SWIMMING POOL HEAT PUMP

Installation & Instruction Manual

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.

CONTENT

1. FOREWORD 1
1.1. Statement 1
1.2. Safety Factors 1
2. OVER VIEW OF THE UNIT 2
2.1. Accessories Supplied With the Unit 2
2.2. Dimensions of the Unit 3
2.3. Main Parts of the Unit 4
2.4. Parameter of the Unit 5
3. INSTALLATION AND CONNECTION 8
3.1. Transportation 8
3.2. Notice Before Installation 8
3.3. Installation Instruction 9
3.3.1 Pre-requirements 9
3.3.2 Heat Pump Installation 9
3.3.3 Location and Space 10
3.3.4 Installation Layout 10
3.3.5 Electrical Installation 11
3.3.6 Electrical Connection 12
3.4. Trial After Installation 13
3.4.1 Inspection Before Trial Running 13
3.4.2 Trial Running 13
4. REMOTE CONTROLLER OPERATION GUIDANCE 14
4.1. Control Panel Diagram 14
Basic Icons 14
4.2. Key Operating Instruction 15
4.3. System Status Parameter Query 17
4.4. Trouble Shooting 18
- Fault code and solution 18
4.5. Wi-Fi Settings 22
4.6.1 Software Installation 22
4.6.2 Software Startup 23
4.6.3 Software Registration and Configuration 23
4.6.4 Software Function Operation 31
- Timer setting 35
4.6.5 Device Removal 36
5. MAINTENANCE AND WINTERZING 37
5.1. Maintenance 37
- Annual maintenance 37
5.2. Winterizing 37

1. FOREWORD

1.1. Statement

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

① Wrong operation may result in injury or damage;
② Please install the unit in compliance with local laws, regulations and standards;
③ Confirm power voltage and frequency;
④ The unit is only used with grounding sockets;
⑤ Independent switch must be offered with the unit.

1.2. Safety Factors

The following safety factors need to be considered:

① Please read the following warnings before installation;
② Be sure to check the details that need attention, including safety factors;
③ 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. The minimum support weight required for installation is 21g/㎜²
- If the unit was installed in a closed area or limited space, please consider the size of room and ventilation to prevent suffocation caused by refrigerant leakage.

① Use a specific wire and fasten it to terminal block so that the connection will prevent pressure from being applied to parts.
② Wrong wiring will cause fire.
Please connect power wire accurately according to wiring diagram on the manual to avoid burnout of the unit or fire.
③ Be sure to use correct material during installing.
Wrong parts or wrong materials may result in fire, electric shock, or falling of the unit.
④ Install on the ground safely, please read installation instructions.
Improper installation may result in fire, electric shock, falling of the unit, or water leaking.
⑤ Use professional tools for doing electrical work.
If power supply capacity is insufficient or circuit is not completed, it may cause fire or electric shock.
⑥ The unit must have grounding device.
If power supply does not have grounding device, be sure not to connect the unit.
⑦ The unit should be only removed and repaired by professional technician.
Improper movement or maintenance of the unit may cause water leakage, electric shock, or fire. Please find a professional technician to do.
⑧ Don't unplug or plug power during operation.It may cause fire or electric shock.
⑨ Don't touch or operate the unit when your hands are wet. It may cause fire or electric shock.
⑩ Don't place heaters or other electrical appliances near the power wire.It may cause fire or

electric shock.

⑪ The water must not be poured directly from the unit. Do not let water to permeate into the electrical components.

⚠ Warning

① Do not install the unit in a location where there may be flammable gas.

② If there is flammable gas around the unit, it will cause explosion.

According to the instruction to carry out drainage system and pipeline work. If drainage system or pipeline is defective, water leakage will occur. And it should be disposed immediately to prevent other household products from getting wet and damage.

③ Do not clean the unit while power is on. Turn off power before cleaning the unit. If not it may result in injury from a high-speed fan or electric shock.

④ Stop operating the unit once there is a problem or an fault code.

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

⑤ Be careful when the unit is not packed or not installed.

Pay attention to sharp edges and fins of heat exchanger.

⑥ After installation or repair, please confirm refrigerant is not leaking.

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

⑦ The installation of external unit must be flat and firm.

Avoid abnormal vibration and noise.

⑧ Don't put your fingers into fan and evaporator.

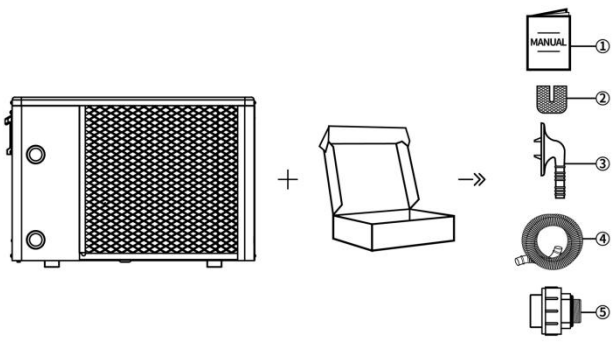
High speed running fan will result in serious injury.

⑨ This device is not designed for people who is physically or mentally weak (including children) and who does not have experience and knowledge of heating and cooling system. Unless it is used under direction and supervision of professional technician, or has received training on the using of this unit. Children must use it under supervision of an adult to ensure that they use the unit safely. If power wire is damaged, it must be replaced by a professional technician to avoid danger.

2. OVER VIEW OF THE UNIT

2.1. Accessories Supplied With the Unit

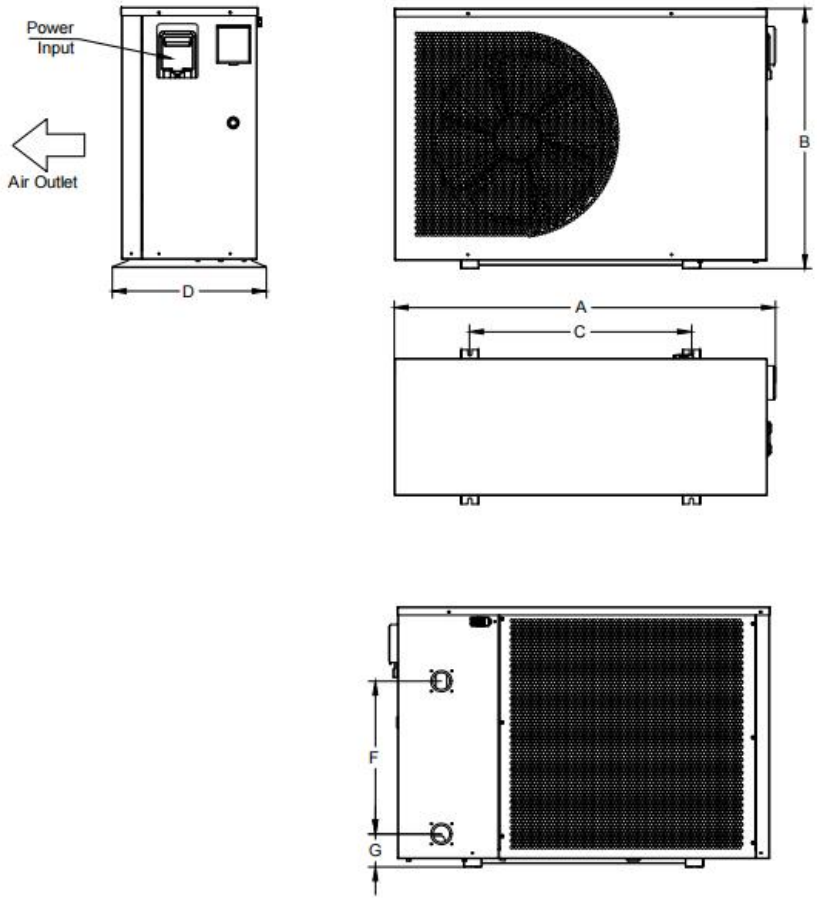
After unpacking, please check if you have all the following components.



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			

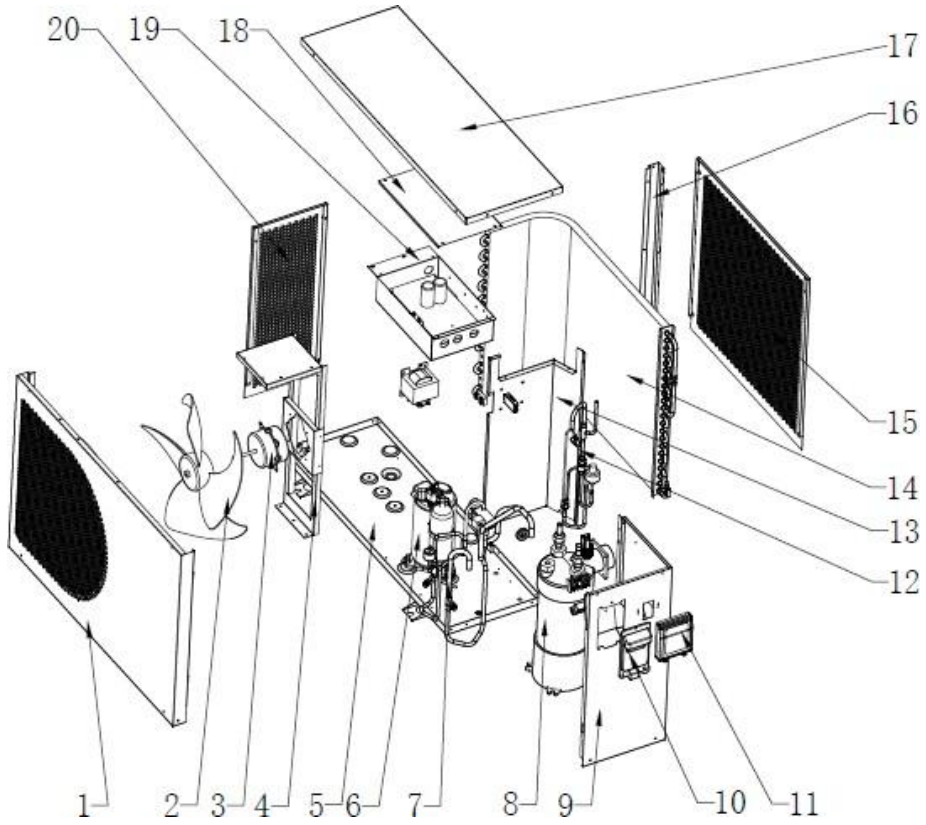
2.2. Dimensions of the Unit



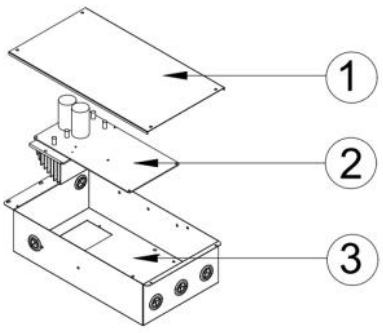
Dimension Unit：(mm)

Model	A	B	C	D	E	F	G
RI-F50SPR3INVM-TR	910	380	620	591	330	280	98
RI-F70SPR3INVM-TR							
RI-F90SPR3INVM-TR							
RI-F110SPR3INVM-TR	1000	405	660	681	373	380	98
RI-F150SPR3INVM-TR							
RI-F180SPR3INVM-TR							
RI-F210SPR3TINVM-TR	1130	485	775	653	430	390	107
RI-F250SPR3TINVM-TR							
RI-F250SPR3TINVM-TR							

2.3. Main Parts of the Unit



1	Front plate	9	Right plate	17	Top cover
2	Fan	10	Handle	18	Electrical box cover
3	Motor	11	controller / display	19	Electrical box
4	Motor support	12	EEV component	20	Left plate
5	Right plate	13	Middle plate		
6	Compressor	14	Evaporator		
7	Four way valve	15	Back plate		
8	Titanium heat exchanger	16	Pillar		



①	Electrical Box Cover	②	Main Board	③	Electrical Box

2.4. Parameter of the Unit

Table-1

Model：RI		50SPR3INVM-TR	70SPR3INVM-TR	90SPR3INVM-TR
Ambient Temp.: (DB/WB) 27°C/24.3°C; Water Inlet/Outlet Temp.: 26°C/28°C.				
Heating Capacity (kW)		1.51~5.52	1.5~7.21	1.8~9.48
Power Input (kW)		0.09~0.82	0.09~1.09	0.11~1.44
COP		16.6~6.7	16~6.6	16.4~6.6
Boost Mode	Heating Capacity (kW)	5.52	7.21	9.48
	COP	6.7	6.6	6.6
Smart Mode	Heating Capacity (kW)	4.5	5.8	7.8
	COP	8.91	9.03	9.02
Silent Mode	Heating Capacity (kW)	2.1	2.8	3.5
	COP	14.1	14.2	14.2
Ambient Temp.: (DB/WB) 15°C/12°C; Water Inlet Temp.: 26°C.				
Heating Capacity (kW)		1.11~3.91	1.3~5.42	1.51~7.89
Power Input (kW)		0.13~0.75	0.16~1.06	0.18~1.52
COP		8.4~5.2	8.1~5.1	8.3~5.2
Boost Mode	Heating Capacity (kW)	3.91	5.42	7.89
	COP	5.2	5.1	5.2
Smart Mode	Heating Capacity (kW)	3.1	4.3	6.1
	COP	6.21	6.23	6.22
Silent Mode	Heating Capacity (kW)	2.2	2.4	2.5
	COP	7.59	7.55	7.58
Power Supply		220-240V~/ 50Hz		
Max Power Input (kW)		1.31	1.61	1.75
Max Current(A)		5.95	7.32	7.96
Heating Water Temp. Range(°C)		5~40		
Running Ambient Temp. Range(°C)		-10~40		
Advised Swimming Pool Size(m^3)		10~20	15~30	20~40
Refrigerant		R410A		
Compressor		MITSUBISHI ELECTRIC (DC Inverter)		
Air Side Heat Exchanger		Hydrophilic Fin Exchanger		
Water Side Heat Exchanger		Titanium Tube Heat Exchanger		
Water Flow(m^3/h)		2.4	3.1	4.1
Net Dimension LxWxH (mm)		910×380×620		
Water Pipe Connection (Inlet /Outlet)(mm)		50		
Net Weight (kg)		33	37	39
Noise Level dB(A)		37～47	38～48	39～49
Max./Min. Water Operating Pressure (MPa)		0.6/0.1		
Max./Min. Water Inlet Pressure (MPa)		0.6/0.1		
Fuse Specification		65TS/25A/250VAC		

Table-2

Model:RI		110SPR3INVM-TR	150SPR3INVM-TR	180SPR3INVM-TR
Ambient Temp.: (DB/WB) 27°C/24.3°C; Water Inlet/Outlet Temp.: 26°C/28°C.				
Heating Capacity (kW)		2.8~11.51	3.48~15.3	4.34~18.1
Power Input (kW)		0.17~1.74	0.22~2.35	0.27~2.81
COP		16.5~6.6	15.9~6.5	16.1~6.4
Boost Mode	Heating Capacity (kW)	11.51	15.3	18.1
	COP	6.6	6.5	6.4
Smart Mode	Heating Capacity (kW)	9.1	11.55	14.01
	COP	9.32	9.18	9
Silent Mode	Heating Capacity (kW)	5.5	7.35	8.7
	COP	13.8	13.6	13.2
Ambient Temp.: (DB/WB) 15°C/12°C; Water Inlet Temp.: 26°C.				
Heating Capacity (kW)		2.2~8.21	2.96~11.14	3.44~13.35
Power Input (kW)		0.27~1.61	0.36~2.19	0.41~2.61
COP		8.1~5.1	8.3~5.1	8.3~5.1
Boost Mode	Heating Capacity (kW)	8.21	11.14	13.35
	COP	5.1	5.1	5.1
Smart Mode	Heating Capacity (kW)	6.58	8.65	10.55
	COP	6.19	6.2	6.16
Silent Mode	Heating Capacity (kW)	4.37	5.55	6.72
	COP	7.53	7.55	7.54
Power Supply		220-240V~/ 50Hz		
Max Power Input (kW)		2.3	3.2	3.9
Max Current(A)		10.5	14.5	17.7
Heating Temp. Range(°C)		5~40		
Running Temp. Range(°C)		-10~40		
Advised Swimming Pool Size(m^3)		25~50	30~60	35~70
Refrigerant		R410A		
Compressor		MITSUBISHI ELECTRIC (DC Inverter）		
Air Side Heat Exchanger		Hydrophilic Fin Exchanger		
Water Side Heat Exchanger		Titanium Tube Heat Exchanger		
Water Flow(m^3/h)		4.9	6.6	7.7
Net Dimension LxWxH (mm)		1000×405×660		
Water Pipe Connection (Inlet /Outlet)(mm)		50		
Net Weight (kg)		44	47	52
Noise Level dB(A)		41～51	42～52	43～53
Max./Min. Water Operating Pressure (MPa)		0.6/0.1		
Max./Min. Water Inlet Pressure (MPa)		0.6/0.1		
Fuse Specification		65TS/30A/250VAC		65TS/30A/250VAC

Table-3

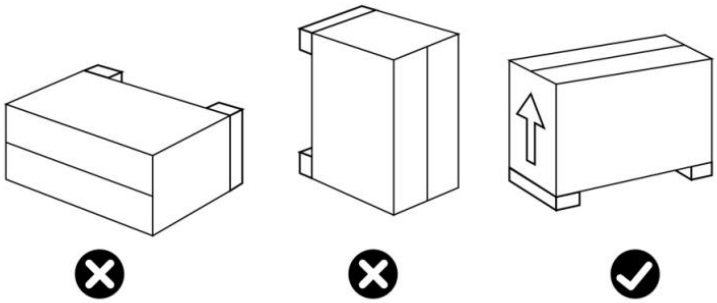
Model:RI		210SPR3TINVM-TR	250SPR3TINVM-TR	280SPR3TINVM-TR
Ambient Temp.: (DB/WB) 27°C/24.3°C; Water Inlet/Outlet Temp.: 26°C/28°C.				
Heating Capacity (kW)		4.72~21.21	5.05~25.28	5.4~28.06
Power Input (kW)		0.29~3.26	0.31~3.89	0.33~4.32
COP		16.2~6.5	16.2~6.5	16.3~6.51
Boost Mode	Heating Capacity (kW)	21.21	25.28	28.06
	COP	6.5	6.5	6.51
Smart Mode	Heating Capacity (kW)	17	20.4	22.61
	COP	9.35	8.9	8.92
Silent Mode	Heating Capacity (kW)	10.2	12.3	13.91
	COP	13.1	13.6	13.5
Ambient Temp.: (DB/WB) 15°C/12°C; Water Inlet Temp.: 26°C.				
Heating Capacity (kW)		3.51- 14.21	3.81- 17.08	4.04~18.49
Power Input (kW)		0.43~2.78	0.48~3.35	0.49~3.56
COP		8.1~5.1	8~5.1	8.2~5.2
Boost Mode	Heating Capacity (kW)	14.21	17.08	18.49
	COP	5.1	5.1	5.2
Smart Mode	Heating Capacity (kW)	11.2	13.5	14.63
	COP	6.2	6.21	6.18
Silent Mode	Heating Capacity (kW)	7.5	8.3	9.31
	COP	7.5	7.52	7.53
Power Supply		380-415V/3N~/50Hz		
Max Power Input (kW)		4.1	4.5	5.4
Max Current(A)		7.3	8.5	10.2
Heating Temp. Range(°C)		5~40		
Running Temp. Range(°C)		-10~40		
Advised Swimming Pool Size(m^3)		45~80	55~90	65~100
Refrigerant		R410A		
Compressor		MITSUBISHI ELECTRIC		
Air Side Heat Exchanger		Hydrophilic Fin Exchanger		
Water Side Heat Exchanger		Titanium Tube Heat Exchanger		
Water Flow(m^3/h)		9.1	10.8	12
Net Dimension LxWxH (mm)		1130×485×775		
Water Pipe Connection (Inlet/Outlet)(mm)		50		
Net Weight (kg)		75	85	90
Noise Level dB(A)		35~50	35~52	36~52
Max./Min. Water Operating Pressure (MPa)		0.6/0.1		
Max./Min. Water Inlet Pressure (MPa)		0.6/0.1		
Fuse specification		65TS/5A/250VAC	65TS/20A/250VAC	

3. INSTALLATION AND CONNECTION

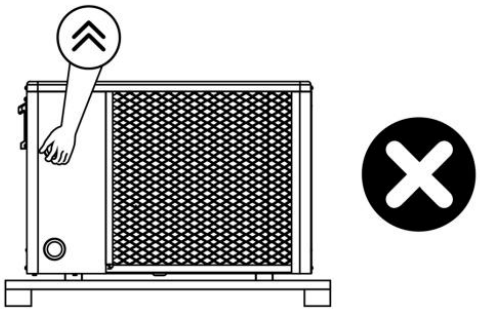
⚠ **WARNING:** The heat pump must be installed by a professional team. The users are not qualified to install by themselves, otherwise the heat pump might be damaged and risky for users' safety.
This section is provided for information purposes only and must be checked and adapted if necessary according to the actual installation conditions.

3.1. Transportation

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

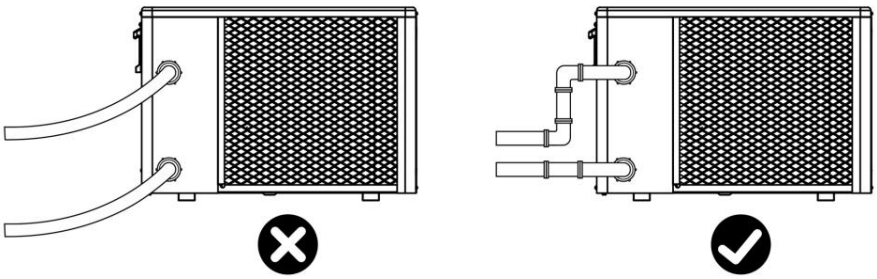


2.When moving the heat pump, do not lift the water union since the titanium heat exchanger inside the heat pump will be damaged.



3.2. Notice Before Installation

1.The inlet and outlet water unions can't 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.

3.3. Installation Instruction

3.3.1 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.

③ A set of wall plugs and expansion screws suitable to attach the unit to your support.

④ We recommend that you connect the unit to your installation by means of flexible PVC pipes in order to reduce the transmission of vibrations.

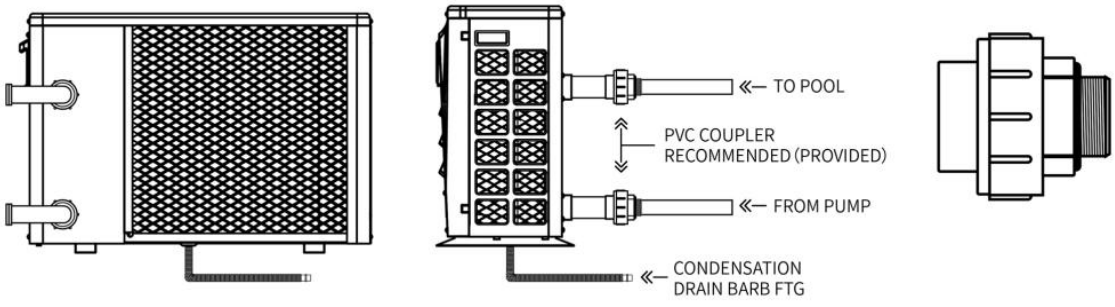
⑤ Suitable fastening studs may be used to raise the unit.

3.3.2 Heat Pump Installation

① The frame must be fixed by bolts (M10) to 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). The recommended pump specification-flux: refer to Technical Parameter, Max. lift ≥10m;

③ When the heat pump is running, there will be condensation water discharged from the bottom, please pay attention to it. Please insert the drainage tube(accessory) into the hole and clip it well, then connect a pipe to drain off the condensation water.Install the heat pump, raising it at least 10 cm with solid water-resistant pads, then connect the drainage pipe to the Steps located under the pump.



3.3.3 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 Check that the unit is properly ventilated, that the air outlet is not facing the windows of neighbouring buildings and that the exhaust air cannot return. In addition, provide sufficient space around the unit for servicing and maintenance operations.

⑥ The unit must not be installed in an area exposed to oil, flammable gases, corrosive products, sulphur compounds or close to high frequency equipment.

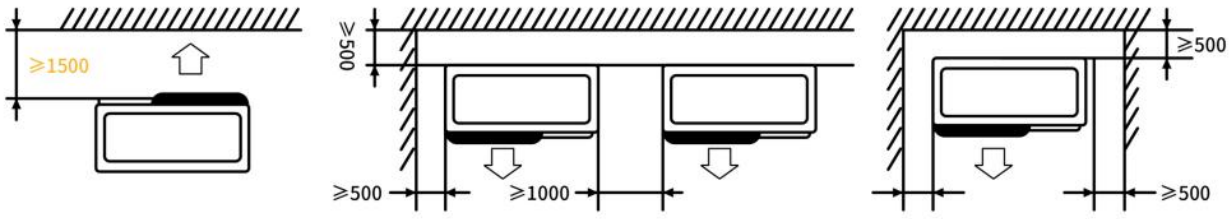
⑦ To prevent mud splashes, do not install the unit near a road or track.

⑧ 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.

⑨ Keep the unit as much as possible out of the reach of children.

⑩ Installation space:

Unit: mm



Do not put anything less than one meter in front of the heat pump.

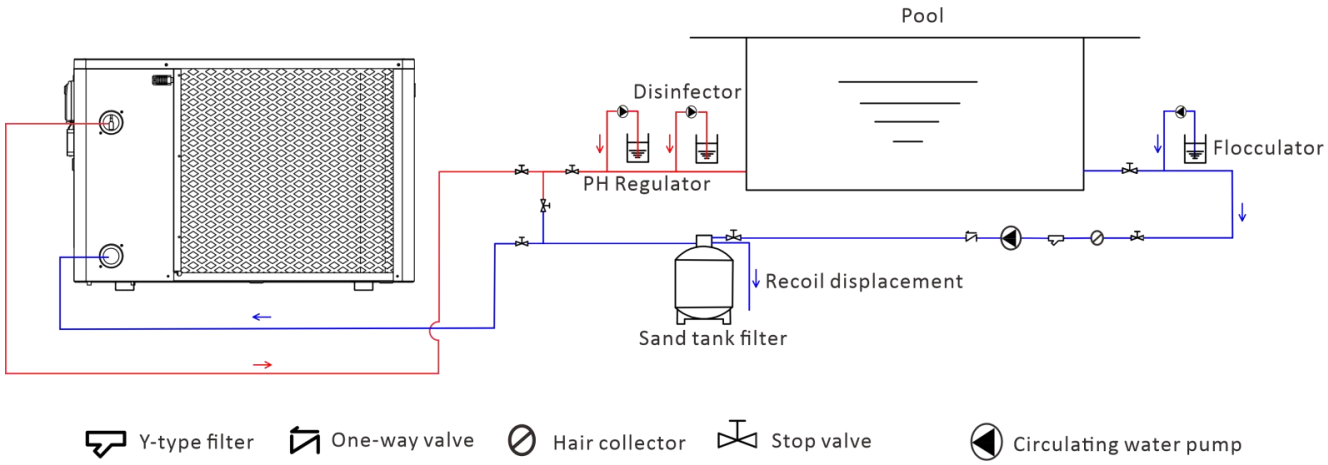
Leave 500 mm of empty space on the sides and back of the heat pump and free ventilation above

Do not leave any obstacles above or in front of the device!

3.3.4 Installation Layout

Notice:The filter must be cleaned regularly to ensure that water in the system is clean and avoid blocking of filter. It is necessary that drainage valve is fixed on the lower water pipe. If the unit is not running during winter months, please disconnect power supply and let out drain water from unit through drainage valve. If ambient Temp. of running unit is below 0℃, please keep water pump running.

The installation diagram is shown in the following figure:



No.	Item	Quantity	No.	Item	Quantity
1	Swimming Pump Unit	1	7	PH Regulator	1
2	Y-Type Filter	1	8	Sand Tank Filter	1
3	One-Way Valve	1	9	Flocculator	1
4	Circulating Water Pump	1	10	Disinfector	1
5	Hair Collector	1	11	Metering Pump	3
6	Stop Valve	7			

3.3.5 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	Cable Diameter	Specification
RI-F50SPR3INVM-TR	220-240V~/ 50Hz	3G 1.5mm²	AWG 16
RI-F70SPR3INVM-TR		3G 1.5mm²	AWG 16
RI-F90SPR3INVM-TR		3G 2.5mm²	AWG 14
RT-F110SPR3INVM-TR		3G 2.5mm²	AWG 14
RT-F150SPR3INVM-TR		3G 4.0mm²	AWG 12
RT-F180SPR3INVM -TR		3G 4.0mm²	AWG 12
RI-F210SPR3INVM-TR		3G 4.0mm²	AWG 12

RI-F250SPR3INVM-TR		3G 4.0mm²	AWG 12
RI-F210SPR3TINVM-TR	380-415V/3N~/50Hz	5G 1.5mm²	AWG 16
RI-F250SPR3TINVM-TR		5G 2.5mm²	AWG 14
RI-F280SPR3TINVM-TR		5G 2.5mm²	AWG 14

3.3.6 Electrical Connection

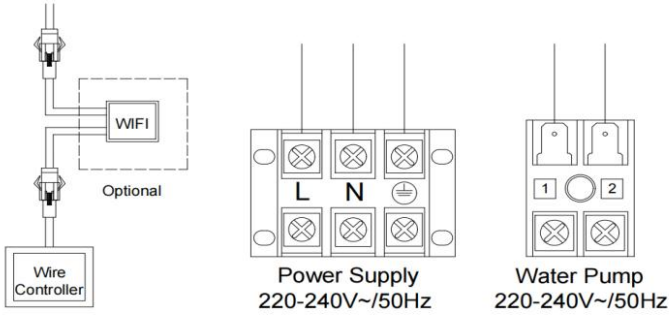
⚠ **WARNING:**Power supply of heat pump must be disconnected before any operation.

Please comply with the following instruction to connect heat pump.

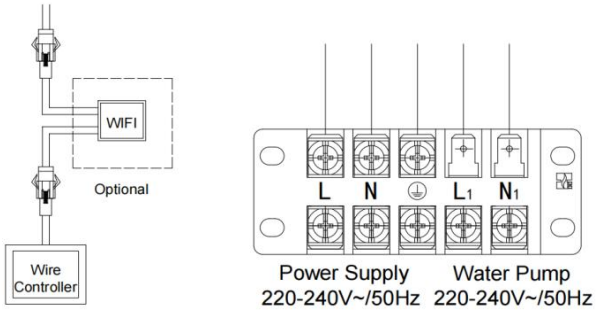
Step 1: Detach electrical side panel by a screwdriver to access electrical terminal block.

Step 2: Insert cable into heat pump unit port.

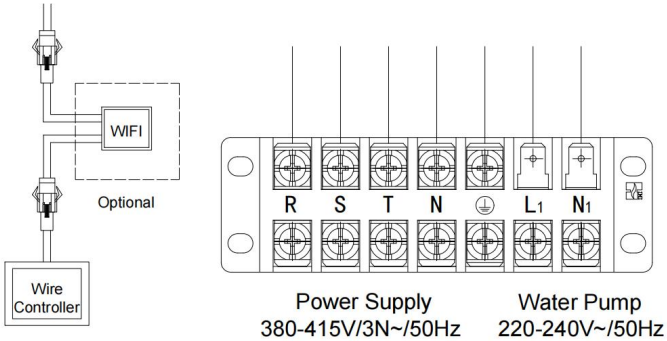
Step 3: Connect power supply cable to terminal block according to the diagram below.



RI-F50SPR3INVM-TR, RI-F70SPR3INVM-TR, RI-F90SPR3INVM-TR, RI-F110SPR3INVM-TR, RI-F150SPR3INVM-TR, RI-F180SPR3INVM-TR



RI-F210SPR3INVM-TR, RT-F250SPR3INVM-TR, RT-F280SPR3INVM-TR



RI-F210SPR3INVM-TR , RI-F250SPR3TINVM-TR , RI-F250SPR3TINVM-TR

3.4. Trial After Installation

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

3.4.1 Inspection Before Trial Running

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

o	Correct unit installation
o	Power supply voltage is the same as unit rated voltage
o	Correct piping and wiring
o	Air inlet & outlet port of unit is unblocked
o	Drainage and venting is unblocked and no water leaking
o	Leakage protector is working
o	Piping insulation is working
o	Ground wire is connected correctly

3.4.2 Trial Running

Step 1:Running test can begin after completing all installation;

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

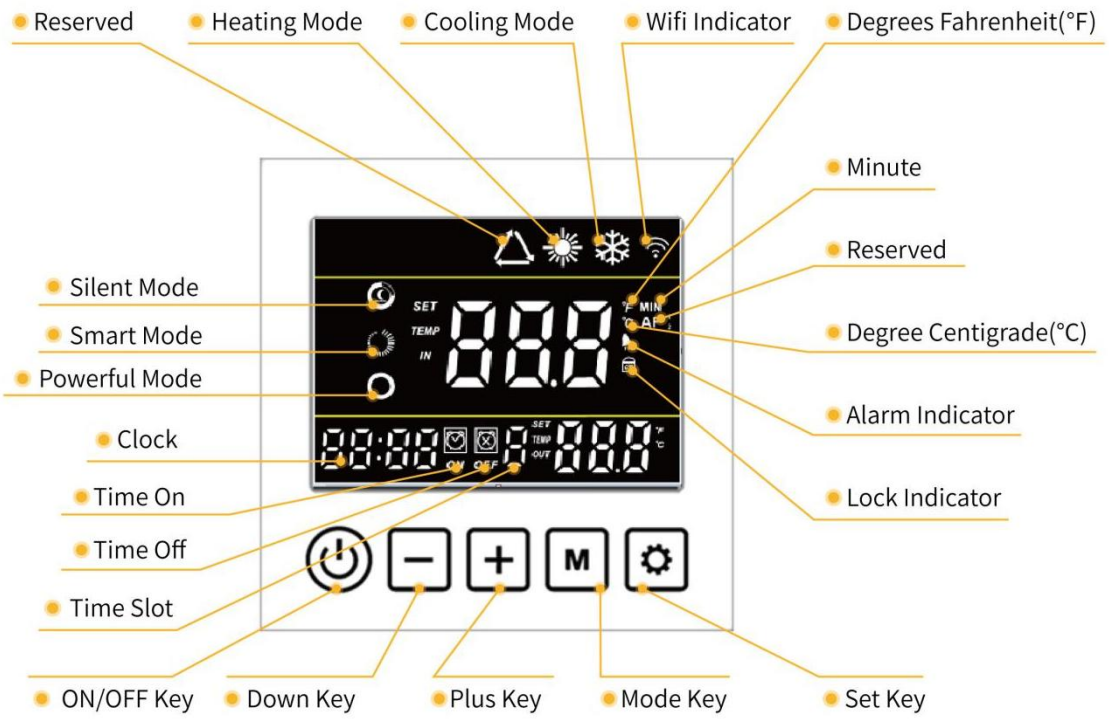
Step 3:Emptying all air within pipes and water tank, press “on-off” button on control panel to run the unit at setting Temp.;

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

① During the first running, unit current is normal or not;
② Each function button on control panel is normal or not;
③ 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 sound or vibration during running?

4. REMOTE CONTROLLER OPERATION GUIDANCE

4.1. Control Panel Diagram



Basic Icons

Symbol	Name	Symbol	Name	Symbol	Name
	On-off		Heating Mode or Defrosting		Silent Mode
	Set		Cooling Mode		Smart Mode
	Up		Key lock		Powerful Mode
	Down		Fault		
M	Mode		Wi-Fi		

4.2. Key Operating Instruction

NO.	Item	Operation Way
1	Unlock	Press the "+" and "−" keys for 3 seconds in the main interface to unlock /lock the screen.
2	On-off	In the main interface, press and hold the "⏻" key for 3 seconds to turn on / off.
3	Check Running Parameters	In the main interface, press and hold the "−" key for 3 seconds to enter the unit status parameter query, cooperate with the "+" and "−" keys for parameter browsing, and press the "⏻" key to exit the parameter query.(See table 1)
4	Choose Mode	In the power on state, long press "M" for 3 seconds to switch the working mode: heating mode and cooling mode.
5	Mode Switch	In the power on interface, press "⚙" to switch frequency mode: silent, smart and powerful mode.
6	Adjust Temperature	In the power on interface, press "+" or "−" to adjust the current mode setting temperature.
7	Adjust Time	Long press "⚙" and "+" for 3 seconds to enter the clock setting state. First, the hour flashes, indicating that the hour value of the current time can be adjusted through "+" and "−" keys. Every time you press the "+" key for plus one hour, every time you press the "−" key for minus one hour. If you hold down the "+" key or "−" key, the hours will be incremented or decremented automatically. After setting the hour value, press "⚙" again; At this time, the minute flashes, indicating that the minute value of the current time can be adjusted through the "+" and "−"key. After setting the minute value, press "⚙" again to finish.

NO.	Item	Operation Way
8	Adjust Timing	Press "⚙" for 3 seconds to enter the timing setting: Enter timing selection,the hour of "Timing On 1" will flash ,collect "+" and "−"can set hour; Click "⚙" again to switch to the minute of "Timing On 1" ,collect "+" and "−" can set minute; Click "⚙" again to set "Timing Off 1" in the same way. Other time period setting in turn and so on; Press"⏻"can Exit and Enter; Back to main interface, it will show the number of scheduled time periods; Cancel timing setting: When the “Timing On” and “Timing Off” are the same, the timer setting of the current time period is canceled.
9	Forced Defrosting	Press the "M"and "−" keys to enter the forced defrost mode. When entering the defrost, showing flashes"❄".
10	Frequency Mode Switch	In the power on interface, press “⚙” to switch frequency mode: silent mode, smart mode, powerful mode.
11	Celsius/Fahrenheit switch	When unit is off ,press "⏻"and"M" for 3 seconds in main interface to switch Celsius/Fahrenheit
12	Turn on Electric Heater Manually	Long press "+" for 3 seconds in main interface to turn on/off the electric heater function.

NO.	Item	Operation Way
13	Advanced Parameter Setting	Long press "⏻"and"⚙" for 5s to enter password interface, it shows 0000 in the time area; Press "+" and "−" to enter password, press "⚙" to switch and confirm. Password 9615: After the input is complete, enter the state of manual frequency setting. Press "+" and "−" to on the home page to adjust the manual frequency. Password 8866: After the input is complete, it enters the frequency checking state. The original "hour" displays "target frequency", and the original "minute" displays "Running frequency". Password 4180:After the input is complete, enter the inverter parameter setting interface after the buzzer beeps twice.(See table 2) Password 0814:After the input is complete, enter the system parameters interface after the buzzer beeps twice.(See table 3)

4.3. System Status Parameter Query

Code	Meanings
A01	Water inlet temperature
A02	Water outlet temperature
A03	Ambient temperature
A04	Exhaust temperature
A05	Suction temperature
A06	Heating coil temperature
A07	Cooling coil temperature
A08	Main EEV Steps
A09	Reserved
A10	Compressor current
A11	IPM temperature
A12	DC bus voltage value
A13	Actual speed of compressor
A14	DC fan speed

4.4. Trouble Shooting

● **Fault code and solution**

In the running process of unit, the unit may be faulted if the following code is displayed, please turn off power switch of the unit and turn on power switch of unit again after 30 seconds. The code is no longer displayed, that means the unit could be used again. If the code is displayed again, please contact our company for trouble shooting!

Code	Description	Reservations
Er 03	Water flow protection	Check water flow switch, change the switch if necessary
Er 04	Winter anti-freezing	Water pump will run automatically for first grade antifreeze
Er 05	High pressure protection	Measure the pressure value when heat pump is heating(cooling), if it's higher than 44.0 bar, it means heat pump has got really higher pressure protection: 1. Detect EEV step, low pressure and suction temp; 2. Detect the inlet/outlet water temp,; 3. Maybe there is some air in the refrigeration system; 4.Clean the water exchanger or water filter
Er 06	Low pressure protection	(According to actual model) Measure the pressure value when heat pump is heating(cooling), if it's lower than 6 bar, it means heat pump has got really lower pressure protection: 1.Maybe there is some leakage in the refrigeration system; 2.Ambient temp. is too low; 3.There is some blockages on the refrigerant system; 4.Clean the fin heat exchanger.
Er 09	Communication fault between display and PCB	1.Check if the communication connection wire between display and PCB is well . Change or mend the wire if necessary . Check the PCB or display. If damaged, Change the corresponding part .
Er 10	Communication fault of frequency conversion module(alarm when communication between display and PCB is disconnected)	Change PCB.
Er 12	High exhaust temp. protection	1.Replace the compressor exhaust temperature sensor. 2.Reconnect or clean compressor exhaust temperature sensor and wrap it with insulation tape. 3.Replace the controller or PC Board.

Code	Description	Reservations
Er 15	Water inlet temperature fault	Check the connection, change the sensor if necessary.
Er 16	External coil temperature fault	Check the connection, change the sensor if necessary.
Er 18	Exhaust temperature fault	Check the connection, change the sensor if necessary.
Er 19	DC fan motor fault	1.Check DC fan motor. Change it if damaged. Check output port of DC fan motor on PCB. Change the PCB if there is no output.
Er 20	Abnormal protection of frequency conversion module	Solve it according to the subsidiary error codes in the following table.
Er 21	Ambient temperature fault	Check the connection, change the sensor if necessary.
Er 23	Low outlet water temp protection when cooling	Check the water flow and water system,mend it if necessary.
Er 27	Water outlet temperature fault	Check the connection, change the sensor if necessary.
Er 28	CT over current protection	
Er 29	Suction temperature fault	Check the connection, change the sensor if necessary.
Er 32	High outlet water temperature protection when heating	Check the water flow and water system,mend it if necessary
Er 33	Outdoor coil high temperature protection	Wait for the ambient temperature drops and restart the unit.
Er 42	Internal coil temperature fault	

E20 fault will display the following error codes at the same time, the error codes will switch every 3 seconds. Among them, error codes 1-128 appear in priority. When error codes 1-128 don't appear, then it will show error codes 257-384 . If two or more error codes appear at the same time, then display error codes accumulation. For example, 16 and 32 occur at the same time, it will show 48.

Code	Parameters Meaning	Fault Solution

Code	Parameters Meaning	Fault Solution
1	Compressor Over-current	1. The compressor is temporarily overloaded (for example, liquid compression) 2. The program does not match the compressor 3. The U, V, and W lines of the compressor are inversely connected, and the compressor reverses 4. Compressor wear (lack of oil, liquid compression lead to wear cylinder block)
2	Compressor out of step	1. The compressor is temporarily overloaded (for example, liquid compression) 2. The program does not match the compressor 3. The compressor start pressure difference is too high and low.
8	Compressor phase loss	1. Cables U, V, and W of the compressor are missed or improperly connected 2. The program does not match the compressor 3. The compressor starts too high and low pressure difference
16	DC voltage is too low	1. Check whether the AC voltage is abnormal 2. AC power is suddenly cut off, and the DC voltage will be too low when the converter capacitor is left for the chip to work
32	DC voltage is too high	Check whether the AC voltage is abnormal
257	Communication is abnormal	1. Check whether the communication cable is improperly connected 2. Check whether the baud rate and communication address code are set according to the communication protocol 3. Replace the driving board for testing
258	AC phase loss or CT is disconnected	1. The current transformer on the driving board is damaged during transportation 2. Check whether the current transformer is improperly inserted during production 3. The AC current at the frequency above 40Hz is very small, resulting in abnormal detection of the current transformer
260	AC over-current or compressor overpower	1. AC overcurrent (currently available for external models with a separate filter board), the load is suddenly too large to reduce the frequency 2. Compressor overpower (combined plate, three-phase 380V, no single filter plate model) the load is suddenly too large to reduce the frequency too late 3. Compressor overpower (combined plate, three-phase 380V, models without separate filter plate) The compressor starts too high and low pressure difference
288	IPM over heat protection	1. The heat dissipation is poor. The condensing fan rotates at a low speed or stops unexpectedly 2. The ambient temperature rises too fast, leading to too late reaction of over-temperature frequency reduction

Code	Parameters Meaning	Fault Solution
320	Compressor current protection	1. The compressor is temporarily overloaded (for example, liquid compression) 2. The program does not match the compressor 3. The U, V, and W lines of the compressor are inversely connected, and the compressor reverses 4. Compressor wear (lack of oil, liquid compression lead to wear cylinder block)
384	PFC module over heat protection	1. The heat dissipation is poor. The condensing fan rotates at a low speed or stops unexpectedly 2. The loop temperature rises too fast, leading to too late reaction of over-temperature frequency reduction

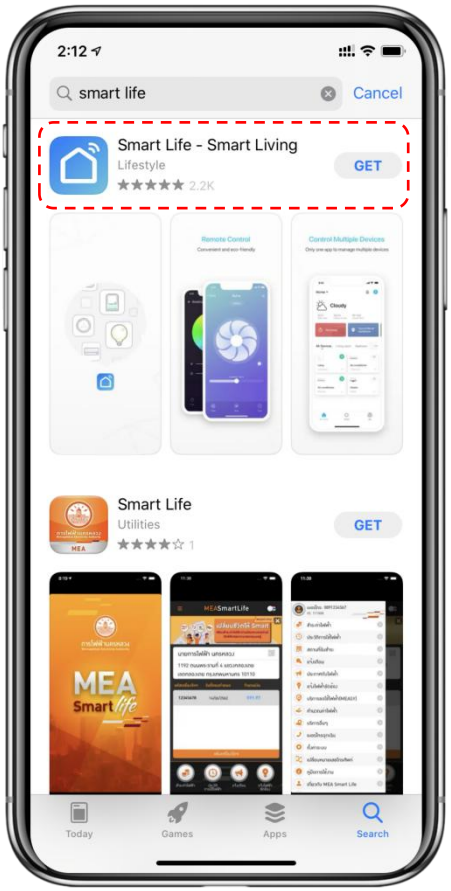
Other Malfunctions and Solutions (No display on LED wire controller)

Phenomenon	Cause	Solution
Unit is not running	1. Power outage 2. Power switch is not connected 3. Power switch fuse is burned-out 4. Timing is not up	1. Please wait for power supply recovery 2. Connect power 3. Replace fuse 4. Please wait or cancel timing setting
Unit is not running after starting up	1. Compressor protection time interval is not up 2. Water temperature of the unit does not reach starting up water temperature value	1. Please wait patiently for the end of protection time 2. Normal phenomenon and wait for water temperature to reach
Unit is running normally, but hot water temperature is low	1. Improper temperature setting 2. Large hot water consumption 3. Air inlet port or outlet port of outdoor machine or indoor machine is blocked	1. Set up proper temperature 2. Wait for temperature of hot water to rise 3. Clear tuyere obstruction
Unit is running automatically	Reach timing to start up	Please shutdown manually or cancel timing if needn’t start up

4.5. Wi-Fi Settings

4.6.1 Software Installation

① Method 1: Search ”Smart life” in your APP store ,install “ ”.Click “GET” to install.



② Method 2: Scan the QR code below.

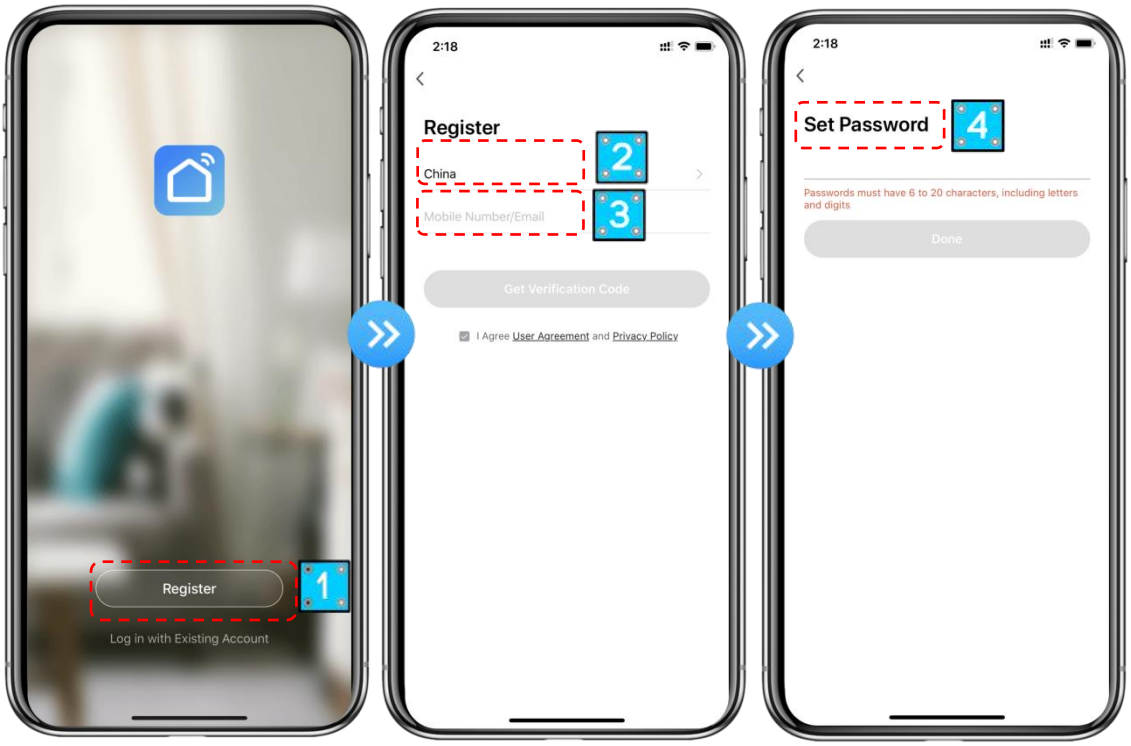
4.6.2 Software Startup

After installation,click “ ” on your desktop to start up Smart Life.

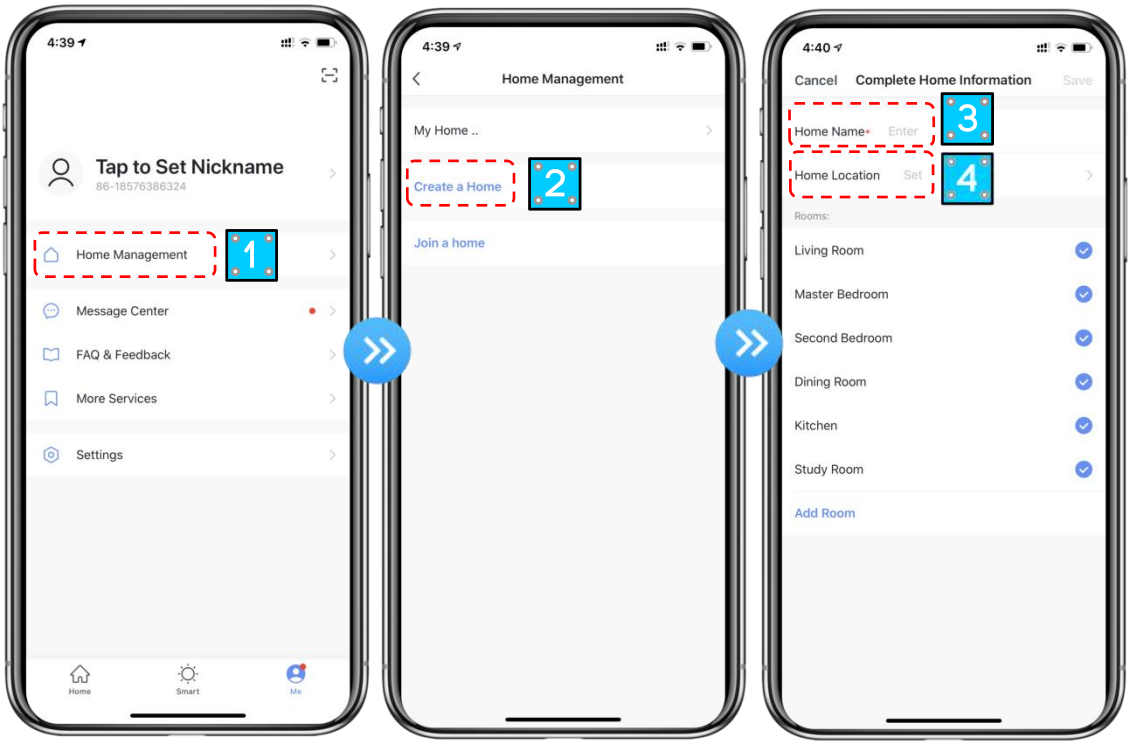
4.6.3 Software Registration and Configuration

1. Registration

① Users don’t have account can click “Register” to create an account: Register → Enter your phone number → Get Verification Code → Enter Verification Code → Set Code;

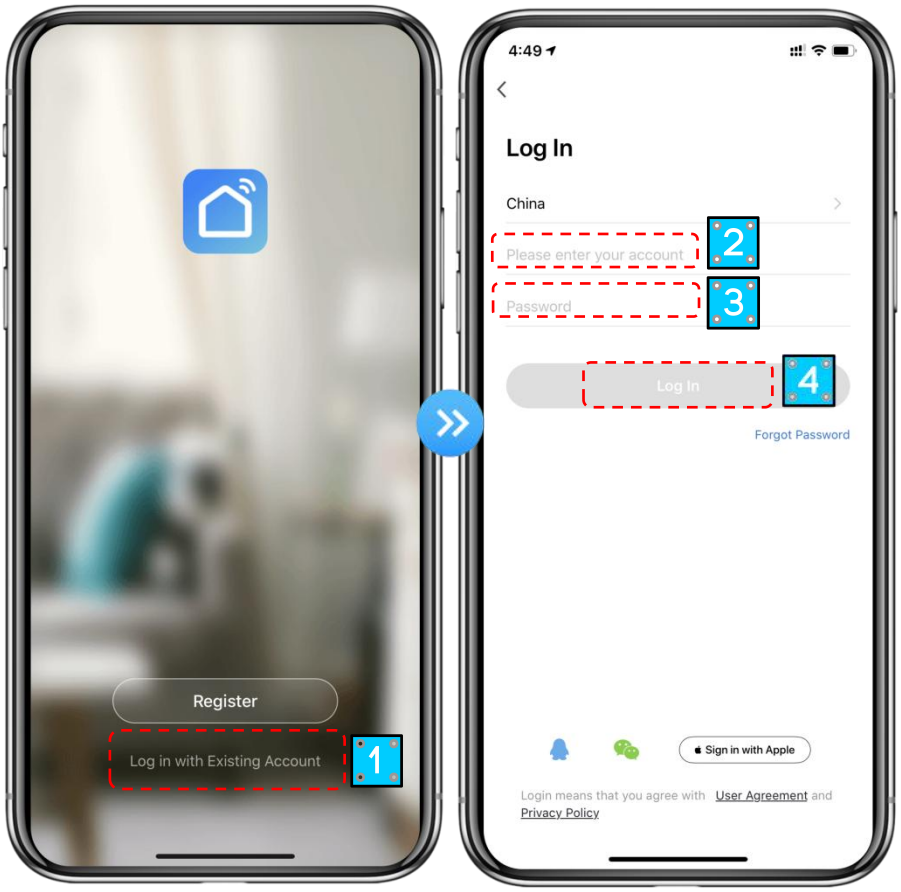


② After registration, you need to Create a Home:Create a Home → Set Home Name → Set Home Location → Add Rooms.

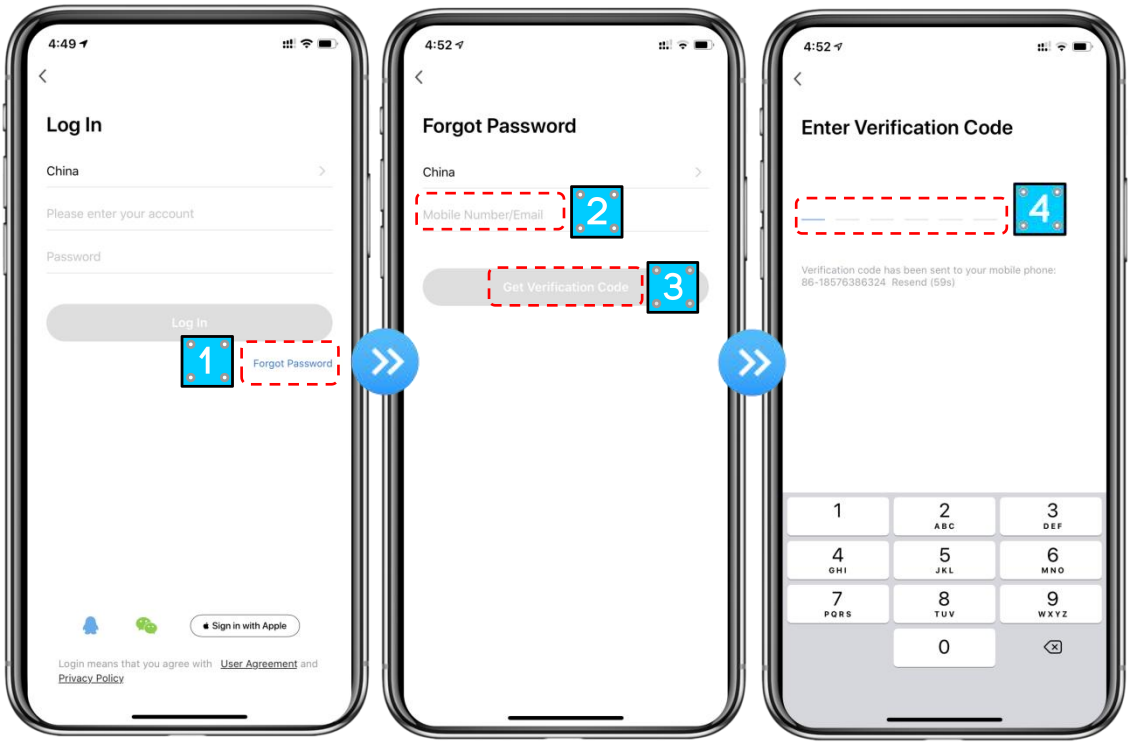


2. Account ID+ Password Login

① Existing accounts can be logged in directly, in the following order.



② If you forget your password you can choose to login with your verification code and select "Forget Password": Enter your phone number → Get verification code .



③ After creating a home or logged in,enter the main interface of APP.

Note:

Click the device to check the status, and you can set the operating mode, ON/OFF, timer.

Click “＋” to add devices.

3. Wi-Fi Module configuration steps:

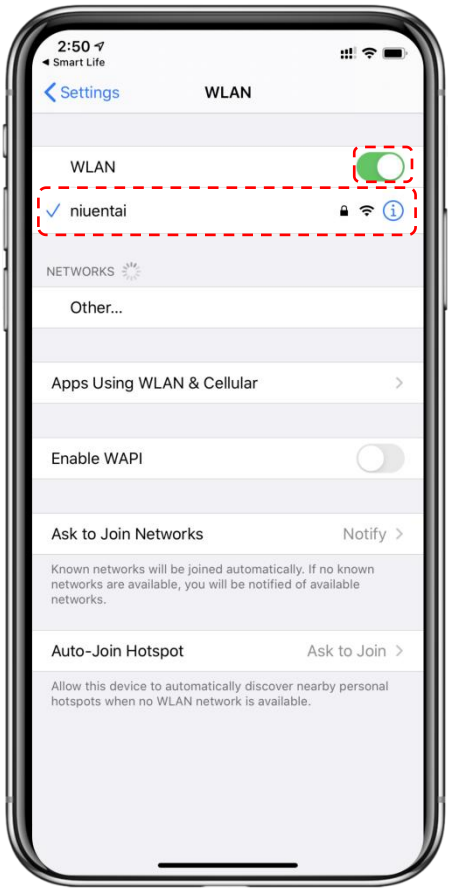
Method 1

Step 1:

EZ Mode: When power is on, press and hold the "＋" and "M" keys at the same time for 3 seconds to enter the distribution network. The "" icon will flash rapidly;.

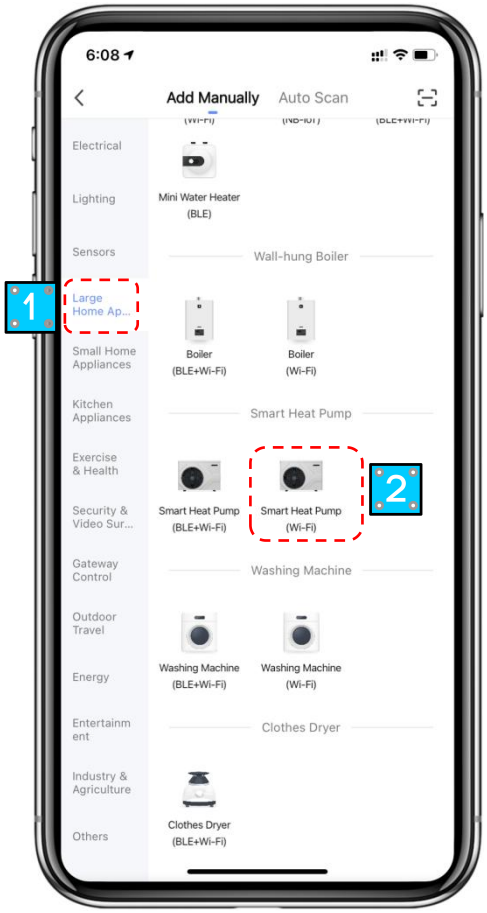
Step 2:

Turn on the phone's Wi-Fi function and connect to the Wi-Fi hot-spot. The Wi-Fi hot-spot must be able to connect to the Internet normally;



Step 3:

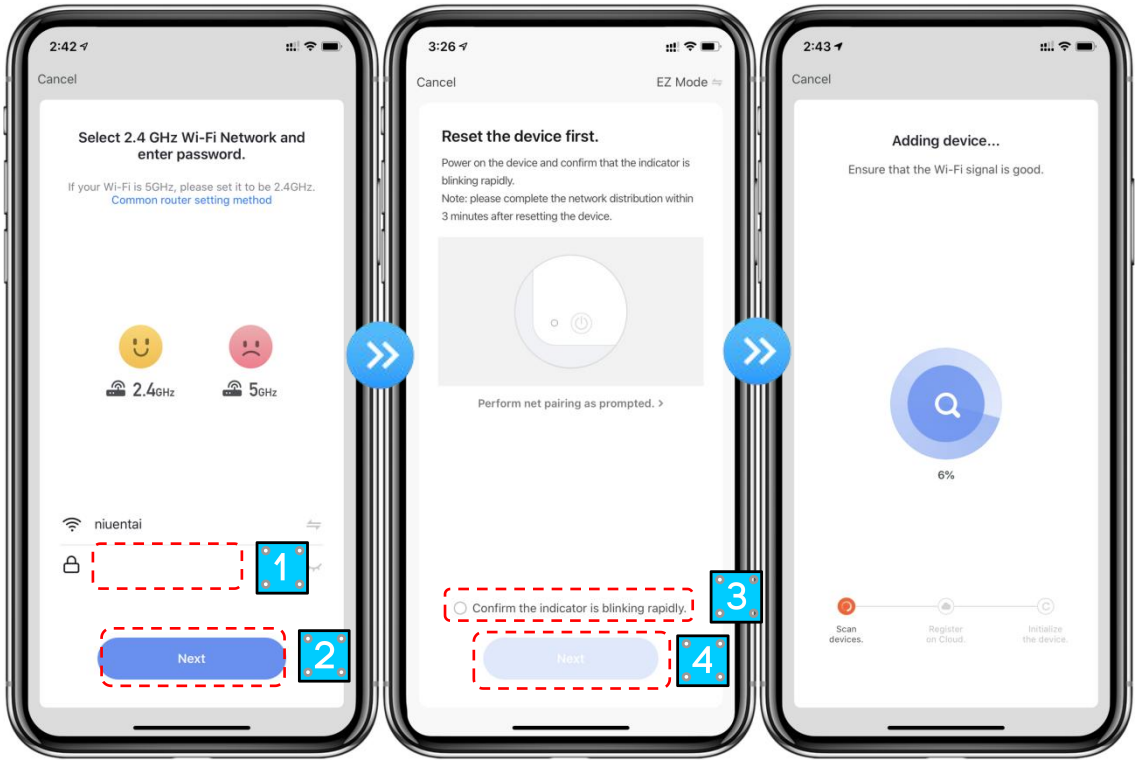
Open the "smart life" APP, log in into the main interface, click on the top right corner "+" or "add equipment" of the interface, enter the equipment type selection, the "Large Home Appliances" , select "Smart Heat Pump" equipment and add equipment into the interface.



Step 4:

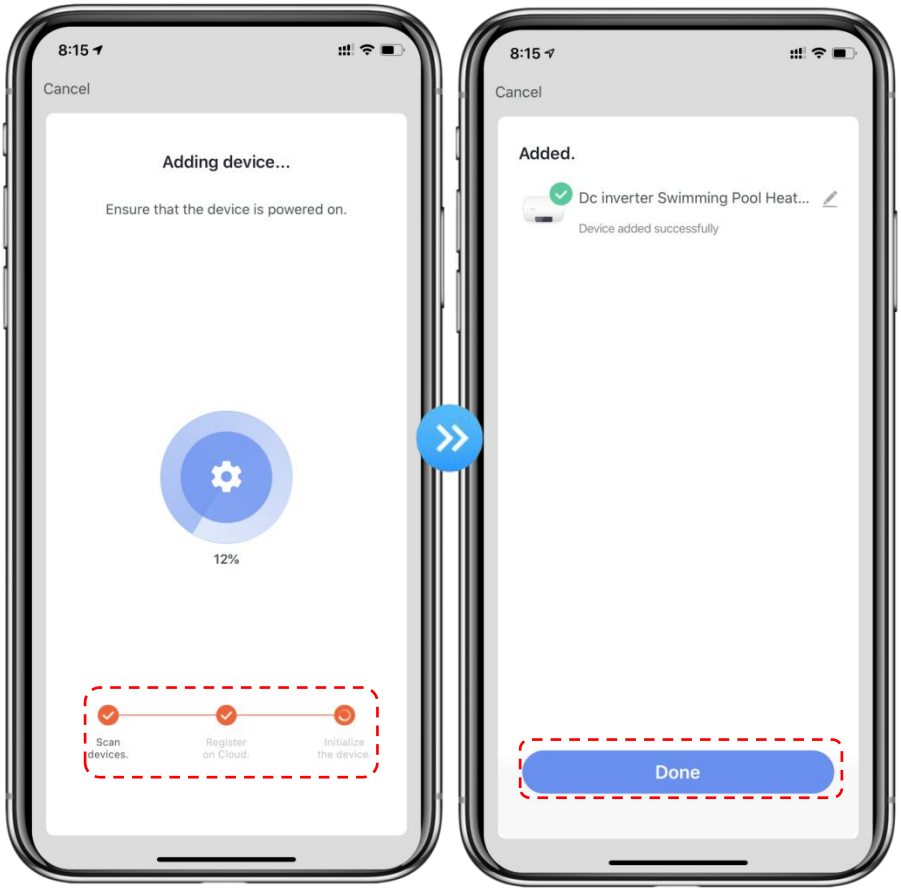
After selecting "Smart Heat Pump", enter the interface of "Add Equipment", and confirm that the wire controller has selected the EZ mode.

Enter the Wi-Fi connection interface, enter the Wi-Fi password of the mobile phone (it must be the same as the Wi-Fi of the mobile phone), click "Next", and then directly enter the connected status of the device.



Step 5:

When “Scan devices”, “Register on Cloud”, “Initialize the device” are all completed, connect succeeds.



Method 2

Step 1

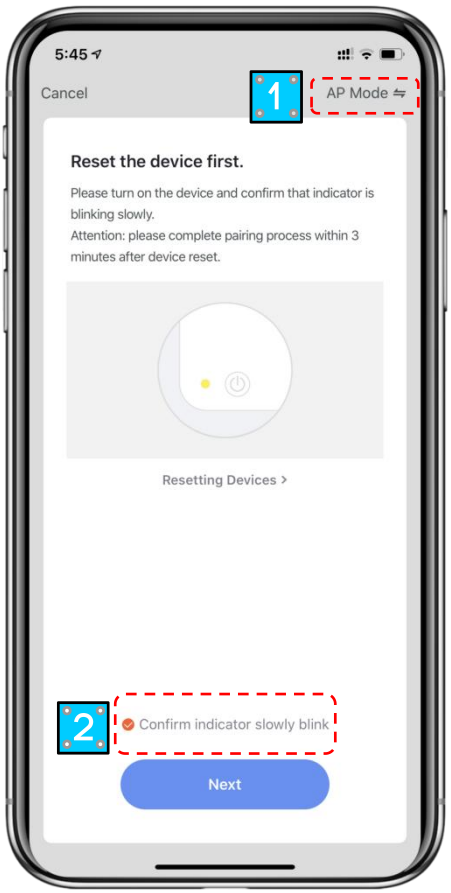
AP Mode: Press and hold the "−" and "⏻" keys at the same time for 3 seconds to enter the distribution network. The "📶" icon will flash slowly..

Step 2&3

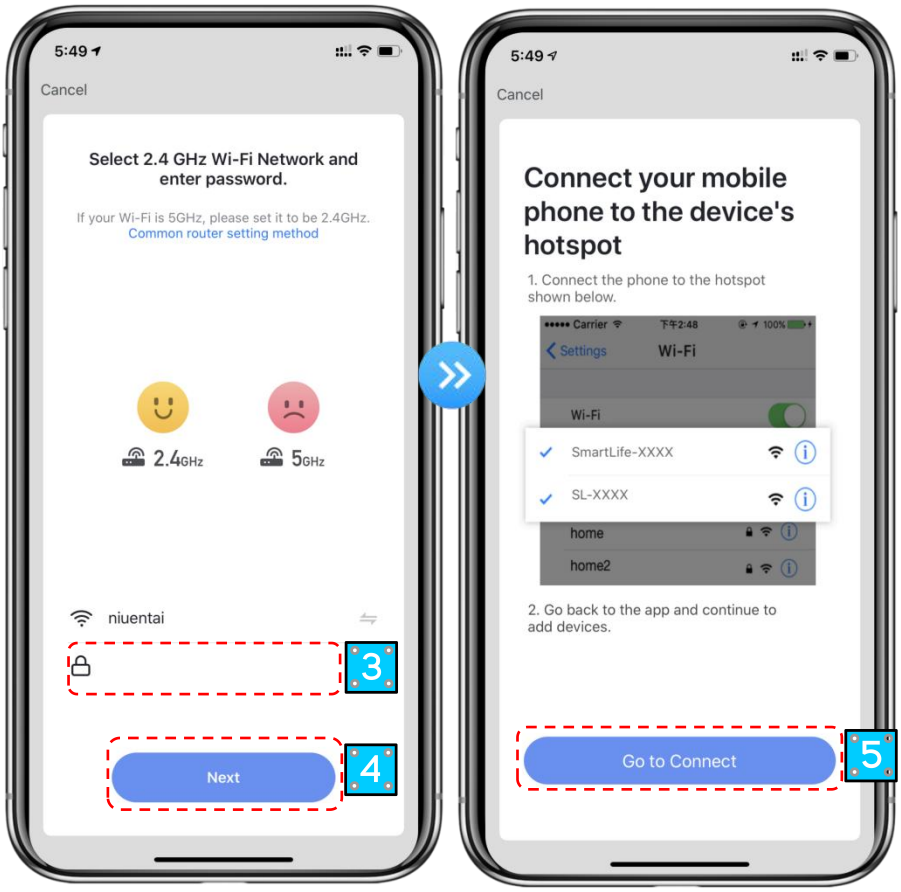
Same with EZ Mode above.

Step 4

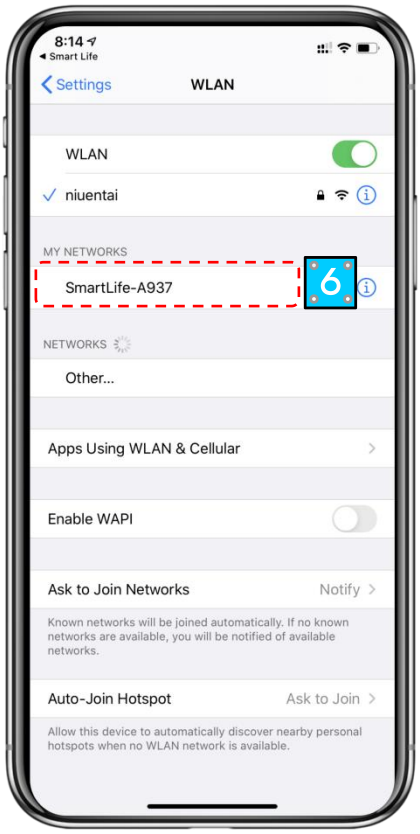
After entering the add device interface, click "EZ Mode" in the upper right corner; Enter the AP mode to add the device interface, confirm that the AP mode has been selected, and click"Confirm indicator slowly blink".



The interface of Wi-Fi connection will pop up, enter the Wi-Fi password of the mobile phone (it must be the same as the Wi-Fi of the mobile phone), click "Next", "Connect your mobile phone to the device’s hot spot" will pop up, and click "Go to Connect";



Enter the mobile phone Wi-Fi connection interface, find the “SmartLife_XXXX” connection, and the APP will automatically enter the device connection status.



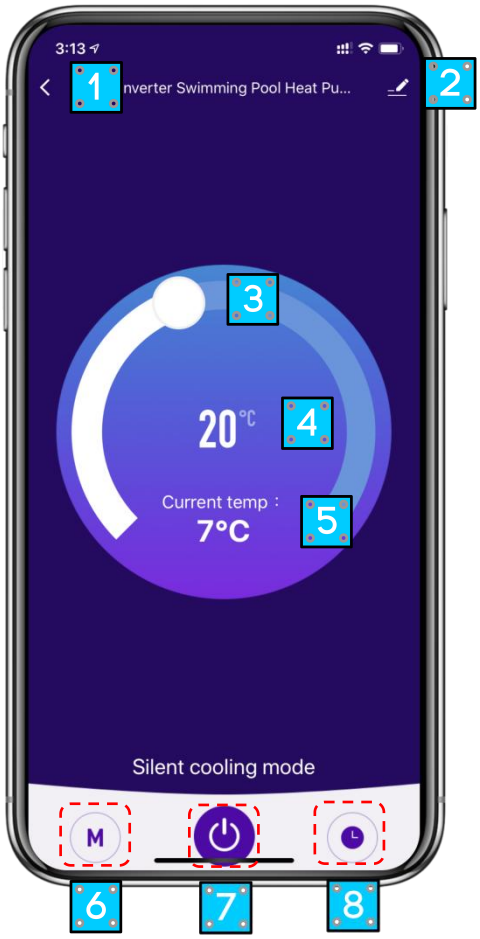
Step 5 : Same as EZ mode above.

Note: If the connection is failed, please enter the AP mode manually and reconnect according to the above steps.

4.6.4 Software Function Operation

● After the device is bound successfully, enter the operation interface of “Smart heat pump” (Device name, modifiable)

● In the main interface of “Smart Life”, click “Smart heat pump” to enter the operation interface.



① Back

② More: You can change device name, select device installation location, check networking status, add Shared users, create device cluster, view device information, and more.

③ Setting temperature adjustment: The white circle slides counterclockwise to reduce the temperature, but clockwise to increase the temperature.

④ Target temperature

⑤ Current temperature

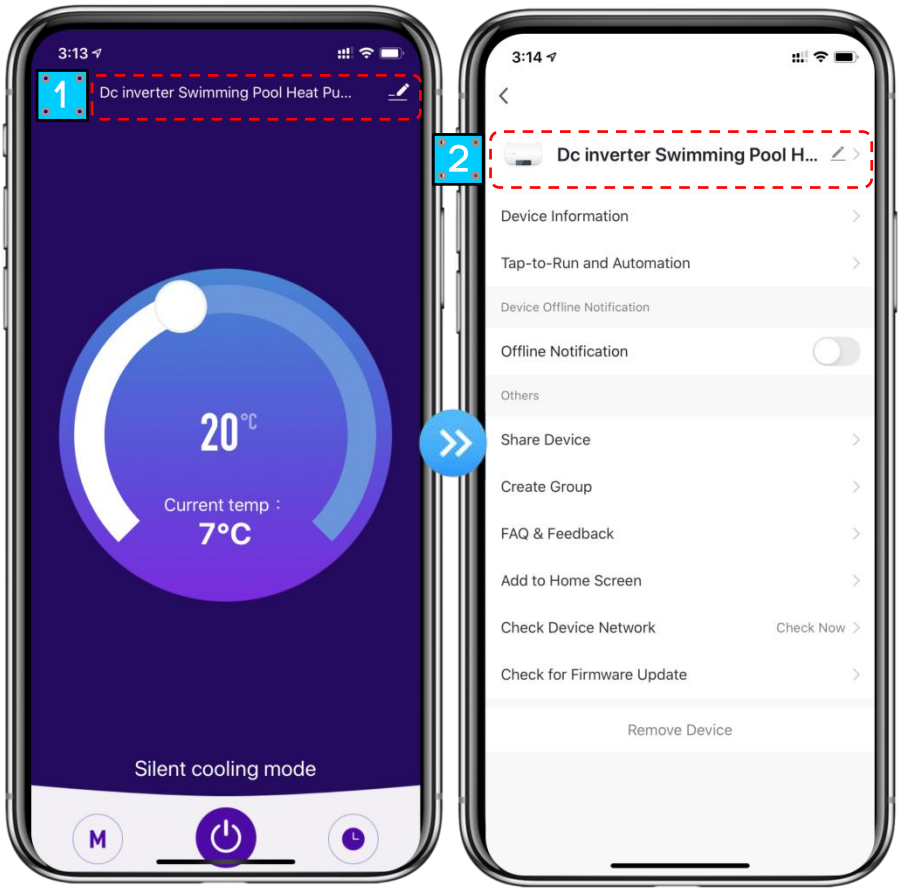
⑥ Mode switching: Click to select the mode to be switched.

⑦ ON/OFF

⑧ Timing: Click to add timing off/on time.

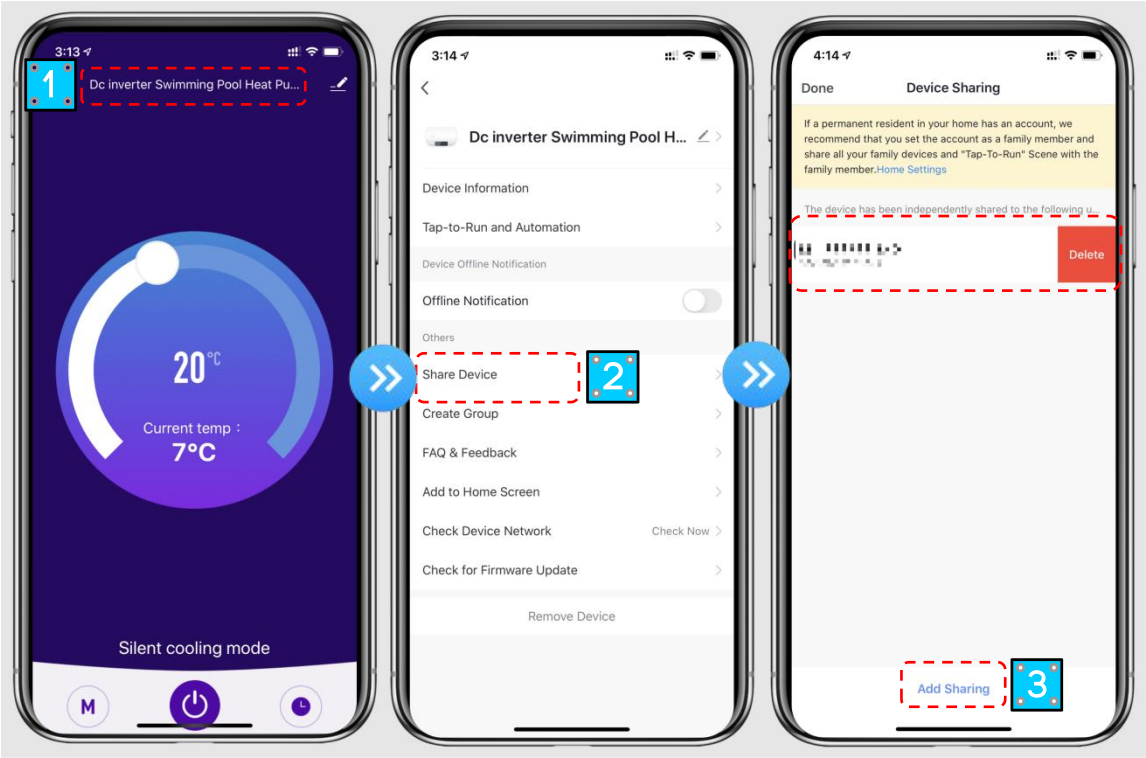
● **Modify device name**

Click in the following order to enter device details, and click "Device Name" to rename the device.

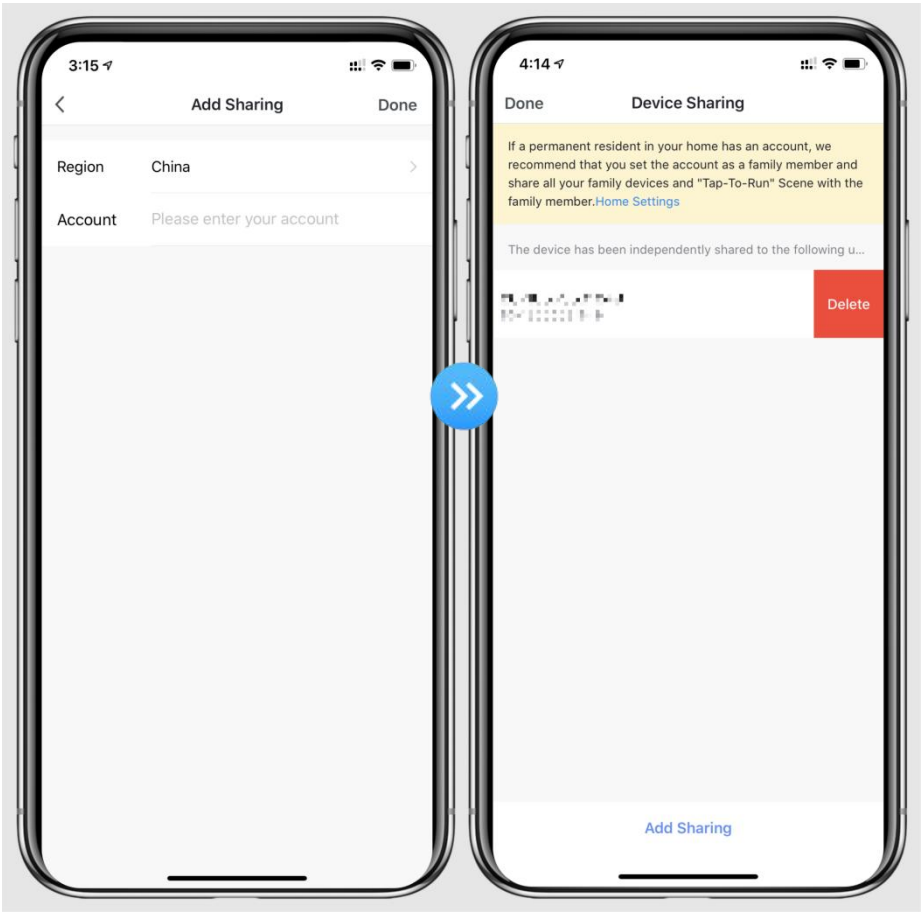


● **Device sharing**

- ◆ To share a bound device, the user should do so in the following order.
- ◆ After successful sharing, the list will be added to show the person shared
- ◆ If you want to delete the account you shared to, cross the selected account to the left,and delete it.
- ◆ The user interface is as follows.



◆ Enter the account of the shared, click "Done", and the share success list shows the newly added account of the Shared.

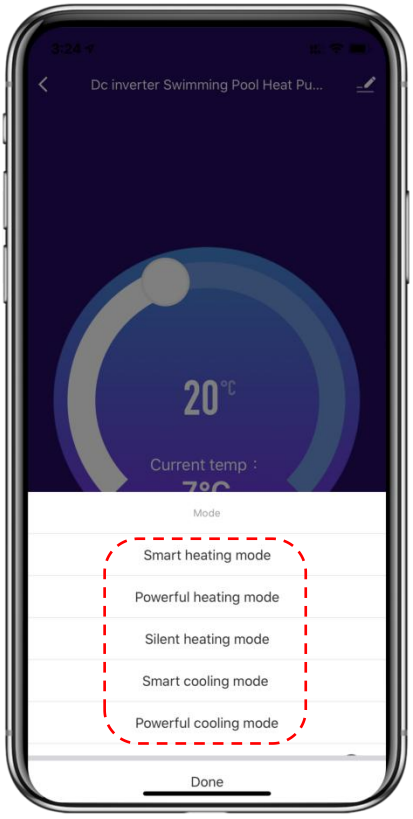


◆ The interface of the person to be shared is as follows. The received shared device is displayed.

Click it to operate and control the device.

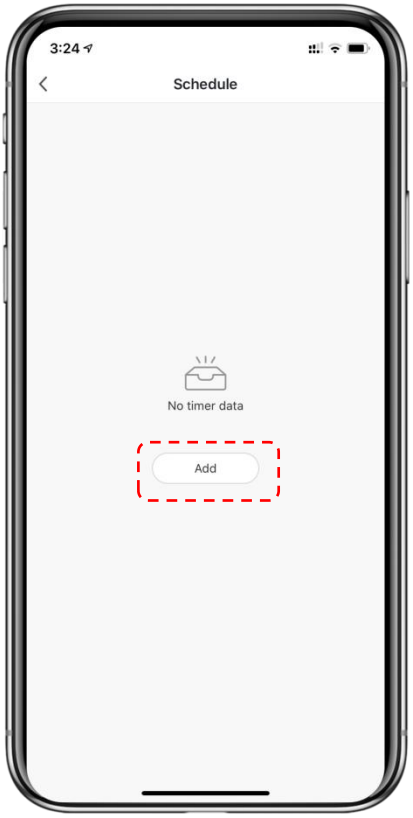
- **Mode settings**

Click “ M ” on the main interface to switch modes,select what you need.

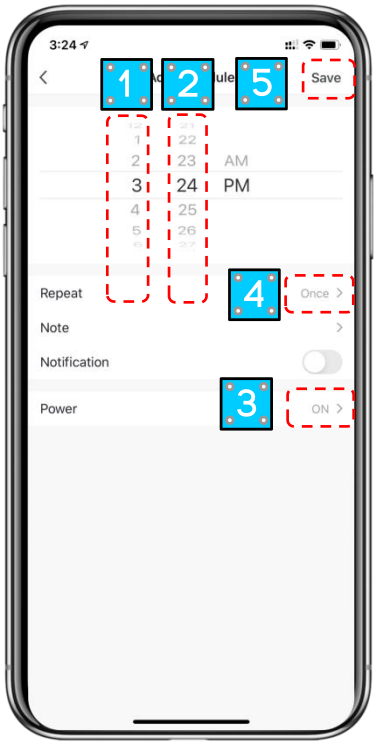


● **Timer setting**

1. Click “ ” on the main interface to enter timer setting interface, as shown below, click to add timer.



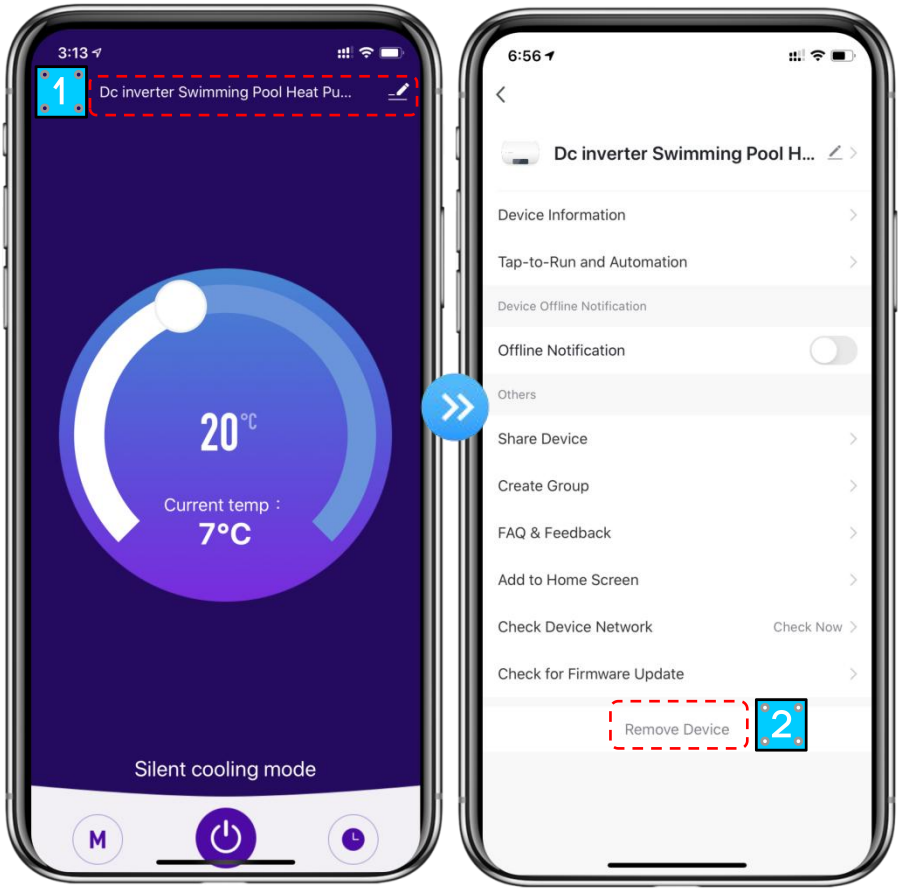
2. After entering timer setting, swipe up/down to set timer,set up repeat weeks and on/off,then click “save” to save your settings as follows.



① Hours
② Minutes
③ Set the repetition
④ Set power ON/OFF
⑤ Save your modification

4.6.5 Device Removal

Click “ ” on the top right corner of the main interface to enter the device details interface, and click “device removal” to enter EZ mode. Indicator light under“ ” flashes rapidly for 3min, The network can be reconfigured within 3 minutes, and the network can be quit if it is not connected within 3 minutes. The specific operations are shown as follows.



5. MAINTENANCE AND WINTERZING

5.1. Maintenance

⚠ **WARNING:**Before undertaking maintenance work on the unit, ensure that you have disconnected the electrical power supply.

- **Cleaning**

a. The heat pump's casing must be cleaned with a damp cloth. The use of detergents or other household products could damage the surface of the casing and affect its properties.

b. The evaporator at the rear of the heat pump must be carefully cleaned with a vacuum cleaner and soft brush attachment.

- **Annual maintenance**

The following operations must be undertaken by a qualified person at least once a year.

a. Carry out safety checks.

b. Check the integrity of the electrical wiring.

c. Check the earthing connections.

d. Monitor the state of the pressure gauge and the presence of refrigerant.

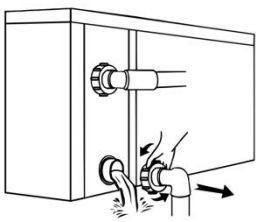
5.2. Winterizing

"CUT OFF" power supply of the heater before cleaning, examination and repairing

In winter season when you don't swim:

a. Cut off power supply to prevent any machine damage.

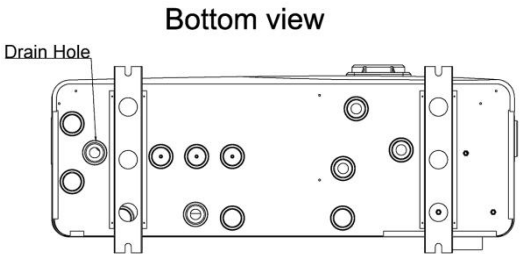
b. Drain water clear of the machine.



⚠ **!! 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.

c. Drainage of chassis condensate.



⚠ **!! Important:**

When the unit runs at an ambient temperature of less than 5℃, please remove the rubber plug of the drain hole of the chassis to ensure its smooth drainage.

d. Cover the machine body when not in use.

Website: www.rital.com.tr
Whatsapp: +90 530 936 74 97
Address: Baglarcesme mah. dogan araslı Bulv no:165 demirpark avm kat:2 ofis:35
Esenyurt İstanbul