



**10 - 36 KW**

**EV TİPİ ISI POMPALARI  
HEAT PUMP RESIDENTIAL**



**Kullanım Kılavuzu**  
**Instruction Manual**

**CE**

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## Introduction

Thank you for your trust in our company, choose our EVI DC inverter air source heat pump (cold water) unit.

This instruction manual contains the information necessary for the correct installation, setting up, starting and maintenance of the machine. Please read this manual carefully before opening or repairing the machine.

- 1) When installing the unit and piping connection, please strictly follow this instruction manual.
- 2) After the piping and wiring completed, then connect the power supply after confirmation and put into use.
- 3) After installation, the installation personnel shall explain to the user how to correctly use and maintain the unit according to the operation instructions, and then please read and keep the operation instructions carefully and use the unit in strict accordance with the instructions.
- 4) If the unit or water tank is installed in a place prone to lightning strikes, please be sure to take and implement anti-lightning measures.
- 5) When the ambient temperature is below 0°C, do not cut off the power supply. In case of accidental power failure or power failure for maintenance under such conditions, please drain the water in the unit in time to avoid freezing the heat exchange components in the unit.

Our company shall not be liable for any personal injury or machine damage caused by improper installation, debugging, unnecessary maintenance or non-compliance with the provisions and instructions in this manual.

Warranty coverage must meet the following conditions:

- 1) The startup and commissioning of the unit must be carried out by professional maintenance personnel of our company's maintenance service center or special personnel of our company.
- 2) The operation and maintenance of all units stipulated in this manual must be carried out in strict accordance with the prescribed time and frequency.
- 3) Can only use various spare parts provided by our company.

◆If any of the above conditions are violated, the warranty will automatically become invalid.

◆This content is subject to change without prior notice if the machine is improved.

## 1. Safety precautions

In order to prevent damage to the personal property of the user and others, and to use the unit correctly and safely, please read the important contents in this instruction manual carefully. Fully understand the following content (logo icon) before reading the text and follow the following precautions.



(1) Appliances shall be installed in accordance with national wiring specifications.

Power connections must be installed in accordance with the national wiring specifications, and professional electrical personnel must be installed in accordance with the regulations of the local electric company. Electrical installation must comply with the relevant electrical standards.

(2) An all-pole disconnect safety device must be installed between the unit and the customer power supply. The fixed line must be equipped with an all-pole disconnect device with a minimum of 3mm contact spacing.

(3) If the cord is damaged, it must be replaced by the manufacturer or maintenance department or similar professional personnel to avoid danger.




(4) Marking description

Identification	The meaning of identification.
 Warning	Mis-operation use may result in death or serious injury.
 Warning	Mis-operation use may cause injury or material loss.




▲What called injury is absence of hospitalization, long-term treatment; refers to injury, burn, electric shock



▲Material loss refers to the loss of property and materials




### (5) Icon description



Icon	The meaning of an icon.
	Indicates forbidden. The forbidden space is in or near the icon with graphics or text.
	Forcible execution, the specific forcible content in or near the icon with graphics or text.
	Attention include warnings, which are shown in graphics or text in or near the icon.





### (6) Warning

Installation warning.	 Entrust professional installation.	Entrust professional installation. Other personnel installation may cause incomplete installation, resulting in water leakage, electric shock or fire.
	 Verify the ground cable.	Verify that the ground cable is properly grounded. If the grounding is not perfect, it may cause electric shock.
	 Do not exceed the limit concentration measures	When installed in a small room, should be implemented, take certain measures to prevent refrigerant leakage once more than the limit depth caused by asphyxiation. Please consult dealers for specific measures.

Use warning	 Stop	Do not stick fingers, sticks, etc. into the outlet or intake. Because the internal wind turbine is running at high speed, there is a possibility of injury.
	 Cut off the manual source switch	When an anomaly occurs, the odor is burnt, should immediately cut off the manual power switch, stop operation and contact the dealer. If it continues to operate abnormally, it may cause electric shock or fire.

Move repair warning	 Entrust	When the air conditioner needs to be moved and installed, please entrust dealers or professionals to implement. If the installation is not perfect, it may cause electric shock, fire, injury, water leakage and other accidents.
	 Prohibited	Must not be reformed and repaired by oneself, otherwise easy to cause electric shock or fire.
	 Entrust	If need to repair, please entrust dealers or professionals. If not repaired properly, it may cause electric shock, fire, injury, water leakage and other accidents.

Installation precautions	 Confirm the installation site.	Do not install it in a place where combustible gas is easily leaked. If flammable gas leaks, it may cause a fire.
	 Confirm the leakage protection switch.	Confirm that the leakage protection switch is installed, if the leakage protection switch is not installed, it may cause electric shock or fire.

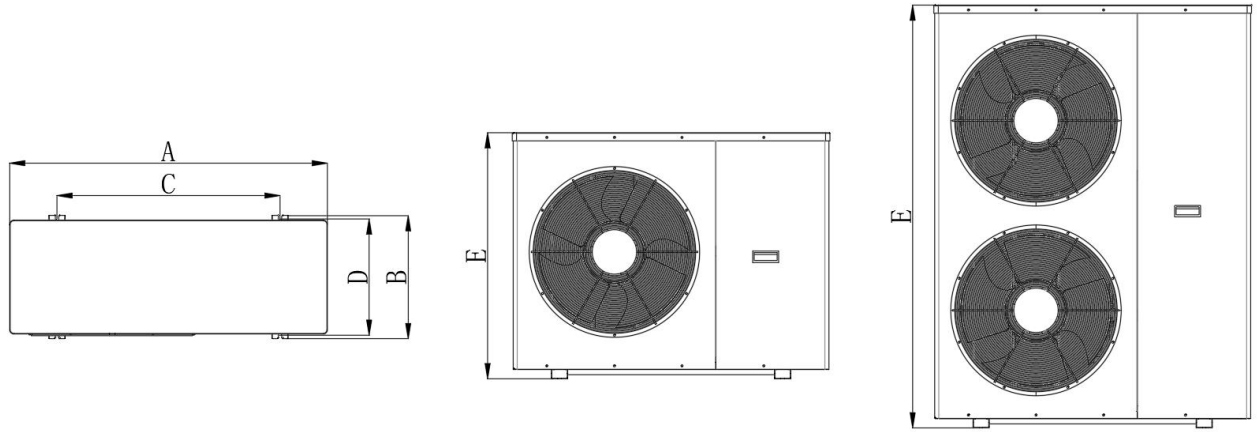
Use Precautions	 Check the installation table	When long-term use, to check whether the installation table is firm and intact. If the installation platform is damaged or unstable, the outdoor unit may fall, causing casualties.
	 Cut off the manual power switch	When cleaning, you must stop running. Cut off the manual power switch. If you do not stop the operation, the internal wind wheel may run at high speed, which may cause injury.
	 Prohibited	Do not use the appropriate fuse, If copper wire or iron wire is used, it may cause failure or fire..
	 Prohibited	Do not use the appropriate fuse, If copper wire or iron wire is used, it may cause failure or fire..

## 2. Unit specifications

### 2.1. Unit performance parameter table

MODEL	FEIHC24S3	FEIHC30S3
Power input [V/PH/Hz] <sup>1)</sup>	380-415V,3N~/50Hz 60HZ	380-415V,3N~/50Hz 60HZ
SCOP(Average)	4.9	4.9
<b>Heating Capacity</b>		
Heating Capacity Range :	8266 ~ 27333 W	10332 ~ 34166 W
Heating condition: air DB/WB 7/6°C, water in/out 30/35°C		
Heating capacity [kW]	24	30
Input power [kW]	5.2	6.5
Input current [A]	8.56	10.70
COP	4.62	4.62
Heating condition: air DB/WB 7/6°C, water in/out 50/55°C		
Heating capacity [kW]	21.7	27.16
Input power [kW]	7.5	9.4
Input current [A]	12.2	15.19
COP	2.89	2.89
<b>Cooling Capacity</b>		
Cooling Capacity Range :	7333 ~ 23333 W	9166 ~ 29166 W
Cooling condition: air DB 35°C, water in/out 12/7°C		
Cooling capacity [kW]	20.00	25
Input power [kW]	6.57	8.21
Input current [A]	10.62	13.28
EER	3.04	3.04
<b>Hot Water Capacity</b>		
Hot Water Capacity Range :	9938 ~ 32800 W	12422 ~ 41000 W
Heating condition: air DB/WB 20/15°C, water from 15°C to 55°C		
Heating capacity [kW]	32.8	41
Input power [kW]	7.16	8.95
COP	6.11	7.64
Max running current [A]	20.4	25.3
Noise [dBA]	54.0	67.5
Refrigerant	R32	
Water flow [m3/h]	4	5
min-max range of water flow[m3/h]	2-5.6	2.5-7

2.2. Overall size of the unit



Units:mm

Size \ Model	FEIHC24S3	FEIHC30S3
A	1175	1175
B	455	455
C	825	825
D	429	429
E	1560	1560

### 3. Receiving and handling of the unit


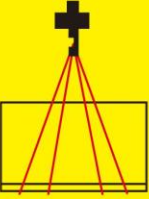

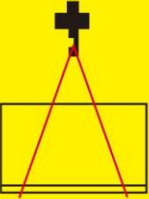
3.1. Upon receipt of the goods, please check the goods carefully to ensure that the goods are not damaged during transportation, that screws are loose, and that all spare parts have been received. If damaged, reject the goods


3.2. Select a proper transport or transport tool based on the size and weight of the unit. You can use a forklift, flat truck, or platform truck, as shown in Figure 1-1.

**⚠ WARNING**


**Matters needing attention**

1. When hoisting equipment, lifting equipment with sufficient load free must be selected according to the weight of the equipment, and over load operation is strictly prohibited.
2. When hoisting the equipment, the distance between the suspenders should be adjusted as required, so that the load of each suspender is balanced, and the equipment should not be deflected to avoid slipping to one side during hoisting.
3. When hoisting equipment, lifting equipment with sufficient load free must be selected according to the weight of the equipment, and overload operation is strictly prohibited.
4. When hoisting equipment, it is forbidden to use steel wire rope for hoisting. Hoisting belts of appropriate specifications should be used for hoisting.
5. When the equipment is 20 cm off the ground, the cable man and the signal man shall check again whether the sling is firm and whether the equipment is inclined.
6. Please refer to relevant national regulations for other precautions.







Upward




Fragile items



Fear of wet




Prevent rolling



Prohibit stacking

**Matters needing attention**

1. For forklift equipment, the forklift with sufficient load must be selected according to the weight of the equipment, and overload operation is strictly prohibited.
2. When forklift equipment is loaded, the spacing between the two cargo forks should be adjusted as required to balance the load between the two forks and avoid deviation, so as to avoid the equipment slipping to one side when the forklift is running.
3. When forklifting equipment, the cargo fork should be placed under the base of the equipment and pass through the cargo completely to prevent the equipment from rolling forward.
4. It is forbidden to work with a single fork or use a fork to top things and pull things.
5. Please refer to relevant national regulations for other precautions.



3.3. The following points should be noted in the loading and unloading process:

① During loading and unloading, the distribution pipe or manifold pipe of the unit shall not be used as the support point of the crane.

② Do not remove the protective layer at the nozzle of the coil before installation and nozzle.

③ Retain the liner and protective coating of the unit until final positioning or assembly of the unit.

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#### **4. Unit storage**

4.1. Choose a flat dry place for storage, and avoid vibration and pressure of the unit to prevent damage to the box or components.

4.2. The unit is packaged with plastic protective film when leaving the factory. During the transportation process or acceptance inspection, these protective film may be damaged. Therefore, the unit should be covered with tarpaulin or plastic film and extended to the bottom of the unit.

#### **5. Unit installation**

5.1. Before installing the unit, check that the installation conditions are met on site before unpacking the unit. The equipment room should be kept clean, the installation foundation of the unit should be smooth and complete, and the size should meet the installation requirements of the unit.

5.2. After unpacking, check the equipment parts, auxiliary materials and technical data according to the packing list, and check whether the product nameplate and certificate are clear and correct.

5.3. Before installation, the appearance and important parts should also be inspected to check whether the appearance of the unit is damaged, whether the inspection door and the sealing surface are intact, whether the main parts in the machine are complete and intact, and whether they are loose.

5.4. Relevant personnel should be familiar with drawings, installation instructions and various warning marks on the surface of the unit before installation

5.5. The above inspection process shall be jointly attended by the supplier and the owner.

5.6. After completing the above inspection procedures, the unit can be installed. The installation procedures are as follows:

1) Check that there is sufficient space around the unit for maintenance.

2) Make sure that the mounting base or hoisting bracket of the unit can support the operating weight of the unit and keep the unit level.

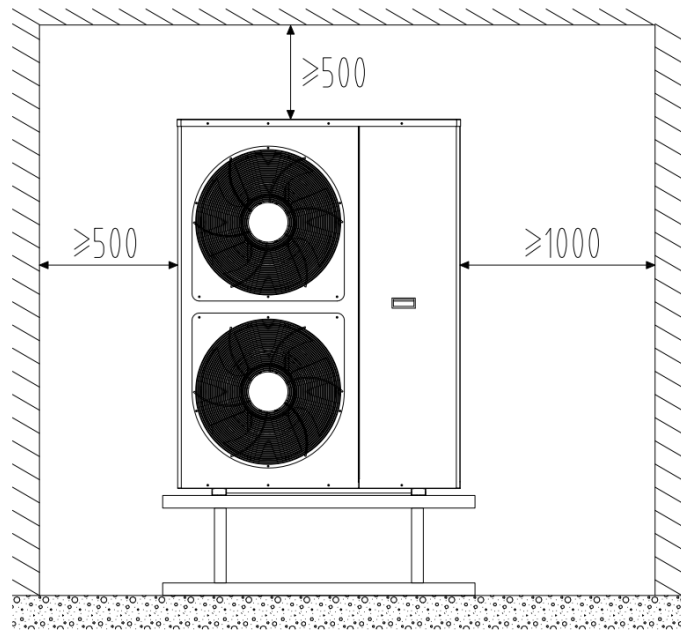
3) For floor-based units, ensure that the unit base is uniformly flat (the height of the base should be able to enable the unit to install appropriate water seals to ensure smooth condensate water drainage), and then place the unit on the foundation, after leveling and straightening, the unit bottom frame and the foundation are firmly fixed.

4) For the hoisting unit, ensure that the hoisting bracket is stable and firm, and the position is correct. Double nuts should be used to tighten the connection between the derrick and the unit, and levelled and aligned so that each lifting point is evenly stressed.

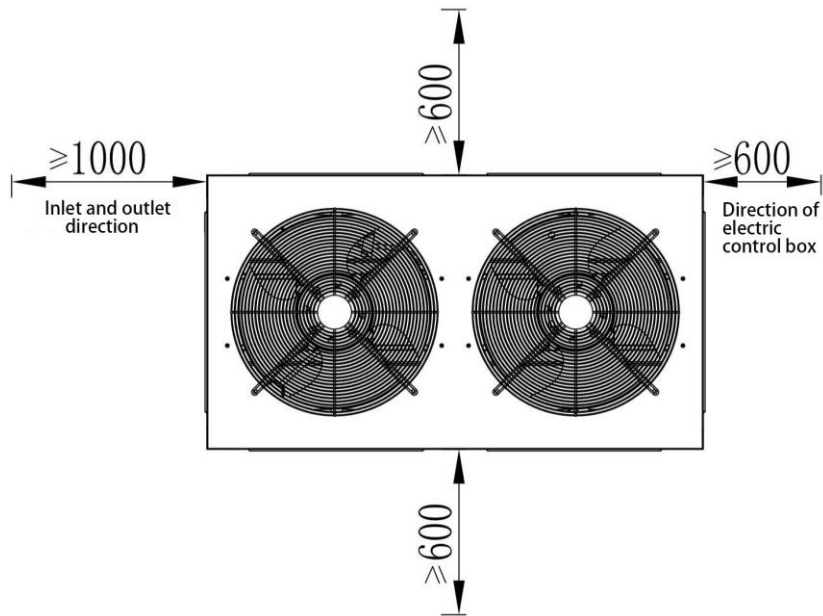
5.7. Unit installation space requirements:

The unit can be installed individually or in combination. When multiple units are installed, pay attention to their arrangement to ensure that the space around the unit does not affect the installation of return air, outlet air, system pipeline direction, and other equipment. The following arrangement is for reference only, the specific situation depends on the site.

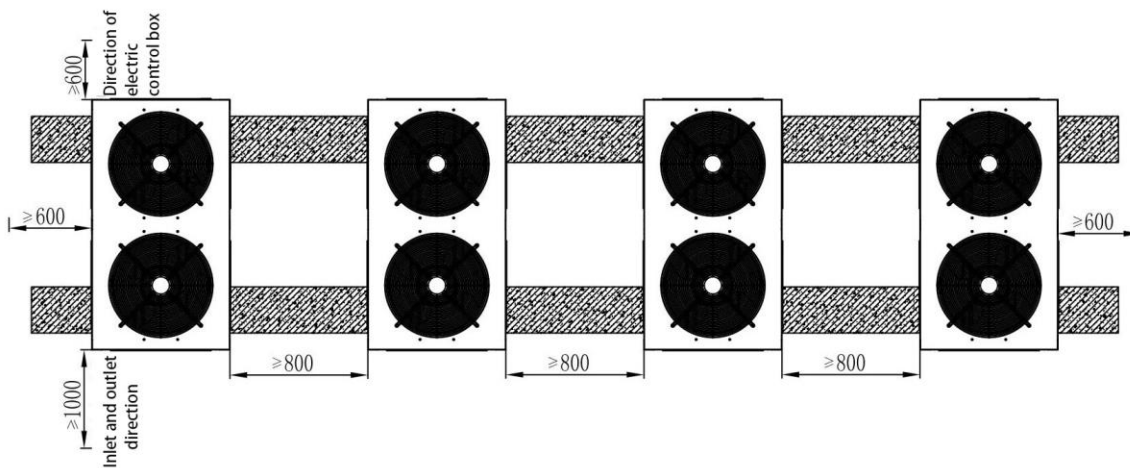
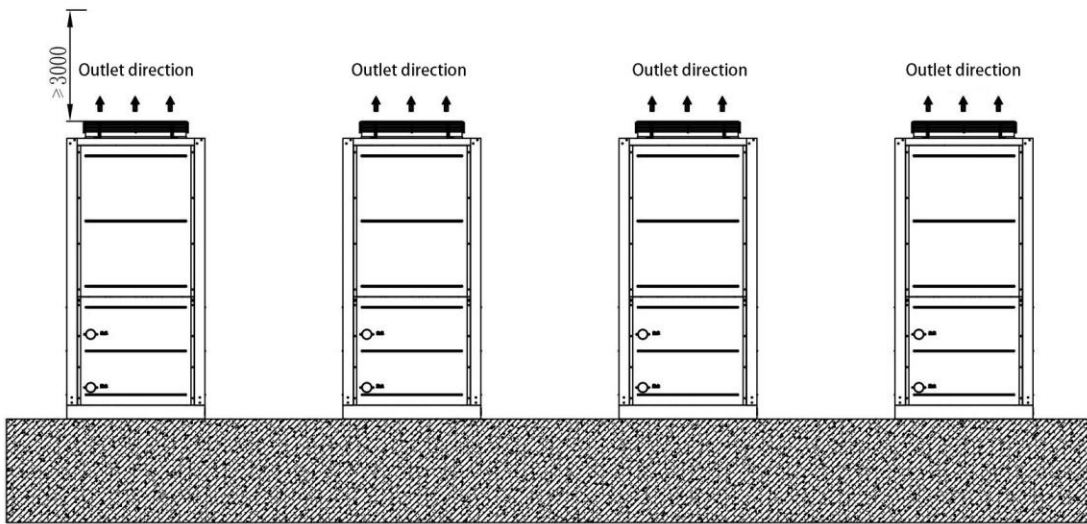
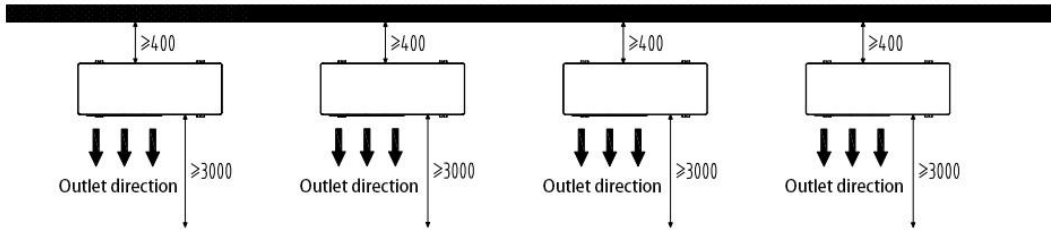
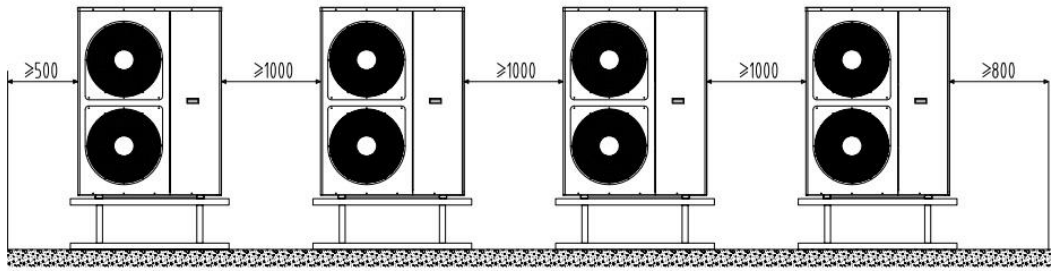
Installation space of a single unit: (Unit: mm)



The side air outlet unit shall be no less than 300mm away from obstacles in the air inlet direction and no less than 3000mm away from obstacles in the air outlet direction



The height of obstacles around the upper air outlet unit shall not be higher than half of the height of the equipment, and the distance from the obstacles in the air outlet direction shall not be less than 3000mm  
 Installation space for multiple units: (Unit: mm)



## 5.8. Installation position of the unit

5.8.1. The support surface at the installation site of the unit is level and can bear the weight of the unit. The chassis of the unit must be supported during installation to ensure smooth drainage and ensure that operating noise, air discharge and condensate will not affect neighbors.

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5.8.2. The unit shall not be installed in places with corrosive gas, serious dust, salt spray, and inflammable and explosive products of the range hood.

5.8.3. The installation site is well ventilated, and the exhaust and suction channels of the unit shall ensure that the air discharged by the unit or the air discharged by other units is not sucked back to the unit; At the same time, there should be no obstacles on the exhaust and suction channels;

5.8.4. When installing the unit, it is strictly prohibited to install the unit in a place prone to strong wind or typhoon. Please take windproof, shockproof and other preventive measures according to the regulations, otherwise it may cause the unit toppling, falling and other accidents; If conditions permit, auxiliary equipment such as rain, snow and direct sunlight can be installed;

5.8.5. The installation site should be convenient for the installation of pipes and electrical connections. Please reserve enough space for the maintenance of the unit.

5.8.6. If it is installed on the hanging wall, drainage protection measures should be taken to prevent the water from falling because of low temperature in winter.

5.9. Unit fixing and installation of shock absorption device

5.9.1. For units that are not equipped with shock absorbers, users can choose suitable shock absorbers according to requirements. The installation methods are as follows:

5.9.1.1. Ensure that the flatness of the concrete foundation is within  $\pm 3\text{mm}$ , and then place the unit on the pad;

5.9.1.2. Raise the unit to a height suitable for installation of the damping device

5.9.1.3. Remove the fastening nut of the shock absorber;

5.9.1.4. Place the unit on the shock absorber so that the fixing bolt holes of the shock absorber are aligned with the fixing holes on the base

5.9.1.5. Reinstall the shock absorber fastening nut into the fixed hole on the frame and screw it into the shock absorber

5.9.1.6. Adjust the working height of the shock absorber seat, screw in the leveling bolt, must tighten the nut along the surrounding sequence for a week, so that the deformation of the shock absorber height adjustment is consistent;

5.9.1.7. The lock nut can be tightened after the correct working height is reached.

5.9.2. For units that provide vibration damping devices, the installation method is as follows:

5.9.2.1. Ensure that the flatness of the concrete foundation is within  $\pm 3\text{mm}$ , and then place the unit on the pad;

5.9.2.2. Raise the unit to a height suitable for installing the vibration damping device;

5.9.2.3. Place the unit on the shock absorber so that the fixing bolt holes of the shock absorber are aligned with the fixing holes on the base

5.9.2.4. Install the gasket and nut correctly and tighten the nut

## **6. Connection of water pipes**

6.1. After the unit is fixed, the inlet and outlet water pipes can be connected

6.2. The distribution pipe should be tested separately

6.3. According to the nominal pipe diameter of the unit to choose the appropriate water pipe, pipe design

should be as far as possible to reduce pipe resistance; The whole waterway system should be clean, no rust slag dirt, in order to prevent the blockage of the pipeline, pipe distribution should be tested after leakage, to ensure that the whole waterway system without leakage phenomenon, and then the pipeline insulation treatment;

6.4. The inlet and outlet pipes outside the unit should be insulated, and ensure that the pipes are filled with water when the unit is running

6.5. ; In the process of connecting the pipeline, prevent debris from staying in the pipeline system;

6.6. The water pump installed in the water pipe system should be equipped with a starter, and controlled by the unit; Water pump directly into the water heat exchanger unit;

6.7. Piping and fittings must have independent supports and should not be supported on the unit

6.8. The nozzle of the heat exchanger should be easy to disassemble, and installed with a valve, easy to operate and clean;

6.9. A filter of more than 40 mesh per inch shall be installed on site at the inlet of the water side heat exchanger and shall be insulated.

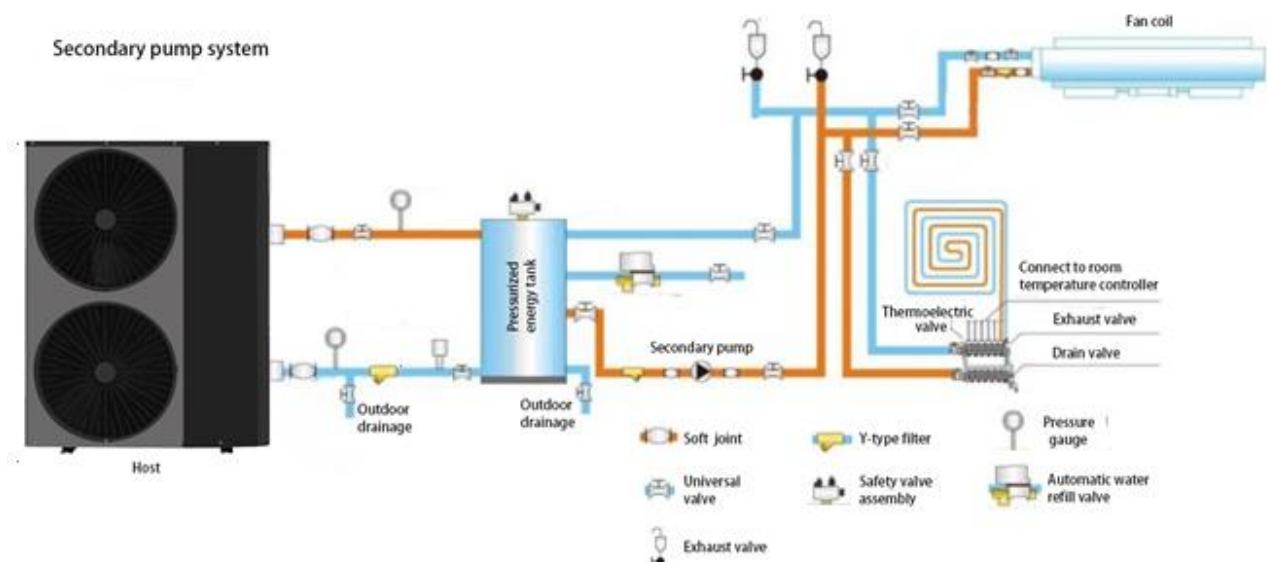
6.10. Flexible joints should be used between the water side heat exchanger interface and the field pipeline to reduce the vibration propagation to the building

6.11. In order to facilitate maintenance, thermometer and pressure gauge should be installed on the water side heat exchanger inlet and outlet pipes;

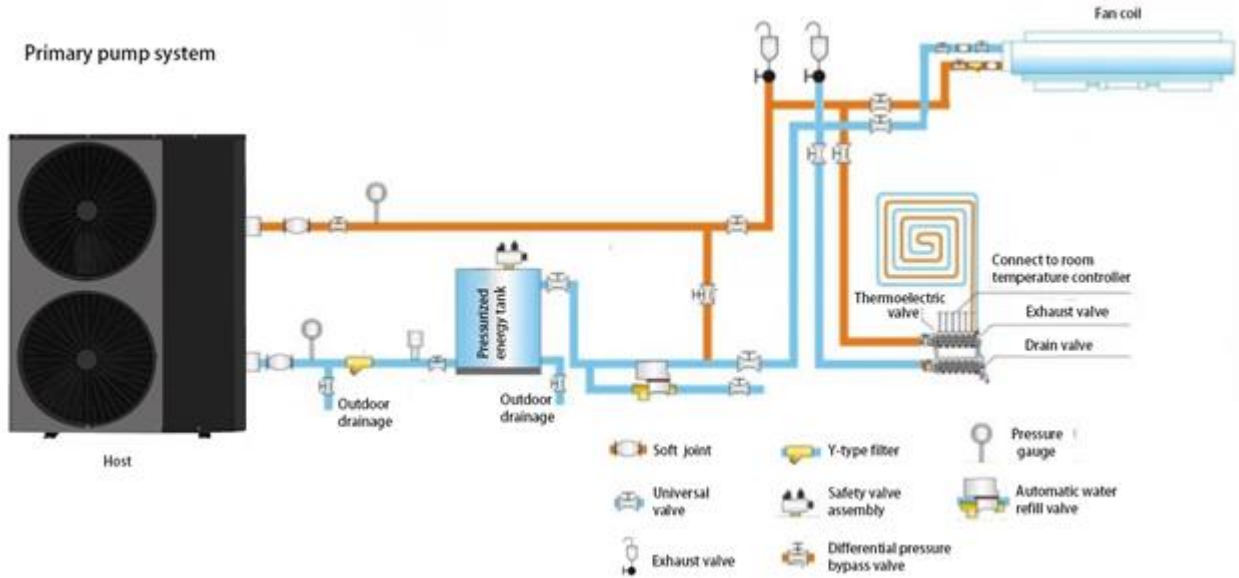
6.12. The inlet/outlet of the water side heat exchanger should be equipped with a drain valve, so that the water side heat exchanger can be independently descaled and emptied.

6.13. Connection diagram

**For house heating /cooling, and when heat pump is built-in water pump**

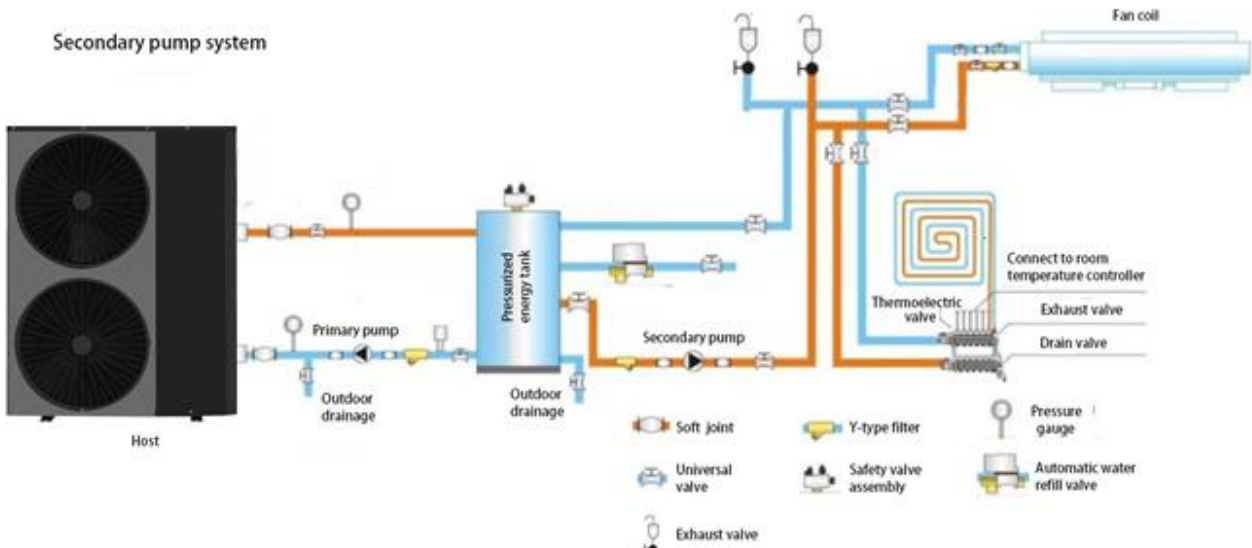


Primary pump system

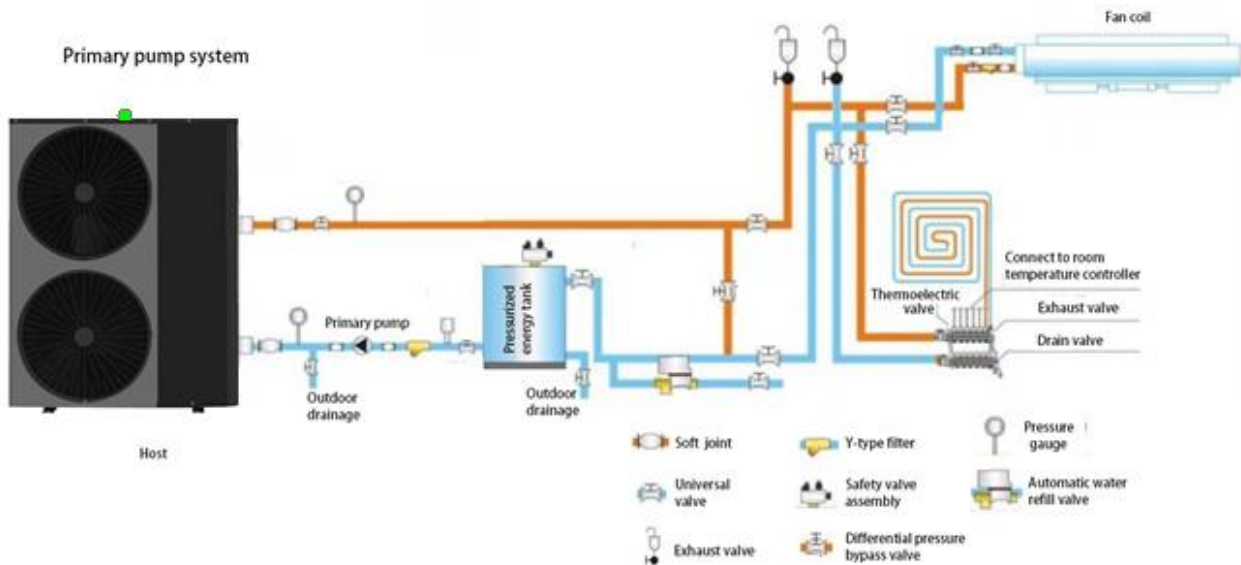


For house heating /cooling, and when heat pump is not built-in water pump

Secondary pump system

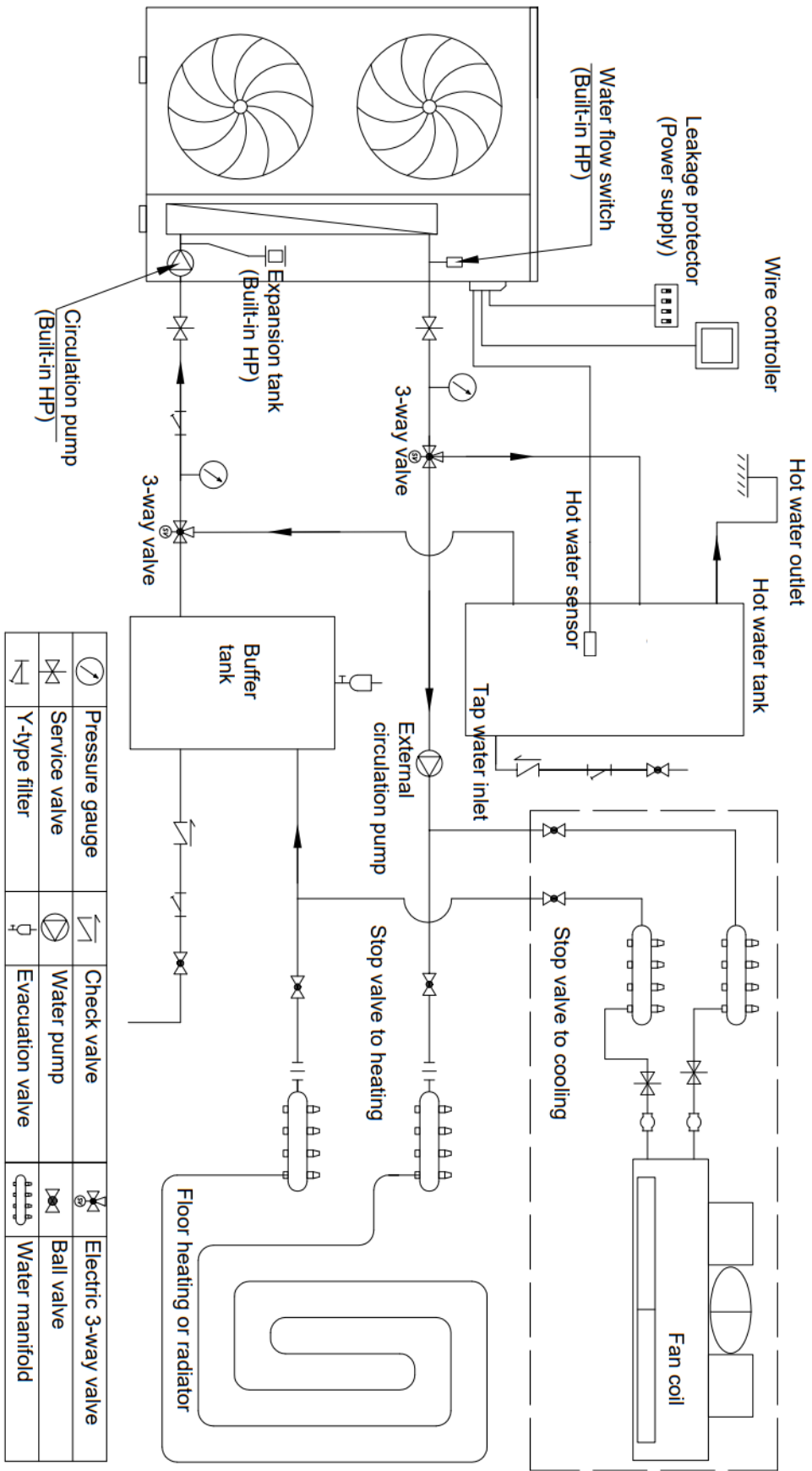


Primary pump system

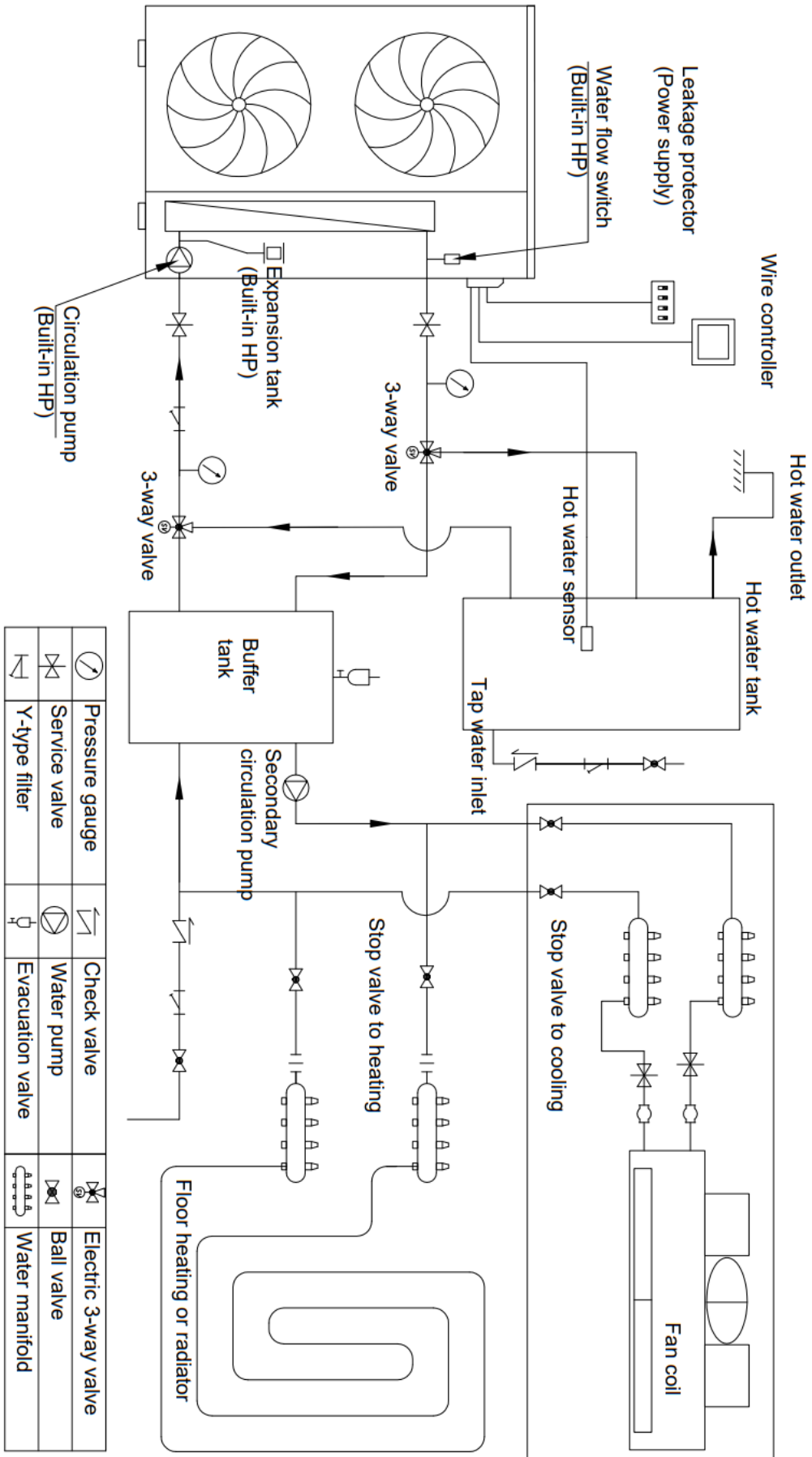


For house heating /cooling + domestic hot water, and when heat pump is built-in water pump

**Option 1: Primary pump system**



**Option 2: Secondary pump system (Recommend)**



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## 7. Water quality control

### 7.1. Water quality control

When hot and cold water use industrial water, very little scale will be produced, but the use of well water, groundwater or river water will produce more scale, sand and other precipitates. As a result, the water must be filtered and softened with water softening equipment before flowing into hot and cold water systems. If sand and soil precipitate in the water side heat exchanger, will block the circulation of hot and cold water, resulting in freezing accident; If the hardness of hot and cold water is too high, it is easy to scale and corrosion equipment, so the water quality should be analyzed before use, such as: PH value, conductivity, chloride ion concentration, sulfur ion concentration, etc.

### 7.2. Water quality standard applicable to the unit

PH value	Total hardness	conductivity	Sulfur ion	Chloride ion	Ammonia ion
7-8.5	<50ppm	< 200 $\mu$ v/cm(25°C)	Cannot contain	<50ppm	Cannot contain
Sulfate ion	silicon	Iron content	Sodium ion	Calcium ion	
<50ppm	<30ppm	<0.3ppm	No requirement	<50ppm	

**Note: In order to ensure the normal use of the unit, please ensure that the water quality meets the requirements. The failure caused by the substandard water quality is not within the scope of warranty.**

## 8. Electrical wiring

8.1. When the voltage is too high or too low, it will have bad effect on the unit. When the voltage is unstable, when the unit starts running at the moment, the current will be too large, resulting in the unit cannot start; In the process of use, it should be checked at any time. If the operating voltage is found to be lower than 342V or higher than 418V, the machine will jump. At this time, the operation should be stopped immediately to ensure the safety of the unit;

8.2. The minimum starting voltage of the unit must be guaranteed to be above 85% of the rated voltage, the operation must be within the range of  $\pm 10\%$  of the rated voltage, the voltage difference between the phases should be within the range of  $\pm 2\%$ ;

8.3. After the main power cable is connected, check whether the phase sequence of the power supply is consistent with that of the unit. The unit is installed with the wrong phase/missing phase protector, and the starter must check the correctness of the phase sequence. If the wrong phase or missing phase occurs, the unit will show fault. Wrong phase or missing phase unit will be prohibited to start

### 8.4. Power distribution of the unit

The diameter of the power supply wire should consider the distance between the installation position of the host and the power distribution cabinet and the size of the current, and then decide the path of the power distribution line and the capacity of the main switch according to the electrical code to ensure the normal operation of the unit.

### 8.5. Unit power distribution reference table

Maximum operating current of unit nameplate (A)	Power supply live wire (mm <sup>2</sup> )	Power supply neutral wire (mm <sup>2</sup> )	Power supply ground (mm <sup>2</sup> )	Circuit breaker (A)
$I < 10$	1.5	1.5	1.5	20
$10 \leq I < 16$	2.5	2.5	2.5	32
$16 \leq I < 25$	4	4	4	40
$25 \leq I < 32$	6	6	6	50
$32 \leq I < 40$	10	10	10	63
$40 \leq I < 63$	16	16	10	80
$63 \leq I < 75$	25	25	16	100
$75 \leq I < 90$	25	25	16	125
$90 \leq I < 120$	35	35	25	160
$120 \leq I < 145$	50	50	35	225
$145 \leq I < 185$	70	70	50	250

8.5.1. When the unit is a single-phase power supply, there is one live wire; when the unit is a three-phase power supply, there are three live wires.

8.5.2. Wiring selection reference table is only applicable to copper core cable material, suitable for air laying cable;

8.5.3. The maximum current value of the reference table is the carrying capacity of the cable at the ambient temperature of 25°C.

8.5.4. The cable specification should be selected according to the cable manufacturer's standard. The power distribution selection in the reference table is for reference only.

8.5.6. The circuit breaker selection in the distribution reference table should be selected according to the actual installation and manufacturer's standard. The power distribution selection in the reference table is for reference only.

### 8.6. Unit wiring precautions:

8.6.1. Connect the power cord to the main power terminal of the unit electric box;

8.6.2. The connecting wire on the control panel is connected to the jack on the control panel of the main control module;

8.6.3. Grounding the unit reliably;

8.6.4. If auxiliary electric heating is optional, connect the power supply and electric heating output signal terminal;

8.6.5. If you use module linkage to control the host, please refer to the circuit diagram and call the equipment manufacturer;

8.6.6. For outdoor use, the power cable should not be lighter than the neoprene armored flexible wire (wire 57 in IEC 60245).

### 8.7. Warning!

8.7.1. The power line must be connected with the all-pole off switch, and the switch contact spacing should be greater than 4mm;

8.7.2. The unit must be grounded reliably, otherwise it cannot be used with power;

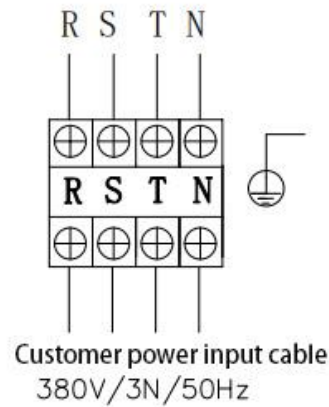
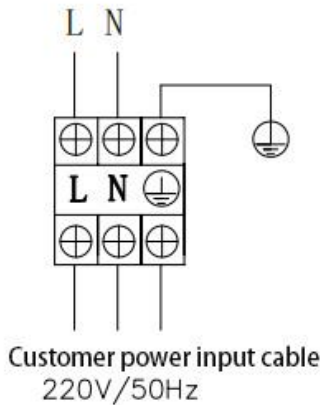
8.7.3. Do not close the circuit breaker until the power distribution is complete. So as not to cause casualties

8.7.4. If the power cord is damaged, it must be replaced by a professional in order to avoid any danger.

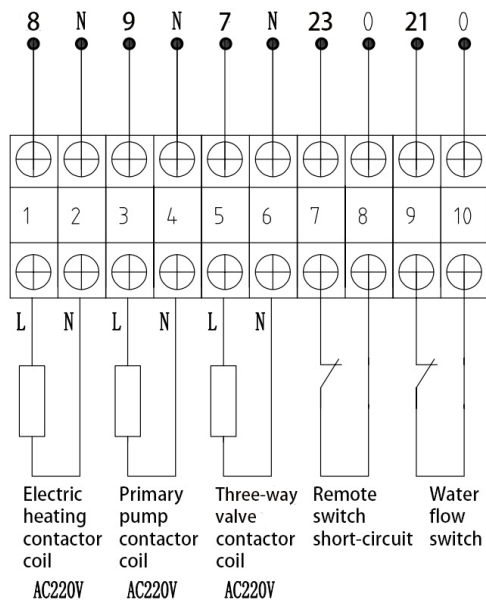
8.8. Power connection diagram

Single-phase power connection diagram

Three-phase power connection diagram



8.9. Other signal output wiring diagram:



9. Trial run







- 9.1. Check the pipe distribution system, check whether all the valves in the system are open, check whether the pipeline insulation is good;
- 9.2. Check the power distribution system to check whether the power supply voltage is normal, whether the screws of the power distribution components are secured, whether the cables are distributed according to the power distribution diagram, and whether the ground cables are properly connected.
- 9.3. Check whether all fastening screws and mechanical screws on the unit are loose;
- 9.4. After power-on, check that the control panel displays no fault
- 9.5. Check whether the input power and current of the unit are consistent with the performance parameter table in the manual. If there is any abnormality, stop the machine for inspection;
- 9.6. Observe whether the water outlet temperature is normal
- 9.7. The parameters of the unit have been set before leaving the factory, and the user cannot adjust them at will. If necessary, the adjustment should be carried out by professional engineers or consult the manufacturer.

## 10. Operation instruction of wire controller

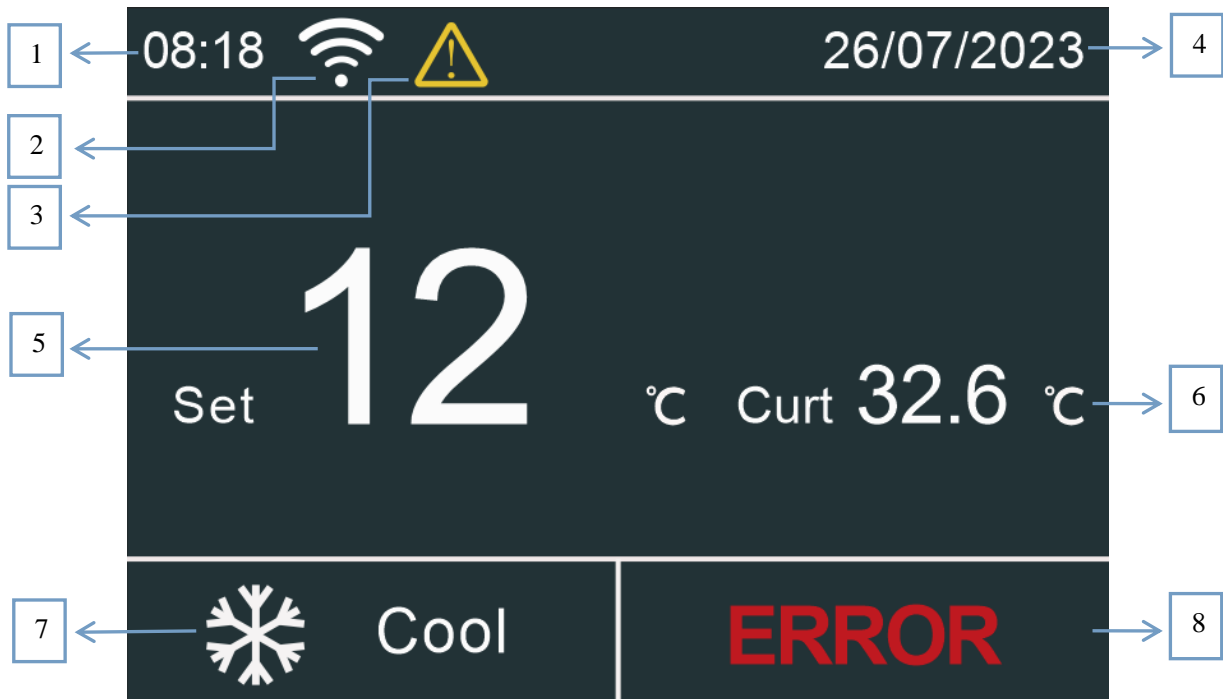
### 10.1. Display interface



### 10.2. Key function definition

Key icon	meaning	Name
	Represents the on-off key, used to turn the machine on and off.	on-off
	Query key, used to query group status. Note: The return key is used in the sub-interface.	Query return
	Indicates the upward icon, which allows you to turn pages upward and add parameters	upward
	Indicates the downward icon, which allows you to scroll down and reduce parameters	downward
	Indicates the setting icon. The parameter setting directory page is displayed. Note: Confirm, enter or set the key in the sub-interface.	Setting Confirm Enter
	Represents the mode key icon, used to set the machine running mode. Note: As a check key in the sub-interface.	Model Check

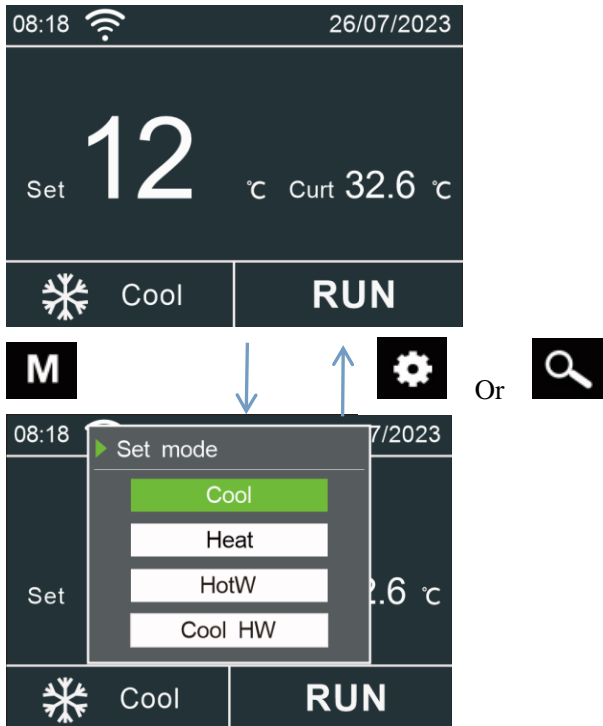
### 10.3. Main interface



No.	Meaning	Name
1	Indicates the system time (hour: minute).	system time
2	Indicates the strength of the WIFI signal. Display only when the device has this function.	WIFI signal
3	When heat pump have error, this icon will appear and flash	Error icon
4	Represents the system date.	system date
5	Indicates the set temperature of the device in the current operating mode.	set temperature
6	Indicates the current operating water temperature of the device.	water temperature
7	Indicates the current running mode of the device.	running mode
8	Indicates the current status of the device.	current status

In this interface, you can adjust the setting temperature by pressing the "up" or "down" button

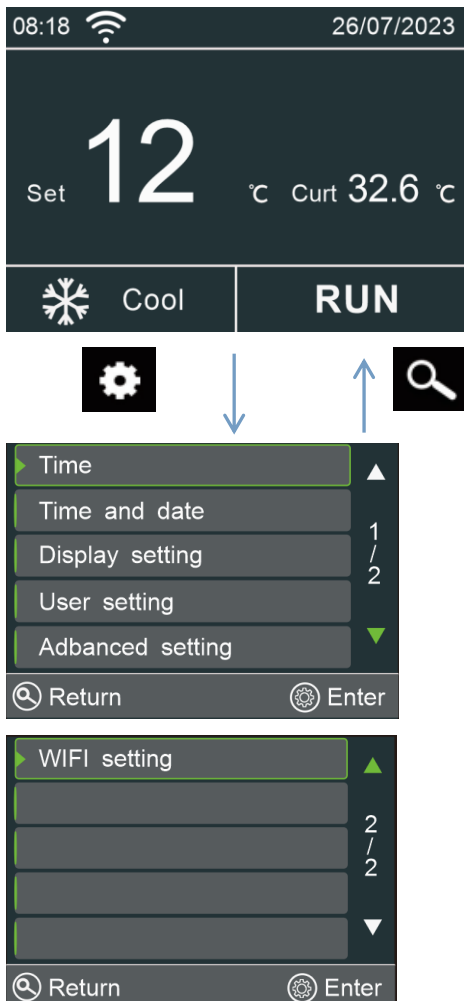
## 10.4. Mode selection



1. On the main interface, press the "Model" button to enter the model selection interface.

1. On this interface, press the "Up" or "Down" button to select the Cool /heat/HotW/Cool HW/Heat HW modes.  
2. After confirming the model, press the "Confirm" or "Return" button to return to the main interface.

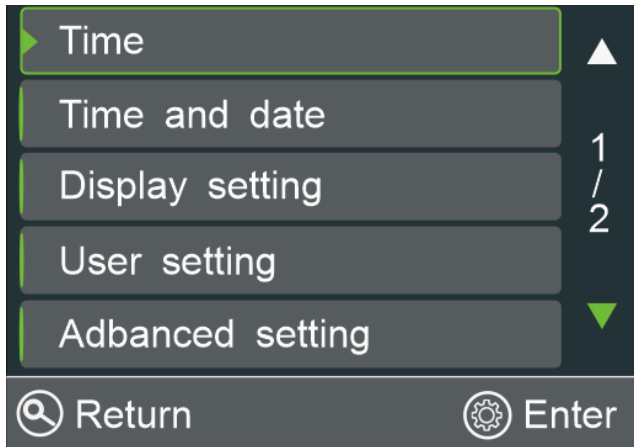
## 10.5. Parameter setting



1. On the main interface, press [Settings] to enter the parameter setting directory screen

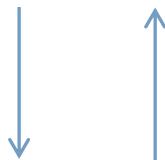
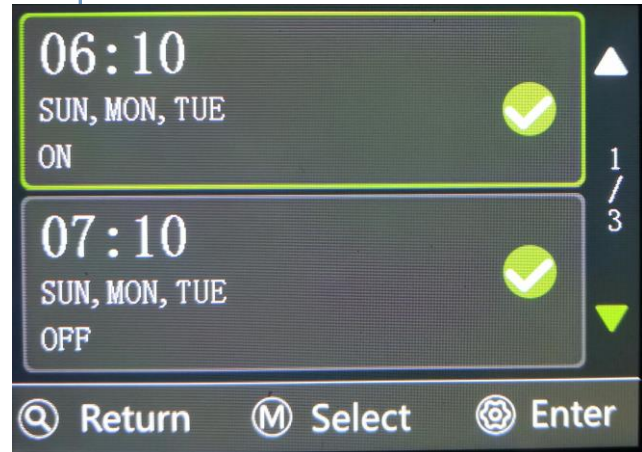
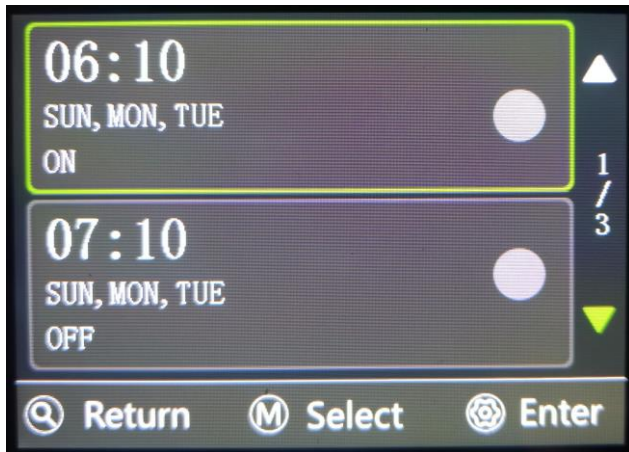
1. On the interface, press the "Up" or "Down" button to select the parameters to be set;  
2. Press the "Enter" button to enter the corresponding setting parameters;  
3. Press [Back] to return to the main interface;  
4. Timing Settings: You can set the timing of the device on or off on this screen.  
2. Time and date: Set the date and time of the system on this screen.  
3. Display Settings: You can modify the display parameters of the wire controller on this screen.  
4. User Setting: allows you to set various device parameters on this screen. A user password is required to access the screen.  
5. Advanced Setting: This option is the option of the device manufacturer.  
6. WIFI Setting: This is a WIFI connection option.

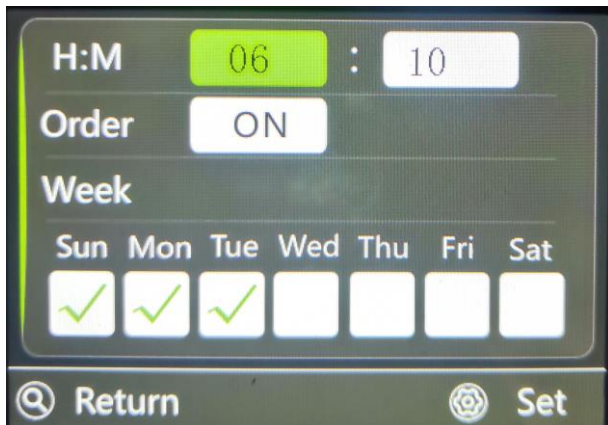
### 10.5.1. Timing switch setting



1. On the Parameter Setting directory screen, press the [Up] or [Down] button, select Timing Settings, and press the [Enter] button to enter the Timing Settings screen.

2. To enter the interface of timing setting, press the "Up" or "Down" button to select the "Time", "Command" and "Week" to be timed (for the selected parameter, the background color will turn green, press "Setting", and then press the "up" or "down" button to adjust the value).

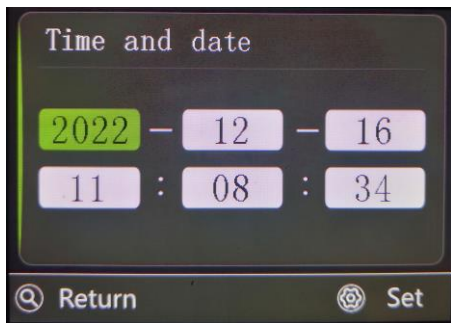
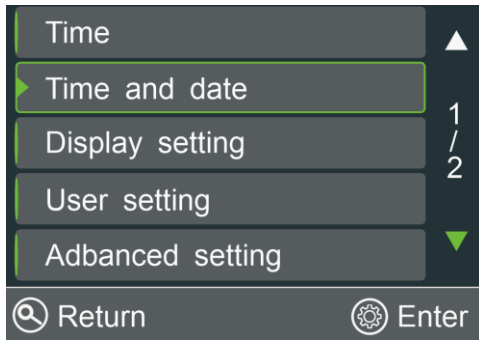




3. After setting the timing parameters, remember to press the "Select" button to select the required timing Settings (if not checked, this function will be invalid).

4. Three time periods can be set for timed power on/off, and the settings for each period are the same as above.

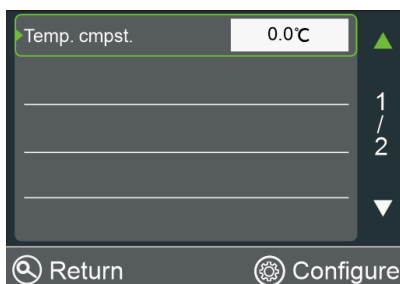
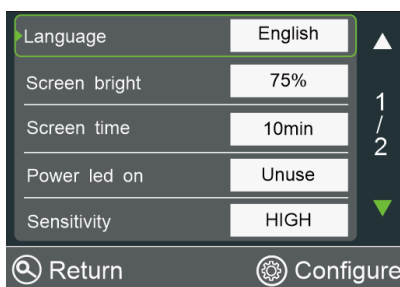
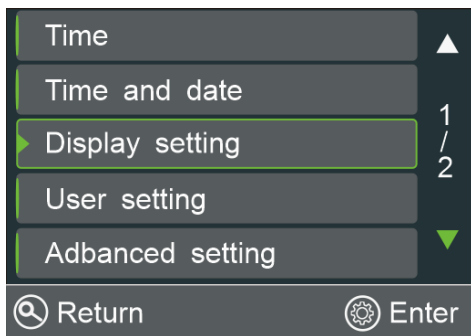
### 10.5.2. Date and time Settings



1. On the Parameter setting directory screen, press the [Up] or [Down] button, select Date and Time, and press the [Enter] button to enter the "Time and date" screen.

1. Enter the "Time and date" interface, press the "Up" or "Down" button, and select the "Year", "month", "day", "hour", "minute" and "second" to be set (for the selected parameter, the background color will turn green, press "Setting", and then press the "up" or "down" button to adjust the value).

### 10.5.3. display setup



1. On the parameter setting directory interface, press the [Up] or [Down] button, select "Display Settings", and press the "Enter" button to enter the "Display Settings" setting interface.

1. "Language" : The control panel can be switched to Chinese or English;

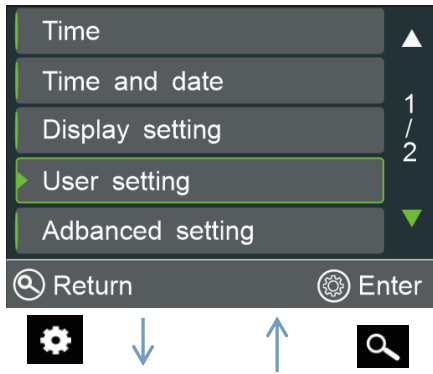
3. "Screen Time" : You can set the time when the screen will go out after no operation;

4. "Power lamp on" : set the power indicator light on and off of the wire controller;

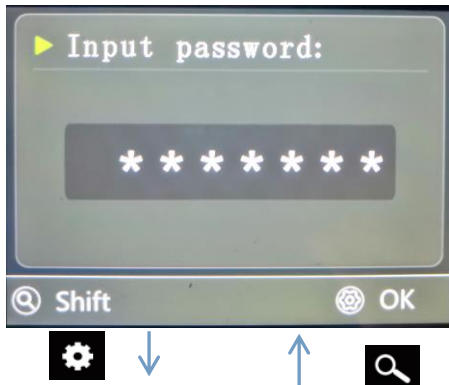
5. "Sensitivity" : the sensitivity of the key can be adjusted, with four options: high, medium, low and disabled (the default value is recommended);

6. "Temp.cmpst" : this function is invalid;

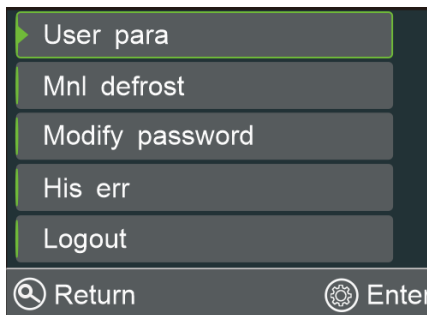
#### 10.5.4. User set directory



1. On the Parameter Setting directory screen, press the [Up] or [Down] key, select User Settings, and press the [Enter] key to enter the User Settings screen.

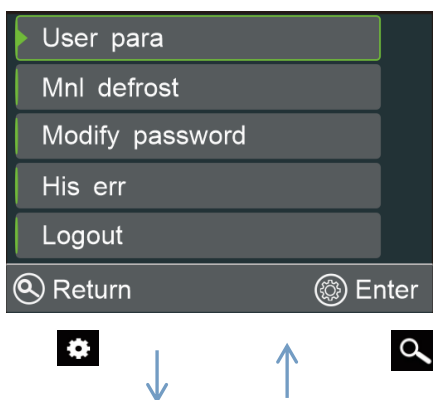


1. Enter the " Input password " interface, enter the user password: 123, (press the selected digit "shift", the background color will turn green, then press the "up" or "down" button, respectively from left to right to enter 123 three digit password value).
2. After entering the password, press the "Confirm" button. If the password is correct, the User Para directory page is displayed. If the password is incorrect, the user cannot enter the directory, should need to reenter the correct password.



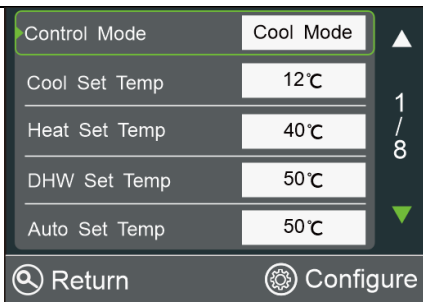
1. User Parameters: You can set device parameters on this screen.
2. "Manual Defrost" : You can manually defrost by entering this interface;
3. "Modify Password": Allows to change the original password on this screen.
4. "His err": You can view historical faults of the device on this screen.
5. "Log Out": You can log out of the user on this screen and restore the function that requires you to enter the password to enter the user Settings.

##### 10.5.4.1. User parameter setting



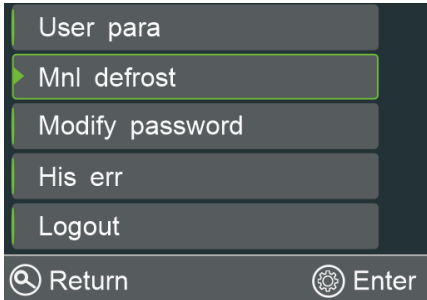
1. On the User Para directory screen, press the [Up] or [Down] key, select User Parameters, and press the [Enter] key to enter the User Settings screen.

Parameter adjustment operation: press the "Up" or "Down" button to select the parameter to be modified, and then press the "Set" button, or press the "Set" button to adjust the parameter through the "Up" or "down" button.

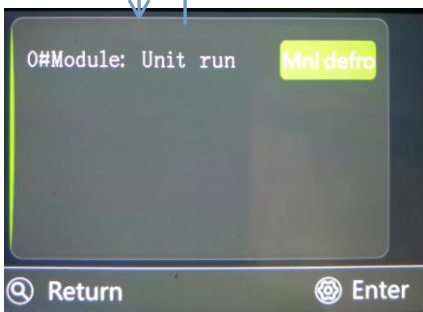


1. Press the [Up] or [Down] key, View and set other parameters, For details, please refer to "Attcahed Table 1".

#### 10.5.4.2. Manual defrosting

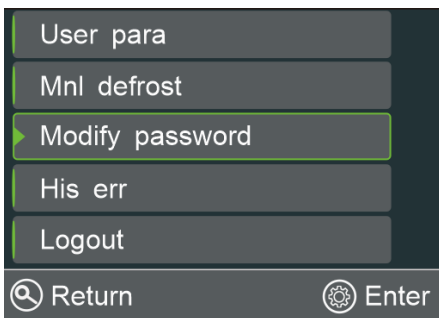


1. On the User Parameter directory screen, press the [Up] or [Down] button to select "Mnl Defrost". Press the [Enter] button to enter the setting screen of "Mnl Defrost".

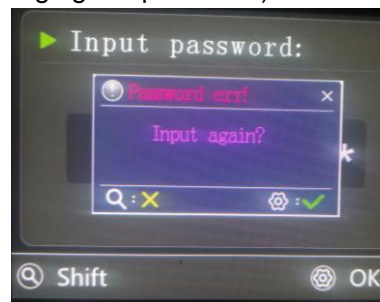
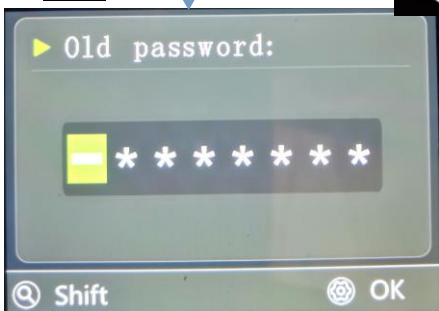
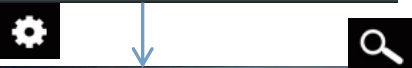


1. Press the "Enter" button on the interface, and the device can enter the manual dehumidification state. After defrosting, the device will automatically restore to the original state.

#### 10.5.4.3. User password change

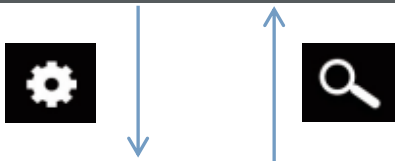
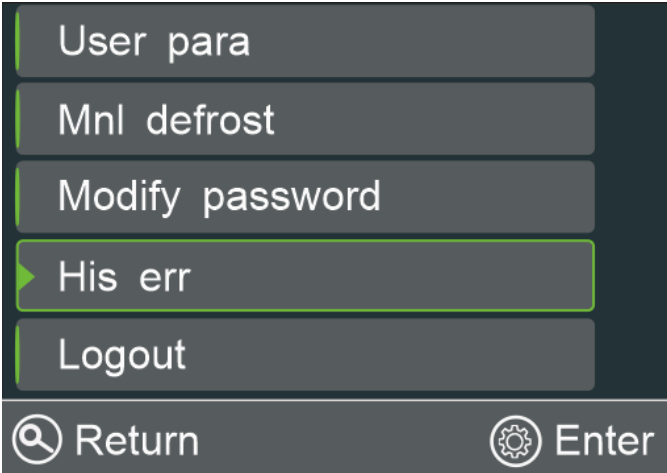


1、 On the User Parameter directory screen, press the [Up] or [Down] key, select "Modify Password", and press the [Enter] key to enter the Password setting screen.  
 2、 Enter the correct old password to enter the new password interface;  
 3、 If you need to exit from the old password input interface, please press the "Enter" button directly or press the "Enter" button if you enter the wrong password, the password error dialog box will pop up at this time;  
 4、 After re-entering the new password, press the "OK" button, prompting you to enter the new password again, and then press the "OK" button, the password is successfully changed and returned to the user parameter directory interface (please remember the new password after changing the password).





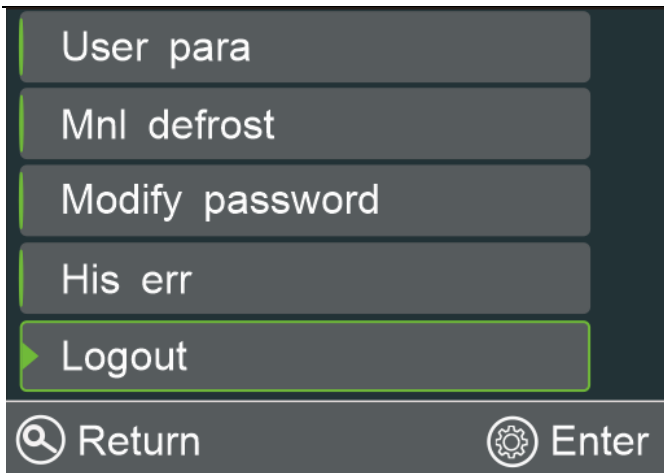
#### 10.5.4.4. Historical fault query



1. On the User Parameter Directory screen, press the [Up] or [Down] key, select "His err", and press the [Enter] key to go to the Historical Fault Query screen.

1. On this screen, view the fault type and fault occurrence time of the device.  
 2. In this interface, press the "Clear" button to clear all fault records (once the fault records are cleared and cannot be recovered, please exercise caution);

#### 11.5.4.5. Account cancellation

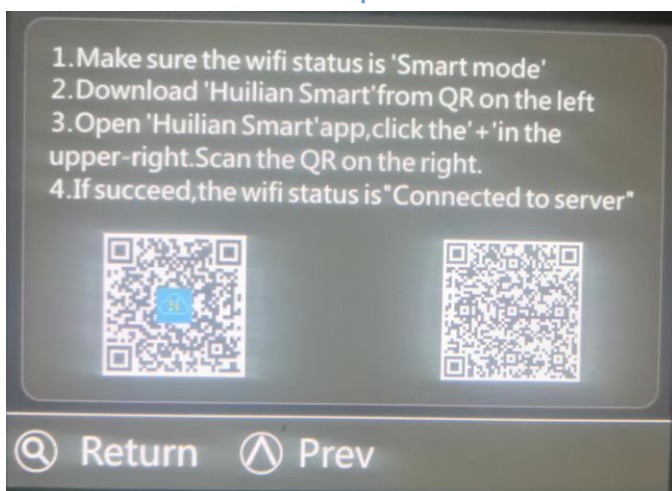
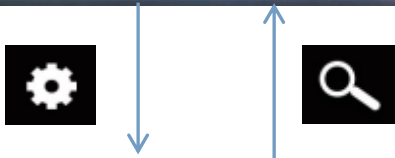
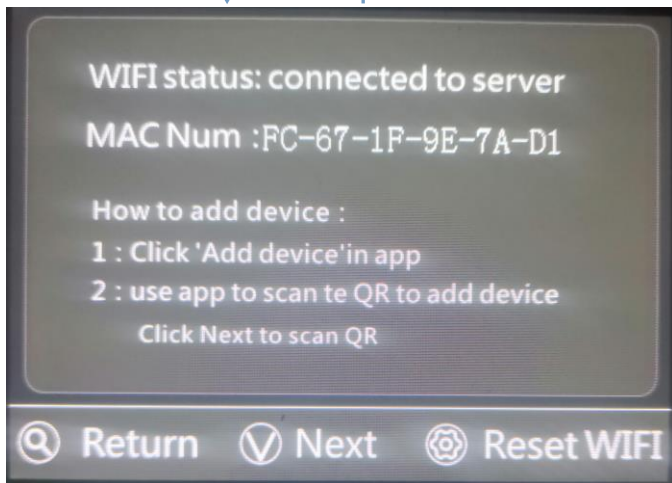
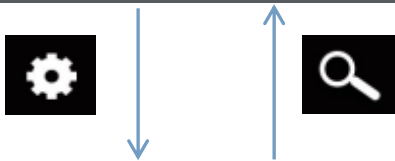
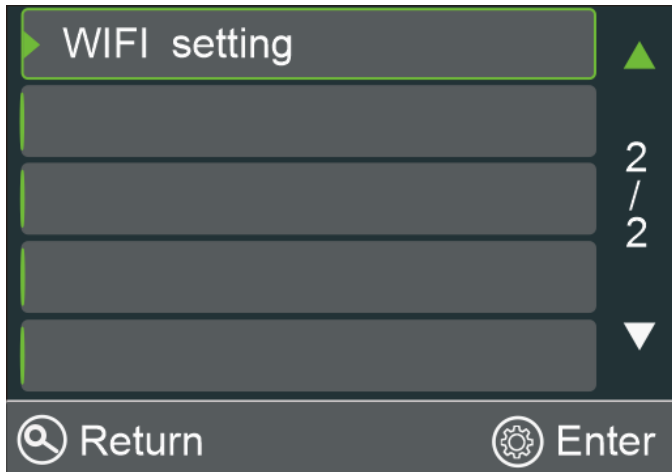


1. Press the "Up" or "Down" button, select "His err ", and press the "Enter" button to log out of the user. When you enter the "User Settings" screen again, you need to enter the password again.

1、 If you do not logout and the online controller does not enter the screensaver, there is no need to re-enter the password when you re-enter the User Settings screen.

3. After you logout, the Parameter Settings directory page is displayed.

10.5.5. WIFI setting



1. On the parameter setting directory screen, press the "Up" or "Down" button, select "WIFI Setting", and press the "Enter" button to enter the "WIFI Setting" screen.

1. Follow the instructions step by step to connect to WIFI and control the device through the APP.

2. Android System

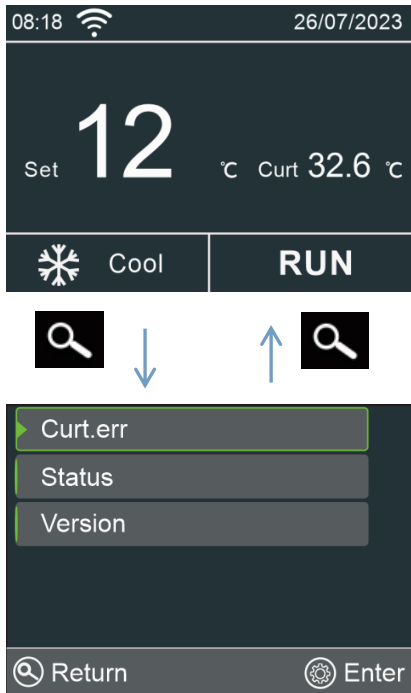
Download the "Huilian Smart" APP from QR.



3. IOS System

Searches and installs the "Huilian Smart" app on the APP Store and registers it

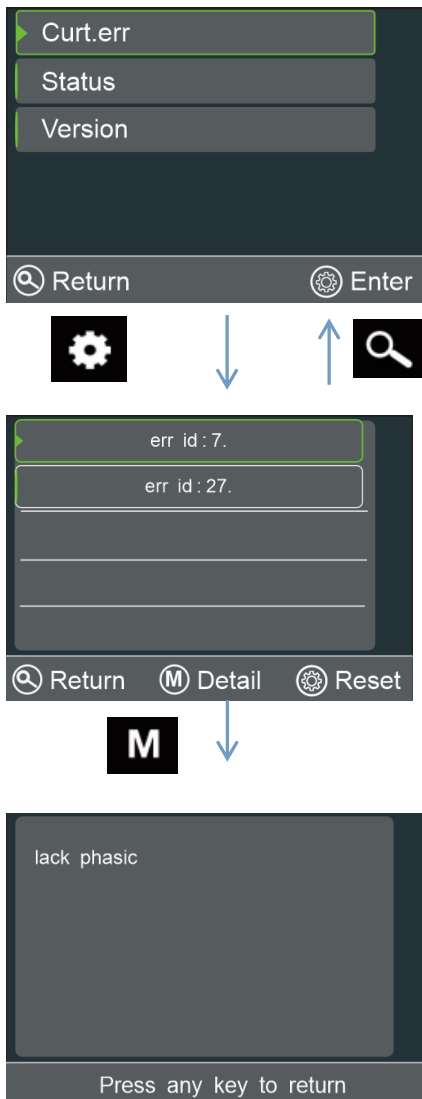
## 10.6. Device information query



1. On the home screen, press Query to enter the Query Device Status screen.

1. "Curt.err": Query the current fault of the device.
2. "Status": Queries the current running status parameters of the device.
3. "Version" : query the driver version number of the device;

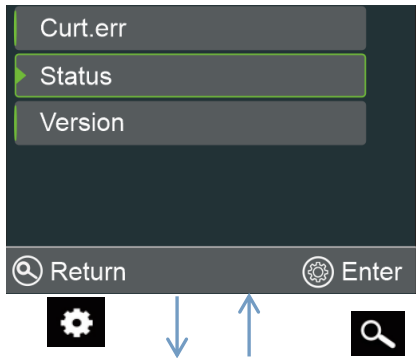
### 10.6.1. Current fault query



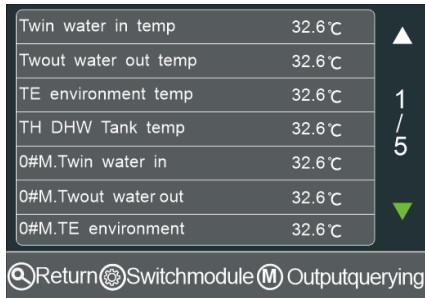
1. On the device status query screen, press the [Up] or [Down] key and select "Curt.err". The Current Fault screen is displayed

1. Press the "Detail" button to viewing err information;
2. After the fault is removed, press the "Reset" button to eliminate the current fault;

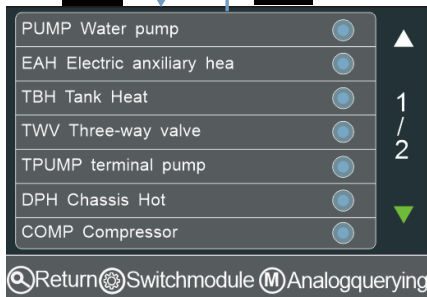
### 10.6.2. Status query



1. On the device status query screen, press the [Up] or [Down] key and select "Status Query". The "Status Query" screen is displayed

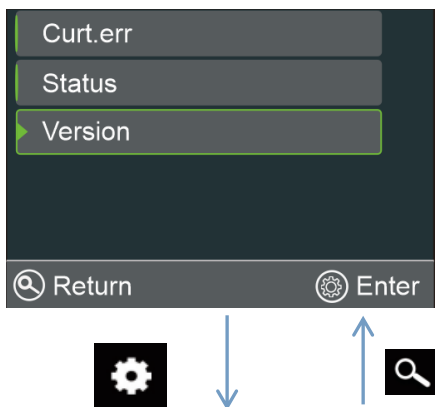


1. Press the "Up" or "Down" button to turn the page and view other status parameters;
2. Press the "Outputquerying" button to check the output status of the device;
3. "Switch module" button, which only works when a wire controller controls multiple units;



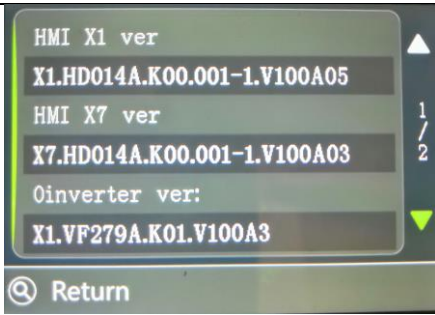
1. Press the "Up" or "Down" button to turn the page and view other output status of the device;
2. Press the "Analogquerying" button to check the status parameters;
3. "Switch module" button, which only works when a wire controller controls multiple units;

### 10.6.3. Version query



1. On the device status query screen, press the [Up] or [Down] key and select "Version". The "Version" screen is displayed

1. Press the "Up" or "Down" button to turn the page and view other version information;



### 10.7. Target temperature compensation function

The ambient temperature in the heating target compensation function control refers to the ambient temperature of the main module; Automatically set the heating target temperature based on the ambient temperature, which can be set during operation.

#### Parameters



1,[Heat obj cmps] defaults to "use".



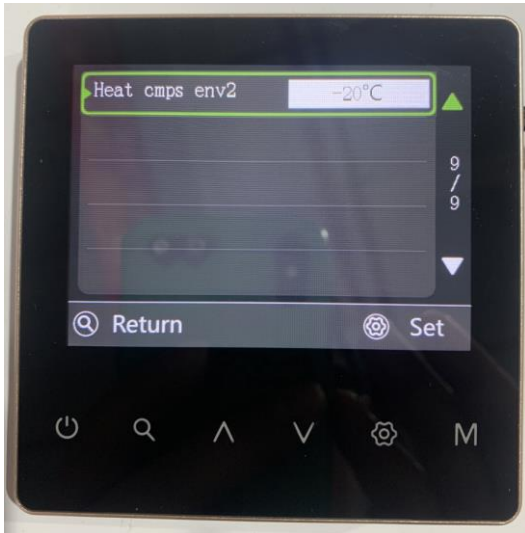
2.[Heat cmps T1] Default "40", adjustable (30-60)



3. 【Heat cmps T2】 Default "45", adjustable (30-60)



4. 【Heat cmps env1】 Default "5", adjustable (-30~45)



5. 【Heat cmps env2】 Default "-20", adjustable (-30~45)

Heating target temperature compensation function: When the 【 Heat obj cmps 】 is set to "use", the heating target value will change with changes in ambient temperature (updated every 【 load correction time 】 , and immediately updated when the 【 Heat obj cmps 】 is changed from "disable" to "use"), no longer based on the set value. The Y value in the table below is used as the target temperature. The loading and unloading logic remains unchanged. In heating mode, when the 【 Heat obj cmps 】 is set to "disable", the target temperature correction function in the adaptive load temperature control logic is invalid.

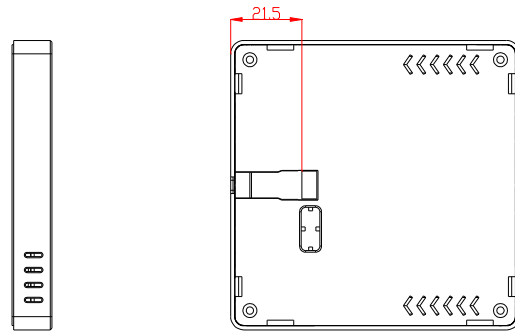
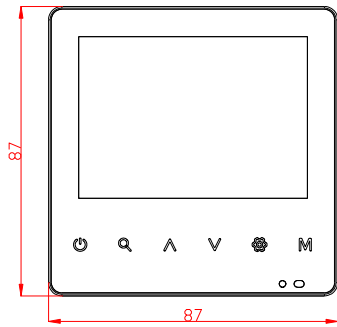
Example: Introduce the temperature compensation function for heating targets.

Parameter Setting	compensating curve	Compensation formula for heating target temperature	
<b>【Heat obj cmps】: Using</b> Heat cmps T1: 40 °C Heat cmps T2: 55 °C <b>【Heat cmps env1】: 5 °C</b> <b>【Heat cmps env2】: -20 °C</b>	<p style="text-align: center;">Heating target temperature compensation curve</p>	Current ambient temperature - X	Heating target temperature value - Y
		$X \geq 5^\circ\text{C}$	$Y = 40^\circ\text{C}$
		$-20^\circ\text{C} < X < 5^\circ\text{C}$	$Y = 0.6(5 - X) + 40$ Note: 0.6 is not a fixed value and varies with changes in

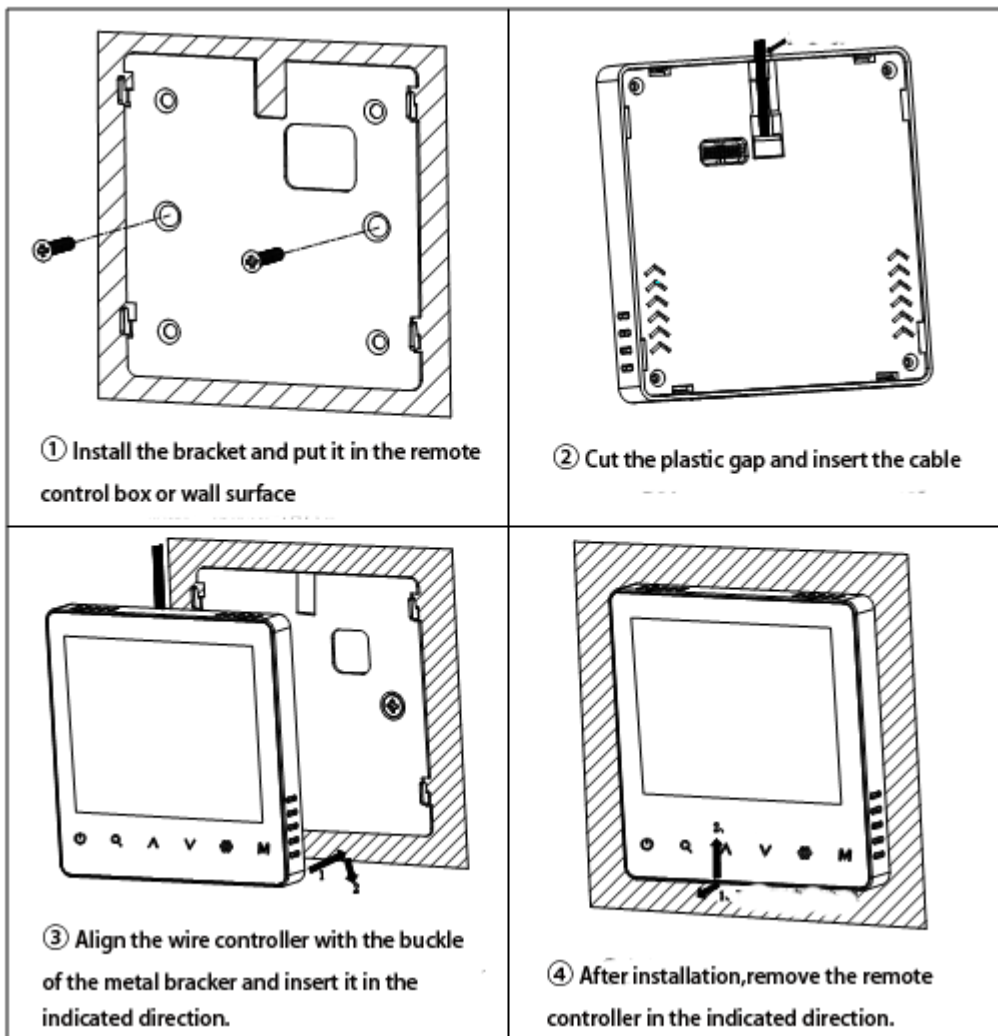
			the set parameters. $0.6 = \frac{55-40}{5-(-20)}$
		$X \leq -20^{\circ}\text{C}$	$Y = 55^{\circ}\text{C}$

## 10.8. Wire controller dimension and installation

### 10.8.1 Wire controller dimension (unit:mm)



### 10.8.2 Wire controller installation



## 11. Maintenance precautions

The management and maintenance of the unit must be carried out by professional personnel.

11.1. Check regularly whether the water system is normal to avoid water cut-off, otherwise the performance and reliability of the unit will be affected

11.2. The water filter installed outside the unit shall be cleaned regularly to ensure that the water quality in the system is clean, so as to avoid damage caused by dirty and blocked filter.

11.3. Regularly check the working condition of each component of the unit and check whether the working pressure of the unit system is normal. If there is any abnormality, it should be repaired and replaced in time;

11.4. Regularly check whether the wiring of the power supply and electrical system of the unit is firm, and whether there is abnormal action and smell of the electrical components. If there is abnormal, it should be repaired and replaced in time;

11.5. If the machine is stopped for a long time, it should be maintained as a sealing machine, and the water in the water pump and the entire water system pipeline should be drained to prevent the water pump and pipeline from freezing; Before starting again, the system should be filled with water and a comprehensive inspection of the unit before starting operation;

11.6. When the unit is not in continuous use, it is strictly prohibited to turn off the power supply, otherwise it will cause some parts to freeze and crack, and the company will not be responsible for any damage caused by this;

11.7. In order to ensure the efficiency and safety of the unit, please clean the water system inside the unit regularly (6 months).

## 12. Identify and troubleshoot common faults

Fault category	ERROR CODE	Meaning	English name on controller	Heat Pump Alarm Action	Cause of malfunction	Solution
system failure	1	phase error protection	wrong phasic	Alarm, unable to power on	1. There is an issue with the phase sequence of the live wire 2. Problem with phase sequence detection"	1. Swap the positions of two live wires 2. Replacing the motherboard"
	2	EEPROM data error fault	eep data err	Alarm, unable to power on	There is an issue with the program	1. Initialize all parameters. 2. If the fault cannot be eliminated after initialization, replace the motherboard of the same model"
	3	System environmental temperature fault	SysEnvTempErr	Stop the compressor	1. Environmental temperature sensor malfunction 2. Main board malfunction"	1. Replace the 10K temperature sensor 2. Replacing the motherboard"
	4	System temperature return fault	SysInTempErr	Stop the compressor	1. Return temperature sensor malfunction 2. Main board malfunction"	1. Replace the 10K temperature sensor 2. Replacing the motherboard"
	5	System temperature failure	SysOutTempErr	Stop the compressor	1. Fault in the outlet temperature sensor 2. Main board malfunction"	1. Replace the 10K temperature sensor 2. Replacing the motherboard"

	6	System maintenance data error	Protect eep err	Alarm, unable to power on	There is an issue with the program	1. Initialize all parameters. 2. If the fault cannot be eliminated after initialization, replace the motherboard of the same model"
	7	Phase loss protection	lack phasic	Alarm, unable to power on	1. One to two of the three live wires are dead 2. Problem with phase sequence detection"	1. Check if the incoming call has electricity 2. Replacing the motherboard"
Compressor malfunction	0	Low pressure compressor	CM DI LP	Stop the compressor	1. System fluorine leakage and low pressure 2. Pressure switch faulty 3. Main board faulty 4. Fan or air duct blockage 5. Expansion valve too small or filter clogged	1. Find and fill in any gaps 2. Replace pressure switch 3. Replacing the motherboard 4. Replace the fan or clean the air path 5. Replace with accessories of the same model"
	1	High pressure compressor	CM DI HP	Stop the compressor	1. The refrigerant system is blocked and the high pressure is too high 2. Pressure switch faulty 3. Main board faulty 4. The waterway system is out of water"	1. Replace blocked accessories 2. Replace pressure switch 3. Replace the same model motherboard 4. Check the waterway to ensure sufficient water flow"
	2	Excessive compressor current	CM curr high	Stop the compressor	The compressor current exceeds the set value	Measure current with a clamp meter
	3	The current of the compressor is too small	CM curr low	Stop the compressor	Compressor current too low	Measure current with a clamp meter
	4	Fin probe malfunction	WING T ERR	Stop the compressor	1. Temperature sensor faulty 2. Main board faulty"	1. Replace the 10K temperature sensor 2. Replacing the motherboard"
	5	Exhaust probe malfunction	EXH T ERR	Stop the compressor	1. Temperature sensor faulty 2. Main board faulty"	1. Replace the 10K temperature sensor 2. Replacing the motherboard"
	6	Exhaust temperature too high	EXH T HIGH	Stop the compressor	1. The exhaust temperature sensor is faulty 2. System fluorine deficiency 3. The refrigerant system is blocked"	1. Replace the 10K temperature sensor 2. Check for leaks 3. Replacing filters"
	7	Low pressure transmission fault	LP SENSOR ERR	Stop the compressor	Pressure sensor malfunction	Replace the pressure sensor of the same model
	8	High pressure transmission failure	HP SENSOR ERR	Stop the compressor	Pressure sensor malfunction	Replace the pressure sensor of the same model
	9	Pressure transmission low pressure too low	CM press low	Stop the compressor	1. System fluorine leakage and low pressure 2. Fan or air duct blockage 3. Expansion valve too small or filter clogged"	1. Find and fill in any gaps 2. Replace the fan or clean the air path 3. Replace with accessories of the same model"

	10	Pressure transmission high pressure too high	CM press high	Stop the compressor	1. The refrigerant system is blocked and the high pressure is too high 2. The waterway system has no water or the water flow rate is too low"	1. Replace blocked accessories 2. Check the waterway to ensure sufficient water flow"
	11	Inhalation temperature malfunction	CM GAS IN ERR	Stop the compressor	1. Temperature sensor faulty 2. Main board faulty"	1. Replace the 10K temperature sensor 2. Replacing the motherboard"
	12	Valve rear temperature fault	CM EVAP IN ERR	Stop the compressor		1. Replace the 10K temperature sensor 2. Replacing the motherboard"
	13	Low refrigeration suction	GasInLow	Stop the compressor	1. Less refrigerant 2. Air duct blockage"	1. Check the pressure 2. Cleaning impurities"
	14	Frequent emergency defrosting	Emerg defrost	Stop the compressor	1. Less refrigerant 2. Air duct blockage"	1. Check the pressure 2. Cleaning impurities"
	15	Abnormal temperature difference between suction and discharge	gasInOutErr	Stop the compressor	Inhalation temperature or exhaust temperature sensor malfunction	Replace the sensor with the same model
	19	Low return temperature	temp in low	Stop the compressor	The temperature return sensor is faulty	Replace the sensor with the same model
	20	The return temperature is too high	temp in high	Stop the compressor	The temperature return sensor is faulty	Replace the sensor with the same model
	21	Fan 1 abnormal speed	fan1 except	Stop the compressor	1. Motor malfunction 2. Wiring error	1. Replace the motor with the same model 2. Correct wiring"
	22	Fan 2 abnormal speed	fan2 except	Stop the compressor	1. Motor malfunction 2. Wiring error	1. Replace the motor with the same model 2. Correct wiring"
	23	EC1 communication failure	ec1 commu err	Stop the compressor	1. Poor communication 2. Missing zero line"	1. Check the circuit or replace the communication line 2. Check income power
	24	EC1 malfunction	ec1 err	Stop the compressor	Variable frequency fault	Check the frequency converter of the fan
	25	EC2 communication failure	ec2 commu err	Stop the compressor	1. Poor communication 2. Missing zero line"	1. Check the circuit or replace the communication line 2. Check income power
	26	EC2 malfunction	ec2 err	Stop the compressor	Variable frequency fault	Check the frequency converter of the fan
	27	Variable frequency communication failure	invt commu err	Stop the compressor	Poor communication	Check the circuit or replace the communication line
	28	Variable frequency fault	invt err	Stop the compressor		
	32	Compressor overheating	CM OVERHEATING			
Unit failure	64	Module environmental temperature fault	unit env err	Stop the compressor	1. Temperature sensor faulty 2. Main board faulty"	1. Replace the 10K temperature sensor 2. Replacing the motherboard"
	65	Communication failure	commu err			

66	EEPROM data error	eprom data err	Alarm, unable to power on	There is an issue with the program	1. Initialize all parameters. 2. If the fault cannot be eliminated after initialization, replace the motherboard of the same model"
67	Phase loss protection	lack phasic	Alarm, unable to power on	1. One to two of the three live wires are dead 2. Problem with phase sequence detection"	1. Check if the power supply has electricity 2. Replacing the motherboard"
68	Reverse phase protection	wrong phasic	Alarm, unable to power on	1. There is an issue with the phase sequence of the live wire 2. Problem with phase sequence detection"	Swap the positions of two live wires Replacing the motherboard"
69	Module outlet temperature too low	temp out low	Stop the compressor	1. The outlet temperature sensor is faulty 2. The water flow rate is too small"	1. Replace the sensor with the same model 2. Check water flow rate
70	Module outlet temperature too high	temp out high	Stop the compressor	1. The outlet temperature sensor is faulty 2. The water flow rate is too small"	1. Replace the sensor with the same model 2. Check water flow rate"
71	Module temperature failure	unit out err	Stop the compressor	The outlet temperature sensor is faulty	Replace the sensor with the same model
72	Insufficient water flow	air lack water	If the compressor is stopped and the ambient temperature is below 2 °C, the air conditioning pump will not be turned off	1. Water flow switch malfunction 2. The water flow rate is too small 3. The water pump did not start 4. The water pump is too small"	1. Replace the same model of water flow switch 2. Check for blockages or air in the waterway 3. Check the water pump 4. The water pump is too small"
74	Module return temperature fault	unit in err	Stop the compressor	1. Temperature sensor faulty 2. Main board faulty"	1. Replace the 10K temperature sensor 2. Replacing the motherboard"
77	Excessive temperature difference between outlet and return	outInDiffHigh	Stop the compressor	1. The water flow rate is too small	Check if there is any blockage or air in the waterway
78	Abnormal temperature difference between outlet and return	outInDiffErr	Stop the compressor	Return or outlet temperature sensor malfunction	Replace the sensor with the same model
80	Communication abnormality	commu except	Alarm, unable to power on	1. The communication line between the control board and the variable frequency drive board is connected incorrectly or disconnected 2. Severe communication interference"	1. Check the control board, variable frequency drive board, and wiring 2. Check the wiring and grounding of the communication circuit"

<b>Fault number</b>	<b>fault name</b>	<b>possible fault causes</b>	<b>troubleshooting methods</b>
Er.ocb (1)		The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
	Overcurrent at start	Restart the rotating compressor	Wait until the compressor stops completely before starting
		There is a short circuit between the UVW output lines or a short circuit to ground	Check if the UVW output line is short circuited
		The inverter module is damaged	Seeking services
Er.ocA (2)		The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
	Overcurrent during acceleration	Grid voltage too low	Check input power supply
		The power of the frequency converter is too low	Select frequency converters with high power levels
		The acceleration time is too short	Extend acceleration time
Er.ocd (3)		The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
	Overcurrent during deceleration	The power of the frequency converter is too small	Select frequency converters with high power levels
		The deceleration time is too short	Extend deceleration time
Er.ocn (4)		The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
	Overcurrent during constant-speed	Low grid voltage	Check input power supply
	operation	Abnormal load	Perform load check
		The power of the frequency converter is too small	Select frequency converters with high power levels
Er.ouA (5)		Input voltage too high	Check input power supply
	Overvoltage during acceleration	Restart the rotating compressor	Wait until the compressor stops completely before starting
		The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
Er.oud (6)		Input voltage too high	Check input power supply
	Overvoltage during deceleration	The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
		The deceleration time is too short	Extend deceleration time
Er.oun (7)		Input voltage too high	Check input power supply
	Overvoltage during constant-spe	The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters

	ed operation		
		The acceleration and deceleration time setting is too short	Extend the acceleration and deceleration time appropriately
Er.ouE (8)		Input voltage too high	Check input power supply
	Overvoltage in standby state	Fault in DC bus voltage detection circuit	Seeking services
Er.dcL (9)		Abnormal input voltage or power failure during operation	Check input power supply and wiring
	Undervoltage during running	Input phase loss	Check input power supply and wiring
		Damaged charging contactor	Check and replace
Er.PLI (10)	Input phase loss	Three phase input with missing phase	Check installation wiring
	(Only available for three-phase input)	Input three-phase imbalance	Check input voltage
		Severe output oscillation	Adjusting parameters to eliminate oscillations
Er.PLo (11)	Output phase loss	Output U, V, and W have missing phases	Check the output wiring, check the motor and cables
Er.FoP (12)		The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
	Power device protection	There is a short circuit between the UVW output lines or a short circuit to ground	Rewire
		The connection between the compressor and the frequency converter is too long	Add output reactors or filters
		Serious interference or damage to the frequency converter	Seeking services
Er.oHI (13)		Excessive ambient temperature	Reduce ambient temperature
	Inverter overheating	It malfunctioned as soon as it was powered on, and the temperature probe may be damaged or disconnected	Seeking services
		Blocked air duct or damaged fan	Clean the air duct or replace the fan
		Excessive load	Check the load or choose a high-power frequency converter
Er.oLI (14)		The temperature of the frequency converter is too high	Check the fan, air duct, and ambient temperature
	Inverter overload	The acceleration time is too short	Extend acceleration time
		Input voltage too low	Check input voltage

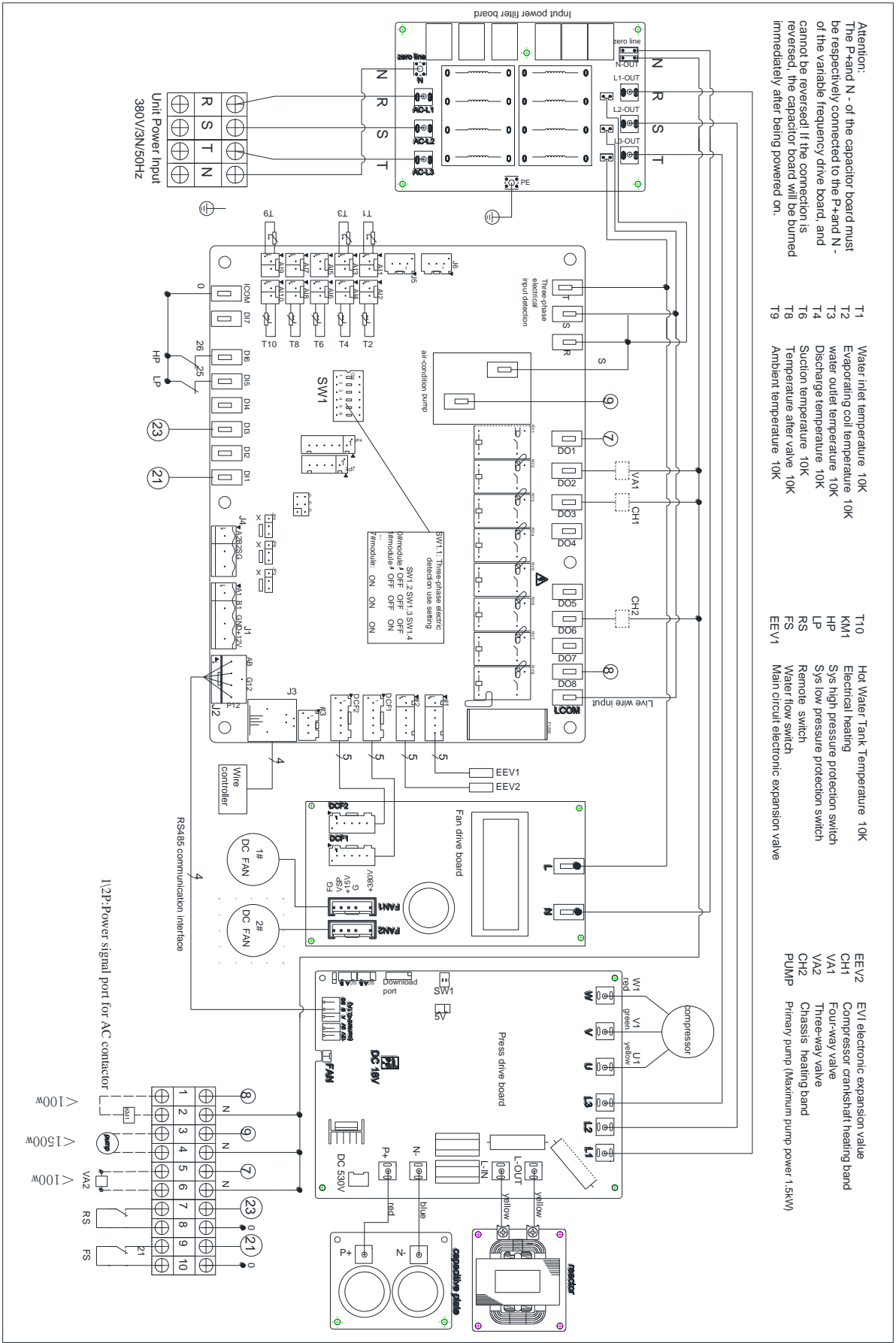
		The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
Er.oLL (15)	Motor overload	The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
		The compressor is stuck or the load suddenly changes too much	Check the compressor model and model parameters
		Input voltage too low	Check input voltage
Er.EEF (16)	PFC		Check input voltage
		PFC module self-protection or circuit abnormality	Please power off for a few minutes before restarting or seeking service
Er.oLP (17)	Motor load overweight	Current exceeds the detection level of overload and exceeds the detection time	Check the compressor model and model parameters
Er.ULd (18)	Motor over speed	The operating speed of the compressor exceeds 1.1 times the upper limit speed	The phase sequence of the compressor is reversed, or the compressor is not connected
			Check the compressor model and model parameters
Er.Co1 (19)		The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
	Motor D-axis overcurrent	Restart the compressor if the shutdown time is too short	After a few minutes of shutdown, restart
		Abnormal current detection circuit	Seeking services
		PMSM motor demagnetization	Replacing the motor
		The stator winding of the compressor is broken	Check the stator resistance of the motor and replace the motor
Er.Co2 (20)		The model parameters of the compressor do not match the actual situation	Check the compressor model and model parameters
	Motor Q-axis overcurrent	Restart the compressor if the shutdown time is too short	After a few minutes of shutdown, restart
		Abnormal current detection circuit	Seeking services
		PMSM motor demagnetization	Replacing the motor
		Motor stator winding breakage	Check the stator resistance of the motor and replace the motor
Er.EEP (21)	Parameter saving failed	Parameter writing error	Power off and then try again. If the problem persists, please seek service
Er.CFE (22)		The communication line between the control board and the variable frequency drive board is connected incorrectly or disconnected	Check the control board, variable frequency drive board, and wiring
	Communication error	Improper setting of communication parameters	Check communication parameters

		Severe communication interference	Check the wiring and grounding of the communication circuit
Er.ccF (23)	Current test error	Damaged current sensor or abnormal circuit	Power off and then try again. If the problem persists, please seek service
	Heat temperature test error for PFC	It malfunctioned immediately after being powered on, possibly due to damage or disconnection of the PFC temperature probe, or abnormal circuit.	Power off and then try again. If the problem persists, please seek service
Er.Aco (25)		The fluctuation of motor rotor rotation exceeds the limit, causing the motor to lose step	Check the compressor model and model parameters
	Motor Lock at start	Restart the motor if the shutdown time is too short	After a few minutes of shutdown, restart
		Improper motor startup and motor stall detection parameters	Check the compressor model and model parameters
		PMSM motor demagnetization	Replacing the motor
		Motor stator winding breakage	Check the stator resistance of the motor and replace the motor
		Excessive operating load	Check motor load
Er.PGo (26)		The fluctuation of motor rotor rotation exceeds the limit, causing the motor to lose step	Check the compressor model and model parameters
	Motor lock during running	Restart the motor if the shutdown time is too short	After a few minutes of shutdown, restart
		Improper motor startup and motor stall detection parameters	Check the compressor model and model parameters
		PMSM motor demagnetization	Replacing the motor
		Motor stator winding breakage	Check the stator resistance of the motor and replace the motor
		Excessive operating load	Check motor load
Er.rHo (27)	Heat temperature test error	It malfunctioned as soon as it was powered on, possibly due to damage or disconnection of the temperature probe, or abnormal circuit.	Power off and then try again. If the problem persists, please seek service
	Stall error	The motor did not run as instructed.	Check the compressor model and model parameters
Er.lo1 (29)	Interrupt overflow 1	INTERNAL FAULT	Seeking services
	Interrupt overflow 2		Seeking services
Er.PnL (31)		Restart the motor if the shutdown time is too short	If the downtime is too short, please restart the motor

	Rotor shake at start	Improper motor startup and motor stall detection parameters	Incorrect motor start and motor stall detection parameters
		PMSM motor demagnetization	PMSM motor demagnetization
		Motor stator winding breakage	Motor stator winding broken
		Excessive operating load	Excessive operating load
Er.rr1 (32)		Restart the motor if the shutdown time is too short	If the downtime is too short, please restart the motor
	Rotor shake during running	Improper motor startup and motor stall detection parameters	Incorrect motor start and motor stall detection parameters
		PMSM motor demagnetization	PMSM motor demagnetization
		Motor stator winding breakage	Motor stator winding broken
		Excessive operating load	Excessive operating load
Er.PF1 (33)		Low input grid voltage and overload operation	Low input grid voltage and overload operation
	PFC Overcurrent	There is a short circuit or ground short circuit between PFC inductor lines, or PFC circuit failure	There is a short circuit or ground short circuit between the PFC inductor circuits, or the PFC circuit is faulty
Er.PF2 (34)	PFC	Low input grid voltage and overload operation	Low input grid voltage and overload operation
	PFC peak current over	There is a short circuit or ground short circuit between PFC inductor lines, or PFC circuit failure	There is a short circuit or ground short circuit between the PFC inductor circuits, or the PFC circuit is faulty
Er.PF2 (35)		Low input grid voltage and overload operation	Low input grid voltage and overload operation
	PFC rms current over	Excessive load on the compressor or abnormal refrigerant in the compressor	Excessive compressor load or abnormal refrigerant in the compressor

# 13. Wiring diagram

## 13.1. Mode of FEIHC30S3



Attached Table 1

No	Item	Setting range	Default value	Unit	Remark
1	Control Mode	Cool Mode/Heat Mode/DHW Mode/DHW&Cool Mo/DHG&Heat Mo	Cool Mode		
2	Cool Set Temp	10~23	12	°C	
3	Heat Set Temp	28~55	40	°C	
4	DHW Set Temp	30~55	50	°C	
5	Auto Set Temp	30~55	50	°C	
6	Power mode	standard/strong/silent	standard		
7	ModeSilent	unused/Night/AllDay	unused		
8	SilentBgn Hour	0~23	22	h	
9	SilentBgn Min	0~59	0	min	
10	SilentEnd Hour	0~23	7	h	
11	SilentEnd Min	0~59	0	min	
12	Duty fun en.	disable/enable	disable		Within the set time period, use [Heating Duty Temperature] or [Cooling Duty Temperature] as the target temperature
13	Duty set HT.	10~23	20	°C	
14	Duty set CL.	28~55	17	°C	
15	Duty on hour.	0~23	0	h	
16	Duty on min.	0~59	0	min	
17	Duty off hour.	0~23	0	h	
18	Duty off min.	0~59	0	min	
19	HT.2-WAY.INTLK	disable/enable	enable		
20	Heat obj cmps	disable/enable	disable		
21	lock screen	disable/enable	disable		When using the lock screen function, if there is no operation for 45 seconds, return to the Home screen and lock the keys;

					Long press the 'Confirm' button to unlock
22	Alarm Sound Set	sound off/sound on/once 10sec/cycle 10sec	once 10sec		Set the buzzer sound mode for the alarm prompt sound, with a cycle of ten seconds to sound ten seconds every half hour.
23	PUMP.MODE	run/off/inter run	inter run		Interval operation: The water pump runs interval when the temperature reaches
24	END.PUMP.EN	disable/enable	disable		
25	Heat cmps T1	30~60	40		
26	Max Lun Time	0~999	30	min	
27	Cool time min	0~999	20	min	
28	Heat time max	0~999	20	min	
29	DHW time max	0~999	240	min	
30	H.PUMP Set Temp	10~55	55	°C	
31	Heat cmps T2	30~60	45		
32	Unit number	1~8	1		
33	00#Unit	disable/enable	enable		
34	All Comp Diff	0~20	6	°C	
35	Egy Ctrl Period	0~999	10	sec	
36	Sreri. on day	Sundy~Saturday	Saundy		When any of the following conditions occur, timed sterilization cannot be performed: 1. When the 【 Setting Mode 】 is not set to "Hot Water", "Refrigeration+Hot Water", or "Heating+Hot Water"; 2. When the 【 Sterilization Function 】 is set to "Disabled"; 3. Domestic hot water tank without electric heating.
37	Sreri. on hour	0~23	0	h	
38	Sreri. on min	0~59	0	min	
39	Sreri lization	disable/enable	enable		
40	Temp unit set	Celsius/Fahrenheit	Celsius		
41	Heat cmps set1	-30~45	5	°C	
42	Heat cmps set2	-30~45	-20	°C	



**10-36 KW EV TİPİ ISI POMPASI**  
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