

# INSTALLATION GUIDE

## Eternity GAS WATER HEATERS

MODELS 16-18-20-24-26

FOR EXTERNAL INSTALLATION ONLY

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## **IMPORTANT**

This User Guide has been prepared for Installers and Servicers of the equipment. Please keep it in a safe place for future reference.

### **FOR THE INSTALLER**

The installation must be done in accordance with the information supplied in this User Guide. All other relevant National, State or Local regulations must also be conformed with and these include (but are not limited to):

- **Australian Standard AS3500.1 – Water Supply**
- **Australian Standard AS3498 – Hot Water Supply**
- **Australian Standard AS3000 – Electrical Installation**
- **Australian Installation Code AS5601 – Gas Appliance Installation**
- **Local Water, Gas & Electrical Authority Regulations**
- **Municipal Building Codes**

### **FOR THE SERVICER**

Maintenance and fault-finding must be done in accordance with these instructions and the applicable regulations listed above.

## **WARNING**

Installation and service must be performed by a qualified installer (for example, a licensed plumber or gas fitter).

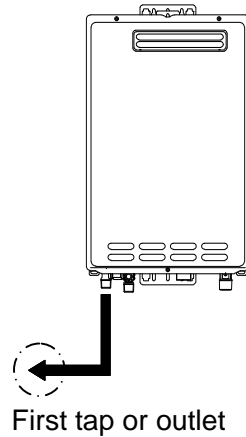
## FOR THE PLUMBER

PLEASE NOTE this water heater is supplied factory set at 70°C outlet hot water temperature.

**This water heater does require a tempering valve to be installed to comply with AS3498 / 50C requirement.**

Please follow all the installation instructions in the Installation and operating instructions handbook and the following additional instructions for the water heater outlet connection.

1. When connecting the hot water supply to the fixtures in the property a minimum of One (1) Metre of pipework must be used between the outlet of the water heater and the first tap and outlet. See Diagram below.
2. The Hot water line should be insulated with Ensolex or similar pipe insulation.
3. When the installation is completed the temperature is to be tested at the taps to confirm the water temperature does not exceed the required 50°C setting.



- Total length to first tap or outlet is required to be a minimum of 1 meter from the outlet connection of the water heater.
- Pipe size is nominal 18mm from hot water outlet to the first tap or outlet.

## SPECIFICATIONS

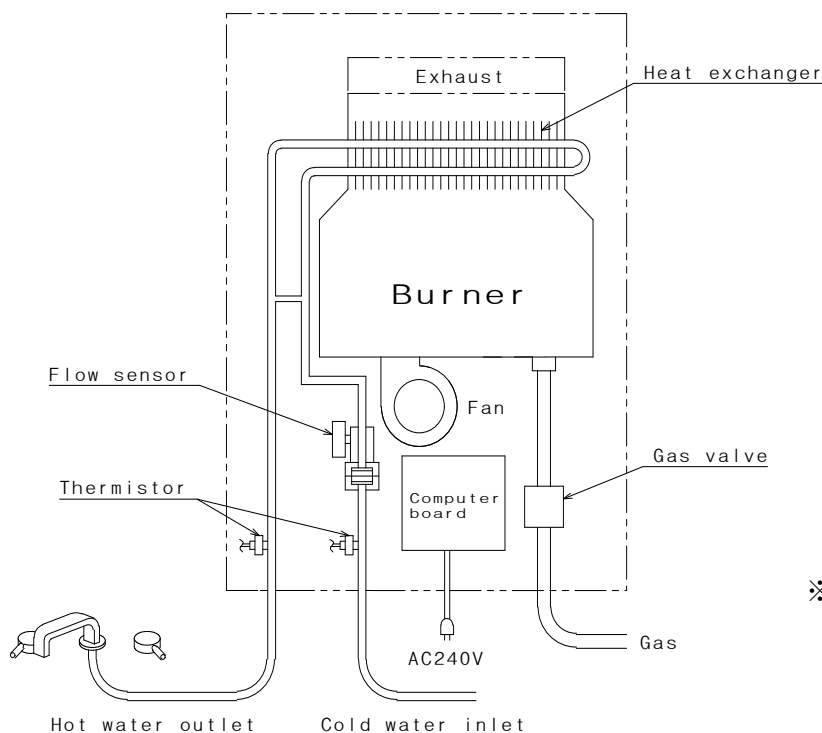
MODELS	16	18	20	24	26
Gas Input MJ/h	125	145	160	185	195
Inlet Pressure kPa – Nat. Gas	1.13 min. 2.75 max.	1.13 min. 2.75 max.	1.13 min. 2.75 max.	1.13 min. 2.75 max.	1.13 min. 2.75 max.
Inlet Pressure kPa - LPG	2.75 min./max	2.75 min./max	2.75 min./max	2.75 min./max	2.75 min./max.
Water Supply Pressure kPa	150* min. 1200 max	150* min. 1200 max	150* min. 1200 max	150* min. 1200 max	150* min. 1200 max.
Height mm	542	542	542	542	542
Depth mm	170	170	170	215	215
Width mm	350	350	350	350	350
Weight kg	15.7	15.7	15.7	17.2	17.2
Gas Connection mm	20 BSP	20 BSP	20 BSP	20 BSP	20 BSP
Water Connections	15 BSP	15 BSP	15 BSP	15 BSP	15 BSP
Ignition	Electronic	Electronic	Electronic	Electronic	Electronic
Electrical Supply V	240 AC	240 AC	240 AC	240 AC	240 AC

### NOTES:

- \* The appliance will operate at reduced performance below 340 kPa.
- For information relating to burner test point pressures and injector sizes refer to the rating plate located on the right hand side of the cabinet for each model. (please refer to p.7)
- For information relating to overall dimensions and connection points refer to diagrams. (Please refer to p.5)
- Before installing in areas over 1500 m above sea level, contact the manufacturer for instructions.

# INTRODUCTION

- This manual provides information necessary for the installation, operation, and maintenance of the water heater.
- The model description is listed on the rating plate which is attached to the right side of the case of the water heater. (Please refer to p.7)
- Please read all installation instructions completely before installing this product.
- The Water Heater is an instantaneous, tankless water heater designed to efficiently supply endless hot water for your needs.
- The principle behind the water heater is simple:

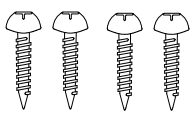
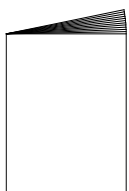


※ This diagram illustrates the water heater design concepts only and is not accurate to the one physical description.

1. A hot water tap is turned on.
2. Water enters the heater.
3. The water flow sensor detects the water flow.
4. The computer automatically ignites the burner.
5. Water circulates through the heat exchanger and then gets hot.
6. The computer will modulate the gas supply valve and water flow to produce the right amount of hot water at the correct temperature.
7. When the tap is turned off, the unit shuts down.

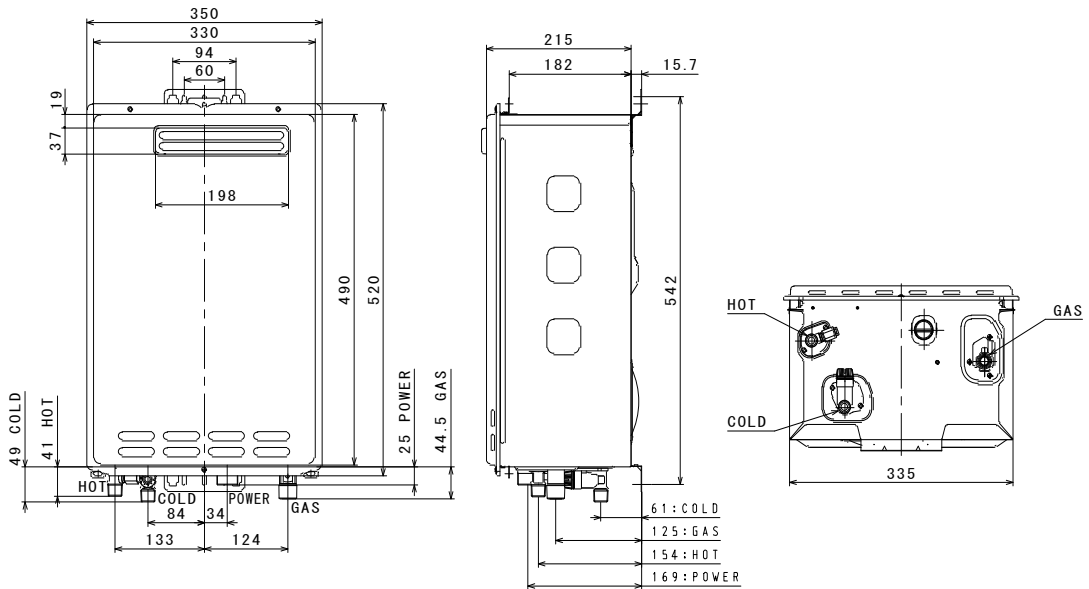
# ACCESSORIES

Check that the installation manual and screws are included with the unit.

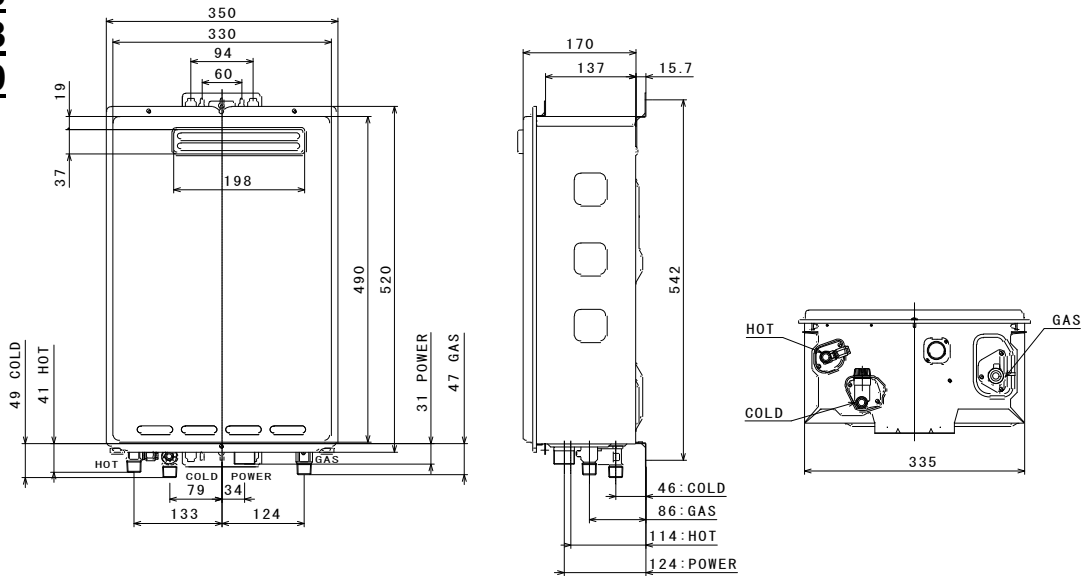
Screws × 4	Manual
	

# DIMENSIONS AND CONNECTION POINTS

## Model24 Model26



## Model16 Model18 Model20



# SAFETY GUIDELINES

Ensure the following safety instructions are read and understood before commencing installation.

## WARNING

- For the continuing safety of this water heater it must be installed and operated and maintained in accordance with manufactures instructions.
- Installation and service must be performed by a qualified installer (for example, a licensed plumber or gas fitter).
- The installer (licensed professional) is responsible for the correct installation of the water heater and for compliance with all relevant National, State or local regulations.
- **The water heater must be installed OUTDOORS ONLY.** DO NOT install the water heater indoors.

## GENERAL

1. Carefully plan where you intend to install the Water Heater. Please ensure:
  - The water heater will have enough combustible air and proper ventilation.
  - Locate the water heater where water leakage will not damage surrounding areas.
2. Check the rating plate and gas type label for the correct **GAS TYPE, GAS PRESSURE, WATER PRESSURE and ELECTRIC RATING.**  
\*If this unit does not match your requirements, **do not install and consult with manufacture.**
3. If any problem should occur, turn off all hot water taps and turn off the gas. Then call a trained technician or the Gas Company or the manufacturer.

## WARNING

- Water temperatures above 50 °C can cause severe burns or death from scalding. Children, the disabled and the elderly are at a high risk of being injured. Feel the water temperature before bathing or showering. Do not leave children, disabled persons, or the elderly unsupervised. The Australian Standards AS 3498 gives full details of the requirements for supply of controlled temperature to ablution outlets (bathrooms) and is required to be conformed to under all plumbing codes within Australia.
  - Do not store or use gasoline or other flammables, vapors, or liquids in the vicinity of this appliance.
  - Do not reverse the water and/or gas connections as this will damage the gas valves and can cause severe injury or death. Follow the diagram on p. 10 and 12 when installing your water heater.
  - Do not use this appliance if any part has been in contact with or been immersed in water. Immediately call a licensed plumber, a licensed gas fitter, or a professional service technician to inspect and/or service the unit if necessary.
  - Do not disconnect the electrical supply if the ambient temperature will drop below freezing. The Freeze Prevention System only works if the unit has electrical power. The warranty will not be covered if the heat exchanger is damaged due to freezing. Refer to the section on the Freeze Prevention System on p. 20 for more information.



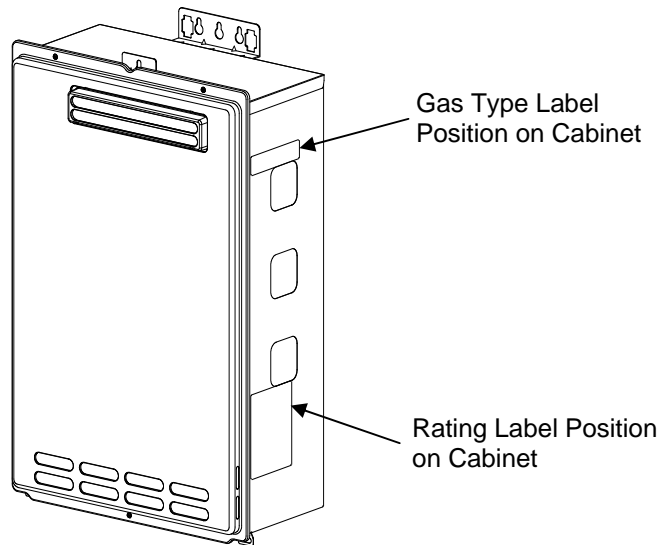
Prohibited

# INSTALLATION

The water heater requires careful and correct installation to ensure safe and efficient operation. This manual must be followed exactly. Read the "SAFETY GUIDELINES" and the "IMPORTANT" sections at the beginning of this manual.

## CONFIRM THE APPLIANCE SUITABILITY

Check the gas type label and the rating plate for the correct gas type, gas pressure, water pressure and electrical rating for your application. Do not install this unit if these requirements can't be met.



## CAUTION

- This equipment is not suitable for pool or spa heating.
  - Water hardness may affect the water heater. It may be damaged. It is important that the water heater is installed in water conditions that are suitable for its efficient, long use.
  - This is a water heating apparatus only and the final fitness of water delivered is dependent upon the quality of water supplied to this system.
  - The connection, attachment, integration or general association of other equipment or parts not specified by the water heater which either directly or indirectly affect the operation or performance of this equipment – **could void the warranty.**
- 
- The manifold pressure is preset at the factory. It is computer controlled and should not need adjustment.
  - Occupants are advised of any inconveniences which could occur such as disconnection of services.
  - You follow the electrical earthing procedure outlined in AS3500.4 before cutting or uncoupling existing metallic pipework.
  - It should be as close as practical to the hot water outlets to minimise heat loss and cost.
  - The water heater does not require a fireproof back plate if installed on timber wall.

## ABOUT SELECTING A INSTALLATION LOCATION

Carefully read this section before installing, and when you select the location for install the water heater, you must follow these precautions exactly.

### CAUTION

- This is a water heating apparatus only and the final fitness of water delivered is dependent upon the quality of water supplied to this system.
- Although the water heater is designed to operate with minimal sound, you should not install the unit on a wall adjacent to a bedroom, or a room that is intended for quiet study or meditation, etc.
- Locate your heater close to a drain where leakage will not do damage to surrounding areas. As with any water heating appliance, the potential for leakage at some time in life of the product does exist.

### WARNING

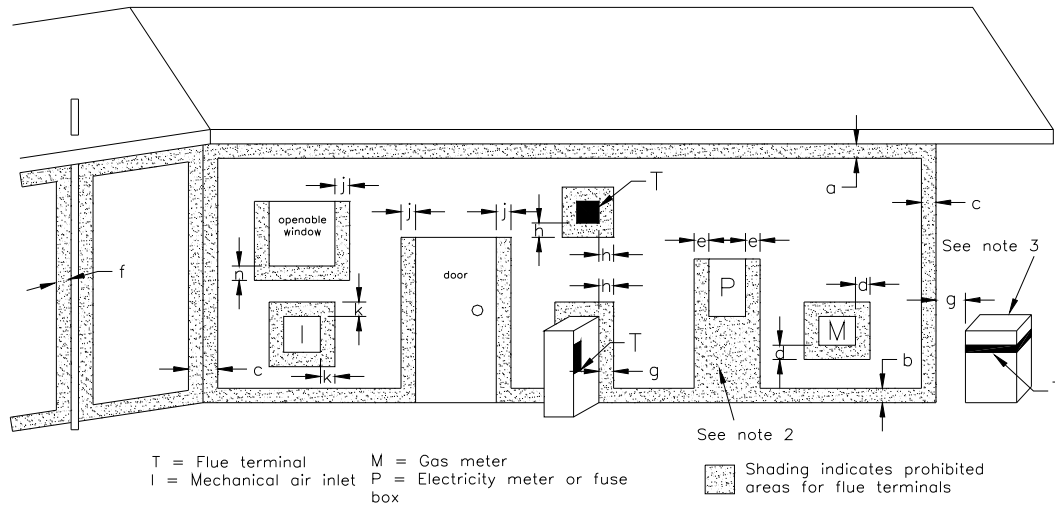
- Every care is taken to warn occupants of the building and the public of any injury that may occur from falling tools, open trenches, water connections or any other general hazard.
- Make sure the water heater will have enough combustion air and proper ventilation.
- Keep the area around the water heater clean. Particles may clog the air vent, reduce fan function, or cause improper combustion.
- Locate unit for easy access and maintain proper space for service and maintenance. Install the unit so that it can be connected or removed easily.
- **The water heater must be installed outdoors only. Do not install the water heater indoors.**
- Do not locate your water heater in a pit or any location where gas and water can accumulate.

- You check the proximity of gas & electrical lines so as not to create a hazard and avoid access problems for other services.
- It must be located in accordance with the requirements of AS5601 and have sufficient clearances from eaves, windows, vents etc. – see the diagram on the p.11.
- “Exemption from Prescribed Statutory Requirement”: AS5601-2000 Clause 5.13.6.5, This relates to the physical separation distance specification where multiple appliances are employed. That equates to a minimum 150mm horizontal flue separation distance allowing appliances to be placed side by side in the same vertical plane
- Most load bearing walls such as brick, brick/veneer, weatherboard and stud-frames are suitable locations.
- Securely fasten the unit to the wall with screws or bolts in the top and bottom brackets. A minimum of two top and bottom must be used.



# CLEARANCES FOR OUTDOOR HEATER LOCATIONS – AS5601

Figure 1



Ref.	Item	Minimum clearances (mm)	
		Natural draft	Fan assisted
a	Below eaves, balconies and other projections:		
	• Appliances up to 50MJ/h input	300	200
	• Appliances over 50MJ/h input	500	300
b	From the ground, above a balcony or other surface ?	300	300
c	From a return wall or external corner ?	500	300
d	From a gas meter (M) (see 4.7.11 for vent terminal location of regulator)	1000	1000
e	From an electricity meter or fuse box (P)	500	500
f	From a drain or soil pipe	150	75
g	Horizontally from any building structure ? or obstruction facing a terminal	500	500
h	From any other flue terminal, cowl, or combustion air intake ?	500	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	500	300
	• Appliances over 150 MJ/h input up to 200 MJ/h input	1500	500
	• Appliances over 200 MJ/h input	1500	1500
	• All fan-assisted flue appliances, in the direction of discharge		1500
k	From a mechanical air inlet, including spa blower	1500	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	150
	• Other appliances up to 50 MJ/h input	500	500
	• Appliances over 50 MJ/h input and up to 150 MJ/h input	1000	1000
	• Appliances over 150 MJ/h input	1500	1500

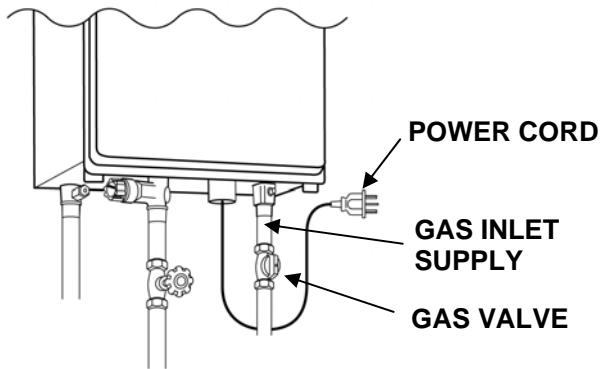
? – unless appliance is certified for closer installation

NOTES:

- 1 All disturbances 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 acceptance should be obtained from the technical regulator

\*Exemption from prescribe statutory requirements referred to in Figure 1 has been granted to allow multiple series of the Water Heaters to be positioned side by side.

# GAS CONNECTIONS



## CAUTION

1. Turn off the electric power to the water heater and manual gas valve located on the outside of the unit before beginning gas connection.
2. Confirm the position of the gas inlet. Do not connect water line to gas inlet. It may be critical damaged.

## SIZING AND CONNECTING

Check the gas type label to make sure that the unit was built for the type of gas you will be using, and that the gas inlet pressure is within the appropriate range. (Please refer to p.3.)

1. Gas pressure below this specified range for the water heater and/or insufficient gas volume will adversely affect performance.
2. Inlet gas pressure must not exceed the above maximum values; gas pressure above the specified range will cause dangerous operating conditions and damage to the unit.
3. Until testing of the main gas line supply pressure is completed, ensure the gas line to the water heater is disconnected to avoid any damage to the water heater.

## WARNING

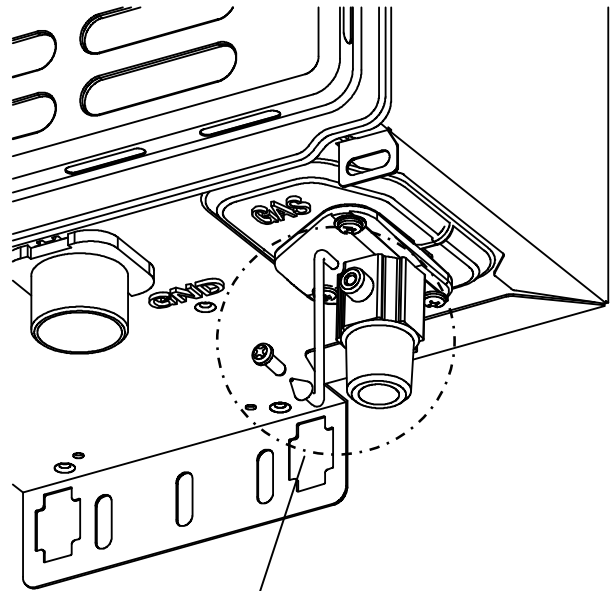
Conversion of this unit from natural gas to propane or propane to natural gas cannot be done in the field. Contact your local retailer or distributor to get the correct unit for your gas type.

- Size the gas piping according to AS5601 installation code for the correct pipe sizing for the water heater.
- Always use approved connectors to connect the unit to the gas line. Always purge the gas line of any debris before connecting to the water heater.
- Install a manual gas shut-off valve between the water heater and the gas supply line.
- The regulator is preset at the factory. It is computer controlled and is not to be adjusted by any person other than a qualified Service Provider.
- When the gas connections are completed, it is necessary to perform a gas leak test either by applying soapy water to all gas fittings and observing for bubbles or by using a gas leak detection device.

# MEASURING INLET GAS PRESSURE AND TESTING GAS LEAKGAE

The appliance and its gas connections must be measured inlet gas pressure and leak tested before placing the unit in operation for properly performing and safety. **This is only to be done by a licensed professional.**

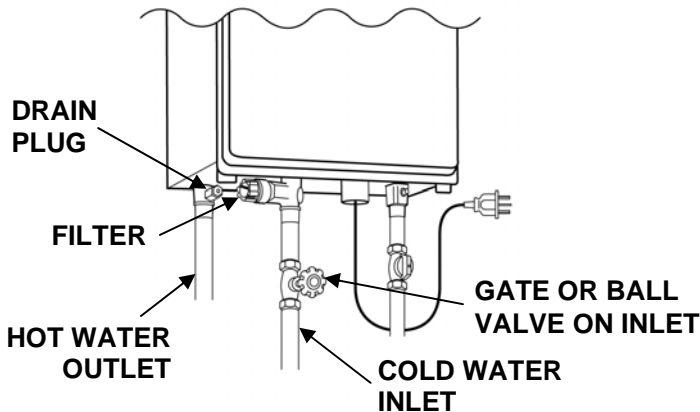
1. Shut off the manual gas valve on the supply gas line.
2. Open a faucet. The unit should turn on and the gas in the gas pipe line should purge. Leave the faucet on to keep the unit running until the unit shut down due to lack of gas supply. Then shut the faucet off.
3. Remove the screw for the pressure port located on the gas inlet of the water heater shown in the diagram to the right.
4. Connect the manometer to the pressure port.
5. Re-open the manual gas valve. Check to see that there are no gas leaks.
6. Open some of the fixtures that use the highest flow rate to turn on the water heater.
7. Check the inlet gas pressure. When the water heater is on a maximum burn, the inlet gas pressure within must be within the appropriate range. (Please refer to p.3)



1. Remove the screw for pressure port located on the gas inlet.
2. Connect the manometer to the pressure port.
3. Check the inlet gas pressure.

- This appliance and its individual shut-off valve must be isolated from the gas supply piping system by unplugging the unit and turning off the main gas valve during any pressure testing of the gas supply piping system at test pressures above 3kPa.

# WATER CONNECTIONS



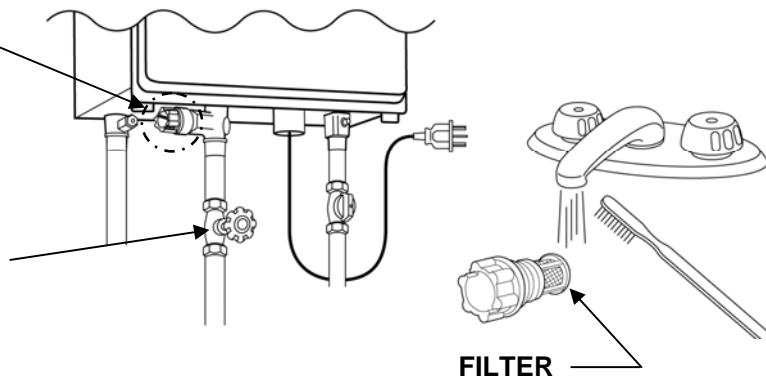
## WARNING

Do not reverse the hot outlet and cold supply line connections to the Water Heater as this will cause your heater to operate improperly.

- All pipes, pipe fittings, valves and other components, including soldering materials, must be suitable for potable water systems.
- A manual shut off valve must be installed on the cold water inlet to the water heater between the main water supply line and the water heater.
- Only a gate valve or a ball valve is to be used on the cold water supply.
- No stop taps or check valves are to be used as this will void the warranty and damage the water heater.
- Check the cold water pressure and if above 1000 kPa an approved limiting valve must be fitted.
- Before installing the water heater, flush the water line to remove all debris, and after installation is complete, purge the air from the line. Failure to do so may cause damage to the heater.
- There is a wire mesh filter to discourage debris from entering your heater. Clean filter after initial installation to ensure no debris from the pipe work has clogged it.

**REMOVE BY TURNING COUNTERCLOCKWISE AND THEN CLEAN AND REPLACE**

1. **TURN OFF THE WATER INLET SUPPLY VALVE.**
2. **OPEN A HOT WATER TAP TO RELEASE THE LINE PRESSURE .**

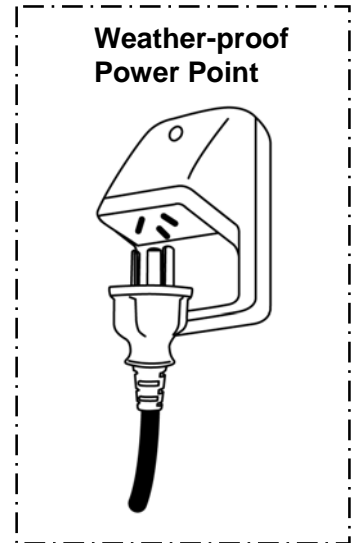


**FILTER**

**NOTE:** This filter must be cleaned as part of regular maintenance.

# ELECTRICAL CONNECTIONS

1. The water heater must be electrically grounded. Do not attach the ground wire to either the gas or water piping.
2. The water heater requires an AC 240V 50Hz electrical power supply and draws a current of 0.8A.
3. The weather-proof power point should be no more than 1 meter from the base of the water heater for easy access.
4. Install so that the electrical power can be switched off if necessary.
5. If the cord supplied with this appliance must be replaced, it must be replaced with appliance wiring material supplied by the Manufacturer.



## **WARNING**

When servicing or replacing parts within the water heater, label all wires prior to disconnection to facilitate an easy and error free reconnection. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

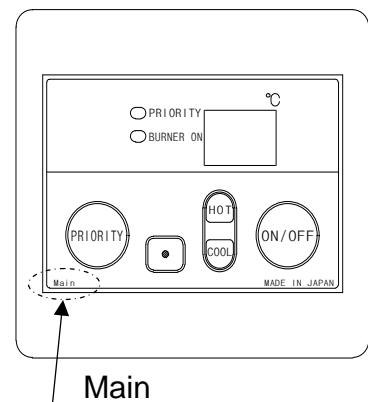
# REMOTE CONTROLLER (OPTIONAL)

The water heater can be installed with up to three remote controllers. Each remote controller has two functions which can adjust the set temperature and indicate the error code on the remote controller.

- The set temperature can be adjusted only by remote controller which has the priority setting (When remote controller has the priority setting, PRIORITY lamp on remote controller is lit), and the other remote controller(s) display the set temperature. If you desire to transfer the priority setting, you can transfer it by pressing PRIORITY button only when there is no water flow through the water heater. (Default set temperature is 40°C)
- All models water heater have self diagnostic function for safety and convenience when trouble shooting. If there is a problem with the installation or the unit, it will display a numerical error code on the remote controller (or the LED of the computer board will be blink.)

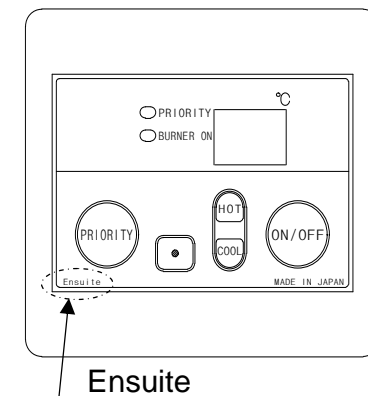
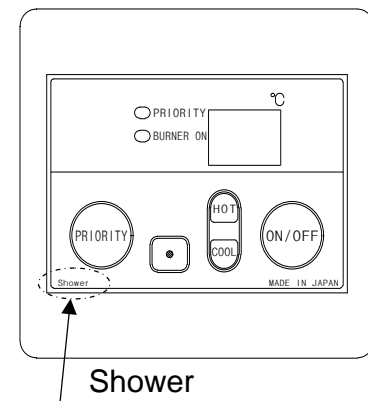
## MAIN REMOTE CONTROLLER MODEL MC100-AU3

- MC100-AU3 must be installed inside (such as kitchen) due to NO water resistant. Be careful installation location.
- It allows the output temperature from the water heater to be adjusted within the range of 37°C to 55°C.
- The temperature options are:  
37°C, 38°C, 39°C, 40°C, 41°C, 42°C, 43°C, 44°C, 45°C, 46°C, 47°C, 50°C, 55°C.
- When "BURNER ON" lamp is lit, the set temperature can not be adjusted to 55°C. If you desire to set it to 55°C, you should close the hot water tap.



## MODEL FC100W-AU3 SHOWER CONTROLLER AND SC100-AU3 ENSUITE CONTROLLER

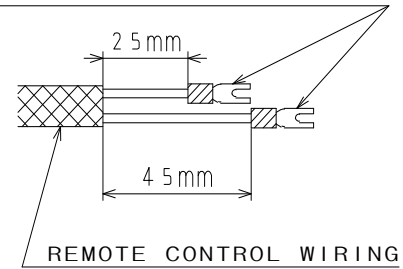
- FC100W-AU3 (Shower) and SC100-AU3 (Ensuite) controllers are water resistant, however should not be positioned where can be splashed directly and there should be caulking between the surface of the wall and the controller.
- FC100W-AU3 is installed such as the main bathroom, and SC100-AU3 is installed such as the ensuite bath room.
- These remote controller allows the output temperature from the water heater to be adjust within the range of 37°C to 50°C.
- The temperature options are:  
37°C, 38°C, 39°C, 40°C, 41°C, 42°C, 43°C, 44°C, 45°C, 46°C, 47°C, 50°C.
- When BURNER ON lamp is lit, the set temperature can not be adjusted to 42°C or over. If you desire those temperatures, you should close the hot water tap.



## REMOTE CONTROLLER INSTALLATION

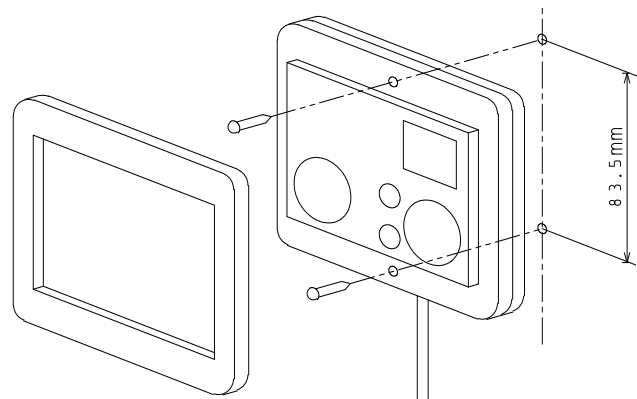
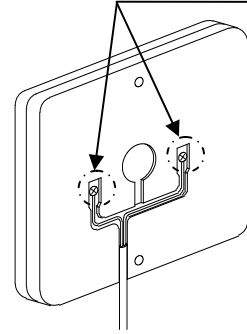
1. Crimp the fork terminals to the wires.
  - Minimum 18AWG wire (No polarity)
  - Maximum 100m long

Use the fork terminals



2. Attach the fork terminal to the connector base of the backside unit with two screws tight.
3. Put out wiring downward through the cable trench.
4. Attach the remote control on the wall with two attached screws. (If you need to attach the remote control to brittle, you should use the anchor plug.)

Connector base



### WARNING

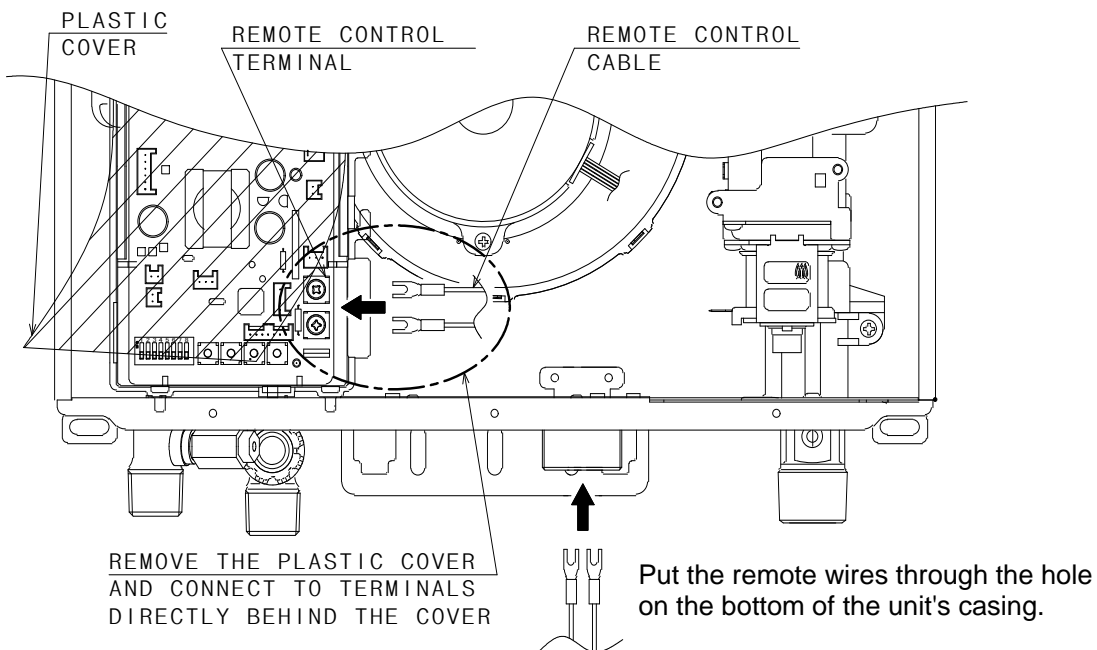
- DO NOT locate the remote controls where they may come into contact with water.
- DO NOT position the remote controls in the vicinity of chemicals.
- DO NOT position the remote controls over a cooker, grill or toaster.
- DO NOT position the remote controls where materials may spill onto them.
- **PLEASE NOTE IF THE CONTROLS ARE TO BE FITTED TO A METAL SURFACE AN INSULATION PLATE SHOULD BE PROVIDED BEHIND THE MOUNTING POSITION.**

## CONNECTION OF REMOTE CONTROLLER WIRING TO THE WATER HEATER

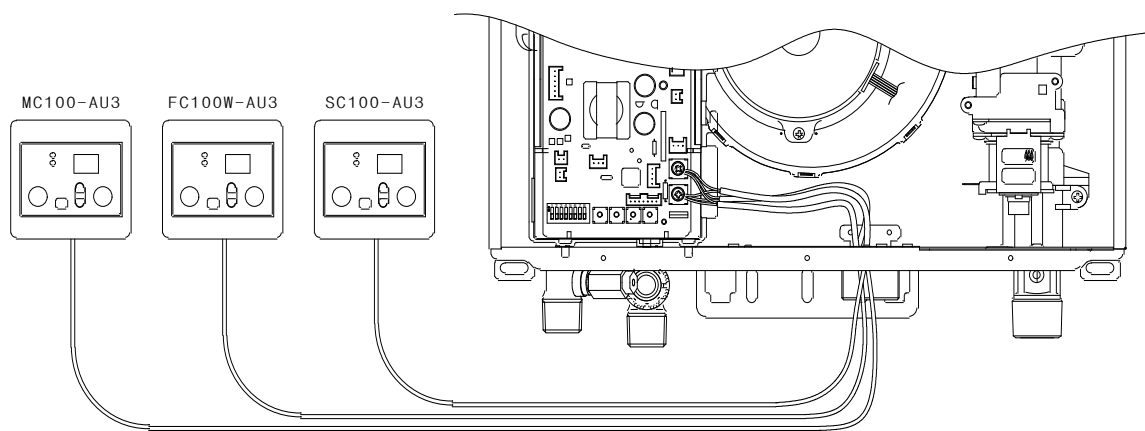
1. Turn off the power supply to the water heater.
2. Remove the front cover from the water heater. There are 3 screws on the front cover.
3. Put the remote wires through the hole on the bottom of the unit's casing.
4. Remove the plastic cover and connect remote control wires to remote terminals directly. (There is no polarity in the terminations.)

**\*DO NOT jump or short-circuit wires. Computer will be damaged.**

5. Replace the plastic cover and the front cover. And connect the power plug.



## REMOTE CONTROL – CABLE CONNECTIONS



TYPICAL CABLE LAYOUT





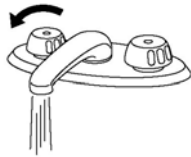

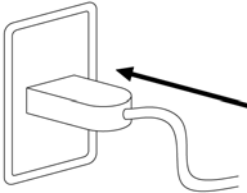
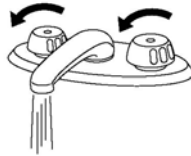
# INITIAL OPERATION

## FOR YOUR SAFETY, READ BEFORE OPERATING:

- **Check the GAS and WATER CONNECTIONS** for leaks before firing it for the first time.
- Open the main gas supply valve to the unit using only your hand to avoid any spark. Never use tools. If the knob will not turn by hand, do not try to force it; call a qualified service technician. Forced repair may result in a fire or explosion due to gas leaks.
- Be sure to check next to the bottom of the unit because some gases are heavier than air and may settle towards the floor.
- **Check the GAS PRESSURE.** Refer to p.10.
- Do not try to light the burner manually. It is equipped with an electronic ignition device which automatically lights the burner.
- **Check for PROPER VENTING and COMBUSTIBLE AIR** to the heater.
- **Purge the GAS and WATER LINES** to remove any air pocket.
- Do not use this water heater if any part has been submersed under water. Immediately call a qualified service technician to inspect the water heater and to replace any damaged parts.

### CAUTION: IF YOU SMELL GAS:

- Do not try to start the water heater.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

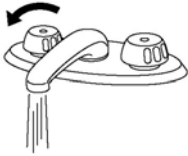
<p>1. Once the above checks have been completed, please clean filter of any debris. Refer to p. 21 for instructions.</p> 	<p>2. Fully open the manual water control valve on the water supply line.</p> 	<p>3. Open a hot water tap to verify that water is flowing to that tap.</p>  <p>Then close the hot water tap.</p>
<p>4. Fully open the manual gas control valve installed.</p> 	<p>5. Turn on the 240 volt 50 Hz power supply to the water heater.</p> 	<p>6. Now you are ready to enjoy hours of endless hot water.</p> 

# NORMAL OPERATION

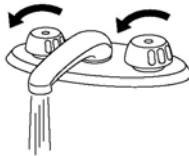
- Flow rate to activate the water heater : 3.0 litter per minute
- Flow rate to keep the water heater running : 2.5 litter per minute

## WITHOUT REMOTE CONTROLLER

1. Open a hot water tap.



2. Mix cold water with the hot to get the correct temperature water.



3. Close the hot water tap.



**NOTE:** The water temperature is set at 70°C from the factory.

If you desire to change the set temperature without remote controller, refer to diagram on below.

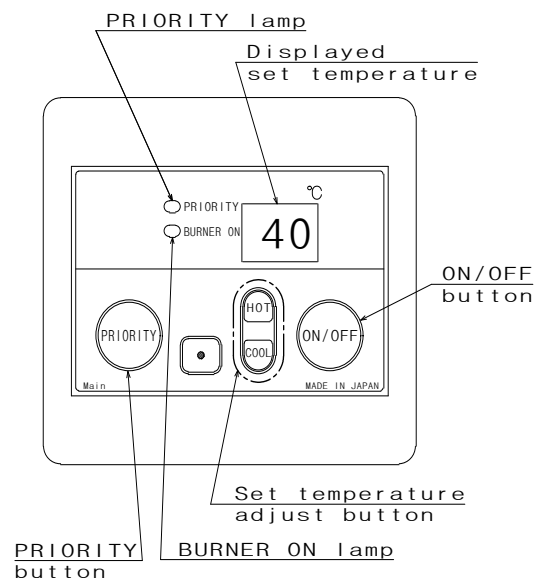
Temperature Settings			
<p>40°C</p> <p>ON OFF</p> <p>5 6 7 8</p> <p>TMP1 TMP2 TMP3</p>	<p>45°C</p> <p>ON OFF</p> <p>5 6 7 8</p> <p>TMP1 TMP2 TMP3</p>	<p>50°C</p> <p>ON OFF</p> <p>5 6 7 8</p> <p>TMP1 TMP2 TMP3</p>	<p>55°C</p> <p>ON OFF</p> <p>5 6 7 8</p> <p>TMP1 TMP2 TMP3</p>
<p>60°C</p> <p>ON OFF</p> <p>5 6 7 8</p> <p>TMP1 TMP2 TMP3</p>	<p>error</p> <p>ON OFF</p> <p>5 6 7 8</p> <p>TMP1 TMP2 TMP3</p>	<p>70°C</p> <p>ON OFF</p> <p>5 6 7 8</p> <p>TMP1 TMP2 TMP3</p> <p>DEFAULT</p>	<p>error</p> <p>ON OFF</p> <p>5 6 7 8</p> <p>TMP1 TMP2 TMP3</p>

- Only change the switches with dark squares.
- DO NOT adjust other switches.

## NORMAL OPERATION

### WITH ONLY MAIN REMOTE CONTROLLER (MC100-AU3) INSTALLED

1. Press the ON/OFF button. And then ensure the priority lamp is lit and displayed the set temperature on the remote controller.
2. Set temperature which you want. When adjust the set temperature with MC100-AU3, it allows the output temperature from the water heater to be adjust within the range of 37°C to 55°C. (please refer to P.14)
3. Open a hot water tap, and ensure the BURNER ON lamp is lit. Mix cold water with the hot if you need.
4. Close the hot water tap, and ensure the BURNER ON lamp is OFF.



**MC100-AU3**

## NOMAL OPERATION WITH MULTIPLE REMOTE CONTROLLER INSTALLED

1. Press the ON/OFF button. Then ensure the priority lamp is lit on the remote controller and the set temperature is displayed on the each remote controller.
2. Set temperature which you need. **(The temperature setting can be changed by only priority unit. If you desire to transfer the priority setting, you can transfer it by pressing PRIORITY button only if no water flow.)**

When adjust the set temperature with MC100-AU3, it allows the output temperature from the water heater to be adjust within the range of 37°C to 55 °C. And When adjust the set temperature with SC100-AU3 and FC100W-AU3, it allows the output temperature from the water heater to be adjust within the range of 37°C to 50°C.

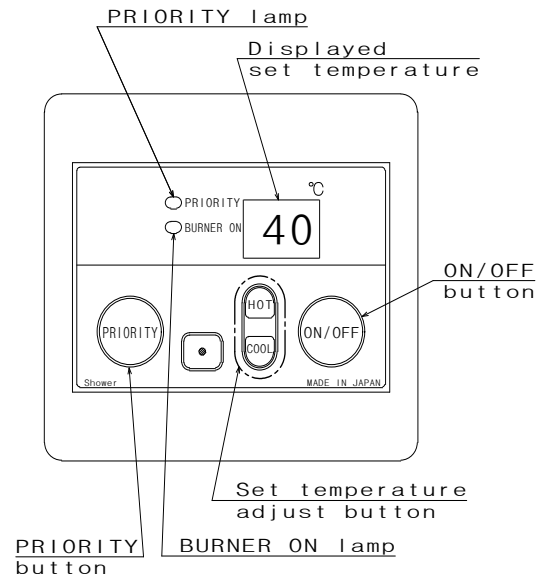
**NOTE:** Each remote controller can individually store the temperature setting. However –  
< MC100-AU3 >

When the priority setting is transferred to MC100-AU3, if the previous temperature setting which stored in MC100-AU3 was 55°C, it become to 50°C.

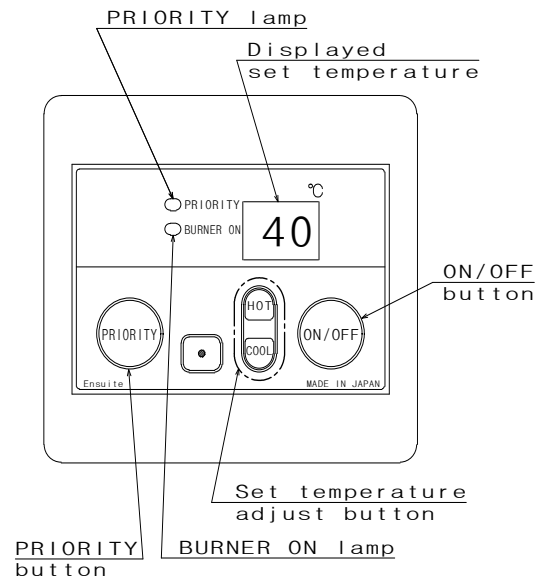
< FC100W-AU3 , SC100-AU3 >

When the priority setting is transferred to FC100W-AU3 (or SC100-AU3), if the previous temperature setting which stored in FC100W-AU3 (or SC100-AU3) was 43°C and above, it become to 42°C.

3. Open a hot water tap, and ensure the BURNER ON lamp is lit. Mix cold water with the hot if you need.
4. Close the hot water tap, and ensure the BURNER ON lamp is OFF.



**FC100W-AU3**



**SC100-AU3**

### WARNING

Water temperatures above 50 °C can cause severe burns or death from scalding. Children, the disabled and the elderly are at a high risk of being injured. Feel the water temperature before bathing or showering. Do not leave children, disabled persons, or the elderly unsupervised. The Australian Standards AS 3498 gives full details of the requirements for supply of controlled temperature to ablution outlets (bathrooms) and is required to be conformed to under all plumbing codes within Australia.

# FREEZE PREVENTION

This unit comes equipped with heaters that discourage the unit from freezing. For this freeze prevention system to operate there has to be electrical power to the unit. The freeze prevention devices will not work if the electrical power source is disconnected. The unit has been rated for temperatures down to  $-15^{\circ}\text{C}$  in a wind free environment. Do not install the water heater in an area with extremely cold weather.

## CAUTION

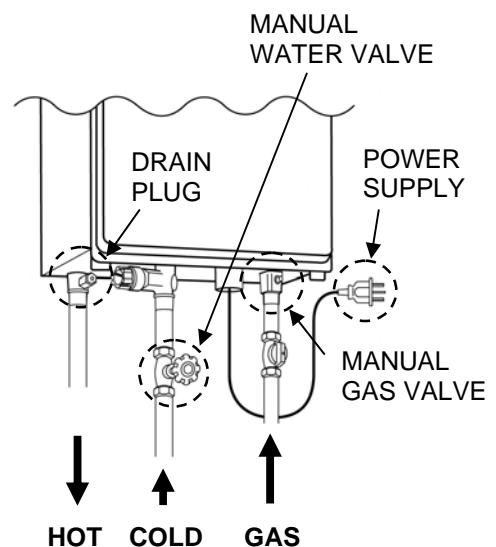
The pipe heaters are located on the Water Heater only. Any hot or cold water pipes located outside of the unit will not be protected. Properly protect and insulate these pipes from freezing.

## WINTER SHUTDOWN

If you will not be using your heater for a long period of time or if the temperatures will drop below  $-15^{\circ}\text{C}$  with the wind chill factor, turn off your heater and drain the unit of water. This will keep your unit from freezing and being damaged.

### Follow these instructions carefully:

1. Close the manual gas shut off valve.
2. Turn off the power supply to the water heater.
3. Close the manual water shut off valve located on the water supply line.
4. Open all hot water taps in the house. (Bathroom, kitchen, laundry room, etc.). When the water flow has ceased, close all hot water taps.
5. Have a bucket or pan to catch the water from the unit's drain plugs. **Unscrew** the drain plugs to drain all the water out of the unit.
6. Wait a few minutes to ensure all water has completely drained from unit.
7. Securely screw the drain plugs back into place. **Hand-tighten only.**



### When it is again safe to use the water heater:

- Make sure all hot water taps are closed and the drain plugs are securely attached.
- Purge the water line of debris.
- Turn on the manual water control valve located on the water supply line.
- Open all the hot water taps to verify water flows to the taps. Close hot water taps.
- Turn on the manual gas control valve located on the gas supply line.
- Turn on the power supply to the Water Heater.

# MAINTENANCE AND SERVICE

The water heater should be checked at least once a year or as necessary by a licensed technician. If repairs are needed, any repairs should be done by a licensed technician. The water heater's lifetime may be extended by frequency maintenance.

## WARNING

Turn off the electrical power supply and close the manual gas control valve and the manual water control valve before servicing.

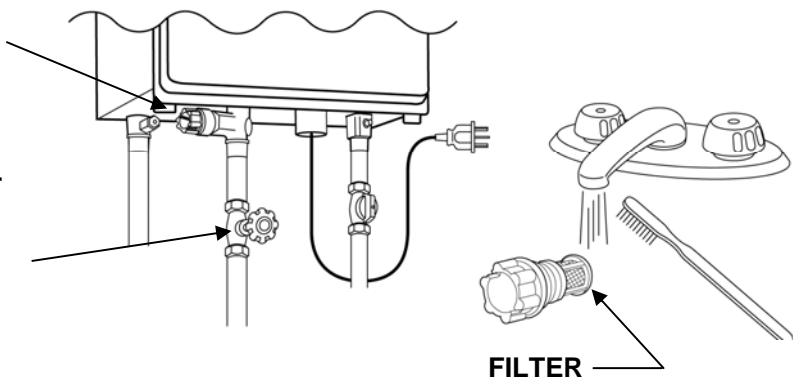
- Clean the cold-water inlet filter. (Refer to diagram below)
- Be sure that all openings for combustion air are not blocked. If blocked, remove an obstruction.
- Check that the opening for exhaust is not blocked. If blocked, shutoff the water heater's combustion. And then after a while, remove an obstruction. **DO NOT** touch while burning because you might get burn due to high temperature.
- Check the gas pressure.
- Keep the area around the water heater clear. Remove any combustible materials, gasoline or any flammable vapors and liquids.

## UNIT DRAINING and FILTER CLEANING

1. Close the manual gas shut off valve.
2. Turn off the power supply to the water heater.
3. Close the manual water shut off valve.
4. Open all hot water taps in the house (Bathroom, kitchen, laundry room, etc.). When the residual water flow has ceased, close all hot water taps.
5. Have a bucket or pan to catch the water from the unit's drain plugs. **Unscrew** the drain plugs to drain all the water out of the unit.
6. Wait a few minutes to ensure all water has completely drained from unit.
7. **Clean the filter:** Check the water filter located within the cold inlet. With a tiny brush, clean the water filter of any debris which may have accumulated and reinsert the filter back into the cold water inlet.
8. Securely screw the drain plugs back into place. **Hand-tighten only.**

REMOVE BY TURNING  
COUNTERCLOCKWISE AND  
THEN CLEAN AND REPLACE

TURN OFF THE WATER INLET  
SUPPLY VALVE.  
OPEN A HOT WATER TAP TO  
RELEASE THE LINE  
PRESSURE.



# GENERAL TROUBLESHOOTING

<b>~ TEMPERATURE and AMOUNT OF HOT WATER ~</b>	
<b>PROBLEM</b>	<b>POSSIBLE SOLUTIONS</b>
It takes long time to get hot water at the fixtures.	<ul style="list-style-type: none"> <li>• The time it takes to deliver hot water from the water heater to your fixtures depends on the length of piping between the two. The longer the distance or the bigger the pipes, the longer it will take to get hot water.</li> </ul>
The water is not hot enough.	<ul style="list-style-type: none"> <li>• Compare the flow and temperature. See the chart on p. 28.</li> <li>• Check cross plumbing between cold water lines and hot water lines.</li> <li>• Is the gas supply valve fully open? (p. 17)</li> <li>• Is the gas line sized properly? (p. 10)</li> <li>• Is the gas supply pressure enough? (p. 11)</li> <li>• Is the set temperature set too low? (p. 18,19)</li> </ul>
The water is too hot.	<ul style="list-style-type: none"> <li>• Is the set temperature set too high? (p. 18,19)</li> </ul>
The hot water is not available when a fixture is opened.	<ul style="list-style-type: none"> <li>• Make sure the unit has 240V 50Hz power supply.</li> <li>• If you are using the remote controller, is the power button turned on? (p. 18,19)</li> <li>• Is the gas supply valve fully open? (p. 17)</li> <li>• Is the water supply valve fully open? (p. 17)</li> <li>• Is the filter on cold water inlet clean? (p. 21)</li> <li>• Is the hot water fixture sufficiently open to draw at least 3.0l/min through the water heater? (p. 18)</li> <li>• Is the unit frozen?</li> <li>• Is there enough gas in the tank? (for propane)</li> </ul>
The hot water gets cold and stays cold.	<ul style="list-style-type: none"> <li>• Is the flow rate enough to keep the water heater running? (p. 18)</li> <li>• Is the gas supply valve fully open? (p. 17)</li> <li>• Is the filter on cold water inlet clean? (p. 21)</li> <li>• Are the fixtures clean of debris and obstructions?</li> </ul>
Fluctuation in hot water temperature.	<ul style="list-style-type: none"> <li>• Is the filter on cold water inlet clean? (p. 21)</li> <li>• Is the gas line sized properly? (p. 10)</li> <li>• Is the supply gas pressure enough? (p. 11)</li> <li>• Check for cross connection between cold water lines and hot water lines.</li> </ul>

**~ WATER HEATER ~**

<b>PROBLEM</b>	<b>POSSIBLE SOLUTIONS</b>
Unit does not ignite when water goes through the unit.	<ul style="list-style-type: none"> <li>• Is the flow rate over 3.0l/min? (p. 18)</li> <li>• Check for the filter on cold water inlet. (p. 21)</li> <li>• Check for reverse connection and cross connection.</li> <li>• If you use the remote controller, is the power button turned on? (p. 18,19)</li> </ul>
The fan motor is still spinning after operation has stopped.	<ul style="list-style-type: none"> <li>• This is normal. After operation has stopped, the fan motor keeps running for 15 ~ 75 seconds in order to re-ignite quickly, as well as push all exhaust gas out of the flue.</li> </ul>

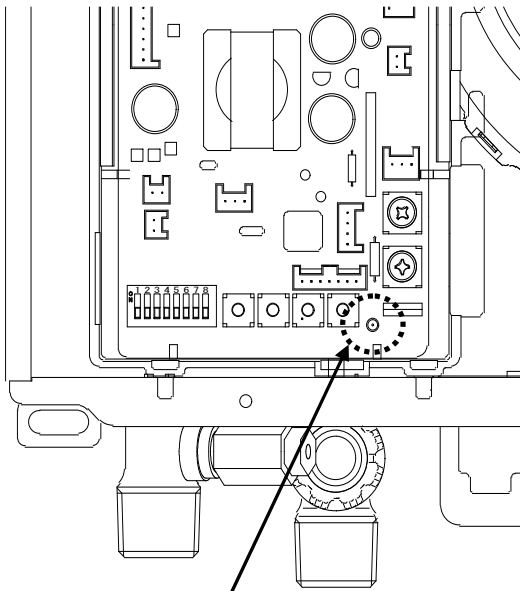
**~ REMOTE CONTROLLER (OPTIONAL) ~**

<b>PROBLEM</b>	<b>POSSIBLE SOLUTIONS</b>
Remote controller does not display anything when the power button is turned on.	<p>Press the ON/OFF button.</p> <p>If the lamp does not light ⇒</p> <ul style="list-style-type: none"> <li>• Make sure the unit has power supply.</li> <li>• Make sure the connection to the unit is correct.(p. 16)</li> </ul>
An ERROR code is displayed.	Please see the p.24
Remote controller can not change the set temperature.	<p>Is priority lamp lit?</p> <p>If it is not, press the priority button after closing all hot water taps.</p>

# PCB ERROR CODES

The water heater is self diagnostic for safety and convenience when troubleshooting. If there is a problem with the installation or the unit, it will display a numerical error code on the remote controller or blink the LED on the PCB. Consult the following chart for cause for each error code.

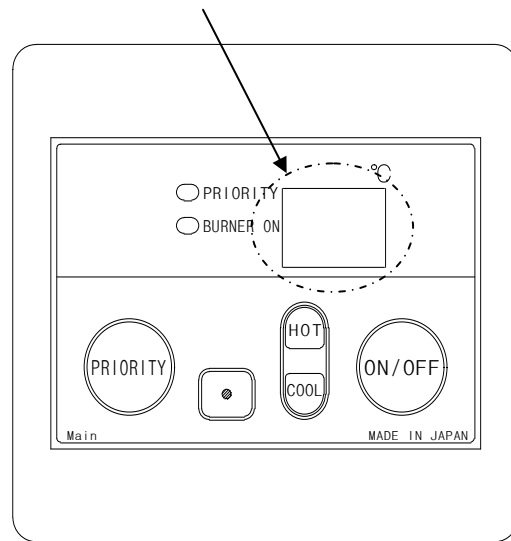
## When remote controller is not installed



The LED on the PCB will be blink

## When remote controller is installed

The error code will be displayed on the remote controller.



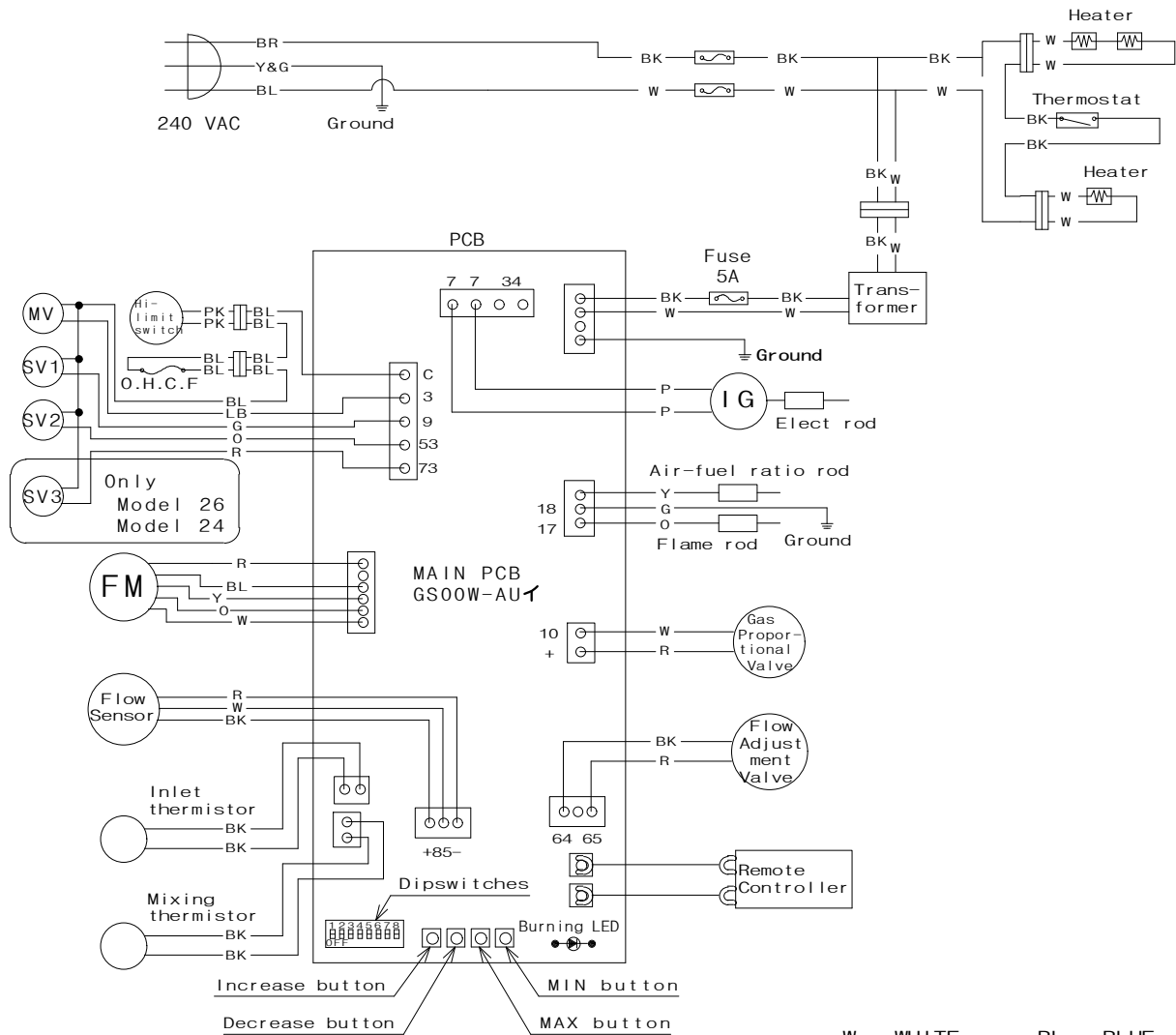
The PCB is located at the bottom left-hand side of the cabinet and the error codes can be read from the LED on the PCB or the Remote Control Temperature Display if fitted.

### **Error Codes On the PCB or Temperature Remote Controllers**

The LED on the PCB	Error Code on Remote Controller	Symptom
Burning LED:1 Time Blink	03	Incorrect Dipswitch Setting ( Gas )
	70	Proportional valve / computer
Burning LED:2 Times Blink	31	Output Thermistor
	32	Inlet Thermistor
	39	Air-fuel Ratio Rod Failure
Burning LED:3 Times Blink	11	Ignition Failure
	12	Flame Loss
	51	Abnormal Main Gas valve or Gas solenoid Valve
	72	False Flame Detection
Burning LED:4 Times Blink	99	Imperfect combustion
Burning LED:4 Times Blink	61	Abnormal Outside Pump
Burning LED:5 Times Blink	10	Warning for 991 Error Setting
—	74	Remote controller (SC,FC100W-AU)
	75	Remote controller (MC100-AU)



# WIRING DIAGRAM



- W ··· WHITE
- R ··· RED
- BK ··· BLACK
- P ··· PURPLE
- LB ··· LIGHT BLUE
- BL ··· BLUE
- G ··· GREEN
- Y ··· YELLOW
- O ··· ORANGE
- BR ··· BROWN
- PK ··· PINK

Temperature Settings			
40°C	ON OFF	5 6 7 8 TMP1 TMP2 TMP3	45°C
50°C	ON OFF	5 6 7 8 TMP1 TMP2 TMP3	55°C
60°C	ON OFF	5 6 7 8 TMP1 TMP2 TMP3	error
70°C DEFAULT	ON OFF	5 6 7 8 TMP1 TMP2 TMP3	error

Gas type	
Propane	ON OFF
Natural Gas	ON OFF

**NOTE:**  
Only change black color switches.  
Don't touch the other switches.

# OPERATING SAFETY

## FOR YOUR SAFETY READ BEFORE OPERATING

**WARNING:** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- A. This water heater does not have a pilot. It is equipped with an ignition device that automatically lights the burner. Do not try to light the burner by hand.
- B. **BEFORE OPERATING** smell all around the water heater area for evidence of leaking gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

### WHAT TO DO IF YOU SMELL GAS.

- Do not try to light any appliance.
  - Do not touch any electric switch, do not use any phone in your building
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to turn the gas valve knob. Never use tools. If the knob will not turn by hand, don't try to repair it. Call a qualified service technician. Force or attempted repair may result in a fire or explosion.
  - D. Do not use this water heater if any part has been under water. Immediately call a qualified service technician to inspect the water heater and to replace any damaged parts.

## OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information above or in the Owners Manual.
2. Turn off all electric power to the water heater.
3. Do not attempt to light the burner by hand.
4. Turn the gas manual gas valve located on the outside of the unit clockwise  $\cup$  to the off position.
5. Wait five (5) minutes to clear out any gas. If you then smell gas. **STOP!** Follow "B" in the safety information above on this label. If you don't smell gas, go to next step.
6. Turn the manual gas valve located on the outside of the unit counter clockwise  $\cup$  to the ON position.
7. Turn on all electrical power to the water heater.
8. If the water heater will not operate, follow the instructions "to Turn Off Gas to water heater" and Call your service technician or gas supplier.

## TO TURN OFF GAS TO APPLIANCE

1. Turn off all electric power to the water heater if service is to be performed.
2. Turn the manual gas valve located on the outside of the unit clockwise  $\cup$  to the off position.

## DANGER



**Vapors from flammable liquids will explode and catch fire causing death or severe burns.**

Do not use or store flammable products such as gasoline, solvents or adhesives in the same room or area near the water heater.

Keep flammable products:

1. Far away from heater.
2. In approved containers.
3. Tightly closed
4. Out of children's reach

Vapors:

1. Cannot be seen
2. Vapors are heavier than air
3. Go a long way on the floor
4. Can be carried from other rooms to the main burner by air currents

**WARNING: Do not install water heater where flammable products will be stored.**

**Read and follow water heater warnings and instructions. If owner's manual is missing, contact the retailer or manufacturer.**

## WARNING

The outlet hot water temperature of the water heater is factory set at 70°C.

Use this heater at your own risk. The set outlet water temperature can cause severe burns instantly or death from scalds. Test the water before bathing or showering.

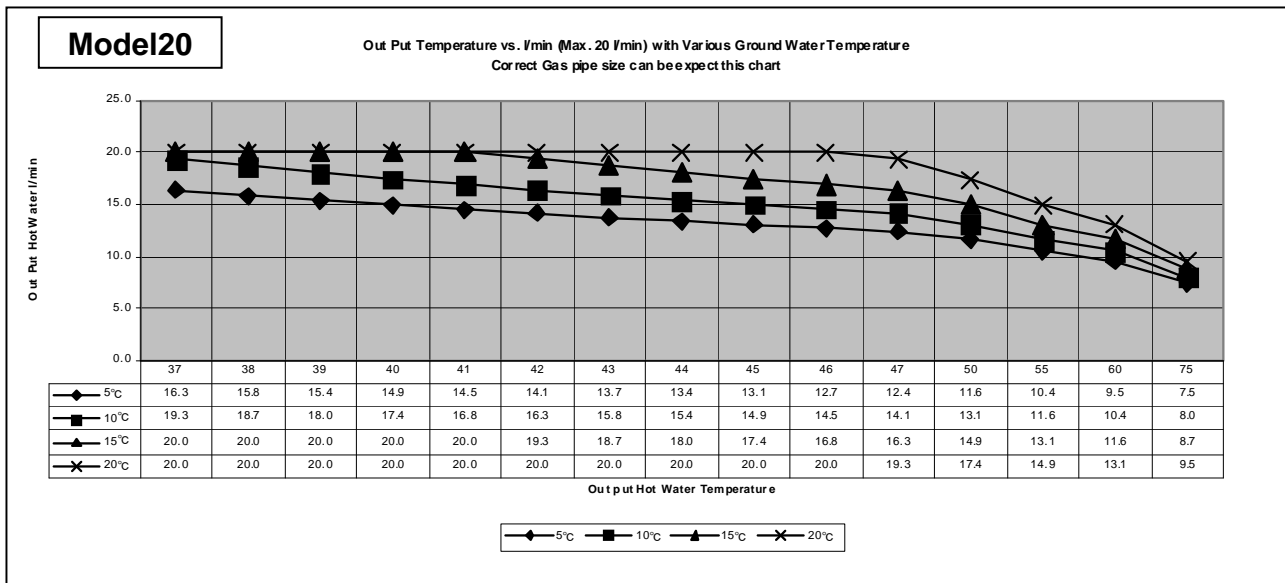
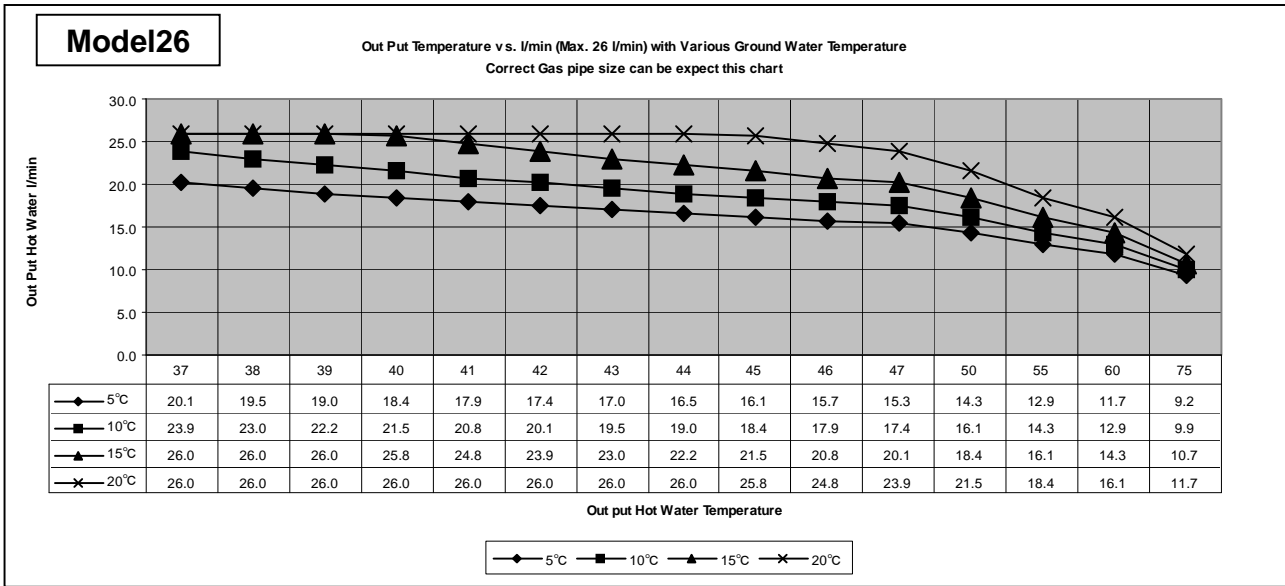
Do not leave children or an infirm person in the bath unsupervised.

## DANGER



Hot Water Heater temperature over 50°C can cause severe burns instantly or death from scalding. Children, disabled and elderly are at the highest risk of being scalded. Feel water temperature before bathing or showering. Temperature limiting valves are available. Ask a professional person.

# WATER FLOW AND WATER TEMPERATURE



- The flow rate through the water heater is limited to a maximum of 26.0 (or 20.0) l/min.
- The temperature setting, along with the supply temperature of the water will determine the flow rate output of the unit.
- Please refer to the temperature vs. litre per minute chart to determine the likely flow rates based on your local ground water temperature and your desired outlet water temperature combination.

## WARRANTY CONDITIONS

Please contact your Eternity office for full warranty conditions on 1300 367 565 for all Warranty and Service information.

27G022-2