



Installation Manual

Envirosun® Endless Series Gas Water Heater

ES20CF-2-NG / ES26CF-2-NG



IMK22861
AS/NZS 2712



WaterMark
WM-022861
AS 3498

INSTALLATION RECORD

PLEASE COMPLETE THIS PAGE AS A RECORD OF THE INSTALLATION DETAILS FOR YOUR REFERENCE TO DETERMINE WHEN THE SYSTEM IS DUE FOR SERVICE OR IF A WARRANTY MATTER SHOULD ARISE.
SCAN THE QR CODE WITH YOUR PHONE AND REGISTER YOUR WARRANTY ONLINE.

Energie Group Pty Ltd
ABN 50 166 500 787
460 Victoria Road
Malaga WA 6090



IMPORTANT!
REGISTER YOUR
WARRANTY



envirosun.au/warranty

Owner Name

Installation Address

SuburbState

Telephone (Home)(Work)Email

Install Date

System Model NumberSerial Number

Installer Name

Installer Address

Installer Telephone

Comments

Customer SignatureInstaller Signature

Date

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IMPORTANT NOTES

This manual has been prepared for the relevant licensed professionals of the equipment. Please keep it in a safe place for future reference.

INSTALLATION NOTES

The installation must be done by a qualified person and in accordance with the information supplied in this manual. Installation must conform with Plumbing Code of Australia (PCA) .

All other relevant national, state and local regulations must also be adhered to including (but are not limited to):

- Australian Standard AS3500.1 – Water Services.
- Australian Standard AS3500.4 – Heated Water Services.
- Australian Standard AS3000 – Electrical Installation.
- Australian Standard AS/NZS5601 – Gas Appliance Installation.
- All Local Water, Gas & Electrical Authority Regulations.
- Municipal Building Codes including local OH&S requirements.

SERVICE NOTES

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

GAS WATER HEATER MAINTENANCE

It is recommended to maintain the gas water heater for ≥ 1 times a year. Please contact your local dealer for maintenance. Do not disassemble the gas water heater without permission.



WARNING

INSTALLATION AND SERVICE SHALL BE CARRIED OUT ONLY BY AUTHORISED PERSONNEL (FOR EXAMPLE A LICENSED PLUMBER OR GAS FITTER) AND THE APPLIANCE SHALL NOT BE MODIFIED.

FOR CONTINUED SAFETY OF THIS APPLIANCE IT MUST BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

WARNING ABOUT HOT WATER

Heated water can be dangerous, especially for young children and the infirm. Water temperatures above 50°C can cause severe burns instantly and may even result in death. Those most at risk are children, disabled, elderly and the infirm.

Hot water at 60°C can severely burn a child in less than half a second, at 50°C it takes five minutes.

ALWAYS

Always test the temperature of the water with your elbow before placing a child in the bath; also carefully feel water before bathing or showering yourself. Supervise children whenever they are in the bathroom. Make sure that the hot water tap is turned off tightly.

CONSIDER

Consider installing child proof tap covers or child resistant taps (both approaches will prevent a small hand being able to turn on the tap), and setting the appliance at a maximum temperature of 50°C.

NEVER

Never leave a toddler in the care of another child. They may not understand the need to have the water temperature set at a safe level.

WATER QUALITY

Water supply from an unfiltered water source that may be highly conductive or have a high mineral content may void the system warranty. Therefore, to ensure water quality guidelines are met, the following characteristics should not be exceeded.

Water Properties	Acceptable Levels
Total hardness	200 mg/litre or ppm
Total Dissolved Solids (TDS)	600 mg/litre or ppm
Chloride	250 mg/litre or ppm
Magnesium	10 mg/litre or ppm
Sodium	150 mg/litre or ppm
pH	Min 6.5 to Max 8.5
Electrical conductivity	850 µS/cm

In areas of poor water quality, it is recommended that a softener, conditioner or similar device be fitted to the water supply.



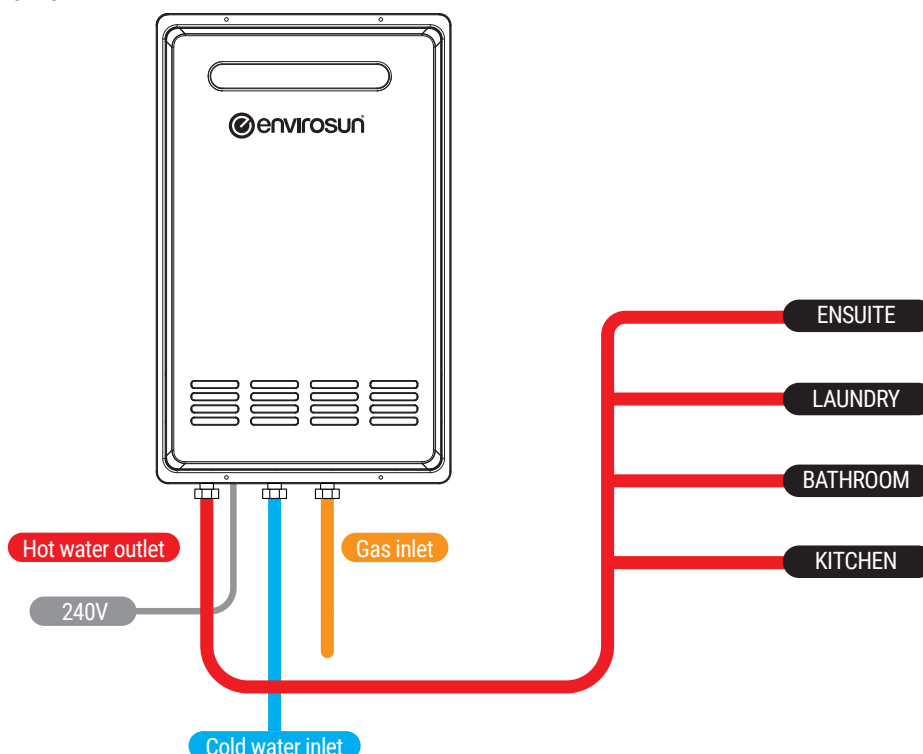
A breach of this condition may void the warranty in the event of damage caused by water quality exceeding these characteristics.

PLUMBING NOTES

PLEASE NOTE: ES20CF-2-NG/ES26CF-2-NG models are supplied from the factory with a nominal maximum outlet water temperature of 50°C to comply with the requirements of AS3498 Clause 7.3.2.

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

- When connecting the hot water supply to the fixtures of the property a minimum of two meters (2m) of pipework must be used between the outlet of the heater and the first tap/outlet.
- The hot water line should be insulated with Armaflex or similar pipe insulation.
- 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.
- Water pipe size is nominal 20mm from hot water outlet to the first tap/outlet.
- Gas pipe size is nominal 20mm.



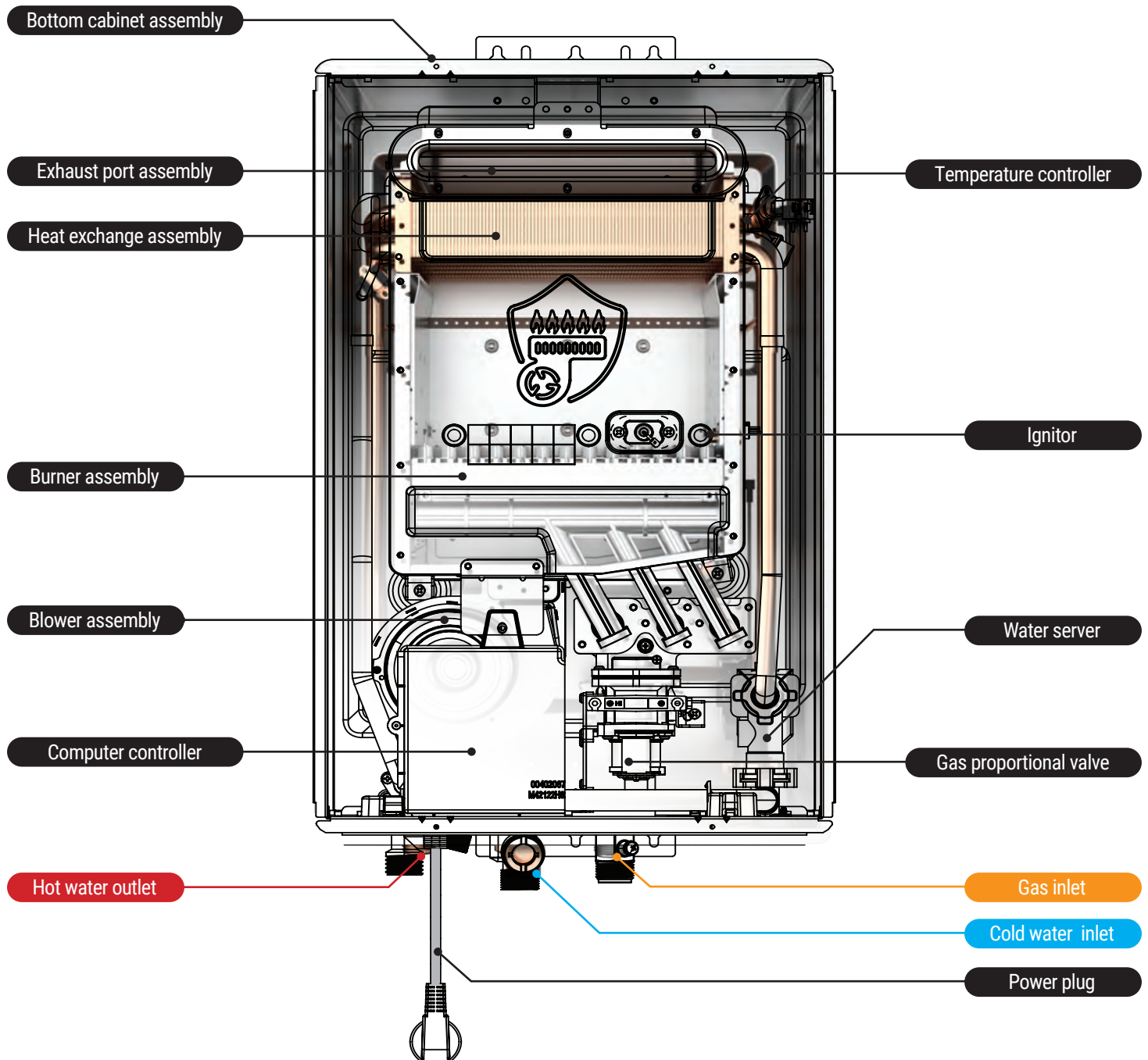
Model Number		ES20CF-2-NG	ES26CF-2-NG
Gas Type		NG	NG
Normal Gas Consumption	MJ/h	160	195
Water Pressure Max.	kPa	1,000	1,000
Water Pressure Min.	kPa	150	150
Gas Inlet Pressure	kPa	1.13 - 5.0	1.13 - 5.0
Test Point Pressure	Pa	580 / 150	800 / 150
Number of Injectors	Pcs	13	13
Diameter of Injector	mm	Ø2.15	Ø2.15
Burner Control Segment	Pcs	7, 2, 4	7, 2, 4
Electrical Rating	W	48	66
Anti-freezing Heating Capacity	W	100	100
Heat Output	kW	37	47
Water Heating Capacity (at 25°C rise)	L/min	20	26
Water flow rate to activate the water heater	L/min	2.3	2.3
Water flow rate to keep the water heater running	L/min	1.7	1.7
Relief Valve Pressure Setting	MPa	1.0-1.5	1.0-1.5
Ingress Protection Rating (AS60529)		IPX4	IPX4
Power Supply		AC 240V, 50 Hz	AC 240V, 50 Hz
Ignition		Direct without pilot	Direct without pilot
Gas Inlet Connection		G $\frac{3}{4}$	G $\frac{3}{4}$
Water Inlet & Outlet Connection		G $\frac{3}{4}$	G $\frac{3}{4}$
Net Weight / Gross Weight	kg	19.7 / 22.2	19.7 / 22.2
Product Dimensions	mm	590 x 370 x 210	590 x 370 x 210
Package Dimensions	mm	712 x 425 x 298	712 x 425 x 298
GasMark Approval Number		GMK10805	GMK10805
WaterMark Approval Number		WM-032235	WM-032235

NOTES

- The appliance will operate at reduced performance below 200 kPa water pressure.
- For information relating to burner test point pressures and injector sizes refer to the nameplate.
- Rating label (nameplate) located on the right-hand side of the case for each model (refer to p.8).
- For information relating to overall dimensions and connection points refer to diagrams (refer to p.6).
- Installing in areas over 1500m above sea level will reduce performance.

INTRODUCTION

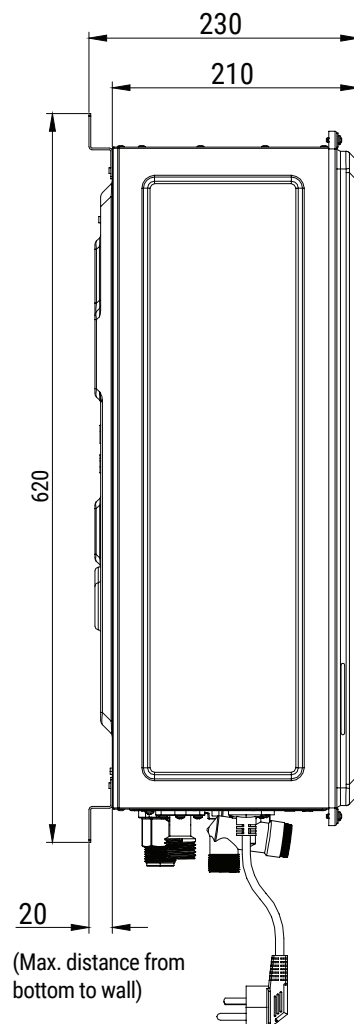
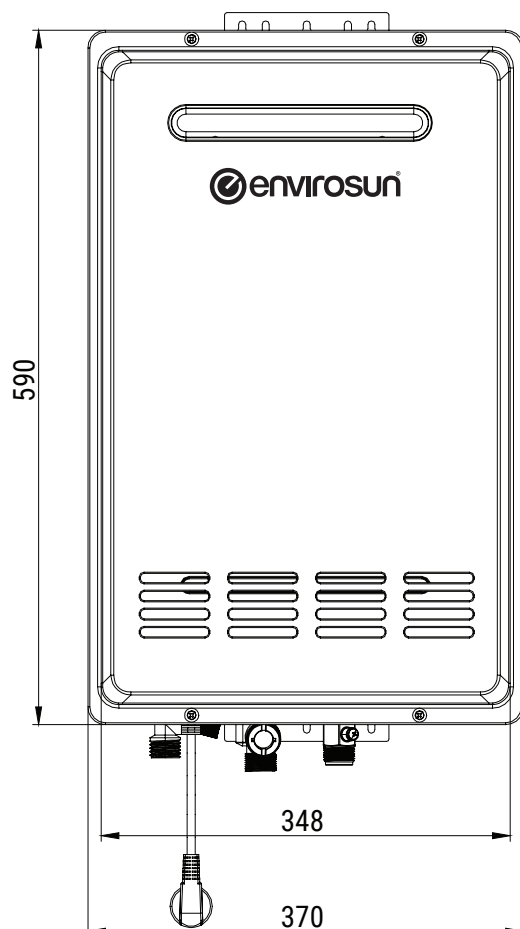
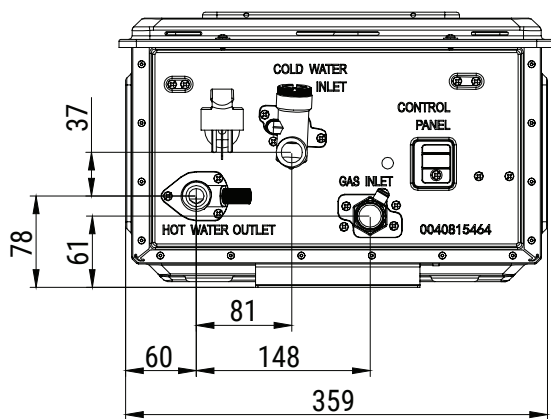
- This manual provides information necessary for the installation, operation, and maintenance of the water heater.
- The model description is listed on the name plate which is attached to the right side of the case of the water heater (refer to p.8).
- Please read all installation instructions completely before installing this product.
- The Water Heater is an instantaneous water heater designed to efficiently supply endless hot water on demand.
- The principle of the water heater is shown below:



OPERATION PROCESS OF GAS WATER HEATER

1. A hot water tap is turned on.
2. Water enters the water heater via the cold water inlet.
3. The water flow sensor detects the water flow.
4. The electronic controller automatically ignites the burner.
5. Water circulates through the heat exchanger and is heated.
6. The electronic controller will modulate the gas proportional valve and water server to produce the right amount of hot water at the expected temperature.
7. When the water tap is turned off, the appliance will shut down.

DIMENSIONS AND CONNECTION POINTS



SAFETY GUIDELINES

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



- Installation and service must be performed by a licensed professional (for example, a licensed plumber or gas fitter).
- The licensed professional is responsible for the correct installation of the water heater and for compliance with all relevant national, state and local regulations.
- The water heater must be installed OUTDOORS ONLY. DO NOT install water heater indoors.
- Not to be used as a pool heater or SPA heater.

GENERAL GUIDELINES

- Carefully plan where you intend to install the water heater.
- Please ensure: The water heater has adequate space for natural ventilation.
- Is located where water leakage will not damage surrounding areas?
- Has all transit protection/packaging removed?
- Check the name plate and gas type label for the correct GAS TYPE, GAS PRESSURE, WATER PRESSURE and ELECTRIC RATING; if this unit does not match operating condition, do not install and consult with your supplier.
- If any problem should occur, turn off the gas, all hot water taps and call a licensed professional.



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 AS3498 gives full details of the requirements for supply of controlled temperatures to ablution outlets (bathrooms) and is required to conform to all plumbing codes within Australia.



Do not store or use gasoline or other flammables, vapors, or liquids in the vicinity of this appliance. Vapours from flammable liquids can easily explode or catch fire, causing death or severe burns.



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.11 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 professional 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.18 for more information.

INSTALLATION

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

CONFIRM THE APPLIANCE SUITABILITY

Check the gas type label and the name plate for the correct gas type, gas pressure, water pressure and electrical rating for your application. Do not install the unit if these requirements are not met.

Mains pressure water supply

The water heater is designed to operate at mains pressure by connecting directly to the mains water supply. The maximum mains water supply pressure for the water heater is 1,000 kPa. If the mains pressure in your area exceeds 1,000 kPa, an approved pressure limiting valve that does not have non-return valve characteristic must be installed.

A minimum water supply pressure of 150 kPa is required to achieve the rated flow and performance of the water heater.

Mounting of the water heater

The water heater must be installed vertically upright with the water, gas and power connections on the underside, pointing toward the ground.

The back of the water heater can be either against a wall or supported by a frame. The water heater must be well secured to the wall or frame using three fasteners, suitable for the wall or frame type, two at the top and one at the bottom of the unit.



WARNING

WARNING – THIS APPLIANCE MAY DELIVER WATER AT HIGH TEMPERATURE!

REFER TO THE PLUMBING CODE OF AUSTRALIA (PCA), LOCAL REQUIREMENTS AND INSTALLATION INSTRUCTIONS TO DETERMINE IF ADDITIONAL DELIVERY TEMPERATURE CONTROL IS REQUIRED.



CAUTION

- Water hardness may affect the water heater performance. It is important that the water heater is installed in water conditions that are suitable for long term operation.
- This is a water heating apparatus only and the delivered water quality 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.
- Please follow the electrical earthing procedure outlined in AS/NZS3000 & AS/NZS3500 before cutting or uncoupling existing metallic pipework.
- It should be as close as practical to the hot water outlets to minimize heat loss and cost.
- The water heater requires a fireproof back plate if installed on a timber wall. DO NOT fix the water heater on the combustible material wall.
- Special conditions which shall be avoid, e.g. marine environment, high humidity conditions (more than 95%RH), and necessary to ensure optimum performance.
- This equipment is not suitable for pool or SPA heating.

SELECTING A SUITABLE LOCATION FOR INSTALLATION

Carefully read this section before installation, and selecting the location for installing the water heater. The following precautions should be considered.



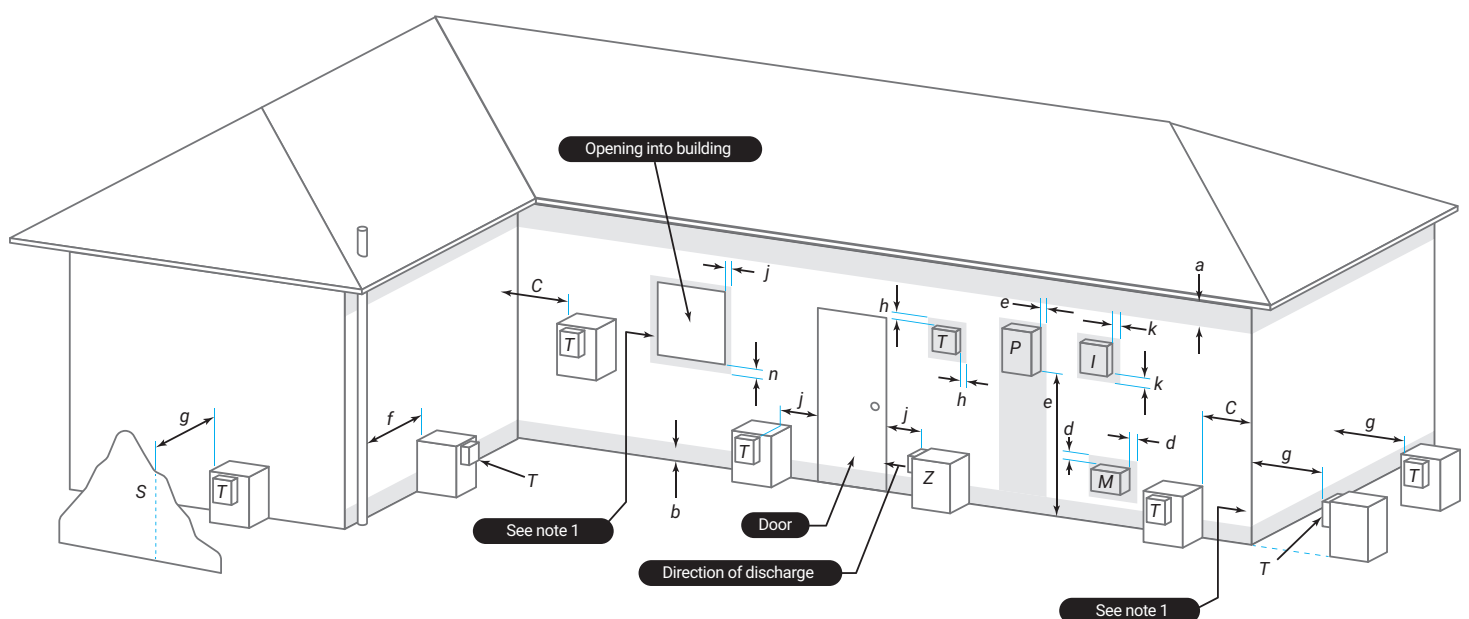
- Although the water heater is designed to operate with minimal noise level, you should not install the unit on a wall adjacent to a bedroom, or a room that is intended for quiet study or meditation, etc.
- Locate your heater close to a drain where leakage will not do damage to surrounding areas. As with any water heating appliance, the potential for leakage at some time in the life of the product does exist



- 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 sufficient room to expel combustion air and operate with natural ventilation.
- Keep the area around the water heater clean. Particles may clog the air vent, reduce the blower function, or cause improper combustion.
- Locate the unit for easy access and maintain clearance 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.
- Not to be used as a swimming pool heater or SPA heater.
- Do not locate your water heater in a pit or any location where gas and water can accumulate.
- Please check the proximity of gas & electrical connections so as not to create a hazard and avoid access problems for other services.
- It must be located in accordance with the requirements of AS/NZS5601 and have sufficient clearances from eaves, windows, vents etc. Please see the diagram for more APPLIANCE FLUE TERMINAL requirements.
- Do not place flammable or explosive materials within one meter of the water heater to avoid any potential danger of explosion or fires;
- "Exemption from Prescribed Statutory Requirement": AS/NZS5601-2000 Clause 6.9.3. 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 and non-combustible frames are suitable locations.
- Securely fasten the unit to the wall with screws or bolts in the top and bottom brackets of the appliance.

Appliance Flue Terminal

Horizontal Terminal Clearances (extract from AS/NZS 5601)



I Mechanical air inlet	S Structure	T Flue terminal
M Gas meter	P Electricity meter or fuse box	Z Fan-assisted appliance only

Shading indicates prohibited area for flue terminals

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

* Unless appliance is certified for closer installation.

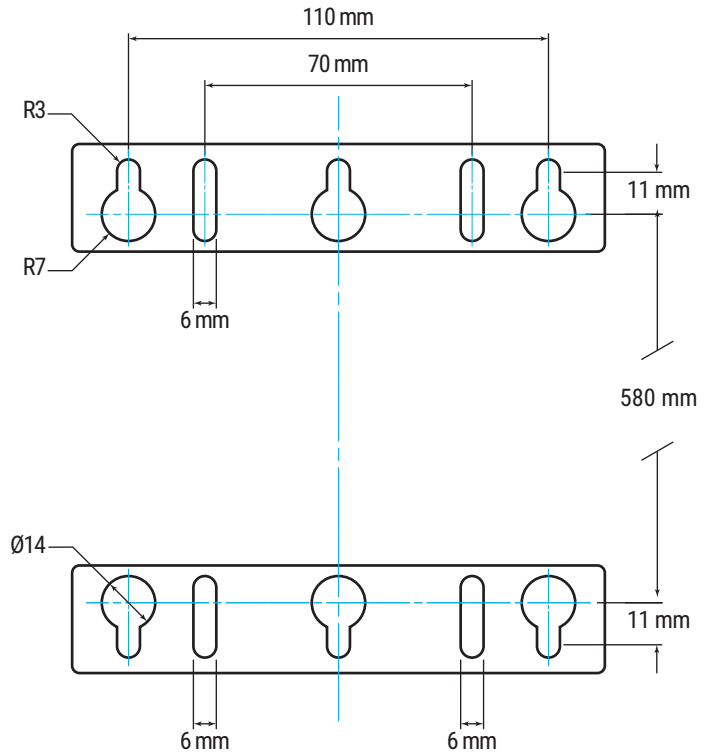
† Prohibited area below electricity meter or fuse box extends to ground level.

NOTES:

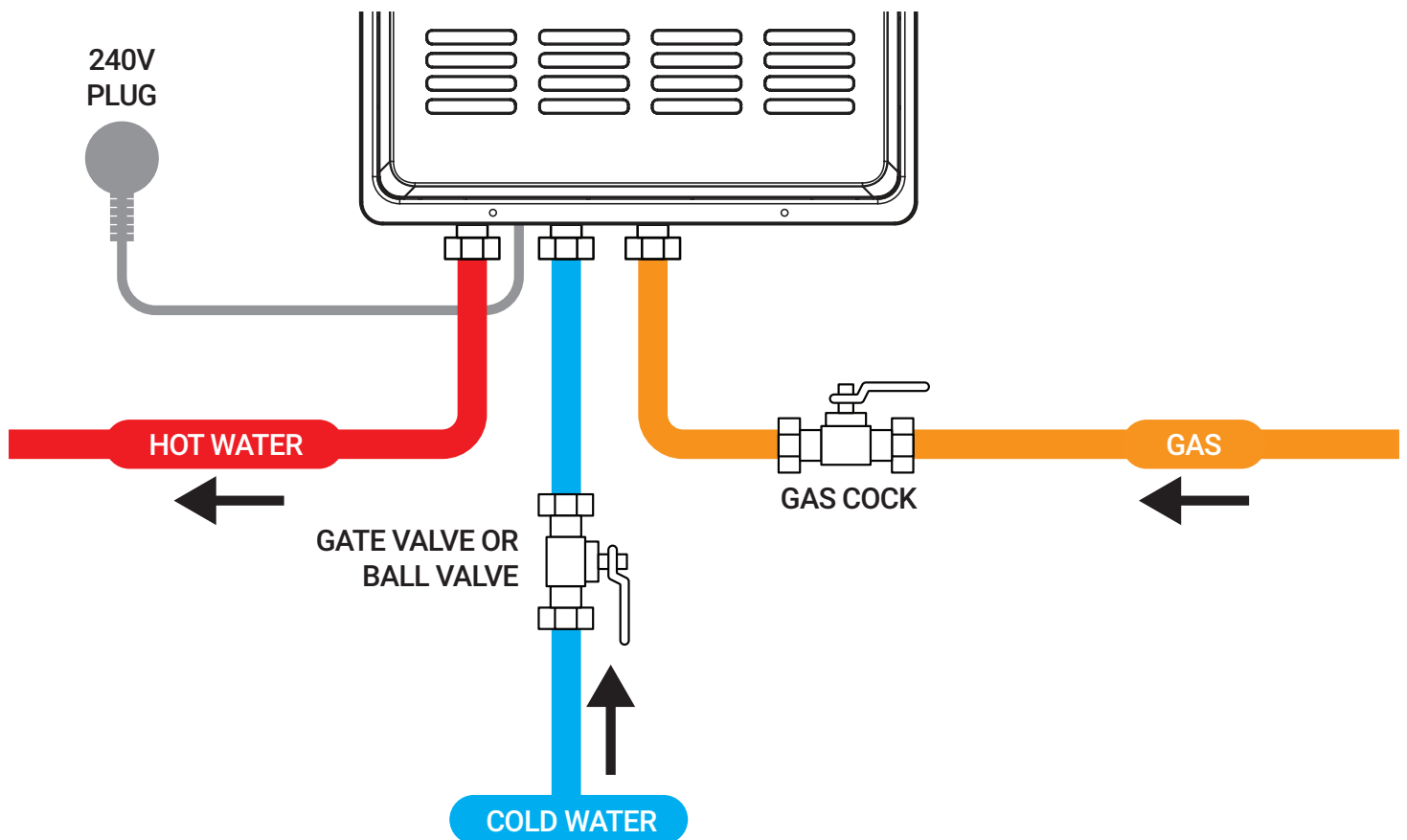
1. Where dimensions c, j or k cannot be achieved an equivalent horizontal distance measured diagonally from the nearest discharge point of the terminal to the opening may be deemed by the Technical Regulator to comply.
2. See Clause 6.9.4 for restrictions on a flue terminal under a covered area.
3. See Figure J3 for clearances required from a flue terminal to an LP Gas cylinder. A flue terminal is considered to be a source of ignition.
4. For appliance s not addressed above acceptance should be obtained from the Technical Regulator.
5. FIGURE 6.2 (in-part) MINIMUM CLEARANCES REQUIRED FOR BALANCED FLUE TERMINALS, FAN-ASSISTED FLUE TERMINALS, ROOM-SEALED APPLIANCE TERMINALS AND OPENINGS OF OUTDOOR APPLIANCES

WATER HEATER INSTALLATION

- This water heater **MUST BE** installed outdoors.
- The wall or structure on which the water heater to be mounted **MUST BE** capable of supporting the weight and the associated pipework. Refer to SPECIFICATIONS on p.4 for details.
- Ensure that suitable fixing screws or bolts are used to secure the units to the wall, in accordance with AS/NZS 5601 section 6. Wooden plugs shall not be used.
- The location of the mounting screws diagram as shown here.
- The water heater can be mounted directly against the wall or structure. There is no need to use non-combustible sheeting or leave an air gap between the back of water heater and the wall or structure to meet the temperature hazard requirements of AS/NZS 5601.



GAS CONNECTION



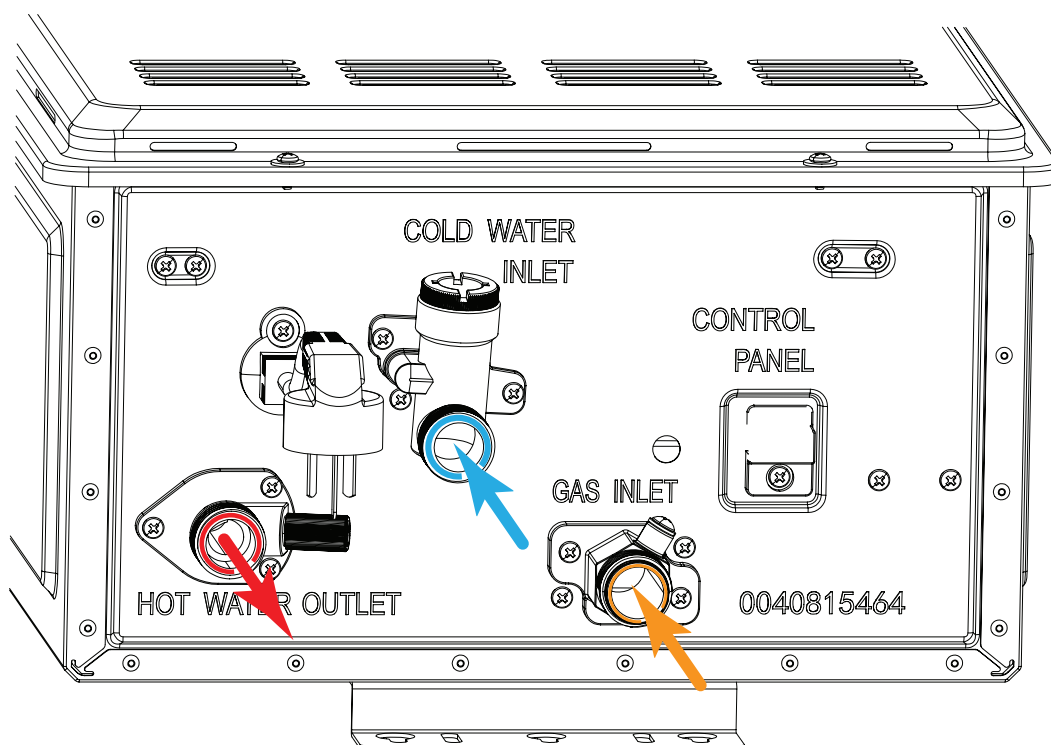
CAUTION

- Turn off the electric power to the water heater and manual gas valve located on the outside of the unit before beginning gas connection.
- Confirm the position of the gas inlet. **DO NOT** connect water line to gas inlet.

SIZING AND CONNECTION SUITABILITY

- All gas work must be carried out by a qualified person and in compliance with the Standard AS/NZS 5601.1, all local codes and regulatory authority requirements.
- Check the gas type label to make sure that the unit was built for the type of gas you will be using, and the gas inlet pressure is within the appropriate range (please refer to p.4).
- Gas pressure below this specified range for the water heater and/or insufficient gas volume will adversely affect performance.
- Inlet gas pressure must not exceed the maximum values; gas pressure above the specified range will cause dangerous operating conditions and damage to the unit.
- 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 according to AS/NZS5601 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 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 licensed professional.
- When the gas connections are completed, 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.

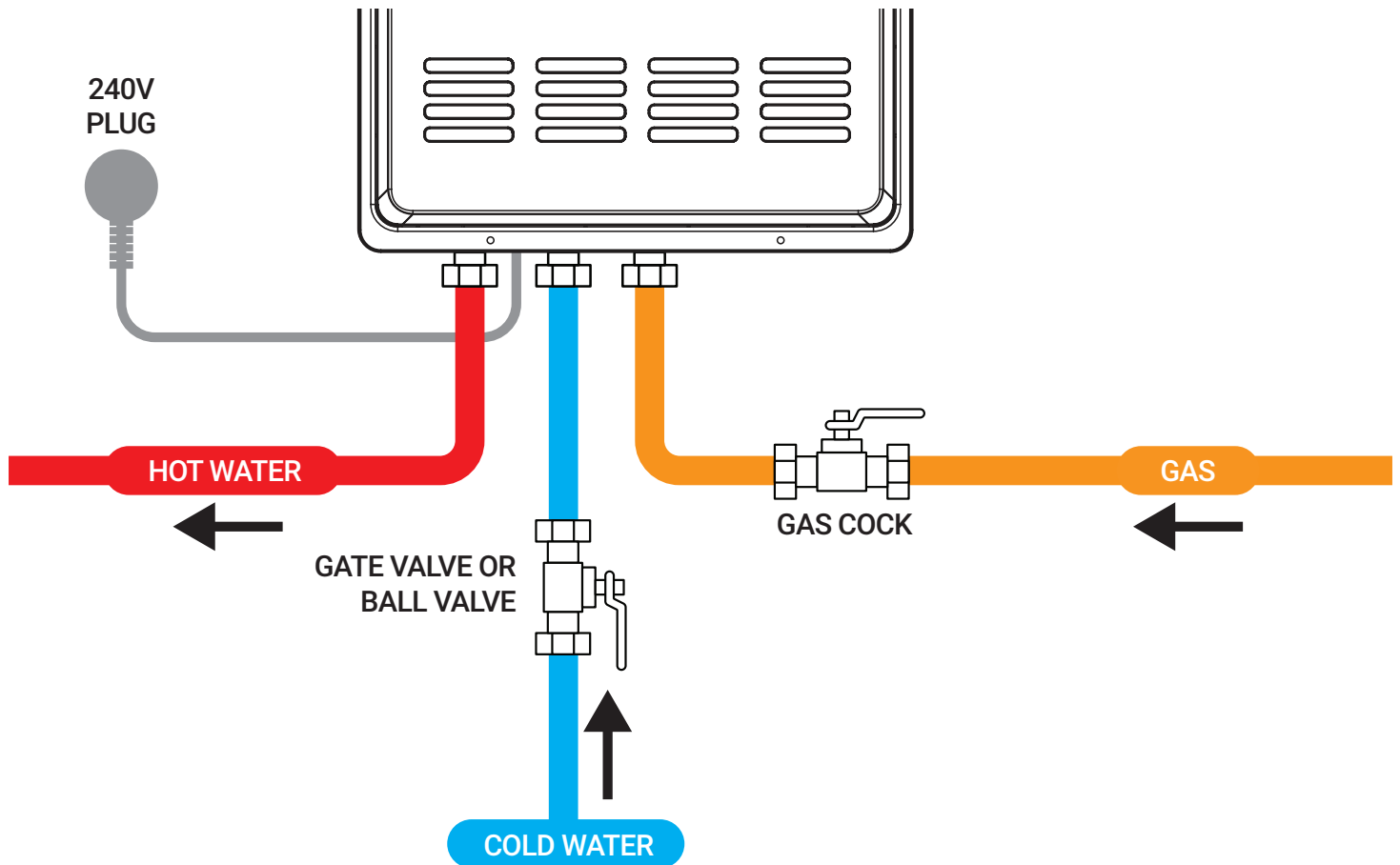
MEASURING INLET GAS PRESSURE AND TESTING GAS LEAKAGE



The appliance and its gas connections must be fully tested before the unit is put into operation for proper performance and safety.

- Shut off the manual gas valve on the supply gas line.
- Open a tap/outlet. The unit should turn on and the gas in the gas pipe line should be purged. Leave the tap/outlet running until the unit gives an alarm (E1) due to lack of gas supply. Then turn off the tap/outlet.
- Remove the screw on the pressure port located on the gas inlet of the water heater shown in the diagram to the above.
- Connect the manometer to the pressure port.
- Re-open the manual gas valve. Check to see that there are no gas leaks.
- Open some of the fixtures that use a high flow rate to turn on the water heater.
- Check the inlet gas pressure. When the water heater is at a maximum operation capacity, the inlet gas pressure point must be within the appropriate range (please refer to p.4).

WATER CONNECTIONS

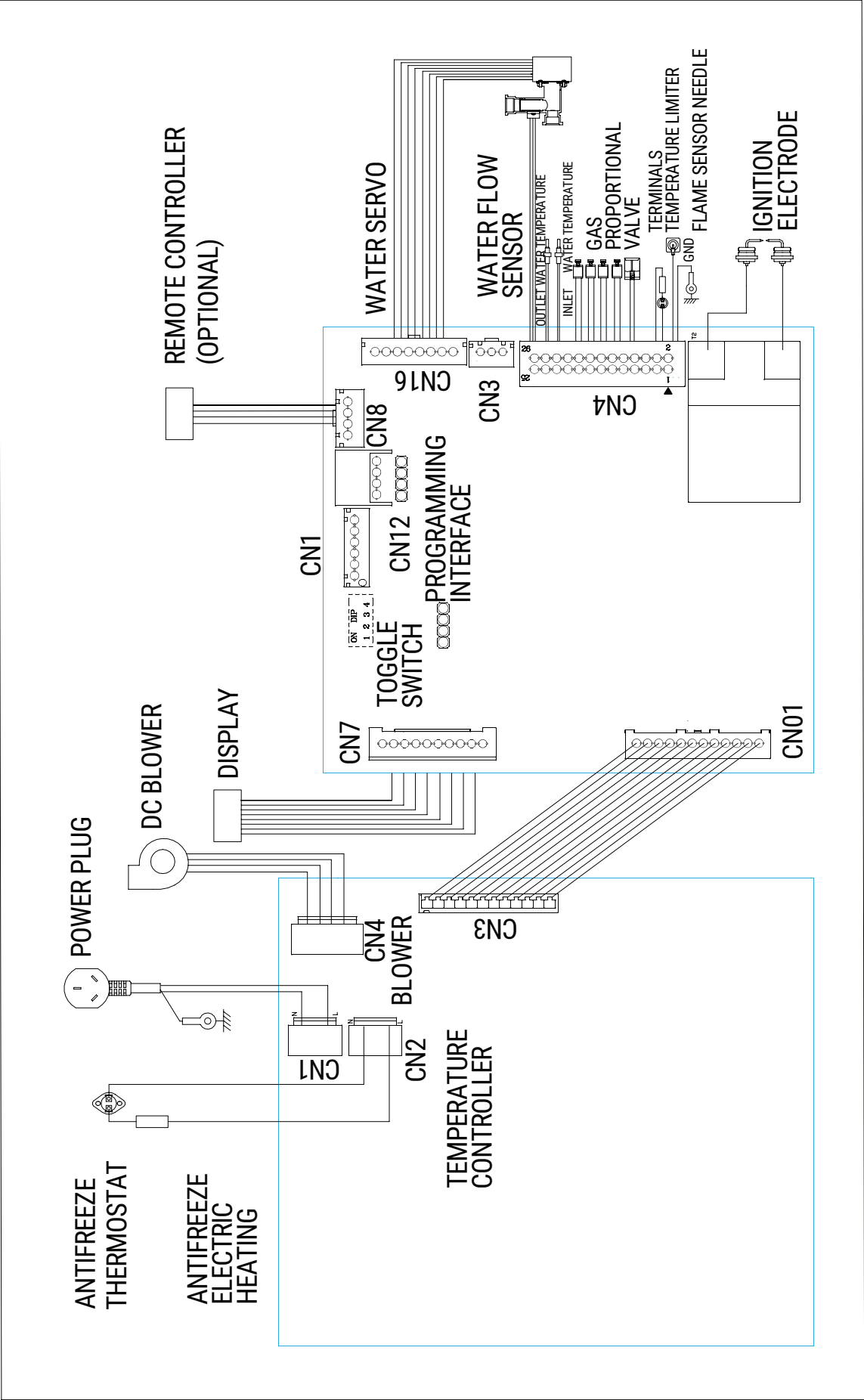


- All plumbing work must be carried out by a qualified person and in compliance with the Standard AS/NZS 3500.4 and all local codes and regulatory authority requirements.
- All pipes, fittings, valves and other components, including soldering materials, must be suitable for potable water systems.
- All pipe work must be cleared of foreign matter before connection and purged before attempting to operate the water heater. All olive compression fittings must use brass or copper olives. Use an approved thread sealant such as Teflon tape on all threaded joints. Only use sufficient thread sealant to seal a joint. Refer to the sealant manufacture's guidelines for how much and where to use.
- 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 installed on the cold water line.
- Check the cold water pressure. If it's over 1000 kPa, an approved pressure limiting valve must be fitted at water supply line to the heater.
- Before installing the water heater, flush the water supply line to remove any potential debris in it. Purge the air from the line while the installation is completed. Failure to do so may cause damage to the heater.
- There is a filter at water inlet to block the debris entering the appliance. Take off the filter by anti-clockwise and clean it after initial installation to ensure no debris from the pipe work has clogged it.



WARNING

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



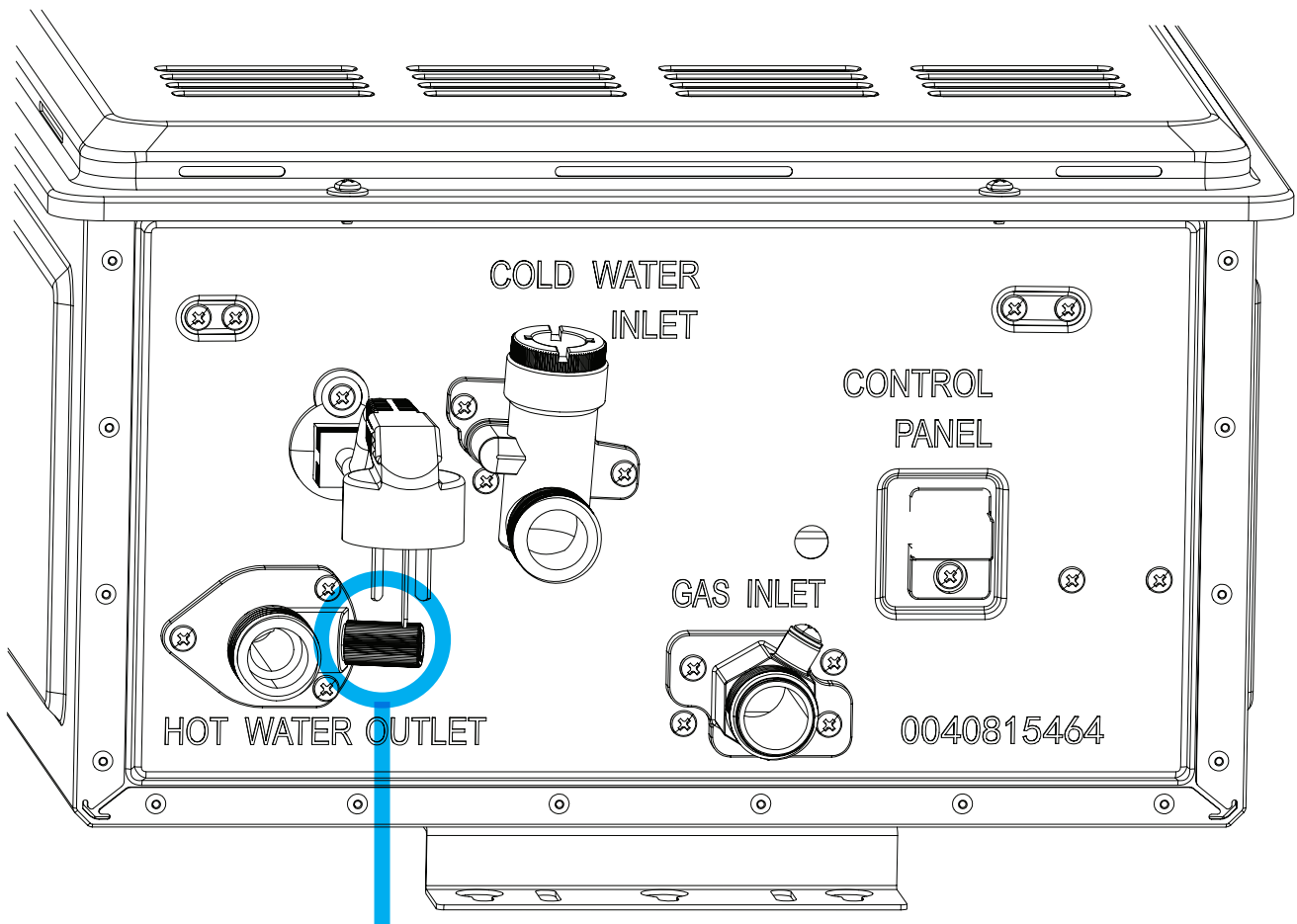
ELECTRICAL CONNECTION

- The water heater must be electrically grounded. Do not attach the ground wire to either the gas or water piping.
- The water heater requires an AC 240V 50Hz electrical power supply and draws a current of 0.9A. The weather-proof power point should be no more than 1 meter from the base of the water heater for easy access.
- Install a power switch so that the electrical power can be switched off if necessary.
- If the cord supplied with this appliance must be replaced, it must be replaced with the correct appliance wiring material supplied by the Manufacturer.
- When servicing or replacing parts within the water heater, label all wires prior to disconnection to facilitate an easy and error free reconnection. Verify proper operation after servicing

WATER HEATER AUTOMATIC PRESSURE RELIEF DRAINAGE

The water heater has an automatic drainage function. When the water inlet pressure of the water heater exceeds 1.0MPa~1.5MPa, the water heater will automatically drain and relieve pressure.

Do not place objects around the water heater to avoid damage caused by water immersion when draining. The pressure relief valve is disassembled as shown below.



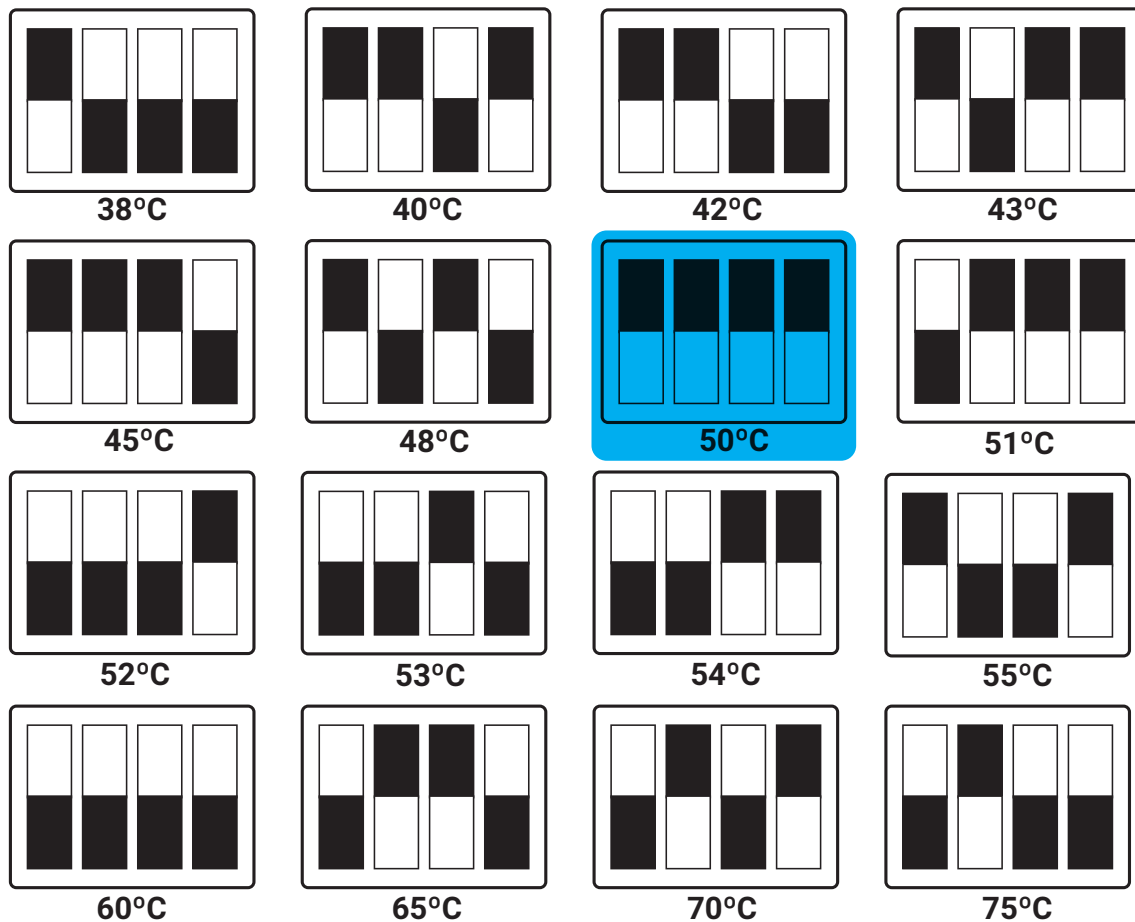
1. When the inlet water pressure of the water heater exceeds 1.0MPa~1.5MPa, it will be drained automatically.
2. When the water heater is not in use, remove the pressure relief valve by rotating counterclockwise to drain the water inside to prevent freezing cracks.

CHECK THE WATER HEATER

After the installation of the water heater is completed, it is necessary to check that the water heater has no gas leakage and water leakage, and the ignition operation is normal, and there is no fault alarm.

CHANGING THE TEMPERATURE SETPOINT

The temperature of outlet water is controlled through dip switch settings as follows:



Note: Remaining dialing spaces are all 42°C.

- **ES20CF-2-NG, ES26CF-2-NG**
ES20CF-2-NG and ES26CF-2-NG models with set temperatures 75, 70, 65, 60, 55, **50**, 48, 45, 43, 42, 40, 38.
- The initial temperature setting is 50°C when powered on for the first time.
- **NOTE:** If the temperature setpoint is changed to be in excess of 50°C, a tempering valve will need to be installed.

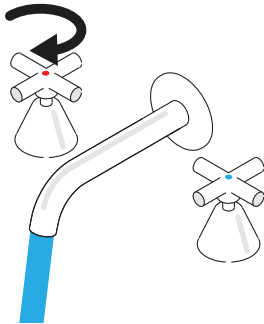


WARNING

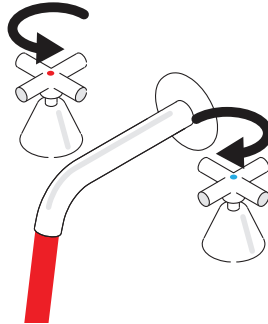
Tempering valve must be installed if the temperature setpoint will exceed 50°C.

NORMAL OPERATION

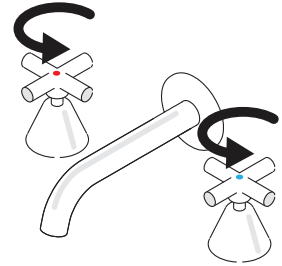
1. Open a hot water tap.



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



3. Close the water taps.



SERIES-CONNECTED SOLAR ENERGY

The ES20CF-2-NG and ES26CF-2-NG models can be connected with solar energy in series.

- The wire controller should not be installed when solar energy is connected in series.
- In the Australian market, the gas water heater (GWH) is connected in series with the solar energy system. GW is only an accessory of solar energy, named "gas booster," and its main system is solar energy. The preset temperature of the water outlet of the gas water heater is 70°C.
- The gas water heater will not ignite when the water inlet pipe of the gas water heater is connected with the water outlet pipe of solar energy, and the water inlet temperature of the gas water heater is higher than or equal to 58°C; start burning when the temperature of the inlet water is lower than 58°C; stop burning for 10 seconds continuously when the temperature of the inlet water is higher than or equal to 60°C;
- Special requirements for connecting solar energy in series:
 1. The gas water heater is used as a supplementary device for heat sources, and the burning stops after burning for 1 hour, and the burning can be started by switching on and off the water again;
 2. In the case of minimum load burning, stop the burning when the temperature of the outlet water is \geq the set temperature +3°C for 20s or the temperature of the outlet water is $\geq 78.5^\circ\text{C}$; burning can be started by switching on and off the water and the device again;
 3. To prevent scalding by hot water, the actual temperature of the outlet water is associated with the water flow and temperature of the inlet water. Please confirm the temperature of hot water by hand before using it;
 4. The ex-factory temperature is 50°C, and the highest temperature is 75°C. The temperature of 70°C can be adjusted by a qualified installer to connect solar energy in series (bacteria legion killing), and the wire controller cannot be used when connecting solar energy in series. Furthermore, the temperature of the surface cover can be lowered by a qualified installer, and the set temperatures are 75, 70, 65, 60, 55, **50**, 48, 45, 43, 42, 40, and 38.
 5. When connecting solar energy in series, E4 fault will be reported in case the temperature of the inlet water or the temperature of the outlet water is beyond 90 degrees.
 6. When connecting solar energy in series, the mode of connecting solar energy in series will be started by default when the set temperature is greater than 70 degrees.

Freeze prevention

If freezing conditions are expected, turn off water / gas supply and drain the water from the appliance.



WARNING

- Turn off the water supply valve;
- Turn off the gas supply valve;
- Turn off the power supply switch;
- Drain the water from the water heater (refer to p.<?>).

If power supply is on, and the automatic anti-freezing protection system will be running and the freezing will be prevented. Only the pipes and heat exchanger inside the water heater will be protected. Any hot or cold water pipes located outside of the unit will not be protected. Proper protection and insulation of these pipes will be required to ensure these are protected from freezing.

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 regular maintenance.

- Please Contact Customer Service on +61 8 9203 2000 for service.
- Provide the serial number and model number of the water heater. This can be found on the compliance plate on the right side of the unit.
- Provide your full name, address and contact number.

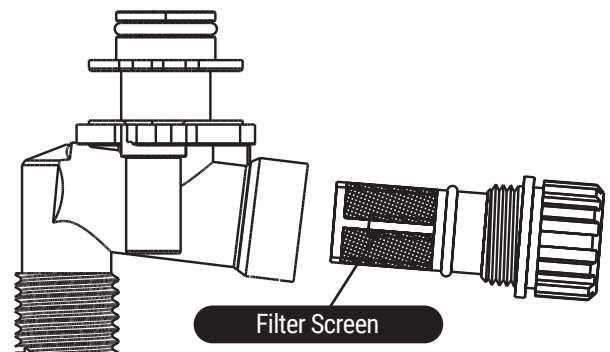
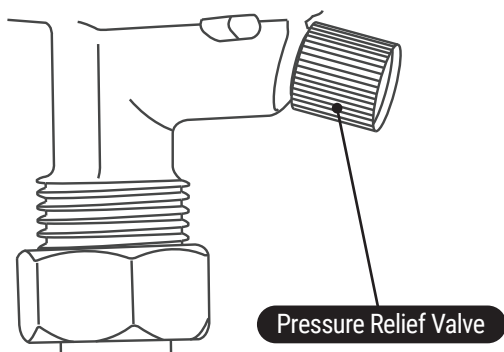
- Service Shall Be Carried Out Only By Authorized Personnel and the Appliance Shall Not Be Modified.
- The Appliance Must Be Installed, Commissioned And Serviced By An Authorized Person In Accordance With The Requirements Of AS/NZS 3500.42.
- Turn off the electrical power supply and close the manual gas control valve and the manual water control valve before servicing.
 1. Clean the cold-water inlet filter (refer to diagram below).
 2. Be sure that all openings for combustion air are not blocked. If blocked, remove obstruction.
 3. Check that the opening for exhaust is not blocked. If blocked, shutoff the water heater's operation. And then after a while, remove obstruction. DO NOT touch while unit operating, otherwise you might get burnt due to high temperature.
 4. Check the gas pressure and if necessary adjust the gas pressure.
 5. Inspect all connections.
 6. Check and clean the line strainer.
 7. Keep the area around the water heater clear. Remove any combustible materials, gasoline or any flammable vapors and liquids.



WARNING

UNIT DRAINING AND FILTER CLEANING

- Close the manual gas shut off valve and the manual water shut off valve.
- Turn off the power supply to the water heater.
- Open a hot water taps in the house (preferably the shower outlet).
- Prepare a bucket or container to catch the water from the unit's drain plugs. Unscrew the pressure relief valve located in the hot water outlet and the filter located in the cold water inlet to drain the water from the appliance.
- Wait a few minutes to ensure all water has completely drained from unit. When water stops, close the hot tap.
- Clean the filter: With a tiny brush, clean the water filter of any debris which may have accumulated and then screw the filter back into the cold water inlet.
- Securely screw the pressure relief valve back into the hot water outlet, tighten it by hand only.



REMOVE BY TURNING COUNTER CLOCKWISE
AND THEN CLEAN OR REPLACE.

GENERAL TROUBLESHOOTING

Problem	Possible solutions
The water is not hot enough.	<ol style="list-style-type: none"> 1. Check cross plumbing between cold and hot water lines. 2. Is the gas supply valve fully open? (refer p.19) 3. Is the gas line sized properly? (refer p.4) 4. Is the gas supply pressure enough? (refer p.4) 5. Is the set temperature set too low? (refer p.17)
The water is too hot.	Is the set temperature set too high? (refer p.17)
The hot water is not available when a fixture is opened.	<ol style="list-style-type: none"> 1. Make sure the unit has 240V 50Hz power supply. 2. If you are using the remote controller, is the power button turned on? 3. Is the gas supply valve fully open? (refer p.19) 4. Is the water supply valve fully open? (refer p.19) 5. Is the filter on cold water inlet clean? (refer p.19)
The hot water gets cold and stays cold.	<ol style="list-style-type: none"> 1. Is the flow rate enough to keep the water heater running? (refer p.4) 2. Is the gas supply valve fully open? (refer p.19) 3. Is the filter on cold water inlet clean? (refer p.19) 4. Are the fixtures clean of debris and obstructions?
Fluctuation in hot water temperature.	<ol style="list-style-type: none"> 1. Is the filter on cold water inlet clean? (refer p.19) 2. Is the gas line sized properly? (refer p.4) 3. Is the supply gas pressure enough? (refer p.4) 4. Check for cross connection between cold water lines and hot water lines.
It takes long time to get hot water at the fixtures.	The time it takes to deliver hot water from the water heater to your fixtures depends on the length of pipe between the two. The longer the distance, the longer it will take to get hot water.
The unit does not ignite when water goes through the unit.	<ol style="list-style-type: none"> 1. Check for the filter on cold water inlet. (refer p.19) 2. Check for reverse connection and cross connection. 3. If there is a remote controller, is the power button turned on?
The fan motor is still spinning after operation has stopped.	This is normal. After operation has stopped, the fan motor keeps running for 25-60 seconds in order to reignite quickly, as well as push all exhaust gas out of the flue.

ERROR CODES

The water heater provides a diagnostic error code in the event of an interruption to its operation. The error code is displayed on the controller(s) (if installed) and on the LED display inside of the heater. If an error code appears, follow the table below to deal with accordingly.

Code	Fault Description	Handling Method
E1	Ignition failure when the water heater begins running	<ul style="list-style-type: none"> • Check whether the gas supply is normal or not. • Check the gas inlet valve is fully open, and confirm there is no air in the gas supply circuit (especially at initial operation). • Close the hot tap, turn off the controller(s) and switch off the power supply to the heater. Wait 5 minutes, and then switch on the power to heater, turn on a controller and open a hot tap. • If the fault still presence, call the qualified service people for an inspection.
E2	Flame failure during operation	<ul style="list-style-type: none"> • Confirm the gas supply is stopped accidentally or not. • Close the hot tap, turn off the controller(s) and switch off the power supply to the heater. Wait 5 minutes, and then switch on the power to heater, turn on a controller and open a hot tap. • If the fault still presence, call the qualified service people for an inspection.
E3	Blower failure	Call the qualified service people for an inspection.
E4	Overheated failure	Call the qualified service people for an inspection.
E5	Water temperature sensor fault	Call the qualified service people for an inspection.
E6	Over-heating protection	Call the qualified service people for an inspection.
E7	Communication fault	Call the qualified service people for an inspection.
EF	Solenoid valve circuit fault	Call the qualified service people for an inspection.
F1	Main control board fault	Call the qualified service people for an inspection.
F2	Exhaust blocked fault	<ul style="list-style-type: none"> • Make sure there is no any obstacle in exhaust port of the unit or in front of its exhaust area. If there is, clean it. • Close the hot tap, turn off the controller(s) and switch off the power supply to the heater. Wait 5 minutes, then switch on the power to heater, turn on a controller and open a hot tap. • If the fault still presence, call the qualified service people for an inspection.
F8	Water server fault	Call the qualified service people for an inspection.
FC	Main control board have no parameters	Call the qualified service people for an inspection.
FD	Main control board and remote controller mismatch	Call the qualified service people for an inspection.

THE FOLLOWING CONDITIONS ARE NOT A FAULT

Fault Description	Handling Method
White exhaust smoke.	Outdoor temperature is too low, the exhausted flue gas condenses into white mist when it meets cold air.
Burner will not ignite at low water flow rate.	Water flow rate is too low to ignite the burner. Increase water flow rate to initiate proper operation.
Can't supply high temperature hot water in winter.	The supply cold water temperature is very low and the water adjustment knob is already has been turned to the maximum; the set temperature may exceed the heating capacity, and then please turn down the water flow.
Failure to provide low temperature hot water in summer.	The temperature of supplied cold water is too high and the set temperature of hot water is too low. If the inlet water flow is less than 3L/min in this case, it may cause the hot water temperature to be higher than expected. Please adjust the water flow rate more appropriately.
After 12 hours of use, the water heater suddenly flameouts.	To prevent oxygen deficiency, the water heater has a 12-hour timer protection function, which automatically shuts off when it runs continuously for 12 hours. Please close the hot water tap for a period of time and then restart it.
Close the hot tap, but the blower did not stop immediately.	To completely purge the flue gases, the water heater has a shut-off delay function to ensure the safety of the user. This is why the blower will run for about 25-60 seconds even after the hot tap is turned off.
Open the hot water tap, but can't provide hot water in time.	There is a distance from the water heater to the hot water tap because there is some cold water in the pipes that takes some time to flow out before the hot water arrives. The farther the distance, the longer you need to wait.
There is always some water coming out of the drain valve.	This is because the inlet water pressure is over 1.0MPa, drain valve which is located on the water outlet will work to release the high pressure (refer p.19). Install a pressure limiting valve on the cold water supply chain.

PACKING LIST

No.	Description	Qty
1	Gas water heater	1
2	Operation and installation manual	1

STANDARD WARRANTY

WARRANTY TERMS

This warranty is given by Energie Group Australia Pty Ltd in relation to EnviroSun Hot Water Systems (the Product).

The benefits conferred by this warranty are in addition to all other legal rights and remedies of the Customer in respect of the Product. Given installation and application is in accordance with the manufacturer's specifications and instructions, the Product and components are warranted by EnviroSun® for the cost of labour and components in the event of defects arising from faulty materials and/or workmanship in accordance with the warranty conditions and exclusions stated in this document.

Where the Product is installed outside the boundaries of a Capital City Metropolitan area or where the Product is installed outside a 25km radius of a EnviroSun Dealer business address, the cost of transport, insurance and travelling will be charged to the consumer.

For all new Product purchases through public sales auctions, internet and/or other electronic sales auctions or remote offerings, the warranty for the Product is the responsibility of the dealer or reseller of the Product, and not of EnviroSun.

Warranty of the Product will remain with the Product for the warranty coverage period.

WARRANTY CONDITIONS

The initial point of contact for all Warranty claims is the EnviroSun Dealer from whom the Product was purchased.

All warranty claims must be reported to EnviroSun no later than 14 days from the date the fault is reported to the EnviroSun Dealer. All terms of this warranty are effective from the date of installation of the Product and the attending service person reserves the right to verify this date by requesting a copy of the certificate of compliance¹, installation record issued by an appropriately qualified installer or proof of purchase prior to the commencement of any warranty work.

The Product must have been installed, commissioned, serviced, repaired and removed by a licensed gasfitter or plumber in accordance with the manufacturer's installation instructions, current AS/NZS 3000, AS/NZS 3500, AS/NZS 5601, local regulations and municipal building codes by persons authorised by local regulations to do so. Cost of labour or materials to remedy an installation that does not comply with these requirements will be at the express cost of the installer.

The Product must be operated and maintained in accordance with EnviroSun's operating instructions. This warranty only applies to the Product as supplied by EnviroSun and does not apply to any additional electrical and/or plumbing parts supplied by the installer. Where the appliance has not been sited in accordance the installation instructions or installed such that normal service access is difficult, a service charge may apply. If, at the discretion of the attending service person, access with is assessed as dangerous, service will be refused.

Any work required to gain reasonable access to the appliance will be chargeable to the customer by the attending service person including, but not limited to, removal of cupboards, doors, walls, or the use of special equipment to move components to floor level.

The Product is covered for the indicated period from the date of installation. Should a part of the complete Product be replaced during this period, only the balance of the original warranty will continue to remain effective.

This warranty applies to the Product when it is connected directly to a reticulated water supply from a state approved water utility.

This warranty does not apply if the Product is connected to any alternative water supplies if the water chemistry and impurity levels of alternative water supplies exceed the limits specified in the Water Properties Table on p.3.

Examples of alternative water supplies include private bore water, water from private dams and water supplied from a reticulated water supply but where the water chemistry is deliberately altered before supplying the water heater. Should the Product be installed in a regional location where regular flushing is required due to sediment build-up, the drain cock for flushing must be fitted at the time of installation at customer expense. A warranty will apply to rain water tanks, as alternative water supply, ONLY in circumstances where rain water is filtered and free of any physical or sediment debris and water quality does not exceed the limits specified in the Water Properties Table on p.3.

Component manufacturers are at liberty to alter the design or construction of the components notwithstanding that the Product may have been sold by description or sample, even though alterations made have been introduced from the date of contract and the date of delivery provided that the Products are of the same or similar quality and are fit for the purposes for which they are purchased. Such alterations shall not constitute a defect in design or construction under this warranty.

EnviroSun reserves the right to alter the design or construction of the Product within allowance of the relevant Standard(s), industrial and State and Territory legislation without notice. EnviroSun warrants to the original purchaser, or for Product purchased from a Reseller, to the original end user, that the Product will be free from any defects in materials and workmanship from the date of shipment or invoice or, if longer, the period stated in this policy in accordance with the warranty terms in Table 2.

During the warranty period, Envirosun will, at its option, apply one of the three following remedies:

- i. provide replacement parts necessary to repair the Product,
- ii. replace the Product with same Product or similar approved newer design,
- iii. refund the amount purchaser paid, LESS DEPRECIATION, upon its return.

Envirosun or a Envirosun Dealer will provide labour to resolve warranty issues during the warranty period. Repair service shall be available at the purchaser's location. Envirosun will determine how and where repair services are provided, and the purchaser may, at Envirosun's reasonable cost, be required to deliver product to an authorised location.

Replacement parts and/or Products will be new or serviceably used, comparable in function and performance to the original part or Product and warranted for the remainder of the original warranty period. Purchasing additional Products from Envirosun does not extend your warranty period.

If Envirosun requires the return of defective parts/Products, the Envirosun Dealer/purchaser shall return them within 14 days of receiving replacement parts. Failure to return defective parts will attract charges for replaced parts/system and their shipment to the Envirosun Dealer/purchaser.

Envirosun offers the following Warranty Terms on all models:

Component	Residential Warranty		Commercial Warranty*	
	Parts	Labour	Parts	Labour
Heat Exchanger	10 year	3 year	1 year	1 year
All other components	3 year	3 year	1 year	1 year
Installer supplied valves and fittings	N/A	N/A	N/A	N/A

** Note: systems installed for commercial applications are subject to reduced warranties.*

WARRANTY EXCLUSIONS

The following exclusions may cause the warranty to become void, and may incur a service charge and cost of parts that may be required.

1. Accidental damage, failure due to misuse, abuse and accidents.
2. Failure due to incorrect installation and/or attempts to repair the Product other than by an Envirosun Dealer or approved service personnel.
3. Failure to install, commission, service, repair and remove the Product in accordance with the manufacturer's installation instructions, current AS/NZS 3000, AS/NZS 3500, AS/NZS 5601, local regulations and municipal building codes by persons authorised to do so.
4. Failure due to use of parts other than Envirosun branded/approved parts.
5. Where the tank or piping system leaks or fails to operate normally due to frost or freezing.
6. Where the Product component has failed directly or indirectly as a result of excessive water pressure, negative pressure (partial vacuum), corrosive atmosphere, faulty plumbing and/or electrical wiring, or major variations in electrical energy supply.
7. Where the water stored in the cylinder exceeds at any time levels as detailed in this document.
8. Any serial tags/stickers on any of the components are removed or defaced.
9. The Product is relocated from its original point of installation.
10. This warranty does not cover:
 - a. claim for damage to walls, foundations, gardens, etc. or any other consequential loss or inconvenience either directly or indirectly due to leakage from the water heating system or any other matter related to the system or its operation.
 - b. the effects of sludge/sediment as a result of connection to a water supply from suitably filtered or treated sources e.g. spring, dam, bore or river.
11. Consequential damage or any incident caused by a breach of the requirements as set out in this document.
12. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure
13. and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.



OH&S DISCLAIMER

Envirosun and its Authorised Dealers work with and recommend various installation and plumbing companies to install, test and certify correct operation of solar hot water systems or the Product. EnviroSun is a supplier of systems only.

Each installation must be covered by the installer's insurances, commercial terms and conditions and by the applicable OH&S legislation. Each person that installs assembles or services must comply with all OH&S requirements relevant to the type of work being conducted including, but not limited to, plumbing work, work on heights exceeding 2.5m and electrical work.

The customer must ensure that it complies with all its OH&S obligations. This warranty will be void if these conditions are not met.

CONTACT DETAILS

For further information, please call one of the following phone numbers from anywhere in Australia:

Energie Group Australia Pty Ltd

For after sales service:

1300 825 143

For sales or new product:

1300 314 173

sales@ega.energy

www.energiegroup.au

Head Office

Energie Group Australia Pty Ltd
460 Victoria Road Malaga WA 6090

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