MANUAL DE INSTALAÇÃO E OPERAÇÃO

Bomba de Calor para Piscina FULL Inverter

MAX100

Muito obrigado por adquirir o nosso produto, leia este manual com atenção antes de instalar a bomba de calor.

MAXPOWER

FORÇA E RESISTÊNCIA

Conteúdo

Fluorinated greenhouse gas – (R32)

The device contains the fluorinated greenhouse gas (R32) which is required for the device to work.

Industrial designation	HFC-32
Common designation	R32
Global warming potential (GWP)	675

Further information can be found on the device itself or the Specifications.

⚠ WARNING!

Risk of fire and explosion through leaking finned heat exchanger!

The refrigerant circuit of the finned heat exchanger contains high pressure, easily flammable, odorless gas. It will have risk of fire and explosion in the case of uncontrolled gas leakage.

- Action of filling gas must be conducted by professional engineers with R32 operating license.

- Keep the heat pump away from heat sources and naked flames.

- Do not drill into or scorch the heat pump.

- Do not use any objects apart from those permitted by the manufacturer to speed up the defrosting process.

- Immediately shut off the heat pump if you suspect a gas leakage.

- The refrigerant is odorless. Always keep ignition sources away from the installation site of the heat pump.

- Contact an authorized engineers if you suspect a gas leakage.

⚠ WARNING!

Risk of electric shock!

A faulty electrical installation or a mains voltage ~~that~~ is too high can lead to electric shock.

- ~~Have~~ The installation, initial start-up and maintenance of the heat pump carried out by authorized technician only.

- Please always cut the power supply if you want to open the cabinet to reach inside the heat pump as there is high voltage electricity inside.

- Only start to use the heat pump after checking all safety regulations.

- Only can connect the heat pump to the power socket if the mains voltage from the power socket matches the voltage indicated on the rating plate.

- Do not operate the heat pump if there is visible damage on the mains cable or the mains plug is defective.

- Do not open the cabinet, Leave repairs to qualified engineers. Liability and warranty claims are excluded in the event of repairs carried out on your own, improper operation.

- Ensure people do not insert any objects into the fan blade and heat pump.

- Ensure the electrical system of heat pump is connected to the earth.

- lightning protection must be carried out if the unit is installed where is vulnerable to lightning stroke.

ATTENTION!

- The manufacturer declines any responsibility for the damage caused with the people, objects and of the errors due to the installation that disobey the manual guideline. Any use that is without conformity at the origin of its manufacturing will be regarded as dangerous.

- Please always keep the heat pump in the ventilation place and away from anything which could cause fire.

- Don’t weld the pipe if there is refrigerant inside machine. Please keep the machine out of the confined space when Charging gas by the authorized technician.

- Please always empty the water in heat pump during winter time or when the ambient temperature drops below 0℃, or else the Titanium exchanger will be damaged because of being frozen, in such case, it will be out of warranty for this machine.

- Please well keep the display controller in a dry area to protect the display controller from being damaged by humidity.

1. Accessories description

Each unit produced by our factory is with the following accessories:

No.	Name	Qty.	Use
1	Instruction Manual	1 PC	Guide users to install the system
2	Drain-pipe	1 PC	Used for draining the condensate water
3	Drain-pipe connector	1 PC	Connect the drain pipe to the heat pump unit
4	Rubber shock absorber	4 PCS	Reduce vibration and reduce noise
5	Heat pump unit	1 SET	For heating and cooling water
6	Water connection	2 SET	Connect the piping system
7	Winter cover	1 PC	Protection for machine

For function you need to purchase at least the following parts for each unit:

No.	Name	Qty.	use
1	Water pump	1	Cycle the water
2	Filter system	1	Protect the heat pump from pool water
3	Water pipes system	1	Connect the equipment and make circulation

⚠ NOTE

The types and quantity of the water pipes, valves, filter equipment, sterilizing equipment which used for the swimming pool heating/circulation pipe system, depend on the project design.

We suggest not to install auxiliary electric heaters in the system. If must install auxiliary electric heaters, it should be operated by the specialized engineers, and our company has no responsibility for all the problem cause by the auxiliary electric heater.

2. Attention for safety

Range of application:

1. 1.Power supply: : BYC-030TD3、BYC-035TD3：380~415V/3N~50/60Hz.
BYC-035TD1：220V~240V~50/60 Hz
2.Environment temperature: -15°C～43°C
3.Water temperature range: 8°C~40°C

● Confirm the ground connection, if the ground connection is not correctly done, it may cause electric shock. And please cut off the power in the lightning storm weather.

● If install the heat pump in a small room, must keep good ventilation.

● The main power switch should be out of the reach of Children.

● Don't put finger or stick into the air inlet or air outlet as the high-speed rotor may cause injury.

● When an exception happened (burning smell etc..), turn off the manual power switch immediately and contact with after-sale service department.

● When the unit needs to be removed or re-installed or repaired, please entrust after-sale service department and specialized personnel to do it. If the installation/ maintenance is not well done, it may cause unit operation failure, electric shock, fire, hurt, leaking, etc.

● It’s forbidden to reform the units without authorized, otherwise it may cause electric shock or fire.

● It’s forbidden to install the unit with combustible around.

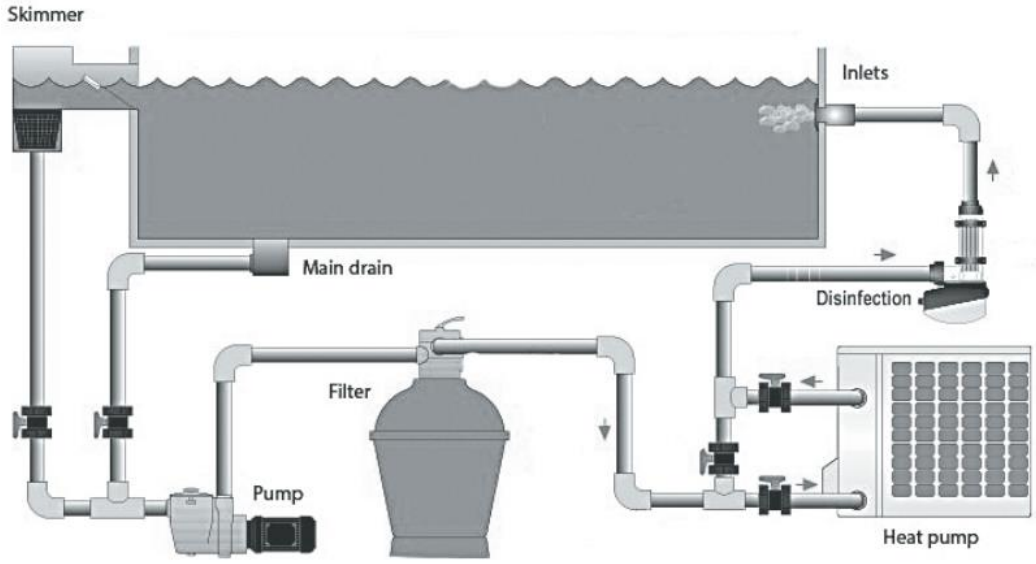
● Confirm the installation base is strong enough to avoid falling of the heat pump.

● Confirm leakage protection switch is installed to avoid electric shock or other issues.

● When cleaning the unit, the operation should be stopped, and power switch should be turned off.

3. Installation of the unit

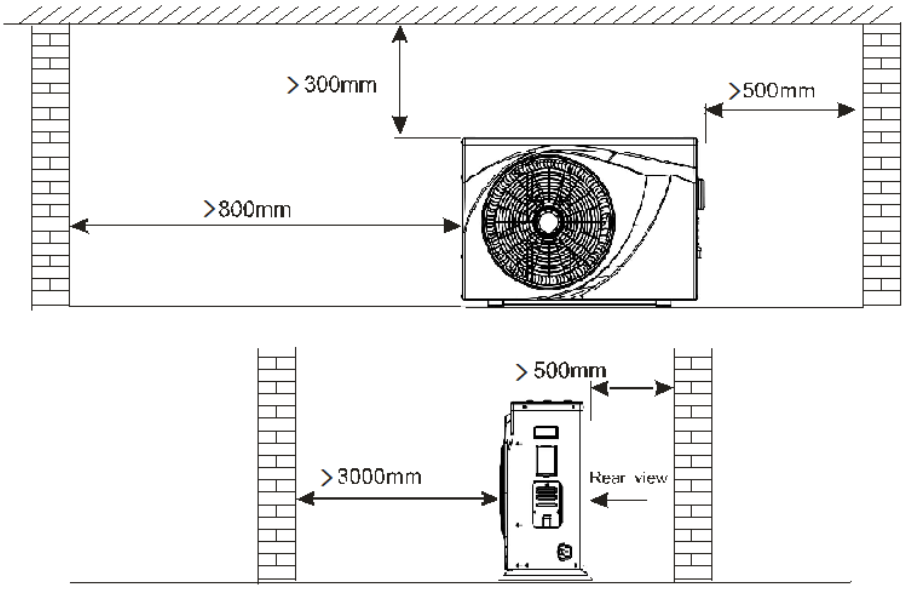
3.1 Installation Illustration



Above illustration is just for the reference, please follow the advice of authorized installers.

3.2 Advised installation space

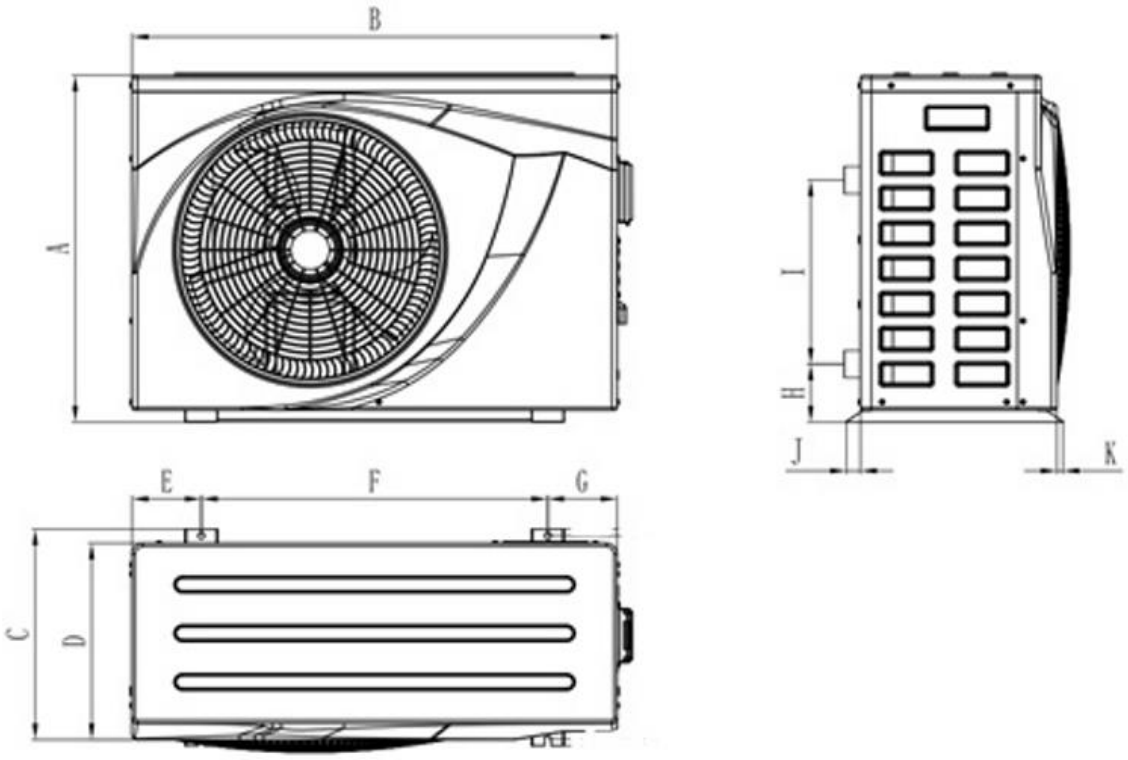
Keep the following indicated space for operation and maintenance when make the installation.
BYC-030TF3 BYC-035TF1 BYC-035TF3



3.3 Additional By-pass kits

The additional By-pass kits is suggested to be put into the piping system to get the better adjustment of water flow.

3.4 Heat pump unit size (mm)
BYC-030TF3 BYC-035TF1 BYC-035TF3



Heat pump dimensions

BYC-030TF3 BYC-035TF1 BYC-035TF3

	A	B	C	D	E	F	G	H	I	J	K
BYC-030TF3 BYC-035TF1 BYC-035TF3	740.5	1056	428	401	173	710	173	101.5	440	27	17

4. Specifications

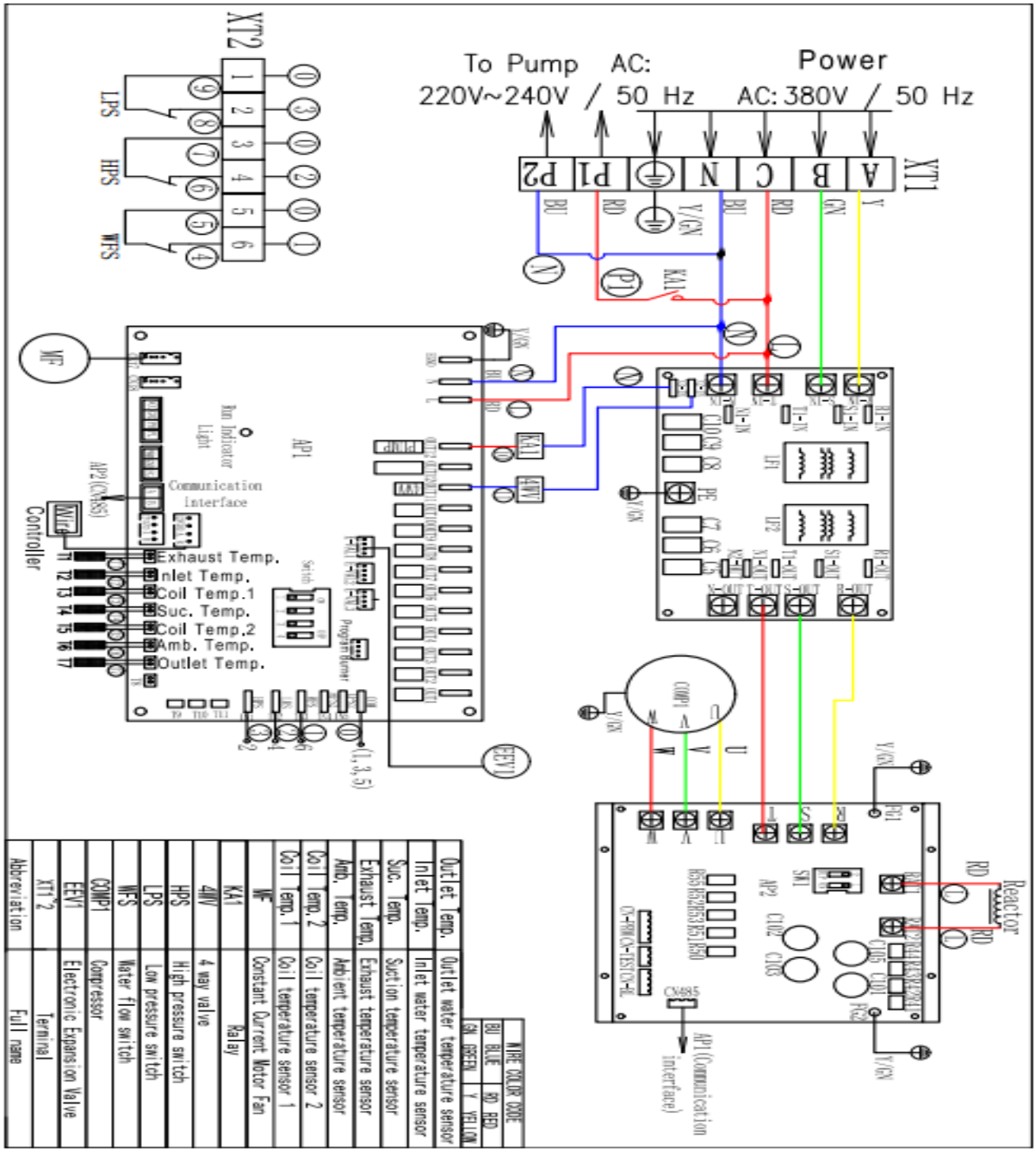
4.1 Specifications

Model No.	BYC-035TF1	BYC-030TF3	BYC-035TF3
*** Heating Capacity at Air 26℃, Humidity 80%, Water 26℃ in, 28℃ out**			
Heating Capacity (kW)	35~8.8	28~6.8	35~8.8
Power Input (kW)	5.15~0.56	3.97~0.43	5.15~0.56
COP	15.8~6.8	15.8~6.8	15.8~6.8
*** Heating Capacity at Air 15℃, Humidity 70%, Water 26℃ in, 28℃ out**			
Heating Capacity (kW)	25.5~6.4	23~5.5	25.5~6.4
Power Input (kW)	5.2~0.84	4.7~0.72	5.2~0.84
COP	7.6~4.9	7.6~4.9	7.6~4.9
*** Cooling Capacity at Air 35℃, Water 29℃ in, 27℃ out**			
Cooling Capacity (kW)	19.3~4.9	14.9~3.8	19.3~4.9
Power Input (kW)	5.08~0.73	3.92~0.57	5.08~0.73
EER	6.7~3.8	6.7~3.8	6.7~3.8
*** General data**			
Power supply	220~240V/1/50	380~415V/3/50	
Max Power Input (kW)	4.76	6.43	6.93
Max Current (A)	30	7.9	11.3
Water Flow Volume (m3/h)	12	9	12
Refrigerant	R32		
Heat Exchanger	Titanium		
Air Flow Direction	Horizontal		
Kind of defrost	by 4 way valve		
Working temp. range (℃)	-15~43		
Casing Material	ABS		
Water Proof Level	IPX4		
Noise level 1m dB(A)	49~59	47~58	49~59
Noise level 10m dB(A)	29~39	27~38	29~39
Net Weight (kg)	98	88	98
Gross Weight (kg)	110	99	110
Net Dimensions (mm)	1084*399*737		
Package Dimensions (mm)	1146*460*862		

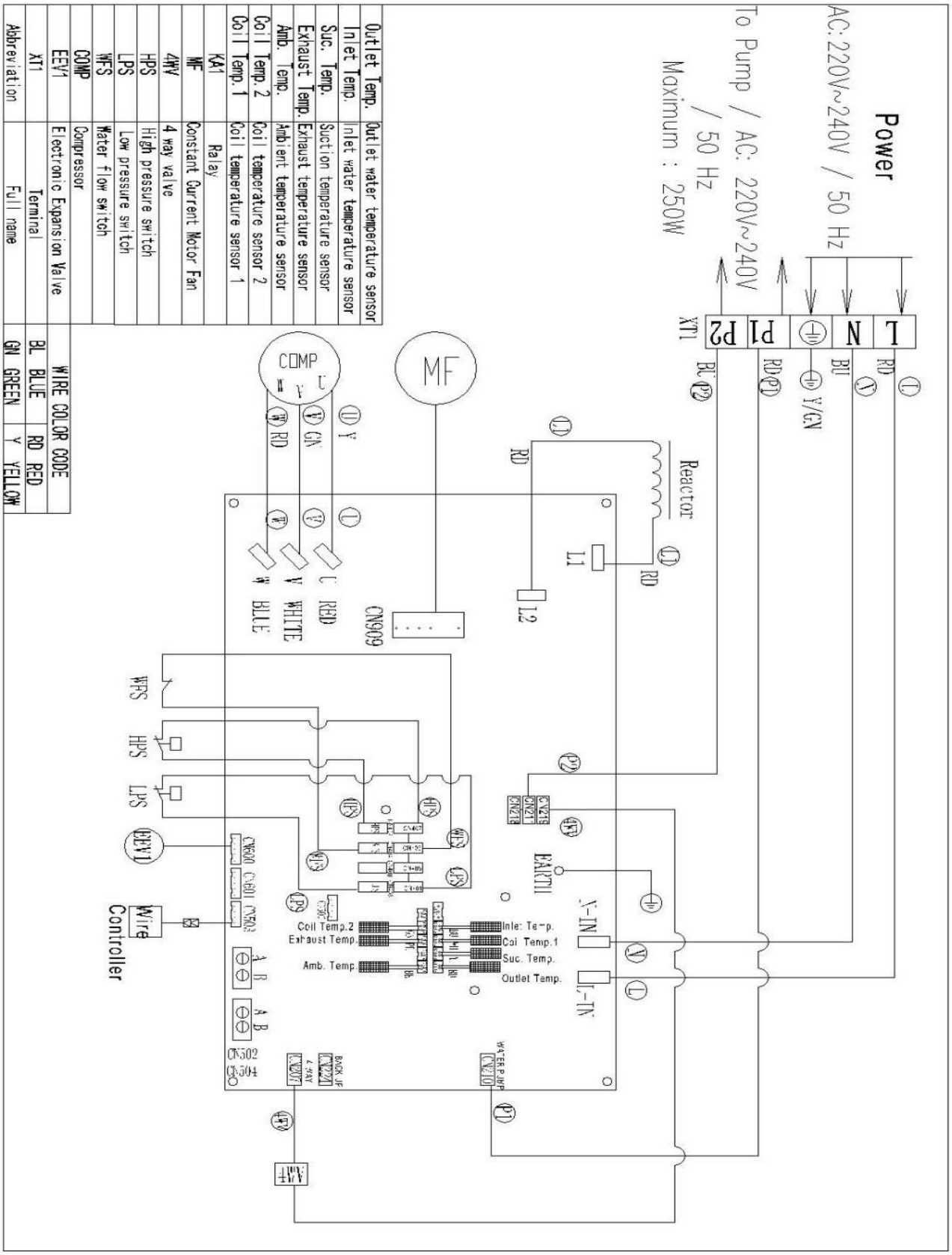
* Above data are subjects to modification without notice.

5. Electrical wiring

5.1 Electric wiring diagram



BYC-030TF3、BYC-035TF3



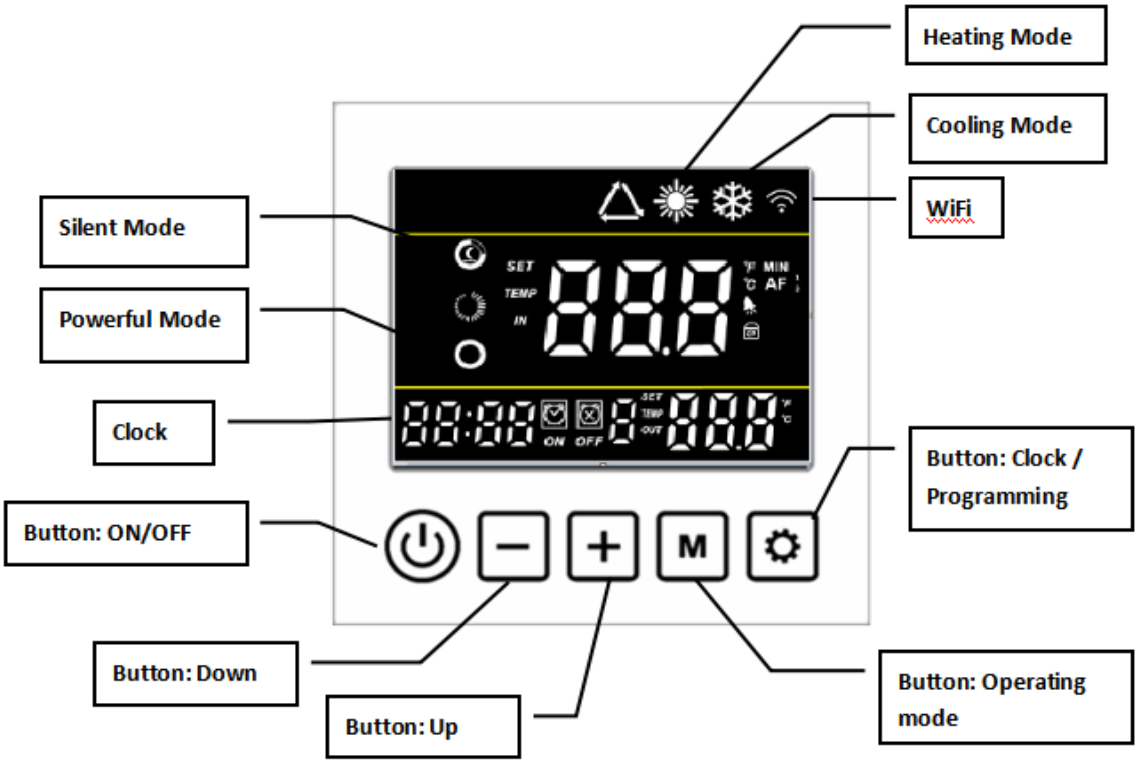
Outlet Temp.	Outlet water temperature sensor
Inlet Temp.	Inlet water temperature sensor
Suc. Temp.	Suction temperature sensor
Exhaust Temp.	Exhaust temperature sensor
Amb. Temp.	Ambient temperature sensor
Coil Temp. 2	Coil temperature sensor 2
Coil Temp. 1	Coil temperature sensor 1
KA1	Raiay
MF	Constant Current Motor Fan
4WV	4 way valve
HPS	High pressure switch
LPS	Low pressure switch
WFS	Water flow switch
COMP	Compressor
EEV1	Electronic Expansion Valve
XT1	Terminal
Abbreviation	Full name

WIRE COLOR CODE	
BL	BLUE
RD	RED
Y	YELLOW
GN	GREEN

BYC-035TF1

6.Instruction of operation

6.1 Wire controller (Buttons and Icons)



6.2 Start up & Locking

⚠ **Attention: Before you start the machine, please make sure the filtration pump is running and there is water flow goes through the heat pump.**

Hold the button ⏻ for 3 seconds to switch the heat pump ON or OFF.

On the main interface, hold  and  for 3 seconds to lock or unlock the controller.

When the controller is locked, the icon  appears.

6.3 Mode Selected

Hold the button  for 3 seconds to change the below three operating functions each time:

 Heating function  Cooling function  Auto function

Under Auto function, if the real situation is in Heating, it will show  and  , if the real situation is in Cooling, it will show  and  .

Press button  to change the below two running modes each time:

Silent mode: Choose this mode that the heat pump operates silently.

Powerful mode: Choose this mode that the heat pump operates powerfully.

6.4 Set the required temp.

On the main interface, press [+] or [−] to adjust the required water temp. Of your pool, then press ⏻ to save the setting.

Or you can adjust the Parameters P01/P02 to set the required water temp.

6.5 Clock setting

Hold ⚙ and [−] for 3 seconds to enter Clock setting interface.

Clock display on left bottom flashes. Change the Hours using [+] or [−], press ⚙ to save the Hours, the Minute flashes, press [+] or [−] to adjust the Minute. Press ⚙ to save the data.

6.6 Timer setting

Hold the button  for 3 seconds to enter the setting of Timer ON & Timer Off groups.

Then use the same method to make the setting of Hour and Minute like Clock setting.

Pay attention: There are 3 groups Timer for your every day setting.

See above photo, the icon 'ON' will flash when setting the Timer ON. The icon 'OFF' will flash when setting the Timer OFF.

The last data is the Order No. of your current setting for Timer group. It will flash under Timer setting.

Press  to save the Timer setting and back to the main interface, it will show Numbers of Timer groups you have set on the main interface.

Cancellation of Timer: When the Timer On is same to Timer Off, the current Timer group has been canceled.

6.7 Definition of other icons

 : Defrosting when it flashes

 : WiFi connected. It will flash under WiFi connecting.

: It will flash when there is Error code or system protection.

6.8 Manual defrosting

Hold M and − for 5 seconds, and when the Piping temp. is below than Exit defrosting temp., the system can enter into Manual defrosting.

6.9 Parameters Setting

On the main interface, hold + for 3 seconds to enter Parameter setting. Press + and − to check the parameter from P01~P05, press ⚙ to select the parameter, then press + and − to adjust the data, then press ⚙ again to save the data. Press ⏻ to go back the main interface.

Code	Description	Range	Default
P01	Desired water temp. in Heating mode	8℃~40℃	27℃
P02	Desired water temp. in Cooling mode	8℃~28℃	27℃
P03	Desired water temp. in Auto mode	8℃~40℃	27℃
P04	Adjustment of water temp. difference before restart	1℃~18℃	1℃
P05	Stop once the temperature is reached	0=Non stop, 1=Stop	1

6.10 Running Parameter checking

On the main interface, hold  for 3 seconds to enter Parameter checking. Press  and  to check the parameter from A01~A14. Press  to go back the main interface.

Code	Description	Scope
A01	Inlet water temp.	℃
A02	Outlet water temp.	℃
A03	Ambient temp.	℃
A04	Exhaust temp.	℃
A05	Gas return temp.	℃
A06	Outer piping temp.	℃
A07	Inner piping temp.	℃
A08	EEV aperture	
A09	Compressor current	A
A10	Radiator temp.	

Code	Description	Scope
A11	Voltage value	V
A12	Frequency	Hz
A13	Fan motor speed	r/min
A14	Fan motor speed	r/min

7.Adjusting and Initial operation

7.1 Attention

● Open the valve of water system, inject water into the system, and exhaust air inside.

● Do adjustment after electrical safety inspection.

● After the power is switched on, start the test running of heat pump, to check if the function is well.

● To avoid dangerous accident, the forced operation is forbidden.

7.2 Preparation Before Adjustment

● The system is installed correctly.

● Tubes and lines are putted in the right place.

● Accessories are installed.

● Ensure the smooth drainage.

● Ensure the perfect insulation.

● Correct connection of ground lead.

● The supply voltage can meet the requirement of rated voltage.

● Air inlet and outlet function can work well.

● Electrical leakage protector can work well.

7.3 Adjustment Process

● Check if the switch of the controller can work well.

● Check if the function keys of the controller can work well.

● Check if the drainage system can work well.

● Check if the system can work well after starting up.

● Check if the water outlet temperature is in correct situation.

● Check if there is vibration or abnormal sound when the system is functioning.

● Check if the wind, noise and condensate water produced by the system affect the environment around.

● Check if there is refrigerant leakage.

● If any Error codes occur, please check the instructions for the detailed info.

8. Operation and maintenance

8.1 To ensure the well working, the system should be checked and maintained after a period of time. During the maintenance, please pay attention to some points below:

● When you need to open the cabinet and make inside inspection, please do cut off the electricity power in advance.

● To ensure the stable running, please do not adjust any setting.

● Pay close attention to whether all the operation parameters are normal during system working.

● Examine regularly whether the electrical connection is loose, if yes, fasten it on time.

● Examine regularly the reliability of the electrical components, change all the failed or unreliable components on time.

● The dirt retention on the surface of evaporator fin should be cleaned every 6 months.

● After long downtime, if we restart the equipment, we should make following preparations: examine and clean the equipment carefully, clean the water pipeline system, examine the water pump, and fasten all the wire connections.

● Replacement parts must from the original spares, these can't be replaced by other similar accessories.

8.2 Refrigerant filling

Examine the refrigerant filling condition through reading the data of gauge, also the air suction and exhaust pressure. If there is leakage or changing components of the refrigeration circulation system, please ask for the assistant of professional technicians.

8.3 Leak detection

During leak detection and air tightness experiment, never let the refrigeration system filling oxygen, ethane or other flammable harmful gas, we can only adopt compressed air, fluoride or refrigerant for such experiment.

8.4 Drainage water in heat exchanger

If the heat pump will be not used for a long time or in winter season, please do drain the water inside heat exchanger to avoid broken when freezing.

8.5 To remove the compressor, please follow the following steps

● Turn off the power supply

● Exhaust the refrigerant from the low pressure end, attention to reduce the exhaust speed, and avoid frozen oil leakage.

● Remove the compressor air suction and exhausting pipe.

● Remove the compressor power cables.

● Remove the compressor fixing screws.

● Remove the compressor.

8.6 Conduct regular maintenance according to the user manual instruction, to make sure the unit running in good condition.

● Fire prevention: if there is a fire, please turn off the power switch immediately, put the fire out with fire extinguisher.

● To prevent flammable gas: the unit working environment should stay away from gasoline, ethyl alcohol and other flammable materials, to avoid explosion accident.

9. Error codes & Solutions

Code	Description	Potential reasons	Solutions
E03	Water flow protection	Insufficient water flow	Check the water circuit system, the opening of by-pass kits, the running of water pump
		Water flow switch disconnected	Check the wiring and reconnect water flow switch
		Water flow switch defective	Change a new one
E04	Antifreeze protection	Ambient/Inlet water temp. is too low and the unit is on standby	The unit will be re-started when the ambient/inlet water temp. goes up.
E05	High pressure protection	Insufficient water flow	Check the water circuit system, the opening of by-pass kits, the running of water pump
		Ambient/ Water temp. is too high	
		Fan motor speed is abnormal or fan motor has damaged	Check the fan motor
		Excess refrigerant gas	Readjust the refrigerant volume
		High pressure switch disconnected or defective	Reconnect or replace high pressure switch
		Piping system jammed	Check the piping system
E06	Low pressure protection	Bad ventilation	Check the installation circumstance. Clean the evaperator. Check the running situation of fan.
		Low pressure switch disconnected or defective	Reconnect or replace low pressure switch
		Gas leakage (Check the gauge)	Detect the leakage point and make the maintainence
		Fan motor speed is abnormal or fan motor has damaged	Check the fan motor
		EEV blocked or piping system jammed	Check the piping system
E09	Connection failure between PCB and controller	Bad wire connection	Check the wiring
		Defective controller	Change a new controller
		Defective PCB	Change a new PCB
E10	Communication failure between PCB and driver module	Bad wire connection	Check the wiring
		Defective PCB	Change a new PCB
		Defective Driver module	Change a new driver module

Code	Description	Potential reasons	Solutions
E12	Exhause temp. too high	Insufficient water flow	Check the water circuit system/ water flow switch
		Lack of gas	Check if there is a gas leakage
		Piping system jammed	Check the piping system
		Exhause piping temp. sensor (Purple connector) detective	Change a new sensor
E15	Inlet water temp. sensor failure	Sensor disconnected or defective	Reconnect or replace sensor
E16	Outer piping temp. sensor failure	Sensor disconnected or defective	Reconnect or replace sensor
E18	Exhause piping temp. sensor failure	Sensor disconnected or defective	Reconnect or replace sensor
E20	Inverter module abnormal protection		Check the voltage, compressor, fan motor etc...
E21	Ambient temp. sensor failure	Sensor disconnected or defective	Reconnect or replace sensor
E23	Overcooling protection under cooling mode	Insufficient water flow	Check the water circuit system/ water flow switch
		Outlet water temp. sensor (Red connector) failure	Change a new sensor
E27	Outlet water temp. sensor failure	Sensor disconnected or defective	Reconnect or replace sensor
E29	Suction piping temp. sensor failure	Sensor disconnected or defective	Reconnect or replace sensor
E32	Overheating protection under heating mode	Insufficient water flow	Check the water circuit system/ water flow switch
		Outlet water temp. sensor (Red connector) failure	Change a new sensor
E33	Piping temp. too high protection under cooling mode	Ambient/water temp. is too high under cooling mode	Check the scope of using
		Refrigerant system is abnormal	Check the piping system
E42	Inner piping temp. sensor failure	Sensor disconnected or defective	Reconnect or replace sensor
E46	DC fan motor malfunction	Bad wire connection	Check the wiring of fan motor
		Fan motor defective	Change a new fan motor

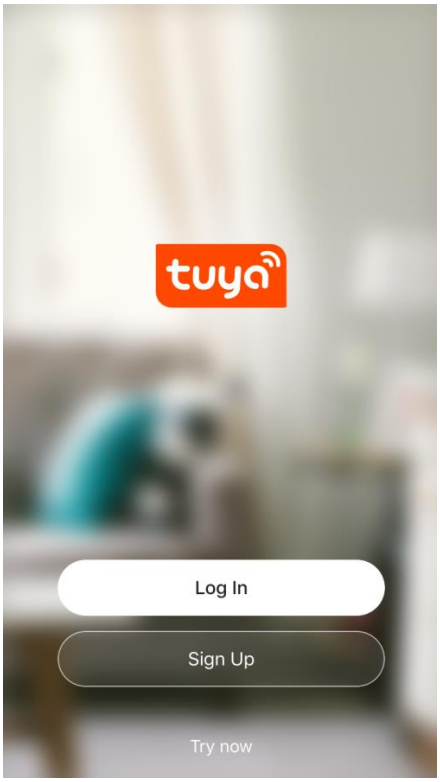
10. Wifi-Function

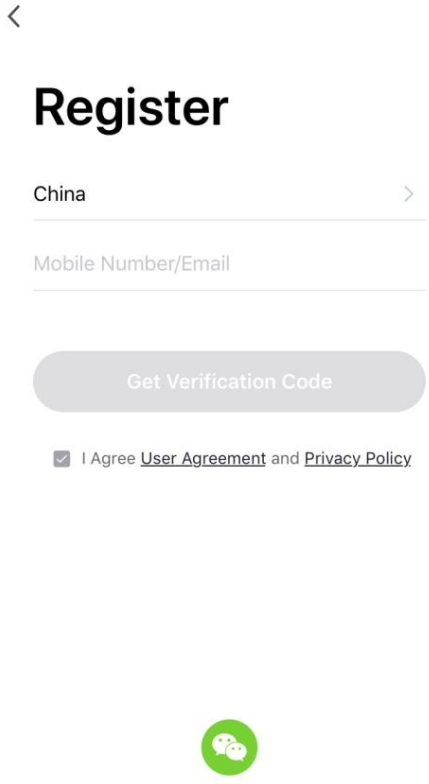
1. Download the ‘Tuya Smart’ App

Scan the QR code below to download the mobile APP.

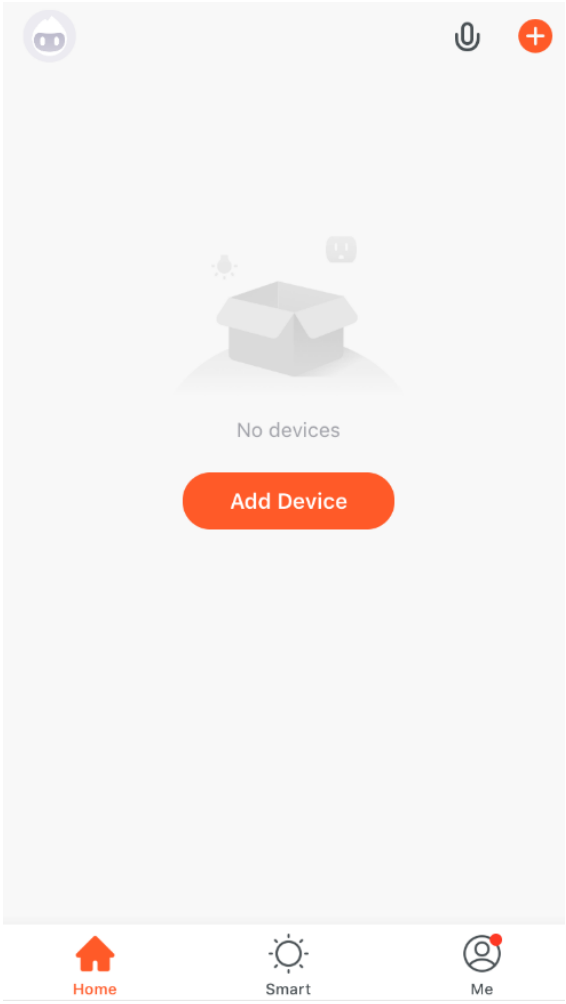
Or search ‘Tuya Smart’ in App Store (IOS) or Google play (Android)

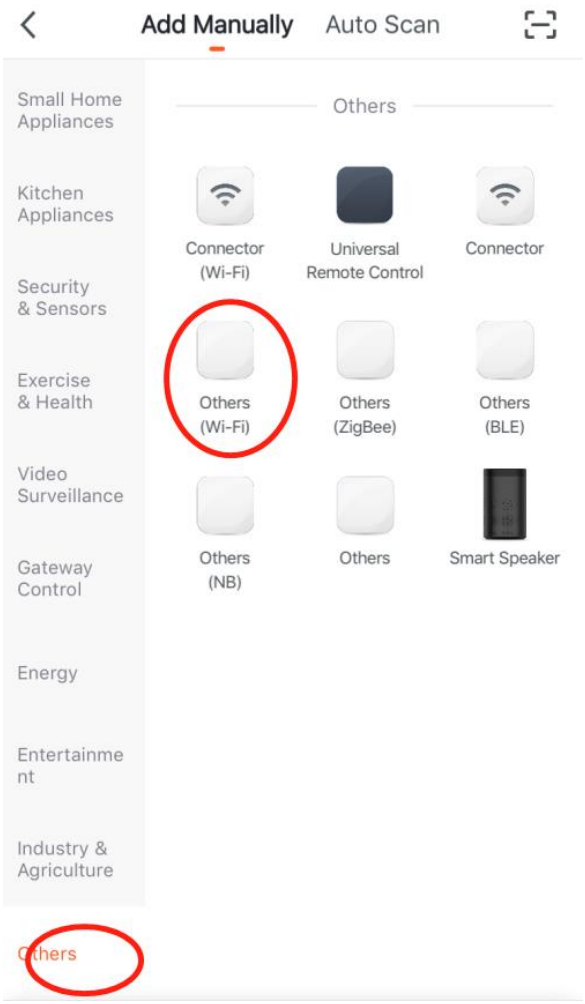
2. Sign up for the first time





3. Press ‘+’ to add a device
4. Choose ‘Others’ and ‘Other Wifi’ on the interface

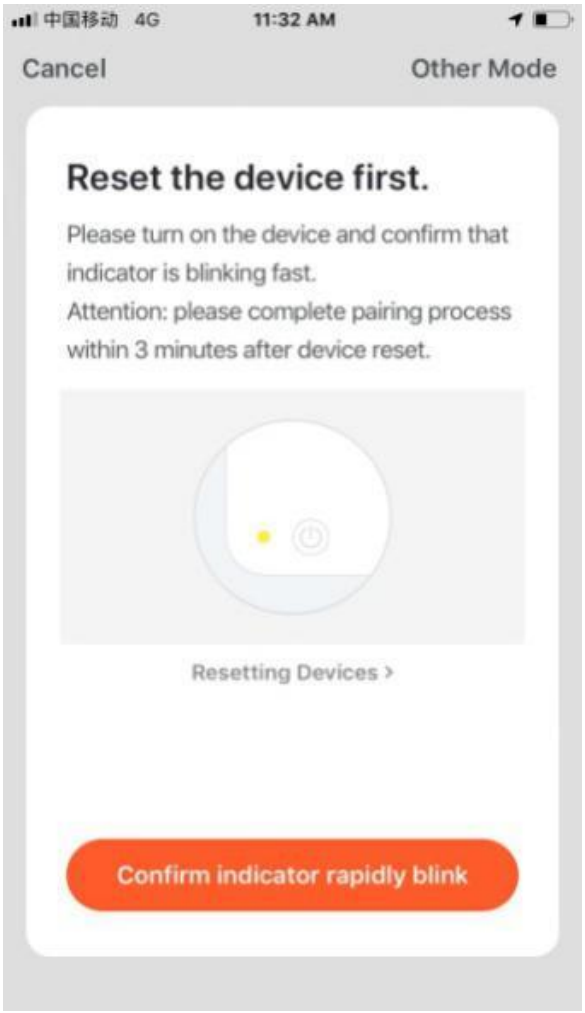


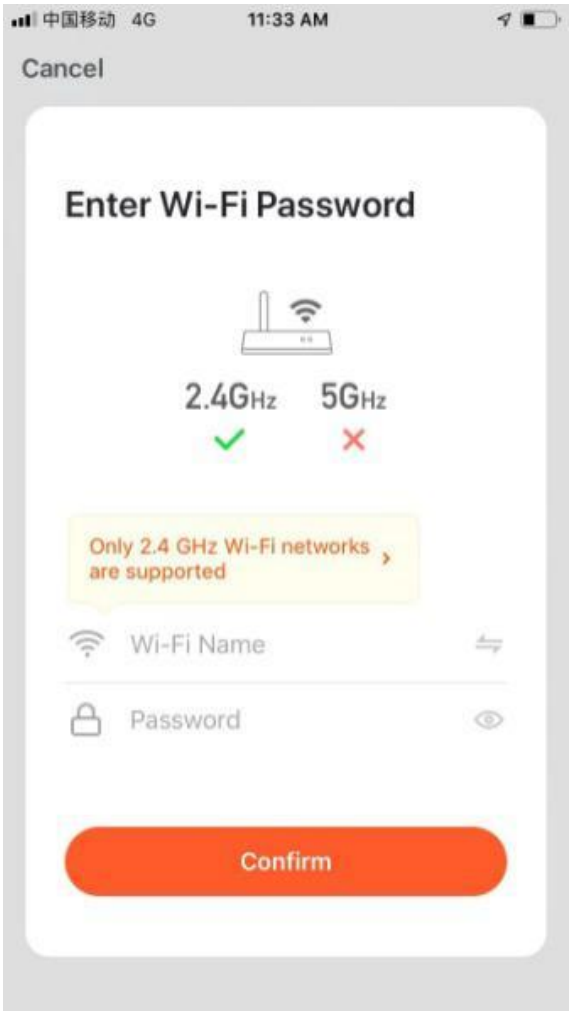


5. Put your mobile phone close to the pool heat pump, which must be under the same WiFi area

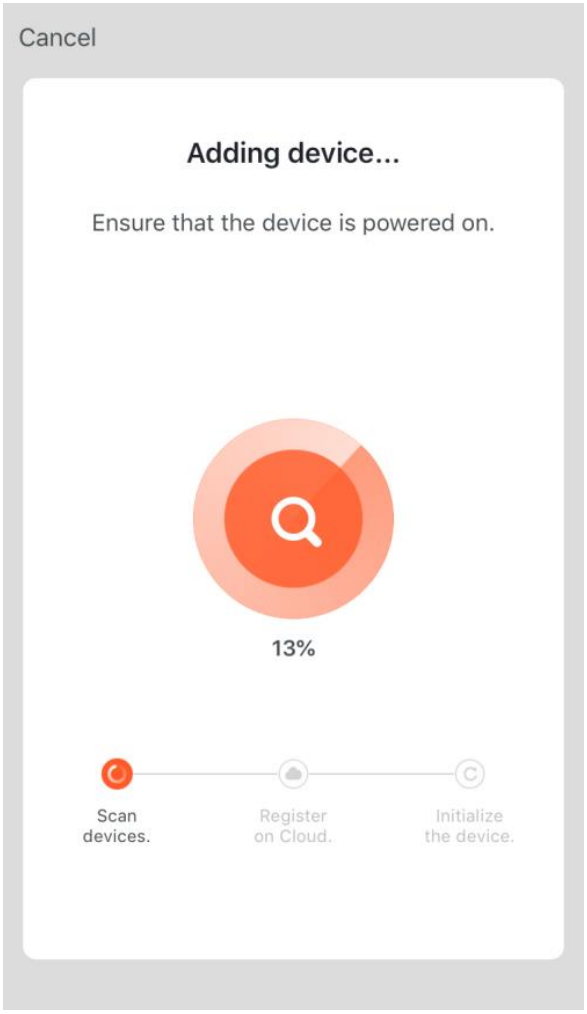
6. Make sure the device (controller/display) is reset (Hold M and + for 3 seconds to make the reset), then using your App to enter the WIFI account and password to connect WIFI.

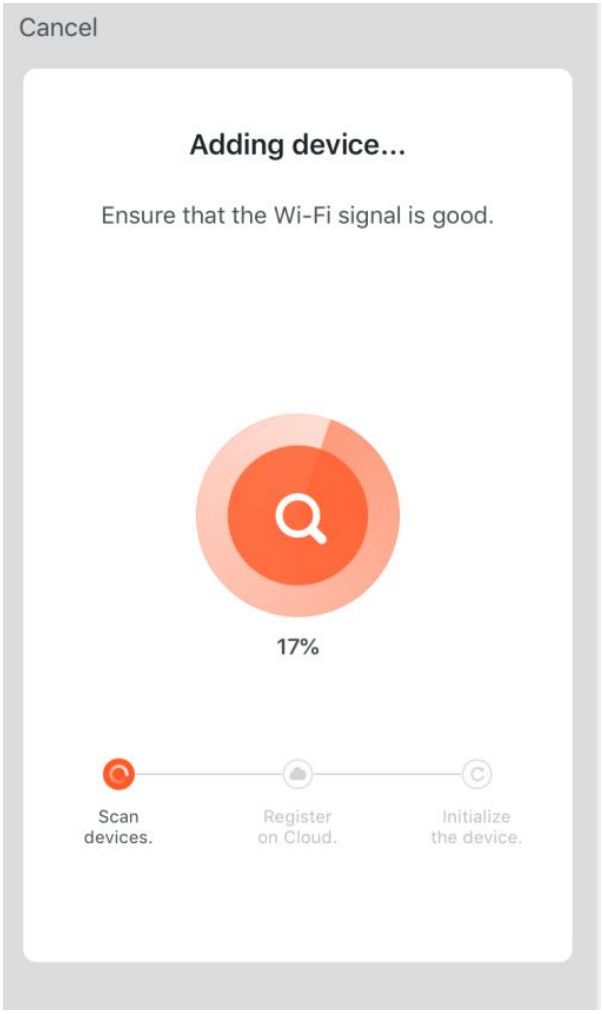
Reset the Wifi function: Hold the + and M for 3 seconds.





7. Press ‘Confirm’ to start the connection after completing. The device is successfully added if it’s connect, then press ‘Finish’.





8. Functions

Remark: The heat pump APP function includes:

- Turn On/Off the machine
- Temperature setting and display
- Mode Selection
- Failure status display