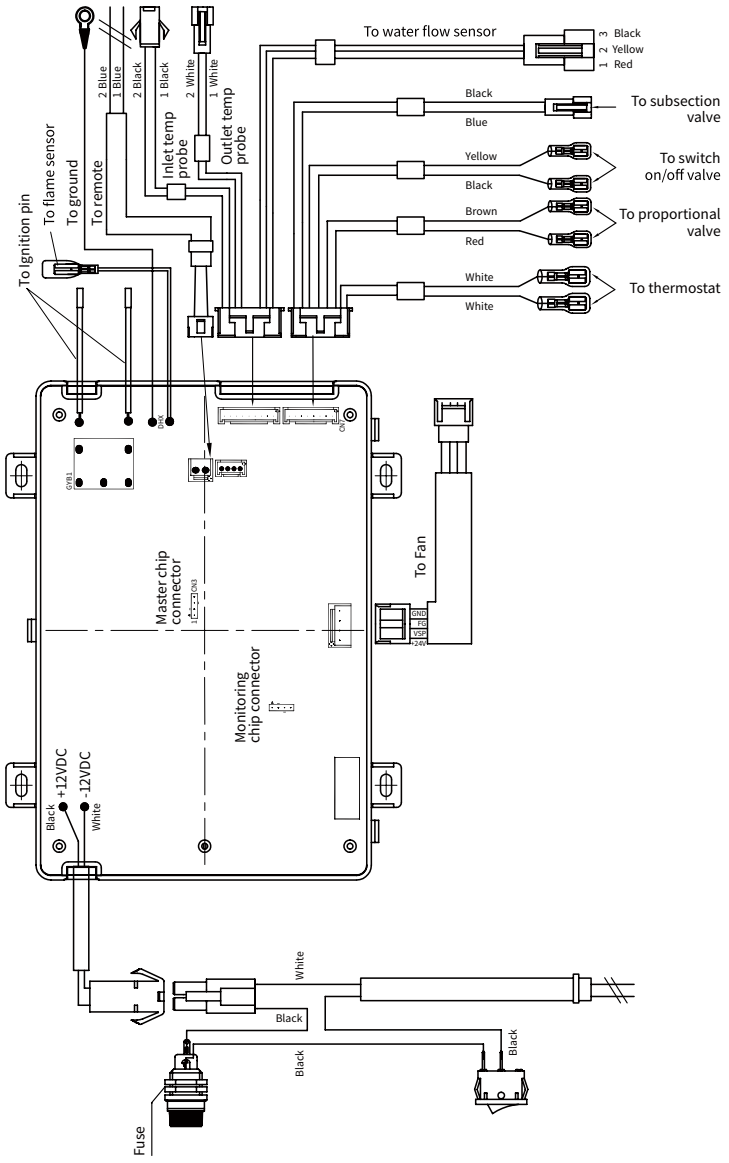
- The minimum distance from the exhaust vent to the flammable surface should be more than 500mm.
- Do not install the water heater or other electrical appliances in the exhaust port facing an area covered with awning, canopy or any other enclosure.
- The water heater can be installed in the trailer or under the retractable awning, but there must be good ventilation around the awning.
- The water heater is intended to be used with a gas cylinder not less than 4Kg weight, complying with local rules.

Cylinder	Approximate size	Dimensions
	4Kg	Height: 345-450mm Diameter: 240-265mm

4.9 Product Wiring Diagram

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AU



5.0 Operation Instructions


⚠ WARNING!

- DO NOT SPRAY AEROSOLS AROUND THIS APPLIANCE WHILE IT IS IN OPERATION.
- DO NOT USE OR STORE FLAMMABLE MATERIALS IN OR NEAR THIS APPLIANCE.
- DO NOT PLACE ARTICLES ON OR AGAINST THIS APPLIANCE.
- DO NOT MODIFY THIS APPLIANCE.

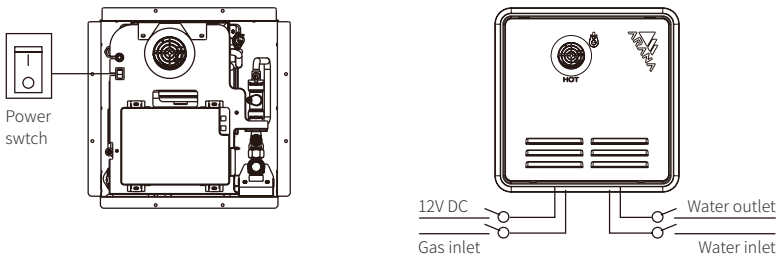
⚠ WARNING!

- Prior to first operation, please remove packages, like plastic film, plastic bag, plastic sealing tape which may block the outlet of water heater.
- Before the initial use, please check whether the water heater is properly installed and correctly connected without any leakage.

5.1 Starting Up

- Confirm that the power switch is turned on; See FIG.16.
- Press the wire controller key "  ";
- Turn on the water inlet valve and gas valve at the gas cylinder;
- Turn on the water outlet valve (hot water tap), to start the water heater then hot water flows out.

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⚠ WARNING!

- **This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.**
- The door shall be kept closed during operation.

The gas valve is cut off after the power supply is turned off or powered off. The user should turn off the gas cylinder when the power is off or when the power is turned off. Please check the electrical connection of 12V DC before the next operation.


⚠ CAUTION!

- TO BE INSTALLED ON FIRE RESISTANT MATERIAL.
- DO NOT OPERATE THIS PRODUCT BEFORE LEAK CHECK OF THE CONNECTION BETWEEN THE HOSE AND THE GAS CYLINDER.
- ONLY SUITABLE FOR INDOOR INSTALLATION.



⚠ WARNING!

- FOR CONTINUED SAFETY OF THIS APPLIANCE IT MUST BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- CHILDREN ARE NOT ALLOWED TO OPERATE THIS WATER HEATER WITHOUT THE GUIDANCE OF THEIR PARENTS OR GUARDIAN.
- ANY PARTS REMOVED FROM THIS MACHINE SHOULD BE KEPT IN A PLACE WHERE CHILDREN ARE NOT ACCESSIBLE.
- DO NOT OPERATE THIS APPLIANCE BEFORE READING THE INSTRUCTION BOOKLET.
- DO NOT PLACE ARTICLES ON OR AGAINST THIS APPLIANCE
- DO NOT STORE CHEMICALS OR FLAMMABLE MATERIALS, OR SPRAY AEROSOLS NEAR THIS APPLIANCE.
- DO NOT REMOVE THE PANELS, COVERS, GUARDS FROM THIS APPLIANCE.

5.2 Wire Controller Instructions

- The wire controller emits a buzzer sound "B,B,B" when the power is turned on. The display shows the gas source code, and this code will only be displayed for 3 seconds. The wire controller's indicator light is on and the back light of power switch button is on.
- After pressing the power button, the fan, water flow, flame and outlet temperatures are displayed in real time according to the operating status.
- Set the temperature to a desired output temperature, the setting temperature will flash for 5 times, then it will automatically switch to display the water temperature.
- Press "**° F/° C**" to switch Celsius/Fahrenheit degrees.
- In the event of a fault alarm, the display will change to display fault code.
- The buzzer sound "B" occurs when the system is powered on or is operating effectively. When fault alarm occurs in the system, the buzzer sound "B, B, B" is issued for continuously for 10 times, and every one second for each sound.
- After finishing using the water heater, please press "  " to turn off the heater (water and gas should be turned off at the same time).

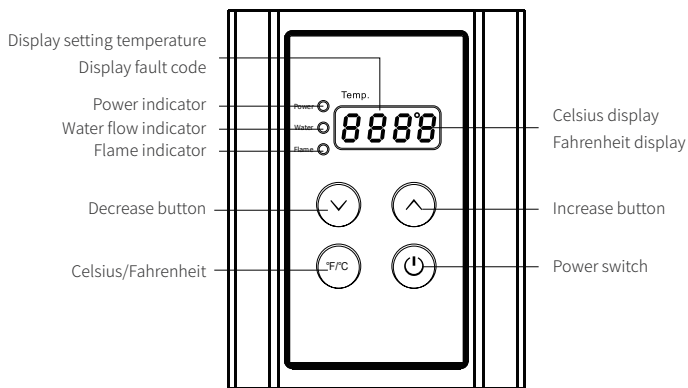
5.3 Setting Water Temperature

- The maximum output water temperature of this machine is 51°C ; Designed for operation at output water temperature(s) not in excess of 51°C .
- Each time you press the "  " key, the temperature will rise by 1°C , and the temperature rises by 1°C every 0.25 seconds while you keep pressing this key continuously.
- Each time you press the "  " key, the temperature will drop by 1°C and the temperature drops by 1°C every 0.25 seconds while you keep pressing this key continuously.
- Celsius Degree and Fahrenheit Degree comparison.

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AU

- 35°C (95°F)
- 36°C (96°F)
- 37°C (98°F)
- 38°C (100°F)
- 39°C (102°F)
- 40°C (104°F)
- 41°C (105°F)
- 42°C (107°F)
- 43°C (109°F)
- 44°C (111°F)
- 45°C (113°F)
- 46°C (114°F)
- 47°C (116°F)
- 48°C (118°F)
- 49°C (120°F)
- 50°C (122°F)
- 51°C (124°F)



⚠ WARNING!

Do not store or use gasoline or other flammable vapours and liquids in the vicinity of this or any other appliance.

⚠ NOTICE!

- The BLACK wire is positive (+) and the WHITE wire is negative (-).
- Do not connect the wire controller to the power wires (Black or White) on rear of the water heater

6.0 Fault Judgment and Processing

Fault treatment: When the water heater fails, the display will show the fault code, and the buzzer will continuously issue alarms "B, B, B". Please follow the table below for the corresponding treatment.

Error code	Failure description and treatment
E0	The outlet temperature probe is open or shorted.
E1	Ignition failure, no ignition or accidental flameout. Please check whether the gas is supplied normally and check it before use.
E2	False fire fault, restart the appliance.
E3	The thermostat malfunctions, and the temperature control is detected during the start-up or water heater operation.
E4	The inlet temperature probe is faulty and the inlet temperature probe is open or shorted.
E5	Fan failure, no fan signal detected during start-up or water heater operation.
E6	Over-temperature fault. The display will show faulty code when the water temperature remains continuously for 3 seconds at more than 60 ° C (140 ° F). Please check if the water supply pressure is too low.
E7	Solenoid valve fault
E8	Smoke passage blockage.

Fault alarm release and reset:

If the above code appears, please make sure the water and gas are normal, and switch OFF the button in front of the water heater, wait for 5 seconds, then switch the appliance on again. The appliance will work normally. If the above operations fail to restore the appliance to normal use, please contact the nearest dealer in your location.

⚠ NOTICE!

If you switch ON and OFF 5 times continuously within 15 minutes (the fan starts 5 times), the water heater will be locked. Waiting for 15 minutes or the error code disappears, the water heater will be automatically unlocked (reset), and resume normal use.

It is not a failure when the following conditions occur:

Example	Reason and handling method
White smoke at exhaust	When the outdoor temperature is too low, the exhausted smoke encounters outdoor cold air and condenses into a white mist.
Water is not heating	If the water flow is too low, the water will become cold. A minimum water flow of 1 gallon per minute is required to ensure the stable operation of the water heater.
Water not hot enough	The input water temperature is too low and the water flow exceeds the heating capacity of the water heater. Please reduce the volume flow of cold water.
After 20 minutes or 40 minutes, the water heater suddenly goes out	In order to prevent oxygen deprivation, some models have 20 or 40-minute timing protection. Please turn off the tap and use it after a while.
Close the hot water valve, but the fan cannot stop immediately	This is the function of delaying the shutdown of the fan, in order to completely discharge the exhaust gas of the water heater to ensure the safety of the user.

Example	Reason and handling method
Hot water cannot flow out immediately after the hot water tap is turned on	There is a pipe distance from the water heater to the hot water valve. Because cold water is left in the water pipe, it takes a while before the cold water is heated. The longer the pipe, the longer the waiting time.
After the machine is powered on, the wire controller does not respond	Open the door of the water heater and check whether the switch is on and the fuse is intact. If the fuse is blown, replace it with a fuse of the same size. (Fuse : 10A 125V)

7.0 Maintenance

⚠ NOTICE!

SERVICE SHALL BE CARRIED OUT ONLY BY AUTHORIZED PERSONNEL AND THE APPLIANCE SHALL NOT BE MODIFIED.

For your comfort and safety, we recommend that you check and maintain the product monthly. Disconnect the power supply and cool down the appliance before performing maintenance. Do not disassemble gas passages and safety device during maintenance. There are some electronic components inside the appliance, please do not open them and not clean them with any type of liquid.

7.1 Daily Inspection

- Check the air intake grill and exhaust vent, to avoid blockages.
- Check the appearance of the device for abnormalities.
- Check the unit for noise during operation.
- Check water and gas leakage.
- When carbon deposits are found, the heater should be promptly taken to the after-sales service provider for maintenance. The serviceman will remove the burner with the jets facing down, using a bristled brush to remove the carbon.

7.2 Maintenance Instructions

- Clean the unit regularly. Do not use chemical lotion and volatile solvents.
- To ensure better performance, please clean the air intake grill, dust filter and exhaust port regularly. This ensures there is no obstruction of the flow of combustion and ventilation air.
- To remove the air intake filter: open the panel, remove four thumbscrews. Clean with water.
- Turn off the water inlet, remove water inlet pipe, clean the filter and reinstall.
- Drain water from the RV regularly and flush the heat exchanger with an approved detergent.
- Wipe the display with a damp cloth. Do not use gasoline or grease detergents to avoid shape changes.
- When travelling on dusty roads please check and clean the interior of the water heater and blow excess dust away carefully using a compressed air gun. Excessive build up of dust can affect the operation of this unit, it is your responsibility to keep the units interior clean.
 - Keeping appliance area clear and free from combustible materials, gasoline, and other flammable vapours and liquids.
 - There is a hot water scald potential if the thermostat is set too high.
 - Should overheating occur or the gas supply fails to shut off, turn off the gas control valve manually.

CAUTION!

When servicing controllers, mark all wires before disconnecting. Wiring errors can result in improper and dangerous operation. Verify proper operation after servicing.

7.3 Drain and Clean Water Filter

WARNING!

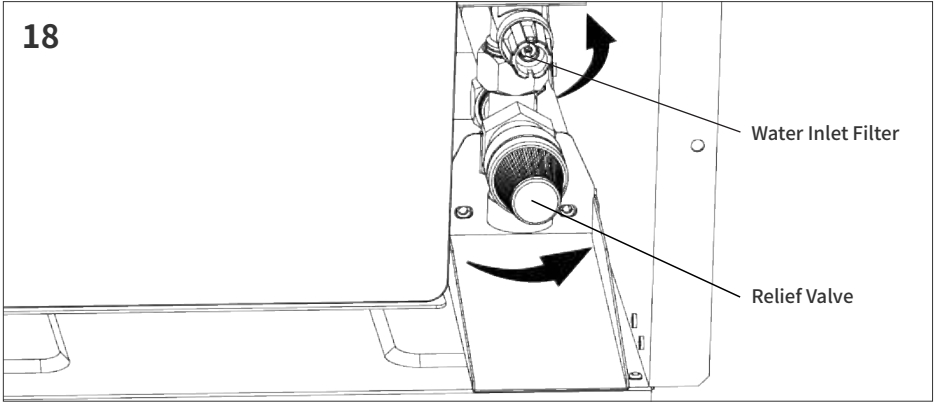
High temperatures or repair attempts while the gas supply is turned on may result in scalding injuries!

- Turn OFF the electrical power supply and the gas supply before starting maintenance and repair work.
- Allow the appliance to cool down.
- Never actuate the pressure relief valve as long as the water heater is still hot.

Always wear protective gear such as gloves, eyewear and clothing to avoid injuries during installation and servicing of the product.

- The water heater needs to be drained when the RV is not intended for use, which is considered to be in storage or transit.
- To keep the water heater fully functional, clean the water inlet filter at least once a year.
- Turn OFF the gas supply and switch OFF the water heater POWER switch.
- Turn OFF the water supply or switch OFF the water pump.
- Leave all the hot water taps open in order to depressurize and vent the water system.
- Drain water out of the system by rotating relief valve.
- Remove the water inlet filter and clean it with fresh water, then insert the water inlet filter back. (The filter can be removed with a Coin assist.) See FIG 18.








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7.4 Replacement Parts

Parts	Photo
Lock	
Gas control valve	
Draught fan assembly	
Burner	

Parts	Photo
Ignition pin assembly	 A metal ignition pin assembly with a central spark plug and two side pins, mounted on a circular base.
Gas inlet assembly	 A long, curved metal gas inlet pipe with threaded ends at both ends.
Water inlet assembly	 A metal water inlet pipe with a 90-degree elbow and a threaded end.
The connection pipe of burner and valve	 A metal connection pipe with a 90-degree elbow and a threaded end.
Piezometer	 A piezometer assembly consisting of a metal pipe with a valve and a threaded end.
FUSE (125V 10A)	 A cylindrical metal fuse with a central slot and threaded ends.
Wired controller	 A wired controller unit with a digital display and several buttons, connected to a power cord.

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Parts	Photo
Water flow sensor	
Inflow temperature probe	
Water temperature probe	
Overtemperature protection thermostat	
Flame sensor	
Burner controller	
Water inlet filter	

8.0 Antifreeze System

WARNING!

In frost conditions, ambient temperatures below 39 ° F (4 ° C), there is a risk that water in pipes, faucets and appliance could freeze. This can cause severe damage to the water system components and the appliance!

Any damage caused by freezing or an unsuitable winterizing fluid will not be covered by warranty.

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Water heaters must be protected before travelling to a possible freezing environment. Freezing damage is not covered by the warranty. The anti-freezing function operation method is:

- Drain the water from the water heater completely. Applicable when the unit is not in use for long period. (For specific operations, see "**Drain and Clean Water Filter**")
- Add antifreeze agent recommended by the RV manufacturer.
- Start the antifreeze function to prevent freezing. Turn on the power switch and the gas valve, turn off the water inlet. The water heater will be on antifreeze mode automatically (please ensure there is enough gas in the RV).

When the water temperature in the water heater is lower than 6 ± 1 °C, the wired controller displays "**Fd**", the machine starts the ignition and runs with a certain load. After the whole machine runs for 7 seconds, the water heater will automatically shut off or when the temperature of the water pipe reaches 32 ± 1 °C in 2 seconds, it will shut down automatically. Heater will run the test again after shut down for 3 minutes.

In the process of starting the antifreeze function, if a fault occurs, the corresponding fault is reported and the corresponding code is displayed. After 15 minutes, the system automatically clears the fault code. If the freeze protection start condition is still met, the anti-freeze will start again.

9.0 Warranty Notice

The statutory warranty period applies. If the product is defective, please contact the nearest dealer in your location. For repair and guarantee processing, please prepare the following documents:

- A copy of the invoice with purchasing date.
- A reason for the claim or description of the fault.

No warranty claim shall be applicable under the following circumstances:

- Damage, accident or otherwise, to the water heater while in the possession of the consumer not caused by a defect in material or workmanship.
- Damage caused by consumer misuse, tampering, or failure to follow the care and special handling provisions in the instructions.
- Damage caused by repairs or alterations of the water heater by anyone other than those authorized by the manufacturer.

10.0 Packing List

Order	Design	Quantity	Remarks
1	Gas water heater	1	
2	Instruction manual (including warranty card)	1	
3	Controller	1	Tools required (not provided)
4	Screw	some	
Door assembly (packed separately)			
5	Door	1	
6	Door frame	1	

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Thanks for choosing **ARANA** RV instantaneous gas water heater. Please read the instructions carefully before installation or first use of the device and store it in a place where all users could find it for easy reference. If the device is transferred or sold, please hand over the instructions along with it so that the new user is aware of installation methods, usage and safety requirements.

⚠ WARNING!

FOR CONTINUED SAFETY OF THIS APPLIANCE IT MUST BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

⚠ WARNING!

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

- **DO NOT store or use gasoline or other flammable vapors and liquid in the vicinity of this or any other appliance.**

WHAT TO DO IF YOU SMELL GAS:

- **Evacuate all personnel from the vehicle.**
- **Shut off the gas supply at the gas container or source.**
- **DO NOT touch an electrical switch, or use any phone or radio in the vehicle.**
- **DO NOT start the vehicle's engine or electric generator.**
- **Contact the nearest gas supplier or qualified service technician for repairs.**
- **If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.**
- **DO NOT turn on gas supply until the gas leak(s) has been repaired.**
- **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**