DC Inverter Heat Pump

Instruction Manual

For models: DHP-070-050-M
DHP-090-070-M
DHP-130-100-M
DHP-170-130-M

- Please read the manual carefully before installation and maintenance.
- Please keep this manual well for future reference.

CONTENTS

Part I: Important safety instruction

1.1Caution


1. Ensure proper operation on the unit.


2. The unit must be installed and repaired by qualified technician.


3. A leakage protection switch must be installed near the unit.


4. Do not use any damaged cables and switches to avoid any leakage.


5. Do not open the electrical box of the unit without shutting off power supply.


6. Along transportation, don't incline the unit more than 45°in any direction.


7. Before maintenance, please shut off the power to the unit.


8. The unit is designed for outdoor installation, do not install it in a close space without good ventilation.


9. Do not install the unit near inflammable or explosive goods.


10. Do not block the air intake or outlet of the unit.


11. If there is no glycol (anti-freeze) in the system there is a power supply or pump failure, drain the system.


12. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.


13. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.


14. The appliance shall be installed in accordance with national wiring regulations.


15. An all-pole disconnection device which has at least 3mm clearances in all poles , and have a leakage current that may exceed 10mA, the residual current device (RCD) having a rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.


16. Keep safety distance between the unit and other equipment or structures according local norm, and ensure that adequate space for maintenance or service operations.


17. Power supply: the diameter of electrical cables must be suitable for the unit and the power supply

voltage must correspond with the value indicated on the units. All units must be earthed in conformity with legislation in force in the country concerned.


18. Please attention that hot water produced by the unit is not to be used for drink.

1.2 Warning

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

1.3 Requirements

1. **Transport of equipment containing flammable refrigerants**

   Compliance with the transport regulations
2. **Marking of equipment using signs**

   Compliance with local regulations
3. **Disposal of equipment using flammable refrigerants**

   Compliance with national regulations
4. **Storage of equipment/appliances**

   The storage of equipment should be in accordance with the manufacturer’s instructions.
5. **Storage of packed (unsold) equipment**

   Storage package protection should be constructed such that mechanical damage to the equipment inside the package will not cause a leak of the refrigerant charge.

   The maximum number of pieces of equipment permitted to be stored together will be determined by local regulations.
6. **Information on servicing**

1) Checks to the area

   Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, the following

precautions shall be complied with prior to conducting work on the system.

2) Work procedure

Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

3) General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

4) Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

5) Presence of fire extinguisher

If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO2 fire extinguisher adjacent to the charging area.

6) No ignition sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. “No Smoking” signs shall be displayed.

7) Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

8) Checks to the refrigeration equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer’s maintenance and service guidelines shall be followed. If in doubt consult the manufacturer’s technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

– The charge size is in accordance with the room size within which the refrigerant containing parts are installed;

– The ventilation machinery and outlets are operating adequately and are not obstructed;

– If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;

– Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;

– Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

9) Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

• That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;

• That there no live electrical components and wiring are exposed while charging, recovering or purging the system;

• That there is continuity of earth bonding.

7. Repairs to sealed components

1) During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

2) Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected.

This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.

Ensure that apparatus is mounted securely.

Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE: The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

8. Repair to intrinsically safe components

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.

Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

9. Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

10. Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

11. Leak detection methods

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants.

Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.

Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed/ extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

12. Removal and evacuation

When breaking into the refrigerant circuit to make repairs – or for any other purpose conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:

- Remove refrigerant;
- Purge the circuit with inert gas;
- Evacuate;
- Purge again with inert gas;
- Open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders. The system shall be "flushed" with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task.

Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available.

13. Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
- Cylinders shall be kept upright.
- Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the refrigeration system.

Prior to recharging the system it shall be pressure tested with OFN. The system shall be leak tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

14. Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered

safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.

b) Isolate system electrically.

c) Before attempting the procedure ensure that:

• Mechanical handling equipment is available, if required, for handling refrigerant cylinders;

• All personal protective equipment is available and being used correctly;

• The recovery process is supervised at all times by a competent person;

• Recovery equipment and cylinders conform to the appropriate standards.

d) Pump down refrigerant system, if possible.

e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.

f) Make sure that cylinder is situated on the scales before recovery takes place.

g) Start the recovery machine and operate in accordance with manufacturer's instructions.

h) Do not overfill cylinders. (No more than 80 % volume liquid charge).

i) Do not exceed the maximum working pressure of the cylinder, even temporarily.

j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.

k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

15. Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

16. Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order. Empty recovery

cylinders are evacuated and, if possible, cooled before recovery occurs. The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

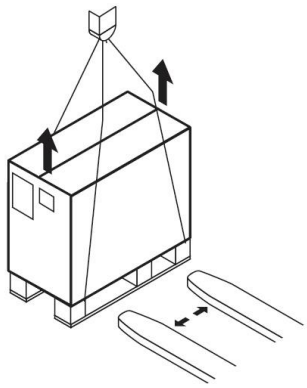
If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

Part II Installation

2.1 Transportation

Along transportation, don’t incline the unit more than 45°in any direction.

The unit in its packaging can be transported with a lift truck or hand truck.

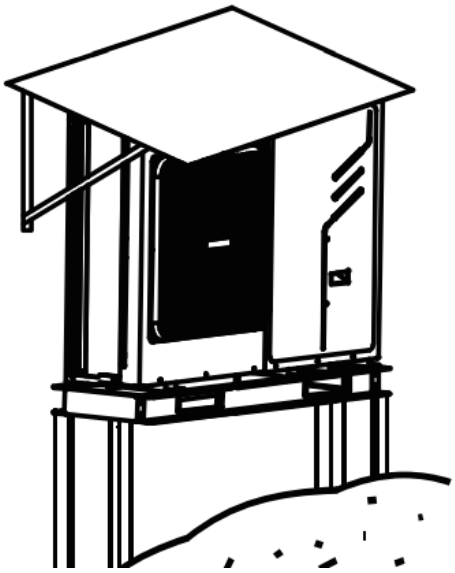


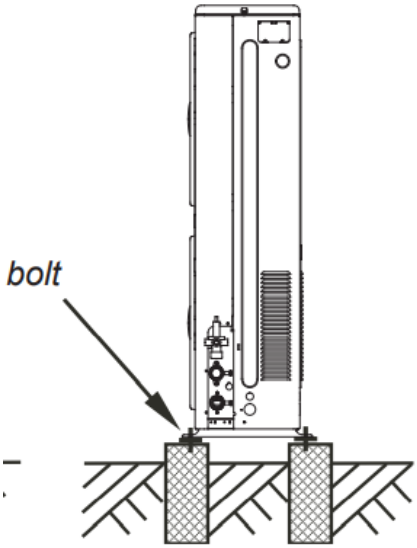
2.2 Installation site requirement

This unit is designed for outdoor installation, do not install it in a close space.

Please consider the condition as following factors when selecting installation site.

- The installation site should be large enough and well ventilation.
- The installation site should be convenient for water drainage.
- Select a smooth, horizontal site where it can support the weight of the unit.
- Do not install the unit where there is pollution, accumulation, fallen leaves or bad ventilation.
- Don’t install the unit near inflammable or explosive goods.
- Install shockproof rubber pad under the unit.
- Recommended to install a canopy above the machine to prevent snow from falling on the evaporator, which will reduce the efficiency of the heat pump and increase the difficulty of frosting.
- Recommended that the pedestal of the unit is higher than 30cm to avoid snow or ice on the ground to reach the machine, or affect condensation water discharge of the unit and cause icing in the unit.
- Fasten the feet of this unit with bolts firmly to prevent it from collapsing in case of earthquake or strong wind.



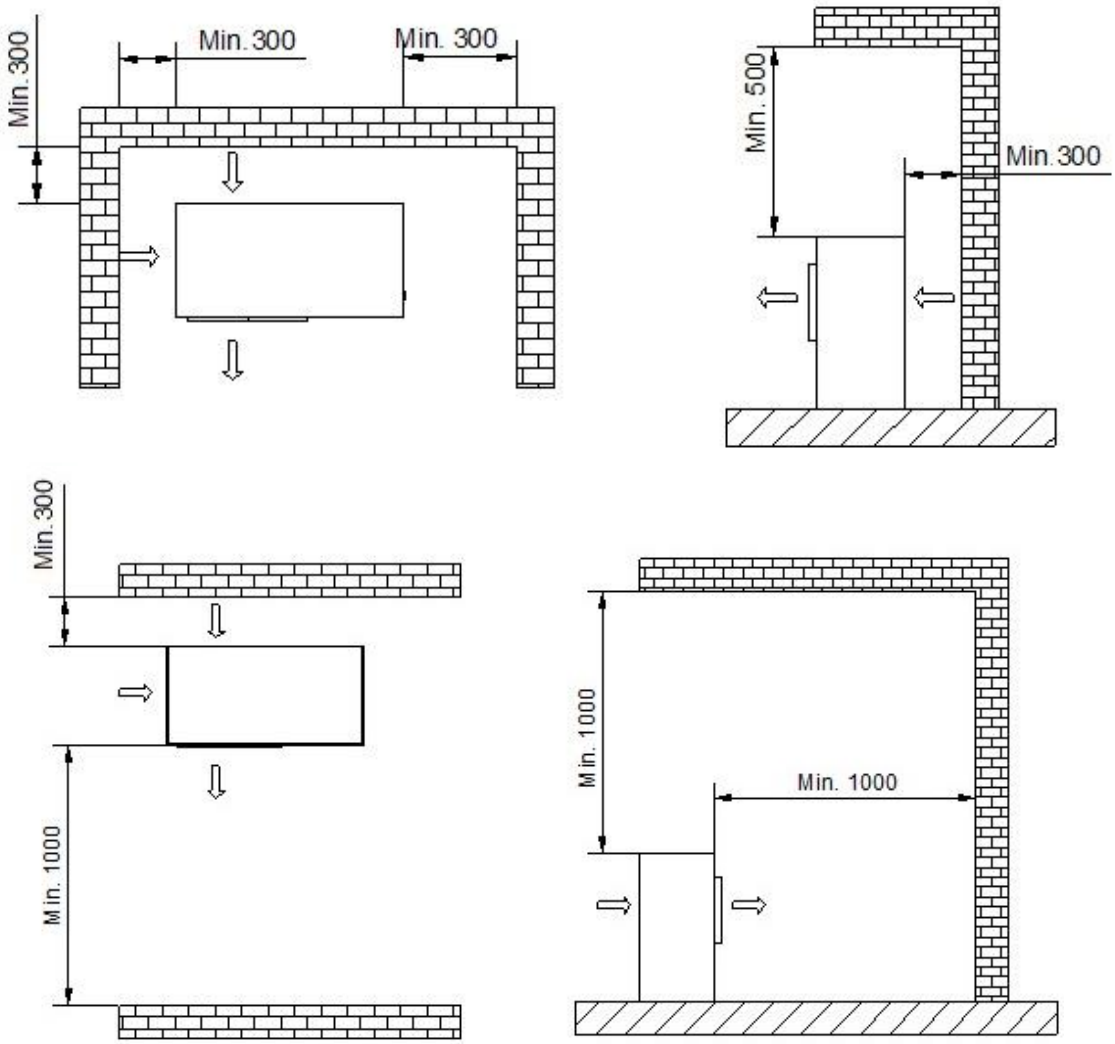


2.3 Minimum distance to wall

Air discharge

Minimum 1000mm to obstacles obstructing the air discharge.

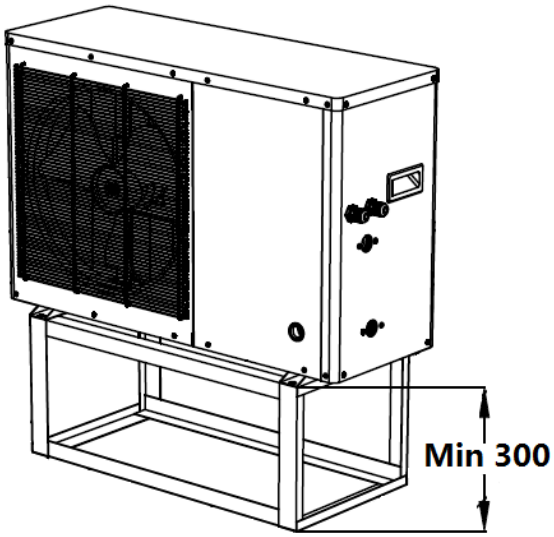
Minimum 3000mm to footpaths and patios due to the formation of ice, even when outside temperatures are above 0 °C



2.4 Clearance between outdoor module and ground

The minimum installation height must be 300mm.

A canopy must be constructed over the outdoor module in areas with heavy snowfall.



2.5 Hydraulic system installation

1. If sand and clay settle in the evaporator, circulation of chilled water may be blocked, and thus leading to freezing accidents, so water must be filtered.
2. The maximum water pressure cannot exceed 3 bar.
3. The maximum water temperature is 60°C according to safety device setting.
4. Drain taps must be provided at all low points of the system to permit complete drainage of the circuit during maintenance.
5. Air vents must be provided at all high points of the system. The vents should be located at points that are easily accessible for servicing. An automatic air purge is provided inside the unit. Check that this air purge valve is not tightened too much so that automatic release of air in the water circuit remains possible.
6. The hydraulic system must be equipped with expansion vessel.
7. The complete water circuit including all piping, must be insulated to prevent condensation during cooling operation and reduction of the heating and cooling capacity as well as prevention of freezing of the outside water piping during winter.
8. Depending on the expected lowest outdoor temperature, make sure the water system is filled with a concentration of glycol. If no glycol is added, the water must be drained out when there is a power failure.

2.6 Installation guide

2.6.1 Installation

a. Install 4 pieces shockproof rubber pad under the feet of the unit.

b. If the unit work with a water tank, the vertical distance between the unit and the water tank should be less than 6m, and the horizontal distance should be less than 20m.

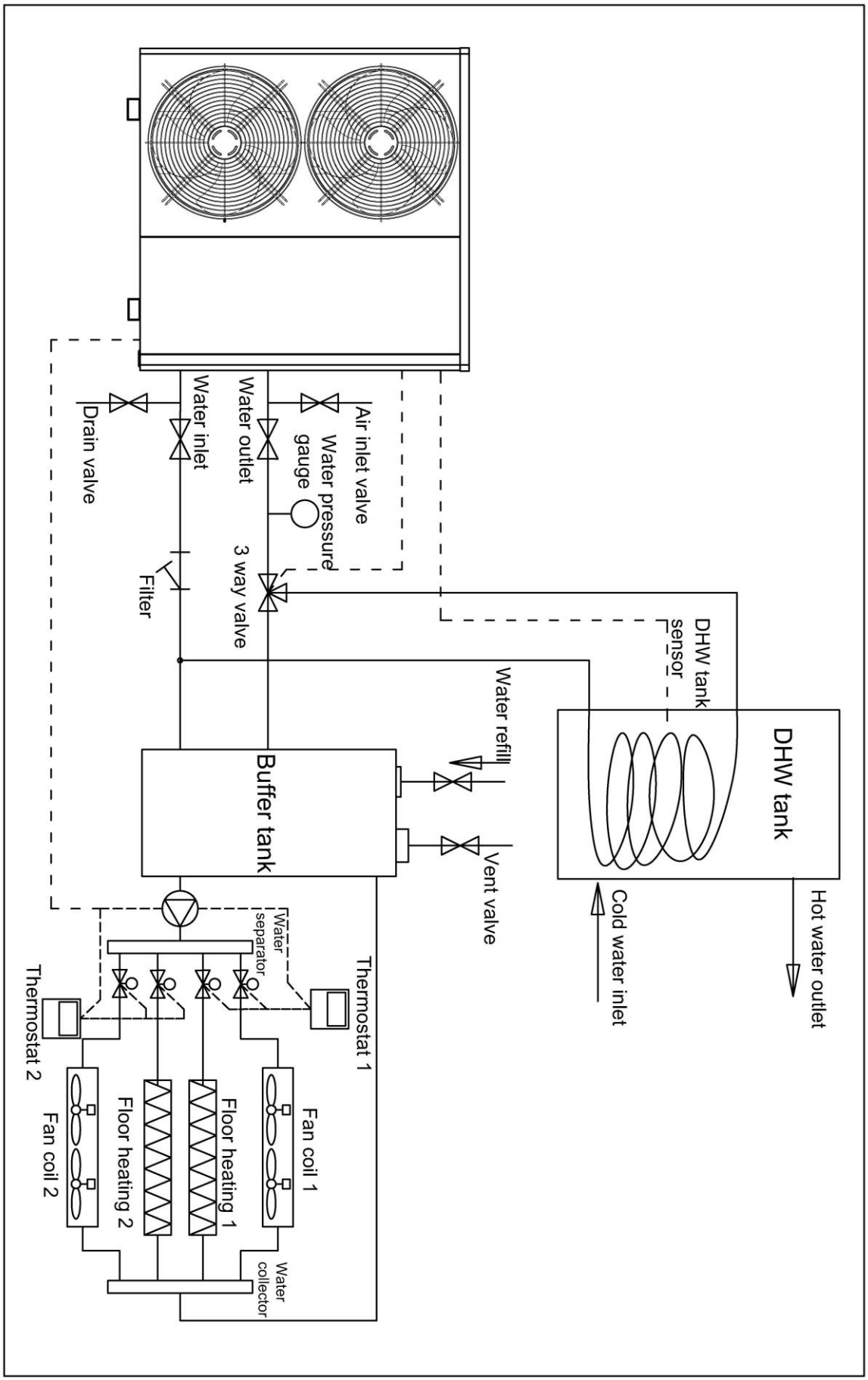
c. Connect the condensate drainage connector to the hole at the bottom sheet.

2.6.2 Accessories

Accessories inside the package as below table

No	Item	Quantity
1	Instruction Manual	1
2	Condensate drainage connector	2
3	shockproof rubber pads	4

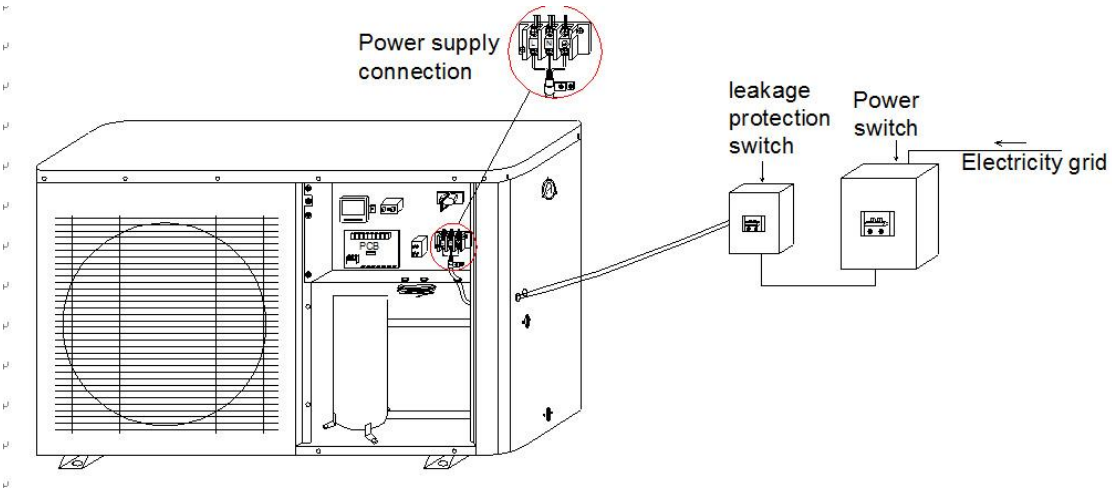
2.11 Recommended hydraulic connection



2.12 Electrical connection

1. Ensure proper operation of the unit, the unit must be installed and repaired by qualified technician.
2. A leakage protection switch must be installed near the unit.
3. Do not use any damaged cable and switch.
4. Do not open the electrical box without shutting off all power to the unit.

- All the wiring must meet the local electrical safety norm and performed by qualified electricians.
- Ensure that the heat pump water heater is well connected to the earth, do not disconnect the earth connection of the power in any condition.
- Provide a separate power supply which meets rated requirements for the unit.
- When the unit connects to the electricity network, there must be a short-circuit protection.
- Choose the suitable cable when use the power outdoor.
- Do not control the unit on or off by the main power switch.
- After finish installation, check before connect the unit to the power.



The Specification of Power

Following information is for reference, please subject to the local safety norm.

Type	DHP-070-050-M	DHP-090-070-M	DHP-130-100-M	DHP-170-130-M
Power supply	220-240V/1Ph/ 50Hz	220-240V/1Ph/ 50Hz	220-240V/1Ph/ 50Hz	380-415V/3Ph/ 50Hz
Circuit Breaker/Fuse(A)	25	32	40	32
Min. power wiring (mm^2)	2.5	4.0	4.0	2.5
Ground wiring (mm^2)	1.5	1.5	1.5	1.5

2.13 Trial operation

- The unit should only be operated by qualified technician.
- Please drain air inside hydraulic system before operation.
- The unit is designed according to the conditions as follows: the range of ambient temperature is -20℃ ~43℃ and the range of water pressure is 0.15~0.8Mpa.

2.13.1 Preparation

The following items should be checked before startup:

a. The heat pump should be connected completely.

b. All valves that could impair the proper flow of the heating water in the heating circuit must be open.

c. The air intake and air outlet paths must be cleared.

d. The ventilator must turn in the direction indicated by the arrow.

e. The settings of the heat pump controller must be adapted to the heating system in accordance with the controller's operating instructions.

f. Ensure the condensate outflow functions.

g. Drain the air inside hydraulic system.

2.13.2 Trial run

- Turn on the power, start up the unit by the controller, after 30 seconds, the unit (compressor) start to work, then observe whether the unit works normally.
- When you restart the unit, the compressor will start up after three minutes to protect the compressor.

2.13.3 Caution

When following happen during trial operation, please stop the unit immediately and cut off the power and contact with our authorized agent or maintenance technician.

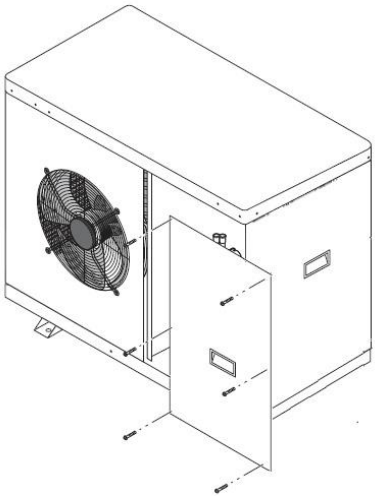
Fuse blown or protection activated frequently

- The wire and switches are heated abnormally
- Abnormal sounds coming from the unit
- Abnormal smell comes out of the unit.
- Electricity leakage.

Part III Control System

3.1 Controller position

The controller is installed inside the unit before factory, open the front panel as following picture, you will find the controller.



There is 8 meters cable for the controller, it is allowable to move the controller to outside the unit, but avoid a place with sunshine and rain.

3.2 Controller introduction

1	Cooling	7	Water pump
2	Heating	8	E-heater
3	DHW	9	Lock the keys
4	Defrosting	10	Clock
5	Compressor	11	Timer on
6	Fan	12	Timer off

3.3 Operation introduction

❖ **Lock and unlock buttons**

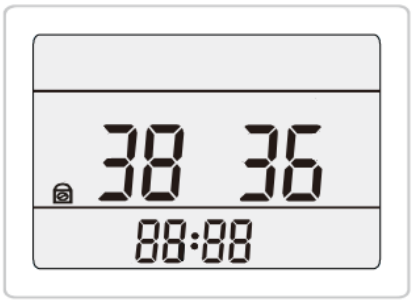
1. In locked status, press  button for 5 seconds, the buzzer will sound and unlock the buttons.
2. If there is no operation for 60 seconds, buttons will be locked automatically, and the backlight will be off.

❖ **Turn on/Off the unit**

1. When the buttons are locked,  displace on the screen, press  button for 5 seconds to unlock the screen;

2. In unlock status, press  button for 1 second to switch on/off;

3. In unlock status, if there is no operation on the controller for 60 seconds, the buttons will be locked automatically.



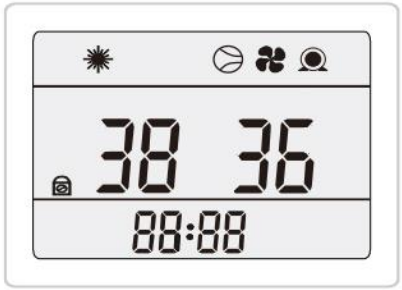
Standby status

❖ **Function button**

1. In main menu, press  button to switch working mode.
   The units have 5 working modes as below:

(1): Heating mode

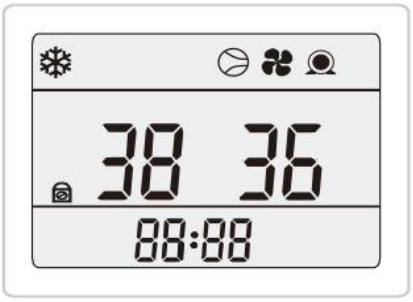
The left side of the screen shows the set water temperature of buffer tank; The right side of the screen shows the measured water temperature of buffer tank. Press  or  to adjust the set water temperature of buffer tank, the maximum water temperature can be set is 60℃.



Heating status

(2): cooling mode

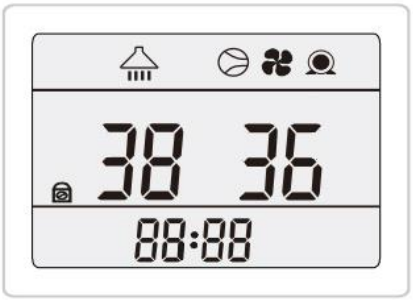
The left side of the screen shows the set water temperature of buffer tank; The right side of the screen shows the measured water temperature of buffer tank. Press  or  to adjust the set water temperature of buffer tank, the minimum water temperature can be set is 8℃.



Cooling status

(3): DHW mode

The left side of the screen shows the set DHW water temperature; The right side of the screen shows the measured DHW water temperature. Press  or  to adjust the set DHW water temperature, the maximum DHW water temperature can be set is 55℃.



DHW status

(4): heating + DHW mode (DHW priority)

-When the unit is in heating status,  flash on the screen, the left side of the screen shows the set water temperature of buffer tank; The right side of the screen shows the measured water temperature of buffer tank. Press  or  to adjust the set water temperature of buffer tank, the maximum water temperature can be set is 75℃.

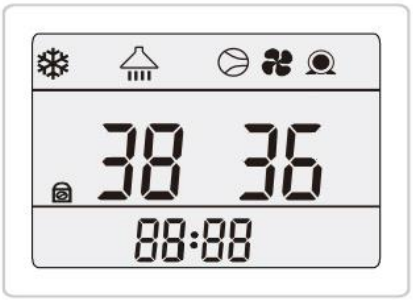
-When the unit is in DHW status,  flash on the screen, the left side of the screen shows the set DHW water temperature; The right side of the screen shows the measured DHW water temperature. Press  or  to adjust the set DHW water temperature, the maximum DHW water temperature can be set is 55℃.

Heating+ DHW status

(5): cooling + DHW (DHW priority)

-When the unit is in cooling status, flash on the screen, the left side of the screen shows the set water temperature of buffer tank; The right side of the screen shows the measured water temperature of buffer tank. Press or to adjust the set water temperature of buffer tank, the minimum water temperature can be set is 8℃.

-When the unit is in DHW status, flash on the screen, the left side of the screen shows the set DHW water temperature; The right side of the screen shows the measured DHW water temperature. Press or to adjust the set DHW water temperature, the maximum DHW water temperature can be set is 55℃.



Cooling+ DHW status

❖ **Parameter inquiry**

1. In main menu, press button for 3 seconds to enter user parameter inquiry menu, press or button to inquire parameters.
2. In user parameter inquiry menu, if there is no operation for 30 seconds, will automatically exit user parameter inquiry and back to main menu. Or press button to back to main menu.

Item	Description	Unit	Range	Remark
00	DHW tank temperature	℃	-30～105	
01	Frequency of compressor	Hz	0～99	
02	Current of compressor	A	-30～105	
03	DC bus voltage	V	-30～105	*10
04	Temperature of IPM module	℃	-30～105	
05	AC voltage	V	-30～105	*10
06	AC current	A	-30～105	
07	Current operating power of compressor	W	-30～105	*100
08	Fan speed	RPM	-30～105	*10
09	Target overheating of suction in main circuit	℃	-30～105	/10
10	Actual overheating of suction in main circuit	℃	-30～105	
11	EEV opening in main circuit	P	-30～105	*10
12	EEV opening in injection circuit	P		*10
13	High pressure	Kpa	-30～105	*100
14	High pressure saturated evaporation temperature	℃	-30～105	
15	Current exhaust superheat	℃	-30～105	
16	Low pressure in main circuit	Kpa	-30～105	*100
17	Low pressure saturated evaporation temperature	℃	-30～105	
18	Target overheating in auxiliary circuit	℃	-30～105	
19	Actual overheating in auxiliary circuit	℃	-30～105	
20	Low pressure in auxiliary circuit	KPa	-30～105	*100
21	Inlet temp of auxiliary circuit	℃	-30～105	Low pressure saturated evaporation temperature in auxiliary circuit
22	Outlet temp of auxiliary circuit	℃	-30～105	EVI suction temperature
23	Exhaust temp	℃	-30～140	
24	Outdoor coil temperature	℃	-30～105	
25	Outdoor environment temperature	℃	-30～105	
26	Buffer tank temperature	℃	-30～105	

27	Temperature of after throttling	℃	-30～105	
28	Inlet water temperature	℃	-30～105	
29	Outlet water temperature	℃	-30～105	
30	Suction temperature	℃	-30～105	
31	Casecade switch selection		0: OFF; 1: ON	
32	Casecade switch status		0: OFF; 1: ON	
33	Status of water pump		0: OFF; 1: ON	

❖ **Factory parameters setting (only for technician operate)**

1. In main menu, press  button for 3 seconds to enter parameter setting menu, press  or  button to set parameters. Press  button to save setting.
2. In parameter setting menu, if there is no operation for 30 seconds, will automatically exit parameter setting and back to main menu. Or press  button to back to main menu.

Item	Description	Default value	Unit	Range	Remark
b01	Water difference to start compressor in heating mode	3	℃	0~15	
b02	Water difference to start compressor in cooling mode	3	℃	0~15	
b03	Max. set temperature in heating mode	75	℃	20~75	
b04	Min. set temperature in heating mode	15	℃	10~20	
b05	Max. set temperature in cooling mode	32	℃	20~60	
b06	Min. set temperature in cooling mode	8	℃	8~20	
b07	Water temperature compensation	0	℃	-9~9	
b08	Circulation running mode	2		0~2	0: run 2 mins every b09 mins 1: run as compressor run 2: always run
b09	Circulation pump interval time	5	min	0~99	
b10	Inlet and outlet water temperature difference protection value	40	℃	5~40	

b11	Working mode	3		0~1	0: heating 1:heating+DHW 2: heating+cooling 3: heating+cooling+DHW After setting, it needs to be powered off to take effect.
b12	Power lost memory function	1		0~1	0: off 1: on
b13	Air temperature to start E-heater	-15		-30~20	
b14	Air temperature to enter EVI	8		0~10	
b15	Type of fan	0		0~3	0: DC 1: single speed 2: double speed 3: three speed After setting, it needs to be powered off to take effect.
b16	Water temperature compensation function	1		0~1	0: no 1: yes
b17	Set room temperature	25	℃	15~25	
b18	Initial BTW temperature	20	℃	15~25	
b19	Max. BTW temperature	43	℃	24~50	
b20	Extend defrosting interval 1	0	min	-30～50	
b21	Extend defrosting interval 2	0	min	-30～50	
b22	Defrosting enter temp 1	0	℃	-30～30	
b23	Defrosting enter temp 2	0	℃	-30～30	
b24	Defrosting running time	12	min	6～16	
b25	Defrosting exit temperature 1	EE	℃	12～25	
b26	Defrosting exit temperature 2	5	℃	4～11	
b27	Reserved	0			
b28	Reserved	0			
b29	Reserved	0			
b30	Main valve target exhaust superheat in heating	EE	℃	0~10	
b31	Main valve target exhaust superheat in cooling	EE	℃	0~10	
b32	Main valve regulating interval time	EE	s	30~90	
b33	Min. opening of main valve in cooling	EE	P	50~480	

b34	Min. opening of main valve in heating	EE	P	50~480	
b35	Main valve target return superheat max. value in heating	EE	℃	0~10	
b36	Main valve target return superheat max. value in cooling	EE	℃	0~10	
b37	Reserved	0			
b38	Auxiliary valve target superheat	EE	℃	0~15	
b39	Auxiliary valve regulating interval time	EE	s	30~90	
b40	Reserved				
b41	Reserved				
b42	Reserved				
b43	Reserved				
b44	Reserved				
b45	Max. operating temperature in heating	55	℃	10~60	
b46	Min. operating temperature in heating	-25	℃	-35~10	
b47	Reserved	0			
b48	Reserved	0		1~13	
b49	Reserved	0		1~13	
b50	Reserved	0		1~10	
b51	Reserved	0		1~10	
b52	Reserved	0		0~1	
b53	Reserved	0	℃	0~5	
b54	Reserved	0			
b55	Quantity of machines work in series	1		1~8	
b56	Display machine work in series	1		1~8	
b57	Reserved	0			
b58	Reserved	0			
b59	Reserved	0			cure
b60	Manual debugging mode	0		0~1	0: off 1: on
b61	Manual compressor running frequency	60	HZ	0~95	Default value is current running frequency
b62	Manual main valve opening	300	HZ	0~480	Default value is current running frequency
b63	Manual auxiliary valve opening	100	P	0~480	Default value is current running

					frequency
b64	DC fan speed	850	P	400~1000	Default value is current running frequency
b65	Reserved				
b66	Reserved				
b67	Reserved				
b68	Reserved				
b69	Reserved				
b70	Reserved				

❖ **Defrosting parameters setting (only for technician operating)**

1. In main menu, press  button for 3 seconds to enter parameter setting menu, press  or  button to set parameters. Press  button to save setting.

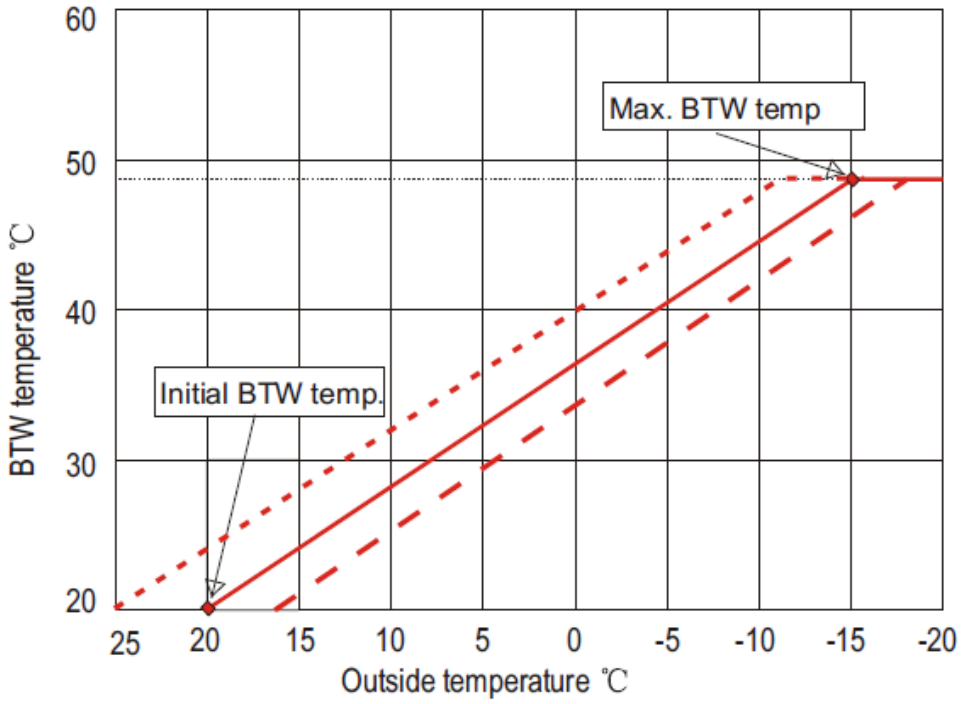
2. In parameter setting menu, if there is no operation for 30 seconds, will automatically exit parameter setting and back to main menu. Or press  button to back to main menu.

Item	Description	Default value	Unit	Range	Remark
b20	Extend defrosting interval 1	0	min	-30～50	value=x, interval time of defrosting=(60+x) mins.
b21	Extend defrosting interval 2	0	min	-30～50	value=x, interval time of defrosting=(60+x) mins.
b22	Defrosting enter temp 1	0	℃	-30～30	this value is temp difference (environment temp-coil temp)
b23	Defrosting enter temp 2	0	℃	-30～30	this value is temp difference (environment temp-coil temp)
b24	Defrosting running time	12	min	6～16	
b25	Defrosting exit temp 1	15	℃	12～25	
b26	Defrosting exit temp 2	5	℃	4～11	

❖ **ECO mode**

In ECO mode, the unit runs according to heating curve.

The heating curve is the relationship between the heating system supply temperature and the outside air temperature. In the case of a heating curve, it is done automatically thanks to the weather-based control, which adjusts the supply temperature based on the outside temperature.



1. Press , and buttons simultaneously to enter / exit ECO mode, ECO display on the screen.

The heating curve parameters setting (only for technician operation)

a. In main menu, press button for 3 seconds to enter parameter setting menu, press or button to set parameters. Press button to save setting.

b. In parameter setting menu, if there is no operation for 30 seconds, will automatically exit parameter setting and back to main menu. Or press button to back to main menu.

Item	Description	Default value	Unit	Range
b17	Set room temp	25	℃	15~25℃
b18	Initial BTW temp	20	℃	15~25℃
b19	Max. BTW temp	43	℃	24~50℃

Target buffer tank temp = Initial BTW temp + (Max BTM temp - Initial BTW temp) / 35 x (Set room temp - Outside temp)

For example, Set room temp = 25° C, Max BTW temp = 43° C, Initial BTW temp = 20° C

a. When outside temp=20° C, Target buffer tank temp = 20+(43-20)/35x(25-20)=23° C

b. When outside temp=0° C, Target buffer tank temp = 20+(43-20)/35x(25-0)=36° C

c. When outside temp=-15° C, Target buffer tank temp = 20+(43-20)/35x(25+15)=46° C

2. When Air temperature sensor failure, in OFF status, in DHW mode, and in cooling mode, the unit doesn't run according to heating curve.

3. When the unit is working in ECO mode, it only works according to the heating curve, can't set temperature by controller or App.

❖ **Clock setting**

1. In main menu, press  button for 10 seconds to enter clock setting menu.
2. In clock setting menu, press  button, the hour flashes, press  or  to set the hour.
3. After the hour is set, press  button again, the minute flashes, press  or  to set the minute.
4. After the minute is set, press  button again to save the clock setting and back to main menu.
5. In clock setting menu, if there is no operation for 30 seconds, will automatically save clock setting and back to main menu.
6. In clock setting menu, press  button to save clock setting and back to main menu.

❖ **Timer setting**

1. In main menu, press  button to enter timer 1 setting.
2. In timer 1 setting, press  button again, hour of timer ON flashes, press  or  to set the hour of timer ON.
3. After the hour of timer ON is set, press  button again, the minute flashes, press  or  to set the minute of timer ON.
4. After the minute of timer ON is set, press  button again to enter hour setting of timer OFF, setting as timer ON.
5. After the timer OFF is set, press  button again to save timer 1 ON and OFF setting. And enter timer ON and OFF setting of timer 2. The setting is same as setting of timer 1.
6. In timer setting menu, press  button to cancel the current setting of timer ON/OFF.
7. In timer setting menu, if there is no operation for 30 seconds, will automatically save timer setting and back to main menu.
8. In timer setting menu, press  button to save timer setting and back to main menu.

❖ **Manual defrosting**

In ON status, press  and  simultaneously for 5 seconds to enter manual defrosting, 

displace on the screen. Press  button to exit manual defrosting.

❖ **Manual startup auxiliary electrical heating**

In ON status, press  and  simultaneously for 5 seconds to enter / exit forced electric heating.

❖ **Celsius and Fahrenheit**

In ON status, press  and  simultaneously for 5 seconds to switch Celsius and Fahrenheit.

❖ **Check failure of protection 2**

In ON status, press  button for 10 seconds to check failure of protection 2. It displays “----” if there is no failure. Press  button to back to main menu.

❖ **Restore factory settings**

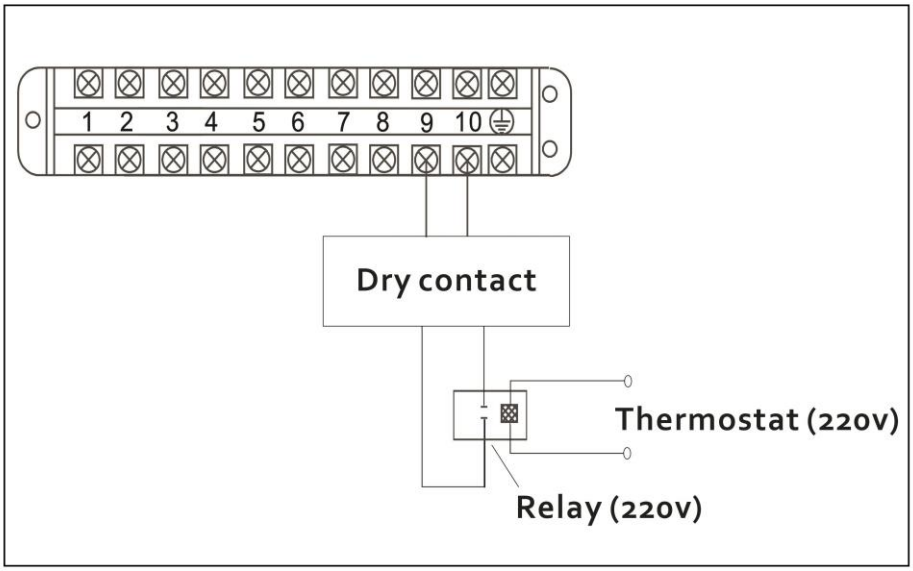
In ON status, press  and  button simultaneously for 3 seconds till there is sound “Di”. Turn off after 10 seconds to save the setting, and turn on again after 10 seconds.

❖ **Dry contact**

The dry contact should be short-circuited when not in use. Otherwise the controller will fail in heating/cooling mode.

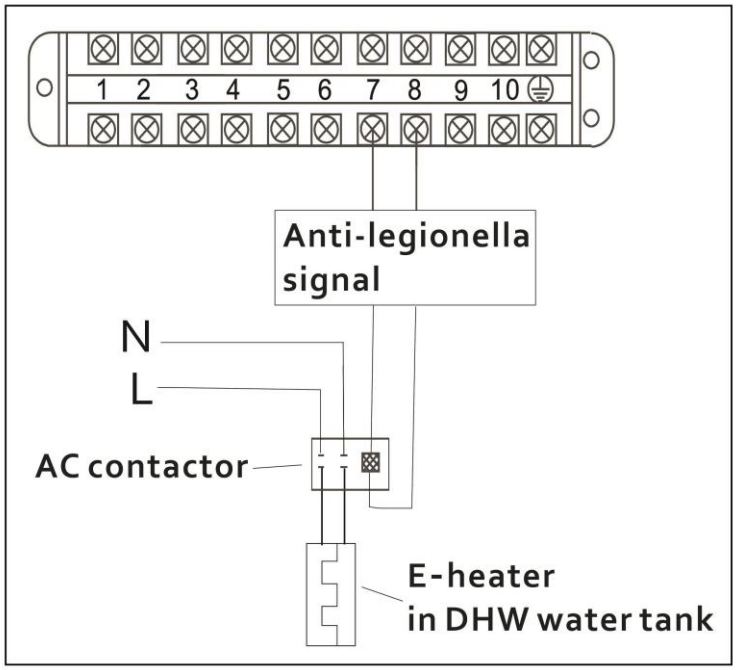
When the dry contact is connected to a thermostat, in heating/cooling mode, the unit will stop or startup according to the signal of the thermostat.

If the thermostat is a live device, installing a relay is required. Otherwise it will burn out the PCB.



❖ **Anti-legionella function**

1. When connect the E-heater in DHW water tank to the Anti-legionella signal port, installing an AC contactor is required. Otherwise it will burn out the PCB.



2. The anti-legionella parameters setting (only for technician operating)

a. In main menu, press  button for 3 seconds to enter parameter setting menu, press  or  button to set parameters. Press  button to save setting.

b. In parameter setting menu, if there is no operation for 30 seconds, will automatically exit parameter setting and back to main menu. Or press  button to back to main menu.

Item	Description	Default value	Unit	Range	Remark
b27	Anti-legionella interval time	144	h	0~9999	When set to 0, this function is not available
b28	Anti-legionella temp	70	℃	1~99	

❖ **Work in series function**

Multiple machines can be run jointly with work in series function. The master unit controls all slave units.

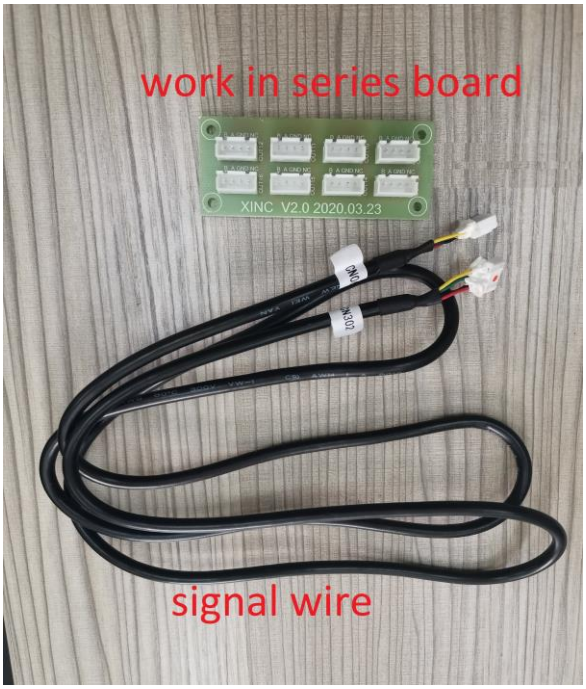
1. Take the controller (of all machines) out from port CN16 on PCB. Connect **signal wire** to CN16.

2. Set address

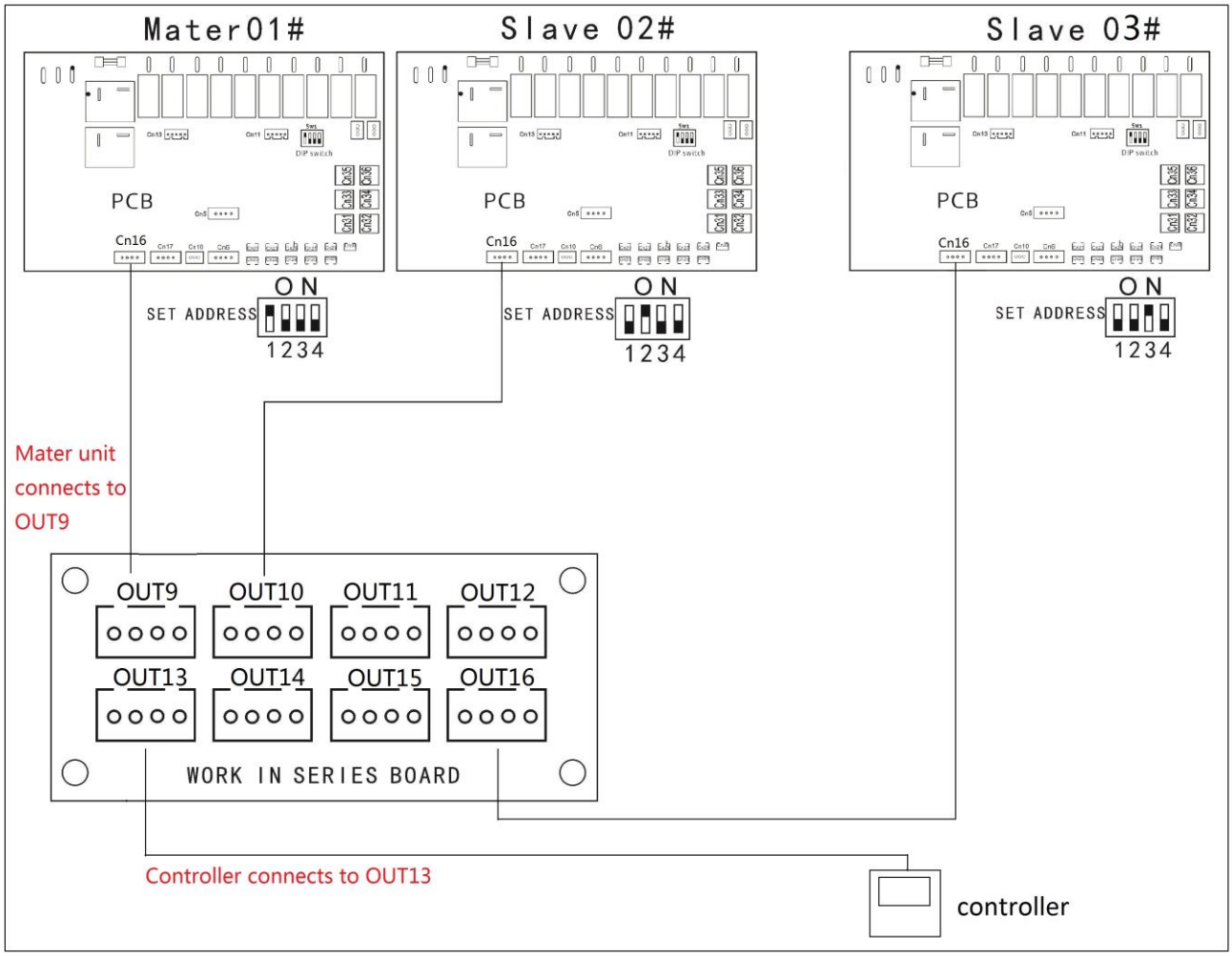
   When several units work in series, every unit must be set address by switch bit (SW1) on PCB as following form.

Bit switch	Unit address						
	#1(master)	#2(slave)	#3(slave)	#4(slave)	#5(slave)	#6(slave)	#7(slave)
1	ON	OFF	OFF	OFF	ON	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	ON	OFF
3	OFF	OFF	ON	OFF	OFF	OFF	ON
4	OFF	OFF	OFF	ON	ON	ON	ON

3. Use **signal wire** to connect to **work in series board**.



Master unit should be connected to OUT9, and controller should be connected to OUT13.



4. After wiring connection, set the quantity of machines work in series by controller.

   In main menu, press button for 3 seconds till there is a beep. Enter parameter b55 by pressing or , press button, press or to set quantity of machines work in series.

   Press button to save the setting.

5. Inquire parameters of machines work in series.

   In main menu, press button for 3 seconds till there is a beep. Enter parameter b56 by pressing or , press button, press or to choose No. of machine. After choose No. of machine, you can check the parameters of that machine by control panel.

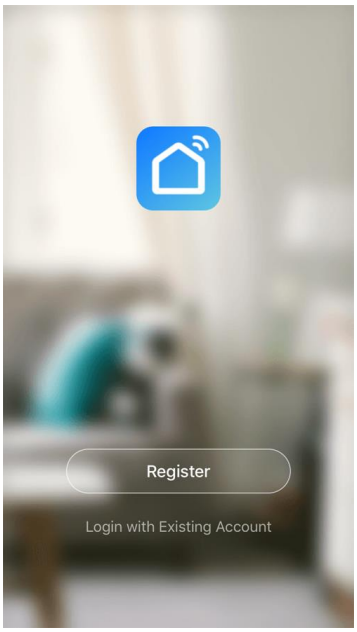
❖ **Wi-Fi control**

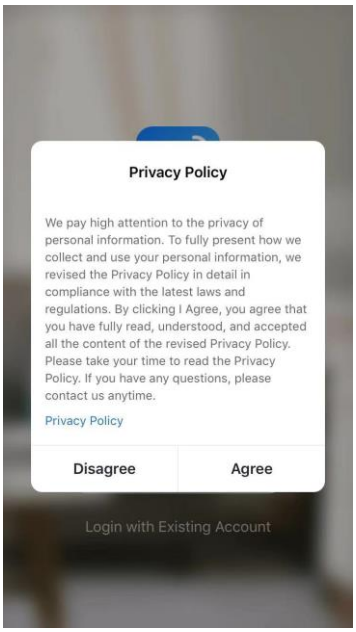
Search and install the APP of “Smart Life” at the APP Store on mobile phone, after installing the APP,  will display on your mobile phone.

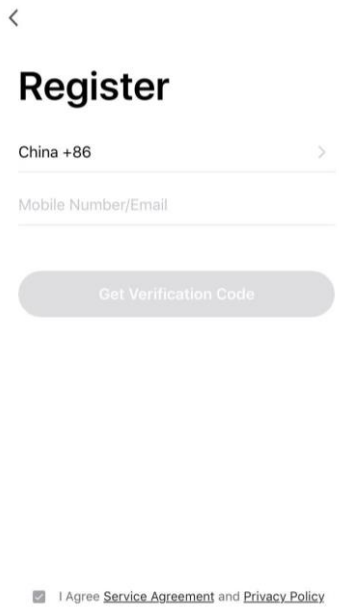
1. Software registration

Ensure the unit and mobile phone connected to a Wi-Fi.

Please complete registration step by step if new user.

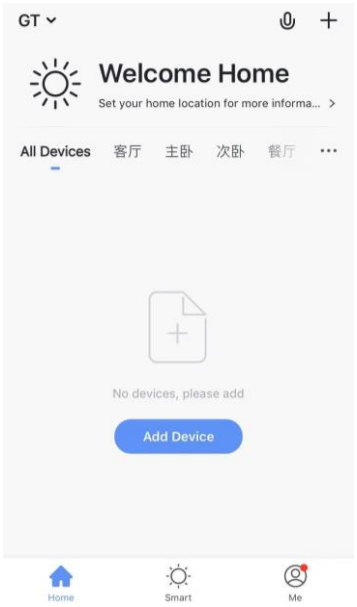


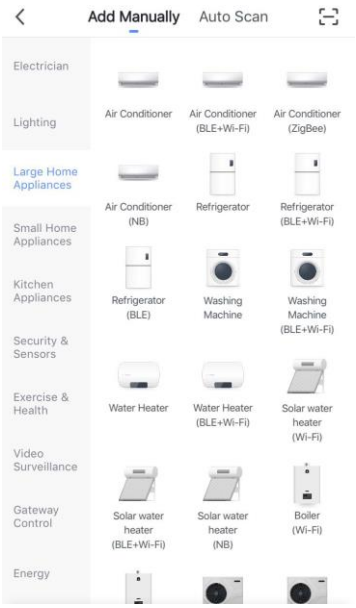


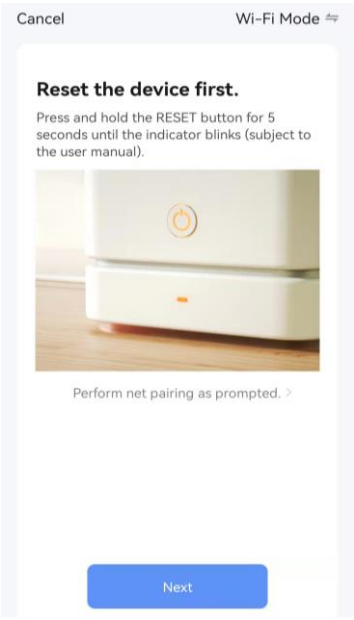


After registration is complete, please log in to the software by user name and password you have set, the heat pump and mobile phone should be connected to WIFI.

2. Click **Add Device → Large Home Appliances → Water Heater → Next**



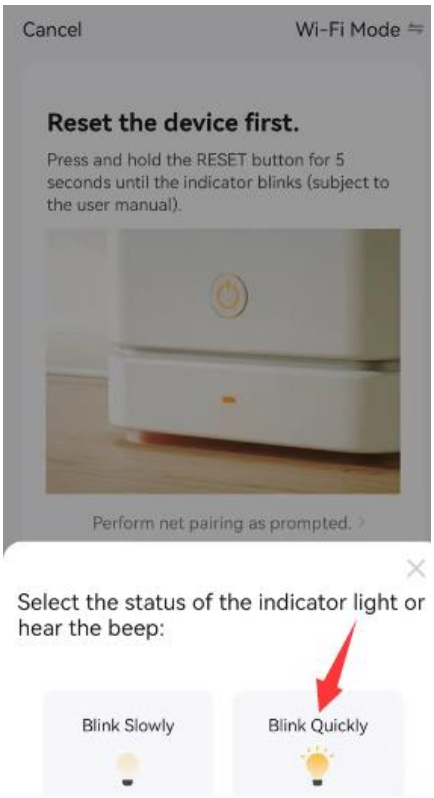




3. Connect the heat pump

On controller of heat pump, press  ,  and  simultaneously, to enter Smartconfig mode,  blink quickly on the screen.

On the App, choose **Blick Quickly**



After connecting to the heat pump by AAP, the unit can be turned on/off by APP, can be set water temperature by APP, can be choose working mode by APP, can set timer by APP.

 : Turn on/off the unit

 : Set working mode

 : Set clock

Part IV Maintenance

Before performing any maintenance on the unit, you should turn the unit off first and shut off the power.

A well-maintained heat pump could save your energy costs and make the unit durable, but must be done by a qualified technician. Below are some tips for your reference to help your heat pump gives you optimum performance.

1. Turn the power off when the unit is being maintained.
2. Do not use petrol, naphtha, dissolvent and any other chemicals on the unit, otherwise, it may damage the surface. External heat pump parts can be wiped with a damp cloth and domestic cleaner.
3. Avoid leaning or putting objects on the device.
4. Keep dry and drafty round the unit. Clean heat exchangers regularly (usually once per 1～2 months) to keep a good heat exchange efficiency.
5. If the unit will be shut down for a long time, you should drain the water in the pipe, turn the power off and cover it with protective cover, Check it roundly before you start it again.
6. It is advised to use the phosphoric acid whose temperature is about 50～60℃ and consistency is 15% to clean the heat exchanger of the unit. First start the circulation pump to clean it for 3 hours, and then flush it with tap water for three times. Do not use any amyctic detergent to clean the heat exchanger and the tank.
7. Change the installation place
   If the customer wants to change the site, please contact with the dealer or the local Customer Service for help.

Part V Trouble Shooting

Type	Code	Description	Remark
Failure (Display on screen)	F0	Communication failure between PCB and driver board	1. The signal line between PCB and driver board is open circuit, short circuit or wrong line sequence. Repair or replace the signal line. 2. The PCB is damaged. Replace it. 3. The drive board is damaged. Replace it.
	F1	Communication failure between controller and PCB	1. The signal line between controller and PCB is open circuit, short circuit or wrong line sequence. Repair or replace the signal line. 2. There is interference source near the unit. Remove the interference source or change the installation location of the unit. 2. The controller is damaged. Replace it. 3. The PCB is damaged. Replace it.
	F2	Abnormal start of compressor (Open-phase, phase stagger)	1. Phase stagger of the compressor leads, two phases of them are exchanged. 2. Open-phase of the compressor leads. Reconnect them. 3. The drive board is damaged. Replace it.
	F3	Out of step of compressor	1. Poor connection of compressor leads. Reconnect them. 2. The drive board is damaged. Replace it.
	F4	IPM module failure	The drive board is damaged. Replace it.
	F6	Outdoor DC fan failure	1. The outdoor DC fan is damaged. Replace it. 2. The drive board is damaged. Replace it.
	E0	Inlet water temp sensor failure	1. The sensor isn’t connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	E1	Outlet temp sensor failure	1. The sensor isn’t connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	E2	After throttling temp sensor failure	1. The sensor isn’t connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.

	E3	Air suction temp sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	E4	Outdoor coil temp sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	E5	Outdoor environment temp sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	E6	Exhaust temp sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	E7	EVI return circuit air return temp sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	EA	Economizer inlet temp sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	EB	Indoor environment temp sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	EC	Economizer outlet temp sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	ED	Buffer tank sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	EH	DHW water tank sensor failure	1. The sensor isn't connected well. Reconnect it. 2. The sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	EE	Main board EE failure	1. The software of the PCB isn't matched. 2. The PCB is damaged. Replace it.
	EF	Driver board EE failure	1. The software of the drive board isn't matched. 2. The drive board is damaged. Replace it.

Protection1 (Display on screen)	P7	High pressure switch protection	1. Insufficient water flow: a. The water piping is blocked. Check the water piping and clean the Y-type filter. b. There is air in the water piping. Vacuumize it. c. The power of circulation pump is insufficient. Change to a larger one. d. Scaling of heat exchanger. Use a special cleaning agent to clean it. 2. The high pressure switch is damaged. Replace it. 3. The fluorine system is blocked. Fix it. 4. The PCB is damaged. Replace it.
	P8	Low pressure switch protection	1. Refrigerant leakage. Check the leakage and repair it, vacuumize it and charge refrigerant as parameter table. 2. The refrigerant is insufficient. Charge refrigerant as parameter table. 3. The low pressure switch is damaged. Replace it. 4. The electronic expansion valve is damaged. Replace the electronic expansion valve. 5. The surface of the evaporator is dirty. Clean the evaporator. 6. The fan is damaged. Replace the fan. 7. The PCB is damaged. Replace it.
	PC	Water flow switch off protection	1. Check if the water flow switch is reliably connected. 2. There's air in the circulating water inlet pipe. Open the exhaust port of the circulating pump for vacuum. 3. The water flow switch is damaged. Replace it. 4. The water flow is insufficient. Clean the Y-type filter and ensure that the circulation pipeline is smooth. 5. If the circulating pump does not work, check if the power output of the circulating pump on PCB is normal. 6. The circulating pump is damaged. Repair or replace it. 7. The PCB is damaged. Replace it.
	H1	Temp difference between water inlet and water outlet is too	1. Insufficient water flow: a. The water piping is blocked. Check the water piping and clean the Y-type filter.

		large	b. There is air in the water piping. Vacuumize it. c. The power of circulation pump is insufficient. Change to a larger one. d. The circulating pump is damaged. Repair or replace it. 2. The temperature sensor falls off or is damaged. Re-fix or replace the temperature sensor.
Protection2 (Check in the background)	F5	Overheat protection of compressor	1. Check if the refrigerant is sufficient. Check for leakage, and replenish refrigerant. 2. The protection switch is damaged. Replace it. 3. The PCB is damaged. Replace it.
	P1	AC current protection of outdoor unit	1. The fan is damaged. Replace it. 2. The drive board is damaged. Replace it.
	P2	Current protection of compressor	1. Open-phase of the compressor leads. Reconnect them. 2. The drive board is damaged. Replace it.
	P3	AC voltage too high / too low protection of outdoor unit	1. Check the power supply. 2. The drive board is damaged. Replace it.
	P4	DC bus voltage too high / too low protection	1. Check the power supply. 2. The drive board is damaged. Replace it.
	P5	IPM overheat protection	1. Poor ventilation of the heatsink of drive board. 2. The drive board is damaged. Replace it.
	P6	Overheat protection of exhaust temp	1. Compressor overheat protection. Check if the refrigerant is sufficient. Check for leakage, and replenish refrigerant. 2. The exhaust temperature sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.
	P9	Overheat protection of outer coil in cooling	1. The air intake of the evaporator is blocked. 2. The fan doesn’t work or the speed is slow, check the fan motor or driver board. 3. The coil temperature sensor is damaged. Replace it. 4. 3. The PCB is damaged. Replace it.
	PH	Environment temp is too high in heating	1. The ambient temperature is higher than the protection setting value. 2. The ambient temperature sensor is damaged. Replace it.

			3. The PCB is damaged. Replace it.
	PL	Environment temp is too low in cooling	1. Ambient temperature is lower than 0℃ when cooling. 2. The ambient temperature sensor is damaged. Replace it. 3. The PCB is damaged. Replace it.

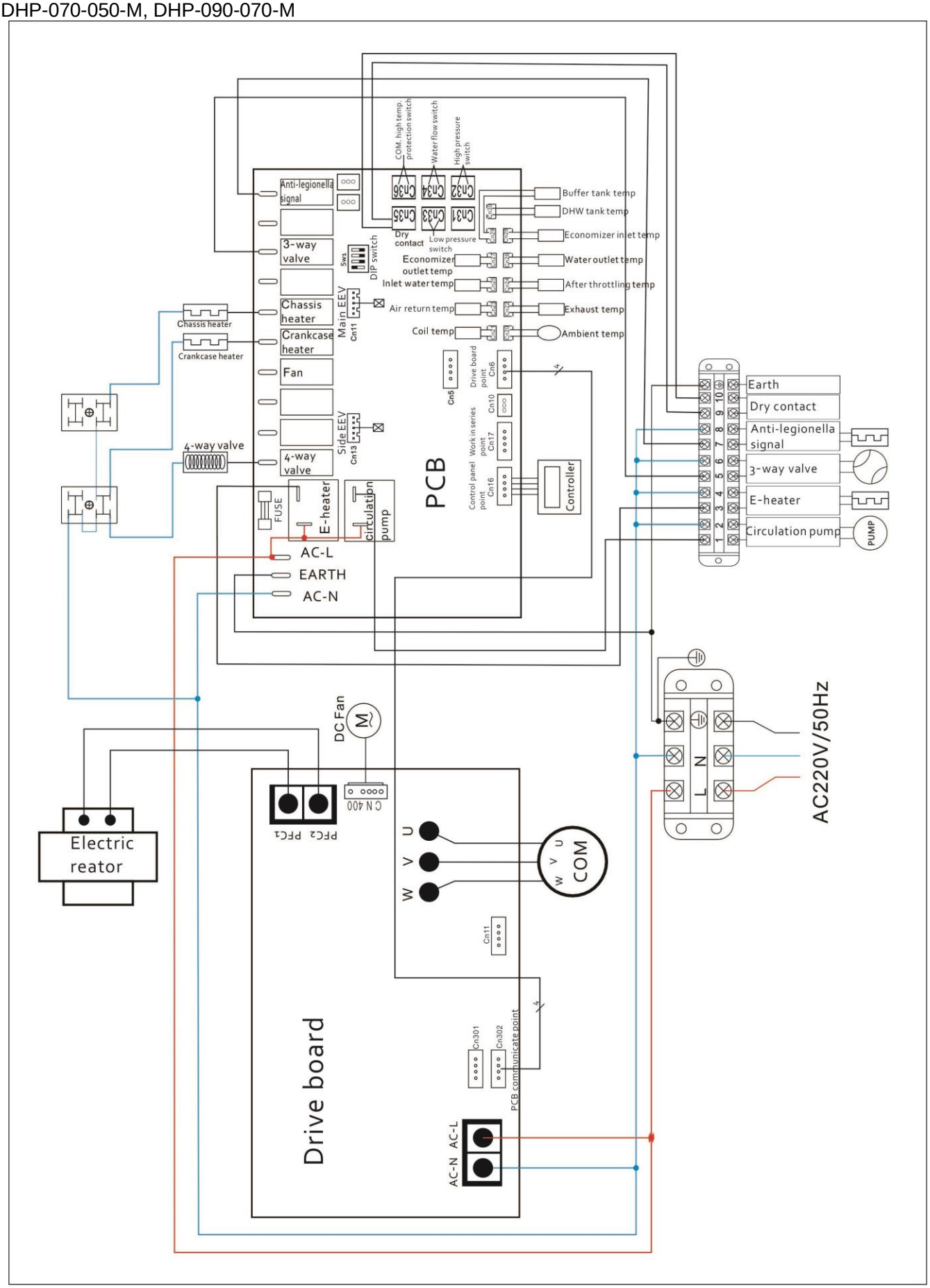
The possible causes and treatment of common failure.

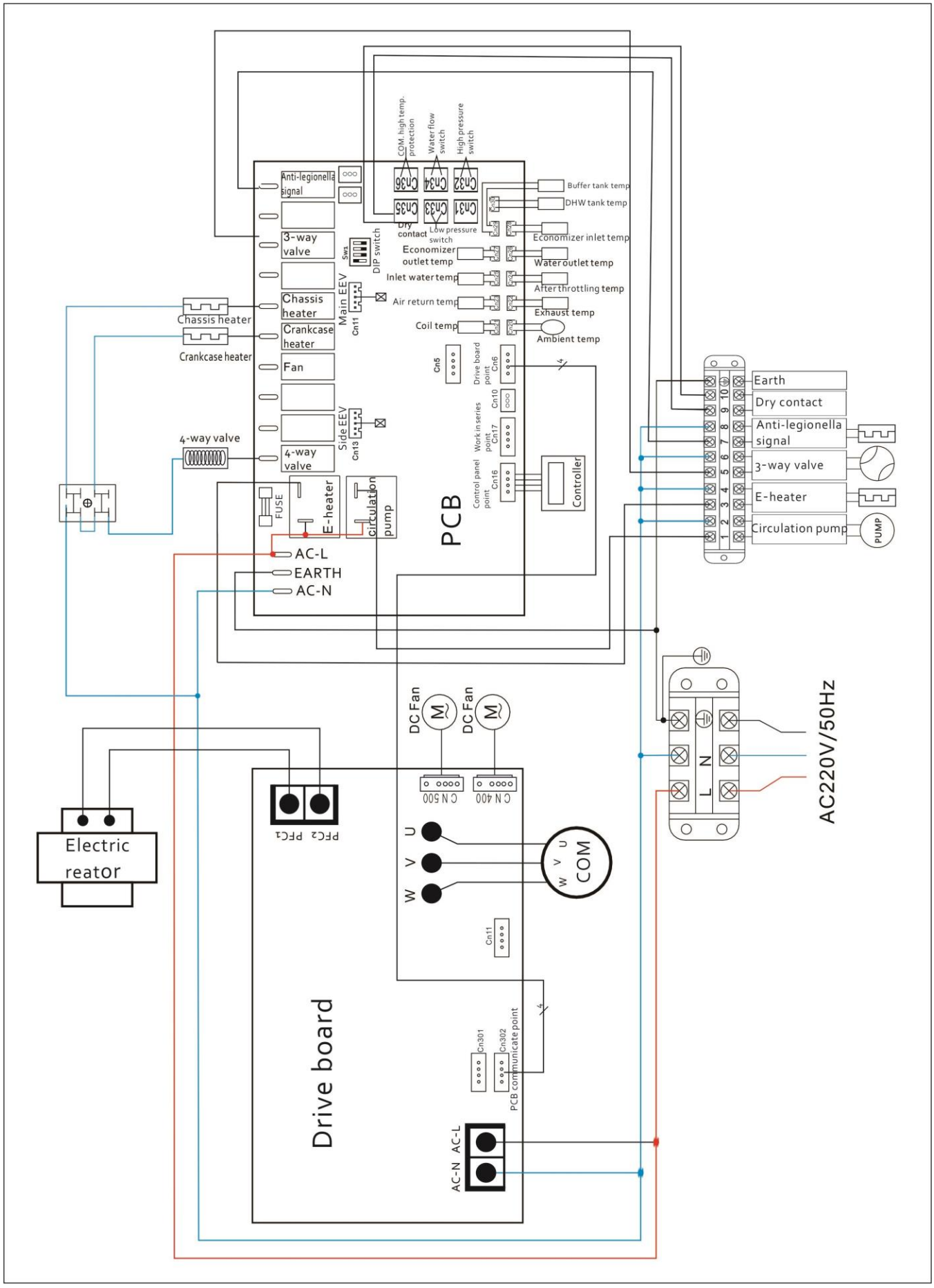
Fault Condition	Possible Causes	Treatment
The unit doesn't work	◇Power fault ◇Bad connection to the power ◇Fuse blow	◇ Turn off the switch, check the Power source ◇Find the causes and renovate them ◇Replace the fuse
The pump is working but too noisy and the water is not cycled	◇Lack water In the system ◇ There is air in the water circulation ◇Any valve in the system is not open ◇Filter stoppage	◇Check the water make-up device and fill in with water ◇Discharge the air in water system ◇Open all valves ◇Clean filters
Low heating capacity	◇Inadequate refrigerant ◇ bad insulation of the water system ◇Drying filter stoppage ◇ Air side heat exchanger is un-efficient ◇Inadequate water-flow	◇Leak hunting and fill in standard quantity of refrigerant ◇Improve the heat insulation ◇Replace the drying filter ◇Clean the heat exchanger ◇Clean the water filter
The compressor doesn't work	◇Power failure ◇ Compressor contactor destroyed ◇Poor connection ◇Overheating protection ◇water outlet temperature is too high ◇Inadequate water-flow	◇Check it and solve the problems ◇Replace contactor ◇Check and renovate it ◇Check and solve the problems ◇Reset a proper temperature ◇Clean the water filter and discharge the air in the water system

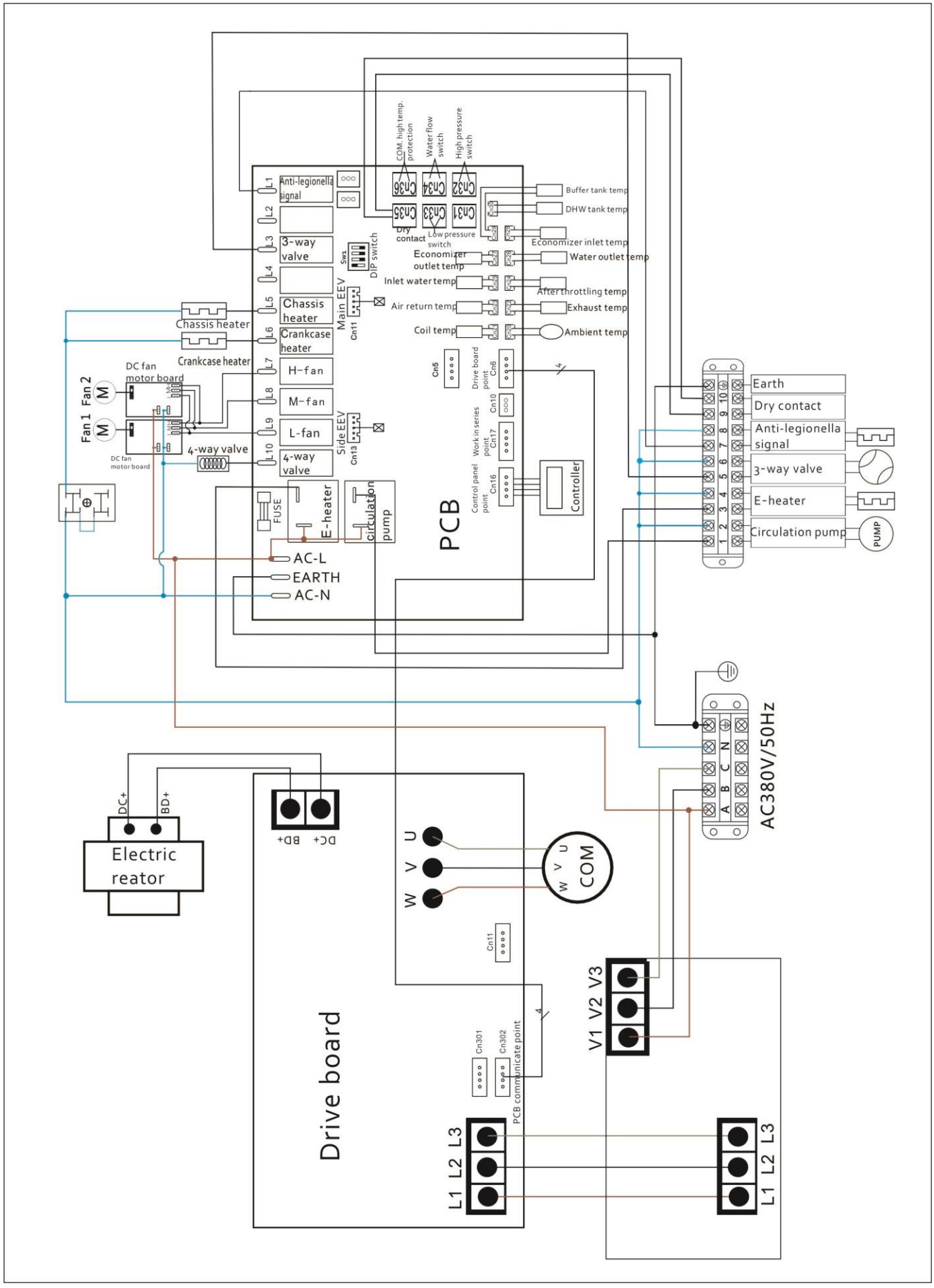
The compressor works but too noisy	◇Liquid refrigerant goes into the compressor ◇interior components destroyed ◇Inadequate refrigeration oil	◇Check the expansion valve ◇Replace the compressor ◇Add in adequate refrigeration oil
The fan doesn't work	◇Capacitor damaged ◇The fans are not fixed well ◇The electromotor burned out ◇Contactor destroyed	◇Replace it ◇Fix it well again ◇Replace the electromotor ◇Replace the Contactor
Compressor works but not heating	◇Refrigerant leakage ◇Compressor fault	◇Leak hunting and fill in standard quantity of refrigerant ◇Replace the compressor
Low water-flow protection	◇Hydraulic switch destroyed ◇Inadequate water-flow	◇Replace the switch ◇Clean the filter and discharge the air
Excessive discharge pressure	◇Too much refrigerant ◇Non-condensable gas in the Refrigeration cycle ◇Inadequate water-flow	◇Draw off the superfluous refrigerant ◇Drive the gas out ◇Check the circulation and increase the flow
Low suction pressure	◇Drying filter stoppage ◇Lack of refrigerant ◇Excessive pressure drop in the heat exchanger	◇Replace the filter ◇Leak hunting and fill in standard quantity of refrigerant ◇Check the opening of electronic expansion valve

Part VI Wiring Diagram

DHP-070-050-M, DHP-090-070-M




COM. high temp. protection
Water flow switch
High pressure switch
Cn36
Cn34
Cn32
Cn35
Cn33
Cn31
Dry contact
Low pressure switch
Buffer tank temp
DHW tank temp
Economizer inlet temp
Economizer outlet temp
Water outlet temp
Inlet water temp
After throttling temp
Air return temp
Exhaust temp
Coil temp
Ambient temp
Anti-legionella signal
3-way valve
Chassis heater
Crankcase heater
Fan
4-way valve
DIP switch
Main EEV
Side EEV
Cn11
Cn13
Cn5
Cn6
Cn10
Cn17
Cn16
Drive board point
Work in series point
Control panel point
Controller
PCB
FUSE
E-heater
circulation pump
AC-L
EARTH
AC-N
Earth
Dry contact
Anti-legionella signal
3-way valve
E-heater
Circulation pump
PUMP
DC Fan
DC Fan
C N 500
C N 400
PFC2
PFC1
Electric reator
U
V
W
COM
Cn11
Drive board
Cn301
Cn302
PCB communicate point
AC-N
AC-L
L
N
AC220V/50Hz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Buffer tank temp
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Economizer inlet temp
Water outlet temp
After throttling temp
Exhaust temp
Ambient temp
Swz
DIP switch
Economizer outlet temp
Inlet water temp
Air return temp
Coil temp
Main EEV
Cn11
Side EEV
Cn13
Anti-legionella signal
3-way valve
Chassis heater
Crankcase heater
H-fan
M-fan
L-fan
4-way valve
DC fan motor board
Fan 1
Fan 2
FUSE
E-heater
circulation pump
PCB
Cn5
Drive board point
Cn6
Cn10
Work in series point
Cn17
Control panel point
Cn16
Controller
AC-L
EARTH
AC-N
Earth
Dry contact
Anti-legionella signal
3-way valve
E-heater
Circulation pump
PUMP
AC380V/50Hz
A B C N
DC+
BD+
Electric reator
U V W
COM
Cn11
Drive board
Cn301
Cn302
PCB communicate point
V1 V2 V3
L1 L2 L3
L1 L2 L3

Disposal

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging you health and well-being.

There won't be a further notice if anything changes as the unit improved.
If there is anything difference with rating label, please subject to the rating label on the unit.