Installation Manual

DC INVERTER AIR TO WATER HEAT PUMP MONOBLOCK TYPE

Please read this manual carefully before using this product and keep it for your reference.

DC INVERTER AIR TO WATER
HEAT PUMP

Product parameters & installation instructions

Please read the instructions carefully before installation, please do not discard.Please save the manual for future reference.

Make sure it is installed by a professional before running the unit. If in doubt, please contact your dealer for advice and information.

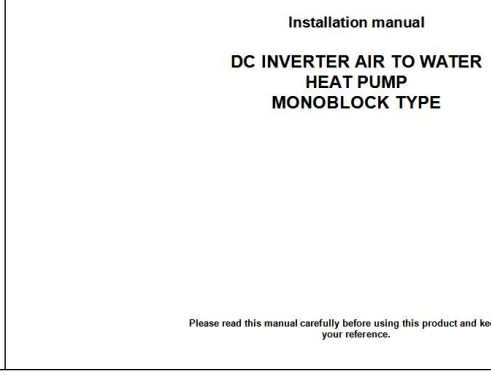
If the unit is not used for a long time, it is recommended not to turn off the power; if the power is turned off, the product protection device (such as the pump anti-lock function and antifreeze device) will not be available.

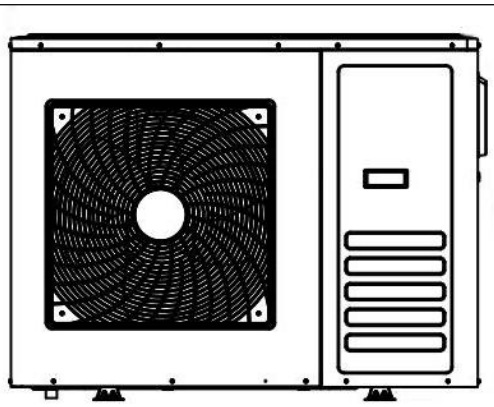
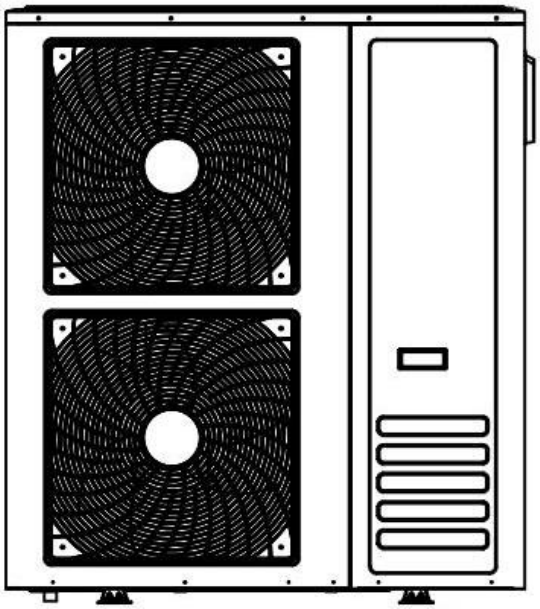
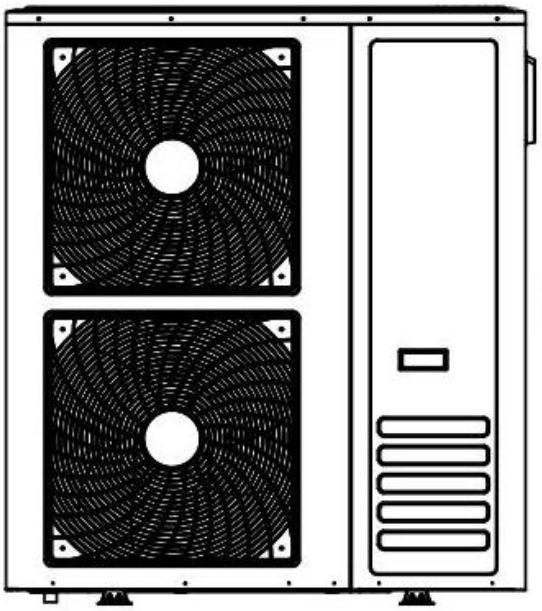
Basic information

The air source heat pump main unit is recommended to be installed in a well ventilated area. The unit can be connected to the fan coil, underground heating equipment, low temperature radiator and other end connections.

Items in the product packaging box

Before installation, please make sure that all items are in the carton.

Carton of Monoblock heat pump		
Items	**Picture**	**Qty.**
Instruction manual		1

HEAT PUMP DCI03PS/H3D		1
HEAT PUMP DCI05PS/H5D DCI06PS/H5D		1
HEAT PUMP DCI08P/H8D		1

Notice
This equipment should be stored in a ventilated room free of continuously operating ignition sources such as open flames, operating gas appliances or operating electric heaters. Do not puncture or burn device. Note that the refrigerant may not have an odor.

Equipment installation environment
Maintenance and installation personnel need professional training. When installing the equipment, please pay attention to no open flames within 5 meters and good ventilation. The equipment should be installed in an open outdoor place with long sunshine hours, and there should be no shelter within 0.2 meters around the equipment.
There is no obstruction within 1 meter directly in front (the direction of the wind) to ensure that the entire construction process is carried out under control. (It is best to inspect the area with proper refrigerant detection equipment prior to installation for potential airborne toxic and flammable gases)

Check equipment before use
Safety checks should be carried out before the equipment is used to ensure that the surroundings are well ventilated but there are no open flames or other sources of ignition.

Tools required to install the unit

1. Impact drill
2. Level
3. Water pipe bending equipment
4. Tape measure
5. Torque wrench
6. Pipe cutting machine
7. Sleeve group
8. Screwdriver
9. Wire stripper
10. Bow saw
11. Corresponding rule hole opener
12. Adjustable wrench
13. Protective equipment such as gloves and glasses

Safety instructions

To prevent injury to users and others, or property damage, be sure to follow the instructions below. Incorrect operation may result in injury or damage.

Please install the unit in compliance with local laws, regulations and standards; check the voltage and frequency; the unit is only used for grounding sockets, and the unit must have independent switches.

The following security defenses need to be

considered:

- Please read the following warnings before installation.
- Be sure to check the details that need attention, including security issues.
- After reading the installation instructions, be sure to save them for future reference.

⚠ **Warning**

Ensure that the unit is installed safely and reliably.

If the unit is not secure or not installed, it will cause damage. The minimum required support weight is 20g/mm2. When installing the machine in a closed area or limited space, please consider the size of the room and the ventilation to prevent suffocation caused by refrigerant leakage.

Use a specific wire and secure it to the terminal block (this connection prevents the wire from being applied to the part).

Wiring errors can cause fire.

Please connect the power cord in strict accordance with the wiring diagram on the manual to avoid causing burnout of the equipment or fire.

When installing, be sure to use the correct or specific materials.

Failure to use parts or materials may result in fire, electric shock, or falling of the machine, resulting in

injury.

Safety grounding installation, please read the installation instructions.

Improper installation may result in fire, electric shock, falling of the machine, or water leaking, resulting in injury.

Electrical work according to the installation manual, be sure to use professional tools.

If the power supply capacity is insufficient or the circuit is incomplete, it may cause fire or electric shock.

The unit must have a grounding device.

If the power supply does not have a grounding device, be sure not to connect the machine.

Non-professional installers, please do not attempt to move or repair the machine.

Unreasonable movement or maintenance of the unit may cause water leakage, electric shock, or fire, resulting in injury. Need to repair or maintain the machine, please find a professional technician.

Do not unplug or plug in the power during operation.

It may cause fire or electric shock.

Do not touch or operate the machine when the hands are wet.

It may cause fire or electric shock.

Do not place heaters or other electrical appliances near the power cord.

It may cause fire or electric shock.

Please note that water cannot be poured directly from the machine. Do not allow water to enter the electrical components.

It may cause fire or electric shock.

⚠ Note

Do not install the unit in a location where there may be flammable gas leaks.

If there is a flammable gas leak and gathers around the unit, it will cause an explosion.

Drainage systems and piping work are carried out according to the instructions.

If the drainage system or piping is defective, water leakage will occur and should be disposed of immediately to avoid other household products getting wet and damaged.

Do not clean the unit when the power is on.

When cleaning the machine, turn off the power. Failure to do so may result in injury from a high speed fan or electric shock.

Do not continue to run the unit when there is a problem with the unit or if there is a smell. Please turn off the power and stop running the unit. Doing so may cause electric shock or fire.

Please be careful when the product is not packed or when it is installed.

Sharp edges can cut people, paying special attention to the edges and fins of the heat exchanger.

After installation or after repair, please check if the refrigerant or refrigerant will leak.

If the refrigerant is not enough, the unit will not work properly.

The installation of the external unit must be flat and firm

Avoid abnormal vibration and noise

Do not put your fingers into the fan and evaporator. High-speed fan can cause serious injury

This device is not designed for people who are physically or mentally weak (including children) and who do not have experience and who do not understand the heating system. Unless it is used under the direction and supervision of the responsible person, or has received training on the use of this equipment. Children should be used under the supervision of an adult to ensure that they use the device safely.

If the power cord is damaged, it must be replaced by the manufacturer or its service agent, or the same professional, to avoid danger.

Materials needed

Monoblock type heat pump power line: three-core insulated wire; 9KW with ≥6mm2 three-core insulated wire; 15KW and 18KW with ≥10mm2 three-core insulated wire
When wiring it requires isolation device

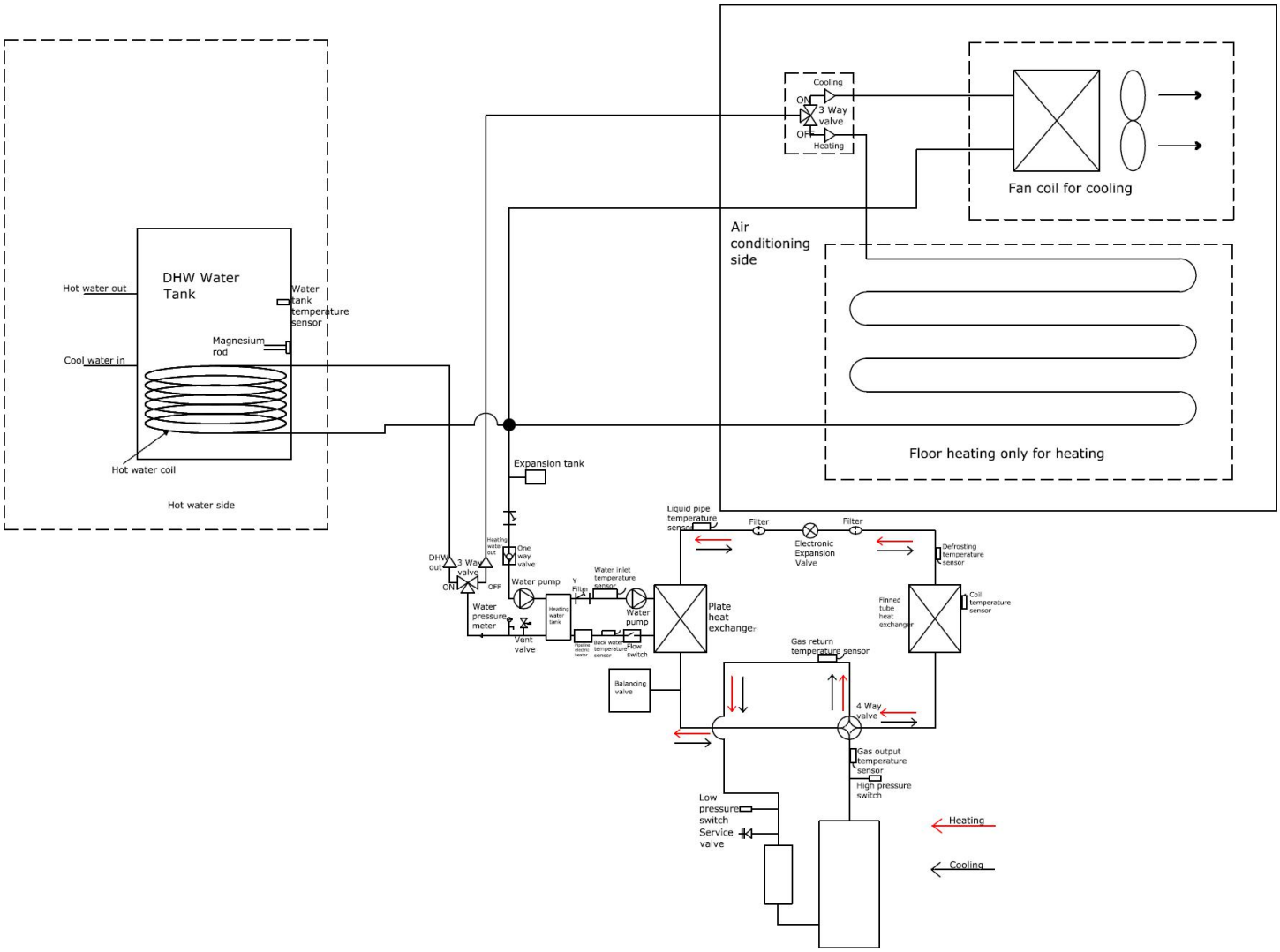
Low voltage cable: 0.75mm shielded twisted pair
Note: All control wires must be installed 300mm away from the main wire.

Inlet and outlet pipe requirements (internal thread)
DCI03PS/H3D DN25
DCI05PS/H5D DN25
DCI06PS/H5D DN25
DCI08P/H8D DN32

Working operation range

Working Condition		Outdoor temp.	Water temp.
		Dry bulb ℃	Water inlet ℃
Heating	Max.	43	55
	Min.	-25	25
Cooling	Max.	43	25
	Min.	-5	10
Hot water	Max.	43	60
	Min.	-25	25

Equipment installation diagram



Note

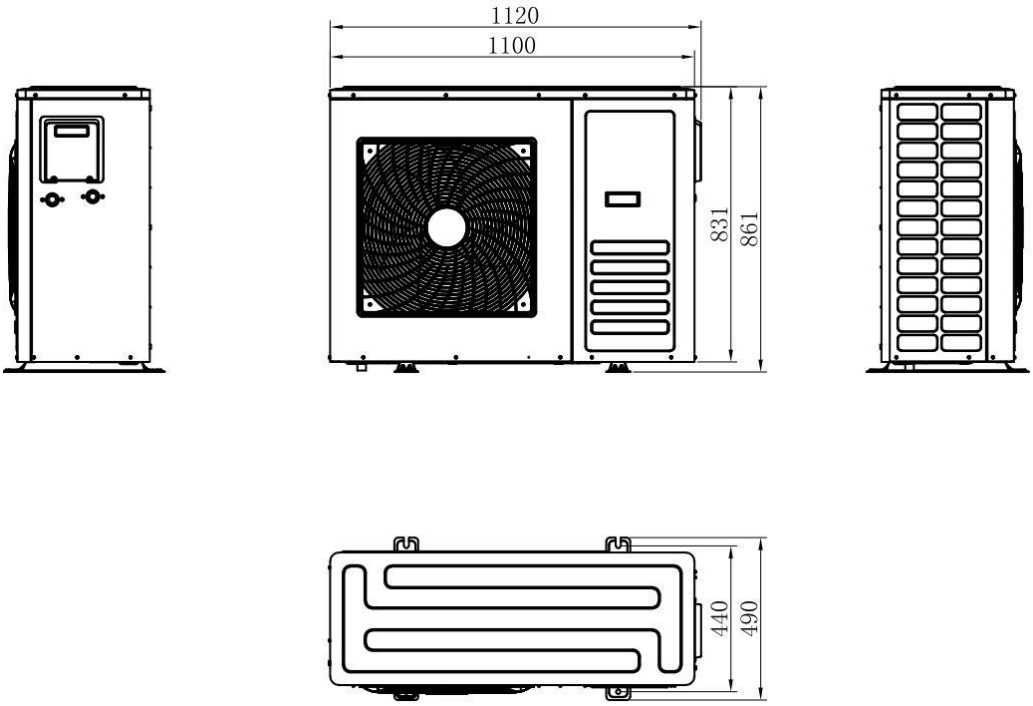
1. In the winter heating season, the unit is strictly forbidden to power off to ensure the normal operation of the unit's antifreeze function.

2. When the unit is not in use for a long time, please drain the water from the system.

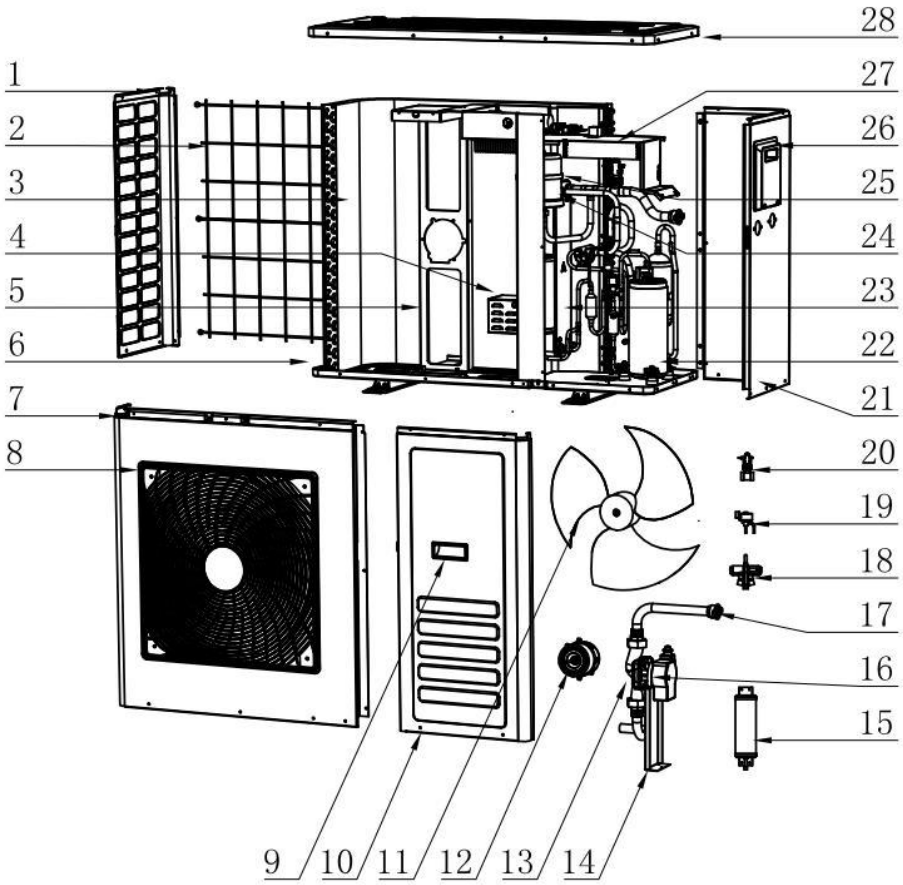
3. If the unit is not used after being used for a long time, please disassemble the special exhaust port of the pump first, and use a screwdriver to check whether the pump rotor can run normally. If it cannot be rotated normally or the rotation is blocked and the rotation is not smooth, you can use a screwdriver. Rotate a few more turns until the rotor is running freely. If you have any questions, please call the after-sales service.

Equipment Overview

DCI03PS/H3D Dimension:

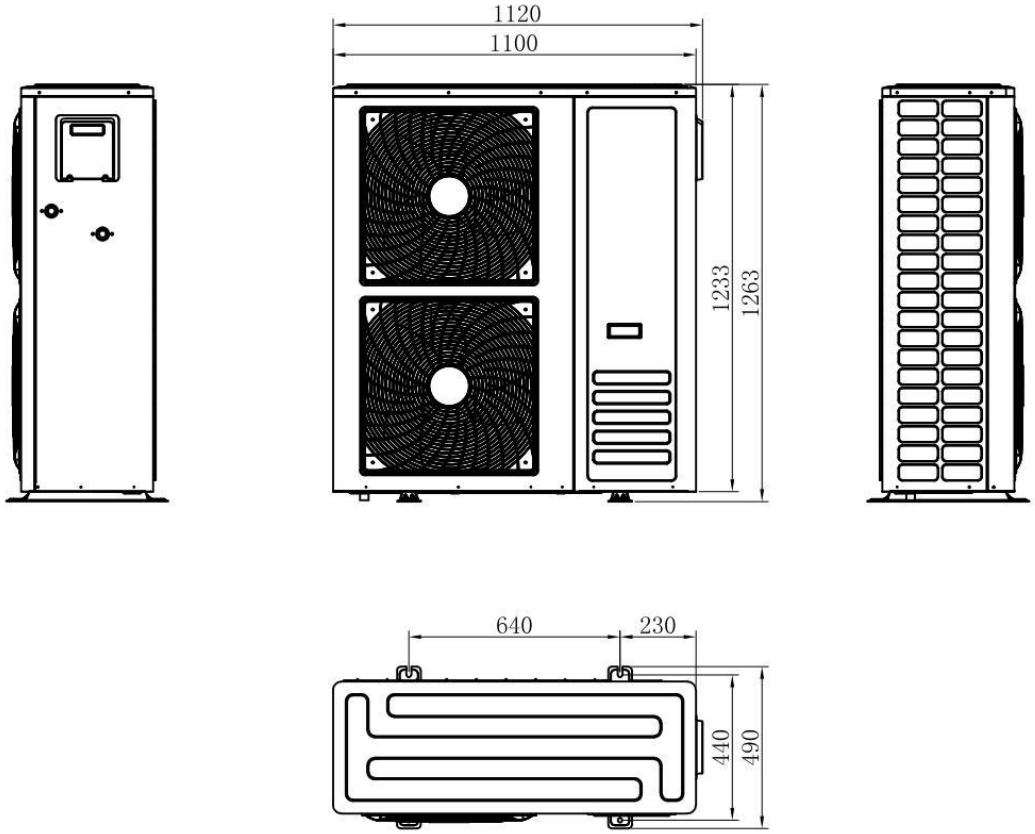


DCI03PS/H3D Internal structure

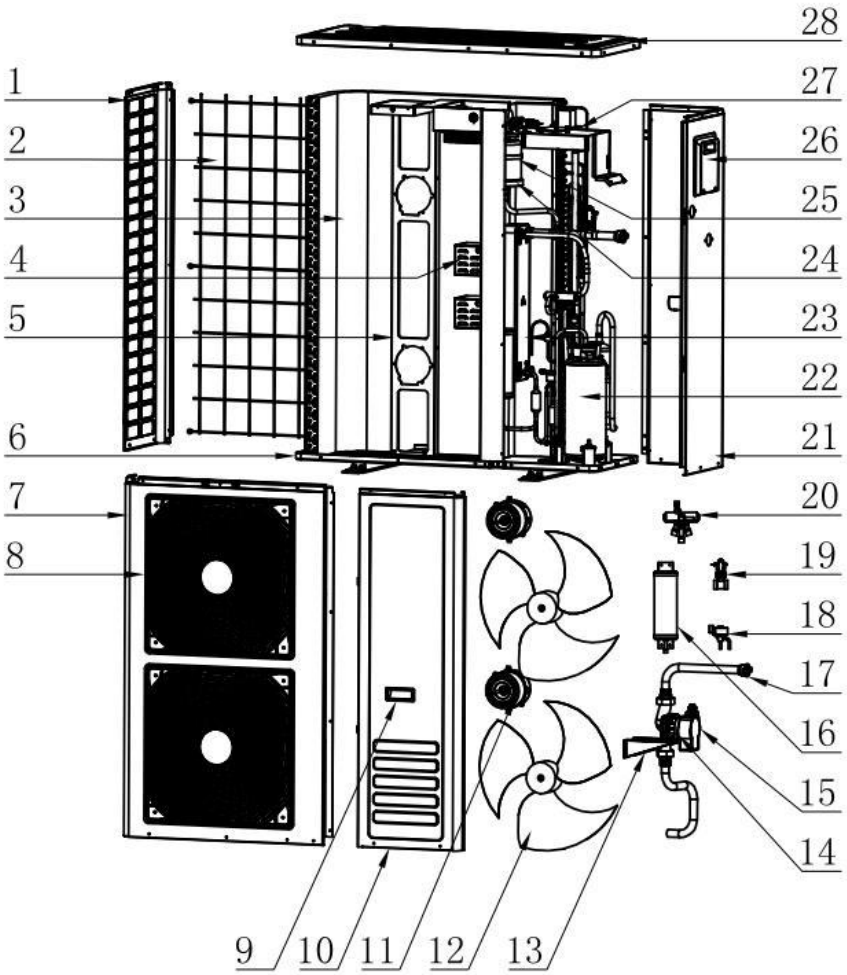


No.	Name	No.	Name	No.	Name
1	Right panel	**11**	Fan blade	**21**	Right side panel
2	Rear grille	**12**	Motor	**22**	Compressor
3	Fin Heat Exchanger	**13**	Water pump	**23**	Plate Heat Exchanger
4	Reactance box	**14**	Water pump bracket	**24**	Expansion tank
5	Fan bracket	**15**	Balance tank	**25**	Expansion tank hoop
6	Chassis Welded Components	**16**	Water pump hoop	**26**	Large plastic handle
7	Front panel	**17**	Copper joint	**27**	Electronic control part
8	Air outlet grille	**18**	Four-way valve	**28**	Top cover
9	Plastic digger	**19**	Electronic expansion valve		
10	Maintenance board	**20**	Flow switch		

DCI05PS/H5D Dimension:

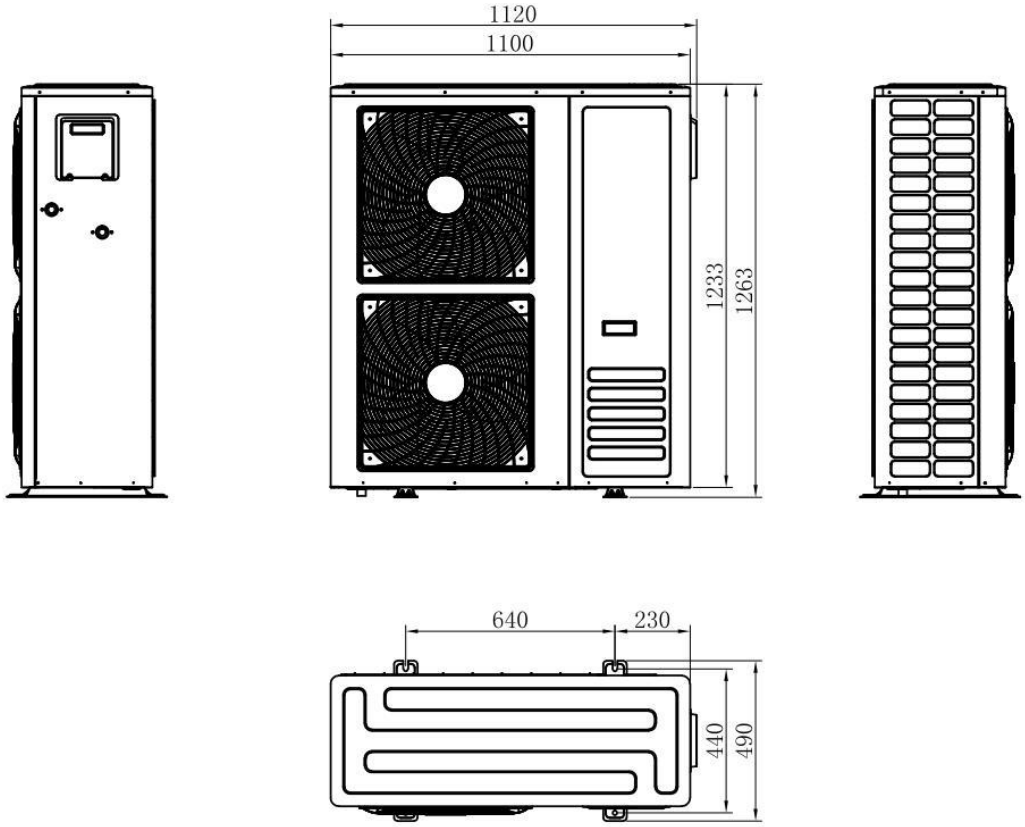


DCI05PS/H5D、DCI06PS/H5D Internal structure

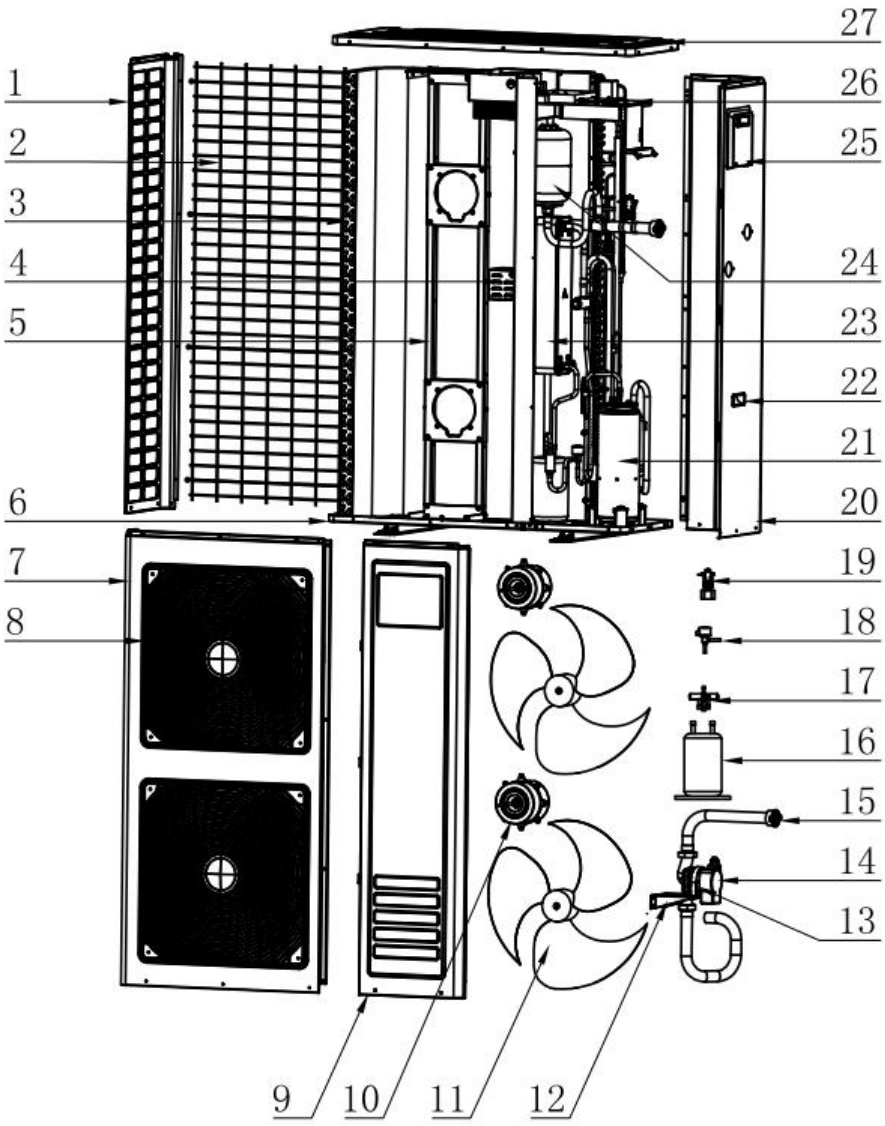


No.	Name	No.	Name	No.	Name
1	Right panel	**11**	Motor	**21**	Right side panel
2	Rear grille	**12**	Fan blade	**22**	Compressor
3	Fin Heat Exchanger	**13**	Water pump bracket	**23**	Plate Heat Exchanger
4	Reactance box	**14**	Water pump hoop	**24**	Expansion tank
5	Fan bracket	**15**	Water pump	**25**	Expansion tank hoop
6	Chassis Welded Components	**16**	Balance tank	**26**	Large plastic handle
7	Front panel	**17**	Copper joint	**27**	Electronic control part
8	Air outlet grille	**18**	Electronic expansion valve	**28**	Top cover
9	Plastic digger	**19**	Flow switch		
10	Maintenance board	**20**	Four-way valve		

DCI08P/H8D Dimension:

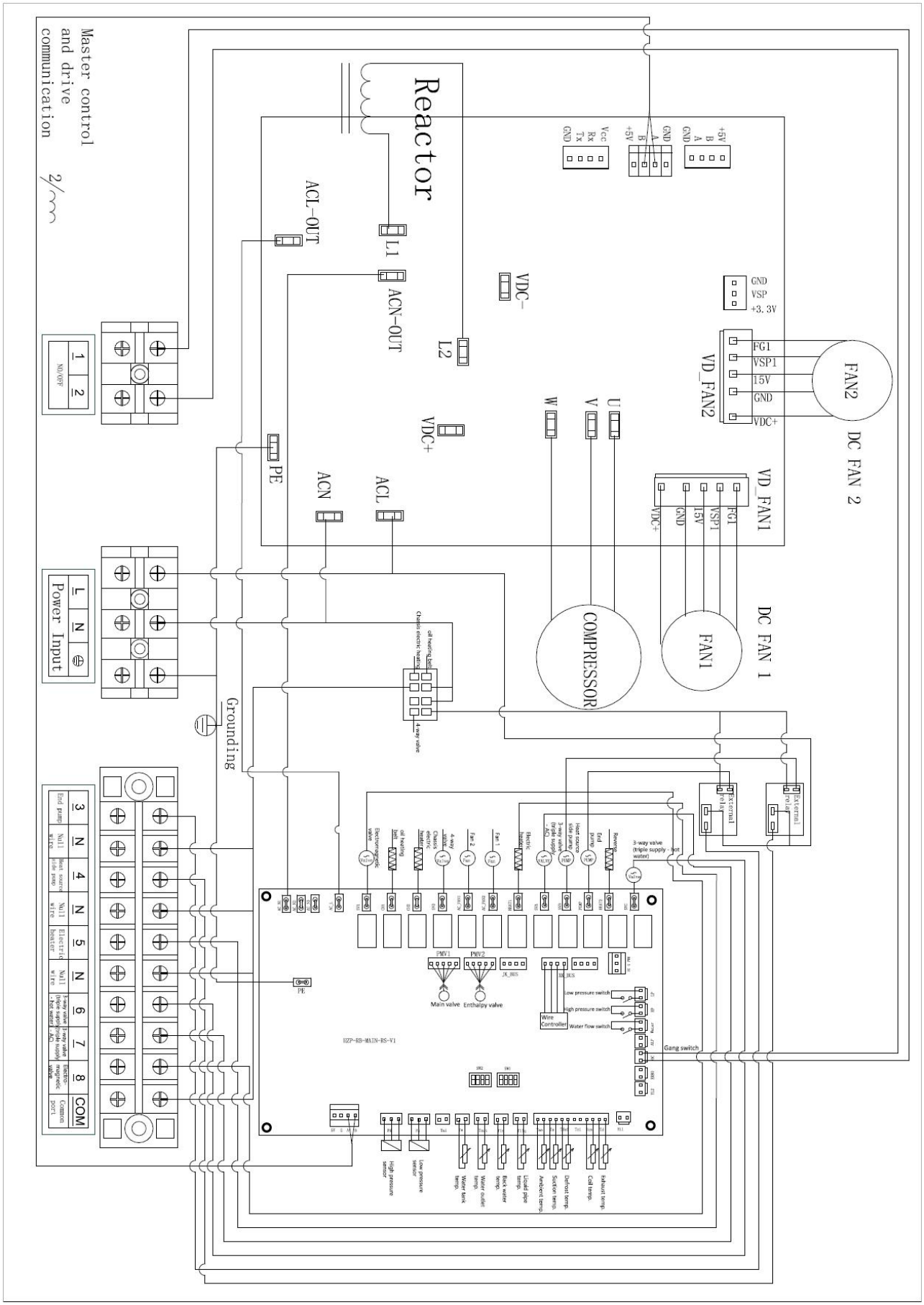


DCI08P/H8D Internal structure

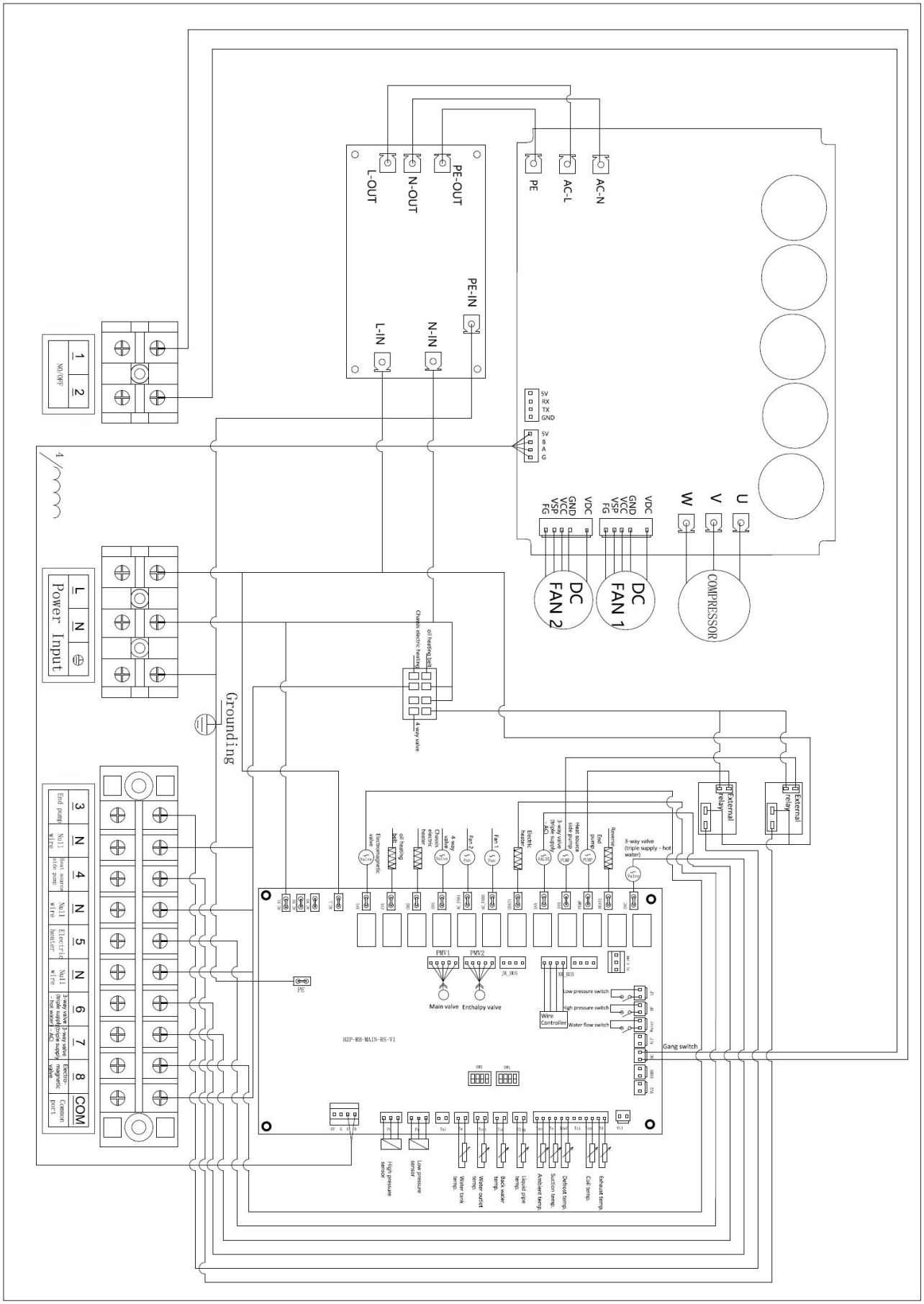


No.	Name	No.	Name	No.	Name
1	Right panel	**10**	Motor	**19**	Flow switch
2	Rear grille	**11**	Fan blade	**20**	Right side panel
3	Fin Heat Exchanger	**12**	Water pump bracket	**21**	Compressor
4	Reactance box	**13**	Water pump hoop	**22**	Plastic digger
5	Fan bracket	**14**	Water pump	**23**	Plate Heat Exchanger
6	Chassis Welded Components	**15**	Copper joint	**24**	Expansion tank
7	Front panel	**16**	Reservoir	**25**	Large plastic handle
8	Air outlet grille	**17**	Four-way valve	**26**	Electronic control part
9	Maintenance board	**18**	Electronic expansion valve	**27**	Top cover

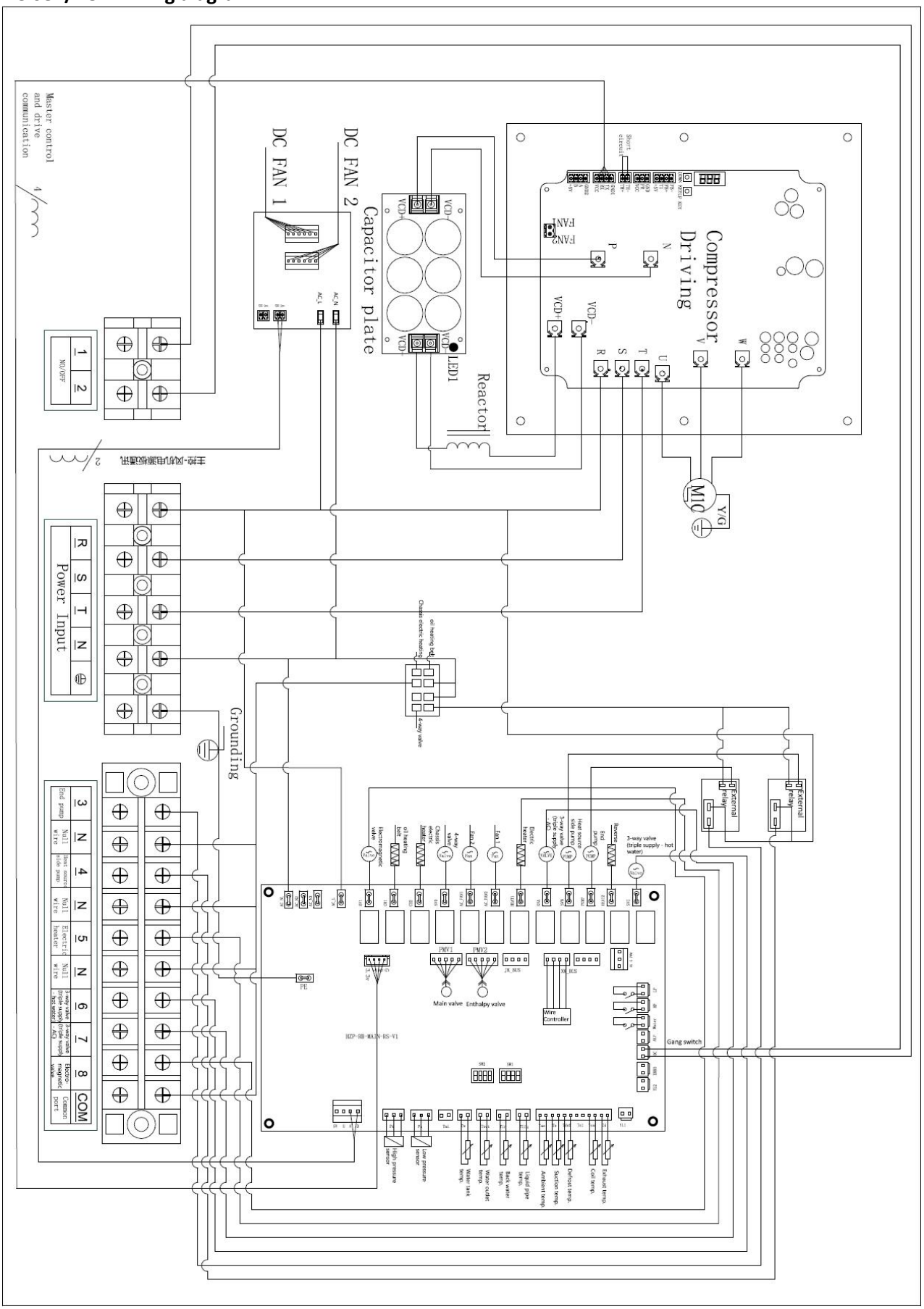
DCI03PS/H3D Wiring diagram



DCI05PS/H5D、DCI06PS/H5D wiring diagram



DCI08P/H8D Wiring diagram



Note: For specific wiring, please refer to the wiring diagram.
Grounding of the power supply should select the grounding point connection that meets the requirements;
Maximum input current of the whole machine (for reference only, subject to the machine nameplate).

Model	Rated input power / current	Total max. input power / current
DCI03PS/H3D	3960W /18A	18A
DCI05PS/H5D	7500W /34.1A	34.1A
DCI06PS/H5D	7500W /34.1A	34.1A
DCI08P/H8D	10000W/19A	19A

Field wiring

Caveat

- When wiring, please turn off the power;
- All wiring and component installation work should be performed by a licensed electrician and comply with the laws and regulations of the country in which it is located;
- Wiring work should be carried out in strict accordance with the circuit diagram and instructions of the machine;
- Use a dedicated power supply, do not use the power of other devices;
- Be sure to install the ground wire. Do not connect the ground wire of the machine to a public pipe, lightning arrester, or mainframe mount as a grounding point. Unreliable ground or grounding points can easily cause electric shock accidents;
- Install the leakage protector, otherwise it may cause electric shock.

Water pipe engineering
Check the water cycle
Note: Y-type filter must be installed at the water inlet.

Before proceeding with the installation, please check the following points:

*The maximum water pressure does not exceed 10 bar.
* This system does not have a shut-off valve. For the convenience of service and maintenance, please install one at each inlet and outlet. Pay attention to the installation position of the closing valve. Note that the direction of the opening/closing valve is important for maintenance service.
* A drain valve should be installed on all the bottoms of the system to allow the water to drain completely during maintenance.
* There must be a vent on the top of the system. The location of the vents is chosen for easy maintenance.
* Pay attention to the components in the piping to be able to withstand the water pressure.

Do not use parts that have not been sprayed. These parts are severely corroded because copper pipes are used in the water circulation inside the machine.

When using a three-way valve or a two-way valve in a water circuit cycle, the maximum switching time of the valve must be less than 60 seconds.

Water injection

1. Connect the water supply system to the drain and water inlet
2. Make sure the automatic vent valve is open (at least two turns).
3. Fill the water until the water column pressure gauge shows that the pressure is close to 2 bar
Use the exhaust valve to drain the air from the water as much as possible. In order to avoid air in the waterway, the equipment may malfunction.
4. Spare heater:
Check that the container of the backup heater is filled with water because the pressure relief valve is open. Water must be removed from the valve.

Note

When water is injected, the air in the system may not be completely discharged. The remaining air is automatically expelled by the exhaust valve after the machine has been running for one hour. May be you need to inject with water later again.

The water pressure displayed by the water column pressure gauge depends largely on the water temperature (the higher the water temperature, the greater the water pressure)
However, the water pressure should be kept above 0.3 bar at any time to prevent air from entering the water cycle.
The machine may discharge excess water through the pressure relief valve
The quality of the water must comply with relevant standards or according to European Standard 98/83EC

Rated water flow

DCI03PS/H3D	1.38m³ /h
DCI05PS/H5D	2.41m³ /h
DCI06PS/H5D	2.75m³ /h
DCI08P/H8D	3.44m³ /h

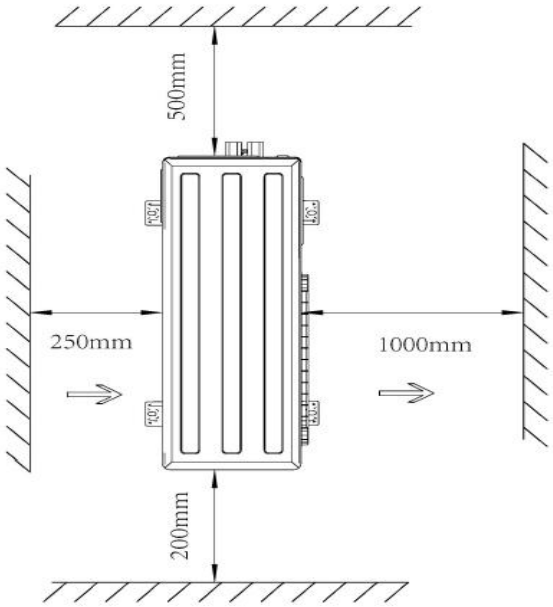
Machine installation
Installation guide
Select the installation location considerations
Caveat

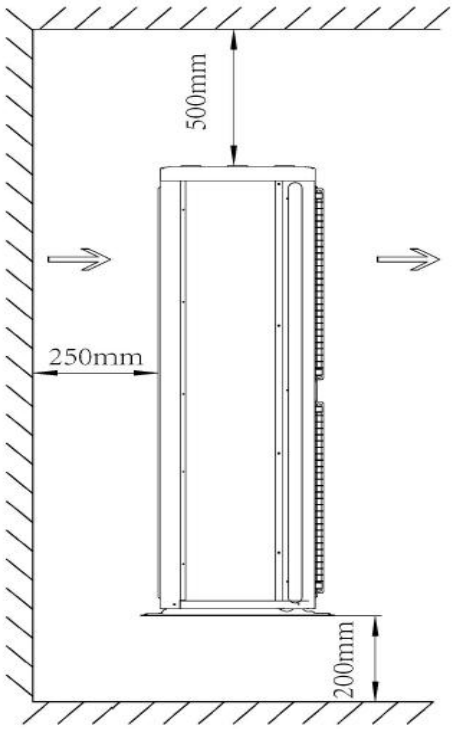
Please take appropriate measures to prevent the outside machine from being used as a habitat by some small animals.

Small animal contact with electrical parts may cause the unit to malfunction, smoke or catch fire. Please keep the environment around the unit clean.
1. Choose a location that is strong enough to support the weight and vibration of the unit so that the noise from the unit's operation is not amplified.
2. Choose a place where the unit can discharge hot air, or where the noise of the unit does not cause problems for neighbors or users.
3. Avoid installing near the bedroom, and the noise of the unit operation will cause trouble.
4. Space should be sufficient to move the unit.
5. There must be sufficient ventilation space, and there should be no obstacles in the air inlet and outlet.
6. There should be no flammable gas leakage near the installation point.
7. Install the unit, power cord and wires, and keep at least three meters away from the TV and

other radios to avoid image quality and sound quality interference.
8. Due to radio waves, even if the distance is more than three meters, there will still be electromagnetic interference.
9. At the seaside or in high air salinity, the life of the machine may be shortened due to corrosion.
10. When the external machine is defrosting, the water will flow out from the outside machine. Please do not place anything that must be kept dry under the unit.

Installation space

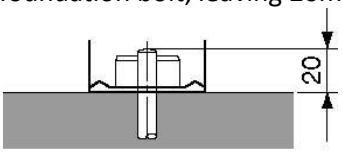




Installer

Installation of the whole machine

When installing the unit, please refer to the installation guide and select a suitable installation location.
1. Check the strength and level of the installation position. The unit will not cause vibration or noise after installation.
2. Prepare four sets of basic M8 bolts, nuts and washers. (on request)
3. According to the basic diagram, fix the unit with the basic bolts. It is best to screw it into the foundation bolt, leaving 20mm on the base surface



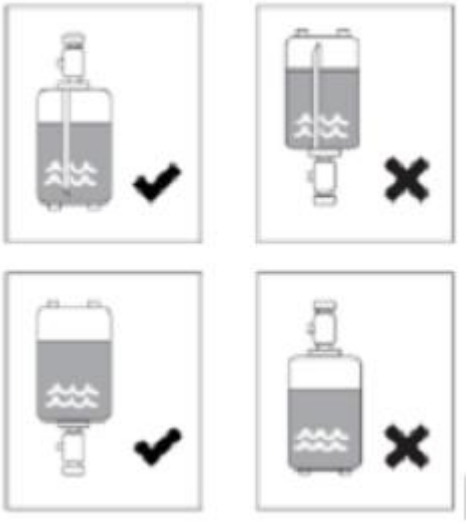
Wall brackets are not available in the outside unit unless there is a specific installation guide in the wall bracket.

- Injecting refrigerant
- The refrigerant of the whole machine is injected by the manufacturer.

- Important information about refrigerant
- The product contains fluorinated greenhouse gases mentioned in the Kyoto Protocol. Do not discharge the gas into the atmosphere.
- Refrigerant type: R32
- Global warming potential: 675
- Note: The State may require the machine to have a text in its official language when fulfilling EU regulations on specific fluorinated greenhouse gases. Therefore, the machine comes with a multi-language version of the label on fluorinated greenhouse gases. Paste the indication on the back of the label.
- Refilling the refrigerant
- If you need to refill the refrigerant, please refer to the machine nameplate, which describes the type of refrigerant and its required quantity.

- Adding refrigerant

- Add R32 considerations
- Add the specified amount of refrigerant and inject it into the liquid tube in liquid form. Because the refrigerant is a mixed refrigerant that is injected into the tube in a gaseous state, it may change the composition of the refrigerant, making it inoperable.
- Before injecting, please check if the cylinder is equipped with a siphon



Use the R32 special tool to ensure that the required pressure resistance is achieved and that other things are prevented from entering the system. Be careful, wear glasses and gloves.

Pre-operation check
Check before initial start

Turn off the power before connecting

After installation, please check the following before accessing the circuit breaker.

Field wiring
Make sure that the wiring of the instrument panel and the whole machine, the wiring of the whole machine and the wiring of the whole machine and the water tank are carried out according to the instruction manual, the circuit diagram and the compliance with European and

national laws and regulations.

2. Fuses or protective devices
Check the specifications and type of fuses and installed protective equipment to meet the requirements. Make sure that the fuses and protective devices are not ignored.
3. Ground wire
Connect the ground wire correctly and tighten the grounding terminal
4. Internal wiring
Check if the switch box is loose and the electrical components are damaged.
5. Fixed
Check that the machine is fixed and avoid abnormal noise and vibration during starting.
6. Damaged equipment
Check the unit for damaged components or the tube is squeezed
7. Refrigerant leakage
Check the unit for refrigerant leakage. If there is a leak, please contact your local dealer.
8. Power supply voltage
Check the power supply voltage on the power supply screen. The power supply voltage must match the rating on the unit nameplate.
9. Air exhaust valve
Make sure the air vent valve is open (at least 2 turns)
10. Pressure relief valve
Check that the backup heater container is filled with water after the pressure relief valve is opened. It is purifying water rather than air.

 The backup heater container does not fill the water and runs the system, which can damage the heater.

Close the valve
Install the shutoff valve correctly and open it.

 Operating the system with the valve closed will damage the pump!

Display interface operation instructions

1. Controller display

Figure 1 Diagram of Wired Controller

2. Wired controller interface description

Figure 2 Main interface description

Table 1 Description of the main interface of the wired controller

No.	Icon name	Meaning
1	WIFI display	There is no display here when the WIFI is not connected; this icon is displayed when the WIFI is successfully connected.

2	Time indication area	display time.
3	Air conditioning temperature	Display the current air conditioner temperature; touch the number to display the "set temperature and plus and minus symbols", click plus or minus to set to the target temperature (the temperature setting is only valid under the power-on condition).
4	Hot water temperature	Display the current water tank temperature; touch the number to display the "set temperature and plus and minus symbols", click plus or minus to set to the target temperature (the temperature setting is only valid under the power-on condition).
5	Mode selection	1. The sun icon is the heating mode; the sun icon is lit to set the heating mode (can be set only under the power-on condition). 2. The snowflake icon is the cooling mode; the snowflake icon is lit to set the cooling mode (can be set only under the power-on condition).
6	Functional mode	The unit defaults to "NORM" mode, click this area to switch to other modes. (Currently the unit does not support other modes) 1.NORM: Standard mode, the unit runs in normal state; 2. ECO: Energy-saving mode, the unit operates with reduced power consumption; 3.Turbo: Strong mode, the unit runs at the maximum power.
7	menu	Click this icon to enter the menu setting interface.
8	Hot water side on/off	The icon shows bright green to indicate that the hot water side is turned on, and gray indicates that the hot water side is turned off. Touch to switch the on/off state.

9	Air conditioner on/off	The icon shows bright green to indicate that the air conditioner side is turned on, and gray indicates that the air conditioner side is turned off. Touch it to switch the on/off state.。

3. Wire Controller Function Introduction

The menu interface is divided into WiFi settings, Screen settings, Time settings, Schedule, Sound settings (this function is temporarily canceled), and Factory settings 6 major setting sections, as shown in Figure 3:

Figure 3 Menu interface

3.1 WIFI setting

Click the "WIFI Settings" icon on the menu interface to enter the WIFI connection settings. Click "confirm WiFi reset" to reset the WiFi, and then open the corresponding APP on the mobile phone. After the matching is successful, you can control the air conditioner in the APP. When you have already connected to the APP, click "WiFi is not reset" to choose not to reset the WiFi, and then match it on the mobile APP. Click the "  " icon to return to the menu interface, and click the "  " icon to return to the main interface

Figure 4. WIFI setting interface

3.2. Screen setting

Click "Screen Settings" on the menu interface to enter the screen settings interface. ① The language setting defaults to "English", click "Chinese" to switch to Chinese; ② The default backlight time is 1 minute, the selection range is 1min~30min, press and hold the small dot on the backlight time progress bar and drag to adjust the length of the backlight time.

Figure 5. Screen setting interface

3.3. Time setting

On the menu interface, click the time setting frame area of "Time Setting" to enter the time setting interface. As shown in Figure 6, the time setting interface is year, month, day, hour and minute from left to right, click the "+" and "-" icons in the frame area to adjust to the corresponding time.

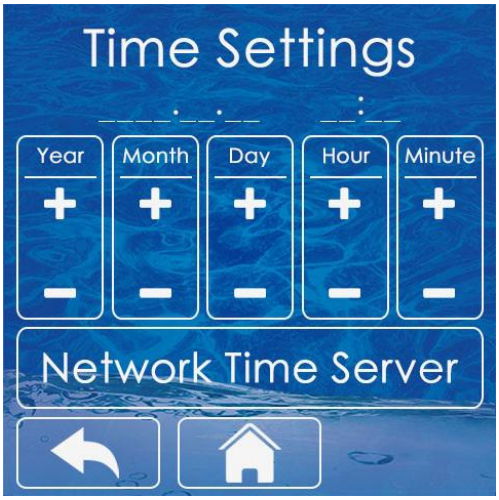


Figure 6. Time setting interface

3.4. Timing setting

Click "Schedule" on the menu interface to enter the schedule setting interface.

① The timing function has three sets of timing periods to choose from, as shown in Figure 7, click the green dot to enable the timing, and click the grey dot to close the timing.

② Click "Timer 1" to enter the timing adjustment interface, adjust the "Turn ON time" to 7 o'clock and the "Turn OFF time" to 8 o'clock, then the air conditioner runs at 7 o'clock and runs to 8 o'clock, click the air conditioning mode selection icon, the green cooling is cooling Mode/Red icon is the heating mode, the hot water icon is red, the hot water is enabled, and the gray is the hot water is not enabled. After the setting is completed, save and exit. "Timer 2" and "Timer 3" are the same as above. As shown in Figure 8, the air conditioner is turned on at 7 o'clock for cooling at 20 degrees and hot water at 50 degrees, and it runs to 8 o'clock and shuts down.

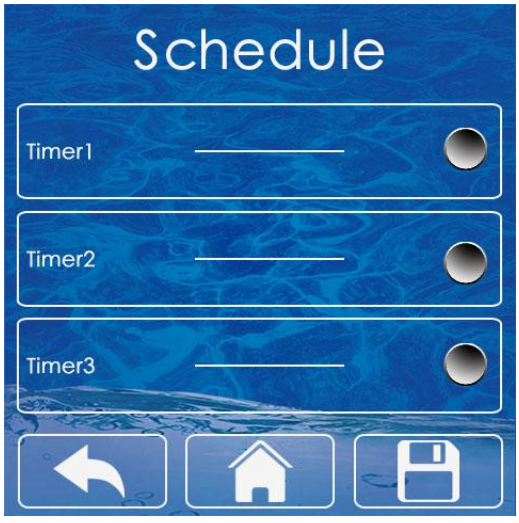


Figure 7 Timing interface

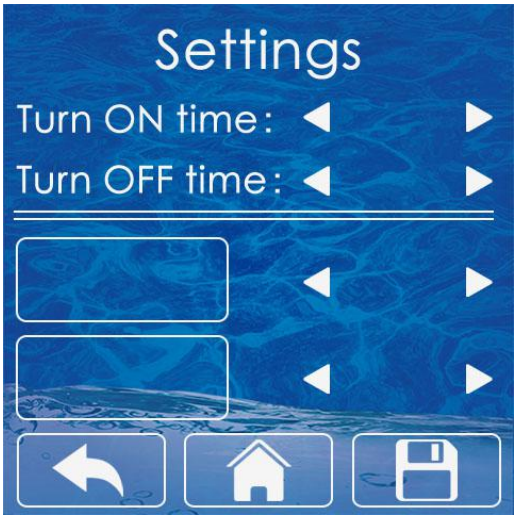


Figure 8 Timing adjustment interface

3.5. Factory setting

On the menu interface, click "Factory Setting" to enter the factory parameter setting interface (note: this function needs to be operated under the guidance of professionals). To enter the factory setting interface, you need to enter the password first, click the "Password Enter" field to enter the three-digit password (initial password 123), click "Login" to confirm the password, if the password is correct, enter the factory setting interface.

Figure 9 Password input interface

Figure 10 Factory setting interface

3.5.1 Fault Query

On the factory setting interface, click the "Fault" frame to enter the fault query interface. Click the  icon to return to the previous factory setting interface, and click the  icon to return to the main interface.

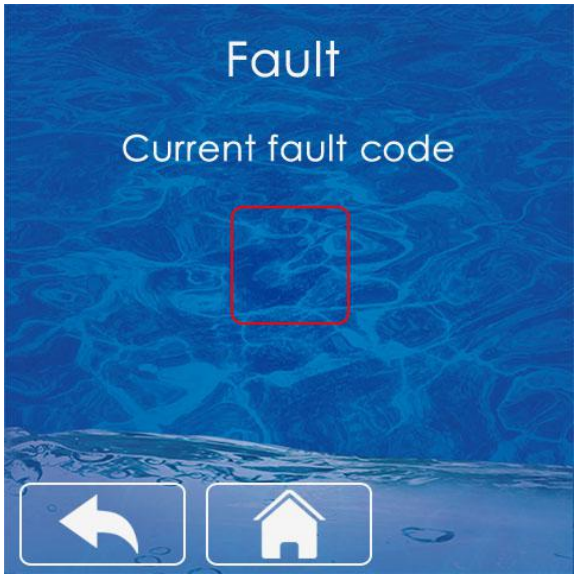


Figure 11 Fault Query

3.5.2 Parameter Query

On the factory setting interface, click the "Parameter" frame to enter the parameter query interface.

① When the parameters need to be changed during the unit commissioning, it is recommended to check the parameter table and click the small triangles on the left and right of the corresponding parameter value to add or subtract to adjust to the target value. Changes are automatically saved when completed.

② When you click the frame where the up key of the parameter interface is located, the page is turned up, and when you click the frame where the down key is, the page is turned down. You can go back after setting is complete.

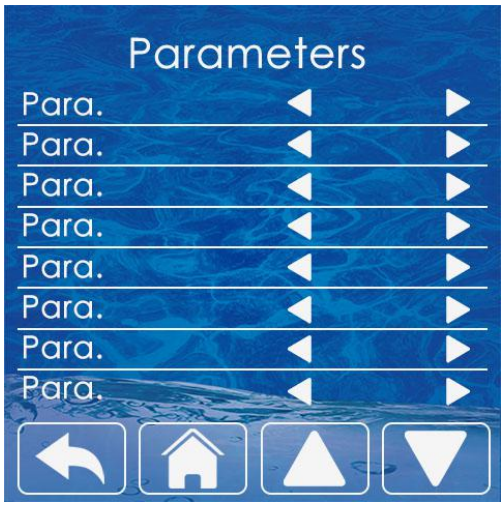


Figure 12 Parameters Query

3.5.3. Operation data query

In the factory setting interface, click the "Operations" frame to enter the unit operation data query interface, and you can click the up and down keys to turn the page to query the data.

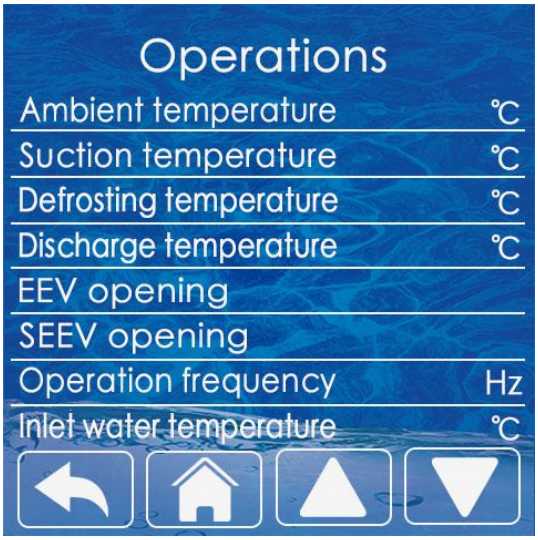


Figure 13 Operation data query interface

3.5.4 Other setting

In the factory setting interface, when you click the frame area where "Others" is located, it will enter the other interface.

Figure 14 Other setting interface

① In the "Other" interface, click the "Version Information" frame to enter the version information interface, and query the version information of the main control board program and the version information of the wire controller program.

Figure 15 Version information

② In the "Other" interface, click the area where the "Password Change" frame is located to enter the password change interface. Enter the same new password in the "New Password" field and "Confirm Password" field and save it.

Figure 16 Password change interface

4. Wire Controller Parameter Lookup Table

The user can query and set the parameters of the unit through the wired controller. As shown in table 2:

Table 2 Wired controller parameter list

No.	Name	Defaults	Min.	Max.	Remarks
0	Heating effluent start temperature difference/℃	5	0	255	
1	Heating return water start temperature difference/℃	3	0	255	
2	Refrigeration return water start-up temperature difference/℃	3	0	255	
3	Hot water start temperature difference/℃	5	0	255	
4	Cooling / heating to temperature shutdown temperature difference/℃	1	0	255	

5	Hot water to temperature shutdown temperature difference/℃	1	0	255	
6	Whether the power-off memory is enabled	1	0	255	1: Enable 0: Disable
7	Whether the forced defrost function is enabled	0	0	255	1: Enable 0: Disable
8	Water flow switch delay/minute	1	0	255	
9	Whether the air disc linkage is enabled	0	0	255	1: Enable 0: Disable
10	Whether heating auxiliary electric heating is enabled	1	0	255	1: Enable 0: Disable
11	Water circuit auxiliary hot start ambient temperature/℃	30	0	255	Actual temperature = set temperature - 50℃
12	Whether auxiliary heating for hot water is enabled	1	0	255	1: Enable 0: Disable
13	Hot water sterilization temperature/℃	65	0	255	
14	Hot water sterilization cycle/day	10	0	255	
15	Hot water sterilization retention time/min	2	0	255	
16	Outdoor ambient temperature Tao/℃		0	255	Read only
17	Suction temperature Ts/℃		0	255	Read only
18	Defrost coil temperature Tdef/℃		0	255	Read only

19	Exhaust temperature Td/℃		0	255	Read only
20	Main electronic expansion valve PMV1 opening/PLS		0	255	Read only
21	Enthalpy Electronic Expansion Valve PMV2/PLS		0	255	Read only
22	Inverter compressor operating frequency/Rps		0	255	Read only
23	Return water temperature/℃		0	255	Read only
24	Outlet water temperature/℃		0	255	Read only
25	compressor drive fault code		0	255	Read only
26	External unit master control fault code		0	255	Read only
27	Water conservancy module fault code		0	255	Read only
28	reserved		0	255	Read only
29	reserved		0	255	Read only
30	Air conditioning mode type selection	0	0	255	0: cooling + heating / 1: cooling only / 2: heating only
31	Pump to temperature shutdown type	0	0	255	0: When the temperature is reached, the pump will not stop / 1: Intermittent operation / 2: When the temperature is reached, stop the water pump

32	Energy efficiency test selection, no memory	0	0	255	0: Disabled 1~4: Cooling test, the cooling mode takes effect 11~22: Heating test, heating mode takes effect
33	Whether the compressor overload switch is enabled	0	0	255	1: Enable 0: Disable
34	Whether the medium voltage switch is enabled	0	0	255	1: Enable 0: Disable
35	Cooling inlet and outlet temperature difference protection value/℃	13	0	255	
36	Heating inlet and outlet temperature difference protection value/℃	13	0	255	
37	reserved	70	0	255	
38	reserved	80	0	255	
39	Frequency Hopping Point 1 Upper Limit/Rps	255	0	255	255 Indicates that the setting is invalid
40	Frequency Hopping Point 1 Lower Limit/Rps	255	0	255	255 Indicates that the setting is invalid
41	Frequency Hopping Point 2 Upper Limit/Rps	255	0	255	255 Indicates that the setting is invalid
42	Frequency Hopping Point 2 Lower	255	0	255	255 Indicates that the setting is

	Limit/Rps				invalid
43	Heating outlet water temperature correction/℃	13	0	255	Actual value = set value - 10°C
44	Cooling return water temperature correction/℃	10	0	255	Actual value = set value - 10°C
45	Cooling suction superheat Kd correction value 1/℃	7	0	255	Actual value = set value - 10°C
46	Cooling suction superheat Kd correction value 2/℃	9	0	255	Actual value = set value - 10°C
47	Cooling suction superheat Kd correction value 3/℃	10	0	255	Actual value = set value - 10°C
48	Cooling suction superheat Kd correction value 4/℃	11	0	255	Actual value = set value - 10°C
49	Heating target superheat (Tao≤-3, Ps control)	8	0	255	For negative numbers, actual value = setpoint - 256
50	Heating target superheat (Tao(-3,6), Ps control)	8	0	255	For negative numbers, actual value = setpoint - 256
51	Heating target superheat (Tao ≥ 6, Ps control)	8	0	255	For negative numbers, actual value = setpoint - 256
52	Heating target superheat (Tao≤-3, controlled by Tdef)	2	0	255	For negative numbers, actual value = setpoint - 256
53	Heating target superheat (Tao(-3,6),	2	0	255	For negative numbers, actual value

	Tdef control)				= setpoint - 256
54	Heating target superheat (Tao≥6, Tdef control)	2	0	255	For negative numbers, actual value = setpoint - 256
55	Heating exhaust gas is too low control target/℃	60	0	255	
56	Heating exhaust superheat is too high control target/℃	90	0	255	
57	Heating main valve minimum opening 1/PLS Td < 65℃	80	0	255	
58	Heating main valve minimum opening 2/PLS Td > 65℃	80	0	255	
59	Heating main valve minimum opening 3/PLS Td > 75℃	85	0	255	
60	Heating main valve minimum opening 4/PLS Td < 85℃	85	0	255	
61	Heating main valve minimum opening 5/PLS Td > 95℃	90	0	255	
62	Heating auxiliary valve initial opening /PLS	75	0	255	
63	Heating auxiliary valve open exhaust temperature condition/℃	75	0	255	
64	Heating auxiliary valve closed exhaust	20	0	255	

	superheat condition/℃				
65	Heating auxiliary valve exhaust superheat target value/℃	35	0	255	
66	Heating auxiliary valve maximum opening 1 (Td > 80℃)/2pls	90	0	255	Actual value = set value*2
67	Heating auxiliary valve maximum opening 2 (Td > 90℃)/2pls	90	0	255	Actual value = set value*2
68	Heating auxiliary valve maximum opening 3(Td > 100℃)/2pls	100	0	255	Actual value = set value*2
69	Heating auxiliary valve minimum opening/PLS	50	0	255	
70	Defrost cumulative running time A-B/min	45	0	255	
71	Defrost cumulative running time C/min	90	0	255	
72	Defrost cumulative running time D/min	120	0	255	
73	Defrost frequency/Rps	65	0	255	
74	Defrost opening/2PLS	200	0	255	Actual value = set value*2
75	Defrost exit condition Tdef1/℃	10	0	255	
76	Defrost exit condition Tdef2/℃	15	0	255	
77	Exhaust temperature is too high limit frequency temperature / ℃	102	0	255	

78	To temperature reduction frequency selection	1	0	1	0: No frequency reduction at arrival temperature; 1: Frequency reduction at arrival temperature.
79	Tcm usage patterns	0	0	255	0 = use Tcm; 1=Tcm is not used, the sensor position remains unchanged; 2=Tcm is not used, the sensor and Tliq are interchanged. (Power off after change)
80	Simulated temperature when Tcm is not used	10	0	255	When Tcm is not used, Tcm = Tdef + parameter - 10
81	Heating outlet/return water control options	1	0	255	0: Return water control 1: Outlet water control
82	Mainboard address	0	0	2	0: Wired controller address No. 1 machine (others increase in sequence)
83	Force compressor frequency	0	0	255	Unit 1Hz <30 not mandatory
84	Mandatory main valve opening	0	0	255	Unit 2pls 0=Not mandatory
85	Mandatory auxiliary valve opening	0	0	255	Unit 2pls 0=Not mandatory
86	Forced external DC fan speed	0	0	255	Unit 10RPM 0=Not mandatory
87	Load default parameters (restore to	0	0	255	1=reset other=no operation

	factory settings)				
88	Cooling highest frequency 1 (Tao>35)	70	0	255	If the external ambient temperature lasts for more than 2 minutes within a certain segment, the highest frequency is calculated according to the new segment
89	Cooling highest frequency 2 (Tao>30)	70	0	255	
90	Cooling highest frequency 3 (Tao>25)	70	0	255	
91	Cooling highest frequency 4 (Tao>20)	70	0	255	
92	Cooling maximum frequency 5 (Tao≤20)	70	0	255	
93	Heating maximum frequency 1 (Tao>20)	82	0	255	
94	Heating maximum frequency 2 (Tao>10)	82	0	255	
95	Heating maximum frequency 3 (Tao>0)	82	0	255	
96	Heating maximum frequency 4 (Tao>-12)	82	0	255	
97	Heating maximum frequency 5 (Tao≤-12)	82	0	255	
98	Reserved	0	0	255	

5. **Error Code Table**

Table 3. Error Code Table

Code	Name	Description	Solution
F2	Inlet water temperature Twi sensor failure	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
F3	Liquid pipe temperature sensor failure	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
F4	Outlet water temperature Two sensor failure	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
F1	Tw temperature sensor failure (reserved)	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
F5	Water flow switch disconnection protection	1. Check whether the water in the valve is closed or there is no water; 2. Check whether the flow switch is blocked or damaged; 3. Check if the "Y" filter is clogged.	1. Open the valve; 2. Replace the flow switch with a new one; 3. Clean or replace the filter with a new one.
F9	Cooling antifreeze switch disconnection protection	1. Check the system for leaks; 2. Check whether the Y-type filter is blocked; 3. Check the cooling system filter for blockage or damage.	1. Repair the leak and re-inflate the body; 2. Clean the Y-type filter; 3. Replace the filter.
FA	Insufficient water flow protection	1. Check whether the water in the valve is closed or there is no water; 2. Check whether the flow switch is blocked or damaged; 3. Check if the "Y" filter is clogged.	1. Open the valve; 2. Clean or replace the filter with a new one.
“8888” flicker	Internal unit and wired controller communication failure	Check whether the mainboard-wire control signal cable is damaged or disconnected	Replace the cable or reconnect
A4	Td temperature sensor failure	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
A7	Ts temperature sensor failure	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
A2	Tdef temperature sensor failure	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
A1	Tao temperature sensor failure	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
A8	Tcm temperature sensor failure	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.

Ab	Pd temperature sensor failure (mutually exclusive with Tcm)	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
P6	High pressure switch disconnection protection	1. Check whether the water flow is not enough or the pump flow is not enough; 2. Check whether the high pressure switch is damaged; 3. Check whether the refrigeration system is blocked; 4. When the heat pump is off, turn the heat pump on and off and check if the electronic expansion valve sound can be heard by resetting.	1. Refill the water or change to a new pump with a larger water flow; 2. Replace the high-pressure switch with a new one; 3. Replace the new filter 4. Replace with a new electronic expansion valve.
P9	Low pressure switch disconnection protection	1. Check the gas system for leaks; 2. Check whether the filter is blocked; 3. Check whether the ambient temperature and water temperature exceed the limit.	1. Correct the leak and refill the gas; 2. Replace the filter with a new one. 3. Return to normal ambient temperature and water temperature
LC	Master-drive communication failure	Check whether the mainboard-wire control signal cable is damaged or disconnected	Replace the cable or reconnect
C4	Td high protection	1. Check the refrigeration system for leaks; 2. Check if the sensor is disconnected or if the sensor resistance value is correct.	1. Correct the leak and refill the gas; 2. Reconnect or replace the sensor with a new one.
C7	Exhaust low superheat protection	1. Whether the refrigerant is overcharged; 2. Check if the sensor is disconnected or if the sensor resistance value is correct 3. Check whether the steps of the electronic expansion valve are correct.	1. Correction and re-injection of gas; 2. Reconnect or replace the sensor with a new one. 3. System settings recovery can only be controlled
Y3	External machine DC fan 1 fault	1. Check whether the connection line is disconnected; 2. Check whether the fan is damaged.	1. Reconnect or replace the sensor with a new one. 2. Replace the fan
H5	Four-way valve failure	1. Check whether the connection line is disconnected; 2. Check the high and low pressure.	1. Reconnect or replace the sensor with a new one. 2. Replace the fan
b9	Drive IPM over temperature protection	1. The main engine fan is faulty; 2. Air duct douse.	1. Repair or replace the fan. 2. Clean the air duct to keep good ventilation
b5	Drive input overcurrent protection	The module is abnormal;	Replace the drive module.

b5	Drive compressor phase current overcurrent protection	1. The compressor current wiring is loose; 2. The wire diameter is too thin.	1. Fasten the interface. 2. Bold wire diameter
b6	Drive DC bus voltage over and under voltage protection	Input voltage is too low, PFC module failure	Check input voltage, replace module
b7	Drive heatsink temperature sensor failure	Check if the sensor is disconnected or if the sensor resistance is correct.	Reconnect or replace with new sensor.
b4	Compressor not connected	Compressor wiring disconnection, poor contact	Check Compressor input wiring
bA	Compressor out of step or failed to start	Compressor wiring disconnection, poor contact	Check Compressor input wiring

Note:

In the winter heating season, the unit is strictly prohibited from powering off to ensure the normal operation of the unit's antifreeze function.

When the unit is not in use for a long time, please drain the water from the system.

The product will be subject to change in design specifications, performance and technical parameters, etc., without prior notice, please refer to the product.

The final interpretation right belongs to KONNEN.

Accessories: Smart Life WIFI connection

This wired controller can be connected to WIFI through the "Smart Life" software to control the unit. Connection steps:

1. First operate the wired controller, click "confirm WIFI reset" in the Wifi settings to reset the WiFi;
2. Download the "Smart Life" software on the mobile phone, turn on the Bluetooth on the mobile phone and connect to WIFI (the software only supports 2.4Ghz WIFI). As shown in Figure 17:

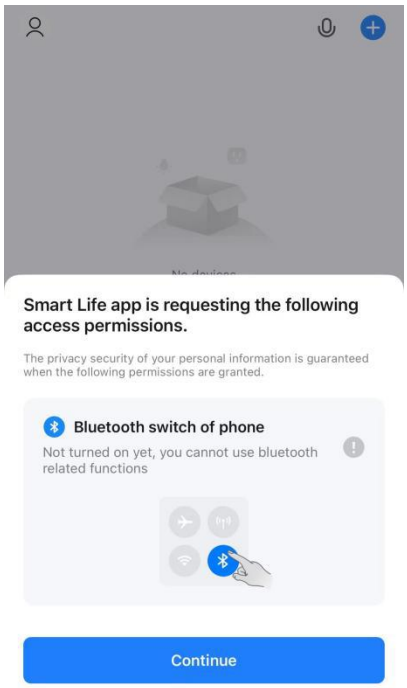
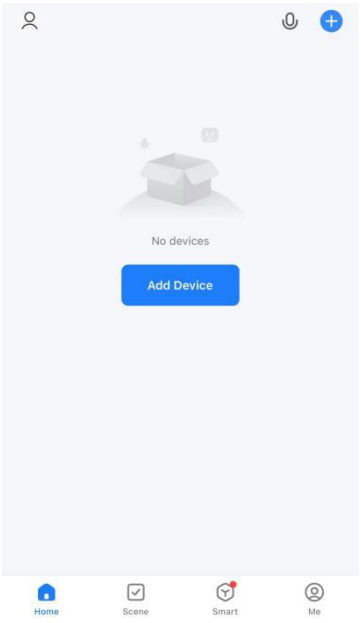
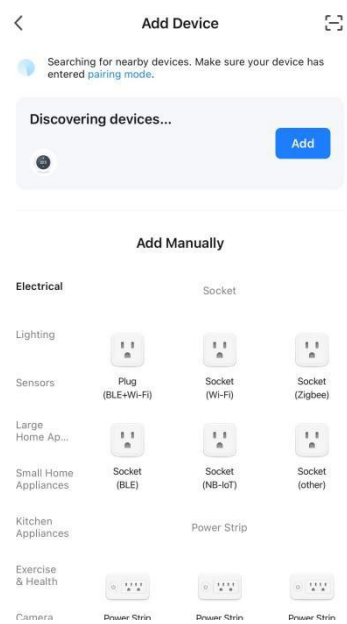


Figure 17. Turn on Bluetooth on your mobile phone

3. Open the "Smart life" software, generally it will prompt to add a device, click to add (as shown in Figure 18); if it cannot be added, you need to manually set it, find "Air Conditioner" in "Add Manually" and click Next, Then enter the WIFI and password that the mobile phone is connected to. If the connection is successful, you can directly go to the next step.





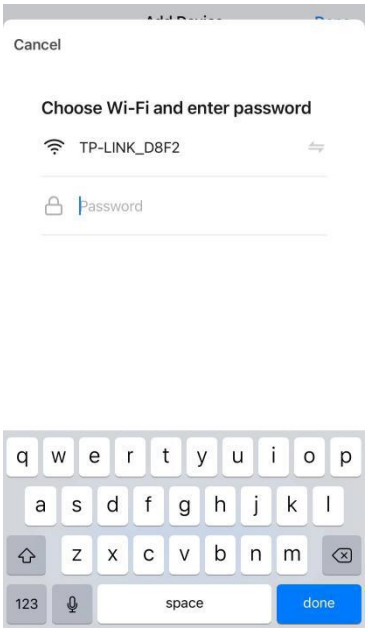
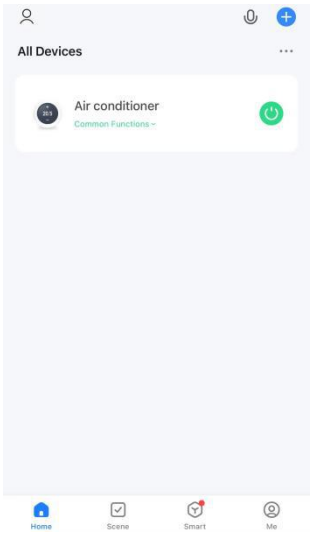


Figure 18. Add device *Figure 19. Autodiscover device* *Figure 20. Autodiscover device*

4. Click on the successfully added device (as shown in Figure 21) to open the air conditioner control interface (as shown in Figure 22), you can control the on/off of the air conditioner and hot water, control the air conditioner mode, control the set temperature, view the current temperature and other functions on the APP .



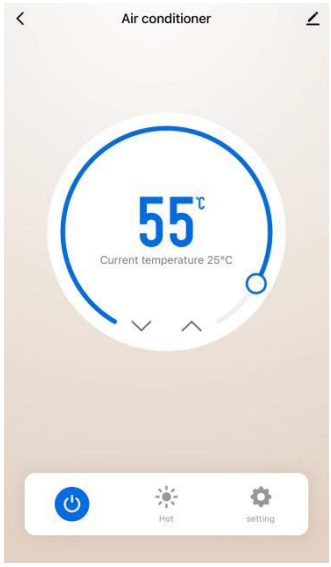


Figure 21. Successfully added device *Figure 22. Air conditioner control interface*