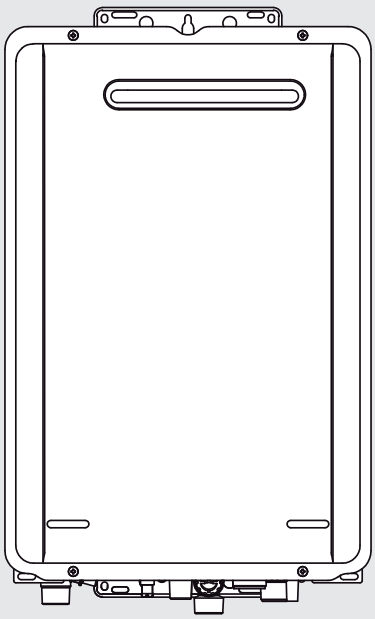
MODELS:

Infinity E16 (REU-E1620W-E)

Infinity E24 (REU-E2426W-E)



Instantaneous condensing water heaters

Operation and installation manual

Rinnai

0086

776828

The Rinnai Infinity E Series water heaters are UKCA Marked as allowed by BSI.

E16 - (REU-E1620W-E)
E24 - (REU-E2426W-E)

2797

776829

The Rinnai Infinity E Series water heaters are CE Marked according to Regulation 2016/426/EU and Directive 2014/53/EU.

E16 - (REU-E1620W-E)
E24 - (REU-E2426W-E)

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

Quality system standard

ISO 9001

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.

Rinnai, constantly striving to improve the products, reserves the right to modify the details given in this documentation at any time and without notice.

From the time this manual is printed and attached to the product, to the time the product is purchased and installed, the instructions and warnings may have changed: for Your interest and Your protection we recommend that You follow the instructions and warnings reported on the most recent version of the manual which is always available on the Rinnai UK web site (www.rinnaiuk.com).

Rinnai disclaims any liability due to printing or transcription errors and reserves the right to update and change any technical and commercial lists without prior notice.

Dear Customer, our compliments for having chosen a Rinnai top quality product, able to assure wellbeing and safety for a long period of time. As a Rinnai Customer you can also count on a qualified aftersales service to guarantee a constant efficiency of Your appliance.

The following pages are very important and contain useful instructions and suggestions on the correct use of Your appliance.

GENERAL ADVICE

Rinnai products are provided with a packaging suitable for transport. The product must be stored in dry environments and protected from bad weather.

This manual is part of the product and must be left to the new user in the case of property change of the appliance. The manual must be kept in a safe place and carefully consulted as all warnings provide important safety instruction for the installation, the use and the maintenance.

This manual contains technical information on how to install the product: for any issue related to the installation, comply with the national and local laws in force and technical standards. According to legislation in force, the systems must be designed by qualified technicians. Installation and maintenance must be performed in compliance with the regulation in force, according to the manufacturer's instructions and by qualified personnel.

An improper installation or assembly of the appliance (components, accessories, kits, etc.) can cause unexpected problems to people, animals and property.

The product must be destined to the use for which it is designed for. Any other use will be considered as improper and therefore potentially dangerous.

In case of any errors in the installation, the use or the maintenance due to non compliance of the laws in force, Standards or manufacturer's instructions, the manufacturer is excluded from any contractual and extra contractual liability for any damages and the appliance warranty is invalidated.

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.

IMPORTANT

According to local laws in force, heating and hot water systems are subject to regular maintenance and regular checking of the heating performance. To comply with these obligations we invite You to contact the Rinnai local service.

Information on disposal of the product: the symbol shown here indicates that, according to the laws and local regulations, the product must not be disposed of with household waste. At the end of its life, the appliance must be delivered to a collection point identified by local authorities. The separate collection and recycling of the product at the time of disposal will help conserve natural resources and ensure that it is recycled in order to protect health and the environment.

For further information on regulations related to the installation of the water heater or to find out your closest authorised Rinnai service company You can contact:

Rinnai UK LTD.
9 CHRISTLETON COURT,
MANOR PARK,
RUNCORN,
WA7 1ST
0300 373 0660
www.rinnaiuk.com

WARRANTY

Dear Customer,

Our compliments for having chosen a Rinnai product.

The standard Rinnai warranty does not affect the terms of the legal warranty on customer's good and relates to Rinnai products purchased.

WARRANTY PERIOD

This appliance comes with a three tier warranty based upon the application it is used in. The first 12 months are labour inclusive providing the Benchmark Commissioning has been completed and retained by the end user.

7 Year Parts Warranty when installed for domestic use in a dwelling.

5 Year Parts Warranty when installed in a light commercial setting (non secondary system).

2 Year Parts Warranty when installed in a commercial setting utilising high volume water and/or a secondary recirculation system.

All above periods are only valid when the appliance is service annually using the correct service routines and parts. Failure to carry out annual servicing will invalidate any warranty.

WHAT IS COVERED?

The 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 the warranty. This warranty extends to the original purchaser and subsequent owners, but only while the product remains at the site of the original installation. The 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 entire product or replacement of any parts 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.

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 build-up, freeze damage or for any other causes other than defects in materials or workmanship. Applications must be avoided where the appliance will short cycle (rapid on/off cycles). This warranty does not apply to any product whose serial number or manufacture date has been defaced.

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 by European laws.

CONTENTS

1. USER'S INSTRUCTIONS

The following section provides instructions for proper use of the product.
This section is intended for the use by qualified technical personnel and end users.

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 on page 19.

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 vapors 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.
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 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.

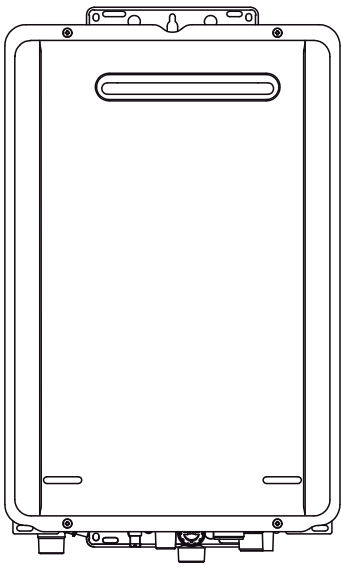
benchmark
COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

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 a competent person(s) 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 Hot water 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

1.1 FEATURES AND BENEFITS

Congratulations on purchasing the latest technology temperature controlled Rinnai continuous flow water heating system.



The Rinnai continuous flow water heater products **NEVER RUN OUT** of hot water. Whilst electricity, water and gas supplies are connected, hot water is available whenever 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 limited to various values. This is particularly useful when the hot water unit is installed where young children or the infirm may be using the hot water.

The Rinnai continuous flow water heater products are fan-assisted (power flued) appliances. This makes them **COMPACT**, saving both floor and wall space.

The temperature of hot water is **CONSTANTLY MONITORED** by a **BUILT-IN SENSOR**. If the temperature of the hot water rises to more than 3°C above the selected temperature the burner is turned OFF and only turned ON again when the temperature falls below the selected temperature.

The burner lights automatically when the hot water tap is opened, and goes out 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.

A remote temperature controller can be supplied seporately. Please contact Rinnai UK for further information.‘

An ANTI FROST PROTECTION SYSTEM is provided on each unit: heating ceramic resistances are electrically powered to protect the appliance down to temperatures of -30°C.

Operating **NOISE LEVEL IS VERY LOW**.

1.2 IMPORTANT SAFETY INFORMATION

Meaning of the symbols used in the manual for important safety information:

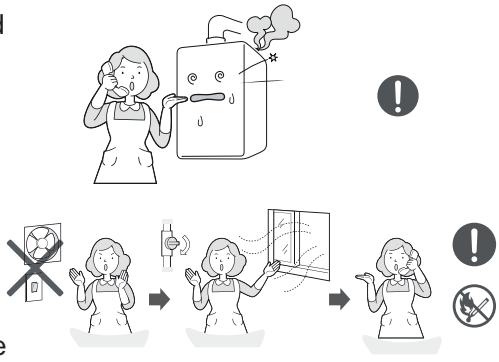
IMPORTANT	Indicates a situation of potential serious danger with the risk of serious damage and/or risk of death.
CAUTION	Indicates a potentially hazardous situation which, if not avoided, may in moderate or minor injury or property damage.
WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in or minor injury or death or serious injury.
NOTE	Indicates a potentially hazardous situation which may cause personal problems or damage of moderate or minor entity; or suggesting the correct use of the product.
	Indicates a condition which must be complied.
	Indicates a condition which should be avoided.
	Indicates a ground connection for the prevention of an electric shock.
	Warns of a risk of fire. Keep the area clean and free from flammable materials.
	Warns of a risk of injury or property damage when contacting.

IMPORTANT **The appliance should be installed by qualified personnel only, in outdoor, always open air and well areated areas. Use the appliance only for water heating.**

Do not modify this appliance. Do not attempt to repair, replace or open sealed parts or disassemble the appliance: improper adjustment, alteration, service or maintenance could significantly affect the safety of the product. Contact the Rinnai service if you detect any unusual condition.

Use original parts to repair the appliance.

In case of unusual noise, vibration or smell, stop the appliance and contact the Rinnai service for further information.

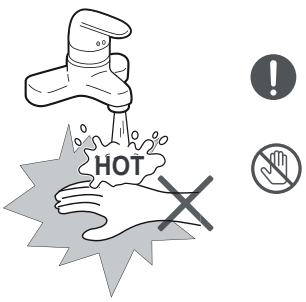


If you smell gas:

- isolate the main gas supply;
- open doors and windows;
- call your gas engineer;
- use a telephone outside the building.

In case of earthquake, fire, gas leak, unusual noise or smell, isolate the gas and power supply and open doors and windows.

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

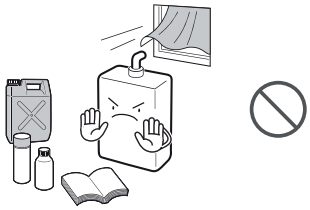


Water temperature over 50°C can cause severe burns instantly or even death from scalding. Hot water at 60°C can severely burn a child in less than a second. At 50°C it takes five minutes.

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

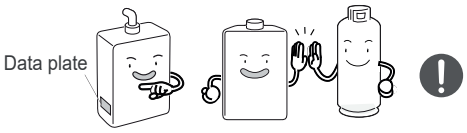
Do consider setting your hot water production at a maximum temperature of 50°C.

Do not store flammable objects near the appliance: it could cause a product failure or fire.



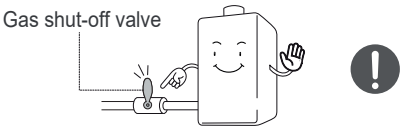
Do not spray aerosols in the vicinity of this appliance while it is in operation.

Check that the appliance is supplied with the correct gas type and pressure according to the data plate: ensure that the gas in use matches with the gas indicated on the data plate. If not, there could be incomplete burning of the gas, resulting in toxic emissions and/or product failure.



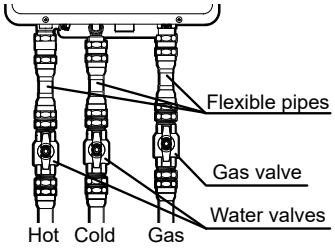
Do not insert objects into the flue outlet. Do not spray water directly into the flue outlet. Keep, trees, shrubs, etc. well clear of the flue outlet.

On colder days steam may discharged from the flue outlet. This condition is normal for high efficiency appliances and does not indicate a fault.



Check the main gas valve to make sure it is opened before using the appliance and check the gas pressure is correct.

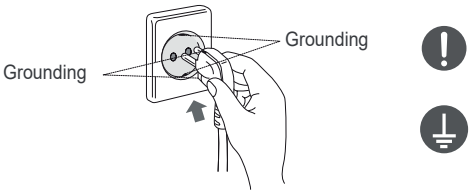
Metal rigid pipes are recommended for gas and water supply: rubber hose might get damaged.



It is recommended to install valves on the gas and water pipes to allow an easier maintenance and to increase safety in case of emergency.

Check the voltage at the power outlet to make sure it is within the appropriate range before use.

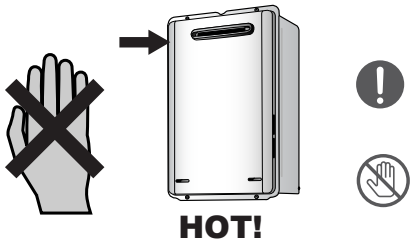
Ensure the electrical system is provided with an appropriate grounding, otherwise the appliance could be severely damaged or operate improperly



The extension of the power cord should be avoided (e.g. using an extension cord or a multiple socket).

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.

Prior to use after installation or if the appliance has not been used for a long time let the hot water flow for a while before using.



Do not touch the unit cover or the flue outlet.

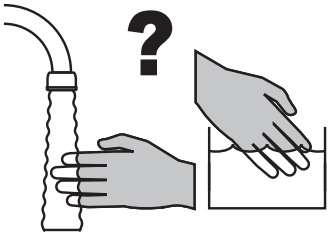
It is recommended the installation of a system to collect and drain water under the appliance in the case of water leakage to prevent material and property damages.

1.2.1 OPERATIONAL SAFETY INFORMATION

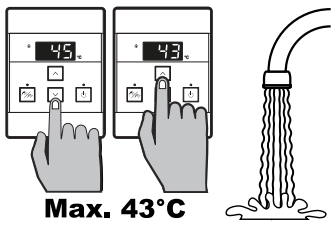
The following instructions and warnings describe some of the important operational features of the water heater.

IMPORTANT

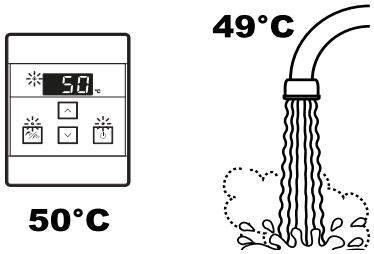
This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the ap pliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.



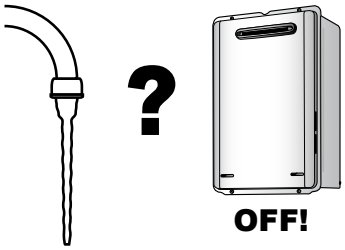
Always test the temperature of the water before bathing or showering to avoid scalding and burn.



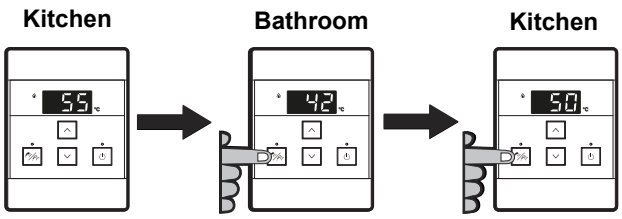
Whilst hot water outlets are open the set temperature may be lowered. However they cannot then be raised above 43°C. In addition transfer of 'priority' between controllers is not possible. These are safety features.



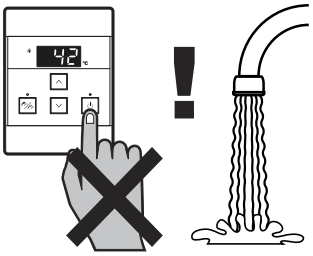
Depending on the weather conditions and the length of the pipe between the hot water unit and the outlet in use, there may be a variation between the temperatures displayed at the water controller and the temperature of the water at the outlet.



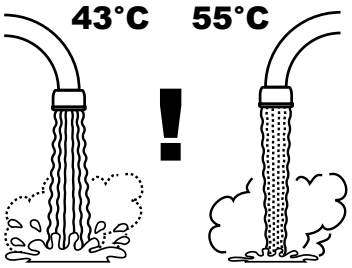
At low water flows, the hot water unit may extinguish without warning. Opening the tap further will restart the heating appliance.



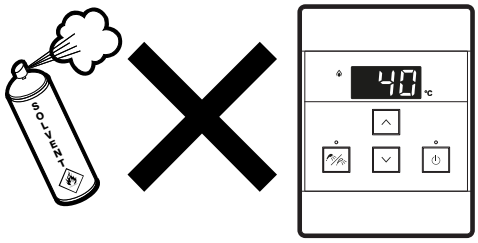
As a safety precaution, if a kitchen water controller's temperature is set above 50°C, transferring and then returning 'priority' to the kitchen water controller will result in a default set temperature of 50°C being selected. This is a safety feature.



Do not push the On/Off button on any water controller when the water heater 'In Use' indicator is illuminated as this will turn off the water heater causing the water to go cold. Someone maybe in the middle of having a shower or filling a bath.



The delivered water temperature is controlled automatically. The flow may vary depending on the delivery temperature selected and the ambient water temperature.



To clean your water controller use a soft damp cloth with a mild detergent. Do not use solvents!

Frost protection

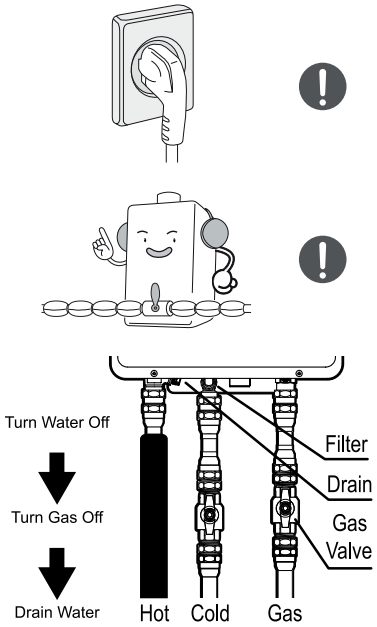
Make sure that the power cord of the appliance is plugged-in and the electrical power is always available.

The frost protection system activates only when the appliance is electrically powered and switched ON.

All pipes must be wrapped with insulating materials to prevent heat loss. The thickness of insulation should be between 25mm and 50mm according to outdoor temperatures. Electrical hot wires could be installed to protect pipework subjected to extreme cold or wind chill conditions. Hot wire use is recommended if the case of temperature drops below -20°C.

If extremely freezing conditions are expected, turn off water and gas, and drain all water from the appliance. If power and the automatic frost protection are connected, freezing will be prevented. (Anti-frost protection is fitted as standard equipment on all hot water units)

If water pipes are frozen, there would not be water flow in the system. Use a heat source (e.g. hair dryer) to unfreeze the frozen components and pipes. Before using the appliance after defrosting contact the Rinnai service to verify possible damages.



1.3 WATER TEMPERATURE CONTROL

The purpose of a Temperature Controller is to enable the user to have localised control over the hot water supply. Used correctly, the hot water unit will supply hot water at the temperature selected, even when the water flow is varied, or when more than one tap is used.

The temperature of outgoing hot 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 digital monitor (or the pre-set limit when water controllers are not fitted) the burner will automatically go out. The 'in use' indicator ^ will also go out.

The burner will ignite again once the outgoing hot water temperature falls to that shown on the digital monitor (or the pre-set limit of the appliance).

Rinnai continuous flow water heaters can be programmed to deliver higher temperatures from the master water controller, or may be programmed to restrict the maximum available delivery temperature.

Contact Rinnai for more details.

1.3.1 MAXIMUM DELIVERY TEMPERATURES

Rinnai continuous flow water heaters are factory pre-set to 55°C maximum delivery temperature.

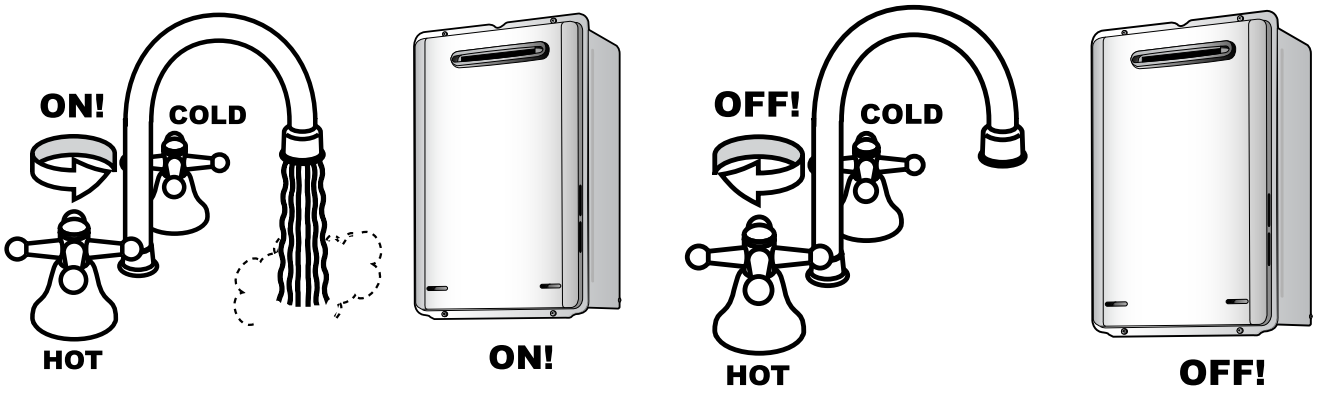
Each temperature controller is factory pre-set to 50°C maximum delivery temperature can be individually programmed.

For the majority of applications, the factory pre-set temperature is appropriate; in the unlikely event this is not the case this setting can be increased or decreased by an authorised person such as a licensed plumber.

Adjustments to the operation of your hot water unit can be made with any of the temperature controllers.

1.3.2 OPERATION WITHOUT WATER CONTROLLERS

Rinnai continuous flow water heater products do not use a pilot light. When installed and operated, the opening of any hot water tap will automatically start the appliance. Once water is flowing through the appliance the burner will be ignited by electronic ignition. When the hot water tap is closed and water flowing through the appliance has stopped the burner flame will extinguish.



1.3.3 RINNAI WATER CONTROLLERS

Universal and De-luxe water controllers can be used together and will function as described in the dedicated section of this manual. Refer to "Water controller combinations & configurations" to confirm the maximum number and combination of water controllers that can be fitted to your water heater model. Other manufacturers water controllers are **NOT** compatible with Rinnai water heaters.

Location

Water controllers must be installed in shaded and clean locations. They should be fitted out of reach of children (suggested height from floor to be at least 1500 mm).

Water resistance

The MC-601 universal water controller is a water resistant device, however excessive exposure to water such as immersion may result in damage to the water controller. Durability of water controllers is improved when positioned outside of the shower recess.

IMPORTANT

Controllers must be installed at least 400 mm above the highest part of a sink, basin or bath.
Do not immerse the water controller into water.
Avoid direct exposure to water or steam as these conditions may cause a malfunction.
When cleaning your water controller use only a damp cloth and a mild detergent.

Temperature control

Water controllers allow precise temperature control by the user. When used correctly, the hot water unit will deliver the selected temperature, even when the water flow is varied, or more than one tap is in use.

Only one MC model water controller can be designated as a 'Master' water controller and this is normally used in the kitchen. All the remaining water controllers are designated as 'Sub' water controllers and are for use in bathrooms, toilets and laundries.

The maximum temperature limit for all 'Sub' water controllers is restricted to 50°C to minimise the risk of burns in these areas.

Each water controller can be individually programmed, however the water heater can only deliver one set temperature at any time. The available temperatures (°C) are as follows:

Water Controller Temperatures (°C)	Master (MC)	37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 50, 55, 60[1], 65[1]
	Sub (MC or BC)	37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 50

[1] temperature available after PCB settings adjustment.

For hygiene in sanitary areas such as bathrooms, the suggested temperature should be 37°C ~ 43°C.

The above is a suggestion only, as you may find higher or lower temperatures more comfortable, however maintaining lower temperatures also helps to save energy.

To obtain water temperatures lower than 37°C, simply open the cold water tap and add cold water until the desired lower temperature is reached.

Universal water controllers allow temperature selection. Deluxe water controllers allow temperature selection, have a clock function and, Deluxe Bathroom water controllers, have a shower saver/bath fill function.

1.3.4 WATER CONTROLLER COMBINATIONS & CONFIGURATIONS

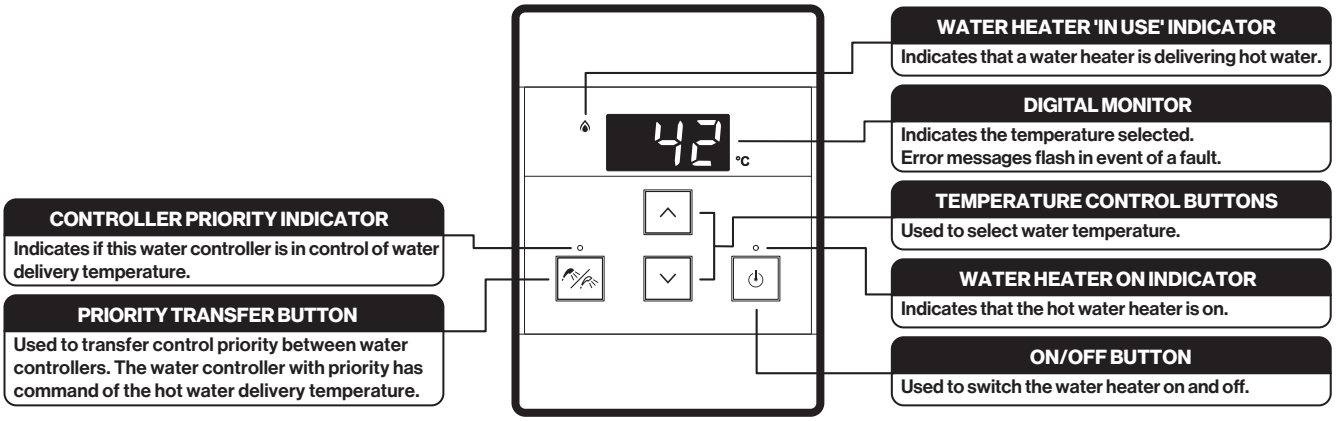
A maximum of 4 water controllers can be fitted.

Only **ONE** master controller can be installed.

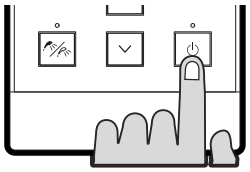
When multiple temperature controllers are used they allow the temperature to be set from various locations by pushing the transfer button which gives that controllor priority over the system.

The temperature selected by the controller with priority will be available to all outlets.

1.3.5 UNIVERSAL WATER CONTROLLER (MC-601) OPERATION

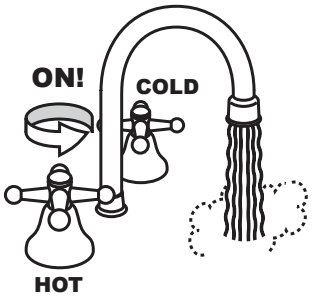


Turning on



If the water controller is switched off (no digits displayed in the digital monitor window) press the On/Off button once. The ON indicator will illuminate, indicating that the hot water unit will be ready to supply hot water once a hot water tap is opened.

Adjusting temperature



Select the desired temperature using the Hot water temp ∧ or ∨ buttons until the required temperature is displayed on the digital monitor.

To operate the hot water unit, open any hot water tap. This will automatically light the burner providing hot water. The water heater 'In Use' indicator will illuminate on the water controller(s).

Once the hot water is running, if the set temperature is either too hot or cold press the Hot water temp ∧ or ∨buttons until the desired temperature is reached.

NOTE

Whilst hot water outlets are open, the set temperature may be lowered to a minimum of 37°C. For safety, it cannot then be raised above 43°C until all hot water taps are closed.

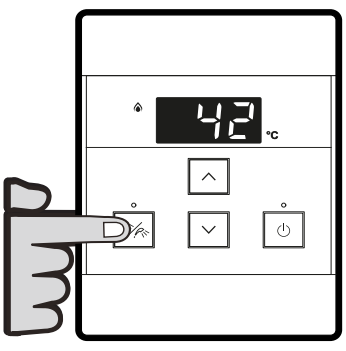
Temperatures higher than 50ºC must not be able to be selected on controllers installed in bathrooms, ensuites or toilets. This is to help reduce the risk of burns from hot water. If this is not the case, the controllers have been incorrectly installed. CONTACT YOUR INSTALLER.

The 'beep' sound can be muted by pressing the ∧ and ∨ buttons simultaneously for more than 3 seconds. To cancel sound muting, simply repeat the process.

CAUTION

Always check outlet water temperature before use. The parent/carer MUST check the temperature before placing dependants in contact with hot water.

Transferring priority



To control the water delivery temperatures when using two or more water controllers it is necessary to have priority transferred to the water controller you wish to use. Transferring of priority will **NOT** be possible if the 'In Use' indicator is currently illuminated, as this indicates hot water is flowing and that another water controller already has priority.

An illuminated priority indicator confirms that the desired water controller is in control of the water delivery temperature. If the priority indicator is not illuminated press the priority transfer button once. The priority indicator will illuminate, indicating that hot water temperature control has been transferred and that the hot water unit will be ready to supply hot water once a hot water tap is opened.

Lock function

To prevent tampering and increase the safety level of the product, especially for children, it is possible to lock the control panel.

To lock the panel it is necessary to press, and keep pressed for about five seconds, the ‘Priority’ keys and the key to increase the temperature (up arrow) (Fig.1). To unlock the command it is sufficient to repeat the procedure of blocking commands.

When the panel is locked, the display shows ‘LOC’ (Fig.2) alternating with the selected temperature on the display. All connected commands will be locked and will display the same flashing text.

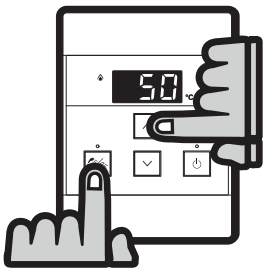


Fig. 1

Fig. 2

1.4 TROUBLE SHOOTING

Rinnai continuous flow water heaters have a self diagnostic capability. If a fault occurs, an error code will flash on the digital monitor of your water controllers. 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.

You may be able to clear the error code simply by turning the hot water tap OFF, then ON again. If this does not clear the error code, try pushing the On/Off button OFF, then ON again, or turning the power for unit OFF, waiting 10 seconds and then ON again.

If the error code still remains, contact Rinnai for advice.

1.4.1 ERROR CODES

Code	Description	Remedy
-	Noticeable reduction in water flow.	Inlet water filter needs to be cleaned - Service call.
03	Power interruption during bath fill (water will not flow on power reinstatement).	Turn off all hot water taps. Press On/Off twice.
10	Air intake or flue blocked.	Service call.
11	No ignition / No gas supply.	Check gas is turned on at water heater and gas meter or cylinder.
12	Flame failure / Low gas flow.	Check gas is turned on at water heater and gas meter or cylinder. Check there are no obstructions to the flue outlet.
14	Remaining flame safety device.	Service call.
16	Over temperature warning.	Service call.
19	Electrical earth check fault.	Service call.
21	Incorrect dipswitch setting detected.	Installer to check dipswitch settings / Service call.
25	Condensate discharge blocked / Condensate trap blocked.	Service call.
32	Outgoing water temperature sensor fault.	Service call.
41	Ambient temperature sensor fault.	Service call.
52	Gas modulating valve fault.	Service call.
61	Combustion fan fault.	Service call.
65	Water flow control fault (Does not stop flow properly).	Service call.
70	Microprocessor fault.	Service call.
71	Microprocessor fault.	Service call.
72	Flame sensing device fault.	Service call.
92	Replace the neutralizer trap.	Service call.

1.4.2 Troubleshooting Without Water Controllers

If you have not installed temperature controllers and experience the following symptoms, please carry out the suggestions below. If symptoms continue, please contact Rinnai for advice.

Description	Remedy
The unit does not attempt to start at all.	Check the power is on at the unit. Check the isolation valves at the unit are open.
The unit starts then shuts down immediately.	Check the power is still on. Check the gas isolation valves at the unit and the gas meter are fully open. Open your hot water tap fully.
The unit starts then the water goes cold.	Check the power is still on. Open your hot water tap further.

NOTE

Faults caused by insufficient gas supply, insufficient water supply, gas quality, water quality, installation errors or operation errors are not covered by the warranty.

1.4.3 SERVICE

NOTE

Regular servicing should be made to preserve the appliance integrity and to keep safety, efficiency and reliability unchanged.

Water controllers and water heaters do not contain user serviceable parts and must only be serviced and repaired by an authorised person.

Rinnai has a service and spare parts network with personnel who are fully trained and equipped to give the best service on your Rinnai appliance. If your appliance requires service, please call our national help line.

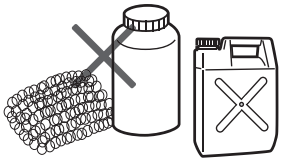
When making a service enquiry, having both the model and serial numbers available, will help our staff quickly identify your appliance and better attend to your needs.

Always keep the appliance clean.

Unplug the appliance and turn the main gas valve off before to proceed with any cleaning or maintenance.

Clean the chassis and the remote controller using soft cloth only.

After maintenance (or cleaning), check to ensure that all the components of the appliance are intact and connected in the correct way. Exhaust gas leakage could be harmful for health or result in death.



The water heater has a filter on the cold water inlet connection. This filter will need to be cleaned occasionally. How often will be determined by the local water condition; contact Rinnai or ask your installer for information. Isolate the cold water inlet and hot water outlet with the valves near the heater. Release the pressure in the heater by unscrewing the drain valve. Then remove the filter, clean it and replace it.

If the inlet filter is clogged up, it could decrease the performance of the appliance and shorten its service life. The user should clean the filter regularly to preserve a proper operation and to prevent the appliance failure.

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. This can void the warranty.

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.

2. INSTALLER'S INSTRUCTIONS

The following section provides specific instructions for proper installation of the product.
This section is intended for the use by qualified technical personnel.

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 appliance 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 8558
BS EN 806
BS 6644
Institute of Gas Engineers Publications
Local bylaws
Water regulations
Health and safety at work etc. Act 1974
IGEM/UP/10 Part1 Edition 2.
Building Regulation J and G

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

It is the installer's responsibility to ensure that the unit has been installed to all current requirements.

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

In case of defective parts only use genuine Rinnai components for replacement failure to do so will invalidate any warranty.

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.

2.1 INSTALLATION WARNINGS

WARNING

This section contains technical information concerning the installation of the product. The regulation in force and the code of practice must be followed for every aspect concerning the installation (safety and security, environment protection, etc...). According to all applicable regulations and requirements, the systems must be designed by qualified professionals only.

The Rinnai Infinity is conceived as continuous flow water heater. The appliance is suitable for domestic use to produce hot water. The appliance must be power plugged, connected to the gas line, to the sanitary installation, and to a suitable discharge point to drain the condensate.

Rinnai gas appliances must be installed by qualified personnel only, according to local regulations, to the law in force and following the principles of the code of practice.

2.1.1 APPLIANCE LOCATION

This appliance is designed for **'Outdoor' installation only**. As such, it must be located in an above ground open air situation with natural ventilation, without stagnant areas, where gas leakage and products of combustion are rapidly dispersed by wind and natural convection.

NOTE

The water heater can be installed outdoor with no protections against rain, snow, etc. All pipes, the drain of condensate included, must be wrapped with appropriate insulating materials to prevent freezing.

The min allowed temperature is -20°C (when protected from direct wind exposure).

This appliance must be mounted on a vertical structure with the water and gas connections on the underside pointing downwards. Location of the appliance flue terminal must be in accordance with local and national laws.

This appliance must be placed as close as practicable to the most frequently used hot water outlets to minimise the delay time for hot water delivery.

An AC230V/50Hz, earthed power point must be provided adjacent to the appliance. For outdoor installations this power point must be weather proof. It must be clear of the gas and water connections to the appliance and also the flue exhaust and water pressure relief valve. The power cord of the appliance is 1.5 metres long.

All appliances must be installed to ensure access can be gained without hazard or undue difficulty for inspection, repair, renewal or operational purposes. Sufficient clearances shall allow access to, and removal of, all serviceable components.

This appliance must not be used as a domestic spa or swimming pool heater.

Both support brackets must be fastened with metal plugs.

The water heater must be easily accessible for maintenance.

Provide for the installation of an appropriate system to collect water from the pressure relief valve and to collect and drain water under the appliance to prevent material and property damages in case of water leakage.

The flue system must respect the minimum clearance prescriptions and applicable regulations.

Air surrounding the water heater, venting and vent termination 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.

Do not install the appliance near combustible objects, chemical products or corrosive agents. If it is necessary for a water heater to be located in areas which may contain corrosive compounds, Rinnai strongly recommends the following: 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.

Coastal installations

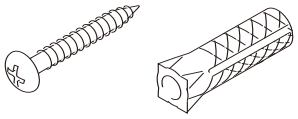
Installations located in or near coastal areas may require additional maintance due to corrosive airborne ocean salt.

2.2 UNPACKING THE WATER HEATER

Prior to use make sure that the water heater is set up for the correct type of gas and that the appliance is intact.

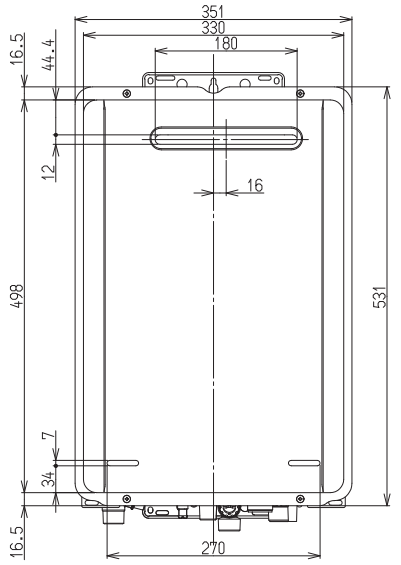
If the appliance is clearly damaged or you have doubts do not install the water heater and contact your supplier or Rinnai immediately for further information.

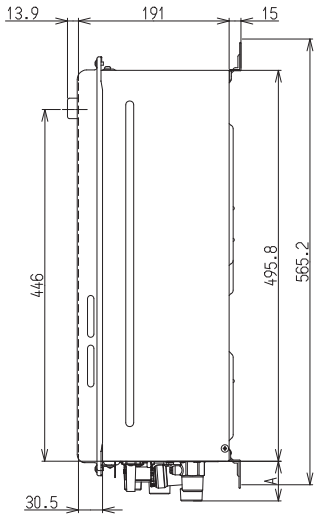
Together with the appliance, in the packaging, you can find the following:

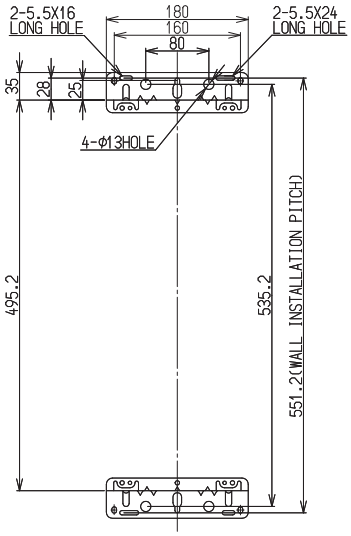


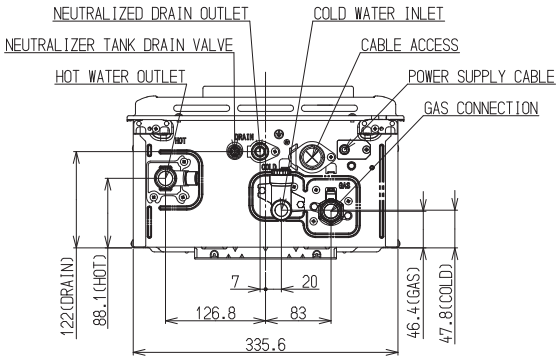
(5x) Screws and wall plugs to fix the appliance

2.3 DIMENSIONS









REU-E2426W (mm)

	A DIMENSION	CONNECTION
GAS	38	R3/4(20mm)
COLD	50	R3/4(20mm)
HOT	41	R3/4(20mm)
CABLE ACCESS	26	——
DRAIN OUTLET	36	R1/2(15mm)

REU-E1620W (mm)

	A DIMENSION	CONNECTION
GAS	38	R3/4(20mm)
COLD	50	R1/2(15mm)
HOT	39	R1/2(15mm)
CABLE ACCESS	26	——
DRAIN OUTLET	36	R1/2(15mm)

2.4 MAIN COMPONENTS

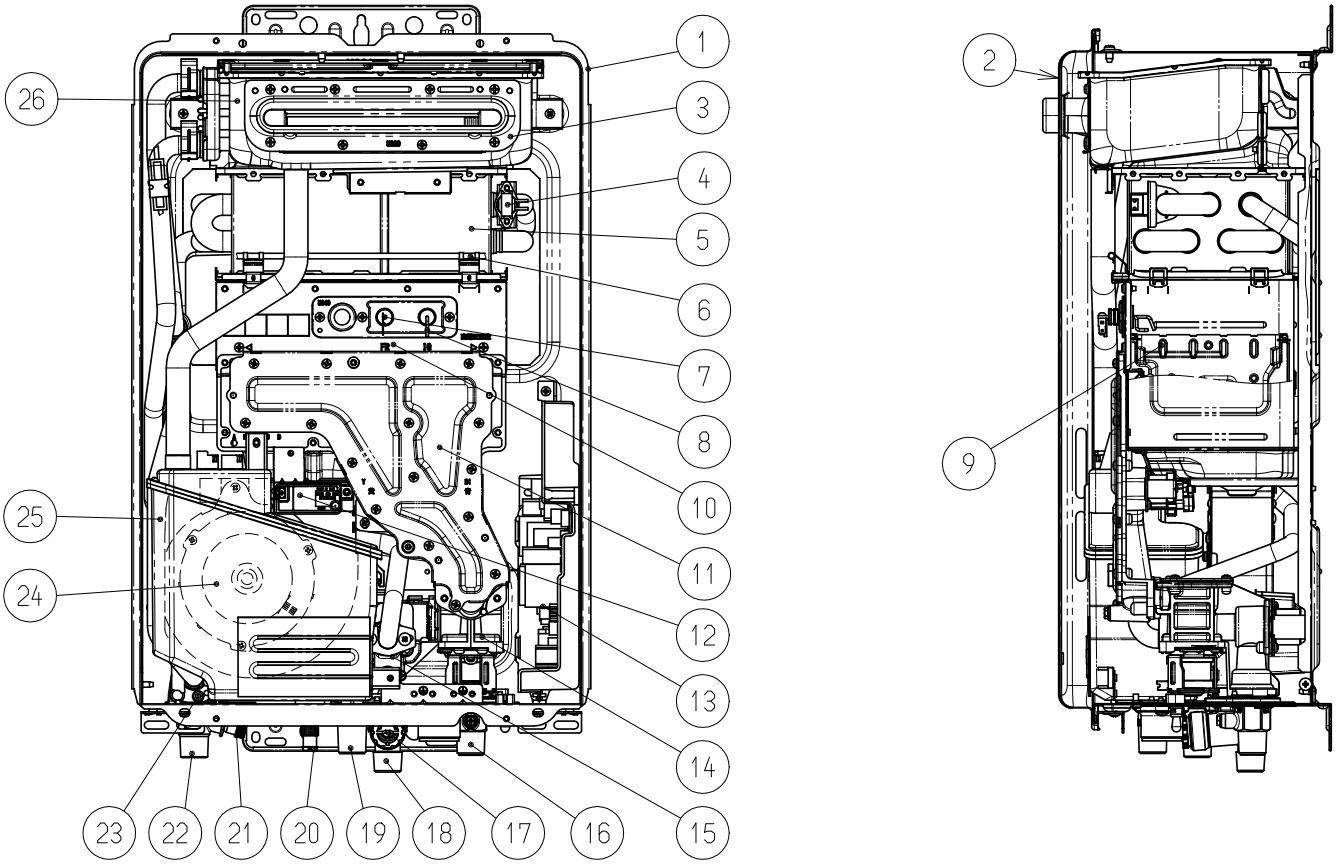
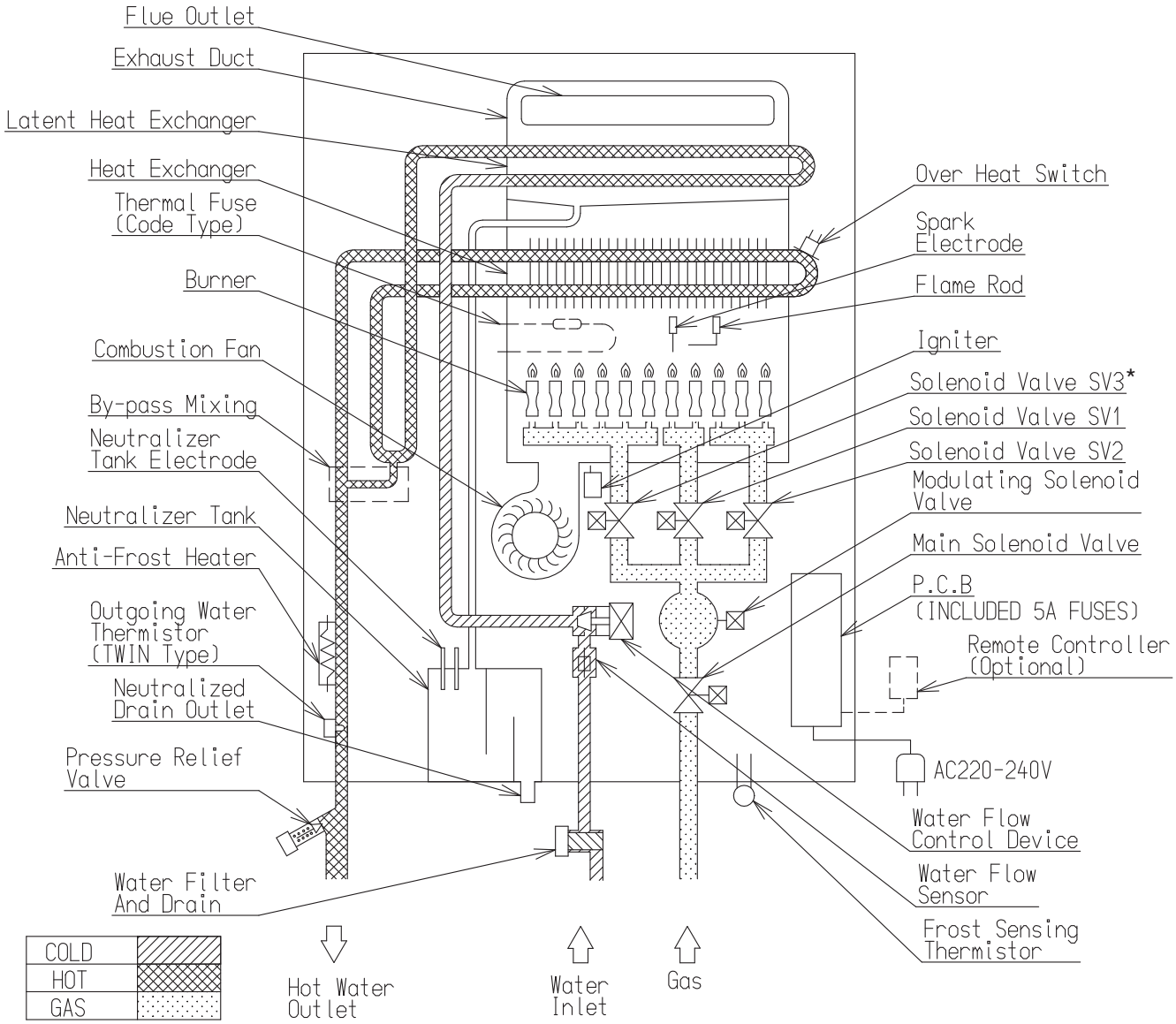


Illustration varies depending on model.

NO.	NAME	NO.	NAME
1	CASING ASS'Y	14	GAS CONTROL ASS'Y
2	FRONT PANEL ASS'Y	15	WATER FLOW CONTROL DEVICE
3	FLUE OUTLET	16	GAS CONNECTION
4	OVERHEAT SWITCH	17	WATER FILTER ASS'Y
5	HEAT EXCHANGER	18	WATER INLET
6	THERMAL FUSE	19	NEUTRALISED DRAIN OUTLET
7	FLAME ROD	20	NEUTRALISER TANK DRAIN VALVE
8	ELECTRODE	21	DRAIN VALVE
9	MAIN BURNER	22	HOT WATER OUTLET
10	COMBUSTION CHAMBER FRONT PLATE ASS'Y	23	OUTGOING WATER THERMISTOR
11	MANIFOLD ASS'Y	24	COMBUSTION FAN
12	IGNITER	25	NEUTRALISER TANK
13	P.C.B.	26	LATENT HEAT EXCHANGER

2.5 GENERAL SCHEME AND OPERATION PRINCIPLES



*Only for REU-E2426W-E model.

2.5.1 OPERATION PRINCIPLES

Ignition

Press ON/OFF Button of Remote Controller to turn on unit and the remote controller display and priority LED 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 compares the measured temperature to the temperature setpoint. If required 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 and the burner is lit by the sparking igniter.

Temperature control

Once the flame rod proves ignition the Infinity modulates by controlling the gas rate, combustion air, and water flow to precisely heat the water. This control is done by measuring the outgoing water temperature with a Thermistor.

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.

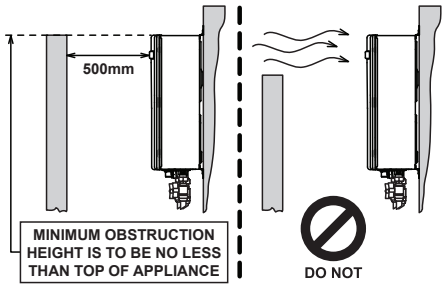
2.6 INSTALLATION

2.6.1 CLEARANCE

The appliance must be in an accessible location. Sufficient clearances shall allow access to, and removal of, all serviceable components.

A minimum horizontal clearance of 500mm between a building structure and obstruction facing the terminal.

For correct operation of Rinnai external continuous flow water heaters such a building structure **MUST** 'obstruct' the full front cover height of the appliance (appliance dimensions, refer to "Dimensions"section), or extend vertically above and below the front cover as shown a side.



IMPORTANT

There must be no partial obstructions to the front cover of the appliance or any other parts of the appliance casing. This will avoid the appliance failing to operate under windy conditions.

Description (mm)	Flammable products	Non-flammable products
Top	152	51
Back	0	0
Front	152	152
Side	51	13
Bottom	305	305
Front Exhaust	0	0

2.6.2 WATER CONNECTION

Water pipe sizing and layout should be designed correctly to ensure the given water flows from the appliance are available.

Prior to connect the water heater and not to invalidate the warranty, water line must be cleaned to remove any impurity or production residue that could cause product malfunction.

The water connections are 20A "male" type (R3/4"), except for the water connections of the E16, which are 15A(R1/2") male.

Where the water supply pressure exceeds 10bar, an approved pressure reducing device must be fit at the inlet of the appliance. To achieve the maximum rated flow a minimum water supply pressure of 1.4bar is required at the appliance inlet. The unit will operate at lower supply pressures but the maximum flow rate may not be achieved. Most installations will use high temperature setpoints which will reduce the available flow rate and heat exchanger pressure drop, and therefore less pressure will be required at the inlet. Contact Rinnai or your supplier for further instruction.

Connect the hot and cold water supply pipes. 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).

If the heater is in a hard water area a suitable water conditioning system must be installed to prevent the build up of limescale 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

All water pipework should be insulated to optimise maximum performance and energy efficiency.

2.6.3 GAS CONNECTION

Prior to connect the water heater and not to invalidate the warranty, gas line must be cleaned to remove any impurity or production residue that could cause product malfunction.

Make sure that the appliance is set up for the correct type of gas.

The gas connection is 20A “male” type (R3/4”).

The size of the gas meter (or regulator) and pipework must be sufficient for all appliances on the main. The gas supply must be designed following the regulations in force and must provide the suitable dynamic pressure according to the appliance nominal power. Gas pipe sizing must consider the gas input to this appliance as well as all the other gas appliances in the premises. Sufficient gas must be available at the appliance if correct operation is to be expected; insufficient gas will damage the unit.

The available gas pressure affects directly the power output and can result in discomfort if not correct. If the gas pipe sizing is insufficient the customer will not get the full performance benefit.

An approved gas isolation valve must be fitted at the gas inlet. A union or release fitting should be installed after the isolation valve in case of emergency and for maintenance.

Fuel quality: the appliance is designed to operate with a pure gas, otherwise an appropriate filter must be installed on the gas line to restore the necessary quality

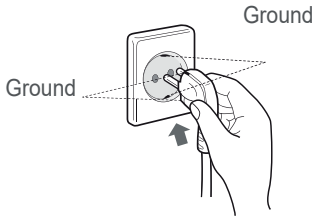
LPG tank: inert gas residues (e.g. nitrogen, etc...) could remain inside new tanks resulting in a poor gas mixture and could cause malfunction or product failure. The gases in the mixture could become stratified during storage, causing the variation of the fuel calorific value and altering the appliance efficiency.e

2.6.4 ELECTRICAL CONNECTION

Connect the appliance to a 230V ±10% / 50Hz power supply. Do not use water or gas lines to ground the system.

The electric safety is guaranteed only when the appliance is properly grounded and the grounding system has been realized following all the safety prescriptions provided for by law.

Make sure that the electric system is suitable for the maximum power consumption (indicated on the data plate on the product side) and is provided with a circuit breaker with overvoltage category III.



The appliance is equipped with power cord and plug: if the cable has to be replaced contact qualified professionals and use original Rinnai parts only not to invalidate the warranty.

Do not use adaptors, multiple socket or extension cords.

The water heater complies with the following European directives:

- “Low voltage” directive;
- “Electromagnetic compatibility” directive.

The appliance is IPx5D rated.

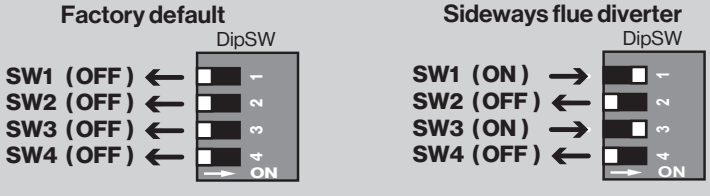
2.6.5 CONTROL BOARD DIPSWITCH SETTING

Improper setting of the switches will cause the appliance to operate incorrectly

WARNING

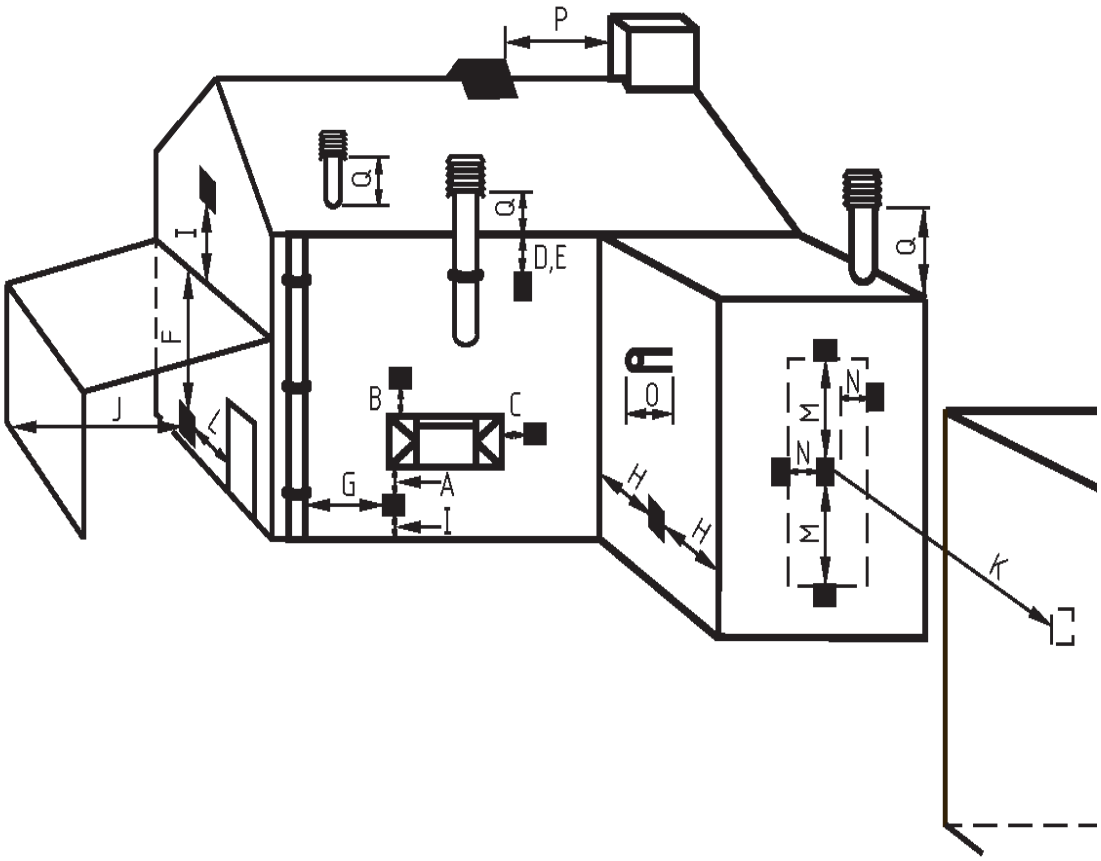
The switches of the control board are set to OFF (left position) as default setting.

When a sideways flue diverter is fitted the installer must set switches SW1 and SW3 to ON (right position).



2.6.6 APPLIANCE LOCATION

The External appliance should be considered as a flue terminal. There is guidance below taken from BS5440 regarding positioning and distances however this is for guidenance only. The current standards should always be consulted before installtion incase any updates have been made to the standards,

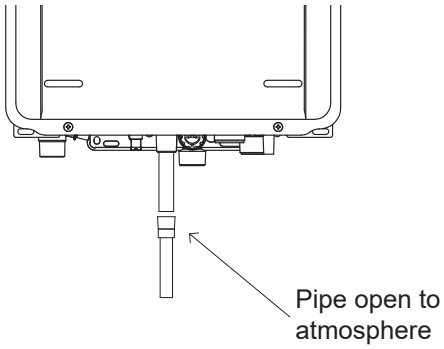


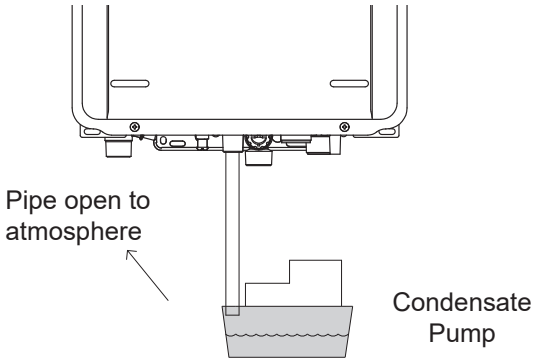
Symbol	Terminal Position	Dimensions
A	Directly below an opening, air brick, opening windows, etc.	300mm
B	Above an opening, air brick, opening window, etc.	300mm
C	Horizontally to an opening, air brick, opening window, etc.	300mm
D	Below plastic gutters, soil pipes, drain pipes, etc.	75mm
E	Below eaves	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 etc) into the dwelling	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	0mm
P	From a vertical structure on the roof	N/A
Q	Above intersection with the roof	300mm

2.6.7 CONDENSATE GUIDELINES

To prevent condensate damage, follow these guidelines:

- Do not plumb the condensate drain with the pressure relief valve; both must be plumbed independently to drain.
- All condensate must drain and be disposed of according to local codes.
- Use only corrosion resistant materials for the condensate drain lines such as PVC pipe or plastic hose.
- The condensate drain pipe (along its entire length) must be at least the same diameter as the drain line (1/2”).
- For external (outdoor) installations, to minimize freezing of the condensate, run the condensate drain line through an interior wall or between insulation and an interior wall.
- Slope the condensate drain lines toward the inside floor drain or condensate pump.
- If a floor drain is not available or the drain is above the level of the condensate drain, a condensate pump should be installed.
- The condensate drain pipe should be as short as possible and have a downward pitch.
- The condensate trap will automatically prime (self-prime) during operation of the water heater as condensate forms. Condensate draining from the water heater indicates that the trap is full and that there is no blockage in the condensate drain. It is not necessary to add water to the condensate trap.





To connect the condensate drain pipe:

- Apply thread sealant to R1/2 condensate drain point.
- Thread R1/2 fitting onto condensate drain port.

IMPORTANT

The end of the condensate drain pipe should be open to the atmosphere.
The end should not be under water or other substances.

WARNING

DO NOT connect the condensate drain line with an air conditioning evaporator coil drain.
Water heaters have an integrated condensate trap. DO NOT install an external condensate trap.

2.7 WATER CONTROL

2.7.1 GENERAL INFORMATION

Only one MC model water controller can be designated as the 'Master' water controller. This water controller is normally used in the kitchen and usually has a maximum temperature of 55°C, which is sufficient for almost all kitchen applications. Temperatures higher than 55°C are possible but usually unnecessary and will result in higher gas use and increase the risk of burns.
The remaining water controllers are designated 'sub' controllers and are for use in bathrooms, toilets and laundries. The temperature limit for all 'Sub' controllers is always 50°C to minimise the risk of burns in these areas.
An installation can have up to 4 universal MC-601 water controllers.

Deluxe kitchen and deluxe bathroom water controllers are also available and various combinations of universal and the deluxe water controllers can be used with the following limitations:

- A maximum of 4 water controllers can be fitted.
- Only **ONE** master controller can be installed. This can be a deluxe kitchen or an universal (when programmed as a master controller) water controller.

IMPORTANT

When a deluxe kitchen is fitted it will always function as a master controller, this is the default setting and can not be changed.

- Up to **TWO** deluxe bathroom water controllers can be installed.
- The **FOURTH** water controller in any installation must be an universal water controller.

For more information regarding deluxe kitchen and bathroom water controllers, contact Rinnai or visit: www.rinnai.it.

Location

NOTE

- **Do not install water controllers near a heat source, such as a cook top, stove or oven. Heat, steam, smoke and hot oil may cause damage.**
- **Do not install water controllers outdoors unless protection from water/dust ingress and sunlight are provided.**
- **The water controller set as the master water controller must not be installed in a bathroom.**
- **Do not install water controllers in direct sunlight.**
- **Do not install water controllers against a metal wall unless the wall is earthed.**
- **Water controllers must not be installed where chemicals such as benzene, alcohol, turpentine, hydrogen sulphide, ammonia, chlorine or other similar chemicals are in use.**

The Water controller is a water resistant device, however excessive exposure to water may result in damage to the water controller. Durability is improved when positioned outside the shower recess.

- **Avoid direct exposure to water or steam as these conditions may cause a malfunction.**
- **Water controllers must be installed in shaded and clean locations. They should be fitted out of reach of children (suggested height from floor to be at least 1.5m). Water controllers must be installed at least 40cm above the highest part of a sink, basin or bath.**
- **When cleaning your water controller use only a damp cloth and a mild detergent.**

Communication cables

Wired water controllers operate at an extra low voltage (12 Volts DC) which is supplied from the water heater, a 10m long communication cable is supplied for connection to the water heater. It is possible to prolongue the communication cable by using a similar one, up to a total max length of 50m. It is not recommended to install the communication cable near by house electric cables: interfearence may easily happen causing system malfunctions. In these cases we recommend to use proper shieldied cables. When connecting the cables to water controller or heater the polarity is not important: either colour wire can be connected to either terminal.

Installation procedure (appliance side):

NOTE

DO NOT attempt to connect cables to the water heater unless the electric power is switched 'off' otherwise damage to electrical components may occur.

1. Isolate the electric power supply by switching the power point off and removing the power plug of the water heater from the electric power socket;
2. Remove the front panel:
3. Pass sufficient cable through the cable access (Fig. 1) and plug in to PCB connection Ⓒ;
4. Connect the other terminal of the cable Ⓐ to the remote control connector Ⓑ (Fig. 3);
5. Fix the front panel back.

When connecting more remote controllers it is necessary to cut the cable Ⓐ and to use a common electrical terminal block (optional).

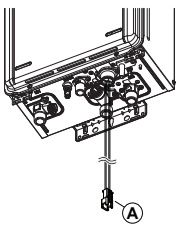


Fig. 1

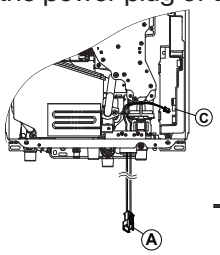


Fig. 2

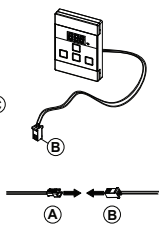


Fig. 3

WARNING

The additional remote controls must be electrically connected in parallel: a series connection causes the system to malfunction and can damage the components of the appliance.

2.7.2 UNIVERSAL WATER CONTROLLER (MC-601) INSTALLATION

1. Determine the most suitable position.
2. Mark and drill 3 holes (mounting and cable access) for water controller dimensions.

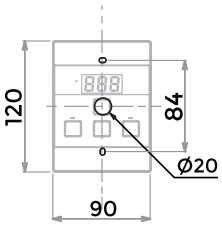


Fig. 1

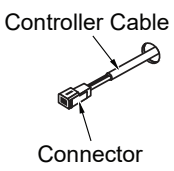


Fig. 2

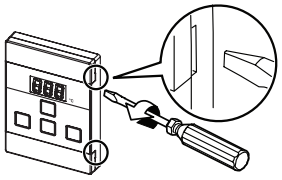


Fig. 3

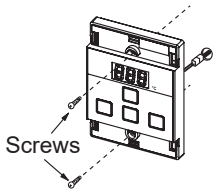
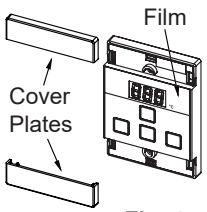


Fig. 4



3. When running cable through the access hole ensure the connector end of the cable is located nearest to the water controller (Fig. 1).
4. Carefully remove the cover plates from the water controller, using a screw driver (Fig. 2).
5. Connect the cable to the water controller. Feed any excess cable lengths into the wall cavity to avoid the pinching of cables between the wall and the water controller.
6. Fix the water controller to the wall using the appropriate fixings (Fig. 3).
7. Remove protective film from the water controller face and replace the cover plates (Fig. 4).

Additional programming and activation equirements

QUESTION

1 Are there four water controllers connected?

IF NO:	You have three (or fewer) water controllers, go to question 2.
IF YES:	You will need to activate the forth water controller as follows:
STEP 1:	For the water controller in the kitchen only, press and hold the 'Priority transfer' and 'On/Off' buttons simultaneously (Fig. 3) until a 'beep' is heard (approximately 5 seconds).
STEP 2:	Check that the display on all four controllers is lit and displaying a temperature when 'switched on'.If any one of the controllers displays two dashes (see Fig. 2) repeat from STEP 1. This completes the activation procedure for the fourth controller, you may ignore Question 2.

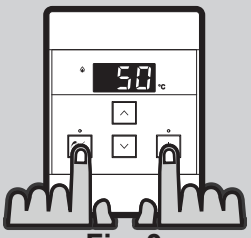


Fig. 3

QUESTION

2 Is the water heater marked to state it delivers water not exceeding 50°C?

IF YES:	No further action required.
IF NO:	You will need to program the kitchen water controller to enable selection of temperatures higher than 50°C.
STEP 1:	For the water controller in the kitchen only, press and hold the 'Priority transfer' and 'On/Off' buttons simultaneously (Fig. 3) until a 'beep' is heard (approximately 5 seconds).
STEP 2:	When the water controller fitted in the kitchen is switched On, it should be possible to select temperatures higher than 50°C. If not, repeat STEP 1.

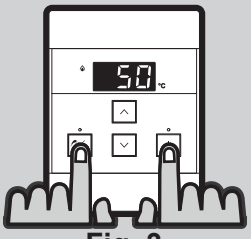


Fig. 3

NOTE

If the water controller in the kitchen is replaced, repeat STEP 1 for the replacement water controller.

If the water controller in the kitchen is swapped with another water controller (for example, the water controller fitted in a bathroom), repeat STEP 1 for the water controller moved from the kitchen to the bathroom. Then perform STEP 1 for the water controller moved from bathroom to the kitchen.

2.8 COMMISSIONING

- Make sure the water heater is not subject to corrosive compounds in the air.
- Check the water supply does not contain chemicals or exceeds total hardness that will damage the heat exchanger.
- Verify the clearances from the water heater and from vent termination/air intake unit 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.
- Ensure that a manual gas control valve has been placed in the gas (& water) line to the water heater.
- Before final connection of the water heater purge gas, hot water and cold water supply lines. Debris or swarf in either the gas or water supplies may cause damage.
- 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.
- Turn on gas and cold water supplies and test for water leaks, gas escapes and condensate drain near the unit.
- Ensure that hot and cold water lines are not crossed to the unit and are leak free.

IMPORTANT

Remove front panel and confirm the control board dipswitch settings are set to the correct positions as required: factory default or sideways flue diverter fitted or high altitude.

Fix the front panel back.

- Isolate gas supply. Remove test point screw located on the gas inlet connection and attach pressure gauge.
- Turn the power 'on' at the power point socket and turn on gas.
- If water controllers are fitted, ensure they are 'ON', with the maximum delivery temperature selected and open all available hot water outlets.
- If water controllers are not fitted, simply open all available hot water outlets.

CAUTION

Ensure building occupants do not have access to hot water outlets during this procedure.

- Operate all other gas appliances at their maximum gas rate, in accordance with manufacturers instructions.
- With all gas appliances in operation at maximum gas rate, the pressure should read between 20mbar on natural gas. On LPG the pressure should be 30mbar/37mbar propane. If the pressure is lower, the gas supply is inadequate and the appliance will not operate to specification. It is the Installers responsibility to check the gas meter, service regulator and pipe work for correct operation/sizing and rectify as required.

NOTE

The gas regulator on the appliance is electronically controlled and factory pre-set. Under normal circumstances it does not need adjustment during installation.

- Close hot water taps including the shower.
- Inspect and clean the strainer located on the cold water inlet connection. This procedure may need to be repeated to ensure the strainer remains clear, especially on new installations.
- If water controllers are fitted, it is necessary to test their operation through the complete range of functions.
- Confirm the hot water delivery temperature using a thermometer. If controllers are fitted, ensure temperatures exceeding 50°C cannot be selected on bathroom or ensuite controllers.
- After testing is completed, explain to the householder the functions and operation of the water heater and water controllers (if fitted). Remind the customer to complete the warranty card and forward to Rinnai.
- Inform customer on use of an adequate water softening system to prevent damages to heat exchanger.
- Leave the manual to customer.
- If the water heater is not needed for immediate use, then drain the water from the heat exchanger.

2.9 BENCHMARK COMMISSIONING SHEET

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.

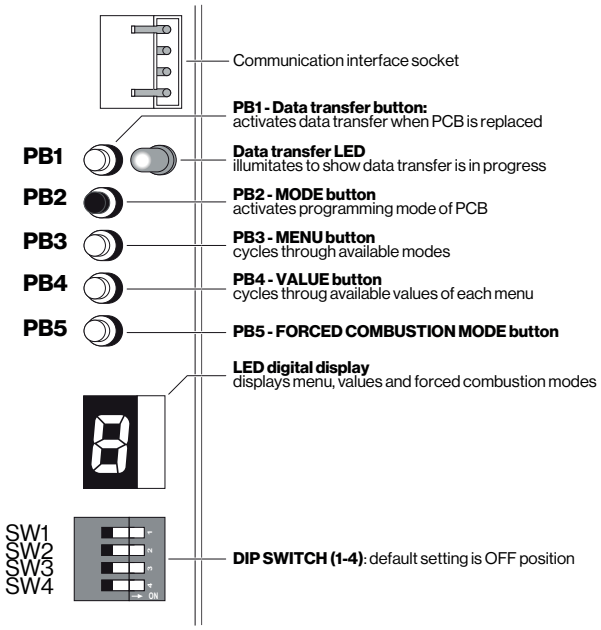
benchmark COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

3. MAINTENANCE INSTRUCTIONS

The following section provides specific instructions for proper maintenance of the product.
This section is intended for the use by qualified technical personnel.

3.1 PCB INTERFACE LAYOUT AND FUNCTIONS

Operation of the PCB interface



To **enter into the PCB's programming mode** press **PB2** until the LED digital display shows "1" (Gas type); the current set value of "menu 1" will be displayed shortly afterwards (the possible values of "menu 1" are: "A", "b", "C" or "d").

To **modify the value** of the menu press **PB4**: each press of the button will select the next available value.

To **switch to a different menu**, press **PB3**: each press of the button will select the next available menu.

To **exit from the programming mode** press **PB2** until the LED display goes blank.

By pressing **PB5** the display shows "**L**" (forced low combustion mode): by pressing **PB3** or **PB4** it is possible to increase or reduce the min gas pressure.

Pressing **PB5** again the display shows "**H**" (forced high combustion mode): by pressing **PB3** or **PB4** it is possible to increase or reduce the max gas pressure.

Push button settings

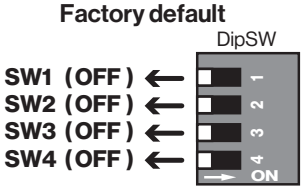
No.	Menu Select	Value Select						
		A	b	C	d	E	F	H
1	Gas type	G31	G30	G20	G230	G25		
2	Model setting [1]		2024		2426	1620		
3	Max temperature [2]	55°C*	65°C	60°C	50°C	42°C	40°C	
4	Warm water inlet [3]	+3°C*	+6°C					
5	Auto reset [4]	Off	On					
6	Temp. adjustment [5]	0°C*	+1°C	+2°C	+3°C			
8	Remote Controller Safe Program [6]	On*	Off					
P	Post fan timer	65 sec.*	120 sec.	240 sec.	480 sec.	15 sec.		
U	Anti-dew condensation [7]	Measure 1*	Off	Measure 2	Measure 3			

* Factory setting
[1] This setting is programmed in factory and cannot be changed.
[2] This setting can modify the max temperature selection of the water heater; default setting is 55°C.
[3] This setting can modify normal operation of water heater to keep heating water until outgoing temperature is "Tset+6°C"; default setting is +3°C.
[4] When water controller is switched on and the "auto reset" function is activated (b), the water heater automatically switches on and auto sets at temperature selected before the balck-out happens.
[5] This setting increases the water temperature (in case of heat losses due to lack of insulation of water pipes); default setting is 0°C: the temperature shown on controller is the set temperature, not changed by this value.
[6] If this option is active (A), when remote is disconnected from appliance, the hot water temperature turns to 42°C.
[7] Measure 1 - If the outside temp is above 15°C, post fan timer is 65 sec. If the outside temp is less than 15°C, post fan timer is 120 sec.
Measure 2 - Post fan timer is 240 sec. and post fan revolution is increased.
Measure 3 - Post fan timer is 480 sec. and post fan revolution is increased.

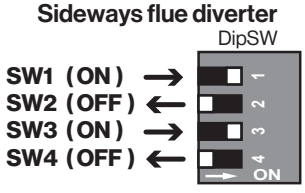
Dip switch SW(4p) settings

The switches of the control board are set to **OFF** (left position) as default setting.
When a sideways flue diverter is fitted the installer must set switches SW1 and SW3 to **ON** (right position).

Factory default



Sideways flue diverter



3.2 GAS CONVERSION AND PRESSURE ADJUSTMENT

IMPORTANT

Only qualified professionals are authorized to carry out the operations described.

The product warranty does not cover any alterations due to non-qualified personnel.

The min and max gas operating pressures are factory pre-set: under normal circumstances any adjustment is not required during installation.

The gas conversion procedure is made of three steps:

- gas manifold change;
- selection of the different type of gas on PCB;
- verify and adjustment of the min and max gas pressures.

1. Turn off the gas and power and remove the front cover. Make sure that dip switches SW1 and SW3 on PCB are set to 'Off' position (ignore SW2 and SW4 set position).
2. Disconnect the ignitor from manifold ("I" - Fig.1).
3. Replace the gas manifold with the new suitable component (the manifold is fastened by the screws indicated with "Y" - Fig.1). Manifold's gas type can be checked by the letter marked as in Fig.2.
4. Turn on the power and check the gas type on PCB entering in the programming mode by pressing PB2 until the LED display of PCB shows 1: the current gas type will be dispalyed shortly afterwards.
5. Press PB4 to modify gas type accordingly to new gas type: A=Propane, b=LPG, C=NG, d=air/propane.
6. Exit programming mode pressing PB2 until the LED digital display goes blank.
7. Attach the digital manometer to the test point located on the gas valve (Fig.3).
8. Turn on the gas. If remote controllers are fitted, turn the unit on at the kitchen controller: select the maximum delivery temperature and fully open all hot water taps including the shower. Let the water run for a short period to allow the flow rate and temperature to stabilise. Ensure the building occupants do not have access to the hot water outlets during this procedure.
9. Set the water heater to forced low combustion by pressing PB5 until the LED display shows "L". Check the gas pressure at manometer and adjust it if required: to raise the gas pressure press PB3; to lower it press PB4.
10. Set the water heater to forced high combustion by pressing PB5 until the LED diplay shows "H". Check the gas pressure at manometer and adjust it if required: to raise the gas pressure press PB3; to lower it press PB4.
11. Set the water heater back to normal combustion by pressing PB5 until the LED display goes blank.
12. Close the hot water taps. Remove the manometer and replace the test point screw.
13. Operate and check for gas leaks at the test point. Set dip switches SW1 and SW3 on PCB to original position.
14. Fix the front cover of the appliance and update the dataplate to the new gas type.

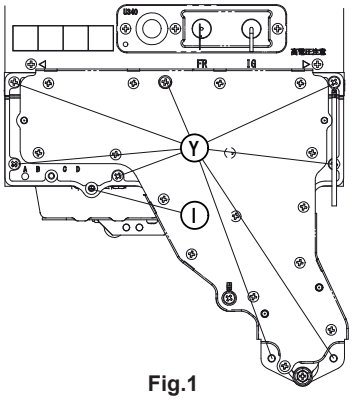


Fig.1

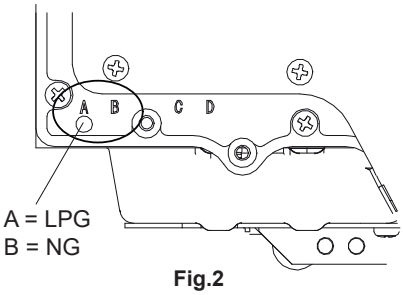


Fig.2

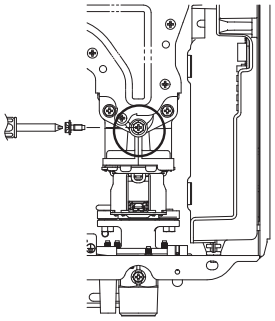


Fig.3

Gas pressures must be adjusted when front panel is removed and combustion mode is forced.

When measuring combustion or gas consumption, be sure, instead, that the water heater operates in normal mode, front panel is closed and

- (Max) remote controller set 60°C + max flowrate (full open shower and taps)

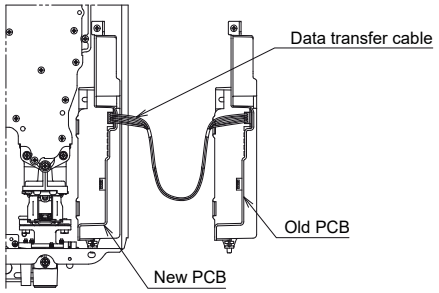
- (Min) remote controller set 37°C + 3l/min flowrate.

(When combustion is in forced mode, fan is limited to 95% of normal capacity: then combustion is bad)

3.3 DATA TRANSFER BETWEEN PCB'S

If a new PCB needs replacing, you can transfer data (gas type, model type, gas pressure and error history) from the existing PCB to the new one by doing the following:

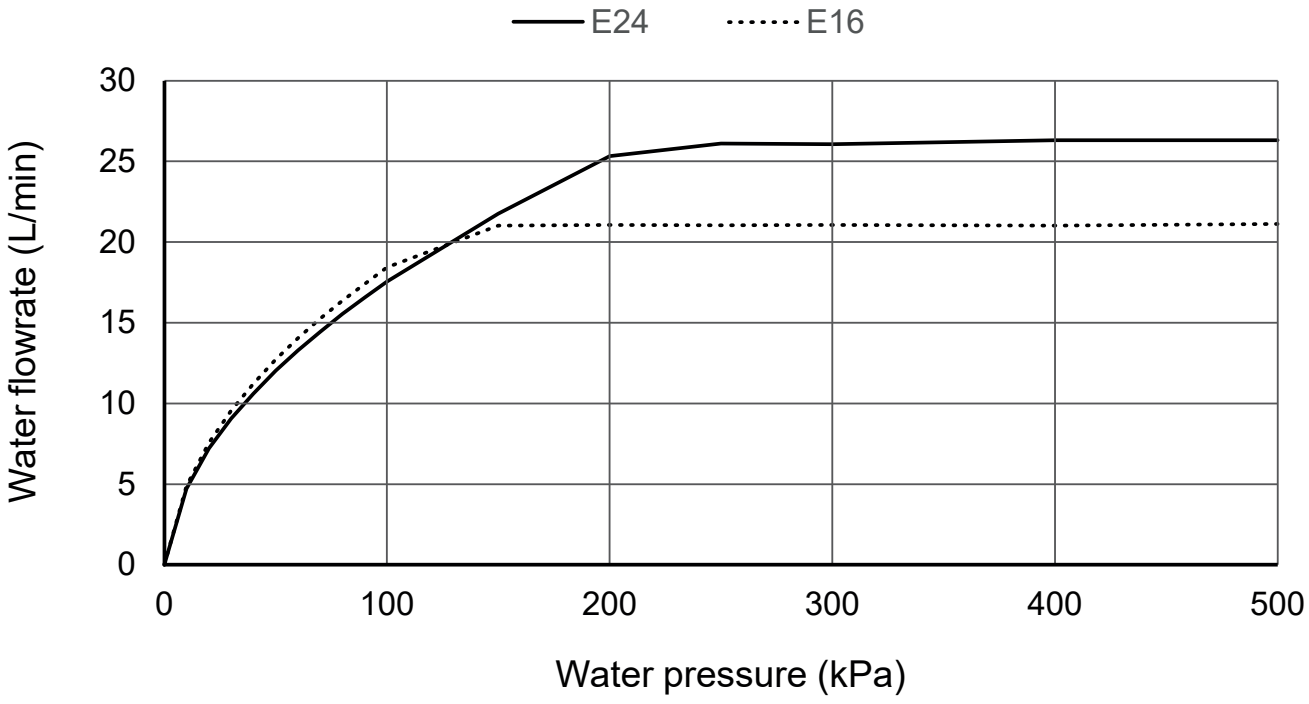
1. Check the current settings and note them on a piece of paper.
2. Adjust the dip switch settings on the new PCB according to the old one.
3. Unplug the power supply and remove the existing PCB.
4. Fit the new PCB and conect all the wiring harnesses
5. Ensure it is earthed correctly.
6. Connect the new board to the old board using the data transfer cable provided with the new PCB.
7. Reconnect the power supply and push PB1 button of the new PCB.
8. The LED goes green: it means that the data transfer was successful. This will stay green for five minutes or until the PB1 button is pressed again.
9. If the data transfer is unsuccessful the LED will start flashing.
10. Turn off the power supply and remove the data transfer cable.



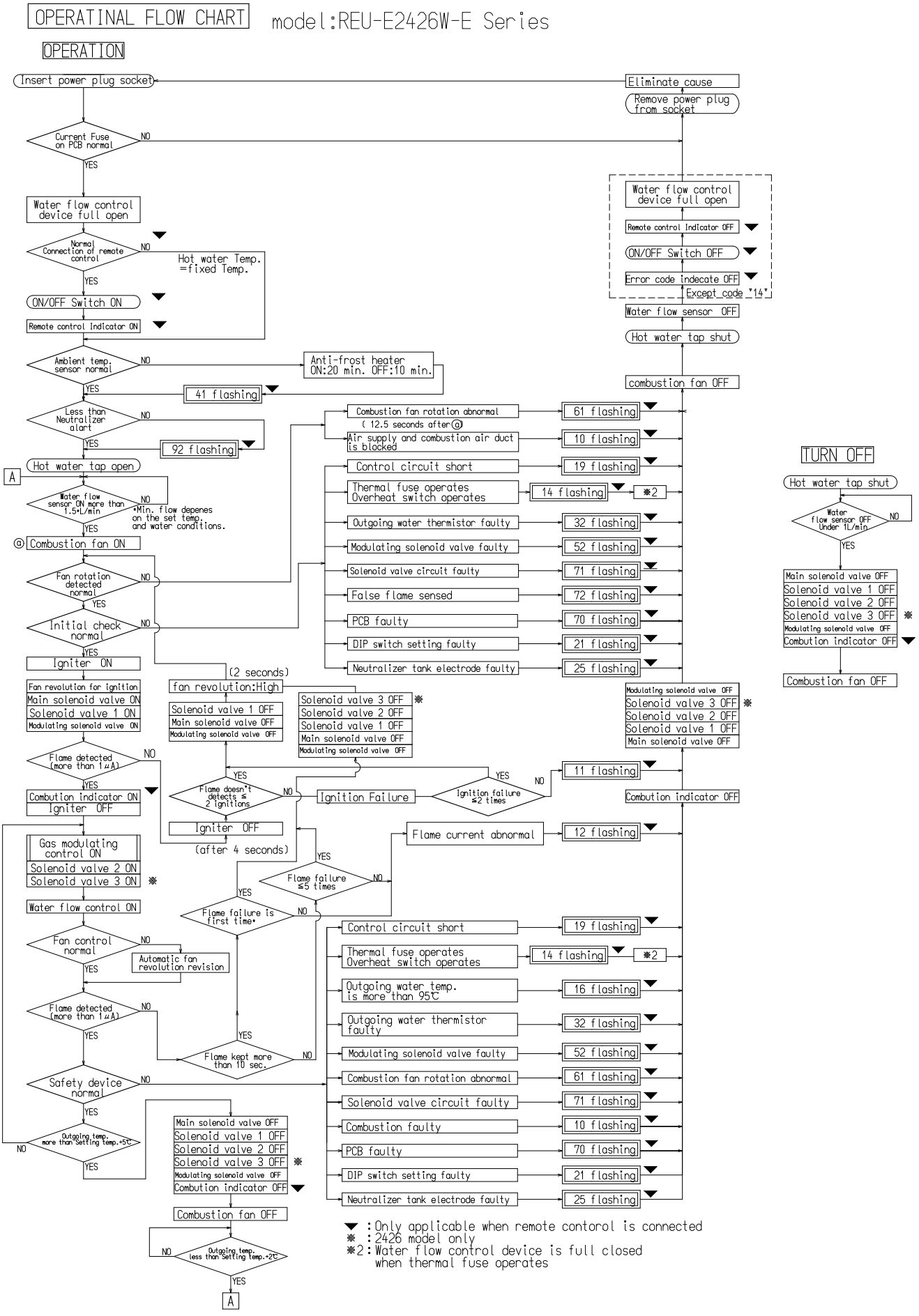
If the data transfer was not successful set the PCB manually according to the settings copied at the beginning of this procedure. If maually set, the max and min gas operating pressures must be checked.

3.4 WATER FLOW CHART

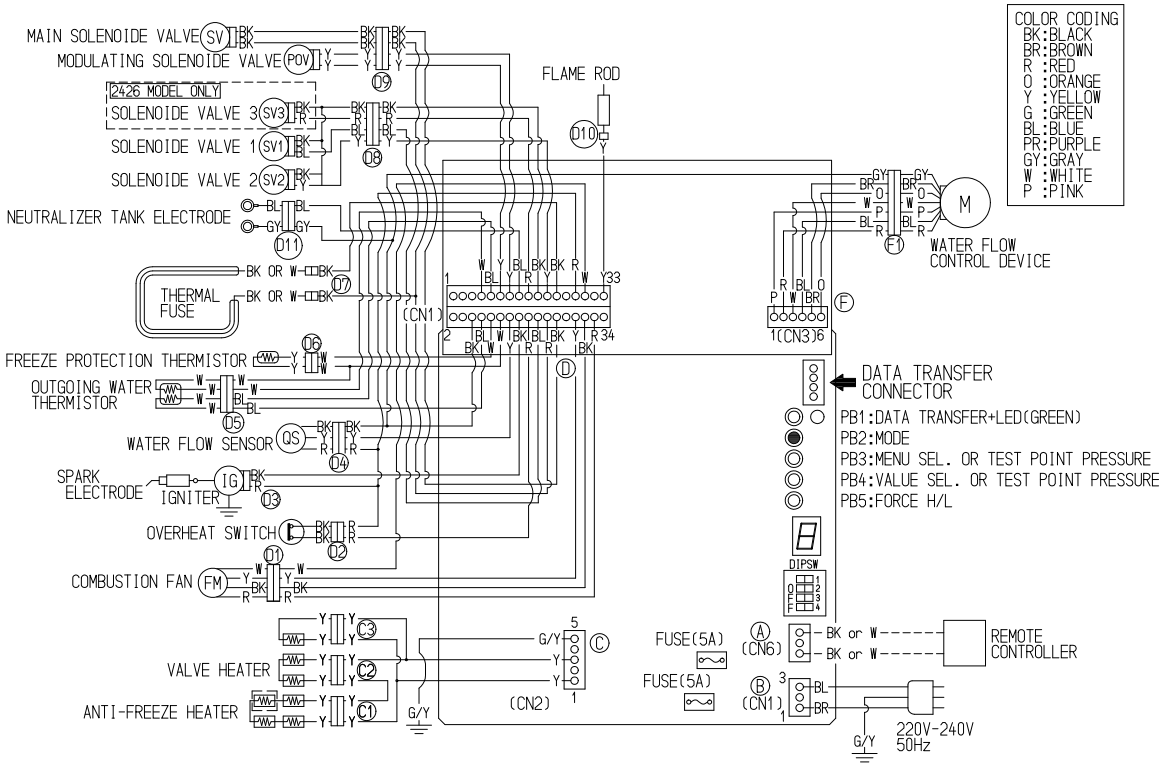
Water pressure-flow diagram:



3.5 FLOW CHART



3.6 WIRING DIAGRAM AND DIAGNOSTIC POINTS



COMPONENT	MEASUREMENT POINT		RANGE OF VALUE
	CN/Con.re	WIRE COLOUR	
MAIN POWER CODE	B	BR-BL	AC198-264V
REMOTE CONTROLLER	A	W-W	DC11-14V
ANTI-FREEZE HEATER	C1	Y-Y	446-514Ω
VALVE HEATER	C2	Y-Y	139-161Ω
NEUTRALIZER TANK HEATER	C3	Y-Y	6472-7517Ω
IGNITER	D3	R-BK	DC11-14V (DURING IGNITION)
FLAME ROD	D10	Y-BODY (GND)	OVER AC2V (DURING OPERATION)
THERMAL FUSE	D7	W-W or BK-BK	BELOW DC1V, BELOW 1Ω
OVERHEAT SWITCH	D2	BK-BK	BELOW DC1V, BELOW 1Ω
MODULATING SOLENOID VALVE	D9	Y-Y	DC2-17V / 10-20Ω (DURING OPERATION)
MAIN SOLENOID VALVE		BK-BK	DC8-13.5V / 15-25Ω (DURING OPERATION)
SOLENOID VALVE 1	D8	BL-BK	DC8-13.5V /20-30Ω (DURING OPERATION)
SOLENOID VALVE 2		Y-BK	
SOLENOID VALVE 3 (2426 model only)		R-BK	
OUTGOING WATER TH1	D5	W-W (No. 1 , 2)	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 (DISCONNECT THE CONNECTOR AND MEASURE AT A THERMISTOR SIDE)
OUTGOING WATER TH2		W-W (No. 3, 4)	
FREEZE PROTECTION THERMISTOR	D6	Y-Y	0°C : 38-43kΩ 10°C : 22-26kΩ 20°C : 14-17kΩ (DISCONNECT THE CONNECTOR AND MEASURE AT A THERMISTOR SIDE)
WATER FLOW SENSOR	D4	R-BK (GND)	DC11-14V
		Y-BK (GND)	DC4-7V (PULS. 6-200HZ) (DURING OPERATION)
WATER FLOW CONTROL DEVICE	F1	R-P, BL-W	40-60Ω
		O-GY	DC11-14V
		BR-GY	BELOW DC1V (FULL OPEN, FULL COLSE LIMITER ON) DC4-6V (LIMITER OFF)
COMBUSTION FAN	D1	R-BK (GND)	DC7-48V (DURING OPERATION)
		Y-BK (GND)	DC11-14V
		W-BK (GND)	DC2-14V (DURING OPERATION)
NEUTRALIZER TANK ELECTRODE	D11	BL-GY (GND)	MORE THAN DC8V (NORMAL) LESS THAN DC3V (ABNORMAL)

3.7 MAINTENANCE

The appliance must be inspected, repaired and maintained by a licensed professional. The licensed professional must verify proper operation after servicing.

For more detailed instructions on maintenance contact Rinnai or your supplier.

Cleaning

It is imperative that control compartments, burners, and circulating air passageways of the appliance be kept clean. Clean as follows:

1. Turn off and disconnect electrical power. Allow to cool.
2. Remove the front panel by removing 4 screws.
3. Use pressurized air to remove dust from the main burner, heat exchanger, and fan blades. Do not use a wet cloth or spray cleaners on the burner. Do not use volatile substances such as benzene and thinners. They may ignite or fade the paint.
4. Use soft dry cloth to wipe cabinet.
5. When opening the combustion chamber for cleaning, the gasket needs to be renewed.

Vent System

The vent system should be inspected for blockages or damage.

Motors

Motors are permanently lubricated and do not need periodic lubrication. However you must keep fan and motor free of dust and dirt by cleaning.

Temperature Controller

Use a soft damp cloth to clean the temperature controller. Do not use solvents.

Snow Accumulation

Keep the area around flue terminal free of snow and ice. The appliance will not function properly if the intake air or exhaust is impeded (blocked or partially blocked) by obstructions.

Clean the water filter

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.

Visual Inspection of Flame

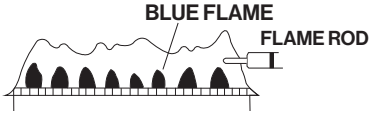
Verify proper operation after servicing.

The burner must flame evenly over the entire surface when operating correctly. The flame must burn with a clear, blue, stable flame. See the parts breakdown of the burner for the location of the view ports. The flame pattern should be as shown in the figures a side.

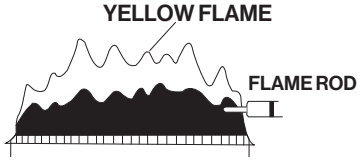
VISUAL CHECK

FRONT VIEW

SATISFACTORY



UNSATISFACTORY



3.7.1 FLUSHING THE HEAT EXCHANGER

The procedure for flushing the exchanger is shown below.

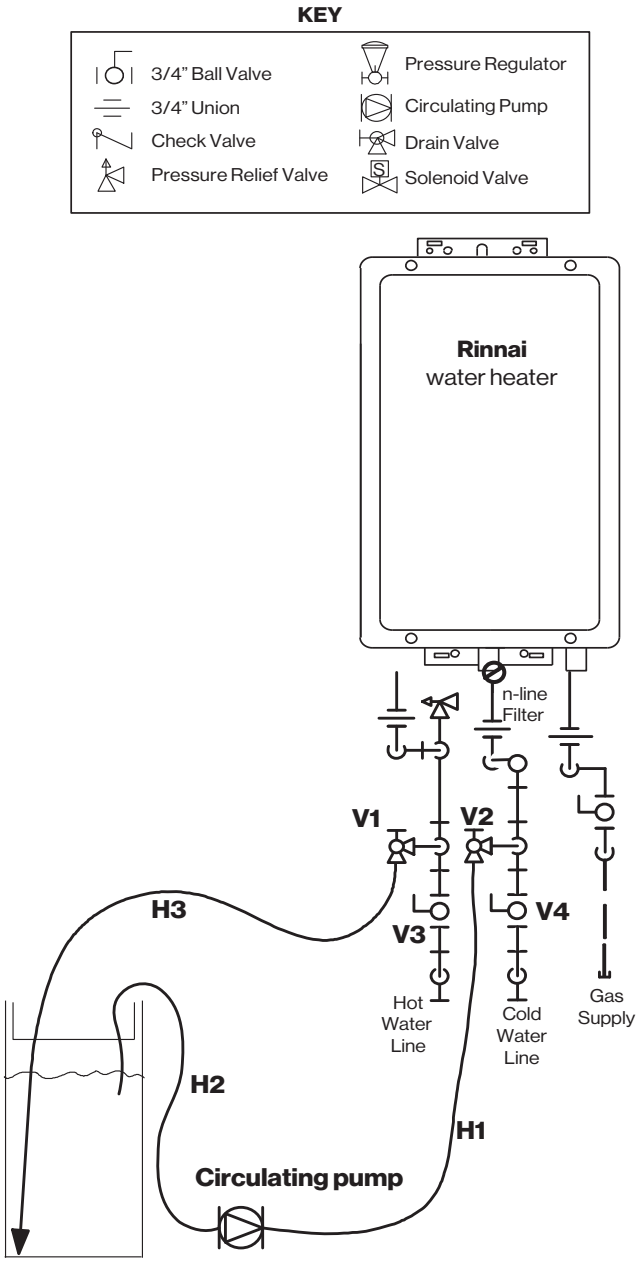
Flushing the heat exchanger removes the limescale deposits that form with the use of the appliance.

The formation of limescale deposits depends on various factors: the quality of the water used, the temperature of use, and the frequency of use.

Before washing, carefully inspect the heat exchanger to check for any breakage or leaks: do not wash if the exchanger is damaged.

Flushing the heat exchanger procedure:

1. Disconnect electrical power to the water heater.
2. Close the shutoff valves on both the hot water and cold water lines (V3 and V4).
3. Connect pump outlet hose (H1) to the cold water line at service valve (V2).
4. Connect drain hose (H3) to service valve (V1).
5. Pour chemical product used to flush heat exchanger into water (acid 8-10% of water content).
6. Place the drain hose (H3) and the hose (H2) to the pump inlet into the cleaning solution.
7. Open both service valves (V1 and V2) on the hot water and cold water lines.
8. Operate the pump and allow circulation through the water heater for at least 1 hour at a rate of 15 liters per minute.
9. Turn off the pump.
10. Rinse the chemical/water from the water heater as follows:
    a. Remove the free end of the drain hose (H3) from the pail. Place in sink or outside to drain.
    b. Close service valve, (V2), and open shutoff valve, (V4). Do not open shutoff valve, (V3).
    c. Allow water to flow through the water heater for 5 minutes.
    d. Close shutoff valve (V4). When unit has finished draining remove the inline filter at the cold water inlet and clean out any residue. Place filter back into unit and open valve (V4).
    e. Close service valve, (V1), and open shutoff valve, (V3).
11. Disconnect all hose.
12. Restore electrical power to the water heater.

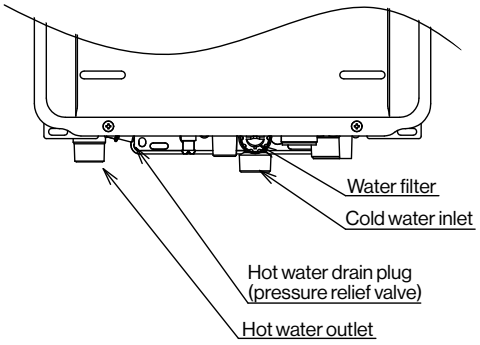


3.7.2 MANUAL DRAINING OF THE WATER HEATER

If the water heater is not going to be used during a period of possible freezing weather, it is recommended that the water inside the water heater be drained.

To manually drain the water:

1. Shut off cold water supply and gas supply.
2. Turn off the temperature controller.
3. Disconnect the power to the water heater.
4. Place a container to catch the water. Open hot water tap or open hot water drain plug at the hot water outlet.
5. Remove water filter to drain the cold water.



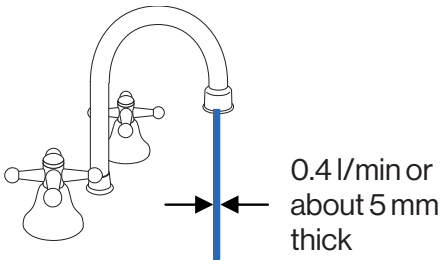
To resume normal operation:

1. Confirm that all water drain plugs are removed, that the gas supply is turned off, and that all taps are closed.
2. Screw in the water filter and the water drain plug in the hot water connections.
3. Open the cold water supply.
4. Open a tap and confirm that water flows, and then close.
5. Turn on the power.
6. After confirming that the temperature controller is off, turn on the gas supply.
7. Turn on the temperature controller.

Running a low volume of water through the water heater to prevent freezing

If the temperature exceeds the ability of the water heater to freeze protect itself, or if power is lost, the following steps may prevent the water heater and external piping from freezing.

- Turn the water heater off.
- Close the gas supply valve.
- Turn on a hot water tap to flow water about 0.4 l/min or where the stream is about 5 mm thick.



When the water heater or external piping has frozen

1. Do not operate the water heater if it or the external piping is frozen.
2. Close the gas and water valves and turn off the power.
3. Wait until the water thaws. Check by opening the water supply valve.
4. Check the water heater and the piping for leaks.

Coastal installations

Installations located in or near coastal areas may require additional maintenance due to corrosive airborne ocean salt.

3.7.3 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	

3.8 TECHNICAL DATA

Infinity Model	**REU-E1620W-E**	**REU-E2426W-E**	**Unit**
Installation	External, outdoor		
G20 Nat Gas min gas pression	1.9	1.9	mbar
G20 Nat Gas max gas pression	8.1	6.8	mbar
G230 Air/Propane min gas pression	2.3	2.1	mbar
G230 Air/Propane max gas pression	10.0	8.0	mbar
G30 Butane min gas pression	2.3	2.6	mbar
G30 Butane max gas pression	8.6	9.2	mbar
G31 Propane min gas pression	2.3	2.6	mbar
G31 Propane max gas pression	9.4	9.9	mbar
Flue system	Direct forced exhaust		-
Temperature range with water controller	37-46, 48, 50, 55, 60, 65		°C
Tempearature range with push buttons	40, 42, 50, 55, 60, 65		°C
Ignition	Direct electronic ignition		-
Gas consumption & capacities min operation	[Hi=Net Calorific Value; Hs=Gross Calorific Value]		
G20 Nat Gas: Input Qm: Hi/Hs | Output Pm	4.1/4.5 | 4.1	4.1/4.5 | 4.1	kW
G20 Nat Gas flow normal operating conditions Vm	0.43	0.43	m^3/hr
G230 Air/Propane Input Qm: Hi/Hs | Output Pm	4.1/4.5 | 4.1	4.1/4.5 | 4.1	kW
G230 Air/Propane flow normal operating conditions Vm	0.34	0.34	m^3/hr
G30 Input Qm: Hi/Hs | Output Pm	4.7/5.1 | 4.7	4.7/5.1 | 4.7	kW
G30 flow normal operating conditions Mm	0.37	0.37	kg/hr
G31 Input Qm: Hi/Hs | Output Pm	4.1/4.5 | 4.1	4.1/4.5 | 4.1	kW
G31 flow normal operating conditions Mm	0.32	0.32	kg/hr
Gas consumption & capacities nominal operation	[Hi=Net Calorific Value; Hs=Gross Calorific Value]		
G20 Nat Gas: Input Qn: Hi/Hs | Output Pn	27.6/30.6 | 27.8	41.6/46.2 | 42.0	kW
G20 Nat Gas flow ref. conditions Vr	2.9	4.4	m^3/hr
G230 Air/Propane: Input Qn: Hi/Hs | Output Pn	28.1/30.6 | 27.8	42.5/46.2 | 42.0	kW
G230 Air/Propane flow ref. conditions Vr	2.3	3.5	m^3/hr
G30 Input Qn: Hi/Hs | Output Pn	30.0/32.5 | 29.9	45.3/49.1 | 45.2	kW
G30 flow normal operating conditions Mn	2.4	3.6	kg/hr
G31 Input Qn: Hi/Hs | Output Pn	28.2/30.6 | 28.2	42.5/46.2 | 42.5	kW
G31 flow normal operating conditions Mn	2.2	3.3	kg/hr
Country of destination	Refer to dataplate		-
Gas category and pressure	II2H3P, II2H3B/P, II2HM3B/P G20-20mbar, G230-20mbar, G31-37mbar, G30-30mbar		-
Type	A3		-
Max water flowrate	20	26	L/min
Min operation flowrate	ON = 1.5 / OFF = 1.0 [1]		L/min
Min operating water pressure (Pmin)	0.1(0.01)		bar (MPa)
Water pressure (@nom/max flowrate-max) - (Pw)	1.0/1.4-10 (0.1/0.14-1)	1.0/2.2-10 (0.1/0.22-1)	bar (MPa)
Power supply	230V~, 50Hz		-
Electric consumption (remote/standby+remote/antifrost)	41 / 2 / 92	57 / 2 / 92	W
Ignition safety time TSAmax	4.2		sec.
Weight	16	18	kg
IP protection	IPX5D		-
Anti-freeze temperature protection	-20 [2]		°C
NOx	< 56		mg/kWh

[1] minimum water flowrate may vary depending on the temperature setting and the inlet water temperature.

[2] when protected from direct wind exposure.

3.9 PRODUCT FICHE

		Unit
Supplier's name	Rinnai UK Ltd	
Supplier's model	REU-E1620W-E	
Load profile	XL	
Water heating energy efficiency class	A	
Water heating energy efficiency (η_{wh})	90.2	%
Annual electricity consumption (AEC)	9	kWh/annum
Annual fuel consumption (AFC) - (Hs)	17	GJ/annum
Temperature setting [1]	55	°C
Indoor sound power level (LWA)	-	db

Values tested with appliance set @60°C - Gas: G20mbar - High calorific value (Hs) - According to Reg. UE 812/2013.

[1] 40°C with water control connected.

		Unit
Supplier's name	Rinnai UK Ltd	
Supplier's model	REU-E2426W-E	
Load profile	XXL	
Water heating energy efficiency class	A	
Water heating energy efficiency (η_{wh})	87.3	%
Annual electricity consumption (AEC)	13	kWh/annum
Annual fuel consumption (AFC) - (Hs)	22	GJ/annum
Temperature setting [1]	55	°C
Indoor sound power level (LWA)	-	db

Values tested with appliance set @60°C - Gas: G20mbar - High calorific value (Hs) - According to Reg. UE 812/2013.

[1] 40°C with water control connected.

Rinnai UK LTD.

9 Christleton Court,
Manor Park,
Runcorn,
WA7 1ST
0300 373 0660
www.rinnaiuk.com

U339-1170(01)

060 00012 39724 6