MegaLife

CONTENT

Please read this manual carefully before using our products. And please install and operate the machine in accordance with this manual, otherwise, we will not responsible for any loss.

◆This heat pump water heater must be installed by the professional technical personnel.
◆Please install the machine and connect the water pipe in accordance with this manual strictly.
◆Please arrange the professional personnel to connect the electrical circuit. The machine must be grounded with corresponding leakage switch. For safety, please make sure to recheck everything is well before power on.
◆When machine is operating, please prevent electric shock, pipeline and temperature sensor damage. We wont be responsible for any loss caused by above reason. If the machine has any improvement, the content is subject to change without notice.

I. Prologue

- Thanks for using air source heat pump water heater! Please read this manual carefully before installation and operation. there are information for installation,operation,maintenance and commissioning.
- High design and production standard make sure air source heat pump water heater running safely and efficient as well as excellent reliability and adaptability.
- We won't be responsible for any loss caused by any nonstandard operation.
- The machine should be installed by qualified professional personnel and must be connected according to the circuit diagram on the machine. The following items should be focused:

1. Before installation, please confirm if your local voltage is match with the voltage showed on the machine's nameplate and if the carrying capacity of the power supply, wires and sockets are suitable for this machine's input power.

2. Users are not allowed to change the power cord or socket. Wiring work must be carried out by a qualified electrician and ensure that the metal part of the machine has a good grounding. Changing the ground mode is strictly forbidden.

3. After the completion of the construction of all wiring work, please make sure to recheck everything is well before power on.

4. Installing the machine in the placewhere the combustible gas may leak is strictly forbidden.

5. Do not put your hands or foreign objects into the air outlet of heat pump unit, otherwise, it will be dangerous to the people and equipment

6. In order to obtain a better energy-saving effect, the unit should be installed in a place with well-ventilated.

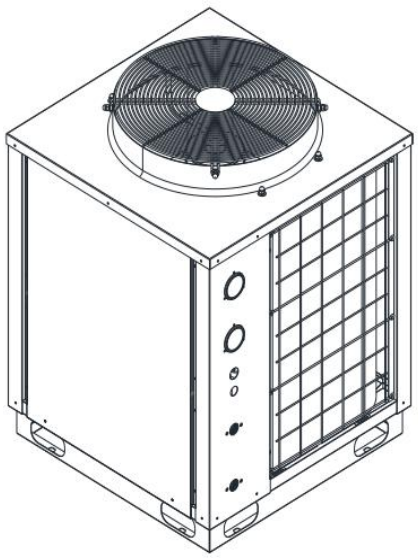
7. Water used for this machine must be accordance with the GB standard of living water, otherwise, if the machine is damaged, we will not assume any responsibility.

II. Units Dimension

1.Dimension

Model	Size(mm) (length*width*height)	N.W. / G.W.(kg)	Power source
NERS-G/3B	719×719×944	94/102	220V-1N～50Hz
NERS-G/3B/2	719×719×944	94/102	380V-3N～50Hz
NERS-G/5B	829*829*1122	127/133	380V-3N～50Hz
NERS-G/6B	829*829*1122	138/145	380V-3N～50Hz

2.Appearance



3.Attention

3.1 please read the manual carefully before installation and using. It included all information related to correct installation, debugging, operation, and maintenance.

3.2 following the design standard strictly under producing, which can make sure the unit stay in safe, high quality state, and provide high reliability and excellent adaptation.

3.3 we assume no responsibility to any personal harm or machine damage which caused by improper debugging, unnecessary maintenance, non-compliance to manual and guidance.

3.4 The maximum water temperature is 60℃,When you use the water, please adjust the water temperature to a appropriate temperature (The most comfortable water temperature for body is 38~42℃, if the water temp above 50℃, there will be danger of burns!)

3.5 If the unit power off, please discharge all the water inside the unit to avoid heat exchanger frozen in winter, otherwise, no guarantee within warranty.

III. Main introduction of product

1.1 Detail parameters

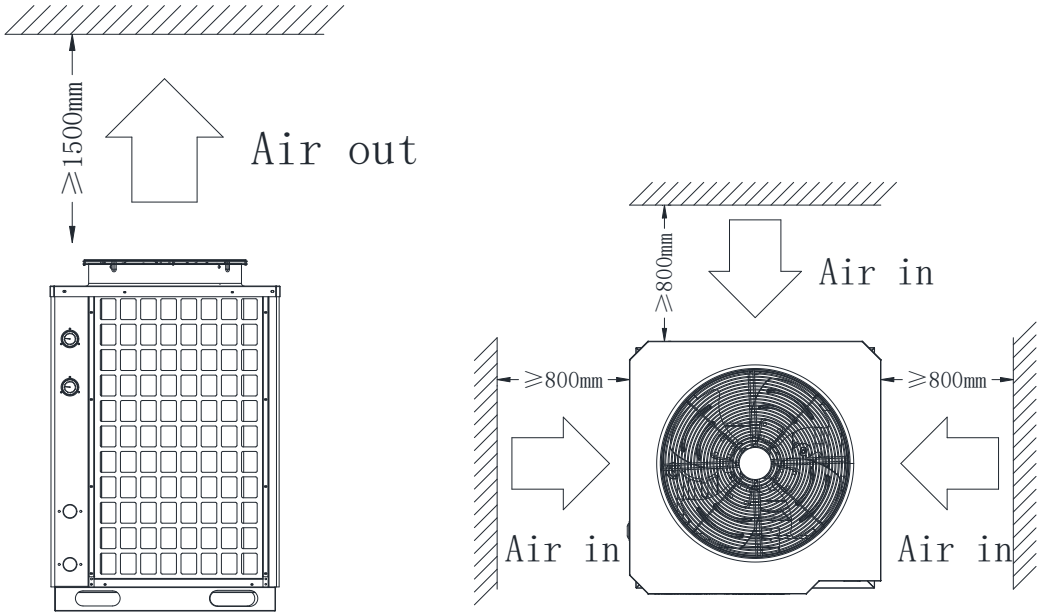
Item	GB series			
Model	NERS-G/3B	NERS-G/3B/2	NERS-G/5B	NERS-G/6B
Power source	220V~1ph~50hz	380V~3ph~50hz	380V~3ph~50hz	380V~3ph~50hz
Level of security	IPX4	IPX4	IPX4	IPX4
Electric shock protection grade	Ⅰ Class	Ⅰ Class	Ⅰ Class	Ⅰ Class
Rated heating capacity	11.4KW	11.4KW	19.7KW	23.57KW
Rated input power	2.58KW	2.58KW	4.45KW	5.3KW
Rated water volume	245L/H	245L/H	420L/H	507L/H
Rated current	11.7A	4.8A	8A	9.5A
Max input power	3.72KW	3.72KW	6.4KW	7.63KW
Max current	16.3A	6.7A	11.4A	13.6A
Refrigerant	R407C	R407C	R407C	R407C
Rated water temp	55℃	55℃	55℃	55℃
Max water temp	60℃	60℃	60℃	60℃
Rated water flow	3 m3/H	3 m3/H	5 m3/H	6 m3/H
Inlet/outlet water pressure drop	40KPa	40KPa	50KPa	50KPa
Noise	≤54	≤54	≤60	≤60
Max allowable pressure of heat exchanger	3.0MPa	3.0MPa	3.0MPa	3.0MPa
Max allowable pressure of inlet/outlet	3.0MPa	3.0MPa	3.0MPa	3.0MPa
Max allowable pressure of high/low pressure	3.0MPa	3.0MPa	3.0MPa	3.0MPa

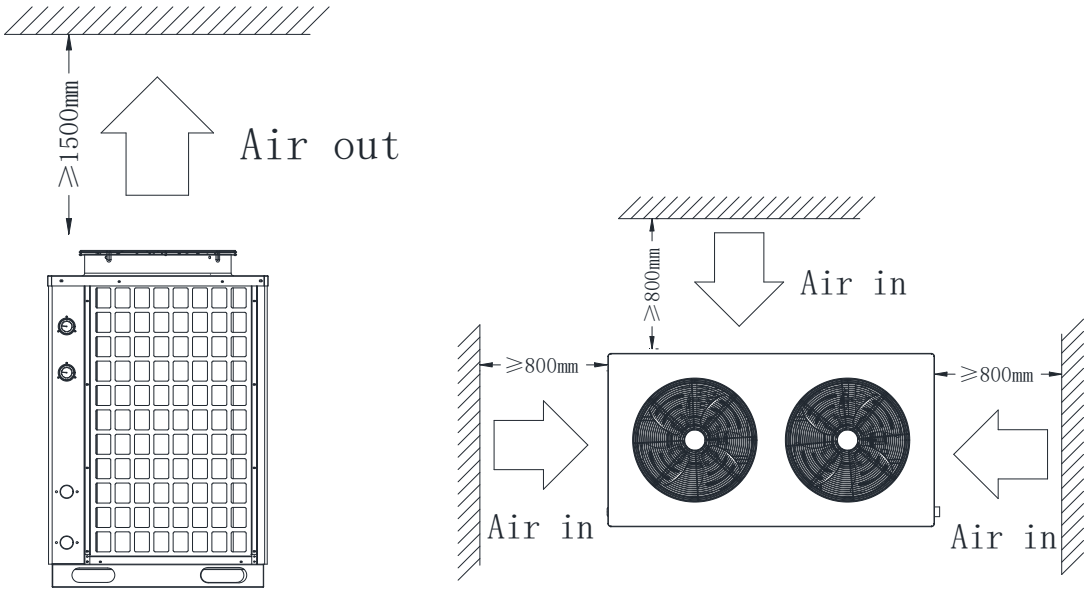
IV. Installation

1. Installation

1.1 installation position

- The place should have enough space for installation & maintenance
- None block to the air inlet and outlet and none strong wind or hurricane could reach
- The place should well-ventilate ,solid, there should be no extra running noise or vibration noise after loading the unit
- The place which has enough space for air outlet, which doesn't have combustible gas leakage.
- Snow shelter is needed in winter.
- The place should convenient for wiring and plumbing work.
- Typhoon protection &lightning protection must be done when loading a unit on the roof.
- There should be drainage channel around the unit for drain condensate water.
- The place should have enough space for installation & maintenance
- Don't install controller in bathroom, otherwise, it may affect the unit running if get humid.
- Enough space around the unit, like this:





1.2 Attention

1) The place has cutting oil or other mineral oil；

2) The place close to the sea or have much salty air；

3) The place have much sulfur gases, acidic or alkaline corrosive gas, such as the hot spring area；

4) The place has strong electromagnetic wave or the factory with serious power supply voltage fluctuation；

5) The place is full of oil and gas and oil slick, such as kitchen.

1.3 Unit’s base installation

The base installation of heat pump can be concrete, steel structure, or design a flat foundation structure according to unit weight, please see the data in the manual, anti-vibration rubber should be taken into account, and the unit should be fixed firmly by expansion blots, then adjusting horizontal installation to decrease it’s inclination (<2 degrees). and water drainage should be available near the installation located for draining water in an effective way.

1.4 Water tank selection

If the heat pump water heater without water tank from factory,pls select the tank according to below requests， this heat pump can be equipped with an open water tank and pressurized water tank.

A. When select open water tank:

1）Water tank itself should be able to withstand water pressure when filled with water.

2）For more than 15L capacity and can not through the appliance which installed in the drain port of pipe to emptying, it shall be fitted with a discharge device using the tools to make it work(discharge device may be combined with a pressure relief device).

3）The unit has an output level control, it does not extra add the water tank level control device.

B. When select pressurized water tank:

1）If the tank internal pressure release device is not installed, you must install a pressure relief device in the water pipe, the parameter is set to 0.7MPa.

2）Water can outflow from the drain pipe of pressure relief device, and the drain pipe need to keep turned to atmosphere.

3）Pressure relief devices need on a regular operation to remove calcium deposits and the device is not clogged.

4）Design a closed-type water heaters directly connected to water source, the rated pressure should be at least 0.6 MPa.

5）For more than 15L capacity and can not through the appliance which installed in the drain port of pipe to emptying, it shall be fitted with a discharge device using the tools to make it work; (discharge device may be combined with a pressure relief device).

6）This unit with high low water level, automatic water control, if you choose a closed water tank, that need to short connect to the high middle low water level control output line.

1.5 Piping installed demand

1) Select the pipe material, the choice of stainless steel, brass, plastic hot water pipes, hot water PPR tubes meet national health and safety standards, heat-resistant, antirust and Difficult to furring;

2) Drain and overflow pipes, installed in the gutter or drain place to convenient drainage.

Unit and plumbing connections place, must be installed stop valve or removable union,when maintenance use.

3) Water piping arrangement is reasonable,minimize bending,reduce the resistance of the water system.

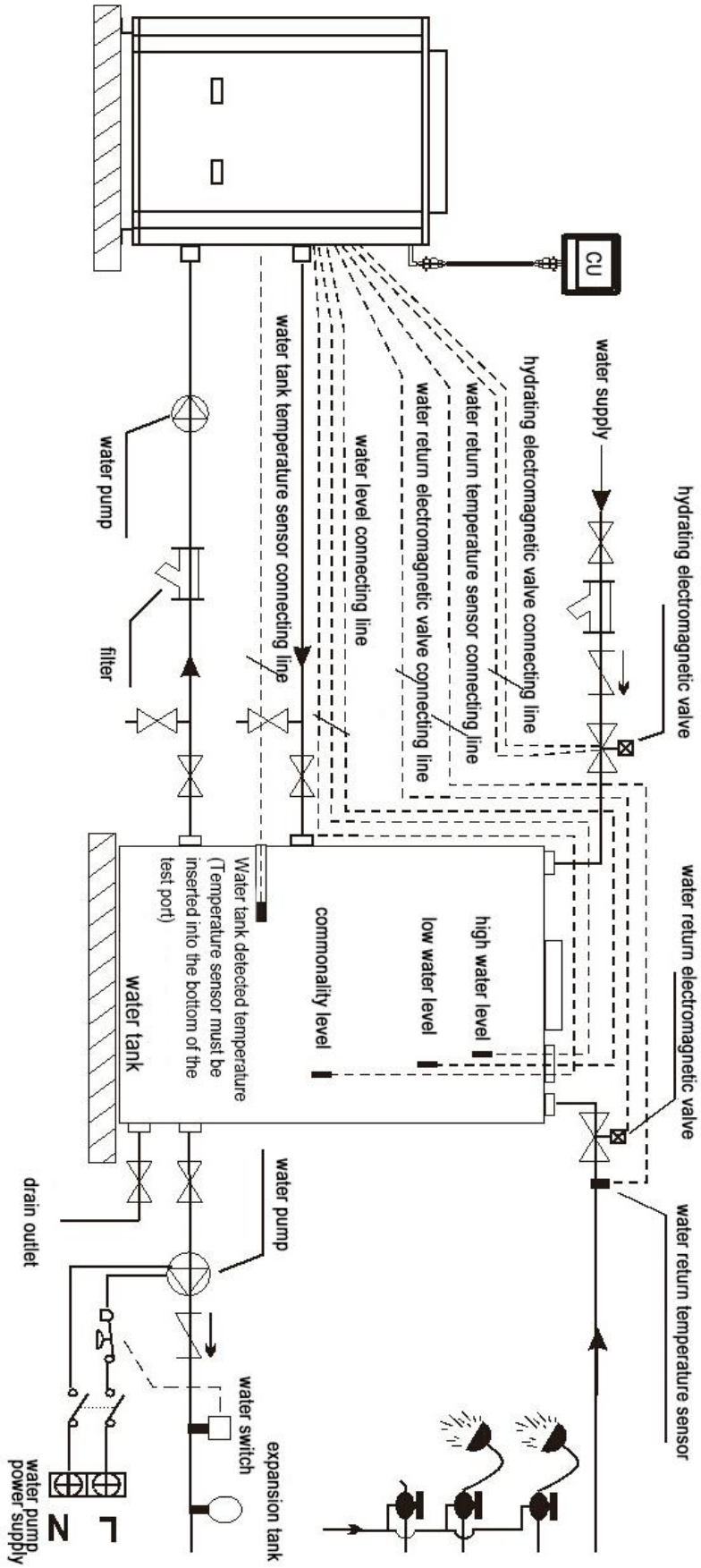
4) System - fill water pipes, hot water supply pipe connection is completed,pipe connections must be rigor,increase water pressure test,and drain,to ensure that the system clean.Passing the test No leakage,Then pack of pipes and valves on the heat preservation layer (Including water pipes and valves).

5) Unit water supply port must be installed filter (in accordance with the requirements of the rate water flow)

6) Circulation pipe selection:one unit's circulating pipe diameter can't less than in and out water pipe diameter,should use the circulating pipe diameter as in and out water pipe diameter.

7) Metal pipes must be used for ≥ 50mm thickness of the glass fiber or high density fire-retardant PE sponge to heat preservation (PPR hot water pipes can be used 30mm thickness of glass fiber or high density fire-retardant PE sponge to heat preservation).

2. Piping diagram



3.Circuit connection

3.1 Attention

1) Before installation, please confirm whether your local voltage matches with the voltage showed on the machine's nameplate and whether the carrying capacity of the power supply, wires and sockets are suitable for this machine's input power；

2) Require insurance tube: IEC regulations fuse rated current can be 90% -100% of rated nameplate maximum current, the maximum non-fusing current overload is 150% of the nameplate rated maximum power current；

3) In GB4706.32-2012, NO.25.7 rules, Units installed outdoors power lines should not be lighter than polychloroprene sheathed flexible cord(In IEC 60245 with No. 57 line);power line specifications according to the nameplate rated maximum current selection, as follows:

The minimum conductor cross-section	
Rated current/A	cross-section/mm
≤0.2	tinsel cord[a]
＞0.2&≤3	0.5[a]
＞3&≤6	0.75[b]
＞6&≤10	1.0(0.75)[b]
＞10&≤16	1.5(1.0)
＞16&≤25	2.5
＞25&≤32	4
＞32&≤40	6
＞40&≤63	10
A. The length of the wire and the wire protective sleeve is less than 2m that can use this type of wire.	
B. Wire length is no more than 2m, the portable appliance values in parentheses can be used	

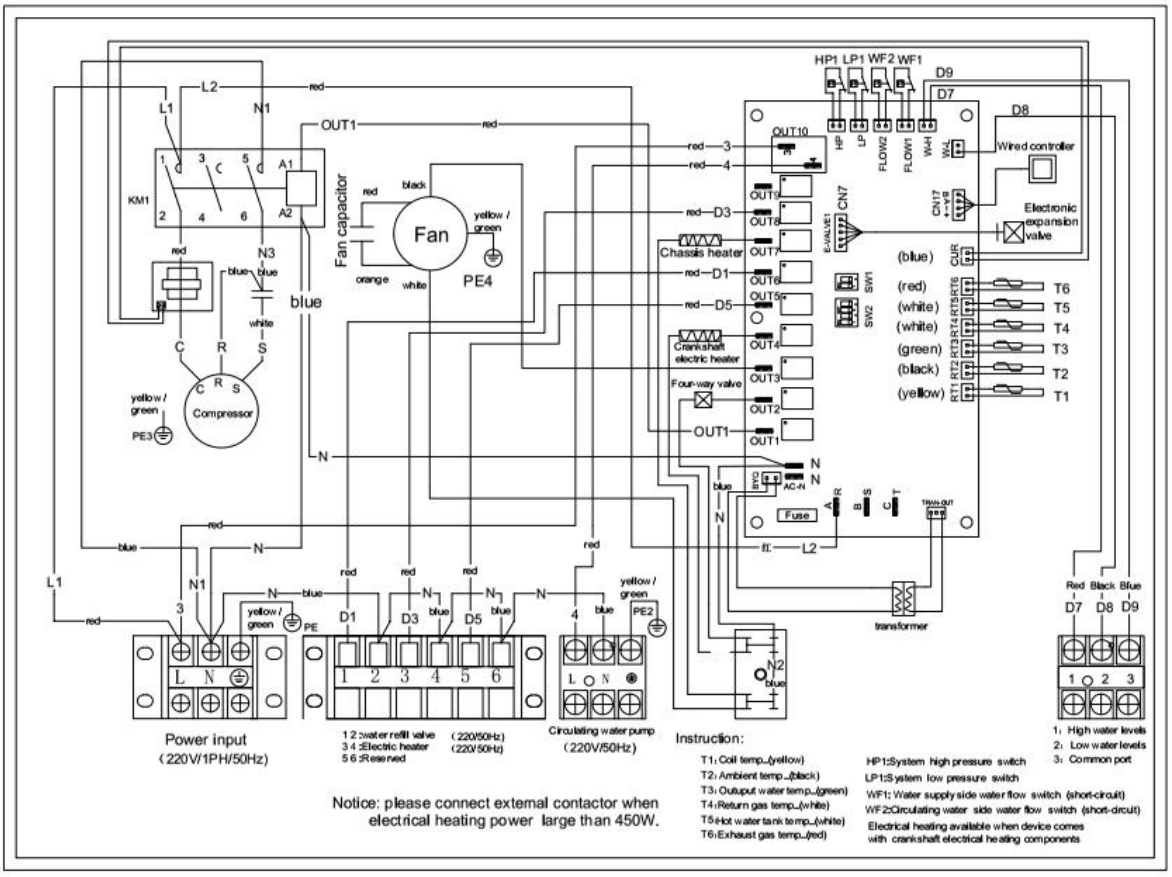
① Users are not allowed to change the power cord or socket. Wiring work must be carried out by a qualified electrician and ensure that the metal part of the machine has a good grounding. Changing the ground mode is strictly forbidden；

② The power supply must be equipped with the unit is connected to the power supply at least match and 3mm all-pole contact separation unit and disconnect from the leakage protection device; if the power cord is damaged, in order to avoid dangerous, and must ask professional sector to replace；

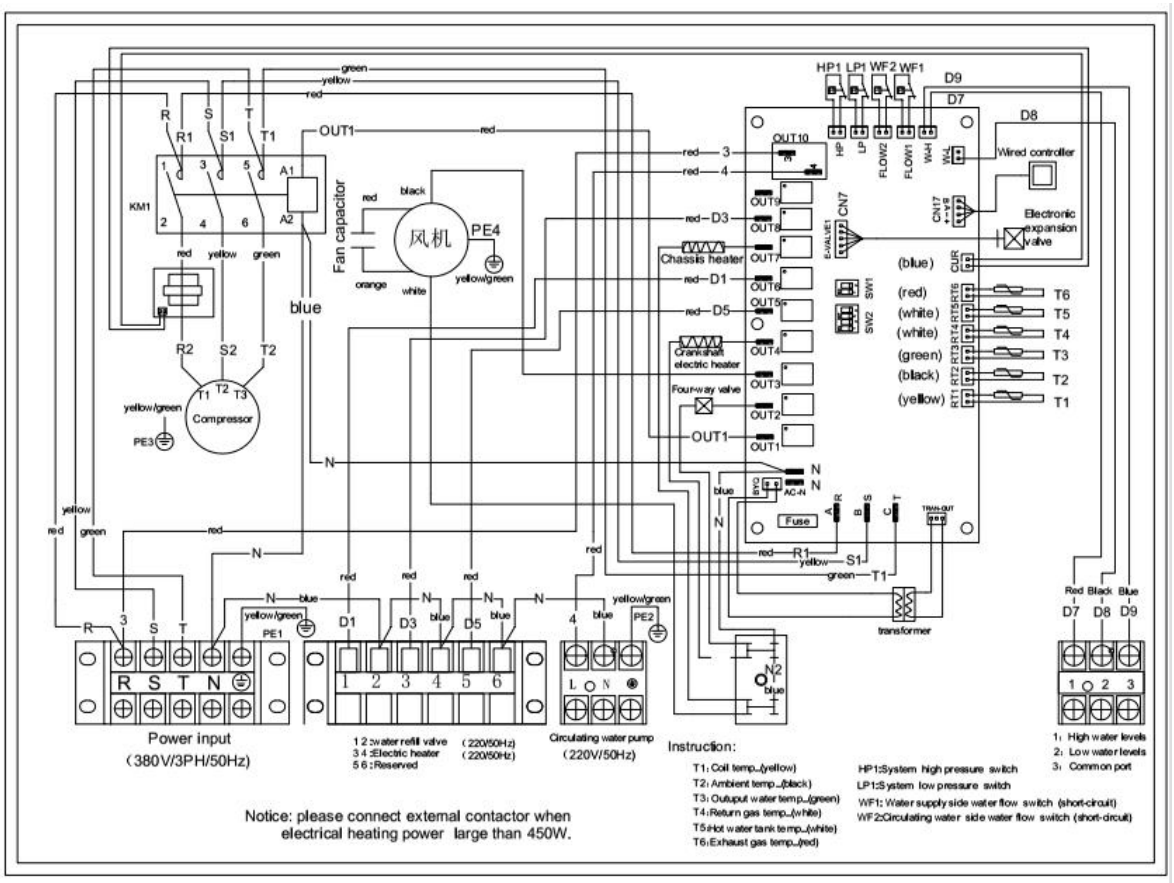
③ After the completion of the construction of all wiring work, please make sure to recheck everything is well before power on.

3.2 Electric wiring diagram

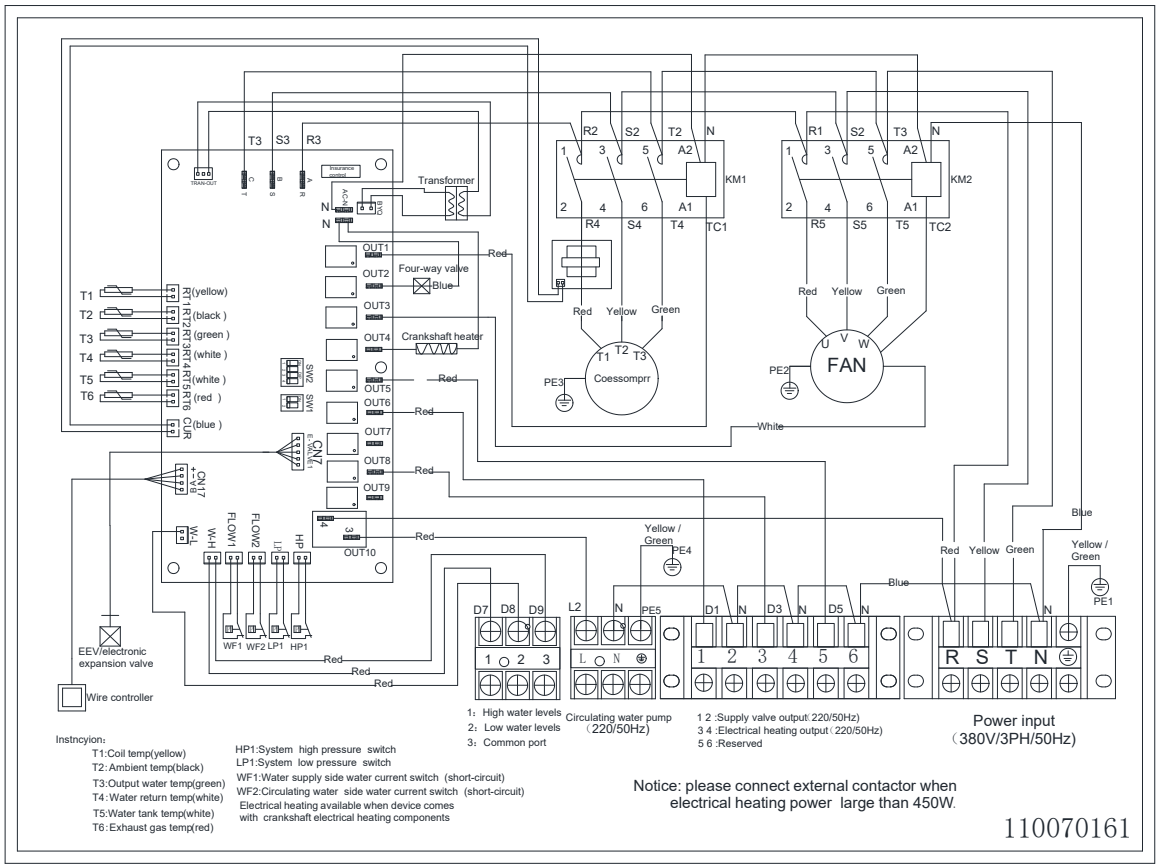
3.2.1 NERS-G3B



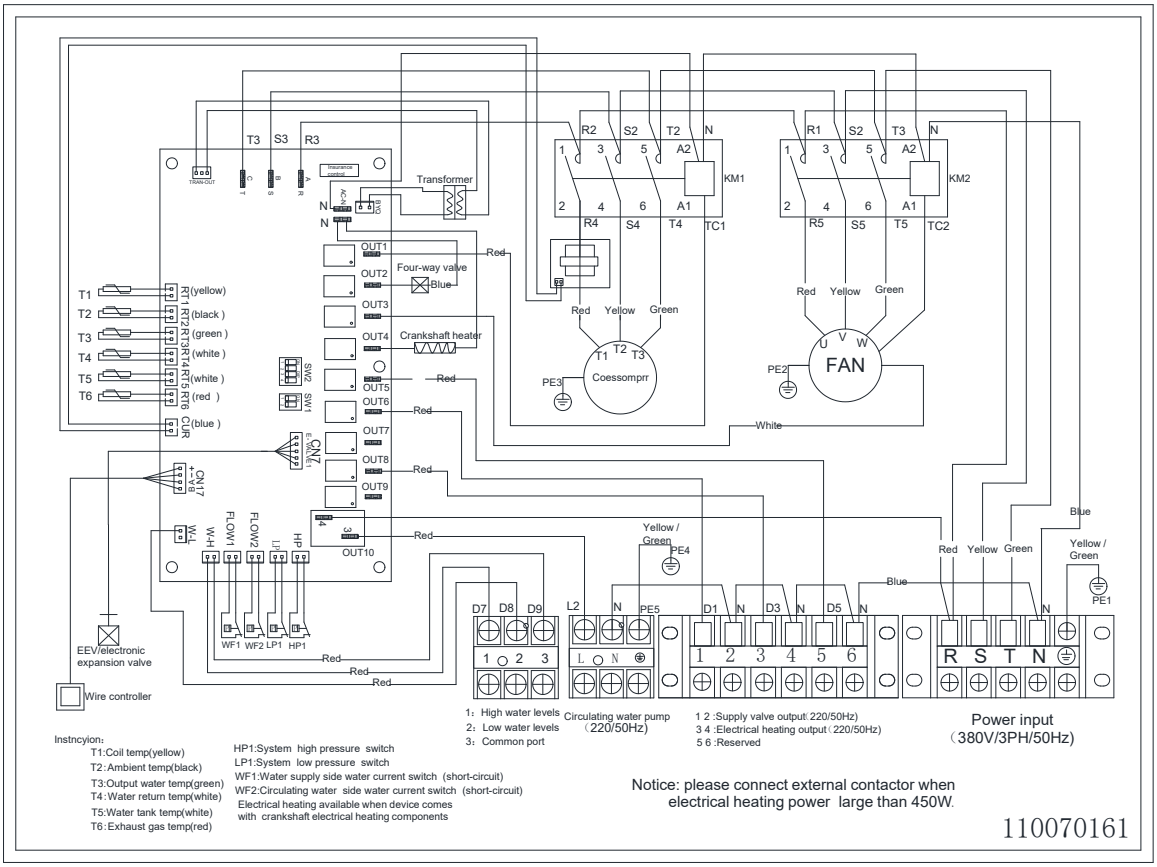
NERS-G3B/2


Power input
(380V/3PH/50Hz)
Compressor
Fan capacitor
Chassis heater
Crankshaft electric heater
Four-way valve
Wired controller
Electronic expansion valve
transformer
Fuse
Circulating water pump
(220V/50Hz)
Notice: please connect external contactor when electrical heating power large than 450W.
Instruction:
T1: Coil temp.,(yellow)
T2: Ambient temp.,(black)
T3: Outuput water temp.,(green)
T4: Return gas temp.,(white)
T5: Hot water tank temp.,(white)
T6: Exhaust gas temp.,(red)
HP1:System high pressure switch
LP1:System low pressure switch
WF1: Water supply side water flow switch (short-circuit)
WF2:Circulating water side water flow switch (short-circuit)
1: High water levels
2: Low water levels
3: Common port

3.2.2 NERS-G5/B



3.2.3 NERS-G6/B



V. Trial operation

Check before operating

A. Trial running must after all the installation is completed.

B. Please confirm the following matters before the trial operation, put “√”in the boxes after confirmation:

● Unit is installed correctly	□	● Power supply meets unit’s rated need	□
● Piping and wiring correct	□	● Unit air inlet/outlet well-ventilated	□
● Drain off water well	□	● Leakage protective device act effectively	□
● Pipe insulation is perfect	□	●Grounding wire connected correctly	□

C. All wiring and piping construction work is completed,After carefully checking everything then can switch on,and the water tank fill with water.

D. Let the piping and water tank’s air drain,click "on/off" button on the control panel,unit will accord to the set temperature operation.

E. Trial run to be checked:

— Operation panel ‘s function keys are normal or not;

— The indicator is normal or not;

— The whole circulating hot water system whether there is water leakage;

— The condensed water discharge is normal or not;

— Unit’s gas system pressure is normal or not (according to the water temperature detect high, low pressure);

— Whether there is abnormal sound and vibration in unit running state;

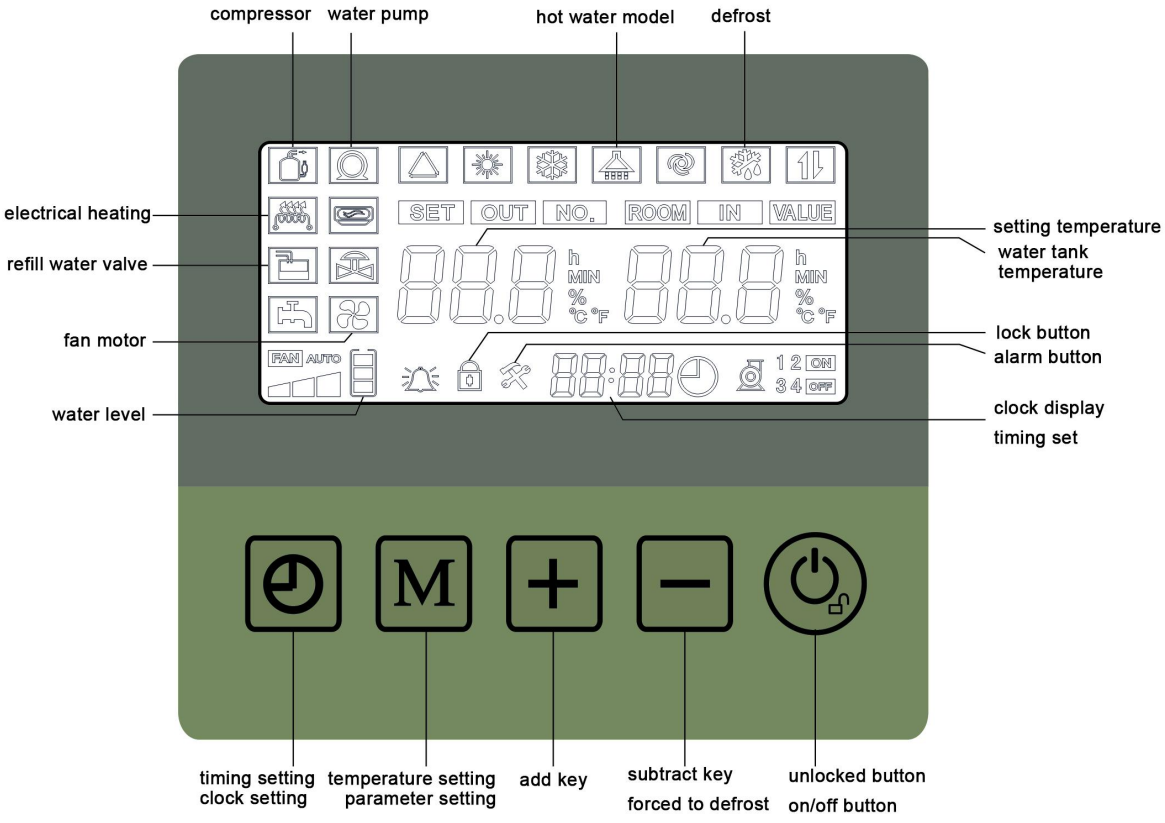
— The wind, sound and condensed water from unit whether effect to neighborhood;

— Whether there is leakage of refrigerant.

VI. Control system instruction

1 Operation illustration

1.1 display



1.2 Key explanation

1.2.1 Key unlocked

Press " " button for 5 seconds, the button is unlocked, the lock key icon extinguish, when no key operation for 120 seconds, the keys are automatically locked, key lock icon is displayed.

1.2.2 On/Off panel

Press " " key for 2 seconds, if the panel is turned on then still in on model; if the panel is turned off then will in on model.

1.2.3 Temperature setting

Press " " button for 3 seconds to enter the user parameter P1 items,set water temperature.

1.2.4 User parameter settings

Press "Ⓜ" button for 3 seconds to enter the user parameter query, then press "⊞" or "⊟" button to select the parameter number,Press "Ⓜ" to select the parameter content, then press "⊞" or "⊟" key to modify the parameter content,Press "Ⓜ" button to confirm and return to the view state.

User parameters:

parameter name	Parameters No.	Factory set	Min.	Max. value
Heating set temperature	P1	55	5	〖b8〗
Combination timing /cycle timing selection	P2	0	0:Combination timing (A valid within 24 hours)	1:cycle timing(Every 24 hours cycle operation)
Reserved	P3	-	-	-
Refill water temperature setting	P4	42	5	Hot water setting temperature

1.2.5 Parameter query

Press "Ⓜ" key to enter temperature checking state, press "⊞" or "⊟" button to select the parameter number,No button operation for 30 seconds or press "⏻" to exit Check status.

No.	State Name	Remark
d1	Outlet water temperature value	
d2	Water tank 1 temperature value	
d3	Outdoor ambient temperature value	
d4	Coil 1 temperature value	
d5	Coil 2 temperature value	
d6	Exhaust 1 temperature value	
d7	Exhaust 2 temperature value	
d8	Reserved	
d9	Recoverable fault code	
d10	Motherboard "mode selection" switch code	
d11	Motherboard "unit selection" code switch	
d12	Electronic expansion valve 1 value	
d13	Electronic expansion valve 2 value	(Reserved)
d14	Air return 1 temperature value	
d15	Air return 2 temperature value	(Reserved)

1.2.6 Time settings

Press "⏲" button for 5 seconds to enter the clock setting, the hour part blinking, then press "⊞" or "⊟" button to adjust the hour part, then press "⏲" button to enter the minute setting, the minute part blinking, then press "⊞" or "⊟" button to adjust the minute part,Press "⏲" key, the clock is finished.

1.2.7 Timer switch on/off model settings

A.Setting parameters [P2] is 0, expressed as a combination timing:

When On mode, press the "⏲" key, set the timer off;

When Off mode, press the "⏲" key, set the timer on;

Press "⏲" button to enter the clock setting, the hour part blinking, then press "⊞" or "⊟" button to adjust the hour part, then press "⏲" button to enter the minute setting, the minute part blinking, then press "⊞" or "⊟" button to adjust the minute part,Press "⏲" key, Timing set up and save.

Notice:After completing timer setting, press the "⏲" button, then cancel the timer.

B.Setting parameters [P2] is 1, expressed as a cycle timing:

1,Press "⏲" button to enter the clock setting, the hour part blinking, then press "⊞" or "⊟" ;

2,Press "⏲" button to enter the minute setting, the minute part blinking, then press "⊞" or "⊟" ;

3,Press "⏲" button to enter the clock setting, the hour part blinking, then press "⊞" or "⊟" ;

4,Press "⏲" button to enter the minute setting, the minute part blinking, then press "⊞" or "⊟" ;

5,finish.

1.2.8 Forced defrost

When the system is switched on and the compressor starts, press the "⊟" button for 5 seconds,the system enters defrost, when the coil temperature reach or defrosting time is over,then will exit defrosting model.

1.2.9 Water temperature control

Water temperature control range: temperature control target is water tank temperature control,[b8] is the water tank temperature control [P1] upper limit.

1.2.10 Compressor control

Actual measurement tank temperature≤ set temperature[b8] - hysteresis temperature[be] when the compressor is turned on,the measured water temperature ≥ set temperature[b8], the compressor is turned off.

1.2.11 Circulating water pump control

When turned on, circulating pump 50 seconds ahead of the compressor start up;when it is shutdown, circulating pumps delayed 30 seconds to stop.

1.2.12 Outdoor fan motor control

When turned on, the outdoor fan starts 5 seconds ahead of the compressor, defrost state or shutdown state ,the outdoor fan motor will stop.

1.2.13 Four-way valve control

Defrost state, the four-way valve start working, after exiting the defrosting, the four-way valve will stop working.

1.2.14 Refill water valve control

When the high and low level switches are turned off, refill water valves are opened;In the refill water process, the low-water level turned on, determine actual water tank temperature, when the measured water tank temperature ≥ parameters P4, start refill water valve,when the measured water tank temperature ≤ parameters P4 - (bC), turned off refill water valve; when the water high level valve,turned off refill water valve.

1.2.15 Water flow switch protection

After water circulating pump starts to run 10 seconds, if the water flow switch is off 10 seconds state, the crew stopped immediately,and the controller panel will display error code E1:02, after 3 minutes will start the water pump;If in 30 minutes,continuous to appear three times with the fault, it will lock, and power source must be restored.

1.2.16 Water flow switch protection

30 seconds after power on, if the high voltage switch for 10 seconds in the OFF state, the unit immediately stop running, and controller display error code E1: 31, when in the high-voltage switch recovery, and the compressor delay 3 minutes to restart. If in 60 minutes,continuous to appear three times with the fault, it will lock, and power source must be restored.

1.2.17 High voltage switch protection

30 seconds after power on, after compressor runs for 5 minutes,if the low voltage switch for 10 seconds in the OFF state, the unit immediately stop running, and controller display error code E1: 41, when in the low-voltage switch recovery, and the compressor delay 3 minutes to restart. If in 60 minutes,continuous to appear three times with the fault, it will lock, and power source must be restored.

1.2.18 Phase-sequence protection

When MPU SW1 plucking number switch 1 is OFF, meaning the unit is a single-phase power supply, not to detect phase sequence protection; when SW1 plucking number switch 1 is ON, Expressed as a three-phase power supply unit, and detects phase sequence protection, If the phase sequence failure occurs, the unit will be disable the output of all components, and controller display fault code E1: 01.

1.2.19 Winter antifreeze protection

In winter, to prevent water pipes and water pumps freezing burst,in thermostats or shut down state,frost protection automatically when the unit meets the following conditions:

A, when the ambient temperature≤4 ℃ and the water temperature≤10 ℃, enter frost protection, controller display E1: 44 alarms; If the water circulating pump continuous in power off and longer than 30 minutes,After water circulating pump starts running 3 minutes then power off, cycle operation;

B, when the ambient temperature is ≤2 ℃ and the water temperature is <4 ℃,the machine will run and start to heat,enter frost protection,controller display E1: 44 alarms;

C, when the ambient temperature ≥4 ℃, exit level two frost protection.Until ambient

temperature ≥6 ℃ or water temperature ≥15 ℃ to exit level one antifreeze;

1.2.20 Compressor high temperature protection

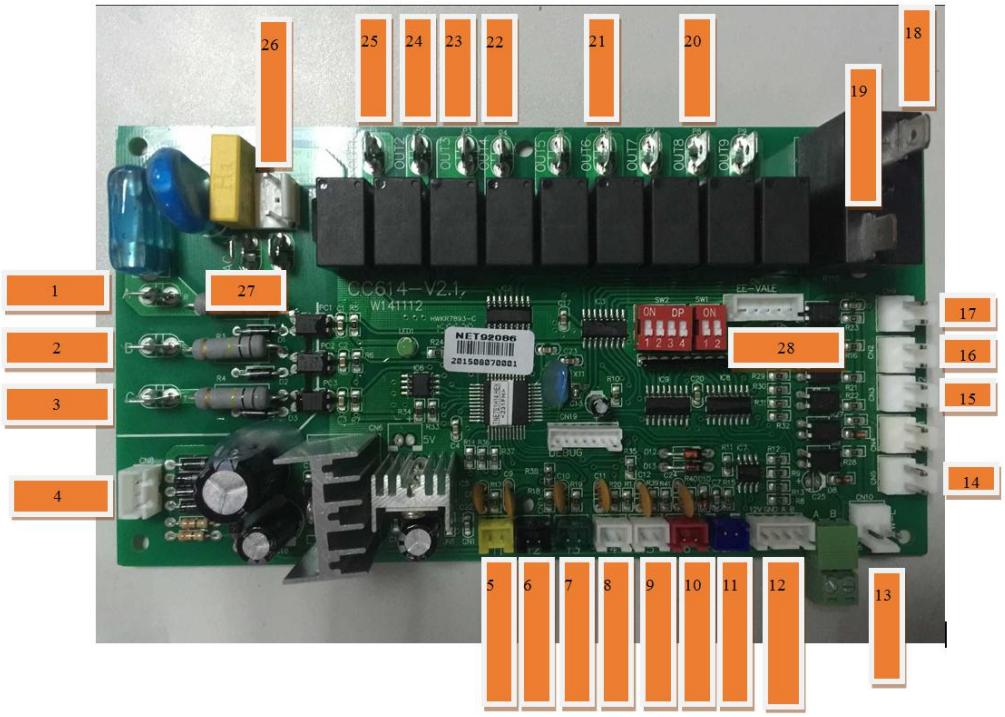
After the compressor starts to run 1 minute, 5 seconds if continuously detected exhaust temperature T5≥115 ℃, then into the exhaust high temperature protection, the unit immediately stop running and controller error code E1: 21; When the exhaust temperature T5≤95 ℃, the error recovery, and the compressor delay 3 minutes to restart.If in 60 minutes,continuous to appear three times with the fault, it will lock, and power source must be restored.

1.2.21 Current protection

After the compressor starts,detection operation current,when the measured current continuous 10 seconds ≥ parameters (C7) current setting, then enter into current protection, the unit immediately stop running and controller display error code E1: 07,If in 60 minutes,continuous to appear three times with the fault, it will lock, and power source must be restored.

3、Circuit board explain

3.1、NERS-G3B、NERS-G3B/2、NERS-G5B、NERS-G6B



1.power source R port	15.water flow switch
2.power source S port	16.low voltage switch
3.power source T port	17.high voltage switch
4.transformer secondary	18.circulation water pump
5.coil temp.	19.power source hot wire
6.ambient temp.	20.auxiliary electronic heating
7.outlet water temp.	21.refill water valve
8.gas return temp.	22.crankshaft heating
9.water tank temp.	23.fan motor
10.gas exhaust temp.	24.four way valve
11.current detection	25.compressor
12.line controller connection port	26.transformer primary
13.low water level	27.power source N port
14.high water level	28.expansion valve connection port

VII . Maintenance

1.Description of the error code

Code	description	Code	description
E1：01	Phase-sequence protection	E1：14	Coil 1 temperature sensor failure
E1：02	Water flow switch off protection	E1：16	Exhaust gas temperature sensor fault
E1：03	Level switch broken (high water level pull, low water level off)	E1：19	Return air 1 temperature sensor fault
E1：04	Outlet water high temperature protection	E1：21	Exhaust gas high temperature protection
E1：05	Down water flow switch off protection	E1：31	High voltage switch 1 fault
E1：07	Current fault	E1：41	Low voltage switch 1 fault
E1：09	Communication fault	E1：43	Anti-high temperature and unit crash functional protection
E1：11	Outlet water temperature sensor fault	E1：44	Frost protection
E1：12	Water tank 1 temperature sensor fault	E1：88	Electronic expansion valve expansion board communication failure
E1：13	Ambient temperature sensor failure		

2.Solutions

phenomenon	reason	check	clear
The machine does not work, operation panel with a display But can not be switched, button is failure	1: Operation panel line not connected; 2: Operation board is broken; 3: Disturbed; 4: Voltage Low; 5: The electronic control board is broken	1: Check the line; 2: Alternative Method; 3:Check the source of interference; 4: Check the line voltage; 5: Alternative Method	1: Connect the line; 2: Change operation panel; 3: Eliminate interference source replace line (with shield); 4: Transformation of the line or increase Regulators; 5: Change electronic control board
The machine does not work, the operation panel display	1: Transformer is broken; 2: Operation plate line not connected; 3: Operation board is broken; 4: The electronic control board is broken 5: Disturbed	1: Measuring with a multimeter; 2: Check the line; 3: Alternative Method; 4: Alternative Method; 5: Check the interference lines have unshielded cable or not	1: Replace the transformer; 2: Soldering iron; 3: Change the Control Panel; 4: Change electronic control board; 5: Eliminate interference source replace line (with shield)
Fan does not work, and without supply input	1: Power outages; 2 Circuit breaker; 3:The electronic control board is broken (no output); 4: Transformer is broken	1: Measuring line voltage; 2: Measuring line; 3: Measure the output voltage; 4:Measuring winding, measuring the output voltage	1: Wait to restore power; 2: Connect the line; 3: Change electric boards; 4: Change transformers
Fan does not work, capacitor is broken	1:Capacity becomes smaller; 2: Open circuit; 3: Short circuit;	1: Check the capacity of the capacitor; 2: Measuring with a multimeter; 3: Measuring with a multimeter	1: Change capacitor; 2: Change capacitor; 3: Change capacitor
Fan does not work, motor breaks down	1: The motor winding road blocking, short circuit, ground wiring	1: measuring winding	1: Change motor
Compressor does not work, the compressor terminals without power (electric control panels no voltage output)	1: No Power; 2: Set the temperature lower than the water temperature; 3:The electronic control board is broken; 4: Transformer is	1: Check the operation panel; 2: Check the set temperature; 3: Alternative Method; 4: Alternative Method; 5: Measuring line voltage	1: Power on; 2: Reset; 3: Change electronic control board is broken; 4: Change transformers; 5: Wait to restore power

	broken; 5: power outages		
Compressor does not work, when the type of external overload protection	1: Capacitors is broken; 2:External overload is broken	1: Check the capacity of the capacitor; 2: Measure the resistance protection	1: Change capacitor; 2: Change overload protection
Compressor does not work, when the type of inside overload protection	1: Too little refrigerant 2: Low voltage; 3:The compressor cylinder block; 4:Compressor short of engine oil，wide noise, temperature rise quick;	1: measured pressure, current, water temperature parameter; 2: Measuring Voltage; 3: measuring pressure, current, water temperature parameter; 4: Listen to the noise, measured compressor temperature	1: Charging refrigerant; 2: Transform line or increase Regulators; 3: parallel capacitance rushed to open, add frozen oil; 4: add frozen oil
Unit does not defrost, defrost effect poor	1:Defrost temperature sensor fault; 2:Defrost temperature sensor loose; 3:Defrost temperature sensor is installed at no frost place; 4: Defrost detection takes too long time; 5:Defrost condition setting inappropriate; 6:Four-way valve does not operate the four-way valve coil is broken; 7:Four-way valve does not operate the four-way valve stuck; 8:4-way valve gas carry-over; 9:The electronic control board is broken	1: Check the defrosting sensor connection; 2: Check the defrosting sensor connection; 3: Inspection; 4: Check of frost detection time; 5: Defrost temperature set point is too high; 6: Measuring winding; 7: Knocking four-way valve; 8: Touch four-valve-pipe temperature, measuring the current / pressure and other parameters; 9: Forced defrost, to see whether the electronic control board has electrical output	1: Replace the sensor; 2: Replace the sensor; 3: Adjust the mounting position; 4: Reset the time; 5: Adjust the temperature point; 6: Replace the coil; 7: Replacing the four-way valve; 8: Replace the four-way valve; 9: Replace the control board

3.Maintenance protection

3.1 Using a stiff nylon brush to clean the evaporator wings. Before scrub, clean it with vacuum cleaner. If there is compressed air, you can use high pressure air to clean the condenser or evaporator;

3.2 Periodic inspecting if the air inlet or outlet is stopped up;

3.3 Pay close attention to the outlet, inlet/ suction pressure of the system. If there is any abnormity, find out the reason and clearing the fault.. If you can not determine the reason, get in touch with the technician;

3.4 Periodic inspecting the electrical connections and regularly monitored the operating voltage, operating current and phase balance. Timely to check the reliability of the electrical components, replace the expired and unreliable parts timely;

3.5 Air source heat pump water heater uses patent heat exchanger and the outlet water temperature is high. After long time operation, the heat transfer surface of the water side heat exchanger will be deposited calcium oxide or any other minerals. If these minerals fouling too much on the heat transfer surface, it will effect heat transfer performance which could lead to power consumption increase, compressor outlet pressure too high or inlet pressure too low. So regular contaminant separation is necessary (Please use formic acid, citric acid, acetic acid and other organic acid to clean, any cleaning agents contains chloral acid or fluoride is strictly forbidden);

3.6 Do routine maintenance work can make more efficient use of heat pump water heaters, while for failure problems can find in time, to avoid unnecessary trouble.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