THERMASTORE

OPERATION MANUAL

HEATWAVE270

270L hot water heat pump

THERMASTORE

CONTENTS

1. INTRODUCTION

The Thermastore Heatwave270 is built for long-lasting, reliable performance. This manual contains important information for installation and servicing—please ensure it is read thoroughly, as improper setup or unauthorised repairs may cause damage or injury.

Model		Heatwave 270
Power Supply		220-240V~/50Hz
Moisture Resistance	*IPX*	IPX4
Electrical Shock Proof	*I*	I
Range Heating Capacity	*kW*	3.3
Heating Power Input	*kW*	0.77
Heating Current Input	*A*	3.2
Auxiliary Electrical Heating	*kW*	1.0
Rated Power Input	*kW*	2.3
Rated Current Input	*A*	9.6
Refrigerant / Proper Input		R290 / 400g
Noise Rating	*dB(A)*	49.5
Unit Dimension (L/W/H)	*mm*	Φ640x1950
Rated Outlet Water Temperature	*°C*	60
Water Inlet/Outlet Pipe	*inch*	3/4"
Compressor		Rotary

Measurement Conditions:

- Ambient temperature: 20°C / 15°C
- Water inlet: 15°C
- Water outlet: 55°C

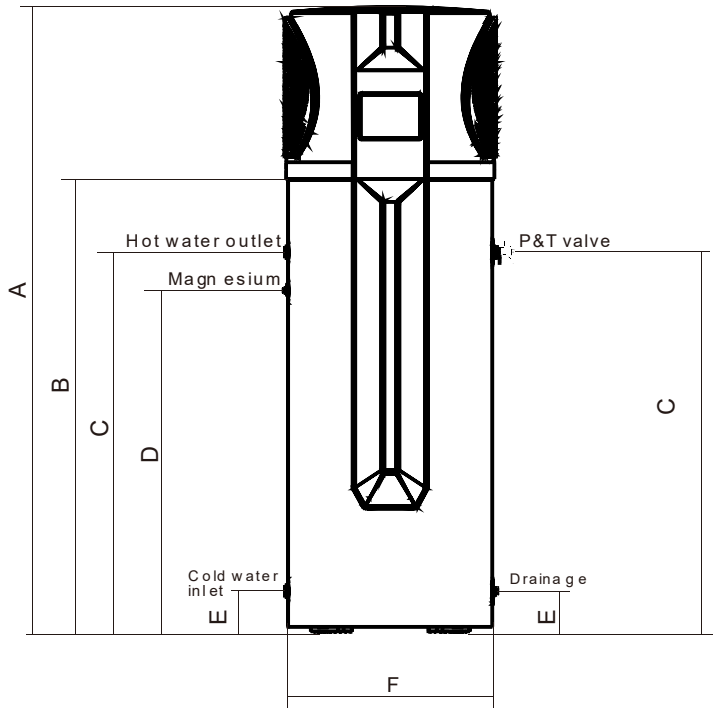
Operating Range:

- Ambient temperature: -5°C to 43°C (for Heat Pump).
- Maximum water tank temperature: 60°C.

Operating Parameters:

- Water temperature range: 10°C to 60°C.
- Water pressure range: 0.15 to 0.85 MPa.
- Maximum inlet water pressure: 0.85 MPa.

2. DIMENSIONS



Unit: mm	
A	1950
B	1420
C	1211
D	1111
E	115
F	640

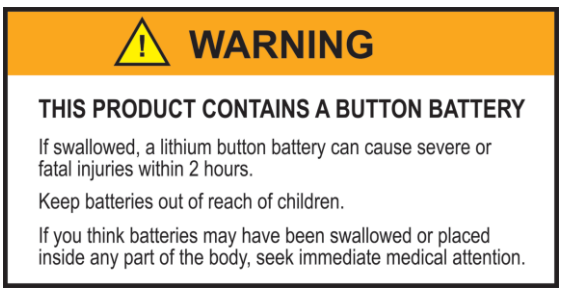
3. SAFETY INSTRUCTIONS

To maintain your warranty and ensure safe operation, please adhere to the following instructions at all times. Ignoring these precautions may result in voiding the warranty and could pose a serious risk of injury or fatality.

- The installation, servicing, or relocation of the Heatwave270 must be carried out by a licensed technician.
- The Heatwave270 must be installed in accordance with applicable Australian Standards and recognised industry practices. This includes, but is not limited to, regulations covering electrical safety, plumbing, hot water storage, and heat pump installation and operation.
- A dedicated circuit breaker is required for the unit.
- A proper earthing connection and stable power supply must be ensured to minimise the risk of electric shock.
- All water and drainage connections must be watertight and free of leaks.
- Do not install the unit in areas where flammable gases are present or where flammable aerosols are used.
- The unit must be placed on a firm, level surface to ensure stable operation.
- If the power cord is damaged, it must only be replaced by a licensed technician.
- Electrical installation must comply with national wiring regulations.
- All local, state, and federal regulations applicable at the installation site must be observed. Failure to do so may lead to equipment damage, personal injury, or voiding of your warranty. Plumbing must comply with AS/NZS 3500.4.
- All power sources must be isolated before accessing internal terminals.
- A Pressure and Temperature (P&T) relief valve must be fitted. This valve will automatically discharge water if the internal temperature exceeds 99°C or pressure exceeds 0.85MPa.
- If the system malfunctions, immediately disconnect the power and contact Thermastore or your authorised supplier.
- The Heatwave270 must only be used in environments where the ambient temperature ranges between -5°C and 43°C.
- Do not connect the unit to unsafe or untreated water sources such as lakes, dams, or groundwater.
- As the system heats water, exposed fittings may become hot – avoid direct contact to prevent burns.
- Do not drill or insert fixtures into the outer casing of the tank. Doing so may damage internal components and will void your warranty.
- After restarting the unit manually or following a shutdown, allow approximately 3 minutes for the system to resume operation. This delay is a built-in feature to protect the compressor.
- The handle of the P&T relief valve should be operated every six months to clear deposits and ensure continued operation.
- Following installation, confirm all plumbing and electrical connections are properly secured before switching the unit on.
- The installer must explain correct operation and maintenance procedures to the end user in line with the instruction manual.
- Thermastore does not accept liability for injury or damage caused by incorrect installation or maintenance of the Heatwave270.
- Regular maintenance must be carried out as outlined in this manual to maintain system performance and warranty coverage.

To prevent the risk of excessive pressure or temperature in the system, install appropriate safety valves as required by local codes. At minimum, a certified combination temperature and pressure relief valve is required, marked with a pressure rating no higher than the unit's maximum working pressure. The valve must be installed in the designated fitting, and discharge should be routed within 150mm above floor level or lower, without coming into contact with any live electrical parts. Do not block or reduce the size of the valve outlet under any circumstances.

If the system has not been used for two weeks or more, hydrogen gas may accumulate within the water tank. As hydrogen is highly flammable, it is advised to open a hot water tap (preferably the kitchen) for several minutes before using any electrical devices to release any built-up gas safely.

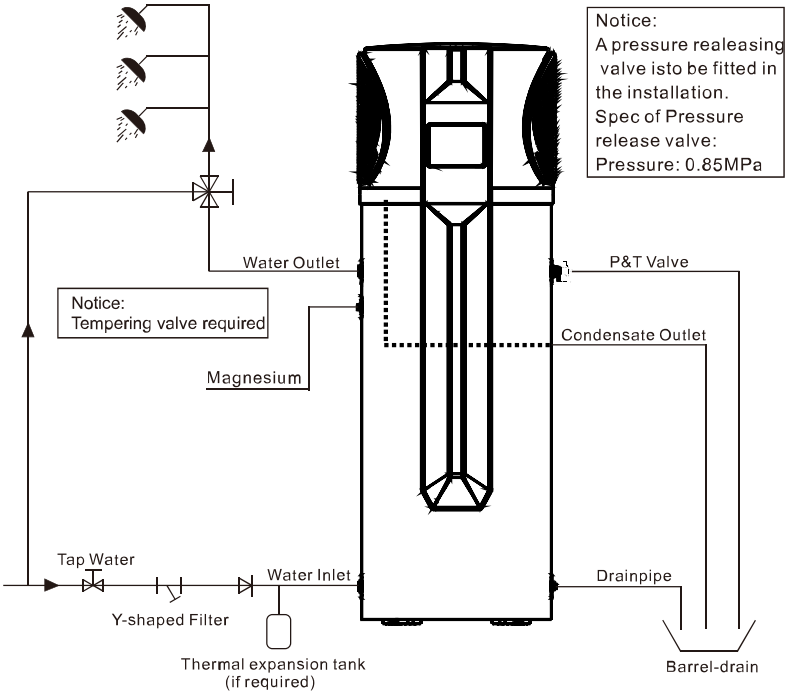


This appliance includes components that provide full disconnection from the mains supply under overvoltage Category III conditions. These components must be incorporated into the fixed wiring, installed in accordance with Australian wiring standards.

All electrical work must be completed by a qualified electrician. The electrician must review the manual before connecting the unit. Ensure that all cabling, circuit protection devices, and electrical specifications comply with legal requirements and are appropriate for the unit being installed. Also confirm that sufficient power supply is available at the installation point.

4. INSTALLATION

4.1 SYSTEM INSTALLATION



Pipeline Connection Instructions:

- Water Inlet/Outlet Pipes: Use BSP3/4" (internal thread) heat-resistant and durable pipes for the water inlet and outlet.
- P&T Valve Pipe: The valve should connect using BSP3/4" (internal thread). After installation, ensure the drainage outlet is exposed to the air. The flexible drainage pipe connected to the pressure relief valve should point downward and remain open to the air.

Important Notice:

- The P&T valve must be installed to avoid damage to the unit and potential injury.
- P&T valve drainage pipes should be securely fixed and connected to the floor drain to prevent hot water from scalding.
- Avoid using stainless steel fittings directly with other metals to prevent corrosion.
- Drain the water tank through the drain valve at the bottom of the unit.

⚠ Warning:

To ensure the safety of this appliance, it must be installed, operated, and maintained according to the manufacturer's instructions.

- If the water pressure exceeds the rated value, a pressure-reducing valve must be fitted during installation.
- Water may drip from the discharge pipe of the pressure relief valve, which must remain open to the atmosphere.
- The pressure relief valve should be operated regularly to remove lime deposits and ensure it is not blocked.
- The discharge pipe must be installed in a continuous downward direction and in a frost-free environment.
- Drainage and filling systems should be in place for servicing purposes, with drainage facilities located at the lowest point when the system is closed.
- Do not drill any fixings or attachments into the outer casing of the tank. Drilling into the outer casing of the tank may damage the heating coil and WILL VOID WARRANTY.

⚠ IMPORTANT

- Never attach or drill into the outer casing of the tank. Doing so may damage internal components such as the heating coil and will void the product warranty.
- To empty the tank, use the drain valve located at the bottom of the unit.
- The supplied P&T valve must be installed with the unit. Omitting this valve can result in equipment damage and may pose a risk of personal injury.
- Avoid connecting stainless steel fittings directly to dissimilar metals. This may lead to galvanic corrosion and compromise the system.

4.2 HANDLING & TRANSPORTATION

The unit should be stored or transported in its shipping container, upright, and without water. For short distances, an inclination angle of up to 30 degrees is allowed, with an ambient temperature range of 0°C to 40°C for transport and storage.

Transport using a forklift:

The unit must remain on the pallet during forklift transport. The lifting speed should be minimal to avoid tipping due to the unit's top-heavy design.

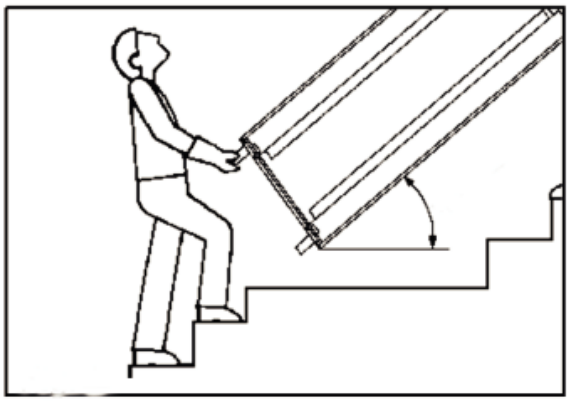
The unit should always be placed on a level surface to prevent damage.

Manual transport:

When manually transporting, use the wooden pallet for the bottom part.

Ropes or carrying straps can be used in second or third handling configurations, ensuring maximum care is taken.

Ensure the inclination angle does not exceed 60 degrees. If the unit is transported at an inclined position, wait at least one hour after moving it to its final position before operating the unit.



Caution: The unit has a high center of gravity!

4.3 LOCATION OF INSTALLATION

The Heatwave270 is intended for outdoor installation. However, placing the unit in a sheltered location—such as under eaves—can help extend its lifespan.

Heat pumps perform best in warmer ambient conditions. Since the air discharged from the unit is cooler than the air drawn in, it's important to install the unit where it can access warmer air and avoid positioning that allows cold exhaust air to recirculate into the system.

4.4 AIRFLOW CLEARANCES

To ensure the Heatwave270 operates efficiently and reliably, the unit must be installed with adequate space around it for airflow and servicing.

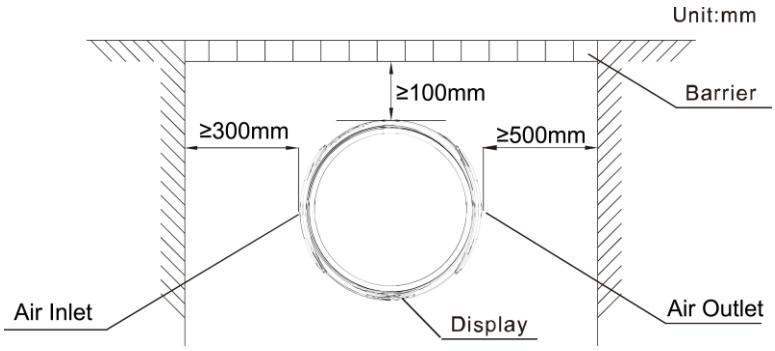
Minimum clearances:

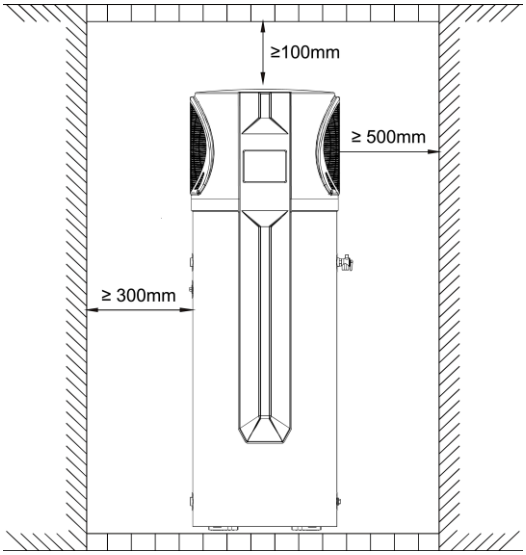
- 300mm (Air Inlet: Left)
- 500mm (Air Outlet: Right)
- 100mm (Overhead & Rear)

If these clearances can't be achieved, please contact Thermastore Technical Support to discuss alternative installation solutions.

Poor airflow can reduce performance, cause system faults, and may void the warranty.

Unit: mm





⚠ **CAUTION:** The installation must comply with AS/NZS 3500.4

EXTERNAL INSTALLATION ONLY

4.5 CABLE CONNECTION

An isolating switch is required for this unit as per local laws.

If the power cord is damaged, it must be replaced by a qualified electrician.

4.6 INITIAL START-UP

Inspection Before Trial Running:

Before switching on the Heatwave270, check the following:

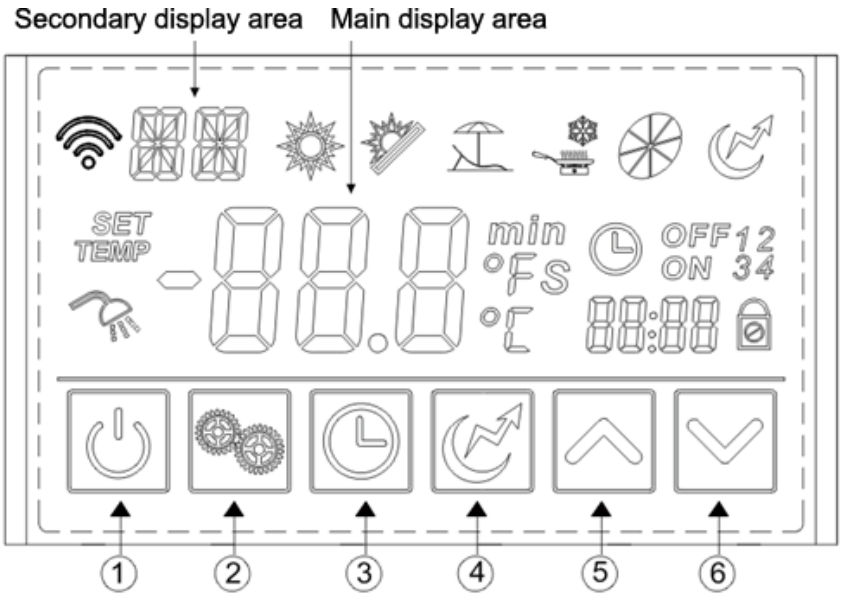
- Water supply and pipe connections are leak-free
- The following are correctly installed and functioning:
  - Drain lines
  - P&T valve
  - Inlet filter
  - Water softener or pressure reducer (if needed)
- All power connections are secure
- Adequate space is available around the unit

Trial Operation:

- Power on the unit via the controller.
- If any unusual sounds occur, turn off the unit and contact your supplier.
- The unit is pre-set to 60°C. Confirm it’s operating by checking for a rise in water temperature over time.

5. DISPLAY AND OPERATION

5.1 FUNCTIONS OF THE CONTROLLER



BUTTONS

1. ON/OFF	2. MODE	3. CLOCK	4. ELECTRIC HEATER	5. UP	6. DOWN
Turn the unit on or off.	Switch running modes or save setting parameters.	Set the clock or the timer.	Turn on/off the electric heater or switch fan modes.	Move up or increase parameter values.	Move down or decrease parameter values.

ICONS

Cooling	Fan	Set Temp. Achieved	Parameter	Timer & OFF	Timer & ON	Lock	Wi-Fi

Please Note:

The default mode of operation is ECO mode. Any change in operation mode will be in effect for the current heating cycle only; i.e., the unit will return to the default ECO mode once the current cycle is completed

MODES

	Intelligent Mode	The heat pump automatically switches between Eco, Hybrid, and Fast Heating modes based on ambient temperature.
	Eco Mode	Heat pump only.
	Hybrid Mode	Heat Pump only for first 200mins, and if after 200mins the target temp is not reached, the heating element will also engage.
	Fast Heating Mode	Both Heat Pump and heating element will immediately engage.

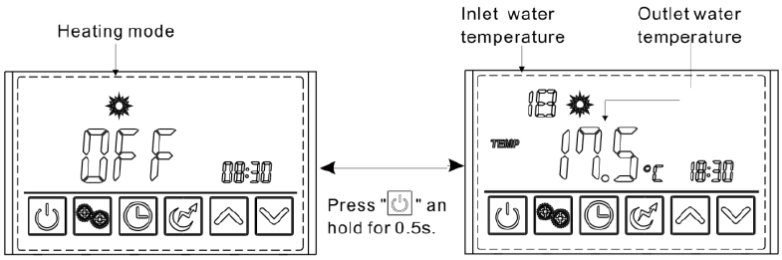
	Vacation Mode	System will not operate within the vacation timer settings, except to run the Sanitech cycle (as required by Australian Standards)

5.2 OPERATING THE CONTROLLER

5.2.1 TURNING THE UNIT ON & OFF

To turn on the unit: Press and hold the "Power" button for 0.5 seconds while in the standby interface. The display will show the water outlet temperature.

To turn off the unit: Press and hold the "Power" button for 0.5 seconds while in the running interface. The display will show "OFF."



5.2.2 MODE SELECTION

Press the "Mode" button to cycle through the following modes: Intelligent Mode, Eco Mode, Hybrid Mode, Fast Heating Mode and Vacation Mode. You can switch modes whether the unit is on or off.

Hybrid Mode (Heating): Heat Pump only for first 200mins, and if after 200mins the target temp is not reached, the heating element will also engage.

Eco Heating Mode: Heat pump only.

Intelligent Heating Mode: The heat pump automatically switches between Eco, Hybrid, and Fast Heating modes based on ambient temperature.
*Only recommended in locations where frequent, continuous sub-zero temperatures are experienced.

Vacation Heating Mode: System will not operate within the vacation timer settings, except to run the Sanitech cycle (as required by Australian Standards).

Fast Heating Mode: Both the Heat Pump and heating element will immediately engage.

5.2.3 CHANGING TARGET TEMPERATURE

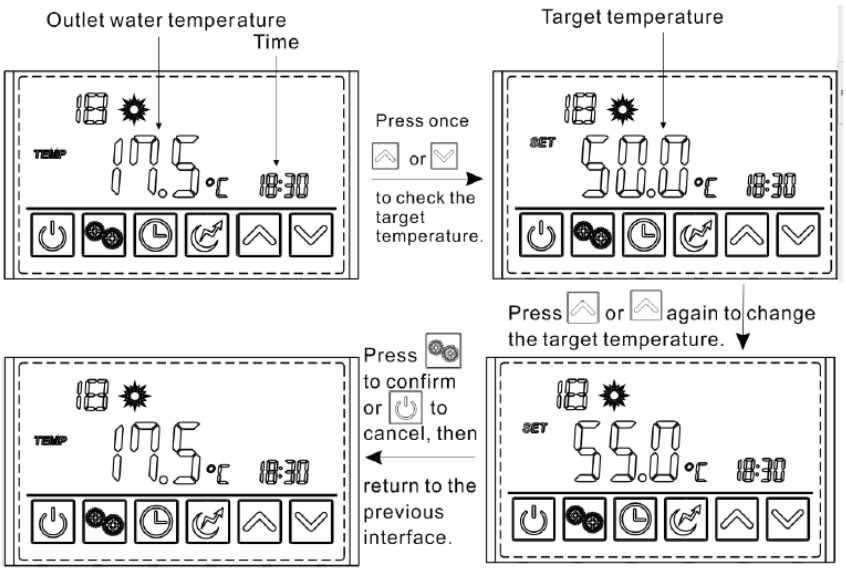
In standby or running mode, press the up or down arrows once to check the target outlet water temperature.

Press the up or down arrows again to adjust the target temperature.

After making the adjustment, press the "Confirm" button to save the changes or the "Power" button to cancel. The interface will return to the previous screen.

If no input is detected for 5 seconds, the controller will automatically confirm the changes and exit the modification menu.

Example: Change the target temperature from 50°C to 55°C when the actual outlet water temperature is 17.5°C.



5.2.4 SYSTEM TIME SETTINGS

In standby or running mode, press the "Time" button once to make the time parameter flash.

Press the "Time" button again, and the hour parameter will flash. Use the up or down arrows to adjust the hour. Press the "Confirm" button to save.

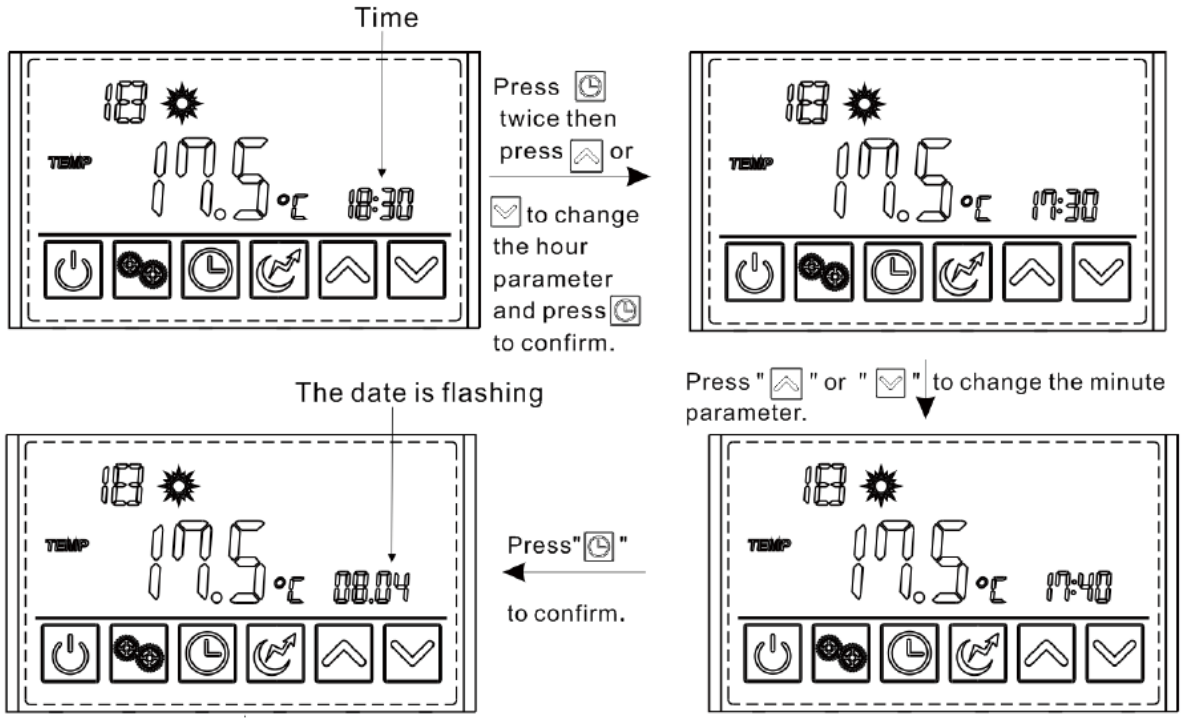
Then adjust the minute parameter the same way using the up or down arrows. Press "Confirm" when done.

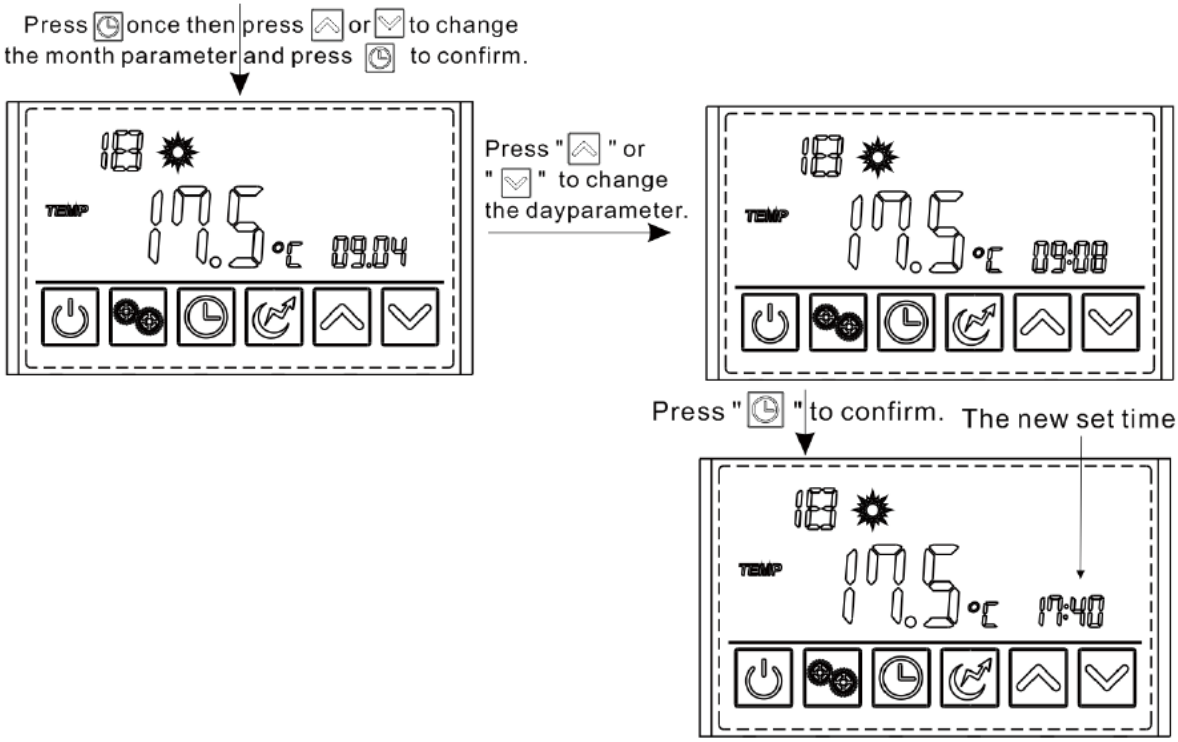
After that, adjust the date parameter using the same method.

If no buttons are pressed for 10 seconds, the controller will exit the setting mode, and any changes made will be saved automatically.

Note: Set the date in the same way when in vacation mode.

Example: Change the time and date from 18:30 on August 4th to 17:40 on September 8th.





5.2.5 SETTING TIMERS

1. In Hybrid, Economic or Intelligent Mode:

Press and hold the "Timer" button for 2 seconds. The "ON" and "1" will flash, allowing you to set the turn-on time for Timer 1. After setting the time, "OFF" and "1" will flash, allowing you to set the turn-off time for Timer 1.

Once Timer 1 is set, "ON" and "2" will flash, allowing you to set the turn-on time for Timer 2. After setting the time, "OFF" and "2" will flash, allowing you to set the turn-off time for Timer 2.

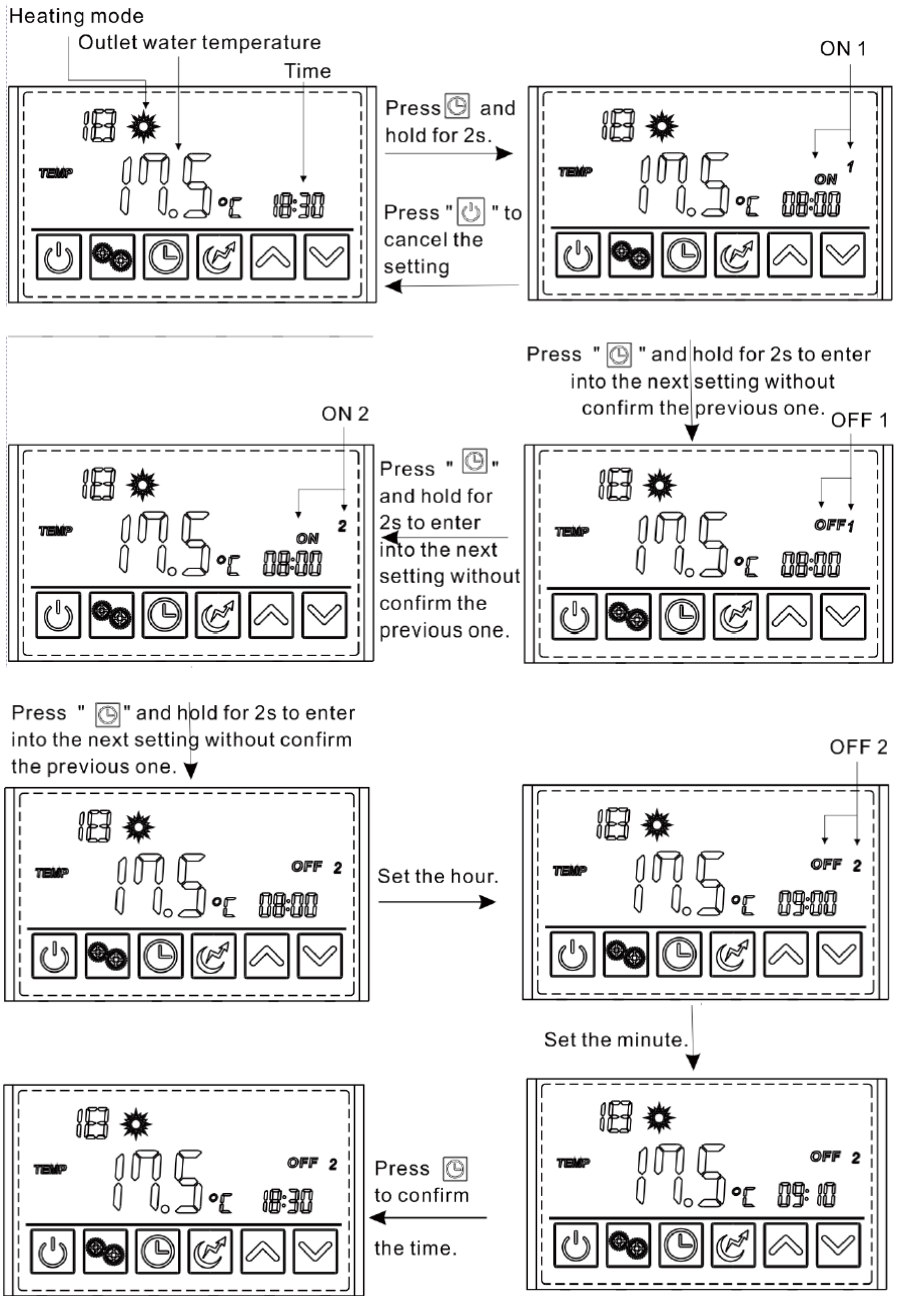
Press the "Save" button to save and exit. If you don’t need to set Timer 2, press the "Save" button after completing Timer 1 settings.

If there is no activity for 5 seconds, the program will return to the interface automatically.

Note: When setting Timer 1, "ON" and "1" will flash. You can skip the turn-on time setting by holding the "Save" button for 2 seconds to set the turn-off time directly.

Use the up or down arrows to scroll through the options.

To Cancel the Timer: Press and hold the "Timer" button for 2 seconds to enter the timer interface. Then press the "Power" button to cancel all settings.

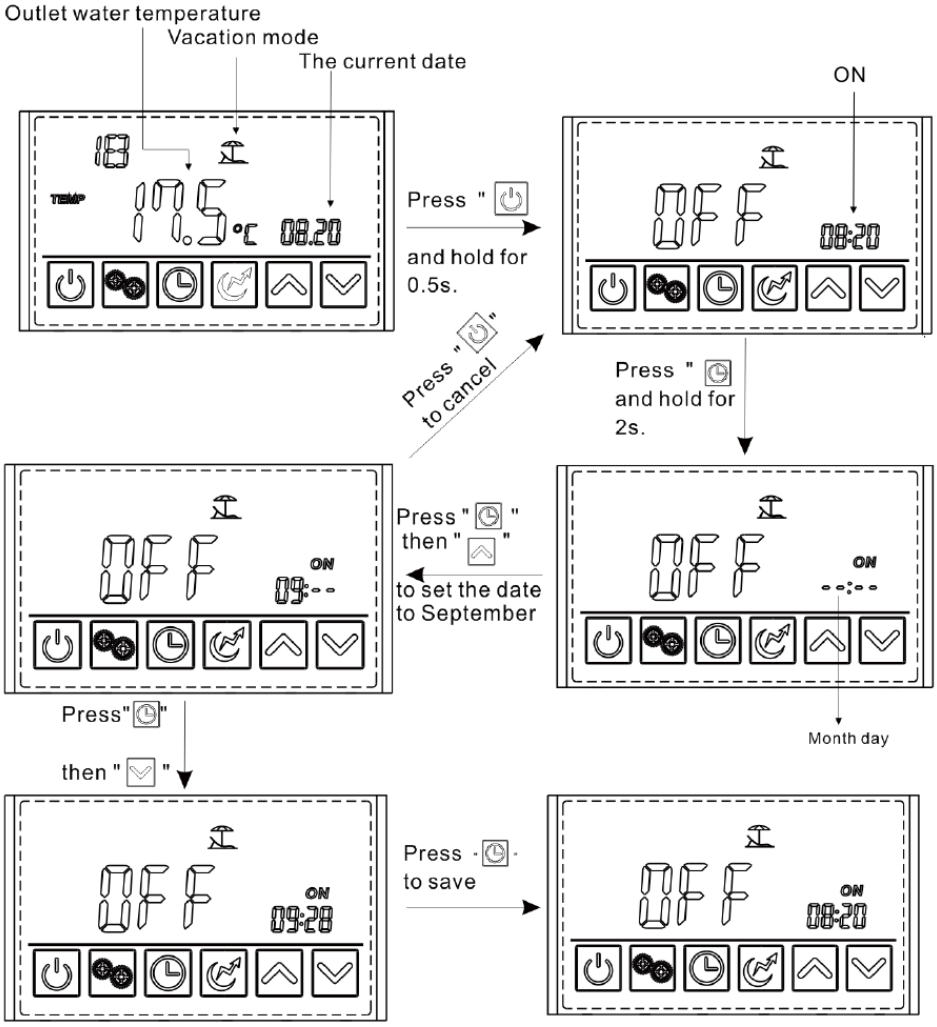


2. In Vacation Mode:

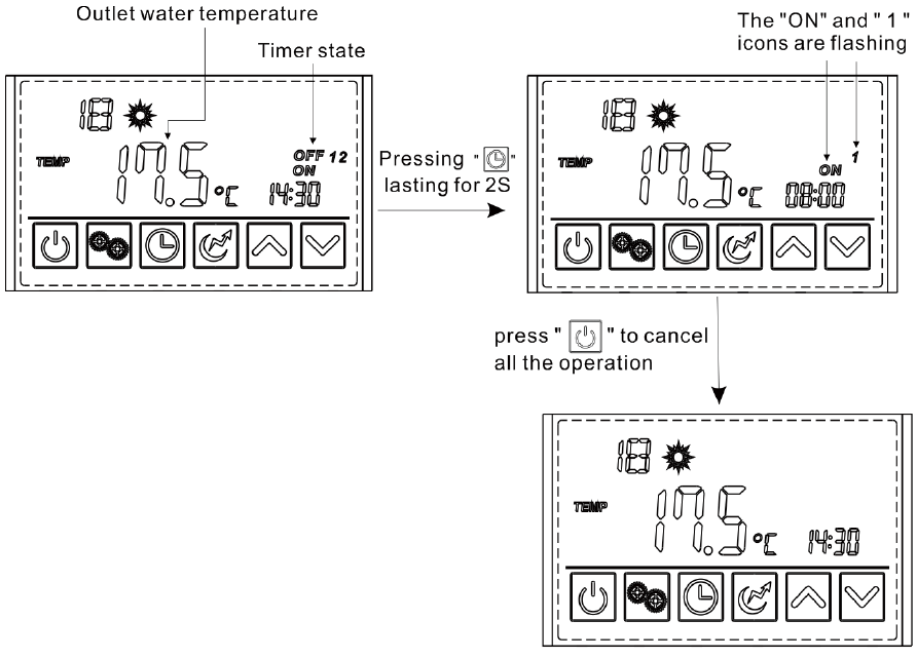
Press and hold the "Timer" button for 2 seconds to enter the timer setting interface. The "ON" symbol and the date will start flashing.

Set the date in the same way as described in section 2.6.

Example: Set the start-up date for September 28. (Note: Turn off the unit before leaving.)



3. To cancel the timer settings:

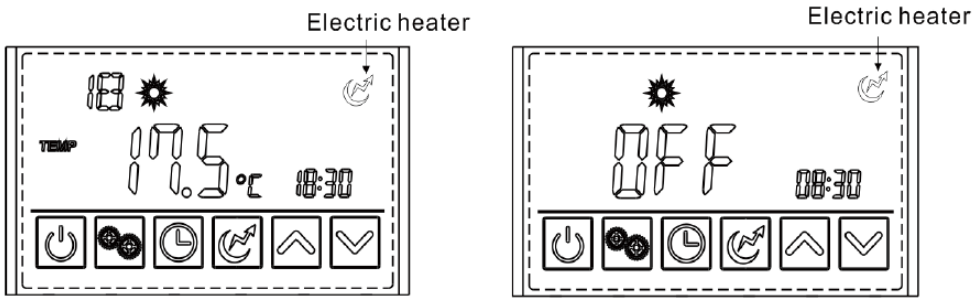


5.2.6 ELECTRIC HEATER SETTING

You can turn on the electric heater while the unit is heating or in standby mode.

When the unit is off, press the "Heater" button to enable electric heating mode. The heating symbol will light up, and the display will alternate between "OFF" and the outlet water temperature.

Press the "Heater" button again to turn off the electric heating mode, and the display will show "OFF."

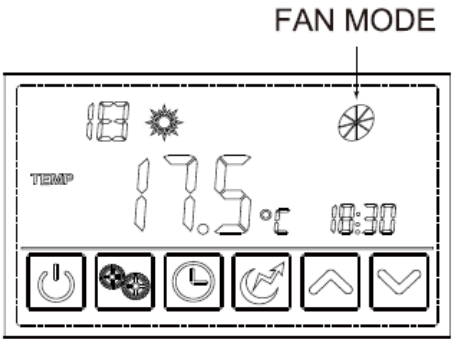


5.2.7 FAN MODE SETTINGS

In the main interface, press and hold the "Fan" button for 2 seconds to enter fan mode. The fan icon will flash when the fan is running. If the fan is off, the icon will remain static during forced ventilation.

Fan Speed Definitions:

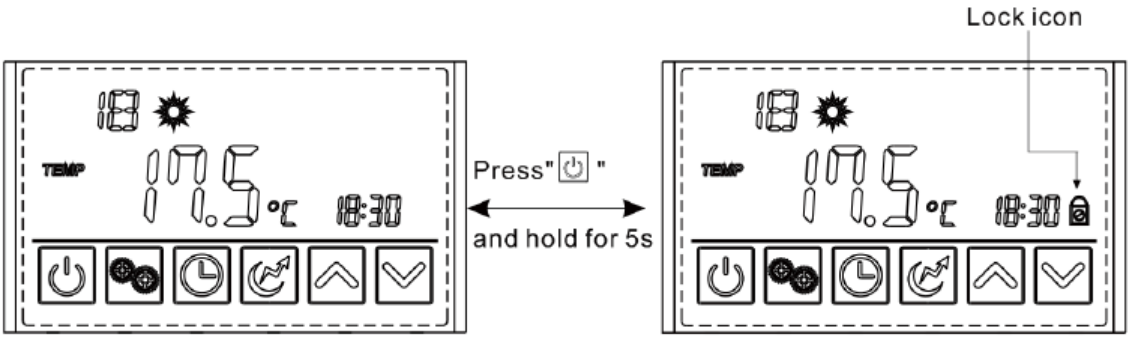
- Gear 1 (Lowest speed): The fan will run at gear 1 when the target temperature is reached.
- Gear 2: The fan will run at gear 2 when the target temperature is reached.
- Gear 3: The fan will run at gear 3 when the target temperature is reached.
- Gear 4: The fan will run at gear 4 when the target temperature is reached.
- Gear 5 (Highest speed): The fan will run at gear 5 when the target temperature is reached.



5.2.8 KEYBOARD LOCKING

To lock the keyboard: Press and hold the "Power" button for 5 seconds.

To unlock the keyboard: Press and hold the "Power" button for 5 seconds again.



6. FAILURES & TROUBLESHOOTING

Why doesn't the compressor run immediately when I start the unit?

- After the unit is powered on, the compressor will not start for 3 minutes as a self-protection mechanism.

Why does the outlet water temperature increase slowly at first?

- At the beginning, the water temperature in the tank differs between the upper and lower layers. Once the temperature in all parts of the tank equalizes, it will rise faster.

Why does the outlet water temperature decrease when the unit is in heating mode?

- If the water in the upper part of the tank is much hotter than the water in the lower part, the temperature may drop slightly due to convection between the hot and cold water.

Why doesn't the unit start heating when the outlet water temperature drops?

- The water temperature may drop due to heat loss if the hot water isn't used for an extended period. To prevent frequent ON/OFF cycles, the unit will only start heating when the temperature drops by more than 5°C.

Why does the outlet water temperature drop quickly?

- The hot and cold water in the tank may mix, and cold water may reach the upper sensor when hot water is used up.

Why is hot water still available even when the outlet water temperature shows a significant decrease?

- The upper sensor is near the top of the tank. Even when the temperature decreases, around 1/5 of the hot water remains available.

Why does the compressor stop while the fan keeps running during heating mode?

- The unit defrosts when the evaporator freezes due to low ambient temperatures. During defrosting, the compressor stops while the fan continues to run.

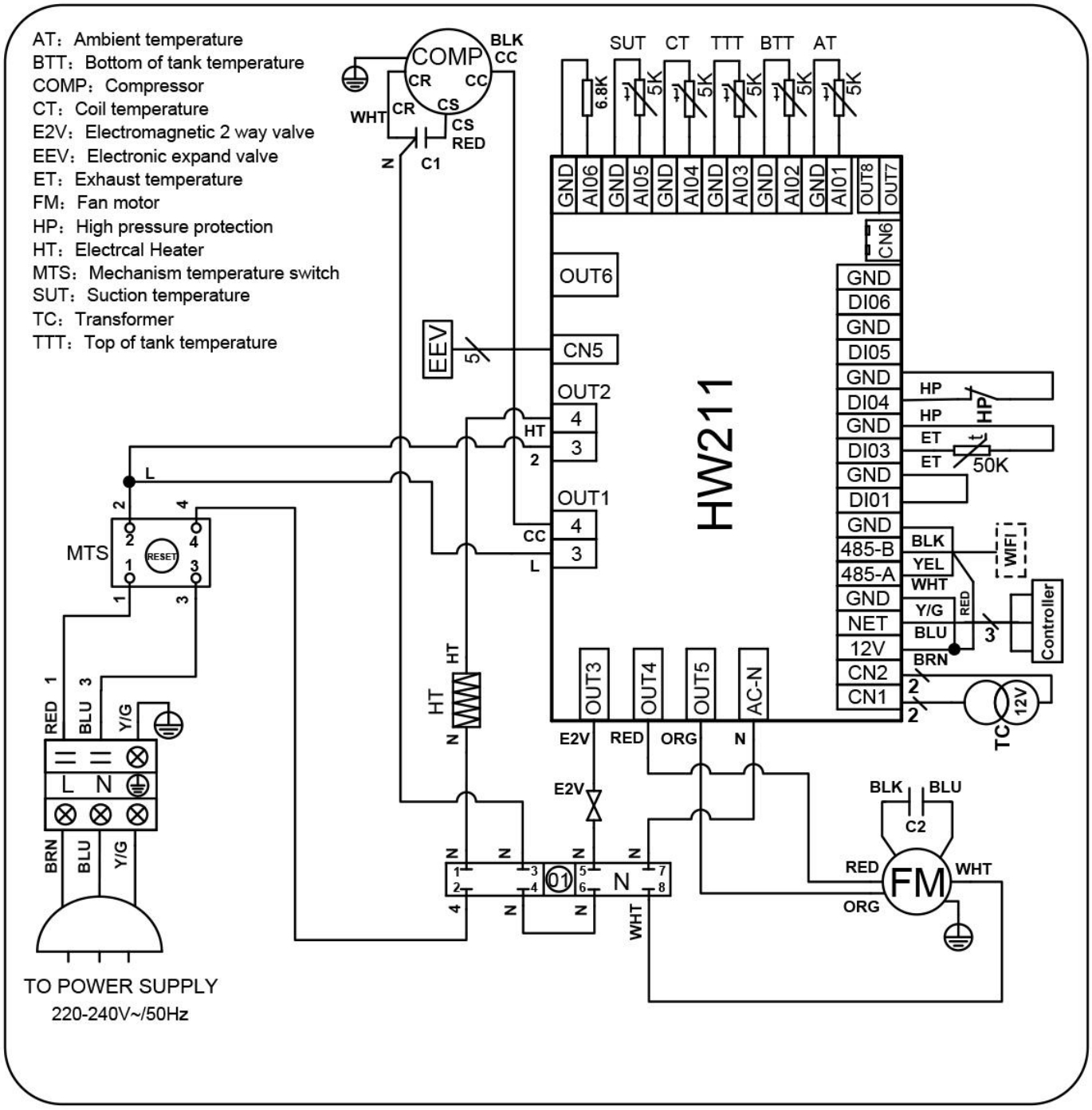
Why does the unit have a long heating time?

- Long heating times are designed for energy saving and low power consumption. Typical heating times range from 2 to 6 hours depending on inlet water temperature, water consumption, and ambient temperature.

Display	Malfunction Description	Corrective Action
P01	Bottom water temp. sensor failure (sensor is open or short circuit)	Check or change the water bottom temp. sensor.
P02	Top tank water temp. sensor failure (sensor is open or short circuit)	Check or change the water top tank temp. sensor.
P03	Discharge temp. sensor failure (sensor is open or short circuit)	Check or change the discharge temp. sensor.
P04	Ambient temp. sensor failure (sensor is open or short circuit)	Check or change the ambient temp. sensor.
P05	Coil temp. sensor failure (sensor is open or short circuit)	Check or change the pipe temp. sensor.
P07	Suction temp. sensor failure (sensor is open or short circuit)	Check or change the suction temp. sensor.
P08	Solar temp. sensor failure (sensor is open or short circuit)	Check or change the solar temp. sensor.
P82	Discharge overheating protection	Check if the refrigerant system has leak points or is blocked.
E01	High pressure protection (The exhaust pressure is high, high pressure switch action)	Check the high pressure switch or check if the refrigerant system is blocked.
E02	Low pressure protection (The suction pressure is low, low pressure switch action)	Check the low pressure switch or check if the refrigerant system has leaks.
E08	Communication failure (Wired remote control with master signal failure)	Check the connection line between the wired remote control and motherboard.
E09	Winter frost protection	The water temperature is too low, please pay attention to anti-freezing.
E11	DC motor stalling	Check the motor and its connector.
E13	Electronic anode 1 short-circuit	Check the electronic anode and its connector to the main controller.
E14	Electronic anode 1 open-circuit	Check the electronic anode and its connector to the main controller.
E18	Electronic anode 2 short-circuit	Check the electronic anode and its connector to the main controller.
E19	Electronic anode 2 open-circuit	Check the electronic anode and its connector to the main controller.
E43	High pressure switch three times protection	Check the high pressure switch or check if the refrigerant system is blocked.
E44	Low pressure switch three times protection	Check the low pressure switch or check if the refrigerant system has leaks.
E45	Discharge overheating three times protection	Check if the refrigerant system has leak points or is blocked.

7. APPENDIX

7.1 WIRING DIAGRAM



7.2 USE OF THE P&T VALVE

The P&T valve is used to prevent the temperature or pressure becoming too high inside the tank. When the temperature or pressure reaches the set value, the valve will open automatically to force the pressure or temperature to decrease

The handle of the safety valve should be tested once every six months to remove the calcium carbonate deposits and guarantee there is no blockage in the device. Take care to avoid burns as the temperature of the discharging water is very high.

If the P&T valve requires replacement it should be replaced with the same rated performance, size, and specification as the original supplied equipment.

WARNING: Failing to operate the relief valve easing gear at least once every six months may result in the water heater exploding. Continuous leakage of water from the valve may indicate a problem with the water heater.

8. MAINTENANCE

To ensure your Heatwave270 continues to operate efficiently and reliably, we recommend including it as part of your regular household maintenance routine.

Annual Maintenance

We suggest that a basic maintenance check be carried out once every 12 months by the homeowner or resident. These checks help preserve the performance and lifespan of the unit.

Recommended annual tasks include:

- Test the pressure and temperature relief valve by gently lifting and lowering the easing lever. Use caution, as the discharged water may be hot. Avoid standing near the drain outlet while operating the valve.
- Test the expansion control valve (if installed) by carefully operating the lever up and down. Take care to avoid abrupt movements.
- Visually inspect all plumbing and electrical connections for signs of wear, corrosion, or leaks.
- Ensure the condensate drain line is clear and unobstructed.
- Check the evaporator coil and air vents for blockages. If required, switch off power to the unit and use a soft brush to clear any build-up.
- Wipe down the exterior of the unit with a damp cloth to remove dust or debris.

Three-Year Professional Service

It is highly recommended that a three (3) year service is conducted on the Heatwave270. Just as a car needs regular servicing, our heat pump also requires a three-year service to maintain efficiency and ensure long-term performance.

⚠ Important: All servicing must be performed by a qualified technician authorised by Thermastore.

To arrange a service, please contact Thermastore Support or your local authorised service provider.

Note: The three-year service and any replacement of wear-and-tear parts (such as sacrificial anodes and safety valves) are not covered under warranty. Only approved replacement components should be used for servicing this unit.

The three-year service includes the following:

- Replace the temperature limiting valve.
- Replace the pressure and temperature relief valve.
- Inspect the sacrificial anode and replace if necessary. If not replaced during the service, it must be replaced within the following three years.
- Check the system's heating cycle for correct operation.
- Conduct a visual assessment of the unit for any signs of fault or wear.
- Inspect plumbing and electrical connections to confirm they remain secure and in good condition.
- Check the condensate drainage to ensure there are no blockages.

Note: Draining of the water heater may be required during this service. Once servicing is complete, it may take several hours for the unit to reheat the water. Depending on your power supply setup, hot water may not be available again until the following day.

9. WARRANTY

REGISTER YOUR PRODUCT WARRANTY

Your Thermastore product comes with a warranty as outlined on the Thermastore website – **www.thermastore.com.au.** To assist with any future service or support, we recommend registering your product details online. Register at **www.thermastore.com.au** by completing the warranty registration form with your product and purchase information.

1. Warranty terms are from date of installation.

2. This warranty excludes any defect or injury caused by or resulting from misuse, abuse, neglect, accidental damage, improper voltage, vermin infestation, incompetent installation, any fault not attributable to faulty manufacture or parts, any modifications which affect the reliability or performance of the unit.

3. This warranty is conditional upon the correct operation and regular maintenance of the Heatwave270 heat pump by the Owner. It does not cover the correction of non-product-related faults or issues. The Owner is responsible for:

   a) Operating and maintaining the heat pump in accordance with the product's operating instructions.

   b) Performing regular cleaning, including an annual maintenance check (please refer to the Maintenance section of the product manual).

   c) Keeping the air inlet and outlet of the heat pump free from obstructions such as dirt, leaves, or plants.

   d) Ensuring the condensate drain remains clean and unobstructed.

   e) Ensuring all plumbing and electrical connections are secure and in good working order.

   f) Applying additional corrosion protection if the unit is installed in a corrosive environment (e.g. coastal areas or industrial zones).

4. This warranty does not cover the following:

   a) Natural Disasters (hail, lightening, flood, fire etc.)

   b) Damage resulting from any animal or creature (including vermin, reptiles and insects)

   c) Rust or damage to exterior coatings, materials, and cabinet caused by corrosive atmosphere or weather/environmental conditions.

   d) When serviced by an unauthorised person without the permission of Thermastore.

   e) When a unit is installed by an unqualified person.

   f) When failure occurs due to improper or incorrect installation.

   g) Where failure occurs due to failure of any other equipment connected in relation with the Heatwave270 unit (e.g. power supply, water pump etc.).

   h) Where failure occurs due to improper maintenance or misuse (refer Operating Instructions).

   i) 'No Fault Found' service calls where the perceived problem is explained within the operation instructions.

   j) Costs associated with delivery, handling, freighting, or damage to the product in transit.

   k) Where the unit has been relocated from its originally installed location.

5. Warranty Service Requirements: For all service requirements; please Contact Thermastore via sales@thermastore.com.au providing your model number, serial number, proof of purchase and installation date, and the fault being experienced.

6. Service Area and Fees: Onsite technical service is available within the normal operating area of Thermastore's Authorised Service Agents. Service outside this area may incur travel fees.

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

8. Costs associated with deemed warranty repairs will be borne by Thermastore for eligible items under the applicable warranty terms and conditions.