



# User guide

## Hot Water Heat Pump All-In-One Pro

EE-HWS-A1-220, EE-HWS-A1-220E  
EE-HWS-A1-270, EE-HWS-A1-270E  
EE-HWS-A1-320, EE-HWS-A1-320E

## Hot Water Heat Pump All-In-One Select

HPA1-S220, HPA1-S220E  
HPA1-S270, HPA1-S270E  
HPA1-S320, HPA1-S320E



### IMPORTANT NOTICE

Please read this manual and retain for future use.  
Not following the instructions may result in the product  
not functioning as intended.

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## 1. Welcome

# Welcome to your Emerald hot water heat pump

The Emerald heat pump and Emerald App offer advanced hot water heating.

Engineered to minimise its environmental impact, your Emerald heat pump utilises R290, a natural and non-toxic refrigerant with minimal environmental harm. R290 has zero Ozone Depletion Potential (ODP) and an extremely low Global Warming Potential (GWP) of 3.

An Emerald heat pump can save up to 80% on hot water bills compared with a conventional electric storage water heater, depending on usage and conditions while enjoying efficient and eco-friendly hot water heating.

Unlike standard electric water heaters, Emerald heat pumps leverage advanced technology to extract heat from the air, delivering exceptional energy and cost savings.



## Registering your warranty gives you more from Emerald

- An additional 1-year warranty on the tank when registered within 3 months of installation.
- Priority customer support.
- Tips and advice to maximise savings with your Emerald heat pump.
- Exclusive product updates and promotions.
- Peace of mind knowing your hot water heat pump is protected.

Visit [emerald.com.au/warranty](https://emerald.com.au/warranty) and follow the instructions to complete the warranty registration.

Register now



## 2. Important safety information

 Please read and follow the safety information below to help keep your Emerald hot water heat pump operating safely and correctly.

This appliance must only be installed, serviced, repaired, or relocated by suitably qualified personnel. Do not attempt to open, modify, repair, or service the heat pump yourself.

### General safety

---

- Do not remove covers, panels, safety labels, or warning labels from the heat pump.
- Do not modify the appliance, controller, electrical wiring, pipework, valves, drain lines, or safety devices.
- Do not operate the heat pump if it appears damaged, has been dropped, impacted, or has visible damage to the casing, fan area, pipework, or electrical components.
- Do not place objects on top of the heat pump.
- Keep children away from the appliance and controller unless supervised.
- Do not use the appliance for any purpose other than heating domestic hot water.

### Electrical safety

---

The heat pump contains electrical components that may cause serious injury if accessed incorrectly.

- Do not open electrical covers or access panels.
- Do not touch the appliance with wet hands.
- Do not spray water directly onto the controller, electrical panel, plug, socket, or wiring.
- Do not use the heat pump if the power cord, plug, socket, or isolator appears damaged.
- If the appliance trips the circuit breaker, RCD, or safety switch repeatedly, do not reset it multiple times. Contact Emerald support or a qualified technician.

If you notice smoke, a burning smell, electrical smell, sparking, or abnormal heat from the unit, switch off the power supply immediately and contact Emerald support.

### Refrigerant safety

---

This appliance contains R290 refrigerant. R290 is an efficient refrigerant with low environmental impact, but it is flammable and must be handled safely.

- Do not pierce, burn, cut, drill, or damage the appliance.
- Do not use flames or ignition sources near the heat pump.
- Do not store flammable liquids, aerosols, chemicals, gas cylinders, paints, solvents, or combustible materials near the unit.
- Do not use any method to speed up defrosting or cleaning unless recommended by Emerald.
- Refrigerant work must only be carried out by qualified refrigeration personnel.

If you suspect refrigerant leakage, turn off the appliance if safe to do so, avoid flames or sparks, ventilate the area, and contact Emerald support or a qualified technician.

### Airflow and clearance

---

Your heat pump needs clear airflow to operate correctly.

- Do not block the air inlet or air outlet.
- Do not cover the fan opening.
- Do not place boxes, plants, bins, storage items, or other objects close to the unit where they may restrict airflow.
- Keep the area around the heat pump clear of leaves, dust, debris, and other obstructions.

Blocked airflow may reduce hot water performance, increase energy use, create abnormal noise, or cause the system to stop operating.

## 2. Important safety information

### Hot water safety

---

The heat pump stores hot water at high temperatures for performance and hygiene protection. A tempering valve is used in the plumbing system to help control the hot water temperature delivered to taps and showers.

- Do not adjust or remove the tempering valve.
- Do not adjust pressure valves, safety valves, or plumbing fittings.
- Hot water from the system can cause scalding if plumbing safety devices are not working correctly.
- If water from taps or showers is too hot, stop using the hot water and contact your installer or a licensed plumber.

- The power supply, plug, socket, or isolator is damaged.
- The appliance is not heating water after basic checks.

Do not continue operating the appliance if you believe it is unsafe.

### Water discharge and drainage

---

Some water discharge may be normal during operation.

- Condensate water from the heat pump drain is normal.
- A small amount of water from a safety valve during heating may be normal.
- Continuous water discharge, heavy dripping, leaking from the tank, or water pooling around the unit should be checked by a qualified plumber or technician.

Do not block, cap, redirect, or modify any drain line or safety valve discharge pipe.

### When to stop using the heat pump

---

Switch off the power supply and contact Emerald support or a qualified technician if:

- There is smoke, burning smell, electrical smell, or sparking.
- The unit makes loud grinding, banging, or abnormal vibration noises.
- The controller shows an error code that does not clear.
- The unit has visible damage.
- Water is leaking continuously from the tank, pipe-work, or safety valve.

### 3. Getting to know your heat pump

Your Emerald All-In-One heat pump is designed to heat and store domestic hot water automatically. Once installed and commissioned by a qualified installer, the system operates with minimal user input.

The heat pump uses surrounding air to heat water stored inside the tank. This allows it to use significantly less electricity than a standard electric storage water heater.

#### Key external parts of your heat pump



| Feature                     | Description                                                                  |
|-----------------------------|------------------------------------------------------------------------------|
| 1 Air inlet                 | Allows air to enter the heat pump system. This must be kept clear            |
| 2 Air outlet/ fan area      | Discharges air from the heat pump during operation. Do not block or cover it |
| 3 Controller                | Allows basic control of the system and displays operating information        |
| 4 Condensation drain outlet | Allows condensate water to discharge from the system                         |
| 5 Hot water outlet          | Supplies heated water to the property through the plumbing system            |
| 6 Cold water inlet          | Supplies mains water into the tank                                           |
| 7 TPR valve                 | Temperature and pressure relief valve connection                             |
| 8 Name plate/ serial number | Shows the model and serial required for warranty, app pairing and support    |

**⚠ IMPORTANT**

Keep air inlet and outlet areas clear at all times for efficient and safe operation

### 3. Getting to know your heat pump

#### Model range

This User Guide applies to the following Emerald All-In-One heat pump models:

| Series            | Models                                                                                      |
|-------------------|---------------------------------------------------------------------------------------------|
| All-In-One Pro    | EE-HWS-A1-220, EE-HWS-A1-220E, EE-HWS-A1-270, EE-HWS-A1-270E, EE-HWS-A1-320, EE-HWS-A1-320E |
| All-In-One Select | HPA1-S220, HPA1-S220E, HPA1-S270, HPA1-S270E, HPA1-S320, HPA1-S320E                         |

Some features may vary depending on the model. For example, electric element operation is only available on models with “E” in the model number. Silent Mode is not available for All-In-One Select models.

#### Your model and serial number

Record your heat pump details below for future support, warranty and app pairing.

| Item                     | Details |
|--------------------------|---------|
| Model number             |         |
| Serial number            |         |
| Installation date        |         |
| Installer company        |         |
| Installer contact number |         |
| Installer reference code |         |

The model and serial number can be found on the product rating label. You may need these details when registering warranty, pairing the product in Emerald App, or contacting Emerald support.

#### Installer Reference Code

Your installer may provide an Installer Reference Code during commissioning. This code helps connect your heat pump to the installer company in Emerald App.

This can assist with:

- warranty support
- remote assistance
- service history
- ongoing service management

Keep this code with your product details for future reference.



## 4. How your heat pump works

Your Emerald heat pump heats water by using heat from the surrounding air. A fan draws air through the heat pump, and the system transfers that heat into the water stored inside the tank.

This process uses less electricity than a standard electric storage water heater, but it may take longer to heat the tank. This is normal.

Once the system has been installed, commissioned, and powered on, it operates automatically. The controller manages heating cycles, water temperature, and system protection.

### What to expect during normal operation

During normal operation, you may notice:

| What you may notice                                        | What it means                                                               |
|------------------------------------------------------------|-----------------------------------------------------------------------------|
| The fan is running                                         | The heat pump is heating water.                                             |
| The compressor icon is visible                             | The heat pump system is actively operating.                                 |
| The unit runs for longer than an old electric water heater | Heat pumps heat efficiently but usually more gradually.                     |
| The unit runs more in cold weather                         | Heating can take longer when the surrounding air is colder.                 |
| Water dripping from the condensate drain                   | This is normal condensation from heat pump operation.                       |
| A small amount of water from a safety valve                | This may occur during heating as water expands.                             |
| The system starts automatically                            | The heat pump is maintaining hot water or completing a hygiene cycle.       |
| Some settings are locked or limited                        | This may be required for safety, compliance, or energy-rating requirements. |

### Heating cycles

The heat pump will turn on and off automatically to maintain hot water in the tank. The system does not need to run continuously.

The time required to reheat the tank depends on:

- how much hot water has been used
- outdoor air temperature
- selected running mode
- model size
- whether the unit has an electric element
- household hot water demand

### Condensation is normal

During heat pump operation, moisture from the air may turn into water and drain from the condensate outlet. This is normal and does not mean the tank is leaking.

Contact Emerald support or your installer if water appears to be leaking from the tank body, pipework, fittings, or if there is continuous heavy water discharge from a safety valve.

### Hot water recovery

Heat pumps are designed for efficient hot water heating. Compared with some traditional electric or gas systems, hot water recovery may feel different.

For best performance:

- use Standard Mode for normal daily operation
- use Boost Mode when extra hot water is needed
- keep air inlet and outlet areas clear
- avoid switching the unit off unnecessarily
- use Emerald App or supported scheduling features where available.



## 4. How your heat pump works

### Operation in cold weather

---

The heat pump can operate in cold conditions within its specified operating range. In colder weather, the system may run for longer because there is less available heat in the surrounding air.

This is normal and does not indicate a fault.

### Hot water temperature and hygiene cycle

---

Your Emerald heat pump is designed to heat and store hot water safely and efficiently. Some temperature settings may be limited or locked to support product safety, system performance, energy efficiency, and compliance requirements.

### Stored water temperature

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The water inside the tank may be heated to higher temperatures than the water delivered to your taps and showers.

This is normal. The stored water temperature shown on the controller or in Emerald App may be higher than the temperature you feel at the tap.

### Tap water temperature

---

A tempering valve is installed as part of the plumbing system to help control the temperature of hot water delivered to sanitary fixtures such as showers, baths, and basins.

Do not adjust, remove, or bypass the tempering valve.

If the water at your taps or showers is too hot, not hot enough, or changes temperature unexpectedly, contact your installer or a licensed plumber.

### Temperature settings

---

Some temperature settings may not be adjustable by the user. This does not mean the heat pump is faulty.

Temperature control may be restricted due to:

- safety requirements
- energy-rating requirements
- government or product compliance requirements
- system protection logic
- model configuration

If you need help understanding your available settings, contact Emerald support.

### Automatic hygiene cycle

---

Your heat pump includes an automatic hygiene cycle to help control Legionella bacteria in the hot water system.

During this cycle, part of the tank is heated to 60°C. This process will occur automatically, even if you have not changed any settings.

This is normal and cannot be disabled.

### Why the unit may run by itself

---

The heat pump may turn on automatically to:

- maintain hot water in the tank
- complete the hygiene cycle
- recover after hot water use
- follow a schedule or Smart Action
- protect the system in certain operating conditions

If the system has already reached the required hygiene temperature earlier in the day, the hygiene cycle may not need to run again.

### Important

Do not turn off the heat pump for long periods unless instructed by Emerald support or a qualified technician. Switching the unit off may prevent normal hot water recovery and may interrupt automatic hygiene protection.

## 5. Running modes

Your Emerald heat pump includes different running modes to suit normal daily use, quieter operation, or times when extra hot water is needed.

Available modes vary depending on your model, app version, firmware version, and whether your unit includes an electric element.

To change mode on the controller, press the Mode button to cycle through the available modes. Modes can also be changed in Emerald App where supported.

 Temperature settings in each mode are factory-set and may vary between models due to safety, energy-rating, and compliance requirements. Temperature settings cannot be manually increased by the user. This is normal and does not indicate a fault.

### Mode availability

| Mode                  | What it does                                                                                          | Pro | Select |
|-----------------------|-------------------------------------------------------------------------------------------------------|-----|--------|
| Standard Mode         | Normal daily hot water operation. Recommended for regular use.                                        | ✓   | ✓      |
| Boost Mode            | Temporarily increases hot water recovery when extra hot water is needed.                              | ✓   | ✓      |
| Silent Mode           | Reduces operating noise by running the heat pump at lower output. Hot water recovery may take longer. | ✓   | ✗      |
| Electric Element Mode | Backup heating using the electric element only.                                                       | ✓   | ✓      |

Models with an electric heating element include **E** in the model number, such as **EE-HWS-A1-270E**. Your model number is shown on the nameplate on the side of the unit.

### Standard Mode

Standard Mode is the recommended mode for normal daily operation.

In Standard Mode, the heat pump automatically heats water and cycles on and off as required to maintain hot water in the tank.

The heat pump will turn off once the target temperature is reached and turn on again once the water temperature drops below a preset reheat level.

This cycling behaviour is normal and is designed to support efficient operation.

### Boost Mode

Boost Mode can be used when extra hot water is needed, such as before a period of high use.

Boost Mode temporarily increases hot water recovery. Depending on your model, Boost Mode may operate using the heat pump only, or using the heat pump together with the electric element.

Boost Mode is a manual, one-shot function. It must be activated manually each time extra hot water is needed and will return to Standard Mode after one heating cycle or 24 hours, whichever comes first.

Boost Mode cannot be scheduled, automated, or set to recur through Smart Actions or Emerald App. This restriction is required for energy compliance requirements and cannot be changed.

Boost Mode may increase electricity use while active.

### Silent Mode

Silent Mode reduces operating noise by running the heat pump at lower compressor and fan output. Hot water recovery may take longer while Silent Mode is active.

Silent Mode cannot currently be scheduled through Smart Actions. It must be activated manually on the controller or in Emerald App where supported.

### Electric Element Mode

Electric Element Mode is only available on models with an electric element.

When Electric Element Mode is selected, the electric element heats the water instead of normal heat pump operation.

This mode is a backup function and is not intended for regular daily use.

Electric Element Mode uses more electricity than normal heat pump operation.

## 5. Running modes

### Defrost operation

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In cold or humid conditions, the heat pump may enter defrost operation automatically to clear ice from the evaporator coil.

During defrost operation, the unit may temporarily:

- change operating sound;
- pause normal heating briefly;
- display a defrost icon on the controller.

This is normal.

Do not manually force defrost unless instructed by Emerald support or a qualified technician.

If the defrost icon appears constantly, or if defrost operation seems to occur frequently in warm weather, contact Emerald support.

### System protection

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Your heat pump includes built-in protection functions. These may temporarily stop or limit operation to protect the system.

If an error code appears and clears by itself, the system may have completed an automatic protection process.

If an error code remains, returns repeatedly, or the heat pump does not operate normally, record the error code and contact your installer.

## 6. Emerald App

Emerald App allows you to monitor and control supported features of your Emerald hot water heat pump from your mobile phone.

App features may vary depending on your heat pump model, software version, connectivity status, and system configuration. Silent Mode is available for All-In-One Pro models only and is not available for All-In-One Select models.

### What you can do in Emerald App

| Feature                   | What it does                                                                                                                                                                                   |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| View hot water status     | Check the current tank temperature and system status.                                                                                                                                          |
| Monitor energy use        | View available electricity consumption information for your heat pump.                                                                                                                         |
| Turn the system on or off | Remotely switch supported heat pump operation on or off.                                                                                                                                       |
| Use Boost Mode            | Temporarily increase hot water recovery when extra hot water is needed.                                                                                                                        |
| Use Silent Mode           | Reduces operating noise where supported. Hot water recovery may take longer while Silent Mode is active. Available for All-In-One Pro models only. Not available for All-In-One Select models. |
| Set schedules             | Set supported operating times to suit your household or electricity plan.                                                                                                                      |
| Use Smart Actions         | Automate supported heat pump operation based on schedules, solar generation, or available app triggers.                                                                                        |
| Receive updates           | Access supported product updates, service information, and system notifications.                                                                                                               |

### Before using Emerald App

To use Emerald App, you will need:

- a compatible smartphone
- Emerald App installed
- a 2.4GHz Wi-Fi network
- your Wi-Fi password
- access to your heat pump controller
- your heat pump model and serial number
- the installation date
- the Installer Reference Code, if provided by your installer

### Important notes about Emerald App control

Some settings may be locked or limited due to safety, product compliance, energy-rating requirements, or model configuration.

This means some features shown in the app may not be available for every model or installation.

If a setting is unavailable, restricted, or does not respond as expected, this does not always mean the heat pump is faulty.

### Remote control

Remote control allows you to manage supported features when you are away from home. For remote functions to work, the heat pump must remain powered on and connected to Wi-Fi.

If the heat pump is switched off at the power supply, loses Wi-Fi connection, or has no internet access, app control and monitoring may not be available.

### Emerald App updates

Emerald App may be updated from time to time to improve performance, add features, or change screen layouts.

The screens shown in this guide may differ slightly from the version of the app installed on your device.

## 7. Wi-Fi pairing your heat pump

Pairing your heat pump to Emerald App allows you to monitor and control supported features from your mobile phone.

Emerald App is available for iOS and Android.

### Before you start

Before pairing, make sure:

- the heat pump is powered on at the mains isolator
- the controller display is active
- the controller is unlocked by holding the Power button for 5 seconds until the controller beeps
- your mobile phone is connected to a **2.4GHz Wi-Fi network**
- you have the correct Wi-Fi password
- Bluetooth is enabled on your phone
- you are standing within 1 metre of the heat pump for Bluetooth pairing
- you have the model number and serial number available
- you have the Installer Reference Code, if provided by your installer

The model and serial number are located on the nameplate on the side of the unit.

#### **Important: 2.4GHz Wi-Fi only**

The heat pump Wi-Fi module operates on 2.4GHz Wi-Fi only. 5GHz Wi-Fi networks are not supported.

Your phone must be connected to the 2.4GHz Wi-Fi network during setup.

Some routers use the same network name for both 2.4GHz and 5GHz Wi-Fi. If pairing fails, check your router settings or contact your internet provider to confirm your phone is connected to the 2.4GHz network.

### Pairing steps

1. Download and open **Emerald App**.
2. Log in or create an account.
3. Tap the + button on the app home screen.
4. Select **Add Product**, then select **Heat Pump**.
5. Scan the QR code on the heat pump nameplate to detect your model.
6. If your heat pump does not have a QR code, or the QR code is damaged or unreadable, select **Manual Setup** and choose your model from the list.
7. Choose the pairing method:  
**Bluetooth Mode** - recommended where available. You must stand within 1 metre of the heat pump.  
**AP Mode** - use this if Bluetooth pairing is not available or does not work. The heat pump will create a temporary Wi-Fi network for your phone to connect to.
8. Follow the in-app instructions to place the heat pump into pairing mode.  
**Bluetooth Mode** - press Power + Up on the controller.  
**AP Mode** - press Power + Down on the controller.
9. Confirm the Wi-Fi symbol is flashing on the controller. This means the heat pump is ready to pair.
10. Return to Emerald App and follow the prompts.
11. Enter the correct Wi-Fi password when requested.
12. Scan or enter the heat pump serial number.
13. Enter the installation date.
14. Enter the Installer Reference Code, if provided by your installer. This is optional and can be skipped.
15. Complete the setup.

Once pairing is complete, the heat pump should appear in Emerald App.

### Pairing mode timeout

Pairing mode times out after approximately 2 minutes.

If pairing does not complete in time, re-enter pairing mode on the controller using the correct button combination for your chosen method and try again.

## 7. Wi-Fi pairing your heat pump

### Changing your Wi-Fi network or re-pairing

You may need to re-pair the heat pump if:

- your Wi-Fi password has changed
- your router has been replaced
- the heat pump has been removed from Emerald App
- the heat pump is no longer connecting to Wi-Fi

Before re-pairing, perform a mains power reset:

1. Locate the mains power isolator switch for the heat pump
2. Turn the switch OFF
3. Wait at least 30 seconds
4. Turn the switch back ON
5. Once the controller restarts, try pairing again in Emerald App.

Turning the heat pump off using the controller button is not the same as a mains power reset.

### Pairing troubleshooting

| Issue                         | What to check                                                                                                                               |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Wi-Fi network not accepted    | Confirm your phone is connected to a 2.4GHz Wi-Fi network.                                                                                  |
| Password error                | Re-enter the Wi-Fi password carefully. Your 2.4GHz and 5GHz passwords may be different.                                                     |
| Weak signal                   | Move the router closer or install a Wi-Fi extender.                                                                                         |
| Pairing mode not active       | Unlock the controller, then press the correct button combination for Bluetooth Mode or AP Mode. Confirm the Wi-Fi symbol is flashing.       |
| App cannot find the heat pump | Stand within 1 metre of the heat pump for Bluetooth pairing. For AP Mode, connect to the heat pump's temporary Wi-Fi network when prompted. |

| Issue                                      | What to check                                                                                                           |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Serial number issue                        | Check the serial number on the nameplate on the side of the unit.                                                       |
| App remains on setup/configuration screen  | Close Emerald App, perform a mains power reset, and try pairing again.                                                  |
| Heat pump not detectable during re-pairing | Perform a mains power reset before retrying.                                                                            |
| AP Mode shows "no internet" warning        | This is normal. The heat pump's temporary network does not have internet access. Continue following the in-app prompts. |
| App screen looks different                 | Emerald App may have been updated. Follow the current in-app prompts.                                                   |
| No QR code on the heat pump                | Select Manual Setup in the app and choose your model from the list.                                                     |

### Wi-Fi signal strength

The heat pump must have a stable Wi-Fi signal to allow app control and monitoring.

Even if your phone connects to Wi-Fi near the heat pump, the heat pump may still have a weaker connection because it uses its own internal Wi-Fi module.

For best results:

- keep the router as close as practical to the heat pump
- avoid placing the router behind thick walls, metal objects, or large appliances;
- use a Wi-Fi extender if the heat pump is installed far from the router;
- make sure the extender also supports 2.4GHz Wi-Fi.

If the heat pump frequently disconnects from the app or is slow to respond, weak Wi-Fi signal may be the cause.

## 7. Wi-Fi pairing your heat pump

### Wi-Fi connection after pairing

---

For Emerald App control and monitoring to work, the heat pump must remain:

- powered on at the mains isolator
- connected to Wi-Fi
- within range of the router
- connected to the internet

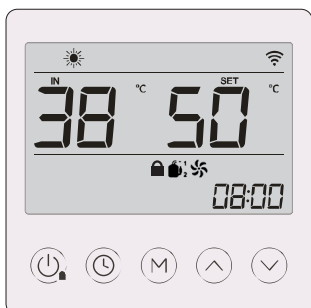
If the heat pump is switched off at the power supply, or if Wi-Fi or internet is unavailable, remote control and monitoring will not work.

The heat pump will continue to operate normally for hot water production, but it will not be controllable from Emerald App until connection is restored.



## 8. Controller quick guide

### Button instructions



#### POWER ON

- Sun is visible on screen.

#### STANDBY

- Screen is on but sun is not visible

#### POWER OFF

- Screen is blank.

|  |                         |                                                                                                                                                                                                                                                                                                                                                                                                |
|--|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | On/Off Button           | <ul style="list-style-type: none"> <li>Press button for up to 5 seconds to unlock the controller.</li> <li>Press button for 2 seconds to turn ON/OFF system.</li> <li>Press button to return to main control panel screen from any other screen settings.</li> </ul>                                                                                                                           |
|  | Running Mode            | <ul style="list-style-type: none"> <li>When the system is turned on press button to select different running modes.</li> </ul>                                                                                                                                                                                                                                                                 |
|  | Up and Down             | <ul style="list-style-type: none"> <li>Press UP or DOWN button for 3 seconds to open the system's running conditions.</li> <li>Under Timer or Clock setting status, press the UP or DOWN button to adjust setting value</li> </ul>                                                                                                                                                             |
|  | Clock and Timer Setting | <ul style="list-style-type: none"> <li>Press button once to enter the real clock setting.</li> <li>Press button for 3 seconds to enter/exit the timer settings.</li> <li>Under timer settings, press button once to switch the timer setting value from "hour" to "minute".</li> <li>Under timer settings, press and hold button for 3 seconds to cancel the current timer setting.</li> </ul> |

### Icon instructions

| Symbol      | Function               | Status                | Description                                                                     |
|-------------|------------------------|-----------------------|---------------------------------------------------------------------------------|
|             | Standard mode          | Solid                 | System is operating in Standard Mode                                            |
|             | Silent mode            | Solid                 | System is operating in Silent Mode (Pro Series Only)                            |
|             | Boost mode             | Solid                 | System is operating in Boost Mode                                               |
|             | Element mode           | Solid                 | System is operating in Electric Heating Element Mode (models with element only) |
|             | Electric element       | Flashing              | Sterilisation (Legionella Control) is active                                    |
|             | Defrost                | Solid                 | System is in Defrost Mode                                                       |
|             | Service icon           | Solid                 | Service required                                                                |
|             | Compressor             | Solid                 | Compressor is running                                                           |
|             | Fan motor              | Solid                 | Fan motor is running                                                            |
| <b>RT</b>   | Tank Water Temperature | Solid                 | Current water temperature in the tank                                           |
|             | Lock function          | Solid                 | Controller is locked                                                            |
|             | Timer icon             | Solid                 | Timer and schedule is active                                                    |
|             | Temperature display    | Display               | Displays actual water temperature, set temperature, and fault codes             |
|             | Clock display          | Display               | Real-time clock                                                                 |
| <b>ON</b>   | Timer function         | Display               | Timer function enabled                                                          |
| <b>OFF</b>  | Timer function         | Display               | Timer function disabled                                                         |
| <b>1</b>    | Timer function         | Visible / Not Visible | Timer period 1 set / not set                                                    |
| <b>2</b>    | Timer function         | Visible / Not Visible | Timer period 2 set / not set                                                    |
| <b>3</b>    | Timer function         | Visible / Not Visible | Timer period 3 set / not set                                                    |
|             | Wi-Fi                  | Solid                 | Wi-Fi connected                                                                 |
|             | Wi-Fi                  | Flashing              | Wi-Fi searching for connection                                                  |
|             | Weekday                | Solid                 | Timer weekday selection active                                                  |
|             | Factory mode           | Solid                 | Factory mode                                                                    |
| <b>STAN</b> | Standard mode          | Flashing              | Standard mode selected                                                          |
| <b>SILE</b> | Silent mode            | Flashing              | Silent mode selected                                                            |
| <b>BOOS</b> | Boost mode             | Flashing              | Boost mode selected                                                             |
| <b>ELE</b>  | Element mode           | Flashing              | Electric heating element mode selected                                          |
| <b>HP</b>   | Heat pump mode         | Flashing              | Heat pump mode selected                                                         |

## 9. Smart Actions

### Smart Actions for Emerald heat pump hot water systems

Smart Actions allow you to automate supported device functions in Emerald App.

For Emerald hot water heat pumps, Smart Actions currently support scheduled **Power On** and **Power Off** operation only.

Smart Actions features may vary depending on your product type, model, app version, internet connection, paired devices, and system configuration.

#### **Important: Boost Mode cannot be scheduled**

Boost Mode cannot be scheduled, automated, or set to recur.

Boost Mode is a manual, temporary function only. It must be activated manually each time extra hot water is needed.

Boost Mode will return to normal operation after one heating cycle or 24 hours, whichever comes first.

This restriction is required for energy compliance and cannot be changed through Emerald App, Smart Actions, or API access.

| Feature                          | What it means                                                                                                             |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Schedule Power On                | Set the heat pump to turn on at selected times.                                                                           |
| Schedule Power Off               | Set the heat pump to turn off at selected times.                                                                          |
| Use off-peak electricity periods | Schedule the heat pump to operate during preferred electricity periods, where suitable.                                   |
| Support solar-based operation    | Available only where Solar Soaker is correctly set up with the required compatible Emerald devices and system conditions. |

### What Smart Actions cannot do for heat pumps

For heat pumps, Smart Actions cannot be used to:

- schedule or automate Boost Mode
- create a recurring Boost Mode
- schedule Silent Mode
- change locked or restricted temperature settings
- override compliance or energy-rating requirements

### Solar Soaker

Solar Soaker can help your heat pump use available excess solar energy to heat water during the day.

Solar Soaker is not available from the heat pump alone. It requires compatible Emerald hardware and correct system setup.

To use Solar Soaker, your system requires:

- solar panels generating excess energy
- a compatible Emerald Electricity Advisor / IHD
- a compatible LiveLink device
- a compatible smart meter
- supported heat pump firmware
- correct app setup and device pairing
- suitable solar generation conditions

If Solar Soaker is not visible or cannot be activated in Emerald App, your system may not have the required devices, firmware, meter compatibility, or configuration.

### Solar Soaker Safety Net

Solar Soaker includes a Safety Net to help maintain hot water availability on low-solar days.

If the water temperature drops below the required minimum at the programmed Safety Net check time, the heat pump may run using grid electricity to bring the water back up to temperature.

This helps reduce the risk of running out of hot water during cloudy weather or low solar generation.

## 9. Smart Actions

### Setting up a heat pump schedule

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To create a Smart Action for your heat pump:

1. Open Emerald App.
2. Select Smart Actions.
3. Create and name a new Smart Action.
4. Select Schedule as the trigger type.
5. Select your heat pump as the device.
6. Choose Power On or Power Off as the action.
7. Save the Smart Action.

### Manual changes may pause Smart Actions

---

If you manually change the heat pump from the physical controller or in Emerald App, Smart Actions for that device may pause until midnight.

This includes manually turning the unit on or off or changing supported operating settings.

If a Smart Action does not run as expected, check whether the heat pump was manually adjusted earlier that day.

### Controller timers and app schedules

---

The timer on the physical controller is separate from Smart Actions in Emerald App.

If both the controller timer and app Smart Actions are used at the same time, they may conflict and cause unexpected operation.

For best results, use one scheduling method only.

Emerald recommends using Emerald App Smart Actions for scheduling where available. If you are using app-based Smart Actions, disable any timers set on the physical controller.

### Troubleshooting Smart Actions

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If a Smart Action does not run as expected, check that:

- the heat pump is powered on
- the heat pump is connected to Wi-Fi
- the selected Smart Action is enabled
- the selected action is supported by your heat pump
- the schedule or trigger has been set correctly
- the unit has not been manually adjusted earlier that day
- the physical controller timer is not conflicting with the app schedule
- your heat pump firmware is up to date

## 10. Basic care and maintenance

Your Emerald heat pump is designed to operate automatically with minimal user input. Basic care will help maintain performance, efficiency, and reliability.

Some maintenance must only be carried out by qualified service personnel. Do not open the appliance, remove panels, adjust plumbing valves, access electrical parts, or service the refrigerant circuit yourself.

### What you can do

You can help keep the heat pump operating correctly by checking the area around the unit regularly.

| What to check         | What to do                                                                                       |
|-----------------------|--------------------------------------------------------------------------------------------------|
| Air inlet and outlet  | Keep clear of leaves, dust, boxes, plants, bins, and other obstructions.                         |
| Area around the unit  | Keep clean, dry, and free from stored items.                                                     |
| Condensate drain      | Check that normal condensate water can drain freely.                                             |
| Controller display    | Check for fault/error codes if the system is not operating normally.                             |
| Noise and vibration   | Listen for unusual grinding, banging, rattling, or excessive vibration.                          |
| Water around the unit | Check whether water is normal condensate or possible leakage from pipework, valves, or the tank. |

### Airflow clearance

The heat pump needs clear airflow to heat water efficiently.

Do not block, cover, or restrict the air inlet or outlet. Poor airflow may cause:

- longer heating times
- higher electricity use
- reduced hot water recovery
- abnormal noise
- system faults or shutdowns

Keep plants, fences, covers, storage items, and debris away from the heat pump.

### Cleaning around the unit

Regularly remove leaves, dirt, cobwebs, and debris from around the heat pump.

Do not spray high-pressure water directly into the fan, controller, electrical areas, or openings of the unit.

If the outer casing needs cleaning, wipe it with a soft damp cloth. Do not use harsh chemicals, solvents, or abrasive cleaners.

### Condensate drain

During normal operation, the heat pump may produce condensate water. This is normal and does not mean the tank is leaking.

Check that the condensate drain remains clear and that water can drain safely away from the unit.

Contact your installer or Emerald support if:

- water is pooling around the unit
- the condensate drain appears blocked
- water is leaking from the tank body
- water is leaking from pipework or fittings
- a safety valve is discharging continuously

## 10. Basic care and maintenance

### Safety valve discharge

---

A small amount of water from a safety valve during heating may be normal.

Continuous discharge, heavy dripping, or water running from a safety valve for long periods is not normal and should be checked by a licensed plumber or qualified technician.

Do not block, cap, redirect, or modify any safety valve discharge pipe.

### Servicing

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Emerald recommends periodic servicing by a qualified technician to help maintain safe and efficient operation.

Service work may include checks of:

- airflow and fan operation
- condensate drainage
- plumbing valves and discharge lines
- electrical safety devices
- controller operation
- water leakage
- refrigerant system condition
- tank anode condition
- sediment or scale build-up.

### Sacrificial anode maintenance

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The tank includes sacrificial anodes that help protect the cylinder from corrosion. The anodes are consumable components and must be inspected at least every two years and replaced when required by a qualified plumber or Emerald-authorized service technician.

The customer is responsible for arranging and paying for routine anode inspection and replacement. These maintenance costs are not covered under the product warranty.

Failure to inspect and replace the anodes as required may affect the tank warranty.

### What you must not do

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Do not:

- remove covers or panels
- access electrical components
- adjust wiring, circuit breakers, RCDs, or internal components
- adjust, remove, block, or cap plumbing safety valves
- modify pipework or drain lines
- attempt to repair refrigerant components
- use flames or ignition sources near the unit
- drill, cut, pierce, or damage the appliance
- operate the unit if it appears damaged or unsafe

## 11. Troubleshooting

If your heat pump is not operating as expected, use the checks below before contacting support.

Do not open the unit, remove covers, adjust valves, access electrical parts, or attempt repairs yourself. Customer troubleshooting should be limited to basic visual checks and the steps shown in this guide.

### Safety first

---

Switch off the unit at the mains isolator if safe to do so and contact Emerald support if:

- there is a burning smell, smoke, sparking, or electrical smell
- water is inside or around the controller panel
- the circuit breaker or safety switch trips repeatedly
- the unit has visible damage
- there is loud grinding, banging, or severe vibration
- water is leaking continuously from the tank, pipework, or safety valve

Do not keep resetting the circuit breaker if it trips repeatedly.

### Mains power reset

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For many non-urgent issues, a mains power reset may help restore normal operation.

1. Locate the mains power isolator switch for the heat pump
2. Turn the switch OFF
3. Wait at least 30 seconds
4. Turn the switch back ON
5. Check whether the controller display restarts

Turning the heat pump off using the controller button is not the same as a mains power reset.

### Error codes

---

If an error code appears, record the code before contacting support.

Some error codes are temporary and may clear automatically. If the error clears and the unit returns to normal operation, no further action may be required.

Contact Emerald support if:

- the error code remains after a mains power reset
- the same error code keeps returning
- the unit stops heating
- the controller display flashes continuously
- you are unsure whether the unit is safe to operate.

Do not open the unit, reset internal components, bypass safety devices, or attempt repairs yourself.

## 11. Troubleshooting

| Issue                                                           | What to check                                                                                                                                 | What to do                                                                                                                    |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| No hot water                                                    | Check the unit is powered on, the controller display is active, and no error code is shown.                                                   | Perform a mains power reset. Allow time for reheating. Contact support if unresolved.                                         |
| Controller display is blank                                     | Check whether the mains isolator or circuit breaker is switched on, if safe to do so.                                                         | If power is available and the display remains blank, contact support.                                                         |
| Intermittent hot water                                          | Check whether the unit is connected to continuous power, not off-peak or controlled load.<br>Check controller timers and Smart Actions.       | Contact your electrician if the unit is wired to controlled load.<br>Disable conflicting timers or schedules.                 |
| Not enough hot water                                            | High usage, cold weather, blocked airflow, recent power interruption, or timer settings may affect recovery.                                  | Keep airflow clear, allow time to reheat, and use Boost Mode before high usage.                                               |
| Tank temperature looks normal, but tap water is not hot enough. | The tempering valve may be mixing too much cold water or may require adjustment/ service.                                                     | Contact your installer or licensed plumber.                                                                                   |
| Unit runs longer than expected                                  | Heat pumps can run longer than traditional systems, especially in cold weather, after heavy use, during Boost Mode, or during hygiene cycles. | This may be normal. Contact support if performance changes suddenly or the water temperature does not increase.               |
| Water near the unit                                             | Condensate from the drain is normal during operation. A small amount from a safety valve during heating may also occur.                       | Contact a plumber or installer if water leaks from pipework, fittings, the tank, or the safety valve discharges continuously. |
| Unusual noise or vibration                                      | Fan and compressor sounds are normal during heating. Sound may also change during defrost.                                                    | Contact support if there is grinding, scraping, banging, rattling, or severe vibration.                                       |
| App not connecting                                              | Check 2.4GHz Wi-Fi, signal strength, and whether the unit is paired in Emerald App.                                                           | Refer to the Wi-Fi Pairing section and re-pair if required.                                                                   |
| Smart Action did not run                                        | Check Wi-Fi connection, Smart Action status, manual changes, and controller timer conflict.                                                   | Remember that manual changes may pause Smart Actions until midnight. Use either app schedules or controller timers, not both. |
| Error code shown                                                | Record the error code shown on the controller or in the app.                                                                                  | Perform a mains power reset if safe. Contact support if the code remains, returns repeatedly, or the unit stops heating.      |

## 12. Service and support

If your Emerald heat pump is not operating as expected, **contact your installer** or **lodge a support ticket** online.

For installation, plumbing, water temperature at taps, valve discharge, leaks from pipework, or tempering valve concerns, contact your installer or a licensed plumber first.

For product or app support, please lodge the correct support ticket online:

<https://support.portal.emerald.com.au>

### Choose the correct support form

| Issue type                                                                                                                                   | Use this support form    |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Emerald App issue, Wi-Fi pairing, Smart Actions, account/login, app monitoring, remote control, or app notifications                         | Digital Product Support  |
| Heat pump not heating, controller issue, error code, unusual noise, water leaking from the unit, physical damage, or product operation issue | Physical Product Support |

### Information to include

To help Emerald support assess your issue faster, please include:

| Information               | Details                                                   |
|---------------------------|-----------------------------------------------------------|
| Model number              | Found on the product nameplate                            |
| Serial number             | Found on the product nameplate                            |
| WRID                      | Your Warranty registration ID, if registered              |
| Installation date         | If known                                                  |
| Installer company         | If known                                                  |
| Error code                | If shown on the controller or app                         |
| Emerald App account email | For app or Wi-Fi issues                                   |
| Description of the issue  | Include when it started and what you have already checked |

### Photos and videos to attach

Please attach clear photos or videos where safe to do so.

Include:

- a photo of the product nameplate showing the model and serial number
- a photo or video of the controller panel
- a photo or video of any error code shown
- a photo or video of any visible leak, water discharge, damage, or unusual display
- a short video of any unusual noise or vibration, if relevant

Do not remove covers, open the unit, touch electrical parts, adjust valves, or attempt repairs to take photos or videos.

### If the unit appears unsafe

If there is smoke, burning smell, electrical smell, sparking, water inside the controller panel, repeated circuit breaker tripping, or visible damage, switch the unit off at the mains isolator if safe to do so and lodge a Physical Product Support ticket.

If there is immediate danger, contact emergency services.



**Emerald Energy Pty Ltd**  
ABN 86 632 172 368

L2, 12a Rodborough Road Frenchs Forest NSW 2086

The information contained within this brochure is accurate as of the time of publish. Please note Emerald App undergoes regular updates to enhance functionality and introduce new features, which may result in changes to the details provided herein.