

User Manual

Operation, Installation &
Maintenance



AQUALUX Series
Domestic Hot Water

wilson
HEAT PUMPS

**A NEW
GENERATION
IN HOT WATER**



WaterMark
AS349-9
Lic WM-032343



IAPMOMark



SAAB



SAA

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For model numbers

WHPS-315A	AQUALUX 315 ltr Heat Pump Hot Water System
WHPS-250A	AQUALUX 250 ltr Heat Pump Hot Water System
WHPS-160A	AQUALUX 160 ltr Heat Pump Hot Water System

Please read this manual carefully before you install this product. Failure to do so may result in the product not working according to its design and may void the products warranty.

1. Certification

This product has been tested and approved by IAPMO Approval, and it holds Watermark.



2. Safety Instruction

Important notice

This appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction. This unit shall be installed to conform to the plumbing code of Australia (PCA) Unsupervised Children should not play with the appliance.

WARNING - FOR CONTNUED SAFETY OF THIS APPLIANCE IT MUST BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

3. R290 Warning



This appliance uses R290 (propane) refrigerant, which is a flammable gas and must be serviced by an authorised person.

WARNING Risk of fire/flammmable material. If the refrigerant is leaking, switch off the unit at the mains and contact the service agent.

DO NOT store chemicals or flammable materials near this appliance.

NEVER use a flammable spray such as paint, lubricants etc near this unit as this may cause a fire.

Avoid risk of injury from contact with refrigerant if you notice a leak.

If you suspect the refrigerant is leaking, then:

Do not smoke.

Do not operate electrical equipment. Isolate the device.

Only have the refrigerant removed by qualified professional.

This appliance may deliver water at high temperature. Refer to the Plumbing Code of Australia (PCA), local requirements and installation instructions to determine if additional delivery temperature control is required.

For Outdoor Use Only.

This appliance must be installed, commissioned, and serviced by an authorised person in accordance with all applicable national/local rules and regulations.

Removing the access cover or other water heating system components may expose 240V wiring therefore these components MUST only be removed by an authorised person.

If the systems power supply cord is damaged, it MUST BE replaced, this should be completed by an authorised person to ensure potential hazards are avoided.

Care should be taken not to touch the pipe work as it may be HOT and can result in injury!

DO NOT place articles on or against this appliance.

DO NOT activate (turn on) the heat pump unless the water tank is full of water.

This product must only be installed and serviced by a qualified professional in the plumbing, mechanical, and/or electrical industry.

If the power supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified personnel to avoid hazards.

To avoid a hazard due to inadvertent resetting of the thermal cut-out, the appliance must not be supplied with an external switching device, such as a timer.

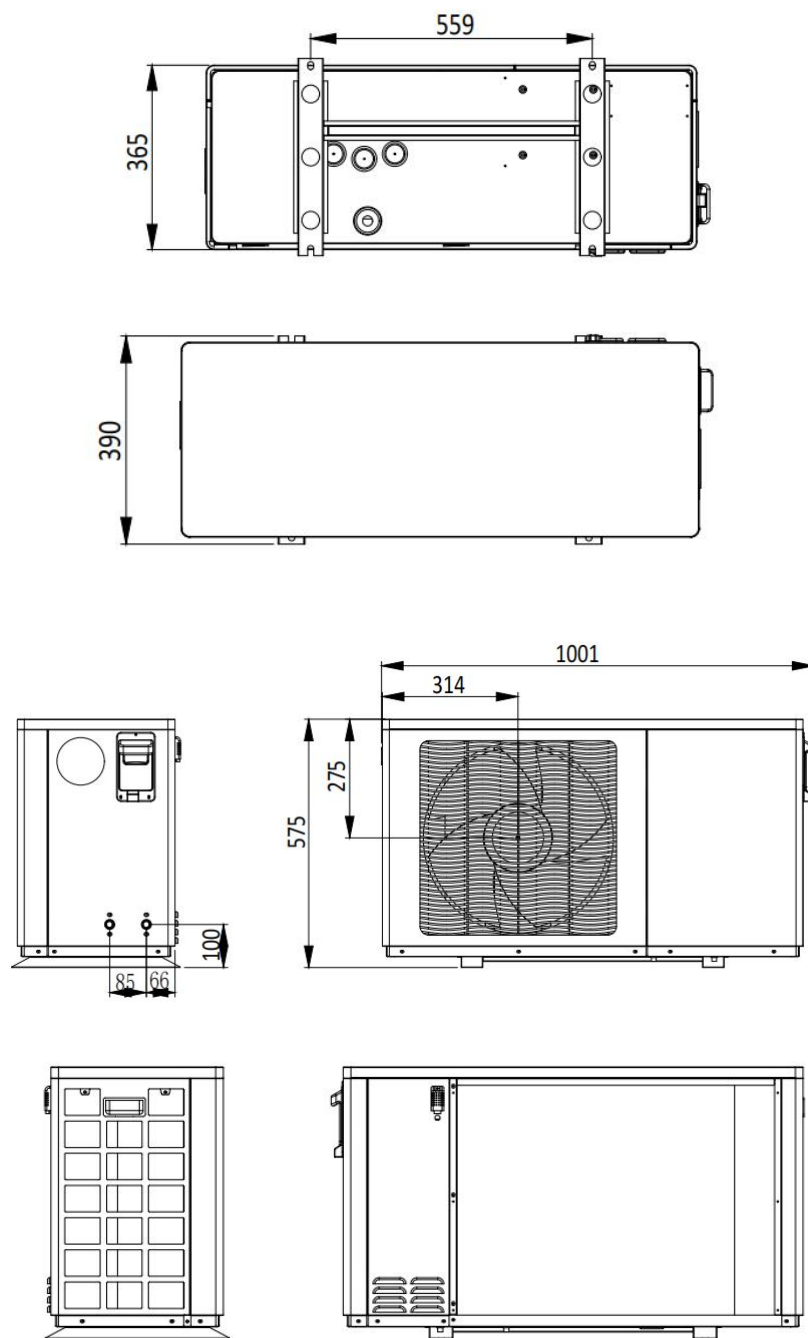
A one-way isolating valve must be installed on the cold-water supply pipe to support maintenance activities.

4. Specification

Part No.	WHP-00315A	
[Hot Water] Ambient Temp. (DB/WB): 20°C/15°C, Water Temp. from 15°C to 55°C.		
Heating Capacity	kW	5.02
Power Input	kW	1.11
Current Input	A	4.92
COP	kW /kW	4.52
Ambient Temp. (DB/WB): 7°C/6°C, Water Temp. from 9°C to 55°C.		
Heating Capacity	kW	4.20
Power Input	kW	1.16
Current Input	A	5.15
COP	kW /kW	3.62
Power Supply	V/Ph/Hz	220-240V~/50Hz
Max. Power Input	kW	1.32
Max. Running Current	A	5.86
Heating Operating Ambient Temp. Range	°C	-25~45
Rated water temperature	°C	63
Max. Outlet Water Temp. (Default 63°C)	°C	63
Rated Water Flow	m ³ /h	0.86
Hot Water Capacity	L/h	108
Water Pressure Drop	kPa	15
Compressor Brand	/	Mitsubishi
Fan Motor Type	/	DC motor
Circulating Pump Brand	/	SHINHOO
Water side heat exchanger	/	Stainless Steel Double Layers Plate Heat Exchanger
Display	/	LED Controller
Wi-Fi Function	/	YES
Refrigerant Type	/	R290
Waterproof Class		IPX4
Electricity Shock Proof		I
Water Pipe Connection	inch	G1/2"
Sound Pressure Level at 1m	dB(A)	39
Sound power Level	dB(A)	64
Net Weight	kg	60
Gross Weight	kg	75
Net Dimensions (L×W×H)	mm	1040×390×576
Shipping Dimensions (L×W×H)	mm	1100×410×601

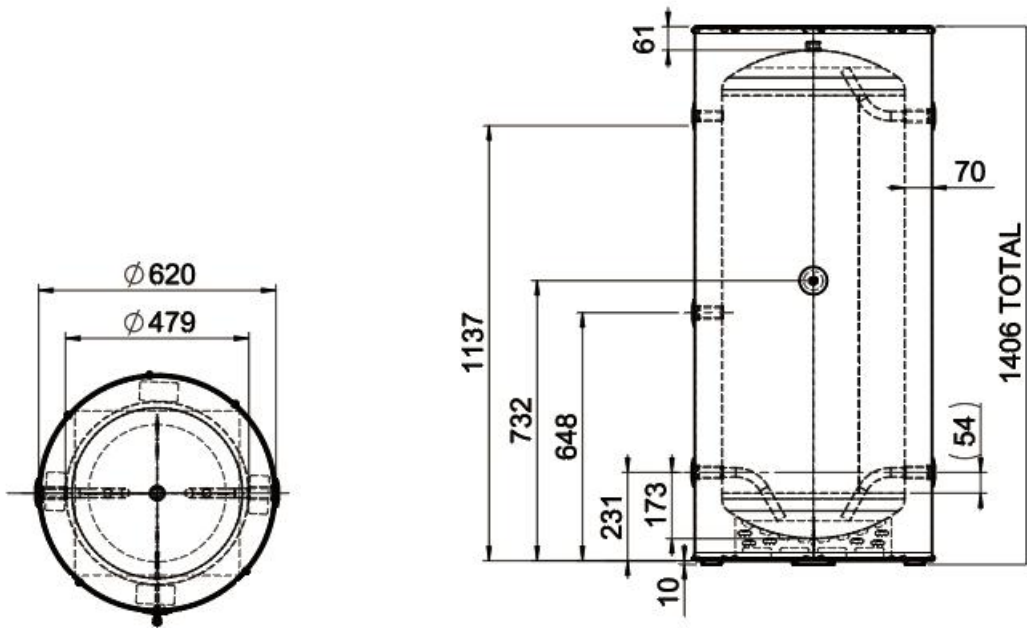
5. Heat Pump Dimension

Unit: mm

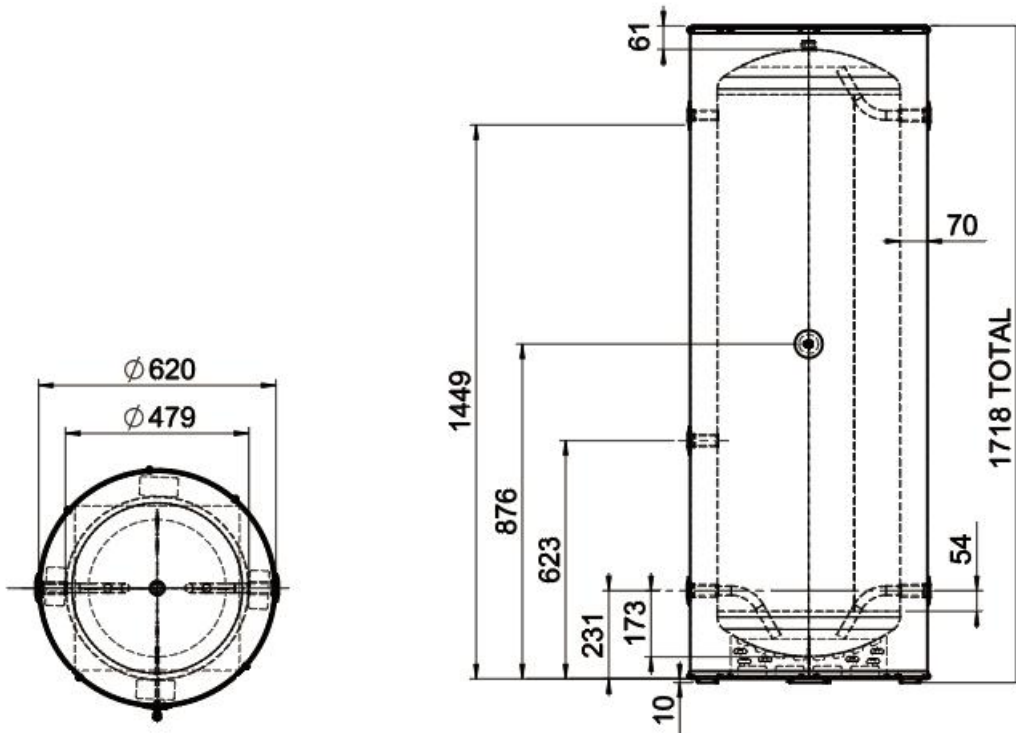


6. Water tank Dimension

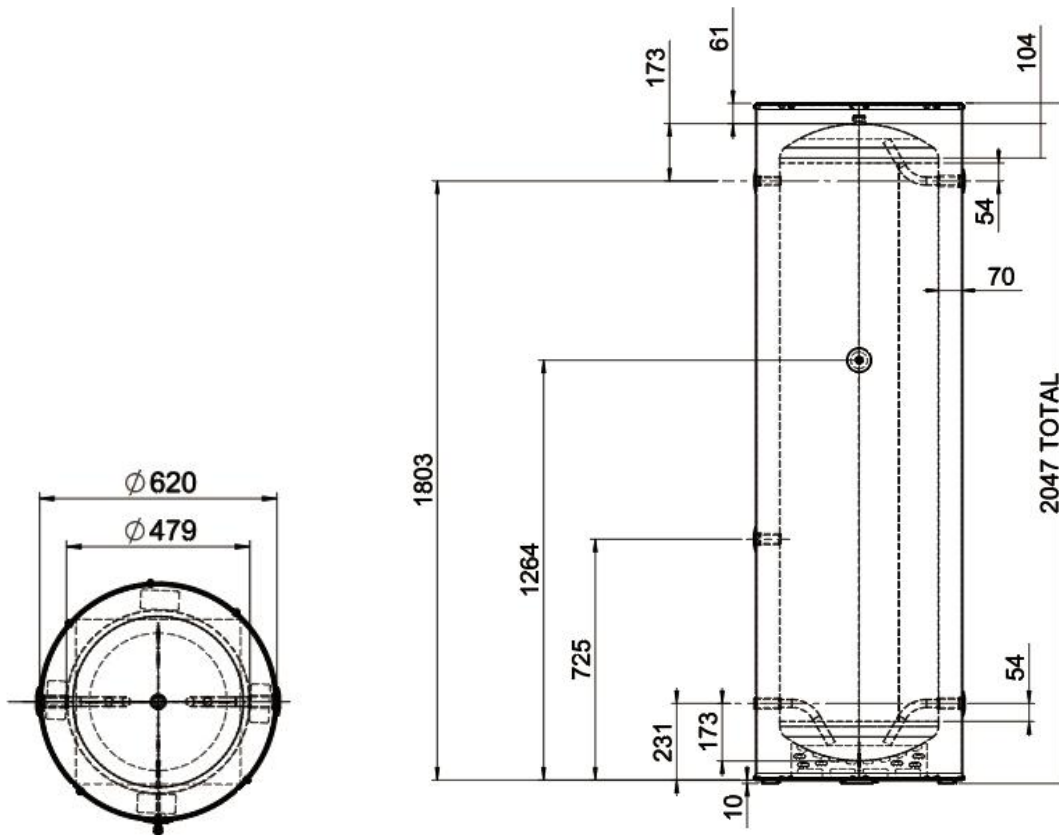
Tank: 160L



Tank: 250L



Tank: 315L



7. Installation Details

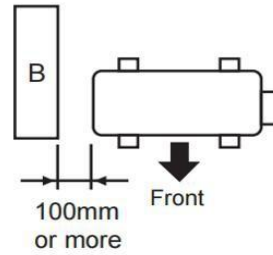
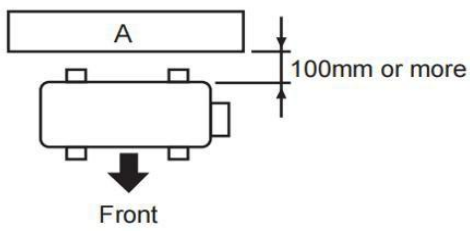
- Installation must be carried out in accordance with all Local Council, State and Federal Standards and requirements particularly:
- AS/NZS3500.4 National plumbing and drainage code hot water supply systems- acceptable solutions.
- HB 263-2004 Heated water systems plumbing industry commission.
- AS/NZS 3000 Electrical installations (known as the Australian /New Zealand wiring rules)
- Notice to Victorian Installations The Victorian Building Act 1993 requires that this Heat Pump Water Heater System must be installed by a licensed person. Only a licensed person will provide a Compliance Certificate, showing that the work complies with all the relevant standards.
- This appliance uses R290 (propane) refrigerant, which is classified as a flammable gas (class 3) according to AS 1677 and must be serviced by a refrigeration mechanic with an appropriate level of training.
- The unit has been specifically designed for domestic hot water heating and is not suitable for any other purpose.
- The unit is designed to operate when connected to the town water supply with a maximum operating pressure of 700kPa. To ensure the mains pressure does not exceed this, a pressure-limiting device that complies with AS 1357 must be connected to the town water supply line.
- This system delivers hot water exceeding 50°C. Reference should be made to AS/NZ3500 and / or local regulations relating to the need for temperature tempering devices.
- This system relies on the heat exchanger to deliver the hot water no external or internal supplementary heating element should be connected.

8. Installation Location

- a) The tank should be located as close as possible to the most frequently used hot water outlet such as a kitchen or bathroom. It may be located either outside or inside. The heat pump unit must be located outside and as close as practicable to the tank unit, but not further than four meters away from it.
- b) Ensure sufficient clearance around the heat pump unit to allow air to circulate and provide a adequate space for service maintenance of the unit (Figure 3)
- c) Install the heat pump unit in an area which allows sufficient ventilation. Poor ventilation may cause the unit to short cycle, and this could increase the power consumption by more than 10%.
- d) Do not install the heat pump unit in a confined space.
- e) If the heat pump unit is installed facing a wall, exhaust air may stain the wall.
- f) There must be adequate space between top of heat pump & anything above it to allow for access to top controls for servicing.
- g) The unit must be stored and transported in an upright position. Failure do to so may render the unit faulty. Such failure is not covered under any warranty agreements.
- h) Compliance with AS/NZS 5601 must be observed while storing the appliance
- i) The appliance should not be stored or transported in an area with an ignition source (e.g. Open flame).
- j) National and state regulations exist for the storage, transportation and handling of hazardous goods including flammable gasses. The maximum number of and configuration of the equipment permitted to be transported or stored together will be determined by the appliance regulations.
- k) DO NOT store chemicals or flammable materials near this appliance.
- l) If the refrigerant leaks, near an external ignition source, there is a possibility of ignition.
- m) Do no pierce or burn the appliance.
- n) If you suspect the refrigerant is leaking, then:
 - o) Do not smoke.
 - p) Do not operate electrical equipment.
 - q) Isolate the device.
- r) The refrigerant can only be removed by qualified professionals.

Figure 1: Restrictions on where the heat pump unit can be installed (overhead view)

Flat Wall Installation



Corner Installation

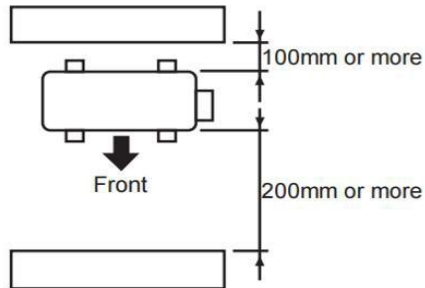
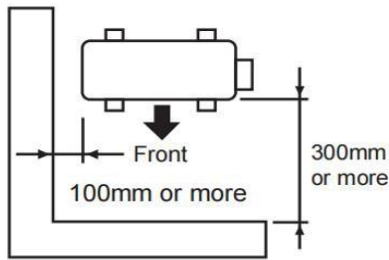


Figure 2: Typical installation layout

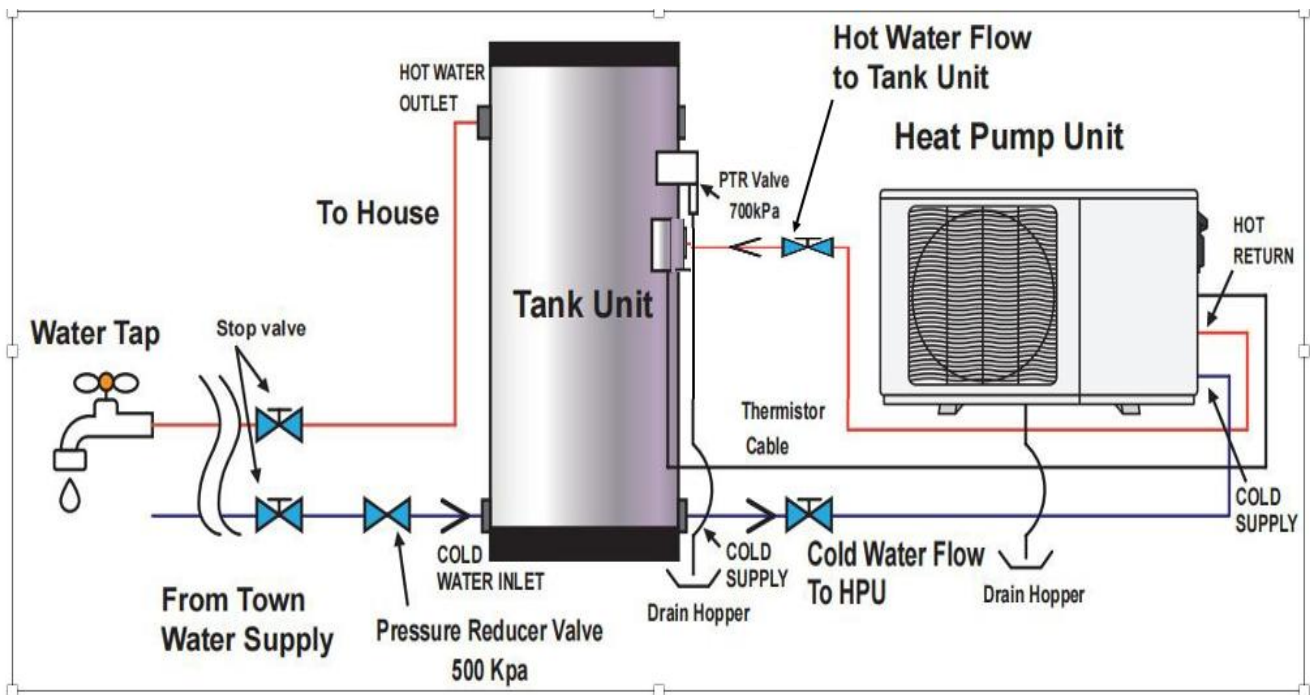
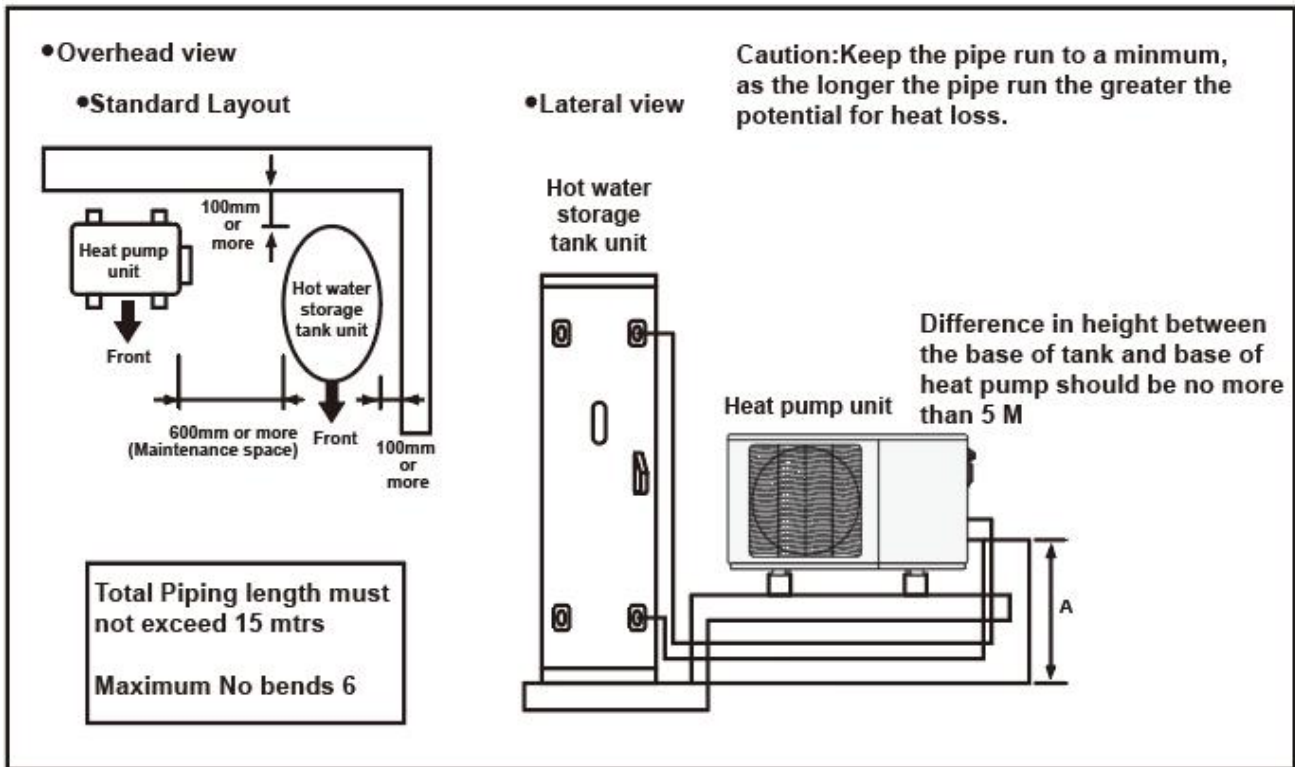


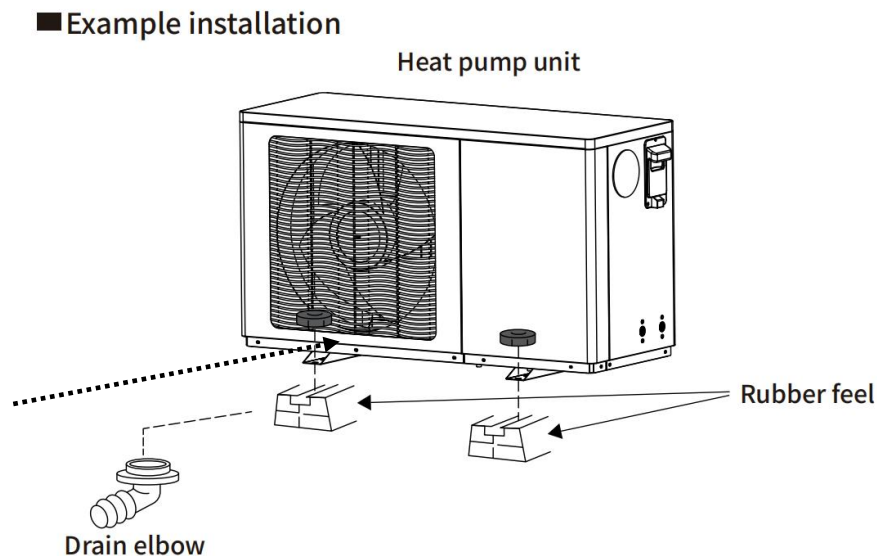
Figure 3: Restrictions on installation with the space between the tank unit and the heat pump unit



9. Installation requirement

- a) The power requirement for the system is a dedicated 10-amp circuit the unit maybe connected to continuous or OFF peak power (connection to off Peak my reduce unit performance).Installation of this system must be carried out only by a qualified installation technician (electrical and plumbing).
- b) 2The surface to which the heat pump unit is installed must be firm, preferably a concrete pad or block. If the surface is firm there is no need to fix the unit to a base surface unless there is a likelihood of high wind or local vibration. If the heat pump unit and tank unit are fixed, appropriate fixing devices should be used.
- c) A pressure and temperature relief (PTR) valve is included with the tank unit. This is installed in a defined point near the top of the tank unit. The PTR valve must have a clear space where escaping steam or water can flow freely (as per AS/NZS3500 plumbing code).
- d) The installation site must be well drained so that any water accumulating (such as local rain or pipe leakage) will drain away and not enter the heat pump unit and the tank unit.
- e) Local water pressure must be a minimum of 200 kPa to ensure efficient functioning.
- f) A drain trap must be installed over the drainpipe if water is to be drained to a drain ditch. If a drain trap is not installed, gas could flow out and cause severe corrosion and malfunction of the heat pump unit.

Figure 4: Heat pump installation example



10. Piping Connections

- a) All piping that connects to the water supply must be carried out by a licensed plumber in accordance with AS/NZ 3500.4
- b) The water supplied to the system must comply with the drinking water quality standard. Use of water that does not comply with this standard could result in a malfunction of the system.
- c) The water source must have a pressure of 200 kPa or higher.
- d) A drain hopper must be installed under the drain outlet.
- e) A drain trap must be installed over the drainpipe if water is to be drained to a drain ditch. If a drain trap is not installed, gas could flow out and cause severe corrosion and malfunction of the heat pump unit.
- f) The piping must be insulated using insulation having a thermal conductivity no greater than 0.035 W/m.K and minimum thickness of 25 mm(Armaflex APT01410)
- g) As the hot water supply pipe will expand and contract, use sleeves when passing it through concrete walls or slabs.
- h) With buried piping, a sheath pipe will need to be used that has had both ends sealed to avoid any rain penetration.
- i) Use only heat-resistant and corrosive-resistant material to seal the pipe joints.
- j) Cutting and wrenching the piping material may result in oil and dust adhering to it. After processing, clean the material with a mild detergent before doing any piping work and smooth the edges to remove any scratches and burrs. (After passing water through it verify whether any dust has accumulated on the filter of the taps and heat pump unit pipe.)
- k) When using sealing tape ensure that no tape is sticking out of the thread.
- l) If any heat-resistant vinyl chloride pipes (such as HT pipe) are bonded together, pass water through them after the pipes have set to prevent any bond adhering to the filter or other parts.
- m) Follow the manufacturer's instruction manual for the type of bond, amount to be applied, curing time, and other specifications.
- n) Connect the heat pump unit cold supply to the tank unit fitting marked **To Heat Pump**.**
- o) Connect the heat pump unit hot return to the tank unit fitting marked **From Heat pump****

- p) Connect the mains water supply to the lower fitting on the tank unit marked **Inlet**.
- q) Connect the hot water supply pipe to the top of the tank unit marked **Outlet**.
- r) Install the supplied PTR valve to the fitting on the tank unit marked **PTR**
- s) Pass water through the pipe to remove any dust inside before connecting the pipe.
- t) After all the piping connections are completed, pass water through the system.
- u) Remove the air from the system by opening the PTR valve until a full stream of water is observed,
- v) Open all taps within the house until a full stream is observed. Gently crack open the hot water outlet fitting to allow air to flush out.
- w) Make sure all the necessary devices are mounted to the pipes as shown in diagram (figure 5). If the heat pump unit piping is crushed or clogged or the air inside was not removed during the test operation, the temperature of the supplied hot water may become inconsistent.
- x) Make sure if the tank is installed inside, that the tank is placed on a suitably drained safety tray to allow safe drainage should a leak occur.

Figure 5: System Piping Heat Pump Unit Piping.

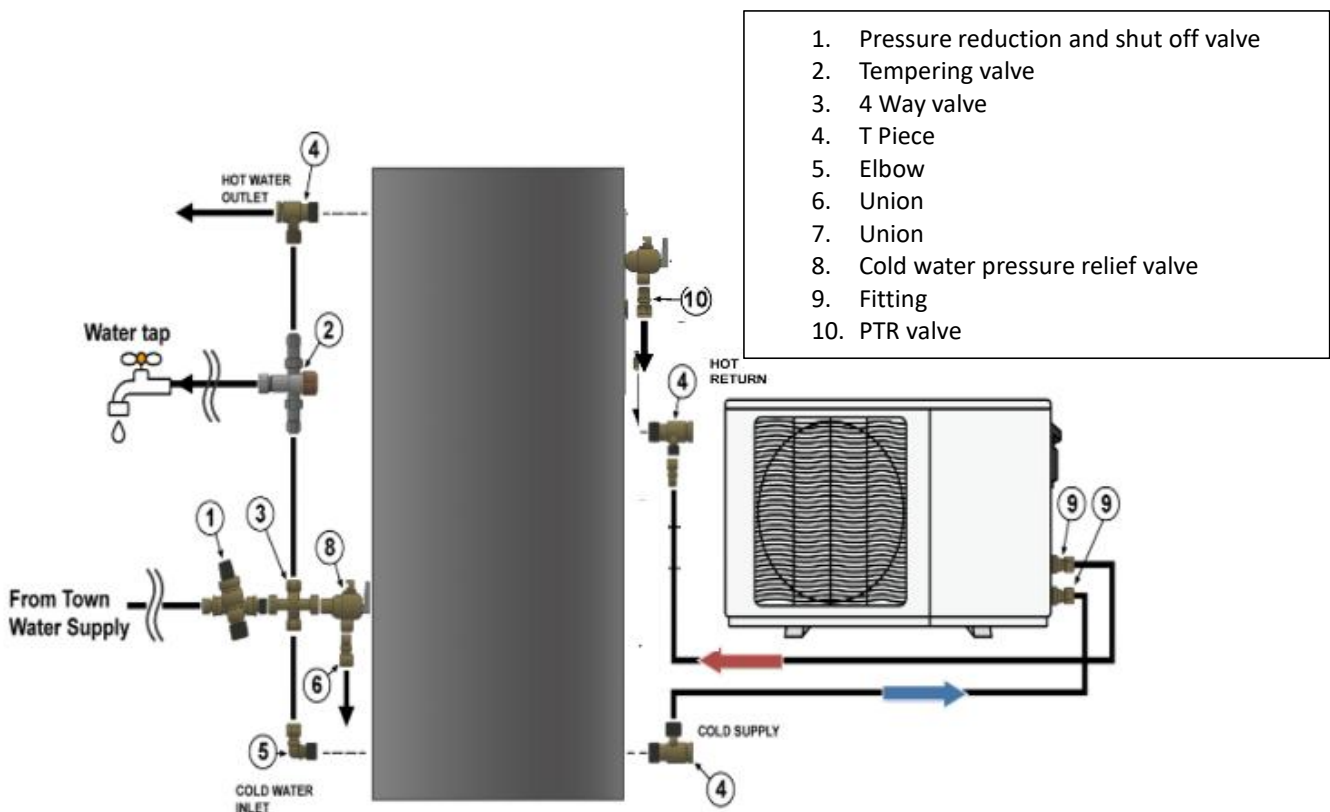


Figure 6: Heat Pump Water Connections



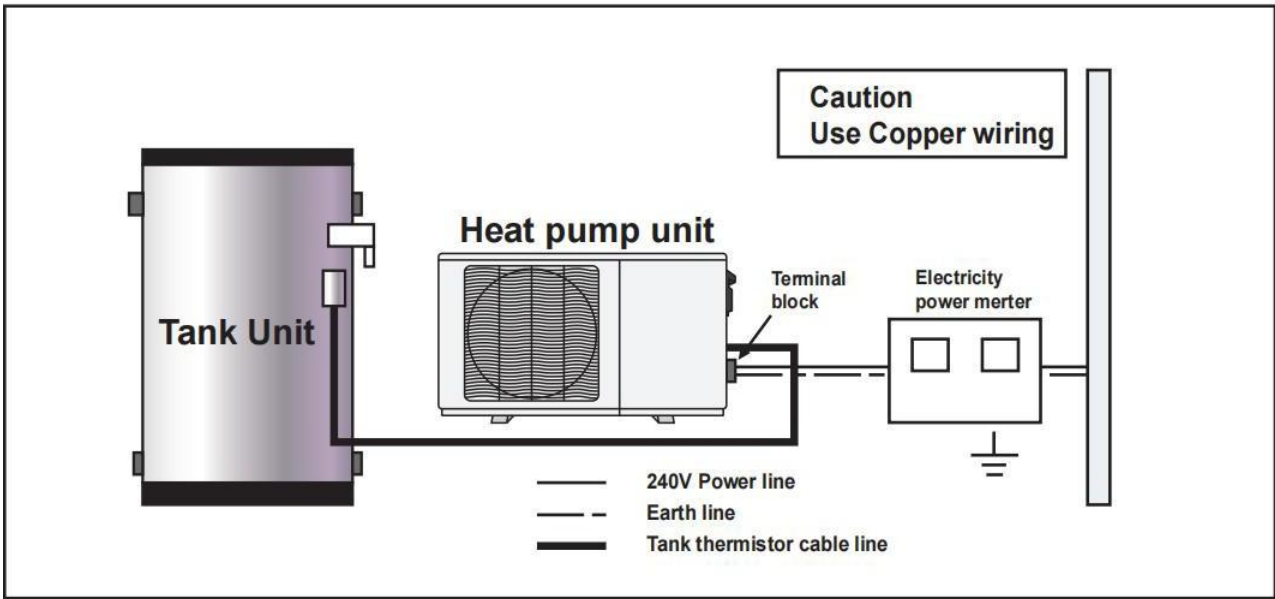
11. Draining the Water Heater system.

- a) Switch off electrical supply to the heat pump.
- b) Close the main water valve.
- c) Gently operate the easing lever on the Pressure & Temperature Relief (PTR) Valve to release the pressure in the tank.
- d) Disconnect the cold-water inlet union to the tank and attach a drain hose.
- e) The system should be flushed after all plumbing has been completed.

12. Electrical connections

- a) Prior to making any electrical connection ensure
- b) Electrical installation should be done only by a licensed electrician who carries out the work according to the relevant regulations for electrical safety and wiring.
- c) Follow the wiring standards/regulations for the breaker rating and the thickness of the electrical wiring.
- d) Verify that the tank unit is full of water and the water stop cocks are open before turning on the power.

Figure 7: Outline of electrical system connections



Note: Select the electrical supply mode that best suits the customer’s hot water consumption. The type of off-peak connection may need to be changed if hot water supply is not maintained as required.

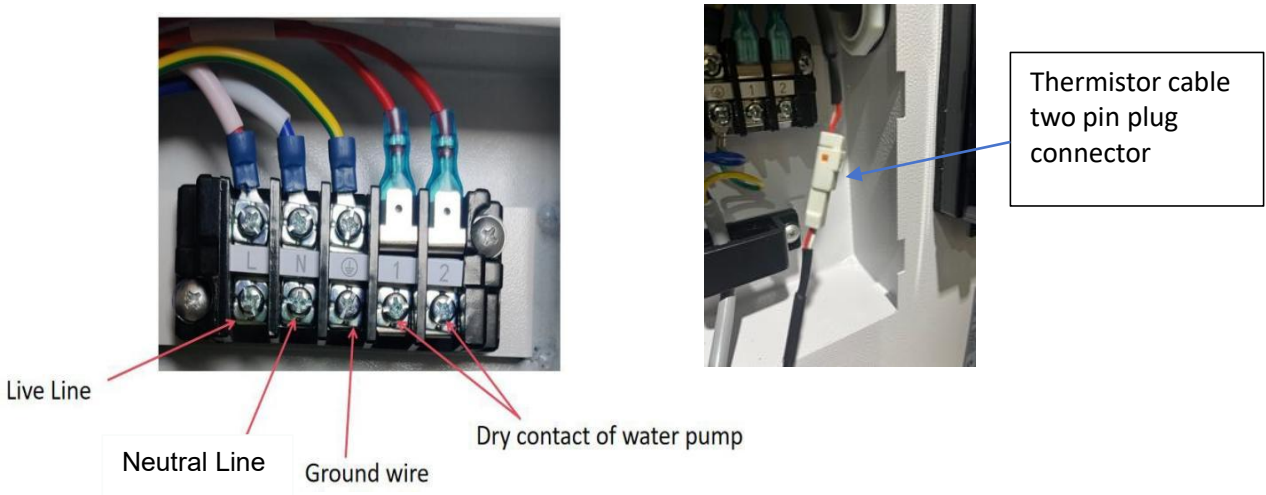
13. How to connect power line

Please note Electrical installation should only be done by a licensed electrician.

- a) Remove the piping cover, terminal block cover and screw clamp fitting.
- b) Connect the power supply line to the terminal block as shown below in Fig8
- c) Connect the thermistor two pin plug as shown below in Fig 8
- d) Lock the power supply line below the terminal block with the screw clamp fitting as shown below in Figure 8
- e) Attach the terminal block cover and piping cover back on the heat pump unit.

Once the entire system is filled with water, the power and thermistor cables are connected, the unit will start automatically there are no special starting procedures that need to be take.

Figure 8: Connections of Power cable



14. System operation

The system runs the water heating cycle once a day at 10:00 am every day (assuming the time clock is set correctly) and turn off once the inlet sensor ② in Fig 9 below reached 58°C to fill up the storage tank unit with heated water.

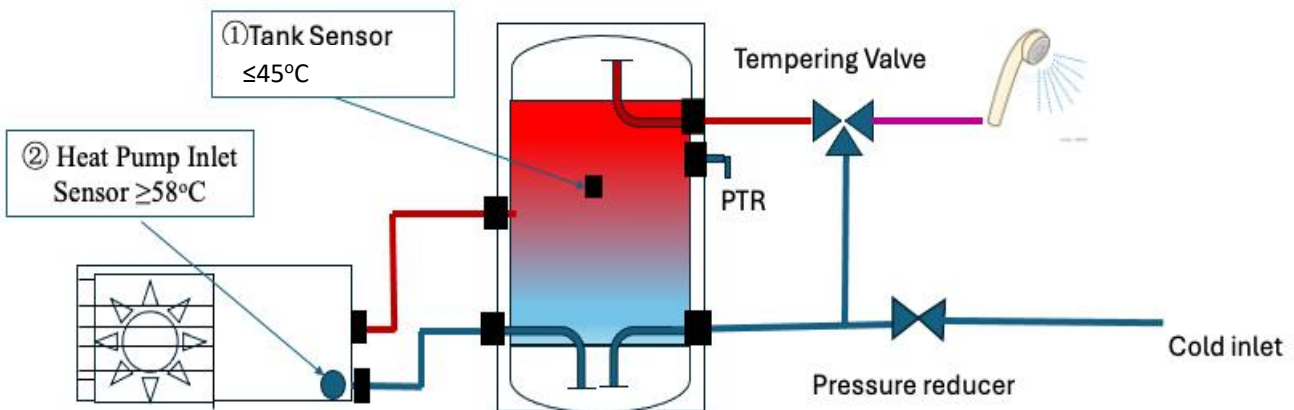
If the block out time function is selected (setting is covered on page 15) the unit will not operate during the block out times – this function is typically used on installations that have time of use electricity tariffs.

The water heating cycle operation will also start automatically when the sensor in the tank reads $\leq 45^{\circ}\text{C}$ ① Fig 9

and stops when the return inlet temperature on the heat pump reads $\geq 58^{\circ}\text{C}$ ② Fig 9

The system will not run if the electrical power supply is cut off. However, the system will automatically start operation once the electricity becomes available.

Figure 9: Heat pump system sensor locations



15. System operation if connected to off-peak electricity.

There are no special settings for the off-peak connection. The system will run once the power becomes available and the sensor in the tank is $\leq 45^{\circ}\text{C}$. The unit runs to achieve an outlet delivery temp of 63°C and will turn off once the Heat Pump Inlet sensor reaches $>58^{\circ}\text{C}$. If connecting the unit to off peak ensure that the off-peak tariff provides a minimum of 5 hours continuous power, depending on ambient and inlet water temperatures it can take at least four hours to fill the tank unit with hot water at installation. If the ambient temperature is lower than 10°C this can be longer.

If the unit is connected to off peak power and consumption has been unusually higher than normal, then hot water might not be available until the next power supply cycle.

Daily frequency and amount of hot water consumption may also affect the duration of the heating cycle operation.

To protect the system from Legionella the unit will run automatically every 24 hours it is important that the power supply is always available if the unit is not required to be used for long periods of time, then the unit must be drained of all water and the power supply disconnected.

16. Controller Operation



All function





Normal Operation Display (only for reference)

16.1 Meaning of Icons













Icon	Description	Icon	Description
	Hot Water Mode Icon		Malfunction Icon
	Silent Mode Icon		Water Pump Icon
	Smart Mode Icon		Fan Icon
	Powerful Mode Icon		High Temperature Sterilization Icon
	Enable Heat Storage Function Icon		Compressor Icon
	Heat Storage Function Startup and Operation Icon		Lock Screen Icon
	Defrosting Icon		Electric Heater (Not Available) Icon
	WiFi Icon		Water Out Temperature Icon

16.2 Button Function



Buttons	Function
	Short press to switch the power on/off state, exit the current interface, and return to the main interface. Long press for 3 seconds to switch the button lock/unlock in the main interface
	Short press to increase the current value.
	Short press to decrease the current value Long press for 3 seconds to enter the unit parameter status query.

	Short press the mode button to switch the frequency mode. Long press for 3 seconds to enter the timed energy storage setting interface
	Short press to enter clock settings. Long press for 3 second to enter the timer power on/off setting interface

16.3 Key Combination Button Function

Buttons	Press and hold	Function
 and 	3s	Enter forced defrost in the main interface
 and 	3s	Switch between Fahrenheit and Celsius on the main interface
 and 	3s	Enter password input state
 and  and  and 	3s	Restore factory parameter settings
 and 	3s	Enter the default network configuration

16.4 Lock and Unlock function

On the main interface, press and hold  for 3 seconds to lock / unlock the screen,  displays for screen locked. If there is no operation in 60s, it will lock automatically.

16.5 Turn ON/OFF

In unlocked screen, press  on the main interface to turn on or turn off the heat pump unit.



OFF



ON

16.6 Working Mode Setting

When it is powered on, press  to switch the working frequency:





Silent Mode  → Smart Mode  → Powerful Mode 

Smart Mode: It is default setting. The heat pump will operate intelligently.

Silent Mode: It is used to heat water quietly at lower working frequency.



Powerful Mode: It is for fast heating at full working frequency.


16.7 Parameter Query






In the main interface, press  for 3 seconds to enter the parameter query, then press  or  to query the parameters, finally press the  key to exit the parameter query.

Query Code	Meaning	Range
A01	Water in temperature	-30~99°C
A02	Water out temperature	-30~99°C
A03	Ambient temperature	-30~99°C
A04	Exhaust temperature	0~125°C
A05	Suction temperature	-30~99°C
A06	External coil temperature	-30~99°C
A07	Water temperature	-30~99°C
A08	Steps of Main EEV	
A09	Steps of Enthalpy expansion valve (not available)	
A10	Compressor current	
A11	Heat sink temperature	
A12	DC bus voltage value	
A13	Compressor actual frequency	
A14	DC Fan speed	
A15	Return tank temperature	-30~99°C
A16	DC water pump output	0%-100%
A17	Refrigerant concentration	%LFL
A18	Main Board version number	
A19	Fault record 1 (The latest fault record)	
A20	Fault record 2	
A21	Fault record 3	
A22	Fault record 4	
A23	Fault record 5 (The oldest fault record)	





16.8 Time Setting

Press  to enter the clock setting state, and press  again to enter the hour setting state.

First, the hour will flash, indicating that the hour value of the current time can be adjusted through  or

. After setting the hour value, press the  again; the minute will flash at this time, indicating that the minute value of the current time can be adjusted through  or . After setting the minute value, press the  to save and exit.

16.9 Timer Setting


Press and hold the  for 3 seconds to enter the timer setting. At this time, the timer period "1" flashes, press  or  to select the timer period to be set, and press the  to confirm and enter the current timer period setting.

First, set the heat pump start time. The current display "ON" and the hour position flash.

Press  or  to set the hour;

Then press the  again to switch to the minute position flashing.


Press  or  to set the minute;


After the heat pump start time is set, press  to switch to the heat pump shutdown time setting. The current display "OFF" and the hour position flashing;

Press  or  to set the hour;

Then press the  again to switch to the minute position flashing.

Press  or  to set the minute;

After setting the heat pump shutdown time, press the  again to save and return to the timer period selection interface.

Finally, press  to exit or confirm. After return to the main interface, and the current set timer period will be displayed;

Cancel the timer setting:

If set the same time of start time and switch off time , the current timer period setting should be canceled or not available.








16.10 Heat Storage Function



After the heat pump is connected to the power supply and turned on, the Heat Storage function is automatically turned on by default.






Important notice:

If you have canceled this function and need to re-enable the Heat Storage Function, please refer to the following steps:


- **Set the heat pump start or stop timer period of Heat Storage Function**



1) Press and hold  for 3 seconds to enter the Timer setting, then  + "ON" + clock "hour" flash, then press  or  to set the hour; press  again to switch to the clock "minute", and press  or  to set the minute;

Press  again to switch to the "timer off" setting:  + "OFF"+ clock "hour" flashes.



Press  or  to set the hour; press  again to switch to the clock "minute", and press  or  to set the minute; A total of 1 period of timer setting, then press  to exit or confirm.


- **Enable or Cancel the Heat Storage Function.**

a. After timer setting, long press  and hold the button in 3s to enable or cancel the Heat Storage Function.



b. When Heat Storage function enabled,  displays. And when it meets the operation condition to start to heat water under Heat Storage Function,  displays.

16.11 Forced Defrost

Press the  and  to enter the Forced Defrost mode.




When entering defrost mode,  will flash.

16.12 Celsius/Fahrenheit switch

Press and hold  and  for 3 seconds on the main interface to switch between Celsius/Fahrenheit.


16.13 Restore factory settings

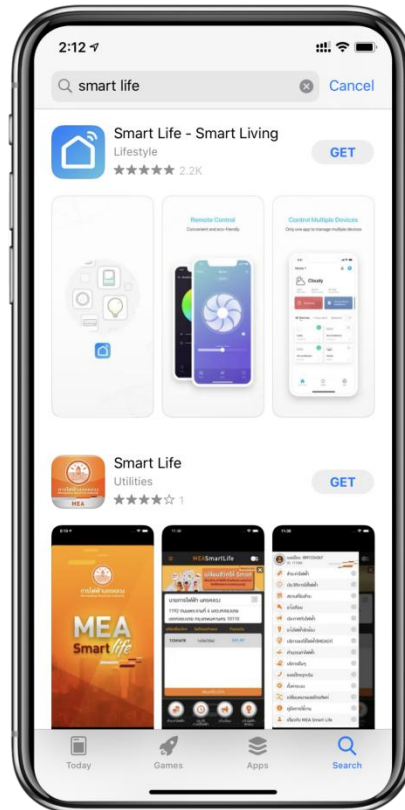


In the off state, press and hold the **M** +  +  +  key for 3 seconds to restore the factory settings. The buzzer will sound twice in succession and all parameter values will return to the default values.

17. WiFi function

17.1 Software Installation

Method 1: Search “Smart life” in your APP store, install “”. Click “GET” to install.




Method 2: Scan the QR code below.



17.2 Software Startup

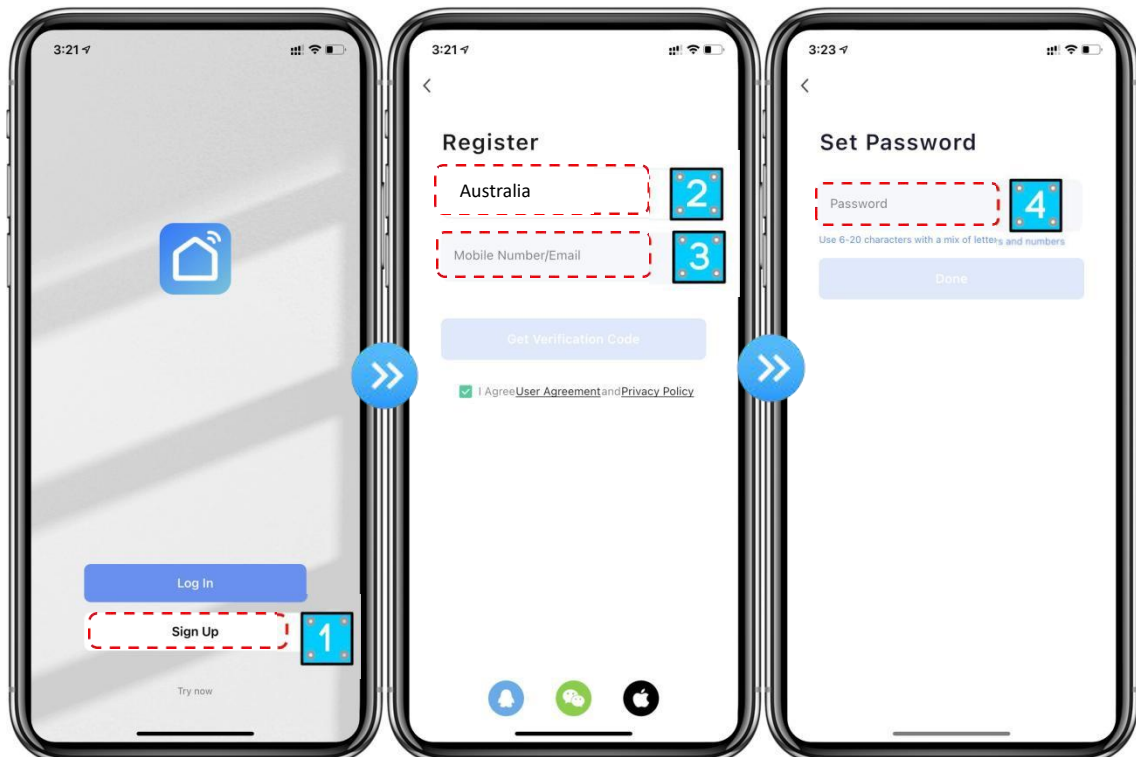


After installation, click “” on your desktop to start up Smart Life.

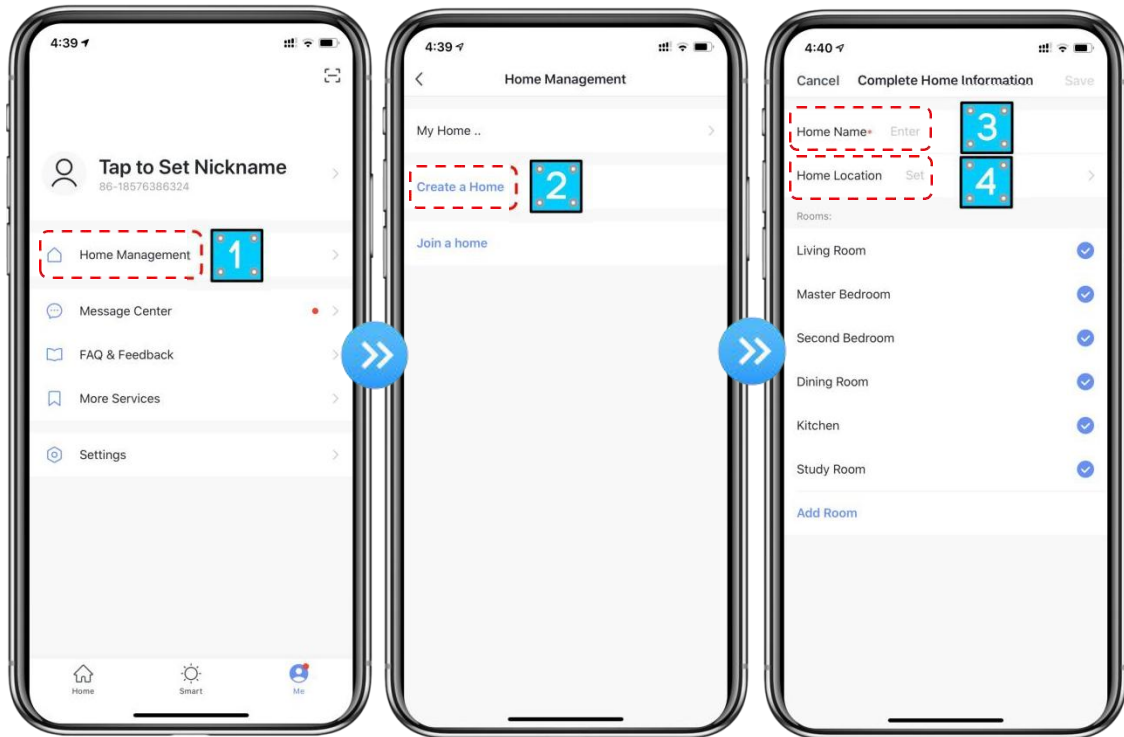
17.3 Software Registration and Configuration

Registration

- Users who don't have an account can click "Sign Up" to create an account:
- Fill in your country.
- Enter your phone number, then you will get a verification code.
- You can set your password.

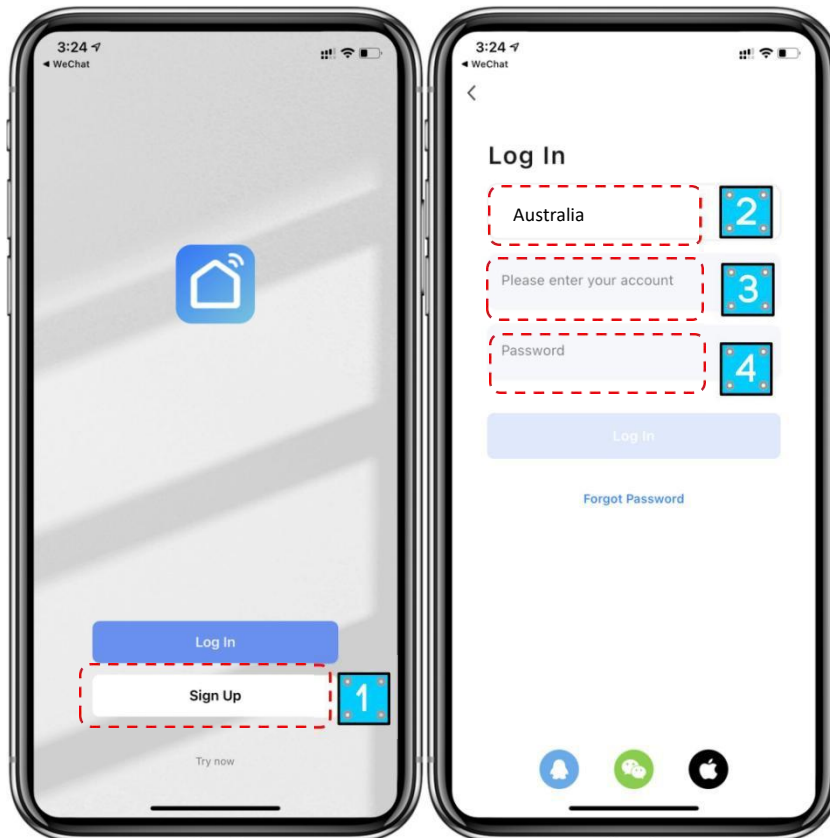


After registration, you need to create a home, the steps are as follows



17.4 Account ID+ Password Login

- a. Existing accounts can be logged in directly, in the following steps:



- b. If you forget your password, you can choose to login in with your verification code and select. Forget Password": Enter your phone number and get the verification code.




After creating a home or logging in, enter the main interface of the APP.

Note: Click the device to check the status, and you can set the working mode, ON/OFF, user setting, factory setting (Lock), timer and operating mode.

Click “+” to add devices.

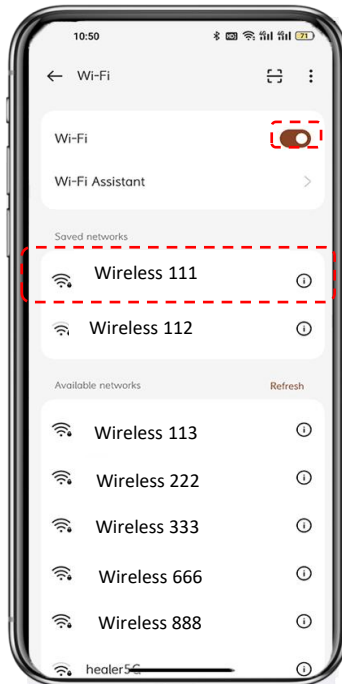
17.5 Wi-Fi Connection

Step 1:

Press and hold the  and  for 3 seconds to enter the "default mode" network configuration, and the  icon flashes quickly when entering;

Step 2:

Turn on the phone's Wi-Fi function, then connect to the Wi-Fi hotspot. The Wi-Fi hotspot must be able to connect to the Internet normally.



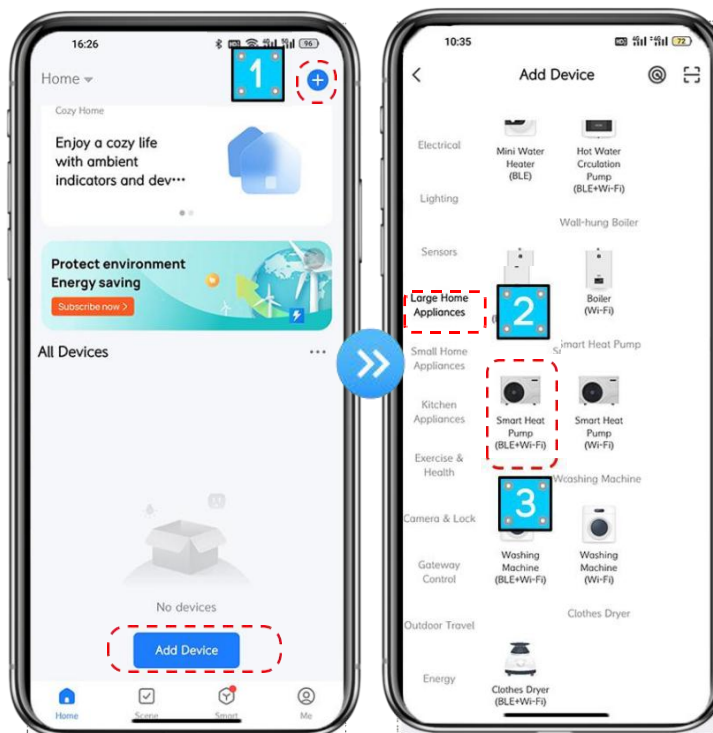
Step 3:

Turn on the phone's Wi-Fi function, then connect to the Wi-Fi hotspot. The Wi-Fi hotspot must be able to connect to the Internet normally.



Step 4:

Open the "Smart Life" APP, log in to the main interface, click on the top right corner "+" or "add Device" of the interface, enter the equipment type selection, the "Large Home Appliances", select "Smart Heat Pump (BLE+Wi-Fi)" equipment and add equipment into the interface.

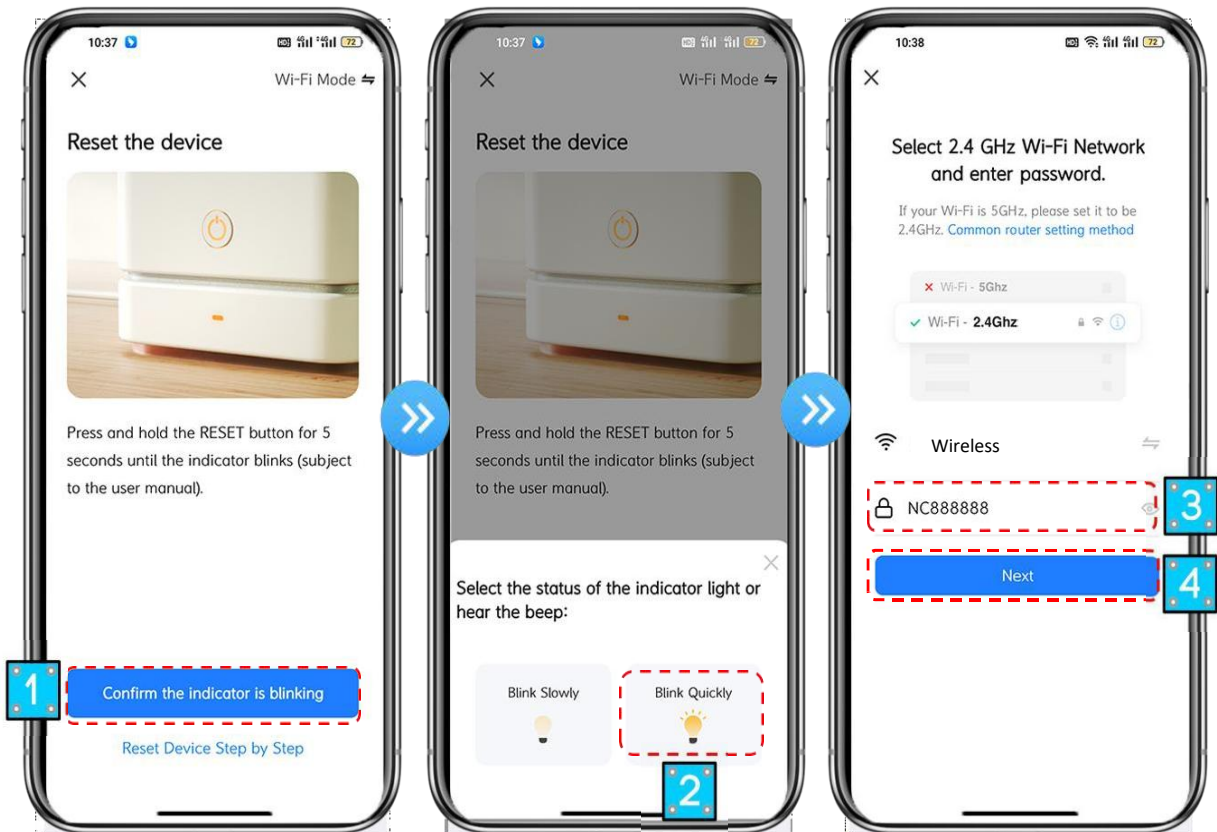


Step 5:

After entering the add device interface, click "Confirm the indicator is blinking rapidly" and "Next". The interface of Wi-Fi connection will pop up, enter the Wi-Fi password of the mobile phone.

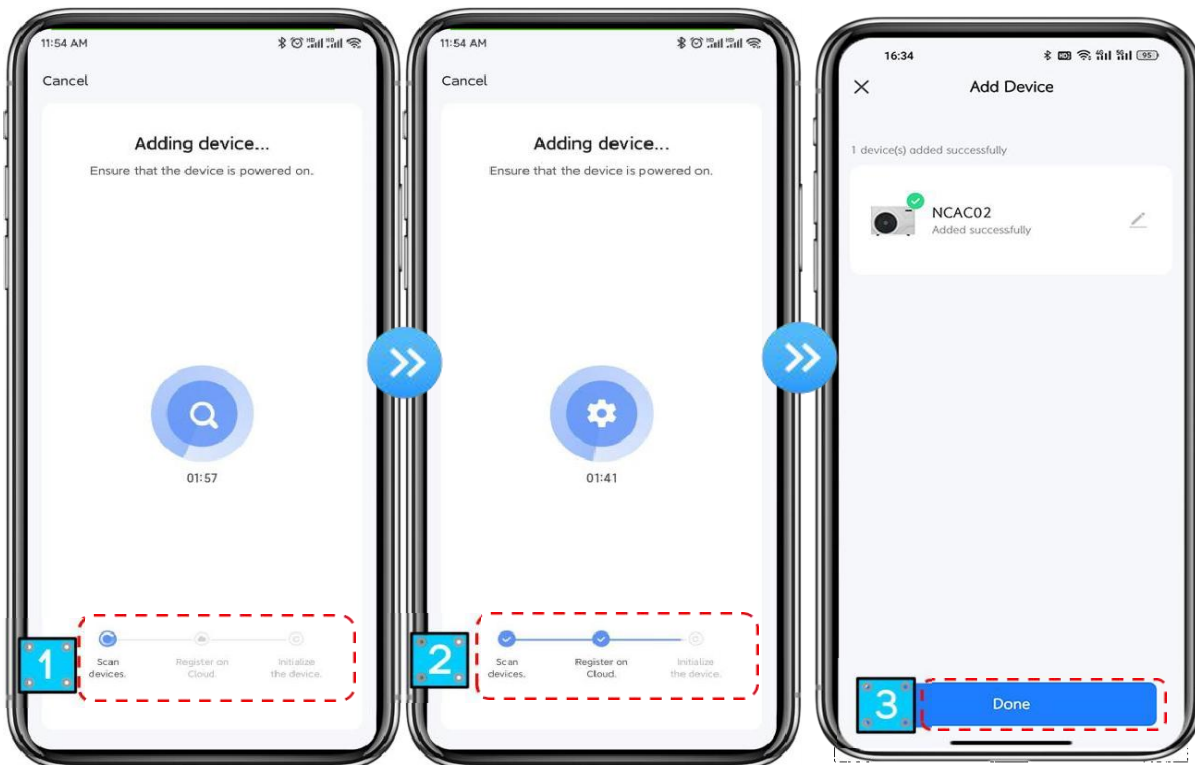
(It must be the same as the Wi-Fi of the mobile phone), and click "Next".

Enter the mobile phone Wi-Fi connection interface, and the APP will automatically enter the device connection status.



Step 6:

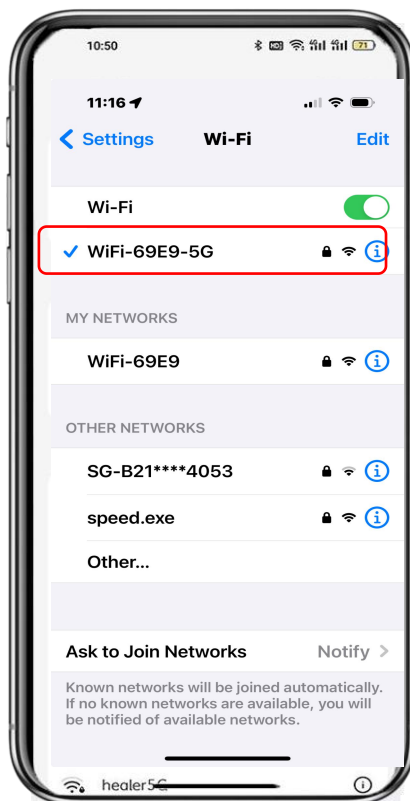
When "Scan devices", "Register on cloud", "Initialize the device" are all completed, connect succeeds.



17.6 Method 2 (Bluetooth connect)

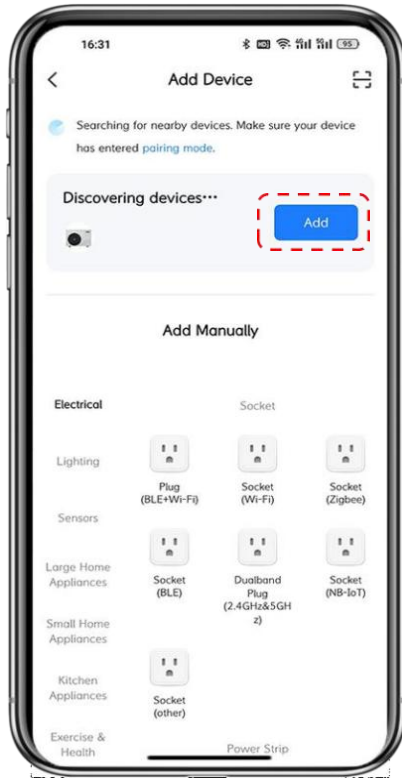
Step 1:

Turn on the phone's Bluetooth and Wi-Fi function, then connect to the Wi-Fi hotspot. The Wi-Fi hotspot must be able to connect to the Internet normally.

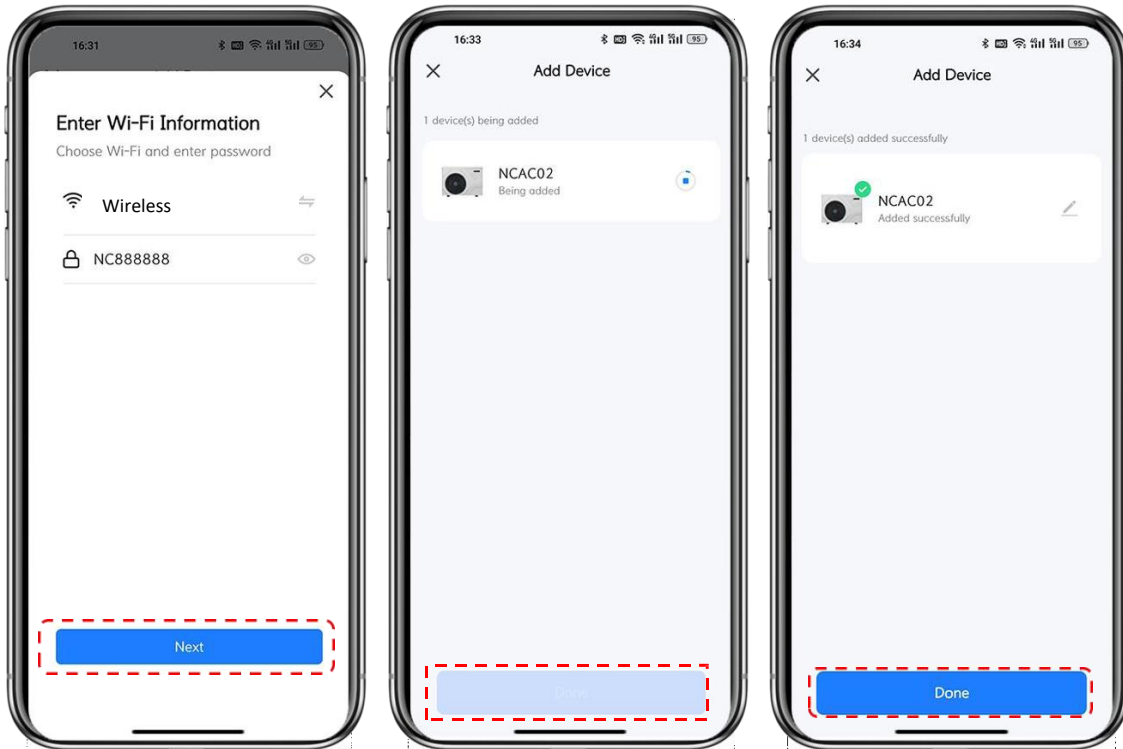


Step 2:

If you have already turned on the phone's Bluetooth and Wi-Fi function, it will automatically pop up the searched machine. Click "Go to add" to connect the machine. The next steps are the same as method 1.

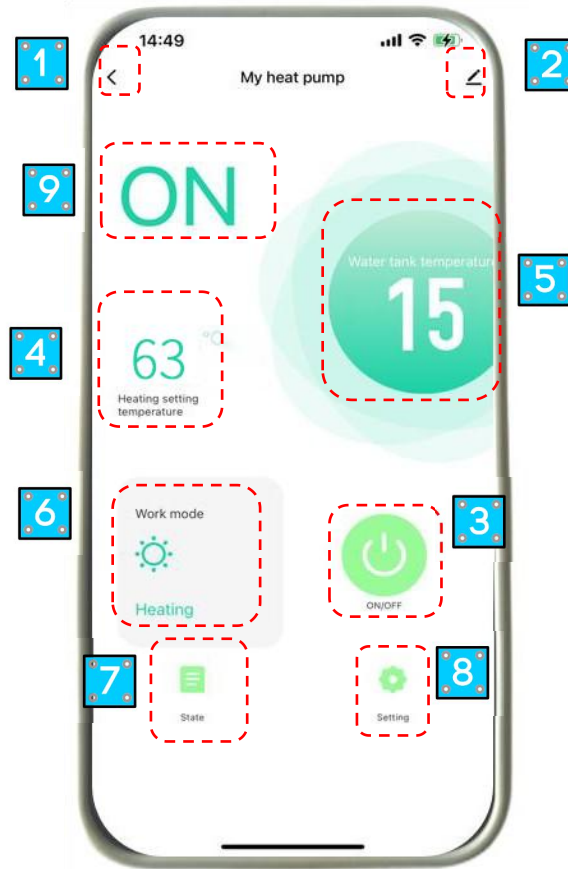


Step 3: Choose Wi-Fi and enter the password.



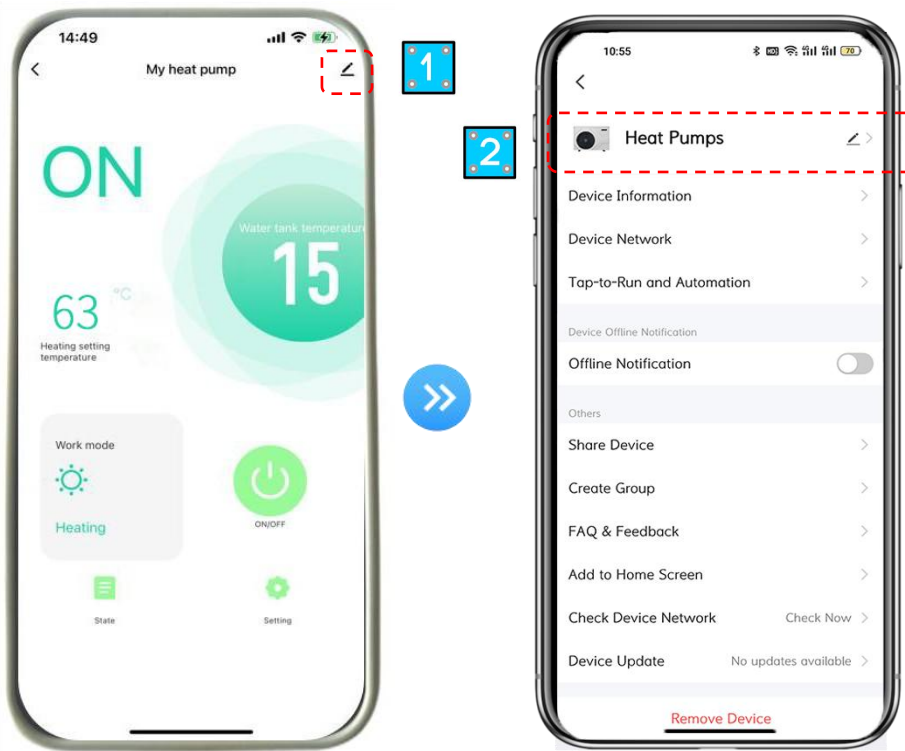
17.7 Software Function Operation

- After the device is bound successfully, enter the operation interface of “Smart heat pump” (Device name, modifiable)
- In the main interface of “Smart Life”, click “Heat Pumps” to enter the operation interface

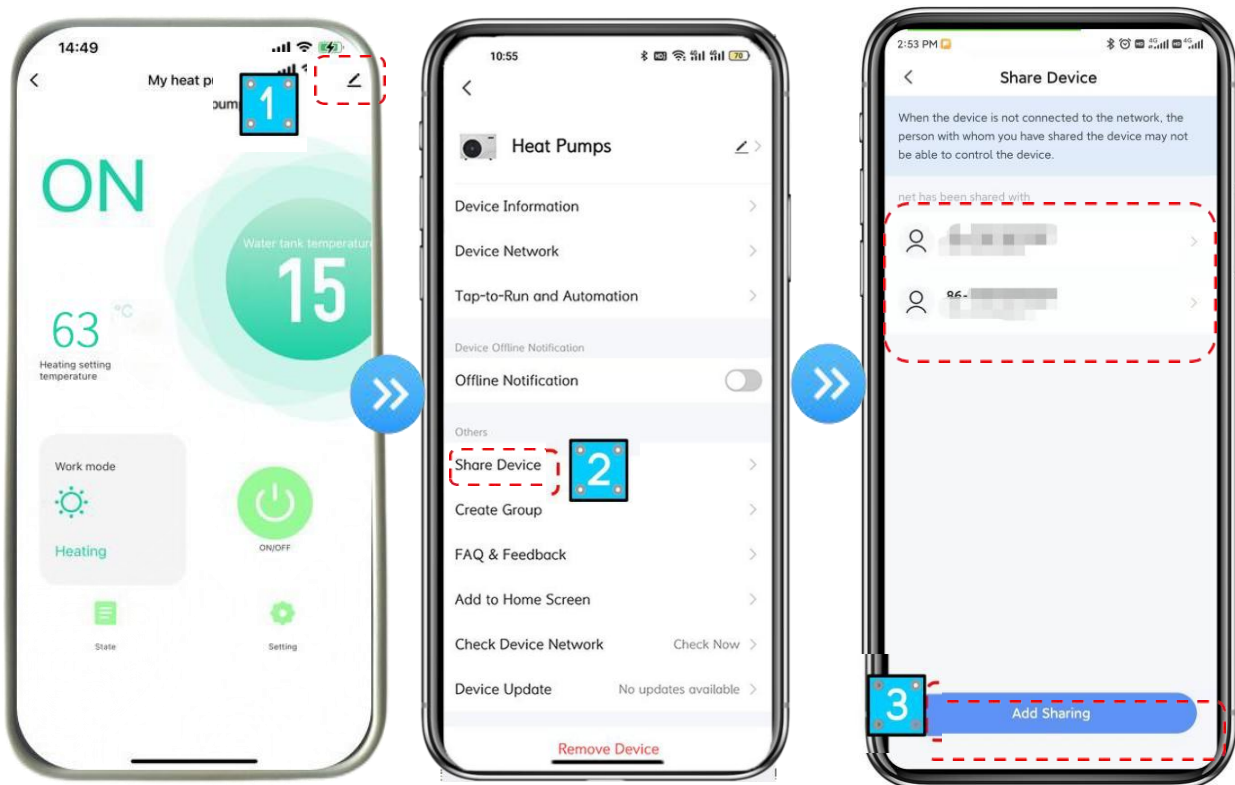


- ① Back
- ② More: You can change device name, select device installation location, check networking status, add Shared users, create device cluster, view device information, and more.
- ③ ON /OFF setting
- ④ Water outlet temperature setting (default: 63°C)
- ⑤ Water tank temperature
- ⑥ Working mode
- ⑦ Status
- ⑧ Setting
- ⑨ ON displays

17.8 Modify device name



Click in the following order to enter device details and click "Device Name" to rename the device

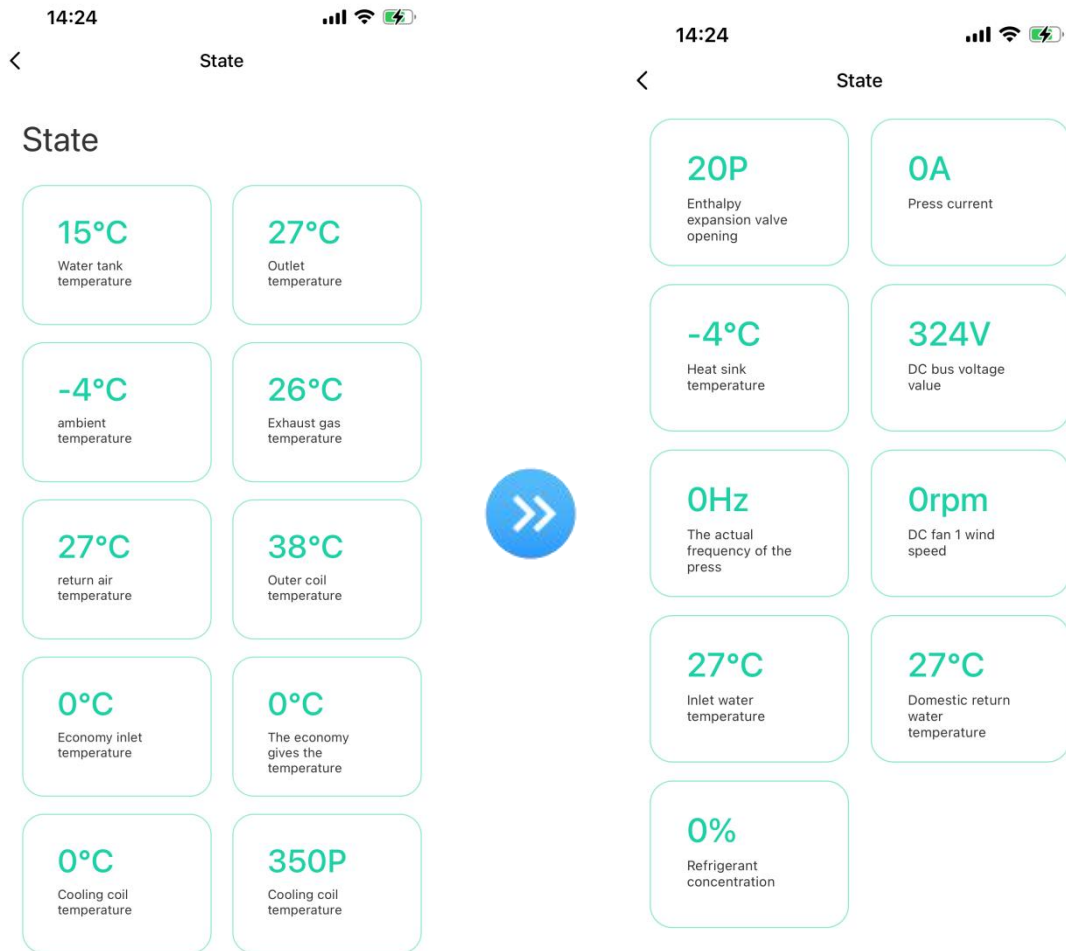


17.9 Device sharing

- To share a bound device, the user should do so in the following order.
- After successful sharing, the list will be added to show the person who shared
- If you want to delete the account you shared, cross the selected account to the left, and delete it.
- The user interface is as follows.

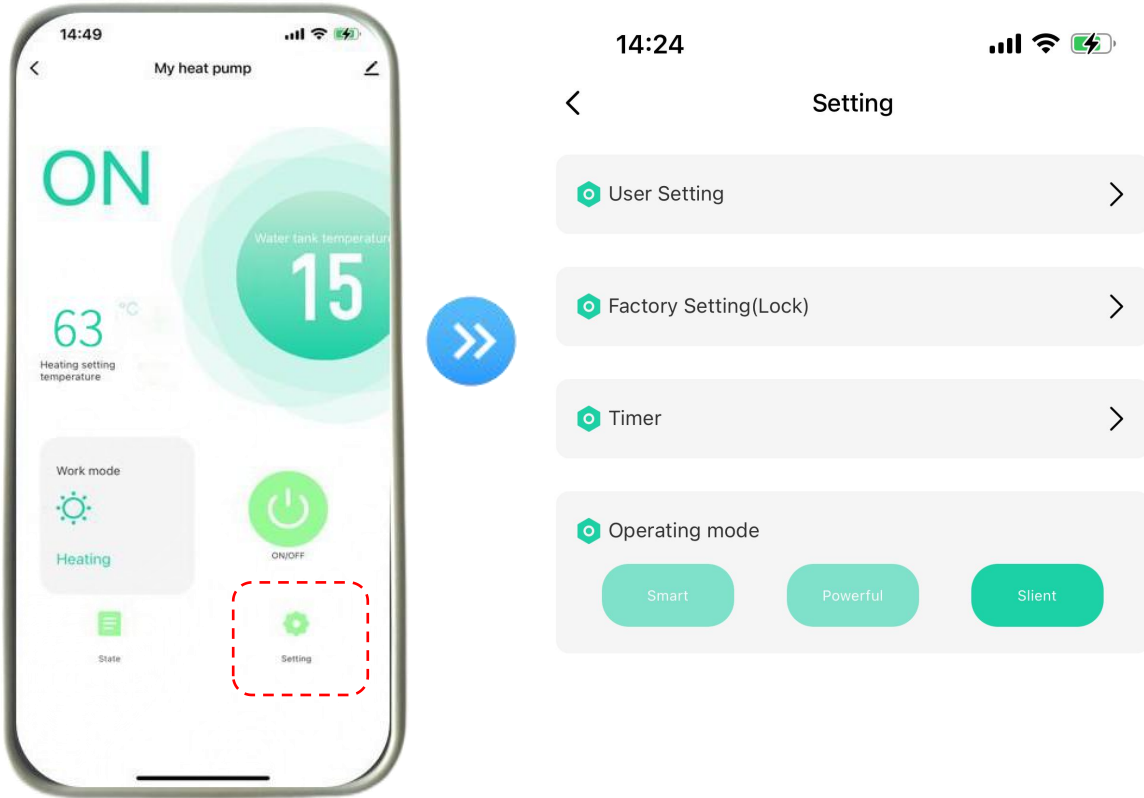
17.10 Check the state

Click "State" to enter the query interface to check query the temperature status of the unit.



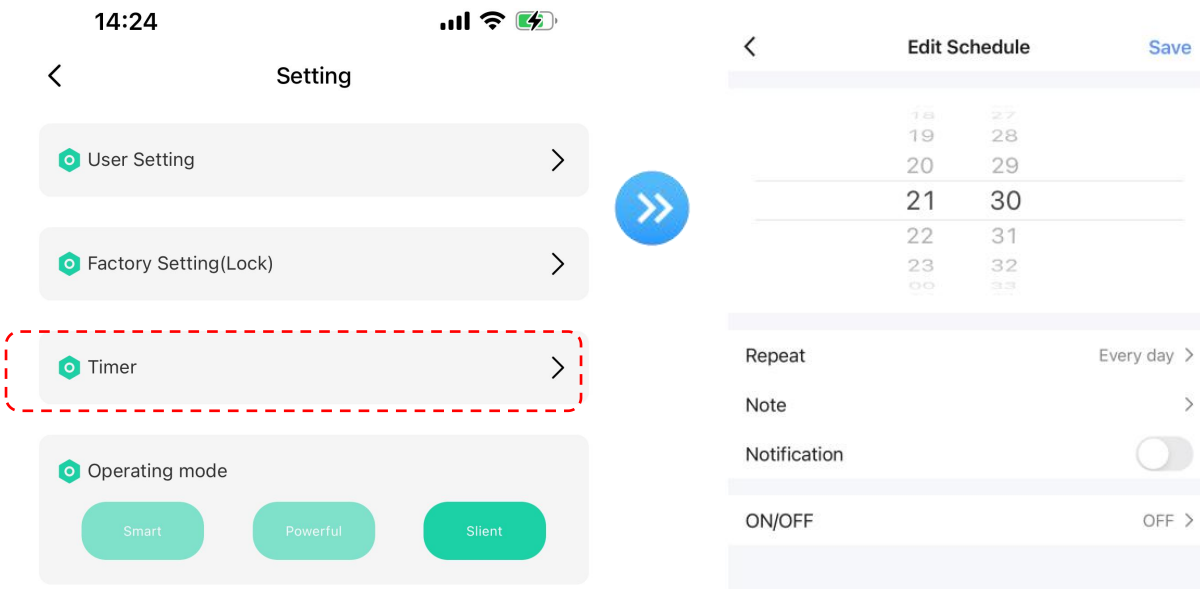
17.11 User setting and factory setting

Click “Setting” to enter the setting interface, where you can set user parameters, factory parameters (Lock with password), timing function, and operating mode.

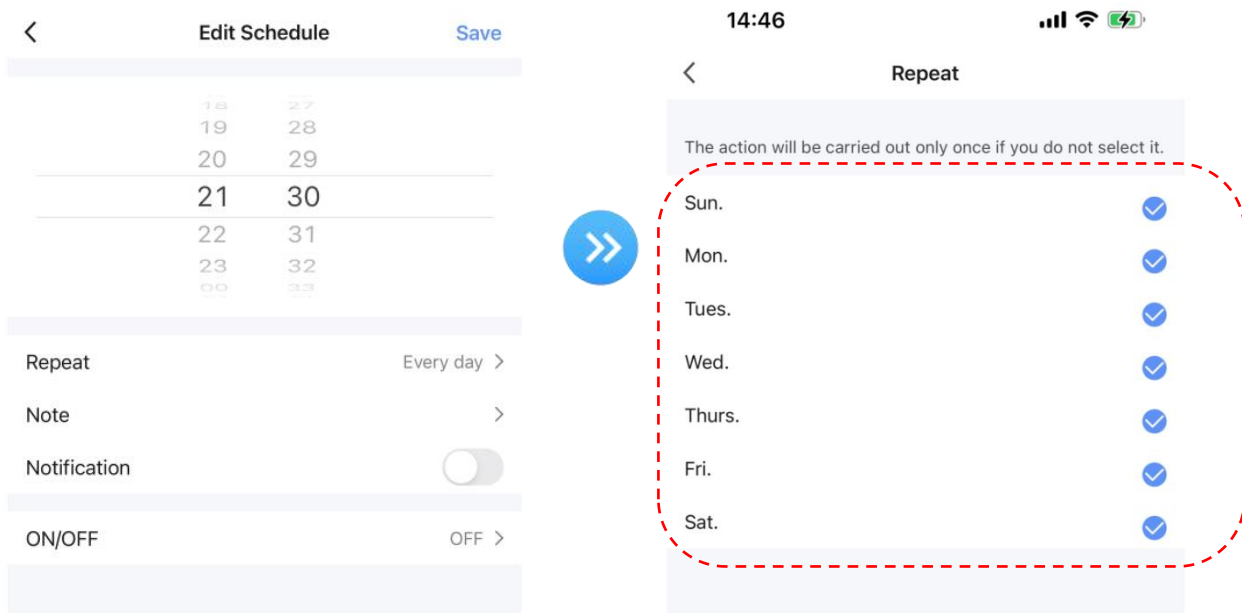


17.12 Timer Setting

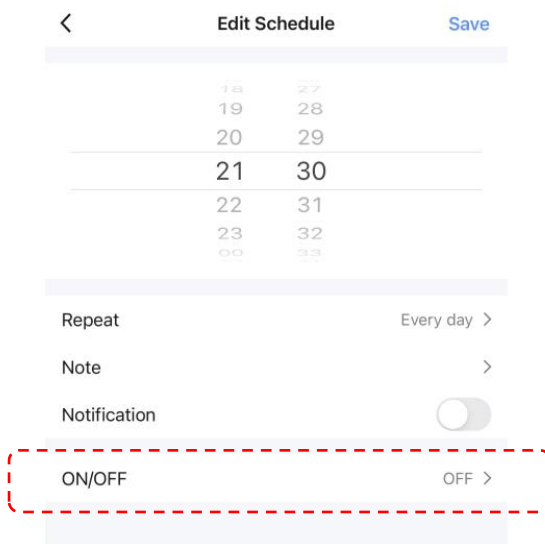
a. Click “Timer “ to set the starting of heat pump or stopping time of heat pump.

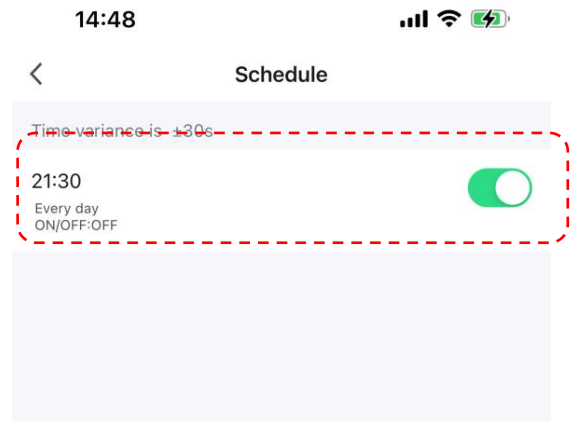
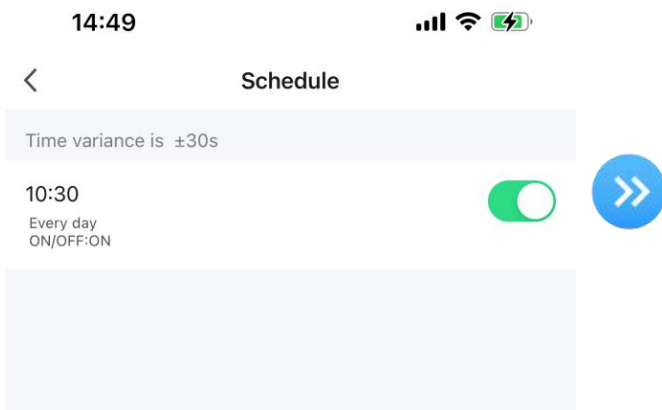


b. Click "Repeat" to select the working days from Sunday to Saturday.

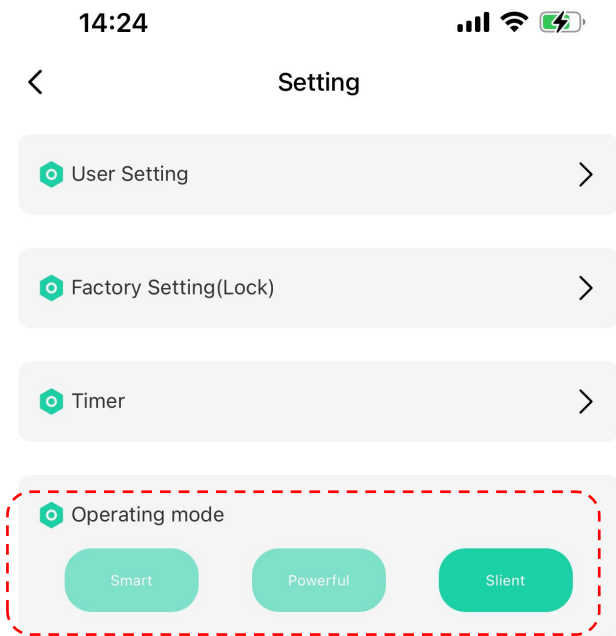


c. Click "ON/OFF" to set the time of heat pump starting (ON) or stopping (OFF). It is not to set the working a time period.





17.13 Operating mode setting



Click "Operating mode" to set the working frequency: "Smart, Powerful and Silent."

17.14 Error code



When the heat pump fails, the WiFi APP will display the error code and description of the problem simultaneously with the heat pump controller.

18.Malfunction and Trouble Shooting

Error Code	Malfunction	Reason	Troubleshooting
E03	Water flow failure	1. Insufficient water flux	1.1 Check the water circulation system 1.2 Check the operation of water pump
		2. Water flow switch disconnected	2. Check the wiring and re-fix the water flow switch
		3. Water flow switch defective	3. Change a new one
		4. Main board failure.	4. Need to replace the motherboard
		5. Low water flow	5.1 Clean or replace the blocked part.
		5.1 The water system is blocked.	5.2 Change the pump according to the water flow and water head.
		5.2 Water pump is not suitable	5.3 Need to change the water pipe.
		5.3 Water pipe is too small	5.4 Reset the water flow switch manually.
		5.4 The water flow switch is stuck and cannot be reset.	6.1 Open the valve.

E04	Anti-freeze protection in Winter		
E05	High pressure protection	1. Loose wiring or poor connection of high pressure switch	1. Reconnect the wire.
		2. There is something wrong with high pressure switch	2. Replace the high pressure switch.
		3. Main board is broken	3. Replace the main board.
		4. Poor condensing	4.1 Operate within the allowable range.
		4.1 Water temperature is too high (over range operation).	4.2.1 Open the valve.
		4.2 Low water flow	4.2.2 Clean the blocked part or replace it
		4.2.1 The valve in water system is not open.	4.2.3 Change the pump according to the water flow and water head.
		4.2.2 Waterway blockage, may appear in the heat exchanger or valve part.	4.2.4 Replace the water pump.
		4.2.3 Improper water pump selection	5. Clean or replace the clogged part.
		4.2.4 The water pump is broken.	6. Vacuumize and refill the refrigerant.
		5. Refrigerant system blockage, may appear in the throttle part.	
		6. Refrigerant system is mixed with air, maybe the vacuum is not enough.	
E06	Low pressure protection	1. The connection between low pressure switch and main board is poor.	1. Reconnect the low pressure switch cable
		2. There is something wrong with low pressure switch	2. Replace the low pressure switch.
		3. Main board is broken.	3. Replace the main board.
		4. Poor evaporation effect	4.1 Readjust the position, the distance of the heat pump from the wall should not be too close.
		4.1 Improper installation position.	4.2 Clean up the dust and dirty matter on the fin heat exchanger.
		4.2 Dust, foreign body blockage on the fin heat exchanger, etc.	4.3 Operate within the allowable ambient temp. range.
		4.3 Low ambient temperature.	4.4 Replace the fan
		4.4 Fan failure causes abnormal air inlet	5. Replace the blocked part.
		5. Refrigerant road blockage, may appear in the throttle part	6. Repair the leakage and refill the refrigerant according to the nameplate.

		6. Leakage happen, and refrigerant is not enough .	
E09	Communication failure	1. The connection between wire controller and main board is poor.	1. Reconnect the wire controller cable.
		2. Wire controller fault.	2. Replace the wire controller.
		3. Main board fault.	3. Replace the main board.
		4. Communication wire and strong electricity wire put together, resulting in power interference communication	4. Communication wire is placed separately from the strong electricity wire.
E10	Frequency conversion module communication failure (alarm when the communication between the external board and the drive board is disconnected)		
E12	Exhaust protection	1. Temp. sensor fault.	1. Need to replace the temp. sensor.
		2. Water flow switch fault	2. Need to replace the water flow switch.
		3. Leakage happen, and refrigerant is not enough.	3. Repair the leakage, and refill the refrigerant according to the nameplate.
		4. Low water flow	4.1 Clean or replace the blocked part.
		4.1 The water system is blocked.	4.2 Change the pump according to the water flow and water head.
		4.2 Water pump is not suitable	4.3 Need to change the water pipe.
		4.3 Water pipe is small	4.4 Reset the water flow switch manually.
		4.4 The water flow switch is stuck and cannot be reset.	5.1 Open the valve.
		5. No water flow	5.2 Turn on the pump.
		5.1 The valve is not open.	5.3 Need to replace the water pump.
		5.2 The water pump is not working.	
		5.3 Water pump is broken .	
E15	Water in temperature sensor failure	Sensor disconnected or defective	Reconnect or replace a new sensor
E16	External coil temperature sensor failure	Sensor disconnected or defective	Reconnect or replace a new sensor

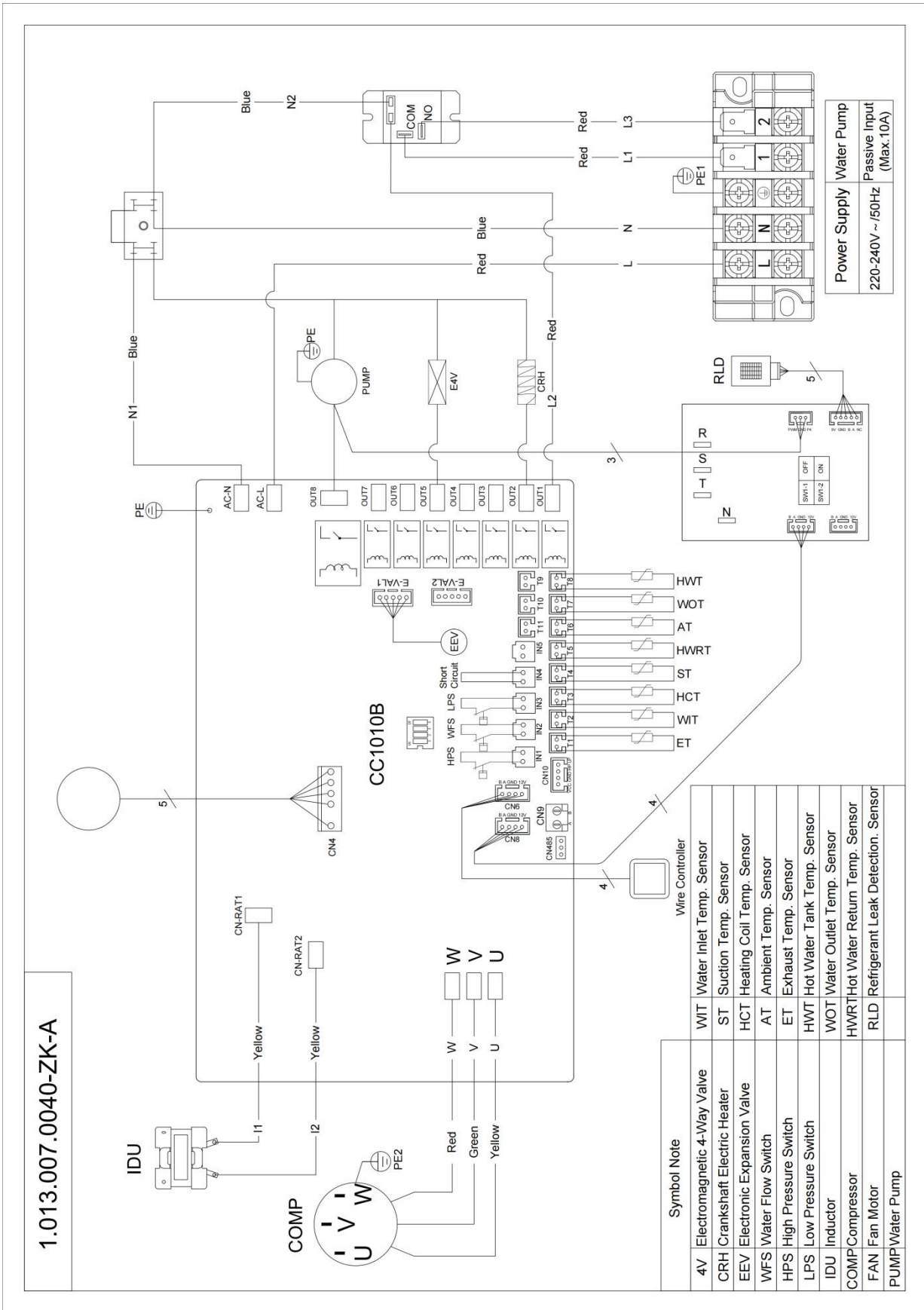
E18	Exhaust temperature sensor failure	Sensor disconnected or detective	Reconnect or replace a new sensor
E19	DC fan motor malfunction	Bad wire connection	Check the wiring of fan motor
		Fan motor defective	Change a new fan motor
E20	Inverter module abnormal protection		Check the voltage, compressor, fan motor ect.
E21	Ambient temperature sensor failure	Sensor disconnected or detective	Reconnect or replace a new sensor
E27	Water out temperature sensor failure	Sensor disconnected or detective	Reconnect or replace a new sensor
E28	CT Overcurrent protection		
E29	Suction temperature sensor failure	Sensor disconnected or detective	Reconnect or replace a new sensor
E32	Heating water outlet temperature too high protection		
E33	Outdoor coil high temperature protection		
E43	Water tank temperature failure	Sensor disconnected or detective	Reconnect or replace a new sensor
E68	Domestic water inlet temperature sensor failure	Sensor disconnected or detective	Reconnect or replace a new sensor
E69	Refrigerant sensor failure		
E70	Refrigerant leakage protection		
E71	Refrigerant expansion board failure		

Notice:

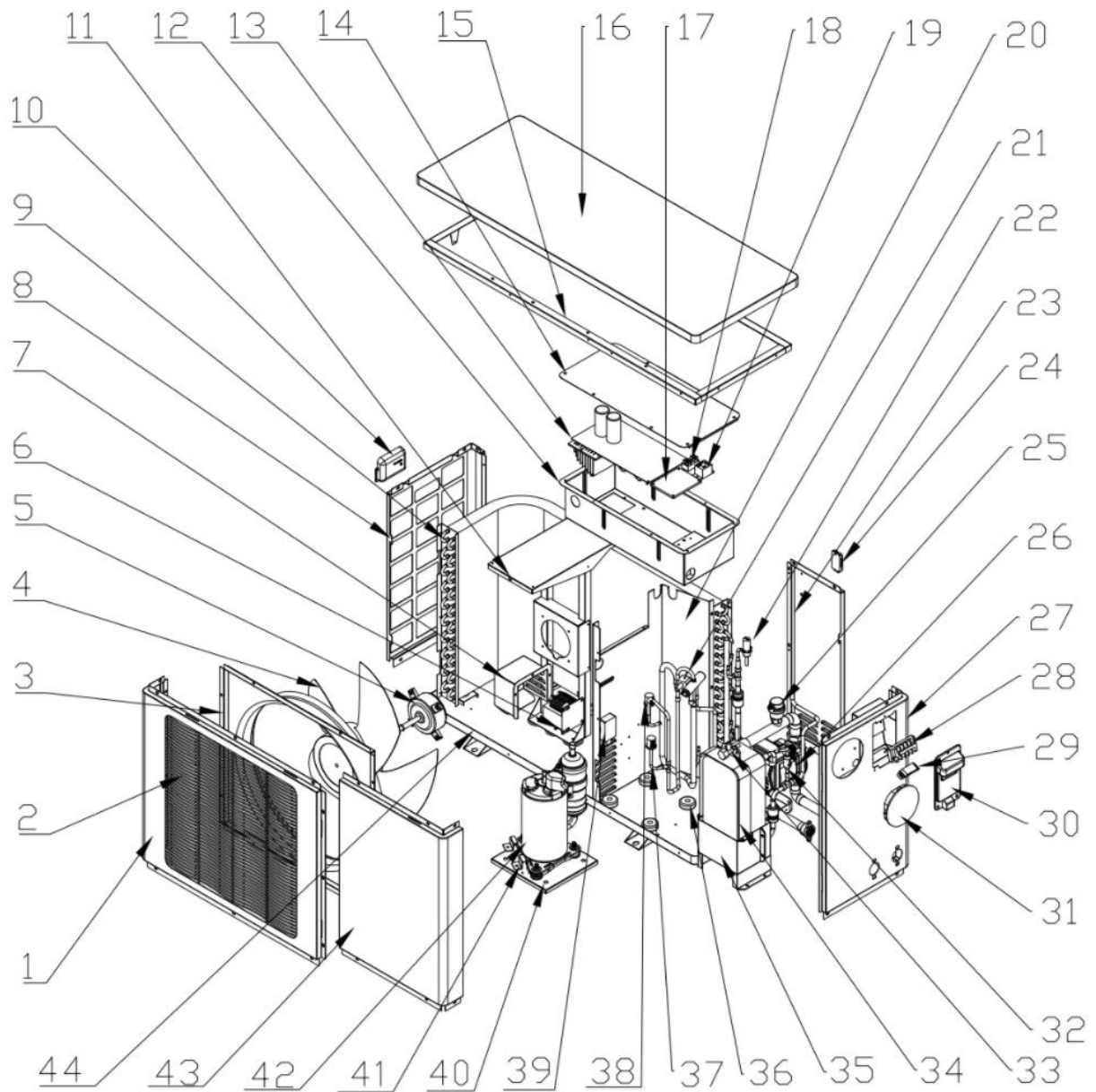
The E20 fault will display the following fault numbers at the same time, and the fault code will switch every 3 seconds; faults 1 to 128 will be displayed first, and faults 257 to 384 will be displayed only when faults 1 to 128 do not occur. If two or more faults of the same priority occur at the same time, the display numbers will be accumulated. For example, if faults 16 and 32 occur at the same time, 48 will be displayed.

Fault Code	Malfunction	Description	Solution
1	IPM Over-current	IPM Module failure	Replace the inverter module
2	Compressor synchronization abnormality	Compressor failure	Replace new compressor
4	Reserve	--	--
8	Compressor output phase loss	The compressor wiring is broken and the contact is poor.	Check the compressor input circuit
16	DC bus voltage too low	Input voltage is too low/PFC module failure	Check input voltage and replace module
32	DC bus voltage too high	Input voltage is too high /PFC module failure	Replace the inverter module
64	Heat sink temperature too high	Fan failure, air duct blockage	Check the fan and air duct
128	Heat sink temperature fault	Heat sink sensor short circuit or open circuit fault	Replace the inverter module
257	communication fail	The frequency conversion module did not receive the command from the main control	Check the communication connection between the main control and frequency conversion module
258	AC input phase loss	Input phase loss (three-phase module is valid)	Check input line
260	AC input over-current	Input three-phase unbalance (three-phase module is effective)	Check the input three-phase voltage
264	AC input voltage low	Input voltage is too low	Check input voltage
272	High pressure failure	Compressor high pressure fault (reserved)	
288	IPM temperature too high	Fan failure, air duct blockage	Check fan and air duct
320	Compressor peak current too high	The line current of the compressor is too large, and the driver and compressor do not match	Replace the inverter module
384	PFC module overheating	PFC module temperature is too high	Detecting PFC Modules

19.Wiring Diagram



20.Exploded view



No.	Part Name	No.	Part Name
1	Front Plate	22	EEV
2	Fan Guard	23	Rear Service Plate
3	Air Guide Plate	24	Ambient Temp. Sensor Holder
4	Fan Blade	25	Vent Valve
5	Motor	26	Water Pump
6	Reactor	27	Right Plate
7	Reactor Waterproof Cover	28	6-position Terminal Board
8	Left Net	29	Cable Clip
9	Fin Heat Exchanger	30	Handle
10	Left Handle	31	Wired Controller
11	Motor Support	32	One-way Valve
12	Electrical Box	33	Stop Valve
13	Driver Board	34	Plate Heat Exchanger
14	Electrical Box Cover	35	Plate Heat Exchanger Fixed Panel
15	Top Frame	36	Shock-proof Adhesive Block
16	Top Cover	37	High Pressure Switch
17	Refrigerant Detection Board	38	Low Pressure Switch
18	9-position Terminal Board	39	Refrigerant Detection Sensor
19	Relay	40	Suspension Chassis
20	Median Septum	41	Compressor Clamp
21	4-way Valve	42	Compressor

21.Maintenance

The following inspections should be carried out regularly any faults requiring repairs should only be done by a qualified repairer.

21.1 Exterior Maintenance

- a) Make regular checks throughout the year that the inlet grill is not blocked or clogged by leaves, snow or anything else.
- b) Ensure during the colder times of the year that there isn't too much frost or ice building up on or around the unit.
- c) Periodically inspected for loose, damaged or broken parts. If these faults are found and not eliminated, the unit could cause physical injury and damage to people, goods and/or property.
- d) Verify the air grills are clear. Clean at least once a year, or more often if the equipment environment is especially demanding, this ensures that the unit's performance can be maintained.

21.2 Evaporator Coil

It is recommended that the finned coils are inspected regularly to check the degree of fouling. This depends on the environment where the unit is installed, areas by the sea can cause increase corrosion and an approved sprayed film coating is recommended.

For coil cleaning proceed as follows:

Remove rubbish and dust collected on the evaporator face with a soft brush (or vacuum cleaner).

Clean the coil with the appropriate cleaning agents

21.3 Water Circuit Checks

- a) Clean the water filter if fitted.
- b) Purge the system to remove any air.
- c) Check the status of the thermal piping insulation.
- d) Check the water flow by checking the water inlet and outlet temperature difference.
- e) Check the concentration of the anti-freeze protection solution (ethylene glycol or polyethylene glycol).
- f) Check the status of the heat transfer fluid or the water quality.
- g) Check that the water pressure safety valve is not leaking.

21.4 Refrigerant Checks

Refrigerant checks must only be done by a qualified repairer if you suspect the unit is leaking refrigerant contact your authorised repairer immediately.

- a) Check the operation of the high-pressure and low-pressure transducers. Replace them if there is a fault.
- b) Check the fouling of the filter (by checking the temperature difference in the copper piping). Replace it if necessary.
- c) Full-load operating test verify the following values:
- d) Compressor high-pressure side discharge pressure
- e) Compressor low-pressure side suction pressure
- f) Verify the charge status by checking the super heat and sub-cooling.
- g) Temperature difference between the heat exchanger water inlet and outlet temperature
- h) Actual liquid sub-cooling, overheating at the expansion device on heat pumps verify correct defrost of the air heat exchanger.
- i) If there is not enough refrigerant in the system, the unit will have poor performance.
- j) If the low refrigerant charge is significant, the suction pressure drops, then the compressor suction superheat will also be high.
- k) Find the leak and completely drain the system with a refrigerant recovery unit. Carry out the repair, leak test and then recharge the system.

Note:

After the leak has been repaired, the circuit must be tested, without exceeding the maximum low-side operating pressure shown on the unit name plate.

The refrigerant must always be recharged in the liquid state into the liquid line.

The refrigerant cylinder must always contain at least 10% of its initial charge. For the refrigerant quantity per unit, refer to the data on the unit name plate.

22. Water supply quality

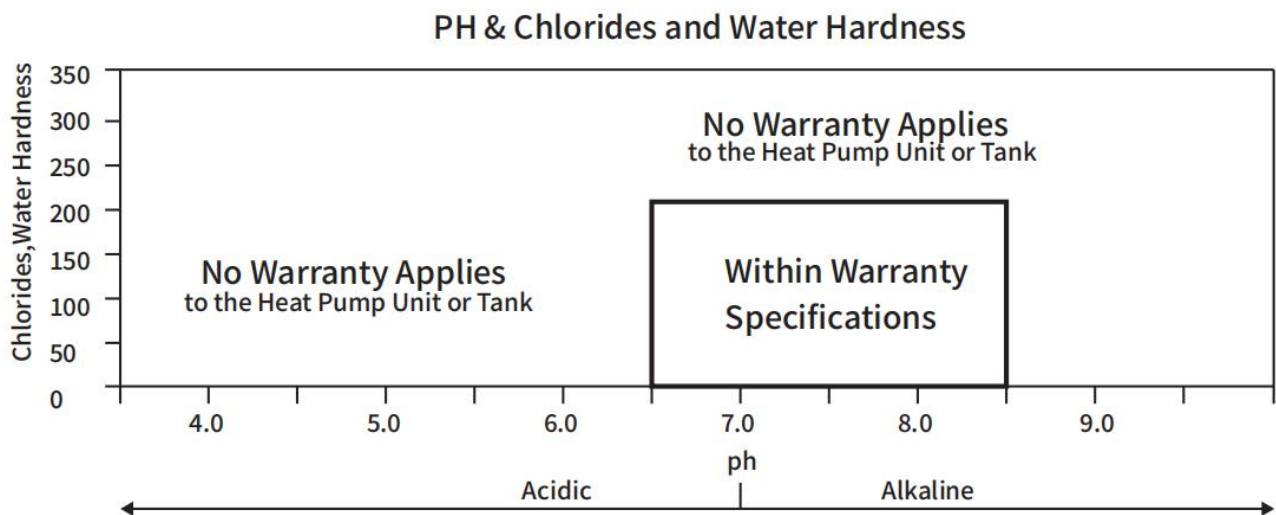
22.1 Chloride and pH

In high chloride water supply areas, the water can corrode some parts and cause them to fail. Where the chloride level exceeds 200 mg/liter warranty does not apply to the heat pump unit and tank unit. pH is a measure of whether the water is alkaline or acid. In an acidic water supply, the water can attack the parts and cause them to fail.

No warranty applies to the heat pump unit and tank unit where the pH is less than 6.0. The water supply from a rainwater tank unit in a metropolitan area is likely to be corrosive due to the dissolution of atmospheric contaminants.

Water with a pH less than 6.0 may be treated to raise the pH. It is recommended that an analysis of the water from a rainwater tank be conducted before connecting this type of water supply to the system.

Figure 10: PH & Chlorides and Water Hardness



221.2 Change of water supply

Changing, or alternating, from one water supply to another can have a detrimental effect on the operation and/or life expectancy of the water tank unit cylinder, PTR valve, water heating circulation and the heat

exchanger in the system. Where there is a changeover from one water supply to another, for example, a rainwater tank supply, desalinated water supply, public reticulated water supply or water brought in from another supply, then water chemistry information should be sought from the supplier, or the water should be tested to ensure it meets the warranty requirements in this installation manual

23.Warranty Policy

23.1 Warranty Conditions

- a) The Wilson Heat Pumps Heat Pump Water Heater System must be installed in accordance with the installation instructions supplied with the Heat Pump Water Heater System and in accordance with all relevant statutory and local requirements of the state in which the water heater is installed.
- b) Where a failed component or Heat Pump Water Heater System is replaced under warranty, the balance of the original warranty period will remain effective. The replaced part or Heat Pump Water Heater System does not carry a new warranty.
- c) Where the Heat Pump Water Heater System is installed outside the boundaries of a metropolitan area as defined by Wilson Heat Pumps Pty Ltd or further than 25 kilometres from an accredited service agent, the cost of transport, insurance and travelling costs between the nearest accredited service agent's premises and the installed site shall be the owner's responsibility.
- d) Where the Heat Pump Water Heater System is installed in a position that does not allow safe, ready access, the cost of accessing the site safely, including the cost of additional materials handling and/or safety equipment, shall be the owner's responsibility.
- e) The warranty only applies to the Heat Pump Water Heater System and original or genuine (company) component replacement parts and therefore does not cover any plumbing or electrical parts supplied by the installer and not an integral part of the Heat Pump Water Heater System. Such parts would include pressure limiting valve, isolation valves, non-return valves, electrical switches, pumps or fuses.
- f) The Heat Pump Water Heater System must be sized to supply the hot water demand in accordance with the guidelines in the Wilson Heat Pumps Pty Ltd Heat Pump Water Heater System literature.

23.2 Warranty Exclusions

- g) Repair and replacement work will be carried out as set out in the Wilson Heat Pumps Pty Ltd Heat Pump Water Heater System warranty. However, the following exclusions may void the warranty and may incur a service charge and/or cost of parts:
- h) Accidental damage to the Heat Pump Water Heater System or any component, including: Acts of God, failure due to misuse, incorrect installation, attempts to repair the water heater other than by a Wilson Heat Pumps Pty Ltd accredited service agent or the Wilson Heat Pumps Pty Ltd service department.
- i) Where it is found there is nothing wrong with the Heat Pump Water Heater System; where the complaint is related to excessive discharge from the temperature and/or the pressure relief valve due to high water pressure; where there is no flow of hot water due to faulty plumbing; where water leaks are related to plumbing and not the Heat Pump Water Heater System or its components; where there is a failure of electricity or water supplies; where the supply of electricity or water does not

comply with relevant codes or acts.

- j) Where the Heat Pump Water Heater System or its component has failed directly or indirectly as a result of excessive water pressure.
- k) Overflow vent drain has not been installed or is blocked or corroded
- l) Where the Heat Pump has rusted as a result of a corrosive atmosphere;
- m) Where the unit fails to operate as a result of ice formation in the pipework to or from the Heat Pump Water Heater System.
- n) Where the Heat Pump Water Heater System is in a position that does not comply with the Heat Pump Water Heater System installation instructions or relevant statutory requirements, causing the need for major dismantling or removal of cupboards, doors or walls, or use of special equipment to bring the Heat Pump Water Heater System to floor or ground level or to a serviceable position.
- o) Repair and/or replacement of the Heat Pump Water Heater System due to scale formation in the waterways or the effects of either corrosive water or water with a high chloride or low pH level when the water heater has been connected to a scaling or corrosive water supply or a water supply with a high chloride or low pH level as outlined in the Owner's Guide and Installation Manual.
- p) Warranty service is provided to the original owner of the equipment only.
- q) Subject to any statutory provisions to the contrary, this warranty excludes all claims for damage to furniture, carpets, walls, foundations or any other consequential loss either directly or indirectly due to leakage from the Heat Pump Water Heater System, or due to leakage from fittings and/or pipework of metal, plastic or other materials caused by water temperature, workmanship or other modes of failure.

23.3 Warranty Period

Subject to the Warranty Conditions and Exclusions stated above, your Wilson heat pumps Pty Ltd Heat Pump Water Heater System is warranted in a Residential application as follows:

Heat pump unit – Wilson heat pumps Pty Ltd warrants all parts labour on the WILSON HEAT PUMPS PTY LTD water heater system for a period of 6 (Six) years from date of installation. Labour costs are paid directly to the servicing contractor per the payment cost schedule published by Wilson heat pumps Pty Ltd and revised from time to time at Wilson heat pumps Pty Ltd 's requirement.

Tank unit – Wilson heat pumps Pty Ltd warrants that the tank will be free from defects for 10 years at 100% replacement, In a Commercial or Industrial application, the warranty period on both Heat Pump unit and Tank is reduced to 1 (One) year only with no Labour warrant.

