Congratulations

on making the smart decision:

SAVINGS

REBATE

ENVIRONMENT

- Australia's No.1 selling hot water heat pump
- High quality, efficient and energy saving
- Industry leading technology and innovation

- ☐ **EG-330FR**
- ☐ **EG-290FR**
- ☐ **EG-260FR**
- ☐ **EG-215FR**

HEAT PUMP WATER HEATER

PRODUCT CUSTOMER GUIDE

ECOGENICA®

About the **Ecogenica FR** Range

Designed and developed in Australia for Australian conditions, the Ecogenica range of direct heat transfer water pump heaters offers ground-breaking technology to deliver energy efficient hot water savings to Australian homes and businesses.

The Technical bit

The **Ecogenica 215FR, 260FR, 290FR** and **330FR** models are fully dedicated, quick connect heat pumps using the most advanced reverse cycle heating technology which directly heats the water instead of the air, like other traditional gas or electric hot water pumps.

Our range of heat pumps have a large surface area and don't need a heat element instead extracting heat from the air - even if it's freezing outside. They utilise cold R290, a natural refrigerant, which absorbs heat energy as it passes through the large heat pump fin coil. As the gas passes through the fin coil, heat from the air turns the cold low pressure R290 vapour into a high-pressure gas, which then passes through a high efficiency rotary compressor, becoming super-heated.

The super-heated gas passes through the heat jacket which is wrapped around the water cylinder and, once the gas loses heat energy to the water, it reverts back to a cold vapour and the cycle continues until the water is piping hot.

The tank will heat up between 1 and 4 hours in all weathers. The compressor compresses the gas, just like a bicycle pump (if you put your finger on it), and, like the bicycle pump, the gas gets hot. This means the jacket never encounters the water, and the direct heating process is more reliable and efficient than other heating technologies.

With fewer moving parts - no circulation pumps or troublesome heat exchangers - maintenance is required less often , making the FR model range a more reliable and resilient design compared to other heat pump water heaters.

The coefficient of performance (COP) of 5 means that for every 1kW of power used from the power grid (or from your solar power system) the FR range of heat pumps puts in 5kW of effective power into your water.

FEATURES

- **Australia's most energy efficient Hot Water Heat Pump** -up to 80% energy savings
- **Powerful Heat Pump** - fast hot water production = lots of hot water at a lower price
- **Direct heat transfer condenser tank** - greater reliability & less maintenance
- **Easy to install**
- **Slim line tank design** - fits into narrow areas

Index

Reference: Performance & Specifications

Performance of the FR Models Easily compare features to choose the right model for you.

Model	**330FR**	**290FR**	**260FR**	**215FR**
Energy Saving	75.3 %	80.7 %	74.2 %	77.6 %
No of People suitable for	5-9	4-7	3-6	1-5
Bedrooms	6	5	4	3

NOTE: VEU Published results Zone 4, 1D & 3C
All results supplied by the independent test laboratory Intertek.

Specifications of the FR Models

Model		**330FR**	**290FR**	**260FR**	**215FR**
Tank Volume		330 L	290 L	260 L	215 L
Input Power		1020 W	750 W	670 W	630 W
Heating Capacity		4600 W	3750 W	3250 W	3150 W
COP		4.51 W/W	5.0W/W	4.85 W/W	5.0 W/W
*Recovery Rate 20/55**		98.9	80.6	69.8	67.7
Fittings		20mm / G 3/4	20mm / G 3/4	20mm / G 3/4	20mm / G 3/4
Tank Size	*Height* *Width*	1815 mm 620 mm	1850mm 570 mm	2115 mm 600 mm	1815 mm 510 mm
Heat Pump Size	*Height* *Width* *Depth*	610 mm 840 mm 313 mm	545 mm 780 mm 276 mm	Built onto Tank	545 mm 780 mm 276 mm
Max Current		7.0 A	5.0 A	5.0 A	4.5 A
Power Supply		220-240V/50Hz	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz
Operating Temperature Range		-7°C ~+43°C	-7°C ~+43°C	-7°C ~+43°C	-7°C ~+43°C
Refrigerant Type		R290	R290	R290	R290
Protection Ranking Class		IPX4	IPX4	IPX4	IPX4
Configuration		Split Quick Connection	Split Quick Connection	All-in-one Connection	Split Quick Connection

Test Conditions:
1. Default setting +55°C
2. Outlet Water Temperature +55°C
   Inlet Water Temperature +14°C
   Dry Bulb Temperature +19°C
   Wet Bulb Temperature +15°C

* Recovery rate is 40 degrees temperature rise / 20 degrees ambient / 55 degrees water temperature. Recovery rates at 6 degrees are approx 35% less than nominal recovery rates.

NOTES:
- 215FR, 290FR and 330FR models are split and come with Pre-Charged One Shot Couplings for ease of installation by a plumber.
- Split Quick Connection models (215FR / 290FR / 330FR) only require standard plumbing connections, heat pump is located on top of tank.
- All models use R290 natural refrigerant (propane), Plumbers require a gas fitters license to handle Split Quick Connection models (215FR / 290FR / 330FR).
- All temperature is measured in degrees Celsius.

COMMERCIAL MODELS are available. **215FRC** and **290FRC**.
Parameters are the same as above. Commercial models have a higher set temperature.
The commercial models only need the top sensor installed. Please contact us for details on commercial installations.

Warning: Safety Information

Please read all manuals carefully before installing and operating this unit.
The following safety warnings are very important, always read and obey all safety signs.

WARNING

• The device must be effectively grounded.

• RCBO circuit breaker must be installed.

• Do not remove, cover or damage any permanent instructions or labels from the exterior or interior of the unit panel.

• Only qualified personnel should install in accordance with local and national regulations and this guide.

• Improper installation may cause water leakage, electric shock or fire alarm.

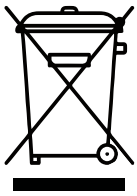
• All electrical connections must comply with the requirements of the local power company, the local power company and this guide.

• Do not use rated fuse, otherwise it may malfunction and cause electrical fire.

• Do not insert fingers, rods or other objects into the air inlet or outlet. The fan is rotating at high speed, which may cause injury.

• Do not use flammable sprays, such as hairspray or paint, near the machine to avoid fire.

• **Disposal:** Do not dispose of electrical appliances as unsorted municipal waste, A separate collection facility should be used. Contact your local government to find out information about the collection system. If electrical appliances are disposed of in landfills or dump sites, hazardous substances can seep into groundwater and cause health problems.

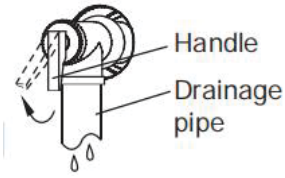


• The unit must be fixed firmly, otherwise noise and vibration may be generated.

• Make sure there are no obstacles around the device.

• In places with strong wind (such as seaside areas), the unit should be installed in a windproof place.

• The PTR valve should be operated every 6 months to ensure that the valve does not have any restrictions. The drain pipe should be well insulated to prevent the water in the pipe from freezing in cold weather.



CAUTIONS

• The ground electrode must be well grounded. Make sure all electrical sockets and plugs are dry and tightly connected;

• Before cleaning, be sure to stop operation and isolate the unit (ie, turn off the isolating switch or circuit breaker). Otherwise, electric shock and injury may occur;

• Water temperature over 50 degrees Celsius will cause severe burns and even death. Children, the disabled and the elderly are at the highest risk of burns. In the bath feel the water temperature with your hands before showering to avoid burns.

• Do not operate the machine with wet hands to avoid electric shock.

• A one-way check valve and a suitable isolation valve must be installed on the water inlet side.

• It is normal for the one-way safety valve to release some water during operation. However, if there is a large amount of water, please contact our service team. Improper drainage can cause water damage to surrounding areas such as buildings, furniture etc. Except for repair and maintenance purposes, do not turn off the power, especially in cold weather, as it may freeze the machine when the power is turned off. Continuously powered heating water is necessary.

Do not puncture the water heater casing, do not smoke, or activate sparking of any description within 1.5 meters of this water heater. Compliance with national gas regulations should be observed. This water heater contains flammable propane refrigeration in a sealed closed refrigeration circuit..

Warning: Notice to Customer

Warning

This unit requires reliable earthing before use, otherwise this may result in injury or death.

This air source water heater must be installed and maintained by licensed professionals in accordance with building regulations.

Only licensed professionals will issue you a certificate of compliance certifying that the work in question meets all relevant standards, and only licensed professionals will take out craft insurance.

The installation conforms to the Plumbing Code of Australia (PCA).

Do not install this if you cannot ensure that the power supply to the property is properly grounded. The device must be installed by a licensed professional and must meet the following conditions:

- Complies with AS/NZS 3500.4 - "National Plumbing and Drainage systems. Part 4.2: Hot water supply systems,Acceptable schemes";
- Compliant with AS NZS 3000-Electrical Wiring Rules;
  - comply with the rules and regulations of the local authority;
  - in line with national building regulations;
  - local occupational health and safety regulations;

This R290 Heat Pump should only be installed inside a building if compliant with Australian Standard: AS/NZS 60335.2.40, (2023) - Household and similar electrical appliances - Safety Particular requirements for electrical heat pumps, air conditioners and dehumidifiers". Internal installations must comply to the Standard and be approved by Eco Alliance or Ecogenica via written consent.

Please read and understand this manual.

Hot water burns!
For safety, small children should be supervised around hot water appliances.

Heat pump water heaters can store water at temperatures that cause scalding, and water temperatures over 50 degrees Celsius can cause scalding, so care must be taken to ensure that damage is not caused by improper use of the water heater.

Since heat pump water heaters can generate water temperatures in excess of +50 degrees Celsius, regulations require that a regulating valve be installed on the hot water outlet line of the water heater to prevent the water temperature from exceeding a pre-set safety upper limit. When installing or retrofitting an existing system, the installation must be performed by an authorized plumber.

Care should be taken to avoid contact with any plumbing or fixtures associated with the water heater plumbing. Under no circumstances should "home craft" type modifications be attempted.

This appliance is not intended for use by persons (including children) with reduced physical sensory or intellectual abilities, or who lack the experience and knowledge to safely use this appliance without supervision or instruction. Children should be supervised by a responsible person to ensure their personal safety.

The hot water pump power supply must be protected by a separate circuit breaker on the main power switch board and rated to suit the size of the components. Do not connect other appliances, especially high-power appliances, to the main power supply of the water heater, so as not to affect the normal use of the water heater

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

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.

Warning: Notice to Customer *(continued)*

Circuit Breaker
The hot water pump power supply must be protected by a separate circuit breaker on the main power switch board and rated to suit the size of the components.

Do not connect other appliances, especially high-power appliances, to the main power supply of the water heater, so as not to affect the normal use of the water heater.

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

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.

Anode
It's essential to replace the anode, when necessary, as the anode is installed in your water heater to protecting the cylinder, but it will slowly wear out over time. It is recommended that you replace the anode during a five-year service, or before if you have poor water quality in your area, the maximin time between replacement is 8 years. Poor water quality occurs when water supplies that are either softened, desalinated, or where the water supply alternates between a water tank and a public supply or another source. Typically, a magnesium anode is fitted as the standard option. During anode replacement the correct selection of the anode is crucial to maintain the warranty on the water heater cylinder. We recommend you refer to the Anode Selection Chart for correct anode selection.

Anode Selection Chart

Total Dissolved Solids	*Anode Colour Code*
0 - 40 mg/L	Green
40 - 150 mg/L	Green or Black
150 - 400 mg/L	Black
400 - 600 mg/L	Black or Blue
600 - 2500 mg/L	Blue
2500 mg/L +	Blue (no cylinder warranty)

Condensation Drain
Installers need to firstly put the tank and condenser in place. The installer needs to work out the best layout strategy for the pipe and consider all site issues before lowering the condenser pipes. Place the device on a flat, firm surface capable of bearing the weight of the device. If there is no special drainage pipe (sink), be sure to ensure that the condensed water flowing on the ground can be drained smoothly to avoid water pooling around the heat pump. As condensate will otherwise drip from the appliance onto the floor if the drainpipe is not added. The outdoor unit (Heat Pump) is installed with a 25mm high rubber shockproof, and it is firmly fixed with studs to avoid noise when the machine is running.

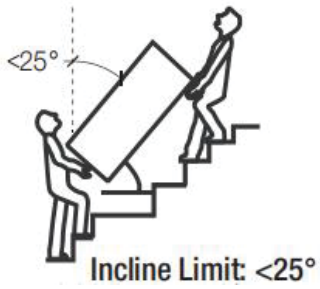
P&T Value Drain Line
A drain line from a relief valve must comply with the requirements of AS/NZS 3500.4. A drain line must be no longer than 9 metres with no more than three bends greater than 45° before discharging at an outlet. The drain line can discharge into a tundish if the distance to the point of final discharge exceeds 9 meters. The drain lines from the temperature pressure relief valve and expansion control valve from an individual water heater may be interconnected if approved by local regulations. The termination point of a drain line must comply with the requirements of AS/NZS 3500.4. And the outlet of a drain line must be easily seen, and arranged so discharge will not cause injury, damage, or nuisance.

For all Models

1 Before Installation

1.1 UNPACKING

When unpacking, make sure that the items in the accessories list are complete, and that the model of the main unit and the water tank are correctly matched.



1.2 TRANSPORT

When shipping this item, the following rules must be followed:

When moving, do not make the fuselage deviate from the vertical angle by more than 25 Degrees. Keep vertical.

To avoid scratches or damage, please use protective covering where applicable. Since the machine is heavy, it needs two or more people to carry it, to avoid injury and/or damage.

1.3 POSITION REQUIREMENT

When choosing a suitable location, the following factors should be considered:

- Ensure that there is enough space for installation and future maintenance,
- The inlet and outlet should be free of obstacles and strong winds,
- The bottom surface should be flat (i.e., no more than 2° inclination), and capable of bearing 3 times the weight of the machine, while ensuring that no noise and/or vibration will be increased. Securely secure the device to help avoid unnecessary noise and/or vibration,
- The running noise and the exhausted airflow should not affect other people,
- Make sure there is no flammable gas nearby.

Installation indoors is not recommended and permission must be secured from Eco Alliance, as this unit contains propane, which is a flammable gas. Ensure that the electrical insulation complies with the relevant local standards. Do not install inside a building if not compliant with Australian Standard: AS/NZS 60335.2.40, (2023) - Household and similar electrical appliances.

If the device must be installed in the metal part of the building, it should be ensured that the electrical insulation complies with the relevant local standards.

CAUTIONS

• The ambient air temperature must also be taken into account. The heat pump operates at ambient air temperature between -7°C and +40°C, below or above this range, the heat pump will not operate.

• If it is installed in closed spaces such as garages and basements, there must be unrestricted air flow (such as installing a strong exhaust fan) to ensure that the temperature is not lower than the specified range of the machine to prevent freezing. Installing this unit in any of the following locations may cause malfunction (consult your representative before purchasing).

- Mineral oil (eg lubricant for cutting machines).
- Seaside areas or places with salt in the air.
- Hot spring areas with corrosive gases (eg sulfides).
- Factories with large voltage fluctuations.
- In a cabin without a large enough exhaust system.
- Places exposed to direct sunlight or other sources of high heat. (If there is no way to avoid these, a lid may be required).
- Areas where flammable gases or materials are present.
- Areas where acidic or alkaline gases are present.
- Other special environments.

For all Models

2 System Debugging

- ☐ Correct installation,
- ☐ Piping and wiring are correct,
- ☐ Drainage and emptying are smooth without leakage,
- ☐ Plumbing installed correctly,
- ☐ The power supply voltage is consistent with the rated voltage of the unit,
- ☐ The air inlet and outlet of the unit are barrier-free,
- ☐ Leakage protector works effectively,
- ☐ Grounding is valid.

2.1 PREPARATION BEFORE OPERATION

Operation without water in the water tank may cause the water heater to enter a protection state, which may damage components in severe cases. In the event of such damage, the manufacturer will not be responsible for any damage caused by this issue. Before trial operation, please follow the steps below:

1 Trial run must be done after all installations are complete.

2 Before starting the machine, please confirm the following items (at right), and mark them in the box after confirmation.

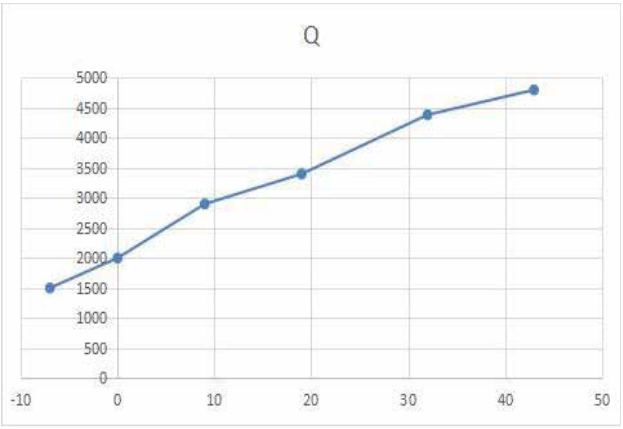
2.2 TURN ON POWER ⚠ CAUTIONS

Before turning on the power to the unit, double-check that the water tank is full of water.
- After confirming that the power cord is firmly connected, turn on the power of the water heater.
- No need to operate the display, the display is in the power-on state by default.
- The device has a three-minute delay start function, please be patient.

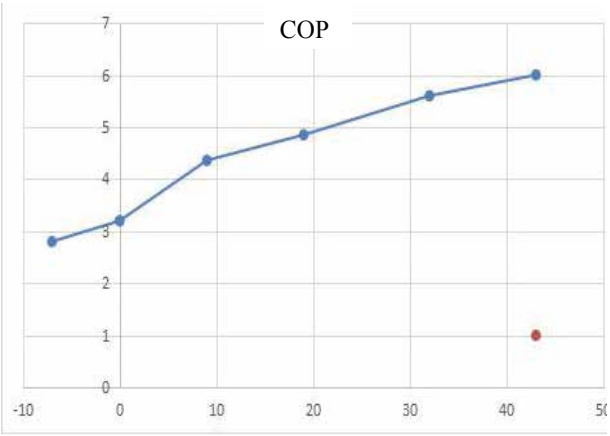
After running for 30 minutes, observe the running status, if there is any problem, please check the display. If there is a fault code displayed on the screen contact us with timely feedback.
- The device is fully automatic control, according to the selected method and the surrounding environment, the set water temperature, self-adaptive adjustment, and heating the stored water to target temperature.

2.3 MACHINE RUNNING DYNAMICS

There are different heating times at different ambient temperatures.
Typically lower ambient temperatures result in longer heat times and therefore performance.



Changes in ambient temperature and heating capacity



Changes in ambient temperature and energy efficiency ratio

2.4 PRODUCTION METHOD

When the self-protection mode is activated, the system will stop and start self-checking. Once the error is resolved, the unit will restart. When the self-protection mode is activated, the error code will be displayed on the screen until the error is resolved.

The device can enter self-protection mode under various conditions, including but not limited to:
- blocked air inlet or outlet;
- The evaporator is covered with too much dust;
- The unit receives incorrect power (over the 220-240v range).

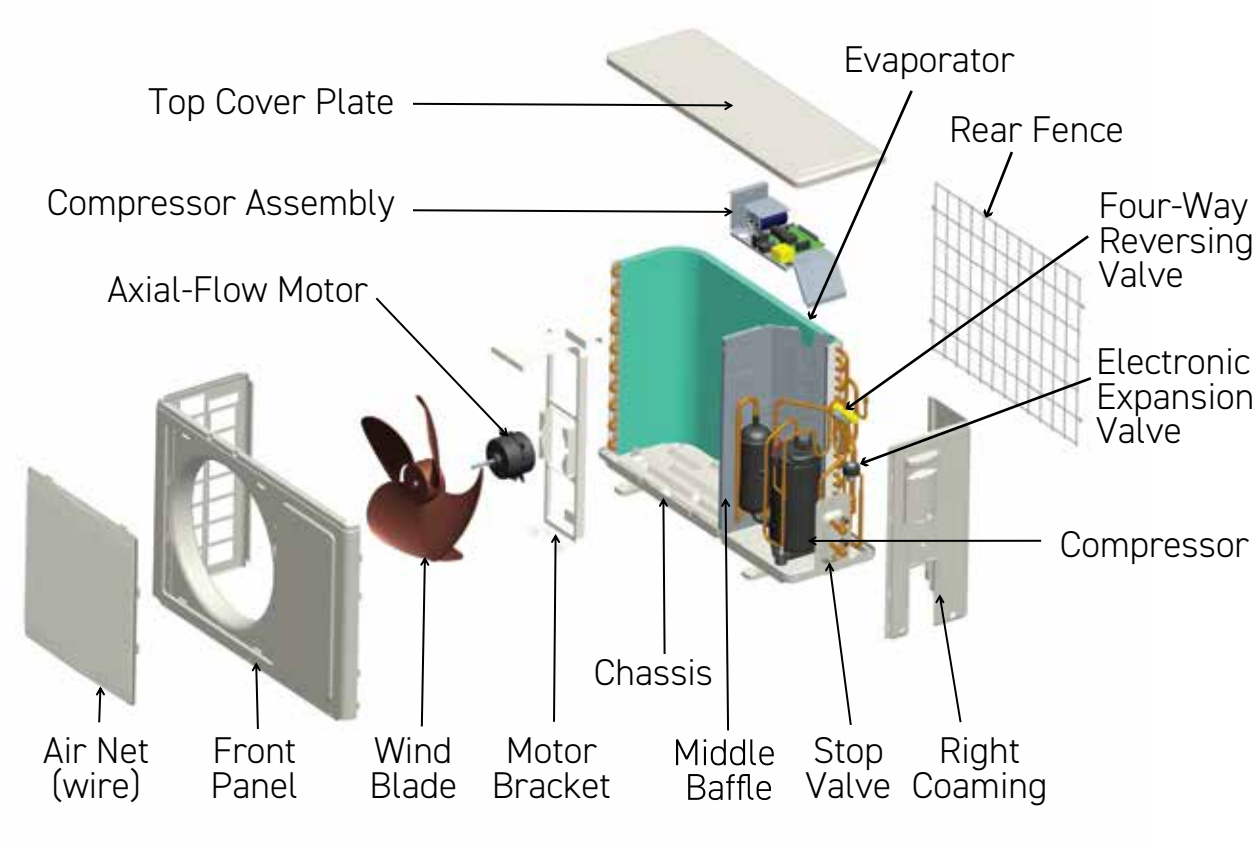
2.5 REFRIGERANT ADDITION

Please contact Eco Alliance or Ecogenica for instructions and approval. Only use R290 natural-refrigerant.

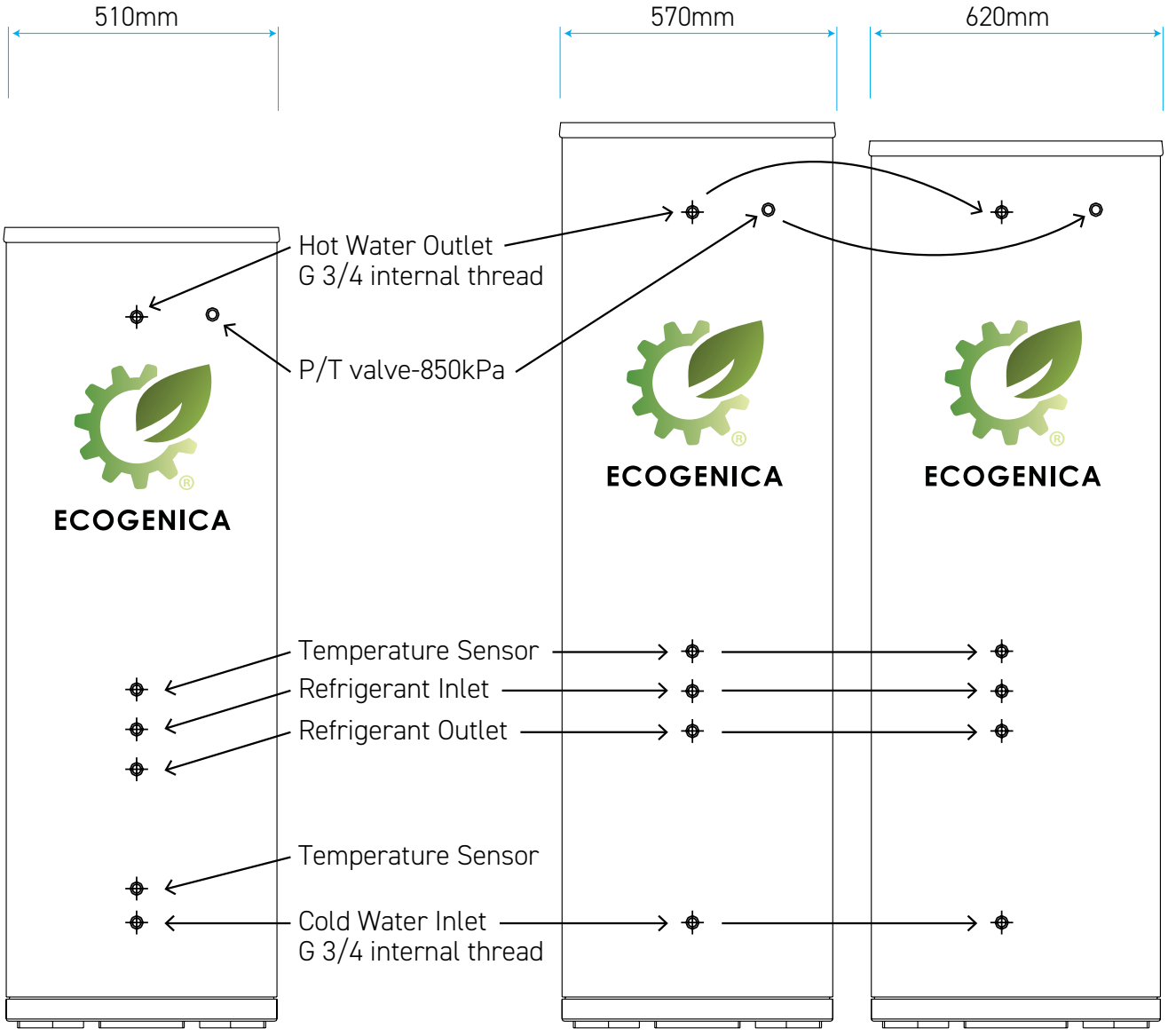
Split Quick Connection Models

215FR
290FR
330FR

3 Heat Pump Components



3 Water Tank Connections



Tank 215FR Connections **Tank 290FR Connections** **Tank 330FR Connections**

4 Installation: Typical Installation

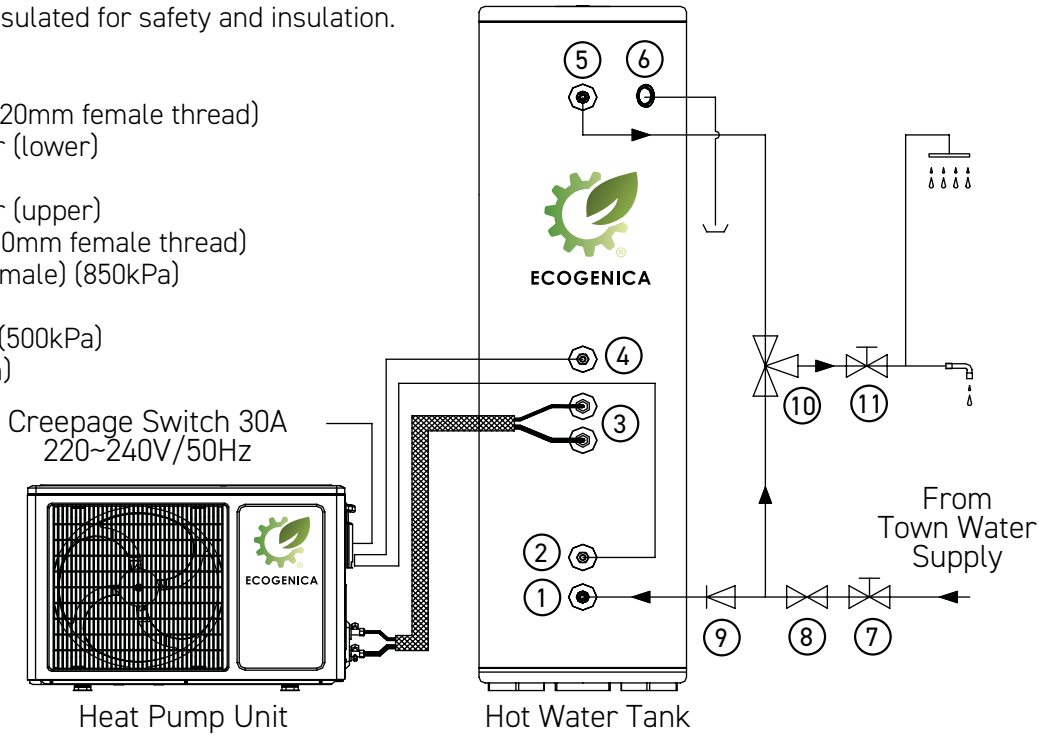
4.1 PIPING CONNECTIONS

Cold water inlet and hot water outlet are 3/4 inch (20mm) female connections.

The outlet of the PTR valve is a 3/4 inch (20 mm) female fitting.

All hot water pipes must be insulated for safety and insulation.

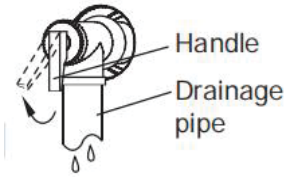
1 - Cold Water Supply Outlet (20mm female thread)
2 - Water Temperature Sensor (lower)
3 - Connecting Pipe
4 - Water Temperature Sensor (upper)
5 - Hot Water Supply Outlet (20mm female thread)
6 - PTR Relief Valve (15mm female) (850kPa)
7 - Isolation Valve
8 - Pressure Reduction Valve (500kPa)
9 - One-way Valve (non-return)
10 - Thermostatic Valve
11 - Isolation Valve



WARNING

During the use of the machine, the PTR Valve needs to be manually operated once a month. If there is water flowing out, it is considered that the PTR Valve is in mornal use. otherwise, the PTR Valve needs to be replaced (be careful of burns).

During the use of the machine, a small amount of water will leak out at the outlet of PTR Valve, which is normal, but drainage treatment must be done regardless.



CAUTIONS

- If the outdoor temperature is lower than 5 degrees Celsius during installation, insulation protection must be provided for hydraulic components (ie pipes).
- If the water inlet pressure is less than 200 kPa, a booster pump should be installed at the water inlet.
- To ensure the safe use of the water tank, when the water inlet pressure exceeds 500 kPa, a pressure reducing valve must be installed on the water inlet pipe.

WARNING

- **Do not disassemble the PTR valve.**
- **Do not block the condensate drain line.**

4 Installation: Typical Installation *(continued)*

4.2 HEAT PUMP UNIT INSTALL POSITION

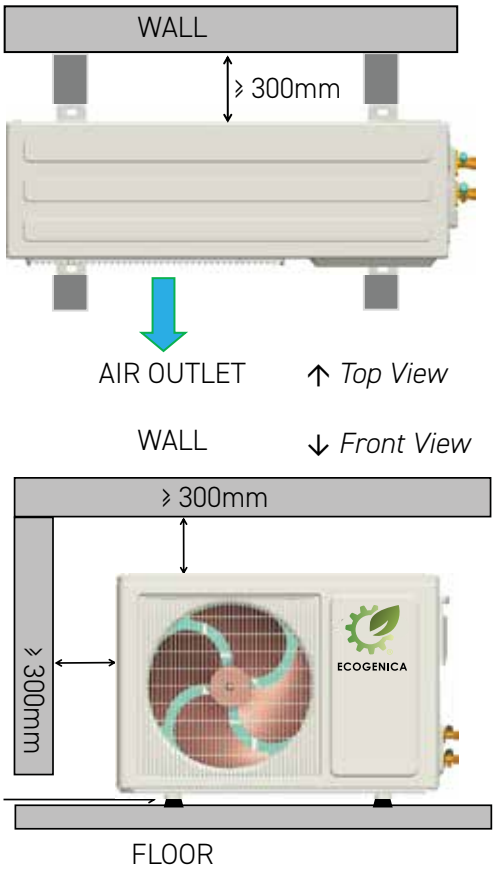
1. Place the device on a flat, firm surface capable of bearing three (3) times the weight of the device.

2. Install as per diagrams at right ensuring adequate air circulation. Do not pile up obstacles within 2m from the air outlet, as this will affect the smooth air circulation.
You should also avoid the windward direction.

3. If there is no special drainage pipe (sink), be sure to ensure that the condensed water flowing on the ground can be drained smoothly to avoid water pollution to the environment.
The Condensate Drain is located at the base of the heat pump and it must be directed away from building footings .

4. We recommend to keep children away from the heat pump.

5. The outdoor unit is to be installed with rubber shockproofing, and it is to be firmly fixed to studs, to avoid noise or fall off when the machine is running



4.3 WATER TANK INSTALL POSITION

1. The water storage tank must be placed upright on the ground, with a 10cm foot pad under it. The installation site must have a solid foundation and must be able to withstand a weight of more than 500kg.

2. The hot water is NOT to be hung on the wall.

3. Normally the water storage tank is installed outdoors, Permission from the manufacturer must be secured, in writing, for internal installations. Use a fixing bracket to secure the hot water heater. If exposed to extreme wind, use bolts and a brace to firmly prevent damage from extreme weather.

4. It's important to ensure that no air locks exist in the hot water line. When filling the water tank open the isolation inlet valve, make sure that a tap is open, within in the home, to ensure that water comes out of the tap at full capacity tank.

4.4 REFRIGERATION PRE-CHARGED COUPLING

According to the installation site, the distance between the water heater and the water storage tank should not be greater than the length of the connecting pipe (the standard length of the connecting pipe is 2 metres). The FR Series come standard with pre-charged 2 metre refrigeration lines for ease of Installation and to prevent leaks.

Remove the packaging and carefully lower the refrigeration lines towards the heat pump.

Connect the pre-charged refrigeration pipes using the (3/8" to1/4") quick connect adapter supplied with the unit (in the quickie kit). Guide the refrigeration line onto the female refrigeration quick connect adapter and tightly screw the male coupling to the female coupling until the diaphragm is pierced. The single one-shot coupling is folded back into the coupling providing a high flow path and low pressure drop for the refrigeration charge in the condenser pipe (located on the water tank) to combine with the heat pump charge. Once the couplings are connected a refrigeration charge in the condenser pipe is released into the heat pump and the fully charged heat pump is ready for plumbing connections.

4 Installation: Typical Installation *(continued)*

4.5 WATER SYSTEM INSTALLATION

For water pipeline installation, please refer to above diagram

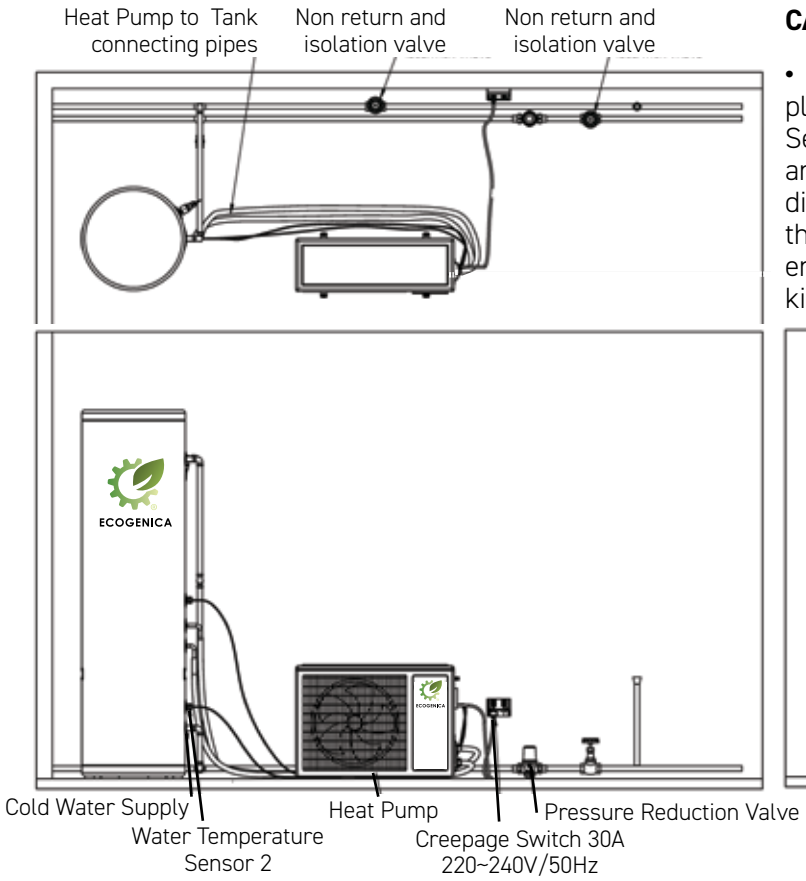
1. The selection of pipe materials, stainless steel pipes, copper pipes, hot water aluminum-plastic pipes, hot water PPR pipes, etc. can be selected in line with national health and safety standards. Pipes must be accurate, heat-resistant, rust-proof, and not easy to climb.

2. Install a one-way valve at the water inlet of the water tank as shown in the diagram below.

3. The connection between the water tank and the water pipe must be equipped with a shut-off valve or a removable joint for use in maintenance.

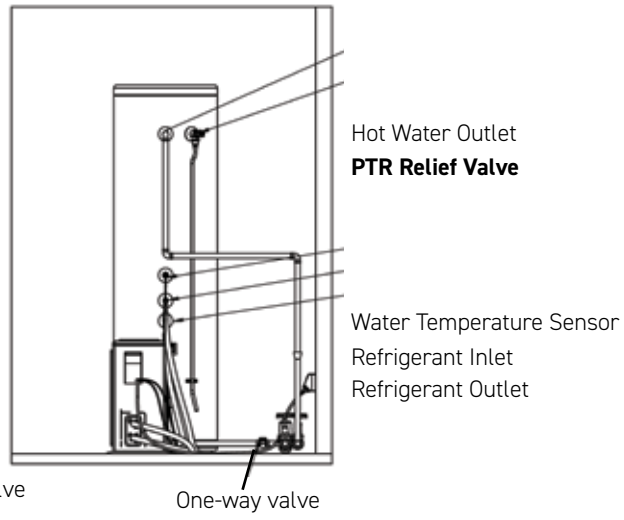
4. The arrangement of the water pipes is reasonable, and the bending is minimized to reduce the resistance of the water system.

5. For metal pipes, high-density flame-retardant PE sponge must be used for thermal insulation.



CAUTIONS

- All piping should be compliant to the Australian plumbing code and Standard AS/NZS 3500.4:2021, Section 2.5.2 Lagging must be applied to pipes and valves for at least the first 500 mm in all directions, including PTR drainpipes, for at least the first 500mm and it is best practice plumbing to ensure external hot water pipework to the primary kitchen sink is lagged.



Drains from the water heater must be directed away from the building, fall continuously, discharge water away from the operator during the operation of the valve, not pose a risk to people (AS/NZS 3500.4:2021) and be insulated for at least the first 500mm. PTR drains must use copper piping.

Lagging / Thermal Insulation

Required R value to be achieved will depend on where in Australia the system is located.

4 Installation: Typical Installation *(continued)*

4.6 ELECTRICAL CONNECTIONS

Electrical installation work may only be carried out by a licensed electrician in accordance with the relevant regulations on electrical safety and electrical wiring.

Follow the wiring rules for circuit breaker rating and PRZEWOD thickness.

The machine should use a special power supply, and the voltage should meet the rated voltage ±10%. The power supply circuit of the machine must have an e ffective ground wire, and the power ground wire must be reliably connected to the external ground wire.

Power cables and signal cables should be arranged neatly and reasonably. Strong and weak cables should be separated from each other, and they should not interfere with each other. Otherwise, the normal state of the display will be affected. Please arrange the power supply layout reasonably and avoid splicing wires.

Do not disconnect or disassemble the ground wire of the power supply under any circumstances.

Power Specification
220V~240V
Wire Diameter
2.3mm²
Switch
10A
Leakage Protector
30mA

Do not use damaged wires and switches, and replace them immediately if they are found to be damaged.

Timer activations to align with **Solar PV power** production can be organised by contacting your Eco Alliance service agent. Households do not have access to timer controls.

QUICK CONNECT INSTALLATION

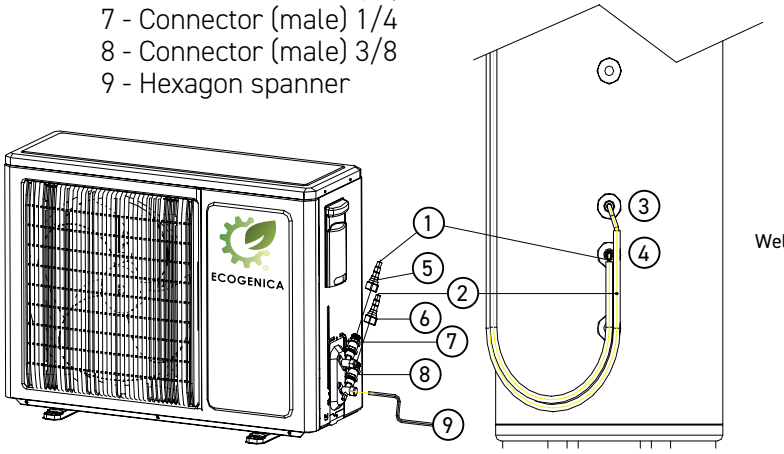
1 Copper tubes ③ ④ are already welded to the tank and filled with refrigerant.

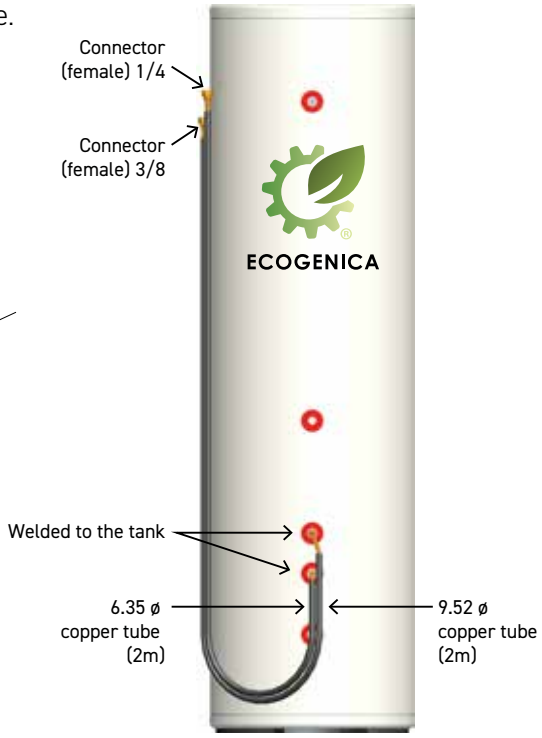
2 Please choose a correct position before connecting the copper tubes ③ ④ to condenser box.

3 Make sure the connector (male) is connected to the connector (female). Please use a hexagon spanner to open-up the refrigerant valve.

4 Please check and make sure there is no refrigerant leak.

1 and 2 - Cover
3 - 9.52 ø copper tube (2m)
4 - 6.35 ø copper tube (2m)
5 - Connector (female) 1/4
6 - Connector (female) 3/8
7 - Connector (male) 1/4
8 - Connector (male) 3/8
9 - Hexagon spanner





All-in-one Connection Models
260FR

The Ecogenica **EG-260FR** and **EG-260FRC** litre All in one Mains Pressure Heat Pump Hot Water Heater, offers a slim line design, with rapid hot water heating and exeptional energy efficentcy. This model does not contain an electric heating element.

This water heater is designed for direct connection to mains water supply. In case the mains supply pressure exceeds 500kPa, a pressure limiting valve must be installed. A minimum water supply pressure of 200kPa is required to assure the effective operation of this water heater.

5 Warning: Notice to Customer

The manufacturer's warranty does not cover any damage or defect caused by improper installation, attachment or use for any type of accessories (other than those listed in this user manual) with this water heater. The use of unauthorised energy saving devices may shorten the life of the water heater and may endanger life and cause property damage. The manufacturer disclaims any responsibility for such loss or injury resulting from the use of such unauthorised devices. Check council laws for specific rules in relation to location requirements for this appliance.

Warning: – If the hot water system is not in use for a number of weeks a quantity of hydrogen gas may accumulate in the Water Heatet. To dissipate the gas safely please turn on the hot water tap for several minutes to ensure that gas has been properly removed fro mthe water heater. As the air escapes sometimes sounds accure, this is normal.

5.1 TEMPERATURE LIMITING VALVE

Eco Alliance Pty Ltd requires the installation of a temperature limiting device between the water heater and the hot water outlets in a bathroom or similar usage point to reduce the risk of scalding.

Additionally, a certified plumber may have the legal obligation to ensure the water heater installation meets the hot water delivery requirements listed in AS/NZS3500.4

5.2 LOCATION REQUIREMENTS

Locate the water heater in a clean area as near as possible to the areas of the biggest hot water demand. Long uninsulated hot water lines can waste energy and water.

Note: Because this unit draws in ambient air to heat the water, when using the unit indoors, the room must be at least 3m x 3m x 2.5m (22.5m2) or larger and preferably vented. If the room is smaller, there must be a louvered door with minimum of 500cm2 venting area.

Place the water heater in such a way that clearance for proper servicing is considered, namely for top cover removal, PTR valve access and anode rod removal and installation. Remember you may need to remove the entire unit later for servicing.

The water heater and water lines should be protected from freezing temperatures and highly corrosive atmospheres. Locate the water heater in a clean area as near as possible to the areas of the biggest hot water demand. Long uninsulated hot water lines can waste energy and water.

IMPORTANT - INDOOR INSTALLATION APPROVALS: Because this unit draws in ambient air to heat the water, when using the unit indoors, you must contact the manufacturer and seek written approval to ensure that the proposed installation meets Australian Standards and has sufficient clean air to operate correctly.

Place the water heater in such a way that clearance for proper servicing is considered (→section 3.7) namely for top cover removal, PTR valve access and anode rod removal and installation. Remember you may need to remove the entire unit later for servicing. The water heater and water lines should be protected from freezing temperatures and highly corrosive atmospheres.

WARNING

This water heater SHOULD NOT be installed in an area with a corrosive atmosphere where chemicals or flammable liquids are stored or where aerosol propellants are released. When using outdoors, because of natural air movement in a room or other enclosed space, these corrosive/flammable vapours can be carried from where they are being used or stored. Any electric arc drawn within the water heater's electronic controls can ignite these vapours, causing an explosion or fire, which may result in severe burns or death to those in range as well as property damage.

CAUTION

The heater should not be in an area where leakage of the tank or connection will result in damage to the area adjacent to it or to lower floors of the structure. In places where installation in such areas cannot be avoided, it is recommended that a suitable catch pan which adequately drains, be installed under.

5 Warning: Notice to Customer *(continued)*

This installation must comply with the requirements of the AS/NZ3500.4 and AS/NZS3000 standards and all additional local codes and regulatory authority requirements.

In New Zealand, the installation must comply with the clause G12 of the New Zealand Building Code. All packaging materials must be removed from the water heater prior to its installation.

5.3 REQUIRED CLEARANCES

There must be a 30cm vertical clearance, a 20cm min clearance in front of the inlet/outlet grilles and 20cm clearance from the back of the appliance (where the drain is) to any object. This will ensure a proper air flow through the appliance and facilitate the service any time is needed.

5.4 APPLIANCE OPERATION

In case of possible direct exposure to strong wind, face the air outlet to the most protected area. The direct incidence of strong wind in the outlet grille during long periods may affect the performance of the heat pump increasing the heating times and the frequency of defrost cycles. The use of the noise reduction mode is not recommended in case of moderate or strong wind. Adjust the height to correctly align the appliance at the installation location.

To ensure the faultless operation, the unit must be installed vertically with a tilt no more than 1˚, preferably in the direction of the condensate drain to favour the condensates drainage.

WARNING:

Damage to external tank casing!
Do not tilt more than 20˚ without packaging.

WARNING:

All plumbing work must be carried out by a qualified professional and in accordance with the Plumbing Standards AS/NZS3500.4 & local authority requirements.

5.5 INLET-OUTLET CONNECTIONS

Installation of the water inlet or outlet pipes: The water inlet and outlet thread are ¾ BSP (internal thread). Pipes must be heat resistant, durable and UV resistant (when doing outdoor installation). Installation of the pipe for PTR valve: The specification of the valve thread is ½ BSP (internal thread). Note: one way valve must be installed at the inlet.

5.6 POWER REQUIREMENTS

Check the markings on the rating plate of the water heater to be certain the available power supply corresponds to the water heater requirements. The Heat Pump Water Heater must be directly connected to a 230V-240VAC 50Hz mains power supply.

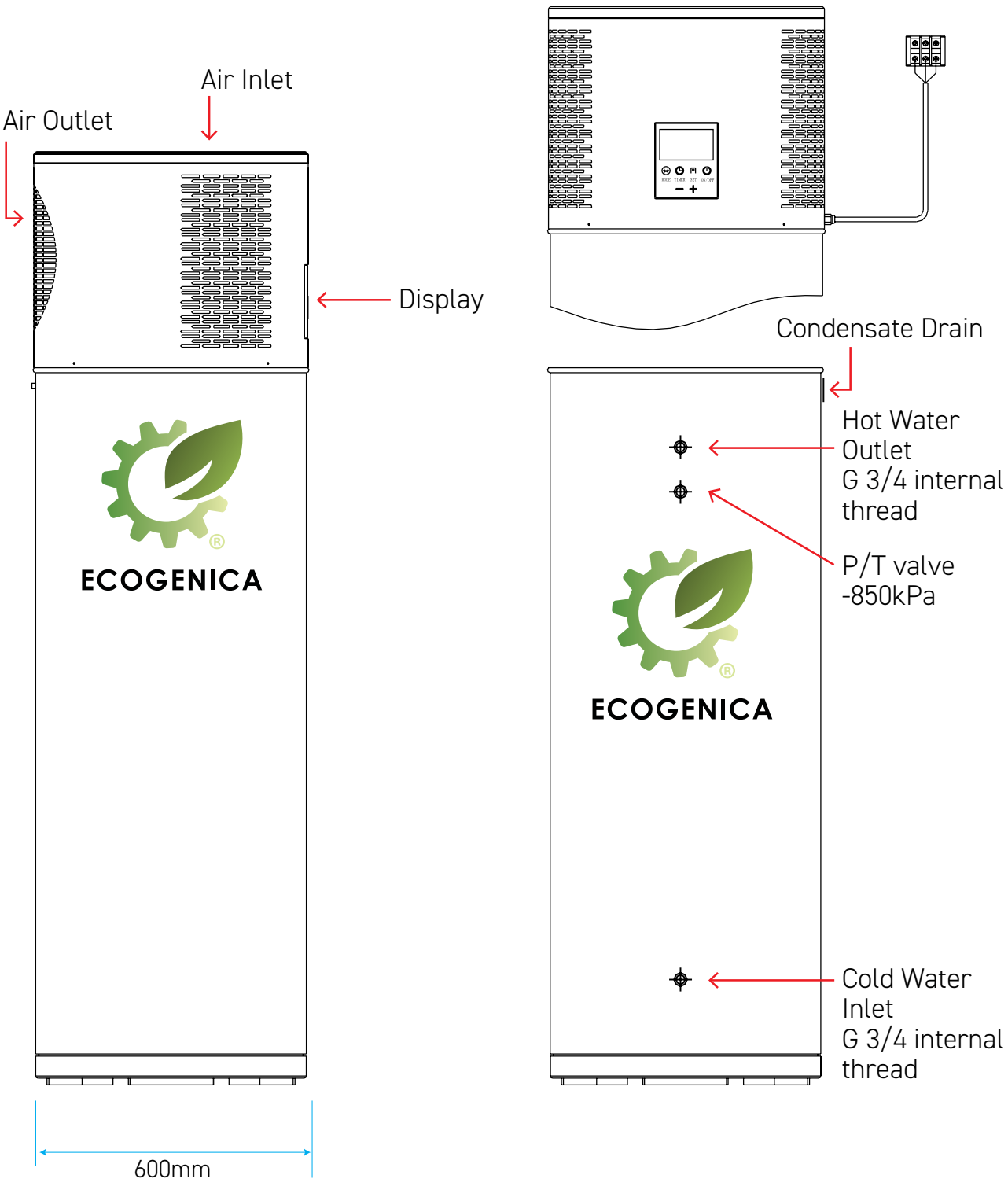
The water heater Heat Pump must be installed on separate individual circuits with a breaker switch installed directly at the switchboard.

The appliance must be powered for the first time during the purge procedure after the tank was filled with water.

5.7 SOLAR POWER

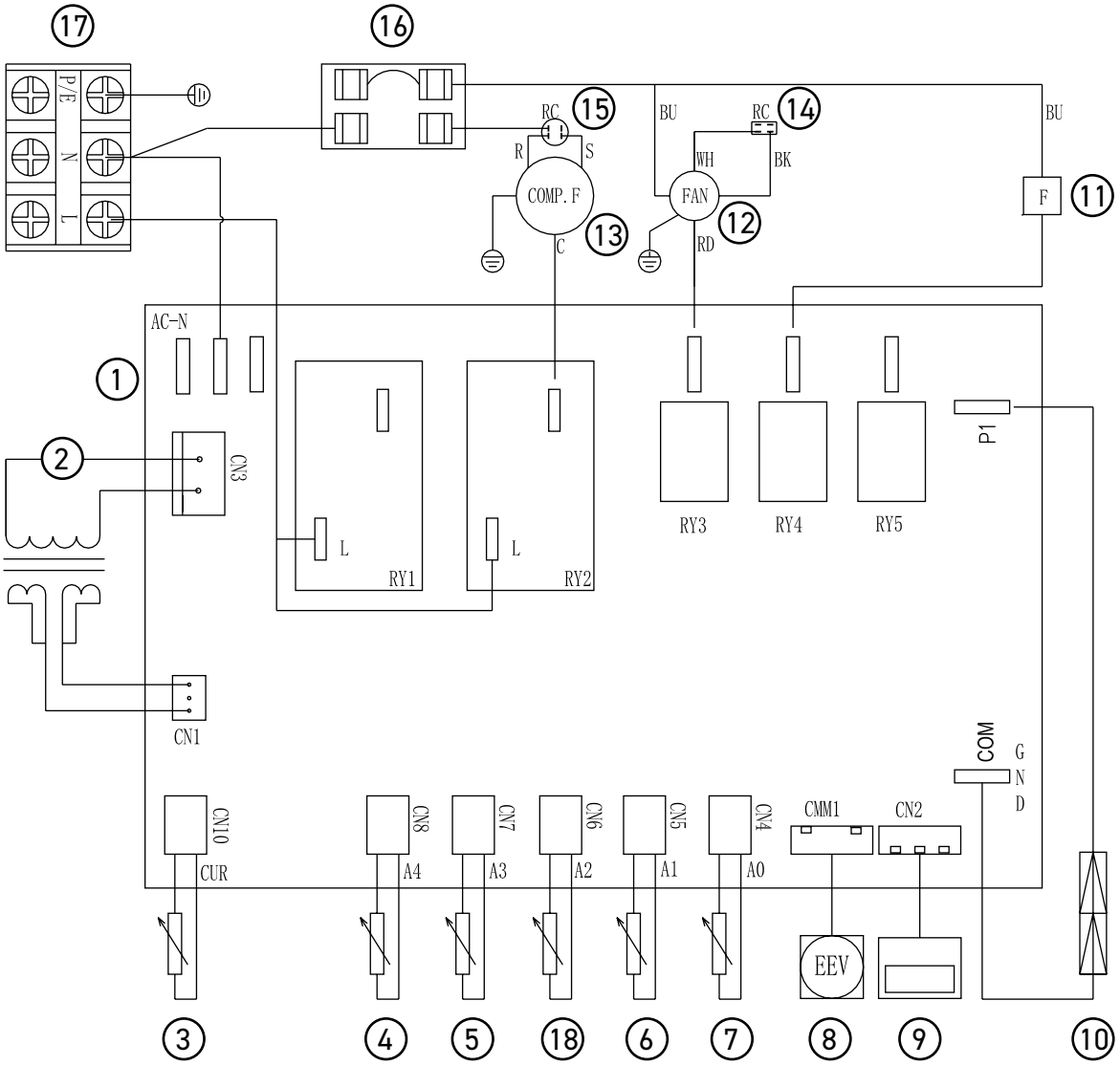
The Heat Pump also comes with a Solar activation timer. Solar Power must be provided to the inverter and switch board, as per local regulations and Solar installation Standards. The timer ensures that the Heat Pump operates between daylight hours, to align with Solar Power production. Users of the Heat Pump should use the Application to engage Solar timer activation, or disengage the timer, if Solar Power isn't available, during rainy, or Winter Months, for example. For instruction on Solar Timer Activation see the Ecogenica website or contact Ecogenica directly.

6 Connections



Tank and Heat Pump (included at top of tank) 260FR

7 Wiring Diagram



1 - Integrated Circuit Board
2 - Transformer
3 - Exhaust Temperature Sensor
4 - Gas Recovery Temperature Sensor
5 - Coiler Temperature Sensor
5 - Water Tank Temperature Sensor T1
7 - Ambient Temperature Sensor
8 - Electronic Expansion Valve
9 - Display
10 - High Pressure Switch
11 - Four-way Reversing Valve
12 - Motor
13 - Compressor
14 - Motor Capacitance
15 - Compressor Startup Capacitor
16 - Connection Terminal Station
17 - Connection Terminal Station
18 - (Not in use)

8 Installation: Typical Installation

8.1 PIPING CONNECTIONS

Installation of the water inlet or outlet pipes:

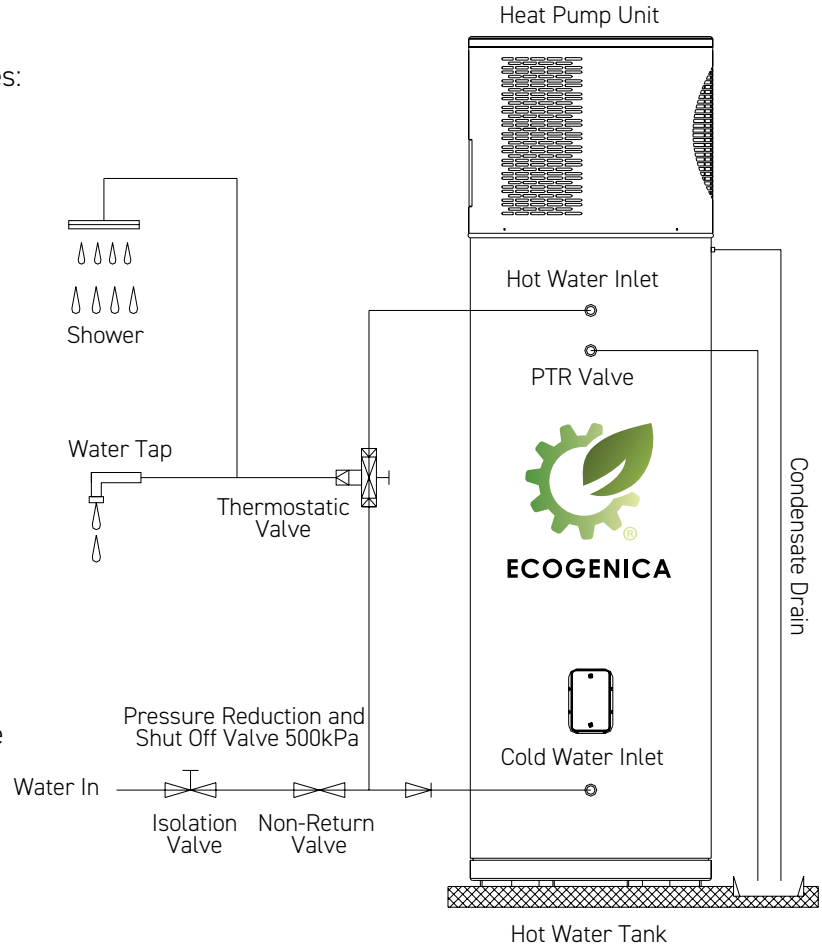
The water inlet and outlet thread are 3/4 BSP (internal thread). Pipes must be heat resistant, durable and UV resistant (when doing outdoor installation).

Installation of the pipe for PTR valve: The specification of the valve thread is ½ BSP (internal thread)

Note: one way valve must be installed at the inlet.

All pipe work should be insulated with proper insulating material (weatherproof and UV resistant if exposed) to optimise energy efficiency.

To ensure the faultless operation, the unit must be installed vertically with a tilt no more than 1˚, preferably in the direction of the condensate drain in order to favour the condensates drainage.



WARNING

Damage to external tank casing!
Do not tilt more than 20˚ without packaging

All plumbing work must be carried out by a qualified professional and in accordance with the Plumbing Standards AS/NZS3500.4 & local authority requirements.

Care should be taken not to touch the pipe work as it may be hot

CAUTIONS

The temperature and pressure-relive valve must be installed according to local code. Not doing so will cause damage to the appliance and to other property.

The function if the temperature and pressure relief valve once installed on this water heater is to discharge high conditions. Therefore, it is strongly recommended that the pipe work connected to the relief valve is able to withstand water temperatures exceeding 99˚C. Failure to follow this recommendation may result in a dangerous situation.

WARNING

Never block or seal the outlet of the PTR valve or its drain for any reason.

The warranty will be void if the relief vale or other safety devices are tampered with or if the installation is not in accordance with this manual.

8 Installation: Typical Installation *(continued)*

8.2 DIELECTRIC JOINT

Different metals between plumbing and tank materials and additionally the effect of hot water can cause the corrosion of one of the metals (generally the one in the tank is the metal attacked).

The dielectric joint will basically avoid any physical contact between the two metals, acting as an effective insulator and prevent this attack. How quickly this, or it at all, happens, depends a lot on the content of your water. It's pH, the dissolved minerals and the metals involved.

8.3 CONDENSATE DRAIN TUBES

This unit has an integrated condensation tray. The water collected in the tray drains out of the tube coming off the back of the unit. It is important that a hose is attached to drain port at the back of the unit.

Direct the other end to a drain in the floor no higher than 8cm above the ground in an outdoor installation. If such drain is unavailable, a condensate drain pump (not provided) with a capacity no less than 4 litres per day must be purchased and installed.

8.4 THERMAL EXPANSION TANK

Thermal expansion is a natural process where heated water increases its volume. When this water is stored in a tank, this volume increase will in fact mean a pressure increase. This pressure increase can result in a dangerous situation. If the safety settings on the relief valve are reached, then the relief valve will operate during the heating cycle. Reaching the relief valve nominal values, can cause premature valve failure and contribute to increase components stress. Eco Alliance Pty Ltd therefore recommends the installation of an expansion tank in order to relieve this over-pressure, avoiding repeated relief valve operation.

Please contact a licensed professional, water supplier or plumbing inspector for information about this subject.

8.5 PTR Valve

A temperature and pressure relief valve is supplied and must be installed in the tank port marked for thin purpose. No valve or accessory of any type should be installed between the relief valve and the tank. Please observe local codes for the correct installation of relief valves.

The kW rating of the relief valve must be higher than 6kW to ensure that is always above the maximum output power of the water heater when operating with both electrical heater and heat pump and air at 40˚c. The supplied PTR valve complies with this by having a power capacity of 10kW.

Connect the outlet of the relief valve to a suitable open drain so that the discharge water cannot contact any electrical parts, persons or animals and to eliminate any other possible risks.

Always use a valve of the same rated pressure and temperature as the PTR valve supplied with the unit.

WARNING

The pressure rating of the relief valve must not exceed 1000kPa, the maximum working pressure of the water heater as marked on the rating plate.

Relief valve easing gear should be operated AT LEAST ONCE EVERY SIX MONTHS.
If water does not discharge freely when the lever is operated, the valve should be checked by an authorised agent.

The relief valve and relief valve drain pipe must not be sealed or blocked. Small amounts of water may leak from relieve valve during heating cycles.

8 Installation: Typical Installation *(continued)*

8.6 TEMPERATURE MIXING DEVICE

Eco Alliance Pty Ltd recommends the installation of a temperature limiting device between the water heater and the hot water outlets in a bathroom or similar usage point in order to reduce the risk of scalding.

8.7 PRESSURE LIMITING VALVE

This water heater is designed for direct connection to mains water supply. In case the mains supply pressure exceeds 800kPa, a pressure limiting valve must be installed.

A minimum water supply pressure of 200kPa is required to assure the effective operation of this water heater. In installations where the mains water supply pressure exceeds that specified for this product, an approved pressure limiting valve is required and must be fitted. If the water is supplied with low pressure water, below the minimum working pressure for this product, then a pressure pump should be installed in order to minimise the forming of air traps in the hydraulic circuit.

8.8 EXPANSION CONTROL VALVE

A saturation index greater than +0.4 or in corrosive water areas where there are sufficient quantities of silica dissolved in the water may require the installation of an expansion control valve (ECV) in the cold water line, being the last valve installed prior to the water heater.

8.9 ELECTRIC REQUIREMENTS

Check the markings on the rating plate of the water heater to be certain the available power supply corresponds to the water heater requirements.

This water heater must be directly connected to a 230V-240VAC 50Hz mains power supply. When connected off grid, please make sure the 230V-240VAC 50Hz true sine wave power supply is available.

Do not connect to inverters providing square sine waves.

The water heater must be installed on its own circuit with a breaker switch installed directly at the switchboard.

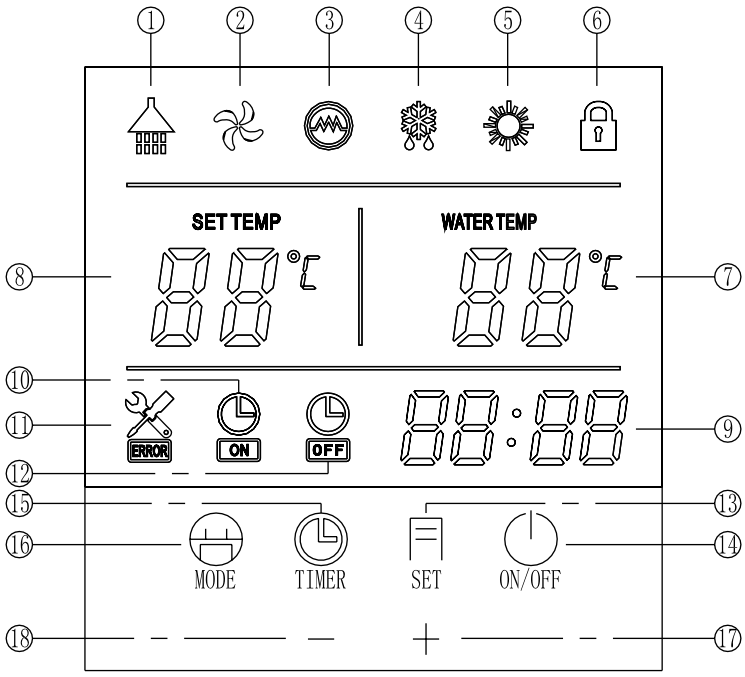
To ensure the faultless operation, the unit must be installed vertically with a tilt no more than 1°, preferably in the direction of the condensate drain in order to favour the condensates drainage.

The appliance must be power for the first time during the purge procedure after the tank was filled with water

⚠ Warning

Proper ground connection is essential. The presence of water in the piping and water heater does not provide sufficient conduction for a ground. Nonmetallic piping, dielectric unions, flexible connectors etc, can cause the water heater to be electrically isolated.

9 System Operation



9.1 DISPLAY

1 - **Disinfection:** When the unit is in disinfection mode, the Disinfection icon will be displayed on screen.

2 - **Motor fan:** Feature not required.

3 - **E-heater:** Feature not required.

4 - **Defrosting:** When the device enters the defrost state, the defrost icon will be displayed on the screen.

5 - **Heating water:** When the machine is turned on, the icon of heating water will be displayed on the screen.

6 - **Controller locked:** When the machine is turned on, the icon will be displayed on the screen for child protection. Press start 4 times to disengage.

7 - **Sensor:** The icon will display on the screen water temperature at the mid point sensor.

8 - **Water temperature setting.** When the control panel will display the current required temperature at the mid-point sensor; when setting the required temperature, the water temperature will change accordingly.

9 - **Clock:** The clock will be displayed all the time. When in clock setting mode, the clock will show the setting time, outside of this mode the clock will display the current set time.

10 - **Time on:** If a TIME ON timer has been set, the TIME ON icon will be displayed on screen.

11 - **Alarm lamp:** If the device fails, the alarm indicator lamp will display;

12 - **Time off:** If a TIME OFF timer has been set, the TIME OFF icon will be displayed on screen.

13 - **Set key:** Change the required operating parameters ;Query running parameters;

14 - **Turning the unit ON:** Make sure the water tank is full of water before starting the machine. To turn on the unit, unlock the control panel and press and hold the on / off button for 3 seconds.

Turning the unit OFF: To turn off the unit, unlock the control panel and press and hold the on / off button for 3 seconds.

15 - **Setting the TIME ON Timer:** If the timer is set to time on, the unit will automatically run once between the clock setting and the last 24 hours.

16 - **Start the electric heating mode;** Not required in this model.

17 - **Increase:** To raise the temperature, unlock the control panel and continue pressing the "+" button. Set the clock. To increase the time, press the "+" button. When querying parameters, enter the query function, and press the "+" key to view various operating parameters. When setting parameters, enter the setting function, and press the "+" key to view various setting parameters.

18 - **Decrease:** To reduce the temperature, unlock the control panel and continue to press the "-" button. Set the clock. To shorten the time, press the "-" button. When querying parameters, enter the query function, and press the "-" key to view various operating parameters. When setting parameters, enter the setting function, and press the "-" key to view various setting parameters.

9.2 BUTTON COMBINATION FUNCTIONS

13+15 Press simultaneously:
Forced defrost mode:
Press and hold the key combination for 5 seconds to enter the forced defrosting mode.

13+16 Press simultaneously:
Reset parameters:
In the shutdown state, press the combination key for 3 seconds to reset the parameters. The reset is successful, and the buzzer rings for 2 times;

10 System Trouble Shooting

10.1 TROUBLE SHOOTING

DISPLAY	DESCRIPTION	SOLUTION
E1	Protection of high pressure switch	Switch off power and reconnect. If this fault occurs frequently, please contact the authorised contractor
E3	Electric overheating protection	Water tank is short of water or protection fails please contact the authorised contractor
E7	Compressor exhaust temperature high temperature protection	During heating operation, when the ambient temperature is higher than>35 ˚ c. Compressor exhaust temperature is greater than 115 ˚ C hours The pump host will automatically shut down for protection. The operation panel displays E7. When the compressor exhaust temperature is lower than 95 ˚ c. The water tank is restored.
E8	Communication failure	The communication line is disconnected or the display screen is damaged.
P1	Water tank temperature sensing fault	Notify authorised contractor.
P3	Evaporator temperature sensor error	Notify authorised contractor.
P4	Compressor suction temperature sensor error	Notify authorised contractor.
P5	Ambient temperature sensor error	Notify authorised contractor.
P7	Compressor discharge temperature sensor error	Notify authorised contractor.

NOTE
The diagnostic codes listed above are the most common.
If a diagnostic code not listed above is displayed, please contact for technical assistance.

11 System Maintenance

Before Cleaning

After Cleaning

11.1 CLEANING

The heating effect depends on whether there is dust, mud or other on the surface of the evaporator. Sundries block the air inlet channel and lose the effect of heat exchange with the air, resulting in heating efficiency.

Customers are required to ensure that the heat pump remains clean and free from debris.

11.2 CHECK THE ANODE

It's essential to replace the anode, when necessary, as the anode is installed in your water heater to protect the cylinder, but it will slowly wear out over time. It is recommended that you replace the anode during a five-year service, or before if you have poor water quality in your area, the maximin time between replacement is 8 years. Poor water quality occurs when water supplies that are either softened, desalinated, or where the water supply alternates between a water tank and a public supply or another source.

Typically, a magnesium anode is fitted as the standard option. During anode replacement the correct selection of the anode is crucial to maintain the warranty on the water heater cylinder.

- Turn off the heat pump unit (disconnect the power supply directly)
- Turn off the stop valve ① and turn on the stop valve ⑤ and faucet to drain the tank
- Locate the anode position and unscrew the anode cover
- Use an Allen wrench to loosen
- Check the consumption of the anode, if it is used up, it needs to be replaced immediately, so as not to affect the quality of the water
- To restore the state of use, be sure to fill up the water first and observe whether there is any leakage
- Turn on the power, turn on the heat pump to heat the water to the termination temperature, and then observe whethe there is any leakage here, before leaving.

11 System Maintenance *(continued)*

11.3 PTR MAINTENANCE

Periodic operation of the valve is recommended to ensure smooth water flow.

If the water does not flow freely, change valve.

In order to avoid the expansion and deformation of the water tank due to excessive pressure, the service life of the water tank will be affected.

- Find the position of the valve
- Carefully release the valve with the lever to release some water from the tank.

Note: Please use the water discharged from the container to avoid damage to other items

- If the water is flowing, the valve is still in proper working order
- If the water does not flow freely, the valve is out of function and needs to be replaced
- If the valve needs to be replaced, please contact your plumber or our service team for further assistance.

11.4 CHECK

Please check the machine regularly for any damage, if there is obvious damage, please contact our maintenance team. In some cold areas (below zero degrees Celsius), if the system stops working for a long time, all the water in the water tank should be released and re-installed in the water tank.

Reuse before filling with water to prevent the inner box from freezing.

Failure to do so may cause the machine to malfunction and, in severe cases, damage.

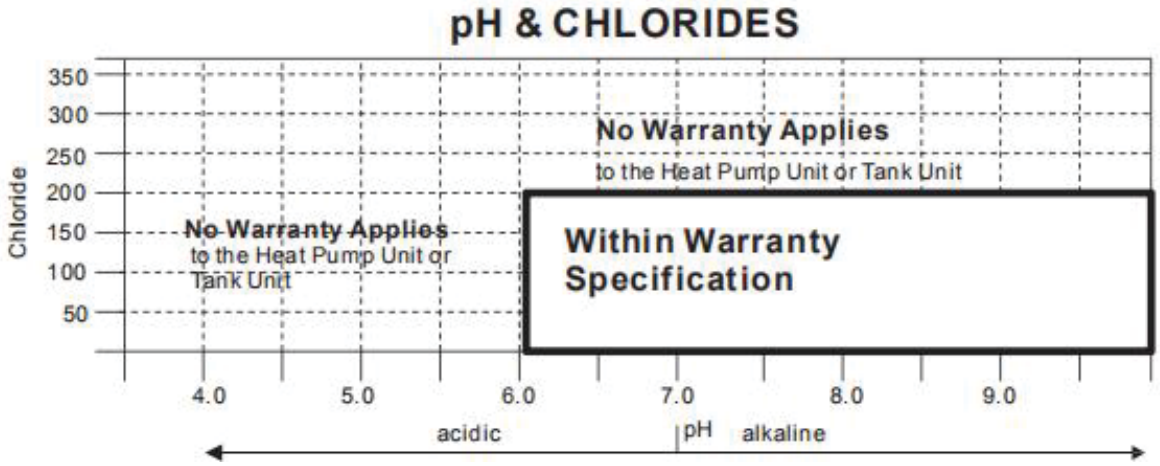
11.5 WATER QUALITY REQUIREMENTS FOR WATER SUPPLY (chloride and pH) **! IMPORTANT !**

In areas of water supplies with high chloride levels, water can corrode certain parts, causing them to fail.
It is not suitable for heat pump units and storage tank units if the chloride content exceeds 200 mg/l.
pH is a measure of whether water is alkaline or acidic.

Heat pump units and hot water tank units with a Ph value less than 6.0 are not guaranteed.

The water supply to rainwater storage tanks within urban agglomerations can be corrosive due to the dissolution of atmospheric pollutants.

Water with a pH value of less than 6.0 can be treated to increase the pH value, so it is recommended to analyze the quality of tap water before connecting to this type of water supply system.



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11 Warranty:

Disclaimer: Our Heat Pump units may require a technician to sign off on installations,as well as any other regulations,across different jurisdictions.Please seek the correct guidance on how to proceed when installing the units ordered to best meet the regulations and all states.

11.1 WARRANTY POLICY WARRANTY CONDITIONS

1. Warranty for Eco Genica
   a. Warranty Period: 7 years on the tank. 5 years on the compressor. 2 years service warranty.

2. The ECOGENICA Heat Pump Water Heater System must be installed in accordance with the installation instructions supplied with the Heat Pump Water Heater System, and in accordance with all relevant statutory/ local requirements of the state/province/municipality in which the water heater is installed.

3. Where a failed component or Heat Pump Water Heater System is replaced under warranty, the balance of the original warranty period will remain effective. The replaced part or Heat Pump Water Heater System does not carry a new warranty.

4. Where the Heat Pump Water Heater System is installed in a position that does not allow safe, ready access, the cost of accessing the site safely, including the cost of additional materials handling and/or safety equipment, shall be the owner's responsibility.

5. The warranty only applies to the Heat Pump Water Heater System and original or genuine (company) component replacement parts and therefore does not cover any plumbing or electrical parts supplied by the installer and not an integral part of the Heat Pump Water Heater System. Such parts would include pressure regulating valve, isolation valves, check valves, electrical switches, pumps or fuses.

6. The Heat Pump Water Heater System must be sized to supply the hot water demand in accordance with the guidelines in the ECOGENICA Heat Pump Water Heater System Literature.

7. This warranty is for parts only, any and all labor costs associated with diagnosis, removal of the faulty part and installation of replacement parts will solely be the owner's responsibility.

11.2 WARRANTY EXCLUSIONS

1. Repair and replacement work will be carried out as set out in the ECOGENICA Heat Pump Water Heater System warranty. However the following exclusions may void the warranty and may incur additional service charges and/or cost of parts.

2. Accidental damage to the Heat Pump Water Heater System or any component, including:Acts of God, failure due to misuse, incorrect installation, attempts to repair the water heater other than by an ECOGENICA accredited service agent or the ECOGENICA service department.

3. Where it is found there is nothing wrong with the Heat Pump Water Heater System; where the complaint is related to excessive discharge from the temperature and/or the pressure relief valve due to high water pressure; where there is no flow if hot water due to faulty plumbing; where water leaked are related to plumbing and not the Heat Pump Water Heater System or its components; where there is a failure of electricity or water supplies; where the supply of electricity or water does not comply with relevant codes or acts.

4. Where the Heat Pump Water Heater System or its component has failed directly or indirectly as a result of excessive water pressure.

5. Overflow vent drain has not been installed or blocked or corroded.

6. Where the Heat Pump has rusted as a result of a corrosive atmosphere.

7. Where the unit fails to operate or fails as a result of ice formation in the piping to or from the Heat Pump Water Heater System.

8. Where the Heat Pump Water Heater System is located in a position that does not comply with the Heat Pump Water Heater System installation instructions or relevant statutory requirements,causing the need for major dismantling or removal of cupboards,doors or walls,or use of special equipment to bring the Heat Pump Water Heater System to floor or ground level or to a serviceable position

9. Repair and / or replacement of the Heat Pump Water Heater System due to scale formation above 200ppm (water hardness) in the waterways or the effects of either corrosive water or water with a high chloride or low PH level when the water heater.

Water heating is the largest single source of green house emissionsaccounting for almosta quarter of householdenergy use.

Your new Ecogenica Quick Series Heat Pump uses a small amount of energy to move heat from one location to another. Heat is absorbed by ozone-friendly R290, a natural refrigerant **which does not contribute to global warming.**

We support the Australian Government in its commitment to transforming our energy supply system into one that is cheap, clean and reliable.
This lays the foundation for future generations to enjoy more secure, reliable and affordable energy.

You can choose an Ecogenica product safe in the knowledge that our innovative technology is focused on energy AND environment savings. Our hot water pumps are CFC free and utilise renewable energy, extracted from the air.

26400

ECOGENICA – A smart choice for the environment + a smart choice for you

Any concerns? Contact us:
CALL: **1300 341 010**
VISIT: ecoalliance.com.au
6 Braeside Drive, Braeside, Vic, 3195 Australia

ECOGENICA