



# G-Model User Manual



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## A. Foreword

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Thank you for choosing our inverter pool heat pump, which is designed to be more silent and more energy-efficient than all previous models.

We hope you'll be able to enjoy your pool for longer now!

Thank you!

## B. Safety Precautions

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This manual contain important safety instructions.

Please always read and obey all safety instructions.

### Environmentally-friendly R32 Refrigerant is used for this heat pump

#### 1. Warning

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The WARNING sign denotes a hazard. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury or injury to a third party. These signs are rare but are extremely important.

	a. Keep the heat pump away from fire source.
	b. The heat pump must be placed in well-ventilated area, it is not permitted to install it indoors or in a closed area.
	c. Repair and disposal must be carried out by trained service personnel
	d. Vacuum the unit completely before welding. Welding can only be carried out by professional personnel in service center.

## 2. Attention

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- a. Please read the following instructions before installation, use and maintenance.
- b. Installation must be done by professional staff only in accordance with this manual.
- c. Leakage test must be performed after installation.
- d. Please don't stack substances close or on the heat pump, which will reduce efficiency or damage the heat pump.
- e. If a repair is required, please contact the nearest after-sales service center. The repair process must be strictly in accordance with the manual. All repair practice by non-professional is prohibited.
- f. Don't use or stock combustible gas or liquid I block air flow near inlet or outlet area, otherwise the efficiency of the heat pump will be reduced, or the unit could even stop working.
- g. Set proper temperature in order to get comfortable water temperature to avoid overheating or overcooling.
- h. In order to optimize the heating effect, please ensure that the pipes between the swimming pool and the heat pump are insulated to reduce heat loss. It is also recommended that a suitable pool cover be installed on the pool at all times when the pool is not in use.
- i. For maximum efficiency, the connecting pipes between the pool filter and the heat pump should be insulated and as short as practically possible: if over 10m extra thick insulation on the waterpipe is recommended.
- j. Do not accelerate the defrosting process by any means other than recommended by manufacturer,

## 3. Safety

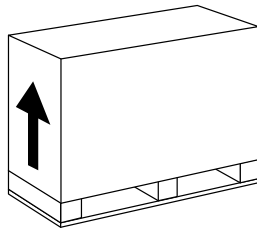
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- k. Please keep the main power supply switch far away from the children.
- l. When a power cut happens during operating, and later the power is restored, the heat pump will
- m. start up.
- n. During stormy weather switch off the main power supply and disconnect the power to the heat pump to prevent any damage that could be caused by lightning.
- o. A safety inspection must be carried out before the maintenance or repair of heat pumps with R32 gas in order to minimize the risk for fire.
- p. Installation and repairs should be carried well-ventilated areas. No ignition sources (sparks or flames) are allowed near the unit while it is in operation.
- q. If there is any R32 gas leak during the installation process, stop all operations immediately and call the service center.

## C. About your heat pump

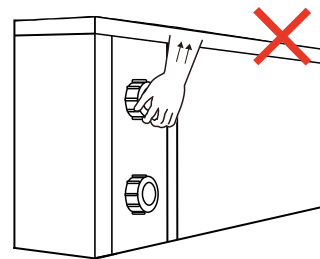
### 1. Transportation

a. Always keep upright

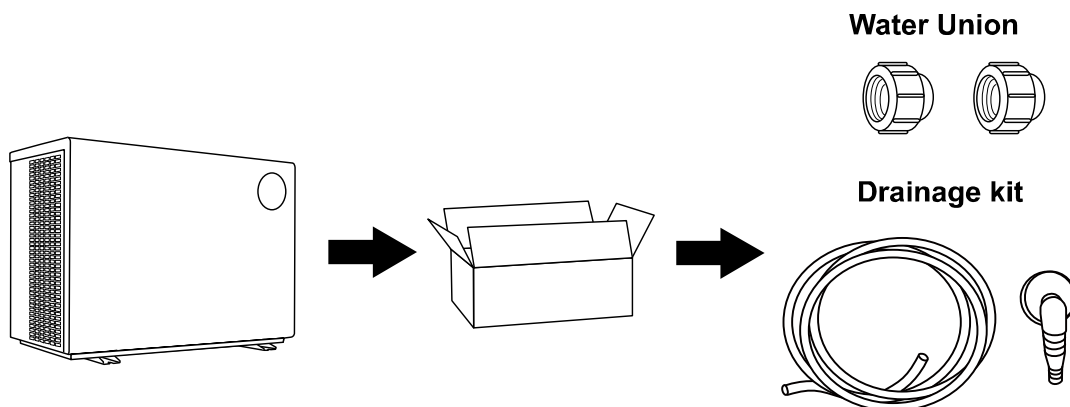


b. Do not lift at or position the heat pump by holding the water connection/union  
water connection/union

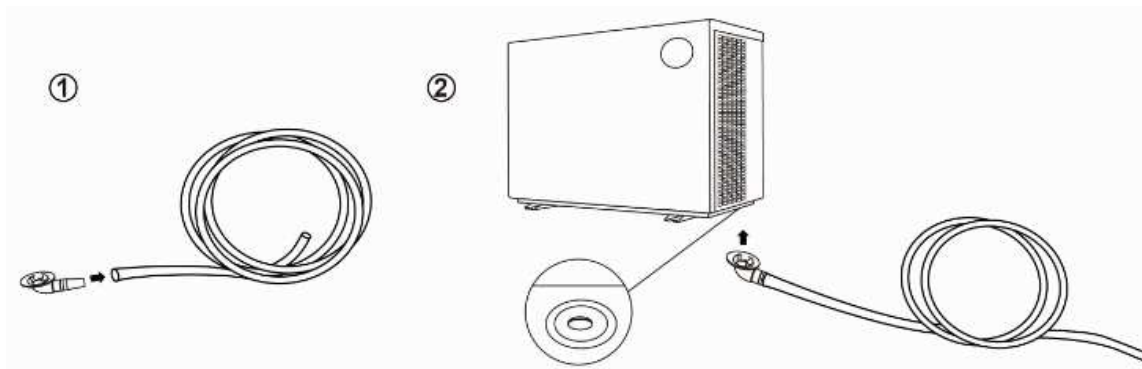
(Otherwise the titanium heat exchanger may be damaged)



### 2. Accessories



**Connection of the condensate drainage kit:**



### 3. Features

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- a. DC Twin-rotary inverter compressor (Mitsubishi)
- b. DC Brushless fan motor
- c. EEV Technology
- d. Reverse-cycle defrosting with 4-way valve
- e. High efficiency twisted titanium heat exchanger
- f. Sensitive and accurate temp control and water temp display
- g. High-pressure and low-pressure protection
- h. Full protection on electrical system

### 4. Operating range



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The heat pump can work between air  $-10^{\circ}\text{C}\sim 43^{\circ}\text{C}$ , and its ideal operating range is at an air temperature between  $15^{\circ}\text{C} \sim 25^{\circ}\text{C}$ .

### 5. Operating modes

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- a. The heat pump has two modes: Boost and Silence.
- b. They have different strengths under different conditions

Mode	Modes	Strength
	Boost mode	Heating capacity: 20% to 100% capacity Intelligent optimization Fast heating
	Silence mode	Heating capacity: 20% to 80% capacity Sound level: 3dB (A) lower than Boost mode

## 6. Technical parameters

Model	G108	G110	G112	G115	G117	G120	G125	G130	G130T	G135T
<b>PERFORMANCE CONDITION: Air 27°C/ Water 27°C/ Humid. 80%</b>										
Heating capacity(kW)	7.0	9.0	11.0	13.0	15.0	17.5	21.0	28.0	28.0	35.2
COP Range	14.0~7.2	14.0~7.2	14.0~7.0	14.5~7.0	15.0~7.0	15.6~7.0	14.8~7.1	16.0~7.2	15.8~7.1	15.5~7
<b>PERFORMANCE CONDITION: Air 15°C/ Water 26°C/ Humid. 70%</b>										
Heating capacity(kW)	5.0	6.6	7.7	9.0	10.5	12.5	14.5	19.0	19.0	24.2
COP Range	7.3~4.5	7.5~4.8	7.3~4.7	7.5~5.0	7.7~4.9	7.7~5.0	7.1~5.0	8.0~5.0	8.0~5.0	7.5~5
<b>TECHNICAL SPECIFICATION</b>										
Advised pool surface (m <sup>2</sup> ) * With Cover	15~40	20~60	30~75	35~90	40~100	40~110	50~125	60~160	60~175	85~200
Operating air temperature (° C)	-10° C~43° C									
Power supply	230V 1Ph							400V 3Ph		
Rated input power (kW)	0.14~1.12	0.19~1.38	0.22~1.64	0.26~1.8	0.28~2.15	0.33~2.50	0.38~2.90	0.49~3.80	0.49~3.80	0.65~4.84
Rated input current (A)	0.61~4.83	0.83~5.98	0.96~7.13	1.13~7.83	1.22~9.32	1.44~10.9	1.66~12.7	2.15~16.53	0.71~5.51	0.95~7.01
Sound level at 10m dB(A)	16.5~26.0	16.8~26.1	16.6~27.9	20.1~28.7	19.3~32	21.1~31.8	18.9~32.2	21.5~32.9	21.5~32.9	20.6~32.6
Advised water flow (m <sup>3</sup> /h)	2~4	2~4	3~5	4~6	5~7	6~8	8~10	10~12	10~12	12~18
Water connection (mm)	50									

### Remarks:

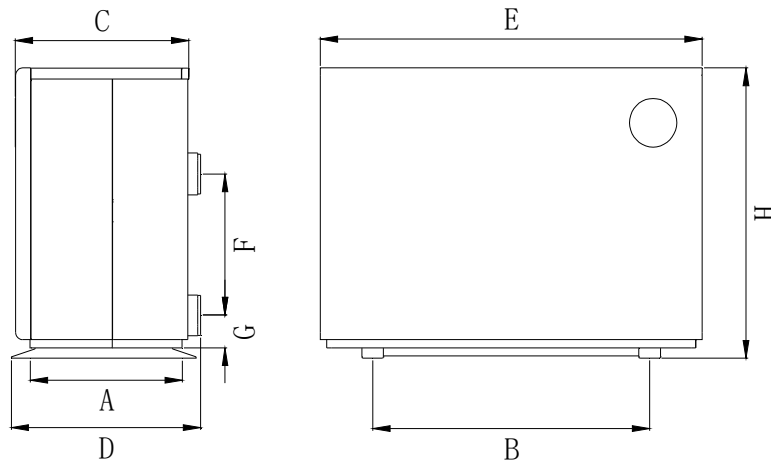
This heat pump can perform normally at an air temperature between -10° C~+43° C: efficiency cannot be guaranteed out of this operating range.

Please note that the pool heat pump performance and parameters are different under various conditions.

Related parameters are subject to adjustment periodically for technical improvement without further notice. For details please refer to nameplate.



## 7. Dimension



Size(mm) / Name / Model	A	B	C	D	E	F	G	H
G108	410	645	404	430	890	250	75	658
G110	410	645	404	430	890	250	75	658
G112	410	645	404	430	890	290	75	658
G115	410	645	404	430	890	280	75	658
G117	410	645	404	430	970	320	75	658
G119	410	710	404	430	1060	320	75	658
G125	410	710	404	430	1060	460	75	758
G130	410	710	404	430	1060	640	75	958
G130T	410	710	404	430	1060	640	75	958
G135T	492	950	486	512	1314	650	75	958

※ Above data is subject to modification for technical improvements/ reasons without notice.

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

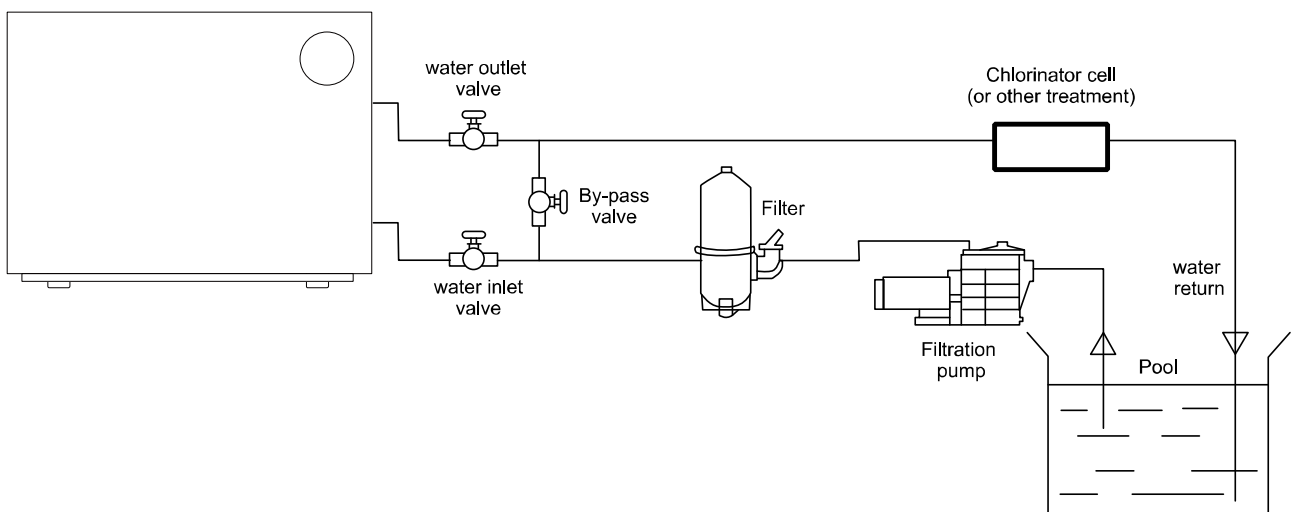
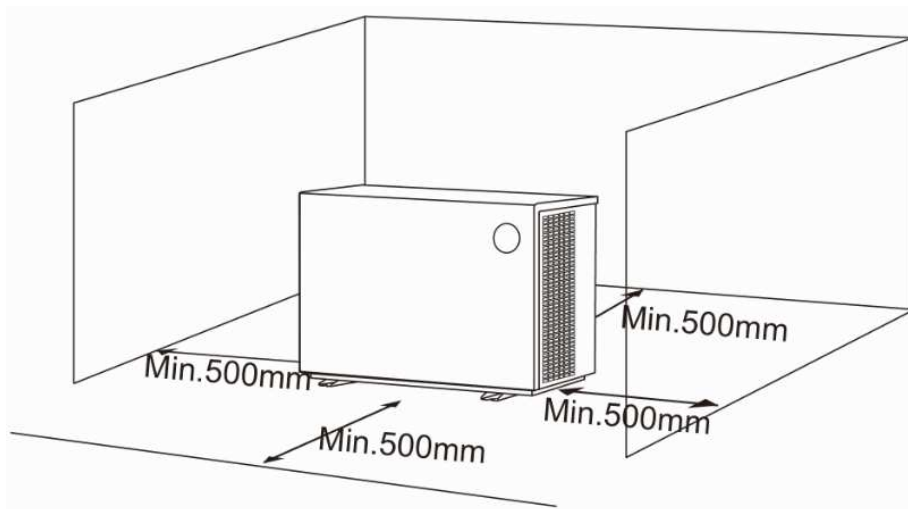
## D. Installation guidance

### 1. Installation reminder

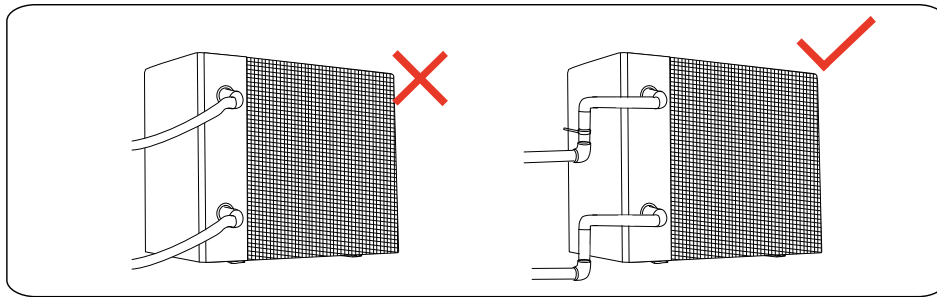
Only professionals are allowed to install the heat pump. End users who are not qualified professionals should not install by themselves, otherwise the heat pump could be damaged and risky for users' safety.

#### a. Location and water pipe connection

 The heat pump should be installed in a well-ventilated place.



- 1) The frame must be fixed with bolts (M10) to concrete foundation or brackets. The concrete foundation must be solid and secure; the brackets must be strong enough and have antirust treatment.
  - 2) Please don't place objects that could block the air flow near the inlet or outlet area; there should be no obstructions within at least 50cm (500mm / 20") of the back, and sides of the unit (see figure above), or the efficiency of the heat pump could be reduced or it could even not work at all;
  - 3) In order to function the unit needs to be installed as part of a system with a filtration pump (to be provided by the user): for the recommended water flow of the circulation pump please refer to the Technical Specifications of the heat pump.
  - 4) When the machine is running, there will be condensation water from the bottom. Please place the drainage nozzle (accessory) into the hole and connect a hose to drain the condensation water away.
- b. The inlet and outlet water unions can't stand the weight of soft pipes. The heat pump must be connected with hard pipes!

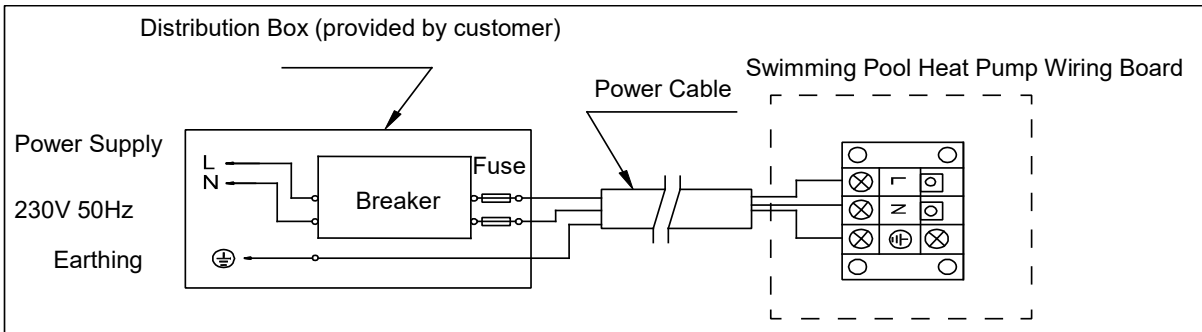


## 2. Wiring

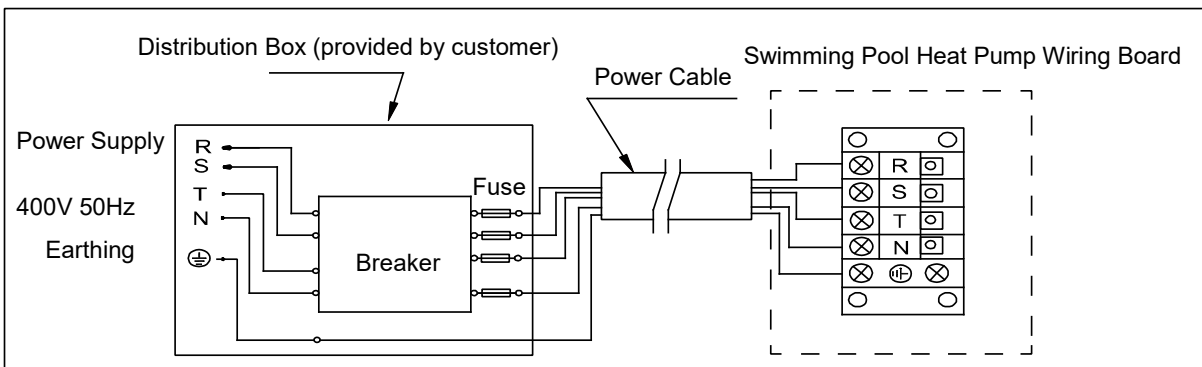
- a. Connect to appropriate power supply, the voltage should comply with the rated voltage of the products.
- b. Earth the machine well.
- c. Wiring must be handled by a professional technician according to the circuit diagram.
- d. If leakage protector set it (use protector) according to the local regulation of allowed mA.
- e. The layout of power cable and signal cable should be separated from each other.

### 3. Electrical wiring diagram

#### a. For power supply: 230V 50Hz



#### b. For power supply: 400V 50Hz



Note:

- 1) Must be hard wired, plug is not allowed.
- 2) The heat pump must have a good ground connection (earth).

### 4. References for protecting devices and cable specification

MODEL		G108	G110	G112	G115	G117	G119	G125	G130	G130T	G135T
Breaker	Rated Current (A)	9	10.5	12	14.5	16.5	18	21	24	9	12
	Rated Residual Action Current (mA)	30	30	30	30	30	30	30	30	30	30
Fuse (A)		9	10.5	12	14.5	16.5	18	21	24	9	12
Power Cord (mm <sup>2</sup> )		3x1.5	3 x 2.5	3 x 2.5	3 x 2.5	3 x 2.5	3 x 4	3 x 4	3 x 6	5 x 2.5	5 x 2.5
Signal cable (mm <sup>2</sup> )		3x0.5	3x0.5	3x0.5	3x0.5	3x0.5	3x0.5	3x0.5	3x0.5	3x0.5	3 x 0.5







※ Above data is subject to modification without notice.

**Note:** The above data is calculated for a power cable of length  $\leq 10\text{m}$ . Voltage drop on power cable must be less than 10 Volt when the heat pump is at full load. For longer cables the diameter (mm<sup>2</sup>) must be increased. The signal cable can be extended to 50m maximum.

## E. Instructions for Operation

### 1. Key Function



Symbol	Heating & cooling models
	<ol style="list-style-type: none"> <li>1. Power On/Off</li> <li>2. Wi-Fi setting</li> </ol>
	<ol style="list-style-type: none"> <li>1. Lock/Unlock Screen</li> <li>2. Heating mode (18-40°C)</li> <li>3. Cooling mode (12-30°C)</li> <li>4. Auto mode (12-40°C)</li> </ol>
	<ol style="list-style-type: none"> <li>1. Boost </li> <li>2. Silence </li> </ol>
	Temperature Setting


**Attention:**

- i. The controller has power-down memory function.
- ii. The buttons will turn dark when it's locked.



## 2. Operation Instruction

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### a. Screen Lock

- 1) Press “” for 3 seconds to lock or unlock the screen
- 2) Automatic Lock Period: 30 seconds if no operation

### b. Power On





Press “” for 3 seconds to unlock screen. Press “” to power on machine.

### c. Temperature Setting

Press “” and “” to display and set temperature.

### d. Mode Selection

- 1) Heating/Cooling/Auto

Press “” to switch between heating “”, cooling “” and auto mode “”.

Heating mode “”: Water temperature setting range(18-40°C)




Cooling mode “”: Water temperature setting range(12~30°C)

Auto mode “”: Water temperature setting range(12~40°C)


\* When water inlet temperature is 1°C higher than set point, automatic cooling mode starts.

\* When water inlet temperature is 1°C lower than set point, automatic heating mode starts.



- 2) Silence/Boost mode selection


Press “” to switch among boost mode , silence mode 

Default mode: boost 






Please choose boost mode  for initial heating

**e. Wi-Fi “” (refer to instructions at the back of the manual)**

When the screen is on, press “” for 3 seconds; when “” is flashing, enter Wi-Fi connection.

Connect the Wi-Fi on your mobile phone and enter a password, then it will be possible to control the unit by Wi-Fi using the APP. When the APP is successfully connected to Wi-Fi, the “” icon remains on.

**f. Defrosting**

- 1) Automatic defrosting: when machine is auto defrosting,  will flash, and return to previous working mode when it finishes.
- 2) Manual Defrosting: To enter forced defrosting mode, the compressor must be working for more than 10 minutes. in heating mode, press “” and “” on touch controller simultaneously for 5 seconds to start forced defrosting, when “” flashes the defrost cycle starts, when “” stops flashing the defrost cycle stops.

(Remarks: the interval between manual defrosting cycles should be more than 30 minutes.)

## F. Testing

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### 1. Inspect heat pump before use

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- a. The ventilating device and outlets are operating adequately and are not obstructed.
- b. It is prohibited to install refrigeration pipe or components in corrosive environment.
- c. Inspect the electrical wiring according to the electrical wiring diagram and ground connection.
- d. Double-check that the main power supply to the unit is off.
- e. Check the air inlet and outlet.

### 2. Leakage detection notice and method

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- a. Leakage checking is prohibited in closed areas.
- b. Naked flames are prohibited during the leakage inspection. A halide torch (or any other detector using a naked flame) must not be used.
- c. Leakage detection fluids can be applied with most refrigerants but the use of detergents containing chlorine must be avoided as the chlorine may react with the refrigerant and corrode the copper pipe.
- d. Vacuum completely before welding. Welding can only be carried out by professional personnel in service center.
- e. If there is any gas leakage, please stop using the unit and contact professional a service center.



### 3. Trial

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- a. The user must “Start the swimming pool filtration pump before the unit and turn off the unit before stopping the pool filtration pump”, or the machine will be damaged.
- b. Before starting the heat pump, please check for any water leakage.
- c. In order to protect itself, the heat pump is equipped with a time lag starting function: the fan will start working 1 minute before the compressor when starting the machine, and it will stop running 1 minute after the compressor when the machine is switched off.
- d. After starting up heat pump start up, please check for any strange noise from the machine.

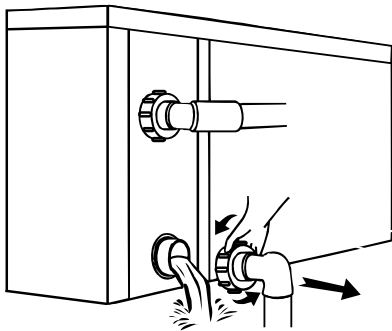
## G. Maintenance

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**“CUT OFF” power supply to the heat pump before cleaning, examination and repair**

1. In winter, when the heat pump is not in use:
  - a. Cut off power supply to prevent any damage to the unit.
  - b. Drain all water clear from the unit. **Make sure all water is out.**
  - c. Cover the unit when not in use.



**!!!Important:**

Unscrew and disconnect the water nozzle of inlet pipe to let the water flow out.

*If/when the water inside machine freezes in winter season, the titanium heat exchanger may be damaged.*

2. Please clean the unit with household detergents or clean water, NEVER use gasoline, thinners or any aggressive cleaning liquid.
3. Check bolts, cables and connections regularly.
4. If repair or disposal of the unit is required, please contact the nearest authorized service center.
5. Do not attempt to work on the equipment by yourself. Improper operation can be dangerous.
6. A safety inspection must be carried before any maintenance or repair work is carried out on heat pumps with R32 gas.

## H. Trouble shooting for common faults

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### 1. Repairing Guidance

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WARNING:

- a) If repair or disposal of the unit is required, please contact the nearest authorized service center.
- b. Requirements for Service Personnel
- c. Technicians involved with any kind of work involving the refrigerant circuit should hold a current valid certificate/qualification from an industry-accredited authority, which authorizes them to handle refrigerants safely in accordance with industry-recognized standards and regulations.
- d. Do not attempt to work on the equipment by yourself. Improper operation can be dangerous.
- e. Strictly comply with the manufacturer's requirements when charging R32 gas and carrying out equipment maintenance. This chapter focuses on special maintenance requirements for swimming pool heat pump with R32 gas. Please refer to the technical service manual for detailed maintenance operation.
- f. Vacuum completely before welding. Welding can only be carried out by professional personnel.

## 2. Failure solution and code

Failure	Reason	Solution
<b>Heat pump doesn't run</b>	No power	Wait until the power is back on
	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
<b>Fan running but with insufficient heating</b>	Evaporator blocked	Remove obstructions
	Air outlet blocked	Remove obstructions
	3 minutes start delay	Wait patiently
<b>Display normal, but no heating</b>	Set temp. too low	Set proper heating temp.
	3 minutes start delay	Wait patiently
If above solutions don't work, please contact your installer with detailed information and your model number. Don't try to repair it yourself.		

**Note:** If the following conditions happen, please stop the machine immediately, and cut off the power supply immediately, then contact your dealer:

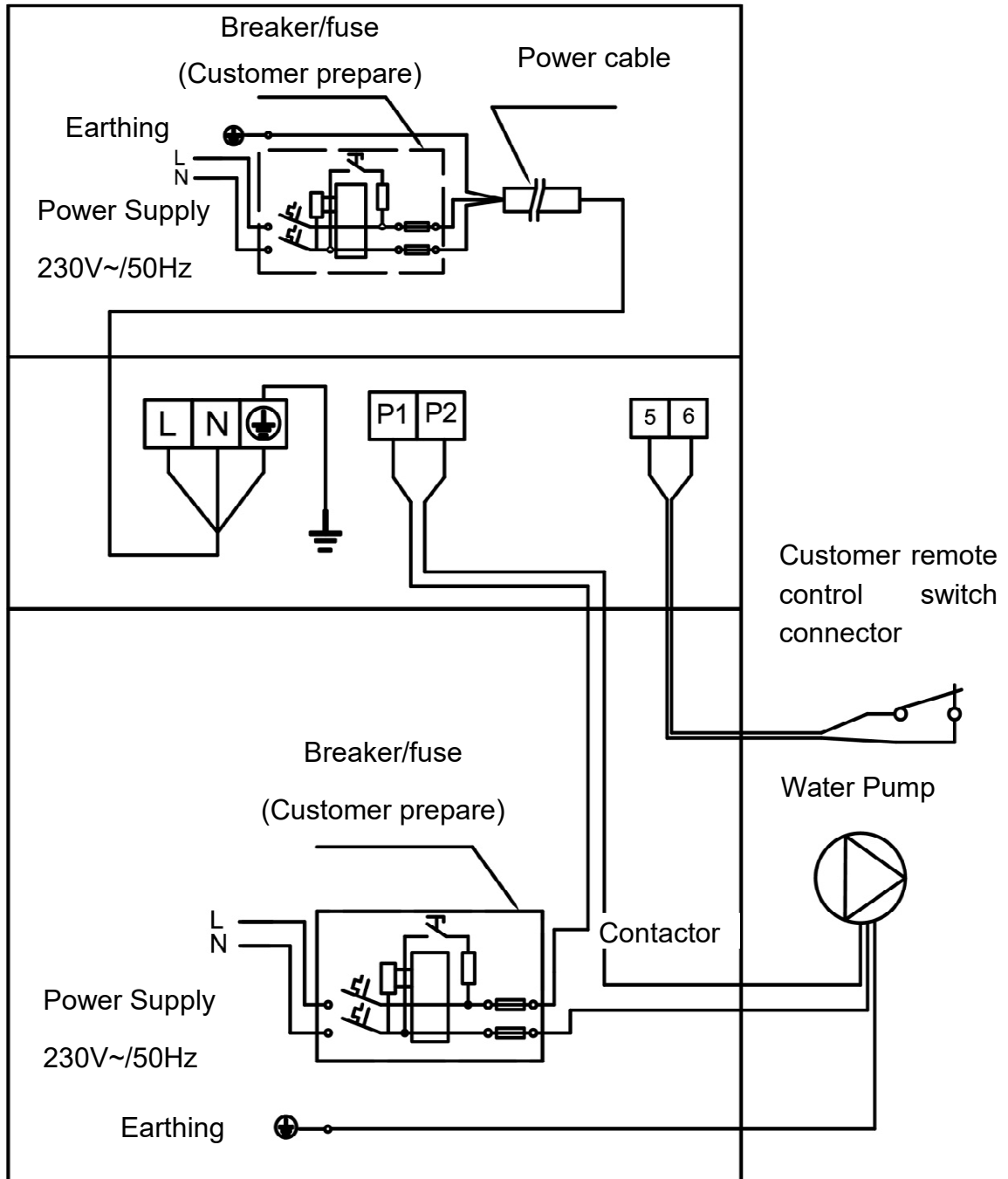
1. Inaccurate switch action.
2. The fuse is frequently broken, or the circuit breaker trips.

## Protection & Failure code

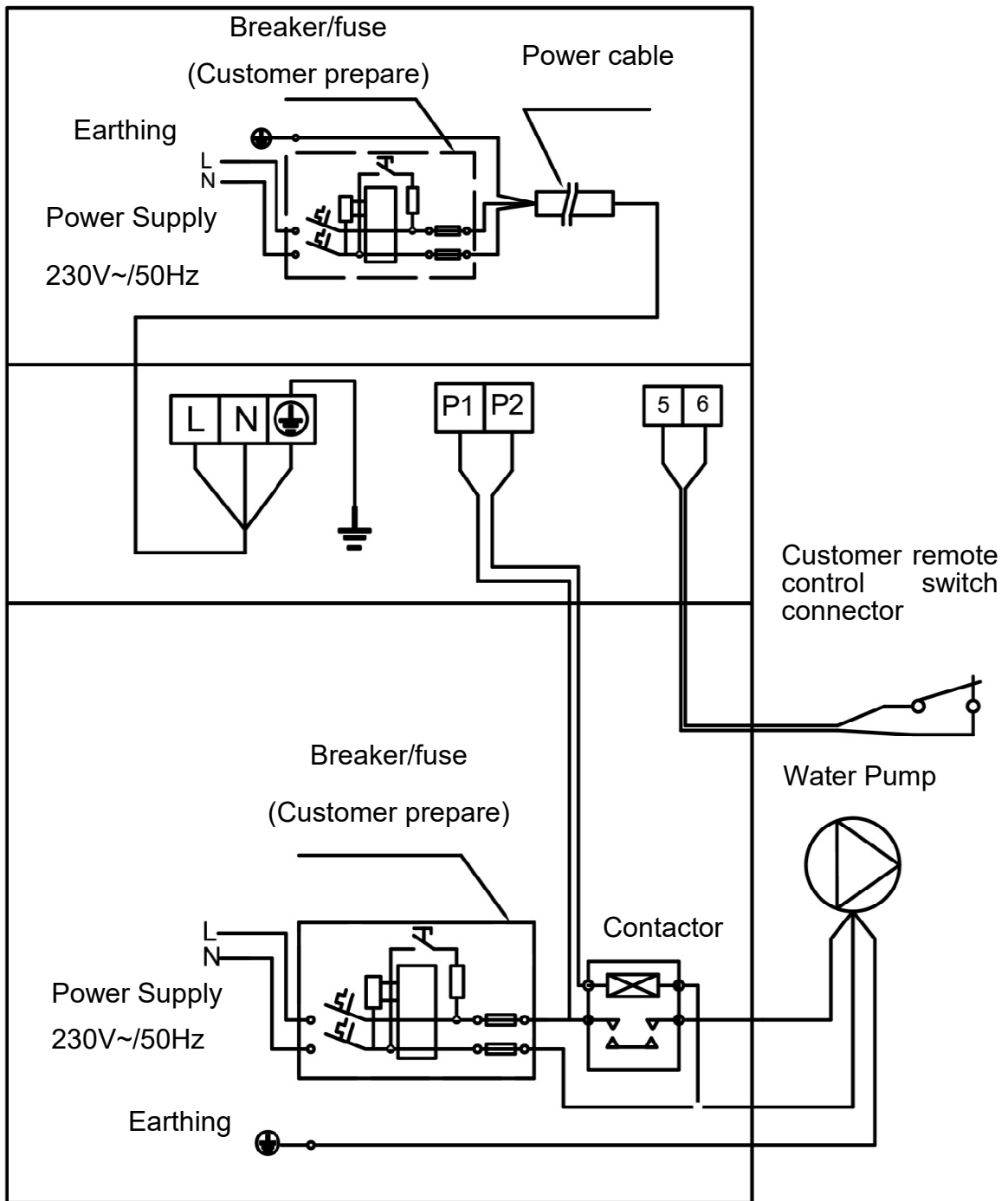
NO.	Display	Protection code description
1	E3	No water protection
2	E5	Power supply exceeds operating range
3	E6	Excessive temp difference between inlet and outlet water (insufficient water flow protection)
4	Eb	Ambient temperature too high or too low protection
5	Ed	Anti-freezing reminder
NO.	Display	Failure code 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 in 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

# I. Water pump control connection

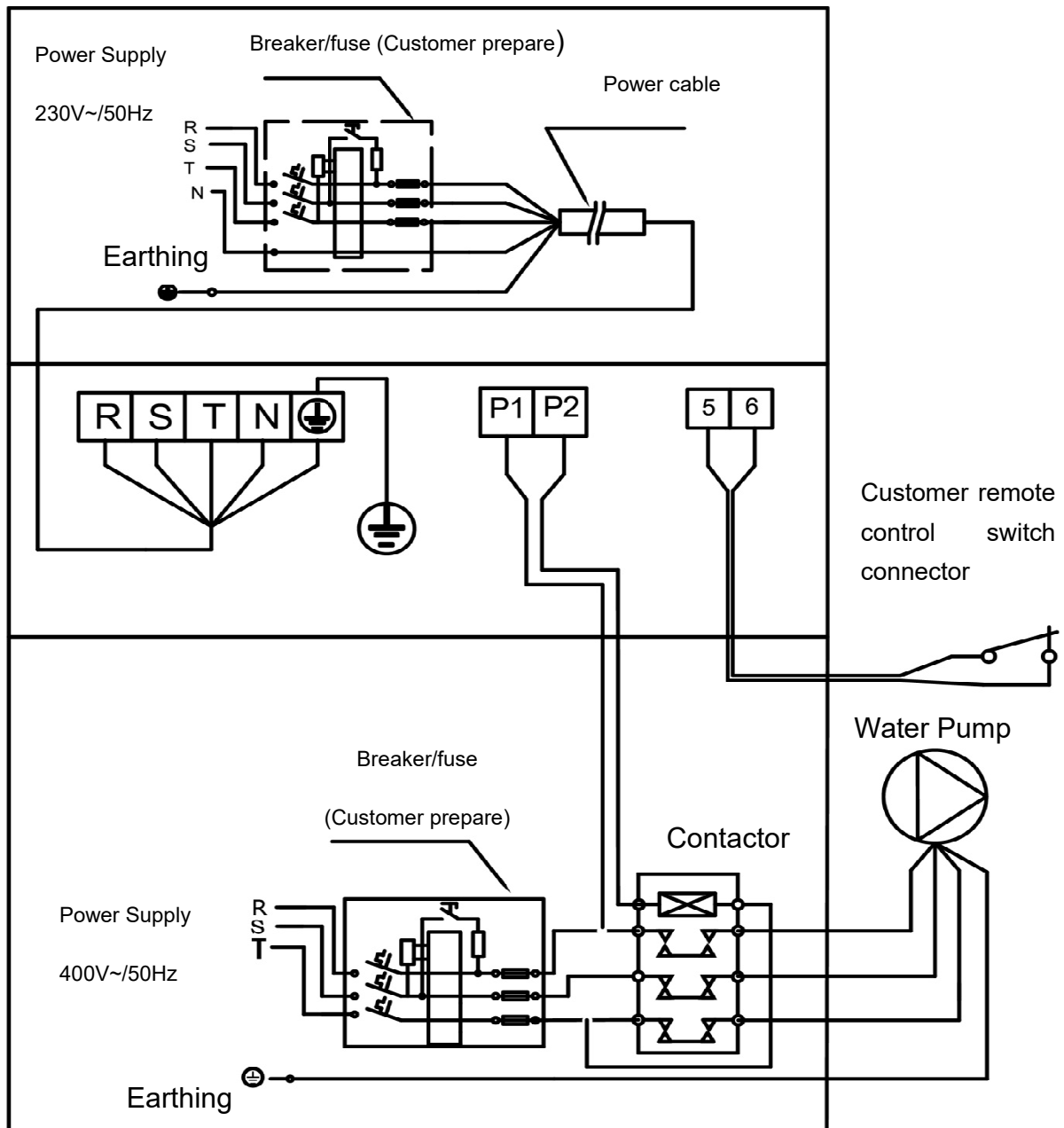
Water pump: 230V voltage, >500W capacity



Water pump: 230V voltage. >500W capacity



## Water pump: 400V voltage

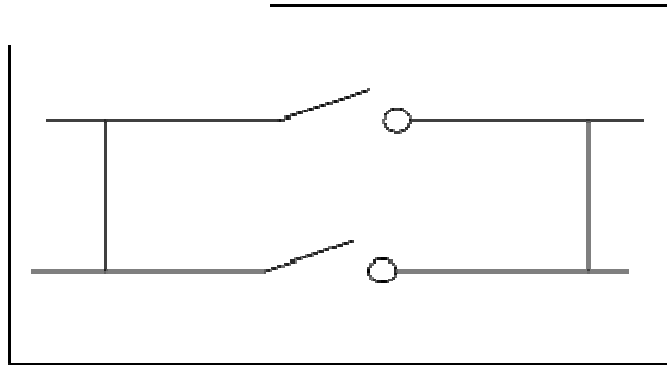


**Load on connection to the heat pump over 500 Watt must have an external contactor which is operated by the heat pump. Both line (L & N and all 3 phases) must be in “off position”**



## Water pump control and timer connection

1: Water/filtration pump timer



2: Water/filtration pump wiring of Heat Pump

Note: The installer should connect 1 parallel with 2 (as above picture). To start the water pump, condition 1 or 2 is connected. To stop the water pump, both 1 and 2 should be disconnected.

## J. Wi-Fi operation

### ① APP Download



Android please download from

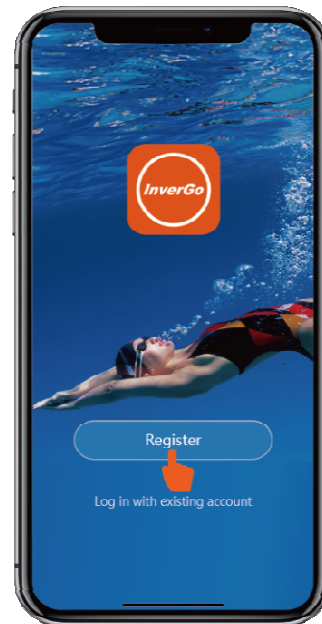


iOS please download from

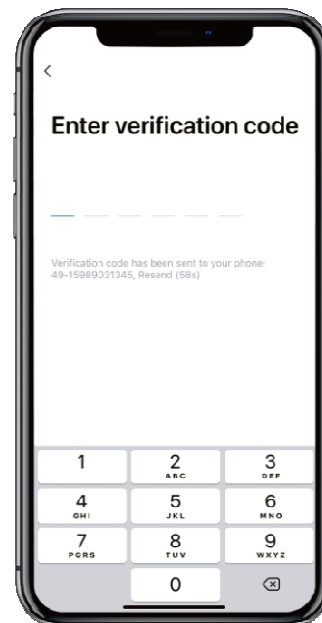
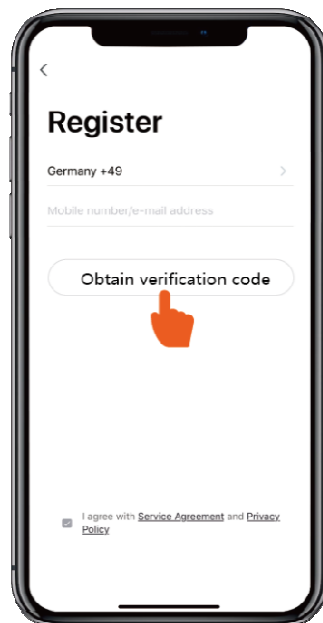


### ② Account Registration

1. Register by mobile or E-mail.

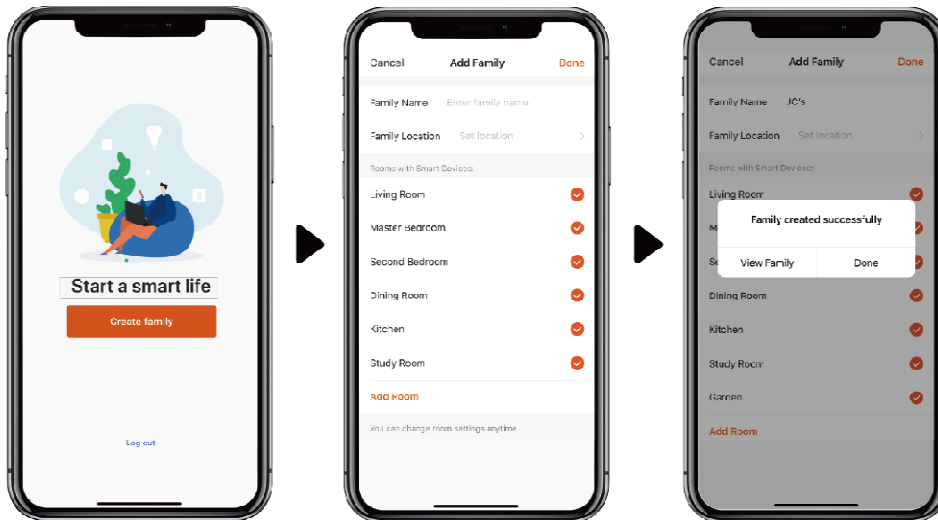


2. Mobile or E-mail registration.







### 3 Create Family

Please set family name and choose the room of device.



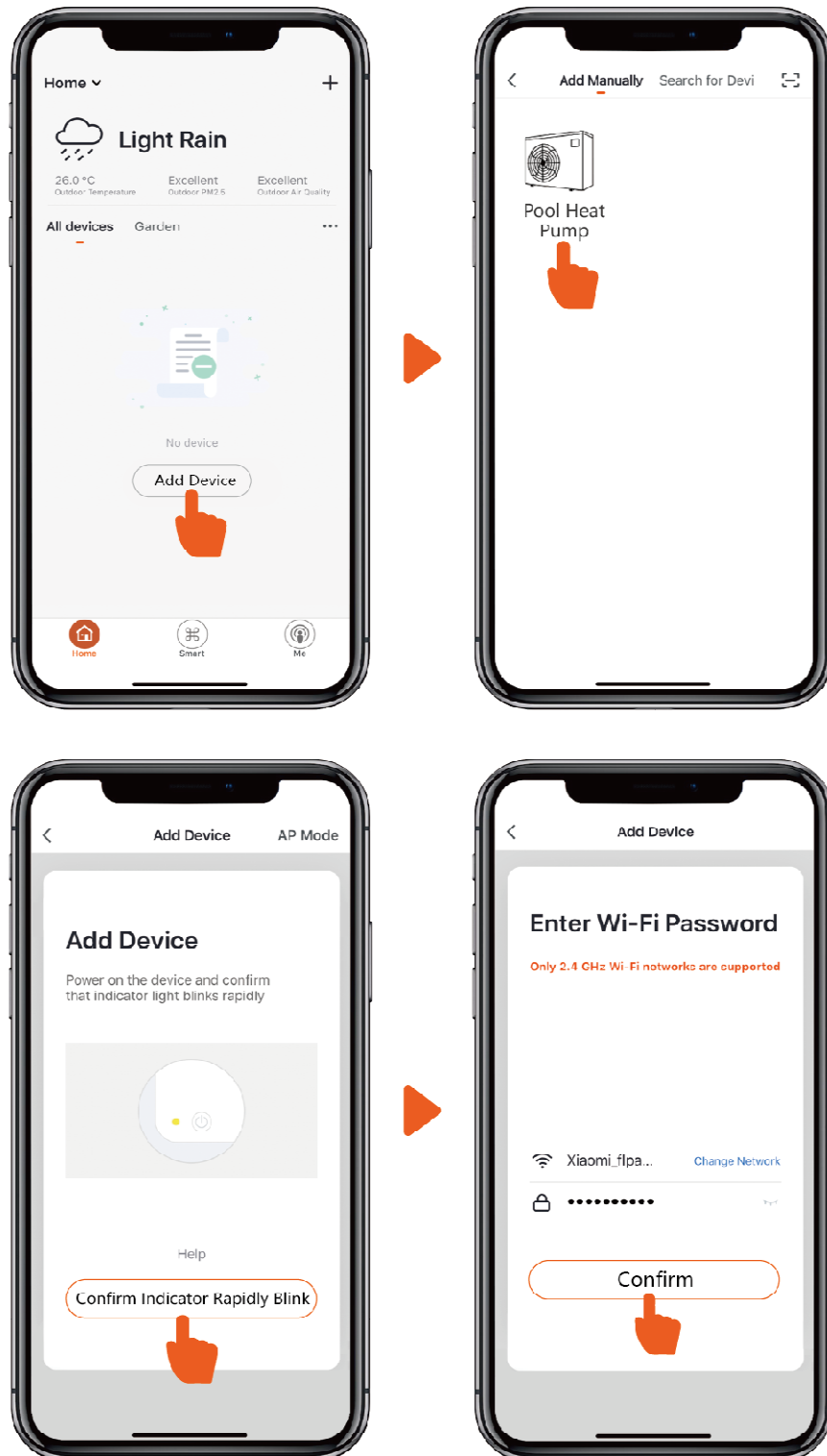
### 4 APP Pairing

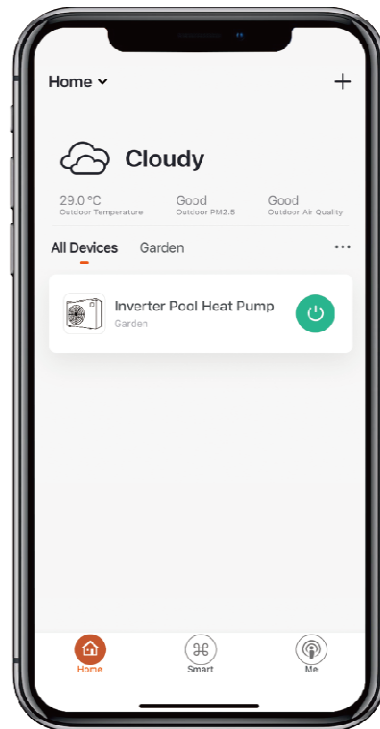
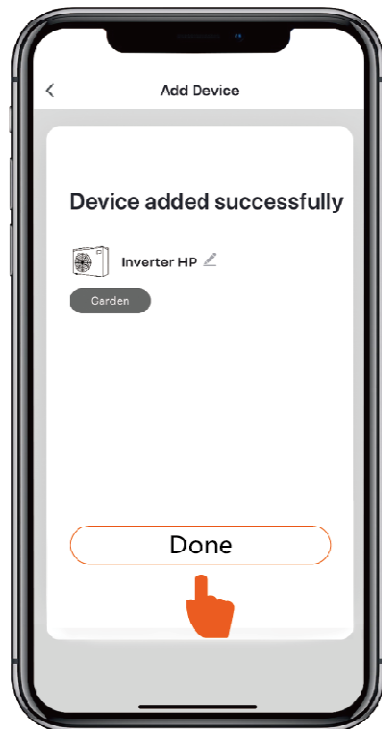
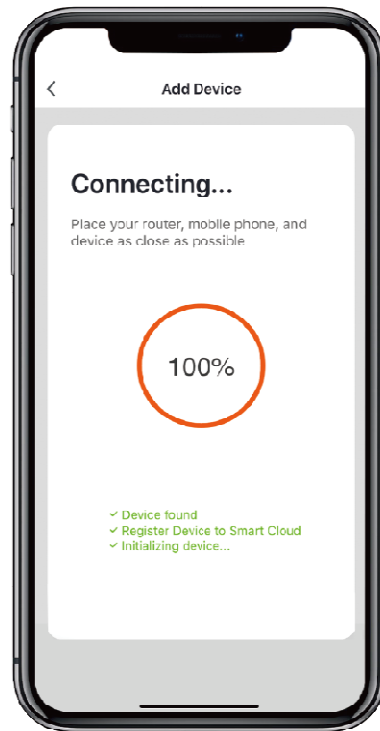
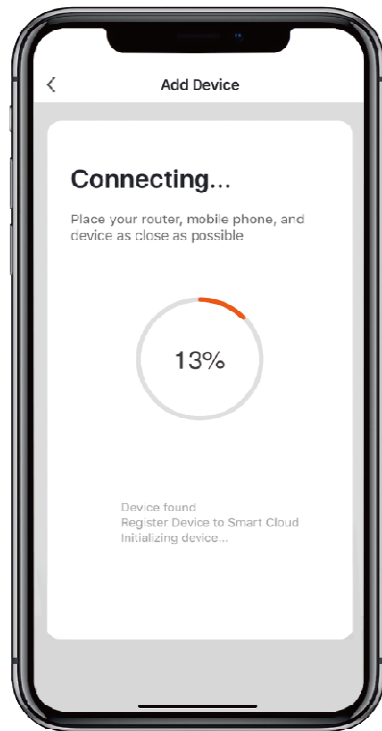
Please make sure you are connected to the Wi-Fi.

1. Press “” for 3 seconds to unlock the screen, press “” for 3 seconds then release, after hearing “Beep”, enter Wi-Fi password in APP. During connection, “” flashes, when the APP connects to the Wi-Fi successfully, “” will display.



2. Click "Add Device", and then follow instructions to pair device.





## 5 Operation

1. For heat pump with Heating function only :

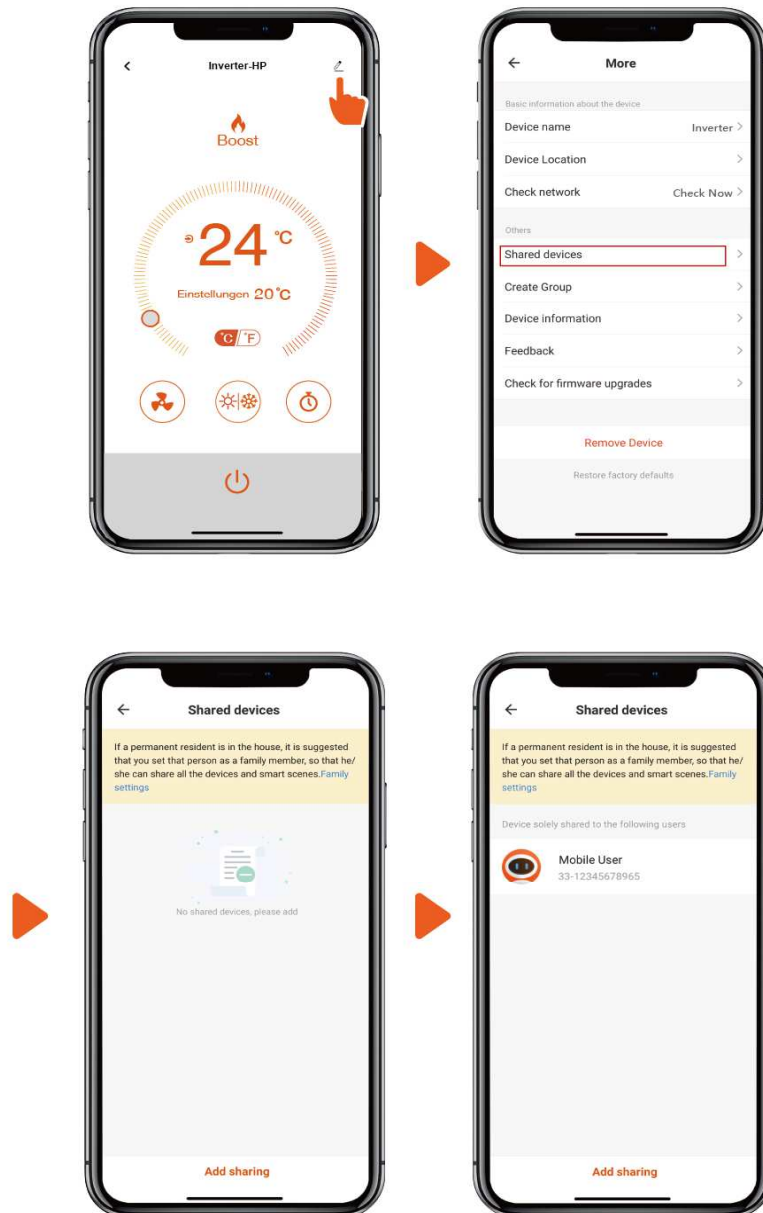


2. For heat pump with Heating&Cooling function :



## 6 Share Devices to Your Family Members

After pairing, if your family members also want to control the device. Please let your family members register the APP first, and then the administrator can operate as below:



Notice: The weather forecast is just for reference.  
App is subject to updating without notice.

AQ05MC-R32