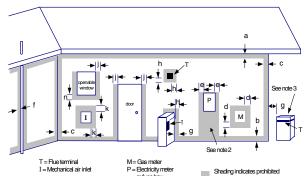
INSTALLATION – GENERAL (REU-3203W)

- The Infinity REU3203W is an externally mounted, power flued appliance. IT MUST ONLY BE FITTED OUTSIDE THE BUILDING.
- When determining a suitable position for the Infinity REU3203W, the length of hot water pipe runs should be taken into consideration. It is recommended that the Infinity be positioned as close as possible to the most often used taps or in a central; location between taps, showers etc. Alternatively, the REU3203W can also be fitted with a 'flow and return loop', which minimises the waiting time for hot water delivery. Contact Rinnai for further information.
- The location of the flue terminal must comply with the clearances shown in Figure 5.3 of AG601 / AS5601 - 2000 which is reproduced below. Note that AG601 / AS5601 – 2000 was current at the time of printing this document but may have been superseded. It is the installers responsibility that the current clearance requirements are met.
- * FIGURE 5.3 MINIMUM CLEARANCES REQUIRED FOR TERMINALS, FAN-ASSISTED FLUE TERMINALS, ROOM –SEALED APPLIANCE TERMINALS OR THE TERMINALS OF OUTDOOR APPLIANCES



	areas for flue termin	diS					
Ref.	Item	Min. clearances (mm)					
		Fan assisted					
а	Below eaves, balconies and other projections:						
	Appliances up to 50 MJ/h input	200					
	Appliances over 50 MJ/h input	300					
b	From the ground, above a balcony or other surface †	300					
С	From a return wall or external corner † 300						
d	From a gas meter (M) (see 4.7.11 for vent terminal location of regulator) 1000						
е	From an electricity meter or fuse box (P)						
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 †						
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	500					
	Appliances over 200 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/h input	150					
	Other appliances up to 50 MJ/h 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 approved for closer installatio

- All distances are measured to the nearest part of the terminal

- 1 All distances are measured to the nearest part of the terminal.
 2 Prohibited area below electricity meter or fuse box extends to ground level.
 3 See Clause 5.13.6.6 for restrictions on a flue terminal under a covered area.
 4 See Appendix J, Figures J2(a) and J3(a), for clearances required from a flue terminal to an LP Gas cylinder. A flue terminal is considered to be a source of ignition.
 5 For appliances not addressed above, approval shall be obtained from the Authority.

Note: *Contact Rinnai for exemptions for the above clearances which may have been granted since printing of this document.

- A 240V weatherproof external earthed power point is required within 1500 mm of the Infinity.
- The Infinity REU3203W weighs 29 kg and the wall on which it is to be mounted must be capable of supporting it and the associated pipework. Ensure that suitable fixing screws or bolts are used to secure the Infinity to the wall. Bracket and fixing hole locations are shown overleaf.
- The top bracket has a keyhole slot so that the Infinity can be positioned by hanging it on one screw, then the other screws can be secured. After determining the most suitable position, fix the Infinity to the wall.

- Positions of the cold water inlet, hot water outlet and gas connections are shown overleaf. All connections are R ¾ (20mm). This is NOT an indication of the pipe sizes required. The Infinity 32 can use up to 250 MJ/h of gas. If the gas pipe sizing is insufficient the customer will not get the full performance benefit. The gas meter and regulator must also be correctly specified for this gas rate.
- Gas pipe sizing must be performed for each installation using an approved sizing chart (such as the one in AG601 / AS5601). Water pipe sizing should be performed in accordance with AS3500. Approved isolation valves MUST be fitted to both the cold water and gas inlets.

RECESS BOX

• The Infinity REU3203W can be 'recessed' into the wall for flush fitting reducing even further the space required. A custom made Rinnai Infinity Recess Box must be used for this purpose.

TEMPERATURE FLOW SWITCH (TFS02)

• The Infinity REU3203W can be fitted with the Rinnai Temperature Flow Switch (TFS02). This allows delivery of water at 50 °C to areas used primarily for personal hygiene, as detailed in AS3500.4.2 Clause 1.6.2. It must be fitted in accordance with the Installation Instructions provided with it.

REMOTE CONTROLS

- Remote Controls are an optional extra. 'Standard' and 'Deluxe' controls. can be fitted. Standard controls allow temperature selection only. Deluxe controls have temperature selection, bathfill and intercom functions.
- Both 'Standard' and 'Deluxe' controller versions have 'kitchen' and 'bathroom' models. 'Kitchen' controls are intended for the kitchen or other convenient area where the majority of hot water is used. Bathroom controllers are intended to be fitted conveniently close to the shower recess, in the bathroom, en-suite or other area where the user requires priority over water temperature selection. All Bathroom controllers enable the user in the shower/bath area to lock in the selected water temperature, so that the temperature cannot be changed from another controller. Deluxe bathroom controllers also enable the user to have the bath filled to the required level and temperature automatically.

One kitchen controller and up to 2 bathroom controllers can be fitted as follows:

Standard Controllers'

Kitchen controller model MC33 Bathroom controller model BC45 Second Bathroom or (ensuite) controller model BSC45.

NOTE: The functionality and appearance of bathroom controller models BC45 and BSC45 are identical. However, the electrical configuration is different and when two 'Standard' bathroom controllers are fitted they must be a BC45 and BSC45.

Deluxe Controllers'

Kitchen controller model MC70

Bathroom and Second bathroom (or ensuite) controller model BC70

NOTE: When two 'Deluxe' bathroom controllers are fitted they are both BC70 models.

Positioning of Controllers

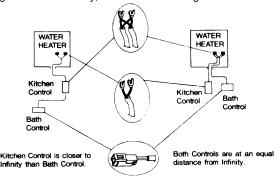
When deciding remote controls positioning, the following should be

- The requirements of AS3000 "SAA Wiring Rules"
- Fit the controls out of reach of children (suggested height from floor at
- Avoid positions where the remote controls will become hot (eg. Over hot plates, near ovens or heaters)
- If possible, avoid direct sunlight (the Digital Monitor is difficult to read)
- Avoid fitting Remote Controls near cooking appliances where they may be subjected to oil splashing etc.
- Bathroom controllers are water resistant, however durability is improved when positioned outside a shower recess
- When mounted against a metal wall, the wall must be earthed in accordance with AS3000.

Remote control cables

- Remote controls operate on 12V DC (extra low voltage), which is supplied from the Infinity unit. Controllers are supplied with 10 metres of electrical cable and connections. If more cable is needed, any multistranded cable with similar specification to the cable supplied can be used. Maximum cable length is 50m.
- Polarity (+ or -) does not need to be considered when connecting controllers. Either colour wire can be connected to either terminal at both the Infinity or kitchen controller.

• Cables can be individually run from each controller back to the Infinity, or can be connected in parallel ('piggybacked') to a common cable running back to the Infinity, as shown in the diagram below.

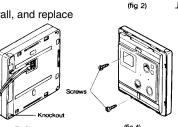


FITTING THE KITCHEN CONTROL MC-33

- Determine the most suitable position for the Remote Control. Consider access by children.
- Drill 3 holes in the wall, as shown, one for the cable and two for the securing screws. Ensure holes are level. (fig 1)
- Run the cable provided between the Remote Control and the Infinity water heater.
- Remove the faceplate from the Remote Control, using a screwdriver, (fig 2)
- Connect the cable to the Remote Control as shown. (fig 3) Either colour wire can be connected to either terminal.

Note: If the cable cannot be run in wall cavity. In this case, the plastic "knockout" should be removed from the top or bottom of the Remote Control.

• Fix the Remote Control to the wall, and replace the faceplate. (fig 4)



Outline of Remote Control

120

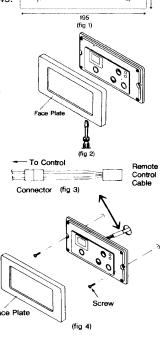
(fig 1

- - - Securing

Screw 20 W

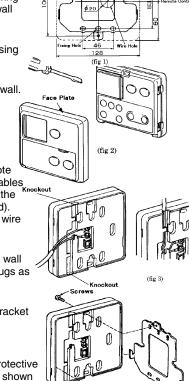
FITTING THE BATH CONTROL BC-45/BSC-45

- Determine the most suitable position for the Remote Control. Consider access by
- Drill 3 holes in the wall, as shown, one for the cable and two for the securing screws. Ensure holes are level. Fit wall plugs if required (fig 1)
- Run the cable provided between the Remote Control and the Infinity.
- Remove the faceplate from the Remote Control using a screwdriver. (fig 2)
- Connect the BC-45 / BSC-45 Remote Control to the cable, using the end of the cable with the connector fitted. (fig
- Fix the Remote Control to the wall. and replace the faceplate (fig 4)

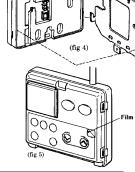


FITTING THE 'DELUXE' KITCHEN CONTROL MC-70

- Determine the most suitable position for the Remote Control
- Drill 3 holes in the wall, as shown in Fig 1, one for the cable and two for the securing screws. Ensure holes are drilled. Fit wall pluas if required.
- Fix the mounting bracket to the wall using the screws provided
- Run the cable through the hole in the wall.
- Remove the face plate from the Remote Control, using a screw driver
- Connect the cable to the kitchen remote control as shown in (fig 3). Connect cables from bathroom controllers (if fitted) to the kitchen remote control also (if required). Polarity is not important: either colour wire can be connected to either terminal.
- Note: If the cable cannot be run in the wall cavity, remove the plastic 'knockout' lugs as shown in Fig 3
- Fix the Kitchen controller to the wall bracket and fasten with phillips head screws supplied (M4 x 12) as shown in Fig 4
- Open the flip panel and remove the protective plastic film from the controller face as shown in Fig 5)
- Close the flip panel.



15

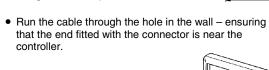


Outline of Remote Contro

(fig 1)

FITTING THE 'DELUXE' BATH CONTROL BC-70

- Drill 3 holes in the wall, as shown in Fig 1 one for the cable and two for the securing screws. Drill holes to ensure controller position will be level when installed. Fit wall plugs if required.
- Fix the mounting bracket to the wall using the screws provided



 Remove the face plate from the Remote Control, using a screw driver (fig 2)

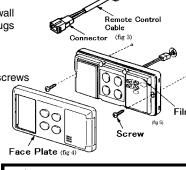
 Connect the cable to the bathroom remote controller

Note: If the cable cannot be run in the wall cavity, remove the plastic 'knockout' lugs as shown in Fig 3

 Fix the bathroom controller to the wall bracket and fasten with phillips head screws supplied (M4 x 12) as shown in Fig 4

 Open the flip panel and remove the protective plastic film from the controller face as shown in Fig 5)

Close the flip panel.





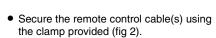
Face Plate (fig 2)

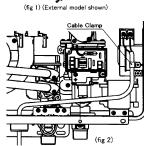


CONNECTING REMOTE CONTROL CABLE(S)

- Isolate power supply. DO NOT ATTEMPT TO CONNECT THE REMOTE CONTROL CABLE WITH POWER ON.
- Remove the cover from the Infinity (4 screws) Fia 1.
- Thread the cable(s) through the cable access hole at the base at the Infinity, then connect to the Remote Control terminals on the Printed Circuit Board (PCB) housing as labeled (fig 2). Polarity is not important. Either colour can be connected to either

NOTE: Fig 2 shows one set of controller cable terminals connected to the PCB terminals. Multiple controller cable terminals can be fitted to the PCB in parallel.





TESTING

The gas supply to the Infinity unit should be checked as part of the commissioning process as outlined below:

Checking Gas Supply

- Purge gas and water pipes to remove air and swarf. Swarf in either the gas or water supplies may damage the Infinity unit.
- Remove the water filter on the Infinity water inlet connection, and inspect for blockage. Clean if necessary and reinstall.
- Check that all pipes are correctly connected to the Infinity unit.
- Turn on gas and water.
- Test for water leaks and gas escapes. Use soapy water to check for gas leaks.
- Turn 'OFF' gas supply.
- Remove the screw from the test point on the appliance gas inlet connection and attach pressure gauge.
- Turn 'ON" the gas supply.
- Turn the power 'ON' at the power point socket.
- If remote controllers are fitted, turn the unit 'on' at the kitchen controller, select a delivery temperature of 55°C and open ALL available hot water taps. If remote controllers are not fitted, open ALL available hot water taps. (CAUTION: Ensure building occupants do not have access to hot water outlets during this procedure.
- Turn on ALL other gas appliances at their maximum gas rate, in accordance with manufacturers instructions.
- With all gas appliances running at maximum gas rate, the pressure gauge at the test point of the Infinity should read at least 1.13 kPa on Natural Gas or higher depending on your area. On LPG the pressure should no less than 2.75 kPa. If it is not, the gas supply is inadequate and the Infinity unit will not operate to specification. Check gas meter, regulator and pipework for correct operation/sizing as required until the required gas pressure is achieved.



CORRECT GAS PIPE SIZING IS VERY IMPORTANT. IF GAS PIPE IS INSUFFICIENT, THE CUSTOMER WILL NOT GET THE FULL PERFORMANCE BENEFIT. CHECK MAXIMUM CONSUMPTION TO CALCULATE THE PIPE SIZING

USE A SUITABLE PIPE SIZING CHART (FOR EXAMPLE THE CHARTS IN AG601) TO CALCULATE PIPE SIZING

GAS PRESSURE SETTING

The regulator on the Infinity is electronically controlled and factory preset. Under normal circumstances it does not require adjustment during installation. Perform this procedure only if the unit is not operating correctly and all other possible causes for incorrect operation have been

Fig. 1

Prop.G

8

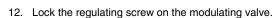
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Fig 2

- 1. Turn 'OFF' the gas supply
- 2. Turn 'OFF' 240V power supply.
- Remove the front cover from the appliance.
- Check gas type switches (fig. 1) are in the correct position (top set or SW1 of switches).
- Attach pressure gauge to burner test point. (fig. 2)
- Turn 'ON' the gas supply
- 7. Turn 'ON' 240V power supply.
- If remote controllers are fitted, turn the unit 'ON' at the kitchen controller, select a delivery temperature of 55°C and open a hot water tap fully. (CAUTION: Ensure building occupants do not have access to hot water outlets during this procedure.
- Set the Infinity to 'Forced Low' combustion by setting N°. 2 dipswitch of the bottom (SW2) set of dip switches to 'ON'. (fig 3)
- 10. Check the burner test point pressure.
- Adjust the regulator screw on the modulating valve as required to the pressure below. (fig 4) PRESSURE SETTING LOW Low Pressure

N.G.	0.161 KPa
Prop.G	0.345 KPa
I PG	0.345 KPa



Set the Infinity to 'Forced High' combustion by setting both N°. 2 and N°. 3 dipswitches of the bottom (SW2) set to 'ON'. (fig 5) Ensure maximum



Fig. 4

(Regulating Screw)

- 14. Check the burner test point pressure.
- Adjust the high pressure Potentiometer (POT) on the Printed Circuit Board (PCB). As required to the pressure shown.
- PRESSURE SETTING HIGH .740 KPc 1.76 KPa Pron.G I PG 1.53 KPa
- **IMPORTANT**: Set dip switches N°'s 2 and 3 on the bottom (SW2) set of switches to 'OFF' to return the appliance to 'Normal'
- 17. Close hot water tap.
- 18. Turn OFF the gas supply and 240V power supply.
- 19. Remove pressure gauge, and replace sealing screw.
- 20. Turn 'ON' the gas supply and 240V power supply.
- 21. Operate unit and check for gas leaks at test point.
- 22. Replace the front cover of the appliance.

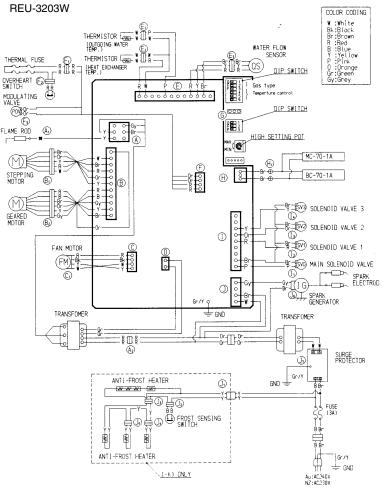


WARNING

DURING PRESSURE TESTING OF THE INSTALLATION ENSURE GAS COCK SITUATED BEFORE UNIT IS SHUT-

FAILURE TO DO SO MAY RESULT IN SERIOUS DAMAGE TO THE APPLIANCE AND POSSIBLE INJURY

WIRING DIAGRAM



DIAGNOSTIC POINTS

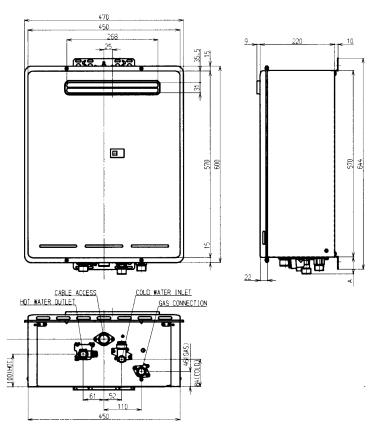
FLOW O-WRT	COMPONENT	MEASUREMENT POINT		NORMAL VALUE	A NOTE
No.		CN	WIRE COLOUR	THOM THE THEOE	7, 1,012
1	SURGE PROTECTOR	J	W-Bk	AC207~264V	
			R-B	DC11~13V	OPERATE ELECTRICITY
_			Gy-Or	DC11~13V	CONTROL ELECTRICITY
(2) (16)	WATER FLOW CONTROL DEVICE	B ₂	Gy-Y	BELOW DC1V(LIMITER ON) DC4~6V(LIMITER OFF)	FULL OPEN POSITION
			Gy-Br	BELOW DC1V(LIMITER ON) DC4~6V(LIMITER OFF)	FULL CLOSE POSITION
3	BY-PASS FLOW CONTROL DEVICE	B ₁	Br-W Or-W	DC2~6V	OPERATE CONDITION
			Y-W R-W GND	15~35kΩ	
4	REMOTE CONTROL	Hı	Br-Br	DC11~13V	
<u></u>		_	R-Bk	DC11~13V	ON2.71/MIN (30Hz) OVER 1800PULSE/MIN
(5)	WATER FLOW SENSOR	Ез	Y-Br GND	DC4~7V(PULSE 17~460Hz)	OFF2.01/分(20Hz) BELOW 1200PULSE/MIN
6	COMBUSTION FAN	С	₩-Br GND	DC2~9V	
_		Ŭ	CHECK TERMINAL	60~360Hz AC100~160V	NO FLAME CONDITION
7	FLAME ROD	A۱	Y-BODY EARTH	OVER DC1 #A	FLAME CONDITION
8	MODULATING VALVE	F ₃	Or-Or	AC1.0~25V 70~90Ω	
9	Outgoing thermistor Heat exchanger Outgoing thermistor	E ₁	W-W	15*C···11.4~14.0kΩ 30*C··· 6.4~ 7.8kΩ 45*C··· 3.6~ 4.5kΩ 60*C··· 2.2~ 2.7kΩ 105*C··· 0.6~ 0.8kΩ	
110	THERMAL FUSE	F₁	R-R	BELOW 1Ω	
①	IGNITER	J ₆	Gy-Br	AC90~110V	
12	MAIN SOLENOID VALVE	I,	P-Br	DC80~100V 1.5~1.9k Ω	
(3)	SOLENOID VALVE 1	I ₂	R-Br	DC80~100V 1.8~2.2kΩ	
14)	SOLENOID VALVE 2]3	Or-Br	DC80~100V 1.8~2.2kΩ	
(15)	SOLENOID VALVE 3	14	Y-Br	DC80~100V 1.8~2.2kΩ	

TRANSFORMER VOLTAGES AND RESISTANCE

MC-33

CN	WIRE COLOUR	NORMAL VALUE
A ₂	R-R	AC90~110V 12~21Ω
D	Gr—Gr	AC12~18V 2.4~4.3Ω
Α	Br−Gy	AC30~50V 2,2~3.9Ω
Α	Y—Gy	AC180~220V 300~530Ω

DIMENSIONS



REMOTE CONTROLS

