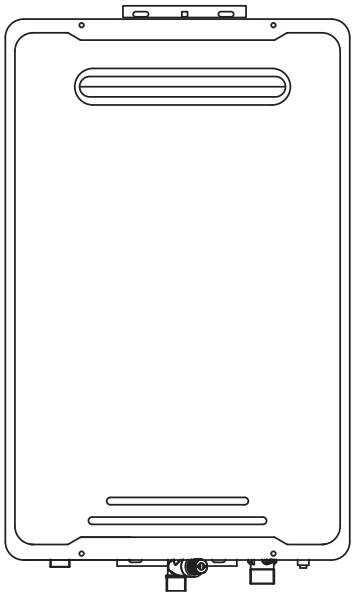
Prevail

Prevail Continuous Flow Gas Water Heater

Installation Guide & Operations Manual

EN Series



This water heater must be installed and serviced by a qualified person.
Please leave this guide with the householder.
FOR EXTERNAL INSTALLATION ONLY

IAPMO–R&T OCEANA GasMark GMK10177

WaterMark WMKA22451

N30248

Thank you very much for purchasing our water heater. Before installing and operating your water heater, please read this manual carefully and keep it for future reference.

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1. IMPORTANT

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

1.1 FOR THE INSTALLER

The installation must be done in accordance with the information supplied in this manual. All other relevant national, state and local regulations must also be conformed with and these include (but are not limited to):

- Australian Standard AS3498: 2009 Hot Water Supply
- 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.
- Local Water, Gas & Electrical Authority Regulations.
- Municipal Building Codes including local OH&S requirements.

1.2 FOR THE SERVICEMAN

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

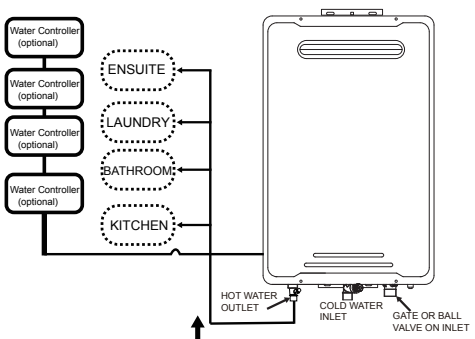
WARNING

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

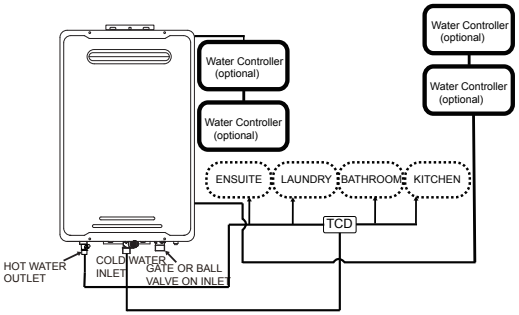
1.3 FOR THE PLUMBER

PLEASE NOTE EN20CF-LP70&EN20CF-NG70 model is supplied factory pre-set at 70℃ maximum outlet water temperature to comply with the requirements of AS 3498 Clause 7.2.2.
Model number EN20CF-LP70 & EN20CF-NG70 unit does require a temperature control device to be installed.
Please follow all the installation instructions in the Installation and operating instructions handbook and the following additional instructions for the water heater outlet connection.

- When connecting the hot water supply to the fixtures in the property a minimum of two (2) metres of pipework must be used between the outlet of the water heater and the first tap and outlet. See Diagram below.
- 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℃ setting.
- Total length to first tap or outlet is required to be a minimum of 2 meters from the outlet connection of the water heater.
- Pipe size is nominal 15mm from hot water outlet to the first tap or outlet.
- Gas pipe size is nominal 20mm.



50ºC Appliance Minimum length of pipe from hot outlet to nearest hot water tap 2 meters



Not a 50ºC Appliance

Note:TCD=Temperature Control Device

2. SPECIFICATIONS

TECHNICAL DATA AND DIMENSIONS EN Series

Model	EN20CF-NG70	EN20CF-LP70
Gas Type	NG	LPG
Gas Input（MJ/h）	160	160
Inlet Pressure（kPa）	1.13	2.75
Main Injector（mm）	φ1.65	φ0.96
Test Point Pressure High/Low（kPa）	0.65/0.10	1.85/0.17
Water Heating Capacity （Raised 25℃）	20.0L/min	20.0L/min
Max. Water Pressure（kPa）	1000	1000
Min. Water Pressure Required To Operate The Water Heater（kPa）	150	150
Relief Valve Pressure Setting（kPa）	1200	1200
Gas Connection	R3/4(20mm)	
Water Connections	G1/2(20mm)	
Ingress Protection Rating（AS60529）	IPX4	
Ignition	Electronic	
Rated Voltage：	AC.240V/50Hz	
Net Weight（kG）	14.2	
Gross Weight（kG）	16	
Product Dimensions（mm）	595 x 375 x 165	
Package Dimensions（mm）	748 x 420 x 230	
IAPMO Gas Mark Approval Number	GMK10177	
IAPMO Water Mark Approval Number	WMKA22451	

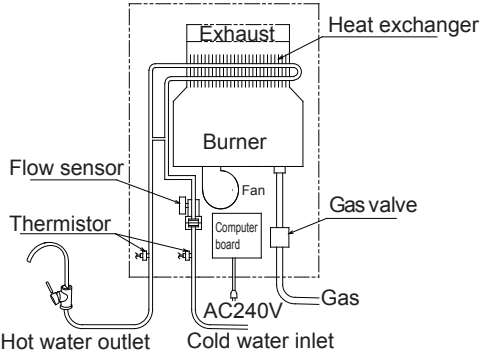
NOTES

The appliance will operate at reduced performance below 340 kPa water pressure.

- For information relating to burner test point pressures and injector sizes refer to the name plate located on the right hand side of the case for each model. (please refer to p.8)
- For information relating to overall dimensions and connection points refer to diagrams. (Please refer to p.6)
- 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 name plate which is attached to the right side of the case of the water heater. (Please 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 for the demand.
- The principle of the water heater is shown below:

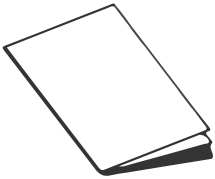


This diagram illustrates the water heater design concepts only and is not accurate to the one physical description.

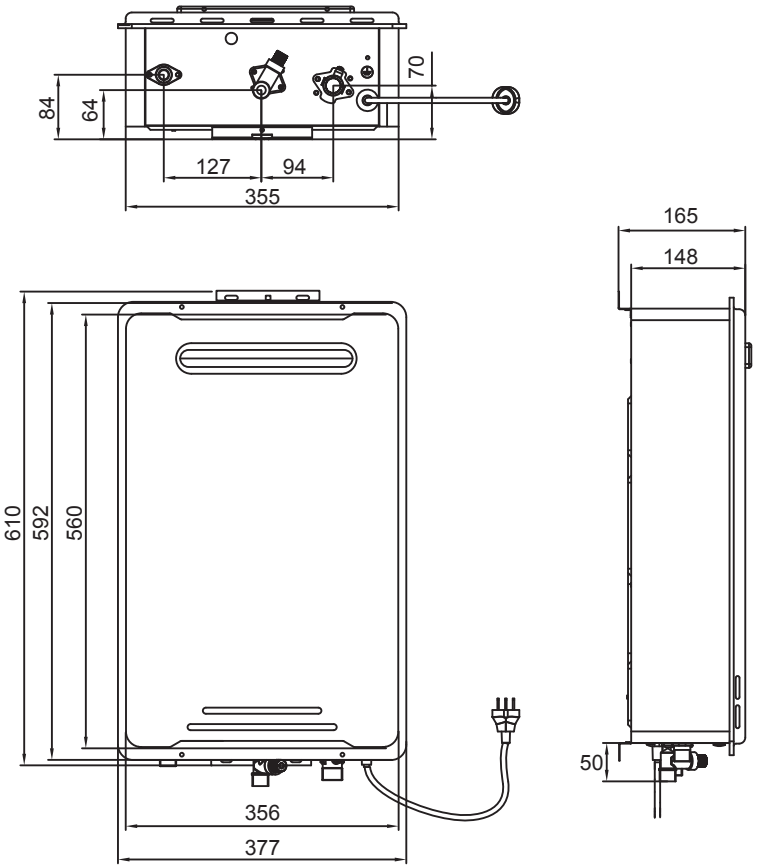
① A hot water tap is turned on.
② Water enters the water heater.
③ The water flow sensor detects the water flow.
④ The computer automatically ignites the burner.
⑤ Water circulates through the heat exchanger and then gets hot.
⑥ The computer will modulate the gas supply valve and water flow to produce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

3.1 ACCESSORIES

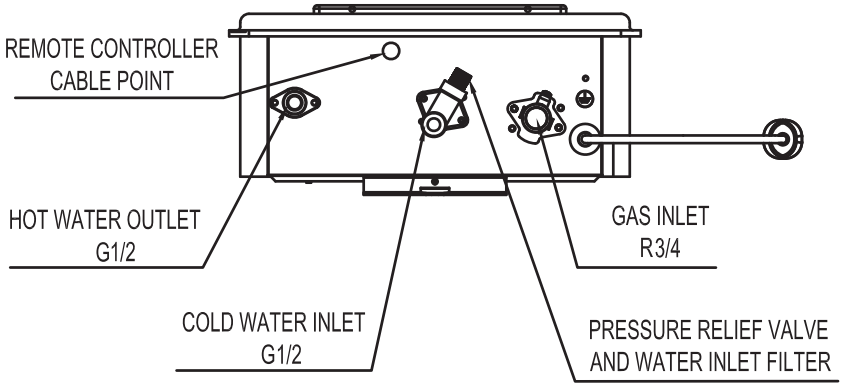
Check that the installation and operation manual and screws are included with the unit.

Screws × 4	Manual
	

- **DIMENSION AND CONNECTION POINTS**



DIMENSIONS



CONNECTION POINTS

3.2 SAFETY GUIDELINES

Ensure the following warnings and 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 and local regulations.
- The water heater must be installed OUTDOORS ONLY. DO NOT install the water heater indoors.
- Not to be used as a pool heater.

3.3 GENERAL

- Carefully plan where you intend to install the water heater. Please ensure:
  The water heater will be located in an open air environment with natural ventilation;
  Locate the water heater where water leakage will not damage surrounding areas and remove any transit protection.
- 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 manufacturer.
- 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 ℃ 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.

PROHIBITED

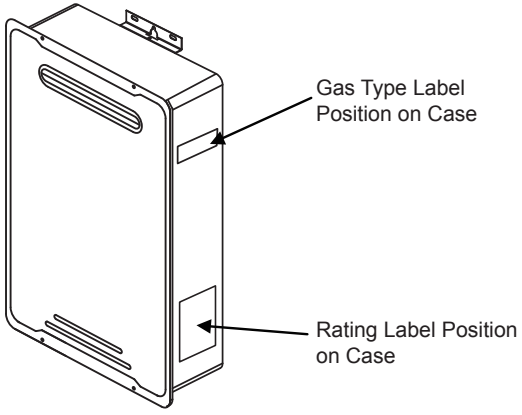
- Do not store or use gasoline or other flammables, vapors, or liquids in the vicinity of this appliance.Vapors from flammable liquids will explode and catch fire causing death or severe bums.
- Do not reverse the water and/or gas connections as this will damage the gas valves and can cause severe injury or death. Follow the diagram on p. 11 and 13 when installing your water heater.
- Do not use this appliance if any part has been in contact with or been immersed in water. Immediately call a licensed plumber, a licensed gas fitter, or a professional service technician to inspect and/or service the unit if necessary.
- Do not disconnect the electrical supply if the ambient temperature will drop below freezing. The Freeze Prevention System only works if the unit has electrical power. The warranty will not be covered if the heat exchanger is damaged due to freezing. Refer to the section on the Freeze Prevention System on p. 21 for more information.

4. INTRODUCTION

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

4.1 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 this unit if these requirements are not met.



CAUTION

- This equipment is not suitable for pool or spa heating.
- 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 minimise heat loss and cost.
- The water heater does not require a fireproof back plate if installed on timber wall.

4.2 ABOUT SELECTING A INSTALLATION LOCATION SUITABILITY

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

CAUTION

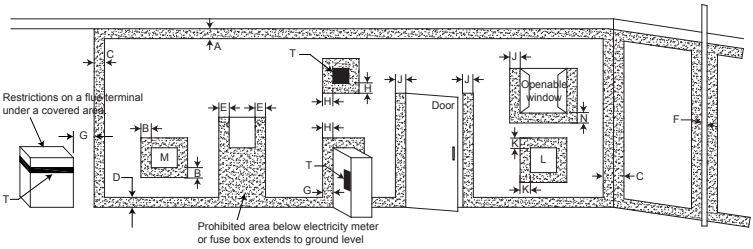
- Although the water heater is designed to operate with minimal noise level, you should not install the unit on a wall adjacent to a bedroom, or a room that is intended for quiet study or meditation, etc.
- Locate your heater close to a drain where leakage will not do damage to surrounding areas. As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

WARNING

- Every care is taken to warn occupants of the building and the public of any injury that may occur from falling tools, open trenches, water connections or any other general hazard.
- Make sure the water heater will have sufficient combustion air and natural 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 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.
- 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. – see the diagram on the p.10.
- “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, brick/veneer, weatherboard and stud-frames are suitable locations.
- Securely fasten the unit to the wall with screws or bolts in the top and bottom brackets. A minimum of two top and bottom must be used.

CLEARANCES FOR OUTDOOR HEATER LOCATIONS-AS/NZS 5601.1:2010

Figure 1



T= Flue terminal
L= Mechanical air inlet
M= Gas meter
P= Electricity meter or fuse box
Shading indicates prohibited areas for flue terminals

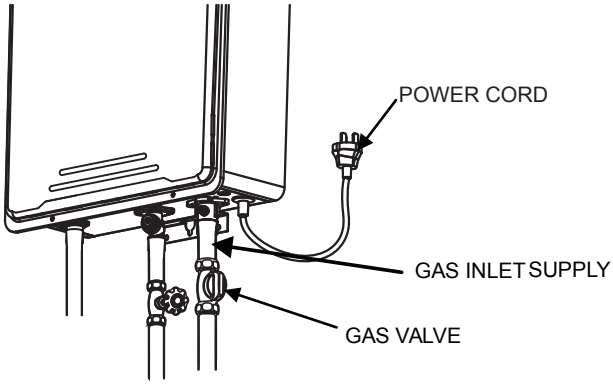
Ref.	Item	Minimum clearances (mm)	
		Natural draft	Auxiliary fan
A	Below eaves, balconies and other projections		
	• Appliances up to 50 MJ/h input	300	200
	• Appliances over 50 MJ/h input	500	300
B	The ground, above a balcony or the other surface	300	300
C	Return wall or external corner	500	300
D	Gas meter (M) (vent terminal location of regulator)	1000	1000
E	Electricity meter or fuse box (P)	500	500
F	Drain or soil pipe	150	75
G	Horizontally from any building structure or obstruction facing a terminal	500	500
H	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 between 150 and 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	Mechanical air inlet, including spa blower	1500	1000
N	Vertically below an openable window, non-mechanical air inlet, or any other opening into a building with the exception of sub-floor ventilation		
	• Space heaters up to 50 MJ/h input	150	150
	• Other appliances up to 50 MJ/h input	500	500
	• Appliances between 50 and 150 MJ/h input	1000	1000
	• Appliances over 150 MJ/h input	1500	1500

***Unless appliance is certified for closer installation**

NOTE

- All disturbances are measured to the nearest part of the terminal.
- 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.
- For appliances not addressed above acceptance should be abtained from the technical regulator.

4.3 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. This may lead to critical damage.

4.4 SIZING AND CONNECTING LOCATION SUITABILITY

Check the gas type label to make sure that the unit was built for the type of gas you will be using, and that the gas inlet pressure is within the appropriate range. (Please refer to p.4.)

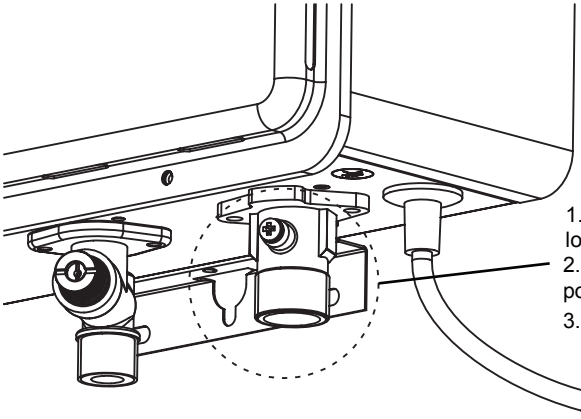
- Gas pressure below this specified range for the water heater and/or insufficient gas volume will adversely affect performance.
- Inlet gas pressure must not exceed the above maximum values; gas pressure above the specified range will cause dangerous operating conditions and damage to the unit.
- Until 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 water heater and the gas supply line.
- The regulator is preset at the factory. It is computer controlled and is not to be adjusted by any person other than a qualified service provider.
- When the gas connections are completed, it is necessary to perform a gas leak test either by applying soapy water to all gas fittings and observing for bubbles or by using a gas leak detection device.

⚠ **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.

4.5 MEASURING INLET GAS PRESSURE AND TESTING GAS LEAKAGE

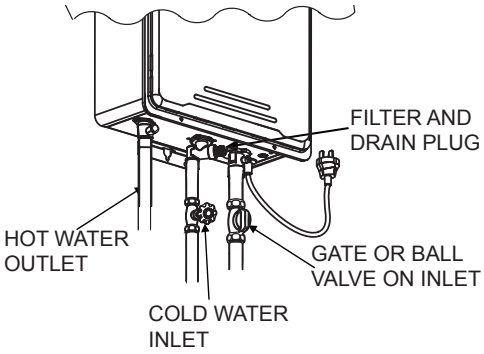
The appliance and its gas connections must be measured for inlet gas pressure and leak tested before placing the unit in operation for correct performance and safety. This is only to be done by a licensed professional.



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

- Shut off the manual gas valve on the supply gas line.
- Open a faucet. The unit should turn on and the gas in the gas pipe line should be purged. Leave the faucet on to keep the unit running until the unit shuts down due to lack of gas supply. Then shut the faucet off.
- Remove the screw for the pressure port located on the gas inlet of the water heater shown in the diagram to the right.
- Connect the manometer to the preaaure port.
- Re-open the manual gas valve. Check to see that there are no gas leaks.
- Open some of the fixtures that use the highest flow rate to turn on the water heater.
- Check the inlet gas pressure. When the water heater is on a maximum operation capacity, the inlet gas pressure point must be within the appropriate range. (Please refer to p.4)
- This appliance and its individual shut-off valve must be isolated from the gas supply piping system by unplugging the unit and turning off the main gas valve during any pressure measuring stage of the gas supply piping system at test pressures above 3kPa.

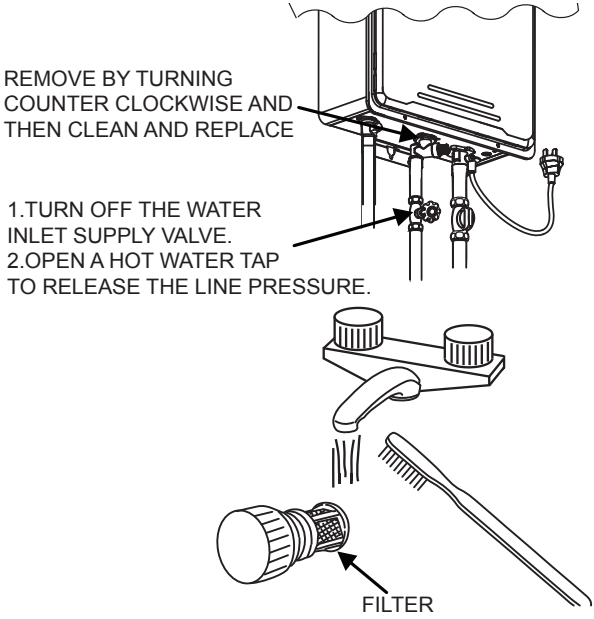
4.6 WATER CONNECTIONS



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

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.

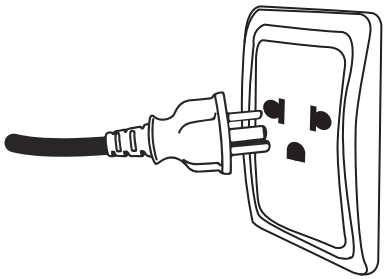


NOTE

This filter must be cleaned as part of regular maintenance.

4.7 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 0.8A.
- The weather-proof power point should be no more than 1 meter from the base of the water heater for easy access.
- Install 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 appliance wiring material supplied by the Manufacturer.



Weather-proof Power Point

⚠ 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

5. REMOTE CONTROLLER (OPTIONAL)

Remote controllers are available as an optional extra, The water heater can be installed with up to three remote controllers. Each remote controller has two functions which can adjust the set temperature and indicate the error code on the remote controller.

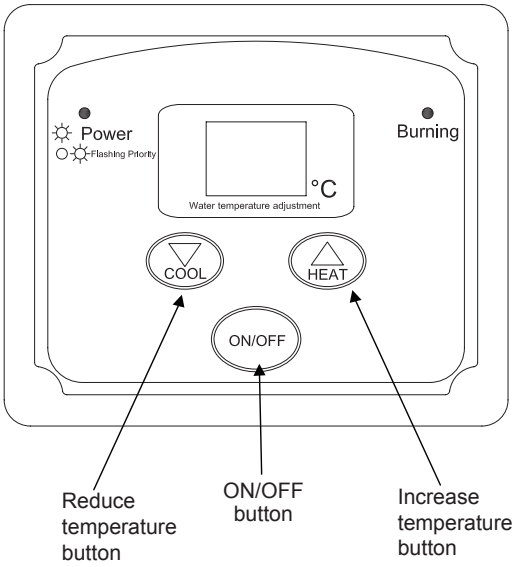
- PRIORITY function: The remote controller which is switched on first has the PRIORITY function, and can adjust the temperature freely. While the remaining controllers could not adjust the temperature, the remaining controllers only dispaly the oulet temperature. Until the first remote controller is switched off, then the PRIORITY function will be released to other controllers.
- Default setting temperature: At the initial power on, the setting temperature will be the same as the value set on the DIP switch. After the initial use, the initial temperature will be recalled.
- All models of water heater have self diagnostic function for safety and convenience when trouble shooting. If there is a problem with the installation of the unit, it will display a numerical error code on the remote controller (or the LED of the computer board will blink.)

a.Remote controller installing environmental conditions.

- The remote controller is water resistant, however should not be positioned where it can be splashed directly and there should be caulking between the surface of the wall and the controller.
- The remote controller can be intalled in the bathroom with correct intallation.

b.Remote controller output temperature setting.

- The remote controller is able to adjust the output temperature setting in the range of 38ºC to 65ºC.
- The emperature setting points are:
  38ºC, 39ºC, 40ºC, 41ºC, 42ºC, 43ºC, 44ºC, 45ºC, 46ºC, 47ºC, 48ºC, 49ºC, 50ºC, 51ºC, 52ºC, 53ºC, 54ºC, 55ºC, 55ºC, 56ºC, 57ºC, 58ºC, 59ºC, 60ºC, 61ºC, 62ºC, 63ºC, 64ºC, 65ºC.

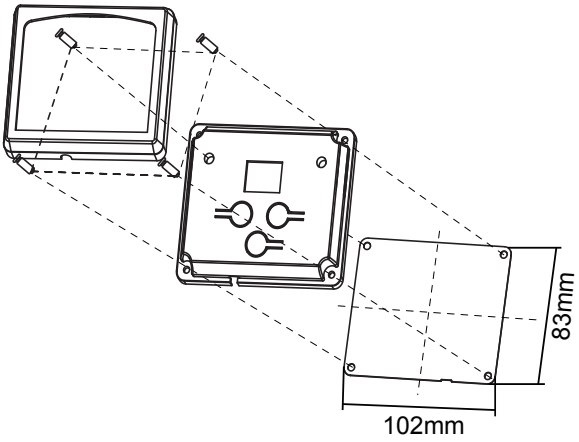


5.1 REMOTE CONTROLLER INSTALLATION

- The remote controller comes with the length of 10m cable, If a longer cable is needed,please purchase shielding line.Cut the original line and bind up the wire according to the polarity to avoid shortcircuit.

  a.Minimun 18AWG wire

  b.Maximum 60m long
- Put out wiring downward through the cable trench.
- Attach the remote control on the wall with two attached screws. (If you need to attach the remote control to brittle material, you should use the anchor plug.)



⚠ WARNING

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

5.2 CONNECTION OF REMOTE CONTROLLER WIRING TO THE WATER HEATER

① Turn off the power supply to the water heater.

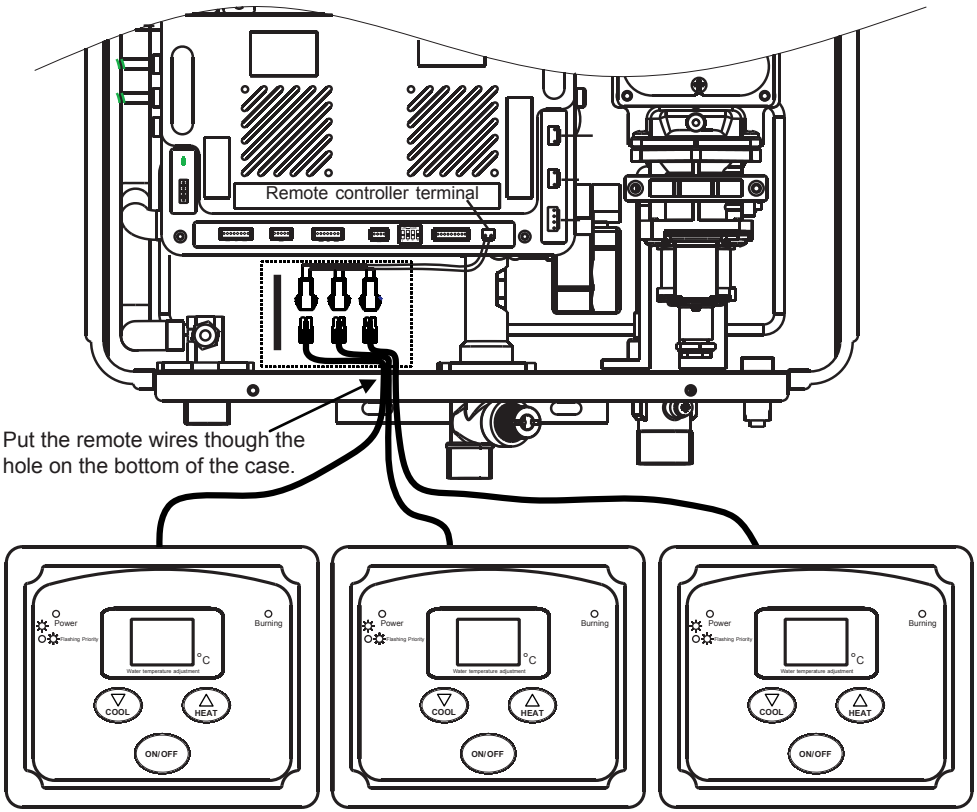
② Remove the front cover from the water heater. There are 4 screws on the front cover.

③ Put the remote wires through the hole on the bottom of the unit case.

④ Connect remote control wires to remote terminals directly.

- **DO NOT jump or short-circuit wires otherwise PCB may be damaged.**

⑤ Put back the front cover and connect the power plug.



TYPICAL CABLE LAYOUT

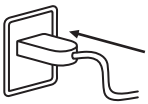
6. INITIAL OPERATION

a.FOR YOUR SAFETY, READ BEFORE OPERATING:

- Check the GAS and WATER CONNECTIONS for leaks before start up for the first time.
- Open the main gas supply valve to the unit using only your hand to avoid any spark. Never use tools. If the knob will not turn by hand, do not try to force it; call a qualified service technician. Forced repair may result in a fire or explosion due to gas leaks.
- Be sure to check next to the bottom of the unit because some gases are heavier than air and may settle towards the floor.
- Check the GAS PRESSURE. Refer to p.3
- Do not try to light the burner manually. It is equipped with an electronic ignition device which automatically lights the burner.
- Check for PROPER VENTING and COMBUSTIBLE AIR to the heater.
- Purge the GAS and WATER LINES to remove any air pocket.
- Do not use this water heater if any part has been submersed under water. Immediately call a qualified service technician to inspect the water heater and to replace any damaged parts.

b.CAUTION: IF YOU SMELL GAS:

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

1.Once the above checks have been completed, please clean filter of any debris. Refer to p. 22 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.
4.Fully open the manual gas control valve installed.	5.Turn on the 240 volt 50 Hz power supply to the water heater. 	6.Now you are ready to enjoy hours of endless hot water.

7. NORMAL OPERATION

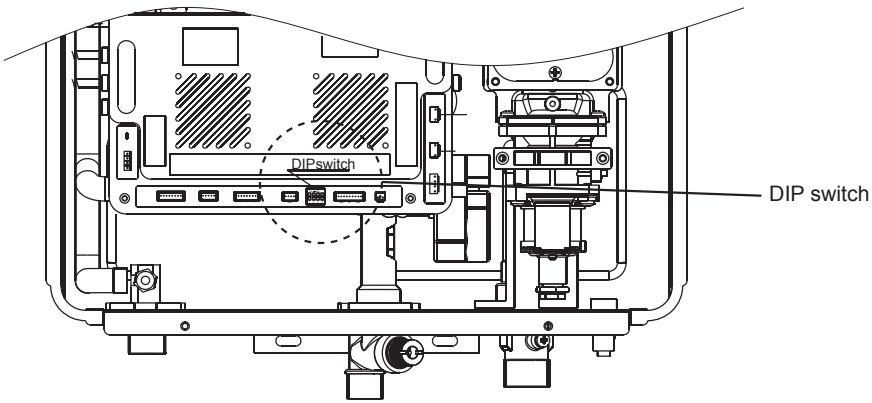
- Flow rate to activate the water heater: 3.0 litres per minute.
- Flow rate to keep the water heater running: 2.5 litres per minute.

7.1 WITHOUT REMOTE CONTROLLER

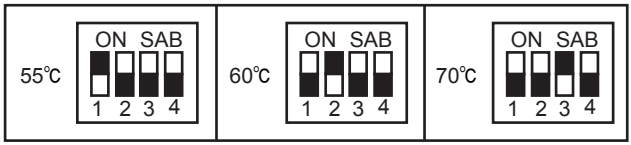
1.Open a hot water tap.	2.Mix cold water with the hot to get the correct temperature water.	3.Close the hot water tap.

NOTE

The setting temperature is preset at 70ºC.
If you need to change the setting temperature without remote controller, please adjust the DIP switch, refer to diagram below.

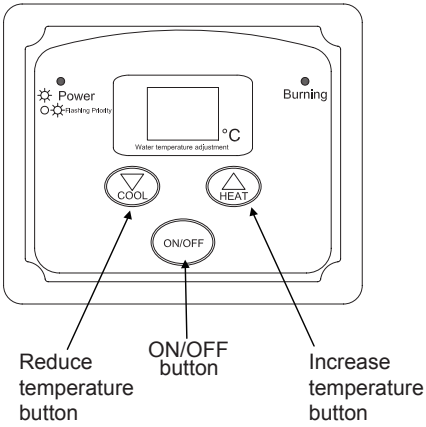


- **The Temperature setting:**



- **Only change the switches with dark squares.**
- **DO NOT adjust other switches. If a DIP switch is incorrectly set, It will lead to a minimum setting temperature.**

7.2 NORMAL OPERATION WITH MULTIPLE REMOTE CONTROLLER INSTALLED



- Press the ON/OFF button. Then the Power light is lit on the remote controller and the setting temperature is displayed on each remote controller.
- Set the temperature as you require (the tempreature setting can be change only by the priority unit). If you desire to transfer the priority setting, you can transfer it by pressing ON/OFF button.)
- Open a hot water tap, and ensure the Burning light is ON. Mix cold water with the hot if you need.
- Close the hot water tap, and the Burning light is OFF.

NOTE

When the remote controller used on EN20CF-LP70 & EN20CF-NG70 model, it is able to adjust the setting temperature in the range of 38ºC to 65ºC.

WARNING

Water temperatures above 50 ºC 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.

7.3 FREEZE PREVENTION

CAUTION

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. Correct protection and insulation of these pipes from freezing is required.

WINTER SHUTDOWN

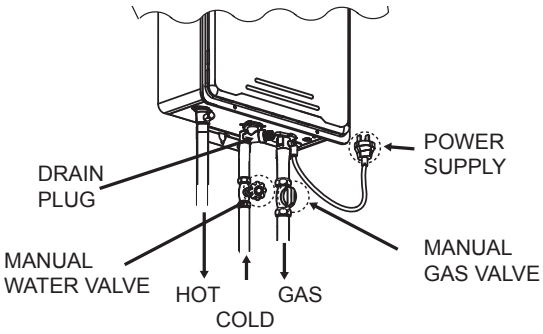
If the water heater will not be used for a long period of time, turn off the water heater and drain the water inside the unit . This will keep the water heater from freezing and being damaged.

Follow these instructions carefully:

- Close the manual gas shut off valve.
- Turn off the power supply to the water heater.
- Close the manual water shut off valve located on the water supply line.
- Open all hot water taps in the house. (Bathroom, kitchen, laundry room, etc.). When the water flow has ceased, close all hot water taps.
- Have a bucket or container to catch the water from the unit's drain plugs. Unscrew the drain plugs to drain all the water out of the unit.
- Wait a few minutes to ensure all water has completely drained from unit.
- 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.



8. 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.

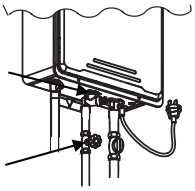
- Clean the cold-water inlet filter. (Refer to diagram below).
- Be sure that all openings for combustion air are not blocked. If blocked, remove any obstruction.
- Check that the opening for exhaust is not blocked. If blocked, shut off the water heater's combustion. And then after a while, remove any obstruction. Do not touch the water heater while it is operating or burns due to high temperature may result.
- Check the gas pressure.
- Keep the area around the water heater clear. Remove any combustible materials, gasoline or any flammable vapors and liquids.

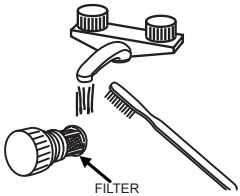
8.1 UNIT DRAINING AND FILTER CLEANING

- Close the manual gas shut off valve.
- Turn off the power supply to the water heater.
- Close the manual water shut off valve.
- 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.
- Have a bucket or container to catch the water from the unit's drain plugs. Unscrew the drain plugs to drain all the water out of the unit.
- Wait a few minutes to ensure all water has completely drained from unit.
- 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.
- Securely screw the drain plugs back into place. Hand- tighten only.

REMOVE BY TURNING
COUNTER CLOCKWISE AND
THEN CLEAN AND REPLACE

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





8.2 GENERAL TROUBLESHOOTTING

~ TEMPERATURE and AMOUNT OF HOT WATER ~	
PROBLEM	**POSSIBLE SOLUTIONS**
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 piping between the two. The longer the distance or the larger the pipes, the longer it will take to get hot water.

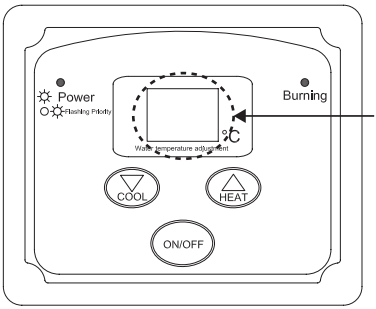
The water is not hot enough.	• Compare the flow and temperature. See the chart on p. 24. • Check cross plumbing between cold water lines and hot water lines. • Is the gas supply valve fully open? (p. 17) • Is the gas line sized properly? (p. 10) • Is the gas supply pressure enough? (p. 11) • Is the set temperature set too low? (p. 18,19)
The water is too hot.	• Is the set temperature set too high? (p. 18,19)
The hot water is not available when a fixture is opened.	• Make sure the unit has 240V 50Hz power supply. • If you are using the remote controller, is the power button turned on? (p. 20) • Is the gas supply valve fully open? (p. 17) • Is the water supply valve fully open? (p. 17) • Is the filter on cold water inlet clean? (p. 21) • Is the hot water fixture sufficiently open to draw at least 3.0l/min through the water heater? (p. 17) • Is the unit frozen? • Is there enough LPG in the bottle? (for propane)
The hot water gets cold and stays cold.	• Is the flow rate enough to keep the water heater running? (p. 17) • Is the gas supply valve fully open? (p. 17) • Is the filter on cold water inlet clean? (p. 21) • Are the fixtures clean of debris and obstructions?
Fluctuation in hot water temperature.	• Is the filter on cold water inlet clean? (p. 21) • Is the gas line sized properly? (p. 10) • Is the gas supply pressure enough? (p. 11) • Check for cross connection between cold water lines and hot water lines.

~ WATER HEATER ~	
PROBLEM	**POSSIBLE SOLUTIONS**
The Unit does not ignite when water goes through the unit.	• Is the flow rate over 3.0l/min? (p. 17) • Check for the filter on cold water inlet. (p. 21) • Check for reverse connection and cross connection. • If you use the remote controller, is the power button turned on? (p. 20)
The fan motor is still spinning after operation has stopped.	• This is normal. After operation has stopped, the fan motor keeps running for 15 ~ 75 seconds in order to re-ignite quickly, as well as push all exhaust gas out of the flue.
~ REMOTE CONTROLLER (OPTIONAL) ~	
PROBLEM	**POSSIBLE SOLUTIONS**
Remote controller does not display anything when the power button is turned on.	Press the ON/OFF button. If the light does not light up ⇒ • Make sure the unit has power supply. • Make sure the connection to the unit is correct.(p. 16)
An ERROR code is displayed.	Please see the p.23
Remote controller can not change the set temperature.	Is priority light lit? If it is not, press the priority button after closing all hot water taps.

8.3 PCB ERROR CODES

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

When remote controller is installed

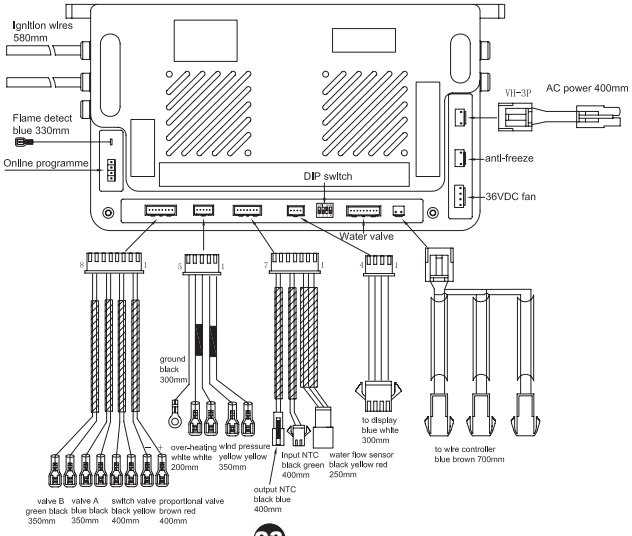


The error code will be displayed on the remote controller.

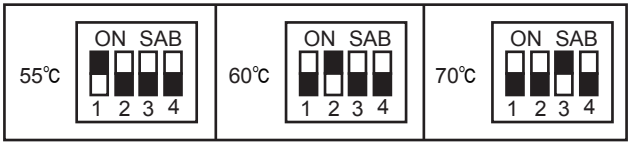
8.4 Error Codes On the Remote controllers

Error Codes On the Remote controller	Symptom
E0	Temperature Sensor Fault
E1	Ignition Failure or Accidental Flameout
E2	Flame detect misjudgment
E3	Thermostat Fault
E4	Continuous 3 second Outlet Water Temperature 85℃
E5	Fan Fault
E6	Gas Proportional valve Fault
EE	Timing Alarm(40 minute timer)

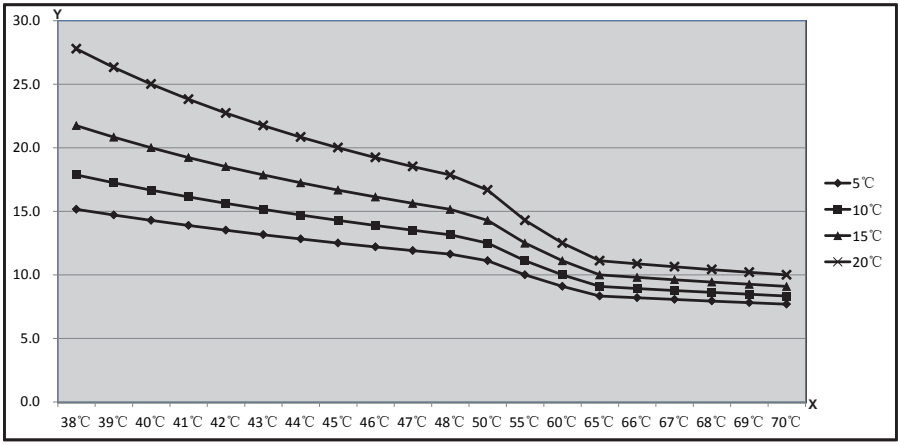
8.5 WIRING DIAGRAM



- **The Temperature setting:**



8.6 WATER FLOW AND WATER TEMPERATURE



*LABEL THE X AND Y AXIS OF THE GRAPH "OUTPUT HOT WATER TEPERATURE" AND "OUTPUT HOT WATER FLOW (L/MIN)"

- The flow rate through the water heater is limited to a maximum of 20 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 versus litre per minute chart to determine the likely flow rates based on your local ground water temperature and your desired outlet water temperature combination.

⚠ WARNING

Please contact your agent office for full warranty conditions and service information.

The product is subject to change without notice.
Please store this manual for future reference.

Contact for Service and Warranty
SolarEast Australasia Pty Ltd
U2, 10-12 Cerium Street, Narangba, QLD
Ph: 1300 668 886
E: info@solareast.com.au