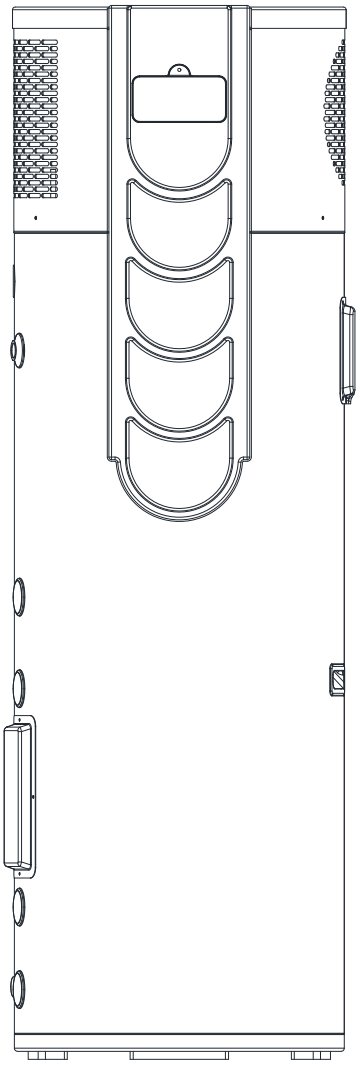
Neopower®

Installation & Operation Manual

All-in-One Heat Pump Water Heater

Model: NA37-315A



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1. SAFETY PRECAUTIONS

Before attempting to install this unit please ensure you have read the safety precautions and fully understand them. This product must only be installed by qualified persons in the Plumbing and Electrical Trades industry.

1.1 Installation and Safety Instructions

1.1.1 Installation and Service Requirements:

- The appliance must be installed, commissioned, and serviced by an authorized professional.
- Adhere to the following applicable standards:
  - **AS/NZS 3500.4**: Plumbing and drainage - Heated water services
  - **AS/NZS 3000**: Electrical installation
  - **AS/NZS 2712.2007**: Solar and Heat Pump Water Heaters - Design and Construction
  - **AS/NZS 3498:2009**: Water heaters and hot-water storage tanks
  - Ensure the power cord complies with **AS/NZS 3191**. It should have a cross-sectional area of 1.5 mm² or more, and handle at least 10A (2 core and earth).
  - Follow **Plumbing Regulations 2008**.
- In cases where these instructions conflict with local regulations, prioritize local regulations.

1.1.2 Safety Warnings:

- **Important:** For ongoing safety, the appliance must be installed, operated, and maintained according to the manufacturer's instructions.

- **Temperature Warning:** The appliance is capable of delivering water at high temperatures. Refer to the Plumbing Code of Australia (PCA), local requirements, and installation instructions to determine if additional temperature control measures are necessary.
- **Electrical Safety:** Ensure household electrics have a reliable earth connection.

1.1.3 Electrical Protection:

- **Residual Current Device (RCD):** The product must be protected by an RCD of adequate rating.
- **Electrical Connection:** Use a 10A RCD/MCB or RCBO with a test button function for the electrical connection.

1.1.4 Instructions and Labels:

- Do not remove or alter any permanent instructions, labels, or warning plates on the heat pump's external cover.

1.1.5 Installation and Maintenance:

- **Qualified Personnel:** Installation must be carried out by qualified plumbing and electrical professionals.
- **Local Wiring Regulations:** Always comply with local wiring regulations.
- **Maintenance and Repairs:** Only trained and qualified personnel should perform maintenance and repair work.

1.1.6 Power Connection:

- The Neo Power Heat Pump comes with a 10 Amp plug and cord for connection to a weatherproof power outlet.

1.1.7 Water Supply:

- Install a one-way isolating valve on the cold water supply pipe for maintenance purposes.

1.1.8 Safety and Usage:

- **Children:** The appliance should not be used by children.
- **Damaged Power Supply Cord:** If the power cord is damaged, it must be replaced by the manufacturer, service agent, or qualified personnel to prevent hazards.
- **Operating Environment:** Do not operate the heat pump in wet rooms like bathrooms, unless it is housed in a separate cupboard within that room.

NEVER OPERATE THIS UNIT IF THERE IS NO WATER IN THE TANK. THIS WILL RESULT IN POSSIBLE DAMAGE TO THE HEAT PUMP.

1.2 R290 Refrigerant Gas Warning

Refrigerant and Safety Instructions

1.2.1 Refrigerant Information:

- This appliance uses R290 (propane) refrigerant, which is flammable. It must be serviced by authorized professional.

1.2.2 Fire and Flammability Risks:

- **Warning:** Risk of fire due to flammable material. If a refrigerant leak is detected, immediately switch off the unit at the mains and contact a service agent.
- **Storage:** Do not store chemicals or flammable materials near this appliance.
- **Flammable Sprays:** Never use flammable sprays (e.g., hair spray, paint) near the unit as they can pose a fire hazard.

1.2.3 Handling Refrigerant Leaks:

- If you suspect a refrigerant leak:
- Do not smoke.
- Avoid operating electrical equipment.
- Isolate the device immediately.

1.2.4 End-of-Life Refrigerant Management:

- When recycling at the end of life, ensure refrigerant does not enter the atmosphere. Only have it removed by a qualified refrigeration professional with a mechanical refrigeration license.

1.2.5 Installation Conditions:

- **External Installation:** The heat pump is designed for external installation only.
- **Internal Installation Requirements:** If installed internally or in an unventilated room, ensure the following parameters are met to prevent fire or explosion hazards:
- **Minimum Floor Area:** 45 m^3
- This is based on a refrigerant charge of 0.350 kg and the allowable practical limit for R290 of 0.008 kg/m^3.

2. GENERAL INFORMATION

2.1. Features

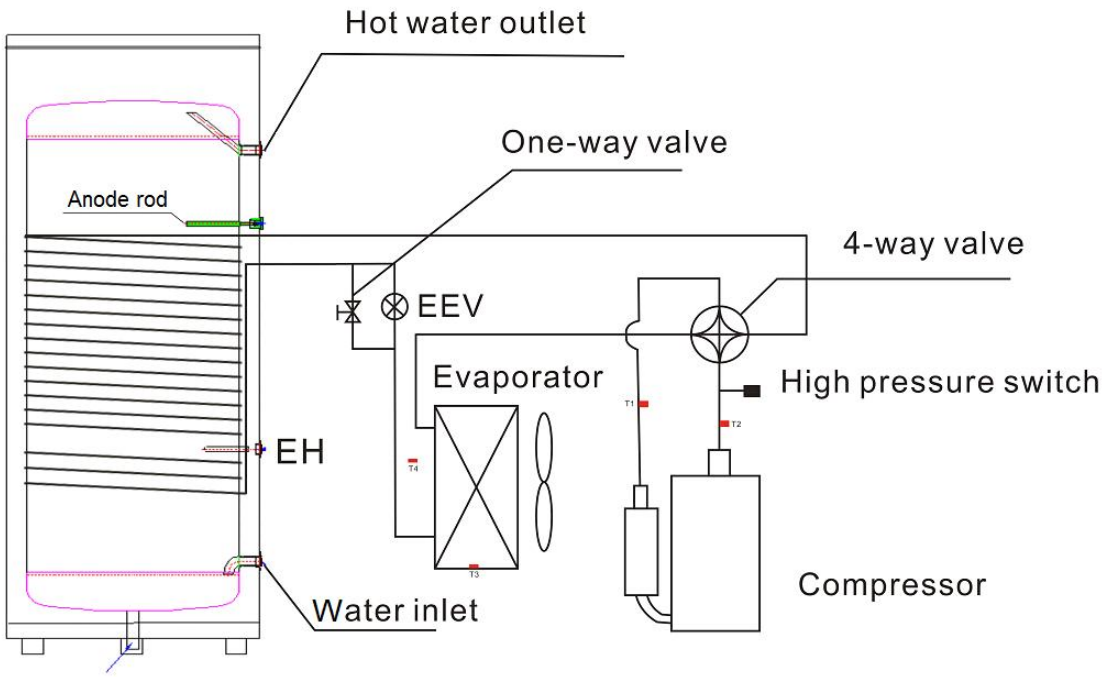
- All in one Heat Pump Hot Water:
- Quality built enamel water cylinder
- Quality highly efficiency micro-channel heat exchanger wrapped in close contact for thermal conductivity

- No contact between the refrigerant piping and the water for additional safety.

Temperature Guidelines

- **Maximum Outlet Water Temperature:** The maximum temperature of the water outlet can reach 70°C when using both the heat pump and an auxiliary heating element.
- **Recommended Heat Pump Setting:** For optimal efficiency when using the heat pump alone, it is recommended to set the hot water temperature limit to 55°C.

2.2.Refrigerant circuit

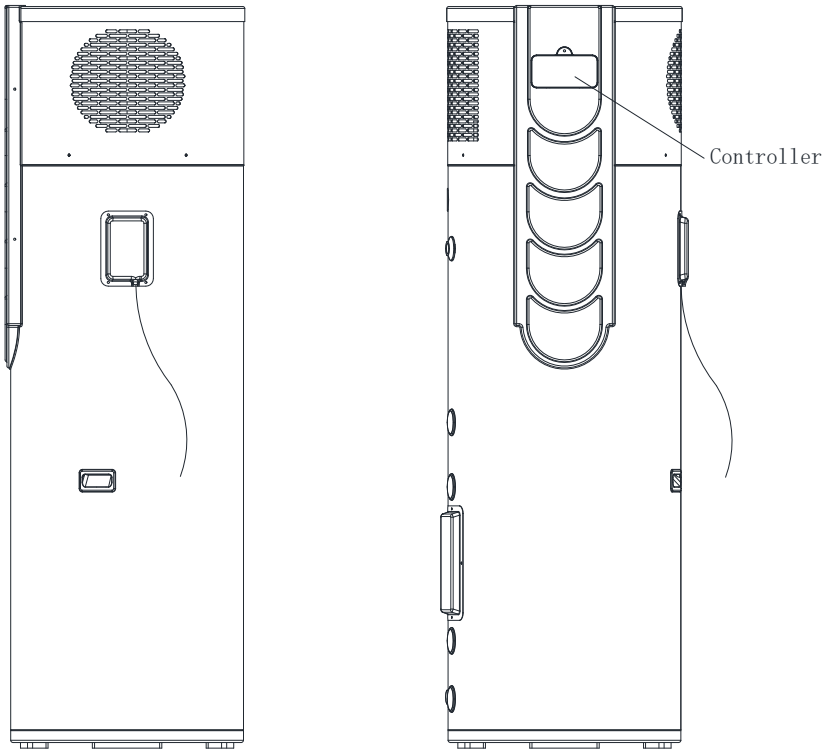


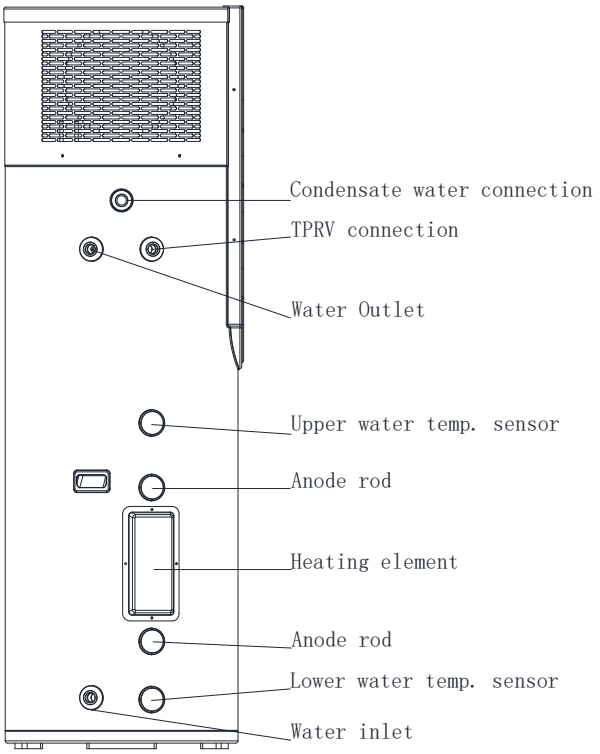
- Compressor: GMCC - R290
- Evaporator: Copper tube and aluminum fin type heat ex-changer.
- Fan: Axial type;
- Tank: Enamel water tank
- Heat exchanger: Micro-channel wrap around water tank with high efficiency.
- Controller: Touch screen

2.3.Specifications

Model No.	**NA37-315A**
Heating Capacity at Air 20°C /15°C, Water Temperature from 15°C to 55°C	
Heating Capacity(kW)	2.9
Power Input(kW)	0.67
COP	4.33
Power Supply	220V~240V/50Hz
Heat Pump Max Power Input (W)	1050
Heat Pump Max Current (A)	5
Electric Heater (W)-Maximum	1500
Electric Heater Current(A)-Maximum	8
Refrigerant	R290/400g
Net Dimension(mm)	Φ626×1979
Package Dimension(mm)	700×700×2119 (with pallet)
Net Weight(Kg)	127
Gross Weight(Kg)	147
Noise(dB)	42
Water tank volume (L)	315
Working temperature range(°C)	-7~43
Max Cold Water Supply Pressure	550Kpa
Recommended PLV pressure rating	550Kpa

3. PARTS AND COMPONENTS

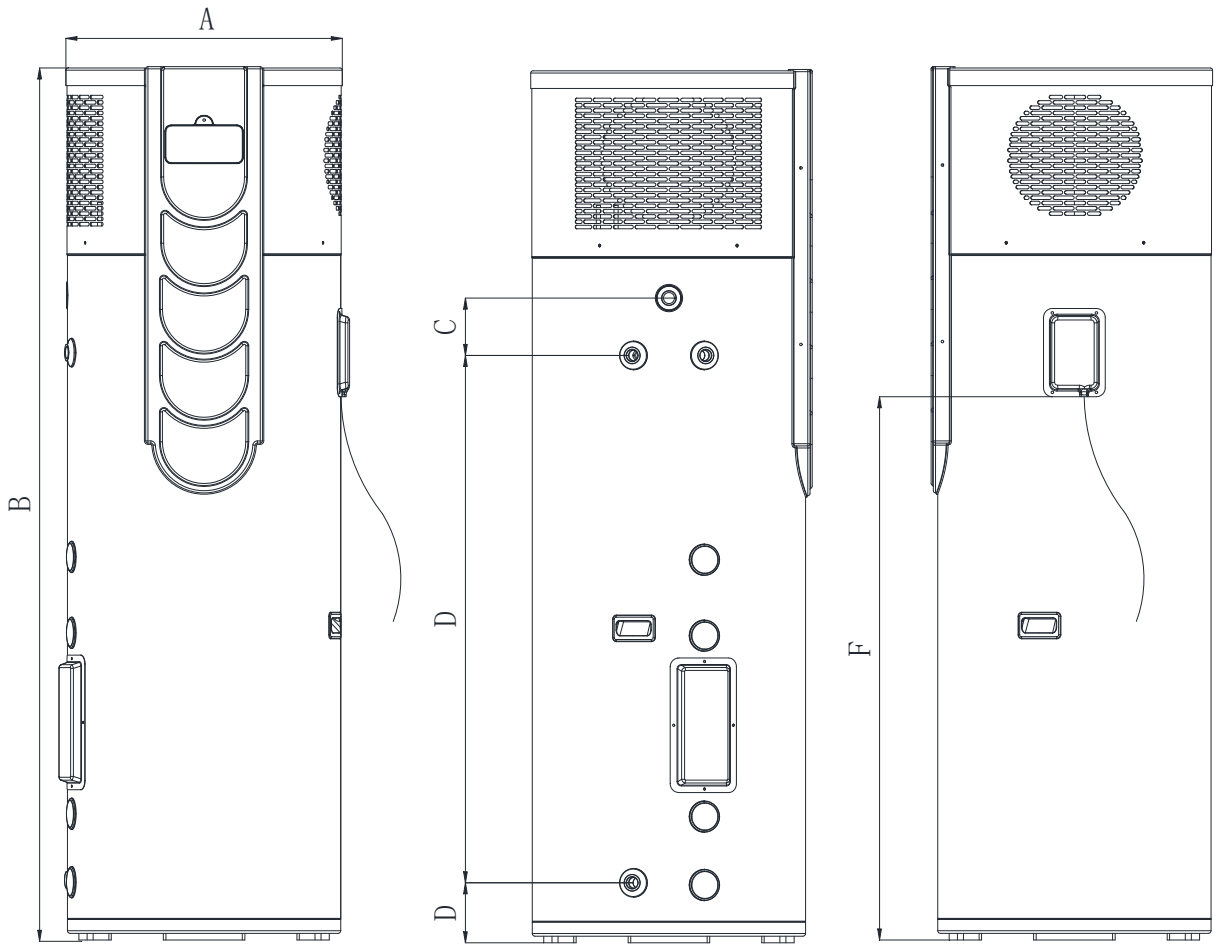




NOTE:

All the pictures in this manual are for illustration purposes only. Please refer to local wiring and plumbing regulations. If in doubt of anything in this manual, contact your local service agent.

PRODUCTS EXTERNAL DIMENSION



Size(mm) / Model	A	B	C	D	E	F
NA37-315A	626	1979	130	1196	136	1231

4. INSTALLATION

4.1.Choose a suitable location

Outdoor Installation Only: This equipment must not be installed indoors. Indoor installation may cause issues such as overflow, noise, or a drop in indoor temperature. If indoor installation is unavoidable, take preventive measures to address these issues.

Space Requirements: Ensure there is sufficient space around the unit for both installation and maintenance.

Clear Fan Inlet and Outlet: The fan inlet and outlet must be free from obstructions, and should be protected from strong winds.

Ventilation: Install the unit in a well-ventilated area.

Support Surface: The surface must be flat (with a horizontal angle no greater than 2°), capable of bearing the heat pump's weight, Minimum 50mm slab base.

Noise Considerations: Ensure that noise and exhaust air from the unit do not disturb neighbours.

Ventilation: The installation location should provide free ventilation.

NOTE:

If the product is installed in a location where there is a possibility of frost, then all precautions must be taken to ensure all pipework is sufficiently insulated.

The areas containing toxic gases or mineral oils are not recommended as suitable installation locations of the product.

4.2.Transport and Handling.

When moving the unit, it MUST always be close to vertical at all times.
When using a trolley to move the unit, ensure it is not tilted more than 45° from the vertical. Noncompliance will void warranty and severely affect product performance and operation.

IMPORTANT

Transportation Angle: Neo Power Heat Pumps must be transported at an angle no greater than 45º from vertical.

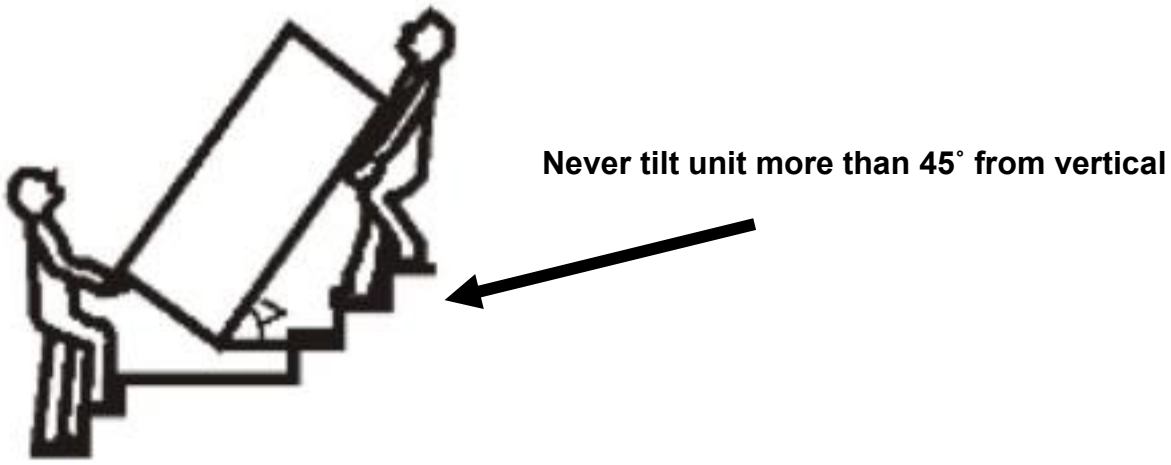
Compressor Lubrication: Since the compressor unit is located at the top of the heat pump, tilting the unit beyond 45º can cause the lubrication oil to run into the mufflers. This results in insufficient lubrication for the compressor motor, potentially leading to premature failure

of the compressor unit.

Keep Compressor Upright: As a general good practice, it is best to keep the compressor as upright as possible during transportation and handling.

Return to Vertical Position: After tilting, returning the Neo Power Electric Heat Pump to a vertical position ensures that oil flows properly back into the compressor motor.

Avoid Excessive Tilting: Tilting the heat pump beyond 45º from vertical can place undue strain on the compressor motor mounts and associated piping, potentially leading to damage.



Positioning and Handling the Heat Pump

Arrival and Setup:

- **Vehicle Parking:** Park your vehicle as close as possible to the installation.
- **Material Handling:** Unload all materials safely and position them conveniently to avoiding trip hazards near your work zone.

Safety Procedures:

- **Safety Audit:** Conduct a safety audit (also known as Work Method Statements (WMS) or Job Site Analysis (JSA)) before beginning work.

Handling the Heat Pump:

- **Lifting Assistance:** This heat pump is heavy and requires at least two people to lift it, ideally with the aid of lifting equipment.
- **Packaging:** It is recommended to lift the unit with its packaging in place to prevent damage.
- **Outdoor Installation:** If internal installation or confined space requirements cannot be met, install the heat pump outdoors in a ventilated area.

- **Protection:** The outer casing is prone to denting and damage. Handle with care, as any marks or damage from improper handling are not covered under warranty.

Positioning Considerations:

- **Noise Impact:** Avoid placing the unit near bedrooms or neighbour's bedrooms. While the heat pump operates quietly, it may run during the night.
- **Access:** Ensure adequate access is available to have the relief valve and anode removed for serviceability (recommended service interval is every 5 yrs).
- **Level Surface:** Position the unit on a level surface, adhering to all plumbing and building regulations.
- **Condensation Drain:** Properly position the condensation drain to prevent property damage from water spillage. Refer to **AS/NZS 3500.4** for compliant rule and regulations.

NOTE:

DO NOT drain on to grass or garden beds.
DO NOT commence a job where the risks cannot be controlled.

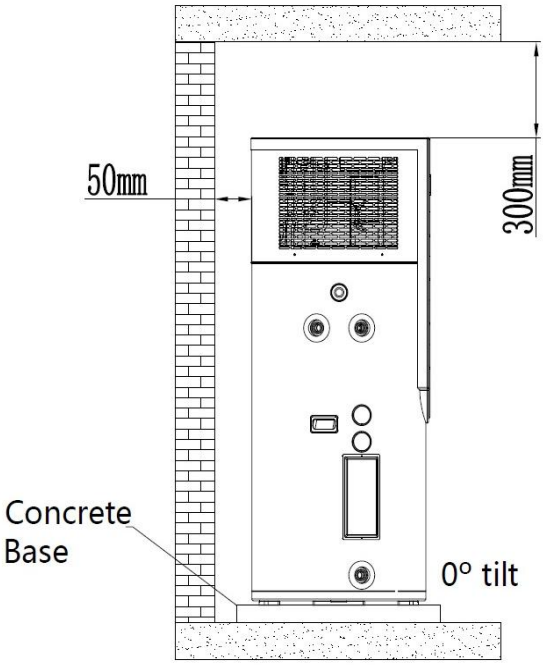
Clearance Space: Ensure the unit is surrounded by at least 200 m^3 of free space to facilitate optimal airflow and enhance performance.
Adhere to Clearances: Follow the clearance requirements detailed in the 'Dimensions' section on the specified page.(12 & 13).
Debris-Free Zone: Keep the surrounding area free from debris, including leaves, tree branches, and overgrown vegetation.
Avoid High Wind Areas: Do not install the unit in areas prone to high winds, or wind corridor area's

4.3.The Installation of Heat Pump

- **Supporting Structure:** Install the unit on a concrete plinth or a stable structure capable of supporting weights over 400 kg. Ensure that the supporting structure remains stable and does not shift over time, due to factors like water drainage.
- **Four Feet Support:** Verify that all four feet of the unit are adequately supported by

the base to avoid voiding the warranty.

- **Proper Drainage:** Ensure proper drainage for any overflow in accordance with **AS/NZS 3500.4**.
- **Level Installation:** The unit must be installed completely vertical and level to ensure proper condensate drainage. Installation with a tilt greater than 3 degrees may void the warranty.
- **Overflow Protection:** If water leakage could cause property damage, install a safe overflow tray.



- **A Concrete Base:** Ensure a concrete base of at least 50 mm thickness. If using concrete pavers, they must have a minimum dimension of 600 mm x 600 mm.
- **External Operation:** This unit is designed for outdoor use only and requires unrestricted airflow for efficient operation.
- **Debris Prevention:** Avoid installing the unit in areas prone to falling debris, such as leaves, as this can block air vents or cause damage.
- **Clearance from Structures:** Do not place the unit in locations surrounded by multiple walls or structures. Maintain optimal clearances from all nearby structures to ensure proper airflow.

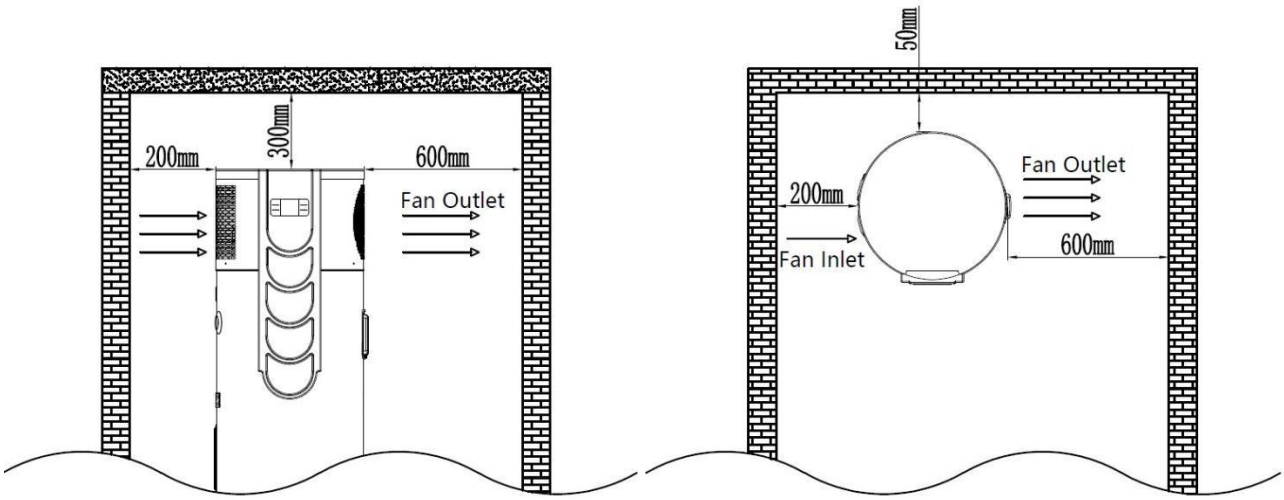
If installed under fixtures or home eves, there must be a minimum 300mm clearance between the top of the unit, 600mm on the FAN side of the system and 200mm on the INLET, left hand side of the system (when facing system). The unit must be installed with a minimum of 50mm off the rear wall so that the entire unit can be accessed during any servicing work as well as preventing the consumption of cold air. If the system cannot be properly serviced due to the system being installed outside of these specifications, the owner will be liable for the associated plumbing costs of draining and moving the system.

4.4.Internal Installation

Ensure the following Internal installations conditions are met:

- **Room Volume:** Minimum of 45 m³ per unit.
- **Ventilation:** Adequate ventilation with a minimum airflow of 280 L/s per unit.
- **Environment:** The area must be free from ignition sources and or corrosive environment conditions.

When installing the heat pump internally, carefully consider its positioning to minimize noise and sound during heat pump operation.



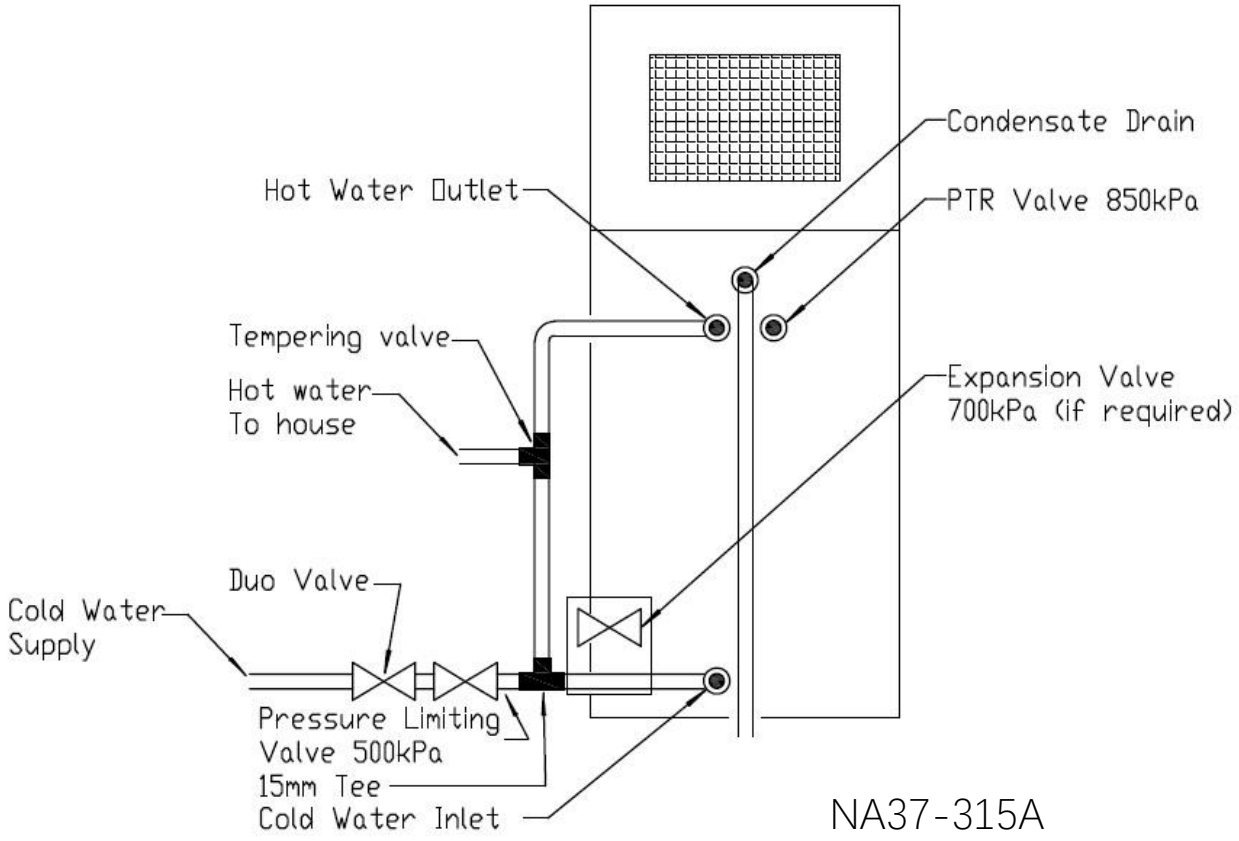
The unit should be installed so that the control interface is accessible to users and that there is clear access to the electrical panel at the back of the system. Where incorrect installation has occurred warranties may be void or additional charges may be required to ensure that the system is compliant.

NEVER OPERATE THIS UNIT IF THERE IS NO WATER IN THE TANK. THIS WILL RESULT IN POSSIBLE DAMAGE TO THE HEAT PUMP.

5. PLUMBING CONNECTIONS

Refer to the clearances diagram for detailed information on the position of system prior to attaching any plumbing.

General Plumbing Diagram of the system is shown



Water Connection and Pressure Requirements

- Inlet and Outlet Ports: The water inlet and outlet ports have 20 mm sockets.
- Must use RED Seals and rubber washers.
- Install an approved isolating valve, non-return valve, line strainer, and union between the supply main and the 20 mm socket on the water heater. All fittings must have Water Mark approval.

Pressure Control:

- **Western Australia and South Australia:** Install a 700 kPa Expansion Control Valve (ECV) on the cold water supply to the storage cylinder to comply with local regulations.
- **Other Areas:** A 700 kPa ECV is recommended in regions where water supply tends to cause scaling. This helps reduce hot water discharge from the Pressure and Temperature Relief (PTR) valve, minimizing wear on the valve.

  Water Supply Pressure: The water heater is designed to connect directly to water supply pressures up to 550 kPa.

  Excess Pressure: If the mains pressure exceeds or fluctuates beyond this limit, a pressure limiting valve (PLV) that complies with **AS1357** must be installed.

- All pipework must be sufficiently insulated with a minimum of 13 mm closed cell insulation that is UV rated.
- The minimum cold-water pressure must be 200 kPa
- Ensure the drain is clear of any blockages.
- During operation and heat pump cycle, there will be condensation droplets forming within the heat pump. Always ensure the condensate pipe is connected to the drainage network or run to ground.
- The process of heat extraction from the atmosphere through evaporator coils results in the production of water in the form of condensation. A Condensate tray is located on top of the water storage tank. Overflow from this tray runs out through the Condensate Drain to ground. The system's condensate drain is connected by a 1/2-inch Brass elbow. Drain the condensate from the elbow to an approved discernible location via PVC piping. If not drained properly, the condensate line may become blocked as well as produce algae and moss growth.

  The Condensate drain should be free of kinks, should be installed vertical or with constant fall to ensure the free flow of water. Connecting any other pipe directly to the condensate line without an air gap will void warranties.
- Pressure and Temperature Relief Valve (PTR valve)

  A PTR valve rated to 850kPa and 99ºC is supplied with the system and is to be fitted to the tank. It is recommended that the lever on pressure & temperature relief valve (PTR) be operated once every 6 months to ensure reliable operation. It is important to raise and lower the lever gently and be careful as the water released will be hot.

  DANGER: Failure to operate the relief valve easing gear at least once every six months may result in the water heater exploding. Continuous leakage of water from

the valve may indicate a problem with the valve, or the water heater itself.

Also ensure that the PTR valve and discharge point is installed in line with local plumbing regulations.

Ensure the PTR line is discharged where it is compliant, cannot cause damage or be of a nuisance.

- Pressure Limiting Valve

  Where the mains water supply pressure is likely to exceed 550kPa at any time, a 500kPA pressure limiting valve that complies with AS1357 must be fitted to the inlet of the hot water system. This is essential to safeguard the appliance and ensure correct operation

- Tempering valve

  To reduce the risk of scalding injury a temperature control (tempering) valve must be fitted to the hot water supply pipe work. This valve should be checked at regular intervals to ensure its operation and settings remain correct.

  WARNING: SCALDING OCCURS AT 50ºC. THIS APPLIANCE IS CAPABLE OF PRODUCING HOT WATER AT WELL ABOVE 50ºC. A TEMPERING VALVE MUST BE INSTALLED AS PER YOUR LOCAL GOVERNMENT AND REGULATORY REQUIREMENTS.

FILLING AND COMMISSIONING THE HOT WATER SYSTEM

- Turn on the cold-water supply to the tank and open a hot water tap preferably laundry tap without filter as existing sediment may partially block pre-existing water saving devices.
- Leave the tap open until all air is bled, and water is running free and clear. Then turn off the hot water tap.
- Activate PTR Valve (Pressure relief valve) to ensure system is fully bled of all air.

  Once the system is fully pressurized with water, thoroughly check all fittings, connections and pipework for water leaks.

6. ELECTRICAL CONNECTIONS

6.1. The electrical connections must be completed by a qualified and trained professional and in accordance with the local and national regulations AS3000.

- This product is recommended to be wired on a dedicated circuit protected by a 10A circuit breaker
- The circuit must be connected to a reliable earth electrode connected to the unit
- The testing of the circuit and final connections are the responsibility of the trained qualified installer

6.2.Power Specification

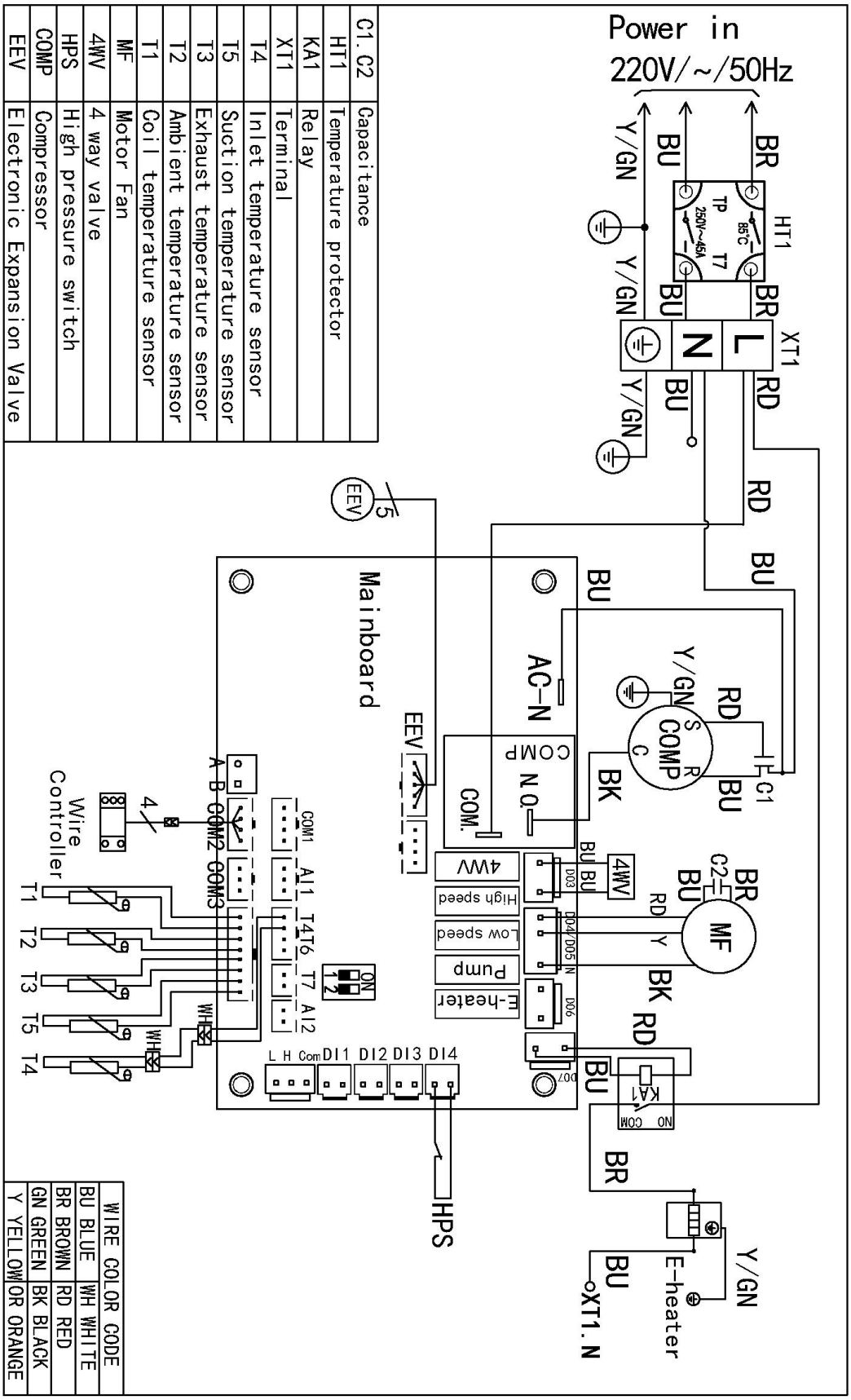
Model	Power Supply	Cable Size (mm2)		Protected Device		Earth Leakage
				RCBO Type (B)		
NA37-315A	220V/50Hz	L&N Conductors	PE Conductors	Rating (A)	TYPE	30mA
		2.5mm	2.5mm	10	B	

NOTE:

Final connection is via a 10A isolating switch Or GPO near the heat pump

- The heat pump is supplied with a 3 pin earthed plug and may be run off a power socket where such connection is compliant with National wiring regulations AS.3000 and/or such requirements as stipulated by local authorizing bodies.
- Should permanent connection to power supply be required by National wiring regulations AS.3000 and/or local authorizing bodies. A qualified electrician should remove the unit plug and utilize the power supply cord to wire the system into a junction box with isolation switch..
- Instead of using a 3-pin plug, hard wiring the system to a 10A isolator switch is highly recommended.
- Before any work can commence ensure that the heater is isolated from the power supply at the switchboard.
- If a power cable is damaged, it shall be replaced by a qualified professional to avoid risks.

6.3.Wiring diagram



7. CONTROLLER INSTRUCTION

OPERATION OF CONTROLLER

When the heat pump turns on, the control system initiates and will check the unit's operating parameters. The controller will check on all sensors and pressure switches. If conditions are suitable (i.e., all reading within the reasonable range) and there is enough energy available in the surrounding air, the fan and compressor will turn on. If there's not enough energy detected in the ambient air, then the controller calls for the booster heating element to run. A delay in startup of the heat pump is noticed whilst the system calibrates before switching on the fan and compressor begins operation.

The unit is self-regulating so there are no internal adjustments to be made during commissioning. When the unit is operated for the first time, it runs through an initial heat up cycle, allow time for this initial heat up cycle as this can take several hours depending on the ambient temperature conditions.

Once its first heat up cycle is complete, empty approximately 60 liters of hot water from the tank through the PTR valve outlet then allow the water in the tank to re-heat. Once the re-heat cycle is completed, measure the water temperature at the PTR outlet again. The temperature will be approximately 60º C.

If for any reason the unit does not start, the water is cold or the controller is not displaying any LED lights, an electrician is required to test power is available and supplied to the heat pump.

CONTROLLER LAYOUT AND KEYS

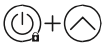
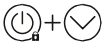
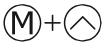
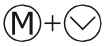
All major functions are controlled by the Control Panel situated on the front of the unit.

The following table describes the primary function of each key on the controller.

Key	Icon	Primary Functions	
On/Off		1.	Unlock key (Press and hold for 5 seconds)
		2.	Heating Mode On/Off key (Press and hold 2 seconds) Activates/ deactivates shower head symbol.
		3.	Escape / Return Key
Clock		1.	Setting the clock, pressing this key will enter clock setting interface, and press again to cycle to hour and minutes.
		2.	Setting the timer (press and hold for 3s)
		3.	During timer setting, press the key and hold for 3s, cancel the current timer setting
Mode		1.	Press this key to change operation mode.
		2.	Press and hold for 5s, enter parameter setting interface.
		3.	In parameter query interface, press once to enter into value setting or save the setting. (not required by installing plumber)
Up		1.	Press this key to change up temperature setting value, parameter value or change hour and minute value
		2.	Press and hold for 3s to query the system status/ parameter
		3.	Page up
Down		1.	Press this key to change down temperature setting value, parameter value or change hour and minute value
		2.	Press and hold for 3s to query the system status/ parameter
		3.	Page down

KEY COMBINATIONS

The keys can also be used in specific combinations to provide additional functions:

	Press and hold both keys for 5s to activate **WiFi** search function
	Press and hold both keys for 5s to activate WiFi search function. (Also enters into manual AP distribution network connection mode)
	When heat pump is operating in heating mode, press and hold both keys for 3s to turn ON/OFF **Boost element** mode (turn ON/OFF heating element)
	When heat pump is operating, press and hold both keys for 5s to start/exit **defrosting** mode

⏶+⏷	When power is on, to the heat pump, press the two keys and hold for 5s, to enter into Ventilation mode. To run in HIGH speed, press and hold both keys for 3s. To run in LOW speed. Press and hold for another 3s. To EXIT ventilation mode press and hold for 3s again.
⏻+🕒+⏷	Press the three keys and hold for 5s to turn ON/OFF disinfection mode
⏻+Ⓜ+⏶+⏷	Within 5 minutes of powering on and without the heat pump running, press and hold these four keys for 5s to restore the factory setting

CONTROLLER FUNCTIONS AND OPERATION

LED ICONS

Symbol	Function	Meaning when Lit	Meaning when Flashing
	Heating Mode	Heating Mode Active	-
	Heating Element	Heating Element Active	1s: Boost Mode 2s: Disinfection Mode
	WiFi	WiFi Connected	Searching for Network
	Real Water Temperature	Displays Actual Current Water Temperature	-
	Set Water Temperature	Displays Set Water Temperature	-
	Defrosting	Defrosting Active	Refrigerant Recovery Mode Active
	Maintenance Reminder	Maintenance Required (See “Save a Service Call” on page 10)	-
	Error Warning	Error Present	-
	Screen Locked	Screen Lock Active	-
	Compressor Running	Compressor Active	-
	High Fan Speed	High Fan Speed Active	-
	Low Fan Speed	Low Speed Fan Active	-
	Timer	Timer Active (see “Operation Timer Setting” on page 24)	-

Lock and unlock:

When the controller is in the normal display mode and there is no button entry for more than 60 sec, the display will automatically lock. Press the key “ ⏻ “ for 8 seconds to unlock, A beep will be heard. Pad Lock icon will disappear from screen

Turn ON/OFF the heat pump:

When the controller is in the normal display mode, press and hold “ ⏻ “ button for 2 second to switch the heating Mode ON or OFF. (The Shower head icon will appear / disappear. Upon lumination of icon, there may be a delay before motor or fan starts)

Operation Mode selection:

Mode Number	Mode	Symbol	Setting Range
01.	Standard Mode	STAN	15°C~60°C
02.	Economy Mode	ECO	15°C~60°C
03.	Hybrid Mode	HYB	15°C~70°C
04.	Electric Mode	ELE	15°C~70°C

STAN mode (Standard mode):

The STAN mode is default mode, in STAN mode, the controller will display “ StAN “. In this mode only heat pump operates. The default water temperature setting is 60°C, with a range of 15°C~60°C, The temperature difference for reactivation is 9°C (default value).

ECO mode (Economy mode):

In ECO mode, the controller will display “ ECO “. In this mode only heat pump operates, and the default water temperature setting is 55°C, with a range of 15°C~60°C, The temperature difference for reactivation is 10°C (default value).
If user set the ECO mode, then the setting will revert to default setting at 12:00 AM the next day.

HYB mode (Hybrid mode):

In HYB mode, the controller will display “ Hyb “. During this mode, the heat pump operates until the water temperature reaches 60°C, at which time the heat pump stops. If the set temperature is higher than 60°C, the heating element will continue to heat the water until it reaches the desired temperature. The default water temperature setting is 65°C, with a range of 15°C~70°C. The temperature difference for reactivation is 10°C (default value).
If user set the HYB mode, then the setting will revert to default setting at 12:00 AM the next day.

ELE mode (Heating element mode)

In ELE mode, the controller will display “ ELE “. In this mode only the heating element will

work to heat the water. The default water temperature setting is 65°C, with a range of 15°C~70°C, The temperature difference for reactivation is 10°C (default value).
If user set the ELE mode, then the setting will revert to default setting at 12:00 AM the next day.

The system default mode is Standard (STAN). When the unit is switched on for the first time, the system will operate in STAN mode. The unit will start in the mode setting it was in prior to a power disconnect or shut down. To change the mode, refer to the instructions below.

Changing mode:

When the controller is unlocked, the display will show the clock. Press “M” key once to show the current Operation Mode. it will display constantly for 8 seconds, before it disappears, press “M” again to cycle between different operating modes.

(The mode name will show at the clock display for 8 seconds each time the “M” key is pressed.)

Water temperature setting:

Unlock the display , then press the “ ⌃ ” or “ ⌄ ” button to increase or decrease the water temperature setting value.

Clock setting:

Unlock the display,

In the main interface, press the “ 🕒 ” button once to enter the clock setting interface. (The time will flash “88:88”)，Press “ 🕒 ” once again and Hrs will flash. Use“ ⌃ ”or “ ⌄ ” to adjust Hrs. Press “ 🕒 ” to cycle to Mins. Use “ ⌃ ”or “ ⌄ ” to adjust Mins. Push “ 🕒 ” to confirm.

- (Not recommended for use)

  During clock setting, when the time display section is flashing, only if the “ 🕒 ” button was held for 3 seconds, week function mode is enabled / disabled. If the week function is accidentally turned on, please disable this. it will display as “W 3” etc. The number = the weekday as; Monday: 1, Tuesday: 2... Sunday: 7 etc. Individual day and heat modes can be set here. (Not recommended to use).

How to Set Operation Timer Working Mode Setting: (If required)

Unlock the display. Press and hold the “ 🕒 ” button for 5 seconds in the main interface to enable or disable the Timer Working Mode. Heating period 1, Start time (ON) Hrs will flash.

Press “ ⌃ ” or “ ⌄ ” to set on Hrs. Press “ 🕒 ” to cycle to Mins. Press “ ⌃ ” or “ ⌄ ” to set Mins. Press “ 🕒 ”to cycle to Heat period 1 end Time (OFF). Set Hrs and Mins as previously described. Press “ 🕒 ” button again to confirm the setting and switch to next periods (No. 2 & No. 3) The setting method is the same as above. Repeat these steps again to set 2 and 3 if required. Setting heat mode turn On and OFF times to equal times will cancel that period out.

You have now set the START and STOP time and time of day. If timers have been set, the system will only run between these programmed times. Whilst the running noise level of the Neo Power system is quite low, it is not advisable to allow the unit to run during the night when ambient noise levels are low. An operating machine may be deemed a nuisance.

If solar power is installed on the property, the settings below will maximize the use of free energy.

Talk with the homeowner and set up the heating cycle that best suits the house holds needs. Additional heating intervals may be required for lager families, or households that have high demand for hot water usage. Your new Heat Pump is an energy efficient hot water system, not a high demand high volume delivery hot water system.

SYSTEM TIMER SETTINGS GUIDE ONLY.

No Solar Power Installed	Small Family	START 8:00	STOP 19:00	Set Temperature 55
	Large Family	START 5:00	STOP 21:00	Set Temperature 60
Solar Power Installed	Small Family	START 9:00	STOP 16:00	Set Temperature 60
	Large Family	START 7:00	STOP 20:00	Set Temperature 60

24Hr Run Time

The machine will run and operate at any time during a 24hr period to heat the water as required.

Unlock the display. Press and hold “ ⏻ ” To activate the Shower Head Icon (Heating Mode). Push and hold “ 🕒 ” to deactivate any preset timer modes,

eg:

(Press and hold this clock button again, if timer mode was activated accidentally)

(It is recommended that the Heat Pump operates during daytime hours.)

Forced defrosting:

When the controller is Unlocked, and the heat pump is heating. Press “M” and “ ⌄ ” buttons together for more than 5 seconds to activate or deactivate the “Forced Defrost” function. The symbol “ ” will show when the “Forced Defrost” is ON.

Boost Mode:

When the controller is Unlocked and the heat pump in heating mode, press “M” and“ ⌃ ” buttons together for more than 3 seconds to enable or disable the boost mode. When boost mode is enabled, the compressor will stop running or not switch on and only the heating element will turn on. The symbol “ ”will flash for 1 second then stay on. When the set temperature is reached, the heating element will turn off.

When the heat pump is turned off it will automatically exit boost mode.

Manual Disinfection: (Legionella Disinfection Mode)

When the controller is Unlocked and the heat pump is ON, press “⏻”, “ 🕒 ”, “ ⌄ ” buttons together for more than 5 seconds to sterilize the water tank. The symbol “ ” will flash for 2 seconds before illuminating continuously. The water will be heated to 60°C, then exit the Legionella Disinfection Mode. If the water does not reach 60°C, the heat pump will continue in disinfection mode for 2 hours before terminating the process.

Auto Disinfection: (Legionella Disinfection Mode)

The heat pump will start Disinfection automatically at 8:00 AM every day, the water will be heated to 60°C, then exit the Legionella Disinfection Mode, If the water does not reach 60°C, the heat pump will continue in disinfection mode for 2 hours before terminating the process. After completion, it will re-clock. During Disinfection, the system will operate as above.

If the water temperature has been heated to 60°C between 12:00 AM to 8:00 AM, then disinfection mode will not be commenced that day.

**(This function is programmed to activate automatically once a day. Manually activating it will not reset the factory program time to a user-defined schedule.).

Trouble Shooting:

Error code	Error Description	Possible Causes	Solution
E05	Refrigerant system high pressure protection	High pressure switch is broken/Connection is loose	Contact Customer Care
E09	Communication failure	Signal wire connection loose/There is Strong magnetic field/PCB is broken/Signal wire is broken	
E12	Exhaust temperature too high	Lack of refrigerant/Fluorine system leak	
E14	Tank temperature sensor failure	Sensor failure/Connection is loose	
E16	Coil temperature sensor failure	Sensor failure/Connection is loose	
E18	Exhaust temperature sensor failure	Sensor failure/Connection is loose	
E21	Ambient temperature sensor failure	Sensor failure/Connection is loose	
E29	Suction temperature sensor failure	Sensor failure/Connection is loose	

Operation Parameter Query:

When power on, press "∧" or "∨" button for 3 seconds, will enter into status query interface, press "∧" or "∨" button to query each status; Press "⏻" button will exit status query interface.

No.	Name	Note
04	EEV open	Measured value
05	Coil temp.	Measured value
06	Ambient temp.	Measured value
07	Suction temp.	Measured value
08	Exhaust temp.	Measured value
09	Water Inlet temp.(Water tank)	Measured value

8. COMMISSIONING

8.1. System Location

- The location where the base of the water heater is located is sufficiently compacted
- Enough room has been allowed for service and maintenance of the water heater.
- The system has been installed in a location that allows enough ventilation.
- The location is free from any corrosive materials or chemicals.
- The location is free from any excessive dust or material that can become airborne.

8.2. Water System Piping

- Temperature and pressure relief valve (PTR valve) is properly installed with a discharge pipe plumbed to a suitable discernable discharge point.
- Check that all plumbing connections including piping, valves and fittings are properly installed and free of leaks.
- The system is completely filled with water and all air is drained from the tank and piping.
- The tempering valve has been installed per manufacturer's instructions and the output water temperature is in the range required by local authorities.
- The condensate drain line is installed and plumbed to a suitable drain point.
- All hot water lines are appropriately insulated and protected with UV Stabilized insulation.
- Includes all brass elbow tank fittings, PTR valve and up to 500mm of PTR drainpipe, Cold water feed line up to 500mm from the tank.

8.3. Electrical Connections

- The water heater is connected to a supply that has a voltage between 220 - 240 VAC.
- All hard wiring complies with all local applicable codes and the requirements of this guide.
- The water heater and electrical supply are properly grounded.
- A correctly sized overload protection device has been installed.

9. MAINTENANCE AND SOLUTION

9.1 Draining and flushing the system

The heat pump hot water system should be drained and flushed every five years during a major service of the unit.

- Turn off and isolate the power supply to the Heat Pump.
- Turn off the water supply to the water heater.
- Release excess pressure from the tank by manually opening the pressure & temperature relief valve.
- Remove Inlet water fitting, Install flexible hose at this port. Manually open the pressure & temperature relief valve which will allow air into the tank and the water within the tank will flow out via the flexible drainpipe away from the tank

9.2. Relief valves

The lever on the relief valves should be operated at least every six months. Failure to do so may result in failure of the tank. If water does not discharge freely from the valves they should be checked and possibly replaced. The relief valves and relief valve drain lines must not be blocked. Some water may discharge during each heating cycle

Every five year's all safety valves should be replaced to ensure continued life and operational safety of the system. In location where the portable water has a Total Dissolved Solids (TDS) of greater than 600 ppm it is recommended to replace all safety valves every 3 years.

9.3. Anode replacement

The high-quality vitreous enamel lined low carbon steel tanks have a sacrificial anode for long tank life. This anode should be inspected every couple of years and be replaced when it has worn out. As a minimum it is recommended that the anode be changed every 5 years.

9.4. Condensate discharge pipe

Check the pipe regularly for cleanliness. Any obstruction may cause poor condensate flow or cause the accumulation of water in the heat pump plastic base.

9.5. Cleaning the evaporator

The evaporator is integral to the optimum performance of the appliance.

It is recommended to clean the evaporator fins once every year using a soft-haired brush. If any of the fins are bent, carefully realign then using a suitable comb.

9.6. Hydraulic circuit

Check the water tightness of all connections and pipes for signs of any water leaks.

10. WARRANTY

The product is covered by a warranty against defects for 5 years from the date of installation. When proof of installation date is not provided, the start date of the warranty will commence from the system date of manufacture determined by the systems unique serial identifier. It is recommended that homeowners keep receipts, invoices, warranties, and any installation record forms where applicable, in a safe place.

10.1.Component Warranty Table

Component	Warranty Period (Parts Only)	Warranty Period (Parts and Labour)
Glass Lined Tank	6 years	2 years
Refrigeration	5 years	2 years
Electrical (controller and sensor leads)	5 years	2 years
Sacrificial Anode & PTR valve	2 year	2 year
Consumable Items	2 year	2 year

10.2. Eligibility requirements to make a claim

- The person(s) making the claim must be the product owner or have consent to act on behalf of the owner.
- The person(s) making the claim must contact Imaca Pty Ltd as soon as they notice any defect(s) without excessive delay, and the product must be within its warranty period.
- The product must have its original serial numbers and/ or rating labels where applicable.
- The warranty period begins from the date of installation of the component(s), in the event that proof of installation cannot be provided, the period begins from date of purchase, and in the event that this is also not available, the warranty will begin from date of manufacture of the product

10.3. General warranty conditions

10.3.1.This Warranty is for domestic & residential and commercial use of the hot water heating system.

10.3.2. To the extent that a claim falls under the ‘Parts Only’ Warranty Period, the Warranty covers the repair and/or replacement of such failed component in domestic and commercial use free of charge. However, the transport, installation and labor costs of repairing the component or delivering the replacement component and removing and replacing the existing component will be the responsibility of the customer of the existing component.

10.3.3. To the extent that a claim falls under the ‘Parts and Labor’ Warranty Period, the Warranty covers the repair and/or replacement of such failed component in domestic and commercial use and any associated labor costs free of charge. Please note the cost of freight may be charged to the customer.

10.3.4. The decision to repair or replace the component that is the subject of the Warranty will be entirely at the discretion of Imaca Pty Ltd.

10.3.5. Where a component, in domestic and commercial use, is repaired or replaced by Imaca Pty Ltd, the balance of any original Warranty Period will remain effective. The repaired or replaced part does not carry any additional warranty period.

10.3.6. Imaca Pty Ltd reserves the right to alter the design, components or construction to its domestic hot water system or custom design. Such alterations shall not constitute a defect in design or construction under this Warranty.

10.3.7. Any claim under this Warranty must include full details of the defect and/or damage to the Neopower hot water system or component(s) in domestic and commercial use. All claims must be made within one (1) month of the detection of the defect.

10.3.8. Dated proof of purchase is required prior to commencement of any work under this Warranty.

10.3.9. Imaca Pty Ltd does not warrant any installation work conducted by the installer of the hot water system or component(s) in domestic and commercial use.

10.3.10. This Warranty only applies to the Neopower hot water system and its components, or component(s) in domestic and commercial use and does not cover any plumbing or electrical associated parts, including but not limited to any parts supplied by any person installing the Neopower hot water system or component(s) in domestic and commercial use.

10.3.11.To the extent permitted by law, Imaca Pty Ltd shall not be liable under this Warranty for any consequential loss or damage or any incidental expenses resulting from any breach of this warranty, including but not limited to, claims for damage to buildings, roofs, ceilings, walls, foundations, gardens, personal belonging or household effects, fixtures and fittings, or any other consequential loss, damage or inconvenience, either directly or indirectly due to leakage from the Neopower hot water system or component(s) in domestic and commercial use or any other matter related to the system or its operation.

10.3.12. The benefits conferred by this Warranty are in addition to all other rights and remedies in respect of the Neopower hot water system or component(s) in domestic and commercial use, which the purchaser has under the Competition and Consumer Act 2010 and consumer protection legislation of the States and Territories. Nothing in this Warranty has the effect of excluding, restricting or modifying those rights.

10.3.13. Goods presented for repair may be replaced by refurbished goods of same type rather than being repaired. Refurbished parts may be used to repair/ replace the goods.

10.3.14. If the Customer has not paid in full for the Neopower hot water system or component(s), then this Warranty does not apply (Proof of purchase is a MUST).

10.3.15. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

10.3.16. Imaca Pty Ltd does not accept liability for consequential damage or any incidental expenses resulting from any breach of the Warranty.

10.3.17. Warranty does not cover the following:

- Subject to any statutory provisions to the contrary, claims for damages to walls, foundations etc. or any other consequential loss caused either directly or indirectly by leakage from the heat pump hot water system or any other faults.
- The warranty does not cover any faults that may arise from connecting to a water source that is unfiltered such as dams, bores, rivers etc.
- 10.3.18. The warranty will be rendered void in the following circumstances

- Failure due to misuse, natural disasters, Acts of God, accidental damage, installation by an installer who is not unauthorized to install a Neopower heat pump hot water system or incorrect installation and attempts to repair Imaca Pty Ltd by an unqualified person.
- Repairs and service carried out by a person who is not a Qualified Service Person or Authorized Service Agent.
- Faults caused by incorrect installation, water problems and or electricity supply.

10.3.19. Where the Neopower hot water 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.

10.3.20. This Warranty does not apply to any defects or damage NOT due to faulty factory parts or workmanship including, but not limited to, defects or damage caused by or resulting from:

- accidental damage, storm damage, vandalism, failure due to misuse or abuse, or neglect of any kind;
- incorrect or improper installation of the Neopower hot water system, including but not limited to, installation otherwise than in accordance with the instructions contained in the owner's manual supplied by Imaca Pty Ltd or incorrect system selection;
- alteration or repair of the Neopower hot water system other than by a licensed plumber or by an approved Imaca Pty Ltd agent;
- attachment of any parts or accessories other than those manufactured or approved by Imaca Pty Ltd;
- freezing in regions with minimum temperatures below -10˚C;
- the power supply to the Neopower hot water system being cut by
- power surges, animals, birds and/or rodents.
- excessive water pressure, negative pressure (partial vacuum), excessive temperature, corrosive atmosphere
- faulty plumbing and/or electrical wiring.
- Sludge/sediment because of connection to a water supply from filtered or treated sources ie. spring, dam, bore, river or town supply from a bore.
- contamination and corrosion from particles in the water supply.
- serial tags/stickers on any of the components being removed or defaced.
- the Neopower hot water system being relocated from its original point of installation.

10.4. Heat pump warranty conditions

10.4.1. All Neopower hot water system must be installed by a licensed installer.

10.4.2. Only a licensed professional must Install, Commission or Service Neopower hot water system.

10.4.3. All Neopower hot water system must be installed in accordance with Manufacturer's Installation Instructions and in Accordance with local regulations, municipal building codes and current AS/NZS 3000, AS/NZS 3500, AS 3498 and AS/NZS 5601

10.4.4. If the Neopower hot water system has not been installed in accordance with Manufacturer's Installation Instructions or installed as to be easily accessible for servicing, a service charge may apply.

- The integration with tank and controller should follow the instructions in the installation manual.
- The operational conditions should not exceed from those specified in the installation manual (i.e. -10 to 43 ˚C).
- The storage tank MUST have a 850 kPa PTR valve installed, while the main cold pressure to the hot water system is limited by a 500 kPa PLV.
- Electricity supply to the heat pump unit must be accordance with the relevant Australian standards as well as guidelines in the installation manual (i.e. 240V supply and 10A circuit breaker).

10.4.5. Water quality must be within limits specified below table.

Total Dissolved Solids	< 600 mg/L or ppm
Total Hardness (CaCO3)	< 200 mg/L or ppm
Electrical Conductivity	850 µS/cm
Chloride	< 300 mg/L or ppm
pH Level	Min 6.5 to Max. 8.5
Magnesium	< 10 mg/L or ppm
Sodium	< 150 mg/L or ppm
Iron	< 1mg/L or ppm
Alkalinity (as CaCO3)	< 200 mg/L or ppm
Dissolved (free) CO2	< 25 mg/L or ppm

WARRANTY FORM

Please complete details and retain this warranty together with your purchase invoice and plumbing certificate, which must be presented when making a warranty claim.

Homeowner Name:

Street Number and Name:

Suburb, State, Postcode:

Owner contact phone no:

Owner Email:

Date of Installation:

Product detail and Model No:

Heat pump Serial Number:

Supplier Name:

Plumber Name:

Plumber contact details:

This warranty does not exclude, limit or modify any warranty, condition or liability which is or may be implied or imposed on the Company by virtue of the Trade Practices Act, 1974, or any other statute, law, rule or regulation except for the extent to which the Company is lawfully entitled. Note that Imaca Pty Ltd is not liable for any expenses associated with making a warranty claim.

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