PREMIER
POOL HEATPUMPS

INSTALLATION
AND
USER MANUAL

INVERTER SWIMMING POOL HEAT PUMP

H2Ofun

Contents

Warning：

a. Please read the following notes before installation, use and maintenance.

b. Installation, removal and maintenance must be carried out by professional personnel in accordance with the instructions.

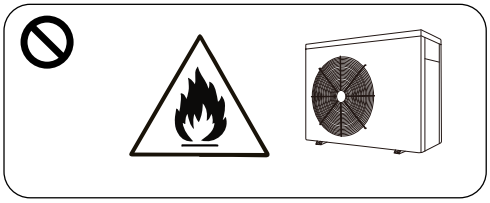
1. Use

a. The heat pump must be installed or removed by professionals and should NOT be dismantled without permission.

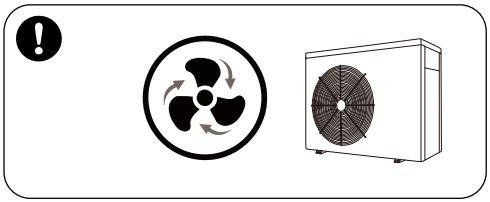
b. **Don't place obstacles or obstruct the air inlet or outlet area of the heat pump.**

2. Installation

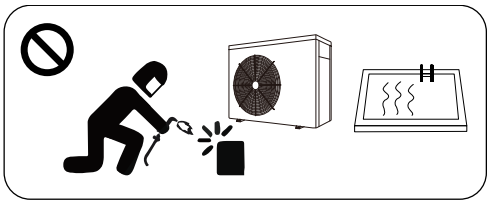
a. This product must be kept away from any source of fire.



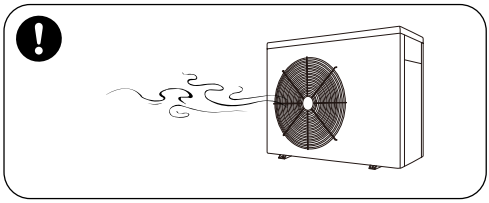
b. The installation cannot be in a closed environment or indoors, and must be used in a well ventilated area.



c. Vacuum completely before welding, field welding is not allowed, welding can only be performed by professional personnel in a professional maintenance center.



d. Installation must be stopped if there is gas leakage, and the unit must be returned to a professional maintenance center.



3. Transportation & Storage

a. Sealed transportation is not allowed.

b. Transporting at a constant speed is needed to avoid sudden acceleration or sudden braking, so as to reduce potential damage to the heat pump.

c. The unit must be kept far away from any source of fire or flame.

d. Unit must be stored upright and in a place with good ventilation, ventilation equipment is required.

4. Maintenance Notice

a. If maintenance or recycling is required, contact an authorized service center.

b. Qualification requirement

All refrigerant gas types must be reclaimed by a qualified and certified professional agency.

c. Please comply with the requirements of the manufacturer when maintenance or filling refrigerant. Please refer to the technical service manual.

Thank your choosing our product.
Please read this instruction manual carefully and operate strictly in accordance with the user manual. Failure to do so may cause damage to the heat pump or may cause personal injury.

I. Application

1- Our series of INVERTER heat pumps are designed to efficiently and economically provide pool heating to comfortable temperature levels.
2- A full range of INVERTER models are available. This series of swimming pool heaters has been optimized at time of manufacture for New Zealand Conditions (refer to technical parameter table).

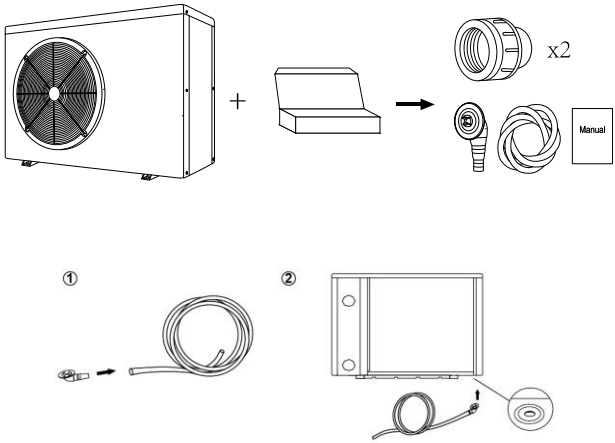
II. Features

1- Highly efficient titanium heat exchanger.
2- Sensitive and accurate temperature control and water temp display.
3- High pressure and low-pressure protection.
4- Parameter exceedance auto stop protection.
5- Temperature controlled compulsory defrosting.
6- DC INVERTER compressor.
7- Easy installation and operation.

III. General information

1. Contents:

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



2. Operating conditions and range:

Items		Range
Operating range	Air temp	0℃～43℃
Temp. setting	heating	18℃～40℃

The heat pump will have optimum performance in the operational range. Air 15℃～25℃.

3. Features of the different modes:

The heat pump has two modes of operation: Smart and Silence.

MODE	RECOMMENDATION	ADVANTAGES
	Smart mode As standard	Heating capacity: 20% to 100% capacity Intelligent optimization Fast heating
	Silence mode Use at night or in noise sensitive areas	Heating capacity: 20% to 80% capacity Sound level: 3dB (A) lower than Smart mode.

IV. Technical Parameters

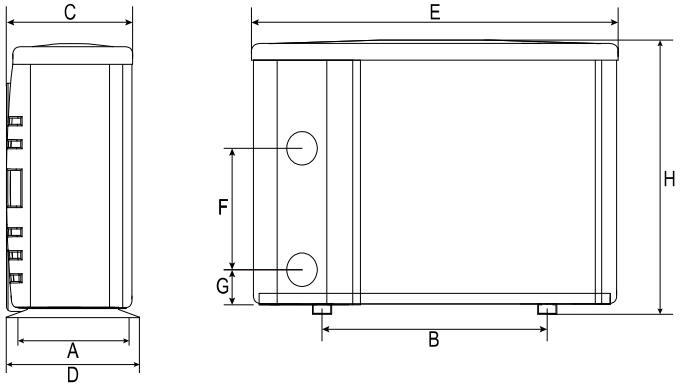
Model	PRO-07S	PRO-09S	PRO-13S	PRO-17S	PRO-21S	PRO-24S
Optimal pool volume (m^3)	15~30	20~35	30~50	35~65	45~80	55~90
Operating air temperature (℃)	0~43					
Performance Condition: Water 26°C, Humidity 80%						
Heating capacity (kW)	7.0	9.0	12.5	16.0	20.0	24.0
Rated input power at air 15°C (kW)	0.29~1.04	0.36~1.40	0.47~1.78	0.59~2.34	0.75~3.04	0.86~3.48
Rated input current at air 15°C (A)	1.26~4.52	1.57~6.09	2.02~7.74	2.52~10.17	3.26~13.21	3.74~15.13
Power supply	230V/1 Ph/50Hz					
Advised water flux (m^3/h)	2~4	3~4	4~6	6.5~8.5	8~10	10~12
Water pipe inlet/outlet (mm)	50					
Net Dimension LxWxH (mm)	872×349×654	872×349×654	872×349×654	962×349×654	962×349×754	961×420×758
Net Weight (kg)	42	46	49	60	68	68

Note:

1. This product can operate outside the air temp range 0℃～+43℃, but efficiency will not be guaranteed. The INVERTER heat pump pool heater performance and parameters may vary under various conditions.

2. These parameters are subject to adjustment periodically for technical improvement without further notice. For details, please refer to specification plate.

V. Dimensions



MODEL	UNIT=MM	A	B	C	D	E	F	G	H
	PRO-07S	324	560	330	349	872	310	74	654
	PRO-09S	324	560	330	349	872	250	74	654
	PRO-13S	324	560	330	349	872	320	74	654
	PRO-17S	324	590	330	349	962	350	74	654
	PRO-21S	324	590	325	349	962	350	74	754
	PRO-24S	395	590	392	420	961	460	74	758

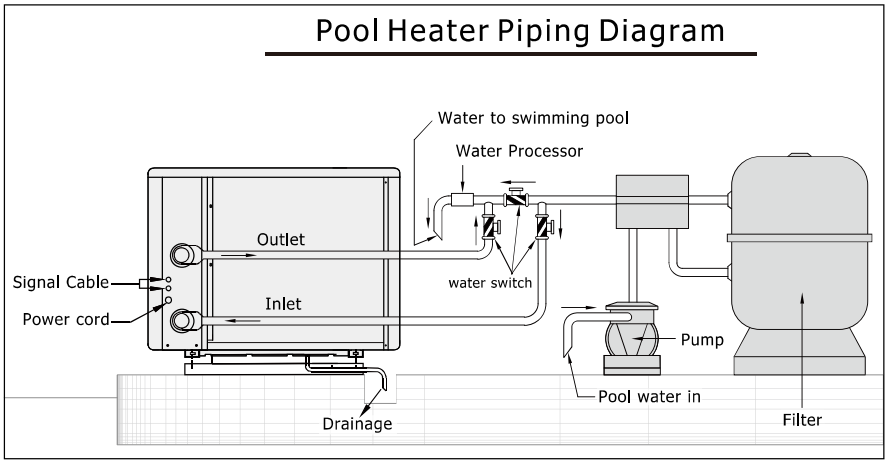
※ **Above data is subject to modification without notice.**

Note:

The picture above is the specification diagram of the pool heater, it is for the technician's installation and layout reference only. The product is subject to adjustment periodically for improvement without further notice.

VI. Installation instructions

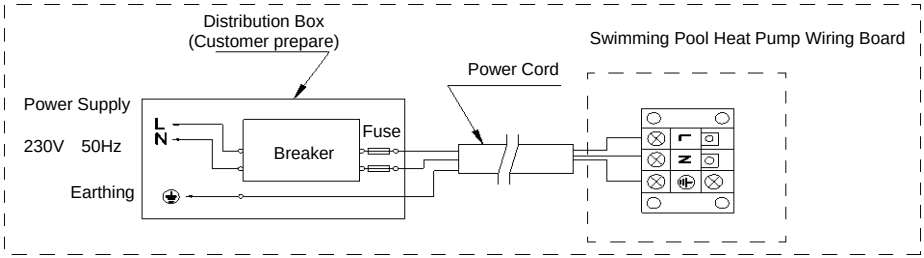
1. Water pipe connections



(Notice：The drawing is just for demonstration, and layout of the pipes is only for reference.)

2. Connecting the power supply

For power supply: 230V 50Hz



Note：

⚠ Must be hard wired, no plug allowed.

⚠ The swimming pool heater must be earthed well.

3. Electric Wiring Diagram

Options for protecting devices and cable specification

MODEL		PRO-07S	PRO-09S	PRO-13S	PRO-17S	PRO-21S	PRO-24S
Breaker	Rated Current A	8.0	9.5	15.0	20.5	23.5	25.0
	Rated Residual Action Current mA	30	30	30	30	30	30
Fuse A		8.0	9.5	15.0	20.5	23.5	25.0
Power Cord (mm^2)		3×1.5	3×1.5	3×2.5	3×4	3×6	3×6
Signal cable (mm^2)		3×0.5	3×0.5	3×0.5	3×0.5	3×0.5	3×0.5

※ Above data is subject to modification without notice.

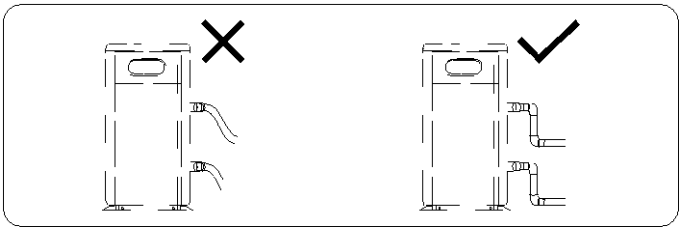
Note: The above data applies to supply cable length ≤ 10m. If power cable is＞10m, wire diameter must be increased. The signal cable can be extended to a maximum of 50m.

4. Installation instructions and requirements

The heat pump must be installed by a qualified professional. Incorrect installation by non-qualified person/s may result in unit damage or personal injury. The warranty may be voided.

A. Installation

1) The inlet and outlet water unions cannot bear the weight of soft pipes. The heat pump must be connected with hard pipes!

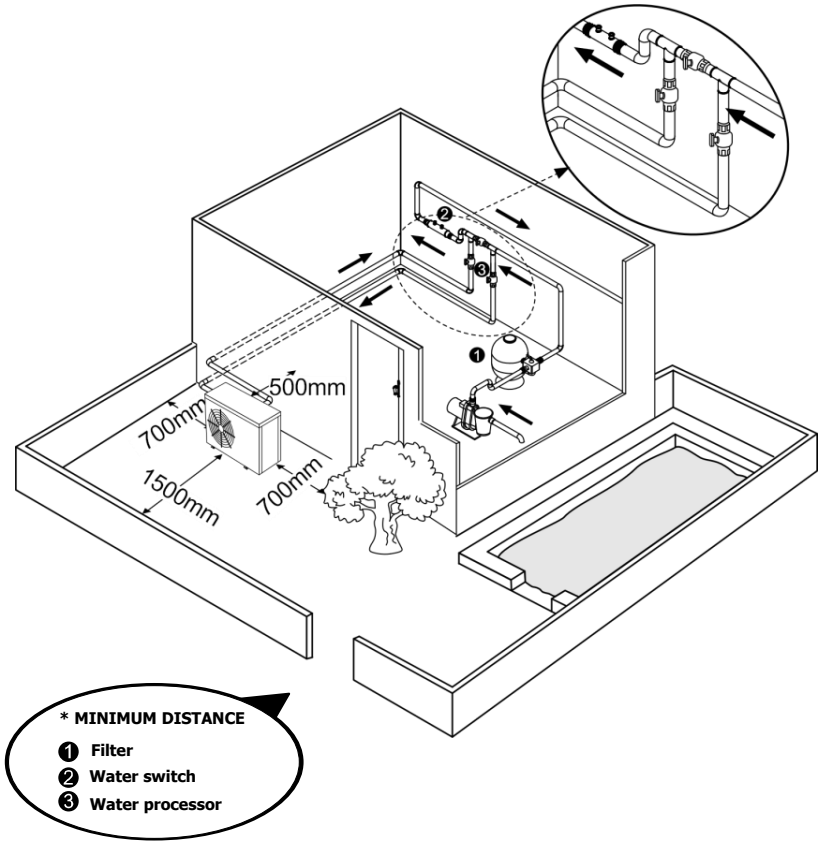


2) In order to guarantee the heating efficiency, the water pipe length should be ≤10m between the pool and the heat pump.

B. Installation instructions

1) Location and size

⚠ The heat pump should be installed in a place with good ventilation



2) If a frame or bracket is used the unit must be fixed using bolts (M10) to concrete foundation or brackets. The concrete foundation must be solid and a bracket must be of appropriate strength and non-corroding.

3) Please don't place anything that will block air flow near the inlet or outlet area, ensure that there is no obstruction within 50cm, behind the heat pump, or the efficiency of the heater will be reduced or even stopped.

4) The heat pump requires a water pump (Supplied by the user). For the recommended pump specification-flux please refer to Technical Parameter section. The maximum lift is 10m.

5) When the heat pump is running, there will be condensation water discharged from the bottom of the unit, this is normal and a method of discharge may need to be considered. The drainage nozzle (accessory) can be installed (if required) and then connected into a waste pipe to drain the condensation water away.

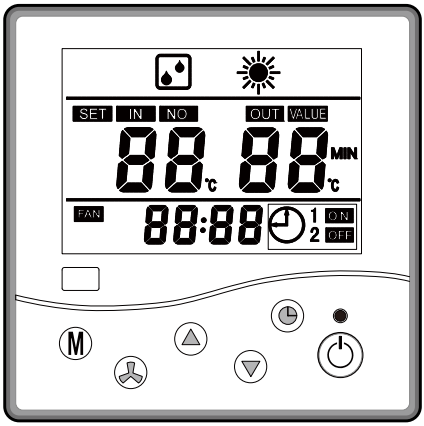
C. Wiring

1) Connect to an appropriate power supply, the voltage should comply with the rated voltage of the products.
2) Earth the machine well.
3) Wiring must be handled by a qualified professional technician according to the circuit diagram and local regulations.
4) Set leakage protector according to the local code for wiring (leakage operating current ≤ 30mA).
5) The routing of the power cable and signal cable should be such that they do not affect each other.

D. All water and power connections should be checked prior powering the heat pump on for the first time.

VII. Operating instructions

Controller keys and layout



SYMBOL	DESIGNATION	OPERATION
	Power ON/OFF	Press to power on or off the heat pump
	Up/ Down	Press to set desired water temperature
	Fan	Press to select Silence mode ON/OFF
Mode	Mode	Press to select Smart/Silence mode Smart mode:100%-20% capacity Silence mode:80%-20% capacity

Note:

- ✧ You may set the desired water temperature from 18 to 40℃.
- ✧ The 88 on the right shows the inlet water temperature. The 88 on the left shows the outlet water temperature.
- ✧ After the heat pump is turned ON, the fan will start to operate in 3 minutes. In another 30 seconds, the compressor will start to run.

2.2.1 Display Status and representation

✧  Defrost Mode  Heating Mode  Timer ON/OFF

2.2.2. Time setting

✧ Press ⏲ for 5 seconds to enter time setting. 88:88 is flashing on the display

✧ Press ▲ and ▼ to adjust the time (fast adjusting by continuous pressing). Then, press ⏲ to confirm and exit.

✧ In the time setting mode, if no operation for 30 seconds, the previous pressing will be lost and exit automatically.

2.2.3. Timer on and off

✧ Press the ⏲ for 10 seconds to enter the timer setting. The "ON" will be flashing to enter the Timer ON setting. Press the ▲ and ▼ to adjust Timer ON time. You can choose Timer on (Display: ON), or Repeat Timer ON (display: 1 ON) by pressing ⏲. Then press ✣ to confirm

✧ When the "ON" stops flashing, and "OFF" is flashing, you enter the Timer OFF mode. Press the ▲ and ▼ to adjust Timer OFF time. You can choose Timer OFF (Display: OFF), or Repeat Timer OFF (display: 2 OFF) by pressing ⏲. Then press ✣ to confirm

✧ After entering the Time ON/OFF setting, press ✣ directly without adjusting

the time to cancel the relevant Timer setting.

✧ Exit automatically if no operation for 30 seconds in the Timer ON/OFF mode.

2.2.4. Silence mode

✧ The Smart mode is the default and will be activated when the machine is tuned on. The display will show "".

✧ When machine is on, press "" button to enter the Silence mode. "" will be illuminated. Press "" again to exit.

2.2.5. Mode selections

✧ Smart will be illuminated as standard when you turn on the heat pump.

✧ Press the Mode button to enter the Silence mode, the Silence will be illuminated.

Press the Mode button again to exit and enter the SMART mode.

2.2.6. Compulsory defrost

✧ When the machine is in heating mode and the compressor has been running continuously for 10 minutes, press both "M" and "▼" buttons for 5 seconds to start the compulsory defrost. (Note: the interval between compulsory defrost needs to be more than 30 minutes.)

✧ The symbol for defrost is blinking when machine is compulsory or auto defrost.

✧ The period and ending of compulsory defrost is the same as auto defrost.

2.2.7 Temperature display conversion between °C and °F:

Press "▲" and "▼" together for 5 seconds to switch between °C and °F.

VIII. Testing

1. Inspection before use

A. Check that the installation of the heat pump and the water pipe connections are in accordance with the pipe connection drawing.
B. Check the electric wiring is compliant with the electrical wiring diagram and local regulations.
C. Check the main machine power switch.
D. Check the temperature setting.
E. Check the air inlet and outlet.

2. TEST

A. The user must "Start the water pump before the heat pump and Turn off the heat pump before the water pump", or the heat pump may be damaged.
B. The user should start the pump, check for any leakage of water and then set the desired temperature in the controller, and then switch on power supply.
C. In order to protect the swimming pool heater, the unit is equipped with a time lag starting function, when starting the machine, the fan will run 1 minute prior to the compressor starting.
D. After the swimming pool heat pump starts up, check for any abnormality or noise from the machine.

IX. Precautions

1. Attention

A. Set a realistic temperature in order to get comfortable pool water temperature. Avoid attempting to overheat the pool.
B. Do not place items that can block air flow near inlet or outlet area, or

the efficiency of the heater will be reduced, or it may fail.

C. Do not put hands or foreign objects into the fan assembly of the swimming pool heater, and don't remove the screen of the fan at any time.
D. If there are abnormal conditions such as noise, smell, smoke or electrical issues, switch off the machine immediately and contact the local supplier. Do not try to repair it yourself.
E. Do not use or store combustible gas or liquid such as thinners, paint or fuel in close proximity to the heat pump, so as to avoid combustion.
F. In order to optimize the heating effect, please install thermal insulation on pipes between swimming pool and the heater. During operation of the swimming pool heater, please use a recommended cover on the swimming pool.
G. Pipes connecting the swimming pool and the heater should be ≤10m, so as to avoid significant thermal loss and reduced efficiency.
H. The INVERTER series of heat pumps can achieve high efficiency within the air temperature range of +15℃～+25℃.

2. Safety

A. Keep the main power supply switch out of reach of children and ensure that the unit is inaccessible.
B. When a power interruption occurs during operation, and the power is subsequently restored, the heater will start up automatically. So please switch off the power supply when there is a power cut, and reset temp when power is restored.
C. Please switch off the main power supply during lightning and poor weather to prevent from machine damage that caused by lightning strikes.
D. If the heat pump is not to be used for a period of time, switch off the main power supply and drain water from the unit. This is particularly important during winter in subzero environments.

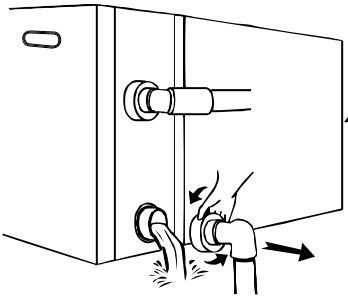
X. Maintenance

Caution: Danger of electric shock

"Cut off" power supply of the heater before cleaning, examination and repairing

A. In the winter season, when you don't intend to swim:

1. Turn off the power supply to prevent any machine damage
2. Drain water clear of the machine.



!!Important:
Unscrew the water nozzle of inlet pipe to let the water flow out.
When the water in machine freezes in winter season, the titanium heat exchanger may be damaged.

3. Cover the machine body when not in use.

B. Clean the unit with household detergents, car wash or clean water, NEVER use gasoline, thinners or any similar fuel. Never use a water blaster or high-pressure washer!

C. Check bolts, cables and connections regularly.

XI. Trouble shooting for common faults

FAILURE	REASON	SOLUTION
Heat pump doesn't run	No power	Wait until the power recovers
	Power switch is off	Switch on the power
	Fuse burned	Check and change the fuse
	The breaker is off	Check and turn on the breaker
Fan running but with insufficient heating	evaporator blocked	Remove the obstacles
	Air outlet blocked	Remove the obstacles
	3 minutes start delay	Wait patiently!
Display normal, but no heating	Set temp. too low	Set proper heating temp.
	3 minutes start delay	Wait patiently!
If above solutions fail to resolve the issue, please contact your installer with detailed information and your model number. Don't try to repair it yourself.		

Note: If the following conditions occur, please stop the unit immediately, turn off the power supply and contact your supplier

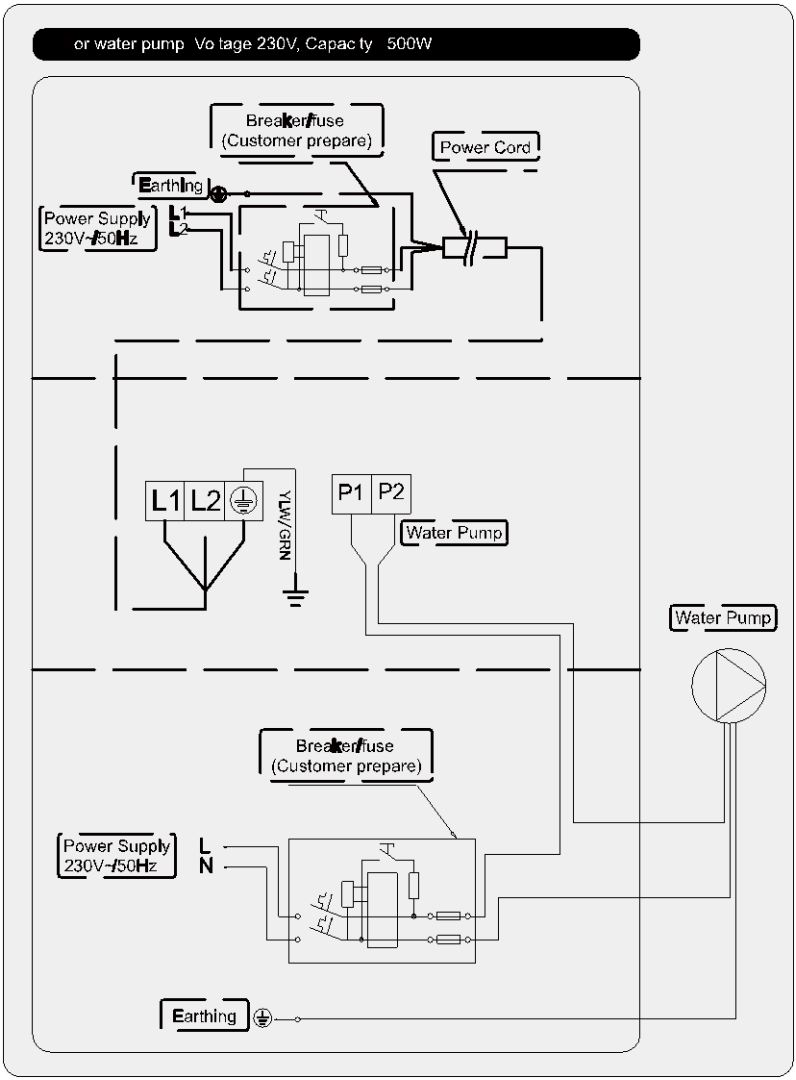
a）Controller damage or failure.

b）The fuse frequently trips or the earth leakage circuit breaker trips.

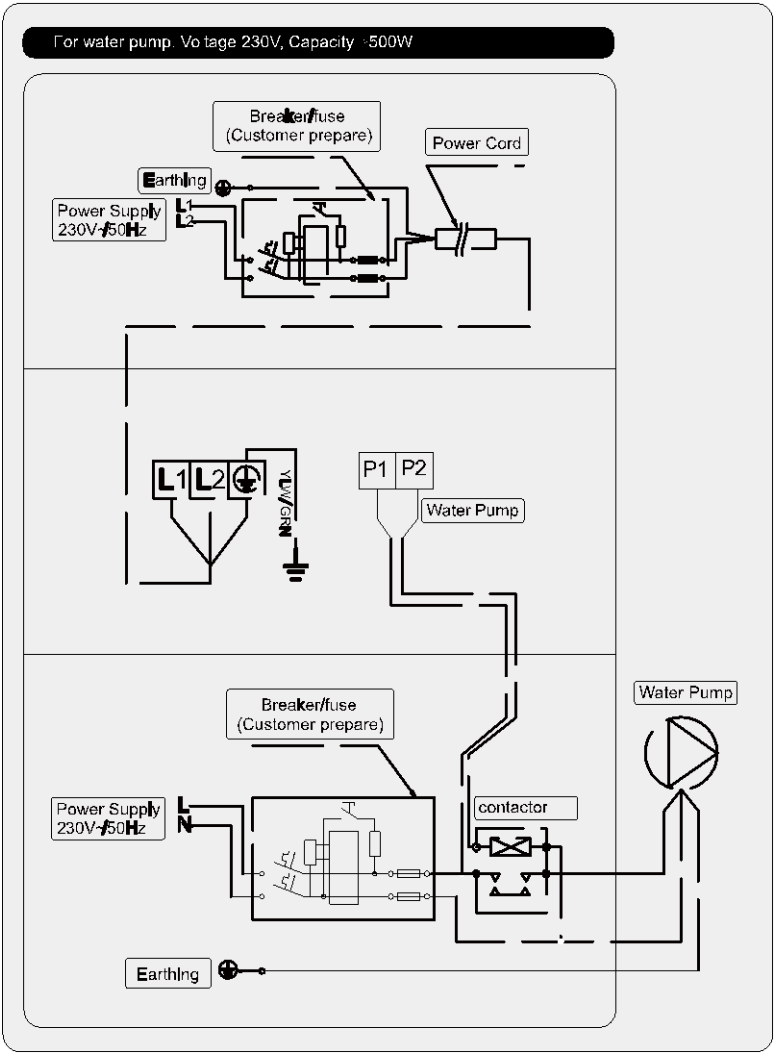
Failure codes

NO.	DISPLAY	NOT FAILURE DESCRIPTION
1	E3	No water protection
2	E5	Power supply excesses operation range
3	E6	Excessive temp difference between inlet and outlet water(Insufficient water flow protection)
4	Eb	Ambient temperature too high or too low protection
5	Ed	Anti-freezing reminder
NO.	**DISPLAY**	**FAILURE DESCRIPTION**
1	E1	High pressure protection
2	E2	Low pressure protection
3	E4	3 phase sequence protection (three phase only)
4	E7	Water outlet temp too high or too low protection
5	E8	High exhaust temp protection
6	EA	Evaporator overheat protection (only at cooling mode)
7	P0	Controller communication failure
8	P1	Water inlet temp sensor failure
9	P2	Water outlet temp sensor failure
10	P3	Gas exhaust temp sensor failure
11	P4	Evaporator coil pipe temp sensor failure
12	P5	Gas return temp sensor failure
13	P6	Cooling coil pipe temp sensor failure
14	P7	Ambient temp sensor failure
15	P8	Cooling plate sensor failure
16	P9	Current sensor failure
17	PA	Restart memory failure
18	F1	Compressor drive module failure
19	F2	PFC module failure
20	F3	Compressor start failure
21	F4	Compressor running failure
22	F5	Inverter board over current protection
23	F6	Inverter board overheat protection
24	F7	Current protection
25	F8	Cooling plate overheat protection
26	F9	Fan motor failure
27	Fb	Power filter plate No-power protection
28	FA	PFC module over current protection

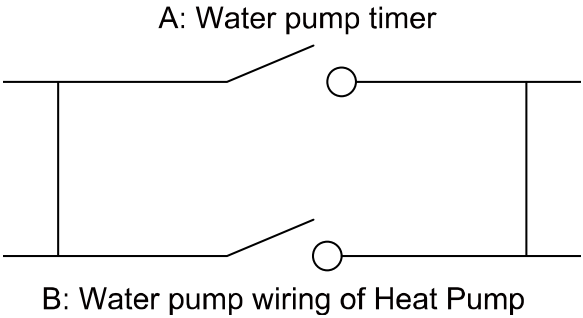
XII. Appendix 1: Heating priority (Optional)



XIII. Appendix 2: Heating priority (Optional)



Parallel connection with filtration clock



Note: The installer should connect A parallel with B (as above picture). To start the water pump, condition A or B is connected. To stop the water pump, both A and B should be disconnected.

P

Version：D00INr32