

AKL

Luft-/Wasser-Wärmepumpen

Installation and Operation Instruction

Variable-Frequency Air-Source Heat Pump Chiller Unit

Central Conditioning / Underfloor Heating Unit Luft-/ Wasser-Wärmepumpen

- All installations must be performed by qualified professionals.
- For your convenience, please read the installation and operation instructions and operate strictly per the requirements herein.
- Please keep the instructions for any unexpected need.



Warning

For you and your family's safety, the unit to be used must be grounded!!
The product is a Class I appliance. Please ensure to use it after
grounding it reliably.



Note: if your home power supply is not grounded or grounded not reliably, it is not recommended for you to use the unit. If you are uncertain whether it is grounded reliably or not, please ask the professionals to test it.

The instruction provides many safety measures and precautions for using the air-conditioning / underfloor heating unit (hereinafter referred to as unit). Please read it carefully before using the unit and keep it in a safe place.

Dear users,

Thank you very much for purchasing our product. Please read the installation and operation instructions carefully before using the product and keep the instructions in a safe place.

The instruction is not a quality guarantee. Our company will interpret any content change due to misprint correction or product improvement at our convenience without notice. The corrected content will be included in the reprinted instructions.

You need to regularly clean and maintain the unit you use. Otherwise, the malfunction rate of the unit may increase and its service life may be shortened. Effective cleaning and maintenance can remove the dust out of the unit and extend its service life and reduce the system power consumption.

As for the air-source heat pump (water chilling) unit you use, the local weather conditions in winter and installation position should be based to decide whether it needs to empty the water inside the system pipeline and heat exchanger in the unit to prevent frost crack of the water pipe and heat exchanger.

The unit must be provided with an interruptible power supply to ensure the normal operation of the anti-freezing function. It is forbidden to close the valves on the unit's circulating pipe to prevent the normal operation of anti-freezing function from being hindered. In case of a power outage or long periods without use, the water inside the pipe and heat exchanger must be emptied.

The product is manufactured per the national standards of GB 4706.1, GB 4706.32, GB/T18430.2 and GB/T25127.2, etc.

AKL Air-conditioning (Zhejiang) Co., Ltd. reserves the final interpretation right of the instruction.

1 Safety precautions

1. 1 Safety cautions

Warning

- All the unit installation processes must conform to the national, provincial and local regulations. Please read the instruction carefully before installing the unit. Please install and maintain the unit according to the instruction to ensure it can operate normally and reliably.
- The unit must be installed by professionals.
- To prevent human and property damage, please switch off the power supply before installing the unit.
- Please first read the instruction carefully before installing and using the unit.
- The instruction can't include all the conditions and provide the guidance for any possibility encountered for unit installation. If you need more detailed information or find any content not described in detail in the instruction, please contact our company.

Warning

- Requirements on installation environment:
The unit installation position must be ventilated, corrosion-resistant, waterproof, and equipped with convenient power / water supply and drainage channels. The electrical environment on the customer site shall conform to the local relevant regulations for electrical safety. The power supply specifications conform to the unit's rated requirements with reliable grounding and leakage protector equipped. The unit is powered by means of directly connecting lines from the residual current circuit breaker. The wall or bracket for installation must meet the specified bearing requirement.
- Requirements on installation personnel:
The unit must be installed, maintained and retrofitted by the dealers or professionals specified by our company. Our company shall not bear any legal responsibility for furniture damage by water leakage due to operator possessing no related expertise and authorization, installation and maintenance by the user without permission, injury or electric shock or even severe accident such as a fire caused by misoperation.
- Requirements on installation accessories:
The accessories in the package shall be used according to the requirements and cannot be replaced with other similar components. The accessories to be purchased must have the sizes and specifications specified by our company. Our company shall not be responsible for any safety accident caused by using an accessory not specified by us.

1 Safety precautions

Warning

- The household power supplies and electrical circuits shall conform to the relevant standards.
- The power circuit must be installed with a leakage protection device. Otherwise, it is risky to cause electric shock.
- All the wirings shall be performed strictly following the circuit diagram and instructions of the unit. After the wiring works are finished, the power supply can only be switched on after carefully checking and finding no error.
- Check whether a qualified socket is used. Power on the outdoor unit to operate for a half-hour and then pull out the plug. If the pin surface is hot, it indicates the temperature is over 50°C. Thus, the socket must be replaced with a qualified new one.
- The outdoor junction box must be fixed firmly and the box cover must be covered tightly. If the cover panel is installed improperly, the dust or rain may enter the inside, leading to electric shock or fire.
- The power lines shall be intact. Otherwise, please contact the related dealer or professionals to replace them.
- The power lines must be the standard cables and they shall be ensured to bear the maximum current of the unit. Otherwise, they may cause a short circuit and / or cable overheat to result in fire.
- The ground wires cannot be connected to a gas pipeline or water pipe or telephone ground wire. The unit may be struck by lightning if it is not grounded reliably.
- The unit must be installed firmly and produce no violent vibration and the noise cannot interfere with the neighbors.
- The space where the unit is installed shall be ventilated well and the possible leaked coolant will not gather together. There shall be no leakage position of flammable gas near the installation site. In case of such risk, please change the installation position. Otherwise, it is very easy to result in poisoning and fire accidents, etc.
- Never store the unit in damp conditions or expose it to rain. Otherwise, it is very easy to be damaged after being installed.
- The operation panel cannot be placed (or installed) outdoor or in an environment with serious moisture. It is inadvisable to cut its connecting wires short and then reconnect them.
- Please do not insert the hand or foreign matter into the unit air outlet. Otherwise, it may result in-person risk and a damaged device.

1 Safety precautions

1. 2 Precaution for use

Note

- The users must read the instruction carefully and cannot set or modify the factory program and parameters at the discretion. Otherwise, it may result in severe unit malfunction.
- The unit cannot be operated by those who are mentally or physically disabled, patients, or those possessing no device experience (including children). Unless they have guardians or someone instructs them to use and is responsible for their safety. The children shall be monitored to ensure they will not touch those devices.
- After the unit power supply is powered off, there is still residual voltage in some circuits requiring 10 minutes to be released completely. It is forbidden to touch all the circuit components during the release period. Otherwise, it may cause an electric shock.
- The main power switch shall be switched on more than 12 hours before the unit is to be operated. If the unit is started immediately after the main power supply is switched on, the internal components may be seriously damaged. The main power switch must be kept on during the operation.
- Do not touch any switch with wet hands. Otherwise, it may cause an electric shock.
- During the unit operation, please do not touch the coolant pipe with bare hands. The temperature of the coolant pipe depends on the unit's operating mode and it may result in burns or cold injury.
- Please ensure there are drainage pipelines to discharge the condensed water produced by the outdoor unit in heating mode and the water produced after defrosting.
- In winter, if the heat pump needs to stop operation for a short period, please do not shut off the unit power supply because the unit needs power to perform the anti-freeze protection.
- If the unit is not used for a long time in winter, before the heat pump system is shut down, the water in the whole system shall be emptied so as to prevent the unit from being damaged by freezing.

2 Product introduction

2. 1 Features

- Energy efficient

The unit adopts the variable-frequency heat pump heating technology, providing a heating energy efficiency over three times higher than the traditional electric heating devices.
- Comfortable heating & cooling

In winter, the underfloor heating, fan coil, heating radiator or various combined heating modes can be connected. In summer, the fan coil can be used to cool. Truly enjoy one unit / dual use.
- Rapid cooling & heating

The world-renowned DC inverter compressor is used. The industry-top variable frequency control techniques are adopted, which can promptly excite a strong power and quickly provide a comfortable, warm indoor temperature in cold winter.
- Operable in super-wide ambient temperature

The unit can operate in a temperate range of $-35^{\circ}\text{C}\sim 45^{\circ}\text{C}$ to flexibly adapt to various harsh environments.
- Green and pollution-free environmental coolant

The environmental coolant, which can better prevent global warming.
- Simple operation & convenient maintenance

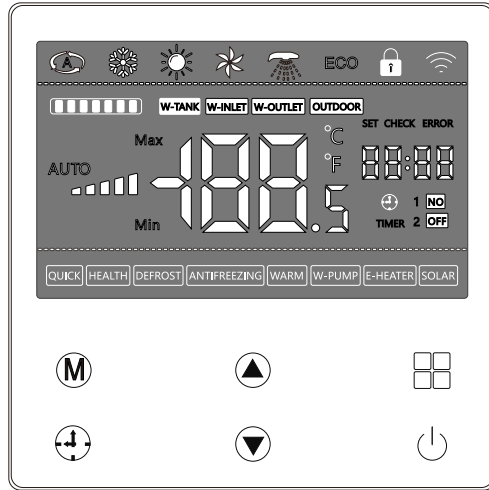
Humanized control interface, simple to operate, safe and reliable to realize self-diagnosis of malfunction, and convenient for maintenance.
- Safe & reliable

The efficient and safe heat pump heating technology is adopted and the water and power supplies for the unit are separated. Compared with the heating methods based on fire coal, fuel gas and electric heating, etc., it produces no hazard factors, including toxic or explosive or electric leakage, thus effectively protecting the user safety.
- Advanced technology & carefree operation

The intelligent anti-freezing technology is employed to ensure no frost crack potential during unit operation and shutdown process for a reliable unit operation.

2 Product introduction

2. 2 Graphic illustration of wire controller keys



Symbol	Keys' definition	Symbol	Keys' definition	Symbol	Keys' definition	Symbol	Keys' definition
	On / Off key		Heating icon		"-" Key		Timing icon
	Clock key		Cooling icon		Mode key		Function key
	"+" key		Defrosting icon		Pump icon		Antifreezing icon

Display screen and legend description

Controller LCD display

Display description:

The temperature display field displays the relevant data, including set temperature, ambient temperature and parameter SN. The timing display field on the right displays the clock, timing, query parameter values and set parameter values, etc.

The display blinking cycle in various fields is 1s. Once powered on, the unit will operate normally after the full display for 3s.

If no key is operated for 30s, the LCD display screen brightness will dim automatically.

2 Product introduction

2.3 Wire controller operation

On / Off key

In powered-off mode, press “On / Off” key to start the unit. In powered-on mode, press “On / Off” key to stop the unit operation.

Mode key

In the powered-on mode of wire controller, press the “Mode” key to select the unit operating mode (cooling, heating and hot water, etc.).

Temperature setting

In the powered-on mode of wire controller, press the “▲” or “▼” key to adjust the set temperature in current mode; press and hold the “▲” or “▼” key for no longer than 0.5s to rapidly increase or decrease the value.

In combination mode, adjust the temperature, and then the mode icon above will blink. Then press the “Function” key to switch the mode in the combination mode and display the temperature of the corresponding mode.

Lock function

Press both the “▲” key and “▼” key and hold 3s to enter or exit the lock function. When the “Lock” icon appears on the screen, it indicates that the wire controller is locked. In a locked state, press both the “▲” key and “▼” key and hold 3s to unlock the key.

View operating parameters

Entering View

Press both the “Mode” key and “▼” key and hold three 3s to enter the parameter setting state. The temperature displayfield will display the parameter SN and the timing field will display the parameter content;

2 Product introduction

View operation and exit

Enter Operating Parameters, then press the “▲” or “▼” key to scroll and wrap to display various “Operating Parameters”; press the “On / Off” key or do not operate any key for 20s to exit View Parameter automatically.

Common parameter setting

Enter Settings

Press both the “Mode” key and “▲” key and hold three 3s. The temperature display field will blink to display the parameter SN and the timing field will display the parameter content;

Setting operation

Enter Setting Parameters, then the parameter SN blinks. Press the “▲” or “▼” key to scroll and wrap to display various “Setting Parameters”. Press again the “Mode” key to display the parameter content by blinking. Press again the “▲” or “▼” key to modify the current content value. After completion, press again the “Mode” key to save the current modification and return to the SN blinking display state.

Exit settings

Press the “On / Off” key or do not operate any key for 20s to automatically exit the state of Parameter Setting.

Display malfunction

In case of unit malfunction, the malfunction blinks to appear in the timing field and cyclically displays the malfunction code and temperature. After the malfunction is cleared, the display will resume normally.

2 Product introduction

Clock Settings

Enter Clock Settings

In the wire controller's powered-on state, long-press the “Timing” key for 3s and the clock field will blink to display the hour part, indicating entering Clock Setting.

Clock Setting operation

Enter the state of Clock Setting and the hour part will blink. Press the “▲” or “▼” key to modify the hour part, then press the “Timing” key to display the minute part by blinking. Press the “▲” or “▼” key to modify the minute part, then press the “Timing” key or do not operate any key for 20s to automatically save the current setting and then exit.

Set timed control

The timed control consists of two sets of timing units: Set 1~2. Each timing unit can be set as “Timed start” and “Timed stop”. The demalfunction state is “Invalid”, i.e., the Timed start and Timed stop have the same time.

Enter Timing set

Press both the “Timing” key and “▲” key and hold for 3s, the “1” and “ON” icons on the right appear on the screen and the hour display field blinks, indicating entering the state of setting “Timed start of unit 1”. If the hour field blinks, press the “▲” or “▼” key to modify the time, then press the “Timing” key to confirm the modification.

Note: press the “On / Off” key during the operation to exit the Timing set and the set parameters will not be saved. Or long press the “On / Off” key for 3s during the operation, then all the timing will be invalid.

After the setting of “Timed start of unit 1” is completed, the unit will automatically enter the state of setting “Timed close of unit 1” and the

2 Product introduction

“1” and “OFF” icons display the setting state. The hour numerical code blinks, then press the “▲” or “▼” key to modify the time, then press the “Timing” to confirm the modification and switch to the minute setting. The minute numerical code will blink, then press the “▲” or “▼” to modify the time and then press the “Timing” key to confirm the modification.

Press the “On / Off” key during the operation to exit the Timing setting. The set parameters will not be saved. Or long press the “On / Off” key for 3s during the operation, then all the timing will be invalid.

Press and hold both the “Timing” key and “▼” key, enter the “Period 2” key whose setting operation is the same as above.

Exit Set Timing

In the state of setting Timing 1 or 2, press the “On / Off” key or do not operate any key for 20s to abandon the current time and exit the state of setting Timing.

Exit Set Timing

In the state of setting Timing 1 or 2, press the “On / Off” key or do not operate any key for 20s to abandon the current time and exit the state of setting Timing.

Cancel Timing set

After entering the state of Timing setting 1 or 2, long press the “On / Off” key for 3s to cancel the set function of Timing 1 or 2.

Other setting

Forced defrosting

In operating state of heating or hot water, press and hold both the “Function” key and “▲” key for more than 3s to force the outdoor unit to enter the defrost function.

2 Product introduction

2.4 Operating parameter list

S/N	Name	Remark
1	Outdoor temperature $T_{ao}/^{\circ}\text{C}$	Read only
2	Suction temperature $T_s/^{\circ}\text{C}$	Read only
3	Defrost coil temperature $T_{def}/^{\circ}\text{C}$	Read only
4	Discharge temperature $T_d /^{\circ}\text{C}$	Read only
5	Main electronic expansion valve PMV1 open /PLS	Read only
6	Enthalpy jet electronic expansion valve PMV2/PLS	Read only
7	Inverter compressor operating frequency/rps	Read only
8	Return water temperature $/^{\circ}\text{C}$	Read only
9	Outlet water temperature $/^{\circ}\text{C}$	Read only
10	Compressor malfunction code	Read only
11	Reserved	Read only
12	Reserved	Read only
13	Compressor input current	Read only
14	Compressor phase current	Read only
15	Drive input voltage	Read only
16	Drive bus voltage	Read only
17	Low voltage	Read only
18	Saturation temperature corresponding to low voltage	Read only
19	High voltage	Read only
20	Saturation temperature corresponding to high voltage	Read only

3 Selection of installation site

Note

It may result in unit malfunction if it is installed at the following sites (please consult the dealer if inevitable):

- Where there is mineral oil such as cutting oil.
- Where the air contains high percentage of salt such as the seaside.
- Where there is corrosive gas such as sulfur gas like a hot spring area.
- Where the power voltage fluctuates severely.
- Inside a car or cabin, etc.
- Where there are intense electromagnetic waves.
- Where there is flammable gas or material.
- Where there is acid or alkaline gas evaporation.
- Other special environmental conditions.

3. 1 Selection of outdoor unit installation site

- 1) The outdoor unit can be installed on an unclosed balcony or outer wall. Meanwhile, please take waterproof measures.
- 2) Sufficient installation and maintenance space are available (referring to Fig. 3.1 ~ 3.4).
- 3) The air inlet of the outdoor unit is unobstructed and will not expose to strong wind.
- 4) Environments with good dry ventilation and away from flammable and explosive gas leakage site as well as intense corrosive gas.
- 5) Convenient to install connecting pipes and electrical circuits.
- 6) The bearing surface is flat, can bear the unit weight and support to install the outdoor unit horizontally and will not increase vibration and noise. If the base is made of metal, the insulation measures must be taken and shall conform to the related technical standards.
- 7) The operating noise and discharged cold air will not influence you and your neighbors.
- 8) Where the direct effects of strong current and strong magnetic field are avoided.

3 Selection of installation site

⚠ Warning

- Try to move the unit packed in the factory package.
- Install the unit according to the instruction's requirements.
- The outdoor unit should be installed where convenient to discharge water.
- The outdoor unit must be installed to ensure the specified minimum ground clearance.

3. 2 Space for installation maintenance

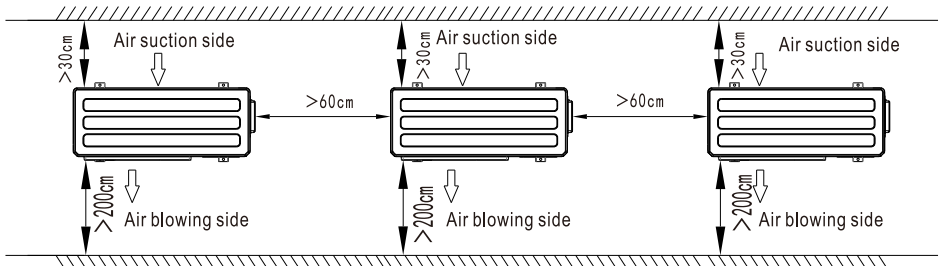
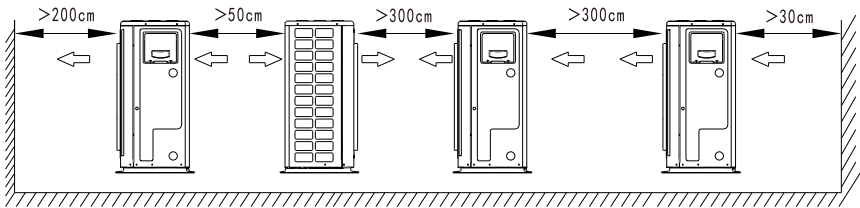
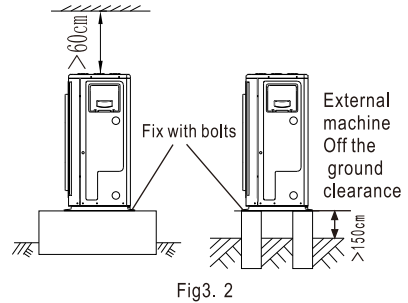
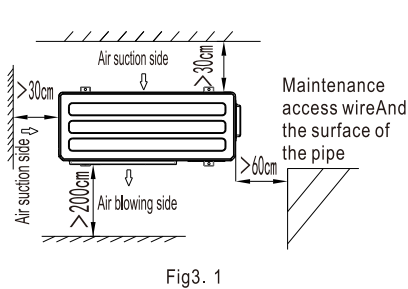


Fig3. 4

4 Unit installation

4. 1 Unit handling and installation

- 1) Because the center of gravity of the outdoor unit is not at the center, please be aware not to dump the unit when handling it.
- 2) Please do not hold the in-outlet on the housing. Otherwise, it will be deformed.
- 3) Please take care not to touch the fan blades with hands or other objects.
- 4) Do not tilt 45° to handle and do not lie placing down.
- 5) If the unit is installed in the basement, indoor, or other confined space, the circulation between the unit and outdoor air must be ensured.
- 6) The unit must be fixed on the bearing foundation with M10 screws to ensure fastness.
- 7) Please refer to Fig. 3.1 ~ 3.4 for the necessary space.

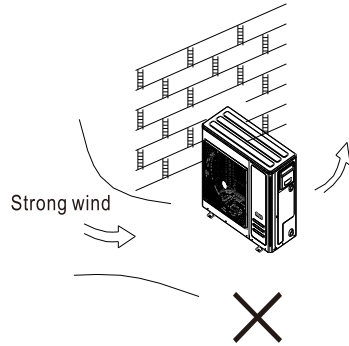
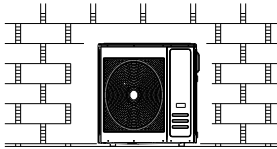
Warning

- The dealers or specified professionals having the occupational qualifications shall be responsible for installation. Improper installation may lead to accidents, including waste leakage, electric leakage, and fire, etc..
- Select those without direct sunlight and other hot sources. If it is inevitable, please install one covering to prevent the sunlight from directly radiating the unit.
- The bearing surface is required to be flat and be able to bear the unit weight.
- Please install the unit firmly. Otherwise, it may produce abnormal noise and vibration due to abnormal installation.
- Please install the unit where the noise and hot / cold air from the air outlet will not bother your neighbors.
- Try to remove the nearby barriers so as to avoid too small air circulation space, which otherwise will influence the unit performance.

4 Unit installation

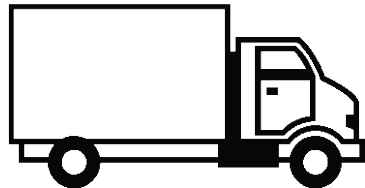
⚠ Warning

- Install the unit at the seaside or high altitude with strong wind. In order to ensure the normal operation of fan, the unit needs to be installed against the wall. If necessary, please use a baffle to prevent the wind from blowing back into the unit.



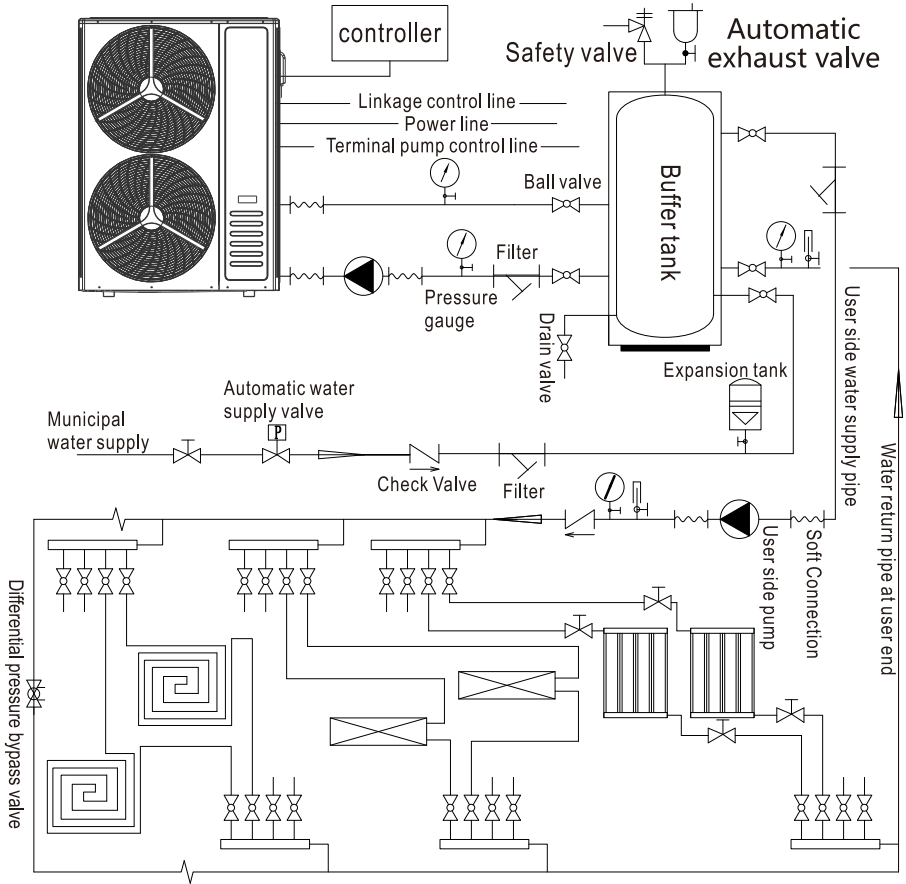
⚠ Note

- The unit installation should conform to the regulations of GB17790 - 2008 "Installation specifications for household and similar air-conditioning" and the requirements of "Installation and Operation Instruction."
- To reinstall the unit at a new place or relocate it to another place, they must be implemented by the professionals properly according to the "Installation and Operation Instruction" provided and the user is forbidden to install it.
- Improper unit installation may produce the risk of electrical shock or fire and also may influence the using effects of the unit.



4 Unit installation

4.2 Installation schematic diagram

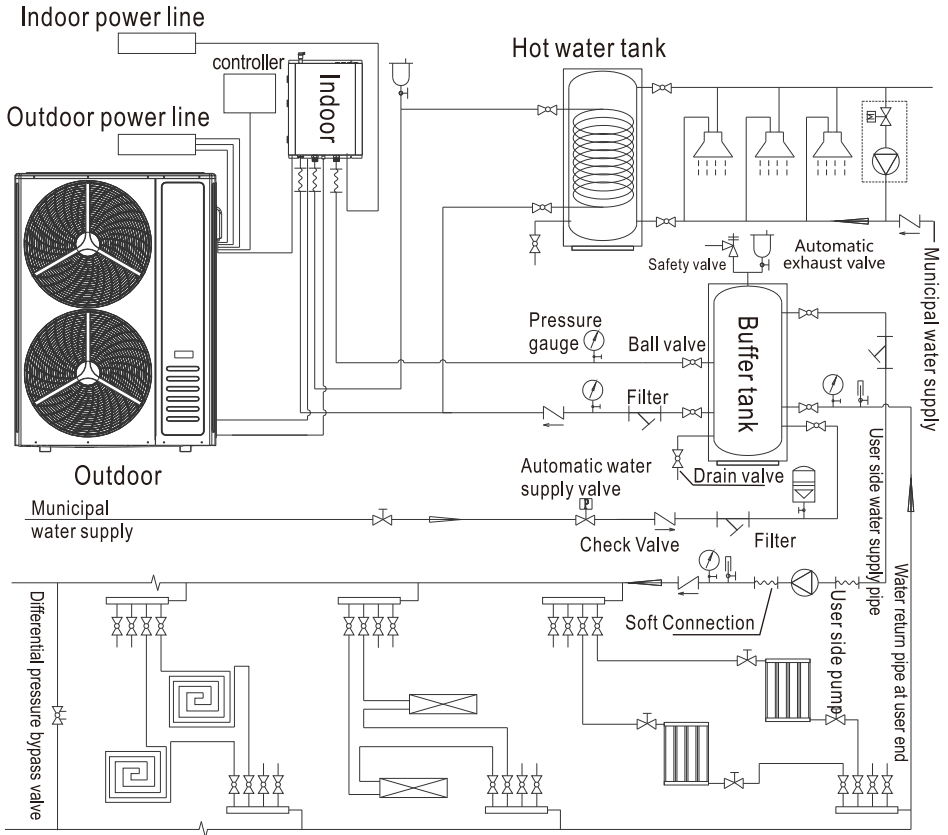


Legend Description

	Safety valve		Ball valve		Differential pressure bypass valve		Divider/catchment
	Soft connection		Expansion tank		Automatic exhaust valve		Radiator
	Pressure gauge		Filter		Fan coil unit		Floor heating
	Thermometer		Check Valve		Differential pressure bypass valve		
	Water Pump						

Installation schematic diagram I

4 Unit installation



Legend Description

	Safety valve		Ball valve		Differential pressure bypass valve		Divider/catchment
	Soft connection		Expansion tank		Automatic exhaust valve		Radiator
	Pressure gauge		Filter		Fan coil unit		Differential pressure bypass valve
	Thermometer		Check Valve		Floor heating		

Installation schematic diagram II

5 Electrical connection

5.1 Electrical wiring

Note

- The unit should use a dedicated power supply whose voltage shall conform to the rated requirement.
- The unit's power supply circuit must be grounded and the power grounding wire shall be reliably be connected to the external grounding wire, which shall be effective.
- The wiring construction must be implemented by the installation professionals according to the circuit diagram.
- The power lines and signal lines arrangement should be neat and reasonable. The strong current lines and weak current lines shall be separated and cannot interfere with each other.
- Please use the outdoor leakage protector. Please refer to the specified power specification. It is forbidden to bond two power lines. The signal lines must be shielded ones.
- If the power line and control line are parallel, please place them respectively in different conduits with suitable line spacing.
- If the power line is not long enough, you can refer to the line specification in the power wiring table.
- After all the line connecting works are finished, then can the power supply be switched on after carefully checking finds no error.

5.2 Power wiring

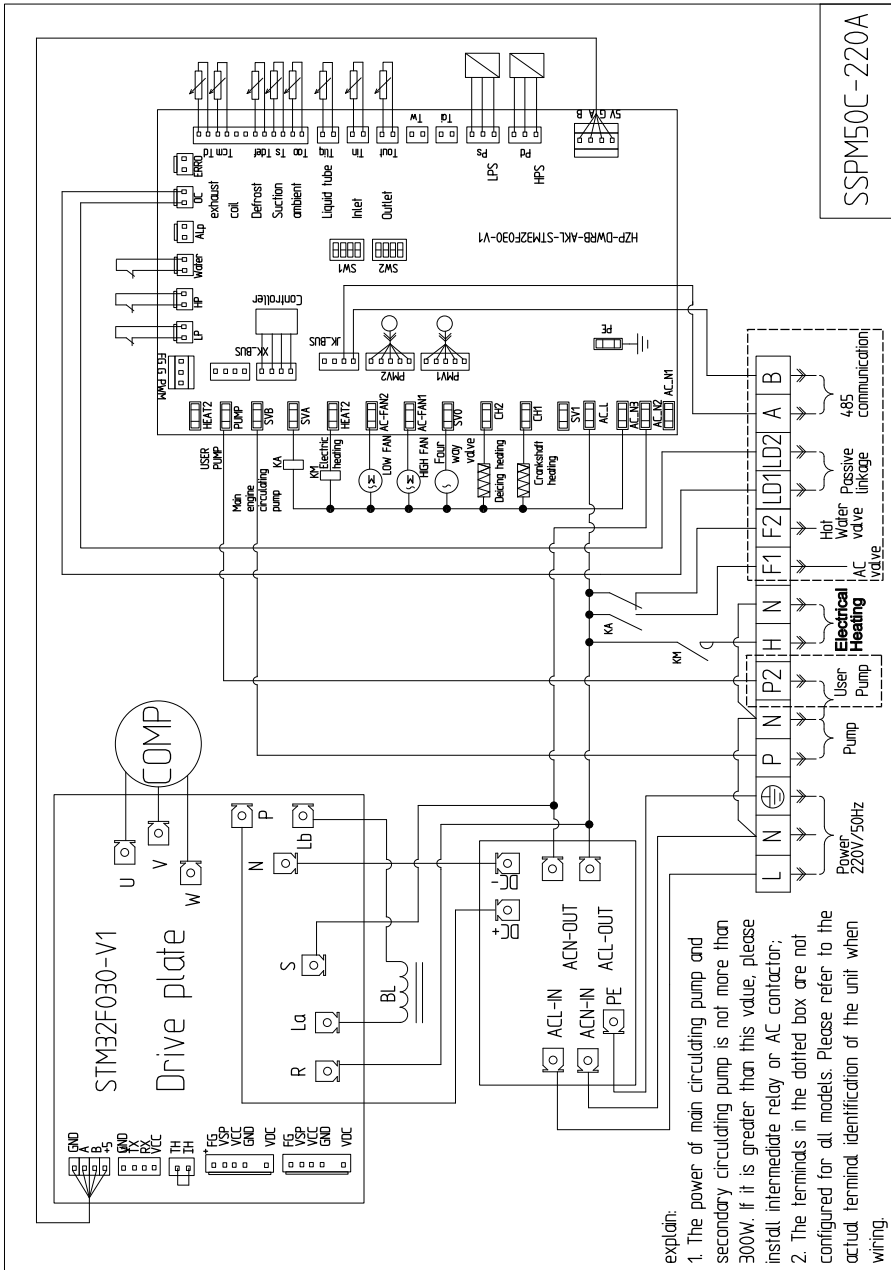
According to the maximum current or power of the unit indicated on the rating plate, please select the power line diameter with appropriate safe current carrying capacity. If the selected power line (safe current carrying capacity) diameter is less than the maximum current of the unit, it may cause fire, damage to the unit and loss of personal property.

Note

The installation and maintenance must be performed by the dealers or specified professionals having the occupational qualifications.

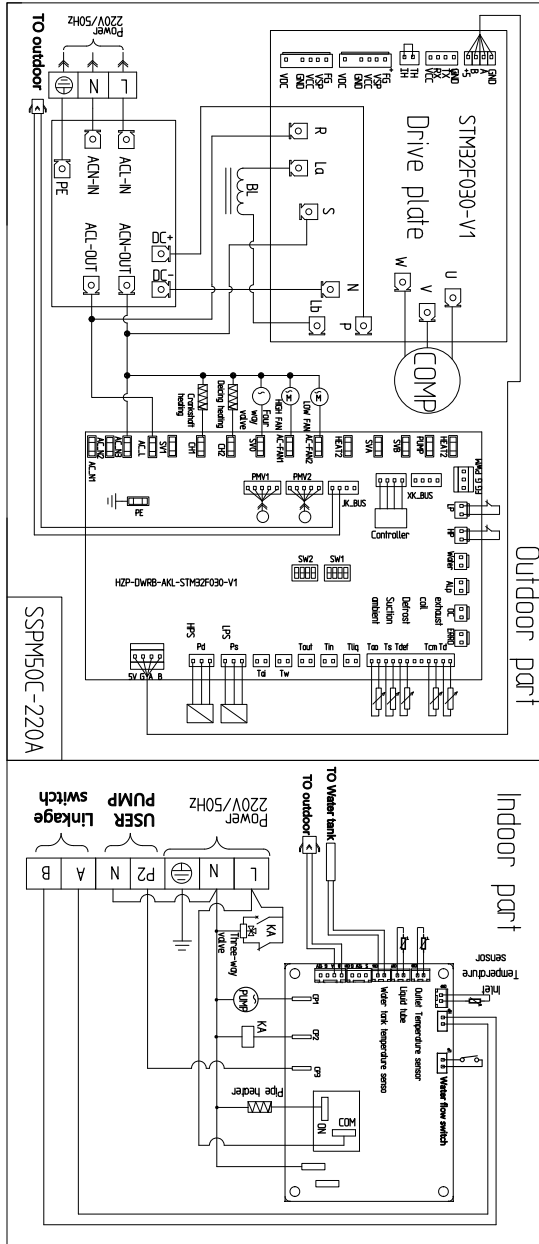
Unauthorized installation and maintenance may cause severe safety accident.

5 Electrical connection



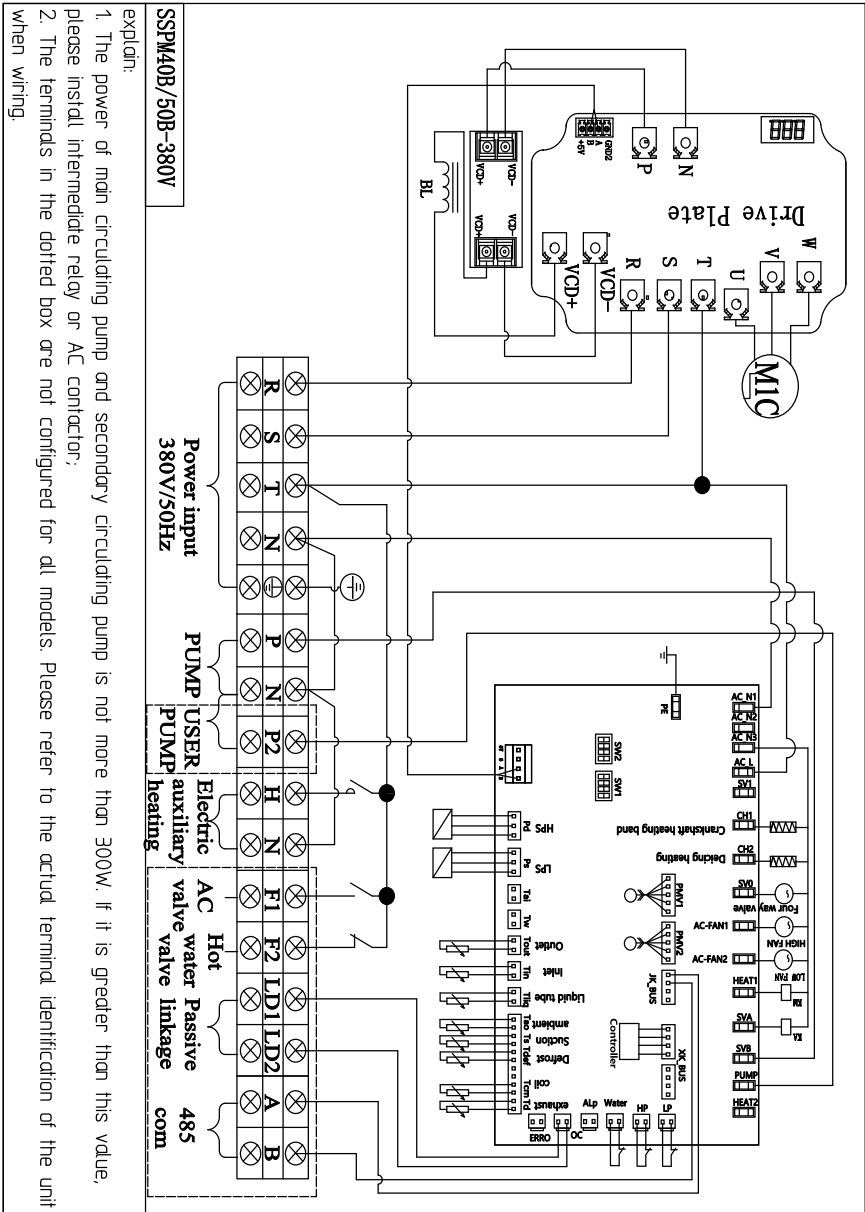
Note: the actual wiring mode is subject to the wiring diagram pasted on the product body.

5 Electrical connection



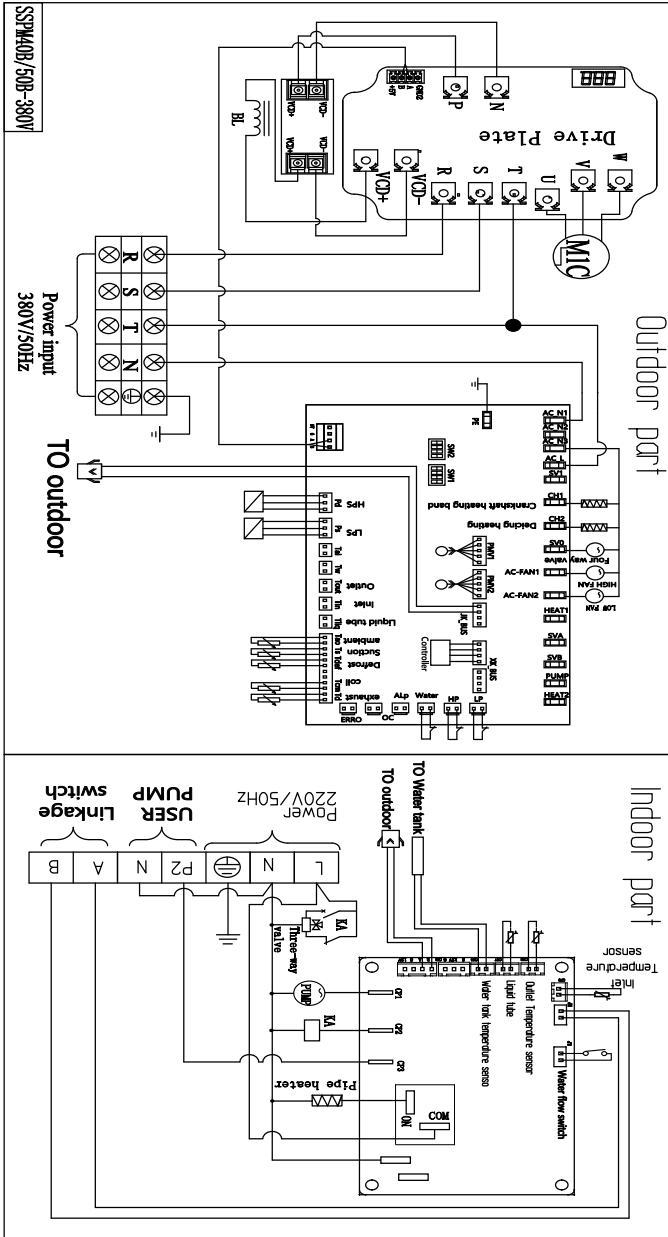
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5 Electrical connection



Note: the actual wiring mode is subject to the wiring diagram pasted on the product body.

5 Electrical connection



Note: the actual wiring mode is subject to the wiring diagram pasted on the product body.

6 Trial operation

6.1 Inspections before trial operation

Before the trial operation, please conduct the final inspections according to the following contents. If any non-conformance item is found, please correct it to be acceptable and then can the trial operation be implemented.

Outdoor unit:

- 1)Whether the unit's ground clearance meets the requirement.
- 2)The unit is installed firmly with shock damping measures.
- 3)There is no barrier at the air outlet and the surrounding meets the requirement of installation dimension.
- 4)Electrical connection is correct.
- 5)The fastening screws are restored.
- 6)Water drainage connection is correct.
- 7)Whether the water quality and pressure meet the unit requirements.
- 8)Whether the water pump, exhaust valve, filter, expansion drum and water pipe are connected correctly.
- 9)The inlet valve is opened.
- 10)There is water flowing out of the user terminal.
- 11)There is no leakage from various connecting points.
- 12)Whether the water system removes the air and the hydrostatic test meets the requirements.
- 13)Ensure the water pump to rotate normally before the first start-up.

Power supply and control:

- 1)The power supply voltage meets the rated requirement.
- 2)Wiring is correct.
- 3)Grounding properly.
- 4)Wire controller is connected properly.
- 5)The current leakage protector works normally.
- 6)Whether the flow rate and lift of the external pump meet the requirements.

6.2 Trial operation

Switch on the power supply to conduct the trial operation after checking the unit is acceptable according to the contents of 6.1. Mainly check the following contents:

- 1)Whether the function keys of the wire controller are normal
- 2)Whether the cooling (if cooling mode is provided) and heating functions are normal
- 3)Whether the inlet and outlet water temperatures are normal
- 4)No vibration and abnormal sound during operation
- 5)Whether the wind, noise, and condensed water produced can influence the unit owner and its neighbors.

7 Maintenance and troubleshooting

7.1 Cleaning and maintenance

Note

- To be safe, the unit must be shut down and the power supply must be shut off before cleaning.
- If necessary, the temperature sensor can be dismantled before the unit is cleaned. But it must be installed back after the cleaning is finished.
- Before installing the unit, the terminals and water pipes must be cleaned.

- 1) The fins of the evaporator are very sharp and the wrong operation may cause damage. Thus, it must be very careful to clean these components.
- 2) Regularly check the unit's air outlet and return air inlet and clean the clogged dirt.
- 3) If the unit is used again after being idle for a long time, please check whether the air outlet and return air inlet are clogged by dirt. If clogged, they must be cleaned first.

7.2 Common malfunctions and handling methods

Failure phenomenon	Possible reasons	Solution
Compressor failed to start	No power supply	Check and connect the power supply
	Fuse wire disconnected or power supply trips	Check whether there is a short circuit or poor contact in the circuit. After clearing supply
	Functions of the safety protection device	Verify which protection action and restore the protection after the malfunction is cleared
	Loosed connecting wire	Check the wires and connect them firmly
	Compressor malfunction	Contact the dealer or after-sale personnel
Fan failed to start	No power supply	Check and connect the power supply
	Fan motor malfunction	Contact the dealer or after-sale personnel
Insufficient cooling and heat	The temperature controller is set to an improper temperature	Reset temperature
	Condensing coil is dirty	Clean the dirt
	Air in-outlet is clogged by debris	Clean the debris
	Insufficient coolants	Contact the dealer or after-sale personnel
	Inappropriate water flow rate	Contact the dealer or after-sale personnel
Too many impurities in water	Contact the dealer or after-sale personnel	

7 Maintenance and troubleshooting

7.3 Failure code table

Code	Failure name	Code	Failure name
F02	Water inlet Twi malfunction	H03	EEPROM malfunction
F04	Water outlet Two malfunction	C07	Discharge superheat too low
F03	Liquid tube TLiq malfunction	C04	Excess Td protection
F01	Tw temperature malfunction	y03	DC fan 1 malfunction
F05	Water flow switch protection	J03	DC fan 2 malfunction
F09	Anti-freeze switch protection	b09	Excess IPM temperature
F10	Insufficient water flow protection	b05	Input over-current Excess phase current
L02	Indoor / outdoor communication malfunction	b06	Over/under busbar voltage
E32	Wire controller communication malfunction	b07	Drive radiator temperature sensor malfunction
E06	Indoor / outdoor communication malfunction	b01	Drive module protection (FO)
A04	Td temperature malfunction	b02	Drive module hardware protection
A07	Ts temperature malfunction		
A02	Tdef temperature malfunction	b04	Compressor unconnected
A01	Tao temperature sensor malfunction	b10	Compressor out-of-step
A08	Tcm temperature malfunction		
H05	Four-way valve malfunction		
P06	High voltage disconnection protection		
P09	Low voltage disconnection protection		
P01	Excess cooling pressure protection		

AKL

Luft-/Wasser-Wärmepumpen

Notice:

If any misprint appears in the instruction, our company will not bear any responsibility for the consequence therefrom. Please refer to the nameplate when purchasing. The technical parameters above are for reference only. The differences due to product updates will not have additional notices.

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