

MODELS

Heavy Duty 32C

REU-NB3237WC-AK

REU-NB3237WC-50-AK

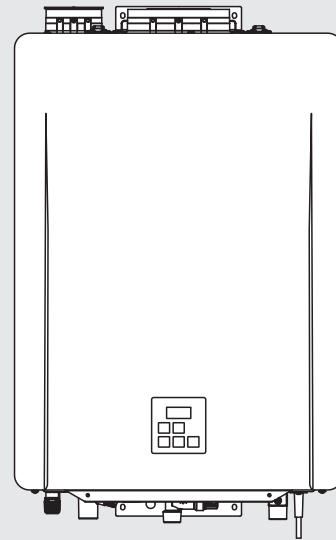
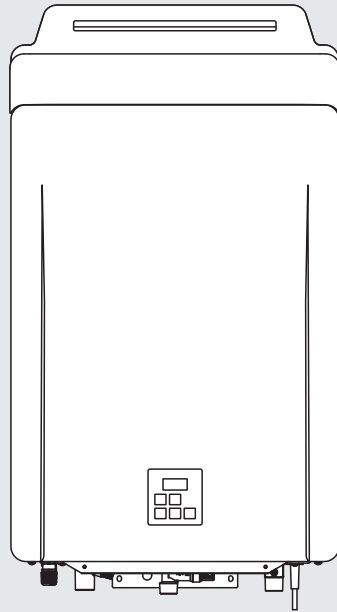
REU-NB3237FFC-AK

REU-NB3237FFC-50-AK

Infinity Enviro 32

REU-NB3237W-AK

REU-NB3237W-50-AK



Gas Continuous Flow Water Heater

Operation & Installation Manual

Rinnai

Congratulations on the purchase of your Rinnai Gas Continuous Flow Water Heater. We trust you will have many years of comfort and enjoyment from your appliance.



BEFORE USING THIS APPLIANCE

Before proceeding with the operation or installation read this manual thoroughly and gain a full understanding of the appliance, to ensure safe and correct use.

This appliance must be installed in accordance with:

- Manufacturer's Installation Instructions
- Current AS/NZS 3000, AS/NZS 3500 & AS/NZS 5601
- Plumbing Code of Australia (PCA)
- Local Regulations and Municipal Building Codes including local OH&S requirements

These products comply with the lead-free requirements of the National Construction Code – Volume 3.

This appliance must be installed, maintained and removed by an Authorised Person.

For continued safety of this appliance it must be installed and maintained in accordance with the manufacturer's instructions.



Lead Free

This Appliance complies
with current AS 3498
LIC. WMKA00208



**The Australian
Gas Association**

All Rinnai gas products
sold in Australia are
A.G.A. certified.

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WARNINGS & IMPORTANT INFORMATION



BEFORE USING THIS APPLIANCE

Before proceeding with the operation or installation read this manual thoroughly and gain a full understanding of the appliance, to ensure safe and correct use.

Always comply with the following precautions to avoid dangerous situations and to ensure optimum performance.

Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.

DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in personal injury or death.

WARNINGS: Indicates a potentially hazardous situation which, if not avoided, could result in personal injury or death.

CAUTIONS: Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or damage to the appliance. It may also be used to alert against unsafe practices.



REGULATORY INFORMATION

Your Rinnai gas continuous flow water heater has been certified by the Australian Gas Association. The A.G.A. Certification Number is shown on the data plate.

This Appliance must be installed correctly by an appropriately licensed tradesperson. The installation of gas, water, and electricity must conform to local regulations.

The installation of gas, water, and electricity must conform to local regulations, including local OH&S requirements. The installation must also comply with the instructions supplied by Rinnai.

Please keep this instruction booklet in a safe place for future reference.

All dimensions referred to in these instructions are in millimetres, unless otherwise specified.

Notice to Victorian Consumers

This appliance must be installed by a person licensed with the Victorian Building Authority. Only a licensed person will have insurance protecting their workmanship. So make sure you use a licensed person to install this appliance and ask for your Compliance Certificate.

For further information contact the Victorian Building Authority on 1300 815 127.



WARNING ABOUT HOT WATER

Hot water can cause scalding. Those most at risk are children and disabled, elderly and infirm persons. (65°C water can severely burn a child in half a second).

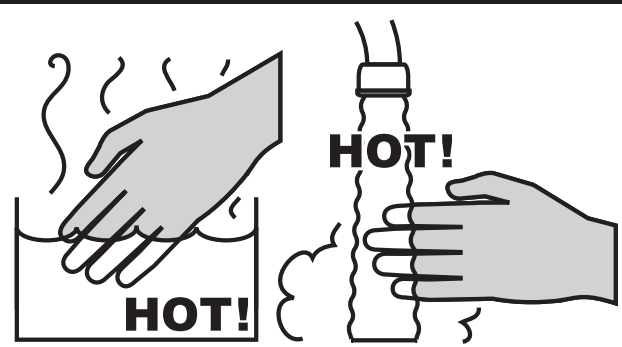
Rinnai have water heater models which limit the delivery temperature to 50°C which significantly reduces the scald hazard. Temperature limiting devices may also be able to be fitted. Contact Rinnai for further information.

ALWAYS test the water temperature before use, such as when filling a bath or basin or entering a shower, to ensure it is suitable for the application and will not cause scald injury.

ALWAYS supervise children whenever they are in the bathroom or near other sources of hot water. Ensure any hot water taps are closed firmly after use.



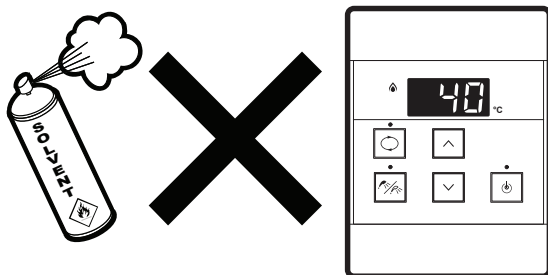
DANGER BEWARE OF SCALDING HAZARDS



Operational Safety Information

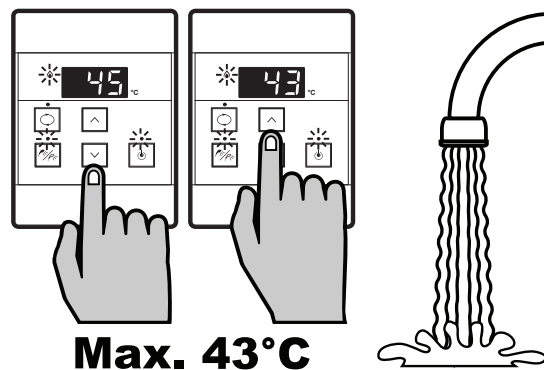


This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children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



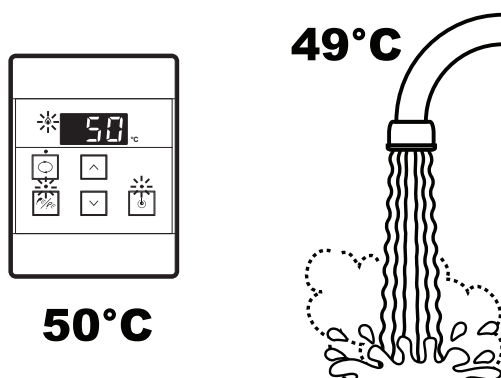
To clean your water controller(s) use a soft damp cloth with a mild detergent.

DO NOT use solvents!



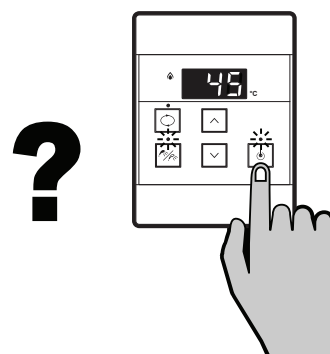
Max. 43°C

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.

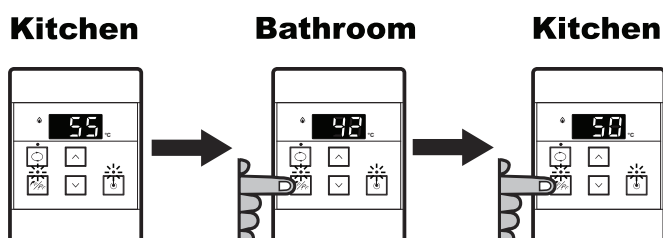


50°C

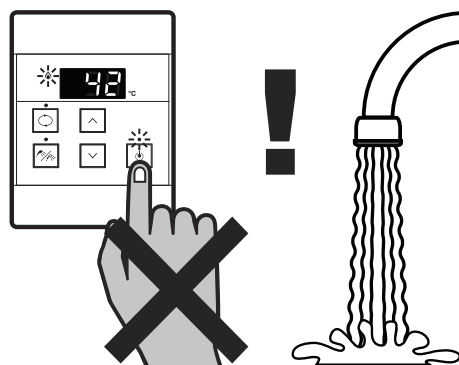
Depending on the weather conditions and the length of the pipe between the hot water unit and the outlet in use, there may be a variation between the temperatures displayed at the water controller(s) and the temperature of the water at the outlet.



There is no need to turn the water controller(s) off after use. However, if you prefer to turn the water controller(s) off, your selected temperatures to a maximum of 50°C will be stored in the system memory at all times whilst mains power remains connected.



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.

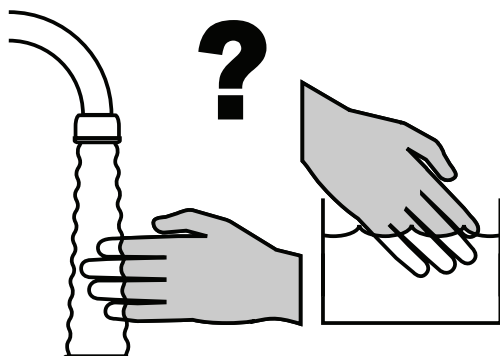


DO NOT push the On/Off button on any Water Controller when the water heater 'In Use' indicator is illuminated as this will turn off the water heater causing the water to go cold. Someone maybe in the middle of having a shower or filling a bath.

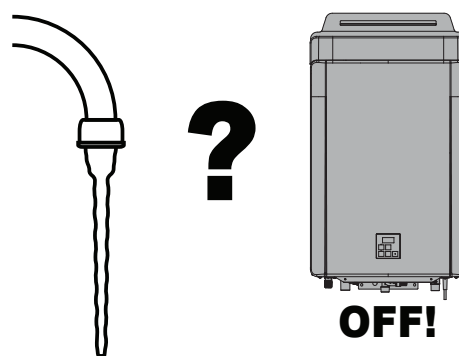


The range of Rinnai gas continuous flow water heaters referred to in this manual are incompatible with solar water heating systems. A dedicated range of solar compatible gas continuous flow water heaters is available from Rinnai.

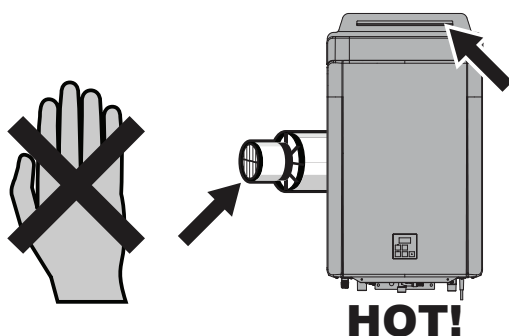
If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.



Always check water temperature carefully before use. Refer to the **"WARNING ABOUT HOT WATER"** on page 4 for important safety information.



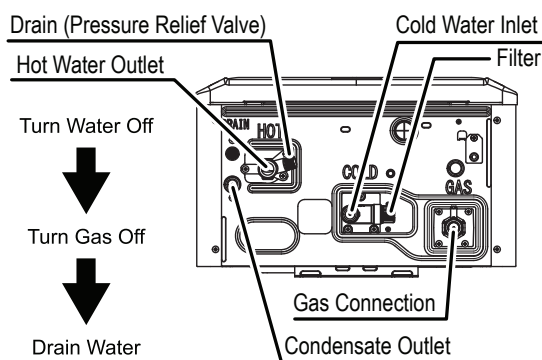
At low water flows, the hot water unit may extinguish without warning. Opening the tap further will restart the heating appliance.



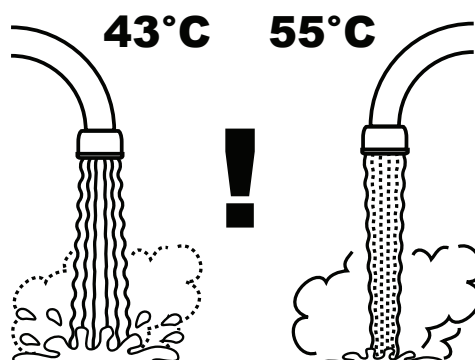
DO NOT touch the unit cover or the flue outlet.
DO NOT insert objects into the flue outlet.
DO NOT spray water directly into the flue outlet.
 Keep, trees, shrubs, etc. well clear of the flue outlet.
 On colder days steam may discharged from the flue outlet. This condition is normal for high efficiency appliances and does not indicate a fault.



DO NOT Spray aerosols in the vicinity of this appliance while it is in operation.
DO NOT use or store flammable materials in or near this appliance.
DO NOT place articles on or against this appliance.
DO NOT modify this appliance.
DO NOT store pool chemicals near this appliance.



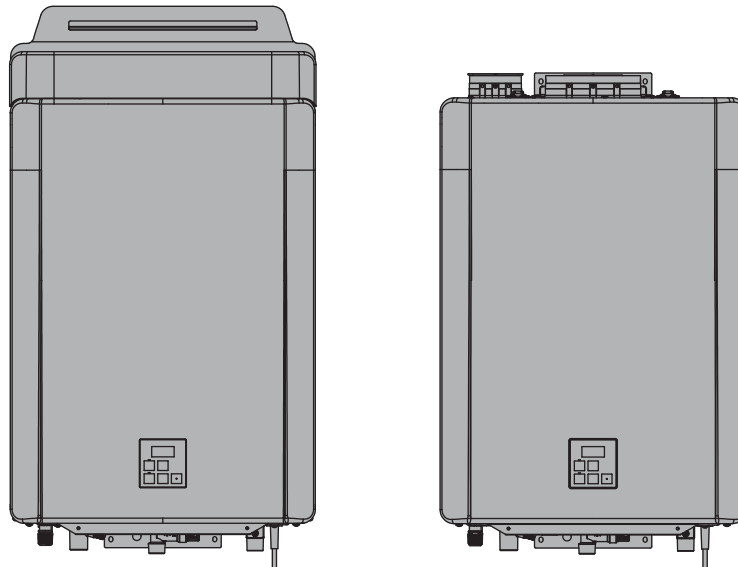
If freezing conditions are expected, turn off water and gas, and drain all water from the appliance. If power and the automatic frost protection are connected, freezing will be prevented. (Anti-frost protection is fitted as standard equipment on all hot water units).



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

FEATURES & BENEFITS

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



- The Rinnai gas continuous flow water heater products **NEVER RUN OUT** of hot water. While 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 gas 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** maintaining an accurate and constant water temperature during use.
- 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.
- 'Deluxe' or 'Universal' Water Controllers are available as an optional extra. Depending on the models chosen, these offer the following features:
 - Bath fill function (Deluxe Bathroom Control Only).
 - Voice Prompting (Deluxe Control Only).
 - Clock (Deluxe Control Only).
 - Up to three water controllers can be fitted. See page 9 for details.

For further information regarding Wireless and Deluxe water controllers please contact Rinnai or visit www.rinnai.com.au.

- The 'Smartstart®' system when fitted can pre-heat the water in the pipe-work between the water heater and the hot water outlets. This results in water savings and reduces waiting time for heated water at the outlets.
- Operating **NOISE LEVEL IS VERY LOW**.
- **ERROR CODES ARE DISPLAYED** on the Water Controllers and Status Monitor, assisting with service.
- A high altitude setting is built into the programming, and can be enabled, for those installation applications sited from 610 to 2000 metres above sea level such as Alpine regions.

WATER TEMPERATURE CONTROL

MAXIMUM DELIVERY TEMPERATURES

Rinnai gas continuous flow water heaters are factory pre-set to various maximum delivery temperatures depending on model and their intended application. 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.

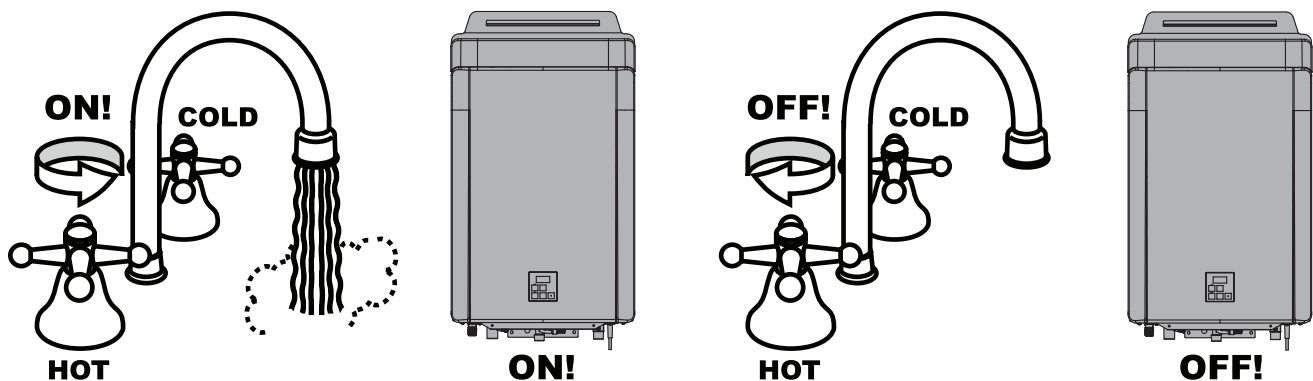


This does not apply to “50 degree compliant” models. To meet the regulatory requirements the maximum delivery temperature is factory set and sealed.

For model specific information in regards to the factory pre-set temperature of your appliance refer to "Table 3. Maximum Delivery Temperatures" on page 35. The appliance model number can be found on the dataplate, which is located on the left hand side of appliance.

OPERATION WITHOUT WATER CONTROLLERS

Rinnai gas continuous flow water heater products do not use a pilot light. When installed and operated without water controllers, 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.



RINNAI WATER CONTROLLERS



Other manufacturers water controllers are **NOT** compatible with Rinnai water heaters. Rinnai water controllers brought in from other countries are also **NOT** compatible with Rinnai appliances sold in Australia.

Water controllers **MUST NOT** be used with any Solar Boost water heater.

Water controllers are available as an optional extra. Wireless, Universal and Deluxe water controllers can be used together and will function as described in the Operation Sections of this manual. Refer to "Water Controller Configurations" on page 9 to confirm the maximum number and combination of water controllers that can be fitted to your water heater model.

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-601Q 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.



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.

ALWAYS AVOID exposure to water when the battery compartment is open.

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.

Any water controller that currently has priority is capable of setting the water temperature to be delivered. However, the water heater can only assign 'priority' to one controller at a time and deliver the one set temperature. The available temperatures (°C) are as follows:


Water Controller Temperatures (°C) ⁽²⁾	Master (MC)	35 ⁽¹⁾ , 37, 38, 39, 40, 41 ⁽¹⁾ , 42, 43 ⁽¹⁾ , 44, 45 ⁽¹⁾ , 46, 48, 50, 55 ⁽¹⁾ , 60 ⁽¹⁾ , 65 ⁽¹⁾ , 70 ⁽¹⁾ , 75 ⁽¹⁾ , 80 ⁽¹⁾ , 85 ⁽¹⁾
	Sub (MC or BC)	35 ⁽¹⁾ , 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 50



While hot water outlets are open **ONLY** the control used to set to delivery may be used to further adjust it. Transfer of 'priority' between controllers is **NOT** possible until all hot water taps have been closed. These are safety features.

For hygiene in sanitary areas such as bathrooms, the suggested temperature should be 35°C ~ 43°C. This 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 35°C, simply open the cold water tap and add cold water until the desired lower temperature is reached.



The temperature of outgoing hot water is constantly monitored by a built-in sensor. If the temperature of the outgoing hot water is calculated to be 3°C or higher than the selected temperature shown on the digital monitor or the pre-set limit when water controllers are not fitted, then 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)

⁽¹⁾ Temperature may not be available on all installations. Some Rinnai gas 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.

⁽²⁾ Temperature limiting devices (where fitted) may further control what maximum delivery temperature is available to outlets.

Universal and Wireless water controllers allow for temperature selection only. Deluxe water controllers allow temperature selection, have a clock function and the Deluxe Bathroom water controller has a shower saver / bath fill function is also available. The MC-145V can set the current time. The BC-145V displays the current time only when used in conjunction with MC-145V. Contact Rinnai for further information regarding Wireless and Deluxe water controllers or visit www.rinnai.com.au.

WATER CONTROLLER CONFIGURATIONS

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

- A maximum of **THREE** optional water controllers can be fitted.
- Only **ONE** master controller can be installed. This can be a deluxe kitchen (MC-145V), or any other MC model water controller (when programmed to be a 'Master' controller).

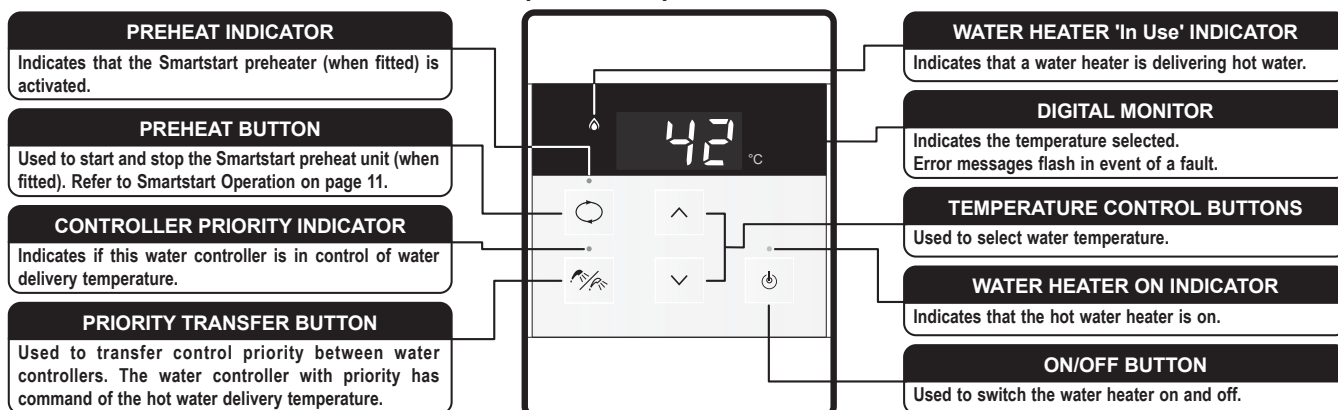


When a deluxe kitchen (MC-145V) water controller is fitted it will always function as a 'Master' controller, this is the default setting and can not be changed.

- A maximum of an additional **TWO** further water controllers can be fitted, these can be deluxe bathroom, universal or wireless water controllers.

To find out more about the full range of Rinnai water controller models, contact Rinnai or visit: www.rinnai.com.au.

UNIVERSAL WATER CONTROLLER (MC-601Q) OPERATION



Turning On

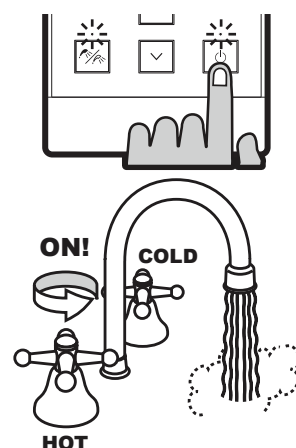
If the water controller is switched off (No digits displayed in the digital monitor window) press the On/Off button once. The ON indicator will illuminate, indicating that the hot water unit will be ready to supply hot water once a hot water tap is opened.

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 35°C. For safety, it cannot then be raised above 43°C until all hot water taps are closed.

If the water heater is turned 'Off' whilst hot water taps are open it can not be turned back 'On' until all hot water taps have been closed.

Temperatures higher than 50°C **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.

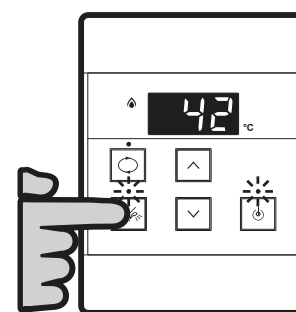


CAUTION Always check outlet water temperature before use. The parent / carer **MUST** check the temperature before placing dependants in contact with hot water, see "Warning About Hot Water" on page 4.

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.

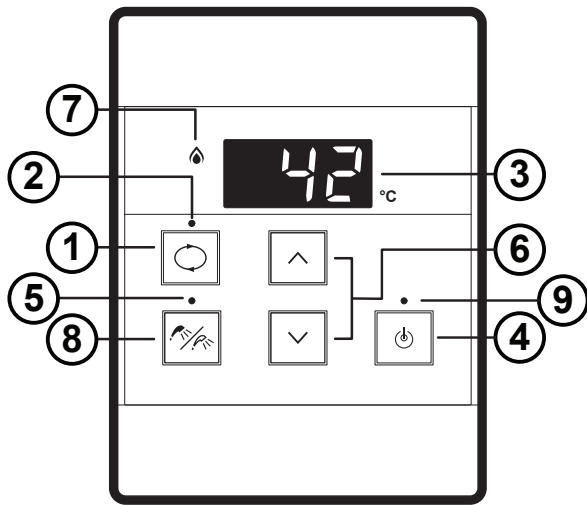


Water Controller Combinations & Configurations

Wireless, Universal and Deluxe water controllers can be combined, Refer to "Water Controller Configurations" on page 9 confirm the maximum number and combination of controllers that can be fitted.

SMARTSTART PRE-HEAT SYSTEM

The “Preheat” function works in conjunction with various Rinnai water heater models when the separately installed and optional Rinnai “Smartstart®” module is installed.



- ① Preheat Button
- ② Preheat Indicator
- ③ Digital Monitor
- ④ On/Off button
- ⑤ Priority Indicator
- ⑥ Temperature Control Buttons
- ⑦ Water Heater "In Use" Indicator
- ⑧ Priority Transfer Button
- ⑨ Water Heater On Indicator

Preheat Function

When the “Preheat” function is activated and used in accordance with these instructions, water in the pipework connected between the water heater and the hot water outlets in your house is warmed before any outlets are opened. This results in water savings and added convenience.

Preheat Operation

1. Ensure that the hot water unit is on (temperature digits are displayed in the digital monitor ③). If more than one water controller is fitted press the ‘Priority Transfer’ button ⑧ to pass on priority to your desired water controller. The ‘Controller Priority’ indicator ⑤ will illuminate to confirm that priority has been assigned to this water controller and that the hot water unit is ready to deliver hot water.
2. Select the desired temperature using the ‘Temperature Control’ buttons ⑥ until the required temperature is displayed in the digital monitor ③.
3. Press the ‘Preheat’ button ① once. The ‘Preheat’ indicator ② and the ‘In Use’ indicator ⑦ will illuminate, signifying that the preheat system has been activated.
4. Wait for the ‘In Use’ indicator ⑦ to go out (this may take 2 to 5 minutes). When this happens it signifies that the water in the pipework has now been pre-warmed and is ready for delivery, and that a hot water tap can now be opened.



The waiting time may be longer or shorter depending on your particular installation configuration. For best results always wait for the ‘In Use’ indicator ⑦ to go out before opening a hot water tap.

The preheat function is cancelled 5 minutes after activation and the ‘Preheat’ indicator will go out. This is to conserve energy. To reactivate, simply repeat steps 2-4 above.

* If the ‘Preheat’ button is pressed and the ‘Smartstart’ preheat unit is not installed, the ‘Preheat’ indicator will still light but there will be no preheat function. The ‘Preheat’ indicator will go out after a short time and will not affect the other functions of the water controller or water heater.

When deluxe Bathroom water controllers are fitted, after using the Shower Saver / Bath Fill function wait 30 seconds before activating the “Preheat” function. Attempting to use the “Preheat” function earlier will result in voice prompts being repeated until the system is reset. The system can be reset by pressing the ‘On /Off’ button twice.


Water Controller Functions

Water controller functions such as temperature control and transfer of priority between multiple controllers are not affected by the operation of the preheat. Such functions are described in the applicable sections of this manual.

TROUBLE SHOOTING

ERROR CODES

Your Rinnai gas continuous flow water heaters has a self diagnostic capability. If a fault occurs, an Error Code will flash on the digital monitor of your water controllers or on the status monitor on the front cover of the water heater. 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.

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 Supply or Exhaust Blockage or Condensate Pipe Blockage	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	Heat Exchanger Overheat Failure	Service Call
15	Venturi Control Failure	Service Call
16	Over Temperature Warning	Service Call
17	Venturi Blockage	Service Call
18	Gas Valve Adjustment Limit	Service Call
19	Electrical Earthing Failure	Service Call
21	Data Transfer Error	Service Call
22	Gas Valve Adjustment	Service Call
32	Outgoing Water Temperature Sensor Failure	Service Call
33	Heat Exchanger Thermistor Failure	Service Call
34	Lime Detecting Thermistor	Service Call
36	Tank Lower Thermistor Failure	Service Call
38	Exhaust Thermistor Failure	Service Call
41	Freeze Protection Thermistor Failure	Service Call
51	Inlet Thermistor Failure	Service Call
52	Gas Valve Failure	Service Call
54	High Exhaust Gas Temperature Failure	Service Call
55	Scheduled Service Reminder (refer to page 13)	Service Call
61	Combustion Fan Failure	Service Call
63	Recirculation Low Flow	Service Call
65	Water Flow Control Failure (Does not stop flow properly)	Service Call
66	Bypass Servo Control Failure	Service Call
70	PCB Failure	Service Call
71	Solenoid Valve Circuit Failure	Service Call
72	Flame Rod Failure	Service Call
LC	Scale build-up inside the heat exchanger.	Service Call
5E	Cascade Connection Failure	Service Call
	Wireless water controller (when fitted) is 'Out of Range' due to the distance from transceiver or an obstruction.	Move wireless water controller or transceiver or remove the obstruction.



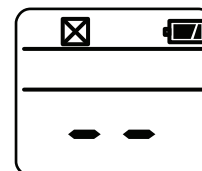
Some fault codes are model specific and so not all codes will display on all models. If the fault code being displayed is not listed above, contact Rinnai for advice.

In the majority of cases, 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. If the Error Code still remains, contact Rinnai for advice.

No power display Wireless Water Controller (when fitted)

When power to the water heater is disconnected the LCD of all wireless water controllers will display as shown to the right.

Check that the power is available, and that the water heater is plugged in with the power point turned 'on'.



Troubleshooting Without Water Controllers

If you have no water controllers and experience the following symptoms, carry out these suggestions. If the symptom continues, 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.



Faults caused by insufficient gas supply, insufficient water supply, gas quality, water quality, installation errors or operation errors are **NOT** covered by the Rinnai warranty. Refer to separate warranty booklet for details.

SERVICE

Wired and wireless water controllers, transceivers 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 or the Hot Water Service Line (contact numbers for which are on the back cover of this manual).



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.

This information should have been copied to the "Installation Record" on page 32 by your installer. However, if this is not the case, the information can also be found on the data plate located on the left hand side of the appliance.

Scheduled Service Reminder

REU-NB3237WC-AK (Heavy Duty 32C) / REU-NB3237FFC-AK (Heavy Duty 32C)

Rinnai recommends that commercial appliances be serviced annually.

Commercial models by default are set with a scheduled service reminder. When the set service period elapses code '55' is displayed as a reminder that the water heater is now due to be serviced. The reminder code flashes intermittently on the status monitor and water controllers (when fitted) in both standby and during operation, normal operation of the appliance is not affected.

When the scheduled service reminder is displayed contact Rinnai for advice.

REU-NB3237W-AK (Infinity Enviro 32)

Rinnai recommends that domestic appliances be serviced every 3 years. There is no scheduled service reminder for domestic models.

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GENERAL INSTALLATION INFORMATION



Installation, service and removal **MUST BE** by an appropriately licensed tradesperson **ONLY**.
It is the installer's responsibility to ensure all current AS/NZS 5601 requirements are met.
Remove transit protection. Check for damage, if any is found **DO NOT** install and contact supplier.

REGULATIONS

This appliance must be installed in accordance with:

- Current AS/NZS 3000, AS/NZS 3500 and AS/NZS 5601
- Plumbing Code of Australia (PCA)
- Rinnai Installation Instructions
- Local regulations and municipal building codes including local OH&S requirements

APPLICABLE MODELS

These Installation Instructions apply only to the Rinnai gas continuous flow water heater models that are listed on the cover page of this manual.

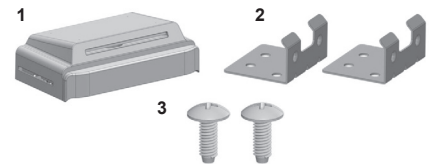
CARTON CONTENTS / ITEM CHECKLIST

The following table lists the items included within the packaging. Ensure that all the relevant components for the model being installed are present before proceeding.



DO NOT Install any damaged items. Check all components have been supplied.

Item	Description	Qty
1	Outdoor Vent cap (W models only)	1
2	Mounting Brackets (<i>pre-fitted on the appliance</i>) (W models only)	2
3	Fitting screws (W models only)	2
Not shown	Pre-wired Mini Plug	1
Not shown	Gas type labels	1
Not shown	Operation & Installation manual, Warranty Booklet	1



APPLIANCE LOCATION

All Models

This appliance **MUST BE** placed as close as practicable to the most frequently used hot water outlet or outlets to minimise the delay time for hot water delivery. For installations where the distance between the water heater and the outlets is considerable, a flow and return system or the Rinnai Smartstart® system can be used which minimise the waiting time for hot water delivery. Alternatively, multiple appliances can be strategically placed to serve outlets with minimal delay time. Contact Rinnai for further information.

An AC 230V/10 Amp, 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. Appliances should not be mounted higher than 2.5 metres above the ground or floor level unless the customer can arrange permanent and safe access or can provide another means of access, for example, by means of scissor or boom lifts or other approved safe access equipment that is acceptable to local authorities.

This appliance **MUST BE** mounted on a vertical structure with the water and gas connections on the underside pointing downwards. For appliances installed on elevated structures or under floors specific requirements apply. Refer to AS/NZS 5601 Section 6 for details.

This appliance **MUST NOT** be used as a domestic spa or swimming pool heater.

Outdoor Models

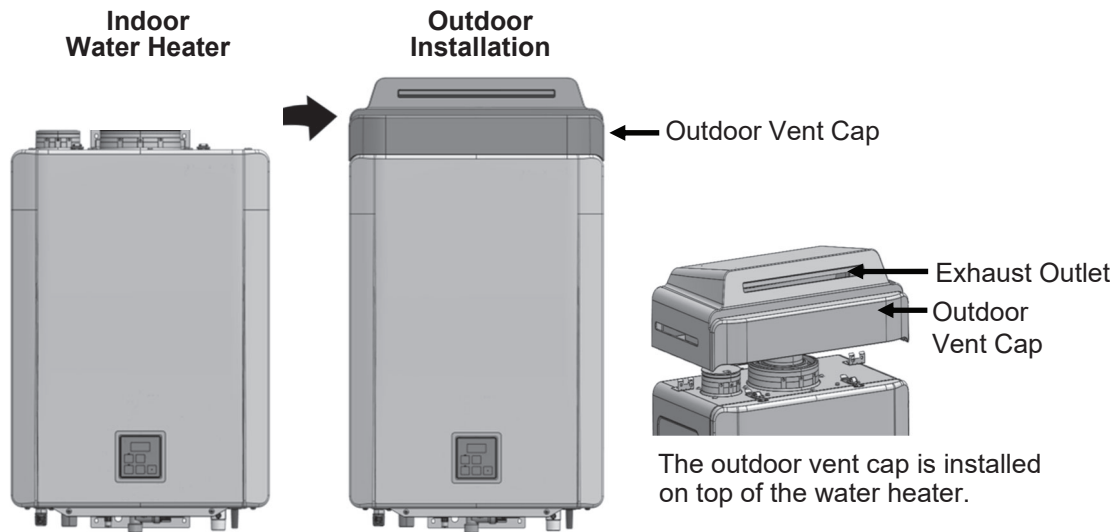
This appliance is designed for 'Outdoor' Installation only. As such, it **MUST BE** located in an above ground open air situation with natural ventilation, without stagnant areas, where gas leakage and products of combustion are rapidly dispersed by wind and natural convection.

Location of the appliance flue terminal **MUST BE** in accordance with Section 6 and Figure 6.2 of AS/NZS 5601. An extract (in part) has been reproduced in the "Appliance Flue Terminal" section of these instructions on page 20.

Vent Cap Installation

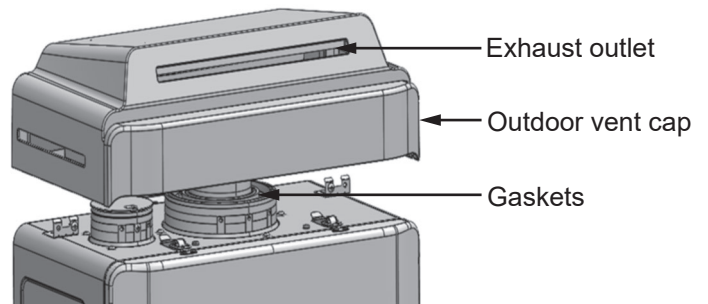
The indoor water heater can be converted to an outdoor model by installing the outdoor vent cap.

Assembly



The water heater **MUST BE** mounted to the wall before the outdoor vent cap is installed. If the outdoor vent cap is installed on the water heater first, you are not able to secure the water heater on a wall by installing screws into the upper mounting bracket.

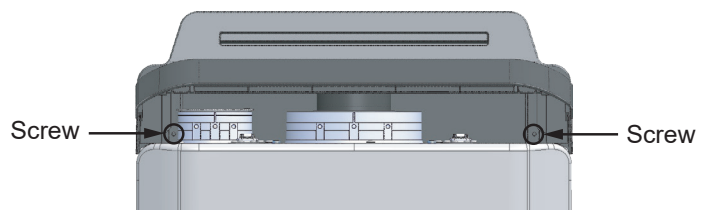
1. Inspect gaskets prior to installing outdoor vent cap as shown. Make sure exhaust outlet faces the front of the water heater and the outdoor vent cap is fully inserted.



2. Open front door of outdoor vent cap. Secure outdoor vent cap to water heater with two screws supplied, using a Phillips head screwdriver.



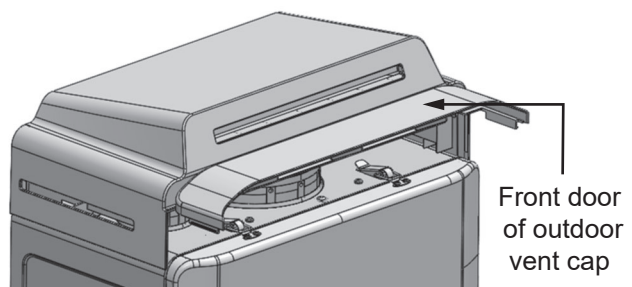
DO NOT remove front door of outdoor vent cap.



4. Close front door of outdoor vent cap.



Ensure the vent cap is closed. Failure to do so will result in combustion issues.



Indoor Models

This appliance is designed for 'Indoor' installation only. It may be installed 'Outdoors' in an enclosure if the requirements of AS/NZS 5601 Section 6 are satisfied. An enclosure is defined as a compartment, enclosed area or partitioned off space primarily used for the installing of the appliance.

If installed in an enclosure, either Internally or Externally, the location should be ventilated to allow gas to dissipate.

If the water heater is installed in a concealed location, provisions must be made for the safe disposal of any leaking water from the water heater to a visible location.

Rinnai internal models described in this manual must use the Co-Axial Rinnai flue components. The use of non Rinnai flue components may result in a dangerous situation and violates regulations. The maximum flue length is 42 metres, refer to the flue installation manual for flue configuration options. Horizontal (wall) or vertical (roof) terminals are available. For detailed information refer to "Flueing" on page 20.

This appliance **MUST BE** located so that the flue terminal exits the building at a suitable point.

If a horizontal (wall) terminal is used, the location **MUST BE** in accordance with Section 6 and Figure 6.2 of AS/NZS 5601. An extract (in part) has been reproduced in the section "Appliance Flue Terminal" on page 20.

If a vertical (roof) terminal is used, the location must be in accordance with Section 6 and Figure 6.2 of AS/NZS 5601. An extract (in part) has been reproduced in the section "Appliance Flue Terminal" on page 20.

Mounting Of Appliance

The wall or structure on which the units are to be mounted **MUST BE** capable of supporting these weights and the associated pipe-work. Refer to "Table 2. Supply, Flow rates, Weights & Service Connections" on page 35 for specific model weights.

Ensure that suitable fixing screws or bolts are used to secure the units to the wall, in accordance with AS/NZS 5601 section 6. Wooden plugs shall not be used.

The top bracket has a keyhole slot so that the appliance can be positioned by hanging it on one screw, once in position the appliance can then be fully secured with the application of further appropriate fittings.

The appliance can be mounted directly against the wall or structure. There is no need to use, non combustible sheeting or leave an air gap between the appliance back panel and the wall or structure to meet the temperature hazard requirements of AS/NZS 5601.

Service Connection Points

Refer to "Table 2. Supply, Flow rates, Weights & Service Connections" on page 35 for model specific connection / fitting dimension details.

An Approved full flow isolation valve and disconnection union **MUST BE** fitted to the cold water and gas inlets.

A non return valve is not required on the water inlet unless required by local regulations.

Isolation Valves **MUST** be fitted to the appliance via a connection union.

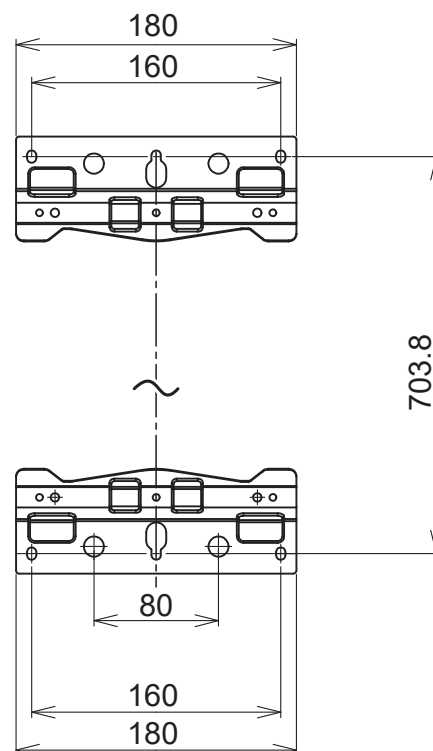
If may be necessary to fit a temperature limiting device for delivery to areas used primarily for the purposes of personal hygiene. Refer to "Hot Water Delivery Temperature" on page 18.

Purge gas and cold water supply lines to remove air and swarf before final connection of the appliance. Swarf in either the gas or water supplies may cause damage.

Pipe Sizing

If the gas pipe sizing is insufficient the customer will not get the full performance benefit. Gas pipe sizing **MUST** consider the gas input to this appliance as well as all the other gas appliances in the premises. The gas meter and regulator **MUST BE** specified for this gas rate.

An approved sizing chart such as the one in AS/NZS 5601 should be used. Refer to "Table 2. Supply, Flow rates, Weights & Service Connections" on page 35 for model specific gas consumption details.



GENERAL INSTALLATION INFORMATION

Water pipe sizing and layout should be performed in accordance with AS/NZS 3500. All hot water pipe-work should be insulated to optimise performance and energy efficiency.

Water Supply

The appliance is intended to be permanently connected to the water mains.

Refer to "Table 2. Supply, Flow rates, Weights & Service Connections" on page 35 for model specific operational water pressure limitations. Approved pressure limiting valves may be required if the 'Maximum' rated water supply pressures in Table 2 are exceeded. To achieve the rated flow, the 'Minimum' water supply pressures in Table 2 must be supplied.

The water heaters will operate at lower pressures but will not achieve the rated flow. Contact Rinnai for 'gravity fed' or 'low pressure' installations.

Water chemistry and impurity limits are detailed under 'Warranty Conditions'. Most metropolitan water supplies fall within the requirements.

If you are unsure about your local water quality, contact your water authority. If sludge or foreign matter is present in the water supply, a suitable filter or strainer is required in the water supply to the water heater to prevent unwarranted damage and loss of performance.

Altitude Setting



To ensure proper appliance operation the installer **MUST** select one of the two available altitude ranges for the appliance these are:

'DEFAULT' suitable for installation locations that are from 0 to 610 metres above sea level.

'HIGH' suitable for installation locations that are from 610 to 2000 metres above sea level, as would be typical of installations located in alpine areas.

Refer to "Commissioning Instructions" located inside the appliance front cover for details.

HOT WATER DELIVERY TEMPERATURE



This appliance may deliver water at high temperature. Refer to the Plumbing Code of Australia (PCA), local requirements and installation instructions to determine if additional delivery temperature control is required.

Local regulations and or the requirements of AS/NZS 3500 **MUST BE** addressed regarding the temperature limitations of hot water supplied to areas used primarily for personal hygiene. The temperature of water to these areas may be limited to 50°C or less.

To ensure these regulations and or requirements are met the system **MUST BE** installed in accordance with the "Installation Configurations" detailed below.

Installation Configurations



This appliance **MUST** only be installed in accordance with the acceptable plumbing configurations specified in these instructions. Failure to do so may result in conditions where delivery temperature control is inadequate.

If the appliance is marked to state that it delivers water not exceeding 50°C, local regulations may permit installation without a Temperature Limiting Device. Installations without a Temperature Limiting Device are shown in Diagram 1 below. If you are unsure about your local regulations contact your regulating authority or Rinnai.

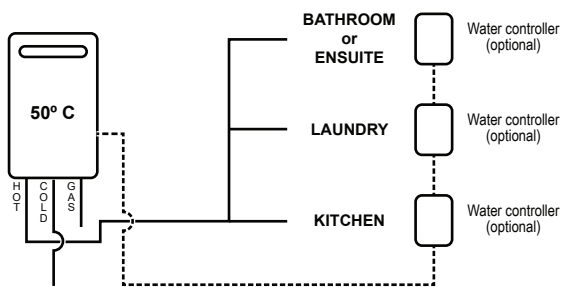
If the appliance is **NOT** marked to state that it delivers water not exceeding 50°C, or your local regulations require installation with a Temperature Limiting Device then install the appliance in accordance with Diagram 2 below.



If the appliance is to deliver water primarily for the purposes of personal hygiene in an early childhood centre, primary or secondary school, nursing home or a similar facility for the care of young, aged, sick or disabled persons as defined in AS/NZ 3500 a Temperature Limiting Device (TLD), such as a Tempering Valve may be required even if the appliance is set to 50° C or less.

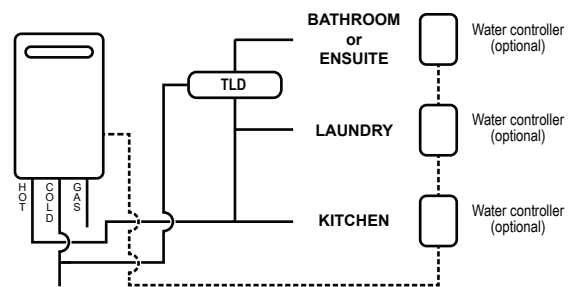
For these types of applications contact Rinnai.

Diagram 1 : 50°C Appliance



Minimum length of pipe from hot outlet to nearest hot water tap 2 metres.

Diagram 2 : **NOT** a 50°C Appliance



TLD = Temperature Limiting Device.

Universal water controllers are available as an optional extra and will function as described in the Operation Section of this manual. Refer to "Water Controllers Limitations" on page 25 to confirm the maximum number and combination of water controllers that can be fitted.

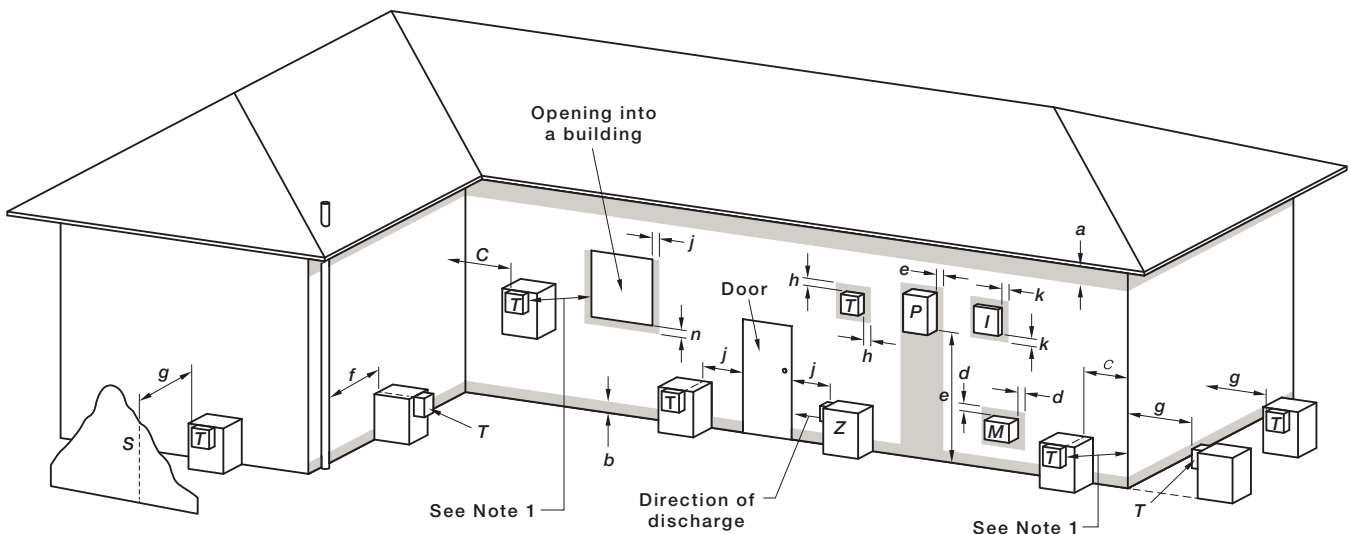
For detailed installation information of Universal water controllers refer to the "Water Controller Installation" chapter of this manual starting on page 25.

Operation and Installation information for Deluxe and Wireless water controllers is provided with the water controllers or visit www.rinnai.com.au.

FLUEING

APPLIANCE FLUE TERMINAL

Horizontal Terminal Clearances (Extract from AS/NZS 5601)



LEGEND:

I = Mechanical air inlet
S = Structure

M = Gas meter

T = Flue terminal

P = Electricity meter or fuse box

Z = Fan-assisted appliance only

Shading indicates prohibited area for flue terminals

Ref.	Item	Min. Clearances (mm)
		Fan assisted
a	Below eaves, balconies and other projections: For appliances up to 50 MJ/h input	200
	For appliances over 50 MJ/h input	300
b	From the ground, above a balcony or other surface *	300
c	Front a return wall or external corner *	300
d	From a gas meter (M) (see Note 5) (see Clause 5.11.5.9 for vent terminal location of regulator) (see Table 6.7 for New Zealand requirements)	1000
e	From an electricity meter or fuse box (P) † (see Note 5)	500
f	From a drain pipe or soil pipe	75
g	Horizontally from any building structure* = or obstruction facing a terminal	500
h	From any other flue terminal, cowl, or combustion air intake *	300
j	Horizontally from an openable window, door, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation: Appliances up to 150 MJ/h input *	300
	Appliances over 150 MJ/h input up to 200 MJ/h input *	300
	Appliances over 200 MJ/h input up to 250 MJ/h input *	500
	Appliances over 250 MJ/h input *	1500
	All fan-assisted flue appliances, in the direction of discharge	1500
k	From a mechanical air inlet, including a spa blower	1000
n	Vertically below an openable window, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation: Space heaters up to 50 MJ/hr input	150
	Other appliances up to 50 MJ/hr input	500
	Appliances over 50 MJ/h input and up to 150 MJ/h input	1000
	Appliances over 150 MJ/h input	1500

* Unless appliance is certified for closer installation.

† Prohibited area below electricity meter or fuse box extends to ground level.

NOTES:

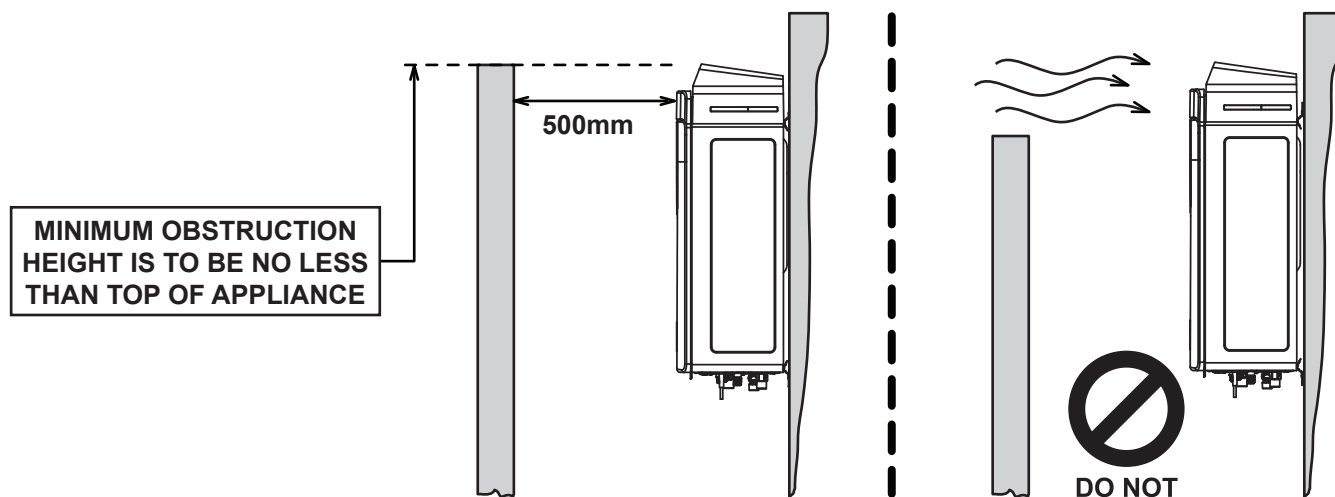
- Where dimensions c, j or k cannot be achieved an equivalent horizontal distance measured diagonally from the nearest discharge point of the terminal to the opening may be deemed by the Technical Regulator to comply.
- See Clause 6.9.4 for restrictions on a flue terminal under a covered area.
- See Figure J3 for clearances required from a flue terminal to an LP Gas cylinder. A flue terminal is considered to be a source of ignition.
- For minimum clearances not addressed above acceptance should be obtained from the Technical Regulator.
- Minimum clearances d and e also apply to any combustion air intake openings of appliances.

FIGURE 6.2 (in-part) LOCATION OF FLUE TERMINALS OF BALANCED FLUE, ROOM-SEALED, FAN-ASSISTED OR OUTDOOR APPLIANCES

Horizontal Obstructions

AS/NZS 5601 'Gas Installations' stipulates a minimum horizontal clearance of 500 mm between a building structure and obstruction facing the terminal.

For correct operation of Rinnai external gas continuous flow water heaters such a building structure **MUST** 'obstruct' the full front cover height of the appliance. For appliance dimensions, refer to "Table 1. Appliance Dimensions" on page 33, or extend vertically above and below the front cover as shown below.

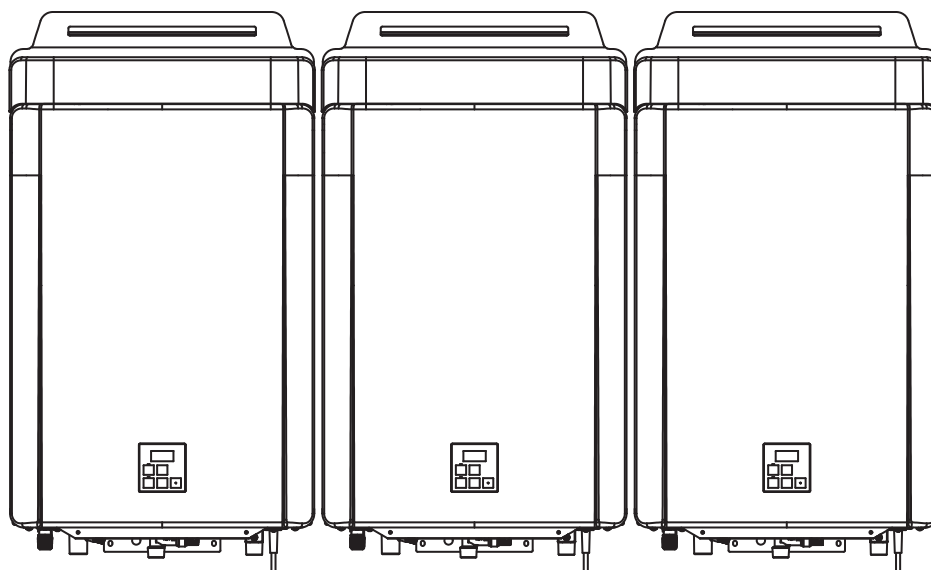


There **MUST** be **NO** partial obstructions to the front cover of the appliance or any other parts of the appliance casing. This will avoid the appliance failing to operate under windy conditions.

Multiple Appliance Installations

In reference to Horizontal Terminal Clearances (Extract from AS/NZS 5601) dimension 'h' on page 20 does not apply when multiple Rinnai external water heaters of the same model are installed on the same vertical face with flue terminals at the same height.

Under these conditions appliances can abut each other as shown below.



The total gas consumption of all appliances applies when determining other clearances.

For appliance dimensions, refer to "Table 1. Appliance Dimensions" on page 33.

INTERNAL MODELS - CO-AXIAL FLUE



Rinnai internal models described in this manual must use the Co-Axial Rinnai FFPP flue components.

The use of non Rinnai FFPP flue components may result in a dangerous situation and violates regulations.

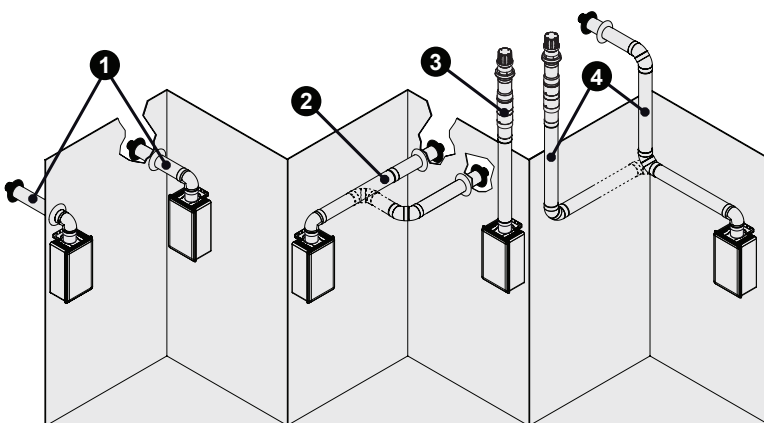
The FFPP flue system must be installed in accordance with the 'Rinnai FFPP Flue Installation Manual' which is provided with the FFPP flue terminal components FFPPWALLKIT or FFPPROOFCOWL.

The maximum FFPP flue length is 42 metres, refer to the FFPP flue installation manual for flue configuration options.

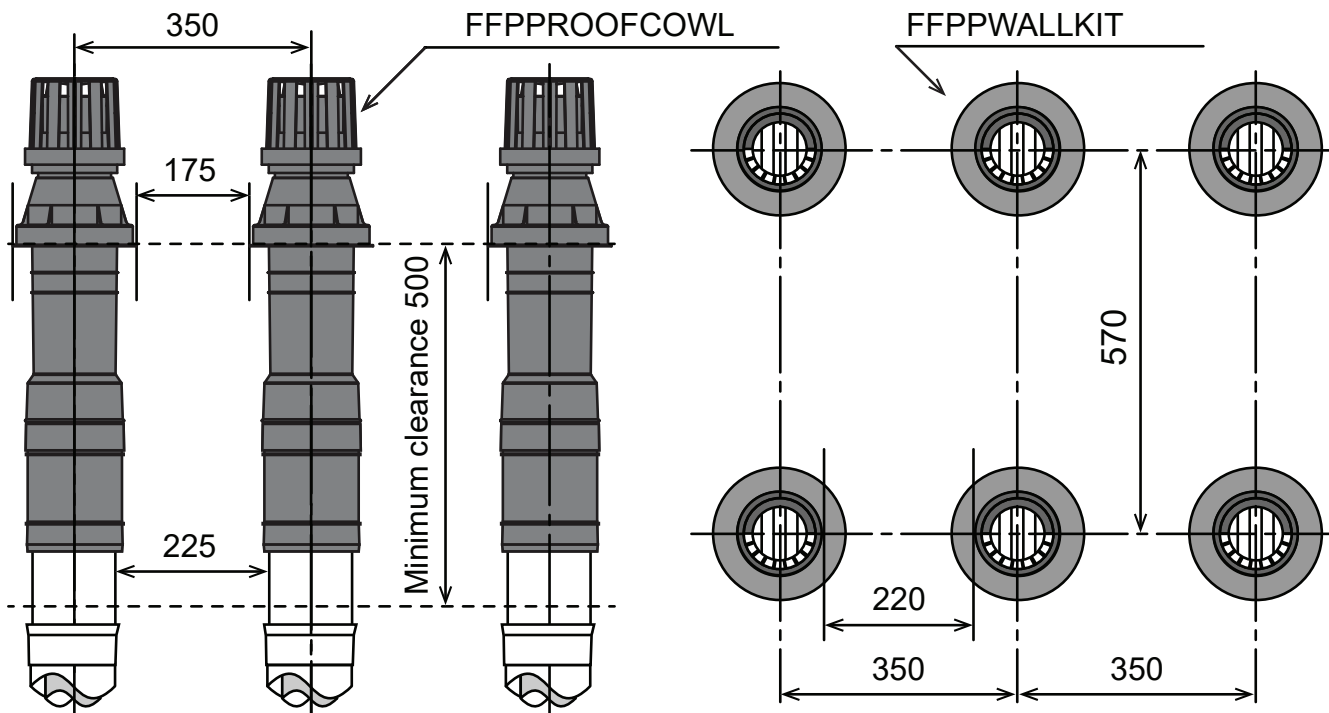
Basic methods of installation

There are four basic flue installation methods available, these are:

- ❶ Direct Horizontal
- ❷ Extended Horizontal
- ❸ Vertical
- ❹ Combined Vertical / Horizontal



Multiple Terminal Installations



The terminal clearances stated in AS/NZS 5601 do not apply to the Rinnai internal gas continuous flow water heaters when they are installed side by side.

AGA certification allows for a minimum horizontal separation of 175mm for roof terminals and 220mm for wall terminals.

For all other appliance dimensions, refer to "Table 1. Appliance Dimensions" on page 33.

CONDENSATE DRAIN

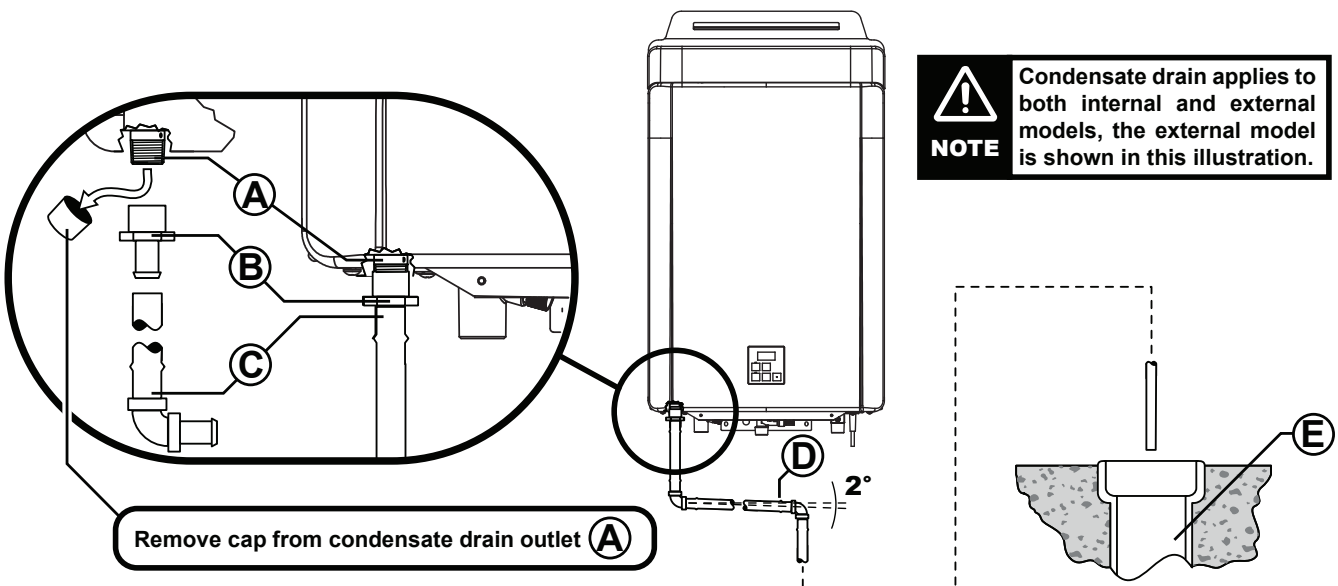
The REU-NB series water heaters generate condensate continuously at a rate of up to 7 litres per hour as a by-product of highly efficient gas burner system. This condensate must be drained via a pipe to a suitable point of discharge. Because the condensate is a by-product of gas combustion it is mildly acidic.

For this reason copper tube and fittings **MUST NOT** be used as it will corrode. Instead, Rinnai recommend plastic pipes and fittings such as Unplasticised Polyvinyl Chloride (UPVC) or Polyethylene (PE) which is commonly used for irrigation piping.

IMPORTANT CONSIDERATIONS FOR CONDENSATE DRAIN PIPE



The content of AS/NZS 3500 'Temperature / Pressure Relief and Expansion Control Valve Drain Lines' has been used as a guide in preparing these considerations.



- Ⓐ Water heater drain outlet connection, R $\frac{1}{2}$ " (15 mm) BSP male. Condensate drain outlet connection, 1/2" (15mm) BSP male nylon (Note: the black plastic shipping cap **MUST BE** removed from the condensate drain outlet prior to water heater operation).
- Ⓑ PE R $\frac{1}{2}$ " BSP (15 mm) female to barbed irrigation system connector (13 – 19mm) or equivalent plastic fitting.
- Ⓒ Drain pipe and fittings to match item Ⓑ.
- Ⓓ Continuous fall (of at least 2°) from water heater to discharge point. Lengths and bends in accordance with 'Length & Changes Of Direction' table below.
- Ⓔ Suitable points of discharge are deemed to be drains, sewers or pits. **DO NOT** discharge onto electrical connections, earth stakes, copper pipes, concrete paths or into a pond.

Length & Changes Of Direction

Maximum length and changes of direction greater than 45° should be as follows:

Lengths and changes of direction				
Max length (Metres)	9	8	7	6
Max changes of direction >45°	3	4	5	6

INSTALLATION METHOD

- (a) The drain line **MUST NOT** discharge onto electrical connections, earth stakes, copper pipes, concrete paths or into a pond.
- (b) The point of discharge from each drain line shall be located so that the release of condensate does not cause a nuisance, is readily discernible and incurs no risk of damage to the building.

In view of (a) and (b), suitable points of discharge are deemed to be drains, sewers or pits.

- (c) There shall be no tap, valve or other restrictions in any line.
- (d) Each line shall fall continuously from the valve to the approved point of discharge.
- (e) Drain lines shall not discharge into a storage water heater safe tray.

- (f) The end of the condensate drain line shall be:
 - (i) not lower than 200 mm or higher than 300 mm above an unpaved surface; or
 - (ii) not lower than 75 mm or higher than 300 mm above a gravel pit not less than 100 mm in diameter in a paved surface.
- (g) Where discharging over a tundish or gully trap, drain lines shall have an air gap of a size at least twice the diameter of the drain line.

Interconnection Of Condensate Drain Lines

Condensate drain lines from multiple water heaters may be joined together provided they conform with the requirements of the "Installation Method" on page 23.

Common Stack Discharge

Where individual water heaters are installed in a multi-storey building, the condensate drain lines may discharge into a common stack, subject to the following:

- (a) The discharge from the common stack is to a tundish, having a discharge line, that is not less than the size of the common stack, directly connected to a fixture trap, and installed in connection with any adjacent soil or waste stack.
- (b) The discharge point of the common stack is such that any discharge is readily visible and not cause any nuisance.
- (c) The common stack is vented by extending the pipe upwards, above the roof level.

Tundish Drain Lines

The drain line from any tundish shall be not less than DN 20 or less than one size larger than that of the largest drain line discharging into the tundish. Tundish drain lines shall comply with the requirements of the "Installation Method" on page 23.

Areas Subject To Freezing

In areas where water pipes are prone to freezing, the drain pipe from any valve shall be insulated and not exceed 300 mm in length. It shall discharge into a tundish through an air gap of not less than 75 mm and not more than 150 mm measured from the outlet of the drain pipe to the rim of the tundish.

WATER CONTROLLER INSTALLATION

GENERAL INFORMATION



Other manufacturers water controllers are **NOT** compatible with Rinnai water heaters. Water controllers **MUST NOT** be used with any Solar Boost water heater. Rinnai water controllers brought in from other countries are not compatible with Rinnai appliances sold in Australia.

Regardless of water controller installation, all Rinnai water heaters must only be installed by an Authorised person.

Water controllers, transceivers and water heaters **DO NOT** contain user serviceable parts and must **ONLY** be serviced and repaired by an authorised person.

Master / Sub Water Controllers & Associated Temperatures

Only one MC model water controller can be designated as the 'Master' water controller. This water controller is normally used in the kitchen and is the only* water controller able to select maximum temperatures in excess of 50°C (when available). In domestic situations a temperature of 55°C 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 control module of the REU-NB models is also able to select temperatures in excess of 50°C.

Some additional conditions regarding Master Controller maximum temperatures apply when a wireless water controller is used as the 'Master' water controller.

- (i) Temperatures of 55°C or higher can only be selected on the controller designated as the 'Master' water controller if the transceiver 'Max Temp' is also programmed to 55°C or higher.
- (ii) The temperature of hot water delivered is always limited to the maximum temperature programmed into the water heater itself. For example, if the transceiver maximum temperature is programmed to 55°C and the water heater is limited to 50°C, the maximum temperature that the water heater will deliver is 50°C. In this case 55°C will be displayed on the wireless Master Controller until a tap is opened after which the display will revert to 50°C.



The water heater maximum temperature cannot be adjusted by the user. These adjustments can **ONLY** be carried out by a qualified and licensed trades person.

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.

Adhesive labels are included for individual identification of wireless water controllers as master (Kitchen) or sub (Bathroom) water controllers. These labels are usually placed on the top back of the wireless water controller body.

Water Controllers Limitations

A maximum of **THREE** universal MC-601Q water controllers in total can be fitted.

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

- A maximum of **THREE** optional water controllers can be fitted.
- Only **ONE** master controller can be installed. This can be a deluxe kitchen (MC-145V), or any other MC model water controller (when programmed to be a 'Master' controller).



When a deluxe kitchen (MC-145V) water controller is fitted it will always function as a 'Master' controller, this is the default setting and can **NOT** be changed.

When fitted the 'Master' controller configuration of a MC-145V water controller overrides all other pre-existing wired or wireless 'Master' controller configurations.

- Up to a maximum of **TWO** additional water controllers can be fitted, these can be deluxe bathroom, universal or wireless water controllers.

To find out more about the full range of Rinnai water controller models, contact Rinnai or visit: www.rinnai.com.au.

Location



- **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 in accordance with AS/NZS 3000.
- 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 1500 mm). Water controllers **MUST BE** installed at least 400 mm above the highest part of a sink, basin or bath.
- When cleaning your water controller use **ONLY** a damp cloth and a mild detergent.

For water controller dimensions refer to "Table 1. Appliance Dimensions" and "Diagram 1. Dimensions" on page 33.

Communication Cables

Wired water controllers operate at an extra low voltage (12 Volts DC) which is supplied from the water heater, a 10 metre long communications cable is supplied for connection to the water heater. **ONLY** Rinnai supplied communication cables may be used. Optional longer per metre communication cabling Part No. 92078609 is available from Rinnai.

Connecting Communication Cables to Mini-Plug

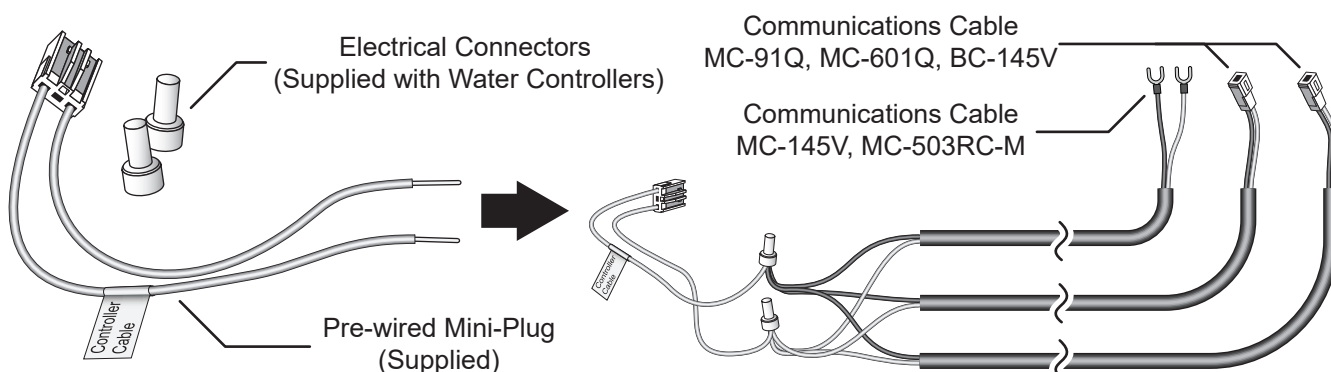


Installation **MUST** be completed by a qualified and licensed trades person.

DO NOT attempt to connect water controller cables to the mini-plug when it is plugged into the PCB unless the electric power to the water heater is switched 'off' otherwise damage to electrical components may occur.

Water controllers are connected to the PCB via a dedicated pre-wired mini-plug (supplied).

Use the supplied electrical cable connectors to terminate the water controller wires to those of the mini-plug. The existing spade connectors of the communication cables will need to be removed prior to termination. Controllers are not polarity sensitive, however to avoid confusion it is recommended that like coloured wires be terminated together.



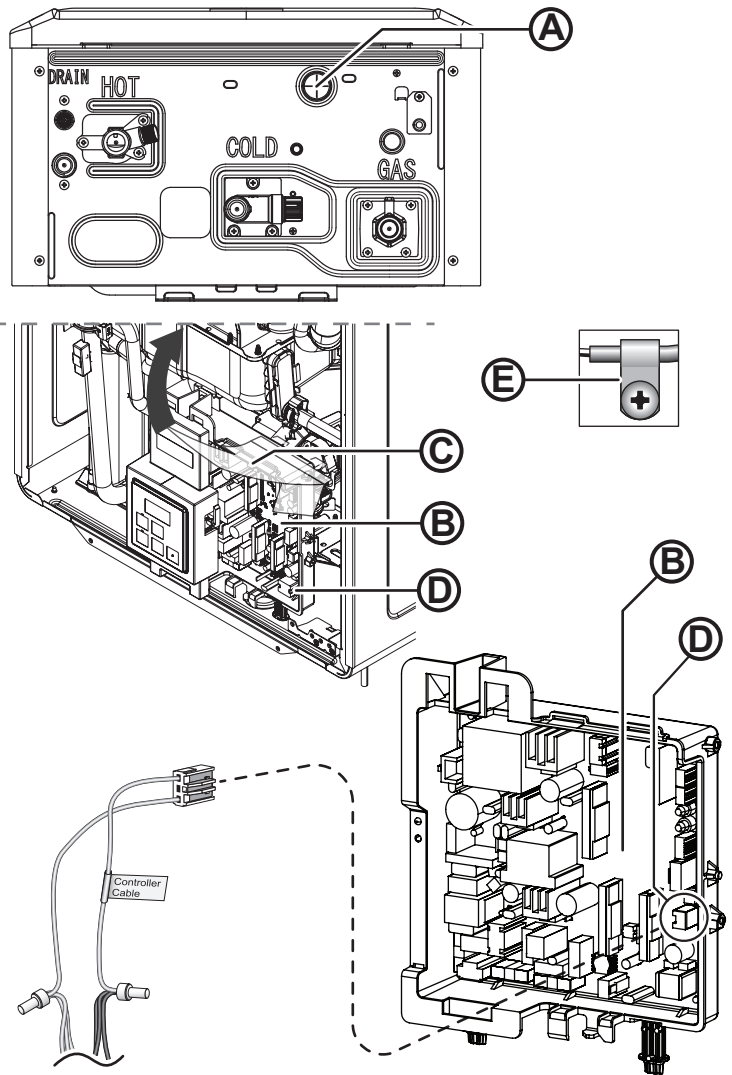
Connecting Communication Cables to PCB



Installation **MUST** be completed by a qualified and licensed trades person.

DO NOT attempt to connect mini-plug or water controller cables to the water heater unless the electric power to the water heater 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 cover of the appliance.
3. Insert the mini-plug and the connected water controller cables through the cable access **A** at the base of the appliance. Ensuring that the cable connectors are located inside the appliance for protection.
4. Locate the PCB **B**, (bottom right of appliance), and carefully flip open the plastic safety cover **C**.
5. Locate the accessory port socket **D** (bottom front of the PCB).
6. Plug the mini-plug into the accessory port socket **D** (the plug and socket are keyed so that they can only be plugged in the one direction).
7. Proceed with the water controller installation and connect the communication cables to controllers. Use cable clamp **E** to secure the wires.



UNIVERSAL WATER CONTROLLER (MC-601Q) INSTALLATION

1. Determine the most suitable position, refer "Location" on page 26.
2. Mark and drill 3 holes (mounting and cable access) refer to "Table 1. Appliance Dimensions" and "Diagram 1. Dimensions" on page 33 for water controller dimensions.

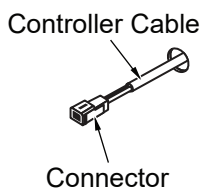


Fig. 1

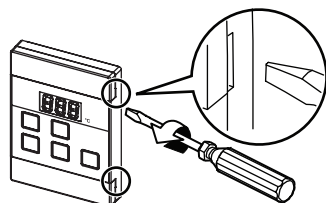


Fig. 2

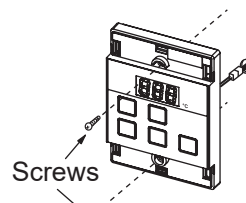


Fig. 3

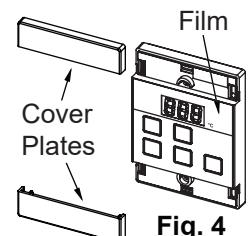


Fig. 4

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 & Activation Requirements



1 Are there three optional water controllers connected?

IF NO: You have two (or fewer) water controllers, go to Question 2.

IF YES: You will need to activate the third 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 (see Fig. 1) until a 'beep' is heard (approximately 5 seconds).

STEP 2: Check that the display on ALL THREE water controllers is lit and displaying a temperature when 'switched on'. If any ONE of the water controller displays two dashes (see Fig. 2) repeat STEP 1.

This completes the activation procedure for the third water controller, you may ignore Question 2.

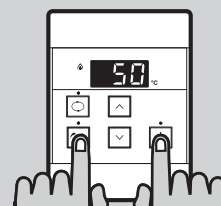


Fig. 1



Fig. 2



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.

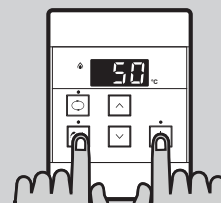


Fig. 3



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.

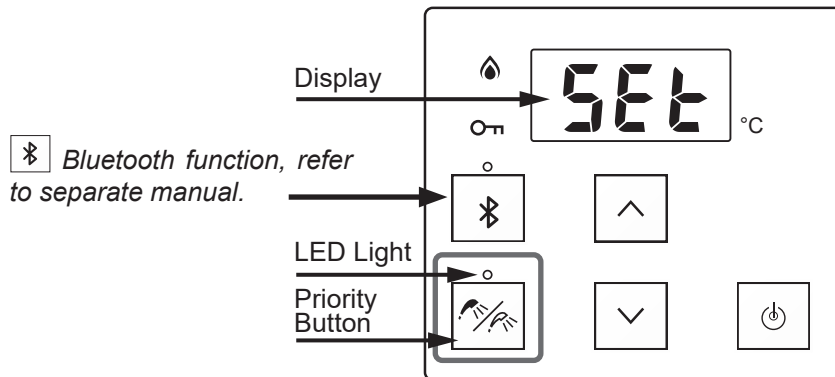
PROGRAMMING AND ACTIVATION REQUIREMENTS

The water heater is set up for Natural Gas installations as factory default. When power is connected for the first time, you need to choose the correct gas type.

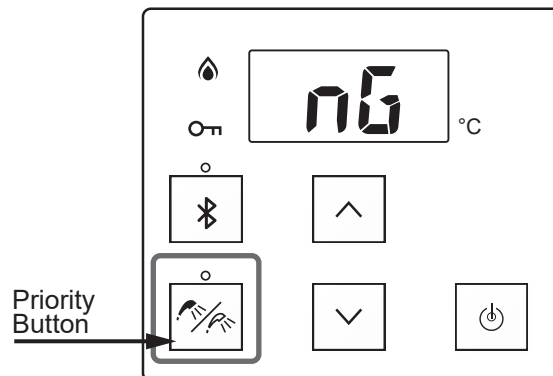


The Gas type setting **MUST** be the same as supplied Gas type. If proper settings are not selected before commissioning, it will cause a hazardous situation which may result in personal injury or property damage. If you accidentally select the wrong gas type which differs from the supplied gas type. Refer to Commissioning Instructions for details.

1. Supply power to the tankless water heater for the first time. The Control Module displays “SET” and the “Priority” button LED light on the controller is blinking.

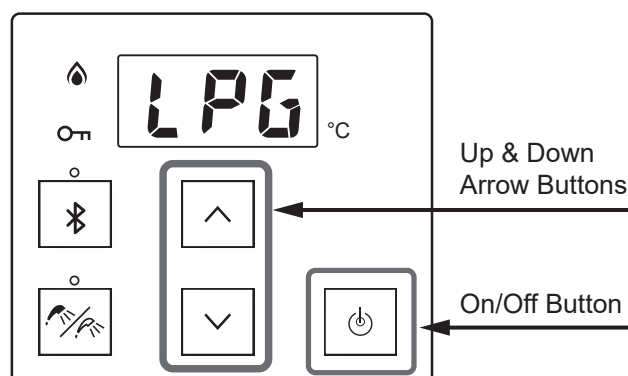


2. Press the “Priority” button . The Control Module displays “nG” (Natural Gas).




3. If the supplied gas is Natural Gas, Press the “On/Off” button to confirm natural gas; Attached Natural Gas label on the Dataplate.

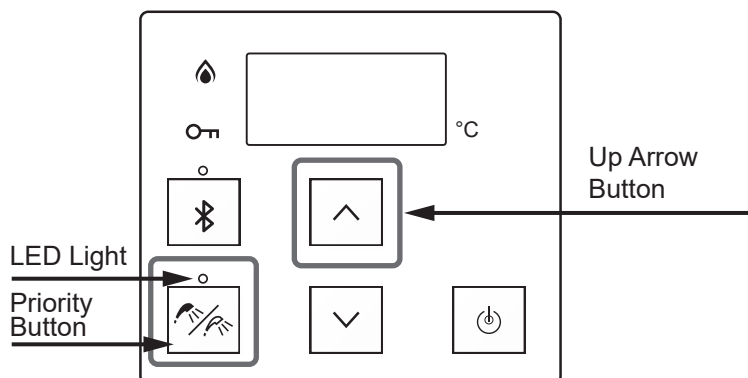
If using Propane Gas, Press the UP or DOWN arrow button. The Control Module displays “LPG” (Liquid Propane Gas). Press the “On/Off” button to confirm Propane gas.



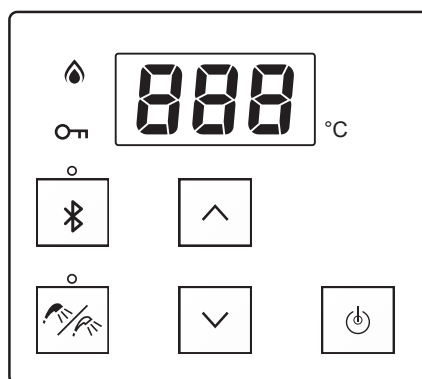
Attach the Propane Gas label on the Dataplate.


- If settings are correct, Press the “Priority” button .

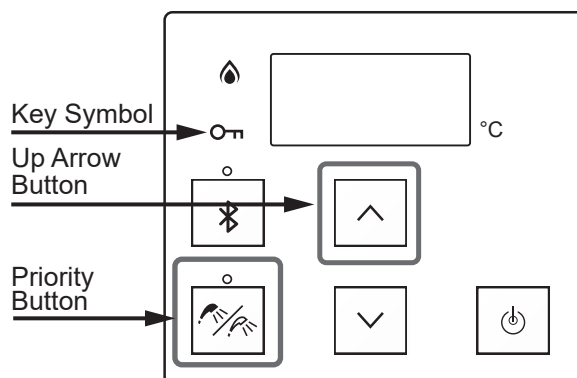
If settings are not correct, Press the up arrow button to return to step1. Repeat the steps starting at step 1.



- The Control Module briefly displays “888” and makes a beeping sound. Continue to complete initial settings while the controller is off.






- When settings are complete, the Control Module display will appear blank. Press the “On/Off” button  to turn on the unit.



The Control Module is automatically locked after 30 minutes of standby/inactivity. This feature applies to external (W/WC) models only (excludes FFC model).

To unlock the Control Module:

- Press and hold down the “Priority” button .
- While holding down the “Priority” button , press the up arrow button  until a beep is heard (approximately 5 seconds). Then release both buttons at the same time.



The key symbol on the Control Module will not illuminate, indicating the controller is unlocked.

TESTING

1. 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.
2. Turn on gas and cold water supplies.
3. Test for water leaks and gas escapes near the unit.
4. Isolate gas supply. Remove test point screw located on the gas inlet connection and attach pressure gauge.
5. Turn the power 'on' at the power point socket and turn on gas.
6. When the appliance is connected to the power for the first time, if there is nothing displayed on the status monitor press the control module ON/OFF button once to turn the appliance ON.
7. If water controllers are fitted, ensure they are 'ON', with the maximum delivery temperature selected and open **ALL** available hot water outlets. If none are fitted, simply open **ALL** available hot water outlets.



Ensure building occupants **DO NOT** have access to hot water outlets during this procedure.

8. Operate **ALL** other gas appliances at their maximum gas rate, in accordance with manufacturers instructions.
9. With all gas appliances in operation at maximum gas rate, the pressure should read between 1.13 - 3.0 kPa on Natural Gas. On LPG the pressure should be 2.75 - 3.0 kPa. 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.



DO NOT ADJUST the regulator / solenoid valve of the appliance, as it is factory pre-set and electronically controlled and so **DOES NOT** require **ANY** adjustment.

DO NOT change the gas type. The gas type **MUST** be the same as that found on the appliance labelling, if the gas type differs from that shown on the appliance, **DO NOT** proceed and contact Rinnai.

10. Close hot water taps including the shower.
11. 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.
12. If water controllers are fitted, it is necessary to test their operation through the complete range of functions (refer to the Operation sections of this manual).
13. Confirm the hot water delivery temperature(s) using a thermometer. If controllers are fitted, ensure temperatures exceeding 50°C cannot be selected on bathroom or ensuite controllers. Refer to the section 'Delivery Temperature' below for more details.
14. After testing is completed, explain to the householder the functions and operation of the water heater and water controllers (if fitted). Ensure the "Installation Record" on page 32 is filled in and that this booklet is handed to the customer. Reminding the customer to complete the Warranty Card and forward to Rinnai.

DELIVERY TEMPERATURE

50°C Compliant Models:

"50°C Compliant" appliances are factory set to deliver a maximum temperature not exceeding 50°C. For fine tuning they have an incremental adjustment mechanism that allows the installer to increase the appliance delivery temperature incrementally from the 'Factory Set' value to temperatures slightly exceeding 50°C. This is intended to enable compensation for temperature losses in the pipe-work between the water heater and any outlets and achieve the required temperature at the outlet. Instructions for incremental temperature adjustment are located in the instruction pocket inside the appliance front cover.

For All Other Models

Rinnai gas continuous flow water heaters are factory pre-set to various maximum delivery temperatures depending on model and their intended application. For the majority of applications, the factory pre-set temperature is appropriate. In the unlikely event it is not this setting can be increased or decreased by the installer. Instructions for changing the maximum delivery temperature are located in the instruction pocket inside the appliance front cover.

GAS SUPPLY & PRESSURES

DO NOT ADJUST the regulator / solenoid valve of the appliance, as it is factory pre-set and electronically controlled and so **DOES NOT** require **ANY** adjustment.

WIRING DIAGRAM

The wiring diagram is located in the instruction pocket inside the appliance front cover.

COMMISSIONING CHECK LIST

A commissioning check list is provided on the appliance front cover to enable the installer to step through the correct commissioning procedure when installing a Rinnai gas continuous flow water heater.

The check list can also assist the installer to identify potential installation errors that may prevent the appliance from operating correctly.

INSTALLATION RECORD

The Installation Record is a reference for the end user, help line staff and service technicians. Ensuring that this information is available here will be helpful in the event that a service enquiry is required.

Installer Details

Installation Company Name: _____

Address: _____

Telephone / Mobile Phone: _____ / _____

Email: _____

Certificate of Compliance / Certification No.: _____

Authorised Persons - Licence No.: _____

Installers Name: _____

Installers Signature: _____

Installation Date: _____

System Details

Water Heater - Model Number *: **REU-** _____

Water Heater - Serial Number *: _____

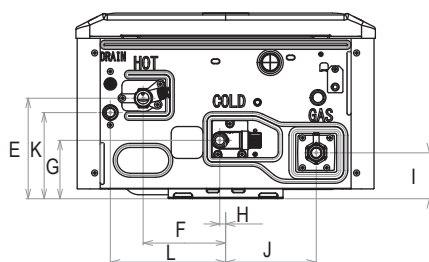
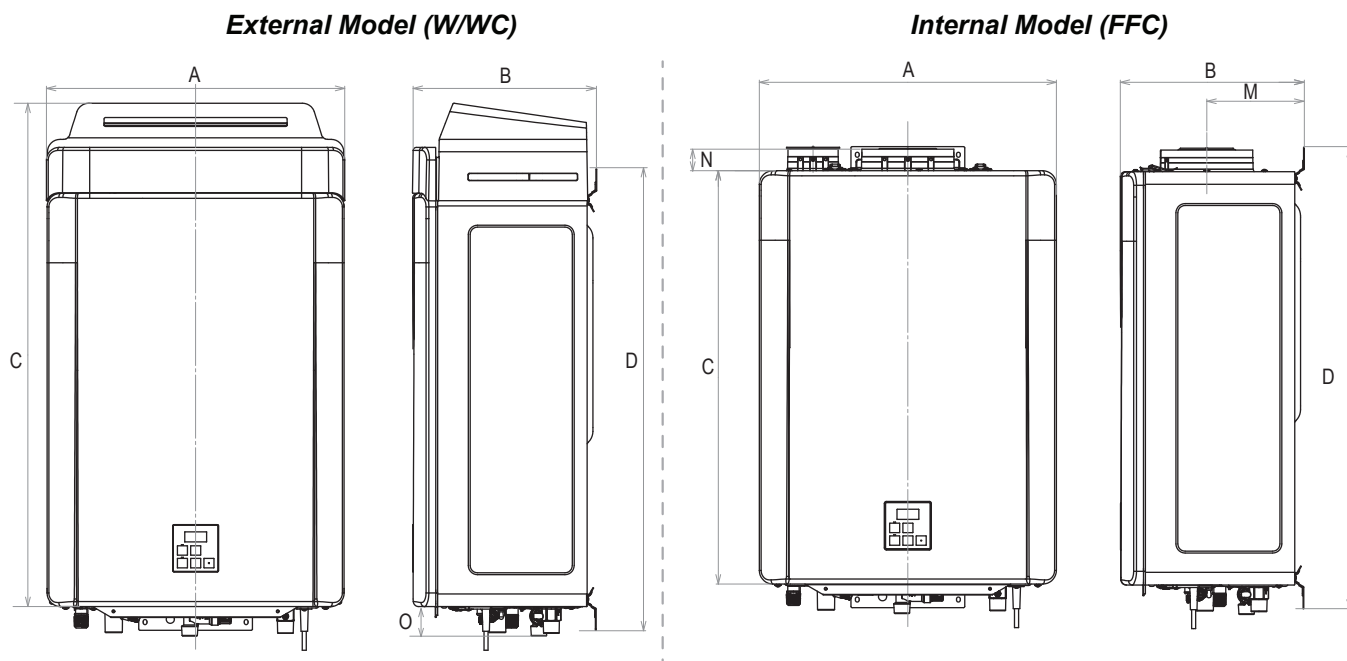
** This information will need to be copied from the data plate, located on the left hand side of appliance.*

Installation Address: _____

TABLE 1. APPLIANCE DIMENSIONS

Use this table in conjunction with "Diagram 1. Dimensions" below. All dimensions in mm unless otherwise stated.		Model			
		REU-NB3237W-AK <i>Infinity Enviro 32</i>	REU-NB3237WC-AK <i>Heavy Duty 32C</i>	REU-NB3237FFC-AK <i>Heavy Duty32C</i>	MC-601Q <i>Universal</i>
A	Width	472	472	470	90
B	Depth	289	289	291	21
C	Height Unit	796	796	654	120
D	Height Including Brackets	730	730	730	-
E	Hot Water outlet (from wall)	158	158	158	-
F	Hot Water outlet (left of centre)	130	130	130	-
G	Cold Water inlet (from wall)	91	91	91	-
H	Cold Water inlet (left of centre)	9	9	9	-
I	Gas Connection (from wall)	72	72	72	-
J	Gas Connection (right of centre)	142	142	142	-
K	Condensate Connection (from wall)	135	135	135	-
L	Condensate (left of centre)	181	181	181	-
M	Flue Spigot Centreline (from wall, FFC only)	-	-	154	-
N	Height of Flue Spigot (FFC only)	-	-	34	-
O	Gas Connection Length (from base)	43	43	43	-
	Cold Connection Length (from base)	48	48	48	-
	Hot Connection Length (from base)	41	41	41	-
	Condensate Connection Length (from base)	35	35	35	-
P	Vertical Mounting Hole Centres	-	-	-	84
Q	Cable Access Hole Size	-	-	-	Ø20
	Position	-	-	-	Centre

DIAGRAM 1. DIMENSIONS



All dimensions in mm unless otherwise stated.

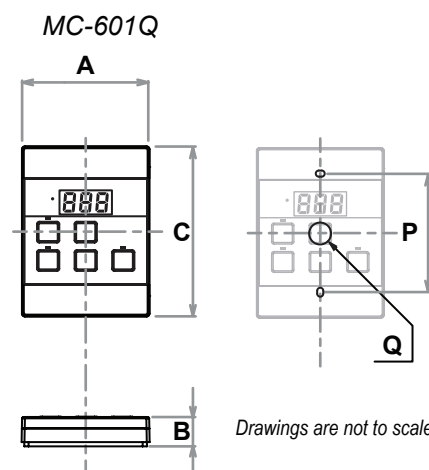


TABLE 2. SUPPLY, FLOW RATES, WEIGHTS & SERVICE CONNECTIONS

Model	Gas Rate	Water Supply Pressure		Max Flow at Temp Rise (at minimum water supply pressure)				Weight	Fittings			
		Min	Max						Hot	Cold	Gas	Cond.
	MJ/hr	kPa		L/min / °C				kg	(DN = mm)			
REU-NB3237W-AK <i>Infinity Enviro 32</i>	209	300	1000	40 / 20	32 / 25	20 / 40	16 / 50	27	R ¾ (20)	R ¾ (20)	R ¾ (20)	NPT (R) ½ (15)
REU-NB3237WC-AK <i>Heavy Duty 32C</i>	209	300	1000	40 / 20	32 / 25	20 / 40	16 / 50	27	R ¾ (20)	R ¾ (20)	R ¾ (20)	NPT (R) ½ (15)
REU-NB3237FFC-AK <i>Heavy Duty 32C</i>	209	300	1000	40 / 20	32 / 25	20 / 40	16 / 50	25	R ¾ (20)	R ¾ (20)	R ¾ (20)	NPT (R) ½ (15)

TABLE 3. MAXIMUM DELIVERY TEMPERATURES

- (a) Factory "Pre-Set" Maximum delivery temperature (°C)
- (b) Can the Factory "Pre-Set" Maximum delivery temperature be changed by an authorised person?

	Delivery Temperature			Delivery Temperature	
	(a)	(b)		(a)	(b)
<i>Non - 50°C Compliant - Models</i>			<i>50°C Compliant - Models</i>		
REU-NB3237W-AK <i>Infinity Enviro 32</i>	60	Yes	REU-NB3237W-50-AK <i>Infinity Enviro 32</i>	50	No
REU-NB3237WC-AK <i>Heavy Duty 32C</i>	75	Yes	REU-NB3237WC-50-AK <i>Heavy Duty 32C</i>	50	No
REU-NB3237FFC-AK <i>Heavy Duty 32C</i>	75	Yes	REU-NB3237FFC-50-AK <i>Heavy Duty 32C</i>	50	No

TABLE 4. OTHER ACCESSORIES

Contact Rinnai for more information about our accessory range and model suitability, or visit: www.rinnai.com.au.

SECURITY CAGE	Protects the Rinnai gas continuous flow water heater from theft and damage.
SECURITY BRACKET	Prevent theft of your Rinnai gas continuous flow water heater by securing it with the custom security bracket.
WATER CONTROLLERS	An extended range of Deluxe Kitchen, Deluxe Bathroom and Wireless water controllers are also available.

Rinnai Australia Pty Ltd

ABN 74 005 138 769 | AU45204

100 Atlantic Drive, Keysborough, Victoria 3173
P.O. Box 460, Braeside, Victoria 3195
Tel: (03) 9271 6625

National Help Line

Tel: 1300 555 545*

Monday to Friday, 8.00 am to 5.00 pm EST.

After Hours Hot Water Service Line

Tel: 1800 000 340*

**Cost of a local call may be higher from a mobile phone.
(National calls from public phones in Australia are free.)*

For further information visit **www.rinnai.com.au**
or email **enquiry@rinnai.com.au**

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. Rinnai recommends that this appliance be serviced every 2 years.

With our policy of continuous improvement, we reserve the right to change, or discontinue at any time, specifications or designs without notice.

U362-1802(00)



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