



# MegaLife

## FICHE D'INSTALLATION

**Ballon-Thermodynamique  
Decoratif 200L**

**NE-K115/L200**



# Content

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**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.
- ◆ If the machine has any improvement, the content is subject to change without notice.

## I. Prologue

1.1 Thanks for using air source heat pump water heater! Please read the manual carefully before installation and using. It included all information related to correct installation, debugging, operation, and maintenance.

1.2 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.

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

1.4 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:

A: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.

B: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.

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

D:Installing the machine in the warehouse which the combustible gas may leak is strictly forbidden.

E: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.

F:In order to obtain a better energy-saving effect, the unit should be installed in a place with good air circulation.

G: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.

## 2. Attention

2.1 Please make sure the good connection of the pipes before the machine start working (The water tank should be filled with water).

2.2 When the machine is operating, all the valves of the water inlet must be in the open position.

2.3 After more than 72 hours of power outage,need to reset time of the operating board.

2.4 A removable filter must be installed at the water inlet (check valve with pressure release function which distributed by our company should be installed at the cold water inlet of compact unit, and please clean the valve every two or three months).

2.5 The max water temperature is 75℃,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 temperature above 50℃, there will be danger of burns!).

2.6 The maintenance of the machine must be carried out by the professional personnel.

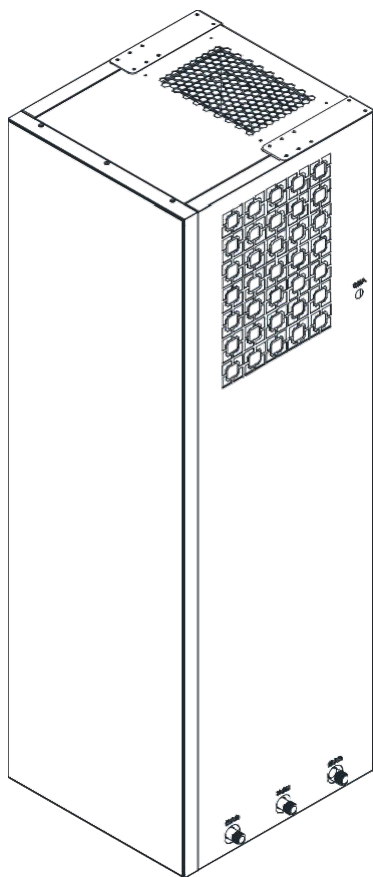
2.7 If the unit power off, please discharge all the water inside the unit to avoid heat exchanger frozen in winter, otherwise, no guarantee within warranty.

## II. Parameters

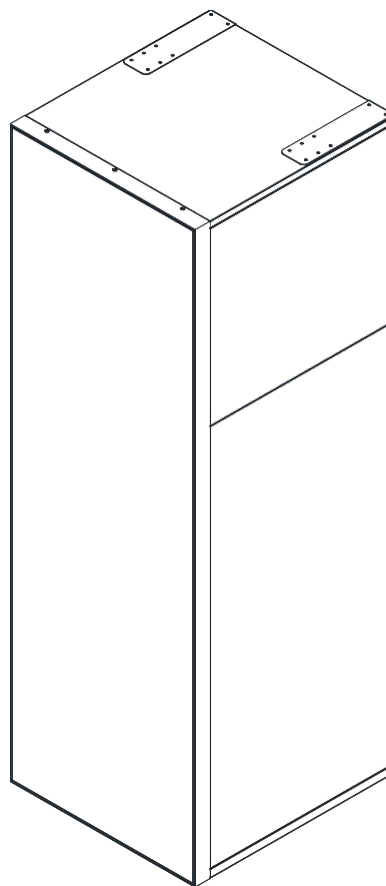
### 1.Parameter sheet:

| Model        | Size(L*W*H mm) | NW / GW (kg) | Power source range |
|--------------|----------------|--------------|--------------------|
| NE-K115/L200 | 430×461×1418   | 85/90        | 220~240V-1ph~50HZ  |
| NERS-FR200   | 450×487×1415   | 90/95        | 220~240V-1ph~50HZ  |

### 2.Appearance



NE-K115/L200



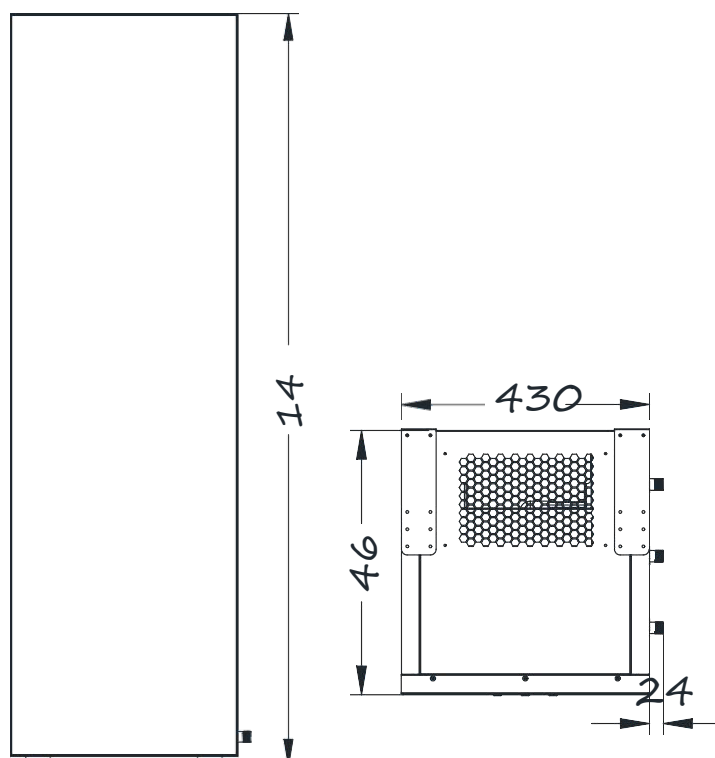
NERS-FR200

### 3. Specification

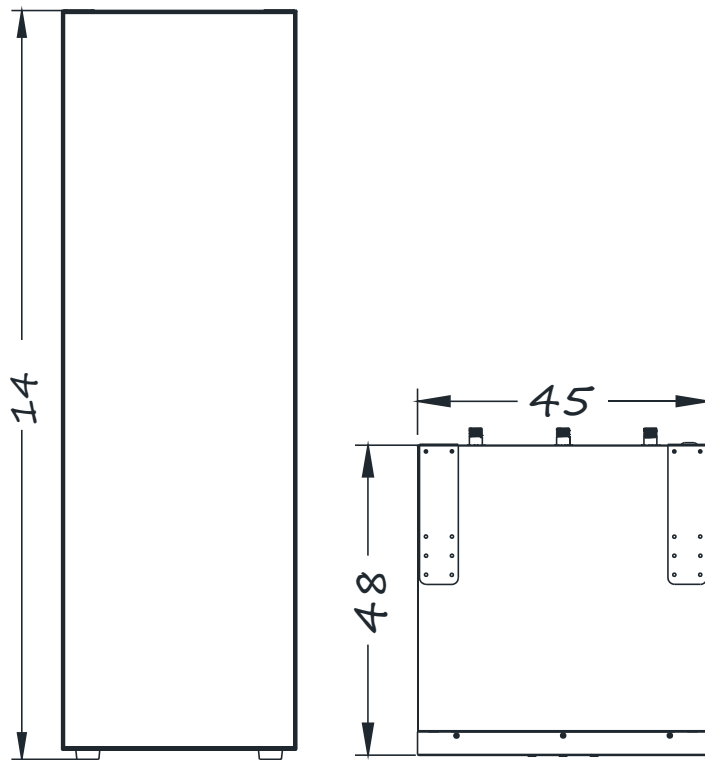
| Model                                       | NE-K115/L200 | NERS-FR200  |
|---|--------------|-------------|
| Waterproofing grade                         | IPX4         |             |
| Leakage protection                          | I Class      |             |
| Rated power source                          | 220V~50Hz    |             |
| Rated water quantity                        | 110L/h       | 116L/h      |
| Continuation of outlet water(T=43℃)         | 200L         | 240L        |
| Rated heating capacity                      | 5100W        | 5390W       |
| Rated input power/current                   | 1235W/5.8A   | 1275W/5.8A  |
| Max input power/current                     | 1730W/8.2A   | 1850W/8.4A  |
| Refrigerant                                 | R134a/1050g  | R134a/1200g |
| Rated water temp.                           | 55℃          | 55℃         |
| Max water temp.                             | 75℃          | 75℃         |
| Net weight                                  | 85kg         | 90kg        |
| Noise                                       | ≤50dB(A)     | ≤50dB(A)    |
| Water tank working pressure                 | ≤0.8MPa      | ≤0.8MPa     |
| Max allowable pressure of inlet/outlet      | 3.0MPa       | 3.0MPa      |
| Max allowable pressure of high/low pressure | 3.0MPa       | 3.0MPa      |

### 4. Appearance size

#### 4.1 NE-K115/L200



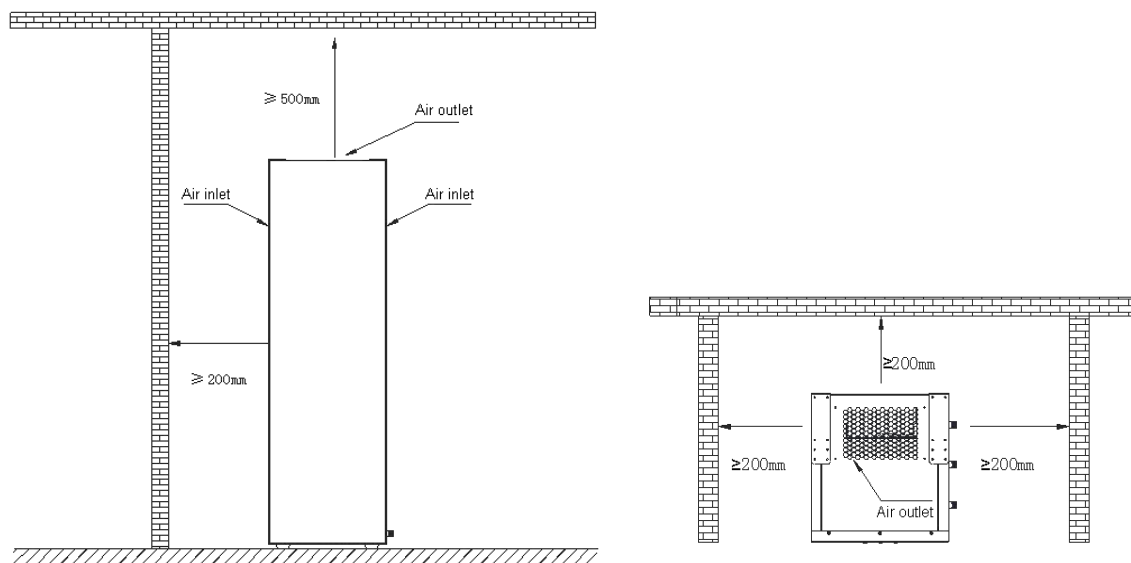
## 4.2 NERS-FR200



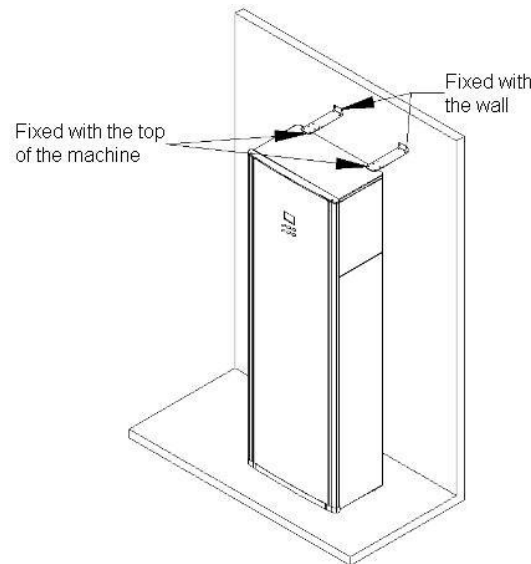
## III. Installation

### 1. Unit installation

1.1 Units shall be installed in the place of ventilation, no heat radiation or other heat sources. The dimensions of the space for correct installation of the heat pumps are showed as below diagram:

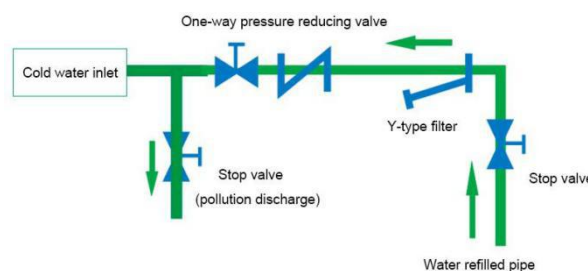


**1.2** The base of the installation should be concrete structures as well as steel bracket, but the surface must be smooth (The design of the base according to machine's quality). On the top of the machine, there are two pieces of ledger plates. Then reverse the plates and fix one end on the wall and one end on the top of the machine (shown below), adjust the level of the machine, tilt < 5 degree. Connecting the condensate drain line with PVC pipe or tube and do not cut off the condensate drain line, connecting other inlet/outlet pipe and drain based on actual use.

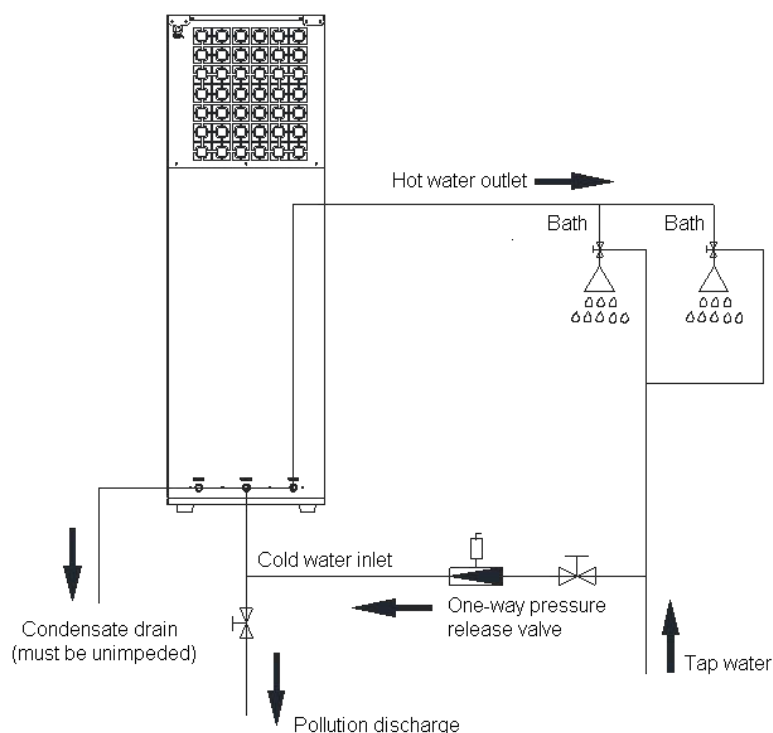


### 1.3 Safety relief valve installation requirements:

- (1) Install the safety relief valve at the inlet of the water tank.
- (2) Drainage pipe of the safety relief valve should be connected with the air.
- (3) Safety relief valve should be cleaned periodical in order to remove the calcium carbonate deposition and guarantee that the device is not plugged.
- (4) The drain pipe of the safety relief valve should be installed in a continuous downward way under the Frost free environment.



## 2. Pipe connection



## 3. Circuit connection

### 3.1 Attention

Before installation, please confirm whether your local voltage is match 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.

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;

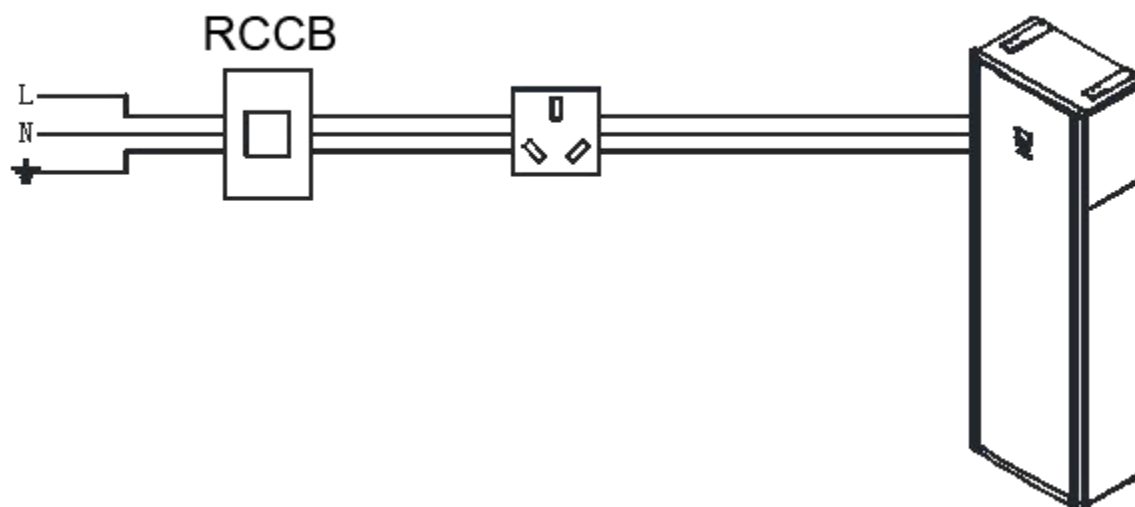
Outdoors power lines should not be lighter than polychloroprene sheathed flexible cord(In IEC 60245 with No. 57 line);power line specifications according to the nameplate rated maximum current selection, as follows:



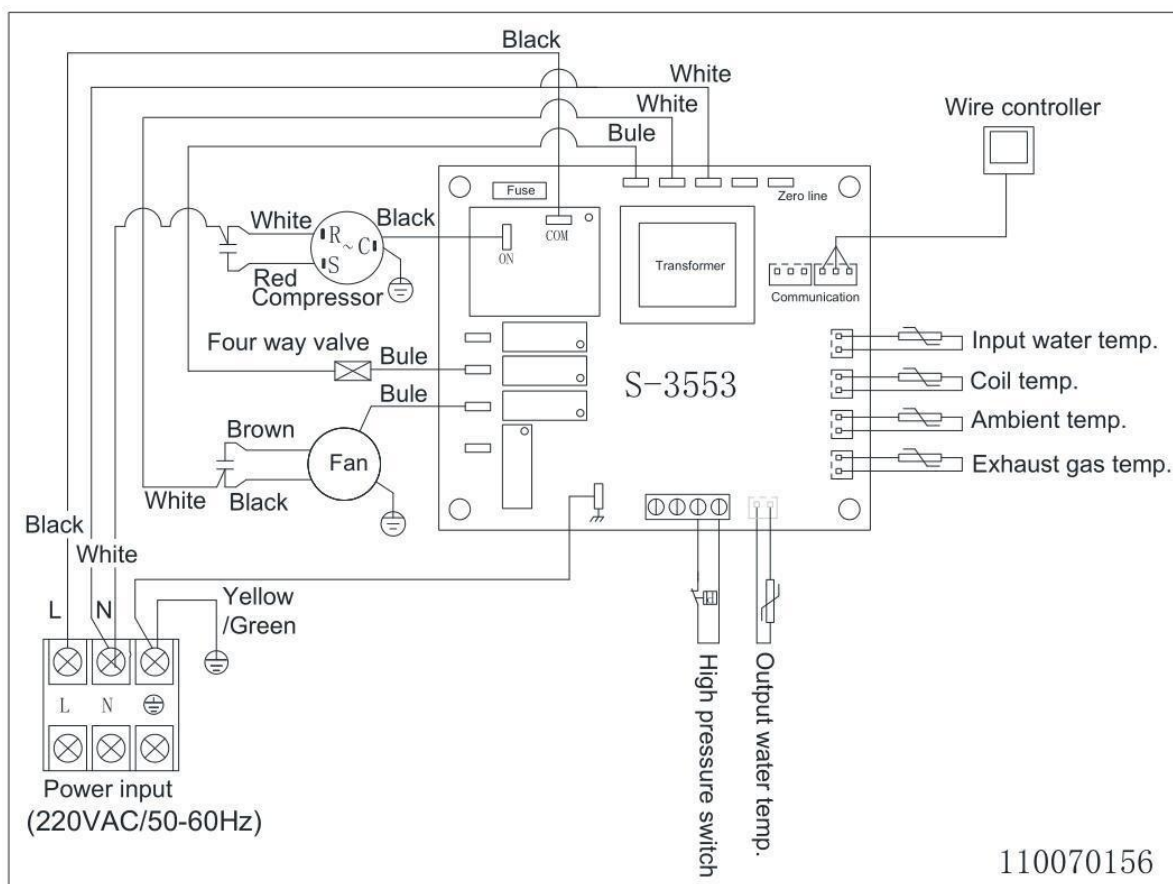
| The minimum conductor cross-section  |                          |
|--|--------------------------|
| Rated current/A  | cross-section/mm         |
| $\leq 0.2$   | tinsel cord <sup>a</sup> |
| $> 0.2 \& \leq 3$  | 0.5 <sup>a</sup>         |
| $> 3 \& \leq 6$  | 0.75 <sup>b</sup>        |
| $> 6 \& \leq 10$   | 1.0(0.75) <sup>b</sup>   |
| $> 10 \& \leq 16$  | 1.5(1.0)                 |
| $> 16 \& \leq 25$  | 2.5                      |
| $> 25 \& \leq 32$  | 4                        |
| $> 32 \& \leq 40$  | 6                        |
| $> 40 \& \leq 63$  | 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) After the completion of the construction of all wiring work, please make sure to recheck everything is well before power on.
- 3) Installing the machine in the warehouse which the combustible gas may leak is strictly forbidden.
- 4) 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.
- 5) In order to obtain a better energy-saving effect, the unit should be installed in a place with good air circulation.
- 6) Water used for this machine must be accordance with the national standard of living water, otherwise, if the machine is damaged, we will not assume any responsibility.
- 7) When do power connection, must be equipped with all-pole disconnect device and leakage protection device which match the unit and have at least 3mm contact opening distance from power; If the power cord is damaged, in order to avoid dangerous, must be replaced by a professional manufacturer, its service department or similar departments.

### 3.2 Power source diagram



### 3.3 Circuit diagram



## IV. Trial operation

### Check before operating

1. Trial running must after all the installation completed.

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

- |   |                          |
|---|--------------------------|
| ▲ Unit is installed correctly                       | <input type="checkbox"/> |
| ▲ Power supply meets unit's rated power source need | <input type="checkbox"/> |
| ▲ Piping and wiring are correctly installed         | <input type="checkbox"/> |
| ▲ Unit air inlet/outlet well-ventilated             | <input type="checkbox"/> |
| ▲ Drain off water is done well                      | <input type="checkbox"/> |
| ▲ Leakage protective device act effectively         | <input type="checkbox"/> |
| ▲ Pipe thermal insulation                           | <input type="checkbox"/> |
| ▲ Grounding wire connected correctly                | <input type="checkbox"/> |

3. After check and ensure correct, then power on. If the control panel display nothing, that should recheck and tight the line of control panel. The control panel should display time, setting temperature and the current temperature.

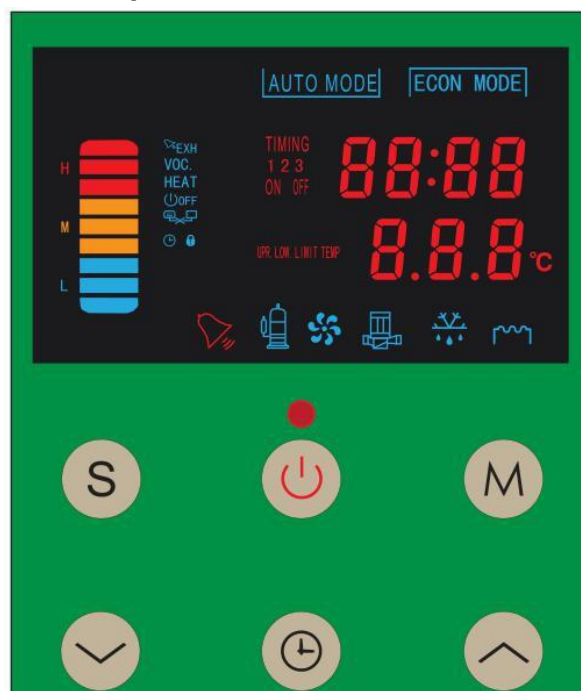
4. Discharge the air out of the pipelines, and then press ON/OFF button, the unit work under the setting temperature, unit's trial running would check the following:









- ▲ First time to run the device, check the current normal or not;
- ▲ Operation panel's function keys are normal or not;
- ▲ The indicator light is normal or not;
- ▲ The whole circulating hot water system whether has water leakage;
- ▲ The condensed water discharge is normal or not;
- ▲ System's pressure is normal or not (according to the high water temperature or low pressure);
- ▲ Whether there is abnormal sound and vibration when unit running;
- ▲ The wind, sound and condensed water from unit whether effect neighborhood;
- ▲ Whether there is leakage of refrigerant.

## V. Control system instruction

### 1.1 Operation explain





#### 1.1.1 Display and button explain



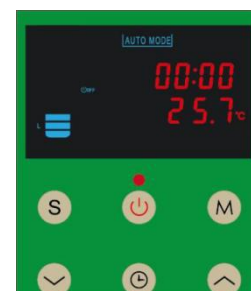
| Item                      | Symbol  | State    | Functions and explain                       |
|---------------------------|---|----------|---|
| Heating symbol            | HEAT  | Flicker  | Heating delay                               |
| Defrost symbol            |  | Flicker  | Defrost start or end delay                  |
| Compressor symbol         |  | Lighting | Compressor start                            |
| Fan motor symbol          |  | Lighting | Fan motor high speed or low speed operation |
| Water pump symbol         |  | Lighting | Water pump start                            |
| Electronic heating symbol |  | Lighting | Reserve                                     |
| Timing standby symbol     |  | Lighting | Currently timing standby state              |
| Lock symbol               |  | Lighting | Buttons are locked state                    |
| Alarm symbol              |  | Flicker  | Currently alarm occur                       |
| Degrees Celsius symbol    | °C  | Lighting | Showing Celsius                             |

: Power on/off and Exit 
 : Time setting 
 M: Mode 
 S: Setting 
 : Up 
 : Down


#### 1.1.2 Check temperature

In controller normally display  shows water inlet temperature. press  shows coil temperature, press  and  at the same time shows exhaust temperature, release all buttons to return status as picture.

Picture 1



#### 1.1.3 On/Off machine

In controller normally display state, press  to be on / off state. In switch

on state,controller shows as picture 2.In switch off state,off symbol is bright, controller stops controlling output as picture 3. In on and off state, the controller can be normally display and control. The first time to connect with the power source, the machine is in off states, after this time, the controller states is as last setting .



Picture 2



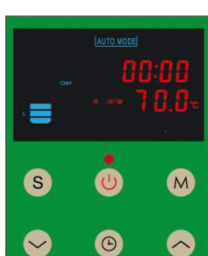
Picture 3

### 1.1.4、Water temperature setting

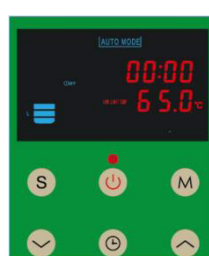
In controller normally display state as picture 4,press **S** to enter water setting state,showing upper limit temperature as picture 5, **S** one time to save current state and showing lower limit temperature as picture 6,then **S** one time to save current state and exiting water temperature setting state as picture 7. In water temperature setting state,press  $\wedge$  or  $\vee$  to change the current temperature; press  $\text{OFF}$  or no operation in 30 minutes that will save modification and return to normally display state.



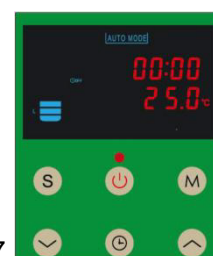
P4



P5



P6



P7

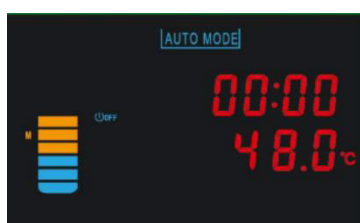
### 1.1.5 Water temperature three colors display

When water temperature  $< 45^{\circ}\text{C}$  that will show yellow green color and low water volume symbol as picture 8; When water temperature  $\geq 45^{\circ}\text{C}$  and  $< 50^{\circ}\text{C}$  that will show orange yellow color and middle water volume symbol as picture 9;When water temperature  $> 50^{\circ}\text{C}$  that will show red color and high water volume symbol as picture 10.

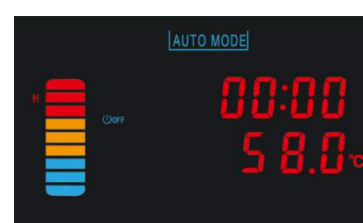
When in heating state,the display will change with the water temperature.



Picture 8




Picture 9











Picture 10

### 1.1.6 Work mode setting






In controller normally display state,press **M** to change between auto mode and economic mode.In auto mode ,it will heating the water when switch on the machine,it won't heat the water when switch off the machine.It won't be limited by the working period setting.

In economic mode, it only will heat the water in the working period setting time, in other time, it won't heat the water and will show .

### 1.1.7 Time setting

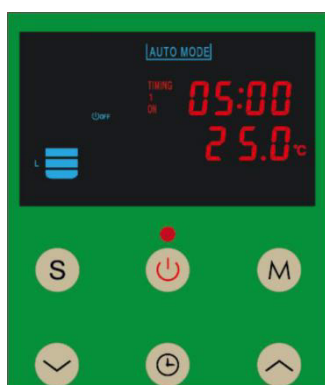
In controller normally display state, press  to enter clock setting mode. At the moment, hour number is flicker, press  or  to change the number; Then , minute number is flicker, press  or  to change the number; Then , after you  or no operation in 30 seconds, it will save and back to normally display state.

### 1.1.8 Economic mode working period setting

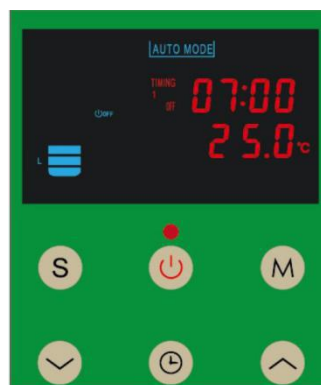
In controller normally display  > 3 seconds to enter timing setting, then press  to change the three different period in turn: The start time's hour number and minute number, then the stop time's hour number and minute number, it will be flicker when the number can change, at the moment, it will display the "on" "off"  or  to change the number as picture 11 and 12. When finish the economic mode working period setting, press  or no operation in 30 minutes, it will save and back to normally display state.

If in one day, the start period > end period that will be regarded as the next day. If in one day, the start period = end period that will be regarded as cancel this period. Period 1~3 is only used in economic mode working period setting. In economic mode and the machine is switched on, it will be heated only in the Period 1~3 which we set already, in the other time, the machine doesn't heat and will display the Standby symbol.

If Period 1~3 are all canceled that will be regarded as working whole day. The period 1, 2, 3 factory default setting is 05:00~07:00, 16:00~18:00, 22:00~00:00.





Picture 11





Picture 12

### 1.1.9 Auto-lock button

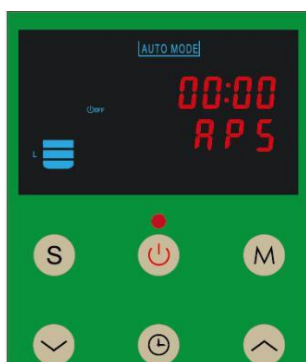
In controller normally display state, the buttons are in unlock state, no operation in 30 minutes that will enter in lock state and will show the lock symbol. When in lock state, press  and  to unlock the buttons, the lock symbol is crushed out.

### 1.1.10 Advanced Settings

In controller normally display state, press **S** > 5 seconds, if doesn't have passwords, it will enter parameters changing state, showing the first menu item code; if already setting the passwords, it will show "PAS" to enter the right passwords as picture 13.

In entering passwords  or  to change the flicker password number. Press **S** to change the password sequence or confirm the passwords as picture 14, if the passwords are right then will enter parameters changing state as picture 15; If the passwords are wrong

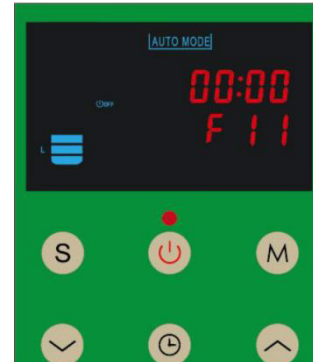
then will be back to normally display state. If forget the passwords, press **S** ≥ 30 seconds to pass the entering passwords state directly, then you can change the parameters.



Picture 13

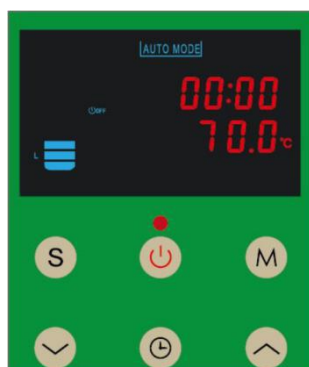


Picture 14

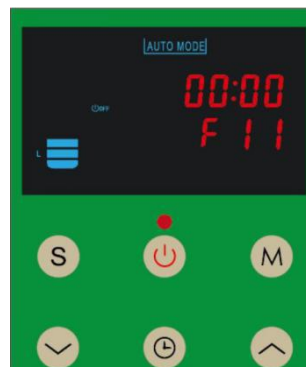


Picture 15

In parameters changing state, press **^** or **v** to check the menu and show the item code; Press **S** to show the item code numerical value as picture 16, press **^** or **v** to change the setting value, press **S** to enter directly show the current menu item code as picture 17.



Picture 16



Picture 17

In passwords entering state, press **⏻** to undo current passwords entering, no operation in 30 minutes then will back to normally display state; In parameters changing state **⏻** or no operation in 30 minutes then will save the state and back to normally display state. With time delay or the timing parameters changing state, cutting off the controller power source then restart the machine that can save these parameters, without waiting for the setting period parameters.

When the machine is power on, firstly checking the parameters if it is correct or wrong. If check the fault then will show "Err", at the moment, pressing any buttons to reset in factory default setting and work. We suggest to set this parameter again.

#### 1.1.11 Parameters of the code shown in the table below:

("Default number", customer doesn't allow to modify, otherwise cause machine operation is not normal that we don't allow the warranty)

| Code | Function and explain                              | Setting range | Unit | Default |
|------|---|---------------|------|---------|
| F11  | Water temperature control upper limit temperature | F12+1~F13     | ℃    | 70      |
| F12  | Water temperature control lower limit temperature | F14~F11-1     | ℃    | 65      |
| F13  | Water temperature max setting range               | F11~100       | ℃    | 75      |
| F14  | Water temperature minimum setting range           | 0~F12         | ℃    | 10      |



|     |   |        |        |     |
|-----|---|--------|--------|-----|
| F18 | Water outlet temperature sensor calibration value   | -20~20 | ℃      | 2   |
| F19 | Water inlet temperature sensor calibration value  | -20~20 | ℃      | 2   |
|     |   |        |        |     |
| F21 | Compressor protection time  | 0~10   | Minute | 3   |
|     |   |        |        |     |
| F30 | Start defrosting ambient temperature  | 0~40   | ℃      | 10  |
| F31 | Start defrosting ambient temperature with coil temperature different                                | 1~20   | ℃      | 2   |
| F32 | End defrosting coil temperature   | 0~50   | ℃      | 18  |
| F33 | Start defrosting period   | 1~999  | Minute | 45  |
| F34 | The longest defrosting time   | 0~99   | Minute | 8   |
| F35 | Start defrosting coil temperature   | -20~20 | ℃      | -2  |
|     |   |        |        |     |
| F41 | Close fan motor exhaust temperature value   | 10~120 | ℃      | 105 |
| F42 | Close fan motor ambient temperature value   | 10~60  | ℃      | 25  |
| F43 | Start fan motor exhaust temperature return difference   | 1~50   | ℃      | 10  |
| F44 | Start fan motor ambient temperature return difference   | 1~30   | ℃      | 3   |
| F45 | Water pump continue working time  | 3~600  | Second | 50  |
| F46 | Adjust water pump starting shortest interval of the environment temperature value                   | -20~20 | ℃      | 10  |
| F47 | When in low ambient temperature,allowing waterpump to restart shortest interval                     | 1~60   | Minute | 3   |
| F48 | When in high ambient temperature,allowing water pump to restart shortest interval                   | 1~60   | Minute | 7   |
| F49 | Whether to enable the antifreeze protection function:<br>0: disabled;1: enabled.                    | 0~1    | None   | 1   |
|     |   |        |        |     |
| F50 | Pressure switch (low pressure) setting<br>0:disabled;1:When closed,alarm;2:When disconnected,alarm  | 0~2    | None   | 0   |
| F51 | the max number of low pressure alarm can be automatically restore                                   | 0~10   | None   | 3   |
| F52 | Automatically cleared the period of the low pressure alarm occurred number                          | 0~999  | Minute | 60  |
| F53 | Low pressure alarm detection delay  | 0~60   | Minute | 5   |
| F54 | Pressure switch (high pressure) setting<br>0:disabled;1:When closed,alarm;2:When disconnected,alarm | 0~2    | None   | 2   |
| F55 | the max number of high pressure alarm can be automatically restore                                  | 0~10   | None   | 3   |
| F56 | Automatically cleared the period of the high pressure alarm occurred number                         | 0~999  | Minute | 60  |
| F58 | Exhaust high temperature protection value   | 50~120 | ℃      | 115 |
| F59 | Exhaust high temperature protection return difference   | 1~60   | ℃      | 30  |
|     |   |        |        |     |



|     |  |             |      |     |
|-----|--|-------------|------|-----|
| F61 | Manufacturer reserve   | no~yES      | None | yES |
| F69 | Manufacturer reserve   | 0~1         | None | 0   |
|     |  |             |      |     |
| F70 | Display ambient temperature  | -50~120     | ℃    | --- |
| F71 | Whether to allow automatic adjustment of the fan speed:<br>0: Disable ,only the high-speed operation; 1: Enable, automatically adjusted.       | 0~1         | None | 0   |
| F72 | Exhaust high temperature value to allow fan motor operation in low speed   | 10~120      | ℃    | 98  |
| F73 | Water inlet high temperature value to allow fan motor operation in low speed   | 10~60       | ℃    | 52  |
|     |  |             |      |     |
| F80 | Enter the password menu, oFF is to cancel the password   | oFF,001~999 | None | oFF |
|     |  |             |      |     |
| F85 | Water temperature Start temperature additional calibration   | 50~80       | ℃    | 65  |
| F86 | Weather to use ambient temperature to fix water temperature function<br>0: Disabled, only manual calibration; 1: enable automatic calibration. | 0~1         | None | 1   |
| F87 | Ambient temperature $\geq 30^{\circ}\text{C}$ ,water temperature calibration value   | -20~20      | ℃    | 2   |
| F88 | Ambient temperature $\geq 23^{\circ}\text{C}$ and $< 30^{\circ}\text{C}$ ,water temperature calibration value                                  | -20~20      | ℃    | 1   |
| F89 | Ambient temperature $< 23^{\circ}\text{C}$ ,water temperature calibration value  | -20~20      | ℃    | 0   |
|     |  |             |      |     |
| F90 | Manufacturer reserve   | 0~1         | None | 0   |
| F95 | Manufacturer reserve   | 0~1         | None | 0   |
| F97 | Manufacturer reserve   | 0~1         | None | 0   |
| F98 | Refrigerant Charging or Recovery:<br>When enter that will flashes "AdF", press any buttons or 20 minutes will exit                             | ---         | None | --- |
| F99 | Output self-test, no: not performed;<br>yES: exit after performing a self-test one time  | no~YES      | None | no  |
|     |  |             |      |     |
| End | Exit the parameter modification state  | ---         | None | --- |

## VI. Maintain

### 1. Maintaining

**1.1** 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;

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

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

**1.4** 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;

**1.5** 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);

**1.6** 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.

### 2. Fault code and solutions

#### 2.1 The description of the fault code

| Code | Reasons                                 | Action   |
|------|---|--|
| Err  | Data saved failure                      | None   |
| A12  | Pressure over low alarm                 | Stop using compressor heating or controller locking  |
| A13  | Pressure over high alarm                | Stop using compressor heating or controller locking  |
| A21  | Water inlet temperature sensor failure  | Using water temperature to control                   |
| A22  | Coil temperature sensor failure         | According to the setting to defrost                  |
| A23  | Exhaust temperature sensor failure      | Stop using compressor heating                        |
| A24  | Ambient temperature sensor failure      | The environment temperature related function failure |
| A25  | Water outlet temperature sensor failure | Using water inlet temperature to display             |
| oPE  | Current checking sensor open            | According to the corresponding sensor fault to       |

|                  | circuit  | process  |
|------------------|--|--|
| SHr              | Current checking short open circuit                                  | According to the corresponding sensor fault to process                                       |
| High temperature | Exhaust high temperature protection                                  | Stop using compressor heating, according to the setting to stop the evaporator and fan motor |
| Lost connection  | Main control board and hand controller board communication exception | Main control board according to the setting parameters Operating                             |
| ---              | hand controller board or color display board communication exception | Main control board according to the setting parameters Operating                             |
| --:--            | The clock malfunction  | Cancel the timer-related control function  |

### 3. Solutions

| Fault code | Fault explain              | Failure cause  | Trouble shooting   |
|------------|----------------------------|--|--|
| A12        | System low pressure alarm  | Whether low pressure switch cable is properly connected to the electrical control panel  | Check the connection cable is correct or not.  |
|            |                            | Electric control board low voltage switch I/O input port is broken                       | Manual short circuit electric control board's low voltage switch port, confirm whether the fault appears.  |
|            |                            | Low pressure switch is broken  | In system normal pressure state, using multimeter resistance detection of low voltage switch connection wire resistance, if the resistance is 1, meaning the pressure switch broke.  |
|            |                            | Heat pump system failure   | 1, Connect pressure gauge, detection system's low pressure is normal.<br>2, The capillary or expansion valve is dirty plugging or not.   |
| A13        | System high pressure alarm | Whether high pressure switch cable is properly connected to the electrical control panel | Check the connection cable is correct or not.  |
|            |                            | Electric control board high voltage switch I/O input port is broken                      | Manual short circuit electric control board's high voltage switch port, confirm whether the fault appears.   |
|            |                            | High pressure switch is broken   | In system normal pressure state, using multimeter resistance detection of high voltage switch connection wire resistance, if the resistance is 1, meaning the pressure switch broke. |
|            |                            | Heat pump system failure   | 1, Check whether the water tank temperature is same as the actual water temperature.   |

|                  |   |   |   |
|------------------|---|---|---|
|                  |   |   | 2,Check whether the water system is scaling.  |
| A21              | Water inlet temperature sensor fault                              | Water inlet temperature sensor failure  | The multimeter measure the resistance of the transducer is correct or not                                       |
|                  |   | Electric control board water inlet temperature sensor I/O input port is broken  | Replace the electric control board  |
| A22              | Coil temperature sensor fault                                     | Coil temperature sensor failure   | The multimeter measure the resistance of the transducer is correct or not                                       |
|                  |   | Electric control board coil temperature sensor I/O input port is broken         | Replace the electric control board  |
| A23              | Exhaust temperature sensor fault                                  | Exhaust temperature sensor failure  | The multimeter measure the resistance of the transducer is correct or not                                       |
|                  |   | Electric control board exhaust temperature sensor I/O input port is broken      | Replace the electric control board  |
| A24              | Ambient temperature sensor fault                                  | Ambient temperature sensor failure  | The multimeter measure the resistance of the transducer is correct or not                                       |
|                  |   | Electric control board ambient temperature sensor I/O input port is broken      | Replace the electric control board  |
| A25              | Water outlet temperature sensor fault                             | Water outlet temperature sensor failure   | The multimeter measure the resistance of the transducer is correct or not                                       |
|                  |   | Electric control board water outlet temperature sensor I/O input port is broken | Replace the electric control board  |
| Lost connection  | Wire controller and main control board communication interruption | Wire controller communication circuit is broken                                 | Replace the electric control board  |
|                  |   | Main control board communication circuit is broken                              | Replace the electric control board  |
|                  |   | Communication connection wire is broken   | Replace the electric control board  |
| High temperature | Exhaust temperature over high protection                          | Exhaust temperature sensor high temperature detected                            | The multimeter measure the resistance of the transducer is correct or not                                       |
|                  |   | Heat pump system failure  | 1,Check with ammeter input current exceeds nominal value or not.<br>2,Check whether the water system is scaling |



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