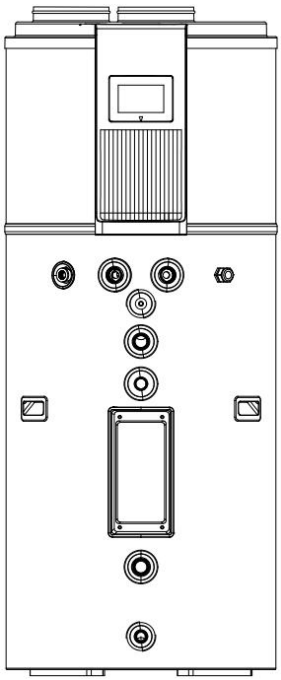
Alchemy Range

WATER MASTERY

Exhaust Air All-in-One Heat Pump

Copper Coil Version - Installation and Owner's Manual

J20HWH200-A



Supplied in Ireland by Alchemy Range

Alchemy Range is the trading name of Price King Sales Limited, Blessington, Co. Wicklow. CRO 509453.
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Installation must be carried out by a qualified installer. Please read this manual fully and keep it for future reference.

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WARNING	The heat pump unit is required reliable earthing connection before usage. Otherwise it might cause death or injury.

If you cannot confirm that your house power supply is earthed well, please do not install the unit before carefully check it. Please have a qualified person to check the reliable earthing connection and install the unit.

Examples of a qualified person include: Licensed plumbers, Authorized electric company personnel, and Authorized service personnel.

1.Safety information

Please carefully read thoroughly all of the instructions before installing or operating the unit. Following safety symbols are very important, please carefully read and always obey all safety symbols.

CAUTION	It maybe cause that people is injured if not obey the instructions.
WARNING	It maybe cause that people is seriously injured or killed if not obey the instructions.
DANGER	It maybe cause that people is seriously injured or killed immediately if not obey the instructions.

WARNING

- The unit must be earthed effectively and reliably.
- A residual current operated circuit-breaker (RCCB) must be installed adjacent to the power supply.
- Do not remove, cover or deface any permanent instructions, labels or the data labels from either the outside of the unit or inside of unit panels.
- Only the qualified person can perform the installation of this unit in accordance with local national regulations and this installation manual. Improper installation may result in water leakage, electric shock or fire.
- Only the qualified person can relocate, repair and maintain the unit. Improper installation and repairing may result in water leakage, electric shock or fire.
- Electric connection work should obey the instructions of local power company, local electric utility and this manual.
- Never use the wire and fuse with wrong rated current, otherwise unit may breakdown and cause fire furthermore.
- Do not insert fingers, rods or other objects into the air inlet or outlet. When the fan is rotating at high speed, it will cause injury.
- Never use a flammable spray such as hair spray, lacquer paint near the unit, because it may cause a fire.
- The heat pump unit is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the unit by a person responsible for their safety. Children should be supervised to ensure that they do not play with the unit.

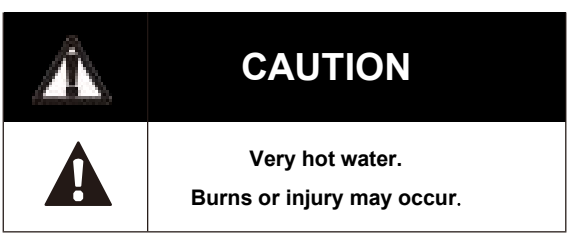


- Once the power supply cord is damaged, it must be replaced by service agent or the manufacturer or a similarly qualified person.

- Do not dispose this unit as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
- Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Please contact local government for information regarding the collection systems available.
- If electrical appliances are disposed of the landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

CAUTION

- The ground wire's pole of socket must be grounded well, make sure that power supply socket and plug are enough dry and connected well.
- To check the power supply socket and plug are qualified .
  Step 1: Turn on the power supply.
  Step 2: Keep the unit running for a half hour.
  Step 3: Turn off the power supply and plug out.
  Step 4: Check whether the socket and plug is hot or not.
- Before cleaning, be sure to stop the operation and turn the breaker off or pull out the power supply plug. Otherwise, an electric shock and injury may be caused.
- Produced hot water temperature can reach over 50℃. It can cause severe burns instantly or death form scalds. Children, disabled and elderly persons are at highest risk of being scalded. Feel water is necessary before bathing or showering. So, water temperature limiting valves are recommended.



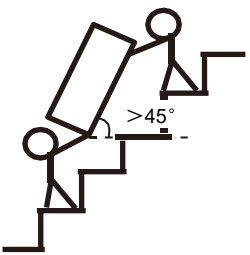
- Do not operate the unit with a wet hand; Otherwise, an electric shock may be caused. The installation height of power supply should be over 1.8m. If there is any water spattered, separate the power supply from water.
- It is normal if some water drops from the hole of PTR valve during operation. But if there is a great amount of water, call the service agent for instruction.
- After a long term use, check the unit base and fittings. If damaged, the unit may sink and result in injury.
- Arrange the drain pipe to ensure smooth draining. Improper drainage work may cause wetting of the building, furniture, etc.
- Do not touch the inner parts of the controller. Do not remove the front panel. Some parts inside are dangerous to touch, otherwise the unit malfunction may be caused.
- Do not turn off the power supply. System will stop or restart heating automatically during the standby mode. A continuous power supply for the unit is necessary, except service and maintenance.
- If the unit has not been used for a long period of time (2 weeks or more), hydrogen gas will be produced in the water piping system.

- Hydrogen gas is extremely flammable. To reduce the risk of injury under these conditions, it is recommended that open the hot water tap for several minutes at the kitchen sink before using any electrical appliance connected to the hot water system. When hydrogen is present, there will probably be an unusual sound such as air escaping through the pipe as the water begins to flow. There should be no smoking or open flame near the tap at the time it is open.

2.Preparations of installation

2.1 Transport

- In order to avoid scratch or deformation of the unit surface, please use guard boards to contacting surface. No contact of fingers and other things with the vanes.
- Do not incline the unit more than 45° to move. When install the unit, please keep the unit vertical.



Gradient limit should be more than 45°

- Because the unit is very heavy, it needs two or more persons to carry the unit. And otherwise, it might cause injury and damage of the unit.

2.2 Packing list



Item	Quantity	Item	Quantity
Heat pump water heater	1	Reducing tee	1
Installation & User manual	1	Reducing coupling (Connect between Automatic air exhaust valve and Reducing tee)	1
T/P valve (G3/4' connection, 0.8MPa)	1	Automatic air exhaust valve (G1/2' connection, 1MPa)	1
Drain outlet pipe cap cover	1	PG Connector	1
Relief valve (0.7MPa)	1	Manual air vent valve (Exhaust air in water cycle)	1
Male-thread Straight tube with outside (Connect with Relief valve of DHW tank)	1	Temperature Sensor (Outdoor Ambient Temp.) (If not connect, no error code,but coil air inlet temp. will be used during in climate compensation function)	1
Temperature Sensor Extension Cord 5m (Indoor Ambient Temp.)	1	Temperature Sensor (Indoor Ambient Temp.) (If not connect, no error code in Circuit temp. control mode, but it show error code in Room temp. control mode.)	1
Temperature Sensor Extension Cord 5m (Outdoor Ambient Temp.)	1	/	/

2.3 Installation site requirements

- Enough space for the unit installation and maintenance should be preserved.
- The surrounding of air inlet and outlet should be free from obstacles and strong wind.
- The base surface should be flat, surface should be inclined no more than 2° and able to bear the weight of the unit and suitable for installing the unit without increasing noise or vibration.
- The operation noise and air flow expelled shall not affect neighbors.
- No flammable gas is leaked nearby.
- It is convenient for piping and wiring.
- If it is installed in indoor space, it might cause indoor temperature decreased or noise.Please take preventive measures for this.
- If the unit has to be installed on a metal part of the building, make sure that the reliable electric insulation which should meet the relevant local electric standard.



CAUTION

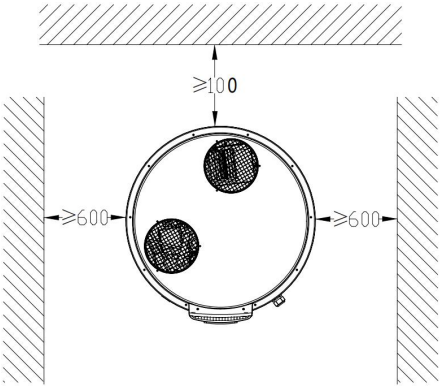
- The ambient temperature must also be considered when installing this unit, in heat pump mode the ambient temperature must be above -5℃ and below 43℃. If the ambient temperature falls outside these upper and lower limits, the electrical elements will be activated to meet the hot water demand and the heat pump does not operate.
- The unit should be located in an area not subject to freezing temperatures. The unit located in unconditioned space (garages, basements, etc.) may require the water piping condensate piping, and drain piping to be insulated to shelter against freezing.
- When installing the unit in the following places, it may lead to the malfunction of the unit: (If it is inevitable, please consult with the unit supplier.)
  - The place contains mineral oils, for example, lubricant of cutting machines.
  - Seaside where the air contains salt.
  - Hot spring area where there are some corrosive gases like sulfide gas.
  - Factories where the high voltage power fluctuates seriously.
  - Inside a car or cabin.
  - The place with direct sunlight and other heat supplies. If it is not avoid, please install a covering or take other measurement.
  - Place where is contained by oil permeates like kitchen.
  - Strong electromagnetic wave surrounding.
  - The place filling with danger or flammable gases or materials.
  - The place filling with acid or alkali gases.



WARNING

- The unit must be securely installed; otherwise some noise and shaking may be produced.
- Confirm that there is no any obstacle around the unit.
- If there is strong wind like seashore, please fix the unit in the place where is protected from the wind.

2.4 Maintenance space requirements

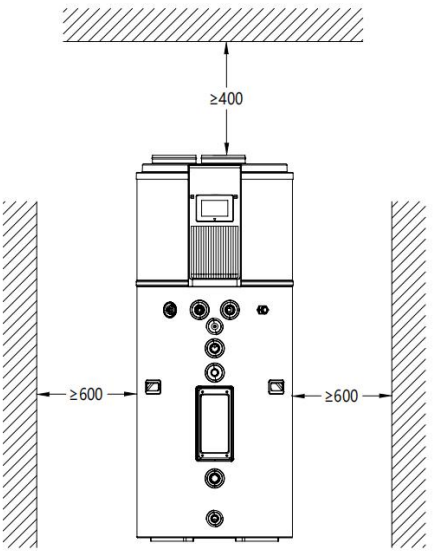


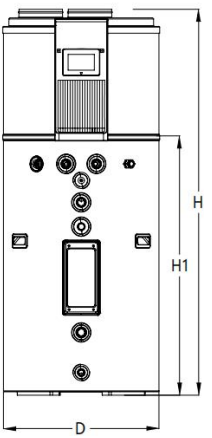
If the unit is installed in an enclosed space:

The heat pump unit must be placed in a space which is more than 15m,³ and must have unrestricted air flow.

For example, the space of the installed unit is one room with 2.5m height ceiling and with 3m length by 2m width.

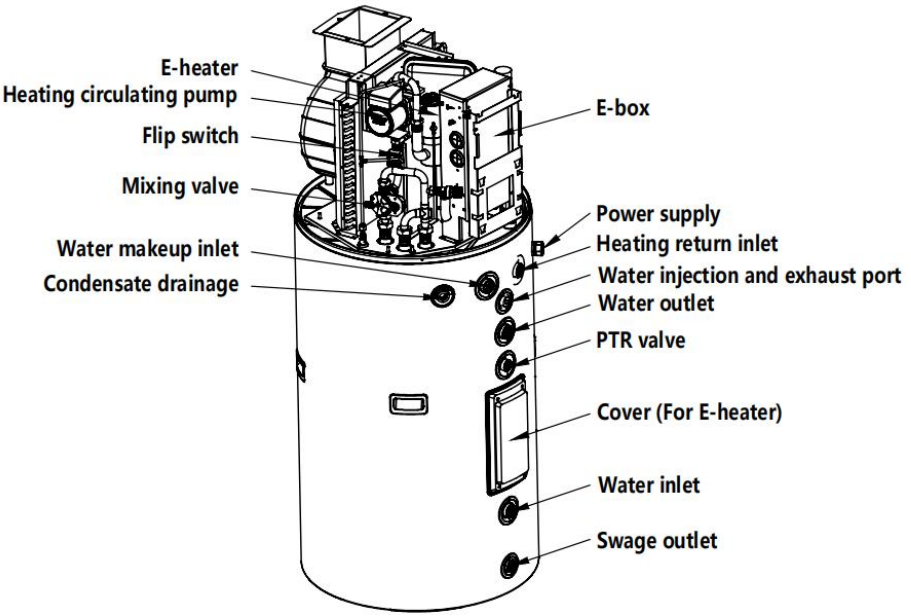
2.5 Unit dimension

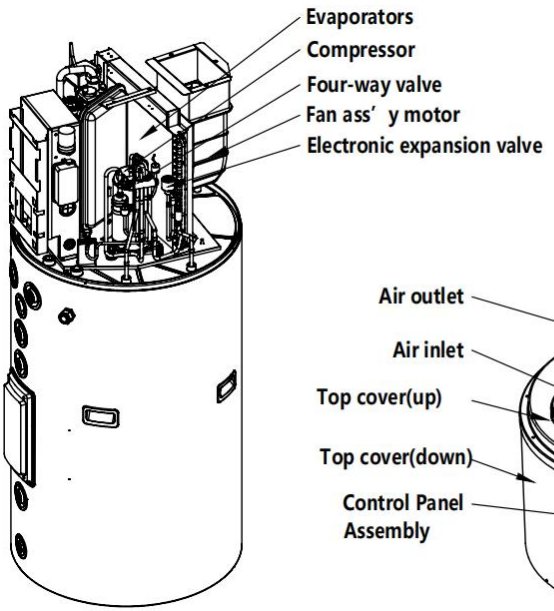




Model	200L
Diameter φ D (mm)	640
High H (mm)	1590

2.6 Part names:





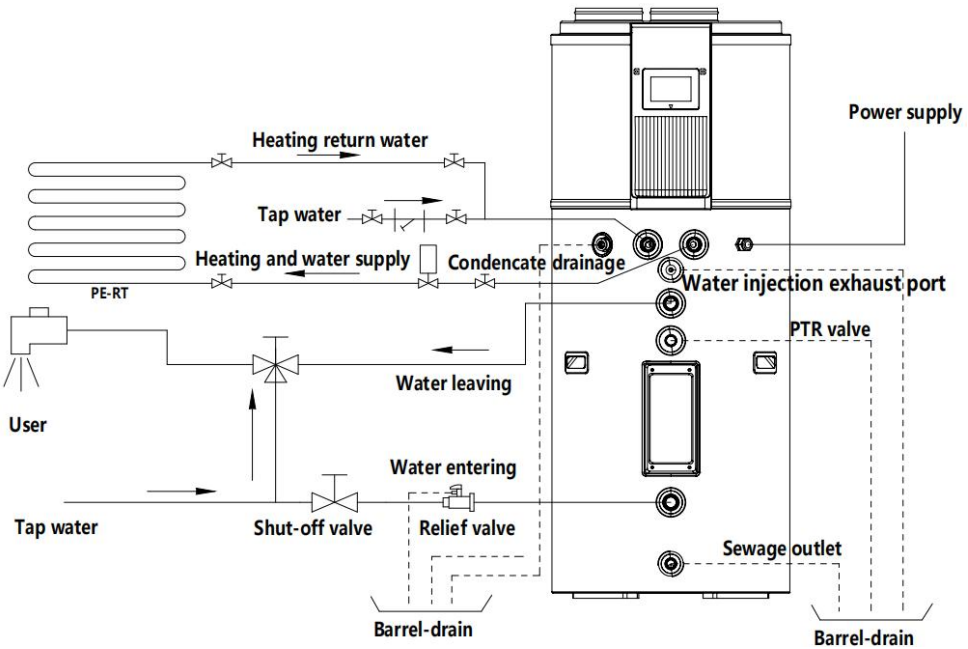
2.7 Specification

Heating Hot Water Heat Pump	
Model name	J20HWH200-A
Power supply	380-415V/3N～/50Hz
Capacity ¹	2.0 kW
Power input ¹	0.5 kW
COP ¹	4.00
Capacity ²	2.7 kW
Power input ²	0.61 kW
COP ²	4.40
Max. power input	8.2 kW
Max. current	15 A
Refrigerant type/Charge	R290/300 g
ELE. power input (hot water/heating)	1.5 kW / 2 kW×3
Max. outlet water temp.	70 ℃
Max. operating pressure (high/low side)	2.8/1.0MPa
Rated water pressure	0.7MPa
Storage tank volume	200L
Water piping connections	G1'
Rated water flow	2.5 m³/h
Hot water pressure relief valve	0.7Mpa
Pressure relief valve for heating	0.3Mpa
Sound power level	48 dB(A)
Net dimensions (L×W×H)	Φ640×1590 mm
Running temp. range	-7 ~ 45 ℃
Net weight	96 kg
Unit protection class (with air inlet duct)	IPX1
Capacity and power input based on the following conditions: 1. Ambient temperature 20℃, heat source temperature 7℃/6℃, water temperature from 10℃ to 53℃. 2. Ambient temperature 20℃, heat source temperature 7℃/6℃, inlet water temperature 30℃,outlet water temperature 35℃.	
Hermetically sealed system,leak tested. Contains fluorinated greenhouse gasses covered by the kyoto protocol.	
⚠ **Installation Space Safety Requirements:** This unit contains flammable refrigerant R290 (propane). To guarantee safety, the installation room must have a floor area of no less than 14 m² (based on a room height of 2.2 m).	

3.Installations

The circulating air flow of every unit should be more than 350m³/h. Please make sure that there is enough installation space.

3.1 Water system piping diagram



Notes:

1) The PTR valve is only available for some models.
2) The temperature limiting valve is required on the hot water usage terminal.
3) The relief valve as accessory must be connected. Drainage pipe connected with the relief valve should be connected with atmosphere.
4) The outlet of the heating outlet pipe should be connected to the three-way pipe provided by the accessory, and the exhaust valve should be installed according to the requirements in the diagram. The buffer water tank and water heating system pipeline should be replenished with water from the tap water supply pipe, and the operation can only be started after the exhaust valve is exhausted.
5) After all the pipes installed turn on the cold water inlet and hot water outlet to fill the tank. When there is water normally following out from water outlet, the tank is full. Turn off all valves and check all pipes. If any leakage, please repair.

CAUTION

- Water piping system as the above figure. When install the unit at a place where outside temperature below freezing point, the insulation must be provided for all hydraulic components.
- The handle of PTR valve should be pulled out once per half a year to confirm that there is no jam of the valve. At the same time, please take care of hot water from the valve and burning.

- The outlet drain pipe should be insulated well in order to prevent water which is kept inside the pipe from freezing in cold conditions.



When filling the buffer tank for the first time, install and open the valve on the water injection port. Please note that in the process of filling water will be heard in the gas discharge sound, when the gas smoothly discharged, and then turn on the heat pump (domestic hot water tank needs to be filled with water first),the sound of water flow can be heard after the internal heating circulating pump is turned on, water filling exhaust process lasts 3-5 minutes, can be completed water filling!

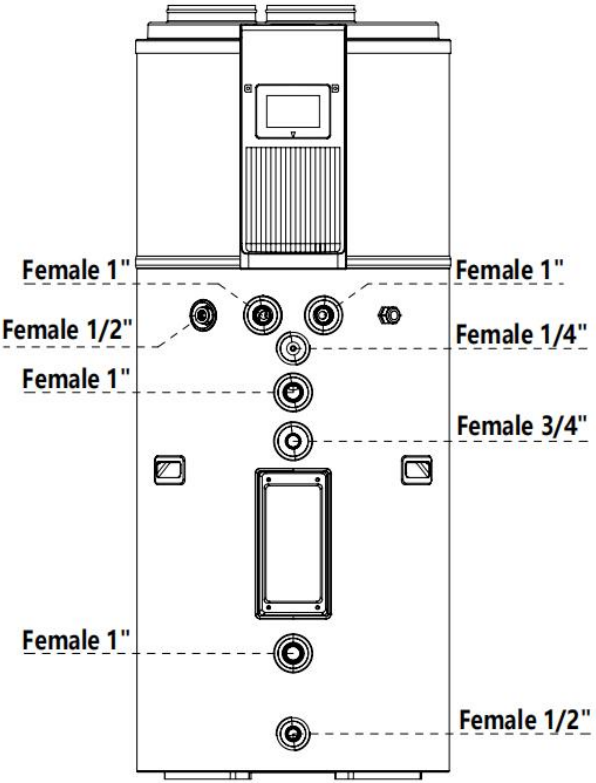
WARNING

It will cause explosion and injury, if do not comply with the following instruction:

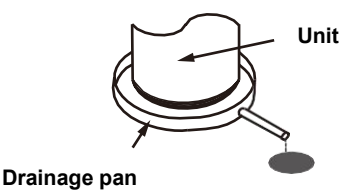
- Do not dismantle the PTR valve.
- Do not block off the outlet drain pipe.

The specifications of water inlet and outlet pipes as following:

- Internal thread (G1').
- Pipes must be heat-insulated well.
- Installation of the pipe of PTR valve's thread is RC3/4' (external thread). When finish the installation, it must be confirmed that the outlet drain pipe of the PTR valve is exposed in the air.
- The relief valve is necessary. It can prevent the supplied water from flowing backwards.
- Connection dimensions as shown in the figure below.

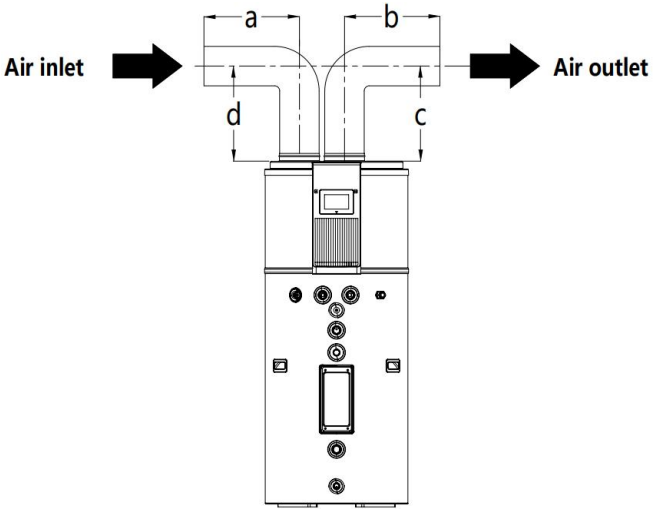


- After water system piping work, turn on the cold water inlet valve and hot water outlet valve and start effusing the tank. When water flow smoothly out from tap of water outlet, it means the tank is full. Please turn off all valves and check pipeline to make sure there is without any leakage.
- If the inlet water pressure is less than 0.15MPa, a pump should be installed at the water inlet pipe.
- For the safety usage of water tank at the condition of water supply pressure higher than 0.65MPa, a reducing valve should be installed at the water inlet pipe.
- Condensate may be leaked from the unit if condensate drainage pipe is blocked or it operates in high humidity environment, a drainage pan is recommended as shown as the following figure:

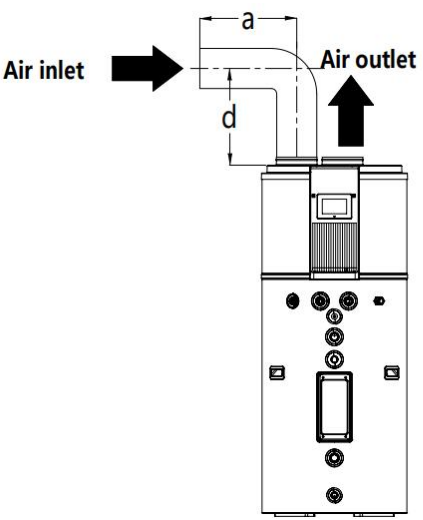


3.2 Connection of duct

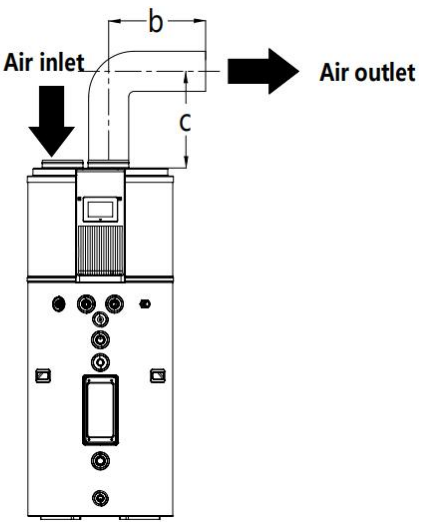
- When the ducts of both air inlet and outlet, a+b+c+d≤8m.



- When the duct only air inlet, b+c≤8m. (fig1)
- When the duct only air outlet, a+d≤8m. (fig2)



(fig1)



(fig2)

◆ The duct specifications:

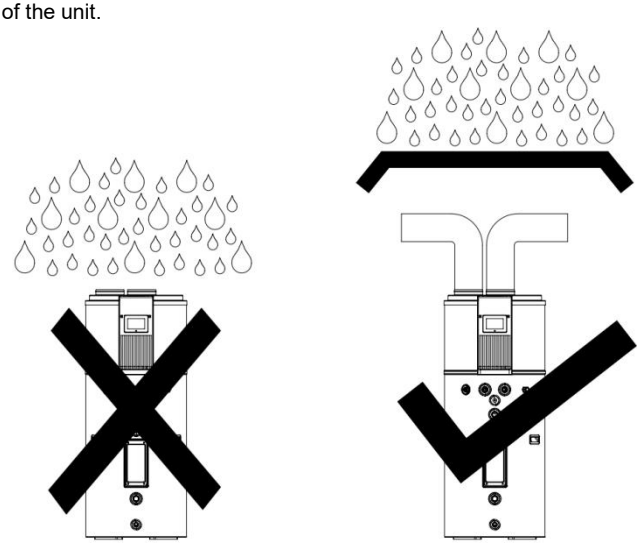
Duct type		Round duct
Dimensions		Φ180mm
Pressure drop	Straight	≤2Pa/m
	Bent	≤2Pa/m
Bent quantity		≤3

NOTES

- When the air duct is connected, the unit capacity will be decreased because of the decreased air flow by the resistance of the duct.
- If the duct is connected, the duct total length should be not more than 8m, or the maximums static pressure should be within 15Pa. By the way, the quantity of bending should be not more than 3.
- When the unit with duct operates, condensate water will be generated around the out surface of the duct. So please wrap the thermal insulated layer around the duct.
- The unit should be installed in the indoor space, and it is not allow installing the unit at the rainy place.

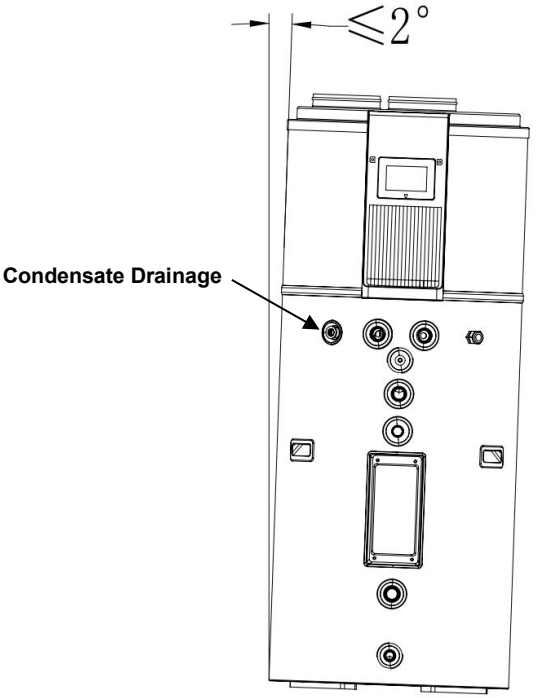
WARNING

- Please avoid the water entering to the internal of the unit because the water will cause the component inside the unit damage or physical danger.
- If the unit is connected with duct which is reaching to outdoor, it is necessary to supply a reliable water-resistant measure on the unit to prevent water dropping from outside to internal of the unit.



3.3 Condensate water drainage

To smoothly drain the condensate water, please install the unit at a horizontal floor. Recommending the inclination angle of the unit to the ground should be no more than 2°

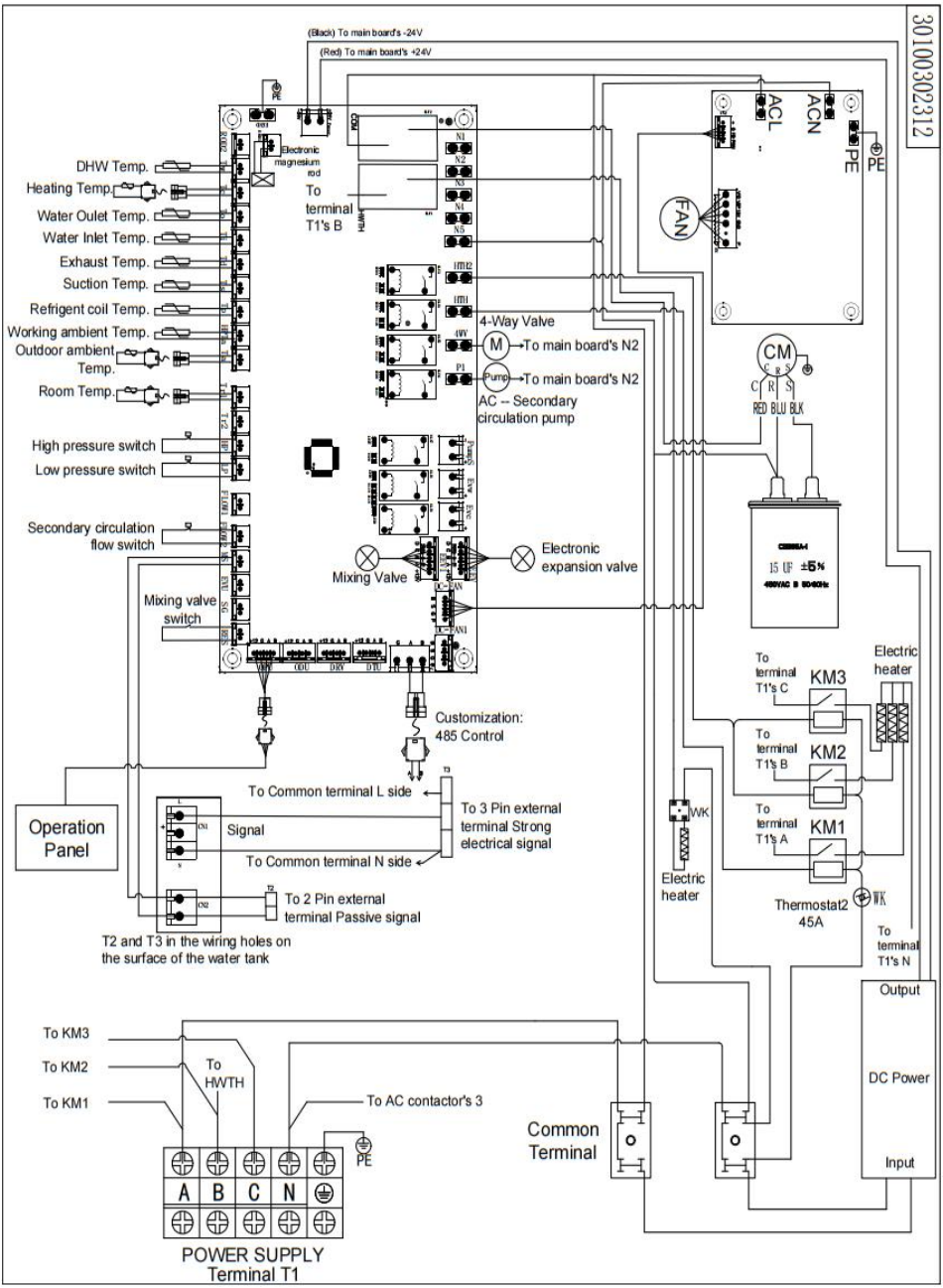


3.4 Electric connection

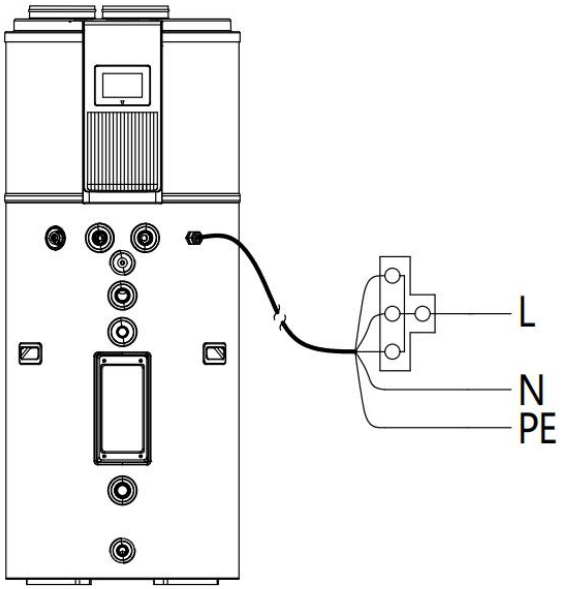
CAUTION

- The power supply should be an independent circuit with rated voltage.
- Power supply circuit should be earthed effectively. The wiring must be performed by professional technicians in according with nation wiring regulations and the unit circuit diagram.
- An all-pole disconnection device which has at least 3mm separation distance in all poles and a residual current device (RCD) with the rating of above 10mA shall be incorporated in the fixed wiring according to the national rules.
- Set the electric leakage protector according to the relevant electric technical standards of the state.
- The power supply cord and signal cord shall be laid out neatly and properly without mutual interference or contacting the connection pipes.
- After wires connection, check it again and make sure the correctness before power on.

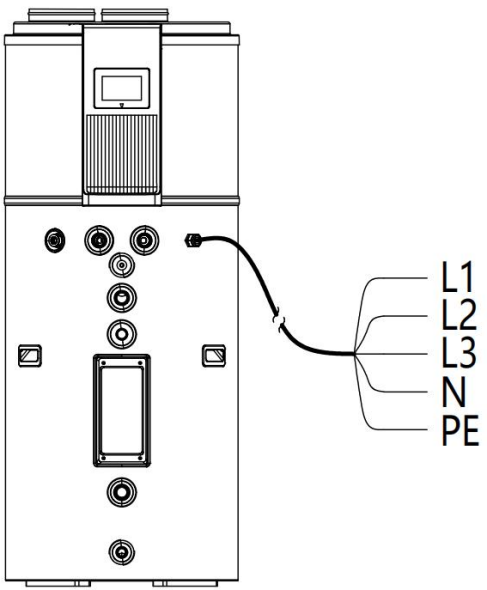
3.4.1 Electric wiring diagram



■ **220-240V/ 1 Phase Model**



■ **380-415V/ 3 Phase Model**



3.4.2 Specifications of power supply

Power supply	220-230V~, 1Ph, 50Hz	380-415V~, 3Ph, 50Hz
Min. diameter of power supply cord	6mm^2	2.5mm^2
Earth cord	6mm^2	2.5mm^2
Manual switch capacity / Fuse	63A	25A
Leakage current circuit breaker	30mA, ≤0.1Sec	

- Please choose the power supply cord according to the above table, and it should comply with local electric standard.
- The power supply cord model, recommended power supply cord is H05RN-F/H05RR-F.

WARNING

The unit must be installed with a Leakage current circuit breaker near the power supply and must be effectively earthed.

3.4.3 Remote control connection



2pin Terminal	Passive linkage
3pin Terminal	Strong electric interlocking signal(L S N) Note:Double wires is N

3.5 Installation checking

3.5.1 Location checking

- The flooring beneath the water heater must be able to support the weight of the unit when filled with water.
- Located indoors (such as a basement or garage) and in a vertical position. Sheltered from the freezing temperatures.
- Provisions made to shelter the area from water damage. Metal drain pan installed and piped to an adequate drain.
- Sufficient space to service the water heater.
- Sufficient air for the heat pump to function, the water heater must be located in a space which is more than 15m3, and must have unrestricted air flow.

NOTES

For optimal efficiency and service ability, the following clearances should be maintained: 800mm on the air inlet side , 800mm on the air outlet side, 100mm in the back, and 600mm in the front.

- The unit cannot be placed into any type of closet or small enclosure.
- The site location must be free from any corrosive elements in the atmosphere such as sulfur, fluorine and chlorine. These elements are found in aerosol sprays, detergents, bleaches, cleaning solvents, air fresheners, paint and varnish removes, refrigerants and many other commercial and household products. In addition excessive dust and lint may affect the operation of the unit and require more frequent cleaning.
- The ambient air temperature must be above -5℃ and below 43℃. If the ambient air temperature falls outside these upper and lower limits the electrical elements will be activated to meet the hot water demand.

3.5.2 Checking of the water system piping

- PTR valve (Temperature and pressure relief valve) properly installed with a discharge pipe run to an adequate drain and sheltered from freezing.
- All piping properly installed and free of leaks.
- Unit completely filled with water.
- Water temperature limit valve or mixer tap (Recommended) installed per manufacturer's instructions.

3.5.3 Checking of condensate drain pipe

- Must be located with access to an adequate drain or condensate pump.
- Condensate drain lines installed and piped to an adequate drain or condensate pump.

3.5.4 Checking of the electrical connections

- The water heater requires 220-240VAC or 380-4150VAC for proper operation.
- Wiring size and connections comply with all local applicable codes and the requirements of this manual.
- Water heater and electrical supply are properly grounded.
- Proper overload fuse or circuit breaker protection installed.

3.5.5 Post installation review

- Understand how to use the controller to set the various parameters and functions.

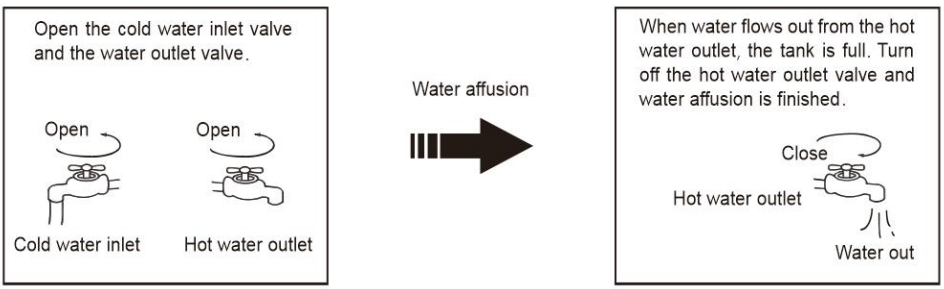
- Understand the importance of routine inspection/maintenance of the condensate drain pan and lines. This is to help prevent any possible drain line blockage resulting in the condensate drain pan overflowing.
- IMPORTANCE: Water coming from the plastic shroud is an indicator that both condensation drain lines may be blocked. Immediate action is required.
- To maintain optimal operation check, remove and clean the air filter.

4.Trial-running

4.1 Water affusion before operation

If the unit is used for the first time or used again after emptying the water tank, please make sure that the tank is full of water before turning on the power.

Method: please refer to the figure.

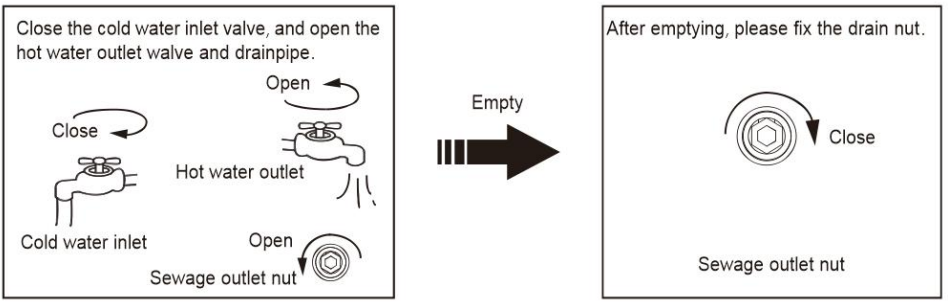


CAUTION

- Operation without water in water tank may result in the damage of the boost E-heater (electric heater). Due to such damage, manufacturer will not be responsible for any damages caused by this issue.
- After powered on, the display lights up. Users can operate the unit through the buttons under the display.

4.2 Water emptying before cleaning

If the unit needs cleaning, moving, etc, the water tank should be emptied. Method: please refer to the figure.



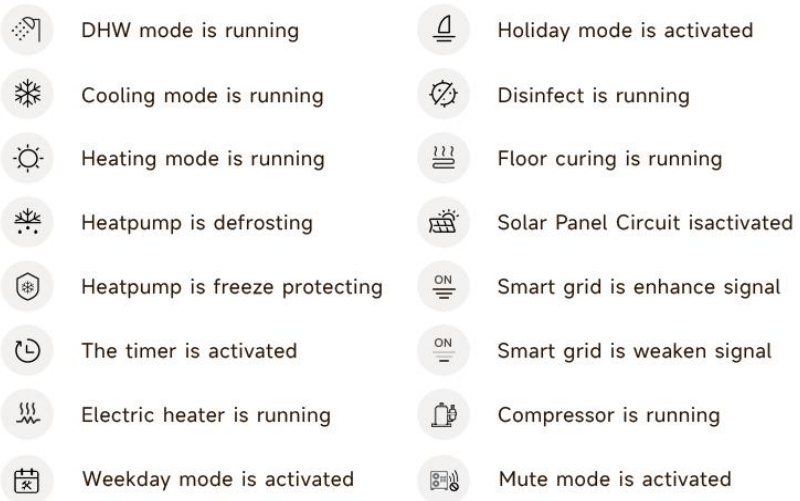
4.3 Trial-running

Checking list before commissioning:

- Correct installation of the system.
- Correct connection of the water/air and wiring.
- Condensate draining smoothly well insulation work for all hydraulic part.
- Correct power supply.
- No air in the water pipeline and all valves opened.
- Effective electric leakage protector installation.
- Sufficient inlet water pressure (Between 0.15MPa and 0.65Mpa).

5. Operation

5.1 Icon description



No.	Icon	Description
Mode Icon		
1		DHW Mode
2		Heating Mode
3		DHW+Heating Mode
Function Icon		
1		Menu
2		Ventilation
Temperature Icon		
1		DHW Tank Temp.
2		Heating Temp.
3		Room Temp.

5.2 Operable icon description

5.2.1 Power On/Off

Click the Power switch to turn on/off the heat pump unit in main interface.



In the upper left corner of the main interface will show the time.

5.2.2 Mode icon 

Click to switch between DHW/Heating/DHW+Heating modes.

DHW+Heating	
DHW	
Heating	

Note: When Heating is controlled by room temperature, the icon  will change to  to show.

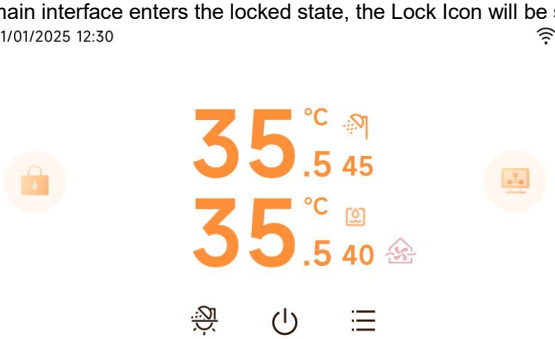
5.2.3 Ventilation
Click to turn on/off the ventilation mode.

If turn off the ventilation mode, it will show

5.2.4 Menu
Click to enter the next level menu options interface.

5.2.5 System operation status query
Click to enter the system diagram interface.

5.2.6 Lock icon
When the main interface enters the locked state, the Lock Icon will be shown.



Long press more than 1 second to unlock.

5.3 Menu description

Menu	Item	Description
Menu	 Timer and schedule	All timer setting, curves settings, floor heating setting.
	 System Configuration	System parameter query and configuration
	 Alarm History	Historical fault records
	 Screen Setting	Controller settings, including time, buzzer on/off, display backlight, and Lock time.
	NetWork Configuration	WiFi Networking Configuration
System Configuration	 User Parameters	User parameters query and configuration
	 Project Parameters	Project parameters query and configuration
	 Factory Parameters	Factory parameters query and configuration
	 Debug Parameters	System debugging, including forced defrosting, manual turn on electric heater of DHW/Heating.
Screen Setting	 Date and time	Date and time setting
	 Screen backlight	Screen backlight settings, including backlight brightness and screen-off time.
	 Screen lock time	Lock time setting
	 Screen sound	Buzzer On/Off setting

5.4 Operation

5.4.1. Power On

Power on and enter the main interface.

5.4.2.Main interface

•Power On/Off.

Click  to power on/off the heat pump unit in main interface.

While unit power on  is black color and while unit power off  is gray color.

•Switch working mode

Click  /  /  to switch between DHW/Heating/DHW+Heating modes.

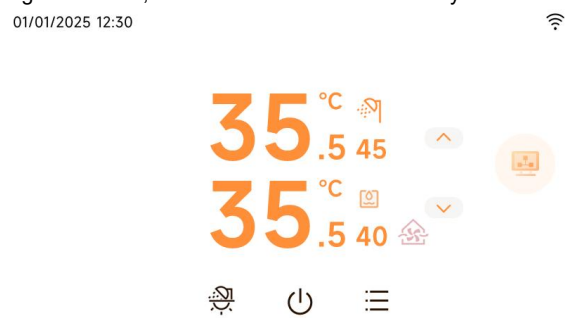
No other modes can switch under DHW mode.

•Temperature setting

Click the temperature display area to confirm the temperature setting you need in main interface.

Click  / and the corresponding temperature setting will begin to flash.

Once setting be finished, it will be confirmed automatically.

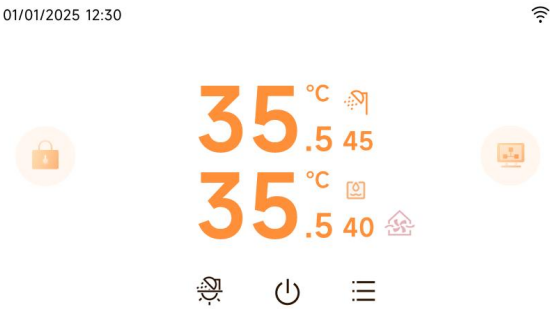


•Lock & unlock

The screen will automatically be lock after a setting lock time (which can be configured).

When locked, click  the icon will be invalid. And  icon will flash several times to indicate need to unlock.

Long press more than 1 second to unlock.



•Fault reset

When fault occurs, the main interface will display fault code and warning icon ⚠ will be shown.

Long press ⚠ for 1 second to clear the system fault (only effective for triple consecutive lock-up faults).

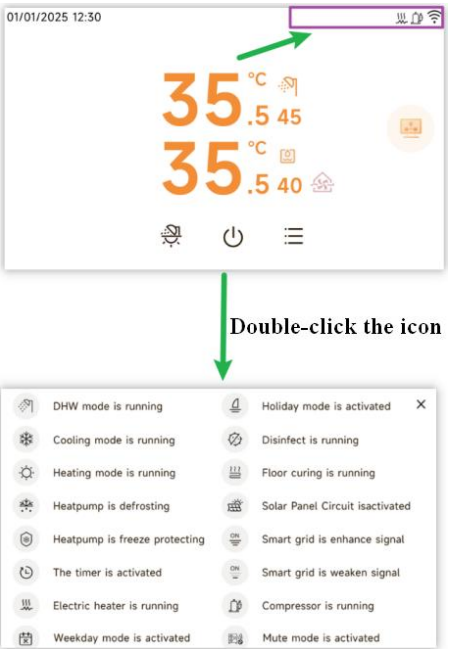
If there are communication failure between PCB & Controller, ⚠ will flash but without any fault code.



•Icons description query

Double-click the icon in the upper right corner of main interface can check icon description.

During the icon description page, click ✕ or wait approximately 20 seconds to automatically back to main interface.

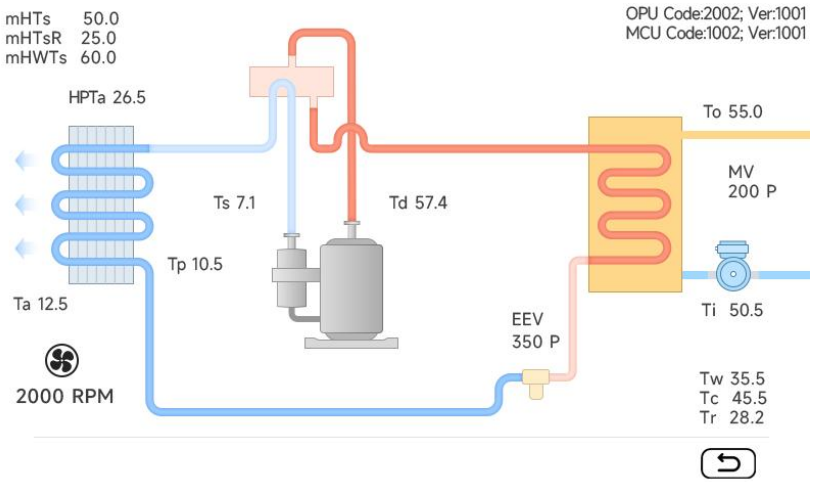


5.4.3 System operation status query

Check status information (Can be checked both when powering on and off)

Press to enter the system status query interface under main interface.

Click to back to main interface.



HPTa: Return air ambient temperature	Tc: Heating temperature
Ta: Ambient Temperature	Tr: Room temperature
Tp: Outer Coil Temperature	EEV: EEV opening
Ts: Return gas temperature	MV: Mixing valve opening
Td: Exhaust temperature	RPM: Current fan speed
To: Outlet water temperature	mHWTs: DHW effective setting temp.
Ti: Lower tank temperature	mHTs: Heating effective setting temp.
Tw: DHW tank temperature	mHTsR: Room effective setting temp.
The upper right corner OPU show controller version number and MCU show PCB version number.	

5.4.4 System Configuration Setting

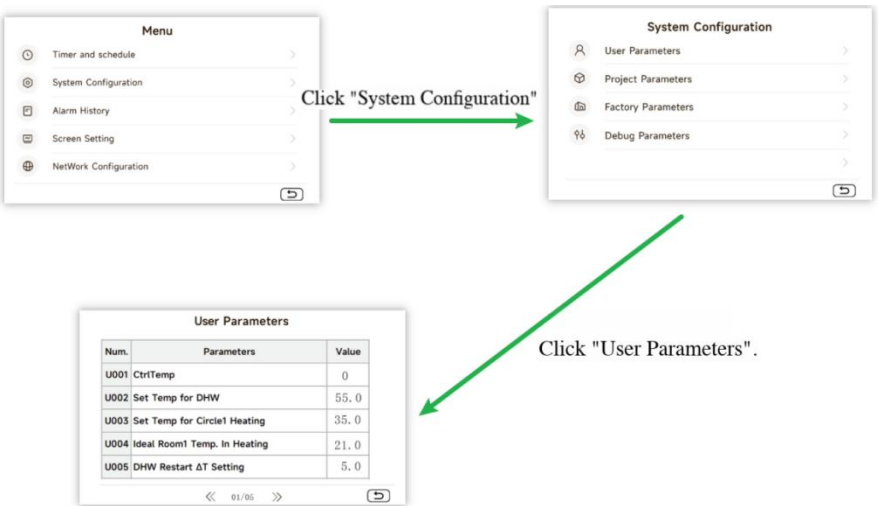
5.4.4.1 User Parameters query & setting

Click  to enter next-level menu page.

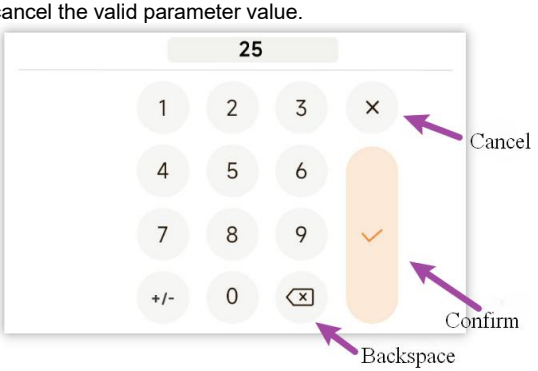
In “Menu”, click “System Configuration” and next “User Parameters” to query or set.

Click  to turn pages.

Click  to back to upper-level interface.



Click the parameter value will enter the keyboard input interface. Users can modify/confirm/cancel the valid parameter value.

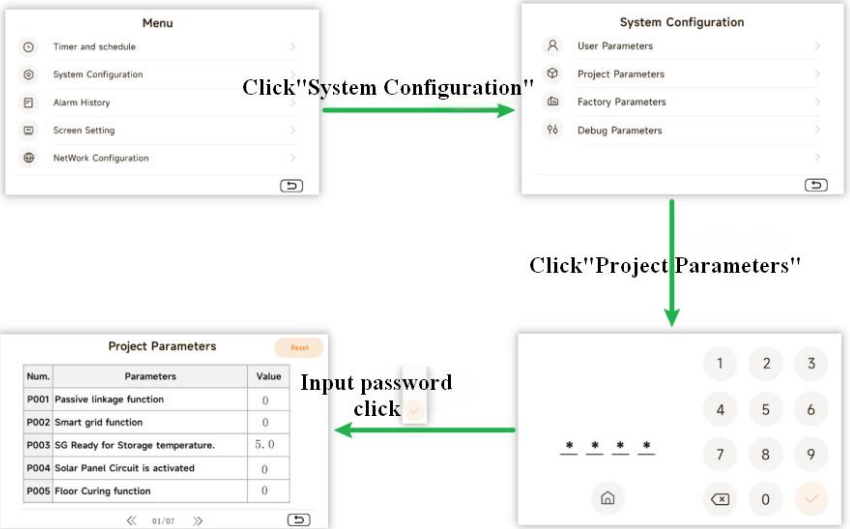


User Parameters					
No.	Item	Protocol address	Default	Range	Description
U001	Control method	1002	0	0~1	Room Temp. Control or Water Temp. control
U002	DHW setting temp.	1040	55	20~70	DHW setting temp.
U003	Setting Temp for Circuit Heating	1041	35	20~75	Setting Temp for Circuit Heating
U004	Heating room temp. setting	1045	21	16~31	Ideal Room Temp. Heating
U005	DHW restart temperature	1060	5	1~10	DHW Restart ΔT Setting
U006	Heating stops bases on water △T	1061	2	0~2	Heating Stops Based On Water ΔT
U007	Reserve				
U008	Heating restart temperature	1063	2	1~5	Heating Restart ΔT Setting
U009	Reserve				
U010	Heating stops bases on Room △T	1065	1	1~3	Room Restart ΔT Setting
U011	Electric stops temperature	1066	2	1~5	Auxiliary electric heater start/stop ΔT
U012	Room temp. compensation function	1089	0	0~30	
U013	Heating curve	1085	0	0~1	
U014	Heating curve ambient temp. 1	1120	-25	-30~-21	
U015	Heating curve ambient temp. 2	1121	-15	-20~-11	
U016	Heating curve ambient temp. 3	1122	-2	-10~0	

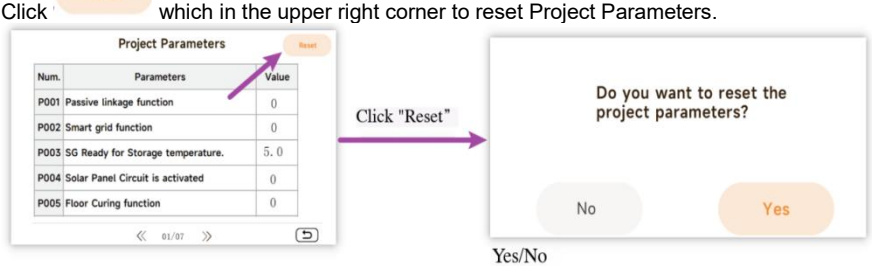
U017	Heating curve ambient temp. 4	1123	5	1~6	
U018	Heating curve ambient temp. 5	1124	15	7~15	
U019	Heating curve Water Temp. 1	1125	45	20~75	
U020	Heating curve Water Temp. 2	1126	42	20~75	
U021	Heating curve Water Temp. 3	1127	38	20~75	
U022	Heating curve Water Temp. 4	1128	35	20~75	
U023	Heating curve Water Temp. 5	1129	30	20~75	

5.4.4.2 Project Parameters Query & Setting

Click ☰ to enter next-level menu page.
In “Menu”, click “System Configuration” and next “Project Parameters” to enter the password input page.
Please input the password **6666** and click “Confirm” to enter “Project Parameters” setting page.

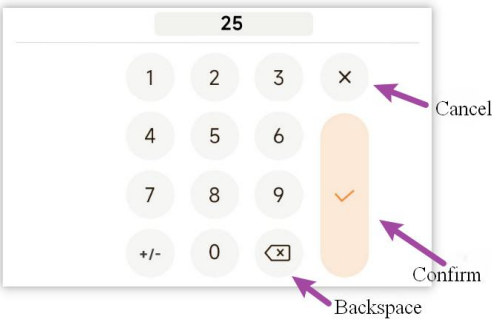


Click « / » to turn pages.
Click ⮌ to back to upper-level interface.
Click Reset which in the upper right corner to reset Project Parameters.



Yes/No

Click the parameter value will enter the keyboard input interface. Users can modify/confirm/cancel the valid parameter value.

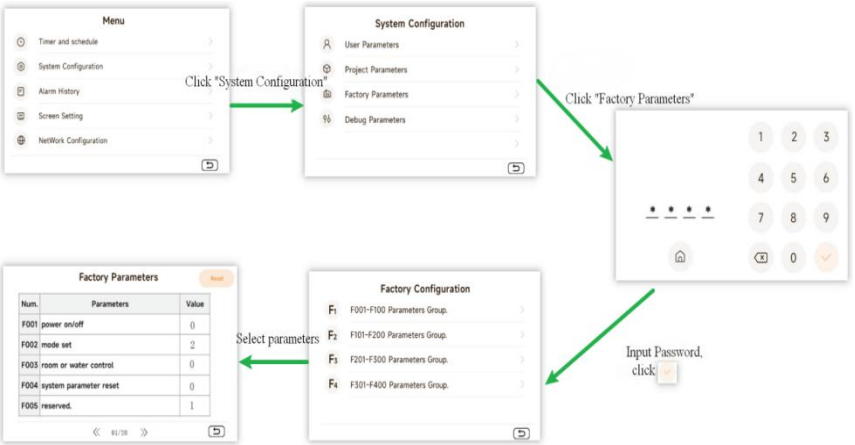


Project Parameters					
No.	Item	Protocol address	Default	Range	Description
P001	Passive linkage function	1082	0	0~1	0 disable,1enable
P002	SG ready function	1083	0	0~1	0 disable,1enable
P003	SG Ready for Storage temperature	1039	5	5~30	
P004	PV ready function	1093	0	0~1	0 disable,1enable
P005	Floor curing function	1012	0	0~3	Floor curing function(0 disable,1enable)
P006	Floor Curing Temperature Setting Stage 1	1013	30	25~35	Floor Curing Temperature Setting Stage 1
P007	Floor Curing Operation Duration Stage 1	1014	2	1~10	Floor Curing Operation Duration Stage 1
P008	Floor Curing Temperature Setting Stage 2	1015	38	35~40	Floor Curing Temperature Setting Stage 2
P009	Floor Curing Operation Duration Stage 2	1016	5	1~10	Floor Curing Operation Duration Stage 2
P010	Floor Curing Temperature Setting Stage 3	1017	42	40~45	Floor Curing Temperature Setting Stage 3
P011	Floor Curing Operation Duration Stage 3	1018	10	1~10	Floor Curing Operation Duration Stage 3
P012	Room temperature compensation function	1089	0	0~30	0 disable,1-30 minutes compensation one time
P013	Shifting Priority	1169	1	0~1	Shifting Priority is activated (0 disable,1enable)

P014	Allowable Temp Drift in Heating	1170	5	3~10	Allowable Temp Drift in Heating
P015	Shifting Priority Starting Temp	1171	10	-10~10	Shifting Priority Stating Temp.
P016	DHW Backup Heater for Shifting Priority	1172	0	0~1	0disable,1enable
P017	Sanitary Water Min. Working Hours	1173	50	20~180	
P018	Heating Max. Working Hours	1174	30	20~180	
P019	Emergency Operation base on HWTBH	1161	1	0~1	0disable,1enable
P020	Backup Heating Source f or Sanitary Hot Water	1162	1	0~1	0disable,1enable
P021	Priority for Backup Heating Sources (HWTBH)	1163	1	0~1	0disable,1enable
P022	Water Temperature Rise Reading Interval	1164	25	1~120	
P023	Emergency Operation base on HTBH	1165	1	0~1	0disable,1enable
P024	Release Integral for Backup heating	1168	45	10~60	
P025	Control mode of circulation pump	1180	6	0~10	0 always off,1-9 minutes off and run 9-1minutes,10 always run,when heating get the target temperature)
P026	Speed Setting for Circulation Pump	1181	5	0~9	
P027	Buffer tank exists	1182	1	0~1	0disable,1enable
P028	Secondary circulation pump run over temperature	1183	20	15~25	
P029	Secondary circulation pump stops under temperature	1184	18	15~25	
P030	Disinfect over temp setting	1020	60	60~75	
P031	Disinfect during time setting	1021	30	10~60	
P032	Disinfect max time setting	1022	120	10~240	

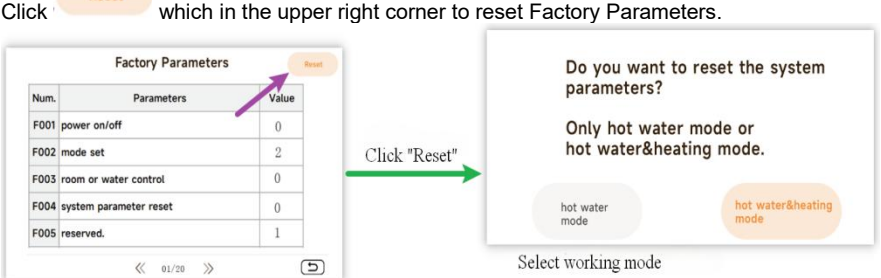
5.4.4.3 Factory Parameters query & setting

Click ☰ to enter next-level menu page.
In “Menu”, click “System Configuration” and next “Factory Parameters” to enter the password input page.
Please input the password **8888** and click “Confirm” to enter “Factory Parameters” setting page.

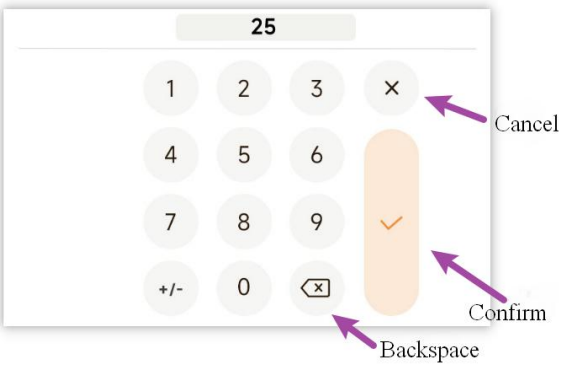


Click « / » to turn pages.
Click ⮌ to back to upper-level interface.

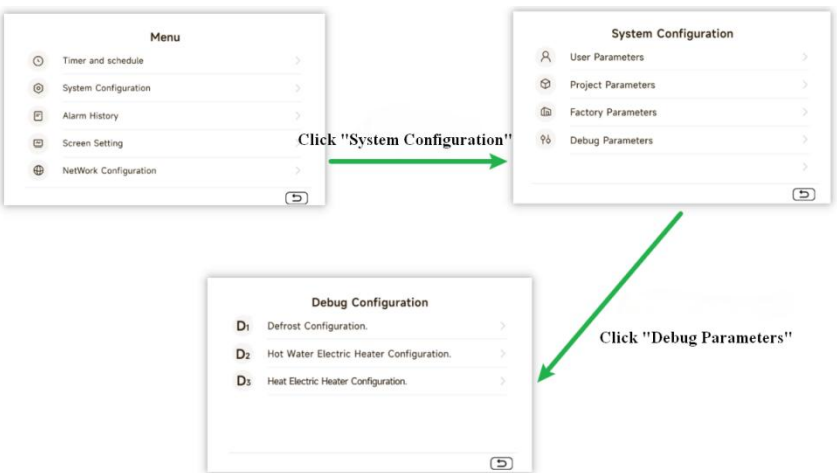
Click Reset which in the upper right corner to reset Factory Parameters.



Click the parameter value will enter the keyboard input interface. Users can modify/confirm/cancel the valid parameter value.



5.4.4.4 Debug Parameters Setting



- Force Defrosting

Click ☰ to enter next-level menu page.
In “Menu”, click “System Configuration” and next “Debug Parameters” to find “Defrost Configuration” to click and enter the setting interface.
Click ⮌ to back to upper-level interface.

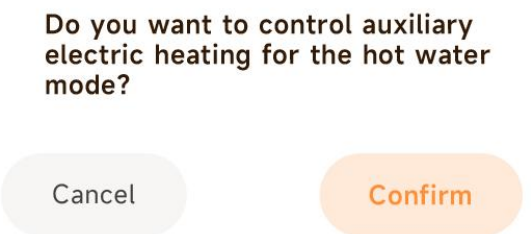
Entering the prompt dialog box, click No to exit, or click Yes to confirm

the forced defrosting function and exit next.(The circuit board will)
(the circuit board independently determines whether defrosting conditions are met and whether force defrosting.)



- Control auxiliary electric heater of DHW

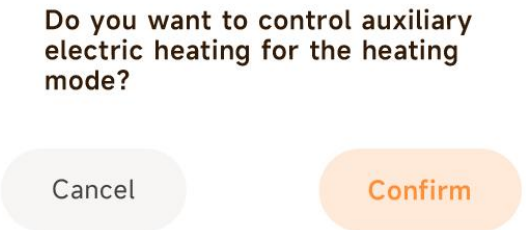
Click ☰ to enter next-level menu page.
In “Menu”, click “System Configuration” and next “Debug Parameters” to find “Hot Water Electric Heater Configuration” to click and enter the setting interface.
Click ⮌ to back to upper-level interface.
Entering the prompt dialog box, click Confirm or Cancel .



- Control auxiliary electric heater of Heating

Click ☰ to enter next-level menu page.
In “Menu”, click “System Configuration” and next “Debug Parameters” to find “Heat Electric Heater Configuration” to click and enter the setting interface.
Click ⮌ to back to upper-level interface.

Entering the prompt dialog box, click Confirm or Cancel .



5.4.5 Screen Setting

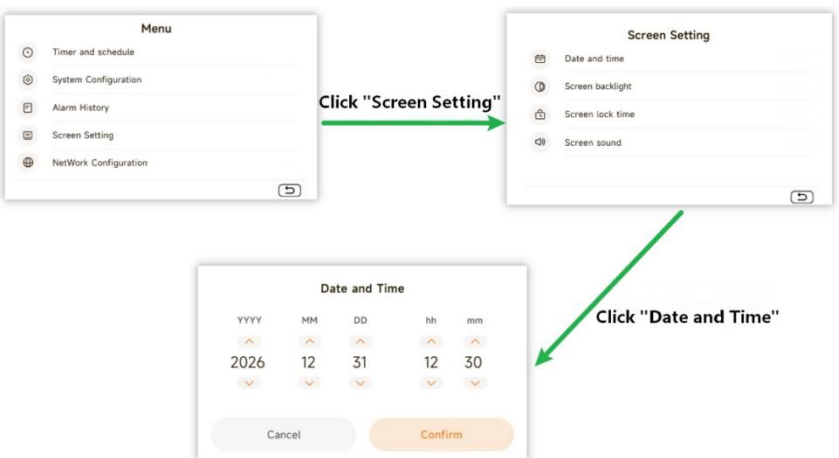
5.4.5.1 Date and time Setting

Click ☰ to enter next-level menu page.

In “Menu”, click “Screen Setting” and next “Date and time” to set the time.

Click ^ / v to set the time.

Click Cancel to exit the settings, click Confirm to confirm the setting.

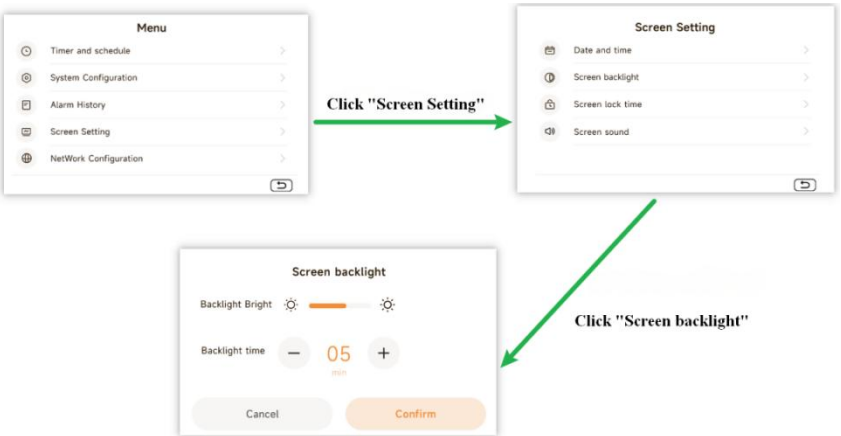


5.4.5.2 Screen backlight Setting

Click ☰ to enter next-level menu page.
In “Menu”, click “Screen Setting” and next “Screen backlight” to set.

Drag the slip to set the “Backlight Bright” and press − / + to set the screen-off time.

Click Cancel to exit the settings, click Confirm to confirm the setting.

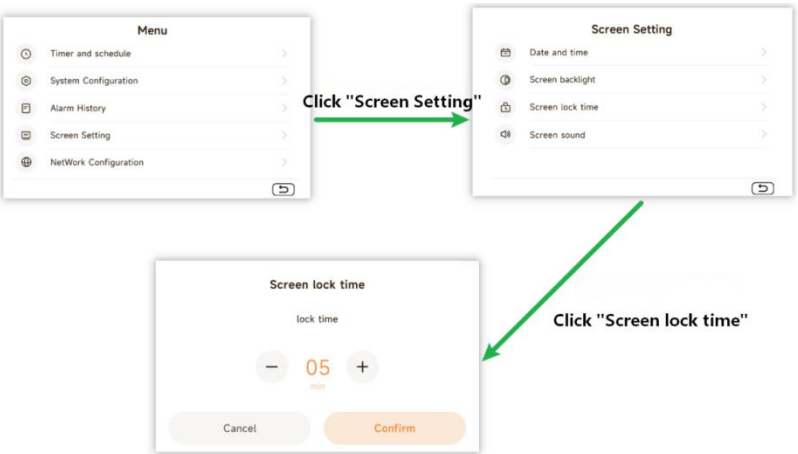


5.4.5.3 Screen lock time Setting

Click ☰ to enter next-level menu page.
In “Menu”, click “Screen Setting” and next “Screen lock time” to enter the setting page.

Click − / + to set the lock time.

Click Cancel to exit the settings, click Confirm to confirm the setting.



5.4.5.4 Screen sound Setting

Click ☰ to enter next-level menu page.
In “Menu”, click “Screen Setting” and next “Screen sound” to enter the setting page.

Click No / Yes to turn on/off the controller sound.

Click ⮌ to back to upper-level interface.

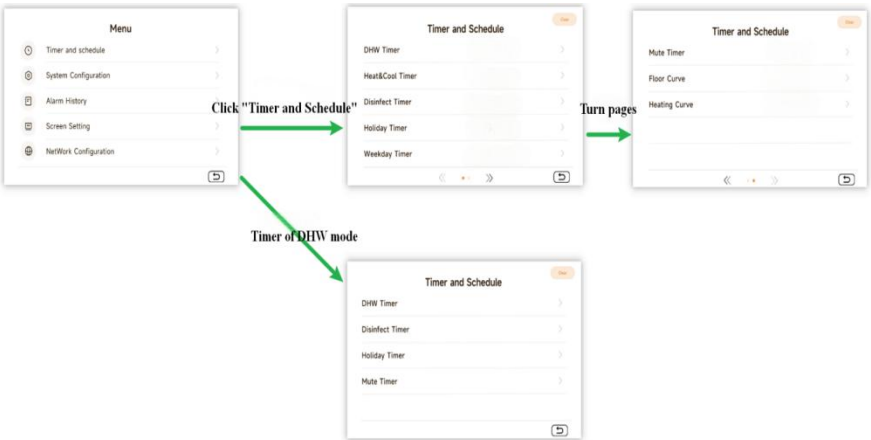


5.4.6 Timer and Schedule Setting

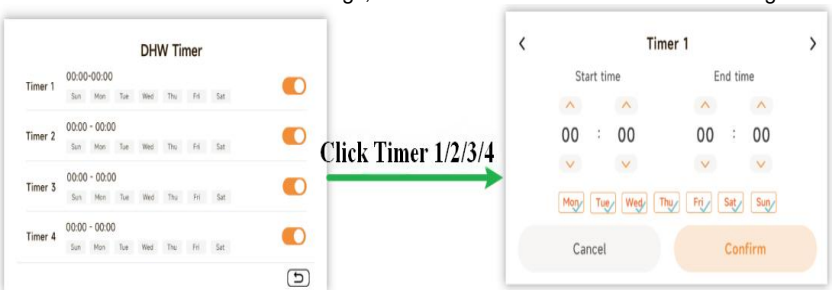
Click ☰ to enter next-level menu page.
In “Menu”, click “Timer and schedule” to enter the setting page.

Click « / » to turn pages.

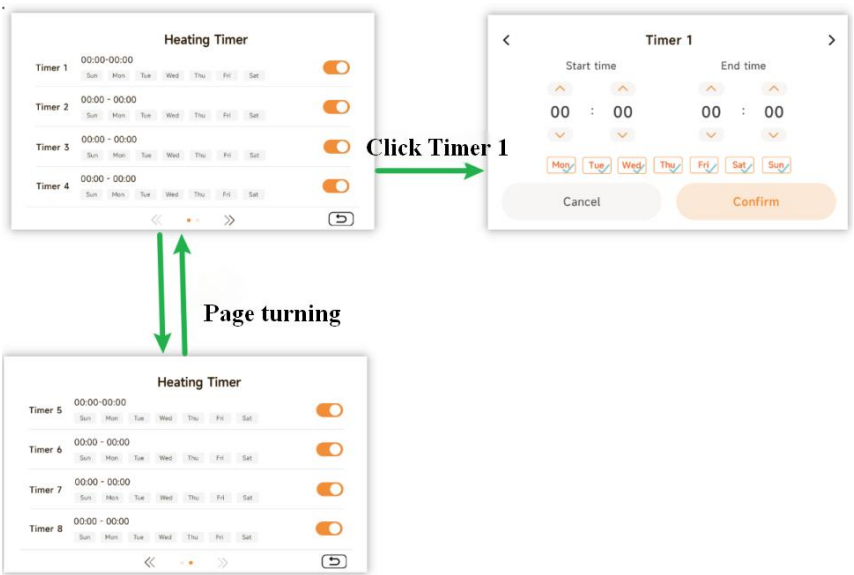
Click ⮌ to back to upper-level interface.



5.4.6.1 DHW Timer
Click Timer “1/2/3/4” to set timer.
Click / to turn on/off timer.
Click / to turn pages.
After entering the timer setting interface, please click / to set the time and click day-of-the-week icons to confirm the day. Click / in the timer setting interface to turn pages.
Click Cancel to exit the settings, click Confirm to confirm the setting.



5.4.6.2 Heating Timer
Same operation as DHW Timer, there are 8 timer for Heating.


Heating Timer
Timer 1
00:00-00:00
Timer 2
00:00 - 00:00
Timer 3
00:00 - 00:00
Timer 4
00:00 - 00:00
Click Timer 1
Timer 1
Start time
End time
00 : 00
00 : 00
Cancel
Confirm
Page turning
Heating Timer
Timer 5
00:00-00:00
Timer 6
00:00 - 00:00
Timer 7
00:00 - 00:00
Timer 8
00:00 - 00:00

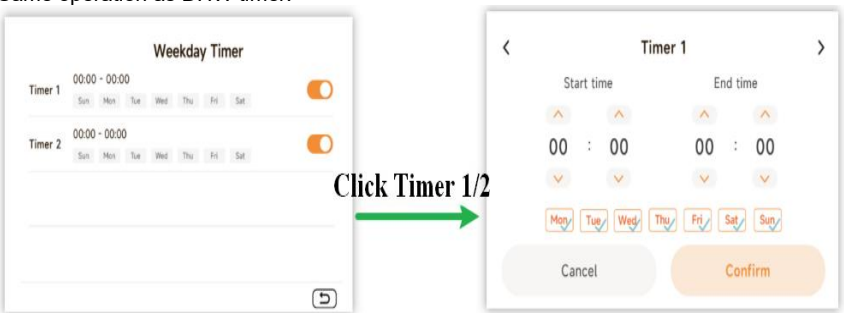
5.4.6.3 Disinfect Timer
Same operation as DHW timer.



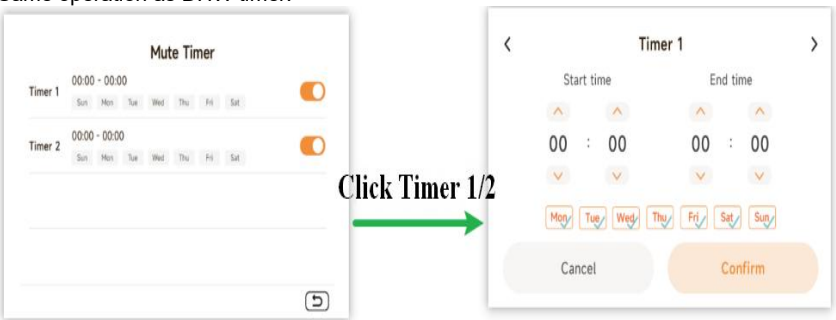
5.4.6.4 Holiday Timer
Same operation as DHW timer.



5.4.6.5 Weekday Timer
Same operation as DHW timer.



5.4.6.6 Mute Timer
Same operation as DHW timer.



5.4.6.7 Note: Clear(delete) all timers

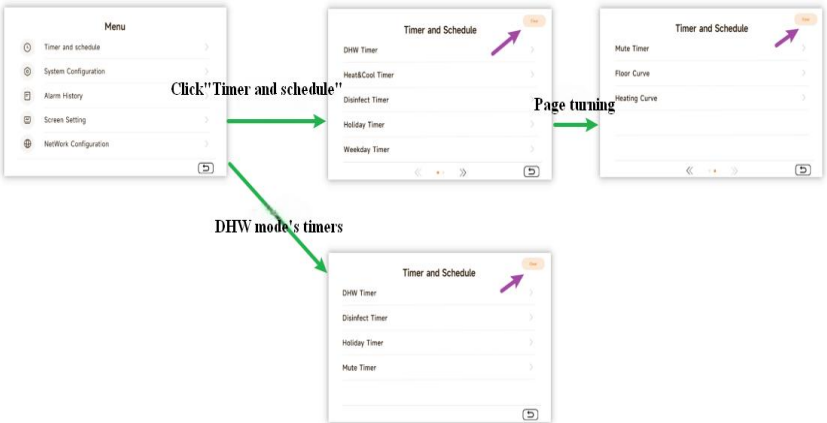
Click ☰ to enter next-level menu page.

In “Menu”, click “Timer and schedule” to enter the setting page.

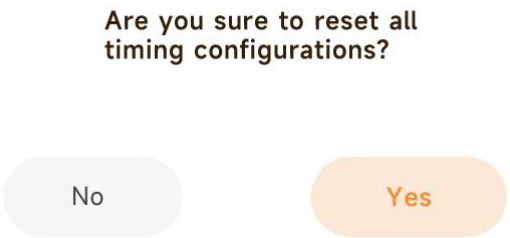
Click Clear which at the top right corner to delete all timer setting.

Click « / » to turn pages.

Click ⮌ to back to upper-level interface.



Enter the prompt dialog box for timer deletion, click on "Yes" or "No". (The one-click to clear all timers function is applicable to the settings for DHW timer and Heating timer.)



5.4.6.8 Floor Curve & Heating Curve Settings

Click ☰ to enter next-level menu page.
In “Menu”, click “Timer and schedule” to enter the setting page. Please turn pages to find “Floor Curve” or “Heating Curve”.

Click any parameter value on coordinate axis, ^ / v will be shown on the right side.Please click ^ / v to adjust the value. The currently be adjusting parameter will flash.
Click ⮌ to back to upper-level interface.

- Floor Curve Setting


Menu
Timer and schedule
System Configuration
Alarm History
Screen Setting
NetWork Configuration
Click"Timer and schedule"
Timer and Schedule
DHW Timer
Heat&Cool Timer
Disinfect Timer
Holiday Timer
Weekday Timer
Pages turning
Timer and Schedule
Mute Timer
Floor Curve
Heating Curve
Click "Floor Curve"
Floor Heating Curve
Set Temp.
30°C
38°C
42°C
Timer
Timer days.
2 days
5 days
10 days

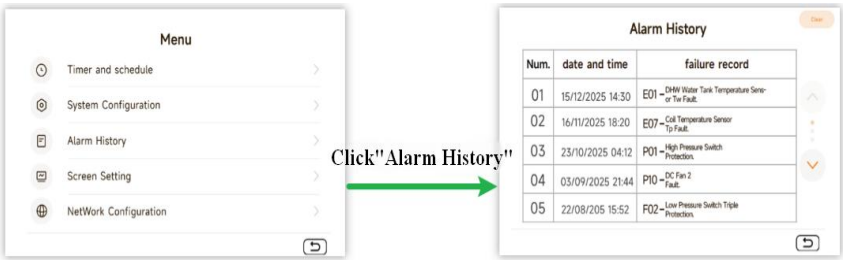
- Heating Curve Setting:



5.4.7 Alarm History Query & Setting

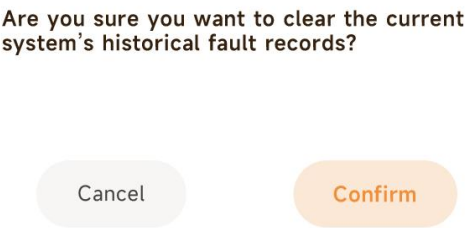
Click to enter next-level menu page.
In “Menu”, click “Alarm History” to enter the interface of historical fault records.
Click to back to upper-level interface.

Click / can turn pages to check the fault records.



Click Clear which at the top right corner to delete all fault records.

Entering the prompt dialog box, click Confirm or Cancel .



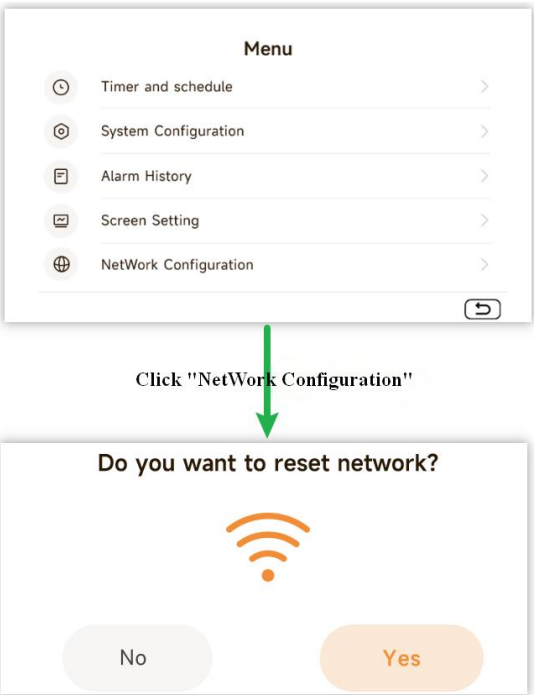
5.4.8 Device Networking

Click ☰ to enter next-level menu page.

In “Menu”, click “NetWork Configuration” to enter the NetWork Reset prompt dialog box.

Click ⮌ to back to upper-level interface.

Click No to exit or click Yes to reset network.



Without Network, users can proceed with the Wi-Fi connection (the Wi-Fi icon in the top-right corner owill flash rapidly).
With network connection already, users can cancel the Wi-Fi connection (Wi-Fi icon will no longer flashing rapidly.)
The mobile APP supports Bluetooth network connection operation, please refer to the APP operation instructions.

5.5 Error code

No.	Fault	Error Code	Description
1	DHW tank Temp. sensor failure	E01	DHW Water Tank Temperature Sensor Tw Fault
2	Heating Temperature Sensor fault	E02	Heating Temperature Sensor Tc Fault
3	Return water Temp. sensor failure	E03	Return Water Temperature Sensor Ti Fault
4	Outlet water Temp. sensor failure	E04	Outlet Water Temperature Sensor To Fault
5	Exhaust Temp. sensor failure	E05	Discharge Temperature Sensor Td Fault
6	Return gas Temp. sensor failure	E06	Suction Temperature Sensor Ts Fault

7	Coil Temp. sensor failure	E07	Coil Temperature Sensor Tp Fault
8	Ambient Temp. sensor failure	E08	Ambient Temperature Sensor Ta Fault
9	Return air Temp. sensor failure	E09	Return Air Temperature Sensor HPTa Fault
10	Zoom 1 Temp. sensor failure	E10	Zone 1 Temperature Sensor Tr1 Fault
12	Ambient temperature ultralow protection	P17	Ambient Temperature ultralow Protection
13	Ambient temperature overheat protection	P18	Ambient Temperature Overheat Protection
17	High pressure switch protection	P01	High Pressure Switch Protection
18	Low pressure switch protection	P02	Low Pressure Switch Protection
19	Air Discharge temperature overheat protection	P03	Discharge Overheat Protection
20	Water flow switch protection	P04	Water Flow Switch Protection
21	Secondary water flow switch protection	P05	Secondary Water Flow Switch Protection
22	Ultralow outlet water temperature protection	P06	Outlet Water Temperature ultralow Protection
23	Overheat outlet water temperature protection	P07	Outlet Water Temperature Overheat Protection
24	Overlarge temperature difference between inlet and outlet water protection	P08	Excessive Outlet/Return Water Temperature Differential Protection
25	DC fan 1 failure	P09	DC Fan 1 Fault
27	Defrosting and anti-freezing protection	P11	Defrost/Anti-freeze Protection
28	High pressure switch Triple protection	F01	High Pressure Switch Triple Protection
29	Low pressure switch Triple protection	F02	Low Pressure Switch Triple Protection
30	Air discharge temperature overheat triple protection three times	F03	Discharge Overheat Triple Protection
31	Water flow switch triple protection	F04	Water Flow Switch Triple Protection
32	Secondary water flow switch triple protection	F05	Secondary Water Flow Switch Triple Protection
33	Ultralow outlet water temperature triple protection	F06	Outlet Water Temperature Low Triple Protection
34	Overheat outlet water temperature triple protection	F07	Outlet Water Temperature High Triple Protection
35	Overlarge temperature difference between inlet and outlet water triple protection	F08	Excessive Outlet/Return Water Temperature Differential Triple Protection
36	DC fan 1 triple failure	F09	DC Fan 1 Triple Fault
38	Defrosting and anti-freezing triple protection	F11	Defrost/Anti-freeze Triple Protection

6.Maintenance

6.1 Maintenance

- Check the connection between power supply plug, socket and ground wiring regularly.
- In some cold area (blow 0℃), if the unit will be stopped for a long time, all the water should be released in case of freezing of inner tank and damage of boost electric heater.
- It is recommended to clean the inner tank and boost E-heater every half year to keep an efficient performance. Check the anode rod every half year and change it, if it has been used out. For more details, please contact the supplier or the after-sale service.
- It is recommended to set a lower temperature to decrease the heat release, prevent scale and save energy if the outlet water volume is sufficient.
- Clean the air filter every month in case of any inefficiency on the heating performance.
- Before shutting off the heat pump the system off for a long time, please:

Shut off the power supply;

Release all the water in the water tank and the pipeline. Close all the valves;

- Check the inner components regularly.

6.2 Recommended regular maintenance

<table>
<tr><th>Item</th><th>Checking content</th><th>Check frequency</th><th>Action</th></tr>
<tr><td>1</td><td>Inner tank</td><td>Every 6 months</td><td>Clean the tank.</td></tr>
<tr><td>2</td><td>Boost E-heater</td><td>Every 6 months</td><td>Clean E-heater.</td></tr>
<tr><td rowspan="2">3</td><td rowspan="2">PTR valve (If the unit with PTR valve)</td><td>Every 1 year</td><td>Operate the hander of the PTR valve to ensure that water can be flowed out.</td></tr>
<tr><td colspan="2">If water does not flow freely when operating the handle, replace PTR valve with a new one.</td></tr>
</table>

table