MegaLife

FICHE D'INSTALLATION

Pompe à chaleur DC Inverter Plus Echangeur-Réservoir 7.2 KW

NE-B245/100E

CONTENT

DC Inverter Instant Heating Air Source Heat Pump (B245/100E B345/100E)

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 will not responsible for any loss caused by above reason. If the machine has any improvement, the content is subject to change without notice.

 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.

⚠ WARNING!	
(1).	Installation should be left to the dealer or another professional. Improper installation may cause water leakage, electrical shock, or fire.
(2).	Install the air conditioner according to the instructions given in this manual. Incomplete installation may cause water leakage, electrical shock, or fire.

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, 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 will not 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 place which 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.

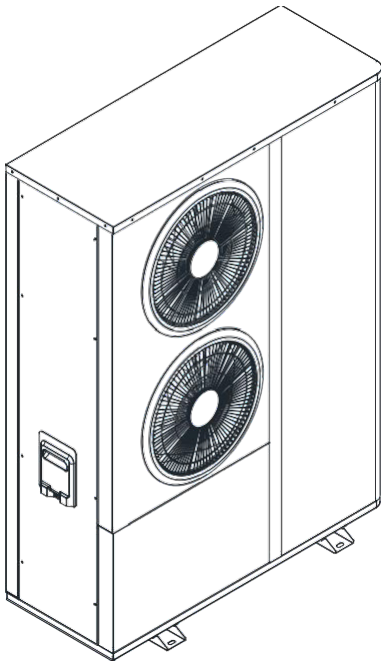
7. Water used for this machine must be accordance with the national standard of living water, otherwise, if the machine is damaged, we will not assume any responsibility.

II. Parameters

1. Parameters

Model	Size (length*width*height)mm	N.W. / G.W.(kg)	Power source
NE-B245/100E	900×350×1250	75/80	220V～50Hz/60Hz
NE-B345/100E	965×354×1346	110/115	220V～50Hz/60Hz

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 an 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. Detail parameters

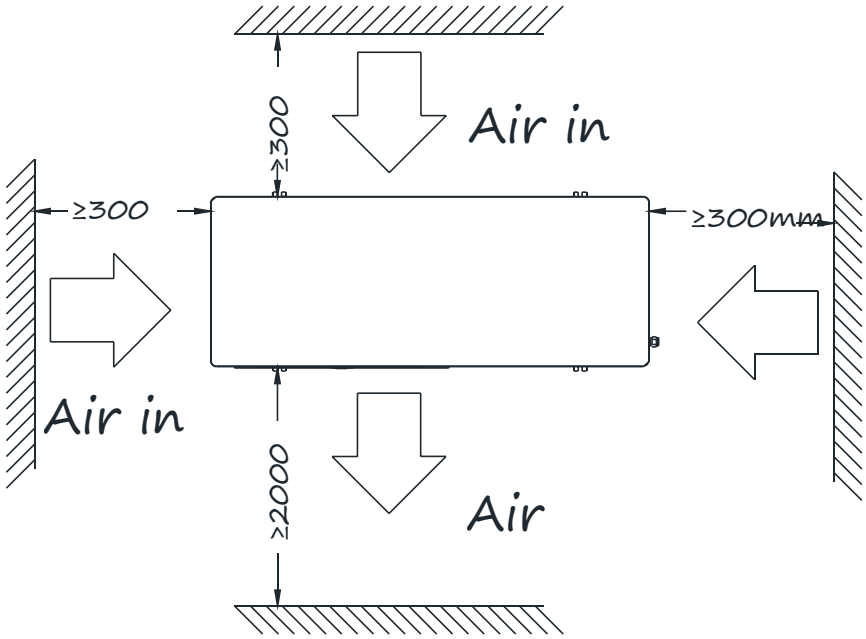
Item	DC Inverter instant heating heat pump	
Model	**NE-B245/100E**	**NE-B345/100E**
Level of security	IPX4	
Electric shock protection grade	I	
Rated power	220V～50Hz/60Hz	
Rated output water volume	245L/h	345L/h
Tank volume	80L	80L
Rated heating capacity	7200W	11100W
Rated input power/ current	1670W/7.7A	2640W/7.7A
Heating capacity range	3000-8500W	5000-12400W
Input power	600-1750W	1000-3200W
Max input power/ current	2100W/9.8A	3200W/14.6A
Refrigerant/ injection volume	R410A/1500g	R410A/2650g
Rated water temp	55℃	55℃
Max water temp	60℃	60℃
Unit weight	75kg	110kg
Noise	≤50dB(A)	≤50dB(A)
Tank working pressure	≤0.8MPa	≤0.8MPa
Max allowable pressure of heat exchanger	4.2MPa	4.4MPa
Max allowable pressure of high/low pressure	4.2MPa	4.4MPa
Power line install standard	≥3×2.5mm2	≥3×2.5mm2

IV. Installation

1. Installation

1.1 installation position

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



1.2 Attention

Units would have faulty Installed in the following places:

1) The place has cutting oil or other mineral oil.
2) The place closes to the sea or has much salty air.
3) The place has 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 installation foundation

The installation foundation 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.

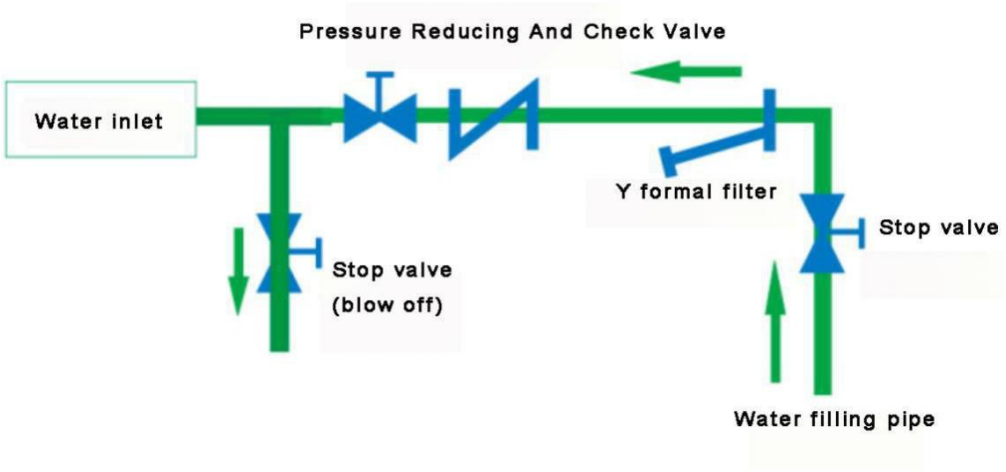
1.4 Safety relief valve installation requirement

1) Safety relief valve should install on the inlet of the water tank.

2) The drain pipe of safety relief valve should keep open with atmosphere.

3) Safety relief valve should work regularly, so as to get rid of the calcium carbonate and to approval the device hasn't block.

4) The drain pipe of safety relief should keep continuous downward and install in a frostless environment.



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.

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

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

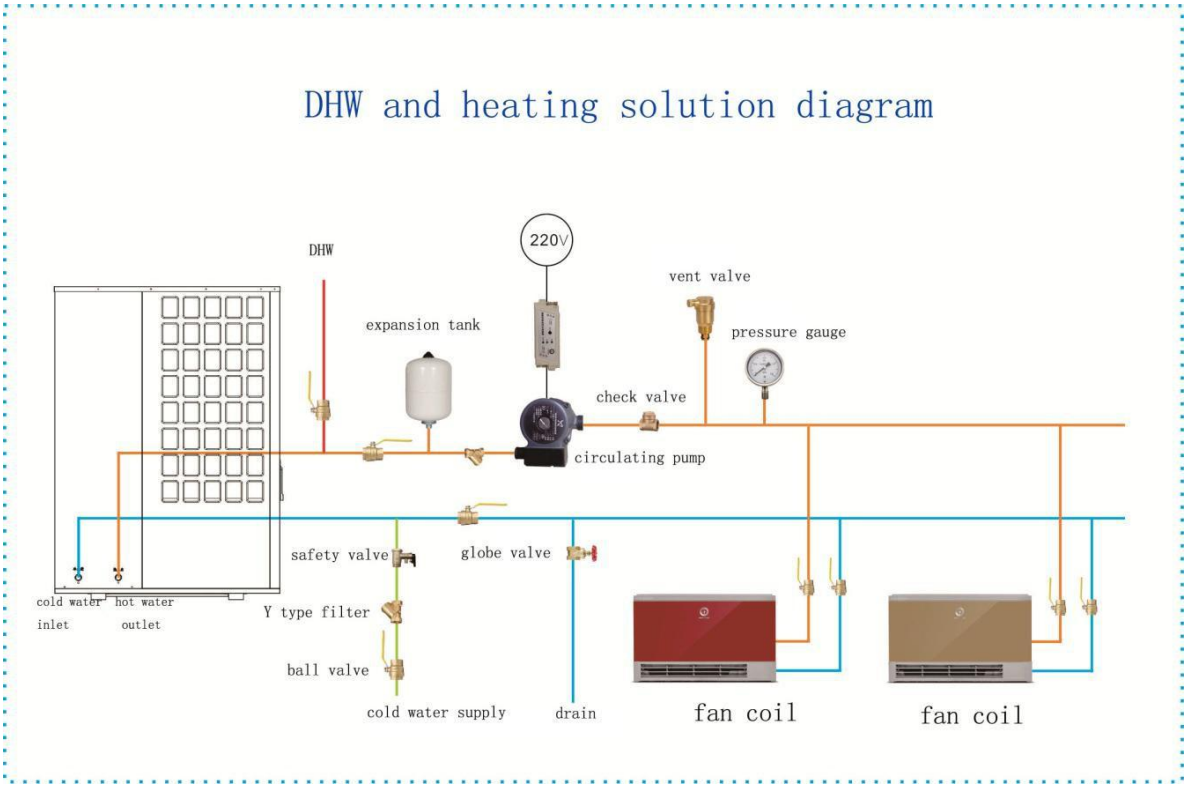
5) System - fill water pipes, hot water supply pipe connection is completed, pipe connections must be rigor, increase water pressure test, and drain, to ensure that the system clean. Passing the test no leakage, then pack of pipes and valves on the heat preservation layer (Including water pipes and valves).

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

7) 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.

8) Metal pipes must be used for more than 50mm thickness of the glass fiber or high density.

2. Piping diagram



3. Circuit connection

3.1 Attention

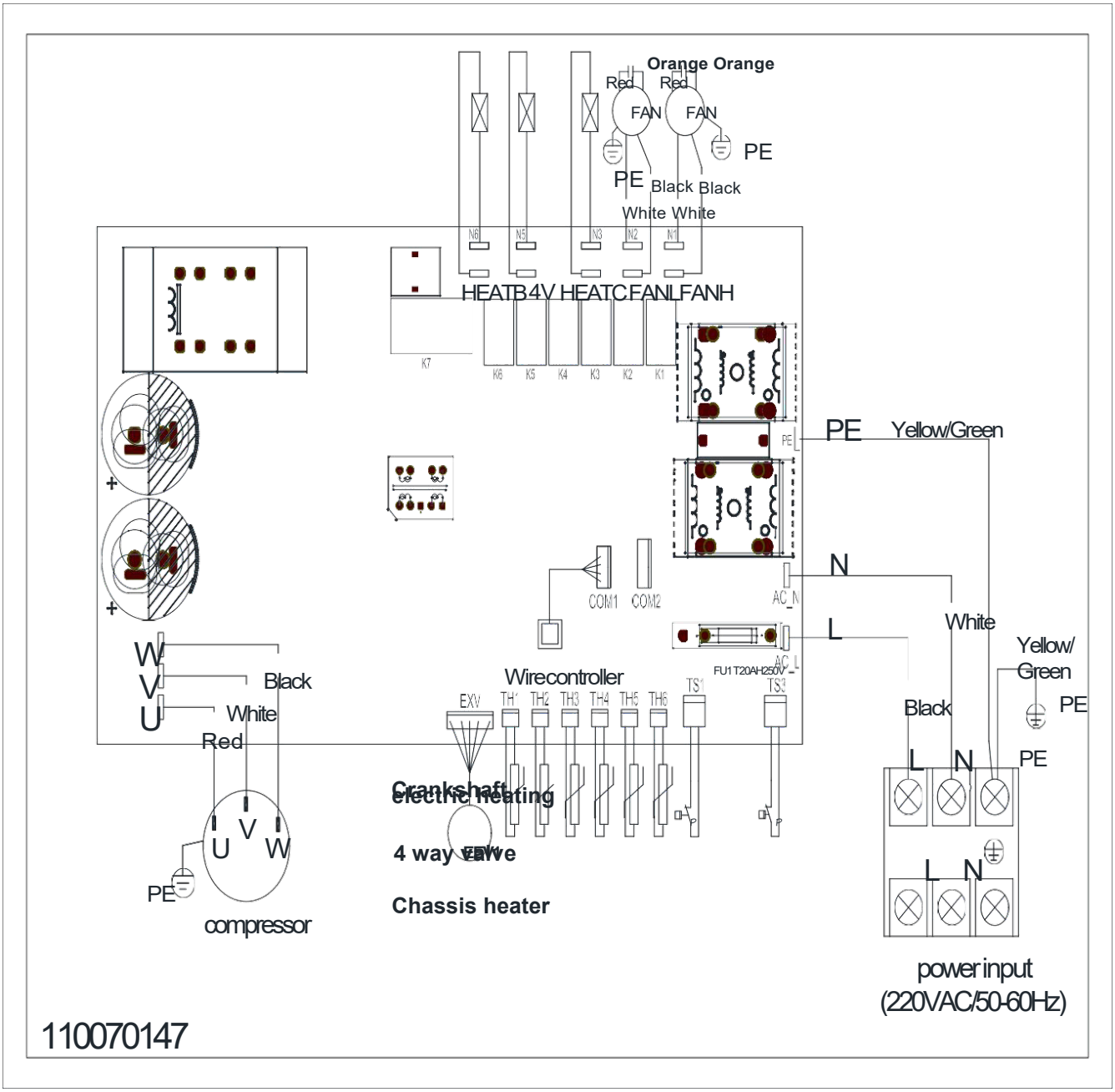
- Before installation, please confirm whether your local voltage is match with the voltage showed on the machine's nameplate and whether the carrying capacity of the power supply, wires and sockets are suitable for this machine's input power.
- Require insurance tube: IEC regulations fuse rated current 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
≤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	

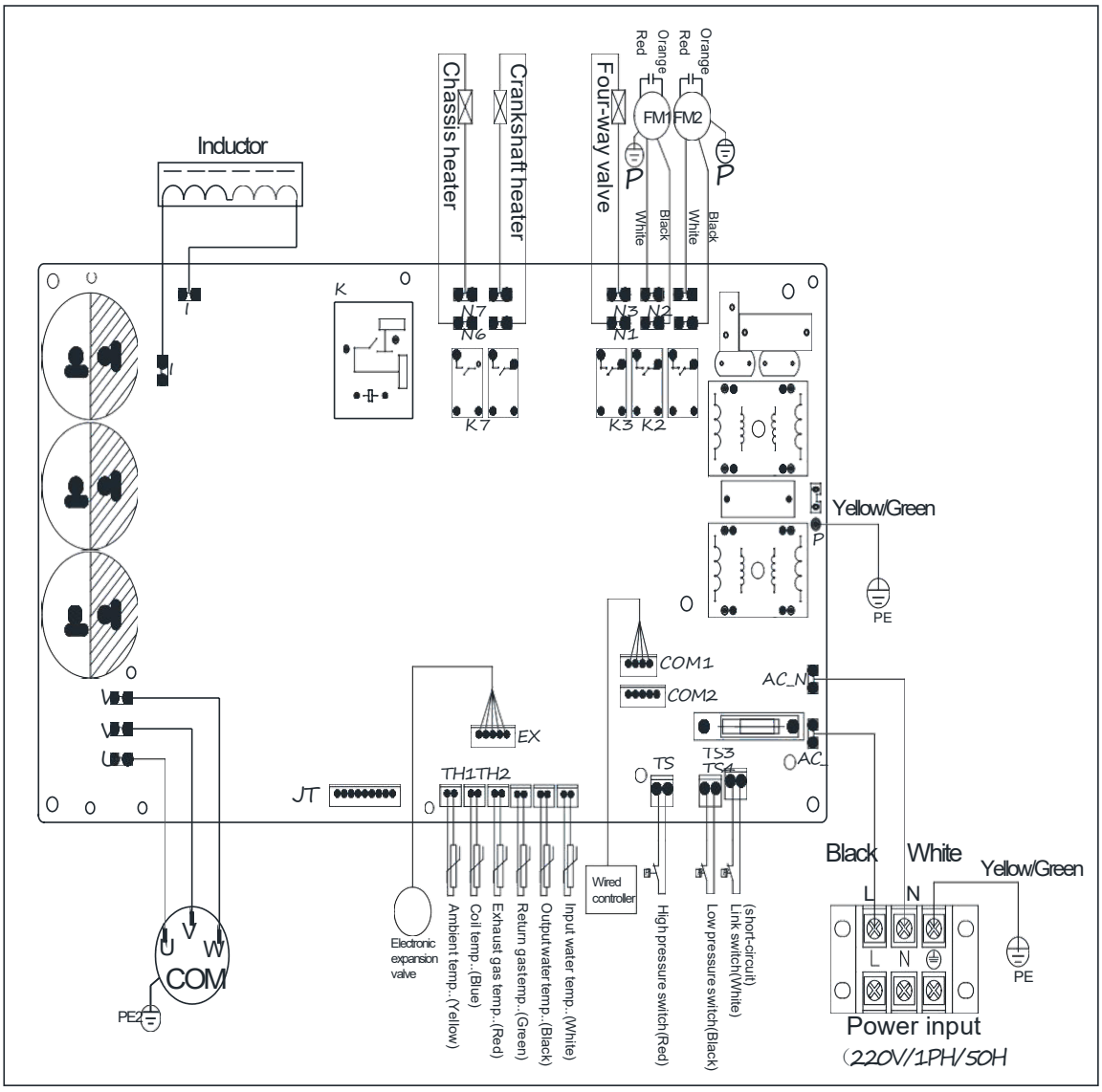
- Users are not allowed to change the power cord or socket. Wiring work must be carried out by a qualified electrician and ensure that the metal part of the machine has a good grounding. Changing the ground mode is strictly forbidden.
- After the completion of the construction of all wiring work, please make sure to recheck everything is well before power on.
- Installing the machine in the warehouse which the combustible gas may leak is strictly forbidden.
- 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.
- In order to obtain a better energy-saving effect, the unit should be installed in a place with good air circulation.
- 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.
- 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 Electric wiring diagram

3.2.1 NE-B245/100E



3.2.2 NE-B345/100E



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 displays

Symbol	Definition	Symbol	Definition
	On/off key		Mode key
	Timing setting key		Defrosting mode symbol
	Add key		Heating mode symbol
	Subtract key		Cooling mode symbol (only available for NE-B345/100E)
		1 ON 2 OFF	Timing symbol

1.2 wired controller display declaration

1.2.1 Temperature display area display system cock,timing ,running parameters, common parameters, alarm code related datas.Left side temperature display area display actual detect tank temperature ,setting temperature ,parameter number etc.right side temperature display area display setting temperature ,parameters values etc.

1.3 wired controller operation

1.3.1 On/ off key :when heat pump shutdown ,press “  ” to start up the unit ;when heat pump start up press “  ”key to shutdown the unit .When heat pump under heating start up status ,press “  ” for more than 3s to force unit to enter defrosting function .

1.3.2 Mode key: switch mode between heating and cooling (cooling mode only available for model NE-B345/100E)setting temperature, inquiry and setting parameters etc.

1.3.3 Temperature setting ;when wired controller under start up status ,press “  ”or “  ”key ,the “limit H” symbol on panel and temperature value blinking display ,then press “  ”or “  ”key to add or subtract value and press “  ” key to confirm the setting ,meanwhile “limit L” symbol on panel and temperature value blinking display, then press “  ”or “  ”key to add or subtract value and press “  ” key to confirm the setting or if no any operation in 20s it will exit automatically the setting temperature status and save current modified datas;press “  ”or “  ”key more than 0.5s to quick add or subtract value .

1.3.4 Key locked function: First press “  ”, then press “  ” for 3s to enter or exit key locked function, when “ ”symbol show up means wired controller locked.

1.3.5 Inquiry running parameters

1.3.5.1 Enter inquiry: first press “  ”then press “  ” for 3 s to enter parameters setting status, temperature display area display parameter number, setting temperature area display parameters content.

1.3.5.2 Inquiry operation and exit: after entering running parameters, press “  ”or “  ”to display each running parameter; press “  ”to exit inquiring parameters status or if there is not any pressing keys operation will automatically exit inquiring parameters status.

1.3.6 Common parameters setting

1.3.6.1 Enter setting ;first pressing “ M ” then press “ △ ” for 3 secs,the temperature display area display “00” and blinking display ,input the password (default password “Fb”),then press “ △ ”or “ ▽ ”to add or subtract ,press “ △ ”or “ ▽ ” to confirm ,if the password is wrong then exit current status ; if the password is correct then enter parameter modification status ,temperature display area display parameters number and blinking display ,setting temperature area display parameter content ;

1.3.6.2 Setting operation :after entering setting parameters, the parameter number blinking display ,press “ △ ”or “ ▽ ”switch line to display each setting parameters number ,then press “ M ”the parameters content blinking display ,press “ △ ”or “ ▽ ” to modify current content ,after finishing press “ M ” to save current modification then back to parameters number display status .

1.3.6.3 Exit setting; press “ ⏲ ”to exit parameters setting status or if there is not any pressing keys operation will automatically exit parameters setting status.

1.3.7 Fault display; when unit fault occurs, the fault blinking display at setting temperature area, recycling display fault code and temperature, after fault clear the controller recover normal display.

1.3.8 Clock setting:

1.3.8.1 Clock display: in unit shutdown status, long press any keys except “ ⏲ ”, the temperature display area display current time for one second.

1.3.8.2 Enter clock setting; long press “ ⏲ ” for 3 secs.minutes part of clock area blinking display, means entering clock setting status

1.3.8.3 Clock setting operation : enter clock setting status ,minutes part blinking display ,press “ △ ”or “ ▽ ”to modify minute value .Then press “ ⏲ ”,hours part blinking display ,press “ △ ”or “ ▽ ”to modify hour value ,press “ ⏲ ” to save current setting then exit or if there is not any pressing keys operation will automatically save current setting then exit.

1.3.9.1 There are 2 group timing units, 1～ 2 group ,each timing unit group can set as “timing startup ”timing shutdown ”.Default setting is “invalid”, means timing startup and timing timing shutdown is same.

1.3.9.2 Enter timing setting :short press “ ⏲ ”,symbol “1 ”、“ON ”at left bottom screen blinking display ,minutes display area blinking means enter “1 unit timing startup ”setting status ,the minute position blinking display ,press “ △ ”or “ ▽ ”to modify minute value ,then press “ ⏲ ” to confirm then enter hour setting ,the

hour position blinking display , press “ ”or “ ”to modify hour value ,press “ ” to confirm and “1 ”、“OFF ”symbols blinking display .the minute position blinking display ,press “ ”or “ ”to modify minute value ,then press “ ” to confirm then enter hour setting ,the hour position blinking display , press “ ”or “ ”to modify hour value ,press “ ”to confirm and enter “2 unit timing startup ”， its operation same as above .

1.3.9.3 Exit timing setting :in timing setting status ,press “ ” or in 20s without any key operations then quit current timing setting and exit timing setting status .

1.3.9.4 Cancel timing setting; after enter timing setting status, long press “ ” for 3 secs to cancel the configured timing function.

1.3.10 Memory function :in shutdown status ,long press “ ” for 3 secs,the LCD display “POSET”then enter memory function setting ,press “ ”or “ ”to set value as “on” or “off ”;If value is “on ”,the wired contact memory setting status before powering off .if value is “off ”wired controller memory shutdown status .

1.3.11 Backlight setting ; in shutdown status ,long press “ ” for 3 secs, the LCD display “LCD SET” then enter backlight setting ,press “ ”or “ ”to adjust the brightness. Press any keys except “ ”or “ ” to save setting or if no any keys operation in 5s the controller will save current setting and exit.

1.3.12 Running parameters list:

No.	Status name	Units	Indication range	Remarks
d01	DC inverter compressor current actual frequency	Hz	0～150	
d02	DC inverter compressor run (input)current	A	0～30.0	
d03	exhaust gas temperature	℃	-15～999	
d04	return gas temperature	℃	-30～999	
d05	evaporator coil temperature	℃	-30～999	
d06	outdoor am temperature	℃	-30～999	
d07	inlet water temperature	℃	-15～999	
d08	outlet water temperature	℃	-15～999	
d09	Electronic expansion value pulse step count	P	0～500	pulse step count
d10	DC-link voltage	V	0～500	
d11	module temperature	℃	-15～999	

VII. Maintenance

1. Maintenance protection

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 abnormity, find out the reason and clearing the fault... If you cannot 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. Error code and solution

2.1 Description of the error code

No.	Code	Fault illustration	No.	Code	Fault illustration
1	A21	Heat exchanger water tank temp. sense fault	11	A40	Communication malfunction between wired controller and main control panel
2	A22	Evaporator coil temp. sensor fault	12	A41	Communication malfunction between main control panel and driver board
3	A23	Exhaust gas sensor fault	13	A42	Wired controller EEPROM fault
4	A24	Outdoor ambient temp.sensor fault	14	A43	Main control panel EEPROM fault
5	A25	Reserved	15	A61	Inverter drive module fault

6	A26	Return gas sensor fault	16	A62	Compressor(input) Excessive current fault
7	A11	Reserved	17	A63	Exhaust gas temp.overhigh protection
8	A12	LP switch abnormal failure	18	A64	Winter antifreeze protection
9	A13	HP switch abnormal failure	19	A70-A93	IPM module protection
10	A14	Reserved			

2.2 solutions

phenomenon	reason	check	clear
The machine does not work, operation panel with a display But cannot 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	1: No Power; 2: Set the temperature	1: Check the operation panel; 2: Check the set temperature;	1: Power on; 2: Reset;

compressor terminals without power (electric control panels no voltage output)	lower than the water temperature; 3:The electronic control board is broken; 4: Transformer is broken; 5: power outages	3: Alternative Method; 4: Alternative Method; 5: Measuring line voltage	3: Change electronic control board is broken; 4: Change transformers; 5: Wait to restore power
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

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