



R290 Heating/Cooling/DHW heat pumps



HYPER THERM SERIES



Hyper Therm 8S-R290

Hyper Therm 12.1S-R290/. Hyper Therm 15.2S-R290/HT-012TC3 Hyper Therm 21.9S-R290/Hyper Therm 21.9T-R290

Air Source Heat Pump

Heat Pump for Heating & Cooling & DHW

Please read this manual carefully before using it and keep it in a safe place.

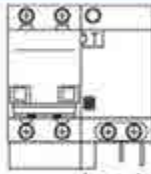
Note

1. Please read the instruction manual carefully before installation or operation.
2. The heat pump must be installed by a professional installer.
3. Please follow the instruction manual strictly when installing the heat pump
4. If any update on the product, this instruction manual is subject to change without notice
5. If the heat pump is installed where is vulnerable to lightning strikes, it is necessary to take lightning protection measures; if the heat pump is turned off in the winter, please be sure to drain the water in the system to prevent cold water from swelling and causing system damage.

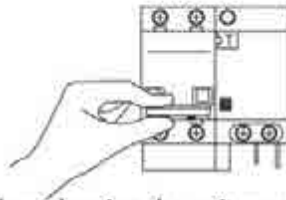
Contents

User Instruction-----	1
Operation Instructions-----	7
Dimension-----	68
Installation-----	
74Commissioning and Maintenance -----	
8	6
Trouble Analysis-----	89
Specification-----	86
After-sale service-----	90

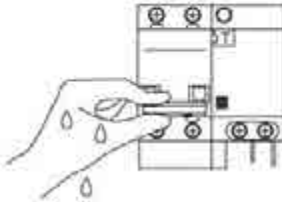
User Instructions



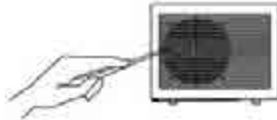
Please use an electrical leakage switch, and make sure that the leakage protection switch is securely connected, otherwise there may be electric shock, fire, etc.



When cleaning the unit must stop and cut off the power switch.



Do not operate with a wet hand, otherwise, there may cause electric shock.



Do not insert fingers or any stick into the inside of the ventilation area, otherwise, harm will be caused.

R290 Warning



RISK OF FIRE

- This appliance uses R290 (propane) refrigerant, which is a flammable gas and must be serviced by an authorized person.
- **WARNING** Risk of fire/flammable 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 hair spray, paint, 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.
- End of life recycling. The refrigerant must not enter the atmosphere. Only have the refrigerant removed by qualified professional.

1. Precautions

Please make sure that you have read this manual before using our air source heat pump. In the “User Information” chapter, “User Information” provides essential safety information. Please be sure to follow the instruction strictly.



Warning

Wrong operations are likely to cause serious consequences such as death, serious injury, or major accidents



Note

Improper operation may result in a safety accident, damage to the machine, or affect the function of the machine.

Please read the labels on the machine carefully. If abnormal conditions such as abnormal noise, odor, smoke, temperature rise, electric leakage, fire, etc. are found during use, please cut off the power immediately and contact our local customer service center or dealer in time to repair it. Contact the local fire and emergency department immediately if necessary.



Warning

- 1) This Machine is not allowed to be installed by the user. A professional installer must install it, Otherwise cause safety accidents or affects the machine's performance.
- 2) Without professional guidance, non-professionals are not allowed to disassemble the machine. Otherwise, accidents or damage may be caused to the device.
- 3) Do not use or store flammable materials such as hair spray, paint, gasoline, alcohol, etc., around the machine. Otherwise, fire may be caused.
- 4) The machine's main power switch should be placed where that child cannot reach to prevent children from playing with the power switch.

- 5) Do not spray water or other liquids on the machine. Otherwise, danger may occur.
- 6) Do not touch the machine with wet hands. Otherwise, it may cause an electric shock.
- 7) In thunderstorms, please disconnect the main power switch off the machine. Otherwise, lightning may cause danger or damage to the device.
- 8) The machine needs to use a separate power switch to avoid sharing the same circuit with other electrical appliances, supply the power to the machine vice the specified power cable, and use the proper breaker with the electric leakage protection required.
- 9) The machine must be installed with a specified grounding wire. Do not connect the grounding wire to the gas pipe, water pipe, lightning conductor, or telephone, and the machine must be grounded reliably to avoid any electric shock.
- 10) Do not disconnect the power supply when the machine is running.
- 11) When the machine is not used for a long time, please disconnect the main power switch to avoid accidents.
- 12) If the ambient temperature is below 0 °C, it is forbidden to cut off the power supply. If the power is turned off unexpectedly under these conditions, drain the water inside the pipeline.



Note

- 1) Do not put your hands or other objects into the air outlet of the machine. Otherwise, the fan running at high speed may cause harm.
- 2) Do not remove the fan cover. Otherwise, the fan running at high speed may cause injury to you or others.
- 3) Lightning and other sources of electromagnetic radiation may have a remarkable effect on the machine. Turn off the power and then restart the device if it does affect it.
- 4) Make sure the water supply is frequent. Otherwise, the machine may be damaged.

- 5) Do not restart the machine frequently. Otherwise, the device may be damaged.
- 6) The operating parameters of the machine and the set value of the protection device have been selected by the manufacturer. Users should not change the set value arbitrarily and do not short the wire of the protection device. Otherwise, the machine may be damaged due to improper protection.
- 7) To avoid the freezing of the water system pipeline when the machine is deactivated in an environment below 0 °C, please keep the machine standby state. If the device is out of service for a long time, it is recommended that the user drain the water out of the water system and disconnect the power supply.
- 8) Please perform regular maintenance on the machine as required by the instructions to ensure the device is in good operating condition.

2. Refrigerant Precaution

- 1) Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- 2) The appliance shall be stored in a room without continuously operating ignition sources (for example open flames, an operating gas appliance, or an operating electric heater)
- 3) Do not pierce or burn.
- 4) Be aware that refrigerants may not contain an odor.
- 5) The installation of pipe-work shall be kept to a minimum of X m².
- 6) Spaces where refrigerant pipes shall be in compliance with national gas regulations.
- 7) Servicing shall be performed only as recommended by the manufacturer.
- 8) The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- 9) All working procedures that affect safety means shall only be carried out by competent persons.

3. Other Safety

Thank you for choosing a heat pump. This is a heat pump capable of providing the ideal comfort for your home, always with a suitable hydraulic installation. The unit is an air source heat pump for space heating/cooling and a sanitary water heater for houses, apartment blocks, and small industrial premises. Outdoor air is used as a heat source creating free energy to heat your home.

This manual forms an essential part of the product and it must be given to the user. Read the warnings and recommendations in the manual carefully, as they contain important information on the safety, use, and maintenance of the installation.



This heat pump must be installed by qualified personnel only, in accordance with the legislation in force and following the manufacturer's instructions.

The start-up of this heat pump and any maintenance operations must be carried out only by qualified personnel only.

Incorrect installation of this heat pump could result in damage to people, animals or property, and the manufacturer will not be held liable in such cases.

The following safety precautions should always be taken into account:

- 1) Be sure to read the following WARNING before installing the unit.
- 2) Be sure to observe the cautions specified here as they include important items related to safety.
- 3) After reading these instructions, be sure to keep them in a handy place for future reference.
- 4) Equipment shall contain the following identification:

Inflammable “  ” Read Carefully “  ”

Professional Recycling “  ”

Operation Instruction

1 Wire controller installation







The first step is to remove the shell, pass the screws through the plastic fixing plate, and then use a screwdriver to nail



The second step is to buckle the touch screen onto the plastic fixing plate from top to

2 Using main page

After connecting the power , the controller will enter the language selection interface, “” click on the arrow to select the language. After selecting the language, click **Enter** to enter the welcome page.

After selecting the language, if you want the wire controller not to display the language selection interface the next time it is powered up, click on the icon “” below “” to make it turn green “”. If you want the language selection interface to be displayed again, you need to restore the factory settings of the remote control.








INFORMATION:

After entering the welcome page 3s, the wired controller will go to the main page. The controller supports 16 languages: English / French / Croatian / Slovak / Albanian / German / Hungarian / Dutch / Romanian / Czech / Turkish / Spanish / Portuguese / Polish / Italian / Slovenian.
(If there is a communication failure, it will stay on the welcome page.)

3 Icon description

The main page is displayed. The icons on the screen represent the following meanings

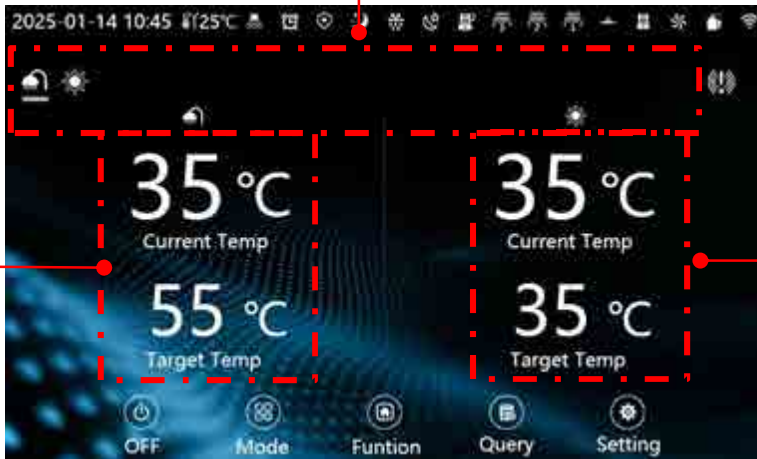
Icon				
Operation Mode	Underfloor Heating	Heating	Cooling	Hot water



The screenshot shows a smart thermostat interface with the following elements and callouts:

- Date & Time:** 2025-01-14 10:45
- Ambient Temperature:** 25°C
- Unit Status:** (represented by a snowflake icon)
- Notification:** (represented by a bell icon)
- Operation Mode:** (represented by a snowflake icon)
- Current Water Temperature:** 35°C (Water outlet temp)
- Set Water Temperature:** 15°C (Target Temp)
- Operation:** (represented by a slider control)
- Bottom Navigation:** OFF, Mode, Funtion, Query, Setting

Icon			
Operation Mode	Underfloor Heating+Hot water	Heating+Hot water	Cooling+Hot water

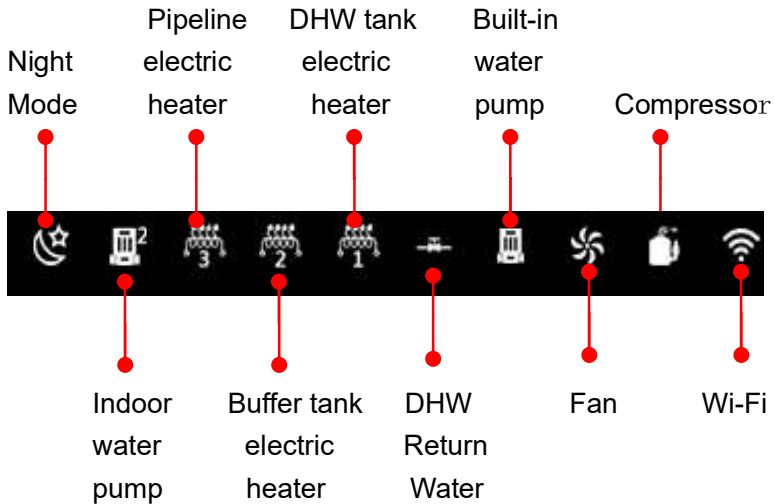
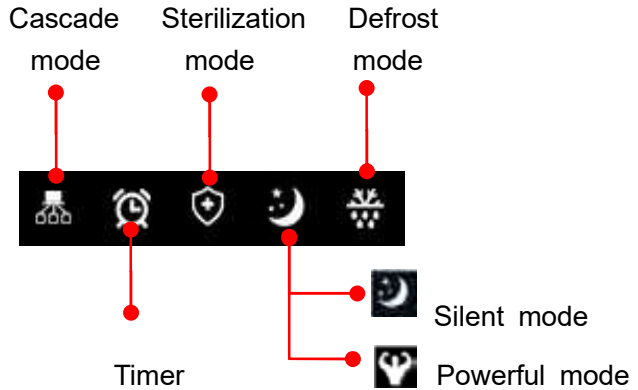


Mode 1 Operation Status Area
 -Current water temperature display
 -Target water temperature display

Mode 2 Operation Status Area
 -Current water temperature display
 -Target water temperature display


Unit status icon


Mainly introduces the meaning represented by each display icon on the wired controller.




When the icon always bright display, it indicates that the unit is in that state.


NOTE:

When  flash display ,the unit is in refrigerant recovery model.

When  is blinking fast when fast heating function is activated but not running.The icon blinks slowly when the sterilization function is activated but not in operation .



 display pattern is the same as pipeline electric heater .

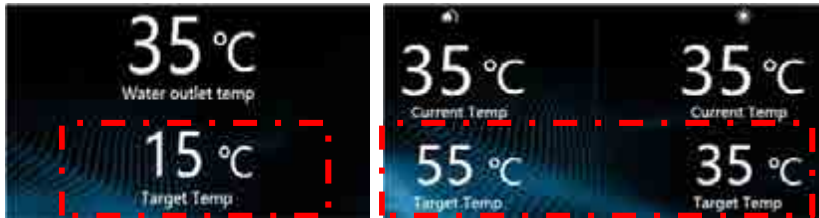
Notification icon

When there is a unit failure,  blinking display, You can click this icon to view real-time faults or fault records.

Set Water Temperature icon



(1)Just touch  or  or Slide the point on the horizontal bar to adjust the temperature of cooling,heating, and floor heating.




(2) Under Single mode and Multi-mode, touch the target temperature directly and enter the set temperature in the pop-up input box.

Operation icon



The 5 icons in the operation area allow access to different pages of the wired controller for different functional operations.

3.1 ON/OFF button

Touch "  ", the page will pop up to confirm the operation, click **Enter** to switch ON/OFF.

Tap the button at the bottom left corner of the screen to cancel the ON/OFF operation and return to the main interface.



3.2 Mode button



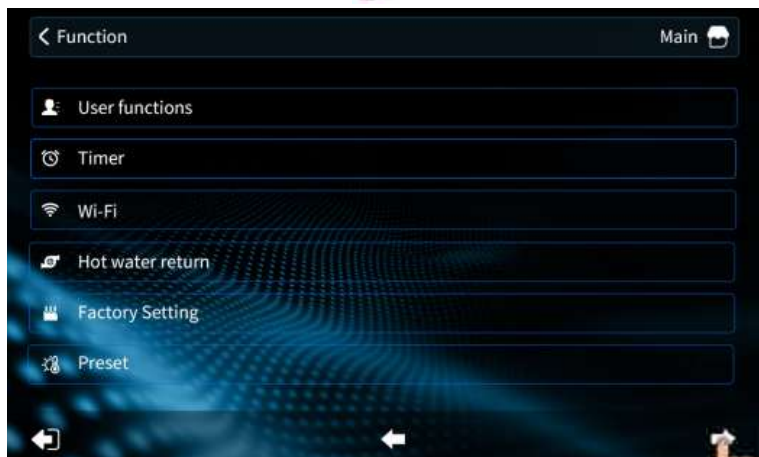
Enter the mode selection function page, Click the corresponding mode on the mode selection page to realize the mode switching operation.



The above is all the introduction of Mode button



3.3 Function button



Page 1





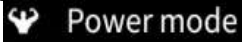
1. User functions

Touch  **User functions** to enter setting page.

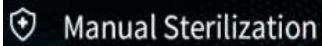




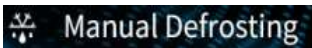
Reduced compressor frequency and fan speed to reduce unit noise.



Increase the compressor frequency and fan speed to increase the capacity of the unit.



Unit will operate the Sterilization mode.



Unit will operate the defrosting mode.




Unit will turn on the AHS and electric heater for fast heating.



Unit will run the water pump to circulate the water circuit and discharge the air.

2. Timing function

Touch  **Timer** to enter setting page. It can set the unit to turn on or off on different days and time periods.

ON	OFF
05:00	07:00

ON/OFF Time

Timer Periods

Click on the numbers to set the timer ON/OFF time

ON/OFF enable



Timer Date


-Circulation: Run every day according to the set timer.

-Monday-Sunday: Run the selected date according to the set timer.

INFORMATION:

The timer will take effect when the icons and light up at the same time. After setting the timer ON/OFF time, select the timer date, and then click so that it will be lit and will appear. In this way, the timer date icon is lit at the same time.

3. WIFI distribution

Touch  **Wi-Fi** to enter Wi-Fi setting page. If you need to use your mobile phone to control the heat pump, you need to turn on Wi-Fi first and then use the app to connect.

Click any option to enter the WiFi distribution status. It is recommended to select Smart Mode.




NOTE:

Recommended to use Smart Mode


NOTE:

Detailed operation of mobile phone refer to **7.6 WIFI connection**

4. Return water function

Touch  to enter backwater timing check setting page.

To maintain the water temperature in the domestic water pipes, the hot water return function can be turned on to keep the water in the water pipes at a constant temperature.



	ON	OFF	ON/OFF enable
1	05:00	07:00	<input checked="" type="checkbox"/>
2	16:00	18:00	<input type="checkbox"/>
3	20:00	22:00	<input type="checkbox"/>

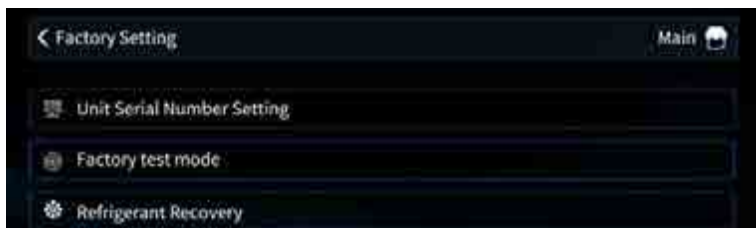
Timer Periods

ON/OFF enable

5. Factory function

Touch  to enter setting page.


INFORMATION:
This page is for factories and installers only.
Adjusting parameters may affect the normal operation of unit.




6. Scene settings

Touch  **Preset** to enter setting page.

In the scene setting, you can set the unit to run in different modes and target temperatures on different days and time periods and set different scenes according to different needs.

Select the preset date first, then set the time and mode and target temperature, and enable , click "Enter". "" will also light up.


The preset will take effect only when "" and "" are lit at the same time.

Time: 05:00 Start Time **Mode: ❄️ 🌙** Mode **❄️ : 25°C** Target Temperature




Preset Date


7.Double temperature zone

Touch "  Dual heating zone " to enter the dual temperature zone control setting page. If you need to set different temperatures in two areas of your house at the same time, such as when using radiators and floor heating, you can use a heat pump to control the temperatures of the two areas. You need to set P257=3, 266=0.



After setting, return to the main interface. The "Zone  " button will be added to the main interface.



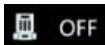
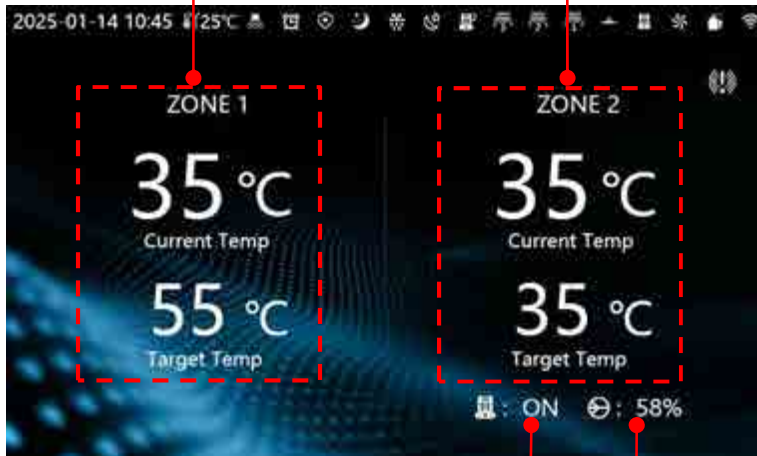
Click “” to enter the interface of dual temperature zone.

Zone 1 Operation Status Area

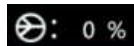
- Current water temperature display
- Target water temperature display

Zone 2 Operation Status Area

- Current water temperature display
- Target water temperature display



Mixing Water Pump
Operation Status



Mixing Valve Opening Status

INFORMATION:

Dual Temperature Zone Control is disabled by default.

P257 is used to enable/disable functions. (0-Turn on at power on/1-Linkage ON/OFF /2-Disable/3-Temp. control)

When the mode selection is Cooling or DHW or DHW + Cooling, the dual temperature zone cannot be displayed.

8. Smart power grid

If the **SG_Ready** to enter the smart grid setting page. If you are connected to a smart grid, you can set it through this page.




When there is neither SG signal nor EVU signal, you can set the maximum operating time of the unit and then turn off the unit.

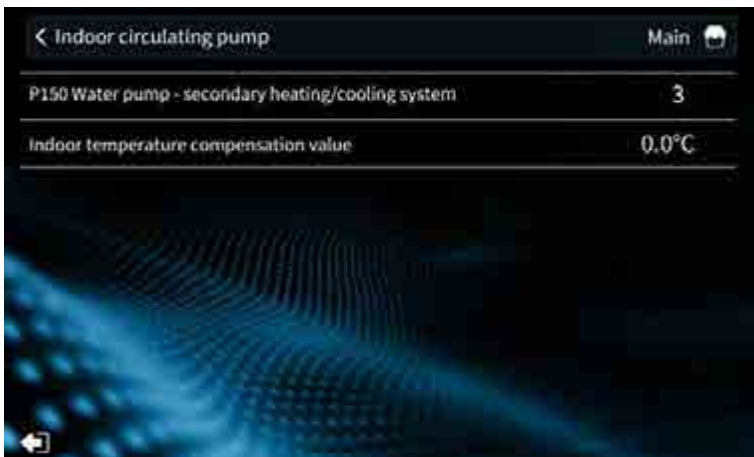
INFORMATION:


Smart grid function is disabled by default. P255 is used to enable/disable functions. (0-Enable/1-Disable).

9. Indoor Circulating Pump

In the function interface, click “ Indoor circulating pump” to enter the interface, change P150=3.

This function requires a temperature sensor that is built into the wired controller, the sensor black probe can be seen on the bottom back of the controller. In general, the wire controller can be used to detect room temperature when P150=3. At this point, the wired controller will act as a thermostat.



After setting, return to the main interface. The “Zone ” button will be added to the main interface.



Click “” to enter the interface of indoor Temp. setting.



INFORMATION:

Dual Heating zones and Indoor Circulation Pump function can only be selected to enable one of them.

P150 is used to enable/disable functions. (1-Runs on power-up/ 2-Controlled via linkage switch/ 3-Controlled by room temperature).

Once installed, the wired controller with built-in Temperature sensor will automatically detect the indoor ambient temperature and display it in the top status bar of the wired controller.

However, the accuracy of the temperature detection by the built-in sensor will be affected because the screen will heat up during the use of the wired controller, resulting in a temperature rise of 1°C~5°C. To better match the actual indoor ambient temperature, it is recommended to manually adjust the indoor temperature compensation value according to the actual indoor temperature.



Display value=sensor detection value+compensation value.

Please consult the installer for more settings

10. Climate Temperature Curve

Climate temperature curve is used to preset the water outlet temperature depending on the ambient temperature. During the warmer weather the heating is reduced. To save energy, the climate temperature curve can decrease the water outlet temperature when the ambient temperature increased in heating mode.

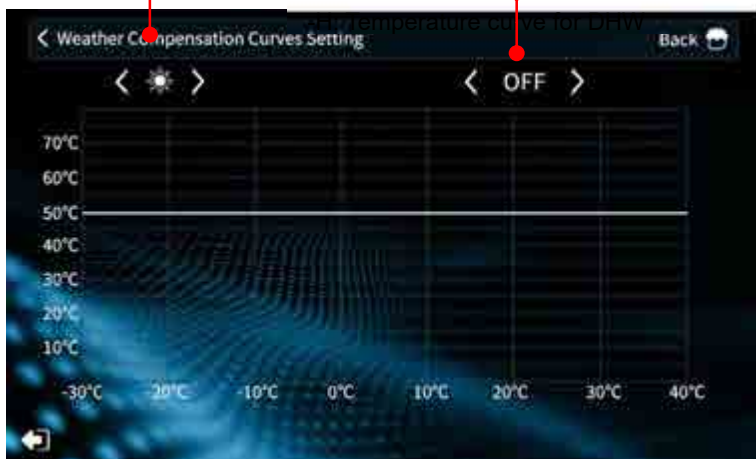
Touch "  Weather Compensation Curves Setting " to enter the

climate temperature curve setting page. Touch "  " and "  " to select mode and the corresponding different temperature curve.

Curve No.



- HH: High temperature curve for heating
- HL: Low temperature curve for heating
- GH: High temperature curve for floor heating
- GL: Low temperature curve for floor heating
- CH: High temperature curve for cooling
- CL: Low temperature curve for cooling

Mode

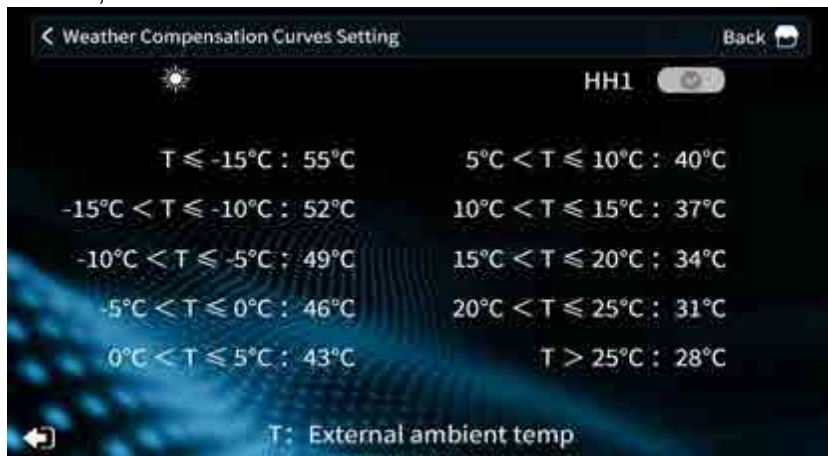


INFORMATION:



- Heating mode has 16 built-in curves.
- Cooling mode has 16 built-in curves.

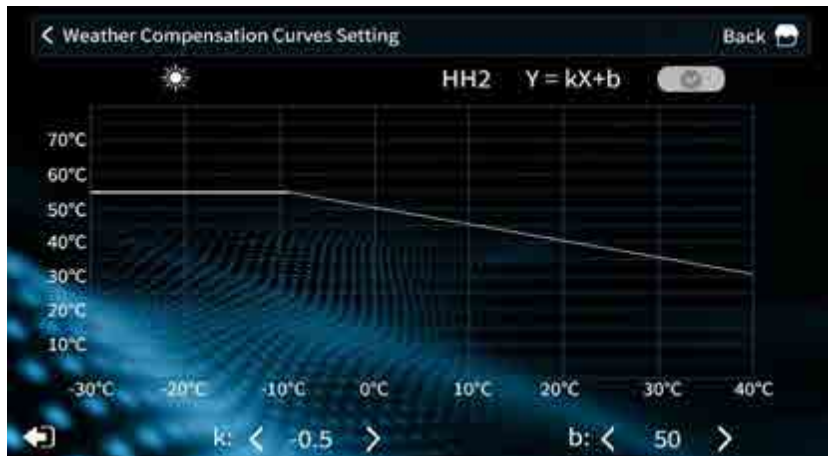
When Heating curve HH1 or Floor Heating curve GH1 is selected, click "  " to enter DIY curve setting, click "  " to enable/disable

curve DIY, the interface is as follows:



Click the temperature value to set different temperature.

When heating curve HH2 or floor heating curve GH2 or cooling curve CH1 or DHW curve H1 is selected, click "" to enter DIY curve setting, click "" to enable/disable curve DIY, the interface is as follows:




The curve is calculated using $Y=kX+b$, where Y is the target temperature, k is the slope, and b is the target temperature when the ambient temperature is 0°C. The values of k and b are adjusted by '<' and '>', and the curve will follow the changes during the adjustment.

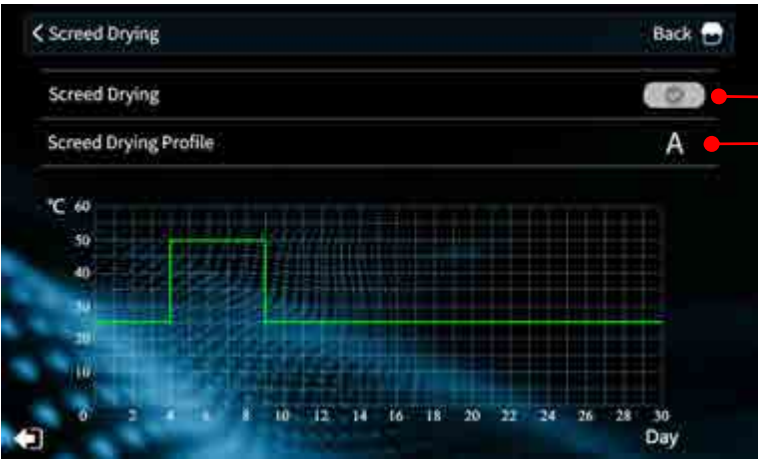
NOTE:

- It only uses the curve of the high temperature setting for heating if the high Temp. is set for heating.
- It only uses the curve of the low temperature setting for heating if the low Temp. is set for heating.
- The water outlet temperature can't be adjusted when the temperature curve is set.
- The climate compensation curves for each series are divided into 2 types, high and low temperature curve,

11. Screed Drying

In the function interface, click  to enter the screed drying interface.

 Enable



A Profile Options

Profile Options:

Click **Screed Drying Profile** **A** to select drying curve, there are 7 curves in total, A/B/C/D/E/F/G, and each curve runs for 30 days, among which curve G is the one that can be set.

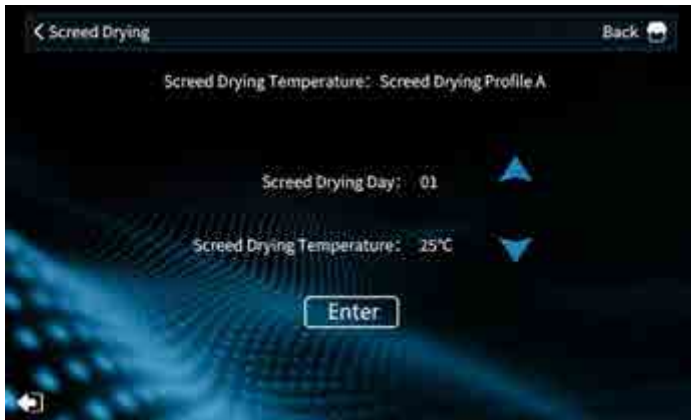
When curve G is selected, click “**↙**” to enter curve G setting, the interface is as follows:





Click “**▼**” to browse the number of days. Click on the corresponding temperature to enter the set temperature, adjust and press **Enter** to save.


Profile Enable:

Click “**☑**” to enter the start drying confirmation interface, as follows:



Press “” or “” to select the day from which to start running, and then press ‘Enter’ to start floor drying. For example, if you select the 10th day of operation, you will exit floor drying after 20 days of operation.

Screed Drying-OFF:

1. In the screed drying interface, click  to enter the drying off interface, click “Enter” to exit the screed drying.




2. In the main interface, click **Cancel** , you can enter the drying off interface, click **Enter** to exit the screed drying.




NOTE:

- During screed drying operation, the operating mode is automatically set to floor heating mode and is not adjustable.
- The indoor circulation pump and zone 2 water pump are automatically switched on during operation.
- The unit is automatically switched off at the end of floor drying operation.

12.Night Mode

In the function interface, click “ Night Mode” to enter the night mode interface.



Click  to activated/deactivated night mode.


The percentage of compressor capacity and running time can be set, and the unit automatically enters the night mode within the set time; outside the set time, the night mode is switched off.

NOTE:

- If you reduce the compressor capacity, then the unit Heating capacity will be reduced as well.

13.Pump Circulation

If the built-in pump is not operated for a long period of time, it may become clogged. To prevent the built-in water pump from clogging, you can turn on the water pump circulation function.

Touch  **Pump Circulation** to enter pump circulation interface.



Click  to enable/disable the water pump circulation function.


to enable/disable the water pump circulation function.

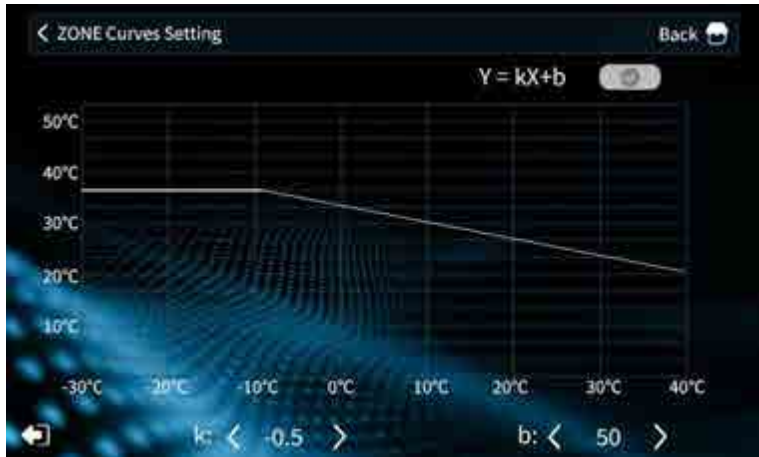
Click “7 Day” to set the interval days between water pump circulation.


INFORMATION:

When the water pump (built-in water pump, indoor circulation pump, zone2 water pump) is shut down for a continuous period of 7 days, the water pump will automatically turn on and run for 2 minutes before shutting down, and the timing will be restarted.

14.ZONE Curves Setting

After enabling dual heating zone, click  ZONE Curves Setting in the function interface to enter the zone climate curve setting, the interface is as follows:



Click “” to enable/disable the zone climate curve. The curve is calculated by $Y=kX+b$, in which the values of k and b are adjusted by ‘<’ and ‘>’, and the curve will follow the changes during the adjustment.



The above is all the introduction of Function button



3.4 Query button





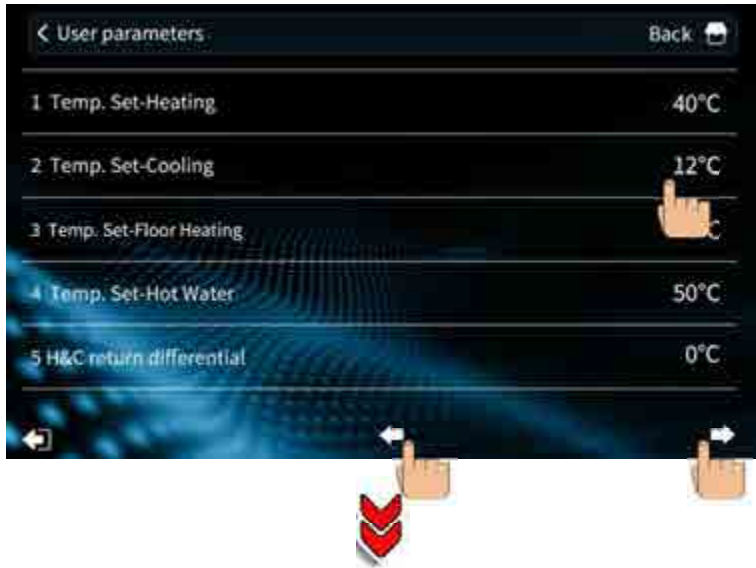
Page 1 



Page 2

1. User Parameters




Touch  to enter setting page.




Touch **<** **>** to switch pages. Touch the parameter value to enter the modify page. Enter the value on the keyboard.

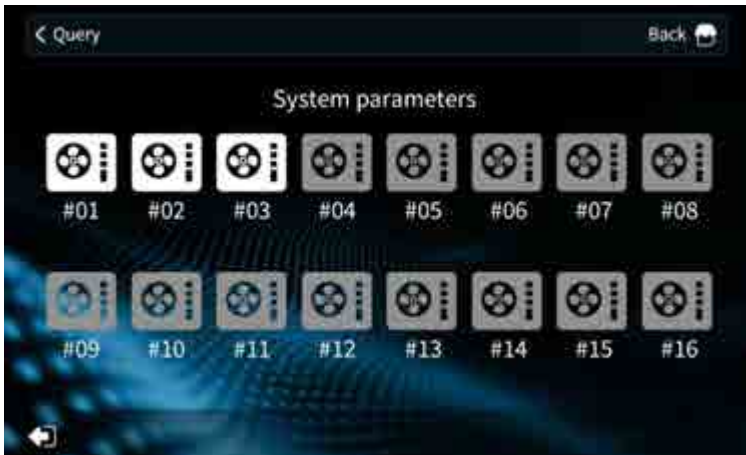
2. System Parameters

The system parameters provide detailed feedback on the current operation of the unit, and when the unit is operating abnormally, the system parameters can be provided to the installer for analysis.

Touch  **System Parameters** to enter the system parameter query page, touch   to switch pages.




When unit in cascade mode, touch  **System Parameters** and select the units you want to view. Grey means the unit is not connected.






3.Failure Information

When the unit shows error information,  will be displayed

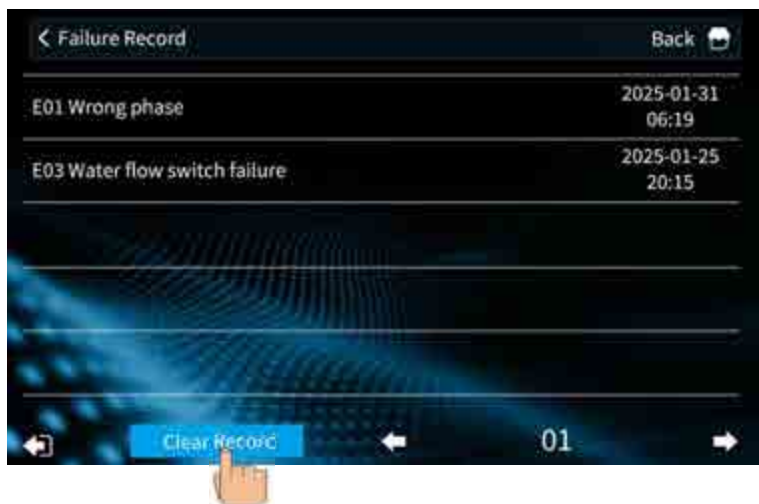
on the main page, directly touch  or **Failure Information** to enter the error message inquiry page.



4.Failure Records

Touch  **Failure Record** to enter the failure record page,
press  or  to switch pages.

Touch **Clear Record** can clear history of failure.



5.Power Consumption

The built-in power statistics module of the unit can count the power consumption data of the unit.

Touch  **Power Consumption** to query the power statistics.

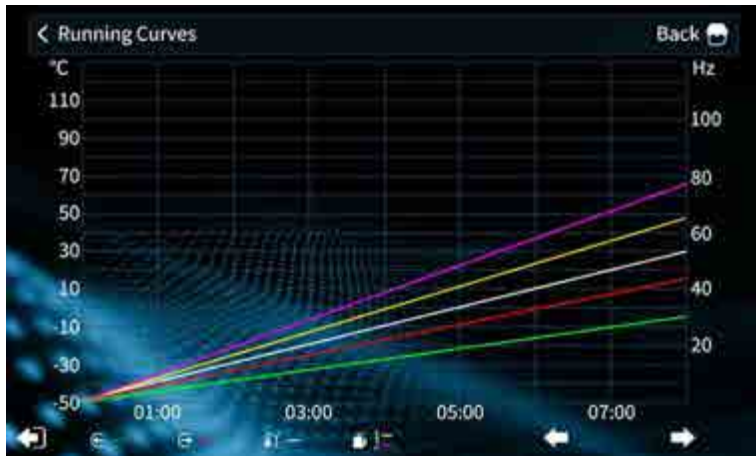




6. Running Curves

The operation curve of the unit can visualize the operation of the unit, including the change of inlet and outlet water temperature, the change of compressor and fan frequency, etc.

Touch  **Running Curves** to query the unit running status.



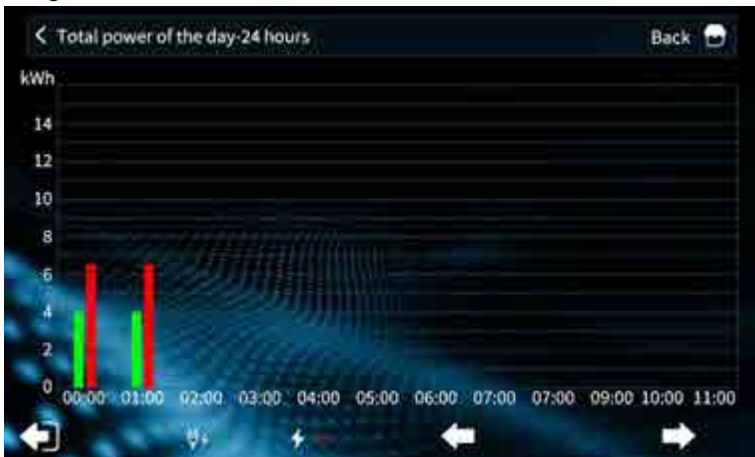
7. Energy Consumption

Touch **Energy Consumption** to query the energy consumption.

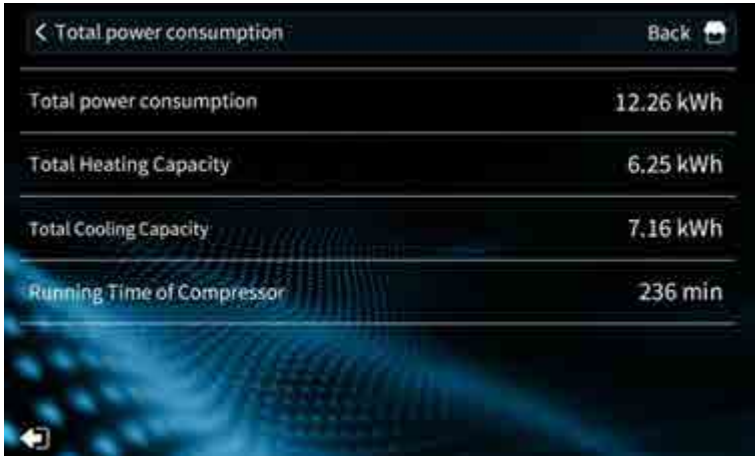


(1) Total power of the day-24 hours

Record power consumption and Heating/Cooling over a 24 hour period, where green is power consumption and red is Cooling / Heating.



(2) Total energy consumption



(3) Energy consumption curve/day

Data can be recorded for the last 5 years.



(4)Energy consumption curve/month

Data can be recorded for the last 5 years.



(5)Energy consumption curve/year

Data can be recorded for the last 5 years.



8.COP Query

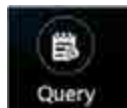
Touch  COP Query to query the unit COP.



COP Query	
Current power consumption	5632.6 W
Output power	8694.6 W
COP	1.54 W/W

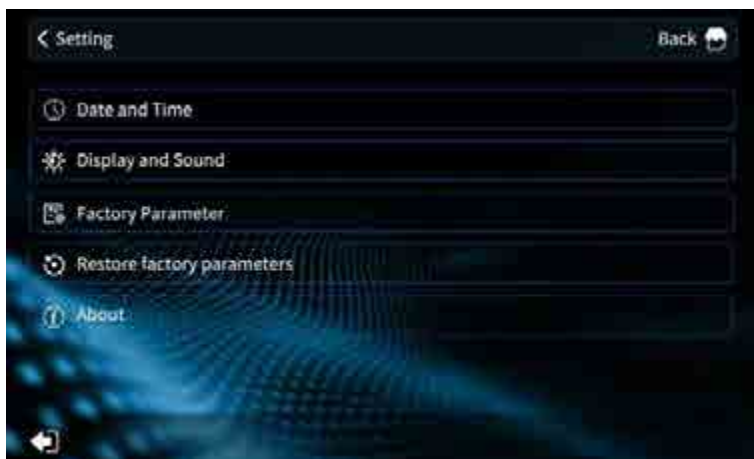


The above is all the introduction of Query button






7.3.5 Setting button





1.Date & Time

Touch ** Date and Time** to enter the Date & Time setting page. The first installation of the wired controller requires manual setting of the date and time.

Press “” “” to adjust the year-month-day-time, and press Enter to save the setting.



2. Display & sound


Touch **Display and sound** to enter setting page. You can set the display **brightness** of the wired controller, turn off the touch **sound** and change the **language** display.



3. Factory Parameters


Touch **Factory Parameters** to enter the setting page. Press "<" ">" to switch pages. Touch the parameter valve to enter the modify page. Enter the valve on the keyboard.



When unit in cascade mode, touch "  Factory Parameters " and select the units you want to view. Grey means the unit is not connected.

INFORMATION:
This page is for factories and installers only.

4.Restore factory settings

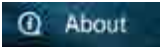
If you want to restore the parameters to their default values or if the unit is running abnormally, touch  Restore factory settings



Touch " Enter " to confirm in the pop-up window.



5.About

Touch  to check the motherboard and wired controller software version.



The above is all the introduction of Setting button



4 Parameter query

Code	Description	Display range	Code	Description	Display range
1	Compressor operating frequency	0~150Hz	31	Compressor 2 operating frequency	0~150Hz
2	Fan operating frequency/speed	0~999Hz	32	Fan 2 operating frequency	0~999Hz
3	EEV steps	0~480P	33	EEV-2 steps	0~480P
4	EVI valve steps	0~480P	34	EVI-2 valve steps	0~480P
5	AC Input voltage 1	0~500V	35	AC2 input voltage 2	0~500V
6	AC Input Current 1	0~50.0A	36	AC2 input current 2	0~50.0A
7	Compressor phase current	0~50.0A	37	Compressor 2-phase current	0~50.0A
8	Compressor IPM temperature	-40~140°C	38	Compressor 2IPM temperature	-40~140°C

9	High pressure saturation temperature	-50~200°C	39	High pressure 2 saturation temperature	-50~200°C
10	Low pressure saturation temperature	-50~200°C	40	Low pressure 2 saturation temperature	-50~200°C
11	Ambient Temp. T7	-40~140°C	41	System 2 Outer Coil Temp. T9	-40~140°C
12	Outer Coil Temp. T1	-40~140°C	42	System 2 Inner Coil Temp. T12	-40~140°C
13	Inner Coil Temp. T4	-40~140°C	43	System 2 Suction Temp. T10	-40~140°C
14	Suction Temp. T2	-40~140°C	44	System 2 Exhaust Temp. T11	-40~140°C
15	Exhaust Temp. T3	0~150°C	45	System 2 Economizer Inlet Temp.	0~150°C
16	Water Inlet Temp. T8	-40~140°C	46	System 2 Economizer Outlet Temp.	-40~140°C
17	Water Outlet Temp. T15	-40~140°C	47	Reserve	
18	Economizer Inlet Temp.	-40~140°C	48	Reserve	
19	Economizer Outlet Temp.	-40~140°C	49	Reserve	
20	Current Unit Tool Number	0~120	50	Reserve	
21	DHW Tank Temp. T5	-40~140°C	51	Solar Water Heater Temp.	
22	Plate Heat Exchanger Exhaust Temp. T16	-40~140°C	52	Zone 2 Temp. TH3	
23	Driver Manufacturer	0~10	53	Butter Tank Temp. TH4	
24	Water pump speed PWM	0~100%	54	reserved	

25	water flow	3~ 100L/min	55	Unit B input voltage	
26	DHW return water temperature T13	-40~ 140°C	56	Unit B input current	
27	Unit A Input voltage	0-500V	57	Unit C input voltage	
28	Unit A Input current	0.00A- 99.99A	58	Unit C input current	
29	Unit input power	0.00- 99.99K W	59	smart grid	
30	Total power consumption	0- 9999Kw .h	60	Mixing valve opening	

5 WIFI connection

The unit can be controlled remotely from your cell phone, scan the QR code below or search for "ReaLinks" in the App Store or Google Play to download the app.



For IOS



For Android

5.1 Register & Login

The first time you enter the APP you need to register, enter your email account and password to register.

After successful registration, enter your account and password to enter the binding page

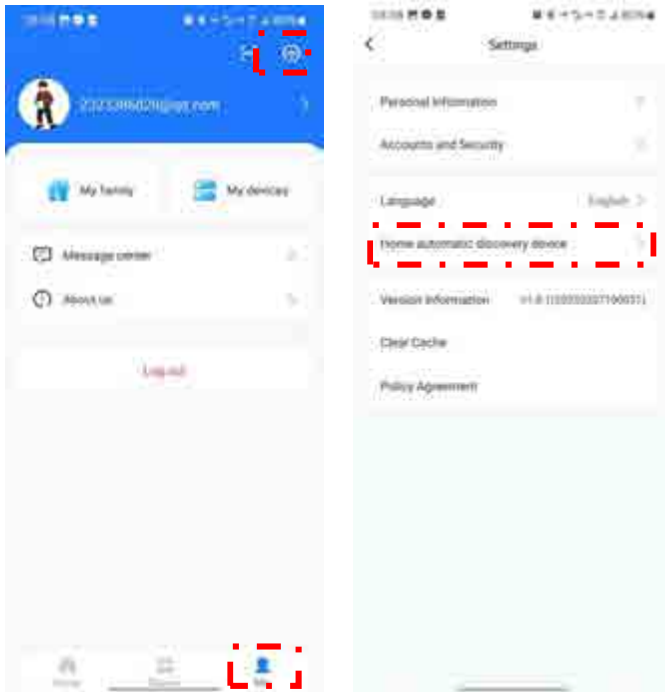




5.2 Unit Binding

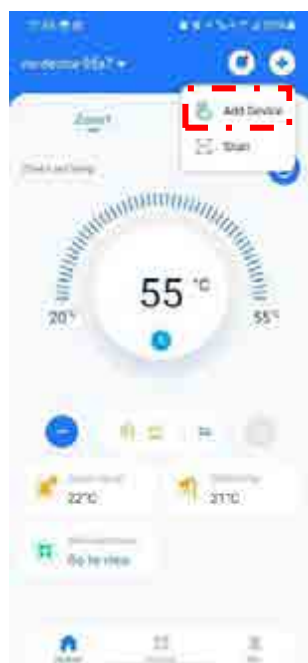
The wired controller needs to be in WIFI distribution mode, refer to section 4.3.3 for details.

- Make sure the wire controller and cell phone are in the same network, the cell phone needs to be connected to WIFI, and open

the Bluetooth and authorize the APP to use. In Settings, turn on the automatically discover devices switch.



- Then touch "  Add Device". Wait for the device to be searched, click "  ".
- Enter the WI-FI password.
- Bind successfully.



i INFORMATION:


Make sure the wire controller and cell phone are in the same network.

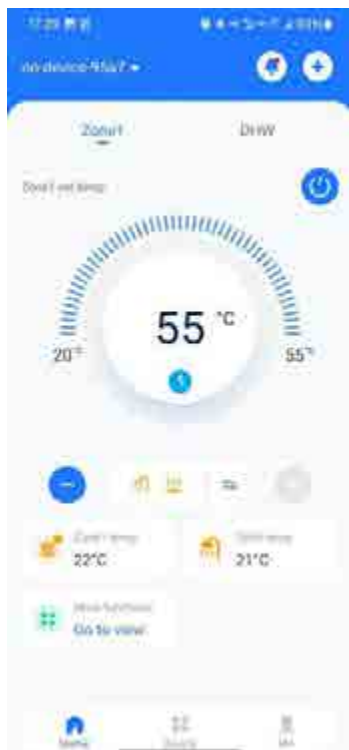
Make sure the phone is turn on Bluetooth and authorized APP.

5.3 Using Homepage






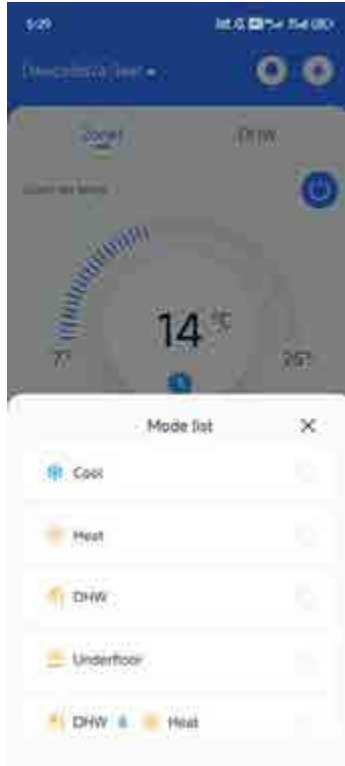
5.3.1 ON/OFF

Touch "  " for unit ON/OFF





5.3.2 Mode Setting

Touch "   |  " to switch unit operation mode.





5.3.3 Rename Unit

- Touch "  " to go to the device list.
- Touch "  " to view the unit's information.
- Touch "Edit" to rename the unit.
- Enter the name you want to rename.



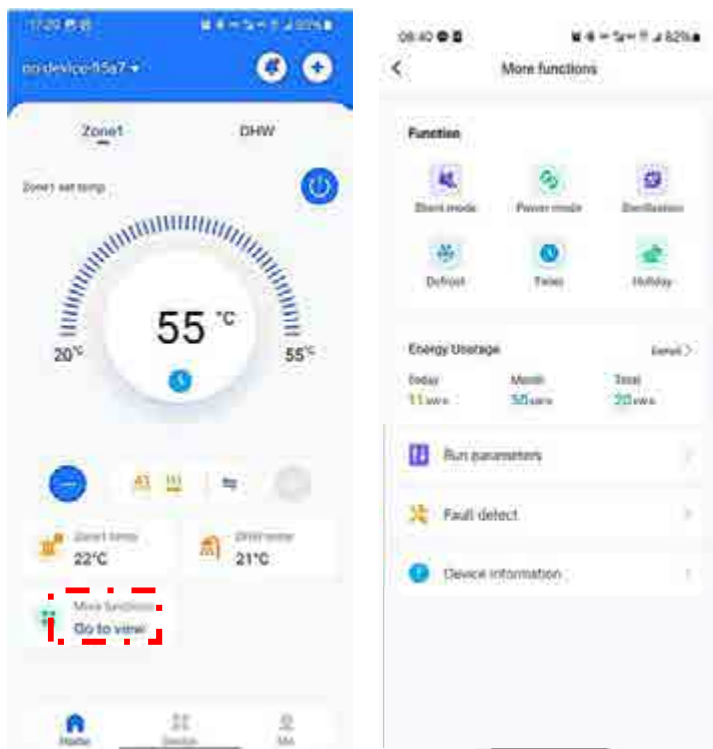
5.3.4 Remove Unit

- Touch "  " to go to the device list. Then touch "  " to view the unit's information.
- Touch "Unbind Device" to unbind the device.






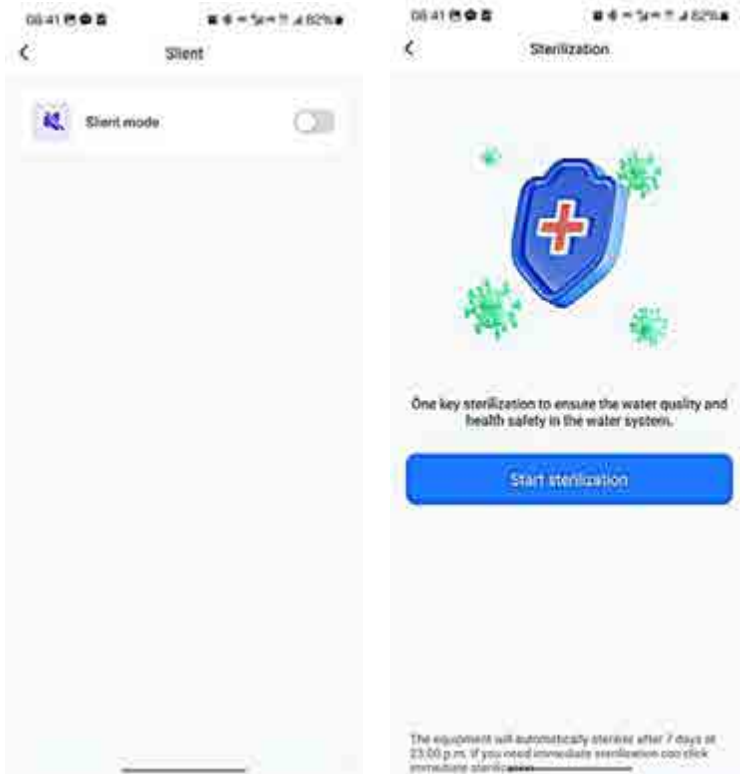
5.3.5 More Functions

Touch "More functions" to enter the function interface.




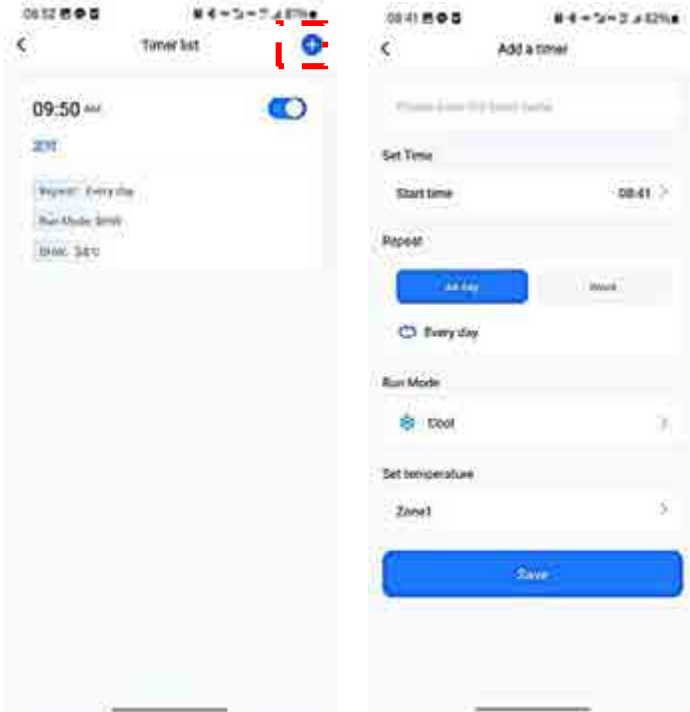
5.3.5.1 Mode Setting

- Touch "  " to turn on the silent mode switch, Touch "  " to turn on the power mode switch.
- Touch "  " to turn on the sterilization mode.




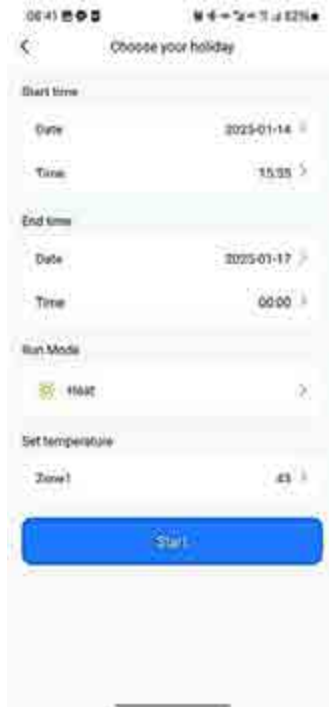
5.3.5.2 Timer Setting

- In the function interface, touch "  " to set the timer.
- Select the time and mode you want to set the timer.



5.3.5.3 Holiday Setting

- In the function interface, touch "  " to set the holiday. (Only Heating/Cooling heat pumps have this feature.)



5.3.5.4 Operation Status

- In the function interface, touch "Run parameters" to check the unit operation parameter.



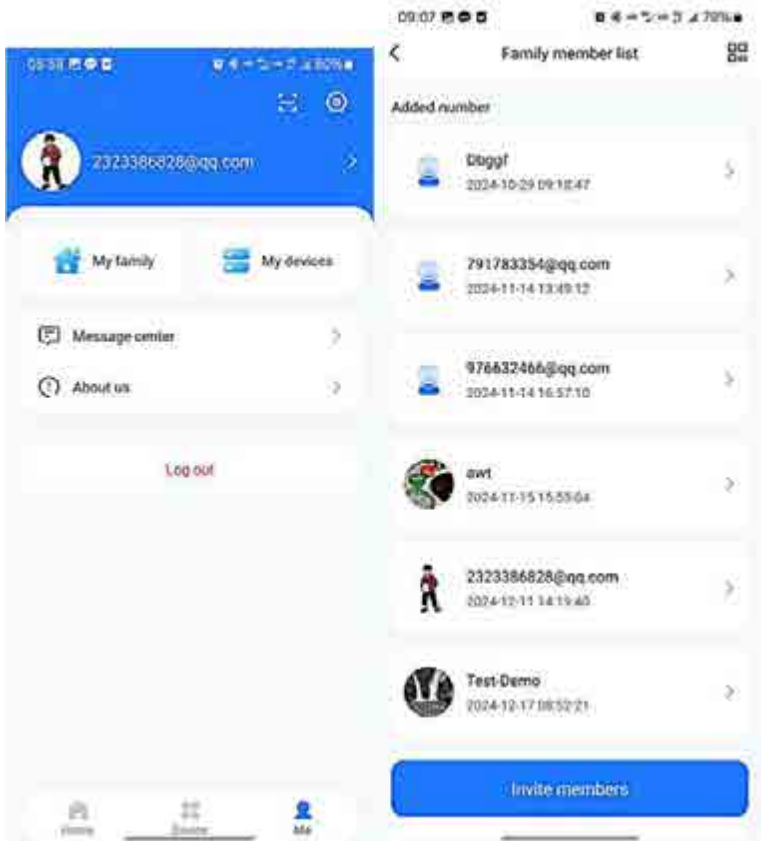
5.3.5.5 Energy Consumption

- In the function interface, touch "Energy Usage" to check the unit power consumption.



5.3.6 Share Device

- In the “Me” screen, click “My family” to view the family list.
- Touch “Invite members” to share the device, and others can scan the QR code to operate the heat pump.
- Touch the account number to view the heat pumps bound to the account.



09:55

100%



Member Details

Membership information



Dbggf

2024-10-23 09:18:47

Shared device list



basketball-unable touch



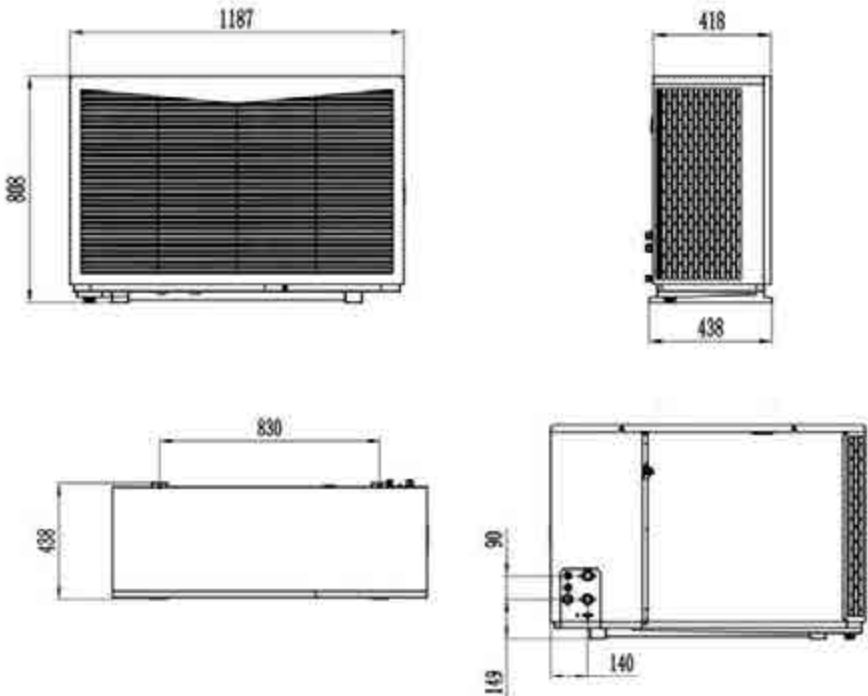
VITOLUX



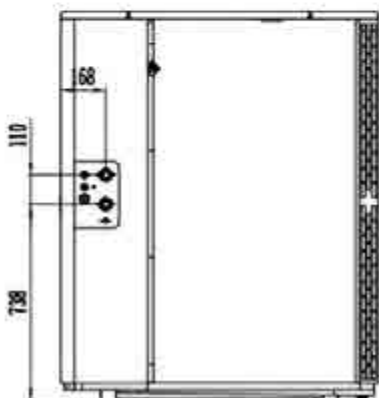
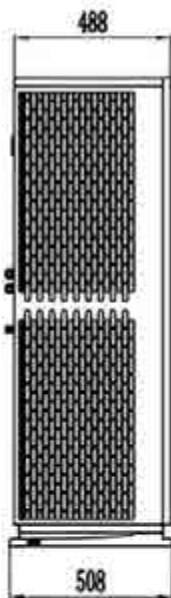
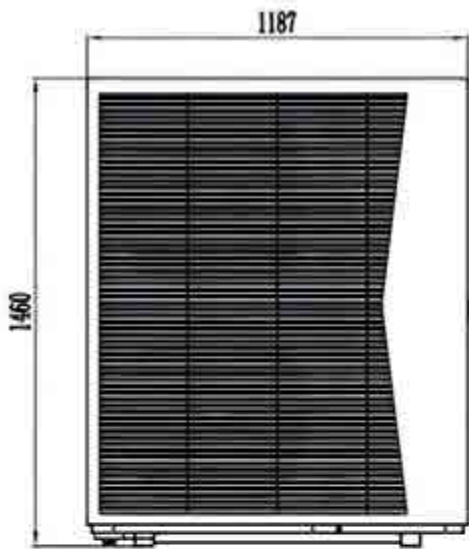
Deleting members

Dimension

1. Dimension

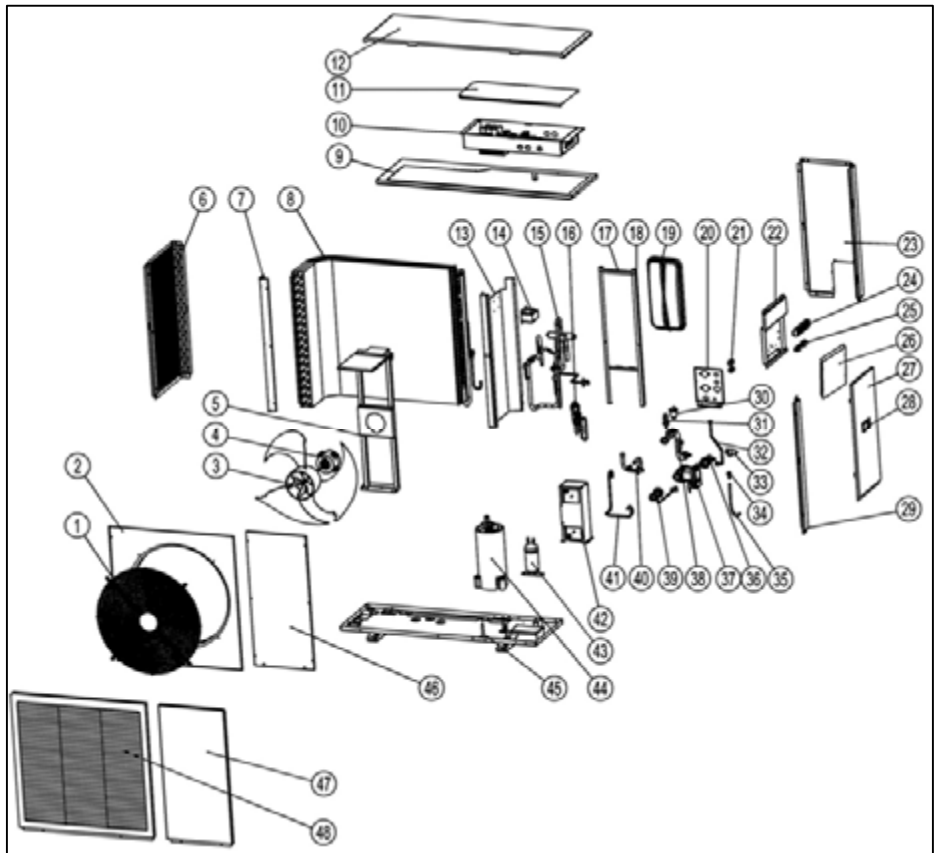


Model	Packed Dimensions (mm)
8S-R290	1217*463*920
12.1S-R290	1317*493*1020
15.2S-R290	1317*493*1020
HT-012TC3	1317*493*1020
21.9S-R290	1317*493*1020



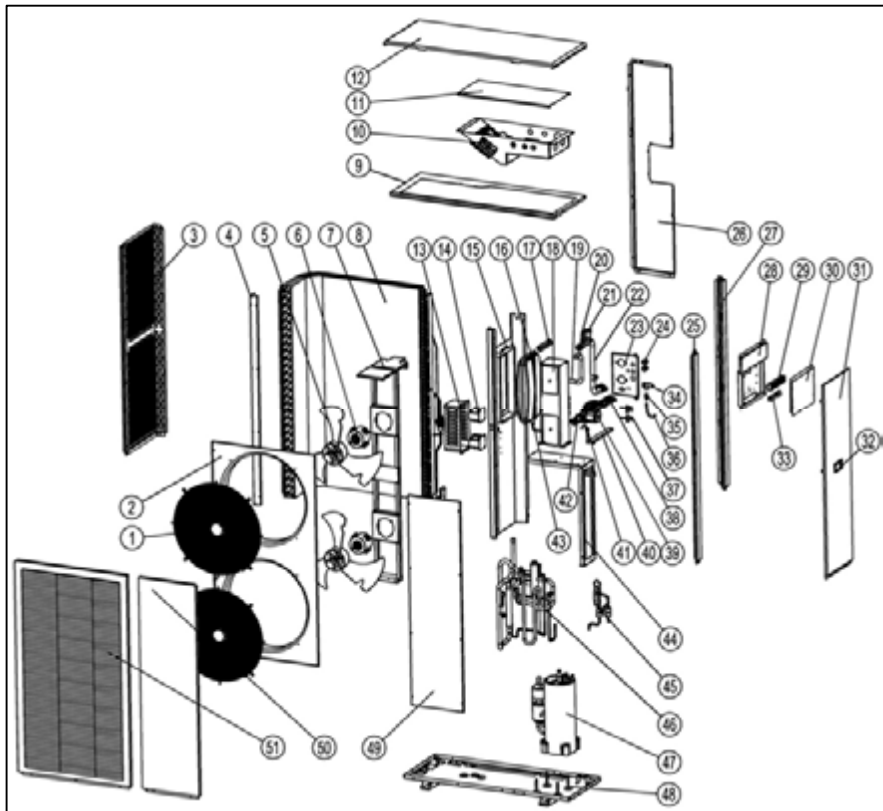
Model	Packed Dimensions (mm)
21.9ST-R290	1217*538*1570
21.9S-R290	1217*538*1570

2. Explosive Diagram



Number	Description	Number	Description
1	Air Cover	25	Wire Crimp
2	Air Guide	26	Wiring Box Cover
3	Fan Blade	27	Right Side Panel
4	Fan	28	Handle
5	Fan Support	29	Right Front Column
6	Left Side Panel	30	Water Flow Switch
7	Left Column	31	Automatic Air Vent
8	Evaporator	32	Expansion Tank Pipe
9	Top Frame	33	Safe Valve
10	Electric Box	34	Safe Valve Connector
11	Electrical Box Cover	35	Drain Hose
12	Top Cover	36	Water Pump Inlet Pipe
13	Middle Panel	37	Inverter Water Pump
14	Reactor	38	Plate Heat Exchanger Outlet Pipe(Water Side)
15	4-Way Valve Assembly	39	Plate Heat Exchanger Inlet Pipe(Water Side)
16	EEV Assembly	40	Plate Heat Exchanger Inlet Pipe (Refrigerant Side)
17	EEV Support	41	Plate Heat Exchanger Outlet Pipe (Refrigerant Side)
18	Expansion Tank Plate	42	Plate Heat Exchange
19	Expansion Tank	43	Reservoir (not built-in)
20	Valve Block Panel	44	Compressor
21	Waterproof Connector	45	Chassis Assembly
22	Terminal Block Panel	46	Right Panel
23	Rear Right-Side Panel	47	Right rear side panel
24	Terminal Block	48	Front Left Panel

Hyper Therm 21.9S-R290/Hyper Therm 21.9T-R290



Number	Description	Number	Description
1	Air Cover	27	Rear Right Column
2	Air Guide	28	Terminal Block Panel
3	Left Side Panel	29	Terminal Block
4	Left Column	30	Wiring Box Cover
5	Fan Blade	31	Right Side Panel
6	Fan	32	Handle
7	Fan Support	33	Wire Crimp
8	Evaporator	34	Safe Valve
9	Top Frame	35	Safe Valve Connector
10	Electric Box	36	Drain Hose
11	Electrical Box Cover	37	Maintenance Valve
12	Top Cover	38	Water Pump Inlet Pipe
13	Reactor Cover	39	Inverter Water Pump
14	Reactor	40	Water Pump Support
15	Middle Panel	41	Plate Heat Exchanger Outlet Pipe (Refrigerant Side)
16	Expansion Tank	42	Plate Heat Exchanger Inlet Pipe(Water Side)
17	Expansion Tank Panel	43	Expansion Tank Hose
18	Plate Heat Exchanger	44	Plate Heat Exchanger Support
19	Plate Heat Exchanger Inlet Pipe (Refrigerant Side)	45	EEV Assemble
20	Water Flow Switch	46	4-Way Valve Assembly
21	Automatic Air Vent	47	Compressor
22	Plate Heat Exchanger Outlet Pipe(Water Side)	48	Chassis Assembly
23	Valve Block Panel	49	Right Panel
24	Waterproof Connector	50	Front Right Panel
25	Front Right Column	51	Front Left Panel
26	Rear Right-Side Panel		

Installation

1. Installation Preparation

1.1 Install The Required Tools (Self-Provided)

Number	Tool	Number	Tool
1	Level	10	Saw
2	Electric Hammer	11	Flat Blade Screwdriver
3	Adjustable	12	Cross Screwdriver
4	Needle-nose Plier	13	Copper Tube Knife
5	Impulse Drill	14	PP-R Tube Knife
6	Ruler	15	PP-R Tube Heat
7	Torque Wrench	16	Compound Gauge
8	Hexagonal	17	Vacuum Pump
9	Hammer	18	Electronic Balance

1.2 Connecting Wires, Insulation Materials, PP-R Pipe, And Connector

- a) The material and thickness of the insulation pipe meet the specified requirements. Otherwise, heat loss and condensation will be caused.
- b) Please refer to this manual's "Electrical Installation" description section for wire size selection.

Model	The water inlet/outlet size
Hyper Therm 8S-R290	DN25 (1")
Hyper Therm 12.1S-R290	DN25 (1")
Hyper Therm 12.1T-R290	DN25 (1")
Hyper Therm 15.2S	DN25 (1")
Hyper Therm 15.2T	DN25 (1")
Hyper Therm 21.9S-R290	DN40 (1.5")
Hyper Therm 21.9T-R290	DN40 (1.5")

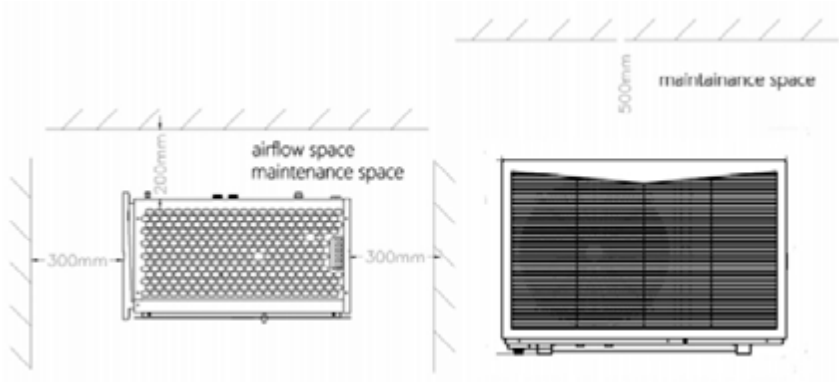
1.3 Other Installation Materials

- a) Fix the pipe bracket and pipe clamp of the connecting pipe
- b) Wire threading pipe and pipe clamp
- c) Insulating tape, raw tape
- d) Expansion bolt
- e) Mounting bracket

2. Heat Pump Installation

- 2.1 The machine installation space meets the following schematic requirements to ensure regular air circulation and maintenance;
- 2.2 The location of the machine should be kept away from heat, steam, or flammable gases;
- 2.3 Do not install the machine in places with strong wind or dust;
- 2.4 Do not install the machine where it is often passed through the air suction side and air exhaust side;
- 2.5 The installation position of the machine should be adequately drained to the nearby sewer.

Heat Pump Installation Space Diagram



Note

Installation In The Following Locations May Cause The Machine To Malfunction:

1. A place with more oil;
2. Wet place

3. Seaside saline-alkali area;
4. Special environmental conditions;
5. High-frequency facilities such as wireless equipment, welding machines, and medical equipment.

3. Outdoor Unit Specific Installation Steps

- 3.1 Install the unit on a solid surface such as concrete, and the load-bearing cover or mounting bracket must meet the strength requirements;
- 3.2 Fasten the outdoor unit to the mounting bracket with bolts and nuts and keep it level;
- 3.3 If installed on a wall or a roof, the bracket must be firmly fixed to prevent damage caused by an earthquake or strong wind;
- 3.4 The positioning dimension of the outdoor unit installation base is 810*394mm. It is required to install four-position foot bolts with a diameter of 10mm—at the bottom of the installation of the outdoor unit. The inch recommendation is 1200*450mm.

Installation Precautions

1. The unit should be installed so that the inclination of any vertical surface does not exceed 5 degrees;
2. Do not install the outdoor unit directly on the ground;
3. The strength of the ordinary air-conditioning bracket may not apply to the unit. Please design or select the frame according to the weight of the team;
4. If the mainframe is installed and fixed on the open balcony and the roof, it is necessary to lift the unit. Pay attention to the following points when lifting:
 - 4.1 Please use four or more soft slings to lift the handling unit;
 - 4.2 To avoid scratching and deformation of the surface of the unit, please install the guard plate on the surface of the team during lifting and loading;
 - 4.3 Before final installation, it is necessary to check whether the foundation is correct or not, in case it is wrong with the actual object.

4. User Water System Installation

- 4.1 The Installation Of The Water System Must Meet The Following Principles:
 - 4.1.1 Pipe length is as short as possible;

- 4.1.2 Pipe diameter must meet the requirements of the unit;
- 4.1.3 The elbows on the waterway are as few as possible, and the elbow radius is as large as possible;
- 4.1.4 The thickness of the water pipe insulation layer meets the specified requirements;
- 4.1.5 Dust and debris should not enter the pipeline system as much as possible;
- 4.1.6 The unit must be fixed before the piping system can be installed.

Remarks:

1. Hydraulic calculation must be carried out after the primary water pipe selection is completed. If the waterside pipeline resistance is more excellent than the selected pump lift, the larger water pump must be re-selected, or the water pipe must be increased in size;
2. When multiple units are connected in parallel, the primary and circulating water pumps must be selected as appropriate according to the hydraulic calculation requirements.

Remarks:

1. The same piping design is allowed to distribute the water evenly.
2. The system must be equipped with an automatic water supply valve, and the highest point of the water system must be equipped with an automatic pressure relief valve;
3. The drain valve shall be installed at the bottom of the pipeline to facilitate drainage;
4. The pressure relief valve is installed at the highest point of the system pipeline, and the terminal of the water pipe must have an expansion diameter;
5. Normal working water capacity can ensure normal defrosting in winter (ensure that the water capacity per kW exceeds 10L);
6. The machine has been equipped with a water flow switch; users do not need to install one more;
7. To facilitate the maintenance of the machine, a pressure gauge is required to be installed for the outlet pipe of the device;
8. If the compartment controls the floor heating, and the number of the manifolds in the smallest area is less than or equal to 2, please install the differential pressure bypass valve according to the schematic diagram;

4.2 Water Quality Requirements By The Machine

- 4.2.1 When water quality is not good, it will produce some scale and sediment such as sand. Therefore, the water used must be filtered and softened with soft water equipment before it flows into the heat pump water system;
- 4.2.2 Please analyze the water quality before using the machine, such as PH value, conductivity, chloride ion concentration, sulfur ion concentration, etc.

PH	Water Hardness	Conductivity	S	Cl	Nh4
7~8.5	<50ppm	<200vV/cm(25°C)	N/A	<500ppm	N/A
So4	Si	Iron content	Na	Ca<	
<50ppm	<30ppm	<0.3ppm	N/A	<50ppm	

4.3 Water Pipeline Installation Instructions

- 4.3.1 Install all water pipelines;
- 4.3.2 Check if any water leaks in the pressurized pipelines;
- 4.3.3 Clean the water pipelines.

4.4 Water Pipeline Feed-Water And Pipeline Emptying Steps:

- 4.4.1 Open the pressure relief valve on the water distributor and all valves;
- 4.4.2 Feed the water at the pipe filling port;
- 4.4.3 During the feed-water process, it is necessary to observe if the pressure relief valve or the drain valve has water overflow, and if there is water overflow, it means that the water in the system has been filled;
- 4.4.4 Close the pressure relief valve, and then look at the water pressure gauge. If the pressure value is more than 0.15Mpa, please close the feed-water valve and complete the water drain.

5. Selection and Installation of Water System Accessories

5.1 Selection Of Circulating Pump

- 5.1.1 The machine must be installed with a circulating pump to be used. The heat pump provides the power port of the circulating pump (single-phase power supply). Please refer to the circuit diagram for wiring. The maximum power of the circulating pump is not allowed to exceed 1.5 kW.

- 5.1.2 Please select the circulating pump according to the actual lift required, and the flow must be guaranteed to meet the requirements of the machine nameplate.
- 5.2 Selection Of Auxiliary Electric Heater
 - 5.2.1 The user can select the auxiliary electric heater if needed; however, the machine only provides the port connected with a signal wire to control the auxiliary electric heater.
 - 5.2.2 Professionals must install the installation of an auxiliary electric heater.
- 5.3 Selection Of Water Flow Switch: The machine has a built-in flow switch, so it does not require one more water flow switch.
- 5.4 Other Optional Accessories Recommended

Accessories	Description	Remark
Buffer Tank	60L or bigger	
Expansion Tank	5 L	Only Pressurized System
Pressure Gauge	1.5 Mpa	
Safety Valve	0.3 Mpa	Only Pressurized System

6. Electrical Installation

All wiring and grounding must comply with local electrical codes.



Note

1. The specification label should be carefully checked to ensure that the wiring meets the specified requirements and is correctly wired according to the wiring diagram;
2. The auxiliary electric heater must be equipped with an independent current circuit breaker and leakage protector;
3. The power supply must meet the requirements of the machine and must be reliably and effectively wired;
4. Wires should not be in contact with copper pipes, compressors, motors, or other operating components;
5. Do not change the internal wiring of the machine without permission. Otherwise, the seller will not commit any responsibility;
6. Do not change the internal wiring of the machine without permission. Otherwise, the seller will not commit any responsibility;

7. Do not send power before the wiring is completed to avoid personal injury;
8. The supply voltage should vary within $\pm 10\%$ of the standard value.
9. Electrical specifications:

	8S-R290	12.1S-R290	15.2S-R290	21.9S-R290
Power Supply	220~240 V/ 1/ 50 Hz			
Max Input Current (A)	15	25	25	35
Fuse Rated Current(A)	15	25	25	40
Miniature Circuit Breaker(MCB)	20	32	32	40
Power Cable (mm ²)	4.00	6.00	6.00	8.00

	12.1T-R290	15.2T-R290	21.9T-R290
Power Supply	380~415 V/3/ 50 Hz		
Max Input Current (A)	10.5	10.5	17
Fuse Rated Current(A)	15	15	20
Miniature Circuit Breaker(MCB)	16	16	20
Power Cable (mm ²)	4.00	4.00	4.00

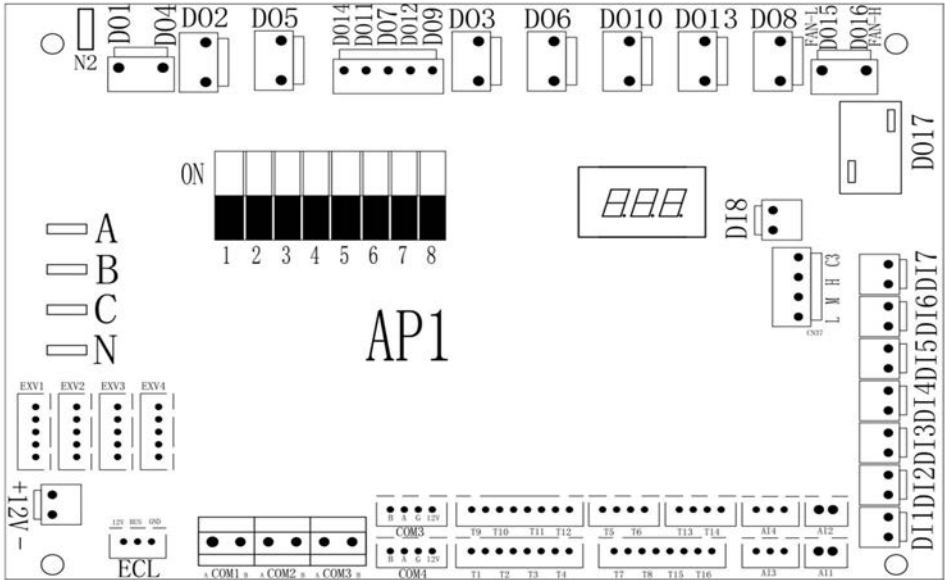
Note: Choose one of Fuse or Miniature Circuit Breake.

Power Cable And Signal Wire Connection Instruction

1. Remove the machine's front cover and connect the wire to the corresponding terminal block according to the electrical wiring diagram to confirm that the connection is secure.
2. Secure the cable with the wire clamp and install the service plate.
3. Do not connect the wrong line. Otherwise, it will cause electrical failure or even damage the machine.
4. The type and rating of the fuse are based on the specifications of the corresponding controller or fuse cover.
5. The power cable must be selected and installed by a professional installer. When the installer chooses the power cable, the power cable should not be lighter than the neoprene armoured cord (line

57 of IEC 60245). For specific power cable specifications, see the electrical specifications.

- If the user's power distribution capacity is insufficient or the power cord (copper core wire) is not configured as required, the machine cannot be started or operated normally. The seller will not take any responsibility.

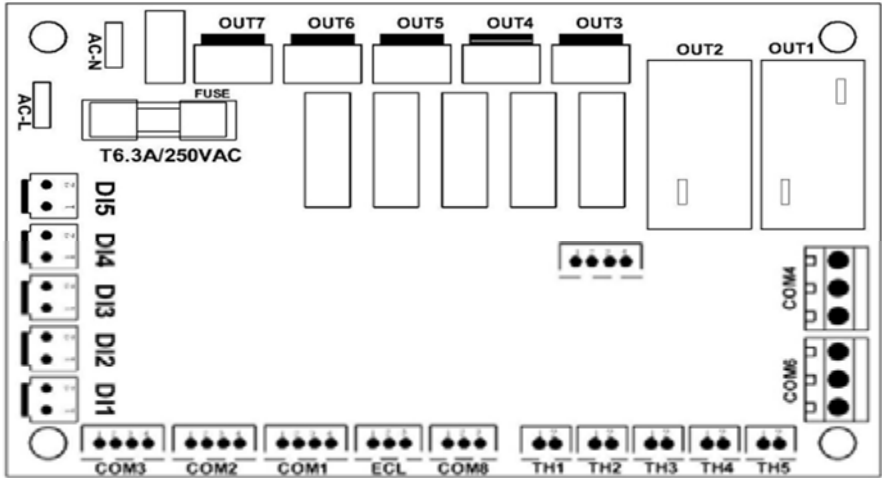


Motherboard Output Definitions

Port	Description	Port	Description
D01	P_h: Zone 2 Water Pump	A13	Low-Pressure Sensors
D02	Four-Way Valve	T1	Outer Coil Temperature
D03	Liquid Injection Valve	T2	Return Air Temperature
D04	Bypass Valve	T3	Exhaust Temperature
D05	SV3#Mixing Valve(Close)	T4	Cooling Coil Temperature
D06	SV3#Mixing Valve(Open)	T5	Economizer Inlet Temperature
D07	Crankshaft Heating	T6	Economizer Outlet Temperature
D08	Chassis Heating	T7	Outdoor Ambient Temperature
D09	EH2 Electric Heater(Buffer Tank)	T8	Water Inlet Temperature
D010	EH3 Electric Heater	T9	Total Water Outlet Temp. Sensor

	(Expansion Tank)		
D011	P_e AHS Water Pump	T10	Buffer Tank Temp. Sensor
D012	P_d DHW Return Water Pump	T11	Zone 2 Temp. Sensor
D013	EH4 Electric Heater (Plate Heat Exchanger)	T12	Solar Water Heater Temp. Sensor
D014	Enthalpy Valve	T13	DHW Return Temp. Sensor
D015	Low Wind (AC)	T14	Freeze Protection Temperature
D016	High Wind (AC)	T15	Water Discharge Temperature
D017	P_c Auxiliary Water Pump	T16	Water Tank Temperature (Hot Water)
C2	Public Side2	COM3	Drive Module
C1	Public Side1	COM4	Wire Controller
D18	Medium Voltage Switch 1	COM3	Reservation
D17	Reservation	COM2	Uplink Monitoring And Control
D16	Linkage Switch	COM1	Module Cascade
D15	Reservation	ECL	Extension Modules
D14	Reservation	12V	DC 12V Power Supply
D13	Water Flow Switch	EXV1	EEV Main Valve
D12	Low Voltage Switch	EXV2	Auxiliary Valves
D11	High Voltage Switch	EXV3	Reservation
C3	Public Side3	EXV4	Reservation
H	SG Signal	N	Power Input Zero Line
M	EVU Signal	C	Power Input T-Phase
L	Reservation	B	Power Input S-Phase
A12	Reservation	A	Power Input R-Phase
A11	Reservation	LED1	8-Bit Dialing Code
A14	High-Pressure Sensors		

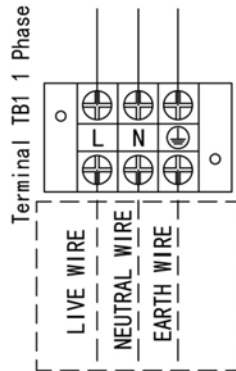
Expansion Board Output Definition



Port	Description	Port	Description
OUT1	Circulating Water Pump	D16	Forced Hot-Water Switch
OUT2	P_b Heating/Cooling Water Pump	D15	Gnd
OUT3	Air-Conditioning Valve Off	D14	Forced Cooling Switch
OUT4	Air-Conditioning Valve On	D13	Linkage Switch (External Water Pump)
OUT5	Hot Water Valve On	D12	Forced Heating Switch
OUT6	Hot Water Valve Off	D11	Linkage Switch (Heat Source of DHW)
OUT7	EH1 AHS Singal Output	TH1	Reservation
D08	Chassis Heating	TH2	Reservation
D09	Electric Heating For Heating	TH3	Reservation
D010	Hot Water Valve Off	TH4	Reservation
D011	Hot Water Valve On	TH5	Reservation
D012	Air-Conditioning Valve On	COM8	Reservation
D013	Air-Conditioning Valve Off	ECL	Serial Communication
D110	Forced Cooling Switch	COM2	Rs485
D19	Gnd	COM2	Rs485

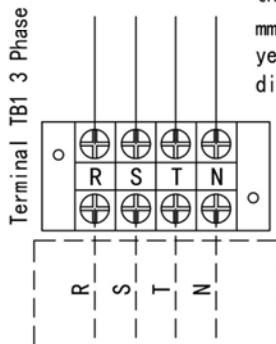
D18	Forced Heating Switch	COM1	Rs485
D17	Gnd	AC-L/N	Firewire Input
COM4	P_b Water Pump PWM	COM6	P_a Water Pump PWM

Wire Diagram



Power Supply:230V/50Hz

The neutral and live wires are copper:
the wire diameter is not less than 6 mm², and the earth wire is a special yellow/green earth wire with a wire diameter of not less than 2.5mm².

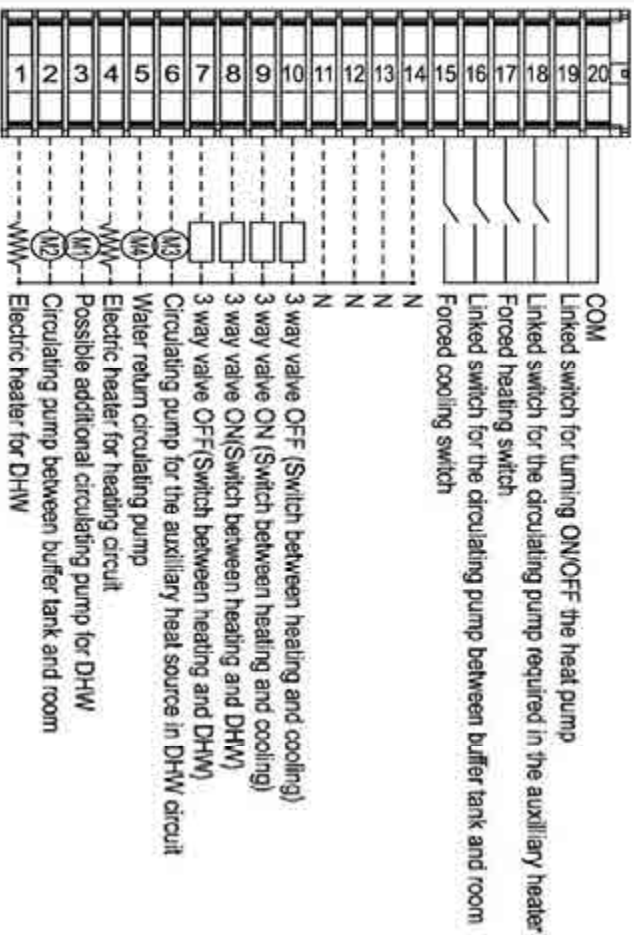


Power supply specification:
380~415V/50Hz

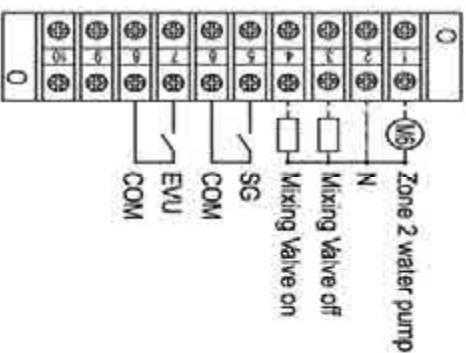
Neutral, live wire copper
wire: wire diameter is not
less than 6mm²

WIRING BY USER ONSITE

XT1



XT4



Commissioning and Maintenance

1. Precautions Before Commissioning

- 1.1 Is the machine adequately installed?
- 1.2 Is the wiring and pipe correct?
- 1.3 Whether the water pipelines are empty or not?
- 1.4 Whether the heat insulation has been perfected?
- 1.5 Is the ground wire connected reliably?
- 1.6 Whether the power supply voltage matches the rated voltage of the machine?
- 1.7 Is there any obstacle in the air inlet and outlet of the machine?
- 1.8 Is the safety valve installed correctly?
- 1.9 Whether the leakage protector can operate effectively?
- 1.10 The system water pressure is not less than 0.15 MPa, and the maximum pressure cannot exceed 0.5 MPa;
- 1.11 In winter, the machine needs to be energized at least 24 hours before the operation, as the compressor needs to be preheated.

2. Commissioning

Use the controller to control the machine and check the following items according to the instruction manual: (If there is any fault, please find out the faults and reasons described in the manual and eliminate them)

- 2.1 Is the controller regular?
- 2.2 Is the function key of the controller regular?
- 2.3 Is the drainage normal?
- 2.4 Test whether the heating mode and cooling mode are working correctly;
- 2.5 Is the outlet water temperature average?
- 2.6 Whether there is vibration and abnormal sound during operation?
- 2.7 Does the generated wind, noise, and condensate affect neighbours?
- 2.8 Is there a refrigerant leakage?

3. Operation and Debugging

3.1 About 3mins of protection

Due to the self-protection of the compressor, the machine cannot be restarted again within 3 mins.

3.2 Feature of heating operation

If the ambient temperature is too high during operation, the outdoor motor may run low or stop.

3.3 In the case of heating operation, when the unit has frost formation, the defrosting procedure (about 2-8 minutes) is automatically performed to improve the heating effect. The outdoor motor stops running during the “defrost” operation.

3.4 Power Outage

If there is a power outage during operation, the machine will stop running. Before the power outage, the controller automatically memories the ON/OFF status of the device. After re-powering, the controller will send an ON/OFF signal to the device according to the state of memory before the power outage to ensure that the device recovers from the previous status from abnormal power failure.

3.5 Heating Capacity

Because the heat pump absorbs heat from the outside, the heating capacity will be reduced once the outdoor temperature is lowered.

3.6 Electric Leakage Protector

After the unit has been running for some time (usually one month), the leakage protector needs to press the test button under the closed energized state to check whether the performance of the leakage protector is regular and reliable (the leakage protector should be disconnected once every time the test button is pressed). If the accident is not found, the test can be sent once. If it is not working, the cause should be found, and if necessary, the action characteristic test should be carried out. After checking, it is confirmed that the leakage protector itself has failed. It should be replaced or repaired in time.

3.7 Working Temperature Range

To use the machine correctly, please operate under the following conditions, outdoor temperature: - 30 °C ~ 45 °C for heating mode, 16 °C ~ 45 °C for cooling mode.

3.8 Antifreeze in the winter

When the ambient temperature is below 0 °C, it is strictly forbidden to cut off the power. If there is an unexpected power failure under this condition, please drain the water from the heat.

4. Maintenance

1. Please check whether the grounding wire is connected reliably before use. If there is any abnormality, please replace it in time.
2. Please check the air inlet and outlet of the outdoor unit regularly for blockage.
3. Professionals must clean the outdoor unit heat exchanger, casing, and water circulation piping. It is recommended to clean the filter of the waterside filter regularly (cleaning is usually done once a year, depending on the actual situation).
4. Regularly check that the safety valve is working correctly, and ensure that the drain can be drained normally by manually turning the red knob (usually once every three months, depending on the actual situation).
5. Regularly (usually once a year, but depending on the actual situation) check whether the water pipe joint and the refrigerant connection pipe are leaking or leaking refrigerant (there are oil leakage marks). If there is any leak, please contact the seller.
6. The machine can only be serviced by a professional. The device must be cut off before contacting the wiring part.
7. Once the machine will not be used for a long time, please cut off the power, drain the water in the pipeline, and close each valve.

Error code	Fault Description	Failure Causes
E01	Wrong-Phase Protection	Power supply phase sequence error
E02	Power Supply Lack Of Phase	The power supply is out of phase
E03	Outside Water Flow Switch Fault	<ol style="list-style-type: none"> 1. Circulating pump failed, or water system blocked 2. Water flow switch failed, or opposite installed direction 3. The lift of the circulating pump is not enough 4. Circulating pump has opposite installed direction
E04	Abnormal Communication Between The Main Control Board And Remote Module	Check the communication connection
E05	High-Pressure Switch One Fault	<ol style="list-style-type: none"> 1. High-voltage switch failed 2. Excessive refrigerant 3. Fan doesn't work typically, or water circulated abnormally 4. Air or other objects mixed into the refrigeration system 5. Too much scale in the water heat exchanger
E06	Low-Pressure Switch One Fault	<ol style="list-style-type: none"> 1. Low-voltage switch fault 2. Lack of refrigerant 3. Fan doesn't work normally 4. Block exists in refrigeration system
E07	High-Pressure Switch Two Fault	Same as E05
E08	Low-Pressure Switch Two Fault	Same as E06
E10	Indoor Side Water Flow Failure	Same as E03
E11	Limited Time Protection	Enter the power-on password
E12	Exhaust Gas Temperature One Too High Fault	Lack of refrigerant in the fluorine circuit system or sensor damage
E13	Exhaust Gas Temperature Two Too High Fault	Lack of refrigerant in the fluorine circuit system or sensor damage

E14	Hot Water Tank Temperature Failure	Damaged motherboard or sensor
E15	Water Inlet Temperature Sensor Failure	Damaged motherboard or sensor
E16	Coil Sensor One Failure	Damaged motherboard or sensor
E17	Coil Sensor Two Failure	Damaged motherboard or sensor
E18	Exhaust Gas Sensor One Fault	Damaged motherboard or sensor
E19	Exhaust Gas Sensor Two Fault	Damaged motherboard or sensor
E20	Indoor Temperature Sensor Failure	Damaged motherboard or sensor
E21	Environmental Sensor Failure	Damaged motherboard or sensor
E22	User Return Water Sensor Failure	Damaged motherboard or sensor
E23	Cooling Subcooling Protection	Normal anti-freeze protection
E24	Board Change Out Temperature Fault	Damaged motherboard or sensor
E25	Water Level Switch Malfunction	Damage to the mainboard or water level sensor
E26	Anti-Freeze Sensor Malfunction	Damaged motherboard or sensor
E27	Water Outlet Sensor Failure	Damaged motherboard or sensor
E28	Reservation	Reservation
E29	Return Air Sensor One Fault	Damage to the mainboard or water level sensor
E30	Return Air Sensor Two Fault	Damage to the mainboard or water level sensor
E31	Water Pressure Switch Failure	Water pressure switch failure
E32	Excessive Water Temperature Protection	Insufficient water flow or a damaged sensor
E33	High Pressure One Sensor Fault	Damaged motherboard or sensor
E34	Low Pressure One Sensor Fault	Damaged motherboard or sensor
E35	Reservation	Reservation

E36	Reservation	Reservation
E37	The Excessive Temperature Difference Between Inlet And Outlet Water Protection	Insufficient water flow
E38	DC Fan One Failure	Fan drive board or motor damage
E39	DC Fan Two Failure	Fan drive board or motor damage
E40	DC Fan Three Failure	Fan drive board or motor damage
E41	DC Fan Four Failure	Fan drive board or motor damage
E42	Cooling Coil Sensor One Fault	Damaged motherboard or sensor
E43	Cooling Coil Sensor Two Fault	Damaged motherboard or sensor
E44	Low Ambient Temperature Protection	It is a standard protection
E45	High Pressure Two Sensor Failure	Damaged motherboard or sensor
E46	Low Pressure Two Sensor Failure	Damaged motherboard or sensor
E47	Economizer Inlet Sensor One Failure	Damaged motherboard or sensor
E48	Economizer Inlet Sensor Two Failure	Damaged motherboard or sensor
E49	Economizer Outlet Sensor One Failure	Damaged motherboard or sensor
E50	Economizer Outlet Sensor Two Failure	Damaged motherboard or sensor
E51	High Pressure One Overvoltage Protection	Same as E05
E52	Low-Pressure One Undervoltage Protection	Same as E06
E53	High-Pressure Two Overvoltage Protection	Same as E05
E54	High Pressure Two Undervoltage Protection	Same as E06
E55	Expansion Board Communication Exception	Poor or broken signal cable contact
E80	Power Supply Error	Single-phase power unit detects a three-phase electrical signal.

E88	Inverter Module 1 Protection	Compressor or compressor driver board damaged
E89	Inverter Module 2 Protection	Compressor or compressor driver board damaged
E94	Water Pump Feedback Failure	Damaged DC pump or poor signal line contact
E96	Abnormal Communication between Compressor One Driver and Main Control Board	Poor or broken signal cable contact
E97	Abnormal Communication between Compressor Two Driver and Main Control Board	Poor or broken signal cable contact
E98	Abnormal Communication between Fan Motor One Driver and Main Control Board	Poor or broken signal cable contact
E99	Abnormal Communication between Fan Motor Two Driver and Main Control Board	Poor or broken signal cable contact

Fault Protection Instructions

1. The machine stops running when a fault is detected;
2. When the fault is removed, the compressor is shut down for three minutes before the machine can be put back into operation;
3. If there are three consecutive low-pressure faults, high-pressure fault, over the current spot, and gas exhaust temperature too high within 30 minutes, the machine will immediately stop running. After the fault is rectified, turn the power on again, start the controller, and the device can be put into operation.
4. If the machine stops running due to the inlet water temperature sensor or the coil temperature sensor fault due to compressor protection, the device will have to be back into operation 3mins later after the spot is removed. If the ambient temperature sensor fails, the machine continues to run.

Maintenance Instructions

1. The machine is equipped with an inspection needle valve on the suction and exhaust pipes. The maintenance personnel can connect the pressure gauge to check the high and low-pressure conditions of the system.

2. If the machine is filled with refrigerant under operating conditions, the refrigerant must be served at the needle valve of the low-pressure side. Suppose the refrigerant is added to the suction side. In that case, the refrigerant opening must be small so that the refrigerant in the refrigerant bottle slowly enters the system to prevent liquid slamming.
3. Refrigerant leakage detection
Check if there is any leakage at the joints with soapy water or a refrigerant leak detector. When a refrigerant leak occurs, the leak point must be found, and the leak point must be repaired. Please ensure no refrigerant or other pressures are left in the system when improving the leak point. Otherwise, it will easily cause copper pipe explosive during welding. The tube is blasted by refrigerant pressure or additional pressure, causing accidental injury to the operator.
Note: When refrigerant leakage occurs in a small space, open all vents or forced ventilation to discharge the refrigerant before performing related operations to prevent people from suffocating accidents.

Specification

Model:			8S-R290	12.1S-R290	15.2S-R290	21.9S-R290
Power Supply		V/Ph/ Hz	220~240/1/ 50	220~240/1/ 50	220~240/1/ 50	220~240/1/ 50
Nominal Heating (Max) (A7/6°C, W30/35 °C)	Heating Capacity	kW	2.92~9.10	4.10~12.10	4.3~15.20	7.24~21.90
	Power Input	kW	0.61~2.11	0.79~2.85	0.87~3.73	1.50~5.88
	Current Input	A	2.80~9.25	3.45~13.04	4.02~16.38	6.86~30.25
Nominal Heating (Max) (A7/6°C, W47/55 °C)	Heating Capacity	kW	2.99~8.16	4.05~12.15	4.25~14.55	6.36~19.45
	Power Input	kW	1.03~2.92	1.38~4.06	1.45~4.28	2.15~6.85
	Current Input	A	4.57~12.79	6.71~18.80	6.71~18.80	9.84~30.12
Nominal Cooling (Max) (A35/24 °C, W12/7°C)	Cooling Capacity	kW	1.38~5.70	3.65~8.59	3.65~11.04	4.55~17.20
	Power Input	kW	0.67~2.44	1.12~3.31	1.12~3.97	1.85~7.31
	Current Input	A	3.06~10.27	5.18~14.47	5.18~17.44	8.47~32.1
ERP Level (Outlet water temp. at 35°C)		/	A+++	A+++	A+++	A+++
MAX. input power		kW	3.5	5.40	5.4	7.5

MAX. input current	A	15.0	25.0	25.0	35.0
Refrigerant / Weight	KG	R290/0.55	R290/1.05	R290/1.05	R290/1.40
Rated water flow	m ³ /h	1.00	1.40	1.80	3.00
Fan quantity	/	1	1	1	2
Fan motor type	/	DC inverter			
Compressor	/	DC inverter			
Circulating pump	/	Inverter type / Built-in			
IP Class	/	IPX4			
Sound pressure at 1m distance	dB(A)	46	53	53	56
Max outlet water temperature	°C	75	75	75	75
Water piping connections	/	DN 25 (1")	DN 25 (1")	DN 25 (1")	DN 32 (1-1/4")
Water Pressure drop(max)	kPa	20	25	25	60
Operating temperature range (Heating mode)	°C	-25~45			
Operating temperature range (Cooing mode)	°C	16~45			
Unpacked Dimensions (L×D×H)	mm	1187*418*805	1287*448*904	1287*448*904	1187*488*1455

Packed Dimensions (L×D×H)	mm	1217*463* 920	1317*493* 1020	1317*493* 1020	1217*538* 1570
Unpacked Weight	kg	90	110	110	145
Packed Weight	kg	115	125	125	160

Model :			12.1T-R290	15.2T-R290	21.9T-R290
Power Supply		V/P h/Hz	380~415/3/5 0	380~415/3/50	380~415/3/50
Nominal Heating (Max) (A7/6°C,W 30/35°C)	Heating Capacity	kW	4.10~12.10	4.3~15.20	7.24~21.90
	Power Input	kW	0.79~2.85	0.87~3.73	1.5~5.88
	Current Input	A	1.62~4.57	1.78~6.04	2.82~9.16
Nominal Heating (Max) (A7/6°C,W 47/55°C)	Heating Capacity	kW	4.05~12.15	4.25~14.55	6.36~19.45
	Power Input	kW	1.38~4.06	1.45~4.28	2.15~6.85
	Current Input	A	2.70~6.43	2.84~6.78	3.71~10.60
Nominal Cooling (Max) (A35/24°C, W12/7°C)	Cooling Capacity	kW	3.65~8.59	3.65~11.04	4.55~17.20
	Power Input	kW	1.12~3.31	1.12~3.97	1.80~7.31
	Current Input	A	1.97~5.25	1.97~6.30	2.99~11.26
ERP Level (Outlet water temp. at 35°C)		/	A+++	A+++	A+++

MAX. input power	kW	5.85	5.85	10.5
MAX. input current	A	10.0	10.0	17..00
Refrigerant / Weight	KG	R290/1.05	R290/1.05	R290/1.40
Rated water flow	m ³ /h	1.40	1.80	3.00
Fan quantity	/	1	1	2
Fan motor type	/	DC inverter		
Compressor	/	DC inverter		
Circulating pump	/	Inverter type / Built-in		
IP Class	/	IPX4		
Sound pressure at 1m distance	dB(A)	54	54	56
Max outlet water temperature	°C	75	75	75
Water piping connections	/	DN 25 (1")	DN 25 (1")	DN 32 (1-1/4")
Water Pressure drop(max)	kPa	25	25	60
Operating temperature range (Heating mode)	°C	-25~45		
Operating temperature range (Cooing mode)	°C	16~45		
Unpacked Dimensions (L×D×H)	mm	1287*448*904	1287*448*904	1187*488*1455
Packed Dimensions (L×D×H)	mm	1317*493*1020	1317*493*1020	1217*538*1570
UnPacked Weight	kg	110	110	145

Packed Weight	kg	125	125	160
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Note : We reserves the right to discontinue, or change at any time, specifications or designs without notices and without incurring obligations

After-sale Service

Relevant state regulations carry out the after-sales service of our products. Within the scope of the warranty period, If the machine is not working correctly under reasonable use, please contact the seller.

The user must designate a person to manage and use the unit reasonably and correctly by our company’s “Instructions for Use.” Accidents caused by improper use are not covered by our company’s warranty, and the repair costs and repair costs beyond the warranty period must be taken care of by the user.

1. After-sale Service

The seller or the specified professional installer should perform maintenance and repair. Improper maintenance or repair may result in water leakage, electric shock, and fire.

- 1.1 Please contact the seller when the machine has to be moved or reinstalled. Improper installation may result in water leakage, electric shock, and fire.
- 1.2 When you need after-sales service, please contact the seller and provide the following details:
 - 1) Model No.
 - 2) Serial Number and Manufacture Date
 - 3) Detailed Description of the fault
 - 4) Your name, Address, and Contact Number

If the warranty period is expired or the malfunction is caused by improper use, the company will charge a certain service fee if you need after-sales service.

2. Maintenance

After a period of use, the heat pump's performance will be reduced due to the accumulation of dust inside the machine, so maintenance is required.

- 1) You should regularly check the water supply system to avoid the air entering the water system and the occurrence of low water flow, which would reduce the performance and reliability of the heat pump.
- 2) Clean your filtration system regularly to avoid unit damage because of a dirty or clogged filter.
- 3) Discharge the water from the bottom of the water pump if the heat pump will stop running for a long time (especially in winter)
- 4) At any other moment, check the water flow to confirm enough water before the unit starts to run again.
- 5) After the unit is conditioned in winter, it is preferred to cover the team with a unique winter heat pump cover.