BLN-012TA3
BLN-018TA3

Air Source Heat Pump

Split Heat Pump for Heating & Cooling / DHW

Please read this manual carefully before using it and keep it in a safe place.

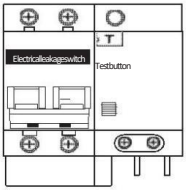
Note

1. Please read the instruction manual carefully before installation or operation.
2. The heat pump must be installed by a professional installer.
3. Please follow the instruction manual strictly when install the heat pump.
4. If any update on the product, this instruction manual are subject to change without notice.
5. This product must use a copper core power cord that meets the required wire diameter for independent power supply and distribution, and the system must have a reliable grounding wire; if the wiring does not meet the requirements, the system cannot work normally, the company will not be responsible for this.

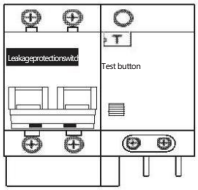
Contents

User Instructions

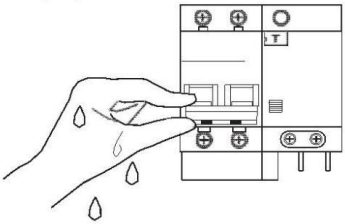
1. Please use electrical leakage switch, otherwise there may be electric shock, fire, etc.



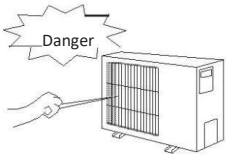
2. Make sure that the leakage protection switch is securely connected. If the wiring is not secure, it may cause electric shock, heat or fire.



3. Do not operate with wet hand, otherwise there may cause electric shock



4. Do not insert your fingers or any stick into the inside of ventilation area, otherwise harm will be caused.



1. Safety Precautions

Please make sure that you have read this manual before using our air source heat pump. In the “User Information” chapter; “User Information” provides important safety information. Please be sure to follow the instructions strictly.

Symbol explanation

Warning Wrong operations are likely to cause serious consequences such as death, serious injury or major accidents

Note Improper operation may result in safety accident, damage to the machine, or affect the function of machine.

Please read the label on the machine carefully. If abnormal conditions are found during use, such as abnormal noise, smell, smoke, temperature rise, leakage, fire, etc., please cut off the power immediately and contact the company's local customer service center or dealer in time. Do not repair the system by yourself. If necessary, contact the local fire and emergency department immediately.

Warning

1) This machine must not be installed by the user. It must be installed by an agent or a professional installation company authorized by the company, otherwise it may cause a safety accident and affect the use effect.
2) Except for professionals to guide the operation, non-professionals are not allowed to disassemble the machine, otherwise accidents or damage to the machine may occur.
3) Do not use or store combustible materials such as hairspray, paint, gasoline, alcohol, etc., around the machine, otherwise there is a possibility of fire.
4) The main power switch of the system should be placed out of the reach of children to prevent children from playing with the power switch and dangerous.
5) Do not sprinkle water or other liquids on the machine, otherwise it may be dangerous.
6) Do not touch the machine with wet hands, otherwise it may cause electric shock.
7) In thunderstorms, please turn off the main power switch of the machine, otherwise lightning may cause danger or damage the machine.
8) The system needs to use an independent power switch to avoid sharing the same circuit with other electrical appliances, and use a power cord with a specified cross-sectional area to provide power to the system, and match the circuit breaker of the corresponding specification (with leakage protection function).
9) The system must be installed with a grounding wire with a specified cross-sectional area. Do not connect the grounding wire with gas pipelines, water pipes, lightning conductors or telephone grounding wires, and must be grounded reliably to avoid electric shock accidents.
10) Don't cut off the power forcibly when the system is running to avoid accidents.
11) When the machine is not used for a long time, please turn off the main power switch to avoid accidents.
12) If the ambient temperature is below 0℃, it is strictly forbidden to cut off the power supply. If there is an accidental power failure under this condition, drain the water in the pipeline.

Note

1) Do not put your hands or foreign objects into the air outlet of the system, otherwise the high-speed running fan may endanger your safety.
2) Do not remove the air guide net cover of the outdoor system, otherwise the high-speed fan may cause injury to you or others.
3) Lightning and other sources of electromagnetic radiation may have an impact on this machine. If it does have an impact, please cut off the power supply, and then restart it.
4) Pay attention to the water supply of tap water when using.
5) Do not switch the system frequently, otherwise it may cause damage to the system.
6) The operating parameters of the system and the setting value of the protection device have been set when

the machine leaves the factory. Please do not change the setting value at will, and do not short-circuit the line of the system protection device, otherwise the system may be caused by improper protection. damage.

7) The refrigerant used by the system is non-flammable and non-toxic. Because its specific gravity is larger than that of air, it will spread on the ground when it leaks. Therefore, when the system is assembled in the room, it must be well ventilated to avoid serious refrigerant leakage asphyxia.

8) In case of refrigerant leakage, immediately stop the operation of the system and contact the maintenance personnel in time. There should be no open flames on site, because the refrigerant will decompose into harmful gases when contacted with open flames.

9) In order to avoid frost damage to the water system pipeline, please keep the system charged when the system is out of service in an environment below 0℃. If the system is out of service for a long time, it is recommended that the user drain the water system water and cut off the power supply.

10) Please perform regular maintenance on the system according to the instructions to ensure that the system is operating in good condition.

2. Other safety precautions

1) Before operating the system, please read all "Safety Precautions" in detail.

2) Various important safety-related matters are listed in the "Safety Precautions", please strictly observe them.

3) The system must use a fuse with a specified capacity, and cannot be replaced by iron wire or copper wire.

4) The working environment of the system should be far away from places with fire hazards. If the wiring problem causes a fire, the main power switch should be turned off immediately and a dry powder fire extinguisher should be used to extinguish the fire.

5) The power supply must be cut off before the system is repaired.

6) The sharp edges and the surface of the fin are both harmful and should be avoided as much as possible.

7) Please do not touch the rotating blades with your hands or other objects, so as to avoid damage to the equipment and casualties.

8) It is forbidden to place objects above the system to avoid accidents caused by objects falling when the machine is running.

9) The fixed line connected to the equipment must be equipped with an all-pole disconnect device with a contact distance of at least 3mm.

10) The equipment should be installed in accordance with national wiring rules.

Note

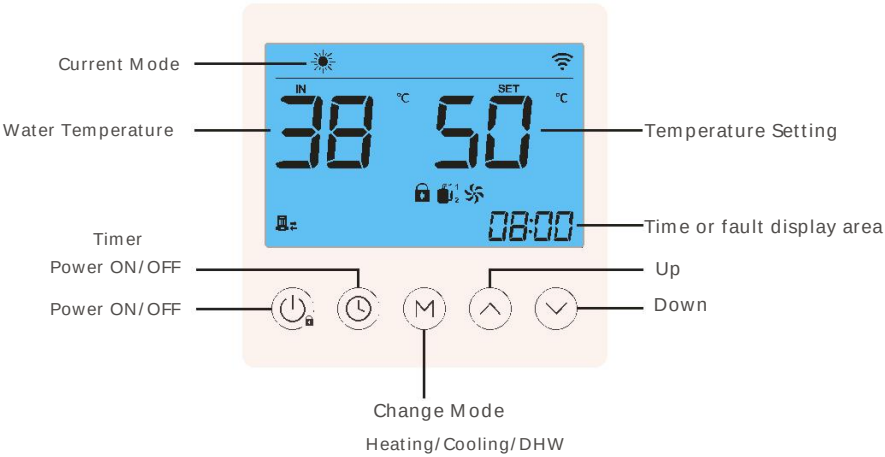
3. System operating temperature range

1) Outdoor ambient temperature for cooling mode: 16～46℃,return water temperature ranges from: 10～25℃;

2) Outdoor ambient temperature for heating mode：-30～21℃, return water temperature ranges from：20～50℃

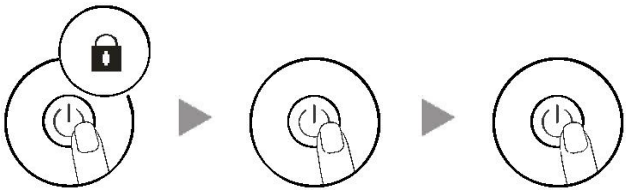
Operation Instruction

Control Panel



1. Operation Instruction

Power On/Off

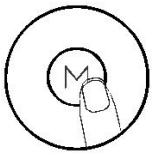


When the lock symbol is displayed, press and hold 5s to unlock the screen

Long press 2s to turn off the heat pump

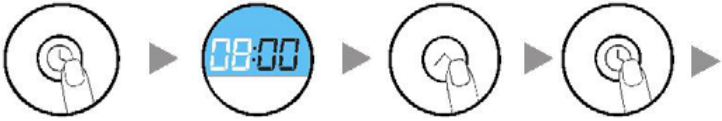
Long press 2s to turn on the heat pump

Mode Setting



Press M to switch mode Cooling/Heating/DHW

Time Setting



Press the clock button for 1s to enter the current clock setting

Press the clock key again, the hour area flashes

Press the up and down keys to adjust the value

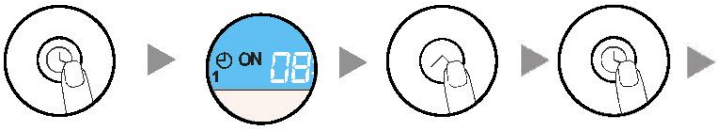
Press the clock button again to enter the minute clock setting

Press the clock button again, the minute area flashes

Press the up and down keys to adjust the value

If there is no operation or press the on/off button within 5 seconds, the setting temperature will be saved automatically and return to the homepage

Scheduled Power On

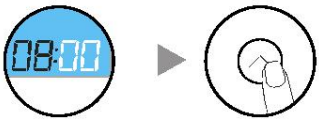


Press and hold the clock key for 5s to enter the timer boot time setting

Press the clock key again, the hour area flashes

Press the up and down keys to adjust the value

Press the clock button again to enter the minute clock setting

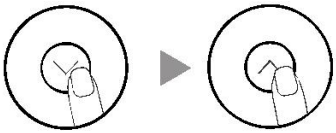


Press the clock button again, the minute area flashes

Press the up and down keys to adjust the value

If there is no operation or press the on/off button within 5 seconds, the setting temperature will be saved automatically and return to the homepage.
Three timings can be set.

Temperature Setting



Press the up button
To increase the setting temperature

Press the down button to lower the set temperature

If there is no operation or press the on/off button within 5 seconds, the setting temperature will be saved automatically and return to the homepage

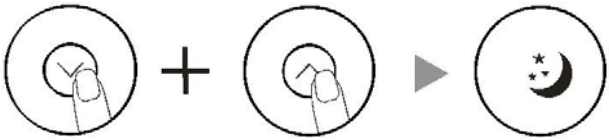
Status Search

Long press the down button for 5 s to enter the status search page

Enter the status search page

Adjust the status parameter serial number in combination with the up and down keys

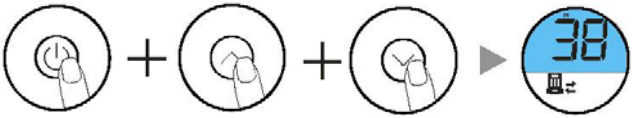
ECO Mode



Unlock the case while holding down the up button + down button to enter ECO energy-saving mode

ECO symbol lit

Pump forced evacuation mode



Press and hold the on/off button + up button at the same time in the unlocked state to enter the intelligent distribution mode

When the water pump symbol flashes enter forced emptying mode

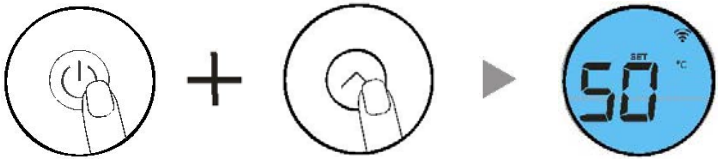
2. Wi-Fi Setting

2.1 Software Download and Account Registration

2.1.1 Search for Smart Life in the app store on the mobile phone, and download and install it.
2.1.2 Users who do not have an account can apply by clicking the "Create New User" function on the login page.
2.1.3 Create a new account → Enter your cell phone number or email address, → get the verification code → to enter the verification code → set the password → complete, in the following order.
2.1.4 After registration is complete, you need to create a family: create a family, → set the family name → set the location → to add a room → ultimately, in the following order.
2.1.5 Click on the device name to enter the main interface of the device
1) Family name, which allows access to family management.
2) Adding devices.
3) Added room; click on it to view the devices added to that room.
4) Room management

2.2 Connection (Intelligent Mode)

Manual Intelligent Distribution Network



In the unlocked state, press and hold the on/off button + up button at the same time to enter the intelligent distribution mode

Wifi signal flashes
Enter distribution network status

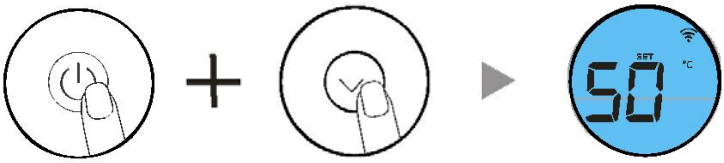
Step 1
Open the "Smart Life" APP, login to the main interface, click the "lift" icon in the upper right corner to add devices or "Add Device" in the interface, enter the device type selection, and select "Smart Heat Pump (Wi-Fi)" in the "Main Appliance" device, enter the add device interface.

Step 2
Select Smart Heat Pump (Wi-Fi) and enter into the Wi-Fi connection interface, enter the Wi-Fi password that the phone has been connected to (must be the same as the Wi-Fi connection to the phone), click Next, and confirm that the line controller has selected the intelligent distribution mode, " " icon is fast-flashing, click "Confirm that the indicator is flashing, then start adding devices directly, click the "lift" icon to add devices.
Note: The icon flashes slowly when the Wi-Fi module is connected to the Wi-Fi hotspot.

Step 3
The system prompts "Add Device Successfully" and then the network is successfully distributed. Click on the icon in this interface to change the device name, select the device installation location (living room, main bedroom), and click Finish to enter the main interface of device operation.

2.3 Connection (AP Mode)

Manual AP Distribution Network



In the unlocked state, press and hold the on/off button + down button at the same time to enter the intelligent distribution mode

Wifi signal flashes
Enter distribution network status

Step 1 and **Step 2**: Be consistent with the Intelligent Mode

Step 3

Select innovative heat pump (Wi-Fi) after entering into the Wi-Fi connection interface, enter the phone has been connected to the (Wi-Fi) password (must be consistent with the Wi-Fi connected to the phone), click next, confirm that the line controller has selected AP distribution mode, an icon in the slow flashing state" ", click "Confirm that the indicator is in slow flashing," then connect the phone Wi-Fi to the device hotspot (as shown below), confirm that the connection hotspot is correct to continue to the next step then directly begin to connect the device interface, find the device → registers to the cloud → device initialization is complete.

Note: When the wire Wi-Fi module is connected to the Wi-Fi hotspot, the icon " " slows flashing.

Step 4 The same as the Intelligent Mode

Note: If the connection fails, manually enter the AP network configuration mode again and repeat the preceding steps to connect again.

2.4 Software Function Operation

4.4.1 A device is automatically bound to a virtual gateway. The "My Home Heat Pump" (device name, which can be changed) operation page is displayed.

Buy a ticket to enter the device operation page of "My Home Heat Pump" by clicking on "My Home Heat Pump" in the "All Devices" screen of smart Life.

4.4.2 Modify device name and modify device location information Click "Name" to rename the device name and "Location" to alter the device location.

2.5 Device Sharing

Share bound devices in the following sequence:

1) After successful sharing, the list is added to display the shared person.

2) To delete the shared user, long-press the selected user, and the deletion interface will pop up, click "Delete"

3) User interface operations are as follows:

4) Enter the account of the shared user and click "Finish" to display the newly shared history in the list of successful sharing

5) The interface of the shared person is as follows. The shared device received is displayed. Click in to operate and control the device.

Operation Parameter Query

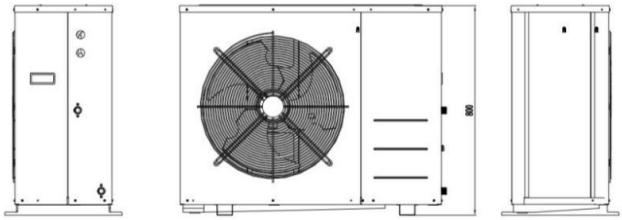
Query Code	Description	Range
1	Compressor Running Frequency	0 ~ 99 Hz
2	Fan Motor Running Frequency	0 ~ 99 Hz
3	Main EEV Opening	0 ~ 480 P
4	EVI EEV Opening	0 ~ 480 P
5	AC Input Voltage	0 ~ 500 V
6	AC Input Current	0 ~ 50 A
7	Compressor Phase Current	0 ~ 50 A
8	Compressor IPM Mould Temperature	-50 ~ 200 ℃
9	Condensing Temperature	-50 ~ 200 ℃
10	Vaporization Temperature	-50 ~ 200 ℃
11	Outdoor Ambient Temperature	-50 ~ 200 ℃
12	Outdoor Coil Temperature	-50 ~ 200 ℃
13	Indoor Coil Temperature	-50 ~ 200 ℃
14	Gas Suction Temperature	-50 ~ 200 ℃
15	Gas Exhaust Temperature	-50 ~ 200 ℃
16	Water Inlet Temperature	-50 ~ 200 ℃
17	Water Outlet Temperature	-50 ~ 200 ℃
18	Economizer Inlet Temperature	-50 ~ 200 ℃
19	Economizer Outlet Temperature	-50 ~ 200 ℃
20	Dialer Value	0 ~ 15

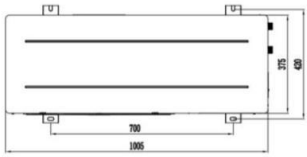
Display Fault: When the machine has a fault, the fault is flashing in the timing area and the fault code is displayed cyclically; when the fault is eliminated, the standard display is restored.

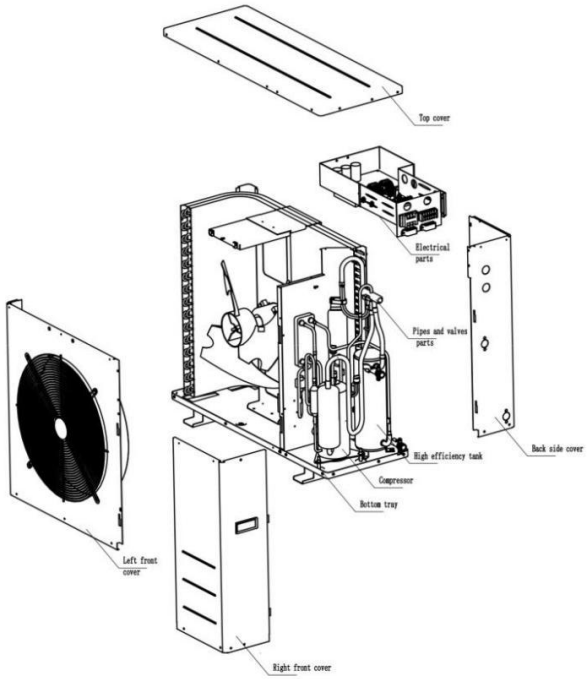
Dimension

Dimension And Explosive Drawing of Outdoor Unit

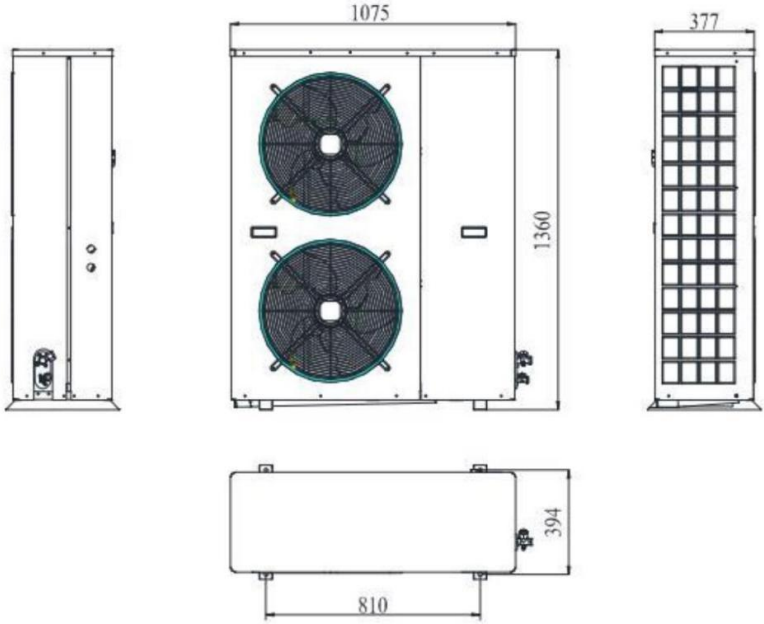
BLN-012TA3

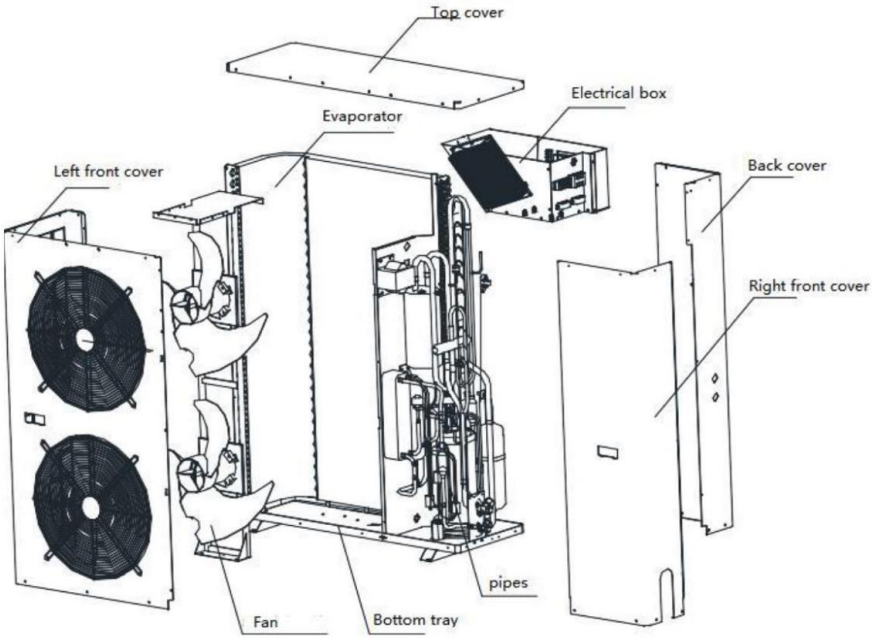




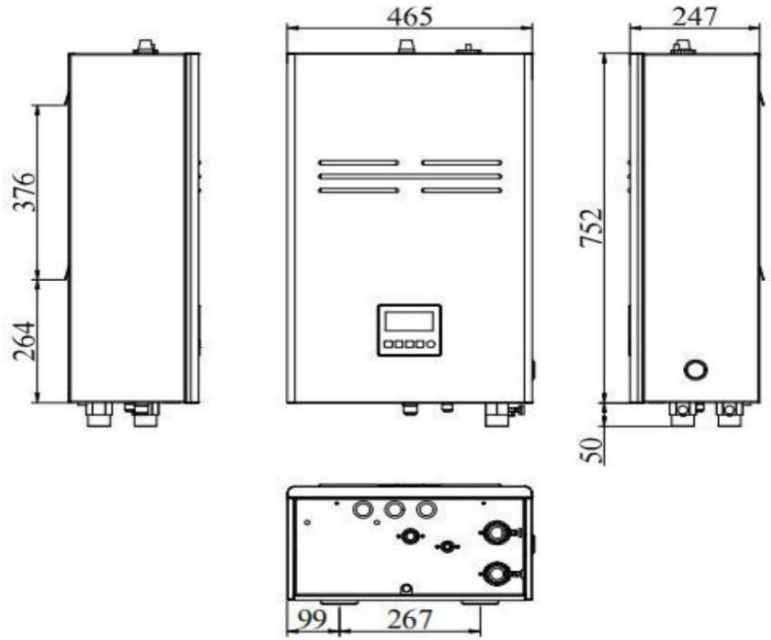


BLN-018TA3

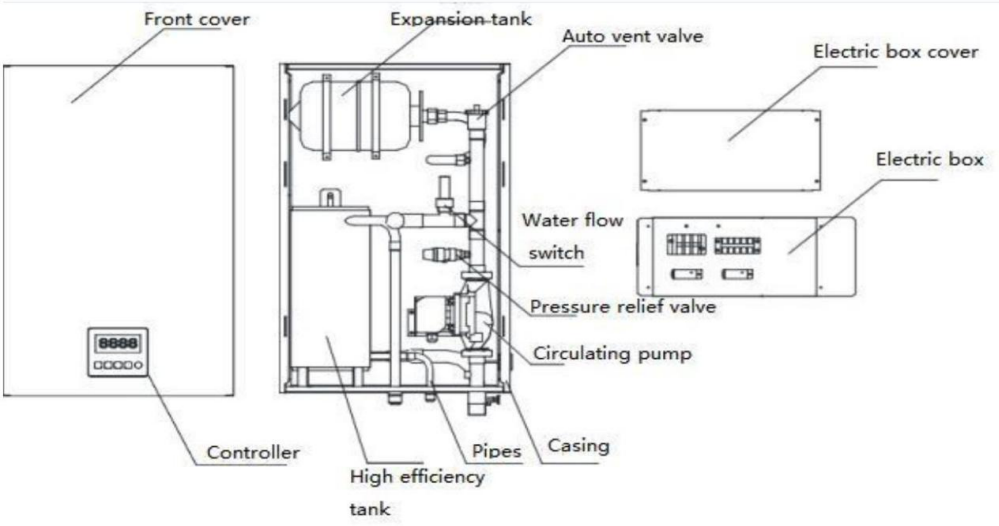

1075
377
1360
394
810


Top cover
Electrical box
Evaporator
Left front cover
Back cover
Right front cover
pipes
Fan
Bottom tray

Dimensions of Indoor Unit(Hydraulic Module)



Explosive Drawing of Indoor Unit(Hydraulic Module)



Installation

1. Installation preparation

1) Install the required tools (self-provided)

No.	Tool	No.	Tool
1	Gradienter	10	Saw
2	Electric hammer	11	Flat blade screw driver
3	Adjustable wrench	12	Cross screw driver
4	Needle-nose plier	13	Copper tube knife
5	Impulse drill	14	PP-R tube knife
6	Ruler	15	PP-R tube heat melting device
7	Torque wrench	16	Compound gauge
8	Hexagonal wrench	17	Vacuum pump
9	Hammer	18	Electronic balance

2) Connecting copper pipes, connecting wires and insulation materials, pipes and connectors,

a. please refer to relevant requirements to purchase or order from our company;

b. insulation pipe material and thickness meet the specified requirements, otherwise heat loss and condensation will be caused;

c. For selecting proper wire, please refer to the "Electrical Installation" section of this manual;

Model	Connecting copper pipes for refrigerant(mm)	Connecting pipes for water(male)
BLN-012TA3	19.05/12.7	DN32
BLN-018TA3	19.05/12.7	DN32

3) Other required materials for installation

a. Pipe holders and pipe clamps for fixing connecting pipes

b. Wire threading pipes and pipe clamps

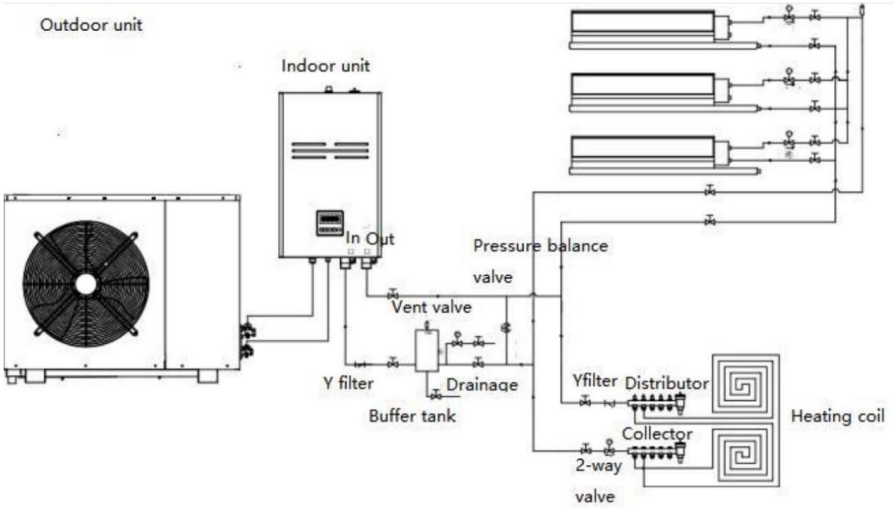
c. Insulation tape, raw material tape

d. Expansion bolts

e. Outdoor system mounting bracket

f. R410A refrigerant bottle

Piping Instruction



Remarks:

1) The automatic vent valve is installed at the highest point of the system pipe road, and the water pipe at the installation location must have an enlarged diameter;.
2) The drain valve is installed at the bottom of the pipeline, which is conducive to drainage;.
3) The same pattern of pipes is conducive to uniform water flow distribution;
4) Install pressure balance valves in the inlet and outlet water mains to avoid insufficient water flow alarms in the waterway; .
5) Normal working water capacity can ensure normal defrosting in winter to ensure that each water capacity exceeds 10L;
6) The system to install an automatic water supply valve and the highest point self-exhaust valve.

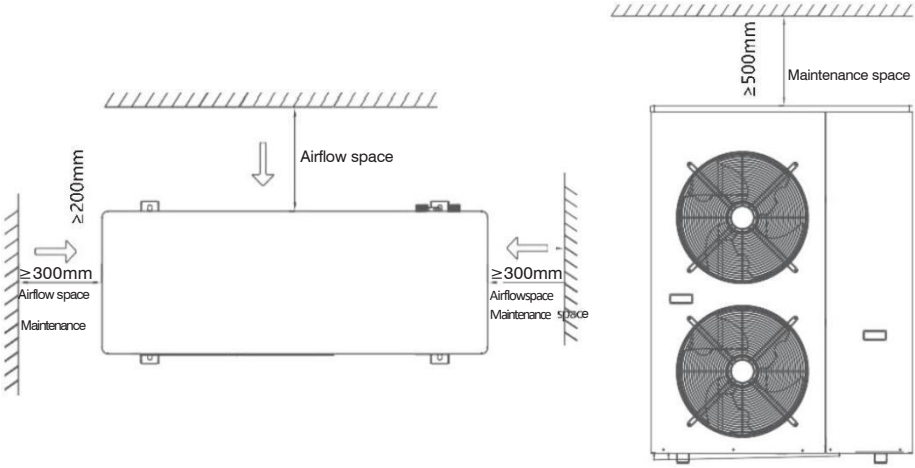
2. Installation location selection

Outdoor unit

1) The machine installation space meets the following schematic requirements to ensure normal air circulation and maintenance;

2) Please try not to install the outdoor unit in direct sunlight. If necessary, install an awning that does not affect the wind output of the system;
3) The installation location of the outdoor unit should be far away from heat, steam or flammable gas;
4) Do not install the machine in places with strong wind or dust;
5) Do not install the machine where it is often passed through the air suction side and air exhaust side;
6) The installation position of the machine should be properly drained to the nearby sewer.

Outdoor Unit Installation Space Diagram



Note

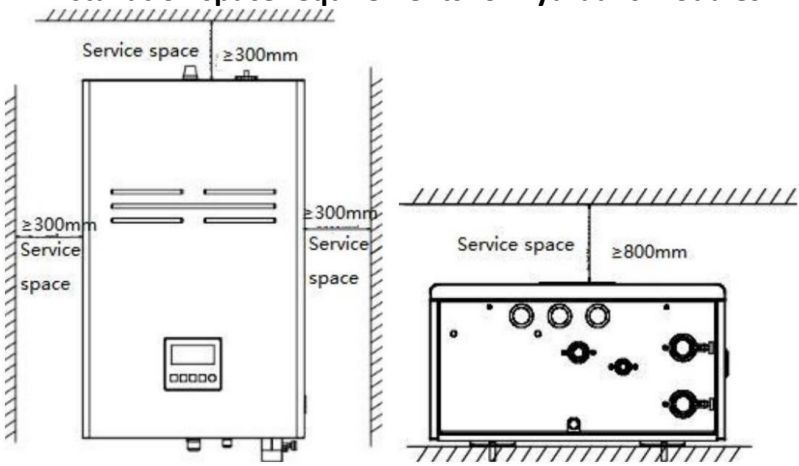
Installation in the following locations may cause the machine to malfunction:

1) A place with more oil;
2) Wet place;
3) Seaside saline-alkali area;
4) Special environmental conditions;
5) High-frequency facilities such as wireless equipment, welding machines and medical equipment.

Hydraulic module

1) The installation space of the hydraulic module meets the requirements of the schematic diagram to ensure normal maintenance;
2) The hydraulic module is installed at a position above zero degrees Celsius;
3) The installation position of the hydraulic module should not affect people's normal life and rest, and avoid hearing the system work, the sound of refrigerant, water pump and water flow;
4) The installation position of the hydraulic module should ensure that the length of the connecting pipe with the outdoor system is less than 10meters, and the drop is less than 5 meters.

Installation space requirements for hydraulic modules



3. Connection of outdoor system, hydraulic module and waterway

Installation of outdoor system

To ensure safe and reliable installation of the system and minimize vibration, the system should be installed on a solid surface such as concrete, a load-bearing surface or mounting bracket Need to meet strength requirements.

Installation basis of outdoor system

The positioning size of the outdoor system installation foundation is 810* 394mm, and a positioning foot bolt with a diameter of is required to be installed. The recommended dimensions of the outdoor system installation base are: 1200 *450mm

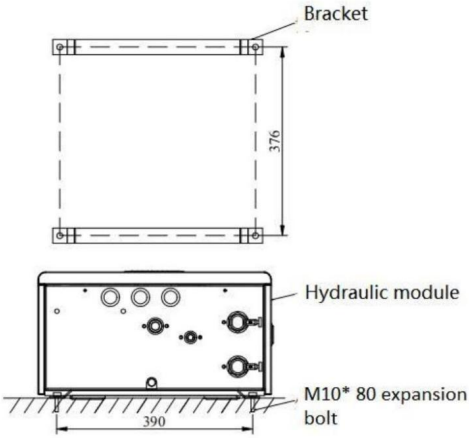
NOTE:

1) The system should be installed so that the inclination of any vertical surface does not exceed 5 degrees;.
2) Do not install the outdoor system directly on the ground;
3) The strength of the ordinary air conditioner bracket may not be suitable for the system, please design or select the bracket according to the weight of the system.
4) If the host is installed and fixed on the open balcony and roof, the system needs to be hoisted, and the following points should be paid attention to when hoisting:

a. Please use a softer lifting belt above the strip to lift the handling system;
b. To avoid scratches on the surface of the system , Deformation, please add a protective plate on the surface of the system when hoisting and handling;
c. Before the final hoisting and installation, the foundation needs to be checked again to ensure that it is not in error with the actual object.

The installation and installation steps of the hydraulic module are as follows:

1) Drill a hole of ϕ 12 * 80 on the solid wall where the hydraulic module is to be installed according to the distance requirements of the mounting and fixing holes of the rack;
2) Install 4 pcs of M10* 80 expansion bolt into the drilled hole;
3) Install the module mounting bracket to the location where the expansion bolts are located, and fix each bolt with a nut;
4) Install the hydraulic module on the bracket.



4. Installation of hydraulic module and user end waterway system

The installation of waterway system shall comply with the following principles:

1) The length of the water pipe should be as short as possible;.
2) The diameter of the water pipe must meet the requirements of the system;.
3) The elbows on the waterway should be as few as possible, and the radius of the elbow should be as large as possible;.
4) The thickness of the water pipe insulation layer should meet the specified requirements.

Waterway system installation steps:

1) Install all water pipes;.
2) Keep the pressure of the water pipes for leak detection;.
3) Clean the water pipes;.
4) Steps for water refilling and emptying of the water pipes:

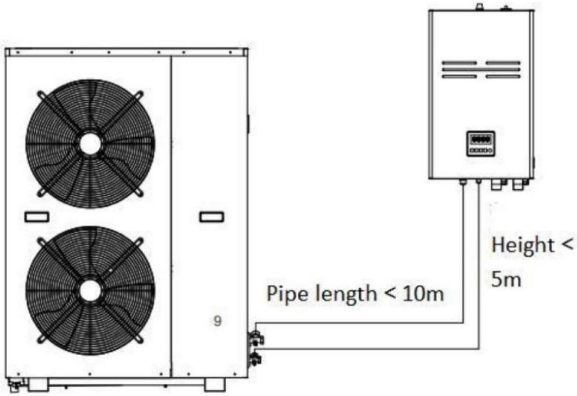
a. First open the vent valve and all valves on the water distributor;
b. Make up water at the water supply port of the pipeline;
c. During the water supply process, you need to observe the exhaust valve and the drain valve to see if there is water flowing out. If there is water overflow, it means the water system is fully filled;
d. Close the vent valve; then look at the water pressure gauge, if the pointer is greater than 1.5Bar, you can close the water supply valve, and the waterway is drained.

5. Refrigerant piping installation between outdoor unit and hydraulic module

The steps of connecting outdoor unit and hydraulic module fluorine circuit are as follows:

1) Remove the cap or valve cap on the hydraulic module and the stop valve head of the outdoor system;
2) Connect the copper pipe of the corresponding specification (set the insulation Pipe) Put the bonnet just removed to expand;.
3) Fix the connecting pipe on the outdoor system shut-off valve and hydraulic module connector through the bonnet, and tighten the bonnet;
4) Choose any shut-off valve needle port of the outdoor system, connect the pressure gauge to vacuum;
5) After the vacuum is completed, hold the pressure to ensure that there is no leakage;.
6) Open the two shut-off valves completely, and remove the pressure gauge connecting pipe

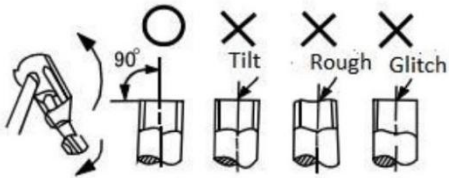
Pipe length and height difference requirements of outdoor unit and hydraulic module



Refrigerant connection pipe installation

1. Flaring

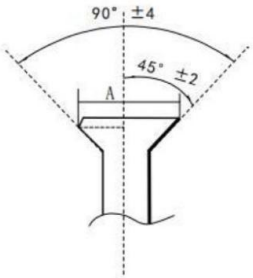
1) Use a pipe cutter to cut the connecting pipe to the required length. It is recommended to cut the length to be 30cm longer than the actual requirement;
2) Use a pipe cutter to remove the burrs on the copper pipe port. The port faces downward during operation to ensure that the copper scraps are not Drop into the copper pipe;
3) Remove the nut from the system and put it on the copper pipe;
4) Use a flaring tool to expand the end of the copper pipe.



Pipe cutting requirements: flat port, no damage to copper pipe

Flaring requirements: smooth inner and outer surfaces, uniform length on the cone side.

The specific size requirements of the bell mouth are as follows:



Diameter of liquid side piping	Additional refrigerant charge per meter
ϕ 9 .52	50 g/m
ϕ 12. 7	100 g/m
ϕ 15. 88	170 g/m
ϕ 19. 05	220 g/m

2. Fasten the joint

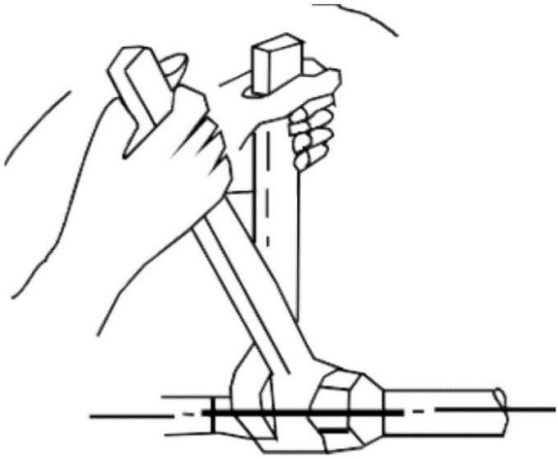
1) Before using the copper pipe, make sure to use a sealing cap or preventive tape to prevent dust or water from entering the copper pipe;
2) For a correct connection, align the joint with the flared pipe and tighten the nut slightly;
3) Use a torque Tighten the nut at the flare with a wrench.

Note

Depending on the installation conditions, excessive torque will damage the flaring and nuts.

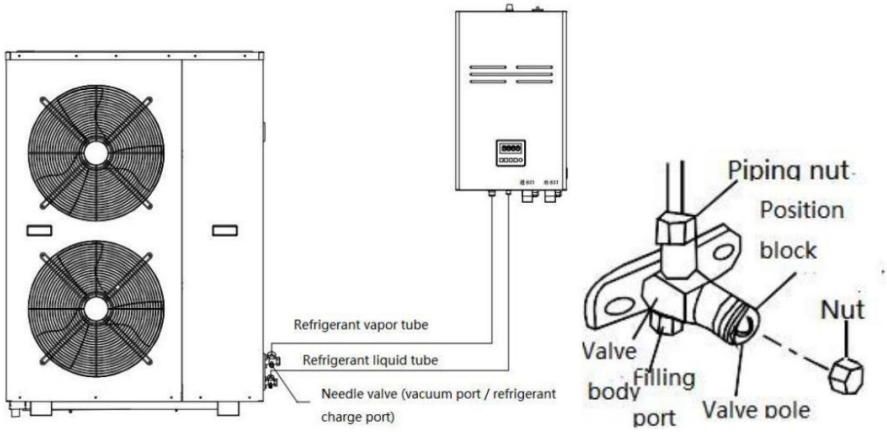
Copper pipe diameter and wrench torque reference table

outer diameter	Torque force
φ 6. 35mm	1420～1720N cm (144～176kgf. cm)
φ 9. 52mm	3270～3990N cm (333～407kgf. cm)
φ 12. 7mm	4950～6030N cm (504～616kgf. cm)
φ 15. 88mm	6180～7540N cm (630～770kgf. cm)
φ 19. 05mm	9720～11860N cm (990～1210kgf. cm)



3. Air removal (A5mm hexagon wrench is required)

a. The air in the indoor system and outdoor connection pipes needs to be removed with a vacuum pump: see the section on using a vacuum pump.
b. If the system is moved to another place, use a vacuum pump to vacuum.
c. It is strictly prohibited to use the host refrigerant gas for air removal.



4. Vacuum pump operation

a. Connect the pressure gauge hose to (the shut-off valve is closed).

b. Connect the connector to the vacuum pump.

c. Fully open the handle.

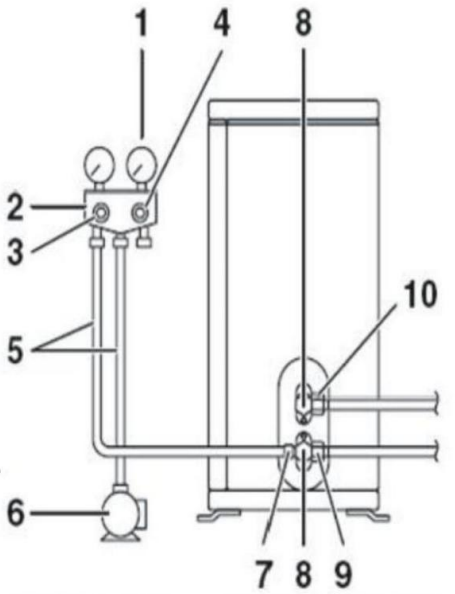
d. Start the vacuum pump to vacuum. When starting to vacuum, slightly loosen the connecting nut of the low pressure valve, check whether air enters (the noise of the vacuum pump changes, and the multimeter indicator changes from negative to 0), and then tighten the connecting nut.

e. After the vacuum is completed, completely close the handle and stop the vacuum pump. Keep the pressure for more than 10 minutes and confirm that the pointer of the multimeter is on the -1.0×10 Pa (-76cmHg) scale.

f. Fully open the stop valves on both sides of the high and low sides.

g. Remove from.

h. Tighten up. Use pressure gauge hose, pressure gauge low pressure valve, pressure gauge low pressure valve, pressure gauge hose, liquid shut-off valve filling port, liquid shut-off valve charge



1. Pressure gauge
2. Pressure pipe connection table
3. Pressure gauge low pressure valve
4. Pressure gauge high pressure valve
5. Pressure gauge hose
6. Vacuum pump
7. Liquid stop valve filling port
8. Liquid stop valve bonnet
9. Liquid stop Valve
10. Gaseous stop valve

5. Additional refrigerant

a. One-way pipe length or less 5m (including 5m), no additional refrigerant is required.

b. If the one-way pipe length is 5m above, additional refrigerant must be added, and the filling amount is specified in the following table.)

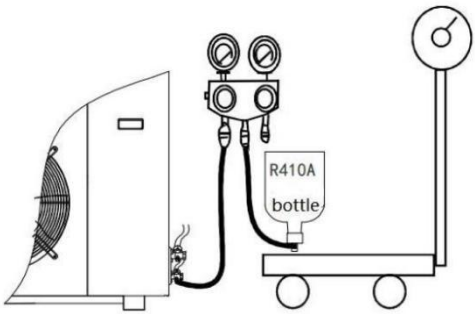
Diameter of liquid side piping	Additional refrigerant charge per meter
ϕ 9 .52	50 g/m
ϕ 12. 7	100 g/m
ϕ 15. 88	170 g/m
ϕ 19. 05	220 g/m

c. If the length exceeds the reference length, additional refrigerant must be added strictly in accordance with the length of the connecting pipe.)

d. Please record the refrigerant charge and keep it properly for future maintenance

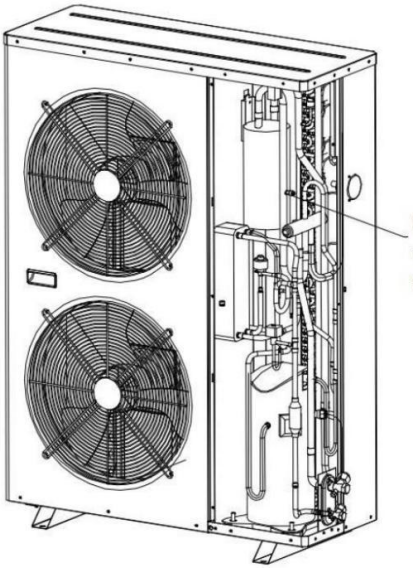
e. For R410A refrigerant models, when filling refrigerant, be sure to use liquid refrigerant.

f. It is strictly forbidden to charge other types of refrigerants, otherwise it will cause damage to the system.



Note:
1. If you use a refrigerant bottle with a siphon tube, there is no need to invert the refrigerant bottle when filling. Please check the type of the refrigerant bottle before filling;
2. The R410A refrigerant bottle has a pink body

g. When the system is filled with refrigerant under heating conditions, the refrigerant must be filled at the needle valve side of the suction pipe, as shown below:



Note:
1. When filling refrigerant, be sure to charge it in liquid state;
2. When adding refrigerant on the suction side, the valve opening of the refrigerant should be small, so that the refrigerant in the refrigerant bottle enters the system slowly to prevent liquid shock.

6. Check refrigerant leakage

a. Use soapy water or a leak detector to check for leaks at all joints.

b. When refrigerant leakage occurs, the leakage point must be found, and the leakage point must be reconnected or repaired; when the leakage point is repaired or reconnected, it must be ensured that there is no refrigerant or other pressure in the system, otherwise it is easy to cause The copper pipe was burst by refrigerant pressure or other pressure, causing accidental injury to the operator.

c. When refrigerant leakage occurs in a narrow space, in order to prevent suffocation accidents, all vents should be opened or forced ventilation to discharge the refrigerant before relevant operations.

Electrical Installation

All wiring and grounding must comply with local electrical codes.

Note

1) The specification label should be carefully checked to ensure that the wiring meets the specified requirements and is correctly wired according to the wiring diagram;
2) Outdoor system should be equipped with independent power supply with current circuit breaker and leakage protector;
3) The power supply must meet the requirements of the machine and must be reliably and effectively wired;
4) Wires should not be in contact with copper pipes, compressors, motors or other operating components;
5) Do not change the internal wiring of the machine without permission, otherwise the seller will not commit any responsibility;
6) Do not send power before the wiring is completed, so as to avoid personal injury;
7) The supply voltage should vary within ±10% of the standard value.

Electrical specifications

Model	Power Supply	Max Input Current(A)	Fuse (A)	Electric Leakage Protector(mA)	Power Cable (mm^2)
BLN-012TA3	220~240 V/ 1/ 50 Hz	10.0	25	30	4
BLN-018TA3	220~240 V/ 1/ 50 Hz	17.0	25	30	6

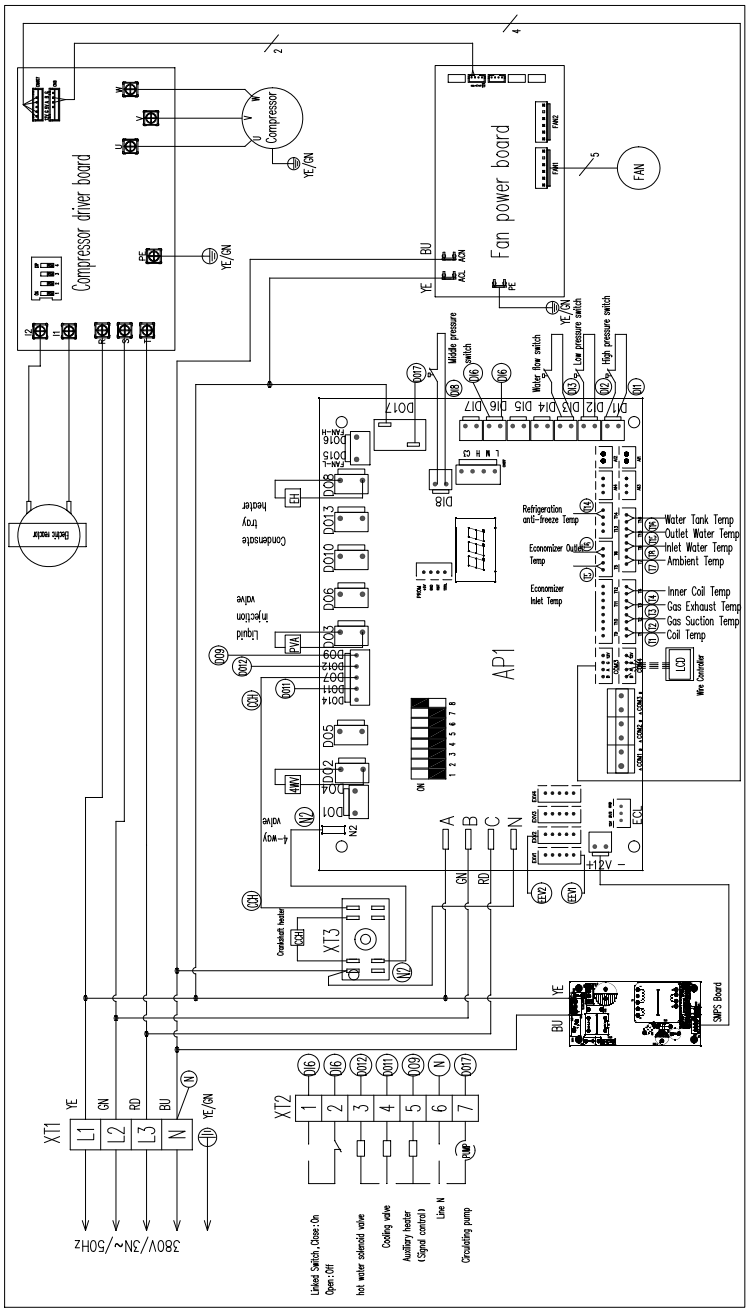
Power cable and signal wire connection instruction

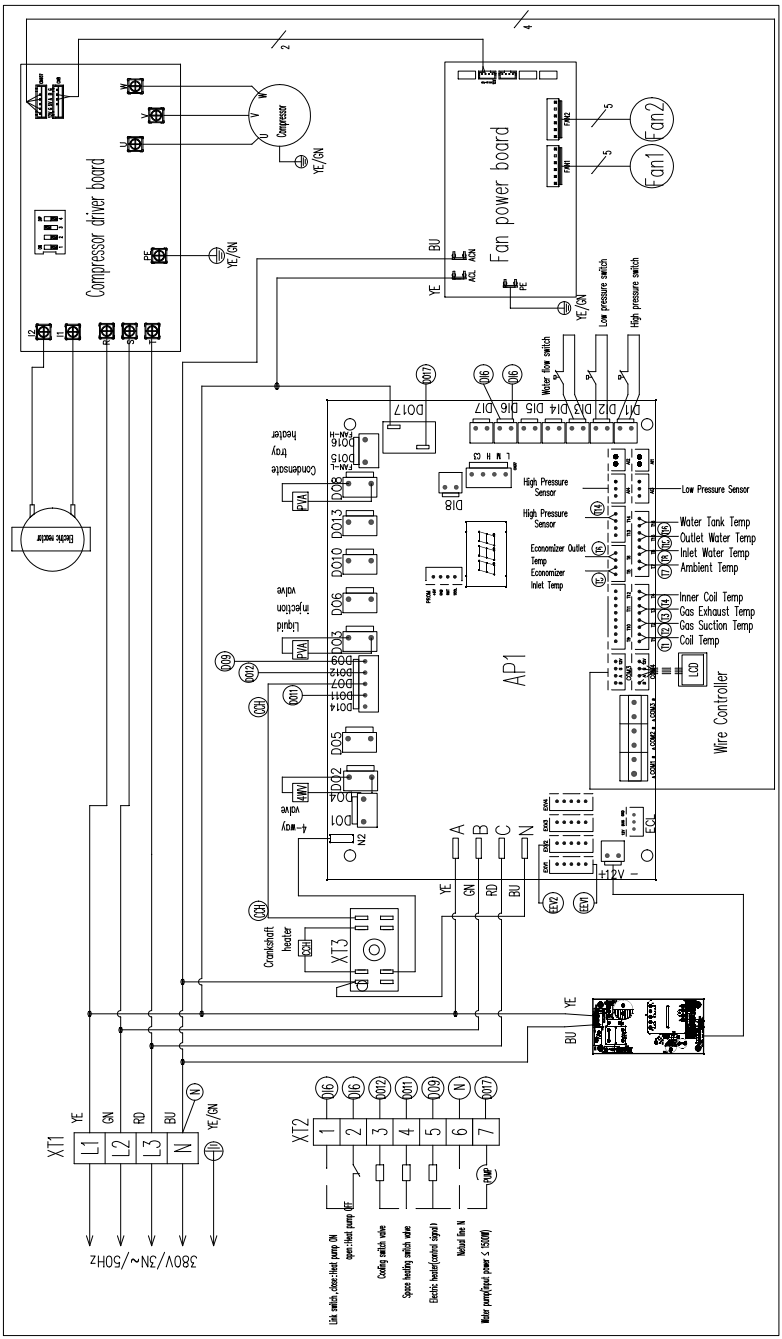
1) Remove the outdoor system maintenance board and the front panel of the hydraulic module,and connect the wire to the corresponding terminal block according to the electrical wiring diagram to confirm that the connection is secure.
2) Secure the cable with the wire clamp and install the service plate And front panel of hydraulic module.
3) Do not connect the wrong line, otherwise it will cause electrical failure or even damage the machine.

4) The type and rating of the fuse are based on the specifications on the corresponding controller or fuse cover.
5) The power cable must be selected and installed by the professional installer. When the installer selects the power cable, the power cable should not be lighter than the neoprene armored cord (line 57 of IEC 60245). For specific power cable specifications, see the electrical specifications. .
6) If the user's power distribution capacity is insufficient or the power cord (copper core wire) is not configured as required, the machine cannot be started or operated normally, the seller will not take any responsibility.

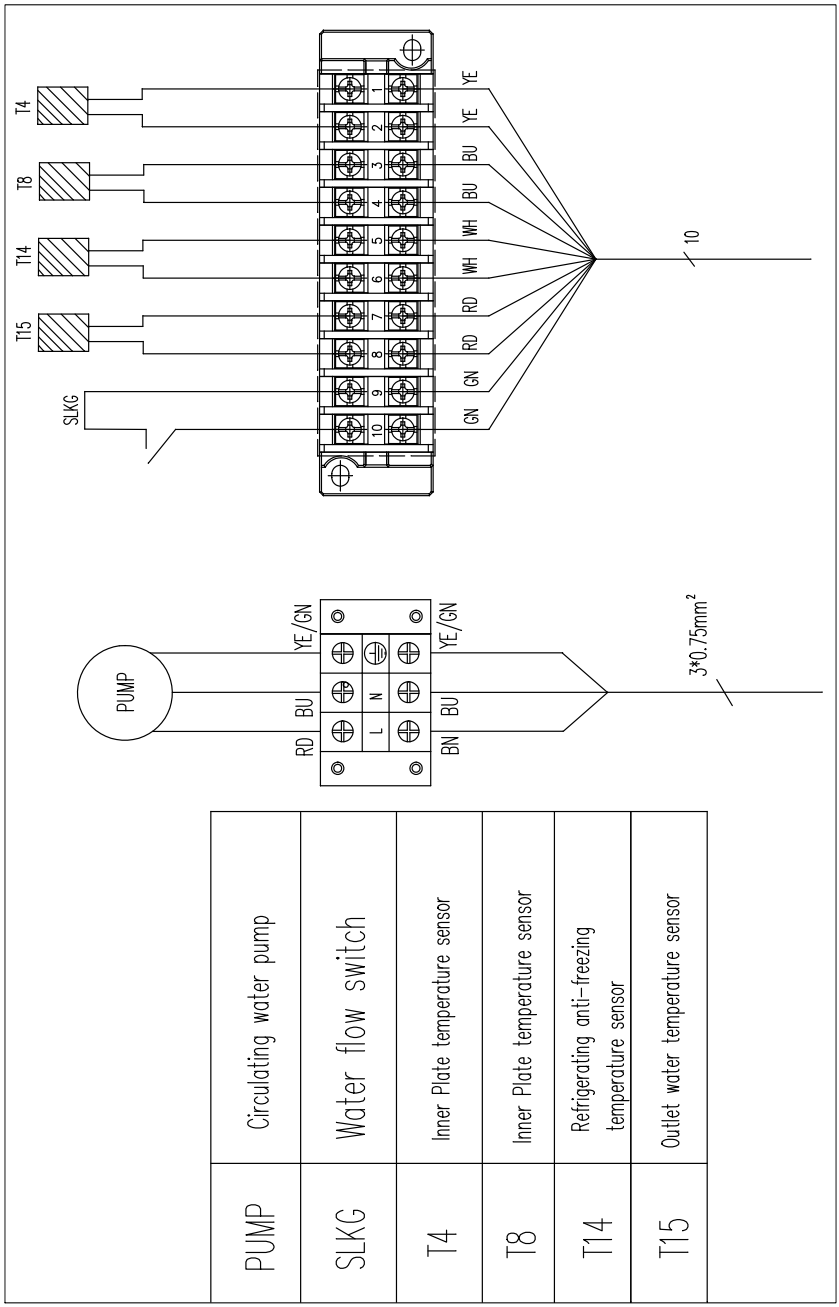
Electrical Wiring Diagram For Outdoor Unit

BLN-012TA3




Compressor driver board
Compressor
Fan power board
Fan2
Fan1
High pressure switch
Low pressure switch
Water flow switch
Low Pressure Sensor
High Pressure Sensor
High Pressure Sensor
Water Tank Temp
Outlet Water Temp
Inlet Water Temp
Ambient Temp
Economizer Outlet Temp
Economizer Inlet Temp
Inner Coil Temp
Gas Exhaust Temp
Gas Suction Temp
Coil Temp
AP1
Wire Controller
Liquid injection valve
4-way valve
Crankshaft heater
Condensate tray heater
Electric heater
XT1
XT2
XT3
380V/3N~/50HZ
Link switch ,close:Heat pump ON open:Heat pump OFF
Cooling switch wire
Space heating switch wire
Electric heater(control signal)
Neutral line N
Water pump(input power ≤ 150W)

Electrical schematic diagram of hydraulic module



Commissioning

1. Precautions before commissioning

1) Is the machine properly installed;
2) Is the wiring and piping correct;
3) Whether the water pipelines is empty or not;
4) Whether the heat insulation has been perfected;
5) Is the ground wire connected reliably;
6) Whether the power supply voltage matches the rated voltage of the machine;
7) Is there any obstacle in the air inlet and outlet of the machine;
8) Is the safety valve installed correctly;
9) Whether the leakage protector can operate effectively;
10) The system water pressure is not less than 0.15MPa, and the maximum pressure cannot exceed 0.5MPa;
11) In winter, the machine needs to be energized at least 24 hours earlier before operation as the compressor needs to be preheated.

2. Commissioning

Use the controller to control the machine operation and check the following items according to the instruction manual:

(If there is any fault, please find out the faults and reasons described in the manual and eliminate them)

1) Is the controller normal?
2) Is the function key of the controller normal?
3) Is the drainage normal?
4) Test whether the heating mode and cooling mode are working properly;
5) Is the outlet water temperature normal?
6) Whether there is vibration and abnormal sound during operation;
7) Does the generated wind, noise and condensate affect neighbors;
8) Is there refrigerant leakage.

3. Operation and debugging

1) About 3mins of protection

Due to the self-protection of the compressor, the machine cannot be restarted again within 3 minutes

2) Feature of heating operation

During operation, if the ambient temperature is too high, the outdoor motor may run low or stop.

3) About defrosting during heating operation

In the case of heating operation, when the system has frost formation, the defrosting operation (about 2-8 minutes) is automatically performed to improve the heating effect. The outdoor motor stops running during the defrost operation.

4) Power outage

If there is a power outage during operation, then the machine will stop running. Before the power outage, the controller automatically memories the ON/OFF status of the machine. After re-powering, the controller will send an ON/OFF signal to the machine according to the state of memory before power outage to ensure that the machine recovers back to previous status from abnormal power failure.

5) Heating capacity

Because the heat pump absorbs heat from the outside, once the outdoor temperature is lowered, the heating capacity will be reduced.

6) Electric leakage protector

After the system has been running for a period of time (usually one month), the leakage protector needs to press the test button under the closed energized state to check whether the performance of the leakage protector is normal and reliable (the leakage protector should be disconnected once every time the test button is pressed) If the accident is not found, the test is allowed to be sent once. If it is not working, the cause should be found out, and if necessary, the action characteristic test should be carried out. After checking, it is confirmed that the leakage protector itself has failed. It should be replaced or repaired in time.

7) Working temperature range

In order to use the machine correctly, please operate under the following conditions, outdoor temperature: -30℃ ~ 46℃.

8) Antifreeze in the winter

When the ambient temperature is below 0℃, it is strictly forbidden to cut off the power. If there is an unexpected power failure under this condition, please drain the water from the system.

Maintenance

1) Please check whether the grounding wire is connected reliably before use. If there is any abnormality, please replace it in time.
2) Please check the air inlet and outlet of the outdoor system regularly for blockage.
3) Professional are required to clean outdoor system heat exchanger, casing and water circulation piping. It is recommended to clean the filter of the water side filter regularly (cleaning is usually done once a year, depending on the actual situation).
4) Regularly check that the safety valve is working properly, and ensure that the drain can be drained normally by manually turning the red knob (usually once every three months, depending on the actual situation).
5) Regularly (usually once a year, but depending on the actual situation) Check whether the water pipe joint and the refrigerant connection pipe are leaking or leaking refrigerant (there are oil leakage marks). If there is any leak, please contact the seller.
6) The machine can only be serviced by professional. The machine must be cut off before contacting the wiring part.
7) Once the machine will not be used for a long time, please cut off the power, drain the water in the pipeline, and close each valve.

Warning

When the fin heat exchanger is cleaned with a cleaning agent (acid or alkaline), it must be completed by a professional company. Corresponding protective measures should be taken during operation, such as goggles, masks, protective gloves, protective shoes, protective clothing, etc. To protect the safety of personnel, please follow the relevant instructions for the use of chemical agents, otherwise it may cause serious personal injury.

Trouble Analysis

Error code	Fault Description	Failure Causes
E01	Wrong-Phase Protection	Power supply phase sequence error
E02	Power Supply Lack Of Phase	The power supply is out of phase
E03	Outside Water Flow Switch Fault	1. Circulating pump failed, or water system blocked 2. Water flow switch failed, or opposite installed direction 3. The lift of the circulating pump is not enough 4. Circulating pump has opposite installed direction
E04	Abnormal Communication Between The Main Control Board And Remote Module	Check the communication connection
E05	High-Voltage Switch One Fault	1. High-voltage switch failed 2. Excessive refrigerant 3. Fan doesn't work typically, or water circulated abnormally 4. Air or other objects mixed into the refrigeration system 5. Too much scale in the water heat exchanger
E06	Low-Voltage Switch One Fault	1. Low-voltage switch fault 2. Lack of refrigerant 3. Fan doesn't work normally 4. Block exists in refrigeration system
E07	High-Voltage Switch Two Fault	Same as E05
E08	Low-Voltage Switch Two Fault	Same as E06
E10	Indoor Side Water Flow Failure	Same as E03
E11	Limited Time Protection	Enter the power-on password
E12	Exhaust Gas Temperature One Too High Fault	Lack of refrigerant in the fluorine circuit system or sensor damage
E13	Exhaust Gas Temperature Two Too High Fault	Lack of refrigerant in the fluorine circuit system or sensor damage
E14	Hot Water Tank Temperature Failure	Damaged motherboard or sensor
E15	Water Inlet Temperature Sensor Failure	Damaged motherboard or sensor
E16	Coil Sensor One Failure	Damaged motherboard or sensor
E17	Coil Sensor Two Failure	Damaged motherboard or sensor
E18	Exhaust Gas Sensor One Fault	Damaged motherboard or sensor
E19	Exhaust Gas Sensor Two Fault	Damaged motherboard or sensor
E20	Indoor Temperature Sensor Failure	Damaged motherboard or sensor
E21	Environmental Sensor Failure	Damaged motherboard or sensor
E22	User Return Water Sensor Failure	Damaged motherboard or sensor
E23	Cooling Subcooling Protection	Normal anti-freeze protection

E24	Board Change Out Temperature Fault	Damaged motherboard or sensor
E25	Water Level Switch Malfunction	Damage to the mainboard or water level sensor
E26	Anti-Freeze Sensor Malfunction	Damaged motherboard or sensor
E27	Water Outlet Sensor Failure	Damaged motherboard or sensor
E28	Reservation	Reservation
E29	Return Air Sensor One Fault	Damage to the mainboard or water level sensor
E30	Return Air Sensor Two Fault	Damage to the mainboard or water level sensor
E31	Water Pressure Switch Failure	Water pressure switch failure
E32	Excessive Water Temperature Protection	Insufficient water flow or a damaged sensor
E33	High Pressure One Sensor Fault	Damaged motherboard or sensor
E34	Low Pressure One Sensor Fault	Damaged motherboard or sensor
E35	Reservation	Reservation
E36	Reservation	Reservation
E37	The Excessive Temperature Difference Between Inlet And Outlet Water Protection	Insufficient water flow
E38	DC Fan One Failure	Fan drive board or motor damage
E39	DC Fan Two Failure	Fan drive board or motor damage
E40	DC Fan Three Failure	Fan drive board or motor damage
E41	DC Fan Four Failure	Fan drive board or motor damage
E42	Cooling Coil Sensor One Fault	Damaged motherboard or sensor
E43	Cooling Coil Sensor Two Fault	Damaged motherboard or sensor
E44	Low Ambient Temperature Protection	It is a standard protection
E45	High Voltage Two Sensor Failure	Damaged motherboard or sensor
E46	Low Voltage Two Sensor Failure	Damaged motherboard or sensor
E47	Economizer Inlet Sensor One Failure	Damaged motherboard or sensor
E48	Economizer Inlet Sensor Two Failure	Damaged motherboard or sensor
E49	Economizer Outlet Sensor One Failure	Damaged motherboard or sensor
E50	Economizer Outlet Sensor Two Failure	Damaged motherboard or sensor
E51	High Voltage One Overvoltage Protection	Same as E05
E52	Low Voltage One Undervoltage Protection	Same as E06
E53	High Voltage Two Overvoltage Protection	Same as E05
E54	High Voltage Two Undervoltage Protection	Same as E06
E55	Expansion Board Communication Exception	Poor or broken signal cable contact
E80	Power Supply Error	Single-phase power unit detects a three-phase electrical signal.
E88	Inverter Module 1 Protection	Compressor or compressor driver board damaged
E89	Inverter Module 2 Protection	Compressor or compressor driver board damaged
E94	Water Pump Feedback Failure	Damaged DC pump or poor signal line

		contact
E96	Abnormal Communication between Compressor One Driver and Main Control Board	Poor or broken signal cable contact
E97	Abnormal Communication between Compressor Two Driver and Main Control Board	Poor or broken signal cable contact
E98	Abnormal Communication between Fan Motor One Driver and Main Control Board	Poor or broken signal cable contact
E99	Abnormal Communication between Fan Motor Two Driver and Main Control Board	Poor or broken signal cable contact

Fault Protection Instructions

1. The machine stops running when a fault is detected;
2. When the fault is removed, the compressor is shut down for three minutes before the machine can be put back into operation;
3. If there are three consecutive low-pressure faults, high-pressure fault, over the current spot, and gas exhaust temperature too high within 30 minutes, the machine will immediately stop running. After the fault is rectified, turn the power on again, start the controller, and the device can be put into operation.
4. If the machine stops running due to the inlet water temperature sensor or the coil temperature sensor fault due to compressor protection, the device will have to be back into operation 3mins later after the spot is removed. If the ambient temperature sensor fails, the machine continues to run.

Maintenance Instructions

1. The machine is equipped with an inspection needle valve on the suction and exhaust pipes. The maintenance personnel can connect the pressure gauge to check the high and low-pressure conditions of the system.
2. If the machine is filled with refrigerant under operating conditions, the refrigerant must be served at the needle valve of the low-pressure side. Suppose the refrigerant is added to the suction side. In that case, the refrigerant opening must be small so that the refrigerant in the refrigerant bottle slowly enters the system to prevent liquid slamming.
3. Refrigerant leakage detection
   Check if there is any leakage at the joints with soapy water or a refrigerant leak detector. When a refrigerant leak occurs, the leak point must be found, and the leak point must be repaired. Please ensure no refrigerant or other pressures are left in the system when improving the leak point. Otherwise, it will easily cause copper pipe explosive during welding. The tube is blasted by refrigerant pressure or additional pressure, causing accidental injury to the operator.
   Note: When refrigerant leakage occurs in a small space, open all vents or forced ventilation to discharge the refrigerant before performing related operations to prevent people from suffocating accidents.

Specification

Air Source Heat Pump				
Model			BLN-012TA3	BLN-018TA3
Power Supply			380-415V/3N~/50Hz	
Heating [1]	Capacity	KW	4.60-12.80	6.95 - 20.85
	Input Power	KW	0.70-3.80	1.50 - 5.90
	Input Current	A	1.20-6.50	2.56 - 10.05
Heating [2]	Capacity	KW	4.50-12.60	6.90 - 20.80
	Input Power	KW	1.40-5.10	2.05 - 7.70
	Input Current	A	2.40-8.70	3.50- 13.15
Cooling	Capacity	KW	2.50-9.10	4.20 - 16.80
	Input Power	KW	1.90-4.70	2.80 - 8.90
	Input Current	A	3.25-8.05	4.80 - 15.20
Rated Input Power		kW	5.65	9.65
Rated Input Current		A	10	17.0
Operation Pressure(Low Side)		MPa	1.5	1.5
Operation Pressure(High Side)		MPa	4.4	4.4
Maximum Allowable Pressure		MPa	4.4	4.4
Electrical Shockproof		/	I	I
IP Class		/	IPX4	IPX4
Max. Outlet Water Temp.		℃	60	60
Operating Ambient Temperature		℃	-25 ~ 45	-25 ~ 45
Water Piping Connections		inch	G1-1/4	G1-1/4
Rated Water Flow		m^3/h	2.05	3.10
Water Pressure Drop		kPa	50	45
Min/Max water pressure		MPa	0.1/0.3	0.1/0.3
Outdoor Unit			BLN-012TA3-OD	BLN-018TA3-OD
Refrigerant Type/Charge/GWP		.../kg	R32/1.9/675	R32/4.5/675
CO_2 Equivalent		/	1.28t	2.7t
Noise Level		dB(A)	52	58
Net Dimensions (L×W×H)		mm	1005×375×800	1077×377×1460
Net Weight		kg	66	125
Indoor Unit			BLN-012TA3-HB	BLN-018TA3-HB
Refrigerant Type/Charge/GWP		.../kg	R32/0/675	R32/0/675
CO_2 Equivalent		/	0t	0t
Noise Level		dB(A)	35	35
Net Dimensions (L×W×H)		mm	570*260*650	465×245×750
Net Weight		kg	38	49

Packing List		
NO.	Description	Qty
1	Heat pump	1 pc
2	Hydraulic module	1 pc
3	Controller wire	1 pc
4	Instruction manual	1 pc
5	Anti-vibration rubber	1 pc
6	Refrigerant connection pipe	1 pc

After-sale Service

Relevant state regulations carry out the after-sales service of our products. Within the scope of the warranty period, If the machine is not working correctly under reasonable use, please contact the seller.
The user must designate a person to manage and use the unit reasonably and correctly by our company's "Instructions for Use." Accidents caused by improper use are not covered by our company's warranty, and the repair costs and repair costs beyond the warranty period must be taken care of by the user.

1. After-sale Service

The seller or the specified professional installer should perform maintenance and repair. Improper maintenance or repair may result in water leakage, electric shock, and fire.

1.1 Please contact the seller when the machine has to be moved or reinstalled. Improper installation may result in water leakage, electric shock, and fire.

1.2 When you need after-sales service, please contact the seller and provide the following details:

1) Model No.
2) Serial Number and Manufacture Date
3) Detailed Description of the fault
4) Your name, Address, and Contact Number

If the warranty period is expired or the malfunction is caused by improper use, the company will charge a certain service fee if you need after-sales service.

2. Maintenance

After a period of use, the heat pump's performance will be reduced due to the accumulation of dust inside the machine, so maintenance is required.

1) You should regularly check the water supply system to avoid the air entering the water system and the occurrence of low water flow, which would reduce the performance and reliability of the heat pump.
2) Clean your filtration system regularly to avoid unit damage because of a dirty or clogged filter.
3) Discharge the water from the bottom of the water pump if the heat pump will stop running for a long time (especially in winter)
4) At any other moment, check the water flow to confirm enough water before the unit starts to run again.
5) After the unit is conditioned in winter, it is preferred to cover the team with a unique winter heat pump cover.