æther
AUSTRALIA

R290
ENVIRONMENTAL REFRIGERANT GAS

User Manual

aether HP200 - HP 270

All-in-one Wi-Fi enabled heat pump

Note

Dear customers,

Thank you for choosing an æther heat pump.

This manual is designed to help you understand the installation, operation, and maintenance of your heat pump system. It also provides important safety information to ensure the unit is used correctly and safely. Please read this manual carefully before installing or operating the heat pump. Keeping this manual for future reference is strongly recommended.

CONTENT

Safety Precautions

Please make sure you have read at least one chapter of safety precautions shown in the manual. This part provides quite important sage points for you and please operate it based on safety precautions.

Warning

1. Household electrical system must have a reliable ground connection;

2. Household electrical system must have a leakage protection device;
3. Do not dismantle any permanent instruction, label or parameter plate attached to the outside cover or any internal plate of heat pump;
4. Please ensure a dealer or professional person installs the device; installer must have professional knowledge, any improper operation may cause fire, electric shock, injury or leakage etc;
5. Purchases from the local market must select specified product by our company.
6. Please obey the local electrical regulations to connect power supply.
7. When you need to remove or re-install heat pump, please ensure this is done by dealer or professional person.
8. Any self-transformation or repair is forbidden, improper repair may cause fire, electric shock, injury or leakage etc. must entrust dealer or professional person to repair.
9. Earthing pole of power outlet must have a reliable connection, and rated current value should be not less then 20A. Outlet an power plug must be kept dry to prevent leakage, outlet and power plug must be well matched.
10. Due to possibility of water spatter, the installation height of power plug must be no less than 1.8m. Ensure power plug is installed away from water source. Ensure children cannot touch power plug
11. One way valve suitable to application must be installed near to cold water outlet.
12. In the state of energization and heating.
13. For continued safety of this appliance it must be installed, operated and maintained in accordance with the manufacturer's instructions.
14. This appliance may deliver water at high temperature. For Australian installations, refer to the plumbing code of Australia (PCA), local requirements and installation instructions to determine if additional delivery temperature is required.

15. Australian installation shall conform to the Plumbing Code of Australia (PCA);
16. If the fixed appliance is not fitted with a power cord and plug. or is not fitted with other devices to disconnect the power cord (these devices must have contact separation at all poles and can be completely disconnected under overvoltage Class III conditions, All-pole diconnect switch), then the disconnect device must be incorporated into the fixed wiring according to the arrangement of wiring rules;
17. The minimum installation room area for aether HP200 is 69 square meters, and the minimum installation room area for aether HP270 is 42 square meters, unless the products are used entirely outside.
18. Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
19. The appliance shall be stored in a room without continuously operating ignition sources (for example : open flames, an operating gas appliance or an operating electric heater).
20. Do not pierce or burn.
21. Be aware that refrigerants may be odorless.
22. Ensure no obstructions near any required ventilation.
23. Maintenance should only be carried out as recommended by the supplier.
24. Ducts connected to electrical appliances must not contain ignition sources.
25. Appliances should be stored in a well-ventilated are with the room size corresponding to the designated operating room area.
26. If electrical appliances connected to one or more rooms via an air duct system are installed in a room with an area smaller than the minimum area determined in Article 17 above, the room shall be free of open flames in continuous operation (e.g. gas appliances in operation) or other potential sources of ignition (e.g. electric heaters in operation, hot surfaces). A fire producing device may be installed in the same space if it is provided with an effective flame arrester.
27. For equipment connected to one or more rooms via an air duct system, auxiliary equipment must not be installed in the air duct system, which may be potential source of ignition.
28. For appliances connected to one or more rooms through an air duct system, only auxiliary devices approved by the appliance manufacturer or declared suitable for refrigerant shall be installed in the connected piping system.
29. The appliance shall be stored so as to prevent mechanical damage from occurring.
30. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
31. Children should be supervised to ensure that they do not play with the appliance.
32. If the power cord is damaged, it must be replaced by the manufacturer, its service agent or a similarly qualified person in order to avoid a hazard.
33. If the hot water system is not used for two weeks or more, a quantity of highly flammable hydrogen gas may accumulate in the water heater. To dissipate this gas safely, it is recommended that a hot tap be turned on for several minutes or until discharge of gas ceases. Use a sink, basin, or

bath outlet, but not a dishwasher, clothes washer, or other appliance. During this procedure, there must be no smoking, open flame, or any electrical appliance operating nearby. If hydrogen is discharged through the tap, it will probably make an unusual sound as with air escaping.

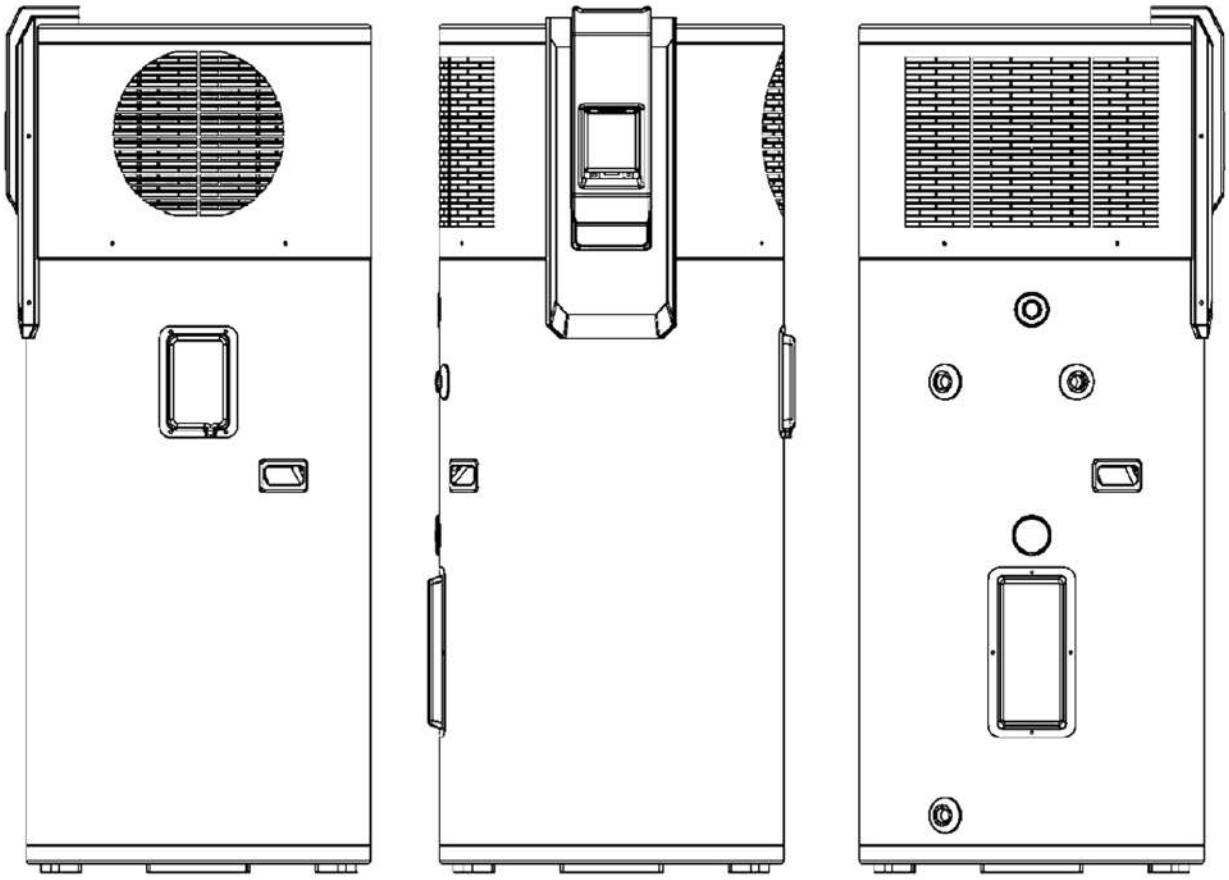
R290 Warning

- **This appliance uses R290 (propane), which is a flammable gas and must be serviced by an authorized person.**
- **WARNING Risk of fire/flammable material. If the refrigerant is leaking, switch off the unit the mains and contact the service agent.**
- **DO NOT store chemicals or flammable materials near this appliance.**
- **NEVER use a flammable spray such as hair spray, paint, etc near this unit as this may cause a fire.**
- **Avoid risk of injury from contact with refrigerant if you notice a leak.**
- **If you suspect the refrigerant is leaking the:**
- **Do not smoke**
- **Do not operate electrical equipment. Isolate the device.**
- **End of life recycling**
- **The refrigerant must not enter the atmosphere. Only have the refrigerant removed by qualified professional.**

General information

I. Measurement

Model	Weight(kg)	Dimension(mm,DxH)	Power supply	Water connection size
aether HP 200	120	620MM*1518MM	220V/ 50Hz 1 phase	3/4"
aether HP 270	140	620MM*1838MM	220V/ 50Hz 1 phase	3/4"

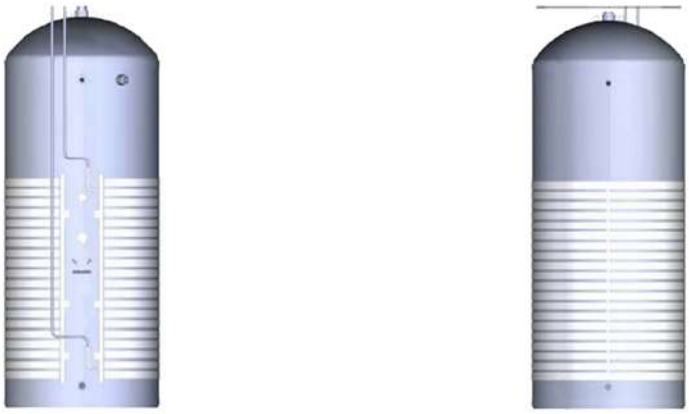


II. Features

All in one heat pump for sanitary water :

1. Has complete isolation between water and electricity, without electric shock possibilities.
2. No fuel tubes and storage, no potential danger from oil leakage, fire, explosion, etc.

Note

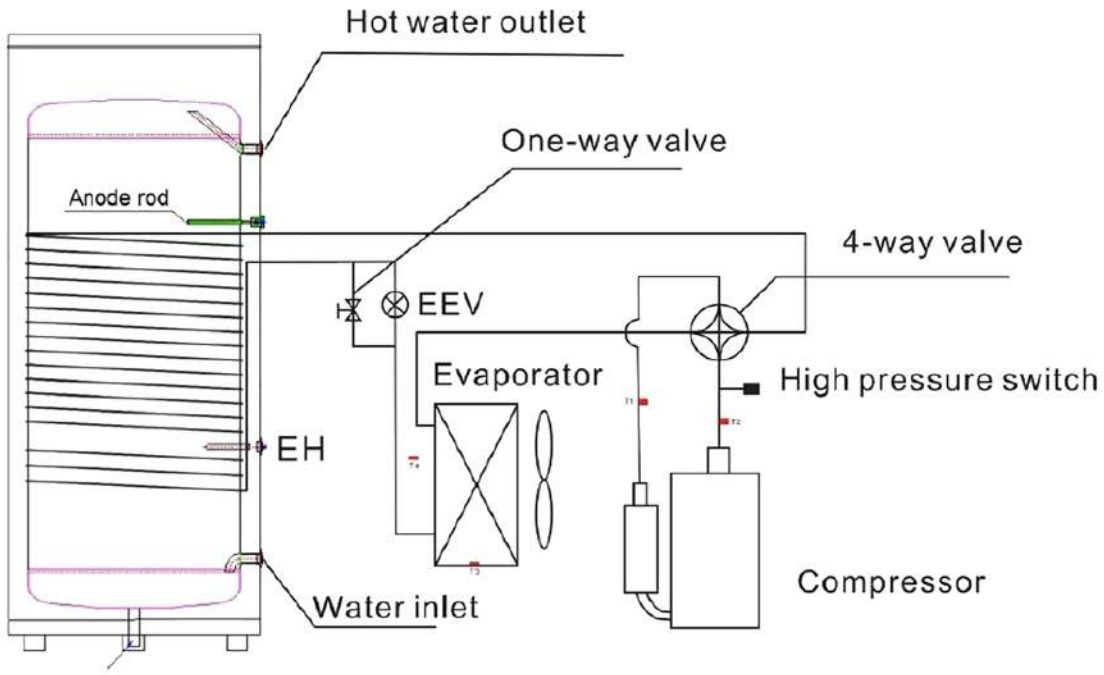


3. No cross contamination potential, the condenser coil is an external coil wrapped around the stainless tank, it does not come in contact with water directly.
4. The maximum outlet water temperature is 75°C The system ensures the water is heated stably and quickly with innovative heating methods combining electric heating and heat pump heating.
5. Automatic start-up and shutdown, automatic defrosting by revising refrigerant cycle.
6. According to heat pump principles, the unit absorbs heat from outdoor air and transfers heat to water with a thermal efficiency of approximately 4.15 (Under the condition A20/15°C, W15/55°C).
7. The unit will operate within the temperature range from -7°C to 43°C. The unit is not affected by night, cloudy sky, rain or snowy weather.
8. There is a weekly legionella boost to 60°C, which operates between 1-7 am at the start of each week.
9. The sensor located with at least 90% of tank volume above it, has a 61°C set point and a 1K deadband.
10. All models have been modelled in default mode which is the factory default setting.

Heat Pump Model	Default Heat Pump Seting	Default Electric Element Setting	Legionella control
aether HP 200	55/5	62/5 When Tamb < - 7°C	90% to 60°C weekly
aether HP 270	55/5	61/5 When Tamb < - 7°C	90% to 60°C weekly

Note

IV. Refrigerant circuit



Compressor : R290, supplied by GMCC.

Evaporator : Copper tube and aluminium fin type heat ex-changer.

EEV : Electronic expansion valve, the opening is regulated according to the discharge air temperature of compressor.

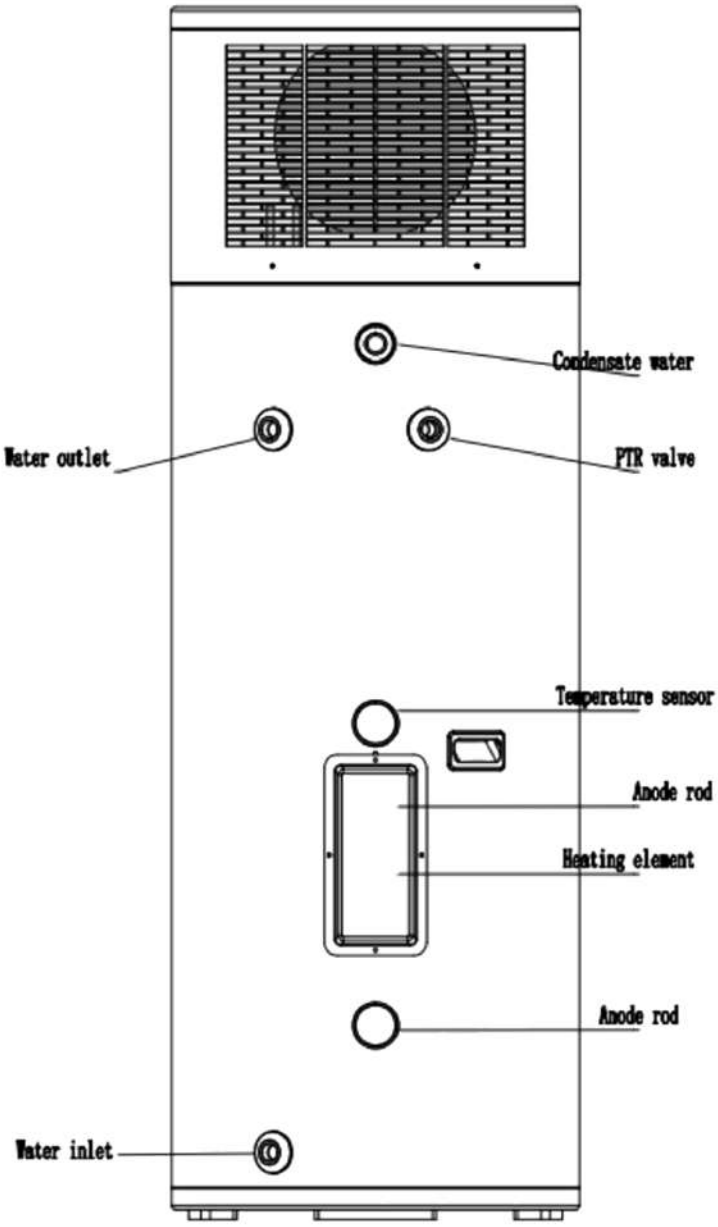
Fan : Centrifugal fan with 2 speeds.

High Pressure Switch : When the discharge pressure of compressor is 3 Mpa or higher protection switch will be triggered, then if the discharge pressure is below 3 MPa, the protection switch will disengage.

V. Specifications

Model		aether HP200	aether HP270
Power supply		220V ~240V/50HZ	220V ~240V/50HZ
Rated input Power(Heat Pump)		1.2KW	1.2KW
Rated input Current(Heat Pump)		5.3A	5.3A
Rated Heating Capacity(Heat Pump)		2.78KW	2.78KW
Rated Input Power (Resistance)		1.8KW	1.8KW
Rated Input Current (Resistance)		7.5A	7.5A
Max Current (HP&Resistance)	Version with 10A plug	7.5A	7.5A
	Version without plug	14A	14A
Max Input Power (HP&Resistance)	Version with 10A plug	1.8KW	1.8KW
	Version without plug	3KW	3KW
Water tank volume		200L	270L
Recovery Rates (lires per hour)		60	60
COP (A 20/15, W 15-55)		4.15	4.15
STC in zone 4		31 or 32	31 or 32
Refrigerant		R290 (400g)	R290 (400g)
Compressor		GMCC / Rotary	GMCC / Rotary
Expansion valve		EEV	EVV
Fan		Axial	Axial
Ventilation		Horizontal discharge	Horizontal discharge
Heat exchanger		Microchannel / Wrap around tank	Microchannel / Wrap around tank
Inner tank material		Enmel	Enamel
Inner tank thickness		Dome 3.0mm / Wall 2.5mm	Dome 3.0mm / Wall 2.5mm
Inner tank type		Concave	Concave
Insulation / thickness		Polyurethane / 40mm	Polyurethane/40mm
Outer Casing		Galvanized painted sheet	Galvanized painted sheet
TPR valve		850KPA	850KPA
Rated Outlet Water Temperature		60°C	60°C
Max Outlet Water Temperature		75°C	75°C
Working range with element		-15°C -43°C	-15°C -43°C
Working range without element		-7°C -43°C	-7°C -43°C
Anti Legionella		Water heated up to 60°C	Water heated up to 60°C
IP Class		IPX4	IPX4
Electric Shock Proof		I	I
Unpacked Dimension (outdoor unit)		60mm *1518mm	620mm*1838mm
Packed Dimension (outdoor unit)		700*700*1565mm	700*700*1880mm
Net Weight		104	118KG
Gross Weight		120	140KG
Noise		43dBA	43dBA

Parts Name

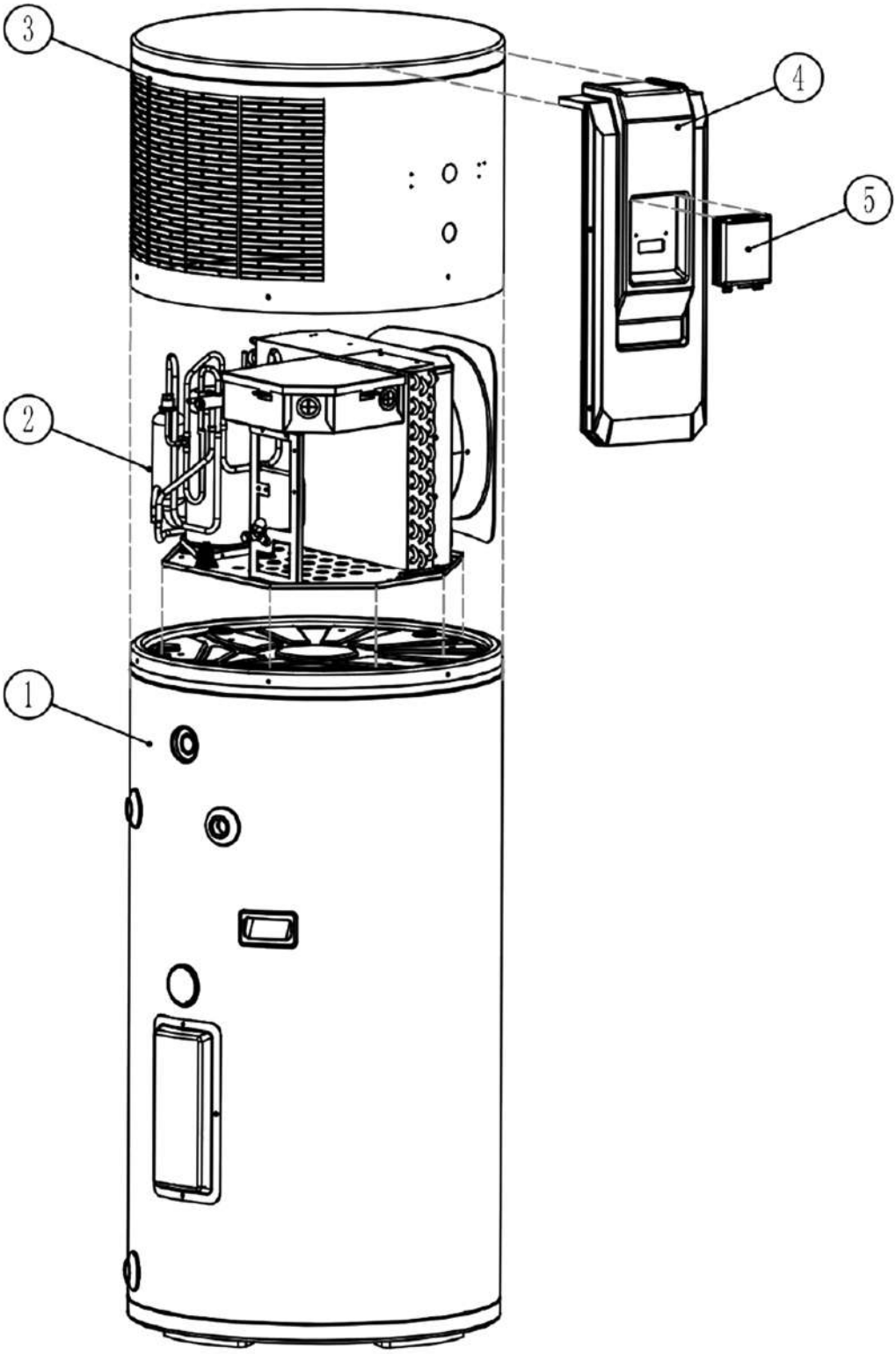


NOTE

All the pictures in this manual are for explanation purposes only. They may be slightly different from the heat pump water heater you purchased (depending on the model). Please refer to the real sample instead of the pictures of this manual.

Exploded View

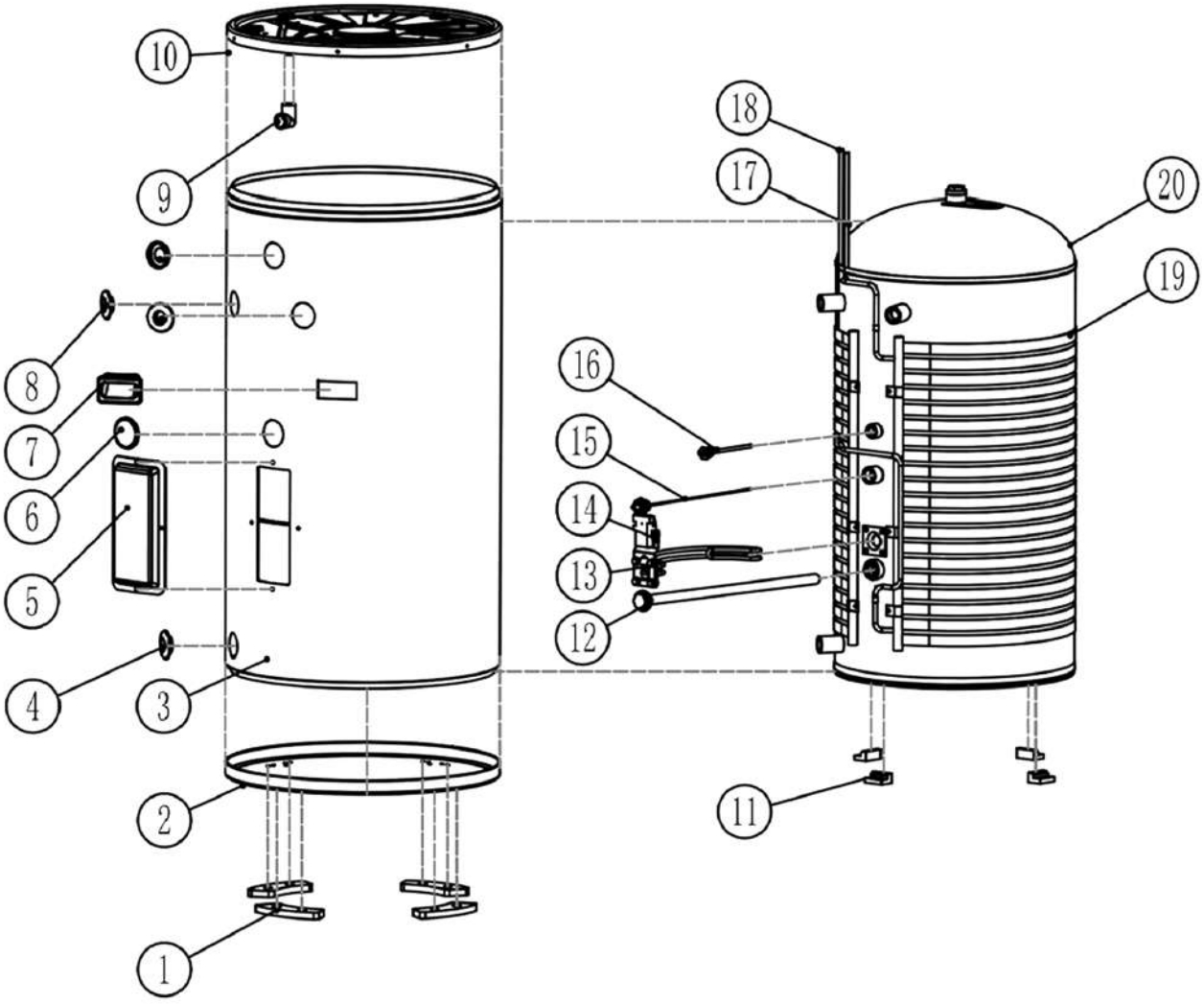
I. Appearance components



No	1	2	3	4	5
Name	Water tank components	Host components	Upper cover	Front decorative board	Controller

Parts Name

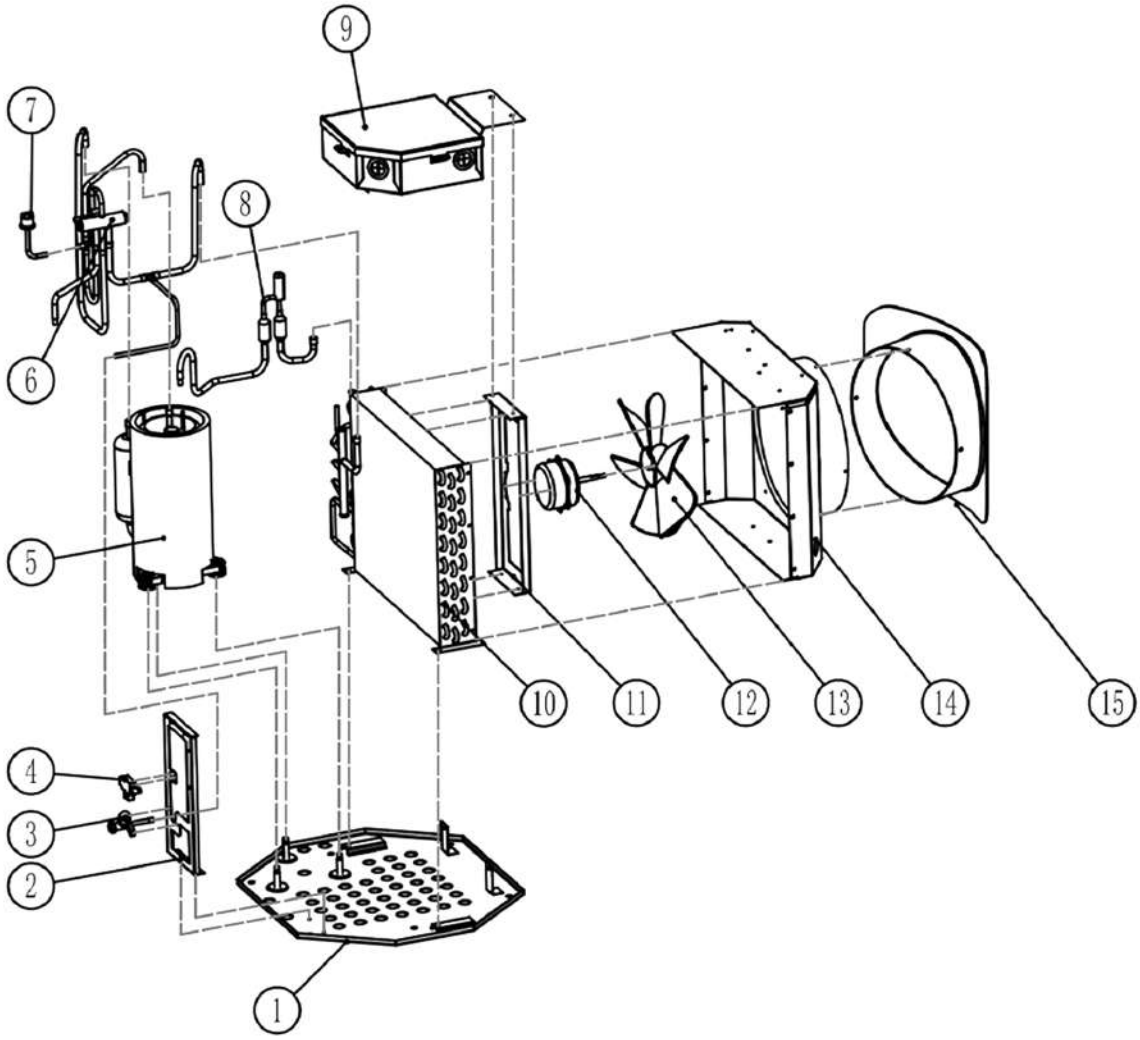
II. Water tank components



NO.	Name	NO.	Name	NO.	Nmae
1	Footing	8	Trim cover	15	Anode rod
2	Water tank bottom and cover	9	Condensate Water Drain Pipe	16	Temperature sensor Sleeve
3	Water tank outer sleeve	10	Water Pan	17	Microchannel intake pipe
4	Trim cover for inlet and Outlet pipes	11	Fixed block	18	Microchannel liquid-out pipe
5	Protection cover for Electric heating	12	Magnesium rod	19	Microchannel
6	Trim cover	13	Electric heating	20	Liner
7	Handle	14	Electric heating thermostat		

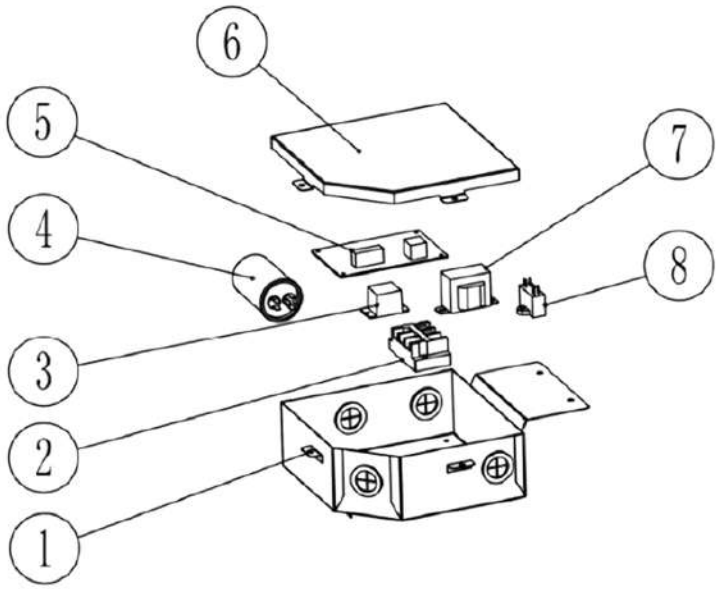
Parts Name

III. Host components



NO.	Name	NO.	Name	NO.	Nmae
1	Chassis	6	Four way valve	11	Fan motor support
2	Electric control box support	7	High pressure switch	12	Fan motor
3	Filling stop valve	8	Electronic expansion valve	13	Fan
4	Temperature sensing fixing clip	9	Electrical components	14	Bellows
5	Compressor	10	Evaporator	15	Sealing cover for air outlet

IV. Electrical components



NO.	Name	NO.	Name	NO.	Nmae
1	Electric control box	6	Compressor capacitance	11	Transformer
2	Terminal	7	Circuit board	12	Fan capacitance
3	Relay	8	Box cover		

Installation of heat pump

1. Choose a suitable location

1. Avoid installing this equipment indoors. if installed indoors, may cause overflow, noise on indoor temperature changes which can influence comfort, please ensure preventive measures are taken in advance.
2. Ensure sufficient space for installation and maintenance.
3. Inlet or outlet air must have no obstacles and be sheltered from strong winds.
4. Dry and ventilated place is most suitable.
5. Support surface must be flat (horizontal angle must not be more than2°), and able to bear heat pump's weight. The surface shall not increase any noise or shock.
6. Ensure position where noise an exhaust air aren't immediately adjacent to neighbors' property.
7. The place has no leaking combustible air.
8. Easy access to install connection pipe and electrical parts.
9. If heat pump installed in metal parts of a building, electrical insulation must comply with technical standard on electrical equipment.

⚠ Note

- In the region which the temperature is below 0°C, the heat pump must be installed indoor or other positions where it will not be frozen for purposes of protecting connection pipe.
- If used for those regions which the temperature is below 0°C, suitable measures must be taken to protect pipes if the heat pump is installed outdoors.
- Installation location that experiences high temperature or long-term exposure is prohibited, as it may decrease lifetime of the product.

Note : If installed in the following places, machine errors may occur. If unavoidable, please consult your local authorized service point.

a. The location contains mineral oil such cutting oil.

b. The location contains salt such as coastal areas.

c. The location has corrosive fumes such as spa's, or where there is sulfur gas.

d. The location has frequent changes to voltage and current.

e. The location has strong movement, such as a car or cabin.

f. Location with strong electromagnetic waves.

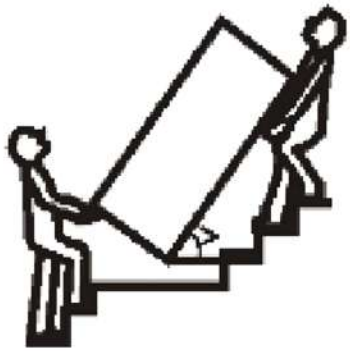
g. Location where there is oil, gas or oil spatter such as kitchen.

h. Location where the evaporation of acid or alkaline gas occurs.

i. Other location where there is special conditions.

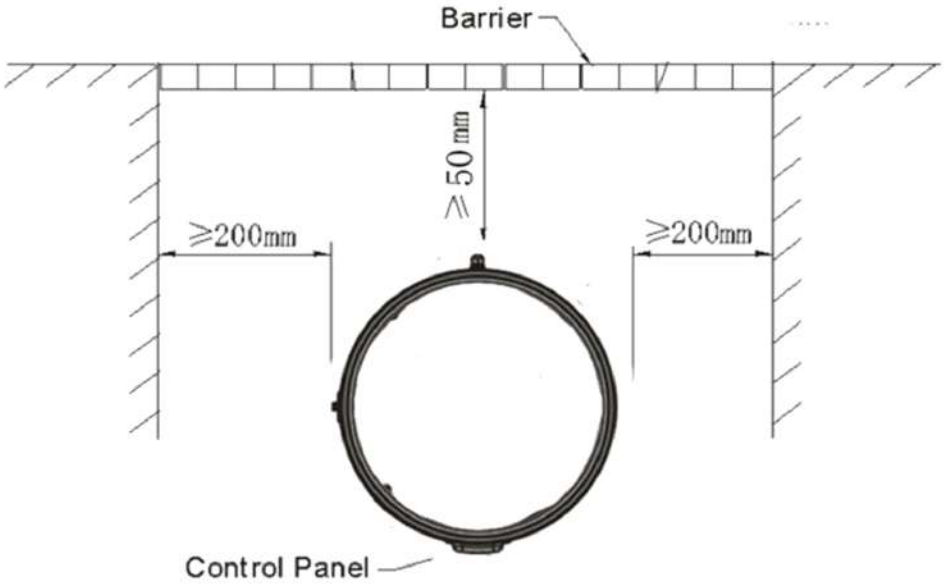
II. The Movement of Heat Pump

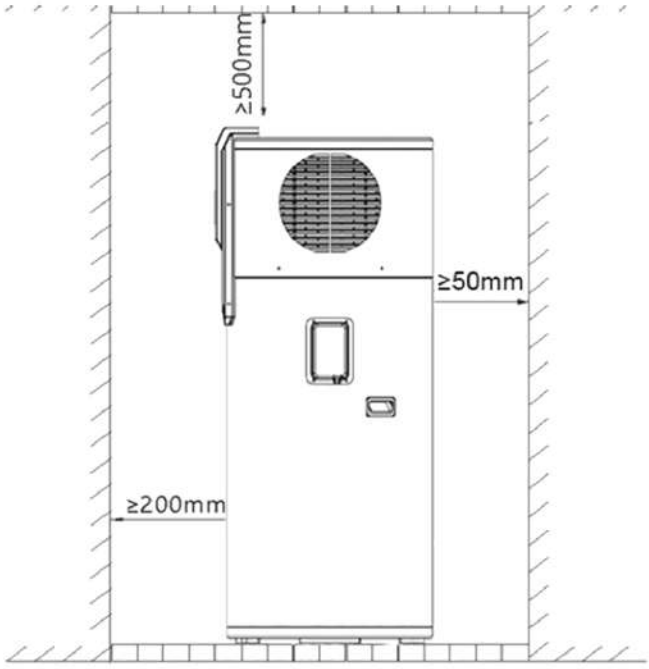
1. This heat pump is heavy requires at least tow people to move and install it.
2. Please move the equipment according to the original factory packaging.
3. Please use protection during transit to avoid scratches and damage to the unit.
4. Do not touch fan with your hands or other objects.
5. Do not move the heat pump at an angle of <75°.



III. The Installation of Heat Pump

1. Please leave enough space for installation and maintenance.



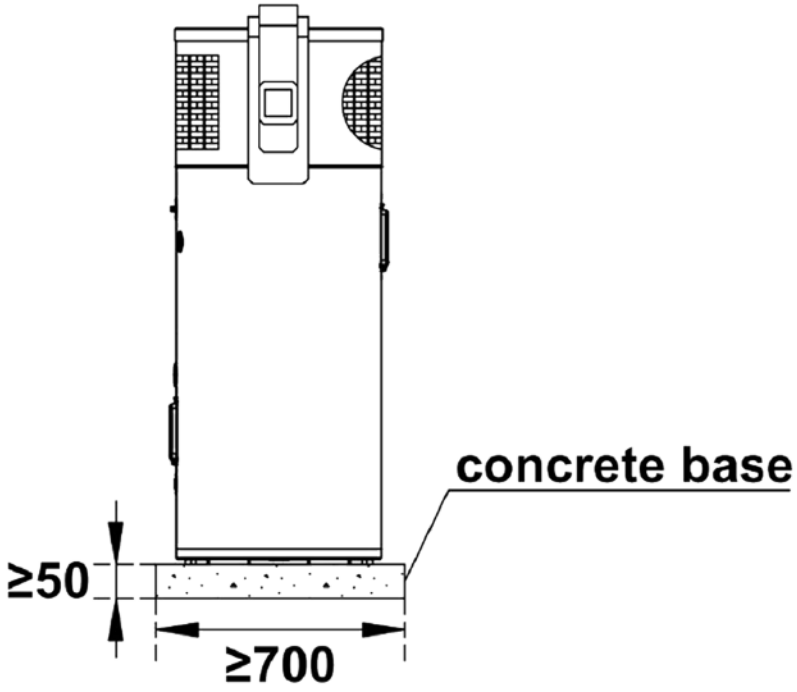


2. If heat pump is installed in the basement, indoors or other airtight space, please note exhaust and intake circulation between surrounding air and outdoor air.
3. If ducting is used, the air duct total length should be equal to or less than 6 meters, and the duct diameter should be equal to or more than 150 mm.
4. The appliance shall not be placed directly on the ground or on the main structure of the building, and additional equipment foundations shall be set up. Equipment foundations are generally divided into steel trough structures and concrete structures.

4.1. When using channel steel foundation, the design structure should have sufficient stiffness and strength.

4.2. When using concrete foundation, the production requirements are a follows.

A concrete base should be at least 50 mm thick the minimudimension of the concrete base should be 700 mm x 700 mm. If the rainfall is large, the height of the foundation should be appropriately increased to ensure smooth drainage. Ensure that all four feet are supported on the concrete base being.

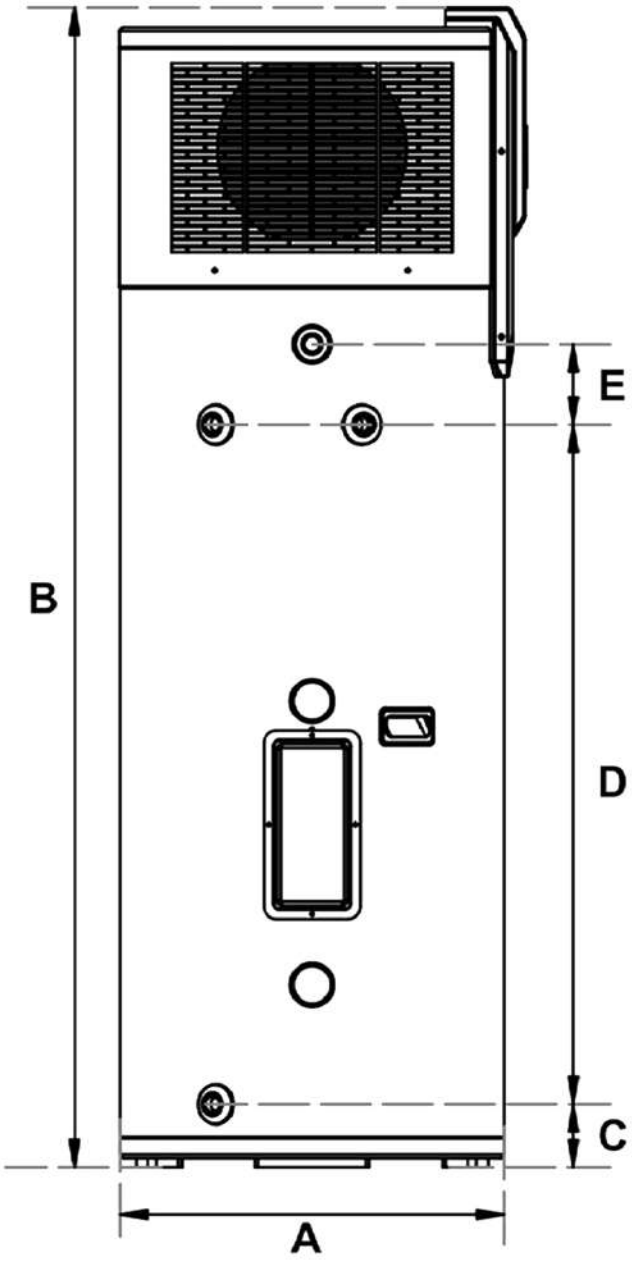


In the region which the temperature is below 0°C, the heat pump must be installed indoor or other positions where it will not be frozen for purposes of protection connection pipe.

If used for those regions which the temperature is below 0°C, suitable measures must be taken to protect pipes if the heat pump is installed outdoors.

Installation location that experiences high temperature or long-term exposure is prohibited, as it may decrease lifetime of the product.

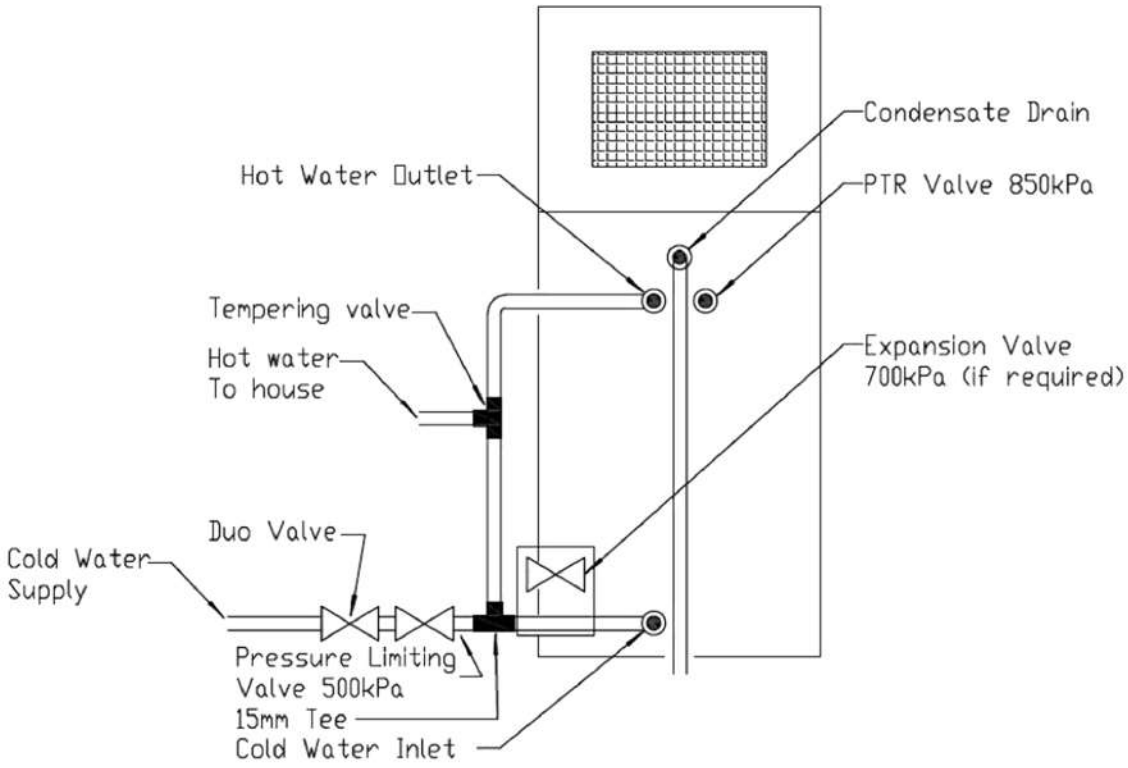
IV. Products External Dimension



Model	aether HP200	aether HP270
A	620	620
B	1555	1875
C	100	100
D	780	1100
E	130	130

Pipe Line connection

I. Pipe connection Diagram



II. Water Quality Requirements

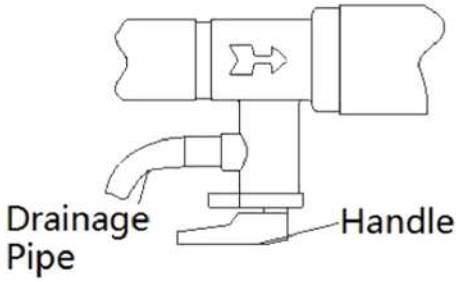
PH value	Total hardness	Conductivity	Sulphate ion	Chlorine ion	Ammonia ion
7 ~8.5	< 50ppm	<200uV/cm(25°C)	None	< 50ppm	None
Sulfate ion	Silicon	Iron content	Sodium	Ca	
< 50 ppm	< 50ppm	< 0.3ppm	No requirement	< 50ppm	

III. Water Pipe Installation Instructions

1. Please don't use iron pipe for heat pump connections. CPVC pipe, PPR pipe or PB pipe or other pipe as per local regulations is recommended.
2. Water pipes, connectors etc must be installed according to the drawing. If the ambient temperature is below 0°C, proper insulation must be installed of the water pipes.
3. Water inlet/outlet size is G3/4'', thread.
4. The water pipe's working life must not be less than the heat pump's working life.
5. Relief valve is G1/2'', 0.8 MPa. After installation, ensure that the drainage pipe which connects to the relief valve is not blocked.

NOTE

- The relief valve needs to be pulled once every six months for purpose of removing calcium carbonate and ensuring no blockages. Outlet temperature of drainage port may be high, please be careful



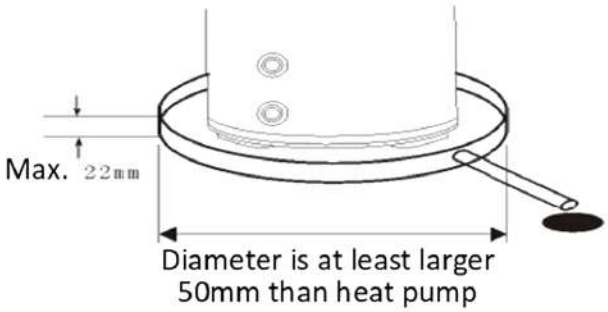
- Measures must be taken to prevent drainage pipe from freeing

Danger

- Do not hold down the handle of safety valve.
- Do not knock down safety valve.
- Do not plug the drainage port.
- Excretion pipe must be connected with a open drainage port.

Explosion Danger

6. After pipe installation is complete, open up the valve controlled cold water inlet and the valve controlled hot water outlet to fill water into tank, you can stop when water overflows from water outlet, then inspect all piping and ensure there is no water leakage. if leakage is found, it must be repaired and water tank filled again.
7. When intake pressure is below 0.15MPa, a booster pump needs to be installed to connect with inlet water pipe for purpose of increasing water pressure. Water pressure must be greater than 0.15MPA after booster installation. When intake pressure is greater than 0.65MPa, a relief valve needed to be installed to connect with inlet water pipe for purpose of keeping your water tank ina long-term working state.
8. During heat pump operation, condensed water droplets may be formed. Drainage water port may be unexpectedly blocked, which can make surface of equipment drip water. To ensure correct long- term operation, we suggest a water tray. Please refer to the below chart.



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⚠ NOTE

When used in a location where the temperature is below 0°C, if the heat pump is installed outdoors, please take measures to protect water pipe according to local minimum temperature to prevent frozen or damaged water pipes.

Electrical Connections

⚠ Electrical wire assembly

⚠ NOTE

- The equipment must be connected to the correct power supply, supply voltage must comply with rated voltage.
- Power supply circuit must be fitted with a grounding wire, and grounding wire of power supply must be reliably connected with external grounding wire.
- The installation must be undertaken by professional personnel based on provided circuit diagrams.
- Leakage protection device must be installed correctly according to the National Technical Standard for electrical equipment.

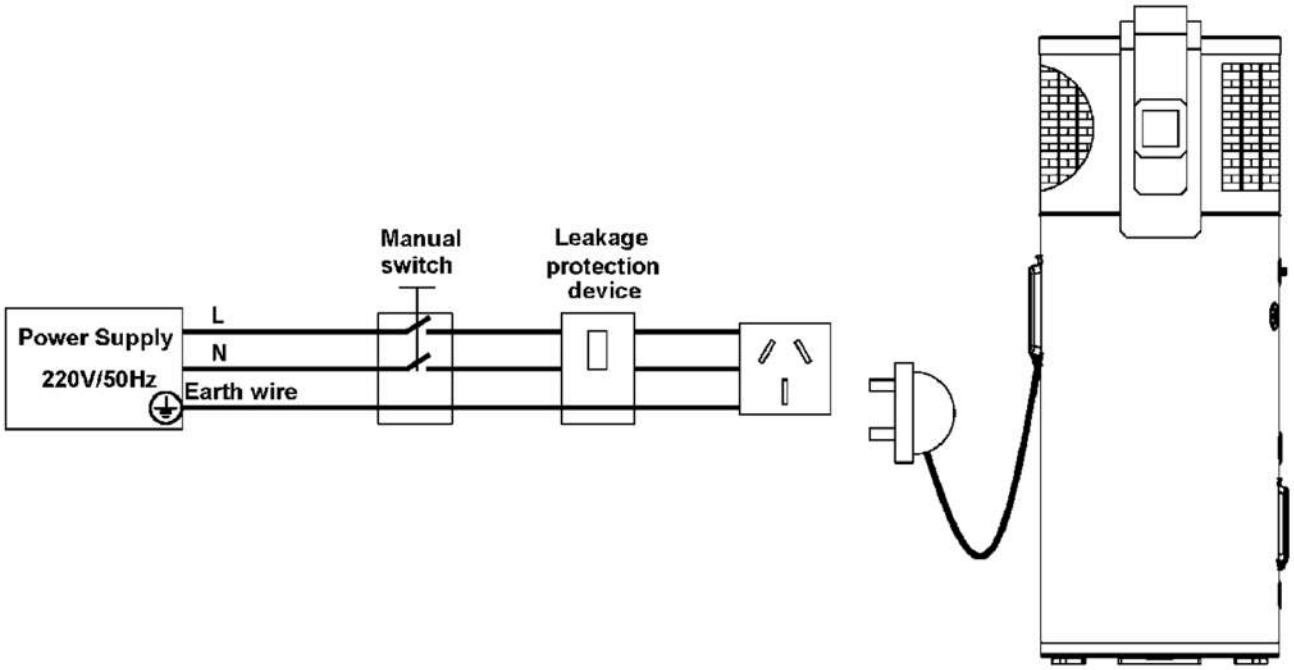
1. Power Specification

Item / Model	Power Supply	Minimum wire dimeter (mm2)		Manual switch (A)		Leakage protection device	Circuit Breaker
		Size (Continuous) length < 30m)	Ground Wire	Capacity	Fuse		Rated current
aether HP200 aether HP270	200V/50Hz	≥2.5	≥ 1.0mm	≥20	20	Below 30mA 0.1SEC	≥20A

Remark : Please directly connect power supply wire with user's plug when using the heat pump.

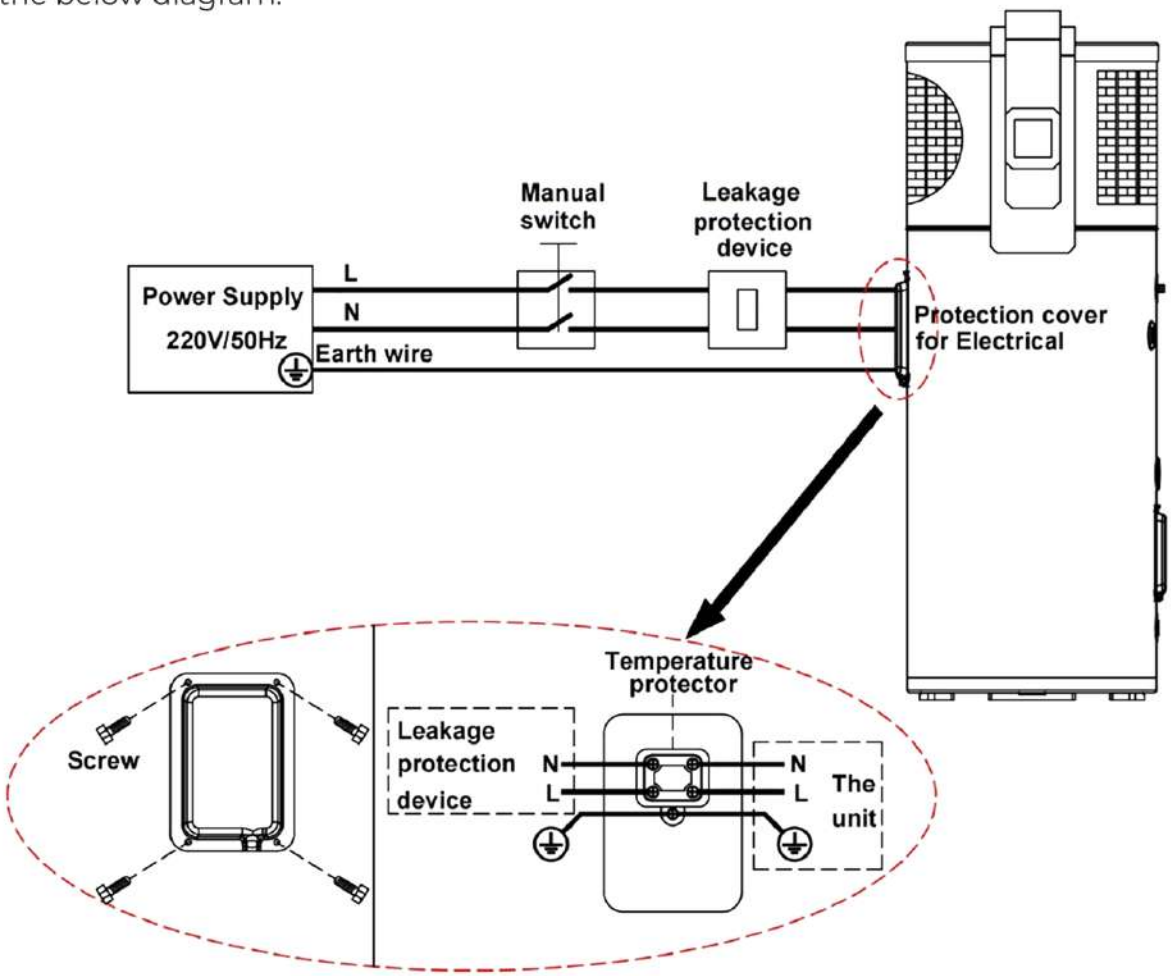
2. Power cord wiring diagram

Version with 10A plug:



Version without plug:

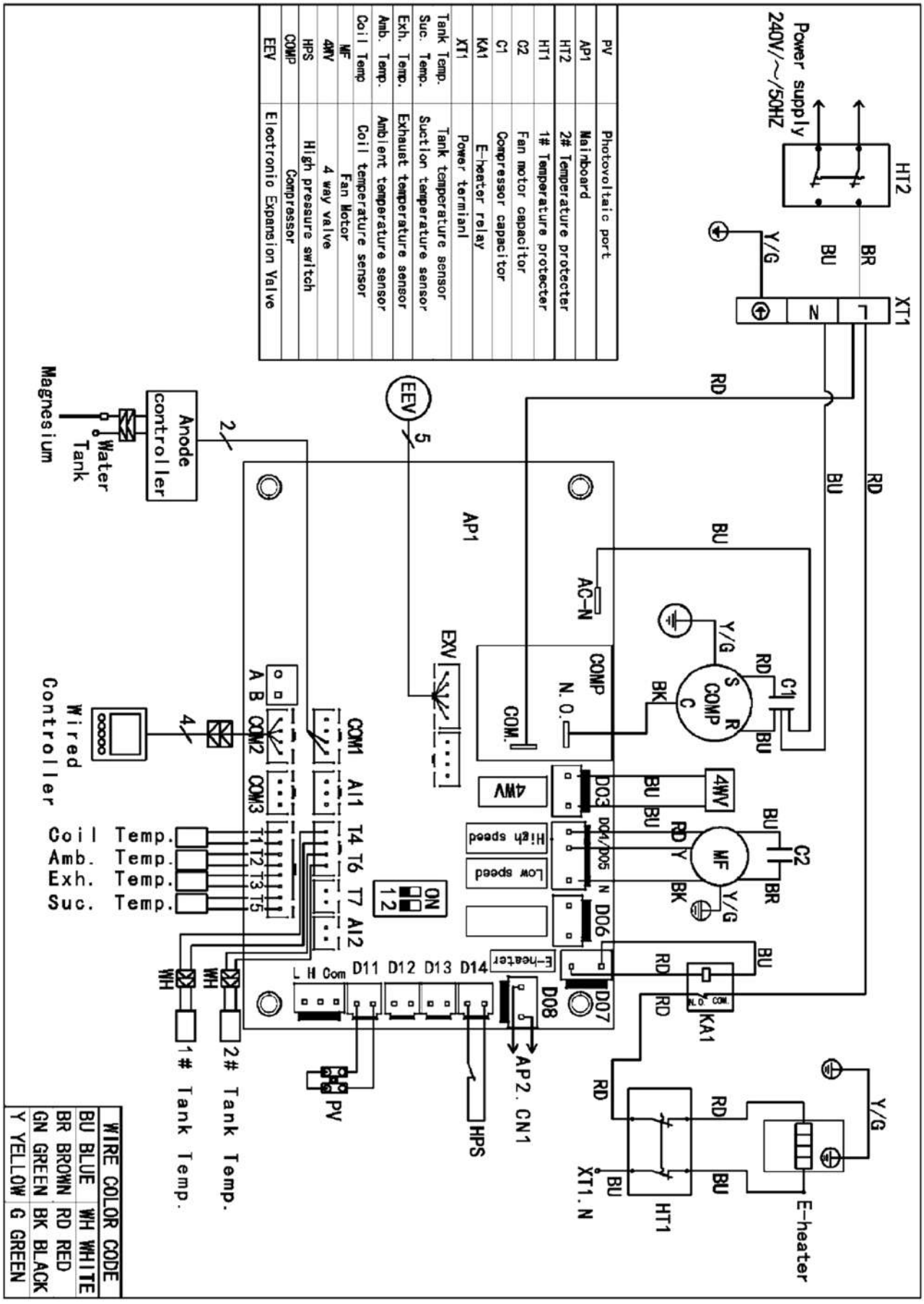
Remove the four screws on the protection cover for electrical, then installed the wires as shown in the below diagram.



WARNING

- The power supply must have a leakage protection device installed according to the above diagram for your safety.
- The equipment cannot be used unless you have confirmed grounding wire is reliably connected.

3. Internal Wiring Diagram



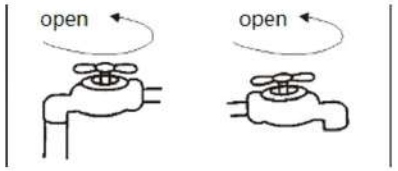
Method of Application

When using the unit, please operate in the following order:

1. Feeding water: when using the unit for the first time (or reusing it after the tank is emptied), before connecting the unit to power, please make sure the tank is full of water. Water feeding method is as per below picture.

Feeding water

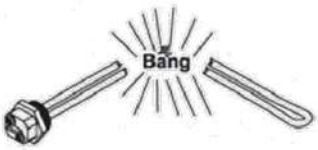
Open the cold water inlet valve and hot water outlet valve



When there is water flowing out from the outlet, the tank is full with water. Close the hot water outlet valve and the water feeding is finished.

Hot water outlet

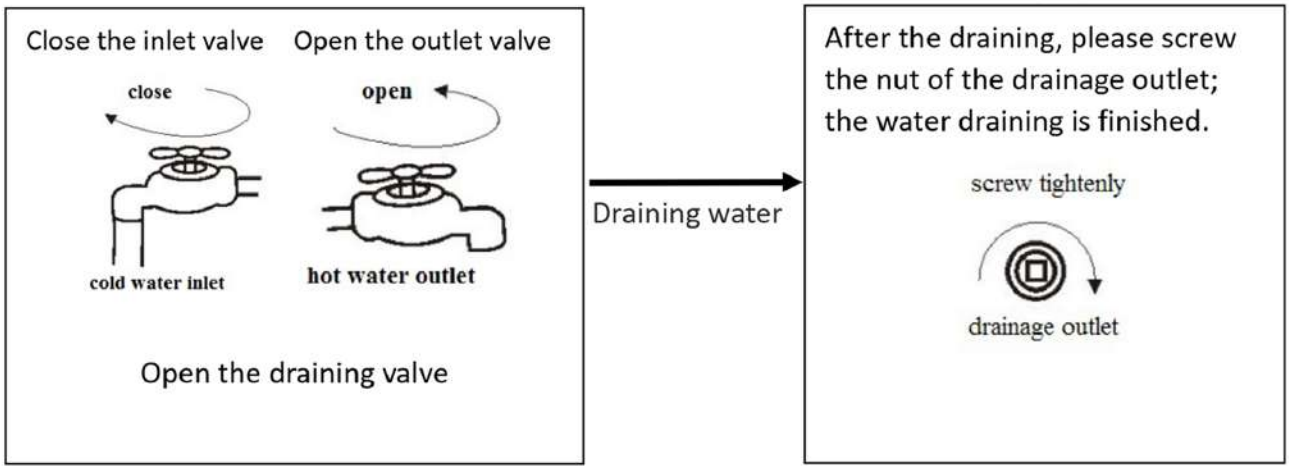
Operation without water in water tank may result in the damage of auxiliary E-heater. Due to such damage, manufacturer will not be liable for any damages caused by this issue.



2. Connect the unit to power. Then the screen will turn on, which shows that the unit is connected to power. The user can check different parameters by clicking the relative button on the screen (see next page);

Water temperature over 50°C can cause severe burns instantly or death from scalds. Children, disabled and elderly are at highest risk of being scalded. Feel water before bathing or showering. Water temperature limiting valves are recommended

3. Water draining: before cleaning or moving the unit, please drain the water in the water heater. The draining method is as per below picture:



Instruction of operation

1. Control system specifications

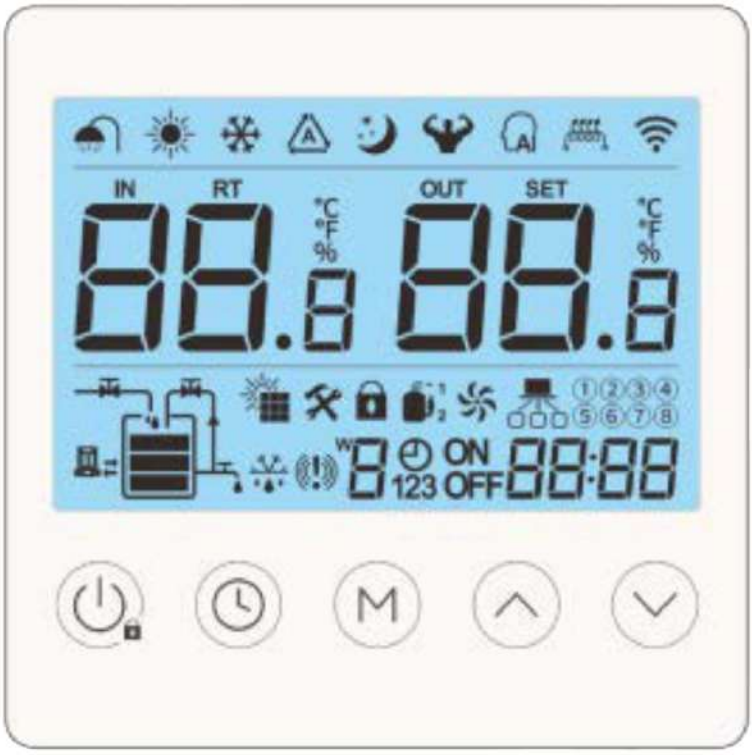
(1) Operating condition

- Voltage:220V~+10%,50Hz+1Hz
- Ambient temperature: -7~+43°C
- Storage temperature: -20~+75°C
- Relative humidity: 0~+5%RH
- Temperature accuracy: +1°C

(2) Mina function

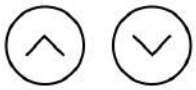
- Display the water temperature and setting temperature. Can also query the coil temperature, ambient temperature, exhaust temperature etc.
- Power cut memory function.
- When power lost, clock will still work.
- Timing on/off.
- Automatic defrosting.
- Forced defrost.
- Large LCD display.
- Protection functions.
- The error code display and query
- Key-Lock Function
- Anti-freezing function
- When there is no wired controller or wired controller is broken, the system will recognize it, and control the heat pump to run automatically.

2. Wired controller and operation

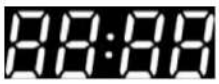


2.1. Button function

Number	Description	Value
On/OFF		1. Long press for 1 second to switch on/off; 2. In the query or setting state, press On/OFF key to return to main interface; 3. After 60 seconds of no operation, the controller will automatically return to main interface and lock the screen automatically; then when main interface in the lock state, long press On/OFF key for 3 seconds to unlock.
Clock		1. In main interface, press the Clock key to enter the clock setting, and press again to swith to hour or minutes. 2. In main interface, long press Clock key for 3 seconds to start and enter timer setting function or stop timer mode . 3. In the timer mode state, press Clock key to swith to hour or minutes, and long press for 3 seconds to cancel current timer setting period.

Number	Description	Value
Mode		1. In On state, press the Mode key to change mode. 2. In main interface, long press the Mode Key for 5 seconds to enter parameter page. 3. In parameter query state, press the Mode key to enter value or save parameter setting.
Turn up/down		1. In On state and main interface, press the up/down key to set the temperature. 2. In main interface, long press the up/down key to enter query state; and in query state, press up key can swith the state query number. 3. In parameter setting state, use in Combination key can change the parameter. 4. Can use to change the value of timer functions and clock.
Combination key		1. Long press On/OFF key and up or down key for 5 seconds can enter the intelligent network distribution or AP network distribution state. (intelligent network distribution no need to select machine type, while AP network distribution need.
		1. Within 5 minutes of power-on, long press On/OFF + mode + up + down keys for 5 seconds can restore factory parameters settings.

icon	State	Description
	Off	Heat pump OFF or not in heating mode
	Light up	In heating mode
	Light up	Heating element ON
	Flash	WIFI distribution network status
	Light up	WIFI connection successful
	Light up	Actual temperature or indoor temperature
	Light up	Setting temperature
	Light up	Celsius temperature
	Light up	Defrosting mode
	Light up	Maintenance mode
	Light up	failures exist

icon	State	Description
	Light up	Screen locked
	Light up	Compressor is running
	Light up	Fan is running
	Display	real time or failure code number
	Light up	Enable time mode
	Display	Currently in power-on timer period
	Flash	Currently set timer work period start time
	Display	Currently not in power-on timer period
	Flash	Currently set timer work period off time
	Light up/off	Light up when setting timer working period 1, 2 and 3 or when time up to the setting time. Off in the rest of state.
	Display	Currently it's Monday/Tuesday/Wednesday...

Operation Instruction

1. Mode

The system default mode is STAN mode.
Every day at 0 o'clock, the mode and set temperature return to STAN mode with default value.

Mode	Icon	Factory default	Temperature setting range	Recommended setting range	Note
Standard Mode	STAN	55	15 C~60C	55C~60C	When the ambient temperature is too low, the electric heating will be activated to heat up to the set temp.
Electric Heater Mode	ELE	65	15 C~75C	55C~60C	Electric heater only
Power mode	booS	65	15 C~75C	55C~60C	Heat pumps and electric heating working at the same time
Hybrid Mode (Unit with 10A Plug)	HYB	65	15 C~75C	65 C~75 C	Heat pump will heat up to 61°C, then heat pump stops and electric heating works

Any change to the mode will revert back to the default within 24 hours.
User cannot change to 'Electric heater mode' and leave it in this mode permanently

Note: All models of this manuals have Sterilization function.

The machine starts to heat up to the maximum temperature (60°C) of STAN mode at 0 o'clock every 7 days (flashes), and exits the sterilisation function when the temperature is reached (disappears)

2. Clock settiing

In On state, press button, clock display area flashes to indicate it enters clock setting state.

In clock setting state, press button to swith to week, hour our minutes setting. At this time,

the set value flashes , press or button to modify the corresponding value.

After setting the value of minutes, press or button, or no operation for 5 seconds will automatically save your setting and exit clock setting state.

In the clock setting state, long press button for 3 seconds to enable or disable the week function. And if the weekly timer function is enabled, it will enter week setting first, and after finished the week setting, press button to enter hour setting. if week function is turned off, the week setting will be skipped when you enter clock setting.

3. Timer

Timer function can be used to set 3 period working time. Each period can be set the time to start/stop. if the time set to start is same as to stop, it is default to this period timer invalid. And if the week function is enabled, the timer set to circulate weekly. And if week function is turned off, the timer set to repeat everyday.

In main interface, long press button for seconds to start or stop timer mode. if the week function is enabled, it will cancel current week timer setting.

Press button, when '1' ON icons displayed at the lower left of controller screen, hour display area flashes, it indicate to enter first period on-time setting state. When the number of hour flashes, press or button to modify the hour value, then press button to save hour setting and change to minute setting state. When the number of minute flashes, press or button to modify the minute value, then press button to save minute setting. At the same time, '1' and OFF icons displayed, which indicates to enter first period off-time setting state. Use the same

method as above to set hour and minute values, then press button to save setting and enable the period 1 timer. At the same time, enter second period timer setting state. Use the same method as above to set period 2 and 3.

in the timer setting state, press or no operation for 60 seconds will automatically cancel current setting and exit timer setting state.

After finished clock or timer setting, current status updates immediately. Power-on if it has entered the set working time period, of power-off if it is outside the set working time period.

Controller screen shows and OFF when it is out of the time period of set to on and shows

Period 1/2/3 and ON when it in the set time period.

4. Wifi:

Long press and for 5 seconds to inter AP network distribution state.

Long press and for 5 seconds to enter intelligent network distribution state.

Please refer to the section on "WIFI connection' for detailed steps.

Operation Parameter Query

In on state and main interface, long press or button for 3 seconds to enter parameters query state. The temperature display area shows the parameter serial number and the timing area shows the parameter current value.

In query state, press or button can swith to each running state parameter.

Press button or no operation for 60 seconds will automatically exit parameters query state.

Number	Description	Value
00	Fluorine cycle/water cycle heat pump	0=watercycle; 1 = fluorine cycle
01	High pressure switch	0=disconnected; 1 = connected
02	Low pressure switch	0=disconnected; 1 = connected
03	Water flow switch	0=disconnected; 1 = connected
04	EEV value	Measured value
05	Evaporator coil sensor	Measured value
06	Ambient temperature sensor	Measured value
07	Suction temp.	Measured value
08	Exhaust temperature sensor	Measured value

Number	Description	Value
09	Water inlet temperature (Water tank)	Display value = measured value + Compensation value
10	Water outlet temperature (Water tank)	Display value = measured value + compensation value
11	Compressor	0 = stop : 1 = running
12	4-way valve	0 = stop : 1 = running
13	High-speed fan	0 = stop : 1 = running
14	Low-speed fan	0 = stop : 1 = running
15	Water return water pump/ Circulation water pump	0 = stop : 1 = running
16	Heating element	0 = stop : 1 = running
17	Compressor accumulated working time before defrosting	Measured value
18	Link switch	0 = disconnected; 1 = connected
19	Tooling number	Code of tooling number

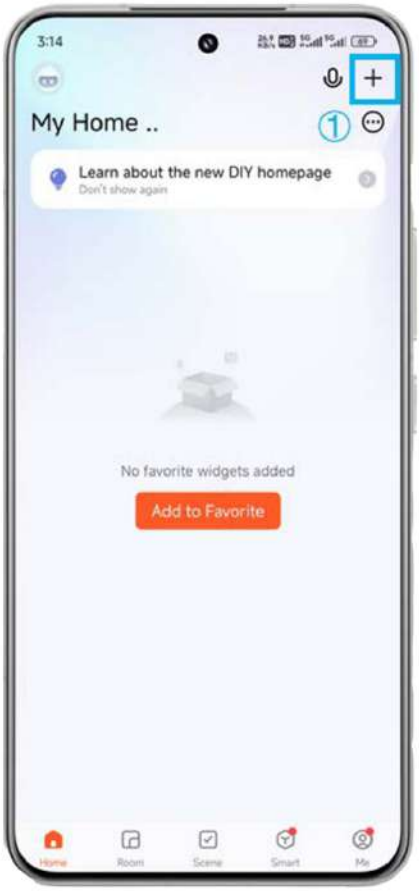
WIFI Connection

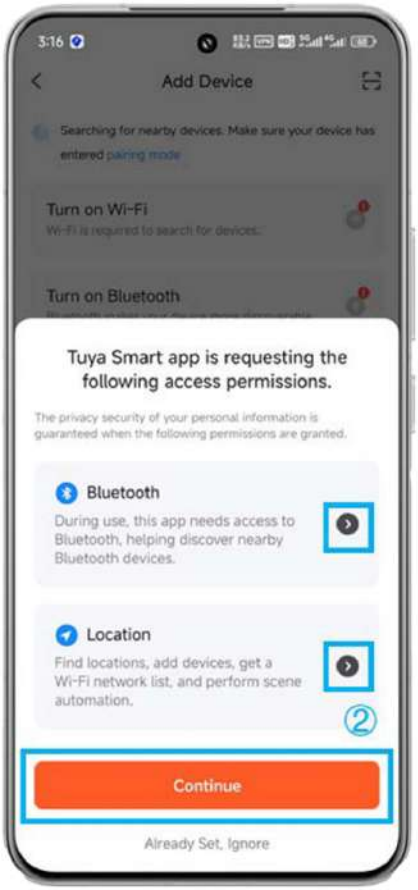
The heat pump supports remote control by mobile phone. You need to download the APP in the app store and register and account to perform network distribution operations.

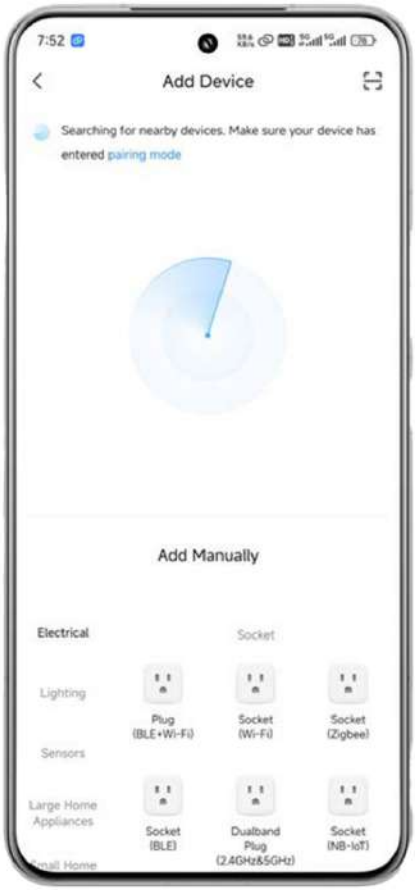
1. App download and log in

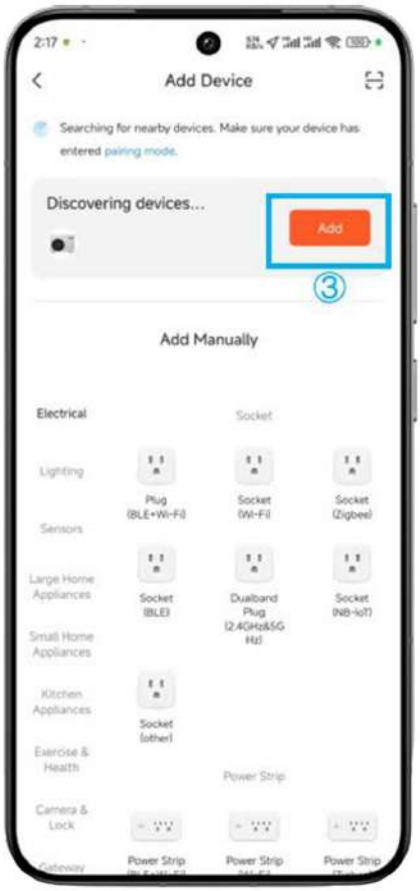
Search `Tuya Smart` in the App Store or scan the following QR code with your mobile phone to download.

1) Agree the privacy policy -→ 2) Sign up -→ 3) Select your country or region and enter your email address -→ Enter the verification code received via email -→ 5) Set your password -→ 6) Enter the APP main interface

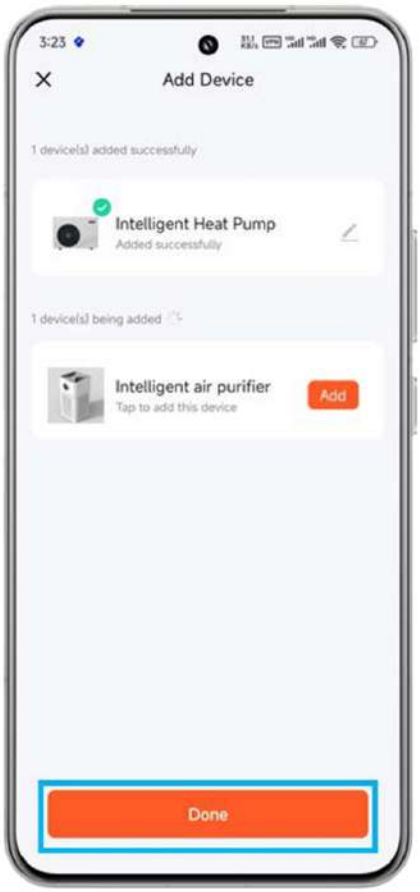

My Home ..
①
Learn about the new DIY homepage
No favorite widgets added
Add to Favorite


Add Device
Searching for nearby devices. Make sure your device has entered pairing mode
Turn on Wi-Fi
Turn on Bluetooth
Tuya Smart app is requesting the following access permissions.
The privacy security of your personal information is guaranteed when the following permissions are granted.
Bluetooth
During use, this app needs access to Bluetooth, helping discover nearby Bluetooth devices.
Location
Find locations, add devices, get a Wi-Fi network list, and perform scene automation.
②
Continue
Already Set, Ignore


Add Device
Searching for nearby devices. Make sure your device has entered pairing mode
Add Manually
Electrical
Socket
Lighting
Plug (BLE+Wi-Fi)
Socket (Wi-Fi)
Socket (Zigbee)
Sensors
Large Home Appliances
Socket (BLE)
Dualband Plug (2.4GHz&5GHz)
Socket (NB-IoT)

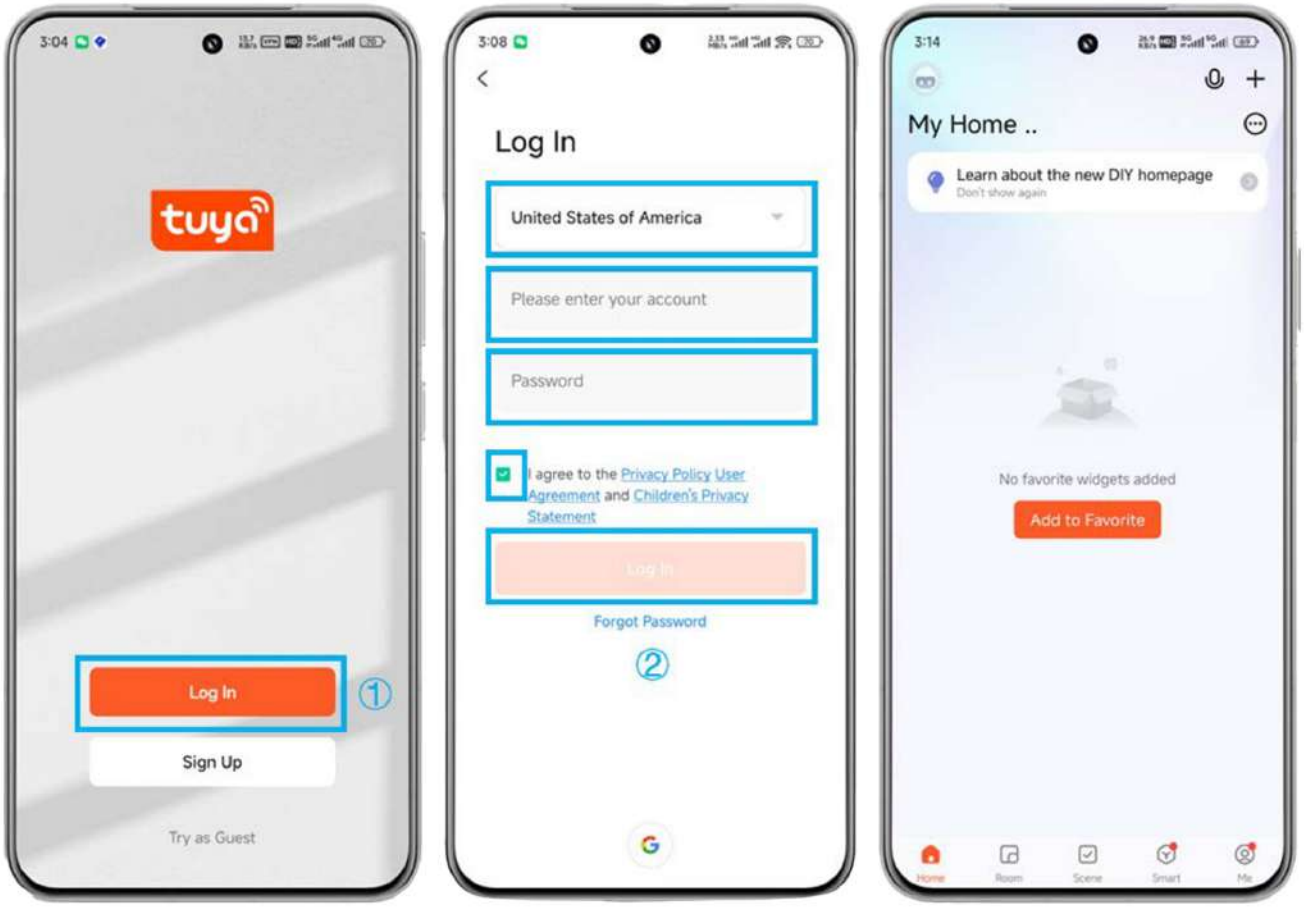

Add Device
Searching for nearby devices. Make sure your device has entered pairing mode.
Discovering devices...
Add
③
Add Manually
Electrical
Socket
Lighting
Plug (BLE+Wi-Fi)
Socket (Wi-Fi)
Socket (Zigbee)
Sensors
Large Home Appliances
Socket (BLE)
Dualband Plug (2.4GHz&5GHz)
Socket (NB-IoT)
Small Home Appliances
Kitchen Appliances
Socket (other)
Exercise & Health
Power Strip
Camera & Lock
Power Strip
Power Strip
Power Strip


Enter Wi-Fi Information
Choose Wi-Fi and enter password
Password
④
Next


Add Device
1 device(s) added successfully
Intelligent Heat Pump
Added successfully
1 device(s) being added
Intelligent air purifier
Tap to add this device
Add
Done

After the first registration is completed, the phone will automatically remember the account information.

If you need to long in: 1) Long in 2) Select your country or region and enter your account information 3) Enter the APP main interface



2. Network distribution

There are 3 connection methods for WIFI module configuration: Bluetooth connection; intelligent distribution network connection; manual AP distribution network connection.

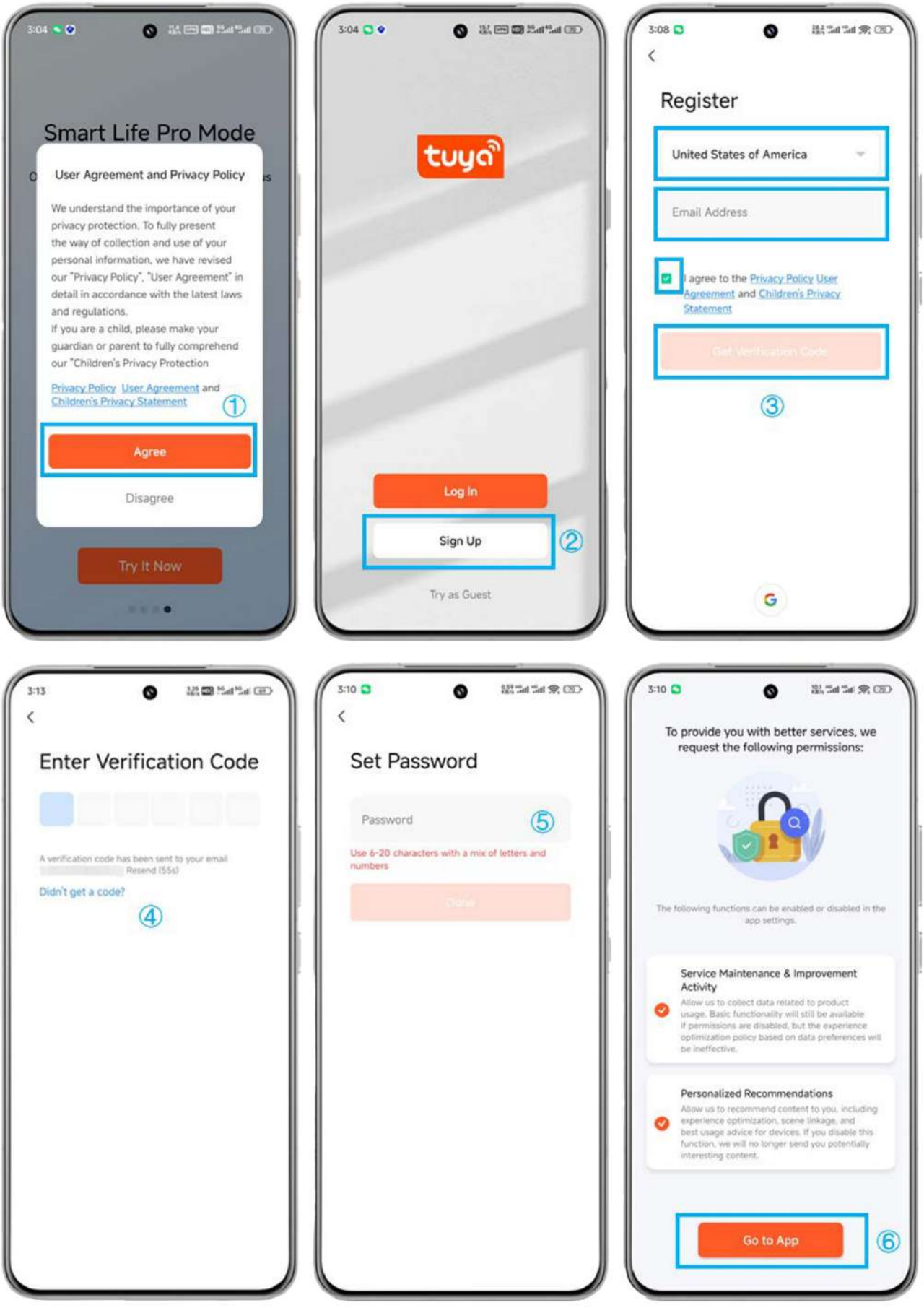
2.1. Method 1: Bluetooth connection (Recommend)

Step 1 : Click '+' in the upper right corner and 'Add Device' to enter the device type selection.

Step 2 : Be sure to agree to the permissions accessed by the APP, turn on Bluetooth to allow the app's 'Bluetooth' and 'Location' permissions, and 'continue' to enter the Add Device screen;

Step 3 : After turning on the Bluetooth permission, the APP will automatically search for nearby devices, find the device and click 'Add'.

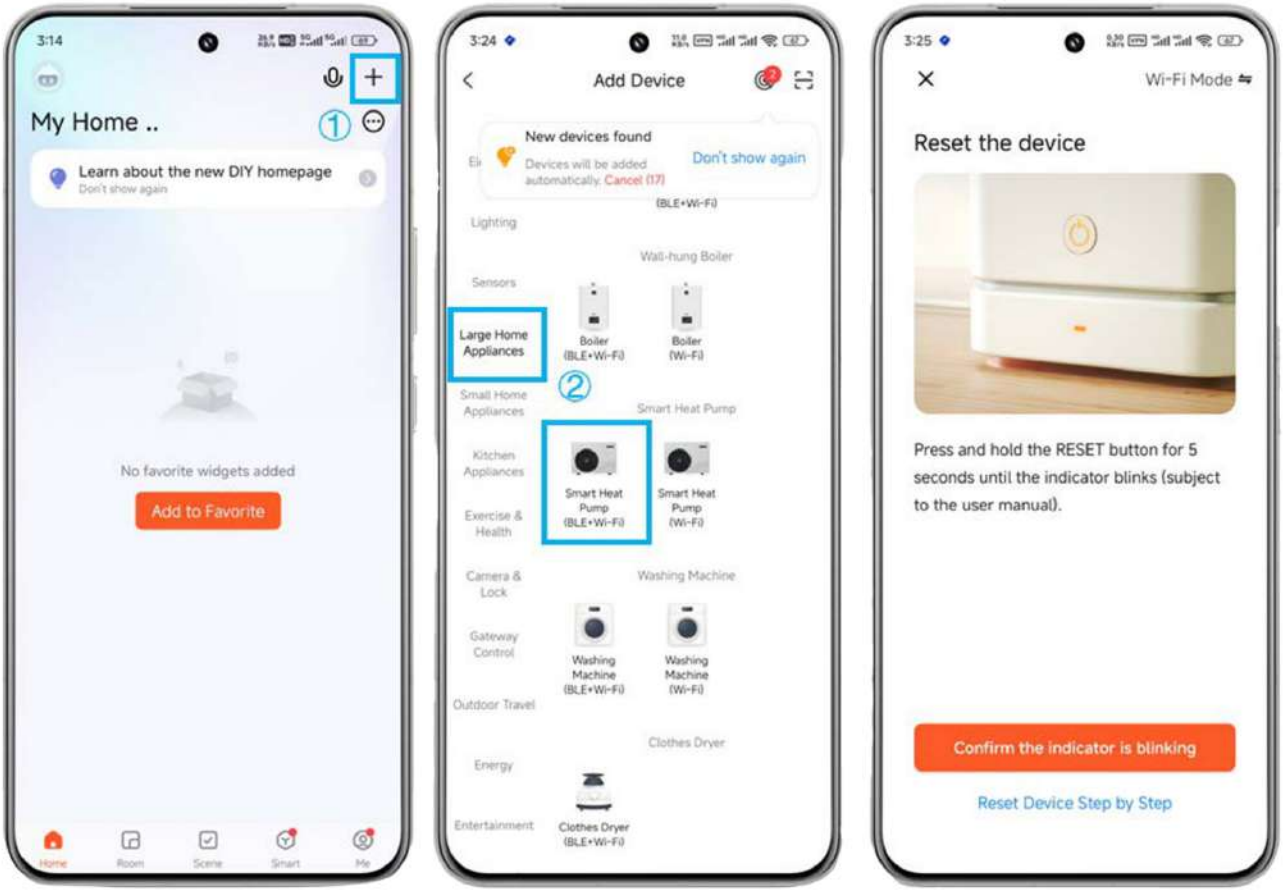
Step 4 : After connection to WI-FI, click Next, and the APP will automatically add the device


Smart Life Pro Mode
User Agreement and Privacy Policy
We understand the importance of your privacy protection. To fully present the way of collection and use of your personal information, we have revised our "Privacy Policy", "User Agreement" in detail in accordance with the latest laws and regulations.
If you are a child, please make your guardian or parent to fully comprehend our "Children's Privacy Protection
Privacy Policy User Agreement and Children's Privacy Statement
①
Agree
Disagree
Try It Now
tuya
Log In
Sign Up
②
Try as Guest
Register
United States of America
Email Address
I agree to the Privacy Policy User Agreement and Children's Privacy Statement
Get Verification Code
③
Enter Verification Code
A verification code has been sent to your email
Resend (55s)
Didn't get a code?
④
Set Password
Password
⑤
Use 6-20 characters with a mix of letters and numbers
Done
To provide you with better services, we request the following permissions:
The following functions can be enabled or disabled in the app settings.
Service Maintenance & Improvement Activity
Allow us to collect data related to product usage. Basic functionality will still be available if permissions are disabled, but the experience optimization policy based on data preferences will be ineffective.
Personalized Recommendations
Allow us to recommend content to you, including experience optimization, scene linkage, and best usage advice for devices. If you disable this function, we will no longer send you potentially interesting content.
Go to App
⑥

2.1. Method 2: Intelligent Network Distribution Mode

Click '+' in the upper right corner or 'Add Device' on the interface to enter the device type selection.

Select 'Smart Heat Pump (Bluetooth+ Wi-Fi) ' in the 'Large Home Appliances' device to enter the interface for adding devices.



Press and hold the on/off button + up button at the same time for 3 seconds in the unlocked state of the main interface of controller, the WiFi icon will be in flashing state, then it will enter the smart network mode and the phone can start to match the network.

Note:

When the controller is powered on for the first time, it can be connected within 10s by default, and needs to be connected after 10 seconds. (10 seconds is the delay for WiFi to enter low power consumption)

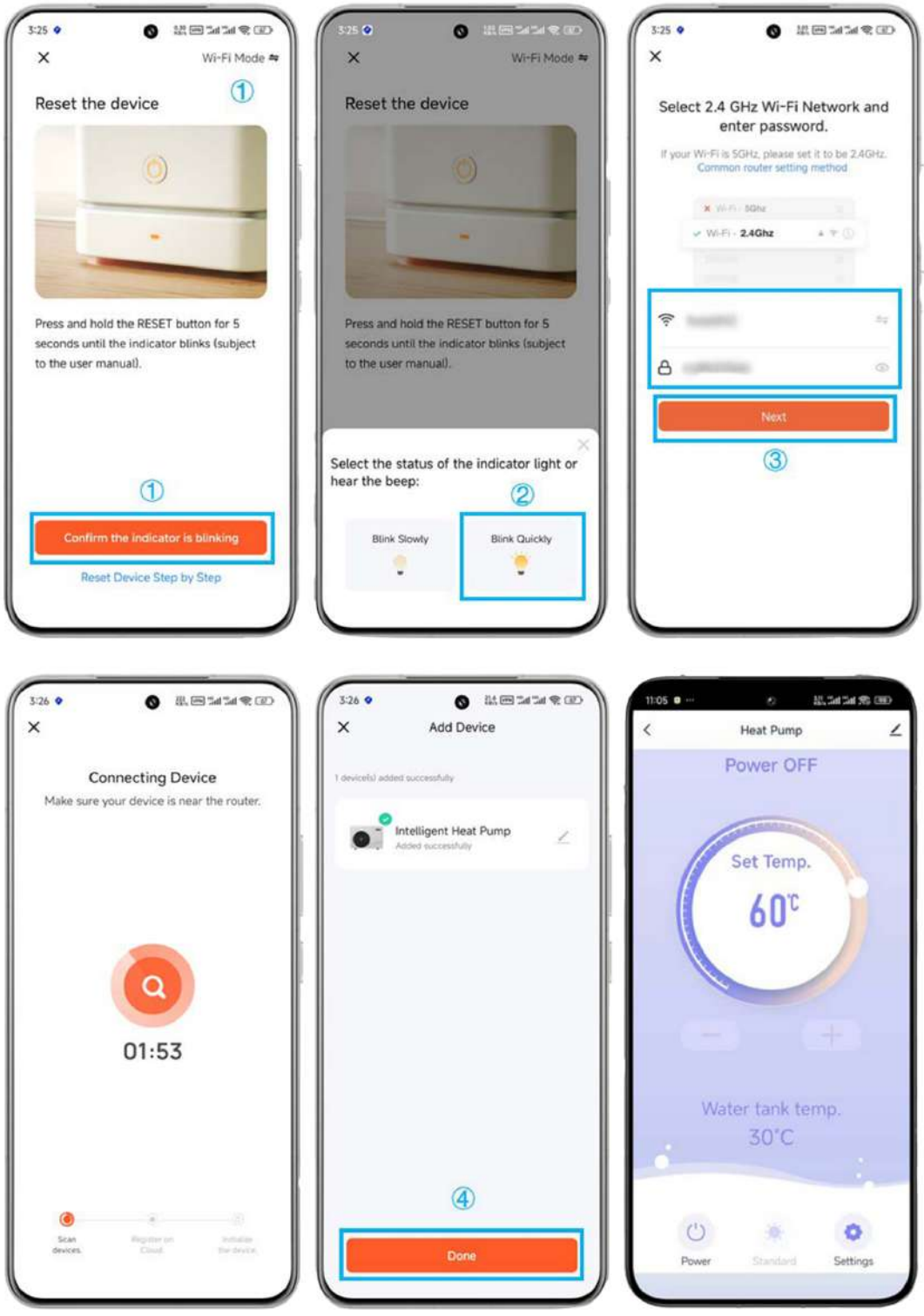
The controller will automatically exit the distribution network state after 3 minutes, the icon will stop flashing, and the WiFi module will no longer be connected to the network. if you want to configure the network again, you need to press and hold the power button + the up button again for 3 seconds.

Step 1 : After the icon on the wire controller is in the flashing state, click 'Confirm the Indicator is blinking' in App.

Step 2 : Select **'Blink quickly'** on the status of the indicator light or when you hear the prompt sound interface. (as shown i the figure below)

Step 3 : Enter the WIFI selection interface, select WIFI according to the requirements, click **Next**, and the page will automatically jump to the interface to start connecting the device, find the device register to the cloud device initialization down.

Step 4 : Click 'Done' to enter the main interface of device operation directly. (The device name can be changed in this interface)



2.2. Method 3: Manual AP distribution network mode

Click '+' in the upper right corner or 'Add Device ' on the interface to enter the device type selection.

Select 'Smart **Heat Pump' (Bluetooth + Wi-Fi)** in the 'Large Home Appliances' device to enter the interface for adding devices.

Press and hold the on/off button + up button at the same time for 3 seconds in the unlocked state of the main interface of controller, the WiFi icon will be in flashing state, then it will enter the smart network mode and the phone can start to match the network.

(Above steps can be referred to in the imges form section 2.1._ Method 2.)

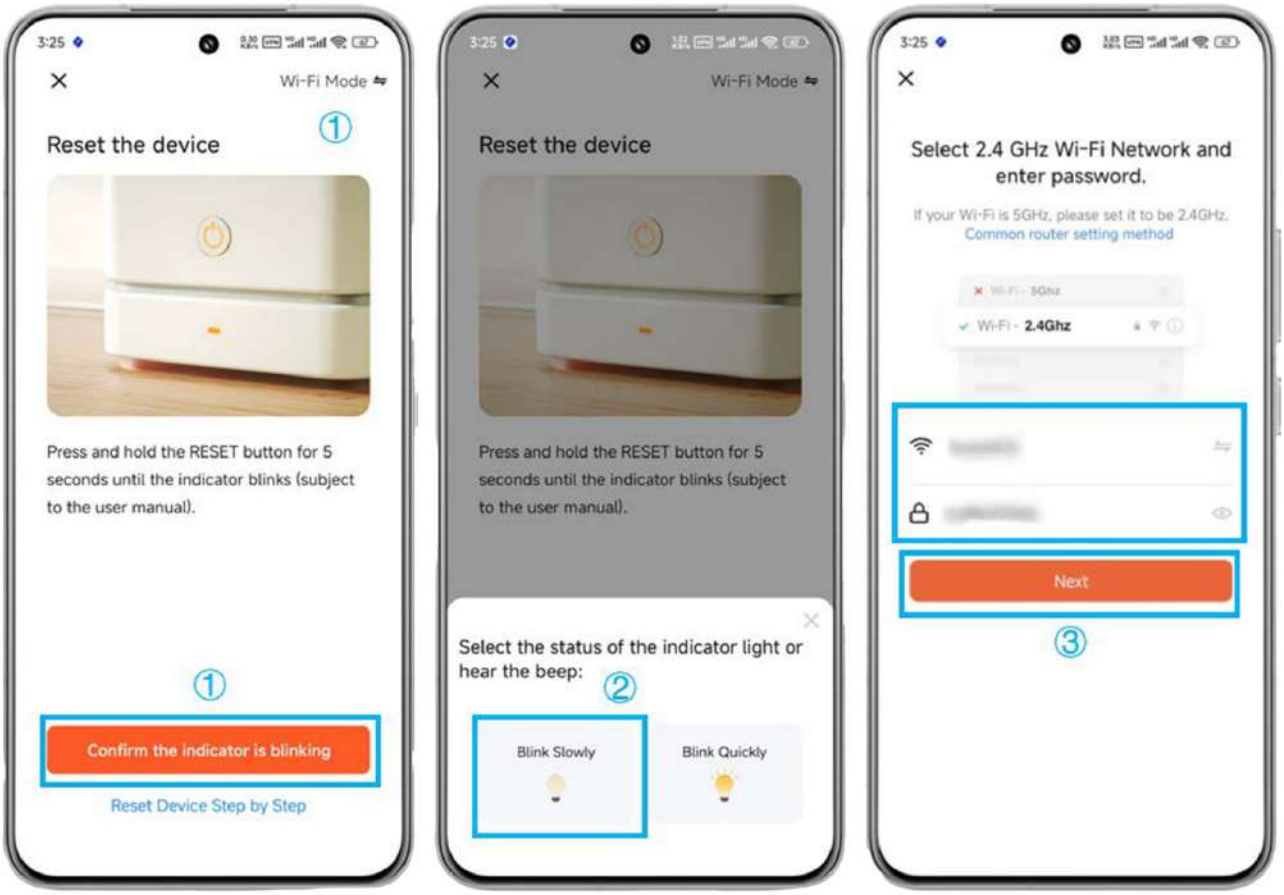
Step 1 : After the icon on the wire controller is in slow flashing state, click **'Confirm the indicator is blinking' in APP.** Select **'Blink slowing'** on the status of the indicator light or when you hear the prompt sound interface. (as shown in the figure below).

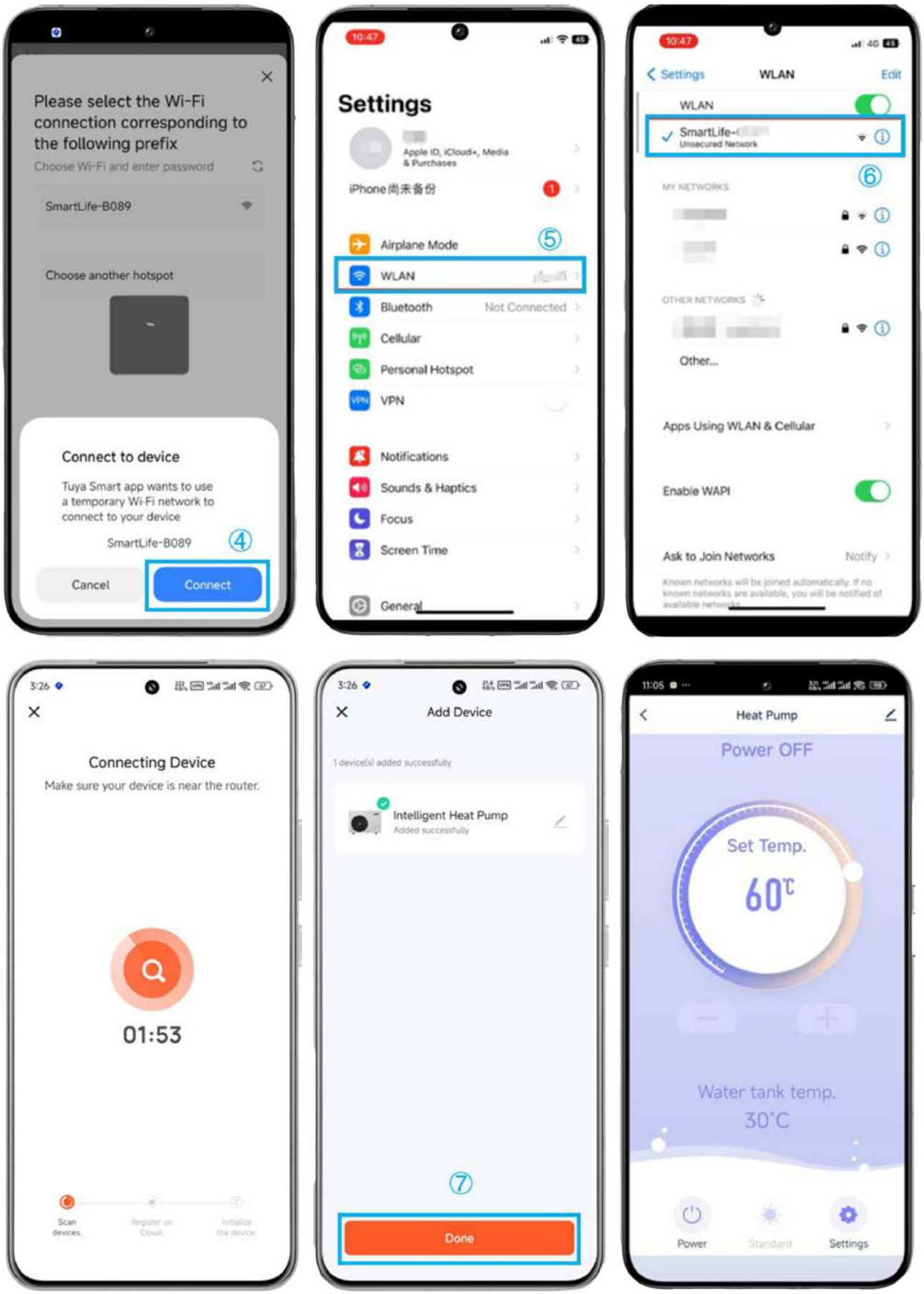
Step 2 : Enter the WiFi selection interface, select WiFi according to the requirements and click Next.

Step 3 : Connect the WiFi of the mobile phone to the hotspot of the device (as shown in the figure below), click to connect ont he APP page, the page will automatically jump to the mobile phone setting page, and open the wireless LAN selection interface.

Step 4 : Connect to the Smart Lige-XXX network, as shown in the figure: Smart Life-XXX, after the connection is successful, return to the "Smart Life" APP, and the APP will automatically enter the device connection state find the device register to the cloud device initialization finished.

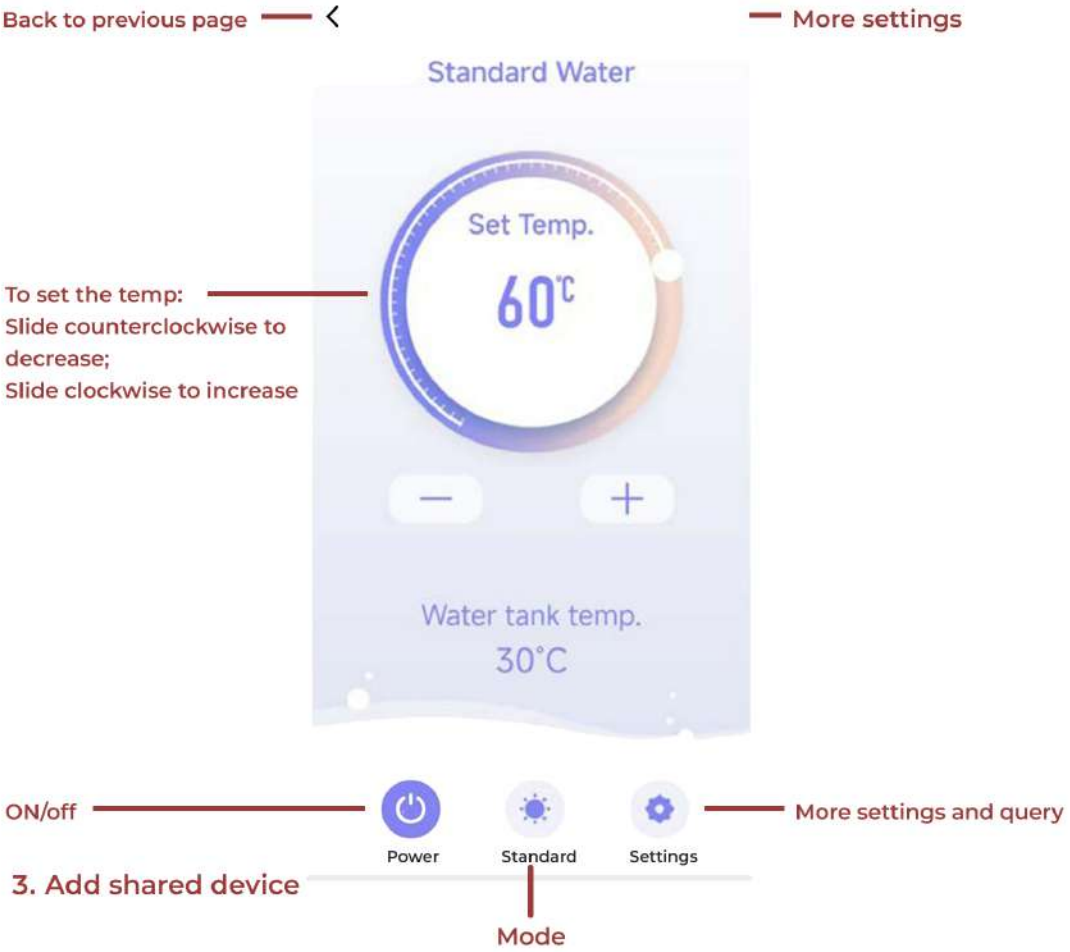
Step 5 : Click 'Done' to enter the main interface of device operation directly. (The device name can be changed in this interface)




Please select the Wi-Fi connection corresponding to the following prefix
Choose Wi-Fi and enter password
SmartLife-B089
Choose another hotspot
Connect to device
Tuya Smart app wants to use a temporary Wi-Fi network to connect to your device
SmartLife-B089
④
Cancel
Connect
Settings
Apple ID, iCloud+, Media & Purchases
iPhone尚未备份
Airplane Mode
⑤
WLAN
Bluetooth
Not Connected
Cellular
Personal Hotspot
VPN
Notifications
Sounds & Haptics
Focus
Screen Time
General
Settings
WLAN
Edit
WLAN
SmartLife-
Unsecured Network
⑥
MY NETWORKS
OTHER NETWORKS
Other...
Apps Using WLAN & Cellular
Enable WAPI
Ask to Join Networks
Notify
Connecting Device
Make sure your device is near the router.
01:53
Scan devices
Add Device
1 device(s) added successfully
Intelligent Heat Pump
Added successfully
⑦
Done
Heat Pump
Power OFF
Set Temp.
60℃
Water tank temp.
30°C
Power
Standard
Settings

3. App Function Operation

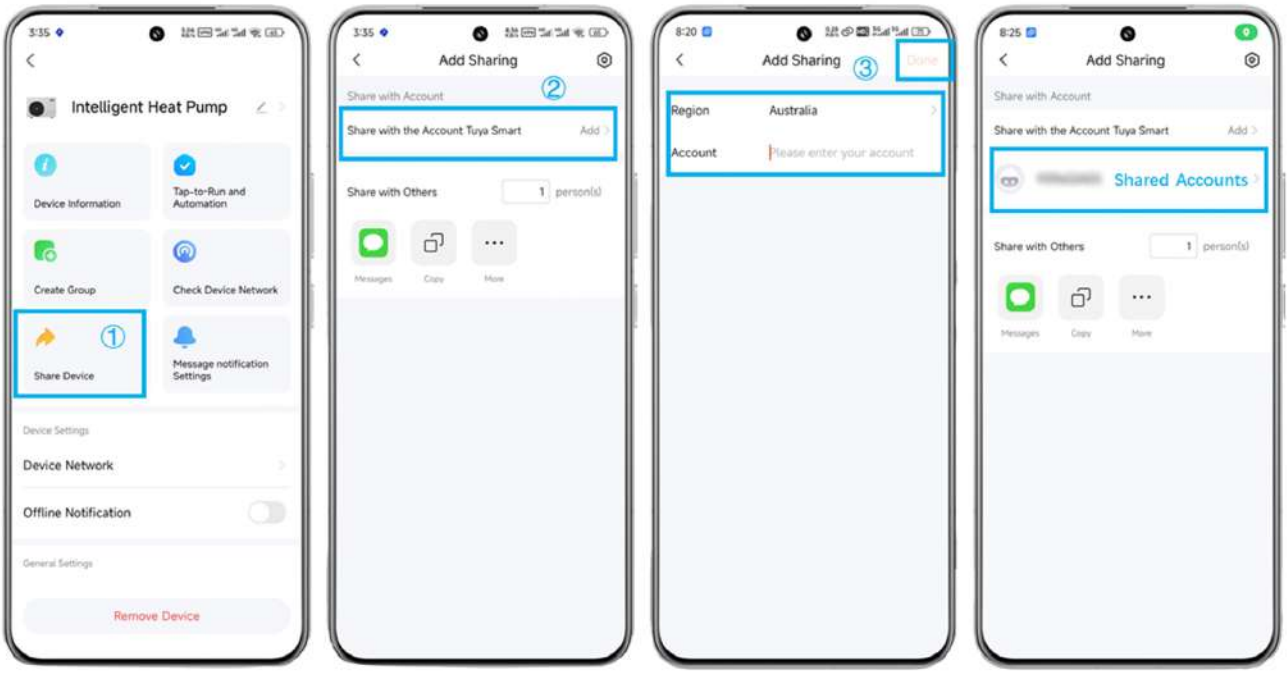
Open the APP homepage, click your device name in 'All Devices' to enter the operation page of changing the device.



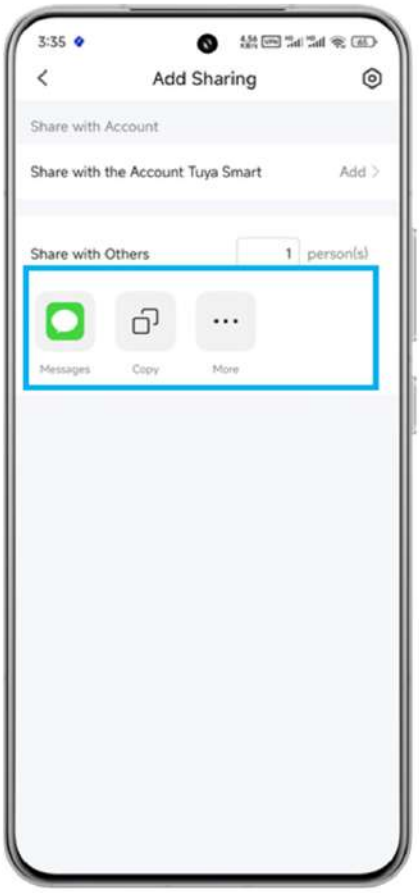
4. Add shared device

There are 2 ways to add a shared device:

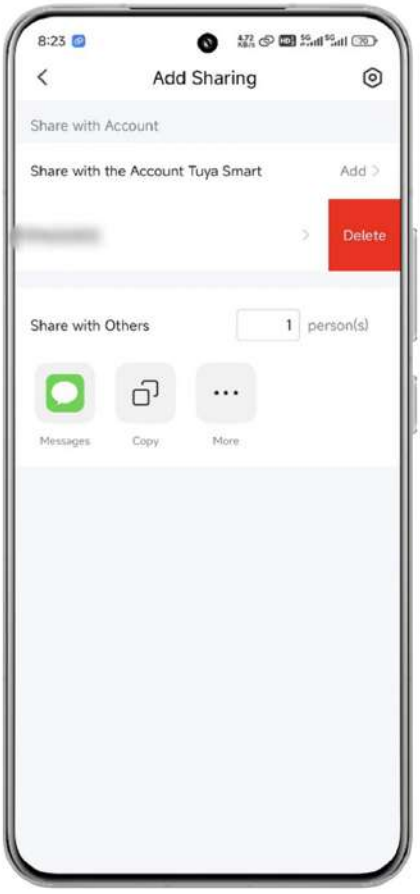
1. Share it with a Tuya account;



2. Share to other apps : Select the corresponding app or directly copy the shared link.



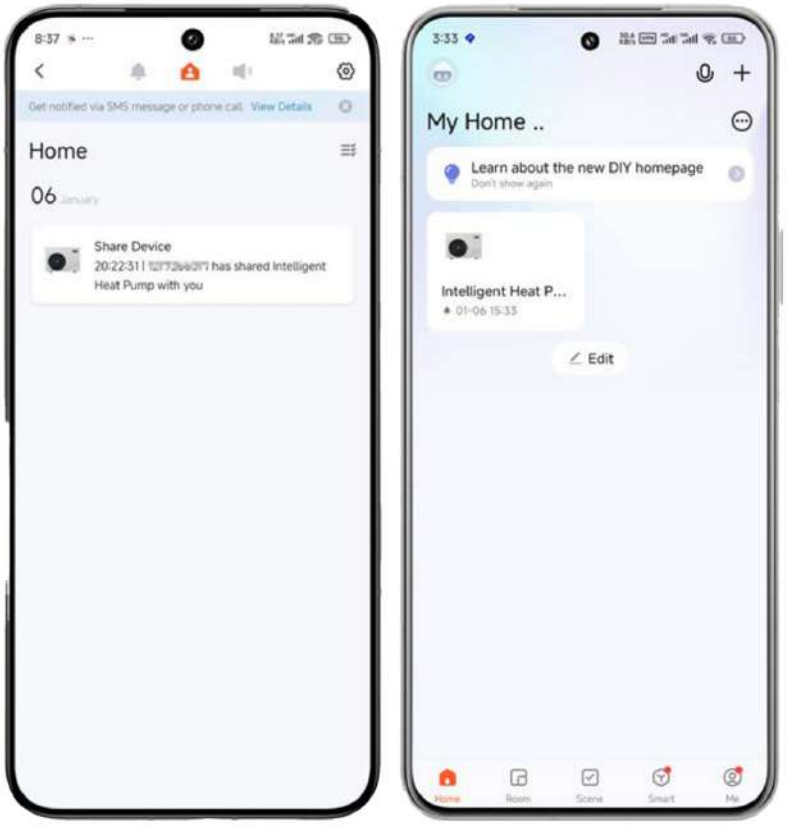
If you want to cancel sharing to this account: Swipe left and click **'Delete'.**



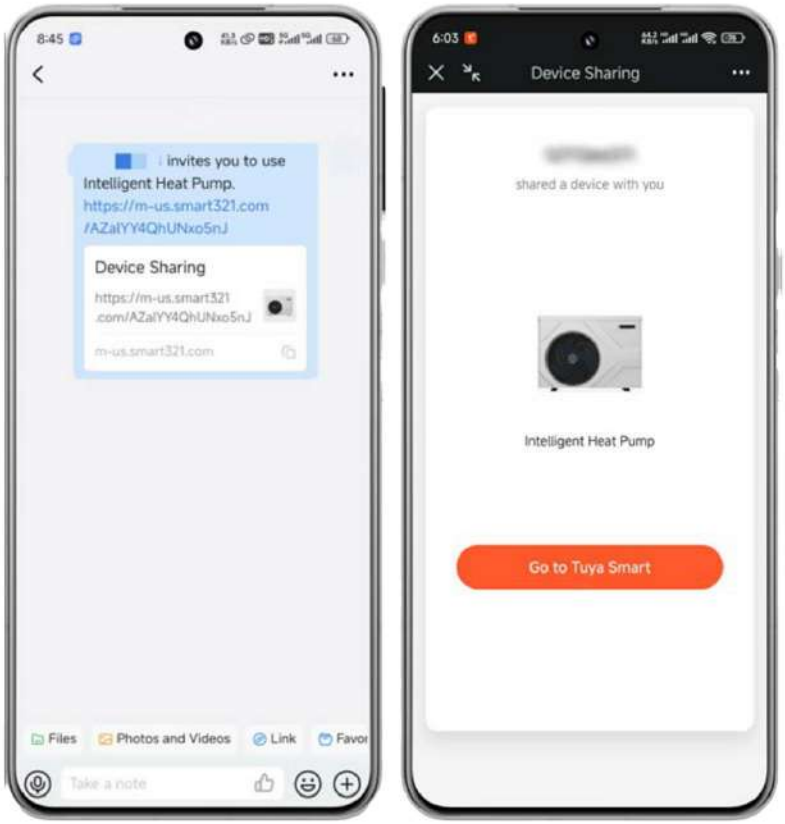
5. join shared device: There are 2 ways to join a shared device.

1. Join in Tuya APP

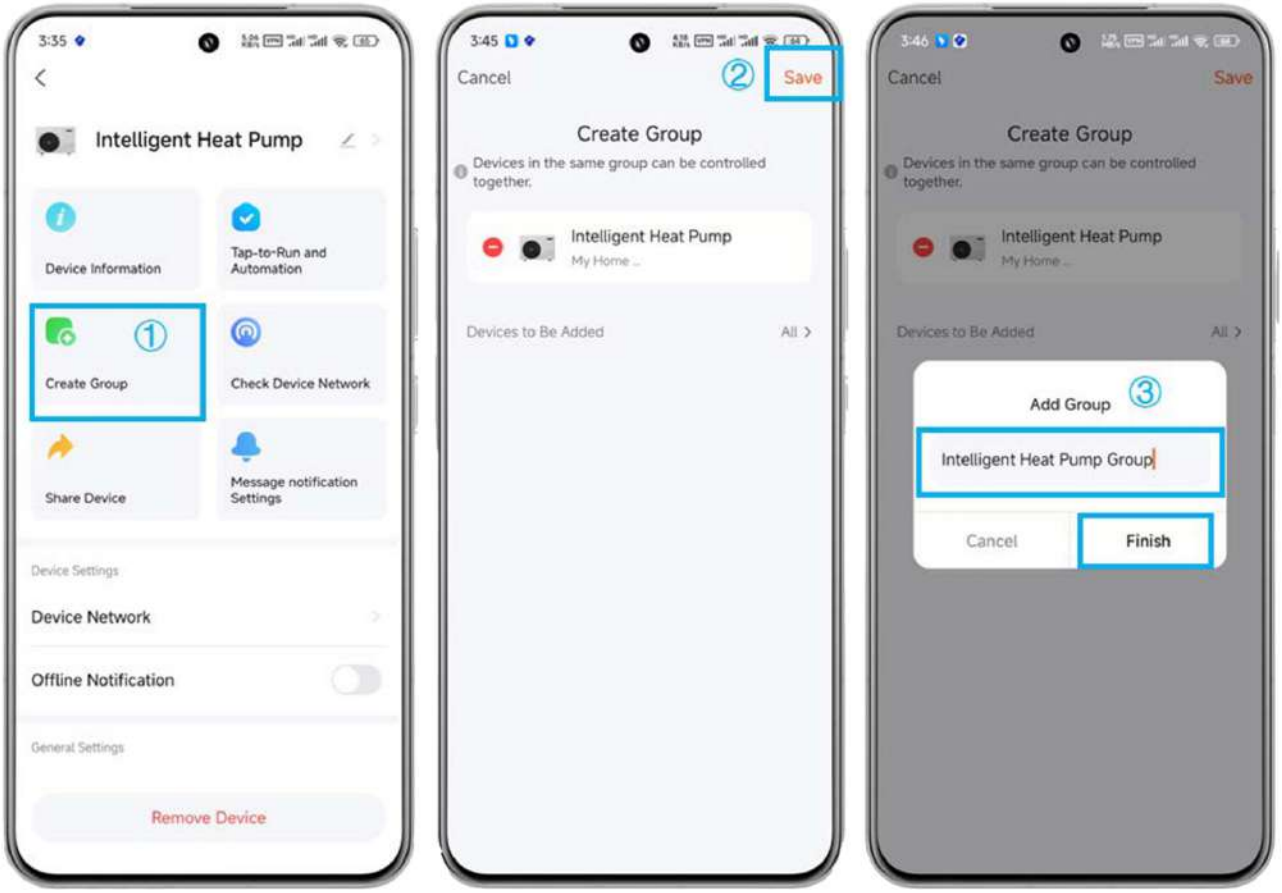
After being shared with the Tuya account by others, the APP will automatically generate the shared device received, and click to enter the main interface of device operation



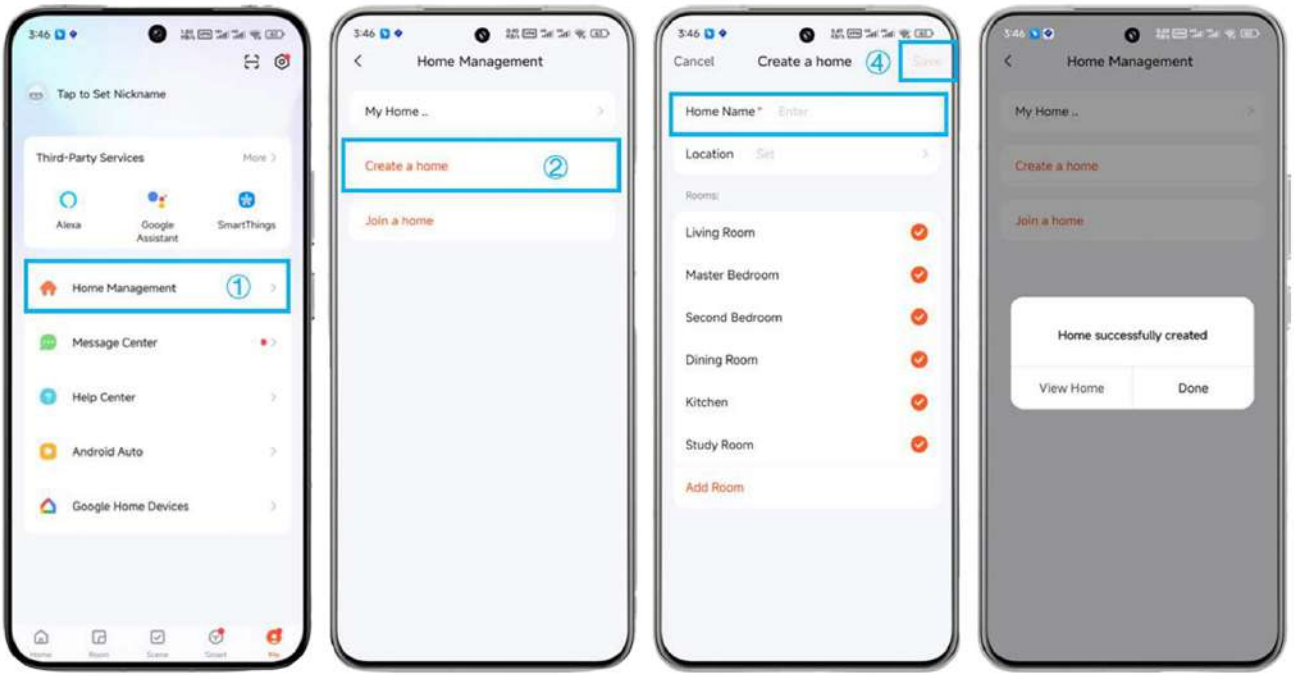
1. add in other apps



6. Create Groups :



7. Create a family : Click on 'Me' in the lower right corner of the APP. After creating a family, you can choose any room to add equipment.



Failure Analysis

Failure code	Description	Failure Analysis	Solution
E05	High pressure protection	1. High pressure switch is broken 2. Connection is loose	Customer service to identify the reasons
E09	Communication failure	1. Signal wire connection loose 2. There is Strong magnetic field 3. PCB is broken 4. Signal wire is broken	Replace the controller communication line (meinboard COM2 port)
E12	Exhaust temp. too high	1. Lack of refrigerant 2. Fluorine system leak	Check then add refrigerant
E14	Tank temp. sensor failure	1. Sensor failure 2. Connection is loose	Replace the T4 temp. sensor
E16	Coil temp. sensor failure	1. Sensor failure 2. Connection is loose	Replace the T1 temp. sensor
E18	Exhaust temp. sensor failure	1. Sensor failure 2. Connection is loose	Replace the T3 temp. sensor
E21	Ambient temp. sensor failure	1. Sensor failure 2. Connection is loose	Replace the T2 temp. sensor
E29	Suction temp. sensor failure	1. Sensor failure 2. Connection is loose	Replace the T5 temp. sensor

Note: T1, T2, T3, T5 sensors are from a combination harness. Please refer to the wiring diagram.

Pilot run of heat pump

Please confirm the followings before pilots run of heat pump

1. The heat pump has been installed correctly;
2. Assembled pipe and wire are all correct;
3. Drain water line is not blocked;
4. Insulation materials are intact;
5. Ground wire is installed correctly;
6. Power voltage is equivalent to rated voltage of heat pump;
7. Inlet and outlet air port have no obstacle;
8. Air attached to water pipe is drained out, and all valves have been opened
9. Leakage protection device works well
10. Input water pressure is more then 0.15Mpa;

Maintenance and Solution

1. Maintenance

1. Frequently check power plug and sockets and make sure both of them have been connected well and reliably, and have no over-heating effect;

2. When not used for a long time, especially where temperature is below 0°C, water filled in the water tank must be drained out to prevent from damaging inner; (operation shown in the above contents)

3. To make heat pump to keep a long-term and high efficiency working state, we suggest you should clean inner tank up every half a year to remove accumulated sediment, please obey the following rules to clean inner tank:

   (1). Tum off power supply of heat pump;

   (2). Tum off cold water inlet valve, and open up hot water tap water;

   (3). Connect drainage water with drain outlet through a soft pipe; (temperature resistance of drainage pipe must be more than 93°C, if drainage pipe is not suitable, please turn on cold water inlet valve, and turn on hot water tap until water is not hot);

   (4). Turn on drainage water port of heat pump, clean water tank attached to inner tank up, if needed, you will wash inner tank for many times to clear sediment:

   (5). Turn off drainage water port, re-fill water into inner tank and recover power supply;

4. Each device has been matched with one anode rod, and anode rod will be slowly consumed during the process of protecting inner tank and extending use life. Under some water circumstance, anode rod and water can rise reaction, hot water will be quickly corroded and rise leakage when anode rod has bee used up. We suggest check insulation materials every one year, if anode rod is used up, you can inquiry local service center or technical department to acquire a new one.

5. It is recommended that the temperature is not set higher than the temperature required, to reduce heat pump losses and increase system efficiency.

6. Filter should be cleaned up every on month to make sure heating effect.

7. If used in regions where the temperature is below 0°C, you should take suitable measures to protect pipes in case the heat pump is installed outdoors.