

# USER MANUAL

## SWIMMING POOL HEAT PUMP

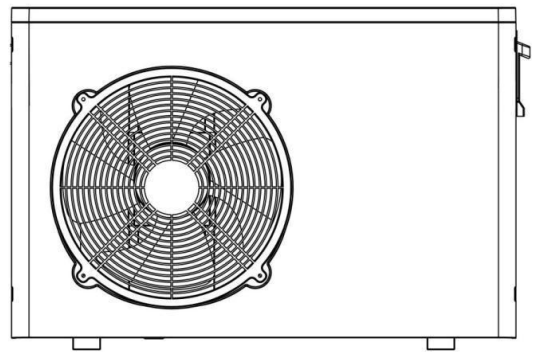
MODEL NO.: B50V/B75V

### IMPORTANT NOTE

Thank you very much for purchasing our product.

Before using your unit, please read this manual carefully and keep it for future reference.

# TURBRO



REFRIGERANT COMPRESSOR UNIT

**IMPORTANT!**

PLACE THE UNIT IN AN UPRIGHT POSITION  
AND WAIT FOR 3-4 HOURS BEFORE FIRST USE



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## SAFETY INSTRUCTIONS

To keep users under safe working conditions and property safety, please follow the instructions below:

- Wrong operation may result in injury or damage;
- Please install the unit in compliance with local laws, regulations, and standards;
- Confirm power voltage and frequency;
- The unit is only used with grounding sockets;
- Independent switch must be offered with the unit.

### Safety Factors

The following safety factors need to be considered:

- Please read the following warnings before installation;
- Be sure to check the details that need attention, including safety factors;
- After reading the installation instructions, be sure to save them for future reference.

### Warning

- **Make sure that the unit is installed safely and reliably.**

If the unit is not secure or not installed, it may cause damage.

If the unit was installed in a closed area or limited space, please consider the size of the room and ventilation to prevent suffocation caused by refrigerant leakage.

- **Use professional tools for doing electrical work.**

If the power supply capacity is insufficient or the circuit is not completed, it may cause fire or electric shock.

- **Please connect the power wire accurately according to the wiring diagram in the manual to avoid burnout of the unit or fire.**

Use a specific wire and fasten it to the terminal block so that the connection will prevent pressure from being applied to parts.

Wrong wiring will cause a fire.

- **The unit must have a grounding device.**

If the power supply does not have a grounding device, be sure not to connect the unit.

- **Be sure to use the correct material during installation.**

Wrong parts or wrong materials may result in fire, electric shock, or falling of the unit.

- **Install on the ground safely, please read the installation instructions.**

Improper installation may result in fire, electric shock, falling of the unit, or water leaking.

- **The installation of the external unit must be flat and firm.**

Avoid abnormal vibration and noise.

- **The unit should be only removed and repaired by a professional technician.**

Improper movement or maintenance of the unit may cause water leakage, electric shock, or fire. Please find a professional technician to do it.

- **Don't unplug or plug power during operation. It may cause fire or electric shock.**

- **Don't touch or operate the unit when your hands are wet. It may cause fire or electric shock.**

- **Don't place heaters or other electrical appliances near the power wire. It may cause fire or electric shock.**

- **The water must not be poured directly from the unit. Do not let water permeate into the electrical components.**

- **Do not install the unit in a location where there may be flammable gas.**

If there is flammable gas around the unit, it will cause an explosion.

- **According to the instructions to carry out drainage system and pipeline work. If the drainage system or pipeline is defective, water leakage will occur. It should be disposed of immediately to prevent other household products from getting wet and damaged.**

- **Do not clean the unit while the power is on. Turn off the power before cleaning the unit. If not it may result in injury from a high-speed fan or electric shock.**

- **Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.**

The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance, or an operating electric heater). Do not pierce or burn. Be aware that refrigerants may not contain an odor.

- **Stop operating the unit once there is a problem or a fault code.**

Please turn off the power and stop running the unit. Otherwise, it may cause electric shock or fire.

- **Be careful when the unit is not packed or not installed.**

Pay attention to the sharp edges and fins of the heat exchanger.

- **After installation or repair, please confirm refrigerant is not leaking.**

If refrigerant is not enough, the unit will not work properly.

- **Don't put your fingers into the fan and evaporator.**

High-speed running fans will result in serious injury.

- **This product is not to be used and performed maintenance by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge unless they have been given strict supervision or instruction concerning the use of the product by a person responsible for their safety.**

- **If the power wire is damaged, it must be replaced by a professional technician to avoid danger.**

- **Presence of fire extinguisher.**

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO2 fire extinguisher adjacent to the charging area.

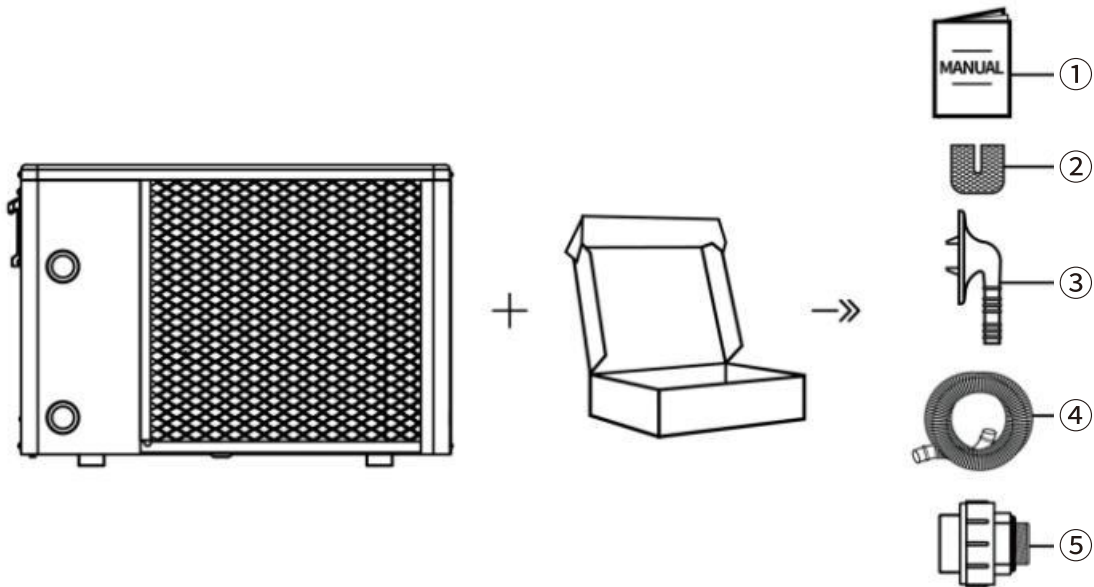
- **No ignition sources**

No person carrying out work in relation to a refrigeration system that involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repair, removal, and disposal, during which flammable refrigerant can possibly be released into the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

SYSTEM SPECIFICATION

Accessories

After unpacking, please check if you have all the following components.



NO.	Components	Quantity	NO.	Components	Quantity
①	User Manual	1	④	Drain Pipe	1
②	Rubber Blanket	4	⑤	Water Pipe Joint	2
③	Drain Connector	1			

## Specification

Model		Beluga B50V	Beluga B75V
<b>Ambient Temperature: (DB/WB) 80.6°F/75.74°F; Water Inlet/Outlet Temperature: 78.8°F/82.4°F.</b>			
Heating Capacity Max.		52,200Btu/h	72,400Btu/h
Consumed Power		750 - 8,020Btu/h	990 - 11,120Btu/h
COP		Up to 15.9	Up to 16.2
Boost Mode	Heating Capacity	52,200Btu/h	72,400Btu/h
	COP	6.5	6.5
Smart Mode	Heating Capacity	39,400Btu/h	58,000Btu/h
	COP	9.18	9.35
Silent Mode	Heating Capacity	25,080Btu/h	34,800Btu/h
	COP	13.6	13.1
<b>Ambient Temperature: (DB/WB) 59°F /53.6°F ; Water Inlet Temperature: 78.8°F .</b>			
Heating Capacity Max.		38,010Btu/h	48,490Btu/h
Consumed Power		1,230 - 7,470Btu/h	1,470 - 9,490Btu/h
COP		Up to 8.3	Up to 8.1
Boost Mode	Heating Capacity	3,8010Btu/h	48,490Btu/h
	COP	5.1	5.1
Smart Mode	Heating Capacity	29,510Btu/h	38,210Btu/h
	COP	6.2	6.2
Silent Mode	Heating Capacity	18,940Btu/h	25,590Btu/h
	COP	7.55	7.5
Power Supply		220-240V / 50-60Hz	220-240V / 50-60Hz
Rated Power		220 - 2,350W	290 - 3,258W
Max. Input Current		14.5A	18.8A
Max. Water Outlet Temp.		104°F	104°F
Recommended Wire Gauge		12AWG	12AWG
Breaker Min.		30A Double Pole	30A Double Pole
Running Temp. Range		14 - 109°F	14 - 109°F
Refrigerant		R32 / 1.43lbs	R32 / 2.87lbs
Compressor		DC Inverter	
Rated Water Flow		29.10GPM	40.10GPM
Water Pressure Drop		2.61PSI Max.	4.64PSI Max.
Water Pipe Connection		2.00"	2.00"
Water Proof Level		IPX4	IPX4

**Please read this operating manual carefully before operating the unit.**

This unit uses a flammable refrigerant.

Before using the appliance, read the owner's manual first.

Before installing the appliance, read the installation manual first.

Before repairing the appliance, read the service manual first.

The figures in this manual may be different from the material objects, please refer to the material objects for reference.



**warning**

**Refrigerant Disclaimer**

The refrigerant in this machine is fluoride R32, which is specially cleaned. The refrigerant is flammable and does not have any odor. Furthermore, it can lead to explosions under certain conditions. The flammability of the refrigerant is very low and can be ignited only by fire. Under normal operating conditions, these issues should not be of any major concern.

Compared to common refrigerants, R32 is a nonpolluting refrigerant with no harm to the ozonosphere. The effect on greenhouse effect is also lower than other common refrigerants. R32 has very good thermodynamic features which lead to high energy efficiency. The units, therefore, need less refrigerant filling than other common refrigerants.



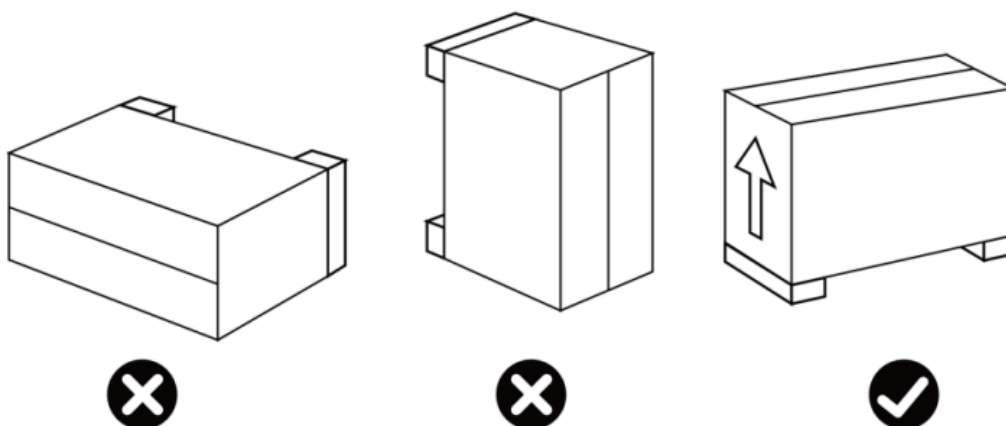
## INSTALLATION AND CONNECTION

**WARNING:** The heat pump must be installed by a professional team. The users are not qualified to install it by themselves, otherwise, the heat pump might be damaged and risky for users' safety.

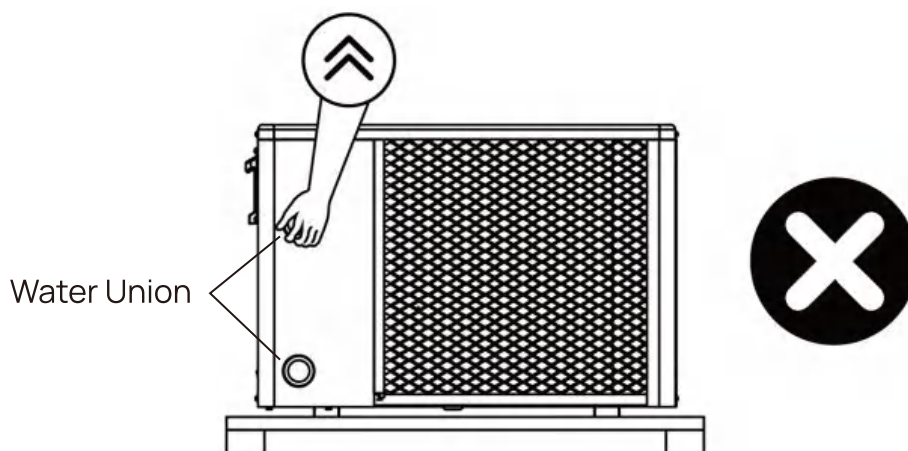
This section is provided for information purposes only and must be checked and adapted if necessary according to the actual installation conditions.

### Transportation

**A.** When storing or moving the heat pump, the heat pump should be at the upright position.

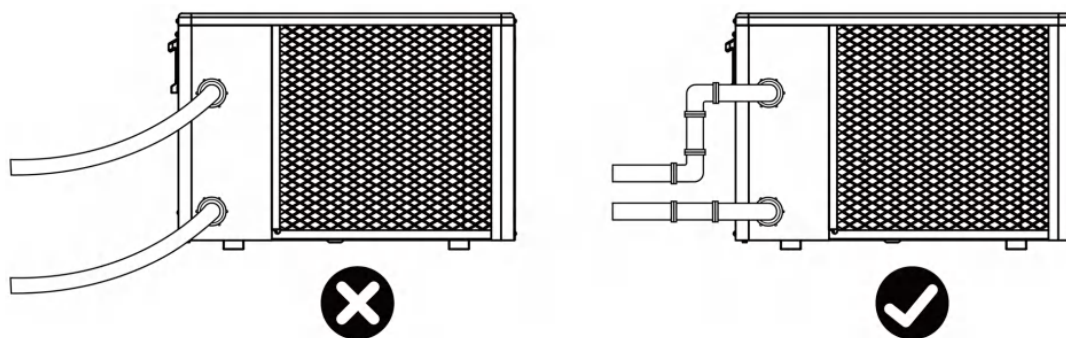


**B.** When moving the heat pump, do not lift the water union, or the titanium heat exchanger inside the heat pump will be damaged.



## Notice Before Installation

**A.** The inlet and outlet water unions can't bear the weight of soft pipes. The heat pump must be connected with hard pipes!



**B.** In order to guarantee the heating efficiency, the water pipe length should be  $\leq 32.8$  feet between the pool and the heat pump.

## Installation Instruction

### ● Pre-requirements

#### Equipment necessary for the installation of your heat pump:

1. Power supply cable suitable for the unit's power requirements.
2. A By-Pass kit and an assembly of PVC tubing suitable for your installation as well as stripper, PVC adhesive, and sandpaper (not included).  
(We recommend that you connect the unit to your installation by means of flexible PVC pipes in order to reduce the transmission of vibrations)
3. A set of wall plugs and expansion screws suitable to attach the unit to your support (not included).
4. This unit needs to be elevated, leaving spaces at the bottom for drainage. Suitable fastening studs may be used during this process.

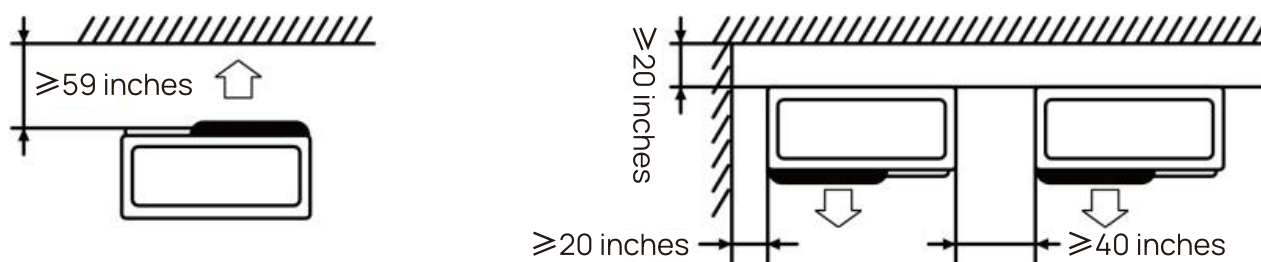
### ● Location and Space

Please comply with the following rules concerning the choice of heat pump location.

1. The unit's future location must be easily accessible for convenient operation and maintenance.
2. It must be installed on the ground, fixed ideally on a level concrete floor. Ensure that the floor is sufficiently stable and can support the weight of the unit.

3. A water drainage device must be provided close to the unit in order to protect the area where it is installed.
4. If necessary, the unit may be raised by using suitable mounting pads designed to support its weight.
5. The unit must not be installed in an area exposed to oil, flammable gas, corrosive products, sulfur compounds, or close to high-frequency equipment.
6. To prevent mud splashes, do not install the unit near a road or track.
7. To avoid causing nuisance to neighbors, make sure the unit is installed so that it is positioned towards the area that is least sensitive to noise.
8. Keep the unit out of reach of children and pets.
9. Check that the unit is properly ventilated, that the air outlet is not facing the windows of neighboring buildings, and that the exhaust air cannot return. In addition, provide sufficient space around the unit for servicing and maintenance operations.

#### Installation space:



Do not put anything within 59 inches in front of the heat pump.

If two units are placed side by side, there should be a minimum gap of 40 inches between them.

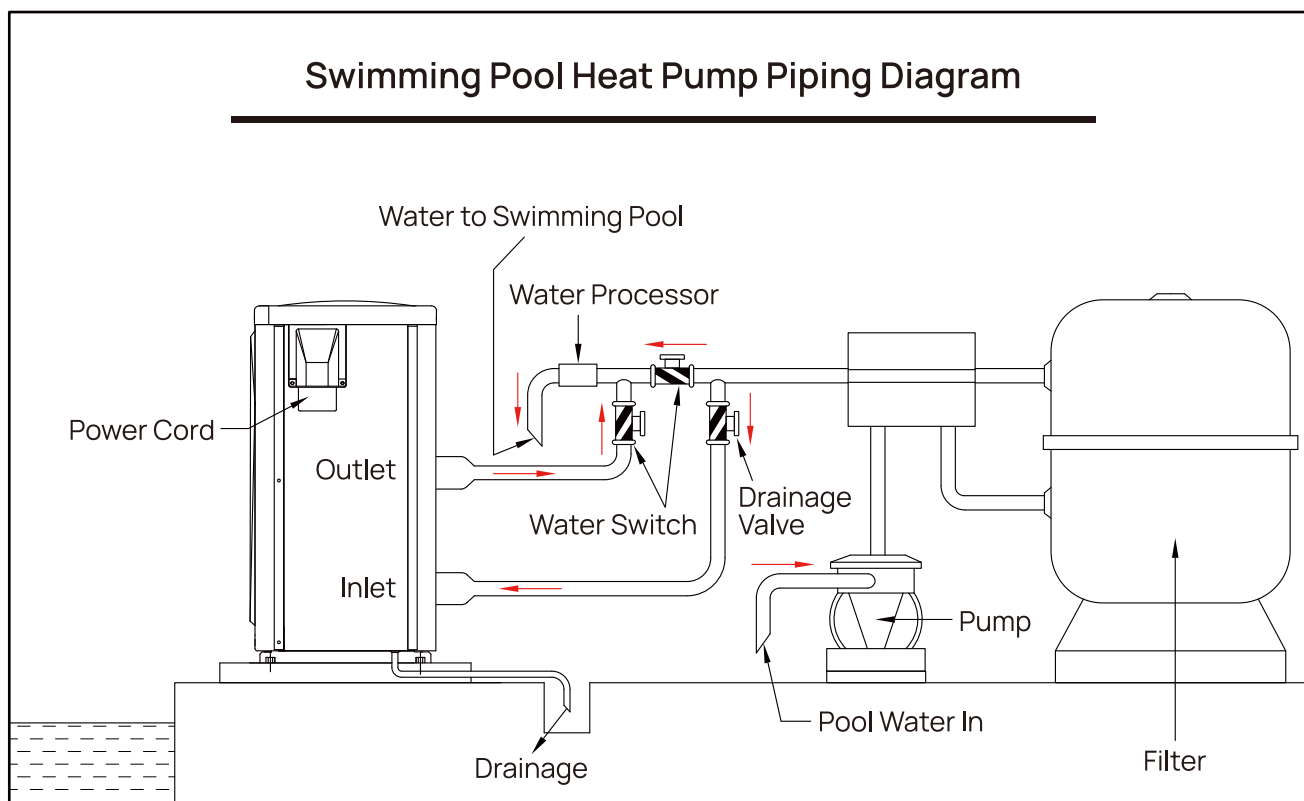
Leave 20 inches of empty space on the sides and back of the heat pump.

Do not place any obstacles above the device to ensure free ventilation.

#### ● Heat Pump Installation

**Notice:** The filter must be cleaned regularly to ensure that water in the system is clean and avoid blocking the filter. The drainage valve must be fixed on the lower water pipe. If the unit is not running during winter months, please disconnect the power supply and let out water from the unit through the drainage valve. If the ambient temperature of the running unit is below 32°F, please keep the water pump running.

The installation diagram is shown in the following figure:



1. The bases must be fixed by bolts (M10) to the concrete foundation or brackets. The concrete foundation must be solid; the bracket must be strong enough and anti-rust treated;
2. The heat pump needs a water pump (supplied by the user).

## ● Electrical Installation

To function safely and maintain the integrity of your electrical system, the unit must be connected to a general electricity supply in accordance with the following regulations:

1. Upstream, the general electricity supply must be protected by a **30mA** differential switch.
2. The heat pump must be connected to a suitable D-curve circuit breaker in accordance with current standards and regulations in the country where the system is installed.
3. The electricity supply cable must be adapted to match the unit's rated power and the length of wiring required by the installation. The cable must be suitable for outdoor use.
4. For a three-phase system, it is essential to connect the phases in the correct sequence. If the phases are inverted, the heat pump's compressor will not work.

5. In places open to the public, it is mandatory to install an emergency stop button close to the heat pump.

Model	Power Supply Wires	
	Electricity Supply	Specification
Beluga B50V	220-240V / 50-60Hz	AWG 12
Beluga B75V		AWG 12

## ● Electrical Connection

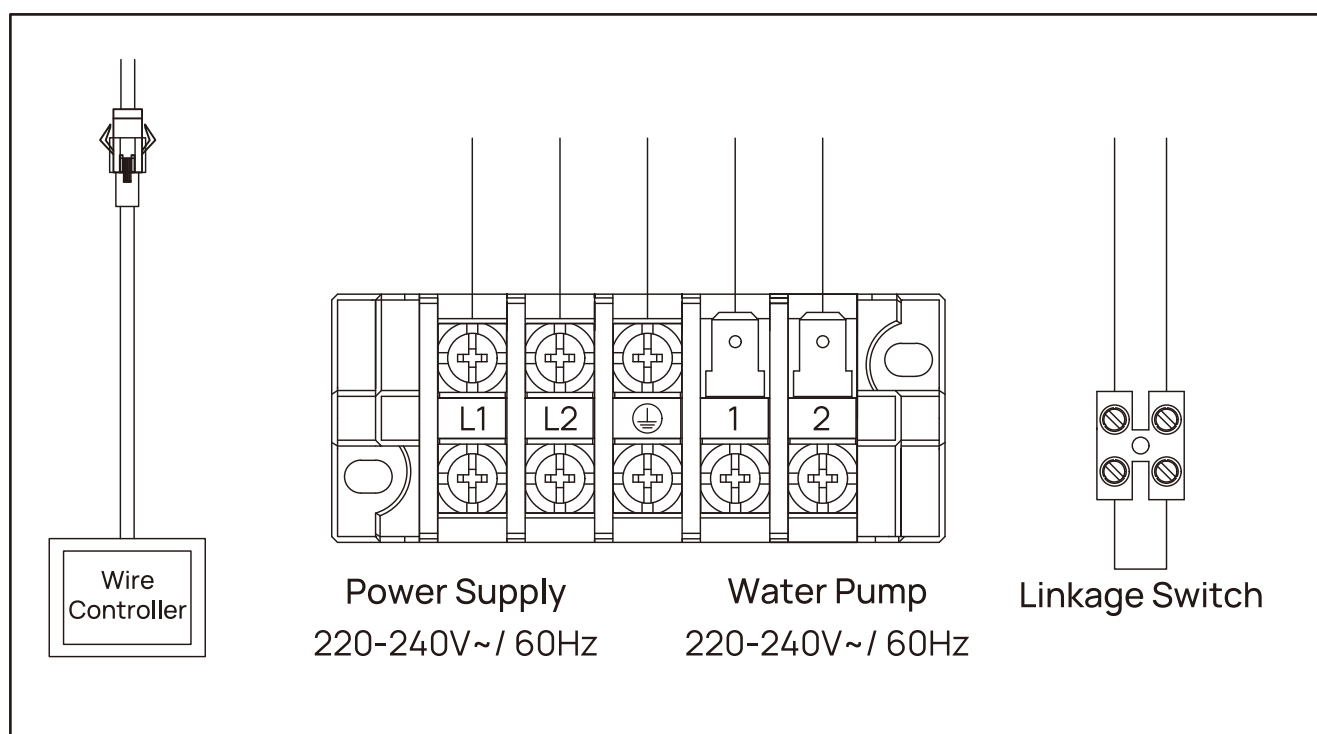
**WARNING:** The power supply of the pump must be disconnected before any operation.

Please comply with the following instructions to connect the heat pump.

**Step 1:** Detach the electrical side panel with a screwdriver to access the electrical terminal block.

**Step 2:** Insert the cable into the heat pump unit port.

**Step 3:** Connect the power supply cable to the terminal block according to the diagram below.

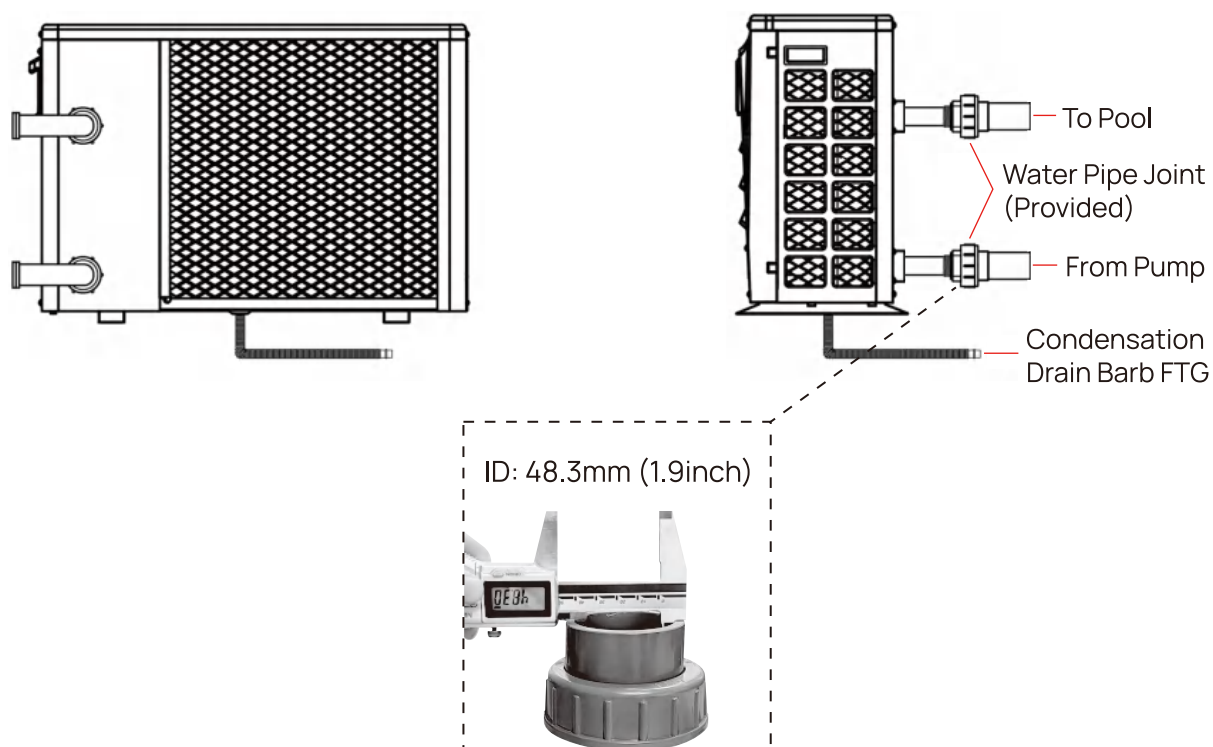


## ● Pipe Connections

**Note:** Make sure all water lines are tightly connected to avoid water leakage.

When the heat pump is running, condensation will discharge from the bottom. Please pay attention to it. After installing the heat pump, elevate it at least 4 inches with sturdy water-resistant pads, then connect the drainage pipe (included) to the hole at the bottom of the pump and secure it to ensure smooth condensation drainage.

Use the water pipe joint (included) to connect the inlet and outlet water unions of the heat pump with the water pipe (not included), and tighten them.



## Trial After Installation

**WARNING:** Please check all the wiring carefully before turning on the heat pump.

### ● Initial Safety Checks Shall Include:

1. That capacitors are discharged: this shall be done in a safe manner to avoid the possibility of sparking;
2. That no live electrical components and wiring are exposed while charging, recovering or purging the system;
3. That there is continuity of earth bonding.

## ● Inspection Before Trial Running

Before running the test, confirm the below items and write √ in the block;

<input type="checkbox"/>	Correct unit installation
<input type="checkbox"/>	The power supply voltage is the same as unit rated voltage
<input type="checkbox"/>	Correct piping and wiring
<input type="checkbox"/>	The air inlet & outlet port of the unit is unblocked
<input type="checkbox"/>	Drainage and venting are unblocked and no water leaking
<input type="checkbox"/>	The leakage protector is working
<input type="checkbox"/>	Piping insulation is working
<input type="checkbox"/>	The ground wire is connected correctly

## ● Trial Running

**Step 1:** Running test can begin after completing all installations;

**Step 2:** All wiring and piping should be connected well and carefully checked, then fill the water tank with water before power is switched on;

**Step 3:** Emptying all air within pipes and water tank, press the “on-off” button on the control panel to run the unit at setting temperature;

**Step 4:** Items need to be checked during the running test:

1. During the first running, the unit current is normal or not;
2. Each function button on the control panel is normal or not;
3. The display screen is normal or not;
4. Are there any leakage in the whole heating circulation system;
5. Condensate drain is normal or not;
6. Are there any abnormal sounds or vibrations during running

REMOTE CONTROLLER OPERATION GUIDANCE

Control Panel Diagram



No.	Key	Function	No.	Key	Function
1		Turn On/Off	4		Mode
2		Menu	5		Up
3		Timer	6		Down

Key	Function	Key	Function
	Auto Mode		Keypad Lock
	Cooling Mode		WiFi
	Heating Mode		