

madimack

# *resi***STEAM** PRO

All-In-One Inverter Hot Water Heater



## INSTALLATION AND OPERATION MANUAL

### Notice to Installer

This all-in-one water heater is suitable for outdoor environments.  
If the power cord is damaged, it must be replaced by a qualified person in order to avoid danger.

Product  
support page



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## 1. Safety Information

Please read all contents of manual carefully before installing and operating this appliance . The following safety warnings are very important, always read and obey all safety signs:

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

### R290 Refrigerant Safety (Flammable)

- **Flammable Gas:** This appliance contains R290, a flammable refrigerant. The refrigerant circuit must only be serviced by a licensed technician authorised to handle flammable refrigerants in accordance with AS/NZS 5149 and ARC licensing requirements..
- **No Ignition Sources:** Keep the installation area clear of open flames, sparks, or other ignition sources. Do not smoke near the unit.
- **Ventilation:** Ensure the installation site is well-ventilated and not enclosed. Do not install in confined or unventilated spaces. Minimum clearances must be maintained in accordance with installation specifications. In the event of a leak, refrigerant gas is heavier than air and can pool in low-lying areas.
- **Do Not Pierce:** Do not pierce or burn the refrigerant circuit, even after the unit is decommissioned.

### Electrical Safety

- **Qualified Personnel:** All electrical work must be performed by a licensed electrician in accordance with local wiring rules (e.g., AS/NZS 3000).
- **Earthing:** The unit must be properly earthed to prevent electric shock.
- **Fuse Protection:** Use only fuses or circuit breakers with the specified rating. Never substitute a fuse with one of an incorrect rating or use a jumper wire.
- **Isolation:** Always isolate and lock out the power supply before removing covers or performing maintenance to prevent accidental energisation.

### Water & Scalding Hazards

- **Scald Warning:** Water above 50°C can cause severe scalding instantly. Always test the water temperature before use.
- **Tempering Valve:** A certified tempering valve must be installed in accordance with AS/NZS 3500 to limit hot water temperature at outlets.
- **Legionella Control:** The system is designed to heat water to at least 60°C periodically to prevent the growth of Legionella bacteria.

### Operation & Maintenance

- **Airflow Obstruction:** Do not insert objects into the air inlet or outlet. The fan operates at high speed and can cause injury. Always isolate power before accessing internal components.
- **Hydrogen Gas:** If the system has been idle for two weeks or more, vent the hydrogen gas by running a hot water tap for several minutes before using any nearby electrical appliances.
- **Freeze Protection:** Do not turn off the power in cold climates, as the anti-freeze function requires power. If power cannot be maintained, the system must be drained to prevent pipe damage.
- **Abnormal Operation:** If you detect unusual smells, smoke, or loud noises, shut off the power immediately and contact a service agent.

## 2. Product information

### 2.1 Product features

#### User Interface:

Equipped with a digital control panel and Wi-Fi connectivity for remote monitoring and control

#### Energy saving and environmental protection

The equipment heats water by absorbing energy from the surrounding air and releasing it into the water stored in the tank, so it is very energy efficient. If the ambient temperature is low, the heating capacity of the heat pump will decrease, and then the auxiliary electric heater can be used as a backup.

#### Overheating protection

The water tank is fitted with a thermostat located above the electric heating element, in direct contact with the tank surface to monitor temperature. If the water temperature reaches preset temperature or there is no water in the tank due to any cause, the thermostat will automatically cut off the power circuit of the electric heater. When the water temperature is higher than 95°C, the manual protection device of thermostat will cut off the power supply. If the temperature returns to the normal level later, the thermostat must be manually reset using the reset button located on the thermostat housing.

### 2.2 Warnings

The cause of abnormal high-water temperature must be investigated by a qualified service technician, and corrective measures must be taken before the water heater is restarted.

#### Automatic defrosting:

In the operating state of heat pump, the equipment will automatically defrost to ensure thermal efficiency.

#### Water temperature or pressure protection:

For your safety, the equipment is equipped with a PTR valve. If the tank pressure reaches 850 kPa or the temperature reaches 90°C, the valve will automatically open to allow the pressure or temperature to drop to a safe value.

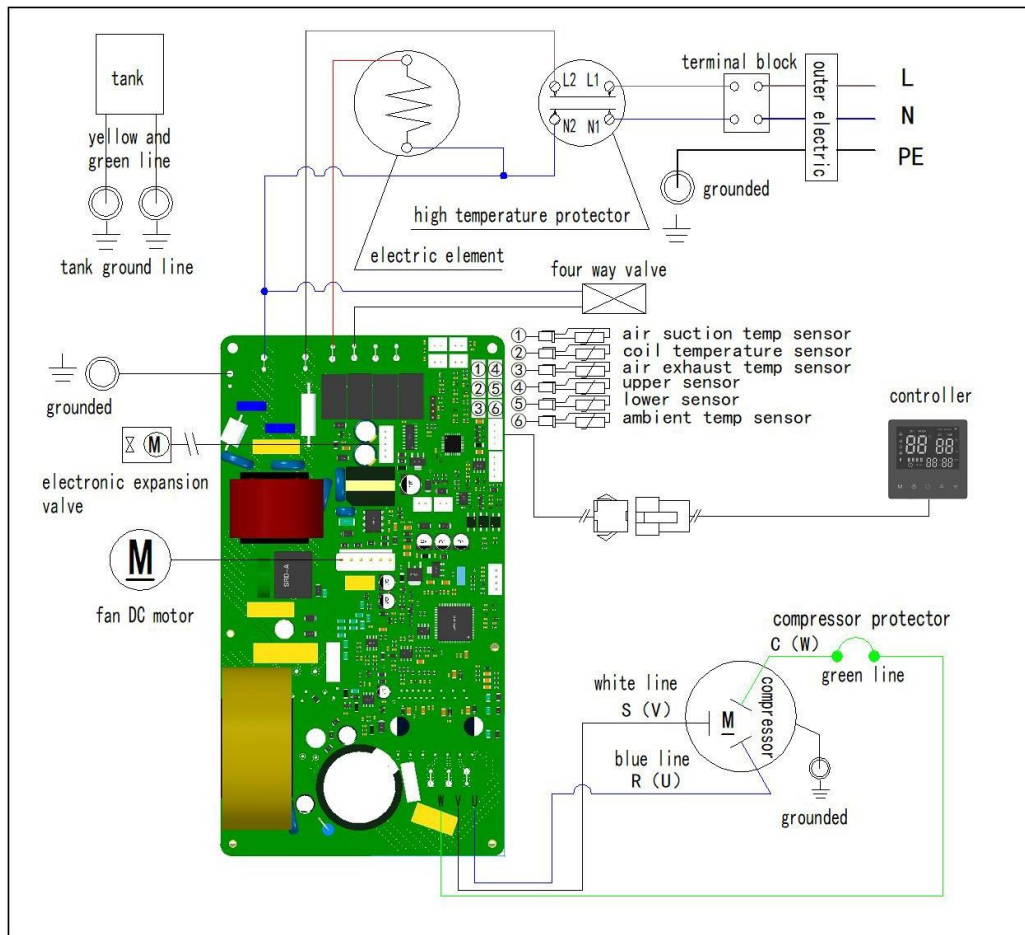
#### Water supply pressure and temperature

The water heater is designed to be directly connected to the water system. Water supply pressure range is from 150 to 850kPa. Water supply temperature range is from 5 to 30 degrees Celsius.

### 2.3 Technical Nameplate:

|                                                                                      |                                   |
|--------------------------------------------------------------------------------------|-----------------------------------|
| <div> <div>madimack</div> <div> <i>resi</i><b>STEAM</b> <div>PRO</div> </div> </div> |                                   |
| All-in-One Inverter Variable Speed Hot Water                                         |                                   |
| MODEL NO.                                                                            | 60001                             |
| Tank capacity                                                                        | 300L                              |
| Inner tank material                                                                  | BTC245R steel with enamel coating |
| Tank rated working pressure                                                          | 850kPa                            |
| Electric heating element power                                                       | 1000W                             |
| Condenser                                                                            | Micro-channel heat exchanger      |
| PTR valve                                                                            | 850kPa (T99°C, 46kW)              |
| Refrigerant type/Mass                                                                | R290/450g                         |
| Heat pump rated power input                                                          | 958W                              |
| Rated input (Heat pump + Electric Heating element)                                   | 1992W                             |
| Heat pump heating capacity                                                           | 2650W                             |
| COP (testing condition : Ambient 20°C / Water Temp 15-55°C)                          | 5.4                               |
| Rated Voltage/Frequency                                                              | 220-240V~, 50Hz                   |
| Heat pump rated current                                                              | 4.1A                              |
| Rated current (Heat pump + Electric heating element)                                 | 8.7A                              |
| Max pressure of suction side                                                         | 0.95Mpa                           |
| Max pressure of exhaust side                                                         | 3.1Mpa                            |
| Max Allowable Pressure                                                               | 3.1Mpa                            |
| Running ambient air temp.                                                            | -7°C~+47°C                        |
| Thermostat set point                                                                 | 60°C                              |
| Noise level                                                                          | 42dB(A)                           |
| Net Weight                                                                           | 126kg                             |
| Gross Weight                                                                         | 150kg                             |
| Net Dimension                                                                        | 650 Ø x 2000mm                    |
| Packaging Dimension                                                                  | 705 × 705× 2080mm                 |
| Waterproof grade                                                                     | IPX4                              |

## 2.4 Wiring Diagram



## 2.5 Working modes

### ECO Mode:

- Only the heat pump operates. The water can be heated to a maximum of 70°C. Eco mode is recommended for normal operation to maximise energy efficiency.

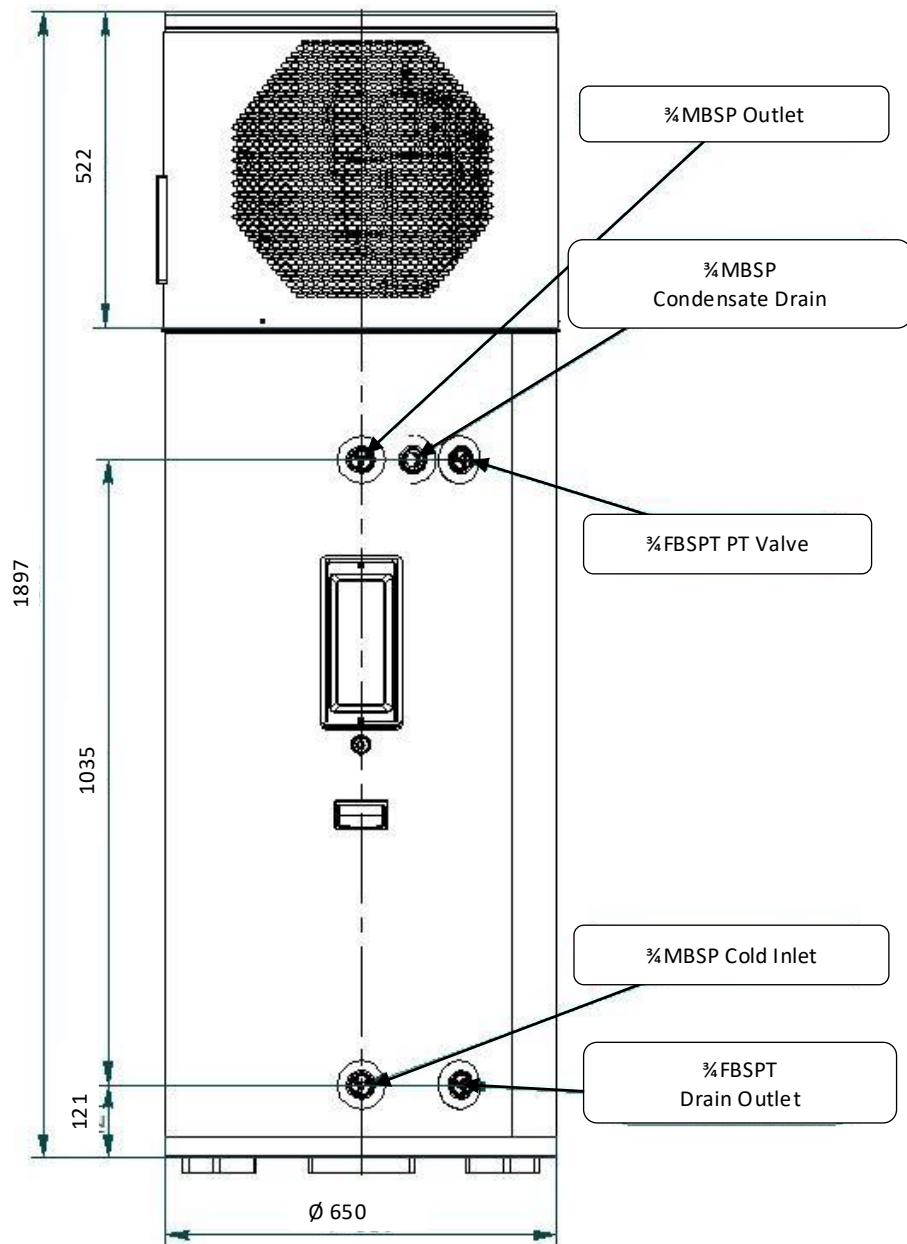
### RAPID Mode:

- Rapid mode should be used when faster heating is required, such as during high demand periods. Both the heat pump and electric heating element operate simultaneously to increase heating capacity and reduce heat-up time.
- The water tank can be heated to a maximum of 75°C. A tempering valve must be used to limit the outlet temperature to a safe level in accordance with AS/NZS 3500.

### Note:

- The default water temperature setpoint is 60°C, which supports Legionella control. Outlet temperature may be reduced via a tempering valve.
- RAPID mode increases electrical power consumption. Ensure the electrical supply circuit is correctly rated to support combined operation

2.6 Product Details



### 3. Storage, handling, transportation and installation

#### 3.1 Storage and transportation

- As a rule, the equipment should be packed vertically and the water tank be stored or transported as an empty water tank.
- For transport, the unit may be tilted up to a maximum of 30°.
- During handling and positioning, tilt must not exceed 15°.
- Whether transported or stored, the ambient temperature should be in the range of -20 °C~+60°C.

#### 3.2 Handling

- Manual handling must be carried out in accordance with safe lifting practices.
- Use mechanical aids where possible.
- A two-person lift is recommended due to the unit's weight and top-heavy design.
- When using a forklift, ensure the unit is securely strapped to the pallet.
- Forks must fully support the base of the pallet, and care must be taken due to the unit's top-heavy centre of gravity.
- Lift and lower the unit slowly and steadily to prevent instability or tipping.
- Due to the top-heavy weight, anti-overturn measures must be taken.
- To prevent any damage, the equipment must be placed on a level surface!
- For handling, it must be noted that the maximum allowable tilt angle cannot exceed 15°.
- If tilting cannot be avoided during handling and transportation.
- If the unit has been tilted, it must remain in a vertical position for at least one hour before operation to allow compressor oil to settle.

#### **WARNING**

##### **Damage during transportation**

- Avoid tilting the device over 15°.
- Dropping the equipment will damage internal components.
- To avoid equipment damage, protective packaging only once the unit has reached the installation location to prevent damage during transport.
- Use appropriate load restraint straps to secure the unit during transport and prevent movement or tipping.
- Use the appropriate means of transportation to transport the equipment to the installation site (special vehicle, pallet truck, etc.)

## 4 Installation

The manufacturer's warranty does not cover any damage caused by improper installation, connection or use of any type of accessory (except as listed in this user manual) of this water heater.

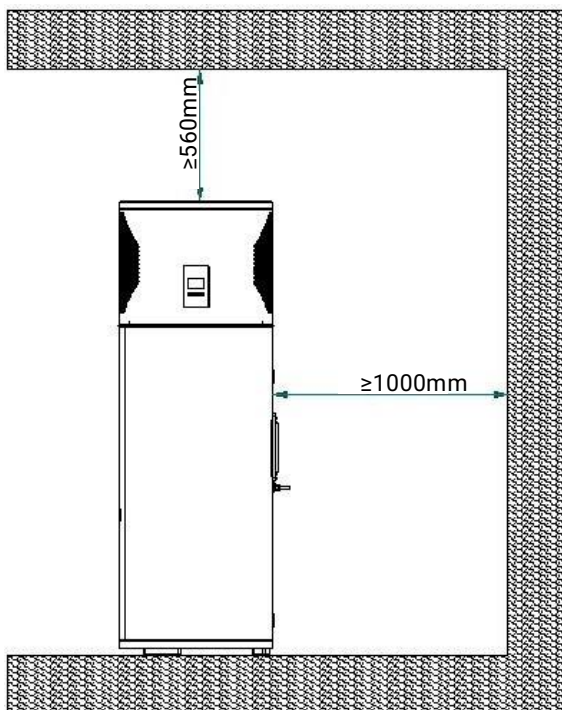
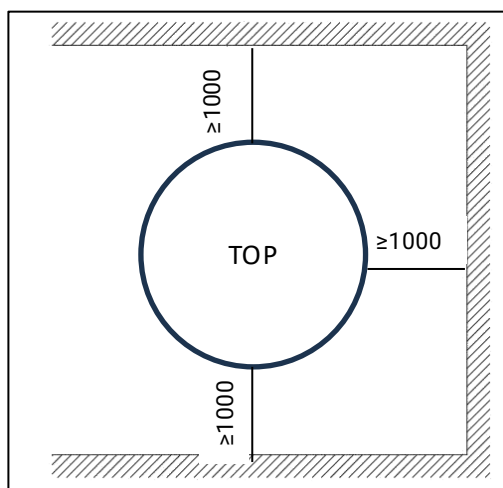
The use of unauthorized devices may shorten the life of the water heater and may result in death and property damage. The manufacturer is not responsible for any loss or damage caused by the use of such unauthorized devices.

### 4.1 Placement and ventilation requirements

The unit must be installed on a solid, level base with adequate drainage to prevent water accumulation.

#### WARNINGS

- The PTR valve coming with the equipment must be installed and the valve outlet must not be blocked, as this may be dangerous.
- Do not install in corrosive environments or areas containing flammable gases, vapours, or aerosols. As the unit contains R290 refrigerant, inadequate ventilation may result in a fire or explosion risk.
- Electrical components may generate sparks during operation. Do not install the unit in environments where flammable vapours or gases are present. Improper installation may result in equipment failure, property damage, or personal injury and may void the manufacturer's warranty.



#### 4.2 Positioning the Resisteam Pro

- To avoid affecting airflow, please ensure the equipment space requirements as shown.
- The water heater shall be installed in a clean, well-ventilated area free from excessive dust, corrosive chemicals, or chlorine vapours that is as close as possible to the area with the maximum hot water demand.
- All hot water pipework must be insulated to minimise heat loss and improve system efficiency.
- When the water heater is placed, the space that is used for proper maintenance must be reserved, that is, the space required for removing the top cover, accessing to the PTR valve, and removing & installing the anode rod.
- Allow sufficient clearance for maintenance:
  - Top access for cover removal
  - Side access for PTR valve
  - Clearance for anode removal (minimum vertical clearance required)
- The entire equipment may be disassembled for future maintenance. Protect the unit and pipework from freezing conditions and corrosive environments. Use insulation and appropriate materials where required.
- In the place where the water heater is installed, the installation area must include adequate drainage (e.g. floor drain) to safely discharge water from the tank, PTR valve, and condensate line, such as floor drains, to drain the water in the tank when the tank is repaired or cleaned.
- Even though the Madimack Resisteam Pro operates at a low level of noise, install the unit away from bedrooms or noise-sensitive areas where possible.

#### 4.3 Equipment fixation

- Remove the packaging.
- Install on a level, stable concrete base (minimum 100 mm thick) capable of supporting at least 500 kg. The Resisteam is not to be hung on a wall.
- The unit must be securely anchored to prevent movement in high wind conditions. Use a fixing bracket or strap system with M8 x 50 mm bolts and fix with bolts firmly to prevent damage from cyclone like weather. Use appropriately rated fixing brackets or straps suitable for the installation environment.

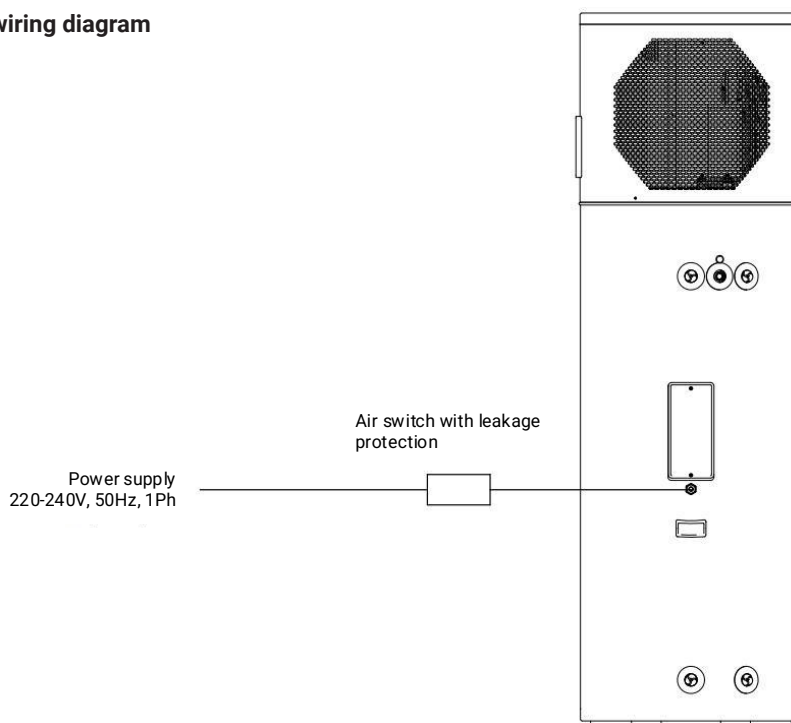
#### 4.4 Condensate discharge

- The condensate produced by the water heater needs to be discharged. Connect the condensate drain to a suitable drainage point. Ensure the hose has a continuous fall and is protected from blockage or freezing.

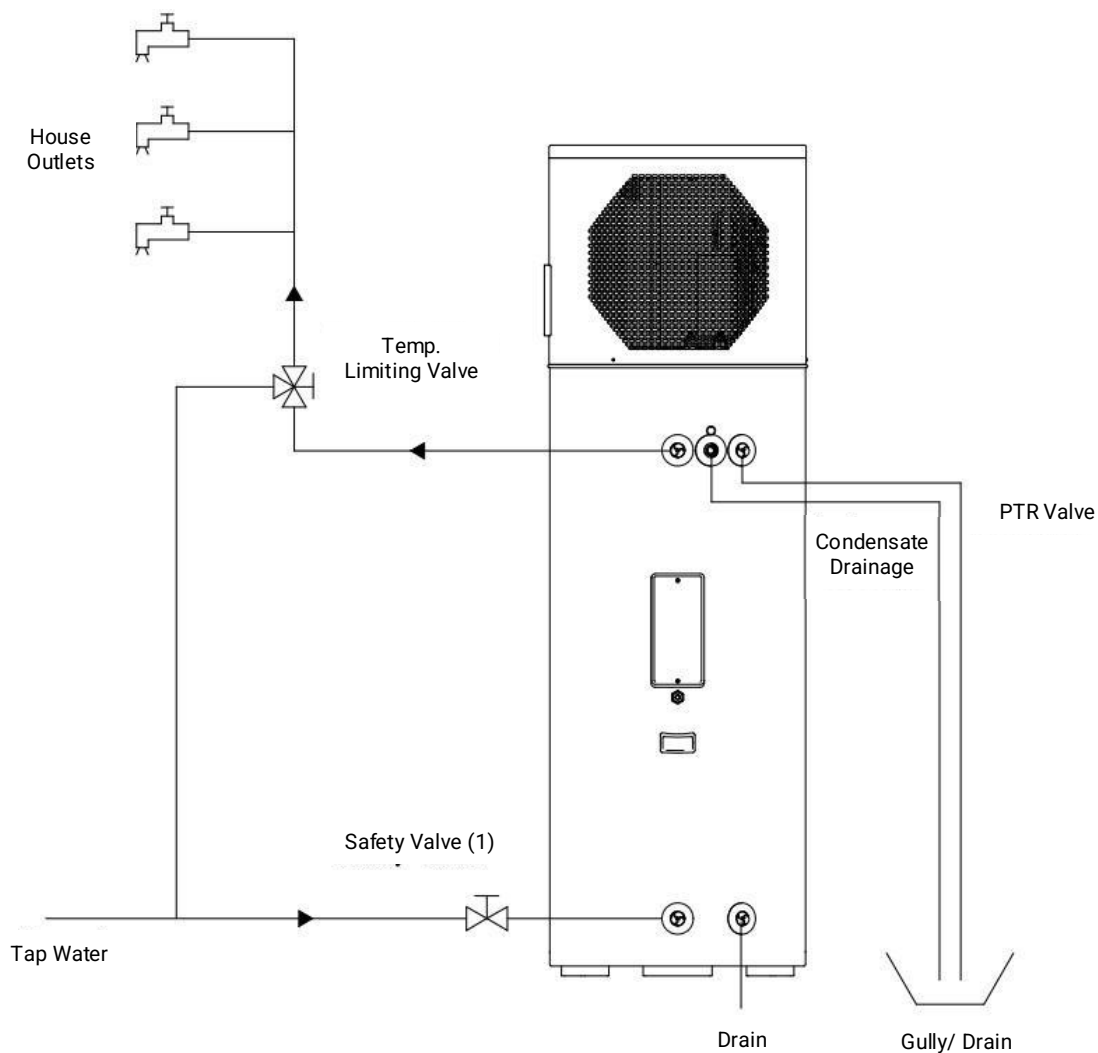
#### 4.5 Electrical requirements

- The unit must be connected to a dedicated electrical circuit.
- Power supply cable: minimum 3 x 2.5 mm<sup>2</sup>. Installation must include appropriate circuit protection and an isolating switch in accordance with AS/NZS 3000.
- This water heater must be directly connected to the main power supply: 230–240V, 50Hz single phase

#### 4.6 Electrical wiring diagram



#### 4.7 Water pipe connection



#### WARNING

- All plumbing work must be performed by a licensed plumber in accordance with AS/NZS 3500 and local regulatory requirements
- Hot water pipework may reach high temperatures. Avoid direct contact and use appropriate PPE. Isolate the system and allow it to cool before servicing.
- The supplied PTR valve must be installed. The discharge line must be correctly connected, must not be blocked, and must terminate in a safe and visible location in accordance with AS/NZS 3500 or other property loss may be caused.

#### 4.8 Installation of the inlet and outlet water pipelines

The inlet and outlet water threads are G3/4 (female thread). Pipelines must be high temperature-resistant, durable and weathering-resistant (outdoor installation).

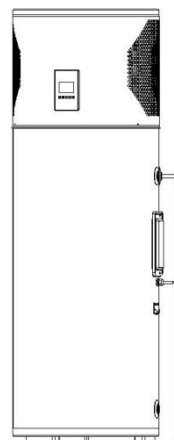
#### 4.9 Installation of PTR valve pipeline

The PTR valve connection is 3/4" BSP male thread.

The discharge pipe must:

- Be of equal or greater diameter than the valve outlet
- Run continuously downward without restriction
- Not include valves or obstructions
- Terminate in a visible and safe location

Installation must comply with AS/NZS 3500.



#### 4.10 Condensate drain pipe

This water heater has an integrated condensate water pan. Condensate collected in the internal drain pan is discharged via the drain outlet located at the rear of the unit. Connect one end of the condensate drain pipe to the drain hole on the back of the water heater. Ensure the drain hose has a continuous downward fall to the drainage point.

#### 4.11 PTR valve installation

- The PTR valve must be installed at the connection port marked "PTR valve" on the water heater. No other valve body or any other type of part should be installed between the PTR valve and the water tank. Please install the PTR valve correctly according to this valve's instruction manual.
- The PTR valve model: W-PTR20/850KPA, Set Pressure: 850kPa, Set Temperature: 99C, Rated Capacity: 46kW

#### WARNINGS

- The pressure rating of the PTR valve must not exceed 850 kPa.
- Water may drip from the discharge pipe of the pressure-relief device and that this pipe must be left open to the atmosphere
- The PTR valve must be manually operated at least every 6 months to ensure it is not blocked and is functioning correctly.
- Once the PTR valve is installed on the water heater, its function is to discharge high temperature hot water under certain conditions. All pipework connected to the PTR valve must be rated to withstand temperatures exceeding 99°C. Failure to follow this advice can lead to dangerous situations.
- Never block or seal the PTR valve or its drain outlet for any reason. If the PTR valve is changed arbitrarily or not installed in accordance with the instruction manual, the warranty will be invalid.
- The PTR discharge pipe must:
  - Be connected and not left optional
  - Be of equal or greater diameter than the valve outlet
  - Run continuously downward without restriction
  - Not include any valves or obstructions
  - Terminate in a visible and safe location

Installation must comply with AS/NZS 3500.

It is recommended to connect a hose from the PTR valve outlet to the floor drain or a suitable drain device so that the drained water will not touch any electrical part, person or animal, thus eliminating any other possible risks.

- In order to reduce the risk of excessive pressure or temperature in the water tank of the water heater, a PTR valve is required to be installed as the protection device as per the local laws and regulations.

#### 4.12 Pipe insulation

- All pipelines should be insulated with suitable thermal insulation materials (if exposed, they must be weathering and UV-resistant) to optimize energy efficiency.
- It is vitally important to scrupulously clean the pipeline before installing the pressure reduction valve, to prevent any small element or impurity from altering its correct operation.
- It is highly recommended to install a filter at the pressure reduction valve inlet for sediment protection. This should be installed in a horizontal pipe; the direction of flow must correspond to the direction shown by the arrow on pressure reduction valve body.

#### **4.13 Commissioning – Before first use**

1. Open the water outlet connection and one or more hot water taps.
2. Open the cold water inlet valve to allow the tank to fill until the water flows steadily from the hot water tap.
3. Turn off the hot water tap when there are no air bubbles in the water stream.
4. Check all connections for leaks.
5. Connect the equipment to the power supply via the power cord.
6. Test the water pressure, and if necessary, adjust the regulator. To adjust it, loosen the locknut on the adjustment screw, then turn the screw up or down until the water pressure is at the desired level, as measured by a pressure gauge attached to a threaded hose bib somewhere in the home.

#### **4.14 Water supply quality**

- Water quality must comply with recommended limits below for pH, chlorine, hardness, and total dissolved solids to prevent corrosion or scaling.
- In high chloride supply areas, the water will corrode parts and cause them to fail. Where the chloride level exceeds 200mg per litre, warranty is void to the heat pump and storage tank.
- No warranty applies to the heat pump and storage tank where the pH value is less than 6.0. The water supply from a rainwater tank in a metropolitan area is likely to be corrosive due to the dissolution of atmospheric contaminants.
- Water with a pH value is less than 6.0 may be treated to raise the pH value. It is recommended that an analysis of the water from a rainwater tank be conducted before connecting this type of water supply to the system.

#### **4.15 Thermal expansion tank (not provided)**

- Thermal expansion is a natural process in which the volume of water is increased after it is heated.
- When the volume increase of the water stored in the water tank is limited, it will cause an increase in pressure.
- Increased pressure can lead to dangerous situations. If the safety settings on the PTR valve are already in place, the valve will act during the heating cycle.
- Generally, if the pressure in the tank reaches the nominal value of the valve, the excessive expansion may cause the valve to malfunction prematurely and accelerate the actuating force of the valve.
- In this case, an expansion control device may be required depending on system configuration and must comply with AS/NZS 3500
- For more information on this issue, please consult the relevant professional or water heater supplier.

#### **4.16 Temperature limiting device (not provided)**

##### **WARNING**

**The water heater can heat the water to a temperature that may lead to scalds.**

- A temperature limiting (tempering) valve must be installed in accordance with AS/NZS 3500.

#### **4.17 Pressure limiting valve (not provided)**

- If the tap water supply pressure exceeds the product's pressure rating of 800kPa, a pressure limiting valve is required to be installed at the water inlet pipeline.
- If the tap water supply pressure is lower than the product's pressure rating of 200kPa, a licensed plumber should assess the installation. Any boosting system must comply with system pressure limits.

## 5. Installation check list

### 5.1 Water tank position

- The installation space must be at least 3m x 3m x 2.5m (22.5m<sup>3</sup>). If it can not be satisfied, the Resisteam Pro should be relocated or ventilation devices are required.
- The air inlet and outlet of the water heater shall be 1000mm away from the wall at least.
- The front and back of the water heater should be unobstructed and clean.
- The bottom of the water heater must be on a flat surface.

### 5.2 Pipeline connection

- Inject tap water into the water tank after the water pipes are connected and check if there is a water leak at any joint.

### 5.3 Condensate drain hose

- The condensate drain hose should be connected to the drain hole of the water pan and the floor drain, drain device or drain pump.

### 5.4 PTR valve and drain line must comply with local regulations

### 5.5 Electrical connection

- Electrical connections shall not obstruct the removal of the inlet and outlet air grids.
- Electrical installation must include a dedicated circuit, isolating switch, and RCD protection in accordance with AS/NZS 3000.

### 5.6 Check the wire controller

- Verify whether each operation button on the control panel is flexible and displays normally
- Check whether the mode, temperature, time, and other function settings are correct.
- The default temperature is set to be 65 °C

### 5.7 Confirm whether there is a problem with the machine settings

- Start up the water heater after confirming that there is no problem with the settings. Please pay attention to protecting the control panel.

## WARNING

**The power supply cannot be activated before the water tank is filled with water**

## 6. Resisteam Pro Start-up

- After the water heater is installed and all electrical and water connections are also determined and checked, it should be filled with water (the water tank is ensured to be filled with water by opening the hot water tap at somewhere in the home for drawing off water).
- Only operate the unit after confirming all installation, plumbing, and electrical checks have been completed

### 6.1 Startup timing

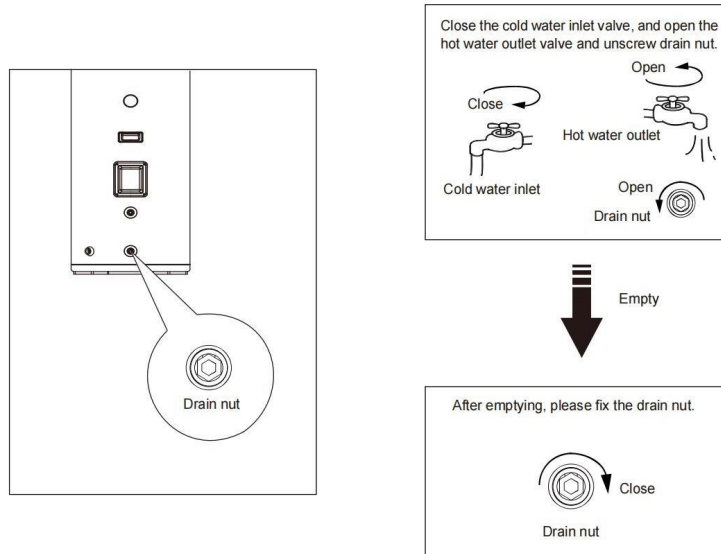
| Time              | Heat Pump                          | Notes/ Reason                     |
|-------------------|------------------------------------|-----------------------------------|
| 0---110 seconds   | The water heater is with no action | Prevent compressor from damage.   |
| 110---170 seconds | Solenoid valve opens               |                                   |
| 170---180 seconds | Fan starts                         |                                   |
| 180 seconds later | Compressor starts                  | High-efficient heat pump heating. |

- The ambient operating temperature range for the heat pump is -5°C to 43°C.
- If the ambient temperature falls outside this range, the heat pump will stop operating and the auxiliary electric heating element will automatically activate to maintain water temperature.
- The system will automatically return to heat pump operation when ambient conditions return to within the operating range

## 6.2 Water emptying from water tank

**Warning: Water inside the tank may be hot. Allow the system to cool before draining**

- Before draining, isolate the power supply and close the cold water inlet.
- Open a hot water tap to allow air into the system and enable proper draining
- Drain the tank via the designated drain valve or by opening the PTR valve and directing water to a safe drainage point



If insulation or any external covering is applied to the water heater, the following requirements must be observed to ensure safe operation and prevent system malfunction:

- Do not cover the PTR (Pressure & Temperature Relief) valve.
- Do not cover the auxiliary electric heater access cover.
- Do not obscure any safety labels, warning markings, or operating instructions.
- Do not obstruct the air inlet or outlet, as this will restrict airflow and reduce performance.
- Do not cover or interfere with the control panel.

Failure to comply with the above may result in overheating, reduced efficiency, or damage to the unit.

### Warnings:

- Do not operate the water heater if the cold water supply is turned off. Operating the unit without water may cause serious damage to internal components.
- Immediately isolate the power supply and contact a qualified service technician if:
  - The unit overheats
  - The unit is exposed to fire, flooding, or physical damage
  - Unusual noise, smoke, or burning smell is detected
- Installation, commissioning, maintenance, and cleaning must be carried out by licensed and qualified personnel in accordance with local regulations.

## Warning

- Do not turn on the water heater if the cold water supply is off.
- Turn off the power if the water heater is overheated or subject to fire, flood or other physical damage.
- The installation, commissioning, maintenance and cleaning of the water heater must be completed by professional technicians or maintenance personnel.

## 7 Operating instructions

### 7.1 Control panel



Mode      Clock      Power      Up      Down

### 7.2 Start-up & Shutdown operation

- Power on: press "  " to start it up.
- Power off: press "  " to shut it down.
- Press "  " for over 3 seconds to lock or unlock the control panel.

### 7.3 Temperature setting

- Press "  " or "  " to set the temperature and adjust temperature.

#### 7.4 Working mode setting

- Press **"MODE"** to switch to ECO mode or RAPID mode.
- When ECO is displayed, only the heat pump will operate.
- When RAPID is displayed, both the heat pump and electric element will operate.

#### 7.5 Time setting

- Press **"CLOCK"** to set time as follows: hour – minute - quit.
- Press **"UP"** and **"DOWN"** to set the time details.
- During the set process, you can press **"CLOCK"** to quit.

#### 7.6 Timer settings

- Press **"CLOCK"** to enter the setting.
- Timing 1: Timer 1 flashes, press **"UP"** and **"DOWN"** to set hours, then press **"CLOCK"** timing 1 flashes, use **"UP"** and **"DOWN"** to set the minutes, and press **"CLOCK"** to save.
- Timing 2: press **"CLOCK"** to enter timer 2. The operation is the same as timer 1.
- Press **"CLOCK"**, then press **"UP"** and **"DOWN"** to select Timer 1 or Timer 2, then press **"CLOCK"** to cancel the timer setting.

#### 7.7 Manual forced defrosting

For technician use only

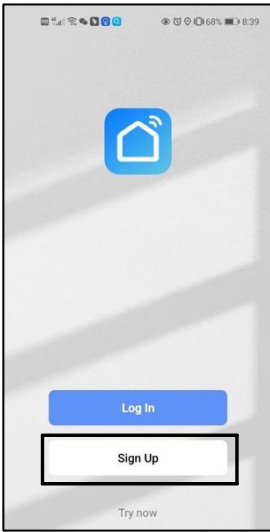
- Press **"MODE"** and **"CLOCK"** together for at least 5 seconds.
- The defrosting is forced to start, until the maximum defrosting time is reached or the protection fault is triggered.

### 8. Wi-Fi function instruction

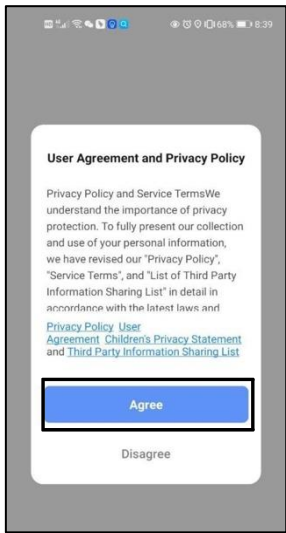
1. This unit is compatible with the Smart Life app (available on iOS and Android).
2. Download and install the Smart Life app from the App Store or Google Play.
3. Ensure your smartphone is connected to a 2.4GHz Wi-Fi network during the initial pairing process.



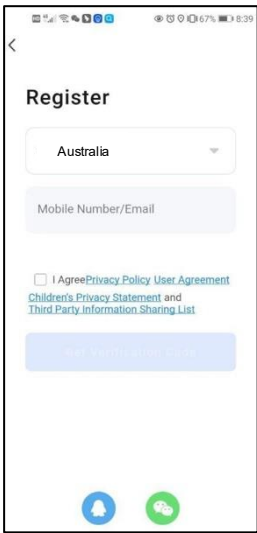
8.1 Connection process for the Smart Life App



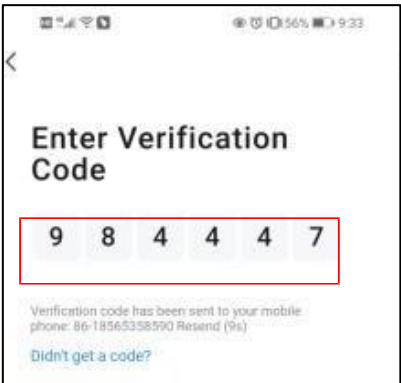
1. Sign up



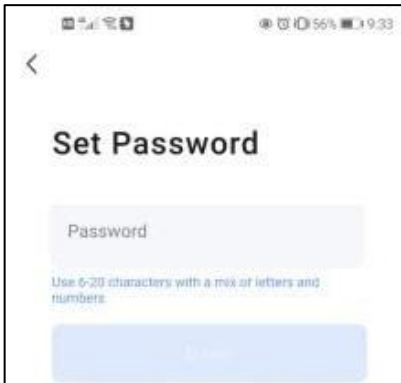
2. Accept agreement



3. Enter details



4. Enter the verification code



5. Set a password

6. You will then be able to log in to the app with your username and password.

7. After signing in, create a "home", using this process:

Home Management — Set home name — Set location — Add room — Save

## 8.2 Connect the Wi-Fi

- Press and hold the two keys “M” and “UP” for 5 seconds, this will enter into manual network connection for 3 minutes.
- The symbol “Wi-Fi” will flash showing it is ready for connection.



## 8.3 Use the mobile device to connect to the Wi-Fi network

Note: The device supports 2.4 GHz Wi-Fi only. 5 GHz networks are not supported

1. Open the app Smart Life and login
2. Press the icon "+", or press "Add Device "
3. Find "Large Home Appliance"
4. Select the "Smart Heat Pump (Wi-Fi)"
5. Enter into Wi-Fi connecting interface
6. Input the Wi-Fi password. Ensure your mobile device is connected to the same 2.4 GHz Wi-Fi network that you want the unit to use.
7. Press "next" then press the " Confirm the indicator is blinking". Ensure the unit is in pairing mode (Wi-Fi indicator flashing rapidly). Refer to the controller instructions to activate pairing mode if required.
8. Select the " Blink Quickly"
9. Wait for finding device, until the device appears
10. Press " + " to add the device, and give a new name.



## 9. Inspection and maintenance



### Warning

- **The water heater should be repaired and maintained by professionals in accordance with local plumbing standards.**
- **Any water discharged from the PTR valve may be at scalding temperatures. Always ensure it is safely directed to a drain.**
- **Periodic release of the PTR valve is part of normal operation. This is because there is thermal expansion in a closed water system that causes an increase in pressure. If such release becomes excessively frequent and continuous, please contact the after-sales service provider and don't block the outlet of the valve.**

**Note:** Proper maintenance of the water heater will provide a longer, reliable, trouble-free and economical operating life.

It is recommended to establish a regular preventive maintenance program for the users to follow up.

### 9.1 Inspection and maintenance precautions

- It is recommended that periodic inspections of the controller, heating elements, and wiring should be performed by qualified electrical service personnel.
- It is recommended that the evaporator and refrigeration circuit be inspected and cleaned every 5 years for dust and residue. In dusty environments, they should be inspected and cleaned more frequently.

### 9.2 Inspection items

#### 9.21 PTR valve

- The lever handle of the valve should be lifted and released at least once every 6 months to ensure flexible operation of the valve.
- A few liters of water shall be allowed to drain from the valve so as to flush the valve body, but the drained water should be connected to an external drain pipe to flow to the floor drain.
- It is strictly forbidden to replace the existing PTR valve with a PTR valve that is higher than the pressure rating specified by the water heater.
- If the valve body cannot drain water when the release lever is opened or it cannot be well sealed when the release lever is closed, it must be promptly replaced by a professional.

#### 9.22 The PTR valve can not be repaired.

### Warning

**Before manually operating the PTR valve, make sure that no one is exposed to the hot water released by the valve body. The hot water discharged from the water tank may not be sufficient to cause scalds, but should be connected directly to an appropriate drain place to prevent injury or damage.**

### 9.3 Water tank flushing

The suspended solids in water are easily deposited at the bottom of the tank. Therefore, it is normal to have hard water sediments at the bottom of the tank.

It is recommended to periodically drain the water and then inject water into the water tank to wash the sediments at the bottom of the tank every 6 months.

## 9.4 Water Tank Emptying

### Warning

**Please turn off the power of the water heater before draining the water.**

### Risk of scalds!

**Please check the hot water temperature of the water heater before opening the PTR valve. Until the water temperature drops to a level that is insufficient to cause scalds or other injuries.**

Discharge water from the drain outlet, where a large amount of water will be drained. To ensure proper drainage, the following points need to be noted:

- Close all hot water taps.
- Isolate cold water supply.
- Remove the cold water inlet connection until the drain is stopped.
- Open a hot water tap.
- Wait until all the water is drained.

## 9.5 Holiday and long-time shutdown

- If the water heater will be kept idle for a long period of time, in order to save energy, the power and water supply of the equipment should be turned off.
- Although the water heater has an antifreeze function, if the water heater and pipeline may be subjected to freezing temperatures, both of them should be drained.
- After a long period of shutdown, the operation and control of the water heater should be checked by qualified maintenance personnel.
- Make sure the water heater is completely filled with water before running the water heater.

## 9.6 Cleaning of condensate drain pipe

The condensate drain outlet is located on the back of the water heater. If it is clogged, water will overflow from the outside of the water heater, so it is necessary to regularly clean and clear the condensate drain outlet.

- Remove the condensate drain pipe.
- Clear and unblock the debris and attachments from the drain outlet.
- Periodically inspect the drain pipe and remove any debris that may gather in the drain pipe.

## 9.7 Refrigerating circuit

### Warning

**Repairs to the refrigeration circuit (R290 refrigerant) must only be carried out by licensed technicians authorised to handle flammable refrigerants.**

## 9.8 Magnesium anode rod maintenance

- The magnesium anode rod of water heater is the most important protective part against corrosion and premature failure for any water tank.
- Therefore, it is very important to check the magnesium anode rod. It is generally recommended by the water heater industry to check the anode rod once a year.
- Apartments that supply salty or softened water should consider being inspected more frequently. If there is any doubt, please consult your local plumbing expert.
- If necessary, please contact an authorized person to inspect and replace the magnesium anode rod.

## 9.9 Check/Replacement of magnesium anode rod

The tank of the water heater shall be protected against corrosion by an internal magnesium anode rod.

### Warning

**Damage caused by the water heater operation without the protection of magnesium anode rod is not covered by our warranty.**

**The magnesium anode rod needs to be inspected every year and be replaced if necessary.**

- The inner wall of the water storage tank is coated with an enamel coating, which is only used for the corrosion protection of normal water quality. When more corrosive water is used, the protection can only be effective if additional safety measure (anode rod) is taken and the magnesium rod is checked more frequently.

### Check the protective magnesium anode rod:

- Disconnect the water heater from the power supply.
- Turn off the water supply.
- Remove the magnesium anode rod.
- Perform a visual inspection and replace it if necessary.
- It is recommended to replace the magnesium anode rod at least every 2 years.

## 10. Fault code display

Installation, maintenance and repairs can only be carried out by an authorized service supplier. The fault codes and handling measures are listed in the following table:

| Error Code | Error Contents                          | Solution                                                 |
|------------|-----------------------------------------|----------------------------------------------------------|
| P01        | Lower Water tank sensor failure         | Secure the connector or replace the sensor               |
| P02        | Upper Water tank sensor failure         | Secure the connector or replace the sensor               |
| P03        | Coil sensor failure                     | Secure the connector or replace the sensor               |
| P04        | Suction sensor failure                  | Secure the connector or replace the sensor               |
| P05        | Ambient sensor failure                  | Secure the connector or replace the sensor               |
| P07        | exhaust gas temperature failure         | Secure the connector or replace the sensor               |
|            | High exhaust gas temperature protection | Check if the exhaust temperature exceeds the set value   |
| E02        | Low pressure protection                 | Check whether the refrigerant leaks                      |
| E08        | Communication failure                   | Check communication line, line sequence, connector, type |

## **11. Service & Repair Instructions (R290 Refrigerant)**

**IMPORTANT:** This section is for the use of licensed refrigeration technicians holding appropriate certification e.g. ARCTick only. All procedures must be performed in accordance with AS/NZS 60335.2.40 and local regulations regarding flammable refrigerants.

### **11.1 Safety Preparation and Site Checks**

- Before beginning work on systems containing flammable R290 refrigerant, the following safety checks are mandatory:
- Work Procedure: Work must be undertaken under a controlled procedure to minimize the risk of flammable gas or vapor being present.
- Area Monitoring: The area must be checked by a licensed refrigeration technicians holding appropriate ARCTick certification using an intrinsically safe (non-sparking) refrigerant detector prior to and during work.
- Fire Safety: A dry powder or CO<sub>2</sub> fire extinguisher must be available and charged in the immediate work area.
- No Ignition Sources: No person shall use any source of ignition (including smoking) in a manner that creates a risk of fire or explosion. "No Smoking" signs must be clearly displayed.
- Ventilation: Ensure the work area is outdoors or mechanically ventilated to prevent accumulation of flammable refrigerant. Ventilation must remain active during the entire service period to safely disperse any released refrigerant.

### **11.2 Electrical Component Maintenance**

- Isolation: Disconnect all electrical supplies before removing sealed covers. All electrical isolation must comply with lockout/tagout procedures. If power is required for live testing, a permanently operating leak detector must be placed at the most critical point to warn of hazards.
- Seals & Glands: Ensure that seals or sealing materials have not degraded. Replacement parts must match the manufacturer's original specifications to maintain the unit's safety rating.
- Intrinsically Safe Parts: Only "intrinsically safe" components may be worked on while live in a flammable atmosphere. Ensure test apparatus is correctly rated.
- Cabling: Inspect cabling for wear, corrosion, excessive pressure, or sharp edges. Account for long-term vibration from the compressor or fan.

### **11.3 Leak Detection Methods**

- Prohibited: Never use potential ignition sources (such as a halide torch or any naked flame) to search for leaks.
- Electronic Detectors: Detectors must be calibrated in a refrigerant -free area and set to a maximum of 25% of the LFL (Lower Flammability Limit).
- Fluids: Leak detection fluids (bubble or fluorescent) are acceptable; however, avoid detergents containing chlorine, as they may react with the refrigerant and corrode the copper pipework.

### **11.4 Removal, Evacuation, and Charging**

When breaking into the refrigerant circuit for repair or decommissioning, use the following procedure:

1. Recover refrigerant into dedicated, labelled recovery cylinders.
2. Purge the circuit with Oxygen-Free Nitrogen (OFN).
3. Evacuate the system to a vacuum.
4. Purge again with OFN.
5. Open the circuit by cutting or brazing.

Warning: Never use compressed air or oxygen for purging. Ensure the vacuum pump outlet is not located near any ignition sources.

### **11.5 Decommissioning and Recovery**

- Labelling: Once decommissioned, the unit must be labelled "Emptied of Refrigerant," dated, and signed. Ensure the "Flammable Refrigerant" label remains visible.
- Recovery Equipment: Ensure the recovery machine is in good working order and suitable for flammable refrigerants. Use calibrated weighing scales for all transfers.
- Cylinder Care: Do not overfill cylinders (max 80% liquid volume).
- Waste Management: Return recovered refrigerant to the supplier in the correct cylinder with a Waste Transfer Note. Do not mix different refrigerants in the same cylinder.

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