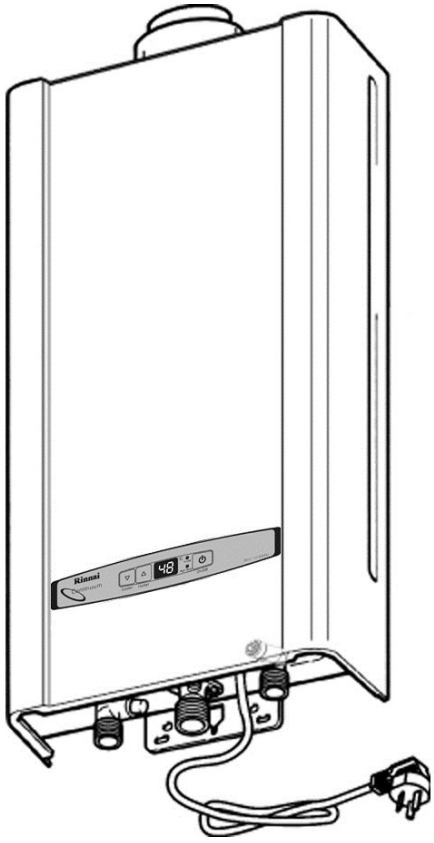
Rinnai

Installation and User Manual



Models:

REU-1110FFU-E
Continuum 11i

REU-1110FFU(F)-E
Continuum 11i-fp

REU-1412FFU-E
Continuum 14i

REU-1412FFU(F)-E
Continuum 14i-fp

Continuous Flow Water Heater

Important.

Read these instructions carefully before attempting installation or use of this appliance. All work must be carried out by competent persons.

The Rinnai Infinity range of water heaters, when correctly installed, comply with the requirements of the United Kingdom Water Regulations / Byelaws (Scotland). These Products can be found listed in the Water Fittings and Materials Directory.

The Rinnai water heaters are CE Marked as allowed by Technigas.

REU-1412FFU-E - Continuum 14i
REU-1412FFU(F)-E - Continuum 14i-fp
REU-1110FFU-E - Continuum 11i
REU-1110FFU(F)-E - Continuum 11i-fp

Certificate number: *E0940/5399 - rev. 5*
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Last revision: 02/02/2012

Quality System Standard

ISO 9001 - 2000

The Design, Development, and Manufacture of Gas Water Heating Appliances done under Rinnai's Quality Management System is certified under the Quality Management System Standard ISO 9001.

Registration Number JQ0003D
Registered since: February 1994

CONTENTS

USERS INSTRUCTIONS

The following instructions are designed for the user of the water heater. The user may not install or adjust the appliance in any way that requires the removal of the front cover of the unit. To remove the front cover of the unit you must be certified competent to do so. Information for the Installer is given from **page 14.**

All work done on this appliance must be done by a qualified gas engineer. A qualified gas engineer must carry an up to date Gas Safe Registered Gas Installer photo identification card while working on gas appliances. If you are unsure do not be afraid to ask the engineer to show you the card. If you are still not satisfied call Gas Safe on 0800 408 5500 and verify the engineer's name with their database. This is for your own safety.

Responsibilities of the USER
The user must abide by all warnings given in this book. The user must only reference the user section of the book, and may not carry out any procedure listed in the installer section. This installation manual should be kept with the appliance for maintenance and user information.
The user must have the unit checked and maintained annually by a gas engineer.
The user must periodically check the water filter on the inlet to the appliance.
The user must not use the appliance in any way that it was not meant to be used. The user may only use the heater as detailed in the User portion of this manual.
Interference with a sealed component is not permitted. In case of defect parts only use genuine Rinnai components for replacement.
Conversion to other gas types should only be carried out by a qualified installer or a gas distributor according to the practice in the country where the unit is installed.
The user must not store or use any flammable vapours or liquids in the vicinity of this or any other appliance.
The user should familiarise themselves with the water heaters gas service valve and the main gas valve to the premises.

ATTENTION: air surrounding the water heater, venting and vent termination(s) is used for combustion and must be free of any compounds that cause corrosion of internal components. These include corrosive compounds that are found in aerosol sprays, detergents, bleaches, cleaning solvents, oil based paints/ varnishes, and refrigerants. Therefore Rinnai recommends outdoor models be used for these locations where possible.
The water heater, venting and vent termination(s) should not be installed in any areas where the air may contain these corrosive compounds. If it is necessary for a water heater to be located in areas which may contain corrosive compounds, Rinnai strongly recommends the following:
Indoor/Internal Water Heaters:
* DO NOT install in areas where contaminated air is present
* Consider before installation where air has the ability to travel within the building
* Where possible, install the water heater in a sealed closet so that it is free of contaminated indoor air
* Chemicals that are corrosive in nature should not be stored or used near the water heater
Outdoor/External Water Heaters and Vent Terminations of Indoor/Internal Water Heaters:
* Install as far away as possible from exhaust vent hoods
* Install as far away as possible from air inlet vents. Corrosive fumes may be released through these vents when air is not being brought in through them.
* Chemicals that are corrosive in nature should not be stored or used near the water heater or vent termination.
Damage and repair due to corrosive compounds in the air is not covered by warranty.

The exhaust outlet may change colour over time due to the condensate in the exhaust gases. This discoloration does not damage the part or its form, fit or function.

benchmark
COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

Benchmark places responsibilities on both manufacturers and installers. The purpose is to ensure that customers are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations. The Benchmark Checklist can be used to demonstrate compliance with Building Regulations and should be provided to the customer for future reference.
Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark Code of Practice which is available from the Heating and Hotwater Industry Council who manage and promote the Scheme. Visit **www.centralheating.co.uk** for more information.

IF YOU SMELL GAS

Isolate the gas supply and get out of the building. Do not try to light any appliance. Do not turn any light or other electrical switch on or off. Do not use any telephone in the building. Call your gas engineer from a safe location and follow their instructions. If you cannot reach your gas engineer ring the following: National Grid 0800 111 999

FEATURES AND BENEFITS

Congratulations on purchasing the technologically advanced, temperature controlled, Rinnai Hot Water System.

- The Rinnai **REU-1412FFU-E, REU-1412FFU(F)-E, REU-1110FFU-E** and **REU-1110FFU(F)-E** will never run out of hot water. As long as electricity, water, and gas supplies are connected, hot water is available when hot water taps are open.

- Built into the main micro-processor is the facility to limit the maximum temperature of the hot water supplied. The water temperature may be set to various temperatures. This is particularly useful when the hot water unit is installed where young children or the infirm may be using the hot water. If required, the temperature can be changed via the control pad on the front of the unit. For further information, please contact Rinnai.

- Rinnai ***Continuum*** internal units are powered flue appliances. This makes them compact, saving both floor and wall space.

- The temperature of outgoing hot water is constantly monitored by a built-in sensor.

- The burner lights automatically when the hot water tap is opened, and extinguishes when the tap is closed. Ignition is electronic, so there is no pilot light. When the hot water tap is off, no gas is used.

- The **REU-1412FFU-E, REU-1412FFU(F)-E, REU-1110FFU-E** and **REU-1110FFU(F)-E** have a display on the front of the unit for easy control of temperature. This offers the following additional features:
  Diagnostic message.
  Error Codes.

- Error messages are displayed on the front panel.

- Frost protection device built in as a standard on **REU-1412FFU(F)-E (Continuum 14i-fp)** and **REU-1110FFU(F)-E (Continuum 11i-fp)** models. On model **REU-1412FFU-E (Continuum 14i)** and model **REU-1110FFU-E (Continuum 11i)** anti-frost protection is not available.

IMPORTANT INFORMATION

Excessively hot water is dangerous, especially for young children and the infirm. The water heater allows you to control the temperature of your hot water to safe levels.

Water temperature over 50°C can cause severe burns instantly or even death from scalding.

Children, disabled and the elderly are at the highest risk of being scalded by excessively hot water.

Always test the temperature of the water before bathing or showering.

Burns from hot water taps can result in very severe injuries to young children.

Hot water at 65°C can severely burn a child in less than half a second. At 50°C it takes five minutes.

Burns can occur when children are exposed directly to hot water or when they are placed into a bath which is too hot.

DO

Do stay with children whenever they are in the bathroom.

Do take them out of the bathroom if you need to answer the phone or door.

Do test the temperature of the water with your elbow before placing your child in the bath.

Do make sure that the tap is turned off tightly.

Do consider setting your Rinnai ***Continuum*** at a maximum temperature of 50°C.

Do install a child proof tap cover OR,

Do install a child resistant tap.

- **Consider child-resistant taps or inexpensive tap covers,** both of which prevent a child's hand from turning on the tap.

- **Consider reducing the temperature of the water supplied to the hot tap to 50°C.**

  This approach can be extremely valuable because it requires a one time action for a long term reduction in risks of scalds.

  This type of automatic protection is important during times when a parent or carer has been distracted.

DO NOT

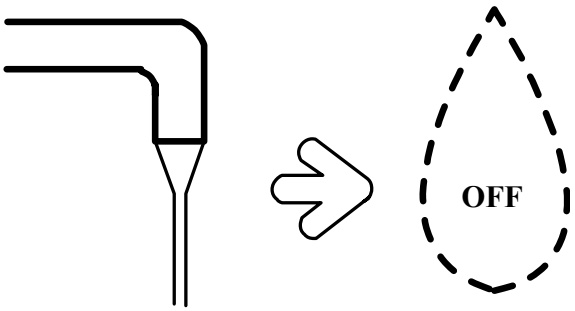
Do not leave a toddler in the care of another small child.
The older child may not have safely set the temperature.

IMPORTANT INFORMATION

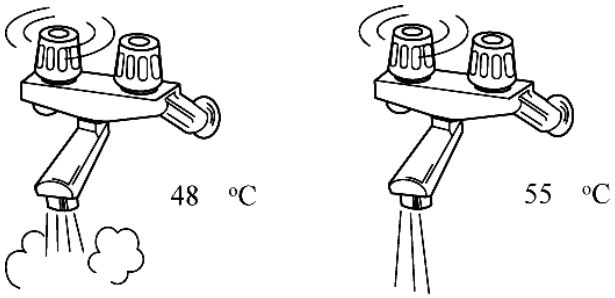
Always check the temperature of the water before use.

Refer to warning about hot water on **page 6** for important safety information.

Hot water may go cold without warning at very low water flows.

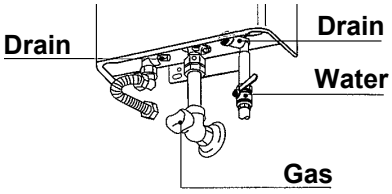


The appliance controls the water temperature automatically. The water flow may vary with the temperature of the incoming water supply. In case the incoming water temperature is low, the water volume at taps reduces. In case it is high, the water volume may be large.



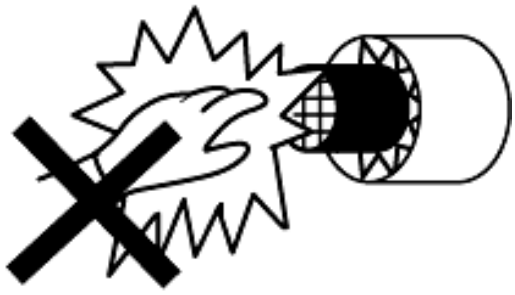
If freezing temperatures are expected, turn off the water and gas, and drain the water heater.

1. Water Off
2. Gas Off
3. Drain Water



If the power is left on the automatic frost protection will prevent the unit from freezing. ***Frost protection is standard only on Continuum 11i-fp and Continuum 14i-fp units***.

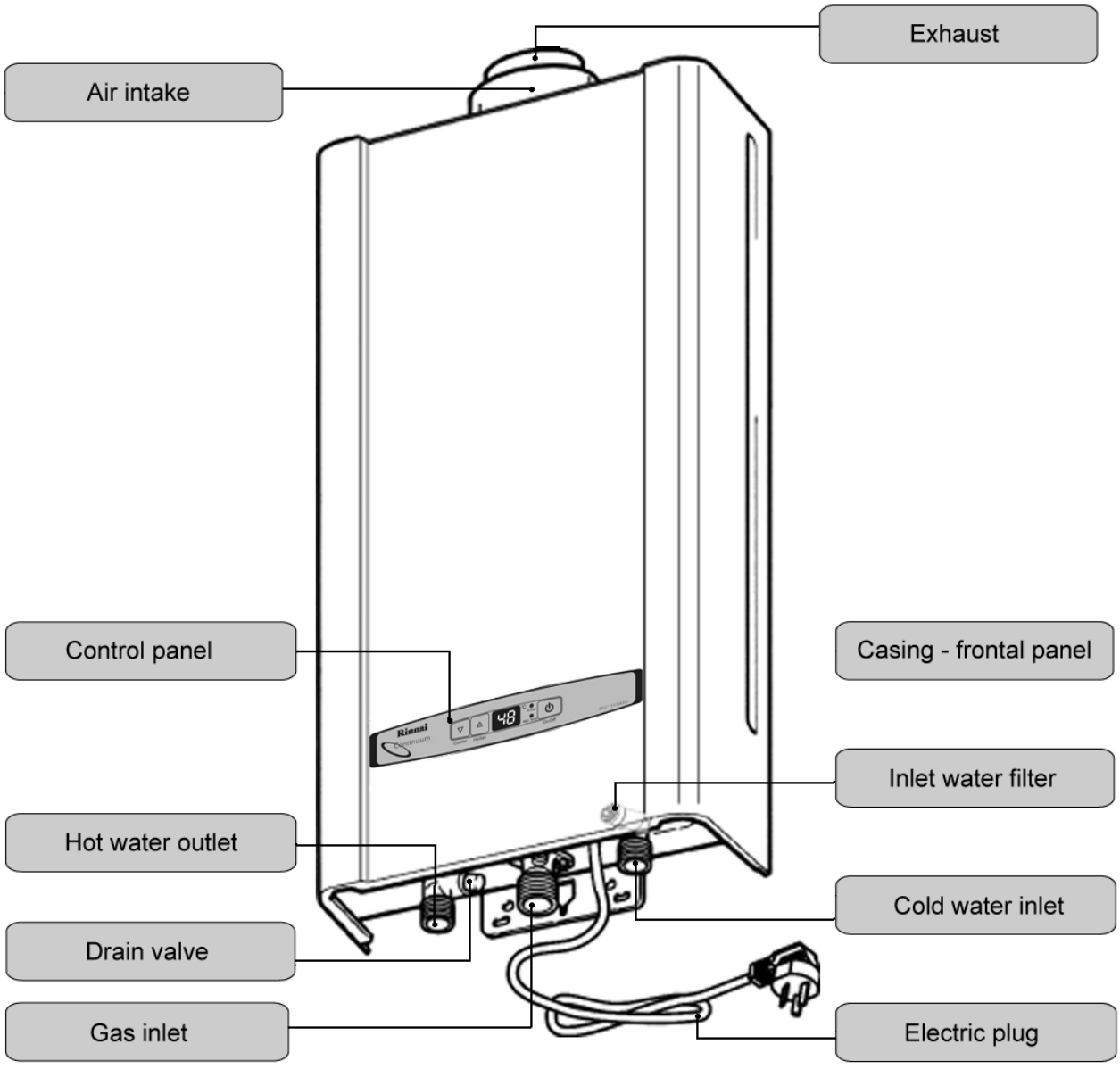
Keep flammable materials, trees, shrubs, chemicals, etc. away from the flue outlet.



Do not touch the flue outlet. Do not insert objects into the flue outlet.

On cold days steam may be discharged from the flue outlet. This is normal, do not be alarmed. It does not indicate a fault.

OPERATION

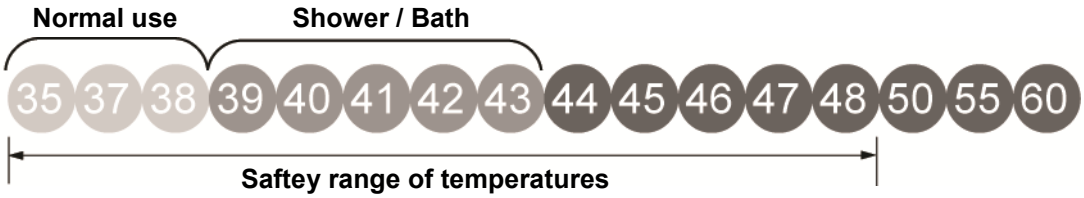

Exhaust
Air intake
Control panel
Casing - frontal panel
Inlet water filter
Hot water outlet
Cold water inlet
Drain valve
Gas inlet
Electric plug

OPERATION

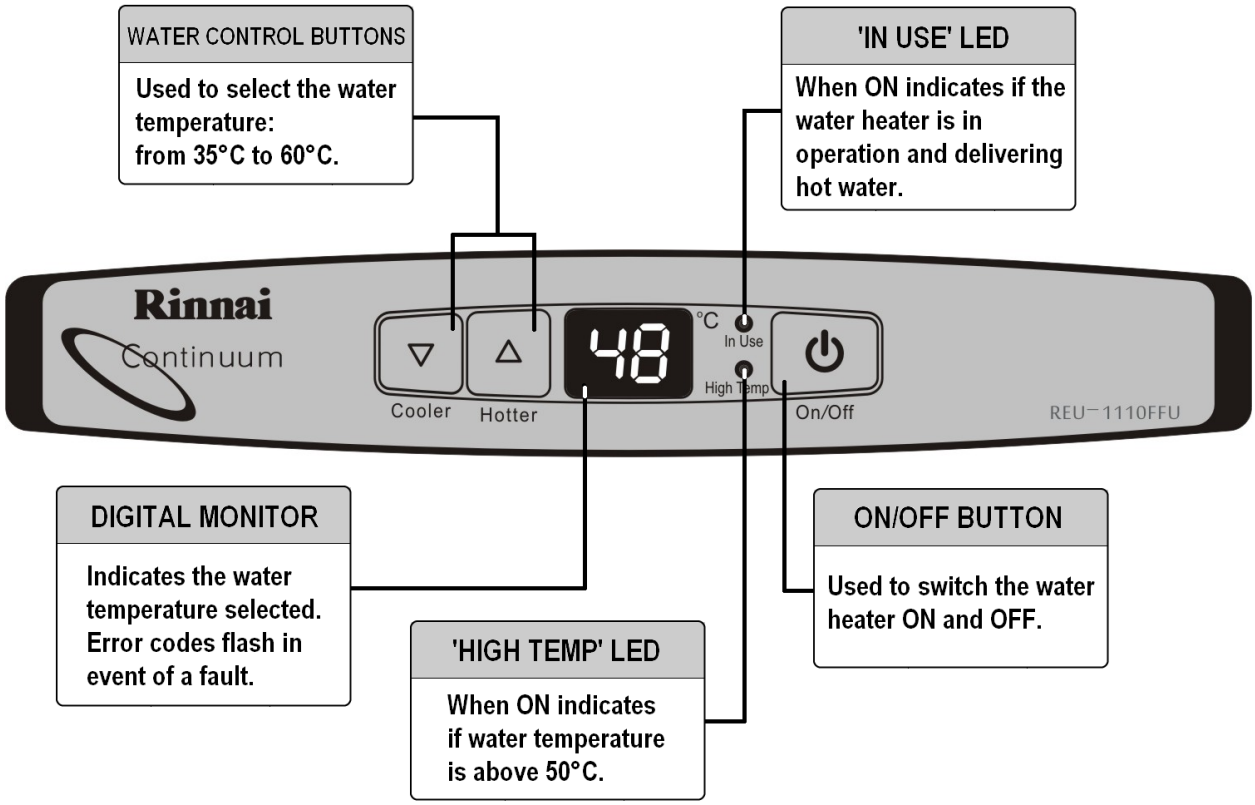
CONTROL PANEL

The Rinnai **Continuum 11i (11i-fp)** and **Continuum 14i (14i-fp)** water heaters have a frontal pad on the front cover for adjusting the outgoing water temperature. The purpose of the frontal pad is to enable the user to have a complete control over the hot water supply. Used correctly, the appliances will supply hot water at the temperature selected, even when the water flow is varied, or when more than one tap is used.

16 different temperature are available through selection on frontal pad:



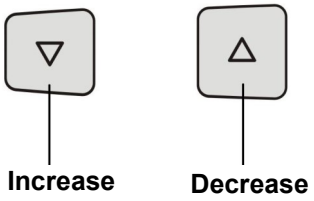
Suggested temperatures are: Kitchen 45°C - 48°C; Bathroom 39°C - 43°C
These temperatures are suggested starting points for selection.
Maintaining lower temperatures helps to save energy.
To obtain water temperatures lower than 35°C simply add cold water.
The temperature selected will be available to all outlets.



OPERATION

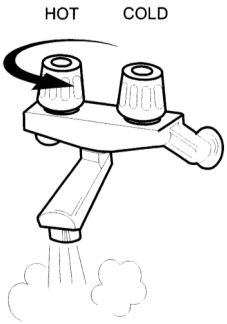
Using the water heater.
Press the **ON/OFF** button on a temperature controller. The system will become active, the temperature will default to 40°C.
The temperature setting on the panel will light up.

Adjusting temperature.
Simply press the hot water temperature Up or Down arrow button until the desired temperature is displayed on the digital display.



Operate the water heater.
To operate the water heater, simply turn any hot water tap on. This will automatically light the burner providing hot water. The red **IN USE** indicator will glow amber on the temperature controller.

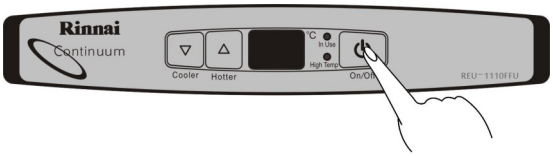
Turning the hot water tap off will cause the heater to stop heating water. The burner and the amber operation indicator will automatically go out.



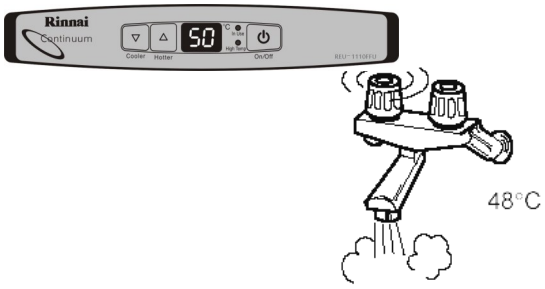
<u>During normal operation the system is left on.</u>

Switch off your hot water system.
To turn the system off simply press the **ON/OFF** button. This will shut the water heater down. The digital monitor will go out.

If hot water taps are opened when the water heater is off, cold water will flow from the taps.



<u>Note 1:</u> depending on the weather conditions and the length of the pipe between the water heater and the tap in use, there may be a variation between the temperature displayed at the controller and the temperature at the tap.



<u>Note 2:</u> With the hot water tap open a temperature of 48°C or higher can not be selected.

<u>Note 3:</u> The temperature of the outgoing water is constantly monitored by a built in sensor. If the temperature of the outgoing hot water rises to more than 3°C above the selected temperature shown on the display, the burner will automatically go out. The amber operation indicator will also go out. The burner will ignite again once the outgoing hot water temperature falls to that shown on the display.

<u>Caution:</u> Always check water temperature before use.

UK CARING FOR THE INFINITY

MAINTENANCE

Even if there does not seem to be a problem with the water heater it is required in the UK that all gas appliances are serviced every year by a certified gas engineer. This is to ensure continued safety of the gas appliance. If you need a recommended service engineer contact Rinnai or your supplier.

Servicing Water Heaters

- Isolate electrics and valve of hot, cold, and gas to unit.
- Check the water filter and strainer to be sure there are no blockages.
- Remove the combustion fan and clean the impeller.
- Check the burner for wear or water damage. Vacuum out any debris. Wipe out chamber.
- Check the heat exchanger for soot or hot spots that could be caused by poor combustion.
- Clean carbon build up from ionisation and ignition probes.
- Check flue terminal for blockages or potential blockages, check that flue is in good condition.
- Check all electrical connections are reconnected
- The gas pressures should then be re-set (the procedure is detailed in the manual).
- Verify temperature control by checking temperature at outlet, bear in mind that there will be pipework losses.
- Check all gas joints inside the unit with an electronic gas detection device when starting unit.
- Leak check all joints back to the service valve (commercial installations) or tightness test the installation for domestic installations.

CARE

When the appliance casing, operation panel, and control surfaces become dirty gently wipe them clean with a soft, damp cloth. Do not use detergents on these parts.

The inlet pipe has a water filter which needs to be checked occasionally. This can be removed by isolating the water, and unscrewing the filter. The plug must be removed first, followed by the filter. The filter is attached to the plug with a bayonet fitting.

ERROR MESSAGES

The water heater has the ability to check their own operation continuously. If a fault occurs, an error code will flash on the digital display. This assists with diagnosing the fault, and may enable you to overcome a problem without a service call.

Please quote the code displayed when enquiring about service. Some of these remedies can not be checked by the user because they require the front to be taken off of the unit. They are included so that you can give the information to the gas engineer.

Code Displayed	Fault	Remedy
-	Noticeable reduction in water flow.	Inlet water filter needs to be cleaned.
10	Not enough combustion air.	Check for physical blockages around air intake or exhaust. Check combustion fan.
11	No ignition / Gas supply.	Check gas solenoid valve, gas supply and ignition unit.
12	Flame failure / Earth leakage.	Check gas solenoid valve, gas supply. Check flame rod. Check earth wire lead. Check remote control.
14	High flame safety device.	Check overheat circuit
16	Over temperature warning.	Modulating control valve problem.
32	Outgoing water temperature sensor faulty.	Check hot water thermistor and wire.
34	Combustion air temperature sensor faulty.	Check air intake thermistor and wire.
52	Gas modulating valve faulty.	Check gas modulating valve and PCB.
61	Combustion fan failure.	Check combustion fan.
71	Micro-processor failure or solenoid circuit failure.	Check solenoids and PCB.
72	Flame rod circuit error.	Check flame rod and PCB.

** In all cases, you may be able to clear the error code by turning the hot water tap OFF, then ON again. If this does not clear the error, try pushing the On/Off button OFF then ON again. If the Error Code still remains contact Rinnai or your nearest service agent for advice.*

*** Faults caused by insufficient gas/water supply or gas/water quality and installation errors are not covered by the manufacturer's warranty.*

Regular maintenance should be performed by a competent person in accordance with the local regulations at least once annually.

ERROR MESSAGES

If you experience the following symptoms, please carry out the suggestions below.
If symptoms continue, please contact Rinnai for advice.

Fault	Remedy
Heater does not attempt to start at all.	Check the power is on at the heater. Check the cold water valve supplying the heater is open.
Heater starts then shuts down immediately.	Check the power is on. Check the gas valve at the heater and at the gas meter is fully open. Open the hot water tap fully.
Heater starts then the water goes cold.	Check the power is on. Open your hot water tap further or try another hot outlet.

NOTE: *Faults caused by insufficient gas/water supply or gas/water quality and installation errors are not covered by the manufacturer's warranty.*

Installations with circulation pumps.

If you have an installation using a secondary circulation pump this must be switched off so that there is no flow through the heater when starting or after a power failure.
If the pump is running the unit will not operate: isolate the pump, then start the water heater before restarting the pump. This is a safety feature.

The pump should also be fitted with a thermostat to prevent the return temperature reaching the heater set point temperature.

To reset the heaters follow the steps.

1. Turn off all hot water taps.
2. Turn off supply to secondary circulating pump or alternatively, if heater and pump are fed from the same electrical supply, isolate pump flow.
3. Turn on heater at remote control.
4. Select required temperature.
5. Switch on supply to secondary circulating pump or open valve on pump flow.

The heater will now be ready to supply water at the set temperature.
If following the above procedure does not reset the heater switch it on and off at its main supply, and then go through these steps again.
If heater is still not working call your local service agent or Rinnai for assistance.

INSTALLATION INSTRUCTIONS

STOP

To go beyond this point in the manual you must be a registered gas engineer.

Do not attempt to install this appliance if you are not qualified.

If the information in this manual is not followed exactly a fire or explosion could result.

This manual must be read in its entirety before installing the appliance.

If you are unsure of any point contact Rinnai or your supplier.

UK INSTALLATION INSTRUCTIONS

IMPORTANT INFORMATION

This appliance may only be installed by someone certified competent to do so.
At the time of printing the only people deemed competent to install this appliance are those that are Gas Safe registered for this type of appliance in this type of location who have a current ACS certificate.

1. **Gas safety (Installation & Use) regulations 1998** are the 'Rules in force'. In your own interest and that of safety, it is law that all gas appliances are installed by competent persons in accordance with the above regulations. Failure to install appliances correctly could lead to prosecution. Other persons should NOT attempt to install this equipment.
2. **Building Regulations G3** require installers of unvented systems to be competent to do so. Competence can be shown by holding a current certificate in Unvented Domestic Hot Water Systems. If the Infinity is installed in a flow and return, or tank system, or any other closed system then the system is unvented.
3. Installation must be carried out in accordance with the current issue of the following:
   Building Regulations issued by the Department of the Environment; Building Standards (Scotland) Regulations; I.E.E. Wiring regulations for electrical installations; Gas safety (Installation and Use) Regulations current issue; BS 5546; BS 5440; BS 6891; BS 5482; BS 6700; BS 6644; Institute of Gas Engineers Publications; Local byelaws; Water regulations; Health and safety at work etc. Act 1974; IGE/UP/10 Part1 Edition 2; Building Regulation J; such other specifications and regulations that may supersede or complement the above documents.

Please be sure that you are fully aware of your obligations and responsibilities under these regulations.

Disposal Information:
Under the laws and local regulations, this product must be disposed separately from household waste. When this product reaches the end of useful life, it should be taken to a collection point identified by the local authorities. The recycling of the product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and environment.

UNPACKING RINNAI WATER HEATER

- After unpacking the appliance check for damage, if the heater is damaged or appears to have any defects contact your supplier immediately.
  DO NOT install a damaged appliance before checking with your supplier.
- Check that the appliance supplied is the correct gas type for the installation. Refer to the data plate located on the side of the casing of the appliance.
- A heater accessories pack is inside the carton.
- Remove the accessories pack and the heater from the carton and check that all the parts are included.

Unit mounting fasteners

Diagram	Q.ty	Diagram	Q.ty
 Wall plug	5	 Screw	3
 Screw	5	 User-Installer manual	1

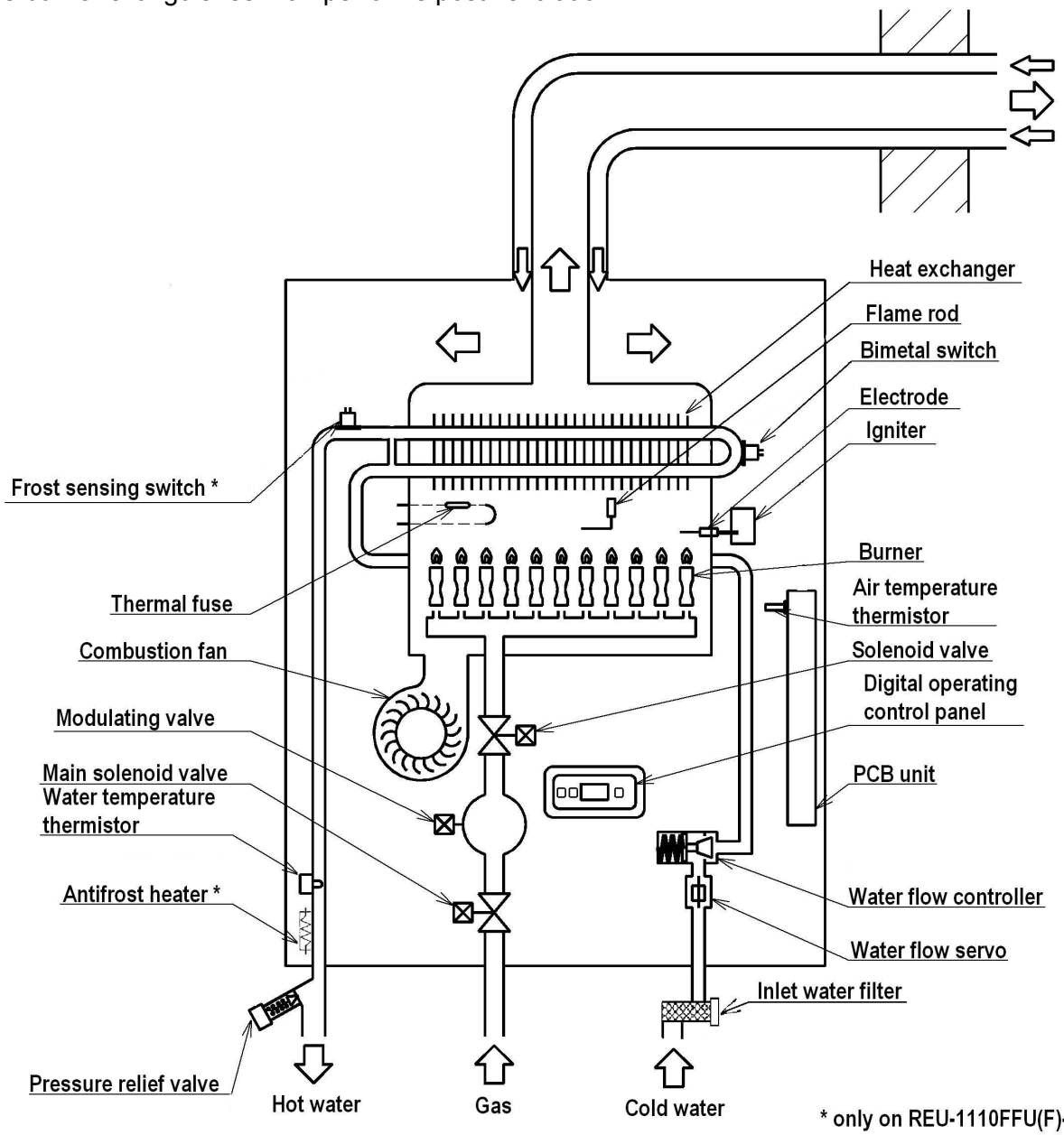
OPERATION PRINCIPLE

HOT WATER SUPPLY OPERATION

Ignition.
Press ON/OFF Button of control panel to turn on unit and the display will light up. When a hot water tap is opened the water flow sensor revolves and sends a pulse signal to the printed circuit board (PCB). When the PCB detects water flow it begins the ignition process with the combustion fan motor starting first. Once the air proving is made the main solenoid valve and change-over solenoid valves are opened; the burner is lit by the sparking igniter.

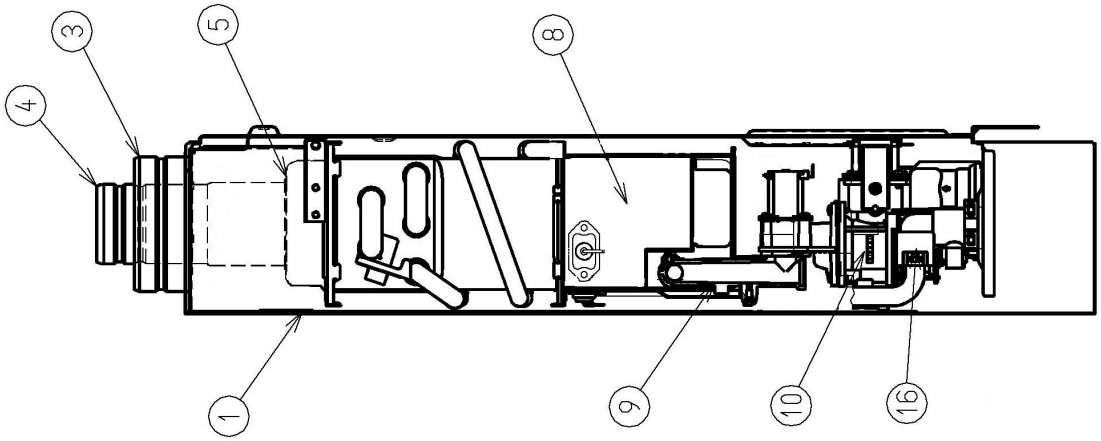
Temperature Setting.
On the control panel, with the water temperature control buttons the outlet temperature can be set from 35°C to 60°C. Temperature can not be set above 48°C while hot water is in use.

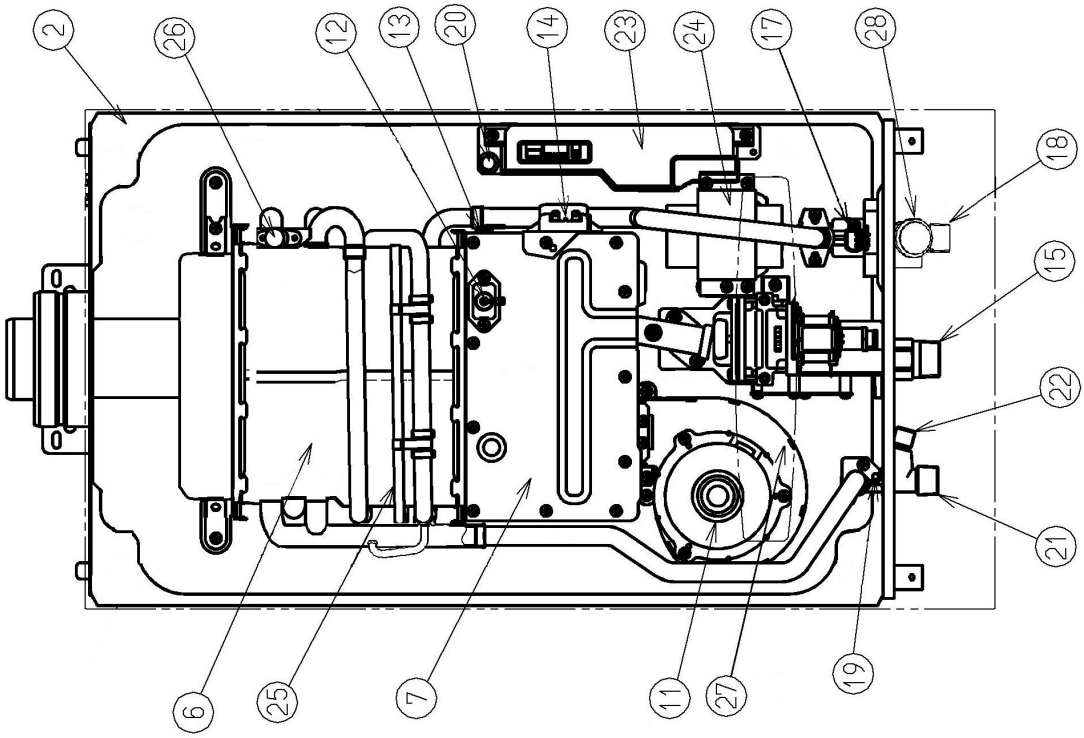
Standby.
When the hot water tap is closed the PCB no longer receives a pulse signal from the water flow sensor. The PCB shuts the main solenoid valve and change-over solenoid valves and the burner extinguishes. Fan performs post ventilation.



MAIN COMPONENTS

NO	PARTS NAME
1	FRONT PANEL
2	MAIN BODY
3	AIR INLET PIPE
4	FLUE OUTLET PIPE
5	FLUE DUCT
6	HEAT EXCHANGER
7	COMBUSTION CHAMBER
8	BURNER
9	MANIFOLD
10	GAS CONTROL
11	COMBUSTION FAN
12	FLAME ROD
13	ELECTRODE
14	IGNITOR
15	GAS INLET
16	WATER FLOW CONTROLLER
17	WATER FLOW SENSOR
18	WATER INLET
19	HOT WATER THERMISTOR
20	AIR TEMPERATURE THERMISTOR
21	HOT WATER OUTLET
22	PRESSURE RELIEF VALVE
23	P.C.B.
24	TRANSFORMER
25	THERMAL FUSE
26	BI-METAL SWITCH
27	CONTROL PANEL
28	INLET WATER FILTER





MAIN COMPONENTS

1. Gas Control Unit.

1.1 Modulating Valve.
This device is used by the PCB to adjust the volume of gas to the burner in proportion to the volumetric flow rate of water in order to maintain a supply of constant temperature hot water amid changes in water flow rates and incoming temperatures.

1.2 Change-over Solenoid Valves.
Additional solenoid valves are included to section the burner and stage the control in 3 steps (1 step on model REU-1110FFU-E). This gives the burner more steady combustion at the required capacity and allows the water heater to operate at very low flow rates and temperature rises.

2. Flame Rod.

Monitors combustion characteristics inside the combustion chamber. If the flame fails, gas supply is stopped. Works through rectification of the combustion flame. An AC voltage is supplied to the flame rod. Electrons can only pass from the rod to the flame, and never from the flame to the rod, so the resultant DC current is used to prove combustion. When the DC current is present the burner has normal combustion, if the DC current is not present the unit shuts the solenoid valve.

3. Thermal Fuse.

The thermal fuse is an electric link which must be intact for the unit to operate. If the thermal fuse reaches a set temperature it will melt and the unit will shut down. The thermal fuse must be replaced if it melts. It is to protect against over heating and heat exchanger splits where water may leak out and be super heated into steam.

4. Overheat Safety (Bi-metal Switch).

This bi-metal switch is fixed at the bend of the heat exchanger hot water outlet. If the temperature outlet from the heat exchanger reaches 90°C the bi-metal switch will open and the solenoid valve circuit is broken. This will cease combustion in case of overheat.

5. Combustion Fan.

The combustion fan supplies primary air into the wing burners and secondary air up through the Bunsen style burners. The fan is DC low voltage and the speed is controlled by the PCB depending on the hot water supply and temperature. The fan speed is compared to the current required to attain that speed for air proving. If the fan current is over or under the parameters for the given speed the unit will shut down on air proving.

6. Water Flow Controller.

The water flow controller has Shape Memory Alloy built-in.
The shape memory alloy varies with the temperature of incoming water: this will limit the maximum hot water flow and will limit the water flow further when the burner is at high fire to ensure the temperature setpoint is met.

INSTALLATION INSTRUCTIONS

Appliance Location.
The wall or structure on which it is mounted must be capable of supporting the weight of the appliance (16 kg) and associated pipework. Ensure that suitable screws or bolts are used to secure the water heater to the wall. Bracket and fixing hole locations are shown below. The top bracket has a keyhole slot so that the appliance can be hung on one screw, and then the other fixings can be added to secure the unit.

The heater must be installed in the vertical position with the gas and water connections on the underside pointing vertically downward. The heater must be installed internally.

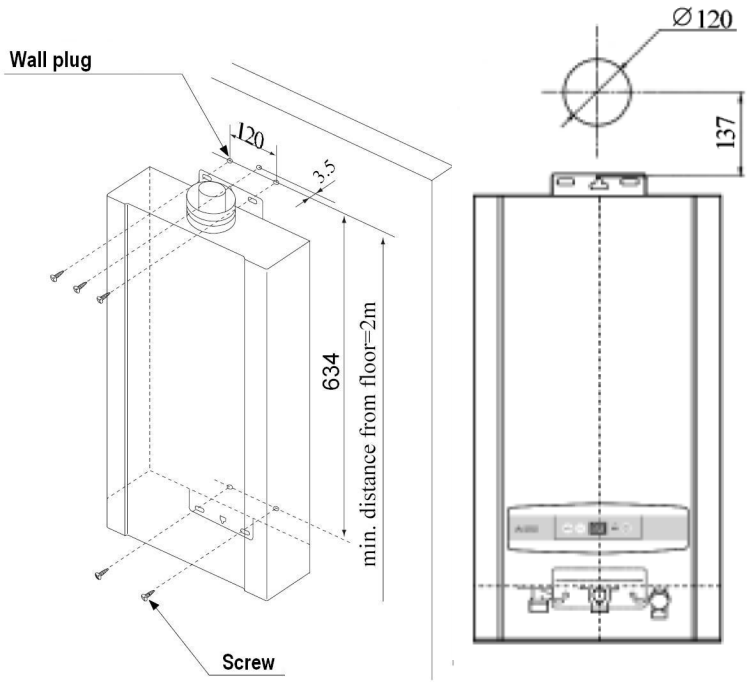
The appliance should be placed as close as practical to the most frequently used hot water outlet point or points to minimise the delay time for hot water delivery. For installations where the distance between the unit and hot water outlet points is considerable, the appliance can also be fitted in a 'flow and return system' which minimises the waiting time for hot water delivery. Alternatively, multiple appliances can be strategically placed to service outlet points with minimal delay time. Contact Rinnai or your supplier for further information.

When positioning appliance, the flue terminal clearances must be in accordance with local requirements. Consideration should be given to other appliances, openings, and boundaries. The appliance must be in an accessible location. Sufficient clearances shall allow access to, and removal of, all serviceable components.

If the unit is installed on a combustible wall such as wood there must be a 30mm gap between the wall and the back of the unit. In case the side wall next to the appliance is flammable material there must be at least 50mm between the side of the appliance and the combustible wall.

The illustration shows the clearances necessary for servicing and from combustibles.
No distance is required from non-combustibles.

(Clearances in mm)	From combustibles	From Non combustibles
Above	300	50
Behind	30	0
Front	600	600
Sides	50	15
Below	300	50
Flue pipe	20	0



INSTALLATION INSTRUCTIONS

Water Supply.
Where the static water supply pressure exceeds 10 bar, an approved pressure reducing device is required at the inlet of the appliance. The max dynamic water pressure must be limited to 7 bar. To achieve the maximum rated flow a minimum water supply pressure of 0.7 bar is required at the appliance inlet. The unit will operate at lower supply pressures but the maximum flow rate will not be achieved.
Contact Rinnai or your supplier for 'gravity fed' or 'low pressure' hot water installations.
Water pipe sizing and layout should be designed correctly to ensure the given water flows from the appliance are available. All hot water pipework should be insulated to optimise maximum performance and energy efficiency.

Water Connection.
Connect the hot and cold water supply pipes as shown on the following page.
An approved isolation valve and strainer MUST be installed in the cold water inlet pipe. An approved isolation valve and draining point should be installed in the hot water outlet pipe. There must be a union or release fitting on the heater side of the isolation valves. An unvented kit to local regulations must be installed in the pipework when the system is closed (i.e. has a flow and return, or tank). Positions of the cold water inlet, hot water outlet and gas connections are shown on **page 29**.
If the heater is in a hard water area a suitable water conditioning device should be installed to prevent the build up of lime scale within the heat exchanger. Heat exchangers damaged by scaling are not covered by the manufacturer's warranty.

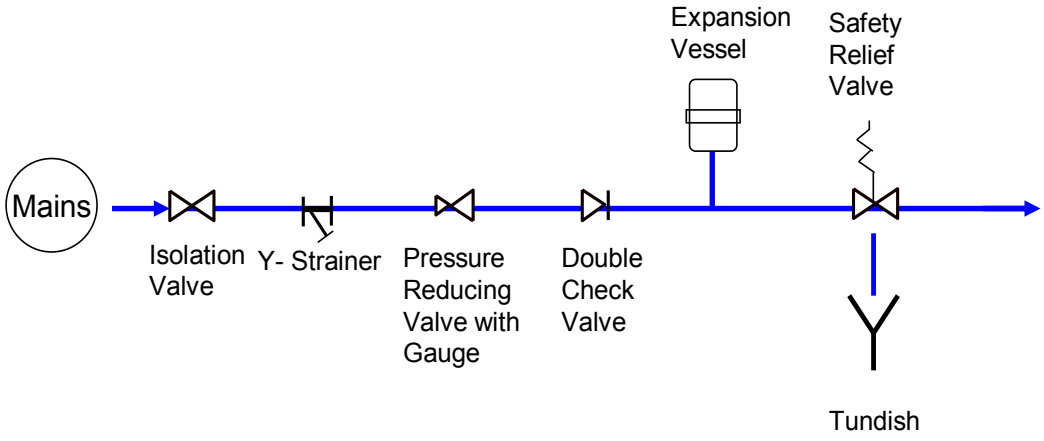
Description	pH	Total Dissolved Solids (TDS)	Total Hardness	Chlorides	Magnesium	Calcium	Sodium	Iron
Maximum Recommended Levels	6.5 - 9.0	600 mg/litre	150 mg/litre	300 mg/litre	10 mg/litre	20 mg/litre	150 mg/litre	1 mg/litre

Gas Connection.
Check pipe sizing required for the heater input.
The gross heat input for the:
Continuum 11i (and 11i-fp) is 24,4kW (G20); 23,5kW (G31); 26,8kW (G30).
Continuum 14i (and 14i-fp) is
The size of the gas meter and pipework must be sufficient for all appliances on the main. Sufficient gas must be available at the appliance if correct operation is to be expected; insufficient gas will damage the unit. An approved gas isolation valve must be fitted at the gas inlet. A union or release fitting should be installed after the isolation valve.

Electrical Connection.
The appliance must be earthed. The appliance is suitable for 230V AC - 50Hz mains only and all wiring must be carried out to local regulations.

INSTALLATION INSTRUCTIONS

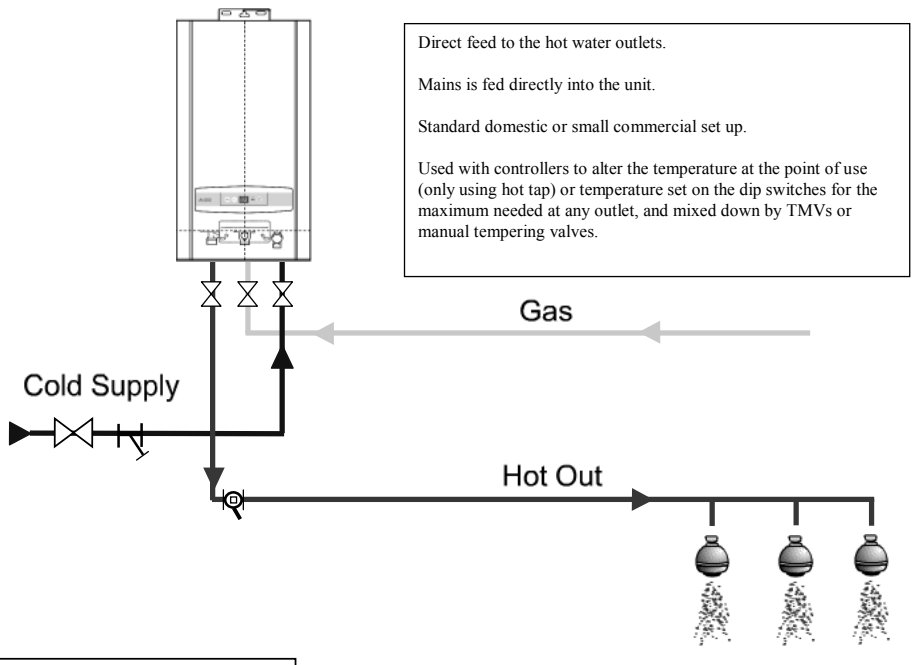
Water Connection.
For all closed systems (with flow and return or tank) the system must incorporate an unvented kit with the components shown below. The safety relieve valve must discharge safely into a suitable drain via tundish.



Gas Connection.
Refer to BS6891 (Natural Gas) and BS5482 (Propane) for guidance on correct pipe sizing calculation. There must be 20 mbar Natural Gas (G20) or 34.5 mbar Propane (G31) at the inlet of the appliance with all appliances at high fire.

Electrical Connection.
The heater electrical supply must be installed to the latest I.E.E regulations. If the unit is hard wired (moulded plug removed) it must be provided with a fused (3A) local isolator with a contact separation of 3mm minimum on all poles for servicing. Observe polarity and ensure that wiring is correctly restrained.

Single Infinity Direct Flow



This information is intended as a guide only, it does not imply compliance with water or gas installation regulations. Components will vary depending on the actual installation. Check local regulations before installation.

Draining Point

FLUE REQUIREMENTS

General Information.
This appliance must be installed in accordance with the rules in force. Consult instructions before installations and use of this appliance. The unit must be installed by a competent, authorised person. It is the installer's responsibility to ensure that the unit has been installed to all current requirements.

The **Continuum 11i (11i-fp)** and **Continuum 14i (14i-fp)** are room sealed appliances. Ventilation requirements of BS 5440 allow room sealed appliances to be installed in spaces and rooms, including bedrooms, without ventilation.

If the **Continuum 11i (11i-fp)** or **Continuum 14i (14i-fp)** are installed in a compartment, it must have the following amount of permanent ventilation:

- ventilation from compartment to room:
  220 cm^2 at high level AND 220 cm^2 at low level; based on 10cm^2/kW gross heat input;
- ventilation from compartment directly to outside:
  110 cm^2 at high level AND 110 cm^2 at low level; based on 5 cm^2/kW gross heat input.

The area given is the free area of the vent or equivalent free area for ventilators of more complex design. Any space taken up by grille louvers should be subtracted from the total area to find the free area of the vent. Windows and doors can not be considered ventilation unless they are permanently fixed in the open position.
Please refer to IGE/UP/10 Part 1. Edition 2 page 17; for further information or contact Rinnai UK.

The flue must be installed by a competent, authorised person.
It is the installer's responsibility to ensure that the unit has been installed to all current local requirements.
Ensure that the flue terminal and hot water outlet connection cannot be touched by children.
The flue must be clear of obstructions and shrubbery.

Flue Length.
The flue total equivalent length is limited to 2.2m (horizontal or vertical) with coaxial flues.
Each 90° bend should be considered 0.2m of the total equivalent length.

Separate instructions are provided with the flue detailing the installation of the flue parts.

Flue pipes must include a condensate drain if the total flue height is equal or exceeds 1.0m.
For flue runs requiring a drain the horizontal sections on the appliance side of any vertical runs should slope towards the appliance, and the flue should be bracketed to prevent sagging.
If the terminal is horizontal it should slope gently to the outside to prevent ingress of rain.
The drain pipe should be run in 22mm PVC, uPVC, or ABS pipe. The drain pipe MUST be trapped. In the flue for short runs (under 1.5m) care should be given to the placement of the terminal to prevent risk in the unlikely event of condensation. Condensation water can cause burns and during winter can cause a slip hazard. It is the responsibility of the installer to decide the best place.

FLUE REQUIREMENTS - INSTALLING

The following flue manufacturers with their specific brands listed below are approved for use with the **Continuum 11i (11i-fp)** and **Continuum 14i (14i-fp)** water heaters.

UBBINK

Horizontal flue kit;
Vertical flue kit;

Warnings:
Before installation inspect each flue component for damage and correct seal placement. Do not attempt to fix or install any damaged component.
Improper installation of flue systems and components, or failure to follow all installation instructions can result in property damage or serious injury.

The Rinnai Continuum 11i (11i-fp) and Continuum 14i (14i-fp) are for internal installation in conjunction with the Rinnai flue system.

The flue must be installed in accordance with:
- Manufacturers Installation Instructions;
- British Standards including BS5440;
- Gas Safety (Installation and Use) Regulations;
- IGE/UP/10 Part1 Edition 2;
- Building Regulation J.

Such other specifications and regulations that may supersede or complement the above documents.

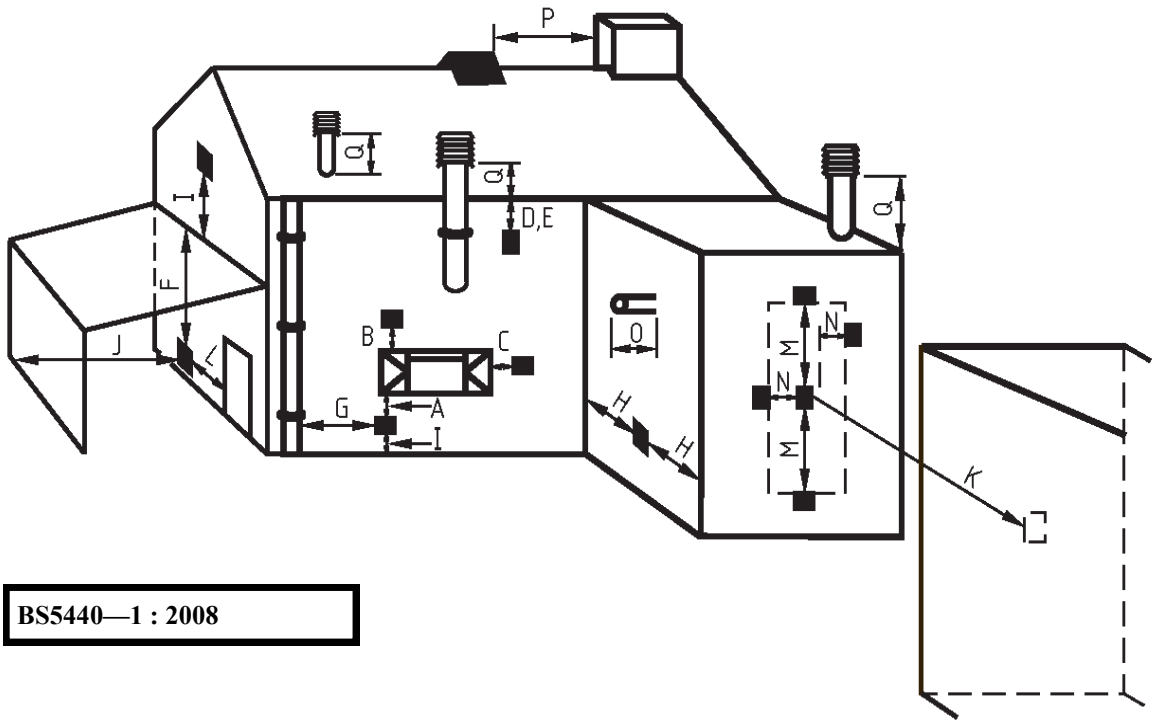
The flue must be installed by a competent, authorised person. It is the installer's responsibility to ensure that the unit has been installed to all current requirements.

Location of the appliance flue terminal must be in accordance with the clearances shown in the latest version of BS5440-1.Table and Figure C.1 is provided for your guidance on **page 24**

The flue terminal should be over 2m from ground level whenever possible.

For lower installations a terminal guard must be installed.

FLUE REQUIREMENTS



BS5440—1 : 2008

Symbol	Terminal Position	Dimen-sion
A	Directly below an opening, air brick, opening windows, ect.	**300mm**
B	Above an opening, air brick, opening window, ect.	**300mm**
C	Horizontaly to an opening, air brick, opening window, ect.	**300mm**
D	Below plastic gutters, soil pipes, drain pipes, ect.	**75mm**
E	Below eaves	**200mm**
F	Below balconies or car port roof	**200mm**
G	From vertical drain pipe or soil pipe	**150mm**
H	From and internal or external corner	**300mm**
I	Above ground, roof or balcony level	**300mm**
J	From surface facing the terminal	**600mm**
K	From terminal facing terminal	**1200mm**
L	From opening in the car port (eg door, window ect) into the dwell-	**1200mm**
M	Vertically from terminal on the same wall	**1500mm**
N	Horizontally from terminal on the same wall	**300mm**
O	From the wall on which the terminal is mounted	**0**
P	From a vertical structure on the roof	**N/A**
Q	Above intersection with the roof	**300mm**

BS5440—1 : 2008

TESTING

1. Purge gas, hot water and cold water supply lines before making the final connection of the water heater. Swarf in either the gas or water supplies may cause damage.

2. Turn on gas and cold water supplies.

3. Test for water leaks and gas escapes near the unit.

4. Isolate gas and electric supply. Remove test point screw located on the inlet gas pipework below the heater and attach pressure gauge.

5. Turn the power on at the switch and turn on gas. **Warning:** There are 230V AC live supplies inside the heater.

6. Turn the water heater on with control panel; select the maximum delivery temperature and open ALL available hot water outlets. (CAUTION: Ensure building occupants do not have access to hot water outlets during this procedure).

7. The gas pressure check must be carried out with all other appliances on the same main operating at maximum capacity to ensure that there is sufficient gas pressure.

8. With all appliances on the same main operating at high fire check the pressure at the test point on the inlet to the gas valve. The pressure must be within the local defined limits for the type of gas that is being used. If the pressure is lower, the gas supply is inadequate and the water heater will not operate to specification. Check gas meter, regulator and pipework for correct operation/sizing and rectify as required. **Note that the gas regulator on the appliance is electronically controlled and factory pre-set. Under normal circumstances it does not need adjustment during installation.**

   The gas pressure must be at least **20 mbar** for G20 Natural Gas as used in UK.
   For G31 Propane as used in the UK the pressure must be at least **34.5 mbar**.

9. Close hot water outlets.

10. Inspect and clean the strainer and the filter located on the cold water inlet pipe. This procedure may need to be repeated to ensure the strainer remains clear.

11. Test control panel operation through the complete range of functions.

12. Confirm the hot water delivery temperature using a thermometer; compare the measured value to the set point on control panel.

13. After testing is completed, explain to the user the functions and operation of the water heater and control panel.

GAS PRESSURE SETTING

The working gas pressure on the water heater is electronically controlled and factory set. Under normal circumstances it **does not** require adjustment during installation.
Perform this procedure only if the unit is not operating correctly and **all** other possible causes for incorrect operation have been eliminated.
Contact Rinnai before attempting to alter the gas pressure. Failure to do so could void the warranty.

1. Isolate gas supply.
2. Cut off power supply.
3. Remove front cover (2 screws in the lower part of front panel) (Fig.1).
4. Disconnect connector of operating controller cable (Fig.2).
5. Check gas type dip switches no. 1 and no. 2 on PCB are in the correct position for the type of gas (Nat. or LPG)* you are using (Fig.3).
6. Remove pressure point screw and o-ring from pressure point on manifold and connect digital manometer (Fig.4).
7. Connect power supply and gas.
8. Change nr. 6 switch on PCB to ON position (Fig.5) to force appliance to low forced combustion and open a hot water tap.

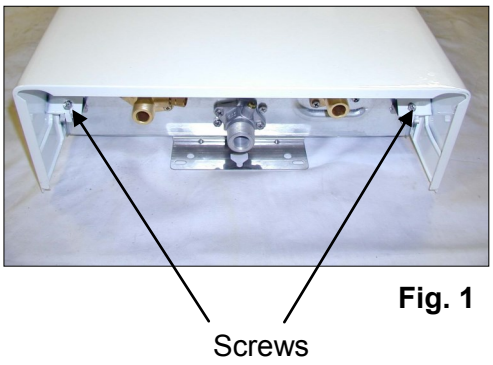


Fig. 1

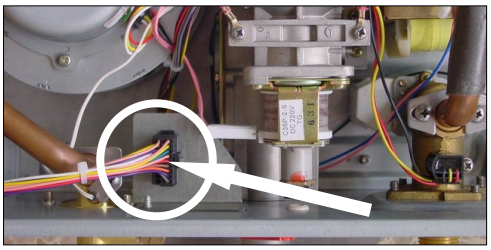


Fig. 2

Fig. 3

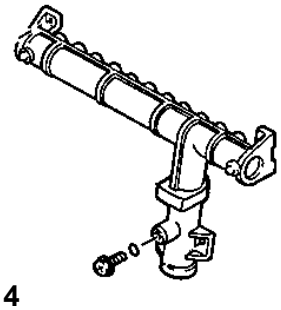


Fig. 4

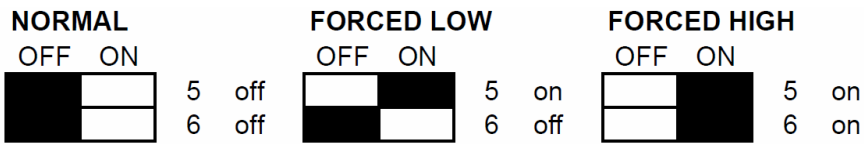


Fig. 5

*** Note: simply changing the position of the dip switches will not convert the unit from one gas type to the other. The conversion procedure requires a change of injector manifold. Contact Rinnai or your supplier.**

GAS PRESSURE SETTING

9. Adjust pressure setting to the **minimum value (Tab. 1 below)** adjusting screw on modulating valve (Fig.6).

MIN	GAS	*Continuum 11i (11i-fp)*	*Continuum 14i (14i-fp)*
NG	G20	0.80	
	G230	0.80	
LPG	G30	0.90	
	G31		
(pressures in mbar) - ***Tab. 1***			

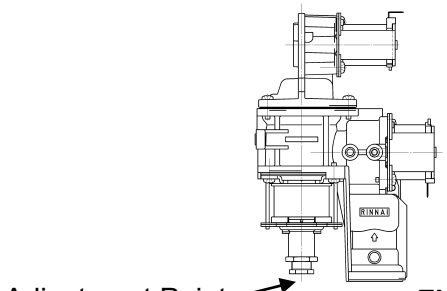


Fig. 6

10. Change nr. 5 and nr. 6 switch on PCB to ON position (Fig.5) to force appliance to high forced combustion and open all hot water taps (**CAUTION: advise users not to use water**).

11. Adjust pressure setting to the **maximum value (Tab. 2 below)** adjusting screw on PCB (Fig.7).

MAX	GAS	*Continuum 11i (11i-fp)*	*Continuum 14i (14i-fp)*
NG	G20	7.45	
	G230	8.50	
LPG	G30	9.47	
	G31		
(pressures in mbar) - ***Tab. 2***			

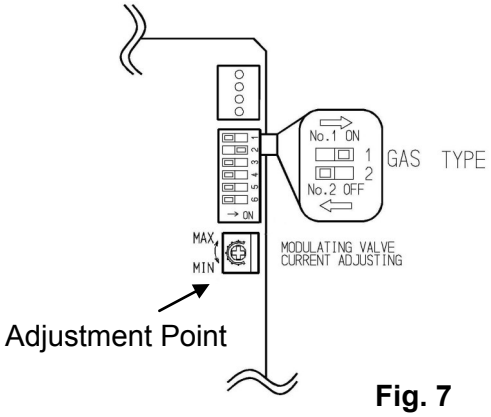


Fig. 7

12. Set nr. 5 and nr. 6 switch on PCB to OFF position (Fig.5) for normal combustion and close taps.

13. Isolate gas supply and cut off power supply.

14. Remove digital manometer and set pressure point screw with o-ring (Fig. 4).

15. Connect gas and check for gas leakages.

16. Connect operating controller connector (Fig. 2).

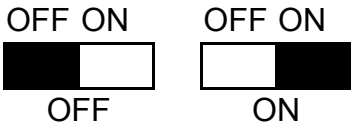
17. Set front cover (2 screws) (Fig. 1) and connect power.

DIP SWITCH SETTING

Dip Switch Positions Explained

OFF	ON	SW		
		1	-	Gas Type
		2	-	Gas Type
		3	-	Computer Programming
		4	-	Computer Programming
		5	-	Combustion
		6	-	Combustion

LEGEND:
Black Section indicates position of dip switch.

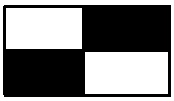


Dip Switches Explained

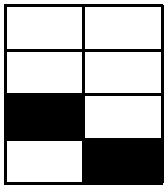
GAS TYPE

LPG

NAT GAS



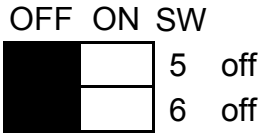
COMPUTER PROGRAMMING



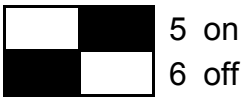
Computer programming switches (3-5) must be left in the factory set position.

COMBUSTION

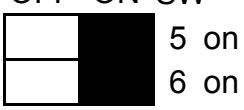
NORMAL



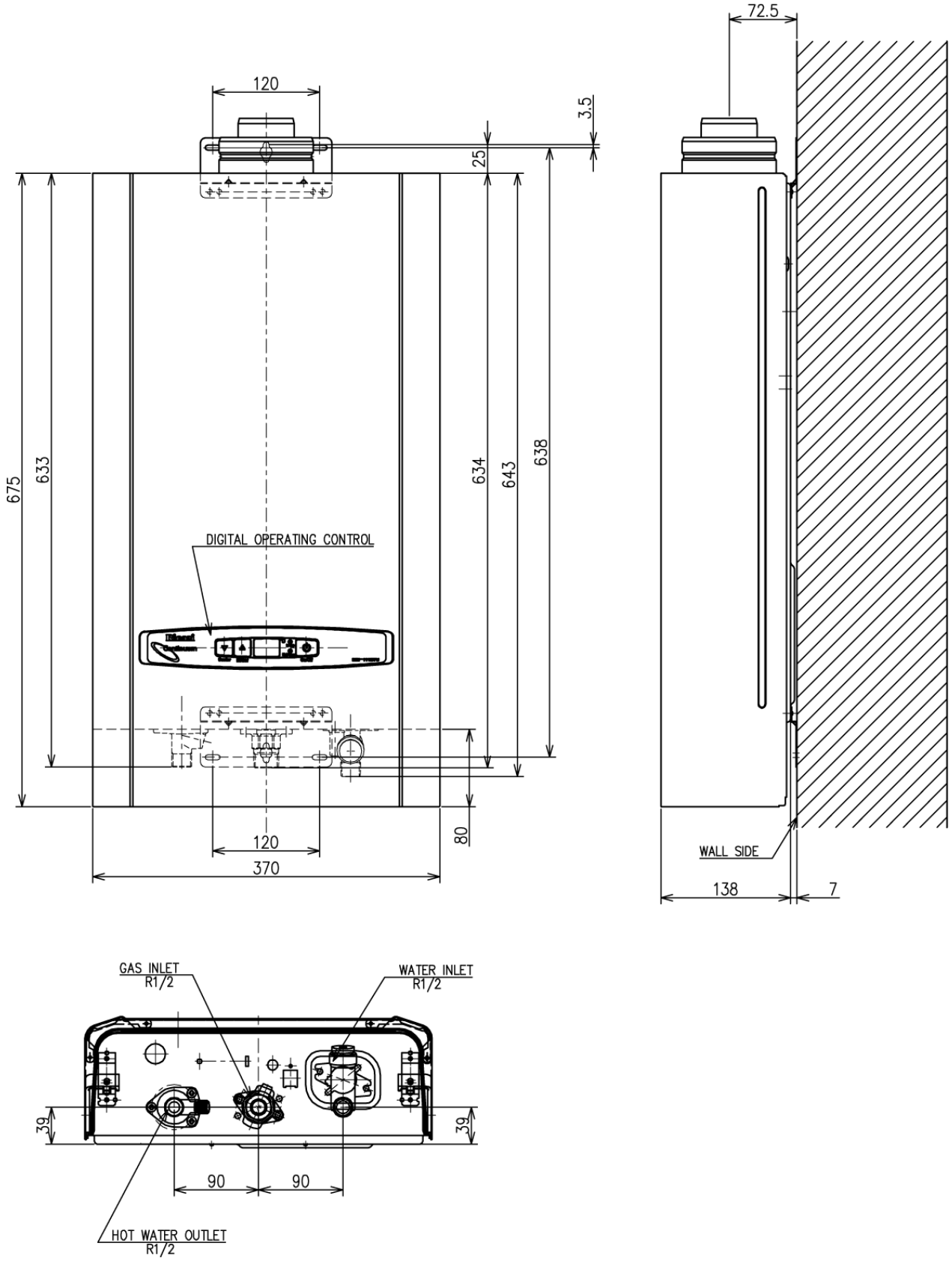
FORCED LOW



FORCED HIGH



DIMENSIONS


72.5
120
3.5
25
675
633
634
643
638
DIGITAL OPERATING CONTROL
80
120
370
WALL SIDE
138
7
GAS INLET
R1/2
WATER INLET
R1/2
39
39
90
90
HOT WATER OUTLET
R1/2

TECHNICAL DETAILS

Infinity Model	**Continuum 11i Continuum 11i-fp**		**Unit**
Installation	Internal		
Burner Operating Gas Pressures	***See page 27***		
Flue System	Room Sealed Forced Draught		
Temp. Range	35,37-48,50,55,60		°C
Ignition	Direct electronic ignition		
Gas Consumption & Capacities **minimum** conditions	H_i = net calorific value H_s = gross calorific value		
G20 Nat Gas: Input $Q_{m:}$ Hi/Hs | Useful output P_m	6.10 / 6.80 | 5.60		kW
G20 Nat Gas flow V_m	0.65		m^3/hr
G230 Air Propane: Input $Q_{m:}$ Hi/Hs | Useful output P_m	6.10 / 6.60 | 5.60		kW
G230 Air Propane flow V_m	0.50		m^3/hr
G30 Input Q_m: Hi/Hs | Useful output P_m	6.70 / 7.26 | 5.80		kW
G30 flow V_m	0.21		m^3/hr
G31 Input Q_m: Hi/Hs | Useful output P_m	5.90 / 6.40 | 5.10		kW
G31 flow V_m	0.24		m^3/hr
Gas Consumption & Capacities **nominal** conditions	H_i = net calorific value H_s = gross calorific value		
G20 Nat Gas: Input Q_n: Hi/Hs | Useful output P_n	21.60 / 24.0 | 19.20		kW
G20 Nat Gas flow V_n	2.30		m^3/hr
G230 Air Propane: Input Q_n: Hi/Hs | Useful output P_n	21.60 / 23.50 | 19.20		kW
G230 Air Propane flow V_n	1.77		m^3/hr
G30 Input Q_n: Hi/Hs | Useful output P_n	24.70 / 26.77 | 21.50		kW
G30 flow V_n	0.77		m^3/hr
G31 Input Q_n: Hi/Hs | Useful output P_n	21.60 / 23.50 | 18.80		kW
G31 flow M_n	0.88		m^3/hr
Country of destination	GB/IE		
Gas category and pressure	I_{2H} G20-20mbar / I_{3P} G31-37mbar		
Type	C13 / C33 Indoor		
Max Flow (Cold water temperature 5°C / 25°C)	5.75 / 8.6		L/min
Min Operation Flow	2.4*****		L/min
Water Pressure (p_w)	0.7***** - 10.00 (recommended 2.0 min)		bar
Power Supply	230 V / 50 Hz		
Electric Consumption (normal / stand-by / anti-frost******)	50 / 8 / 60******		W
Ignition safety time T_{SAmax}	4.5		Sec.
Protection Factor	IPX4		
Weight	16		kg
NOx at Max Input GCV O2 0% G20 / G30 / G31	145 / 185 / -		mg/kWh
Load Profile	S		
Water Heating Efficiency η wh	60.6		%
Daily Fuel Consumption Qfuel	3.214		kWh
Daily Electrical Consumption Qelec	0.200		kWh
Sound Power Level L WA	56		dB

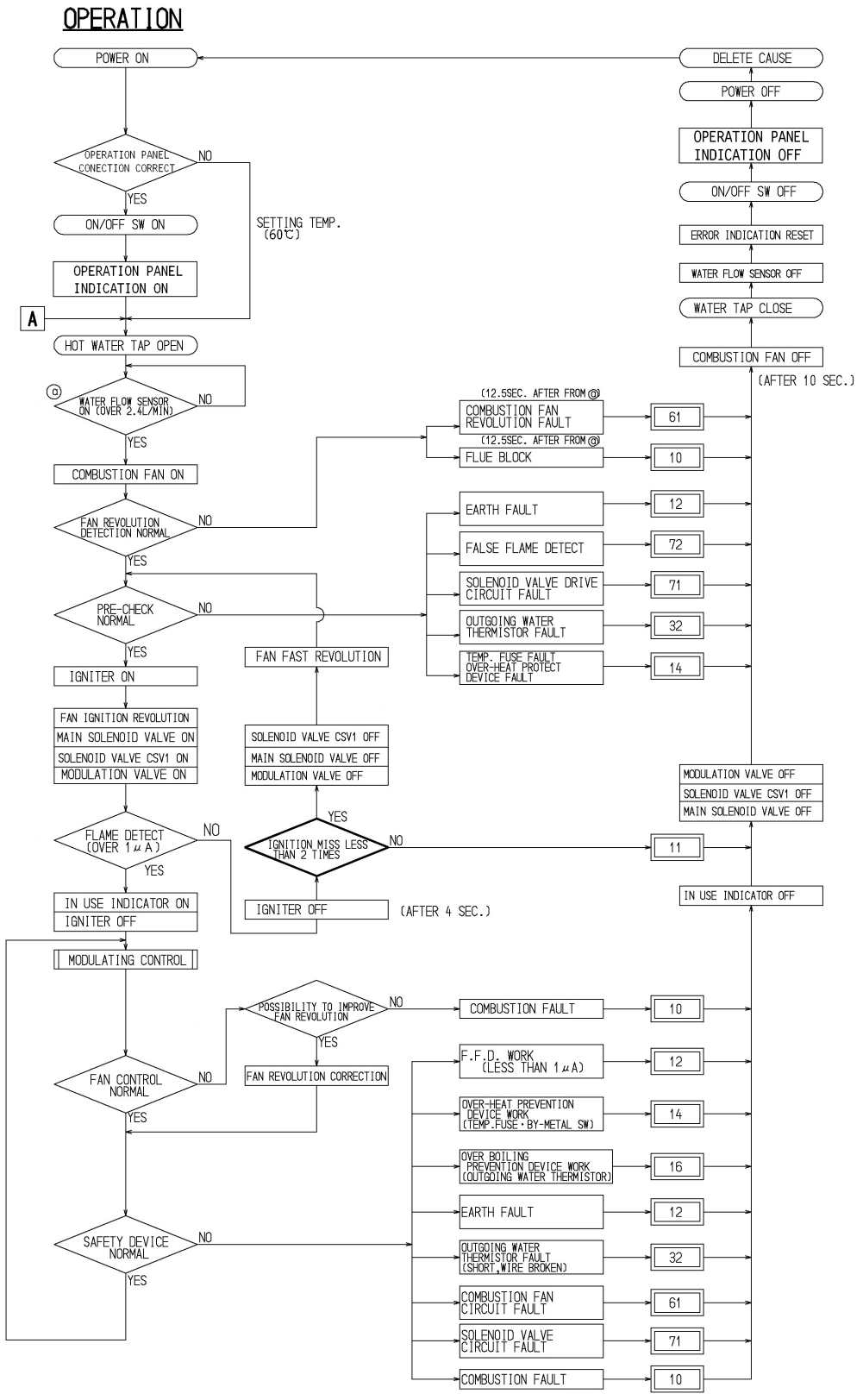
All input and output values and flows are given at 15°C and 1013,25 mBar.
*** Minimum operation flow based on temperature setpoint and inlet conditions.**
**** Only on models: Continuum 11i-fp and Continuum 14i-fp.**

PRODUCT FICHE

Supplier's Name	**Rinnai UK Ltd**
Model Name	**REU-1110FFU(F)-E**
Declared Load Profile on Energy Label	**S**
Energy Efficiency Class	A
Water Heating Efficiency η_{wh} (%)	60.6
Annual Electricity Consumption AEC (kWh/annum)	43
Annual Fuel Consumption AFC (GJ/annum)	2
Second Load Profile	-
Energy Efficiency Class	-
Water Heating Efficiency η_{wh} (%)	-
Annual Electricity Consumption AEC (kWh/annum)	-
Annual Fuel Consumption AFC (GJ/annum)	
Default Thermostat Setting (°C)	55
Sound Power Level L_{WA} (dB)	56

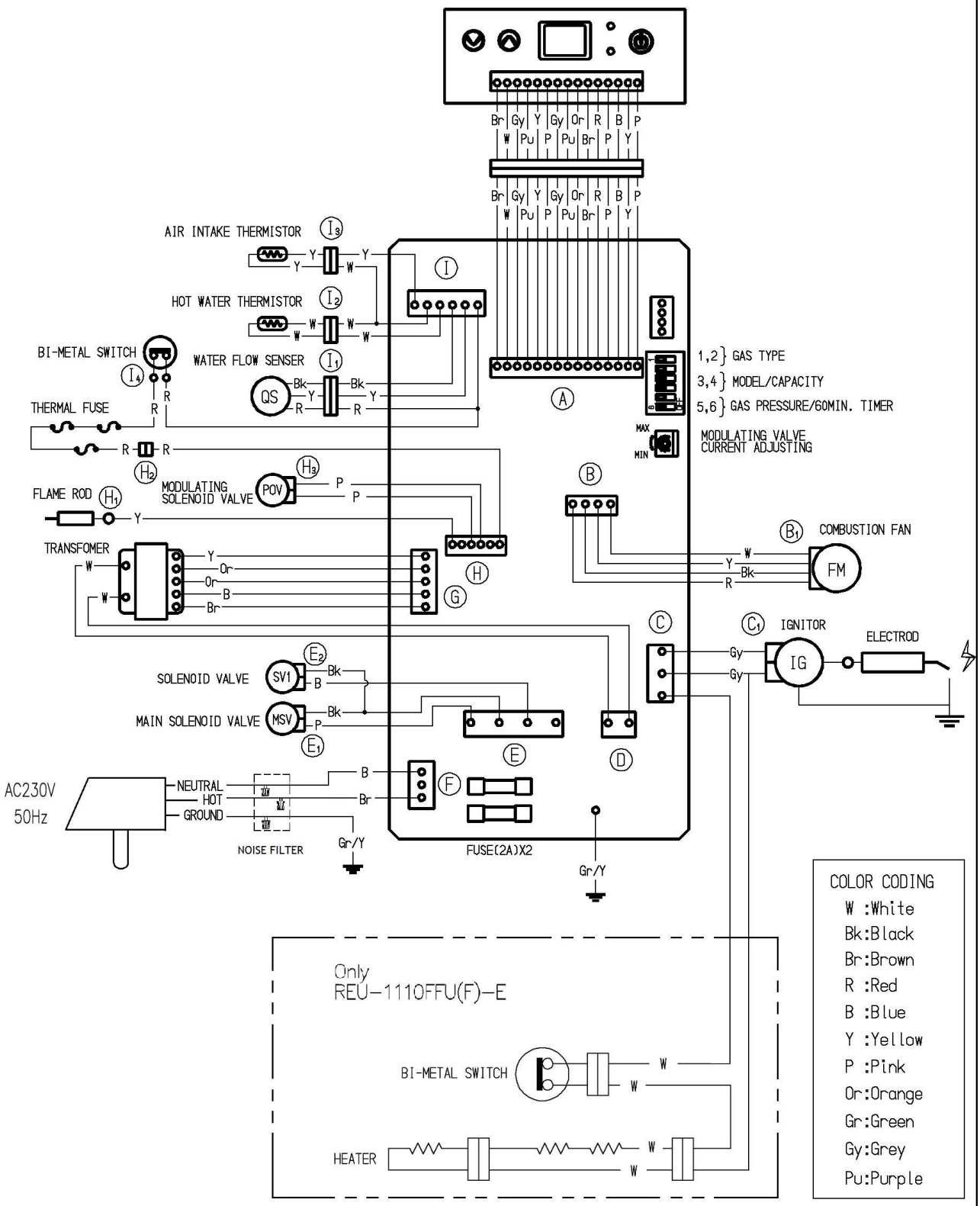
***Values are tested with Natural Gas, G20, and temperature setting at 60°C under the reg. 812/2013 and calculated based on the gross calorific value (Hs).**

FLOW CHART


OPERATION
POWER ON
OPERATION PANEL CONECTION CORRECT
NO
YES
SETTING TEMP. (60℃)
ON/OFF SW ON
OPERATION PANEL INDICATION ON
A
HOT WATER TAP OPEN
WATER FLOW SENSOR ON (OVER 2.4L/MIN)
NO
YES
COMBUSTION FAN ON
FAN REVOLUTION DETECTION NORMAL
NO
YES
PRE-CHECK NORMAL
NO
YES
IGNITER ON
FAN IGNITION REVOLUTION
MAIN SOLENOID VALVE ON
SOLENOID VALVE CSV1 ON
MODULATION VALVE ON
FLAME DETECT (OVER 1μA)
NO
YES
IN USE INDICATOR ON
IGNITER OFF
MODULATING CONTROL
POSSIBILITY TO IMPROVE FAN REVOLUTION
NO
YES
FAN CONTROL NORMAL
NO
YES
FAN REVOLUTION CORRECTION
SAFETY DEVICE NORMAL
NO
YES
FAN FAST REVOLUTION
SOLENOID VALVE CSV1 OFF
MAIN SOLENOID VALVE OFF
MODULATION VALVE OFF
YES
IGNITION MISS LESS THAN 2 TIMES
NO
IGNITER OFF
(AFTER 4 SEC.)
(12.5SEC. AFTER FROM ⓐ)
COMBUSTION FAN REVOLUTION FAULT
61
(12.5SEC. AFTER FROM ⓐ)
FLUE BLOCK
10
EARTH FAULT
12
FALSE FLAME DETECT
72
SOLENOID VALVE DRIVE CIRCUIT FAULT
71
OUTGOING WATER THERMISTOR FAULT
32
TEMP. FUSE FAULT OVER-HEAT PROTECT DEVICE FAULT
14
COMBUSTION FAULT
10
F.F.D. WORK (LESS THAN 1μA)
12
OVER-HEAT PREVENTION DEVICE WORK (TEMP.FUSE・BY-METAL SW)
14
OVER BOILING PREVENTION DEVICE WORK (OUTGOING WATER THERMISTOR)
16
EARTH FAULT
12
OUTGOING WATER THERMISTOR FAULT (SHORT,WIRE BROKEN)
32
COMBUSTION FAN CIRCUIT FAULT
61
SOLENOID VALVE CIRCUIT FAULT
71
COMBUSTION FAULT
10
11
MODULATION VALVE OFF
SOLENOID VALVE CSV1 OFF
MAIN SOLENOID VALVE OFF
IN USE INDICATOR OFF
DELETE CAUSE
POWER OFF
OPERATION PANEL INDICATION OFF
ON/OFF SW OFF
ERROR INDICATION RESET
WATER FLOW SENSOR OFF
WATER TAP CLOSE
COMBUSTION FAN OFF
(AFTER 10 SEC.)
TURN OFF
WATER TAP CLOSE
WATER FLOW SENSOR OFF (LESS THAN 1.7L/MIN)
NO
YES
MAIN SOLENOID VALVE OFF
SOLENOID VALVE CSV1 OFF
MODULATION VALVE OFF
IN USE INDICATOR OFF
COMBUSTION FAN OFF
A

WIRING DIAGRAM

REU-1110FFU-E - REU-1110FFU(F)-E



DIAGNOSTIC POINTS

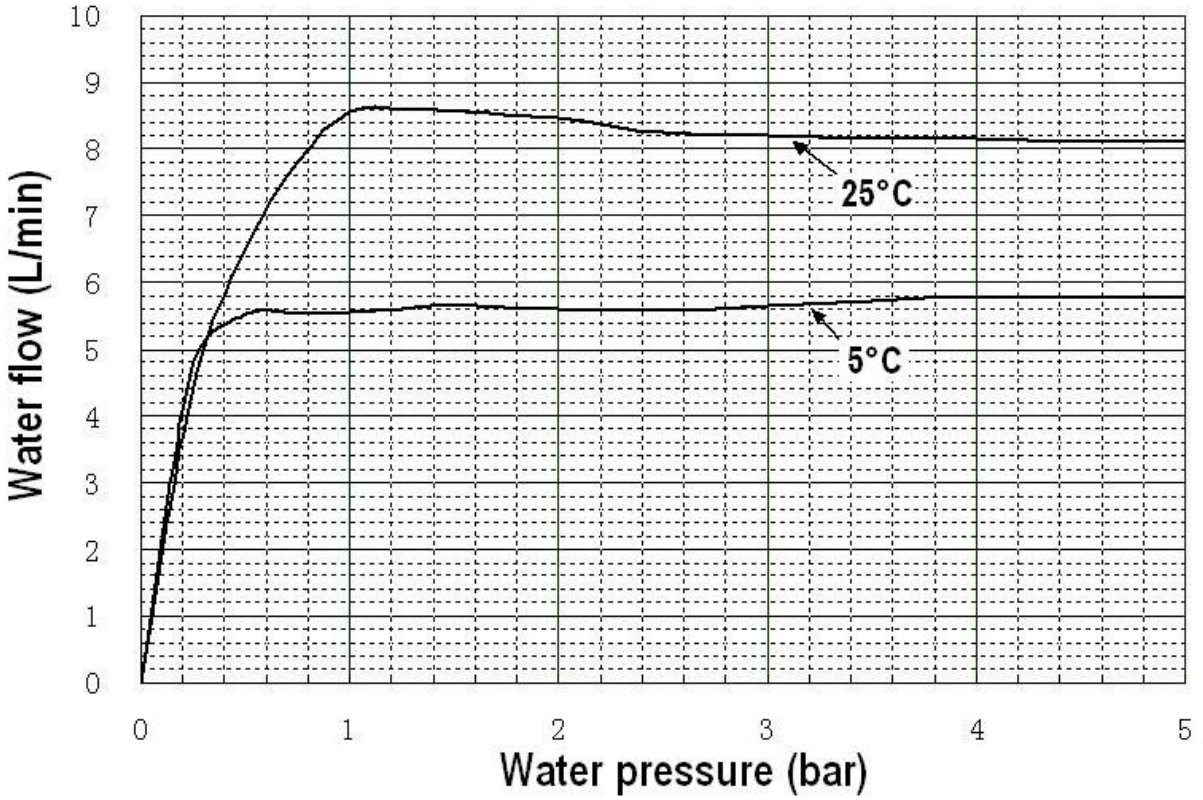
Flow Chart No.	Component	Measurement point		Determination (normal figure) Upper : Voltage Lower : Resist., Current	Remark
		CN	Wire Color		
	RCCB	F_1	B-Br	AC200～AC240V	
1	**WATER FLOW SENSOR**	I_1	R-Bk	DC11～13V	ON 2.4L/min (35Hz) > 2100 pulse/min
			Y-Bk	DC4～7V (pulse 17～400Hz)	OFF 1.7L/min (24Hz) < 1440 pulse/min
2	**COMBUSTION FAN**	B_1	R-Bk	DC6～40V	> 1200 pulse/min
			Y-Bk	DC11～13V	
			W-Bk	DC2～10V (pulse 20～400Hz)	
3	**FLAME ROD**	H_1	Y-earth	More than DC1μA	At ignition
4	**HOT WATER THERMISTOR**	I_2	W-W	15°C…11.4～14.0kΩ 30°C… 6.4～ 7.8kΩ 45°C… 3.6～ 4.5kΩ 60°C… 2.2～ 2.7kΩ 105°C… 0.6～ 0.8kΩ	Measure Thermistor side (small wire)
5	**AIR INTAKE THERMISTOR**	I_3	Y-Y	15°C…20.1～17.9kΩ 30°C…10.2～ 8.9kΩ 45°C… 5.5～ 4.7kΩ 60°C… 3.1～ 2.6kΩ 105°C… 0.7～ 0.5kΩ	Measure Thermistor side (small wire)
6	**BI-METAL SW THERMAL FUSE**	I_4 H_2	switch R-R	Less than 1Ω	
7	**IGNITOR**	G_1	Gy-Gy	AC200～240V	
8	**MAIN SOLE-NOID VALVE**	E_1	P-Bk	DC180～220V 6.6～7.8KΩ	
9	**SOLENOID VALVE**	E_2	B-Bk	DC180～220V 9.2～10.8KΩ	
10	**MODULATING VALVE**	H_3	P-P	DC2～15V 67～83Ω	

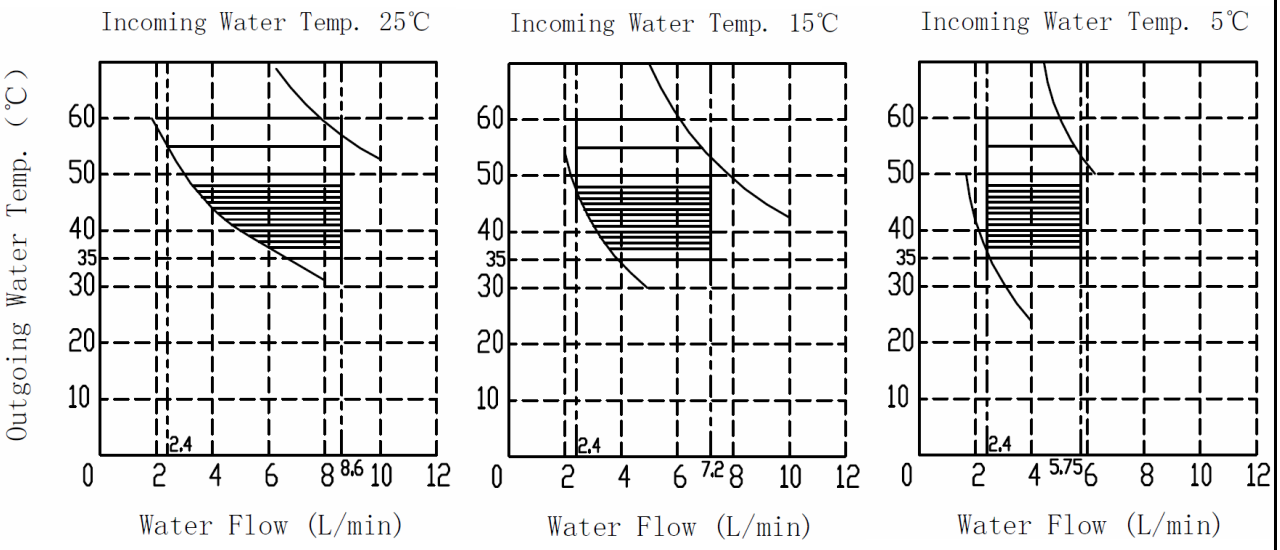
Transformer voltages and resistances:

Connector	Wire Color	Normal Value
D	W-W	AC200～240V 11～20Ω
G	Or-Or	AC49～55V 1.3～1.7Ω
G	B-Br	AC12～14V 0.7～1.3Ω
G	Br-Y	AC195～216V 175～215Ω

WATER FLOW CHARACTERISTICS

REU-1110FFU-E - REU-1110FFU(F)-E





LETTER OF COMPLIANCE

Conformity Declaration

We, Rinnai Corporation, Nagoya herewith confirm that the following models:

REU-1110FFU-E
REU-1110FFU(F)-E

complies with the directives mentioned below:

2009/142/EC Gas Directive
2006/95/EC Low Voltage Directive
2004/108/EC EMC Directive

The following harmonized standard has been used:

Gas-fired instantaneous water heaters for the production of domestic hot water, fitted with atmospheric burners (EN26)

Nagoya, Jan. 23rd 2012 Rinnai Corporation

Shinji Tanaka,
General Manager

CE CERTIFICATE

Technigas

Module B

EC TYPE EXAMINATION CERTIFICATE

Annex II Paragraph I directive 2009/142/EC

CE 0461

Certificate number : *E0940/5399 Rev.5* — *Date of issue : 23/12/2005*
ID number : *0461BQ0836* — *Revised : 02/02/2012*

Fabricant : RINNAI Corporation
Manufacture Fukuzumi-Cho 2-26
Fabrikant Nakagawa, Nagoya

Marque commerc. : RINNAI
Trade mark
Handelsmerk

Type : REU-11FUA-E // REU-1412 FFU-E
Model REU-16FUA-E // REU-1412 FFU(F)-E
Type REU-1110 FFU-E // REU-1110 FFU(F)-E

Genre d'appareil : INSTANTANEOUS WATER HEATER
Kind of product
Soort toestel

Type d'appareil : C13/ C33
Appliance type
Type toestel

Countries of destination, appliance categories :

AL-AT-BE-BG- CH- CY- CZ- DE- DK- EE- ES- FI- FR-GB-GR- HU
IE- IS - IT- LT- LU- LV- MK- MT- NL(*)-NO- PL-PT- RO- SE- SI- SK- TR

I2H // I2L(*) // I2E(*) // I2E(S)B // I2Esi // I2HM//I3B/P // I3P

G20-20 mbar // G25-25 mbar(*) // G20/G25-20/25 mbar(*) // G30-50 mbar
G230-20mbar // G30-30 mbar // G31-30 mbar // G31-37mbar
G31-50 mbar // G30-37 mbar // G31- 37 mbar

(*) only for REU-16FUA-E

Normative references : EN 26
This document cancels and replaces the previous one of : 23*/01/2012*

DIRECTOR
K DE WIT

n° 199-PROD

BELAC

TGP-08-14
2002-04-12

TECHNIGAS - Rodestraat, 125 - B-1630 Linkebeek
Phone +32 2 383 02 00 - Fax +32 2 380 87 04
e-mail : technigas@technigas.be - website : www.technigas.be

COMMISSIONING CHECK LIST

- □ The water heater is not subject to corrosive compounds in the air.
- □ The water supply does not contain chemicals or exceeds total hardness that will damage the heat exchanger.
- □ Clearances from the water heater unit are met.
- □ Clearances from the vent termination / air intake are met.
- □ For indoor models, ensure you have used the correct venting products for the model installed and that you have completely followed the venting manufacturer's installation instructions and these installation instructions.
- □ For indoor models, verify that the vent system does not exceed the maximum length for the number of elbows used.
- □ Purge the water line of all debris and air by closing the hot isolation valve and opening the cold isolation valve and its drain. **Debris will damage the water heater.** Use a bucket or hose if necessary.
- □ Ensure that hot and cold water lines are not crossed to the unit and are leak free.
- □ A manual gas control valve has been placed in the gas line to the water heater.
- □ Clean the inlet water filter by closing the cold and hot water inlet isolation (shut-off) valves. Put a bucket under the filter at the bottom of the water heater to catch any water that is contained inside the unit. Unscrew the water filter. Rinse the filter to remove any debris. Install the filter and open the isolation valves.
- □ Check the gas lines and connections for leaks.
- □ Confirm that the gas inlet pressure is within limits.
- □ Confirm that the water heater is rated for the gas type supplied.
- □ Confirm that the electricity is supplied from a 230V AC, 50 Hz power source, is in a properly grounded circuit, and turned on.
- □ Verify the temperature controller is functioning properly if fitted.
- □ Verify the system is functioning correctly by connecting your manometer to the gas pressure test port on the water heater. Operate all gas appliances in the home or facility at high fire. The inlet gas pressure at the water heater must not drop below that listed on the rating plate.
- □ If the water heater is not needed for immediate use, then drain the water from the heat exchanger.
- □ Install the front panel.
- □ Explain to the customer the importance of not blocking the vent termination or air intake.
- □ Explain to the customer the operation of the water heater, safety guidelines, maintenance, and warranty.
- □ The installation must conform with local codes.
- □ Inform the consumer if the isolation valves are not installed or if a water softening system is not installed.
- □ **Leave the entire manual taped to the water heater (indoor models), temperature controller (outdoor models), or give the entire manual directly to the consumer.**

COMMISSIONING SHEET

GAS FIRED CONTINUOUS FLOW WATER HEATER COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the water heater as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference

Failure to install and commission according to the manufacturer's instructions and complete this Benchmark Commissioning Checklist will invalidate the warranty. This does not affect the customer's statutory rights.

Customer name:	Telephone number:
Address:	
Water Heater Make & Model:	
Serial Number:	
Commissioned by (PRINT NAME):	Gas Safe Register Number:
Company name:	Telephone number:
Company address:	
	Commissioning date:
To be completed by the customer on receipt of a Building Regulations Compliance Certificate*:	
Building Regulations Notification Number (if applicable)	

CONTROLS					
Is there a separate temperature control fitted	Yes		No		
Have they been explained to the customer	Yes		No		
Has the Appliance been set to the required MAX temp.	Yes		No		
If NO has the Appliance been set to the required temp.	Yes		No		

SYSTEM					
Is there a filter on the incoming mains	Yes		No		
Is the system on a secondary return	Yes		No		
Has an unvented kit been installed	Yes		No		
If yes please record Safety Valve Size and rating	Size		Rating		
Does the discharge pipe comply with current building regulations				Yes	
Please record location of Pressure Reducing Valve					
Pressure Reducing Valve Setting					
Expansion Vessel Size					
Expansion Vessel Charge Pressure					
Has the system been installed with a storage vessel	Yes		No		

DOMESTIC HOT WATER MODE					
Gas Rate at High Fire	m^3/hr		ft^3/hr		
Burner Pressure	Lo	mbar	Hi	mbar	
Inlet Pressure Dynamic at Hi Fire and all other appliances running	mbar				
Inlet water temp				°C	
Water Heater Set Temperature				°C	
Maximum Flow Rate Achieved	L/min				
Is the installation in a hard water area (above 150mg/L)	Yes		No		
If Yes What Type of Scale Reducer has been Fitted					
Hot Water checked at all outlets	Yes		Temp	°C	

FLUEING					
What type of water heater is fitted	Internal		External		
EXTERNAL is the unit mounted fully outside	Yes		No		
If NO explain in detail where the appliance is mounted					
INTERNAL does the flueing comply with current standards	Yes		No		
If the flueing to manufacturers instructions	Yes		No		

CONDENSING WATER HEATERS ONLY				
Has the condensate drain has been installed as per manufacturers instructions and/or BS5446/BS6798	Yes		No	

FULL INSTALLATION				
Record the following:	At max rate: CO ppm	and	CO/CO2 Ratio	
	At min. Rate: (where possible) CO ppm	and	CO/CO2 Ratio	
Does the hot water system fully comply with the appropriate Building Regulations			Yes	
The water heater and associated products have been installed and commissioned in accordance with all manufacturers instructions			Yes	
The full operation of the water heater and any controls have been demonstrated to and understood by the customer			Yes	
The manufacturers literature including Benchmark Checklist and Service Record, has been explained and left with the customer			Yes	

Commissioning Engineer's Signature
Customer's Signature
(To confirm satisfactory demonstration and receipt of manufacturer's literature)

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

benchmark COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

www.centralheating.co.uk

SERVICE RECORD

SERVICE RECORD

It is recommended that your heating system is serviced regularly and that the appropriate Service Interval Record is completed.

Service Provider

Before completing the appropriate Service Interval Record below, please ensure you have carried out the service as described in the manufacturer's instructions. Always use the manufacturer's specified spare part when replacing controls.

SERVICE 01	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

SERVICE 02	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

SERVICE 03	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

SERVICE 04	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

SERVICE 05	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

SERVICE 06	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

SERVICE 07	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

SERVICE 08	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

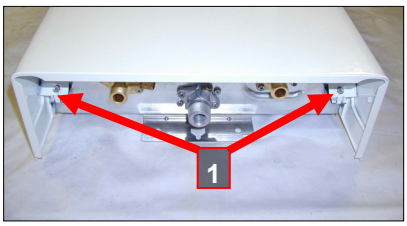
SERVICE 09	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

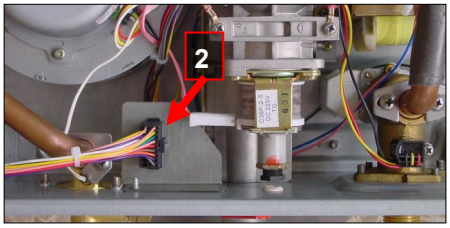
SERVICE 10	Date:
Engineer name:	
Company name:	
Telephone No:	
Operative ID No:	
Comments:	
Signature	

DISMANTLING FOR SERVICE

Remove front Cover

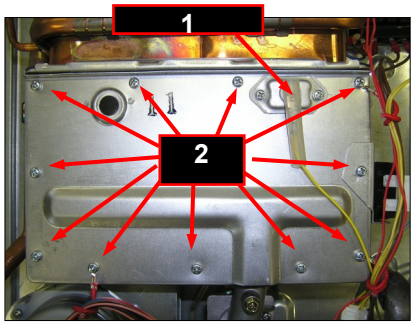
1 - Remove front cover (2 screws);
2 - Disconnect connector of operating controller;

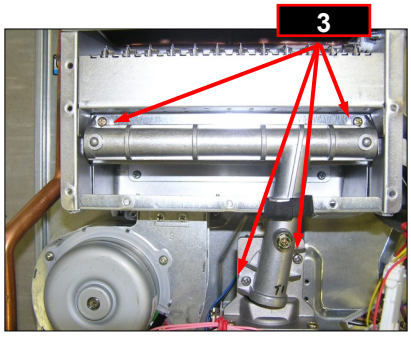


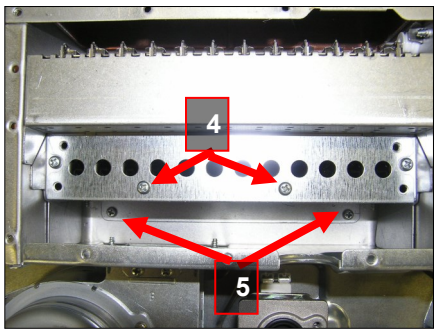


Remove burner unit and manifold

1 - Disconnect connector of FR harness from flame rod;
2 - Remove combustion chamber front panel (11 screws);
3 - Remove manifold (4 screws);
4 - Remove damper (2 screws);
5 - Pull out burner unit to front (2 screws);

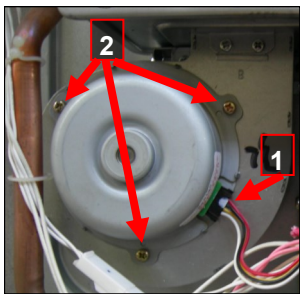






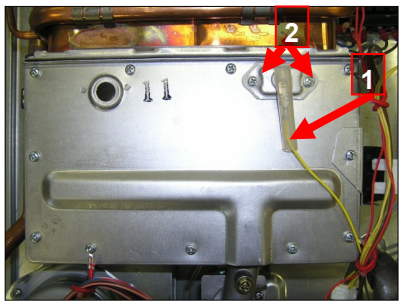
Remove fan motor

1 - Remove 4P connector;
2 - Extract fan motor assy (3 screws);



Remove flame rod

1 - Disconnect connector of FR harness from flame rod;
2 - Remove plate of flame rod (2 screws);



UK WARRANTY

As the purchaser of this high quality Rinnai water heater **REU-1412FFU-E, REU-1412FFU (F)-E, REU-1110FFU-E** or **REU-1110FFU(F)-E** you are provided with the following conditional warranty:

	Heat Exchanger		All Other Parts	
	Parts	Labour	Parts	Labour
Standard Use	3 Year	1 Year	3 Year	1 Year
Commercial Use	1 Year	1 Year	1 Year	1 Year

Rinnai Continuum units used in commercial situations are only subject to a 1 year warranty across the board. Commercial situations should be supplied by the Rinnai HD range.

No Rinnai warranty will cover damage/faults arising from moving or storing the unit; improper installation or gas supply; water contaminants beyond defined limits; environmental factors; plumbing fittings, or other outside influences of which Rinnai is not responsible.
Service calls for these issues will be chargeable.
The unit must be serviced annually to validate the warranty.

The warranty period begins on customer's date of purchase.

Description	pH	Total Dissolved Solids (TDS)	Total Hardness	Chlorides	Magnesium	Calcium	Sodium	Iron
Max Recommended Levels	6.5 - 9.0	600 mg/litre	150 mg/litre	300 mg/litre	10 mg/litre	20 mg/litre	150 mg/litre	1 mg/litre

UK WARRANTY

WHAT IS COVERED?
This Warranty covers any defects in materials or workmanship when the product is installed and operated according to Rinnai installation instructions, subject to the terms within this limited warranty document. This Warranty applies only to products that are installed by a registered gas engineer. Improper installation may void this Warranty. This Warranty extends to the original purchaser and subsequent owners, but only while the product remains at the site of the original installation. This Warranty only extends through the first installation of the product and terminates if the product is moved or reinstalled at a new location.

WHAT WILL RINNAI DO?
Rinnai will repair or replace the product or any part or component that is defective in materials or workmanship, except as set forth below: All repairs must be performed using genuine Rinnai parts. All repairs or replacements must be performed by a registered gas engineer. Replacement of the product or replacement of the heat exchanger may only be authorised by Rinnai. Rinnai does not authorise any person or company to assume for it any obligation or liability in connection with the replacement of a product or heat exchanger. If Rinnai determines that repair of a product is not possible, Rinnai will replace the product with a comparable product, at Rinnai's discretion. If a component or product returned to Rinnai is found to be free of defects in material or workmanship, or damaged by improper installation the warranty claim may be denied.

HOW DO I GET SERVICE?
Contact your supplier or Rinnai UK.

Proof of date of purchase is required to obtain warranty service. You can show proof of purchase with a dated invoice or by completing and returning the enclosed Warranty registration card.

Receipt of warranty registration by Rinnai will constitute proof-of-purchase for this product. However, Warranty registration is not necessary in order to validate this Warranty.

WHAT IS NOT COVERED?
This Warranty does not cover any failures or operating difficulties due to accident, abuse, misuse, alteration, misapplication, acts of God, improper installation, improper maintenance or service, inadequate water quality, scale buildup, freeze damage or for any other causes other than defects in materials or workmanship. This warranty does not apply to any product whose serial number or manufacture date has been defaced.

This Warranty does not cover any product when used as a pool or spa heater.

Rinnai is not liable for any special, incidental, indirect or consequential damages that may arise, including damage to person or property, loss of use, failure to install drain pan under unit, or inconvenience.

This warranty does not effect your statutory rights as defined in the UK.

CONTACT

Rinnai UK LTD.
9 Christleton Court
Manor Park
Runcorn
Cheshire
WA7 1ST
Tel. 01928 531870
Fax. 01928 531880
E-mail. info@rinnaiuk.com
Web. www.rinnaiuk.com

HEATER DETAILS

Model Number _____

Serial Number _____

Date of Purchase _____