

## **INSTALLATION GUIDE and OWNER'S GUIDE**

**GAS WATER HEATERS**

**GS-20W-AU5/6**

**GS-26W-AU5/6**

**EXTERNAL INSTALLATION ONLY**

### **! WARNING**

- **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.**

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Before you install the hot water system, please be sure to read through the Installation guide and Owner’s guide, which provides the description of the hot water system, its functions and how to install it correctly. To avoid the risks that are always present when you install an appliance, it is important that the hot water system is installed correctly and that you read the safety instructions carefully to avoid misuse and hazards.

After unpacking the hot water system please check it is not damaged. If in doubt, do not use the hot water system but contact your local Customer Care Centre using the number located at the back of this installation guide.

NOTE: The actual gas heating appliance that is part of this gas continuous flow hot water system will here after be referred to as “water heater” for the purposes of this Guide. The gas continuous flow

## 1. IMPORTANT


This Installation Guide and Owner’s Guide has been prepared for Installers and service of the equipment and users. 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 Guide. All other relevant National, State or Local regulations must also be conformed with and these include (but are not limited to):

- AU/NZ Standard AS/NZS3500.1 – Water Supply
- AU/NZ Standard AS/NZS3500.4 – Hot Water Supply
- AU/NZ Standard AS/NZS3000 – Electrical Installations
- AU/NZ Standard AS/NZS5601 – Gas Appliance Installation
- Local Water, Gas & Electrical Authority Regulations
- Municipal Building Codes

hot water system as a whole may also be referred to as “hot water system” for simplicity. Meanings of symbols used in this manual are shown below:

 **Danger:** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

 **Warning:** Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.

 **Caution:** Indicates an imminently hazardous situation which, if not avoided, could result in minor or moderate injury.

**Notice:** Indicates information considered important but not hazard related.

## FOR SERVICE

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

### ! WARNING

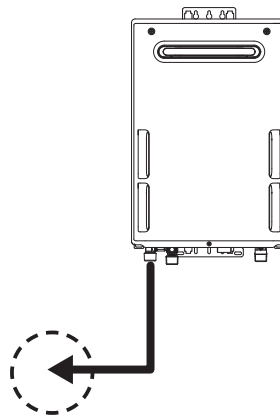
Installation and service must be performed by a qualified installer (for example, a licensed plumber or gas fitter).

## FOR THE PLUMBER

**NOTE:** GS-20W/26W-AU5 is supplied factory set at 50 °C outlet hot water temperature to comply with the requirements of **AS 3498.2009**. If the water heater is not preset to 50 °C, tempering valve is required.

Please follow all the installation instructions and operating instructions in the Installation guide and User's guide 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 1.4 metres of pipework must be used between the outlet of the water heater and the first tap and outlet. See Diagram to the right.
2. The Hot water line should be insulated with Ensorex 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 1.4 metres from the outlet connection of the water heater.
- Pipe size is nominal 18 mm from hot water outlet to the first tap or outlet.

First tap or outlet

## 2. SPECIFICATIONS

| MODEL                     | GS-20W-AU5/6           | GS-20W-AU5/6           | GS-20W-AU5/6           | GS-26W-AU5/6           | GS-26W-AU5/6           | GS-26W-AU5/6           |
|---------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Gas Type                  | Nat. Gas               | LPG                    | ULPG                   | Nat. Gas               | LPG                    | ULPG                   |
| Gas Input (MJ/h)          | 160                    |                        |                        | 195                    |                        |                        |
| Inlet Pressure (kPa)      | 1.13 min./<br>5.0 max. | 2.75 min./<br>7.0 max. | 2.75 min./<br>7.0 max. | 1.13 min./<br>5.0 max. | 2.75 min./<br>7.0 max. | 2.75 min./<br>7.0 max. |
| Water Supply Pressure kPa | 150* min.<br>1200 max. |                        |                        |                        |                        |                        |
| Height mm                 | 515                    |                        |                        |                        |                        |                        |
| Depth mm                  | 170                    |                        |                        |                        |                        |                        |
| Width mm                  | 350                    |                        |                        |                        |                        |                        |
| Weight kg                 | 15.0                   |                        |                        | 16.0                   |                        |                        |
| Gas Connection mm         | 20 BSP                 |                        |                        |                        |                        |                        |
| Water Connections         | 20 BSP                 |                        |                        |                        |                        |                        |
| Ignition                  | Electronic             |                        |                        |                        |                        |                        |
| Electrical Supply V       | 240 AC                 |                        |                        |                        |                        |                        |

GS-20W/26W-AU6 is supplied factory set at 60 °C.

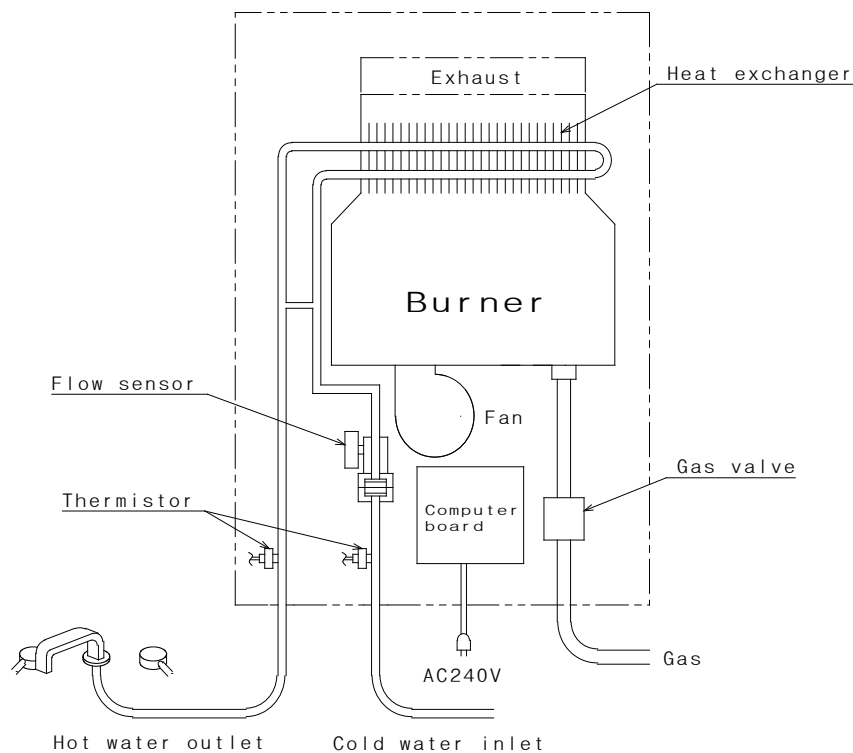
### NOTES:

\*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 the diagrams on p.5.
- Before installing in areas over 1500 m above sea level, contact the manufacturer for instructions.

### 3. 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 casing 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:

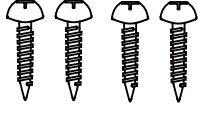



\*This diagram illustrates the main components only and does not accurately represent the water heater's physical description.

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 it gets heated.
6. The computer will modulate the gas supply valve and water flow to produce the right amount of hot water at the set temperature.
7. When the tap is turned off, the unit shuts down.

## 4. ACCESSORIES

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

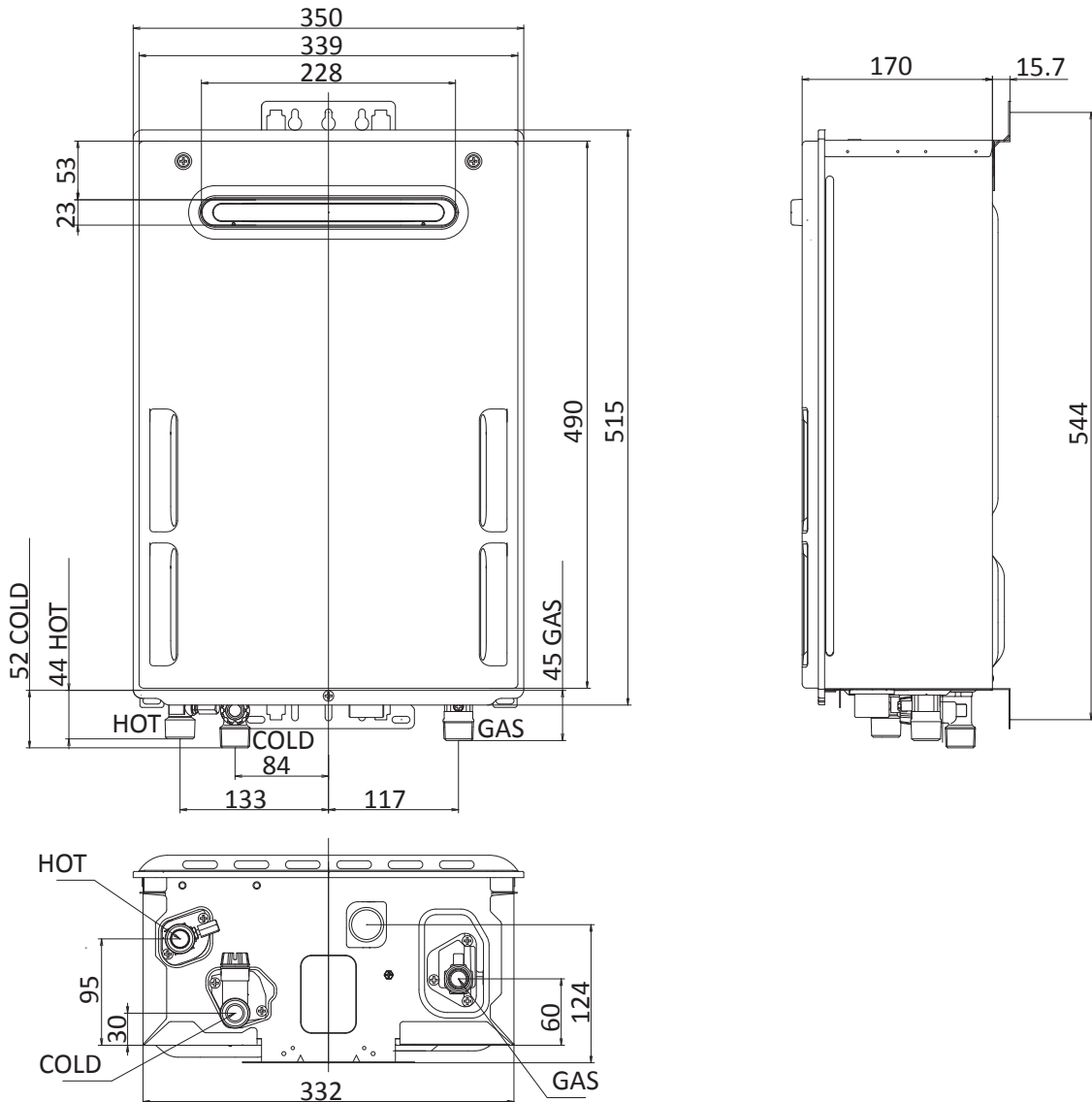
| Screws × 4  | Manual   |
|---|--|
|  |  |

## 5. DIMENSIONS AND CONNECTION POINTS

GS-20W-AU5/6

GS-26W-AU5/6

(Unit: mm)



## 6. SAFETY GUIDELINES

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

### WARNING

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

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 MANUFACTURER.**
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, vapours, 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 "Freeze Prevention" on p. 20 for more information.



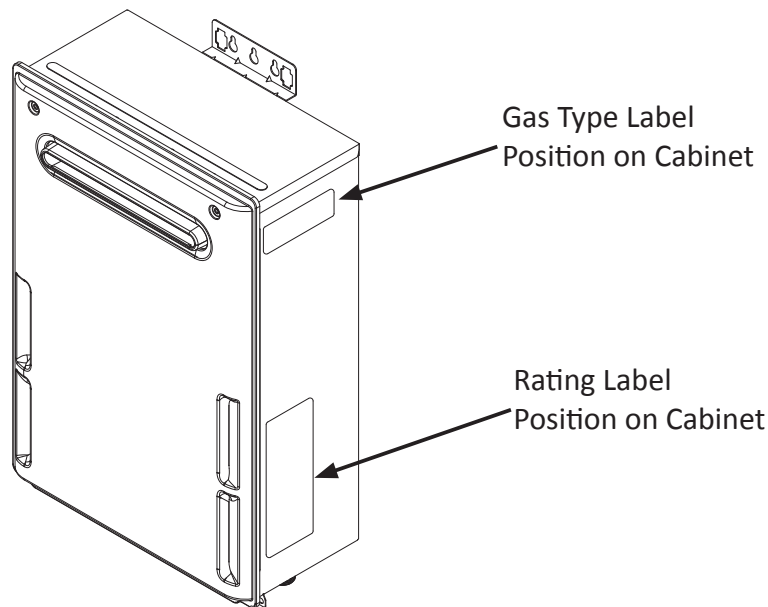
**Prohibited**

## 7. 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” (p.6) and the “IMPORTANT” (p.2) 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 quality 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 to be advised of any inconveniences which could occur such as disconnection of services.
  - The installer must 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.

## SELECTING AN INSTALLATION LOCATION

CAREFULLY READ THIS SECTION BEFORE INSTALLING THE WATER HEATER. WHEN A LOCATION FOR INSTALLATION HAS BEEN SELECTED, THESE PRECAUTIONS MUST BE FOLLOWED EXACTLY.

### WARNING

- Every care is taken to warn THE PUBLIC AND THE OCCUPANTS OF THE BUILDING OF ANY RISK OF 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.

### CAUTION

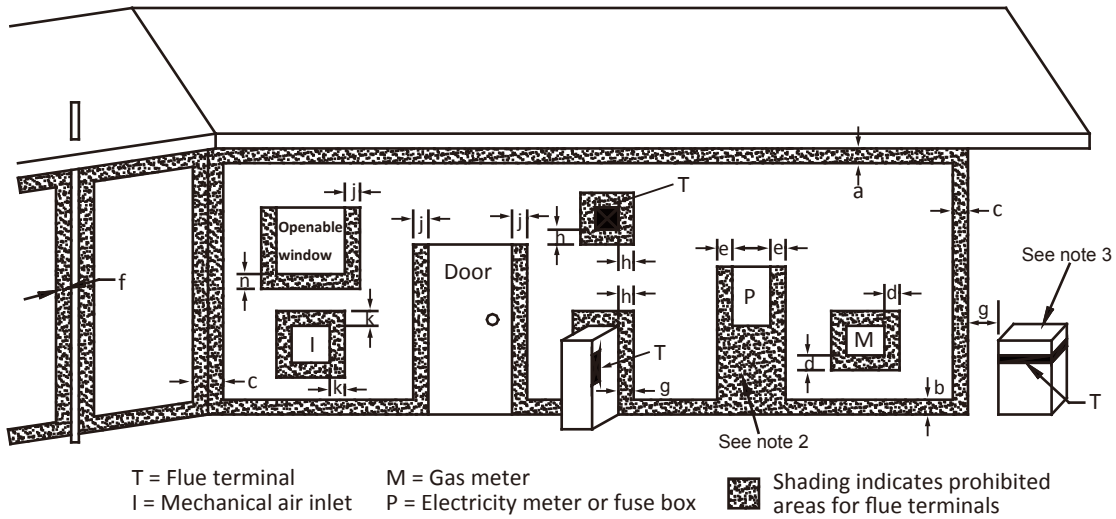
- This is a water heating apparatus only and the final quality of water delivered is dependent upon the quality of water supplied to this system.
- Although the water heater is designed to operate with minimal sound, you should not install the unit on a wall adjacent to a bedroom, or a room that is intended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

- Check the proximity of gas & electrical lines so as not to create a hazard and avoid access problems for other services.
- Heater must be located in accordance with the requirements of AS5601 and have sufficient clearances from eaves, windows, vents etc. – see the diagram on p. 9.
- “Exemption from Prescribed Statutory Requirement”: AS5601 Clause 5.13.6.5. This relates to the physical separation distance specification where multiple appliances are employed. That equates to a minimum 150 mm 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 screws on the top and at the 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 5.11.5.9 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 a 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 up to 150 MJ/h input  | 1000                    | 1000         |
|      | • Appliances over 150 MJ/h input  | 1500                    | 1500         |

\*- unless appliance is certified for closer installation.

Note:

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.

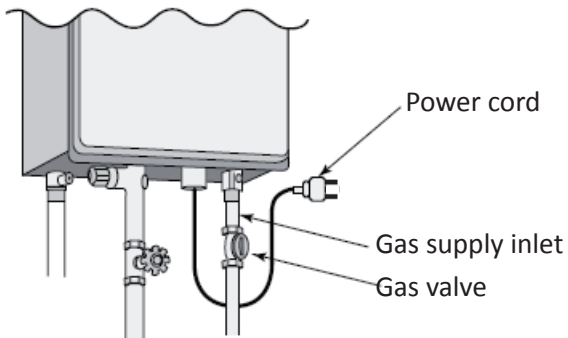
5 For appliances which are not mentioned above, comply with local regulation.

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

## 8. GAS CONNECTIONS

### 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.



### 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 critically damaged.

## SIZING AND CONNECTING

Check the gas type label to make sure that the water heater is available for your gas, 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.

- Size the gas piping for the water heater according to AS5601 installation code.
- 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 manifold pressure 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.

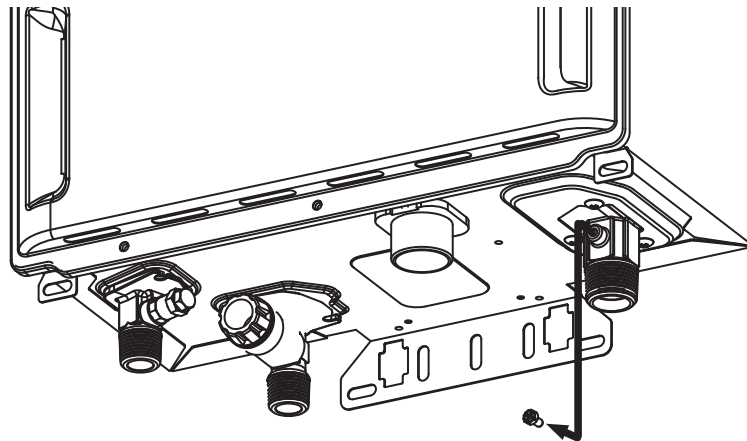
## MEASURING INLET GAS PRESSURE AND TESTING GAS LEAKAGE

The appliance and its gas connections must be tested for leak and the inlet gas pressure must be measured before placing the unit in operation for properly performing and safety.

### WARNING

Measuring inlet gas pressure and testing gas leakage are **only to be done by a licensed professional.**

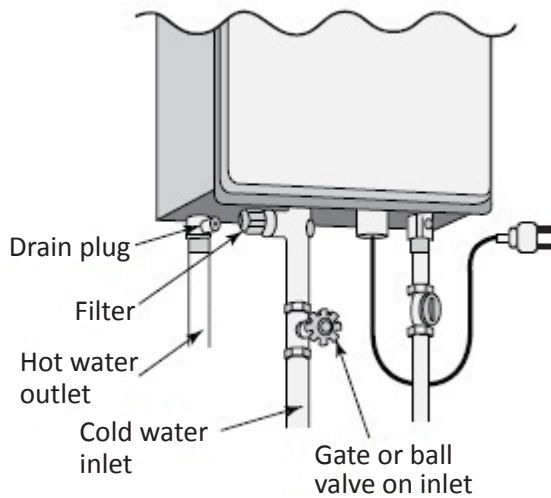
1. Shut off the manual gas valve on the supply gas line.
2. Open a faucet. The unit should turn on and the gas in the gas pipe line should purge. Leave the faucet open to keep the unit running until the unit shuts down due to lack of gas supply. Then shut the faucet off.
3. Remove the screw for the pressure port located on the gas inlet of the water heater shown in the diagram below.
4. Connect the manometer to the pressure port.
5. Re-open the manual gas valve. Check to see that there are no gas leaks with a gas leak detector.
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 must be within the appropriate range. (Please refer to p. 3.)



### WARNING

This appliance and its individual shut-off valve must be isolated from the gas supply 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 3 kPa.

## 9. WATER CONNECTIONS

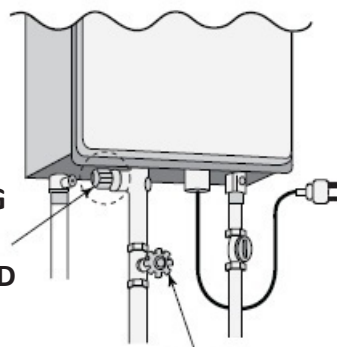


### WARNING

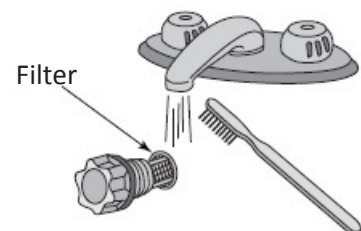
Do not reverse the hot outlet and cold supply line connections to the Water Heater as this will cause your heater to operate improperly.

- 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 pressure 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.

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



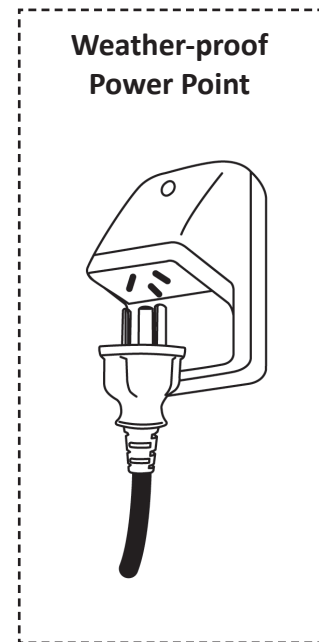
- 1. TURN OFF THE WATER INLET SUPPLY VALVE.**
- 2. OPEN A HOT WATER TAP TO RELEASE THE LINE PRESSURE.**



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

## 10. ELECTRICAL CONNECTION

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 metre 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.

## 11. REMOTE CONTROLLER (OPTIONAL ITEM)

The water heater can be installed with up to three remote controllers. The remote controller has two functions which can adjust the output temperature of hot water and indicate the error code on the remote controller. The remote controllers are optional items.

- The output water temperature can be adjusted only by a remote controller which has the setting temperature priority with the PRIORITY lamp of the remote controller on. If you want to change the setting temperature with another remote controller, press the PRIORITY button of the remote controller you want to use, only when there is no water flow through the water heater. (Default set temperature is 40 °C.)
- All water heater models have a self diagnostic function for safety and convenience. If there is a problem with the installation or the unit, it will display an error code on the remote controller if it is installed and the LED of the computer board will flash.

### MAIN REMOTE CONTROLLER (MC-110-AU)

- **Location-MC-110-AU** must be installed in dry, shaded and clean locations (such as kitchen) due to NO water resistant. Be careful of installation location.
- The controller can adjust the output water temperature within the range from 37 °C to 50 °C when it is connected to GS-20W/26W-AU5. (See the chart below.)
- The controller can adjust the output water temperature within the range from 37 °C to 60 °C when it is connected to GS-20W/26W-AU6. (See the chart below.) When “BURNER ON” lamp is on, the set temperature can not be adjusted to 55 and 60 °C. If you want to set it to 55 and 60 °C, you should close the hot water tap.

### SHOWER CONTROLLER (FC-110-AU)/ENSUITE CONTROLLER (SC-110-AU)

- **FC-110-AU** and **SC-110-AU** controllers are water resistant, however should not be positioned where they can be splashed directly and there should be caulking between the surface of the wall and the controller.
- **FC-110-AU** is installed such as the main bathroom, and **SC-110-AU** is installed such as the ensuite bath room.
- The controllers can adjust the output water temperature within the range from 37 °C to 50 °C. (See the chart below.)
- When BURNER ON lamp is on, the set temperature can not be adjusted to 42 °C or over. If you want to adjust the set temperature to 42 °C or over, you should close the hot water tap.



### Water temperature setting options

(Unit:°C)

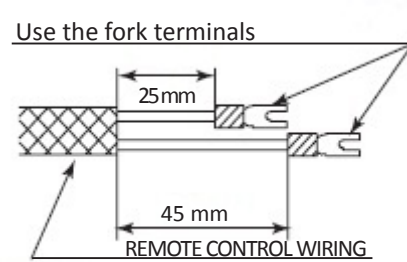
|                  |    |    |    |     |    |    |    |    |    |    |    |    |      |      |
|------------------|----|----|----|-----|----|----|----|----|----|----|----|----|------|------|
| <b>MC-110-AU</b> | 37 | 38 | 39 | 40* | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 50 | 55** | 60** |
| <b>FC-110-AU</b> |    |    |    |     |    |    |    |    |    |    |    |    |      |      |
| <b>SC-110-AU</b> | 37 | 38 | 39 | 40* | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 50 |      |      |

\*Factory setting (Default): 40 °C

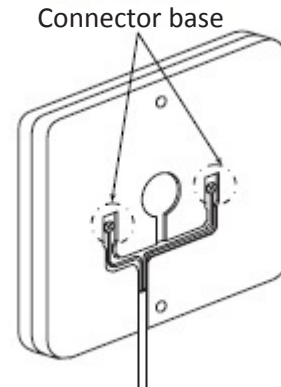
\*\*Setting of the output temperature of 55 °C and 60 °C are only available when it is connected to GS-20W/26W-AU6.

## REMOTE CONTROLLER INSTALLATION

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

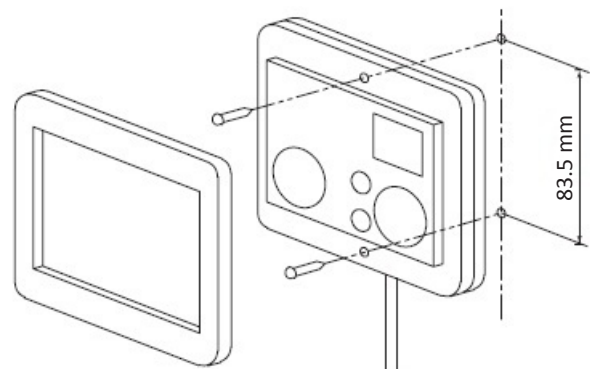


2. Attach the crimped fork terminals on the end of the wiring to the terminals on the back of the controller.



3. Install the wiring downward through the cable trench and out the bottom of the connector base.

4. Fix the remote controller in position using the two screws provided or alternatively use another fixing solution suitable for the material to be fixed to.

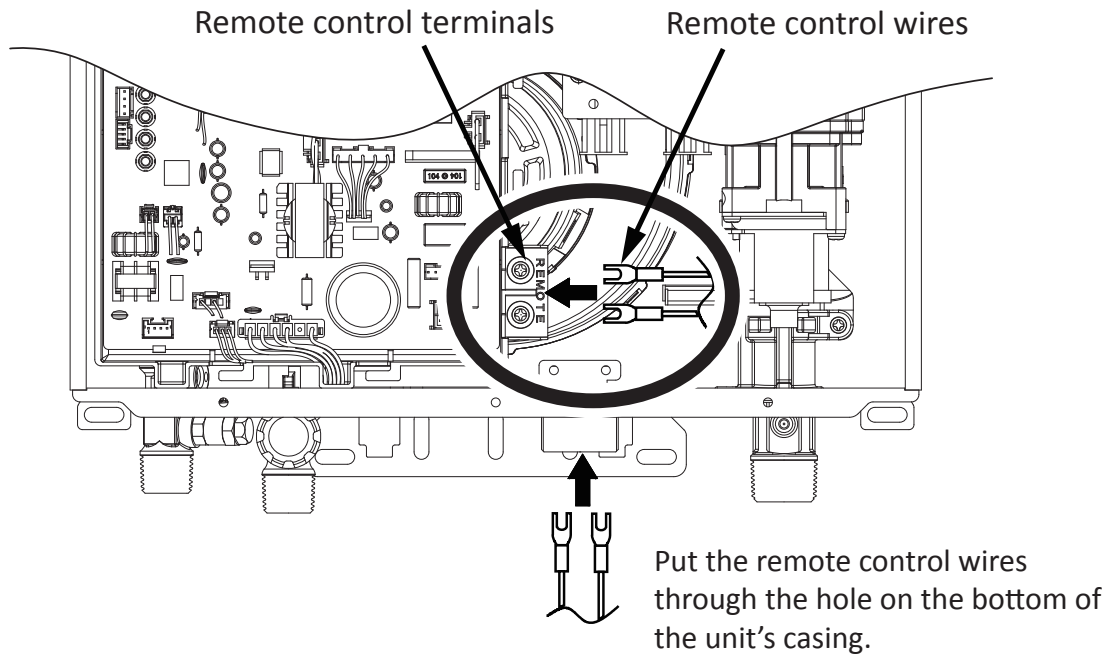


### WARNING

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

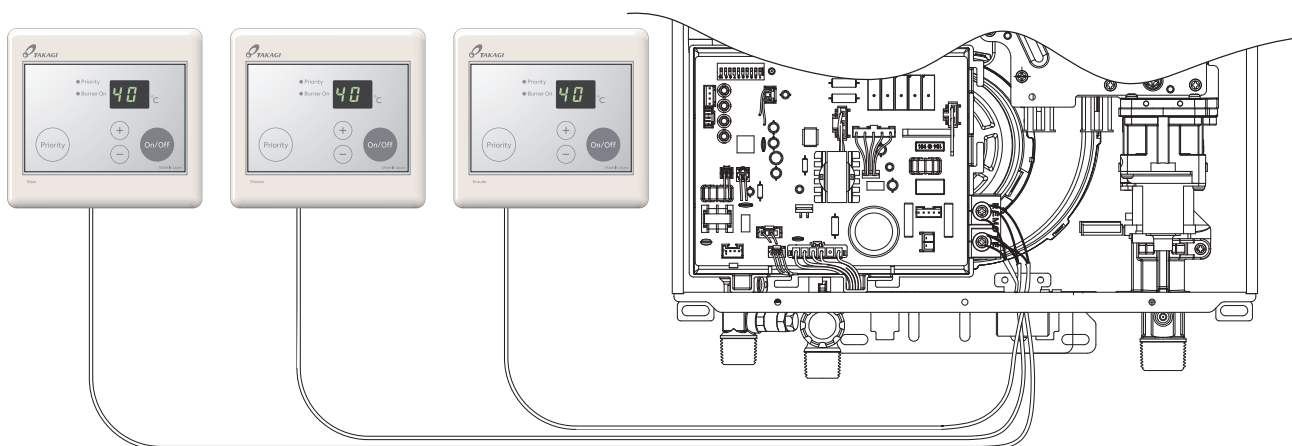
## CONNECTION OF REMOTE CONTROLLER WIRING TO THE WATER HEATER

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 control wires through the hole on the bottom of the unit's casing.
  4. Connect the remote control wires to the remote terminals directly. (There is no polarity in the terminations.)
- \*DO NOT jump or short-circuit wires as it will damage the computer.**
5. Replace the front cover. Then connect the power plug.



## REMOTE CONTROLLER – CABLE CONNECTIONS

MC-110-AU    FC-110-AU    SC-110-AU



TYPICAL CABLE LAYOUT



## 12. INITIAL OPERATION

### FOR YOUR SAFETY, READ BEFORE OPERATING:

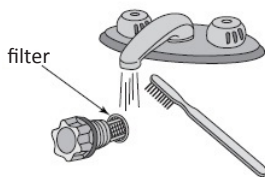
**⚠️WARNING:** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- Check the **GAS and WATER CONNECTIONS** for leaks before supplying power to the water heater.
- 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. 11.
- 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 under water. Immediately call a qualified service technician to replace a flooded water heater.

**⚠️WARNING: 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 neighbour's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, **call the fire department: "000"**

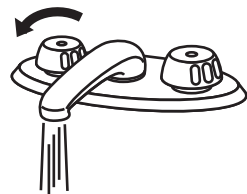
**1.** Once the above checks have been completed, please clean filter of any debris. Refer to p. 21 for instructions.



**2.** Fully open the manual water control valve on the water supply line.

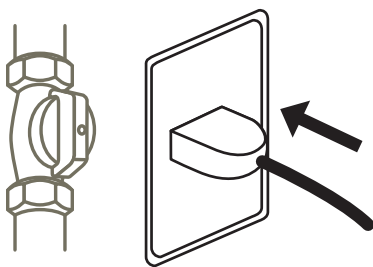


**3.** Open a hot water tap to verify that water is flowing to that tap.

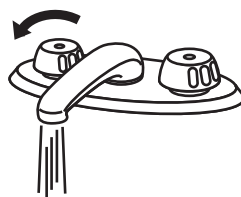


Then close the hot water tap.

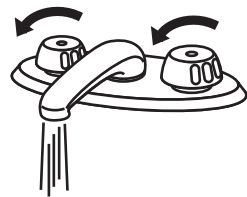
**4.** Fully open the manual gas control valve installed and turn on the 240 volt 50Hz power supply to the water heater.



**5.** Set the water temperature at 50 °C by the DIP switch settings or the remote controller (if it is installed) and open a hot water tap and check if the water flow temperature at the tap does not exceed 50 °C.



**6.** Now you are ready to enjoy hours of endless hot water.



This initial operation must be performed by a qualified installer (for example, a licensed plumber or gas fitter).

## 13. NORMAL OPERATION

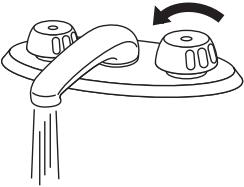
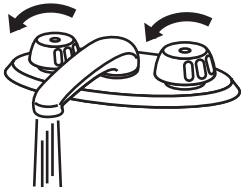
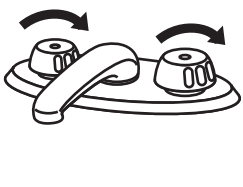
### ! WARNING

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

#### Notice

- Flow rate to activate the water heater : 2.3 LITRES per minute
- Flow rate to keep the water heater running : 1.8 LITRES per minute







### WITHOUT REMOTE CONTROLLER

|   |   |  |
|---|---|--|
| <p><b>1.</b> Open a cold water tap.</p>  | <p><b>2.</b> Mix hot water with the cold water to get the suitable temperature water.</p>  | <p><b>3.</b> Close the water taps.</p>  |
|---|---|--|

**NOTE:** The water temperature is set at **50/60 °C** from the factory\*. If you want to change the set temperature of hot water without remote controller, refer to diagram below.

### ! WARNING

- Turn off the power supply to the water heater before changing the DIP switch settings.
- Only change the switches with dark squares.
- DO NOT adjust other switches.
- DO NOT mistake on-direction for off-direction of the switch.

| Temperature settings  |   |  |
|---|---|--|
| <p>40°C</p>  | <p>45°C</p>                                | <p>50°C</p> <p>50°C MODEL<br/>DEFAULT</p>  |
| <p>55°C</p>  | <p>60°C</p> <p>60°C MODEL<br/>DEFAULT</p>  |    |

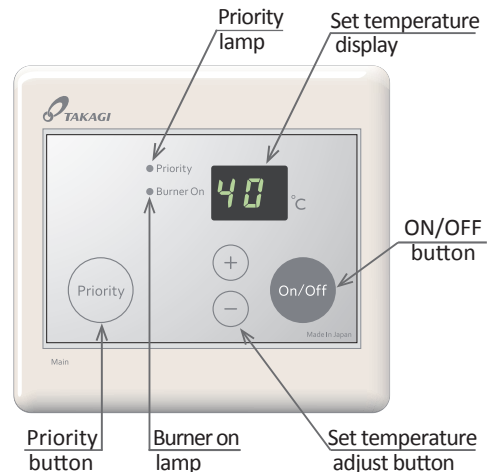
#### \*NOTE:

**50 °C models:** GS-20W-AU5  
GS-26W-AU5  
**60 °C models:** GS-20W-AU6  
GS-26W-AU6

The set temperature of 55/60 °C is not available for 50 °C models.

## WITH ONLY MAIN REMOTE CONTROLLER INSTALLED

1. Press the ON/OFF button. Then ensure the PRIORITY lamp is ON and the set temperature is displayed on the remote controller.
2. Adjust the set temperature. **MC-110-AU** can change the output temperature of hot water from 37 °C to 50°C when it is connected to GS-20W/26W-AU5 and 37 °C to 60°C when it is connected to GS-20W/26W-AU6. (Please refer to P. 14.)
3. Open a cold water tap and mix hot water with the cold water to get suitable temperature water. Ensure the BURNER ON lamp is ON.
4. Close the hot water tap and cold water tap, and ensure the BURNER ON lamp is OFF.



**MC-110-AU**

## WITH MULTIPLE REMOTE CONTROLLERS INSTALLED

1. Press the ON/OFF button of any remote controller. Then ensure the PRIORITY lamp of the remote controller is on and the set temperature is displayed on each remote controller.
2. Adjust the set temperature. The set temperature can only be changed by the remote controller with the PRIORITY lamp on. If you want to adjust the set temperature with other remote controller, press the PRIORITY button of the remote controller you want to use, only if there is no water flow.)

For more information of the setting range of output hot water temperature of each remote controller, see the chart of “Water temperature setting options” on p.14.

**NOTE:** Each remote controller can individually store the set temperature. However –

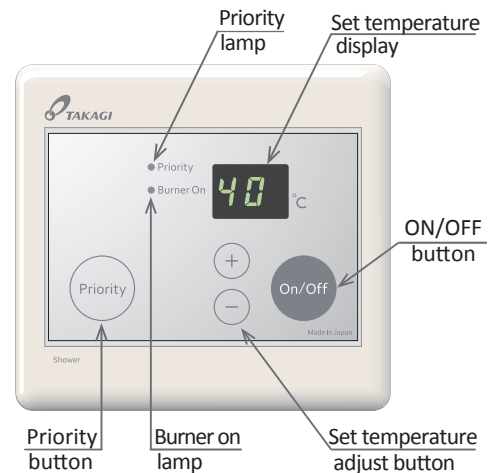
### **MC-110-AU**

If the set temperature was 55/60 °C at previous time, it will lower the temperature to 50 °C next time for safety reason when it is installed with GS-20W/26W-AU6.

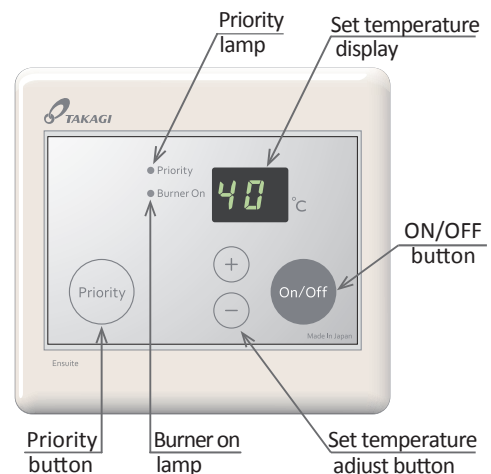
### **FC-110-AU, SC-110-AU**

If the set temperature was 43 °C and above at previous time, it will lower the temperature to 42 °C next time for safety reason.

3. Open a cold water tap and mix hot water with the cold water to get suitable temperature water. Ensure the BURNER ON lamp is ON.
4. Close the hot water tap and cold water tap, and ensure the BURNER ON lamp is OFF.



**FC-110-AU**



**SC-110-AU**

## 14. FREEZE PREVENTION

This unit comes equipped with heaters that prevent 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  $-15\text{ }^{\circ}\text{C}$  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  $-15\text{ }^{\circ}\text{C}$  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.

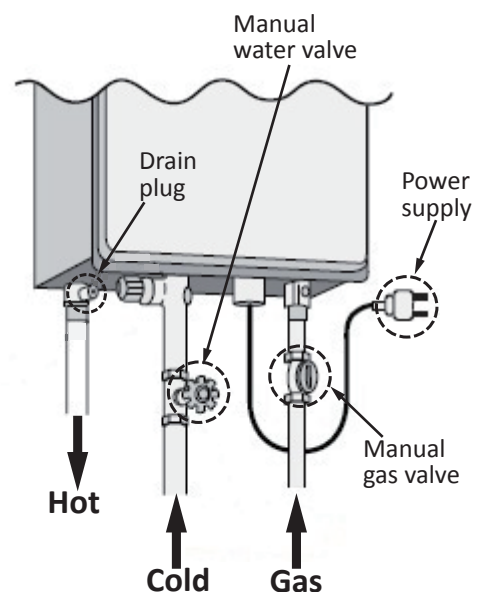
### Follow these instructions carefully:

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.



## 15. 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 frequent maintenance.

### WARNING

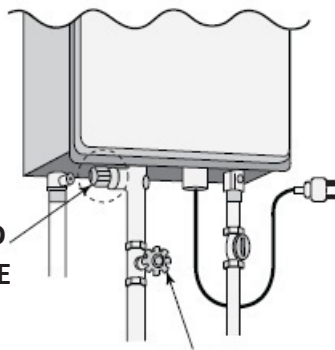
Turn off the electrical power supply and close the manual gas control valve and the manual water control valve before servicing.

- Clean the cold-water inlet filter. (Refer to diagram below.)
- Be sure that all openings for combustion air are not blocked. If blocked, remove any obstruction.
- Check that the opening for exhaust is not blocked. If blocked, shut off the water heater's combustion. After a while, remove any obstruction. **DO NOT** touch while burning because you might get burnt due to high temperature.
- Check the gas pressure. (Refer to p.11.)
- Keep the area around the water heater clear. Remove any combustible materials, gasoline or any flammable vapours and liquids.

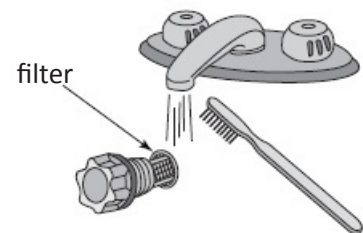
### UNIT DRAINING and FILTER CLEANING

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.**

3. 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.



## 16. GENERAL TROUBLESHOOTING

| WATER TEMPERATURE and AMOUNT OF HOT WATER                |   |
|--|---|
| PROBLEM  | POSSIBLE SOLUTIONS  |
| It takes a long time to get hot water at the taps.       | <ul style="list-style-type: none"> <li>The time it takes to deliver hot water from the water heater to your taps 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> <li>Is the filter on cold water inlet clean? (p. 21)</li> </ul>   |
| The water is not hot enough.                             | <ul style="list-style-type: none"> <li>Compare the flow rate 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 2.3 l/min through the water heater? (p. 18)</li> <li>Is the unit frozen? (p. 20)</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>   |

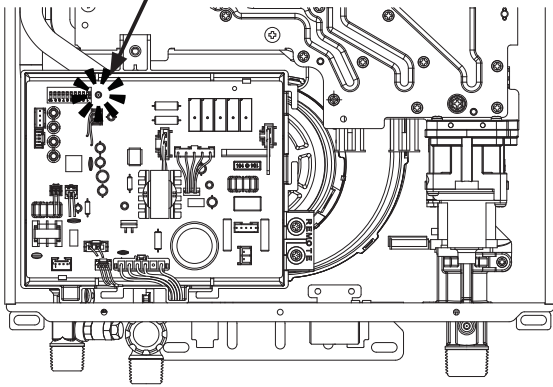
| <b>WATER HEATER</b>   |   |
|---|---|
| <b>PROBLEM</b>  | <b>POSSIBLE SOLUTIONS</b>   |
| Unit does not ignite when water goes through the unit.                          | <ul style="list-style-type: none"> <li>• Is the flow rate over 2.3 l/min ? (p. 18)</li> <li>• Check for the filter on cold water 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 to 75 seconds in order to re-ignite quickly, as well as push all exhaust gas out of the flue.</li> </ul>   |
| Unit sounds abnormal while in operation.  | <ul style="list-style-type: none"> <li>• Contact the manufacturer.</li> </ul>   |
| <b>REMOTE CONTROLLER (OPTIONAL)</b>   |   |
| <b>PROBLEM</b>  | <b>POSSIBLE SOLUTIONS</b>   |
| Remote controller does not display anything when the power button is turned on. | Press the ON/OFF button.<br>If the lamp does not light: <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.                           | Is the priority lamp on?<br>If it is not, press the priority button after closing all hot water taps.   |

## 17. PCB ERROR CODE

The water heater has a self diagnostic function for safety and convenience when troubleshooting. If there is a problem with the installation or the unit, it will display a 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 flash.



**When remote controller is installed**

The error code will be displayed on the remote controller.



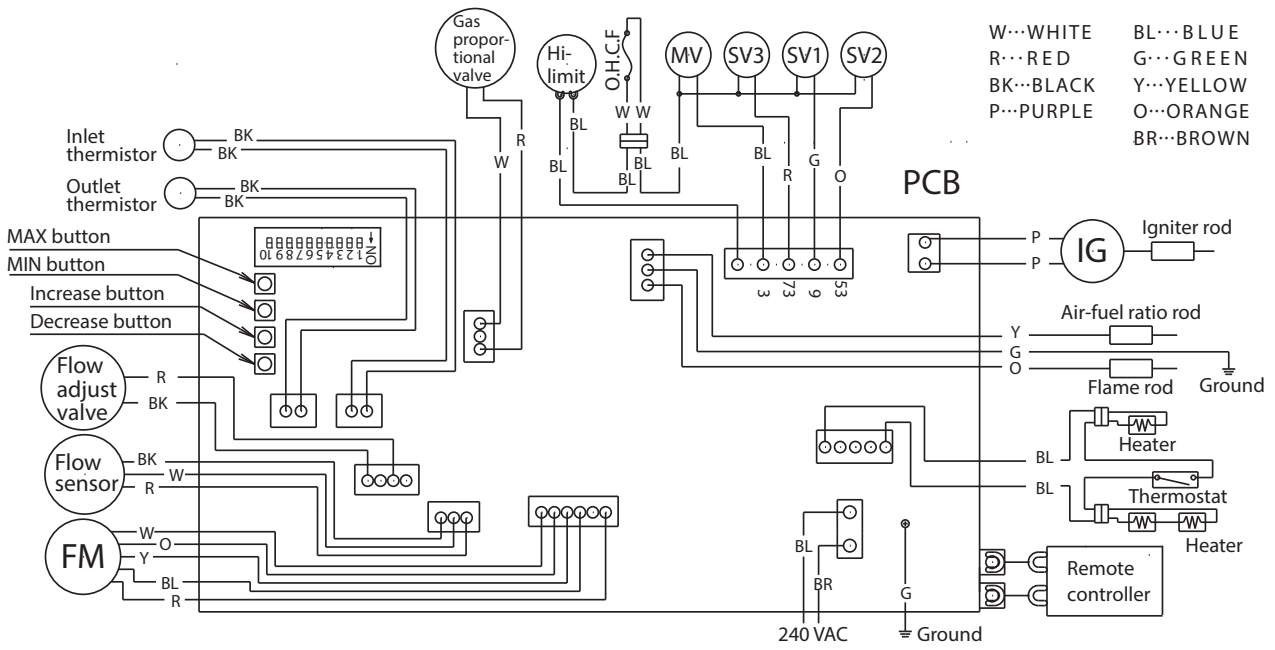
The PCB is located at the bottom left-hand side of the cabinet and the error codes can be indicated by flashing of the LED on the PCB or the Remote controller temperature display if it is installed.

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

| The LED on the PCB | Error Code on Remote Controller | Symptom                                  |
|--------------------|---------------------------------|--|
| One flash          | 031                             | Incorrect DIP switch setting             |
|                    | 701                             | PCB fault                                |
|                    | 711                             | Gas solenoid valve drive circuit failure |
| Two flashes        | 311                             | Output thermistor                        |
|                    | 321                             | Inlet thermistor                         |
|                    | 391                             | Air-fuel ratio rod failure               |
| Three flashes      | 111                             | Ignition failure                         |
|                    | 121                             | Flame loss                               |
| Four flashes       | 611                             | Fan motor failure                        |
| Five flashes       | 991                             | Imperfect combustion                     |
| Six flashes        | 510                             | Abnormal Main gas solenoid valve         |
|                    | 511                             | Abnormal Gas solenoid valve              |
|                    | 721                             | False flame detection                    |
|                    | 741                             | Miscommunication (MC-110-AU)             |
|                    | 751                             | Miscommunication (FC-110-AU/SC-110-AU)   |



# 18. WIRING DIAGRAM



# 19. DIP SWITCH SETTINGS

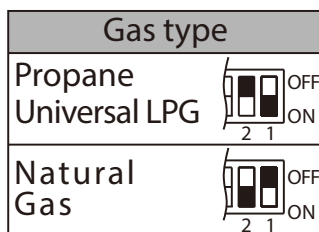
**WARNING**

- Turn off the power supply to the water heater before changing the DIP switch settings.
- Only change the switches with dark squares.
- DO NOT adjust other switches.
- DO NOT mistake on-direction for off-direction of the switch.

| Temperature settings         |   |   |
|------------------------------|---|---|
| <b>40°C</b><br><br>OFF<br>ON | <b>45°C</b><br><br>OFF<br>ON                          | <b>50°C</b><br>50°C MODEL<br>DEFAULT<br><br>OFF<br>ON |
| <b>55°C</b><br><br>OFF<br>ON | <b>60°C</b><br>60°C MODEL<br>DEFAULT<br><br>OFF<br>ON |   |

**\*NOTE:**  
**50 °C models: GS-20W-AU5**  
**GS-26W-AU5**  
**60 °C models: GS-20W-AU6**  
**GS-26W-AU6**  
**The set temperature of 55/60 °C is not available for 50 °C models.**

DIP switch setting for the gas type is preset at factory. Do not touch the switches.



## 20. 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 light. 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. Forced 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 replace the water heater.

### OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information above or in the Owner's Manual.
2. Turn off all electric power to the water heater.
3. Do not attempt to light the burner by hand.
4. Turn the manual gas valve located on the outside of the unit clockwise 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 counterclockwise 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 Appliance" 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 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, SOL-  
VENTS 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.**

**DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS IN  
OPERATION.**

**DO NOT PLACE ARTICLE ON OR AGAINST THIS APPLIANCE.**

**DO NOT MODIFY THIS APPLIANCE.**

## **! WARNING**

The outlet hot water temperature of the water heater is factory set at 50 °C.

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

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

## **! DANGER**

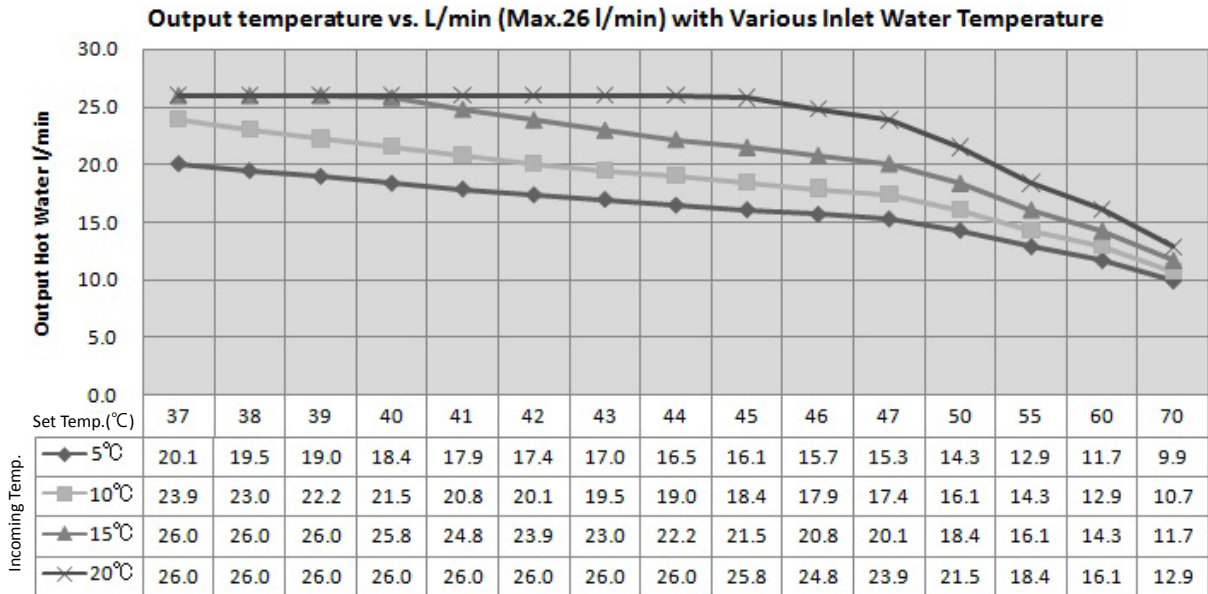


Hot Water Heater temperatures over 50 °C can cause severe burns instantly or death from scalding. Children, disabled and the elderly are at the highest risk of being scalded. Feel water temperature before bathing or showering. Temperature limiting valves are available. Ask a professional person.

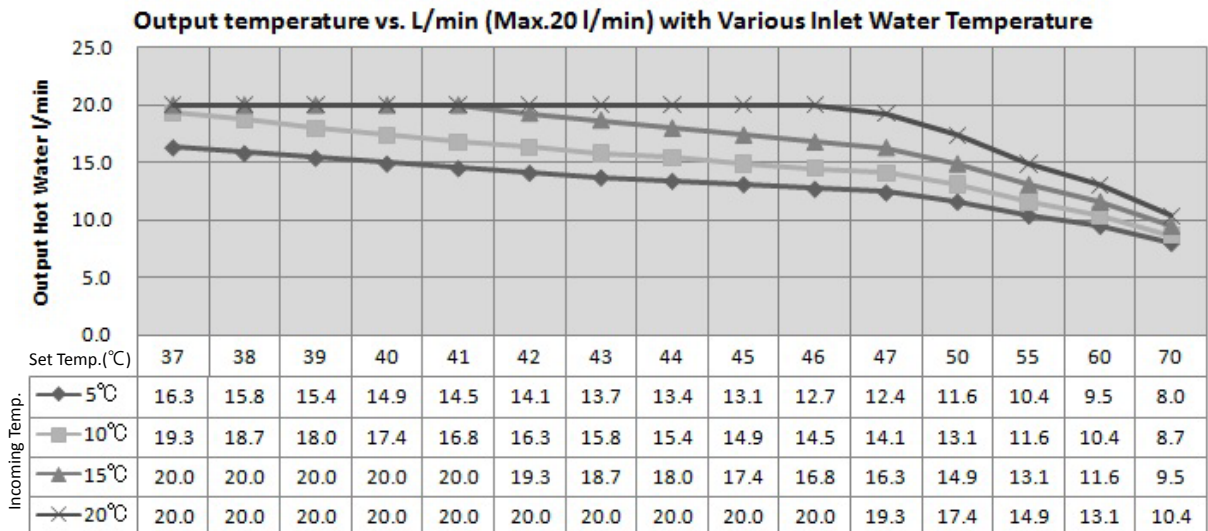
## 21. WATER FLOW AND WATER TEMPERATURE

The chart is based on properly sized gas line.

### GS-26W-AU5/6



### GS-20W-AU5/6



- 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 outlet water temperature combination.

## 22. WARRANTY CONDITIONS

Please visit the [www.consolidatedenergy.com.au](http://www.consolidatedenergy.com.au) for contact information for your nearest office.