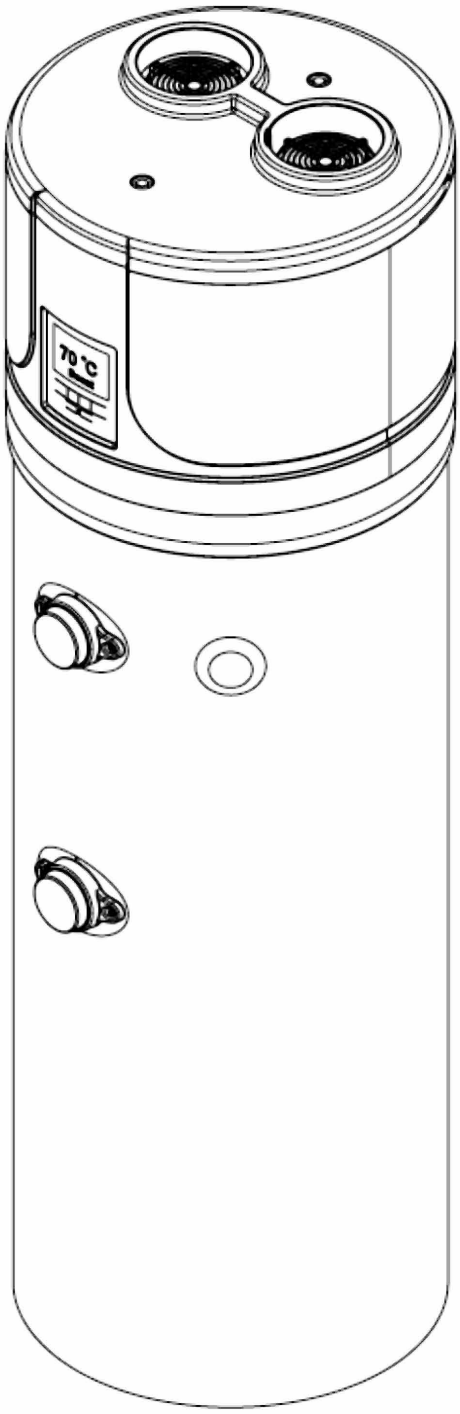
BROOKVENT

airtherm AQUA 1.2

ALL-IN-ONE TYPE AIR SOURCE HEAT PUMP WATER HEATER



Model range:

Airtherm Aqua 1.2

200L, 250L, 300L

Installation & Operation Manual

ENG

Brook House, Dunmurry Industrial Estate, Dunmurry, Belfast, Co. Antrim, BT17 9HU T: 028 9061 6505 M: hello@brookvent.co.uk brookvent.co.uk

Dear Customer,

Thank you for selecting our products!
The manual is aim to let you learn more installation, operation and maintenance of heat pump and provides some important safe information for you. It's quite required to carefully read the w hole contents shown in this manual before you install and use heat pump, and please keep this installation manual carefully for purpose of future reference.

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 safe points for you and please operate it based on safety precautions.

Warning

1. Household electric must have a reliable ground connection;

2. Household electric must install leakage protection device;

3. Do not dismantle any permanent instruction, label or parameter plate attached in the outside cover or all kinds of internal plate of heat pump;

4. Please entrust dealer or professional personnel to install the device; Installer must have professional knowledge, any improper operation by yourself may cause a fire, electric shock, injured or leakage etc.;

5. Purchased from the local market must select specified product by our company;

6. Please obey the local regulations issued by electric company to connect power supply;

7. When needed remove or re-install heat pump, please entrust dealer or professional personnel to operate it;

8. Any self-transformation or repair is forbidden, improper repair may cause a fire, electric shock, injured or leakage etc., must entrust dealer or professional personnel to repair it;

9. Earthing pole of outlet must be reliable to connect, and rated current value should be not less than 10A, outlet and power plug must keep dry to prevent leakage, and make sure outlet and power plug are well matched.

10. Place or wall which the water source may spatter into, the installation height of power plug is not less than 1.8m and make water source and power plug keep a certain distance, meanwhile make sure children are out of touch;

11. One way valve specified by our company must be installed near to cold water outlet;

12. In the state of energization and heating.

GENERAL INFORMATION

1. Measurement

Model	Weight (kg)	Dimension (mm, D×H)	Power supply
Airtherm Aqua 1.2 200L	95	φ620×1650	220V/ 50Hz/ 1 phase
Airtherm Aqua 1.2 250L	105	φ620×1880	220V/ 50Hz/ 1 phase
Airtherm Aqua 1.2 300L	115	φ620×2050	220V/ 50Hz/ 1 phase

2. External appearance

3. Features

All in one heat pump for sanitary hot water:

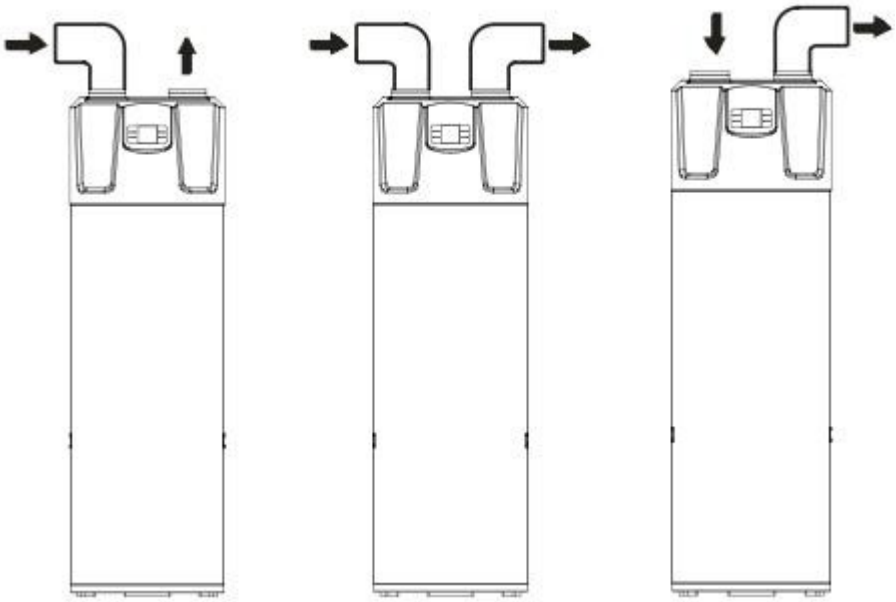
1. Has complete isolation between water and electricity, without electric shock problem, more safety;

2. No fuel tubes and storage, no potential danger from oil leakage, fire, explosion, and so on;

3. No cross contamination potential, the condenser coil is wrapped around the stainless tank, it is external coil, do not come in contact with water directly, more safety and healthy;

4. The maximum outlet water temperature: 60°C. The system makes the water be heated stably and quickly with innovative heating methods of combination the electric heating and heat pump heating properly;

5. Flexible installation achieved by long air inlet and outlet duct;

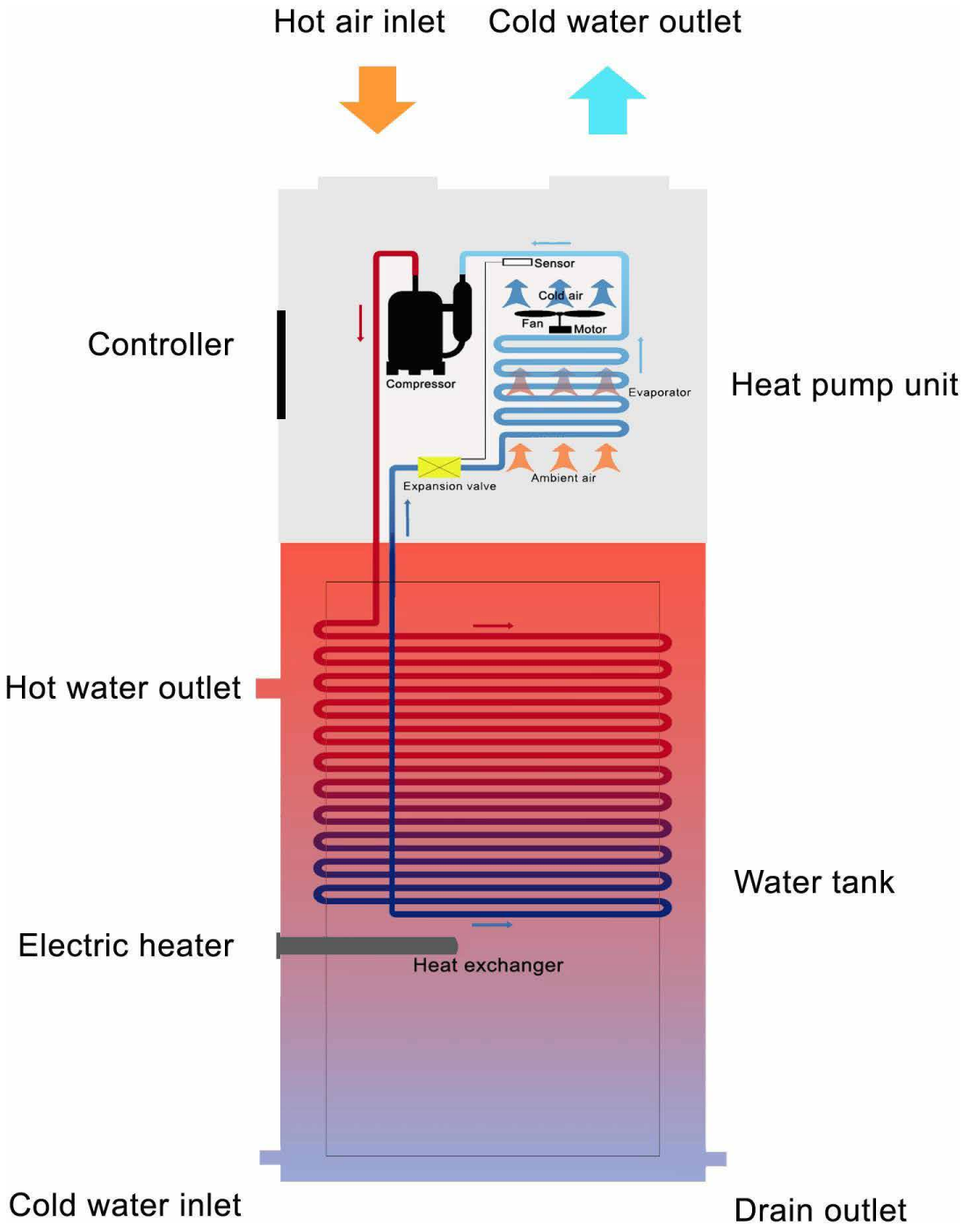


6. Automatic start-up and shutdown, automatic defrosting by revising refrigerant cycle to save the extra operation;

7. According to the heat pump principle, the unit absorbs heat from outdoor air and produce heat water thermal efficiency can be approximately 4.45 (Under the condition A20/15°C W15/55 °C);

8. Within the temperature range from -7 °C to 43 °C, the unit will not be affected by night, cloudy sky, rain even snow weather;

4. Refrigerant circuit



Compressor: R290, supplied by Lamda.

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

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

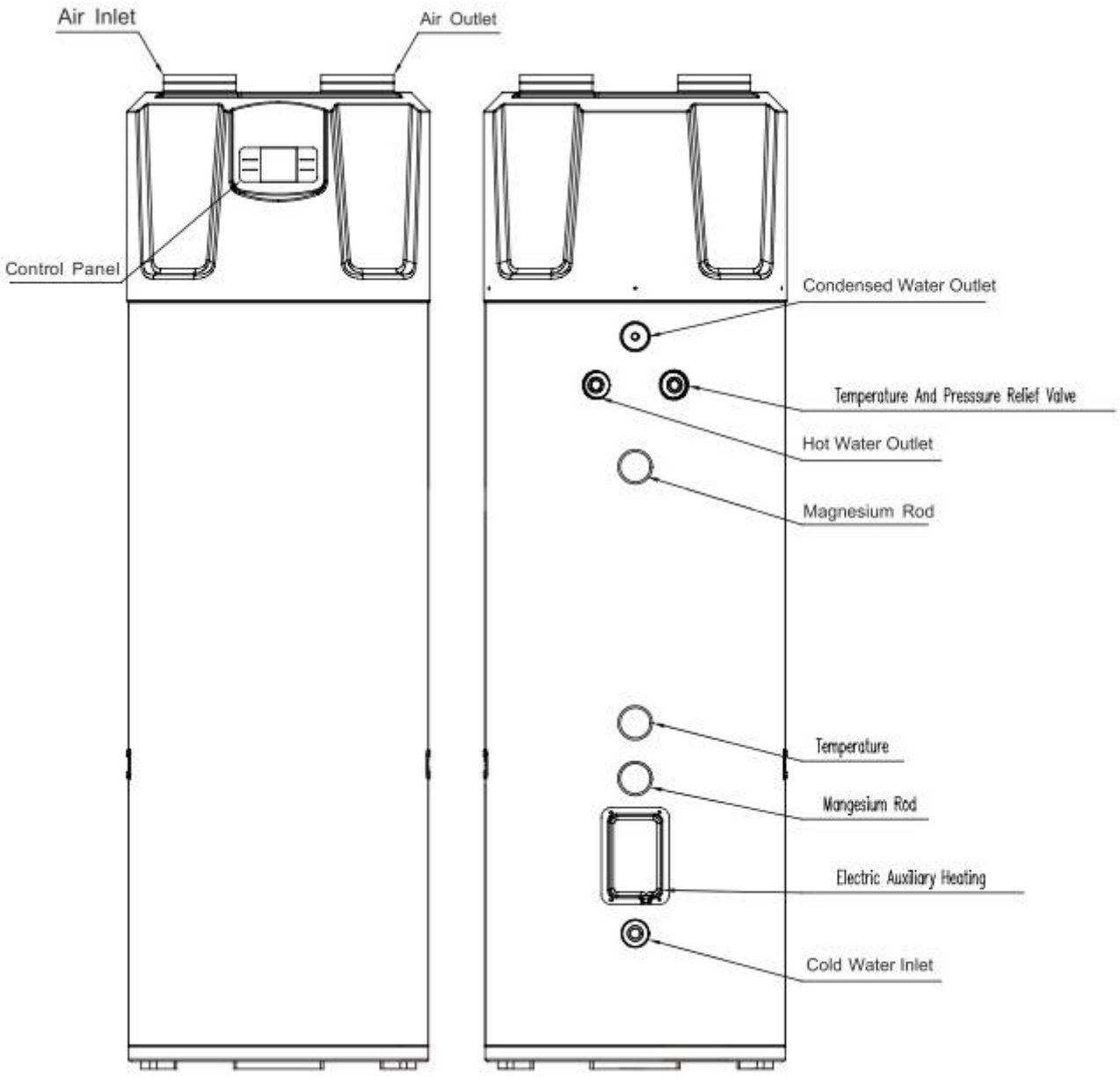
Fan: Centrifugal fan with three speeds.

High Pressure Switch: When the discharge pressure of compressor is 3.0Mpa or higher, the protection switch will be triggered, and if the discharge pressure is down to 2.07MPa, the protection switch will be recovered.

5. Specifications

Model	Airtherm Aqua 1.2 200L	Airtherm Aqua 1.2 250L	Airtherm Aqua 1.2 300L
Heating Capacity at Air 20°C /15°C , Water Temperature from 15 °C to 55°C			
Heating Capacity (kW)	2.8	2.8	2.8
Power Input (kW)	0.63	0.63	0.63
COP	4.45	4.45	4.45
Max Power Input (W)	3000	3000	3000
Rated Current (A)	2.8	2.8	2.8
Max Current (A)	13.3	13.3	13.3
Power Supply	220V~ 50Hz	220V~ 50Hz	220V~ 50Hz
Backup Electric Heater (W)	2000	2000	2000
Refrigerant	R290/450g	R290/450g	R290/450g
Compressor	Rotary /Lamda	Rotary / Lamda	Rotary / Lamda
Net Dimension (mm)	Φ620×1650	Φ620×1880	Φ620×2050
Package Dimension (mm)	700×700×1755	700×700×1985	700×700×2155
Net Weight (Kg)	95	105	115
Gross Weight (Kg)	108	118	129
Noise (dB)	48	48	48
Water tank volume(L)	200	250	300
Working temperature range (°C)	-7~ -43	-7~ -43	-7~ -43
Testing condition: * Heating Capacity at Air temp. 20 °C / 15 °C, Water Temperature from 15 °C to 55 °C			

PARTS NAMES



NOTE

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

INSTALLATION OF THE HEAT PUMP

I. Choose a place

1. Do not install this equipment indoor. If installed indoor, may cause overflow, noise or indoor temperature drop which can influence your normal life, please do preventive measures in advance;
2. The place where must have enough space for installation and maintenance;
3. Inlet or outlet wind must have no obstacle and keep strong wind off;
4. Drying and ventilated place is suitable;
5. Support surface must be flat(horizontal angle must not be more than2°), and can bear heat pump's weight and easy to install vertically, in addition, the surface will not increase any noise or shock;
6. The noise and exhausting air don't influence neighbors' normal life;
7. The place has no combustible air to leak;
8. Easy to install connection pipe and electrical parts;
9. If heat pump installed in those metal parts of the building, electrical insulatio

NOTE

In the region which the temperature is below 0 °C, the heat pump must be installed indoor or others position where will not be frozen for purpose of protecting connection pipe and keeping your normal life;

If used for those regions which the temperature is below 0 °C, you can take suitable measures to protect pipes in case the heat pump is installed outdoors for purpose of protecting connection pipe and keeping your normal life;

The place where is high temperature or long-term exposure is prohibited,or may decrease lifetime of products.

Notes:
Installed the following places may cause machine errors. If unavoidable, please consult your local authorized service points;

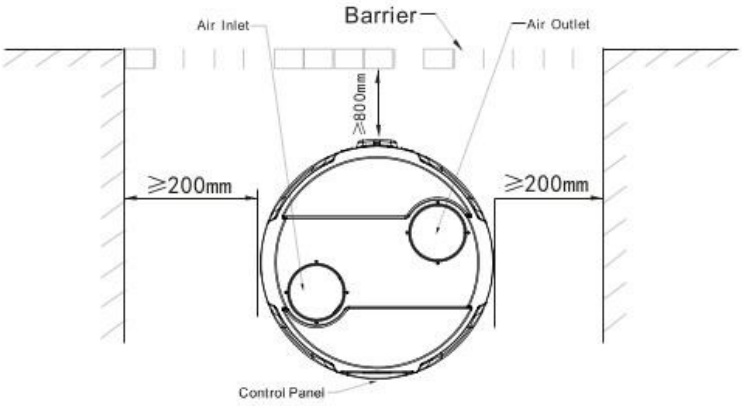
a. The place containing mineral oil such as cutting oil;
b. The place containing salty such as seaside;
c. The place containing corrosive smell such as spa where has sulfur gas;
d. The place where voltage and current wave frequently;
e. The place where has strong shake such as car or cabin;
f. The place existing strong electromagnetic wave;
g. The place where is full of oil gas and oil bloom such as kitchen;
h. The place existing the evaporation of acid or alkaline gas;
i. Others place where has special conditions.

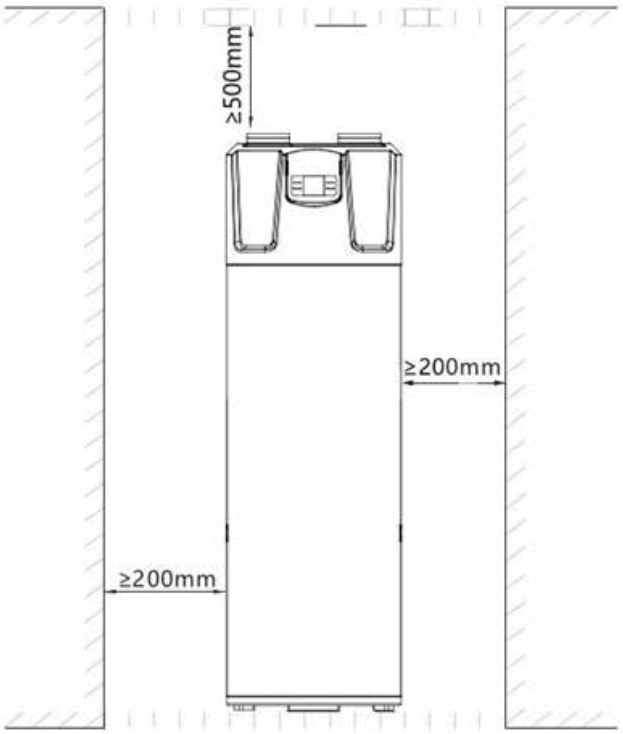
II. The Movement of Heat Pump

1. This heat pump is heavy and need at least two people to move and install it;
2. Please move the equipment according to the state of leaving factory, and any self transformation is prohibited;
3. Please install protection plate in which heat pump is easier to touch hard objects for purpose of avoiding scratch and deformation;
4. Do not touch fan with your hands or other objects;
5. Do not move the heat pump at the angle of 75°.

III. The Installation of Heat Pump

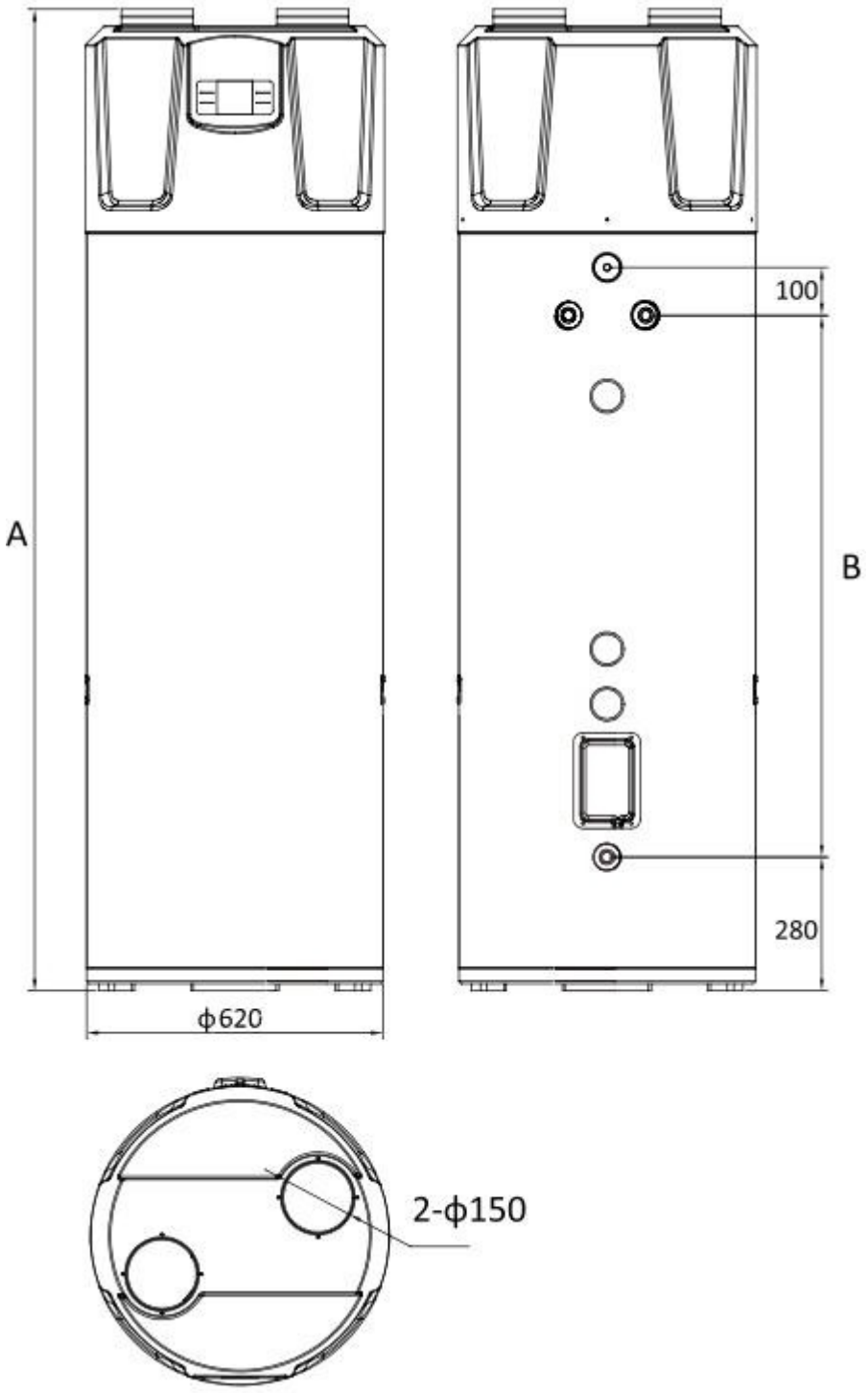
1. Please leave enough space to install and maintain.





2. If heat pump installed in the basement, indoor or other airtight space, please note exhausting or intake circulation between surrounding air and outdoor air; The air duct total length should be equal or less than 6 meters, and the duct diameter should be equal or more than 150 mm.

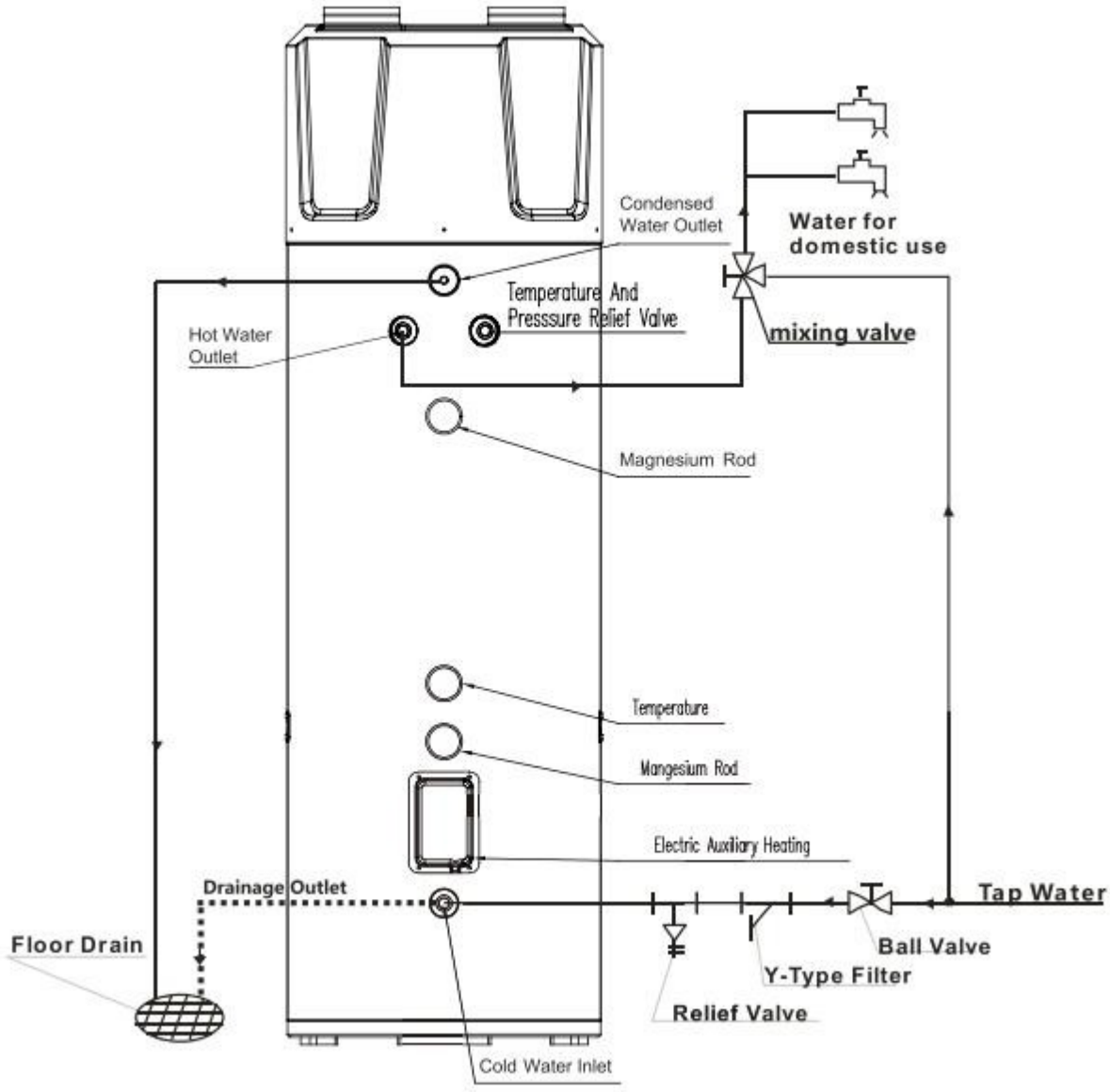
IV. Products External Dimension



Model / Size	A	B
YT-200TB2	1650	733
YT-250TB2	1880	963
YT-300TB2	2050	1133

PIPE LINE CONNECTION

I. Pipe Line Connection Diagram

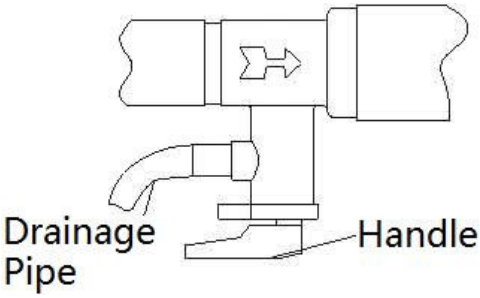


II. Water Pipe Installation Instructions

1. Please don't use iron pipe connect to heat pump, please use CPVC pipe,PPR pipe or PB pipe;
2. Please according to the drawing shows to install the water pipes,connectors etc.,if the ambient temperature is below 0°C, proper insulation must be taken for the water pipes;
3. Water inlet/outlet size is G3/4'', internal thread;
4. The water pipe's work life should not less than heat pump's work life;
5. Relief valve is G1/2'', 0.8 MPa, after installation, must sure that the drainage pipe which connect with the relief valve, is not blocked;

NOTE

The relief valve need to be pulled one time every six months for purpose of taking calcium carbonate out and ensuring no obstacle, outlet temperature of drainage port may be high, please be careful;



Drainage pipe must be taken measures to keep temperature to prevent pipe from freezing to cause accident.

DANGER

Do not hold down the handle of safety valve;

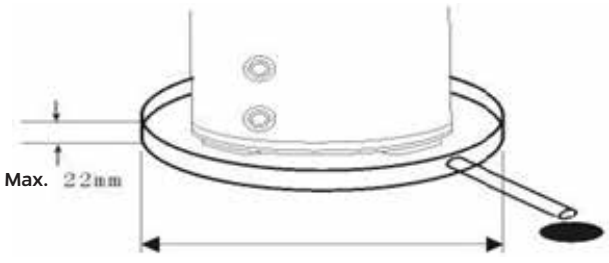
Do not knock down safety valve;

Do not plug the drainage port;

Excretion pipe must be connected with a open drainage port.


Explosion Danger

6. After finished all pipeline, open up the valve controlled cold water inlet and the valve controlled hot water outlet to fill water into tank, you can stop when you find water overflows from water outlet, then inspect all pipeline and make sure have no water leakage. If found leakage, you need require it well and fill water into tank again;
7. When intake pressure is below 0.15MPa, a booster pump needed to be installed to connect with inlet water pipe for purpose of obtaining larger water capacity, which can make sure intake pressure is less than 0.15MPa; When intake pressure is greater 0.65MPa, the relief valve needed to be installed to connect with inlet water pipe for purpose of keeping your water tank into a long-term working state;
8. During heat pump running, condensed water droplets may be formed, drainage water port may be unexpectedly blocked, which can make surface of equipment drop water out, to ensure your normal life and yourself equipment, we suggest water tray, please take reference to the below chart.

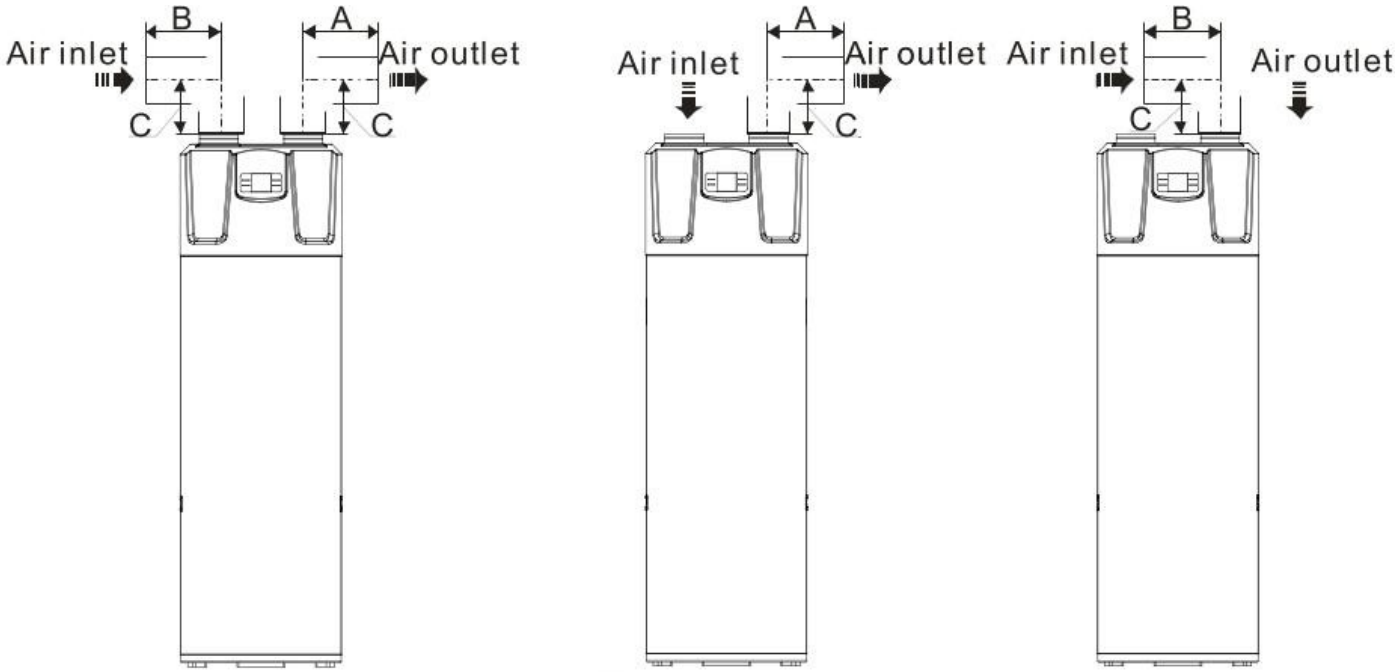


Diameter is at least larger 50mm than heat pump

NOTE

When used for the place where the temperature is below 0φφIf installed the heat pump outdoor, please take measures to protect water pipe according to local minimum temperature to prevent frozen or damage water pipe.

II. Air Duct Installation Instructions



① Air inlet and outlet with duct A+B ≤ 6m

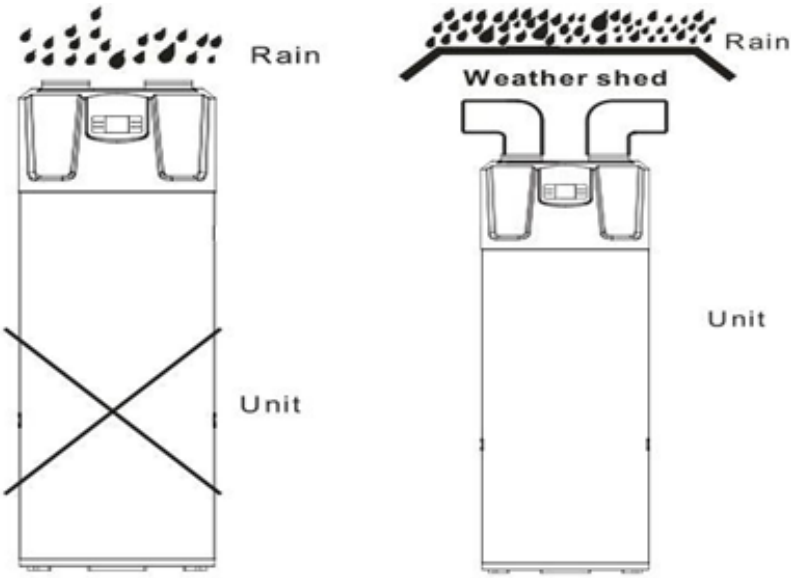
② Only air outlet with duct A ≤ 6m

③Only air inlet with duct B ≤ 6m

1. Scheme 2 It is recommended to install unit by this way in the winter where there is other heat source in the room. (The heat pump is installed in room)
2. Scheme 3 It is recommended to install unit by this way in summer that could charge fresh cold air into room. (The heat pump is installed in room)
3. It is recommended installing the unit by only air outlet with duct (Scheme 2) in summer that could charge fresh cold air into room. (The heat pump is installed outdoor);
4. It is recommended installing the unit by only air inlet with duct Scheme 3 in winter where there is other heat source in the room. (The heat pump is installed outdoor);
5. Duct description:

Duct description	Round duct	Rectangle duct	Other shaped duct
Dimension (mm)	fi 150	150×150	Refer to above data
Straight-line pressure drop (Pa/m)	≤2	≤2	
Straight-line length (m)	≤6	≤6	
Bent pressure drop (Pa)	≤2	≤2	

6. The resistance of duct will decrease air-flow-rate,which will lead to capacity of unit decreased, the duct total length should be no more than 6m or the maximum static pressure should within 20Pa, and the quantity bending should be no more than 3;
8. For unit air outlet with duct, when unit operating, condensate will be generated around outside of duct, please pay attention to the drainage work, we suggest to wrap the thermal insulated layer around outside if the duct;
9. It is recommended to install the unit in the indoor space. It is not allowed to install the unit at outdoor or exposed to rain;



10. In terms of the main unit connect with canvas reaching to outdoor, a reliable water-resistant measure must be conduct on the duct, resist water drop into internal of the main unit;
11. Filter should be installed at the unit inlet, if the air inlet is not connected with duct. In terms of the unit with duct, filter should be put on the position of duct inlet.

CONNECTION OF ELECTRIC

Electrical wire assembly

NOTE

The equipment must be applied specific power supply, supply voltage must comply with rated voltage;

Power supply circuit must be fitted with ground wire, and ground wire of power supply must be reliably connected with external ground wire;

The operation must be worked by professional personnel based on circuit diagram;

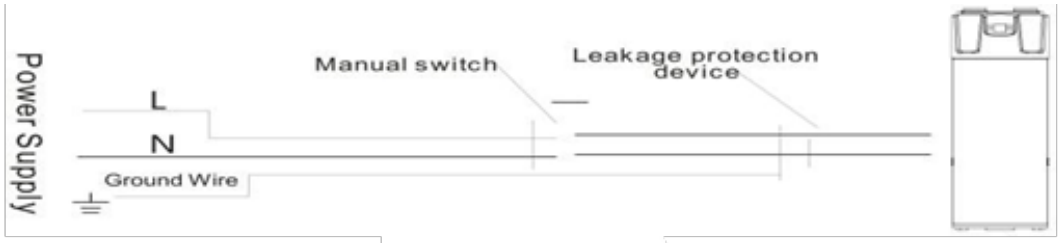
Set up leakage protection device well according to the National Technical Standard for electrical equipment;

1. Power Specification

Model / Item	Power supply	The finest wire diameter (mm^2)		Manual switch (A)		Leakage protection device
		Size (continuous length ≤ 30m)	Ground wire			
YT-200TB2 YT-250TB2 YT-300TB2	220V/50Hz	YT-300TB2	≤6	Capacity	Fuse	Below 30mA 0.1sec
		≥2.5	≥Φ1.0mm	≥20	20	

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

2. Leakage Protection

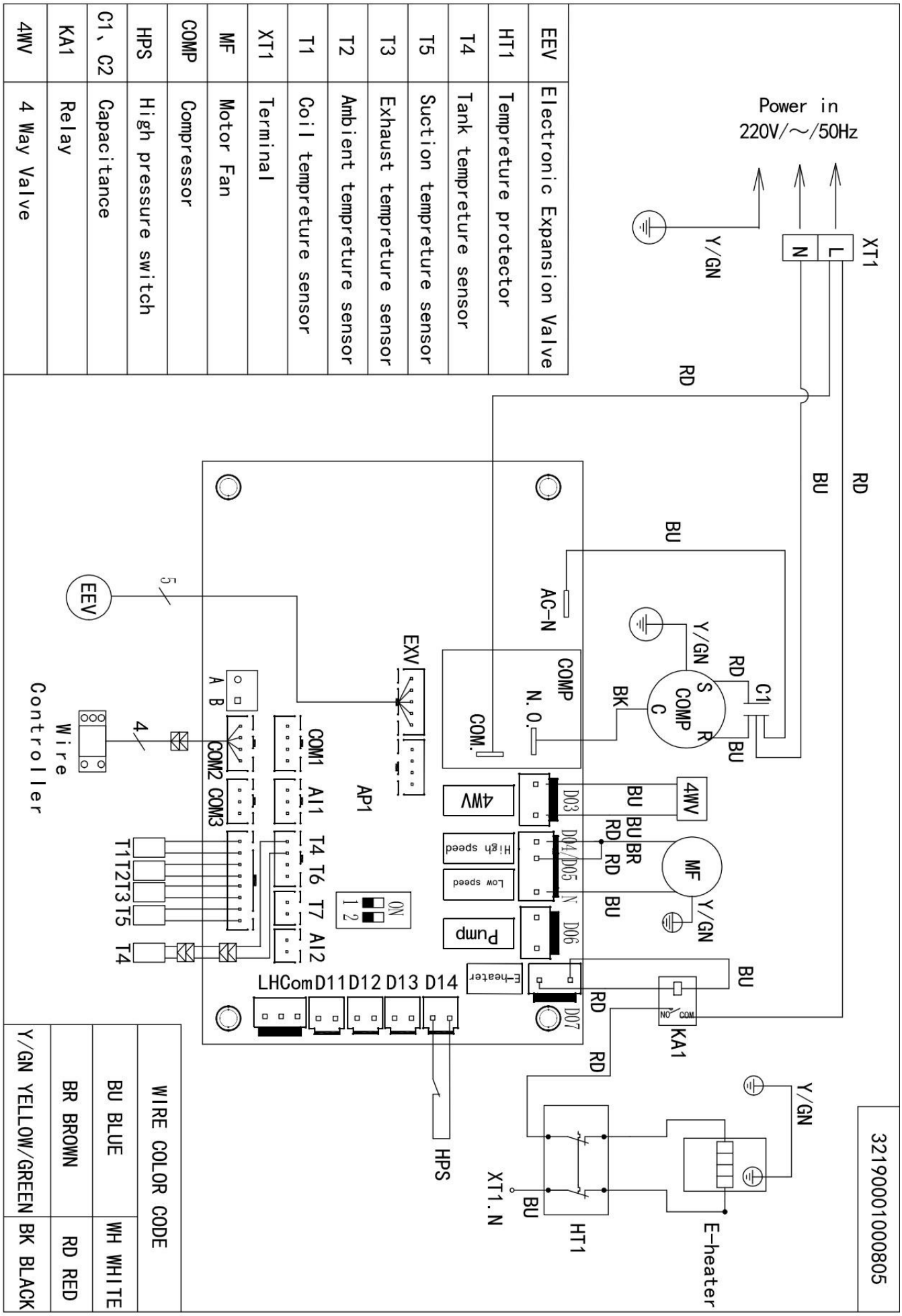


WARNING

The external power supply box must be installed leakage protection device based on above figure for purpose of your safe;

The equipment can be used unless you have confirmed ground wire reliably;

3. Electric Wiring Diagram



EEV	Electronic Expansion Valve
HT1	Tempreture protector
T4	Tank tempreture sensor
T5	Suction tempreture sensor
T3	Exhaust tempreture sensor
T2	Ambient tempreture sensor
T1	Coil tempreture sensor
XT1	Terminal
MF	Motor Fan
COMP	Compressor
HPS	High pressure switch
C1、C2	Capacitance
KA1	Relay
4WV	4 Way Valve

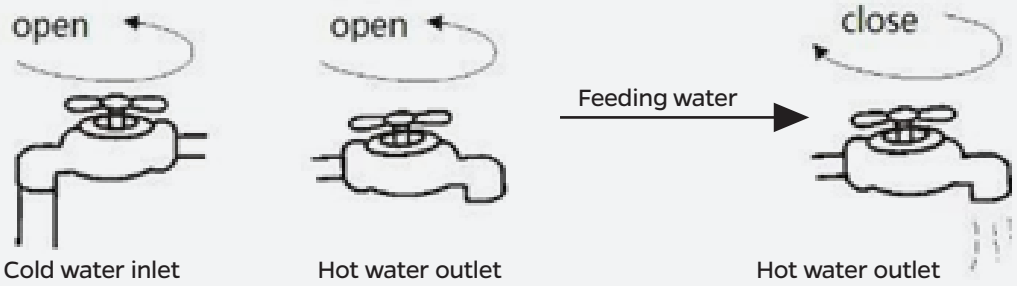
WIRE COLOR CODE	
BU BLUE	WH WHITE
BR BROWN	RD RED
Y/GN YELLOW/GREEN	BK BLACK

METHOD OF APPLICATION

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

1. Feeding water: when use the unit for the first time (or reuse it after the tank is empty), before connect the unit with power, please make sure the tank is full of water. Water feeding method (as below picture)

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.

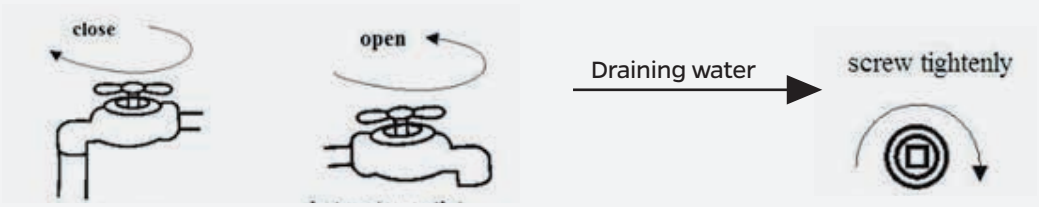
Operation without water in water tank may result in the damage of auxiliary E-heater. Due to such damage, manufacturer will not be liable for any damages caused by this issue.

2. Plug in to connect the unit with power. Then the screen is brighten which shows that the unit is connected with power. The user can realize different models 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 out the water in the water heater. The draining method as below picture:

Close the inlet valve Open the outlet valve
Open the draining valve



After the draining , please screw the nut of the drainage outlet; the water draining is finished.

CONTROLLER INSTRUCTION

1. Features

1) Operating condition

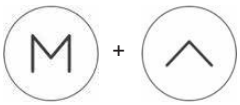
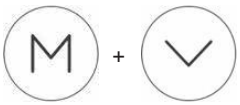
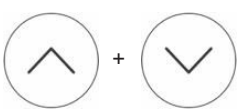
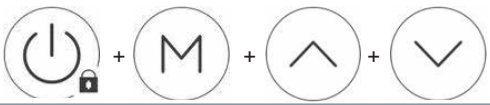
- Voltage:220V~±10%,50Hz±1Hz.
- Ambient temperature: -7~+43°C
- Storage temperature: -20~+70°C
- Relative humidity: 0~95%RH
- Temperature accuracy: ±1°C

2) Main function

- Display the water temperature and setting temperature, and also can query the coil temperature, ambient temperature and exhaust temperature and so on.
- Power cut memory function.
- When power cut, the clock will still work.
- Timing on/off.
- Automatic defrosting.
- Touch screen
- The error code display and query
- Anti-freezing function
- PV function available

2. Home page illustration

1) Interface Display and instruction of icons

Name	Symbol	Function
On/off key		1. On/off key (hold for 1 second) 2. Return key 3. Escape key 4. Unlock key (hold for 3 seconds)
Clock key		1. Setting the clock, press the key will enter into clock setting interface, and then press one time to switch the hour and minute area 2. Setting the timer (press the key and hold for 3s) 3. During timer setting, press the key and hold for 3s, cancel the current timer setting 4. During clock setting, press the key and fold for 3s, enable or disable the week function
Mode key		1. Press the key and hold for 5s, enter into parameter setting interface 2. Press the key to change operation mode 3. In parameter query interface, press the key enter into value setting or save the setting
Up key		1. Press the key to change temperature setting value or parameter value or change hour and minute value 2. Press the key and hold for 3s to query the system status/ parameter 3. Page up
Down key		1. Press the key to change temperature setting value or parameter value or change hour and minute value 2. Press the key and hold for 3s to query the system status/ parameter 3. Page down
Combination key		Press and hold the two keys for 5s, enter into manual intelligent distribution network connection by manual
		Press and hold the two keys for 5s, enter into manual AP distribution network connection
		When heat pump running in heating mode, press the two keys and hold for 3s, turn ON/OFF Boost mode (turn ON/OFF heating element)
		When heat pump run, press the two keys and hold for 5s, start/exit defrosting mode
		When power on the heat pump, press the two keys and hold for 5s, enter into Ventilation mode, run in high speed, press the two keys for 3s, run in low speed, press the two keys for 3s again, exit Ventilation mode
		Press the three keys and hold for 5s, turn ON/OFF sterilization mode
		Power on within 5 minutes and don't turn on the heat pump, press the four keys and hold for 5s, restore the factory setting

Symbol	Status	Meaning
	Not bright	Heat pump OFF or not in heating mode
	Light up	In heating mode
	Light up	Heating element ON
	Flash for 1s	Run in Boost mode
	Flash for 2s	Run in sterilization mode
	Flash	WIFI distribution network
	Light up	WIFI connect successfully
	Light up	Water temperature
	Light up	Setting temperature
	Light up	Degree centigrade
	Light up	Degree Fahrenheit (reserved)
	Light up	Percent(reserved)
	Light up	Low/middle/high water level(reserved)
	Flash	Heat pump OFF and refrigerant recovery mode
	Light up	In defrosting mode
	Light up	Maintenance mode
	Light up	There is error
	Light up	Lock screen
	Light up	Compressor running
	Light up	High fan speed

Symbol	Status	Meaning
	Light up	Low fan speed
	Flash for 1s	Ventilation mode: high fan speed
	Flash for 2s	Ventilation mode: low fan speed
	Display	Error code display
	Light up	Timer ON
	Display	In timing ON period
	Flash	Setting timing ON
	Display	In timing OFF period
	Flash	Setting timing OFF
	Light up/Not bright	Timer number 1/2/3
	Display	Week

1) Lock and unlock:

When the controller is in the normal display mode and there is no button operation for more than 60 seconds it will get automatically locked. Press the key „  „ for 3 seconds to unlock, it will beep.

2) Turn ON/OFF the heat pump:

When the controller is in the normal display mode, press „  „ button for more than 1 second to switch the controller to the power ON or OFF mode.

3) Mode setting:

When the controller is in normal display mode, press „M" key to show the existing operation mode, it will display constantly for 8 seconds, before it disappear, press „M" again to switch between different operating modes;

In STAN mode, the controller will display "  ", the temperature ranges from 15°C
~60°Crestart temperature difference is 5°C.When the ambient temperature is less than 7°C, start the electric heating to heat to the set temperature.
When the ambient temperature reaches or exceeds 9°C, turn off the electric heater.

In HYB1 mode, the controller will display „ HYb1 „, in this mode, heat pump and electric heating rununtil the water temperature reach at 60°C, when water temperature up to 60°C, heat pumpwill stop running, electric heating go on heating until the water temperature up to thesetting temperature (if the set value more than 60°C). In this mode, water temperature-setting range is 15°C-75°C, the restart temperature difference is 5°C (For the maximum operating temperature of the heat pump is 60°C)

In ELE mode the controller will display“ ELE ” the temperature range to 15~75°C only electric heating works.

4) Water temperature set:

Unlock the controller, in the main interface, press the „ ∧ ” or „ ∨ ” button to increase or decrease the water temperature setting value Setting Range 15°C~75°C.

5) Clock settings:

In the main interface, click the „ ◷ „button to enter the clock setting interface;
During clock setting, when hour part flash, press and hold the „ ◷ „ button for 3 seconds, enable / disable the week function. If enable the week function, it will shows weekday(Monday: 1, Tuesday: 2...Sunday: 7). If enabled the week function, then in the real-time clock setting interface, press the „ ◷ „ button, the weekday part of the number flashes first, press „ ∧ ” or „ ∨ ”, you can set the weekday of the clock; if disabled the week function, press the „ ◷ „ button, will set the hours first. the hour part of the number flashes, press „ ∧ ” or „ ∨ , you can set the hour of the clock;
when the hour part is set, press the „ ◷ „ button again, the number of minutes will flash, press „ ∧ ” or „ ∨ ” to set the minutes of the clock; After the minutes part is set, press the „ ◷ „ button again to confirm the real-time clock setting and return to the main interface; In the real-time clock setting interface, if there is no button operation for 60 seconds, the current clock setting value will be confirmed and return to the main interface;
In the clock setting interface, press the „ ◷ „ button to confirm the clock setting value and return to the main interface.

6) Work time settings:

Press and hold the „ ◷ „ button for 3 seconds in the main interface to enable or disable the timer working mode.
Then press „ ∧ ” or „ ∨ ” to chose the timer No. 1 or No.2 or No.3 period.
When the timer No. 1 period is selected, the symbol flashes, press and release „ ◷ „ to switch the hour of the start time(ON), the hour part of the number flashes, press „ ∧ ” or „ ∨ ”, you can set the hour. When the hour part is set, press the „ ◷ „ button again, the number of minutes will flash, press „ ∧ ” or „ ∨ ” to set the minutes.

After the minutes part is set, press the „ ◷ „ button again set the hour of the end time(OFF), the hour part of the number flashes, press „ ∧ ” or „ ∨ ”, you can set the hour. When the hour part is set, press the „ ◷ „ button again, the number of minutes will flash, press „ ∧ ” or „ ∨ ” to set the minutes.

After the minutes part is set, press the „ ◷ „ button again to confirm the setting and then switch to next period (No. 2 or No. 3) timer working set, the setting method is the same as above. If the start time of a certain working period is greater than the end time, the end time is considered to be of the next day.

When all time periods are canceled, it is considered to be in working hours throughout the day.

When the start time and end time of a certain working period are the same, it discards the time period. When enabled the week function, the timing work cycle time is week, if disabled the week function, the cycle time is 24 hours.

7) Forced defrosting:

When the controller is in the normal display mode and the heat pump is ON. Press „M" and „∨" buttons together for more than 5 seconds to activate or deactivate the „Forced Defrost" function. The symbol „  „ will light up when the „Forced Defrost" is ON.

8) Boost mode:

When the controller is in the normal display and the heat pump in heating mode. Press „M" and „ ∧ " buttons together for more than 3 seconds to enable or disable the boost mode, when enable the boost mode, the compressor will stop running or never run, heating element ON, the symbol „  „ will flash for 1 second then light up, when the temperature reach at the set temperature, heating element off, the symbol „  „ will flash, means it is operate in boost mode.
When turn off the heat pump, will exit boost mode.

9) Sterilization:

Manual Sterilization Mode:
When the controller is in the normal display mode and the heat pump is ON. Press „  „ and „  „ and „∨" buttons together for more than 5 seconds to sterilize the water tank, the symbol „  „ will flash for 2 seconds then light up, and the water will be heated up to 70°C and keep at 65°C~70°C, after 30 minutes, exit sterilization mode. If the water can not reach at 70C, the heat pump will run in sterilization mode for 2 hours then exit the sterilization mode.
If user set the water temperature≥70°C, then never start sterilization mode

Auto Sterilization Mode: Parameter F67=0 (Default)
If user set the water temperature<70°C, and cumulative time over 7 days, will start Sterilization Mode automatically; finish sterilizing, will re-clock.
In Sterilization Mode, the symbol „  „ will flash for 2 seconds then light up, and the water will be heated up to 70°C and keep at 65°C~70°C, after 30 minutes, exit sterilization mode. If the water can not reach at 70C, the heat pump will run in sterilization mode for 2 hours then exit the sterilization mode.

If user set the water temperature≥70°C, then never start sterilization mode.

TROUBLE SHOOTING

Error code	Error Description	Possible Causes	Solution
E05	High pressure protection	High pressure switch is broken/Connection is loose	Contact Customer Care
E09	Communication failure	Signal wire connection loose/There is Strong magnetic field/PCB is broken/Signal wire is broken	
E12	Exhaust temperature too high	Lack of refrigerant/Fluorine system leak	
E14	Tank temperature sensor failure	Sensor failure/Connection is loose	
E16	Coil temperature sensor failure	Sensor failure/Connection is loose	
E18	Exhaust temperature sensor failure	Sensor failure/Connection is loose	
E21	Ambient temperature sensor failure	Sensor failure/Connection is loose	
E29	Suction temperature sensor failure	Sensor failure/Connection is loose	

OPERATION PARAMETER QUERY

When power on, press „ ∧ ” or „ ∨ ” button for 3 seconds, will enter into status query interface, press „ ∧ ” or „ ∨ ” button to query each status; Press „ ◷ „ button will exit status query interface.

No.	Name	Note
00	Fluorine Cycle/Water Cycle system	0=Water Cycle; 1=Fluorine Cycle
01	High pressure switch	0=Open; 1=Close
02	Low pressure switch	0=Open; 1=Close
03	Water flow switch	0=Open; 1=Close
04	EEV open	Measured value
05	Coil temp.	Measured value
06	Ambient temp.	Measured value
07	Suction temp.	Measured value
08	Exhaust temp.	Measured value
09	Water inlet temp.(Water tank)	Measured value
10	Water outlet temp.	0=OFF; 1=ON
11	Compressor	0=OFF; 1=ON
12	4 way valve	0=OFF; 1=ON
13	High fan speed	0=OFF; 1=ON
14	Low fan speed	0=OFF; 1=ON
15	Circulation pump	0=OFF; 1=ON
16	Heating element	0=OFF; 1=ON
17	Compressor working time before defrosting	Measured value
18	Link switch	0=Open; 1=Close
19	Program code	Show the code
20	Dial switch	0=Open; 1=Close
21	Dial switch	0=Open; 1=Close
22	Phase detecting value	0=OK; 3=Lack phase; 4=Phase fault; 5=No connection

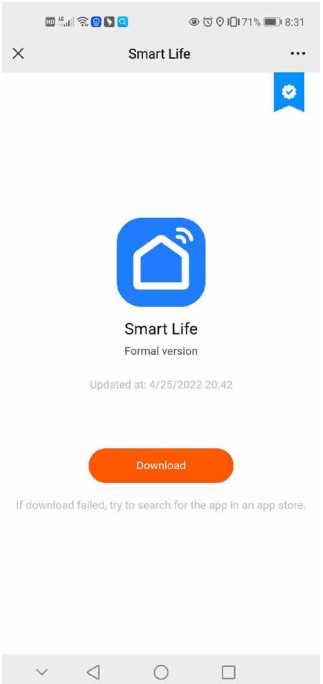
WIFI FUNCTION INSTRUCTION

When connecting Wi-Fi, the symbol „  „ will flash, when connect Wi-Fi successfully, the symbol „  „ will light up, disconnect Wi-Fi, the symbol „  „ not light up.

Press and hold the two keys for 5s, enter into manual intelligent distribution network connection by manual

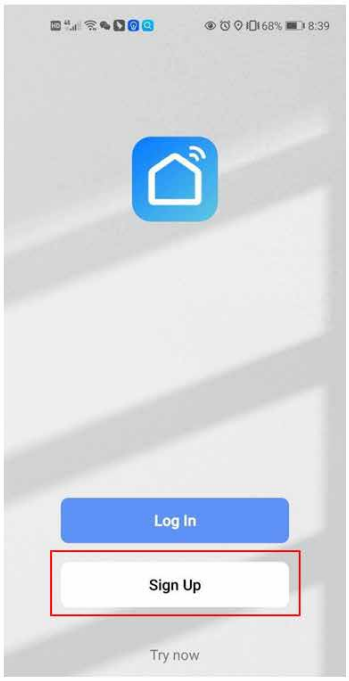
1. Download and Install the App

1) Scan the QR code to download the „Smart Life" application, or download the application in the application store by mobile phone, and then install the application. (available for Android and iOS system)

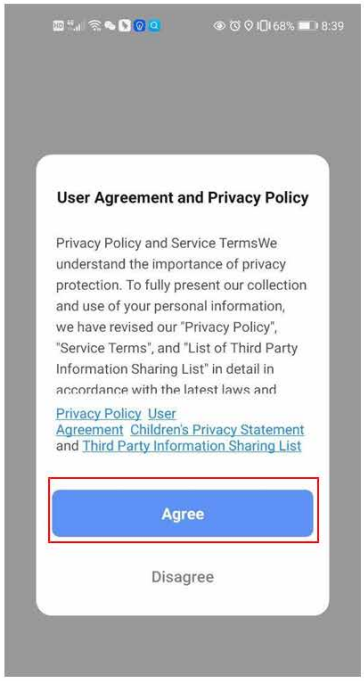


2. Sign up

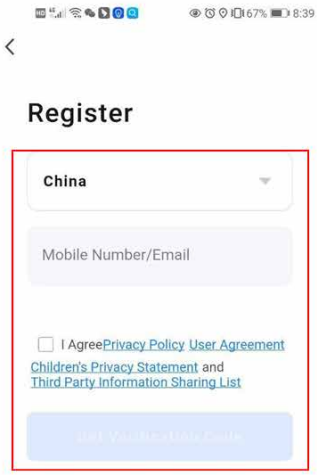
After installing the app, press the „  „ icon and open the Smart Life app, if there is no account, should sign up at first time, refer to following process:



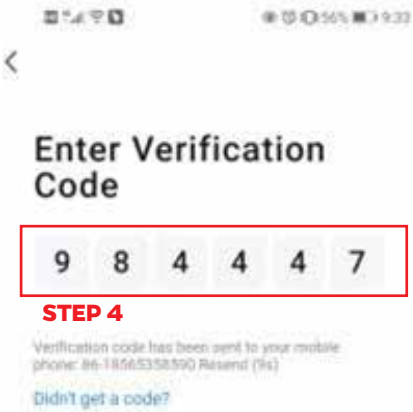
STEP 1



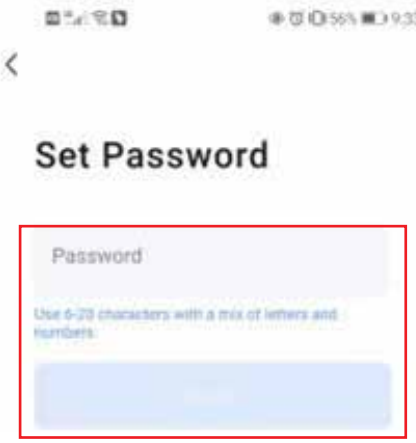
STEP 2



STEP 3



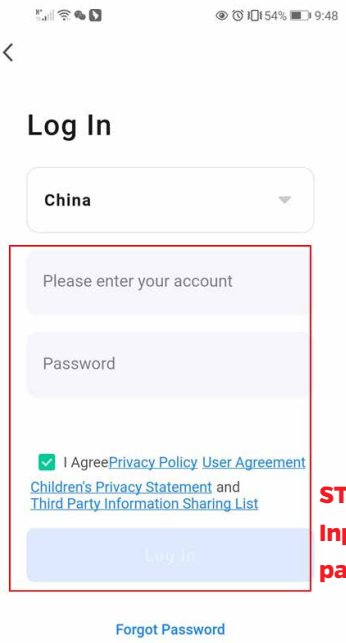
STEP 4



STEP 5

3. Log in

After signing up, log in the application refer to following process:

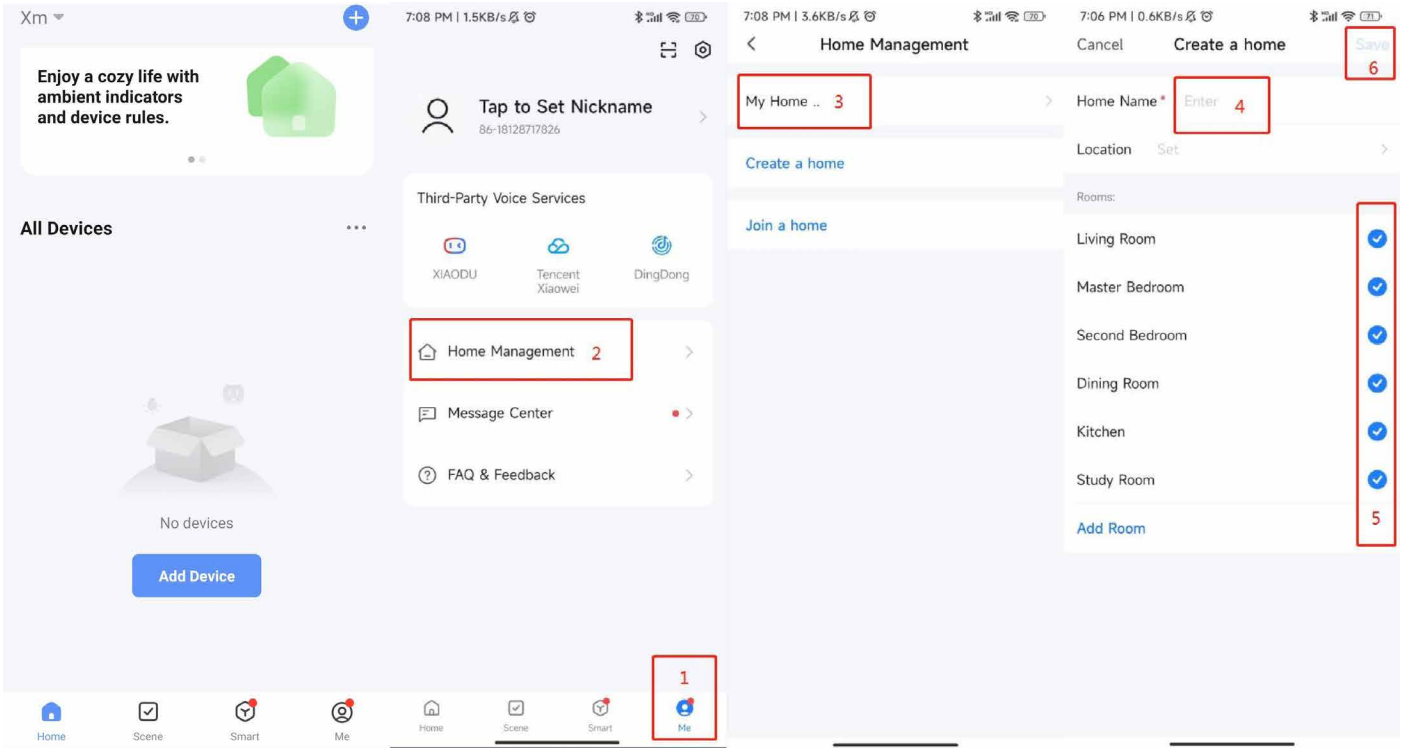


STEP 2
Input account and password and log in

4. Create home

After signing up, should create „ home „, refer to following process:

Home Management → Set home name → Set location → Add room → Save



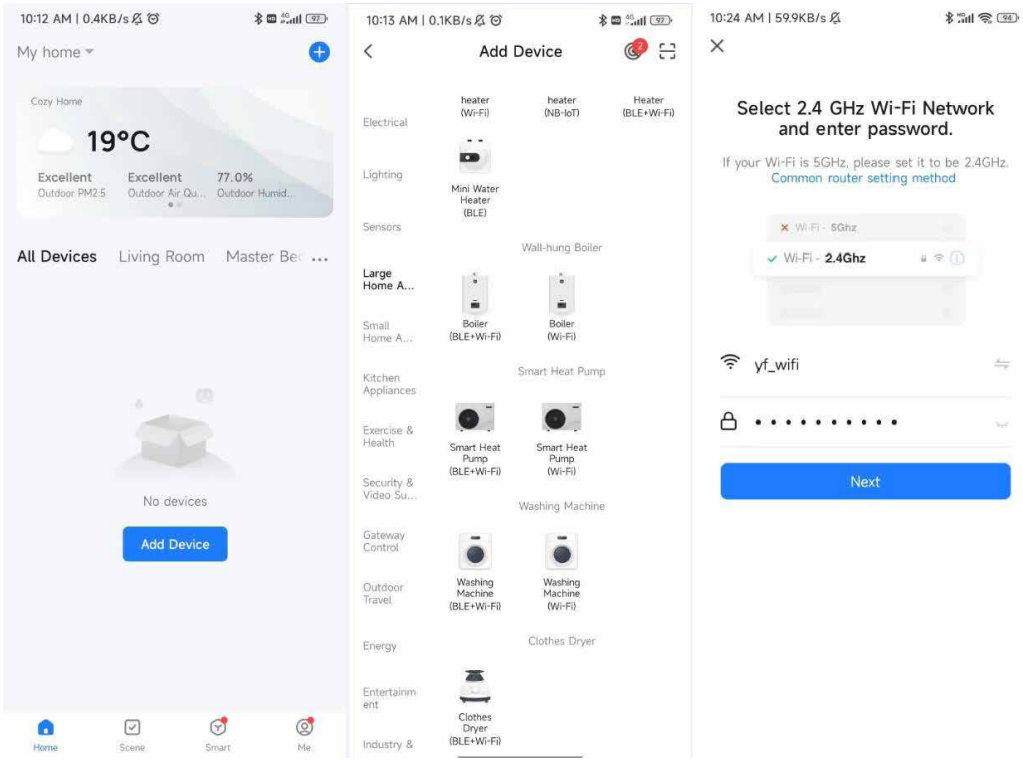
2. Connect the WIFI

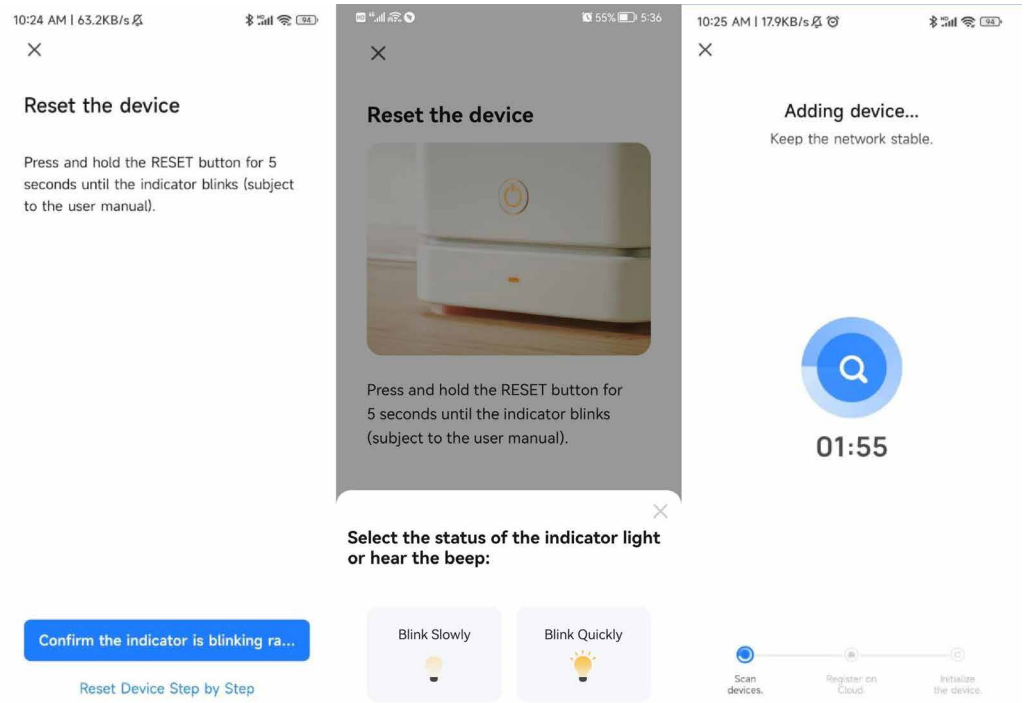
1) Press and hold the two keys and for 5s, enter into manual intelligent distribution network connection, within 3 minutes, wait for connecting, the symbol „ „ will flash, after three minutes, exit connecting automatically if failed in connecting.

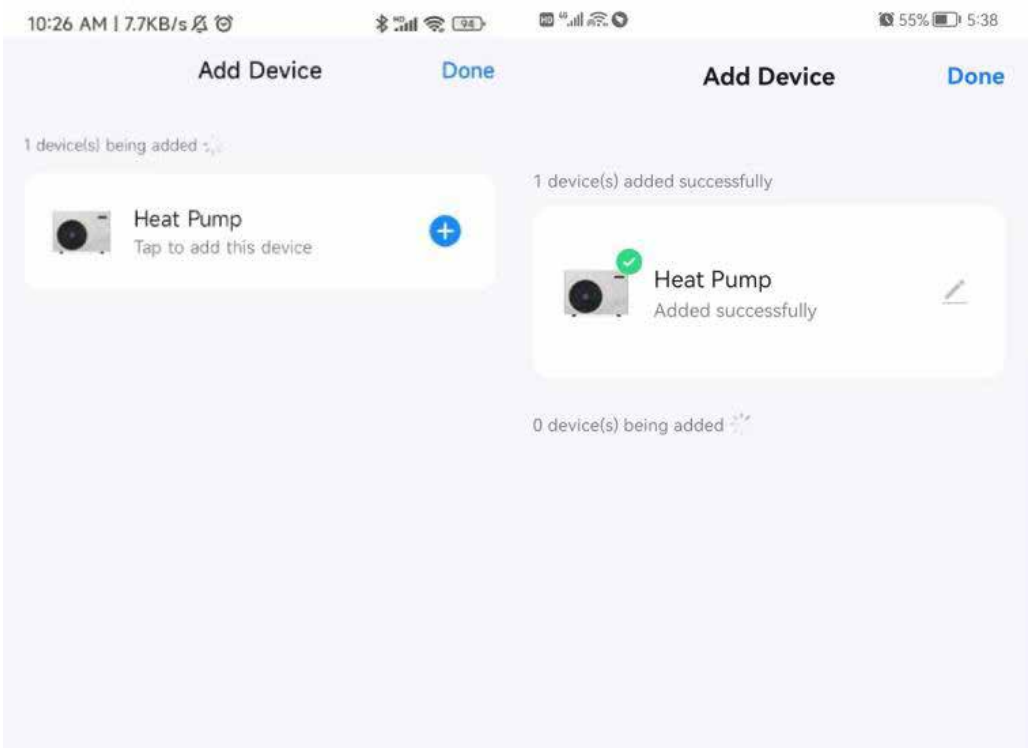
2) Use mobile phone connect the WIFI hot spot, the hot spot should be available for internet.

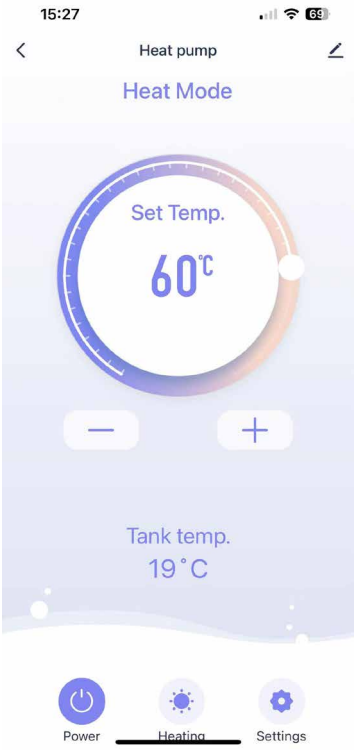
3. Open the app Smart Life and log in

press the icon „ + „, or press „ Add Device „ → find „ Large Home Appliance „ → select the „ Smart Heat Pump (Wi-Fi) „ → enter into WIFI connecting interface, input the WIFI password (the WIFI account must be same as the WIFI which mobile phone connected), → press „ next „ → press the „ Confirm the indicator is blinking... „ → select the „ Blink Quickly" → Wait for finding device, until the device appeared → press „ + „ to add the device, and give a new name of this device if need → finish adding device, shows the operation interface.



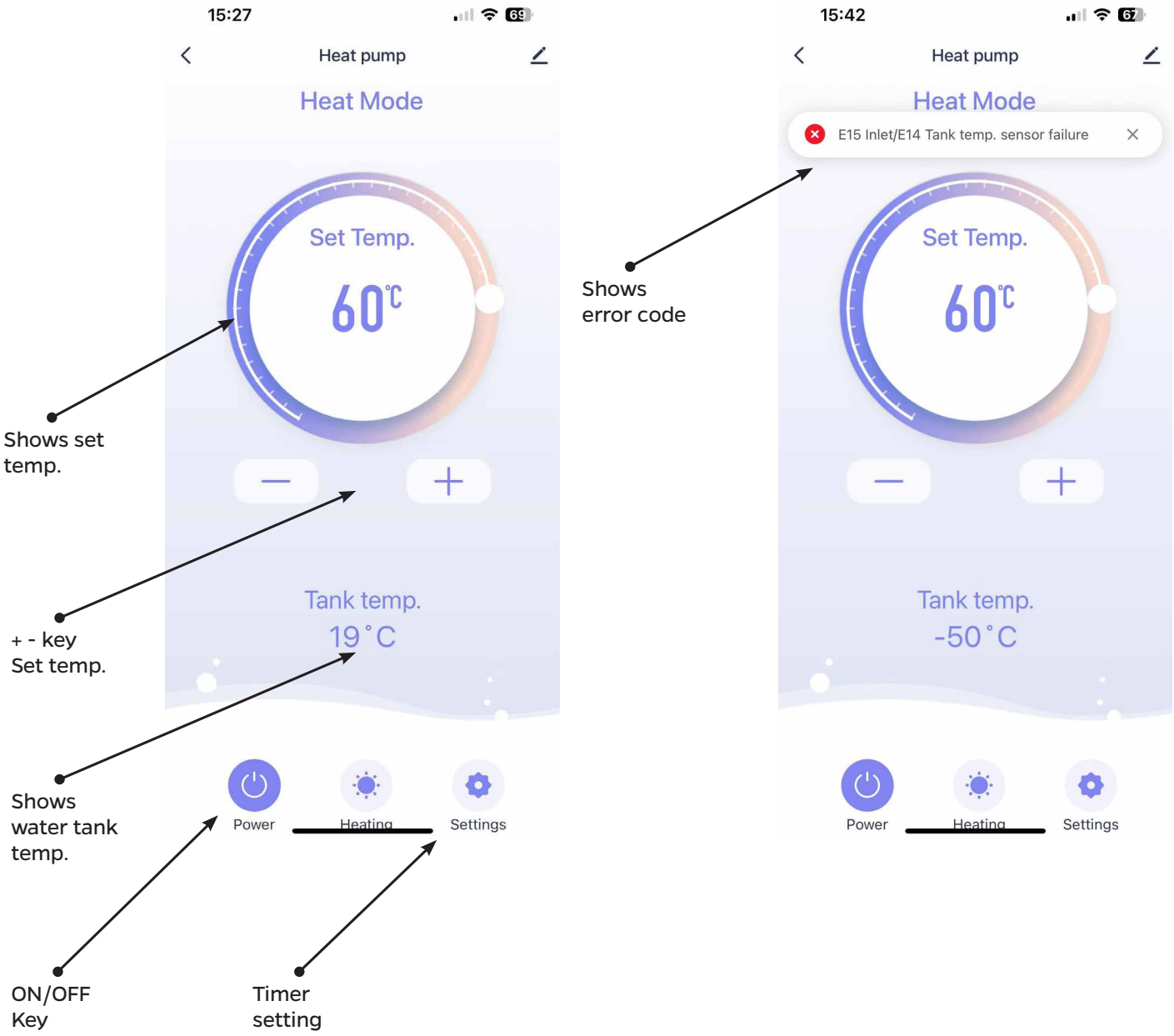

10:24 AM | 63.2KB/s
Reset the device
Press and hold the RESET button for 5 seconds until the indicator blinks (subject to the user manual).
Confirm the indicator is blinking ra...
Reset Device Step by Step
55% 5:36
Reset the device
Press and hold the RESET button for 5 seconds until the indicator blinks (subject to the user manual).
Select the status of the indicator light or hear the beep:
Blink Slowly
Blink Quickly
10:25 AM | 17.9KB/s
Adding device...
Keep the network stable.
01:55
Scan devices.
Register on Cloud
Initialize the device


10:26 AM | 7.7KB/s
Add Device
Done
1 device(s) being added
Heat Pump
Tap to add this device
55% 5:38
Add Device
Done
1 device(s) added successfully
Heat Pump
Added successfully
0 device(s) being added

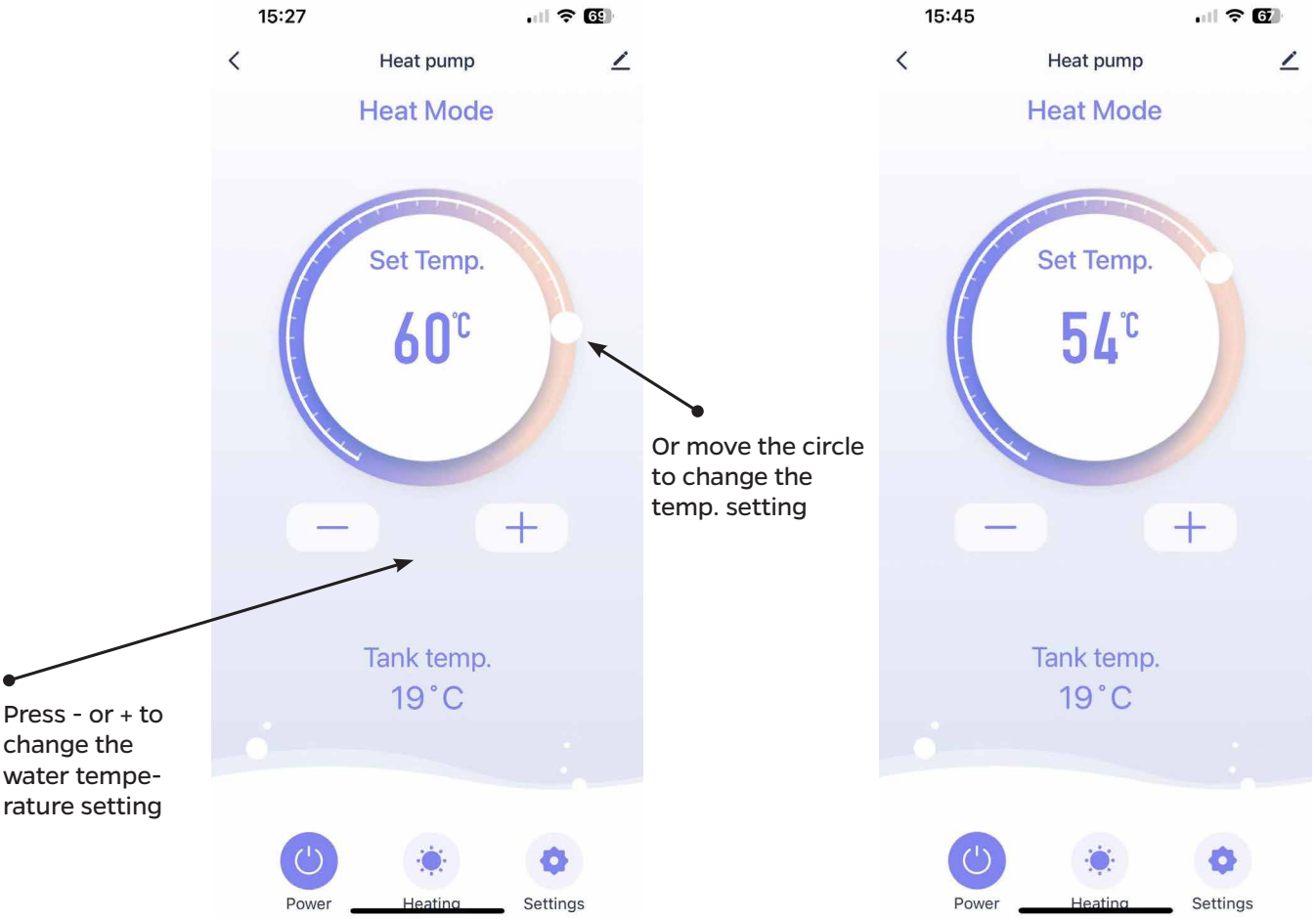

15:27
Heat pump
Heat Mode
Set Temp.
60℃
Tank temp.
19 °C
Power
Heating
Settings

3. Operation

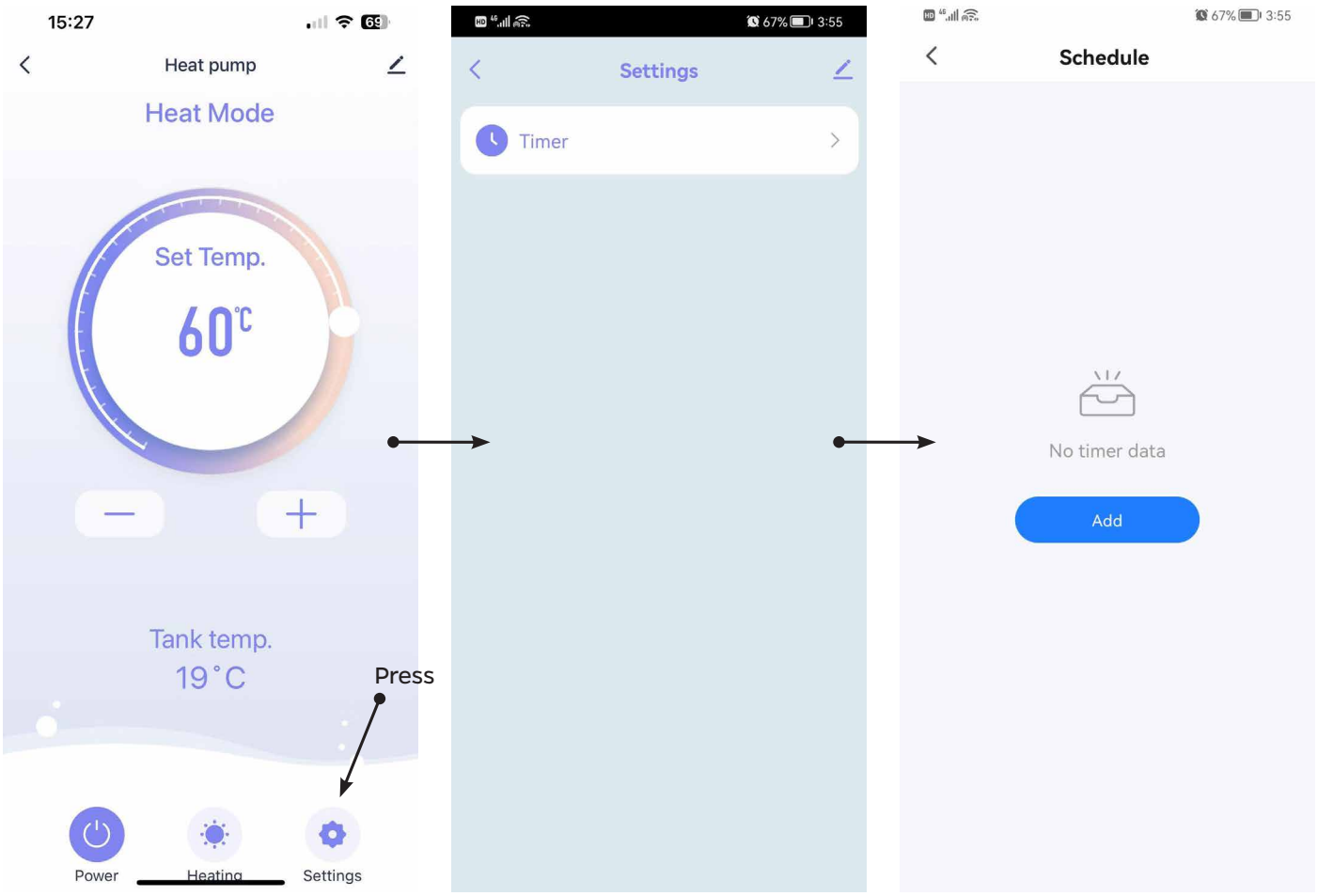
1) Operation interface

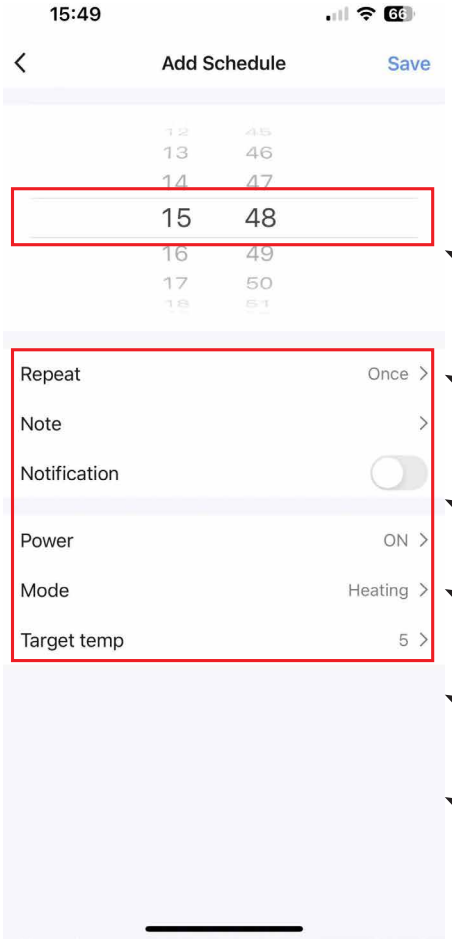


2) Operation interface



3) Set timer





Set time

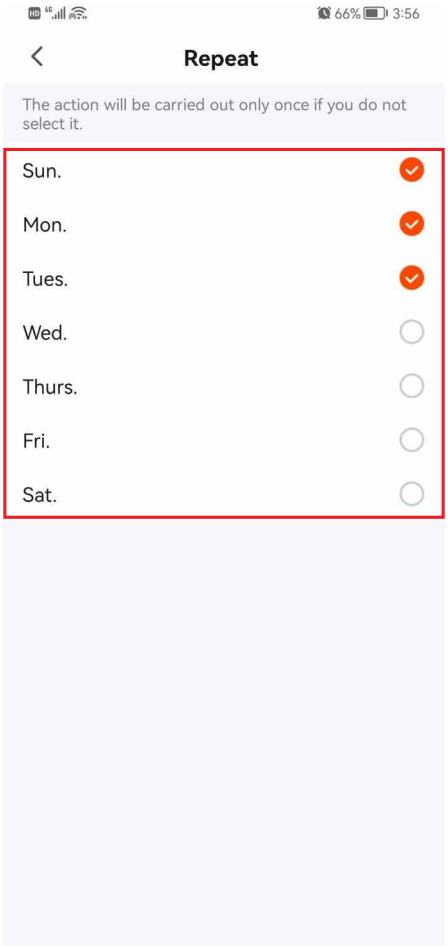
Repeat

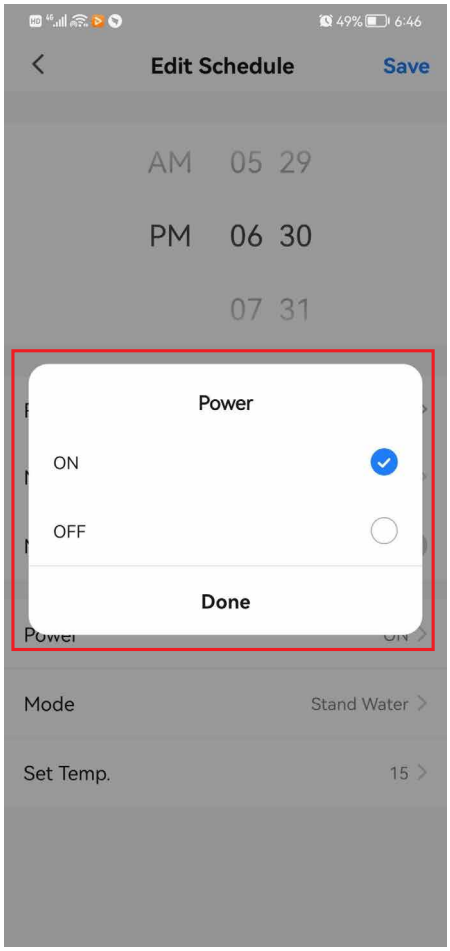
Notice

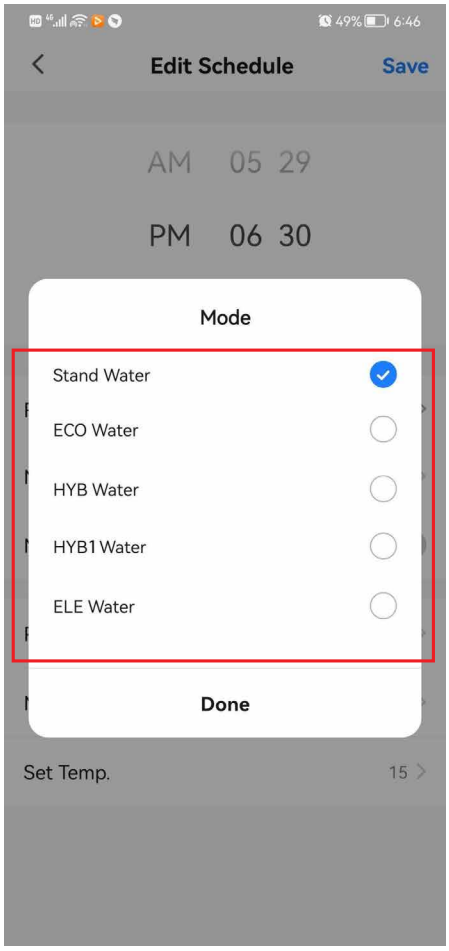
On / Off

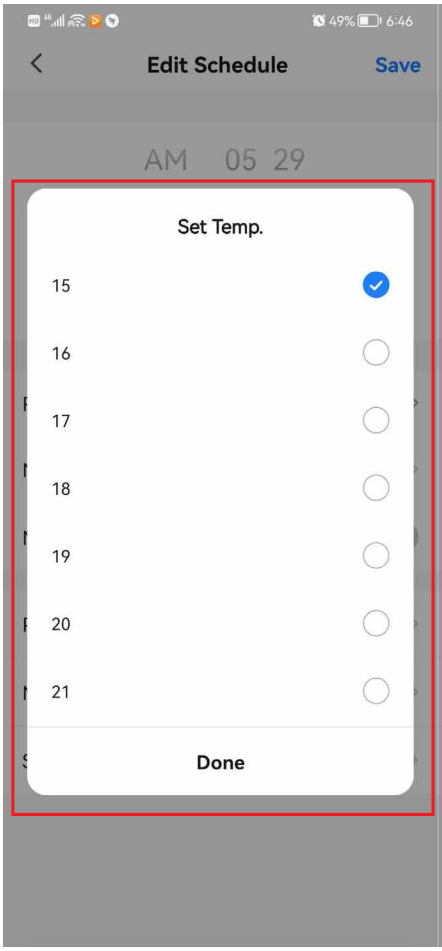
Mode

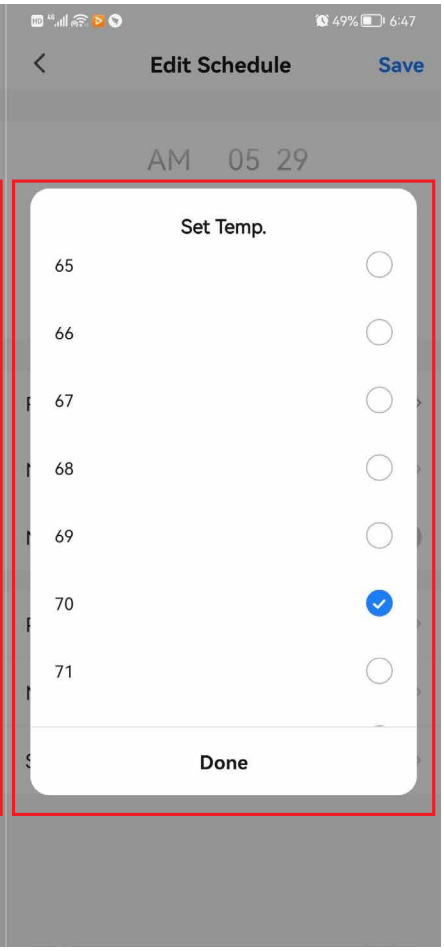
Set temp.

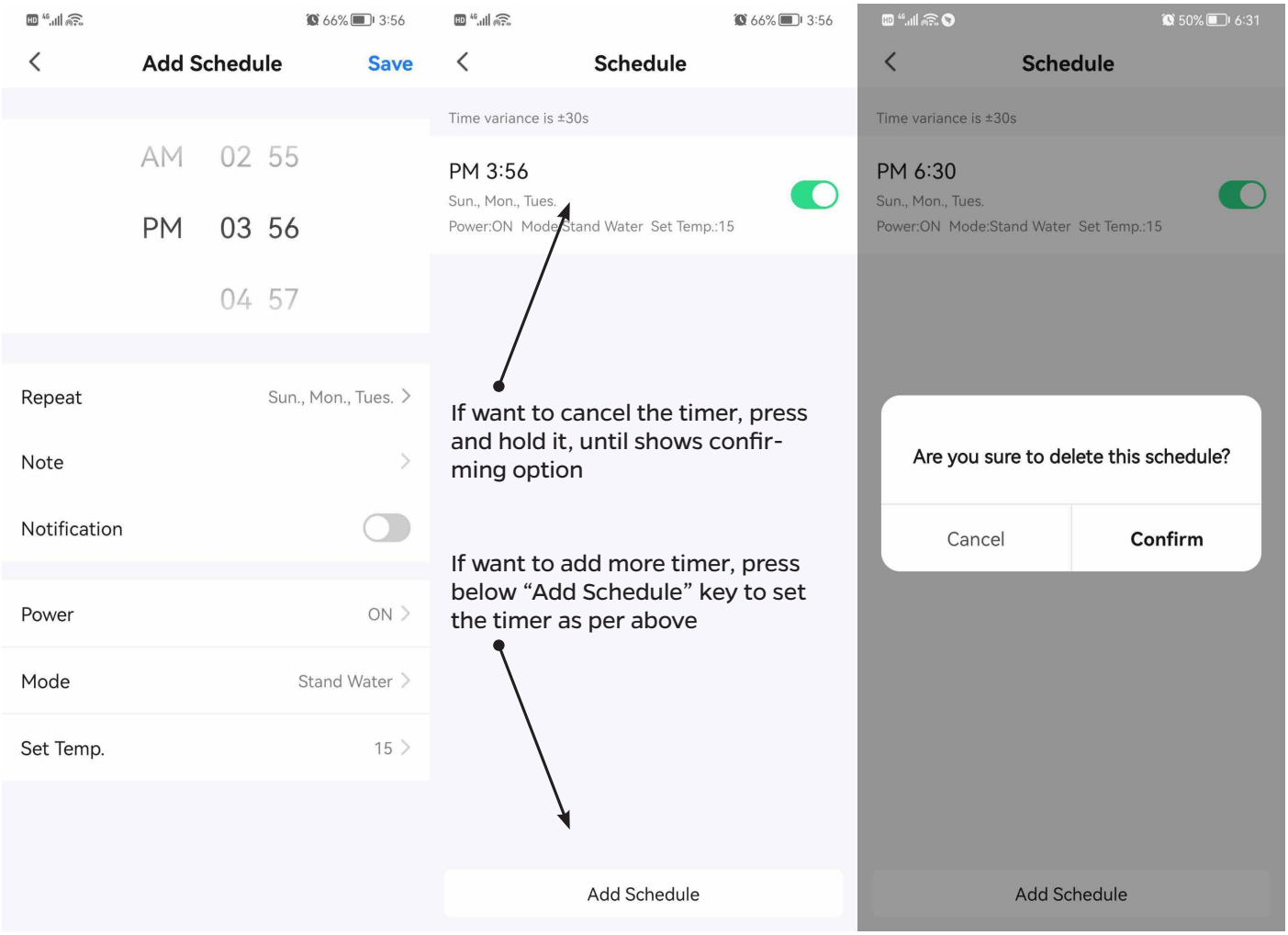




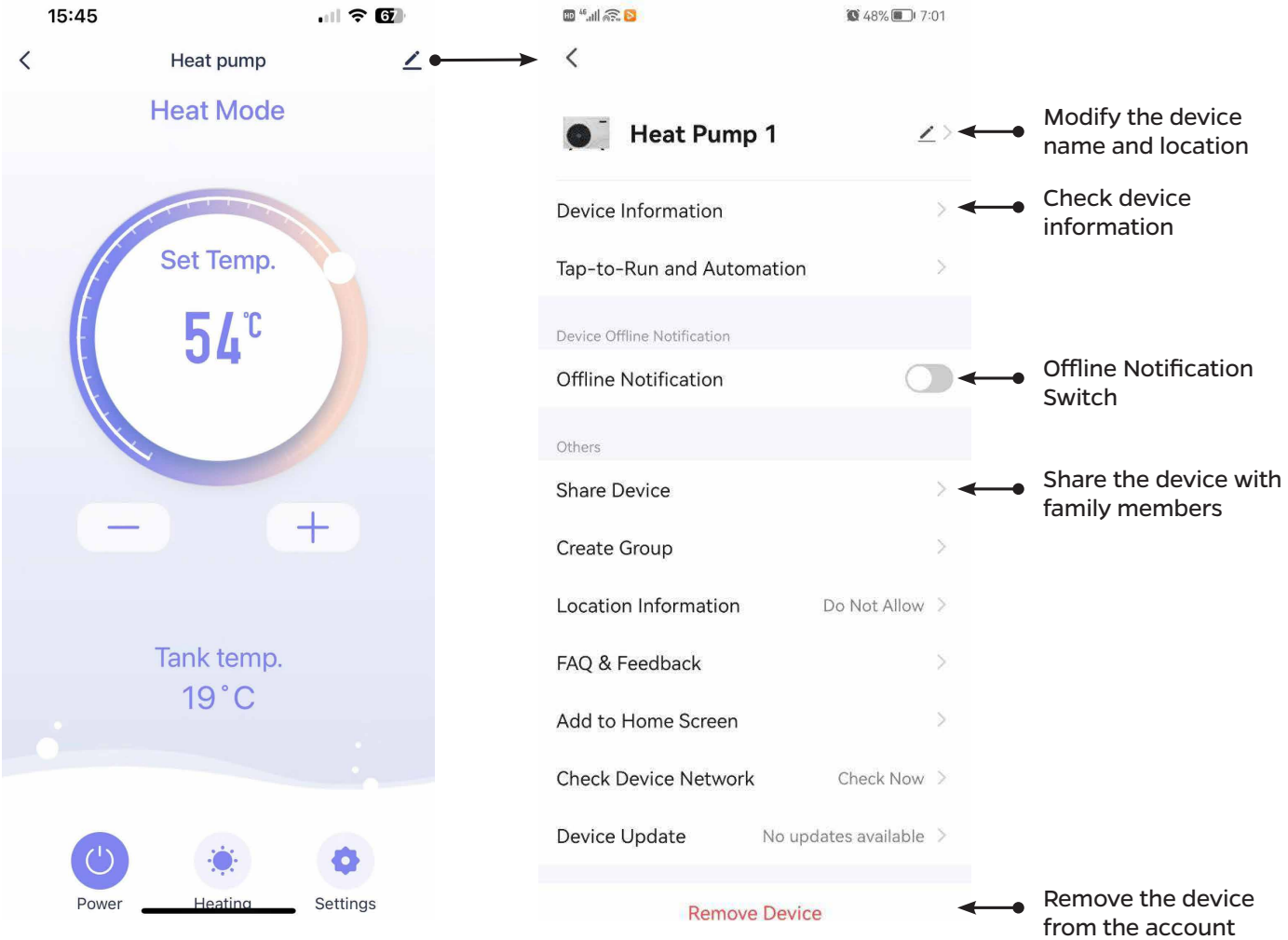








4) Others operation



PILOT RUN OF HEAT PUMP

Please confirm the followings before pilot run of heat pump

1. The heat pump has been finished well;
2. Assemble pipe and wire are all correct;
3. Drain water is smooth;
4. Insulation materials are complete;
5. Ground wire is installed well;
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 valve have been opened;
9. Leakage protection device works well;
10. Input water pressure is less than 0.6 Mpa;

MAINTENANCE AND SOLUTION

I. 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^{o}C water filled in the water tank must be drained out to prevent from damaging inner tank; (operation shown 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). Turn off power supply of heat pump;
(2). Turn off cold water inlet valve, and open up hot water tap water;
(3) Connect drainage water with drain outlet through a soft pipe;(temperature resist of drainage pip is less than 93^{o}C if drainage pipe do not meet demands, please turn on cold water inlet valve, and turn on hot water tap water 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 been used up. We suggest check insulation materials every one year, if anode rod is used up, you can inquiry local server center or specific technical department to change a new one;

5. Used for enough hot water where we suggest user turn down setted temperature, which can reduce heat loss and avoid incrustation, meanwhile this work can help you save more electric energy and extend use life;

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

7. If used for those regions which the temperature is below 0^{o}C, you can take suitable measures to protect pipes in case the heat pump is installed outdoors for purpose of protecting connection pipe and keeping your normal life;

II. Error & Approaches

Error	Reason	Approach
The outlet water is cold; The screen is dark	The plug is not plugged properly. The temperature controller is on the lowest temperature control state; The temperature controller is damaged; The circuit board of the indicator lamp is damaged.	Plug in properly. Set the temperature of the controller in higher state. Inform the service man.
No water out from the hot water outlet	The tap water is cut off; The water pressure is too low; The tap water inlet valve is closed.	Waiting for the restore of the tap water. Wait and use when the water pressure is raised. Open the tap water inlet valve
Water leakage	Bad tightness in the connecting points between pipes.	Improve the tightness of the connecting points

AFTER-SALE SERVICE

If your hot water heater can not operate normally, please turn off the unit and cut off the power supply at once, then contact with our service center or technical department.

BROOKVENT™

airtherm
AQUA 1.2

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