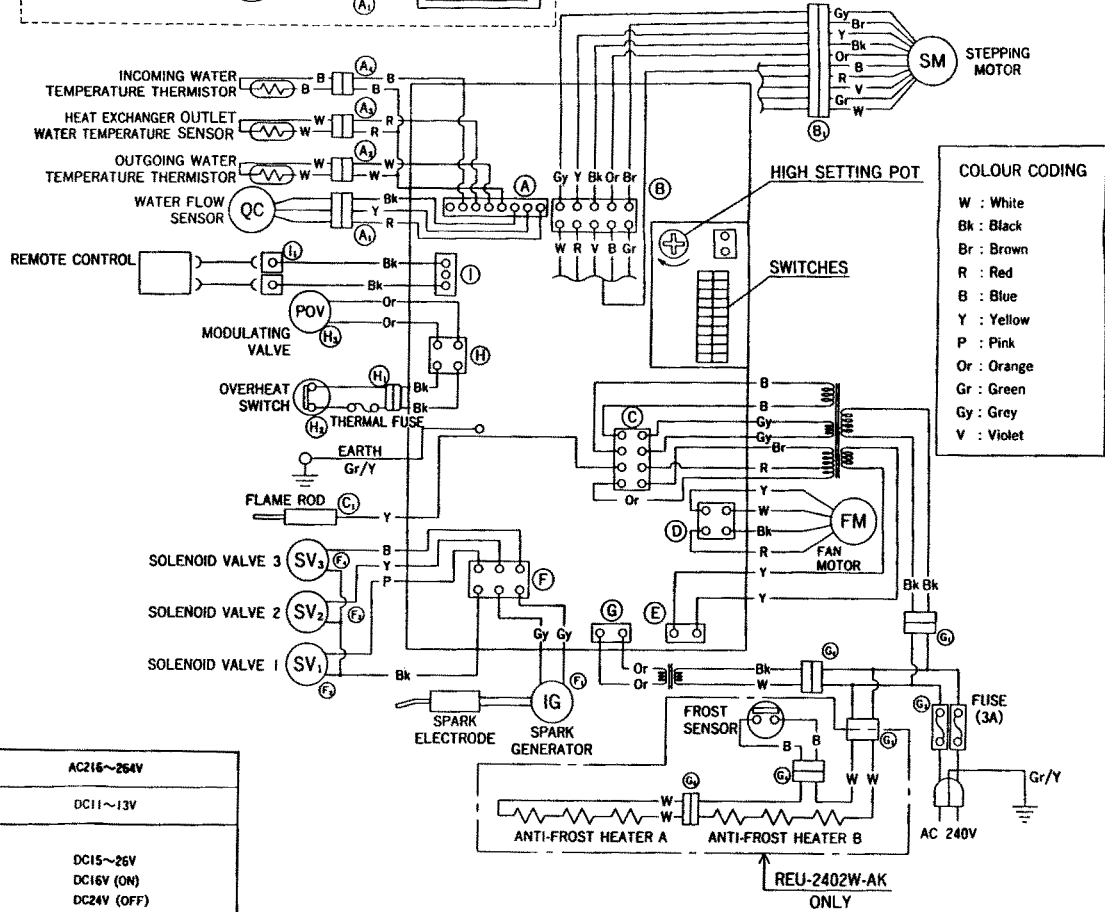
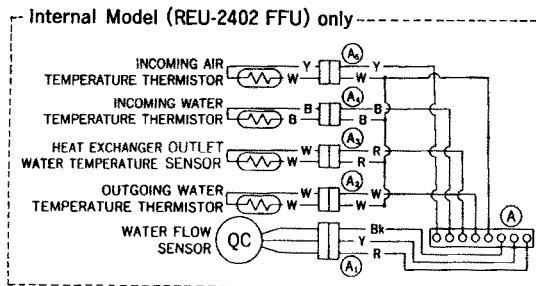


# WIRING DIAGRAM

**REU-2402W**  
**REU-2402FFU**



## DIAGNOSTIC POINTS

①	FUSE	G <sub>2</sub>	Bk - W	AC216~264V
②	REMOTE CONTROL	I <sub>1</sub>	Bk - Bk	DC11~13V
③	STEPPING MOTOR	B <sub>1</sub>	Y	DC15~26V
			Or	DC16V (ON)
			Bk	DC24V (OFF)
			Br	
			W < Y	90~130Ω
			Gy < Bk	90~130Ω
			R - Gr	DC11~13V
			V - Gr	DC0~-0.4V (LIMITER OPEN : ON) DC4~-6V (LIMITER OPEN : OFF)
			B - Gr	DC0~-0.4V (LIMITER CLOSED : ON) DC4~-6V (LIMITER CLOSED : OFF)
④	WATER FLOW SENSOR	A <sub>1</sub>	R - Bk	DC11~13V
			Y - Bk	DC2~10V
⑤	FAN MOTOR	D	Bk - R (+)	DC6~40V, 3.9~4.9kΩ (EXTERNAL) DC6~50V, 4.2~5.2kΩ (INTERNAL)
			Bk - Y	DC11~13V
			Bk - W	DC2~10V
⑥	INCOMING WATER TEMPERATURE THERMISTOR	A <sub>4</sub>	B - B	DC1~10V 15°C 11.4~14.0kΩ, 30°C 6.4~7.8kΩ, 45°C 3.6~4.5kΩ
⑦	OUTGOING WATER TEMPERATURE THERMISTOR	A <sub>2</sub>	W - W	DC1~10V 15°C 11.4~14.0kΩ, 45°C 3.6~4.5kΩ, 75°C 1.4~1.8kΩ
⑧	HEAT EXCHANGER OUTLET WATER TEMPERATURE SENSOR	A <sub>3</sub>	W - W	DC1~10V 15°C 11.4~14.0kΩ, 45°C 3.6~4.5kΩ, 75°C 1.4~1.8kΩ
⑨	FLAME ROD	C <sub>1</sub>	Y - EARTH	AC40~150V (ABOVE DC 1μA)
⑩	THERMAL FUSE	H <sub>1</sub>	Bk - Bk	UNDER 1Ω
⑪	OVERHEAT SWITCH	H <sub>2</sub>	Bk - Bk	UNDER 1Ω
⑫	SPARK GENERATOR	F <sub>1</sub>	Gy - Gy	AC90~110V
⑬	SOLENOID VALVE 1	F	P - Bk	DC80~100V 610~810Ω
⑭	SOLENOID VALVE 2	F	Y - Bk	DC80~100V 950~1420Ω
⑮	SOLENOID VALVE 3	F	B - Bk	DC80~100V 950~1420Ω
⑯	MODULATING VALVE	H <sub>3</sub>	Or - Or	DC0.5~25V 69~89Ω
⑰	INCOMING AIR TEMPERATURE THERMISTOR	A <sub>5</sub>	Y - W	DC1~10V 15°C 11.4~14.0kΩ 30°C 6.4~7.8kΩ 45°C 3.6~4.5kΩ

## TRANSFORMER NORMAL READINGS

G <sub>1</sub>	Bk - Bk	AC216~264V 5~7Ω
C	Or - R	AC190~240V 250~320Ω
C	B - B	AC25~50V 3~5Ω
C	Br - R	AC10~16V 0.5~1.0Ω
C	Gy - Gy	AC20~28V 0.8~1.4Ω
E	Y - Y	AC10~16V 3~5Ω
G <sub>2</sub>	Bk - W	AC216~264V 66~82Ω
G	Or - Or	AC90~110V 18~22Ω



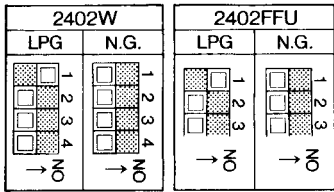
## WARNING

During pressure testing of the installation ensure gas cock situated before unit is shut-off. Failure to do so may result in serious damage to the appliance and possible injury.

## GAS PRESSURE SETTING PROCEDURE

1. Check gas type switch is in correct position.

### IMPORTANT



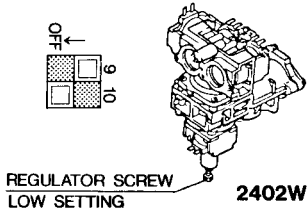
2. Attach pressure gauge to pressure test point.  
Turn heater on.

3. Set No.9 switch to ON. Remove plug in base of heater for access to regulator screw. Adjust regulator screw on modulating valve.

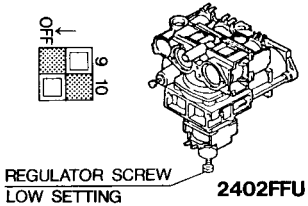
### PRESSURE SETTING LOW

	2402W	2402FFU
LPG	0.13kPa	0.18kPa
N.G.	0.06kPa	0.07kPa

Lock Regulator Screw.

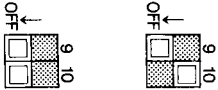


REGULATOR SCREW LOW SETTING 2402W



REGULATOR SCREW LOW SETTING 2402FFU

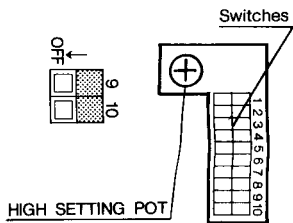
4. Switch No.9 "OFF" and switch No.10 "ON".



5. Adjust pressure by POT on P.C.B. When completed switch No.10 to "OFF".

### PRESSURE SETTING HIGH

	2402W	2402FFU
LPG	2.00kPa	2.06kPa
N.G.	0.70kPa	0.68kPa



HIGH SETTING POT

6. Turn heater off.
7. Remove gauge replace screw.
8. Replace plug in base.

**NOTE:** The regulator is factory pre-set, it should not need adjusting. Check incoming pressure before attempting to make any change to the appliance regulator.

### ■ TESTING

- Turn on Gas and Water.
- Test for water leaks and gas escapes. Use soapy water to check for gas leaks.
- Remove pressure test point screw, attach pressure gauge to test point.
- Turn power on (Caution 230/240V inside unit).
- Turn Infinity on at Kitchen Remote Control. Set temp to 55°C. Open any hot water tap fully.
- Check test point pressure.
- Refer to tables in gas pressure setting procedure column.
- If the pressure is low, there could be various reasons eg. warm incoming water, low water flow, gas pipes too small.
- If it is established that the gas pressure needs adjusting, first check the pressure at the incoming pressure test point (on the gas inlet). If the incoming pressure is correct, follow the instructions EXACTLY according to the information provided above. IF IN DOUBT, CONTACT RINNAI.
- Turn hot water off. Turn power off. Remove pressure gauge and replace test point screw.
- Replace front cover (4 screws).
- Turn power on. Turn Infinity ON at either Remote Control.
- Check operation of appliance by ensuring that the Remote Controls are functioning correctly.

### FAULT/FAILURE PROCEDURE

If you are unable to get the Infinity to operate correctly, contact Rinnai, or your local agent.



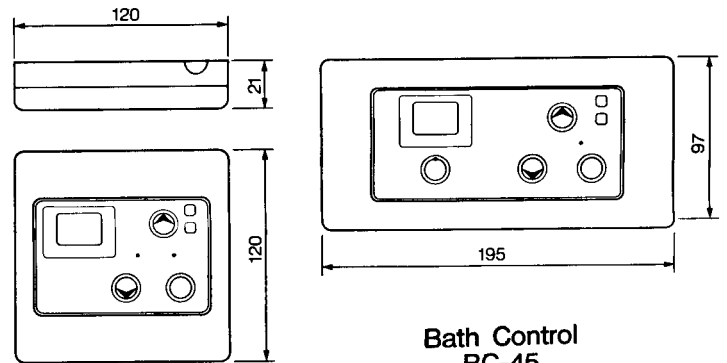
**CORRECT GAS PIPE SIZING IS VERY IMPORTANT.**

**IF GAS PIPE SIZE IS INSUFFICIENT, THE CUSTOMER WILL NOT GET THE FULL PERFORMANCE BENEFIT.**

**CHECK MAXIMUM CONSUMPTION TO CALCULATE THE PIPE SIZING.**

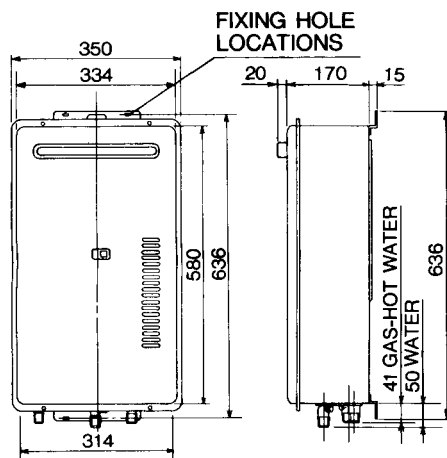
**USE A SUITABLE PIPE SIZING CHART (FOR EXAMPLE THE CHARTS IN AG601) TO CALCULATE PIPE SIZING.**

### REMOTE CONTROLS

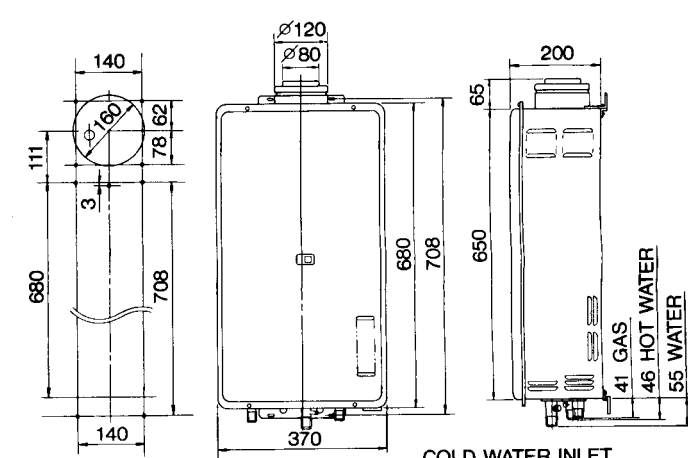


Kitchen Control MC-33

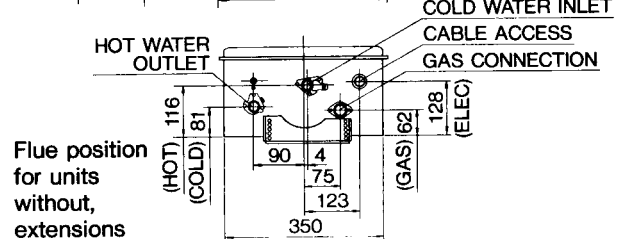
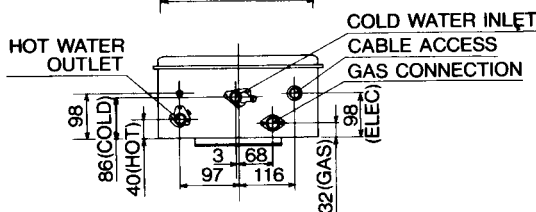
Bath Control BC-45 BSC-45



EXTERNAL MODEL



INTERNAL MODEL



Flue position for units without extensions

## INSTALLATION-GENERAL

### ■ UNIT

A 230/240 V weatherproof external earthed power point is required within 1500 mm of the Infinity and a standard earthed power point within 1500 mm of the internal Infinity.

The Infinity weighs approx. 20~25 kg, depending on the model and the wall on which it is to be mounted must be capable of supporting it and 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.

CHECK PIPE SIZING REQUIREMENT USING AN APPROVED PIPE SIZING CHART (eg: Charts in AG601).

Connect hot and cold water and gas pipes. Approved valves **MUST BE FITTED** to both the cold water inlet and the gas inlet.

In areas where the water pressure is over 1000 kPa, a pressure limiting valve must also be fitted. Both connections are R<sup>3</sup>/<sub>4</sub>/20.

Locations are shown overleaf.

The Infinity range can use up to 188 MJ/h of gas.

**IF THE GAS PIPE SIZE IS INSUFFICIENT, THE CUSTOMER WILL NOT GET THE FULL PERFORMANCE BENEFIT.** An approved isolation valve **MUST BE FITTED** to the gas inlet. Connection size is R<sup>3</sup>/<sub>4</sub>/20. This is not an indication of the size of pipe required.

Check the data plate for gas inlet.

The Infinity water heater is not suitable for use as a pool heater.

**The internal Infinity must only be installed with the Rinnai Special approved flueing system. Flueing instructions are packed with flue components.**

## REMOTE CONTROLS

### ■ REMOTE CONTROLS

The Remote Controls enable the customer to control the functions of the Infinity. Before fitting the Remote Controls, determine the most convenient positions for installation where the customer will benefit the most.

The MC-33 Kitchen Control is intended to be fitted in the kitchen or other convenient area where the majority of hot water is being used.

The BC-45 Bath Control is intended to be fitted conveniently close to the shower, in the bathroom, en-suite or other area where the customer requires priority over water temperature selection.

The BC-45 Bath Control enables the person in the shower/bath area to lock in the selected water temperature, so that the temperature can not be changed from the MC-33 Kitchen Control.

The BSC-45 Bath Control is intended for use in a second bathroom or ensuite.

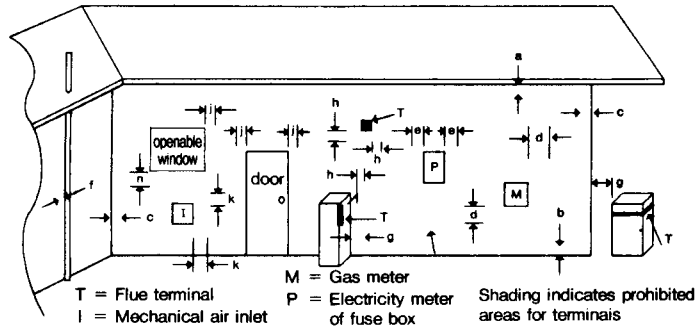
## POSITIONING

■ The external model is an externally mounted, power flued appliance. **IT MUST ONLY BE FITTED OUTSIDE THE BUILDING.**

■ When determining a suitable position for the Infinity, the length of hot water pipe runs should be taken into consideration. In principle, the Infinity should be as close as possible to the most often used taps, or in a central location between taps, showers etc.

■ See diagram overleaf for position of gas, water and power connections.

■ The location of the flue terminal must comply with the clearances shown in the following diagram.



a - Below eaves, balconies or other projections: .....	500
b - From the ground or above a balcony .....	1500
c - From a return wall or external corner .....	500
d - From a gas meter (M) .....	1000
e - From an electricity meter or fuse box (P) .....	500
f - From a drain or soil pipe .....	150
g - Horizontally from any building strure or obstruction facing a terminal .....	500
h - From any other flue terminal, cowl, or combustion air intake .....	500
j - Horizontally from an openable window, door, inlet, or any other opening into a building, with the exception of sub-floor ventilation .....	500
k - From a mechanical air inlet, including a spa blower .....	1500
n - Vertically below an openable window, inlet or any other opening into a building, with the exception of sub-floor ventilation .....	1500

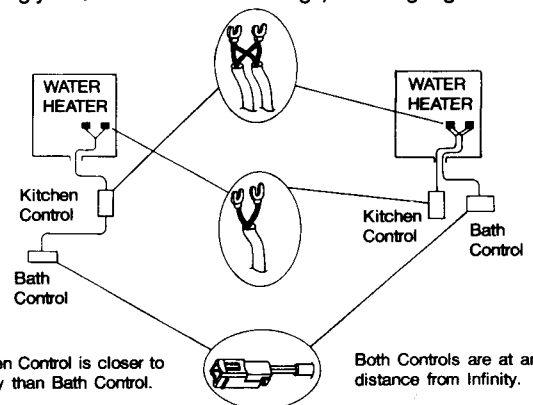
**Note:** if you are unsure about clearances not indicated here, in general refer to AG601, or NZ 5261 Installation code.

## REMOTE CONTROLS

■ When deciding on the best positions for the Remote Controls, the following points should be taken into consideration.

1. Fit the Controls out of reach of children. (Suggested height from floor-1500 mm).
2. Avoid positions where the Remote Control will become hot (eg: over hotplates, near ovens or heaters).
3. If possible, avoid direct sunlight (The Digital Monitor is difficult to read in direct sunlight).
4. Avoid areas where Remote Control will be affected by oil splashing or cooking.
5. The BC-45/BSC-45 Bath Control is water resistant, however durability will be improved if positioned outside a shower recess.
6. Damage caused by harsh cleaning materials will not be covered under warranty.
7. The cables to the Remote Controls only carry 12 V DC (extra low voltage).
8. Cables should run back to the Infinity from the Remote Controls, or cables should run between the Controls then back to the Infinity. Suggested cable arrangements are shown below.

The installation in every application will vary, therefore the Remote Control cable has been provided so that you may cut the length accordingly and fit the horse shoe lugs, ensuring a good connection.



Cables are simply piggy-backed at the Infinity or the Kitchen Control. Polarity is not important when connecting cables.

Either colour wire can be connected to either terminal at both the Infinity or Kitchen Control. If more cable is needed, any multi-stranded cable with similar specification to the cable supplied with the Infinity can be used. Maximum length is 50 m.

## ■ FITTING THE KITCHEN CONTROL MC-33

● Determine the most suitable position for the Control. Consider access by children.

● Make 3 holes in the wall, as shown, one for the cable and two for the securing screws. Make holes to ensure remote will be level. (fig 1)

● Run the cable provided between the Control and the Infinity Water Heater.

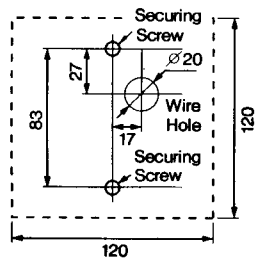
● Remove the face plate from the remote control, using a screw driver. (fig 2)

● Connect the cable to the control as shown. (fig 3)  
Either colour wire can be connected to either terminal.

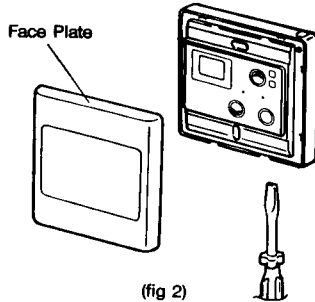
**NOTE:** If the cable cannot be run in the wall cavity. In this case, the plastic "knockout" should be removed from the top or bottom of the control.

● Fix the control to the wall, and replace the face plate. (fig 4)

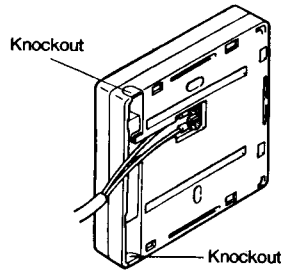
Outline of Remote Control



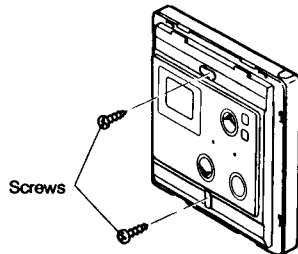
(fig 1)



(fig 2)



(fig 3)



(fig 4)

## ■ FITTING THE BATH CONTROL BC-45/BSC-45

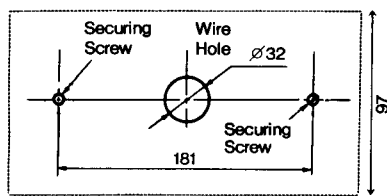
● Determine the most suitable position for the Control. Consider access by children.

● Make 3 holes in the wall, as shown, one for the cable and two for the securing screws. Make sure holes are level. Fit wall plugs (fig 1).

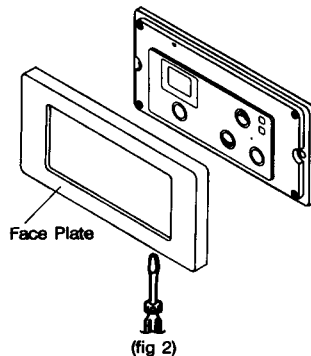
● Run the cable provided between the Control and the Infinity.

● Remove the faceplate from the Remote Control using a screwdriver (fig 2).

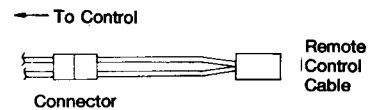
Outline of Remote Control



(fig 1)

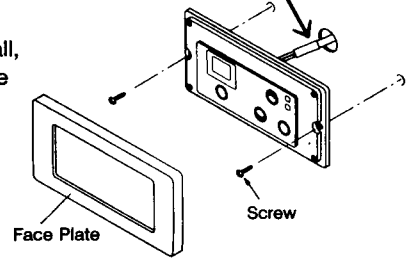


● Connect the BC-45/BSC-45 Control to the cable, using the end of the cable with the connector fitted (fig 3).



(fig 3)

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



(fig 4)

## ■ CONNECTING REMOTE CONTROL CABLE TO THE INFINITY

● Disconnect power.

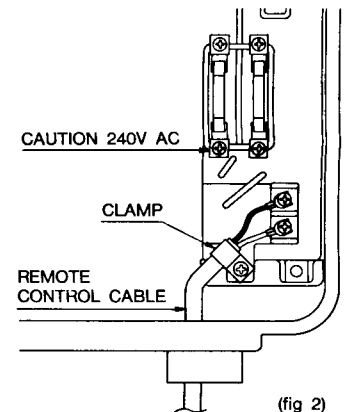
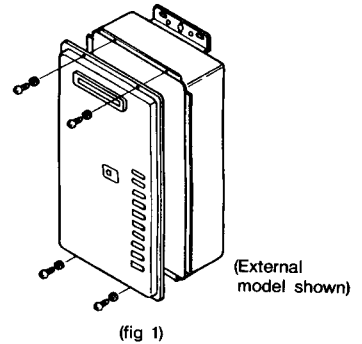
● Remove the cover from the Infinity (4 screws) (fig 1).

● Remove plastic cover from PCB and electrical connections.

● DO NOT ATTEMPT TO CONNECT REMOTE CONTROL CABLES WITH POWER ON.

● Thread the cable through the cable access hole at the base of the Infinity, then connect to the Remote Control terminal on the right hand side, bottom of P.C.B. unit (fig 2). Either colour wire can be connected to either terminal.

● Replace plastic cover.



Single wire connection, shown ready for connection.

● Secure cable inside Infinity using the clamp provided.

Piggy-back the connection in case of two or three Remote Controls.

■ Purge Gas and Water pipes to remove air and swarf. Swarf in either gas or water supplies may damage the Infinity.

WATER ON

GAS ON



## APPLICABLE MODELS :

REU-2402W

REU-2402FFU



**CAUTION**  
RISK OF ELECTRIC SHOCK

