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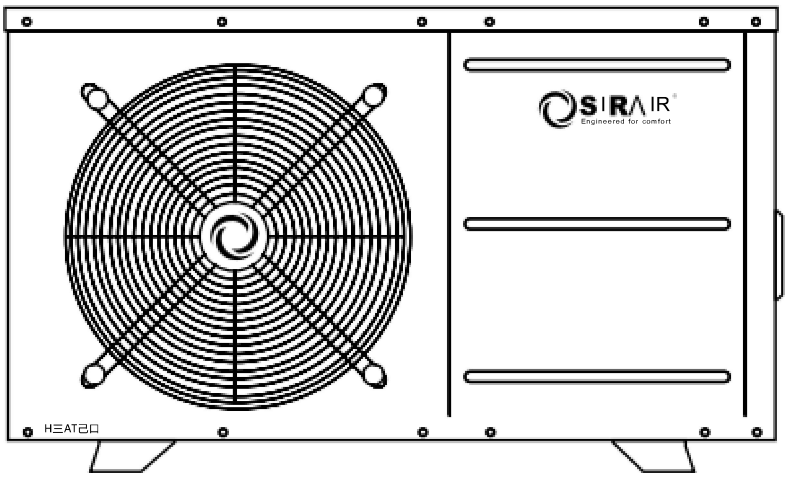
Operation Manual & Installation

Heat Pump Geyser Water Heater

HEAT20



Model

SRS-DHP3.6p1v1
SRS-DHP5.4p1v1
SRS-DHP7.6p1v1
SRS-DHP10.8p1v1
SRS-DHP13.2p1v1
SRS-DHP18.8p3v1

Thank you for purchasing our product, please keep and read this maual carefully before you install.

Packing List

No.	Name	Qty.	Remark
1	Installation &Operation Manual	1	
2	Wire-controller	1	
3	Wire-controller Cable	1	4.6 meters
4	Wire controller box (plastic)	1	
5	Wire controller box (metal, wall mounted)	1	
6	Drain-pipe	1	2 meters
7	Drain-pipe connector	1	
8	Rubber shock absorber	4	
9	Heat Pump Unit	1	

Please keep installation manual properly, and read it carefully before using.

⚠The unit must be installed by professional personnel, and install it based on this manual as possible.

Δ Special reminding: if the unit would be installed where is vulnerable to lightningstroke, lightning protection measurements must be carried out.

Δ Special reminding: The unit is not suitable for using in the winter, thewater reserved in the pipe network system must be drained.

Content

Accessories Description

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

No.	Name	Qty.	Use
1	Installation & Operation Manual	1	Guide users to install the system
2	Wire controller	1	Used for the man-machine operation interface
3	Wire controller connecting cable	1	Connect wired controller
4	Heat pump unit	1	For heating water

Attention for safety

Range of application:

1,Power supply: 220V/1N~50Hz.

2,Environment temperature: -15°C～43°C ：

3,Working water temperature: Min inlet water temperature 8°C,Max outlet Water Temperature 60°C. If the system is always used beyond the available range, pleasecontact with manufacturer.

●The installation shall be done by a professional personnel, to prevent leaking, electric shock, or fire disaster.

● Confirm the ground connection, if the ground connection is not correctly done, it may cause electric shock.

• When install the heat pump in a small room, must keep well ventilated.

• Don't put finger or sticker into the air inlet or air outlet. Because the internal rotor high-speed operation may cause hurt.

• When an exception happens (burning smell), turn off the manual power switch immediately, stop operating, and contact with after-sale service department. If continue the abnormal operation, it may cause electric shock or fire disaster.

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

• Must not be unauthorized reformed, otherwise it may cause electric shock or fire.

•When needs to be repaired, please entrust after-sale service department or a specialized personnel to implement. If improper repaired, it may cause unit operation troubles, electric shock, fire, hurt, leaking, ect.

•Cannot install the unit in combustible gas easy-leaking places, once the combustible gas leaks around the unit, it may cause a fire.

•Confirm if the installation base is strong enough. If it is not strong and be used for a long time, it may cause falling and injuries.

•Confirm if leakage protection switch is installed, if don't install a leakage protection switch, may cause electric shock or fire.

•When cleaning the unit, the operation should be stopped, and power switch should be turn off.

Heat pump unit working principle

1. Heat pump working process

•First, the low pressure and over heated gaseous refrigerant in the evaporator is inhaled into the compressor then becomes the high temperature and high pressure over heated vapour.

•Second, the over heated vapour is exhausted into the condenser and exchange the heat with the water, then the refrigerant is condensed and becomes the saturated or over cold high pressure and high temperature refrigerant liquid. The water is heated up by heat pump when absorbing the heat energy which released by the refrigerant.

•Third, the refrigerant liquid releases the pressure by passing the expansion valve, then becomes the low temperature and low pressure liquid.

•Fourth, the refrigerant liquid flows into the evaporator and absorb the energy from the air, then is vaporized and became the low pressure and over heated vapour. The refrigerant working repeatedly as described above, then the water which flows through the condenser is heated up constantly, the temperature arises and can get the hot water.

2. Air source heat pump working principle

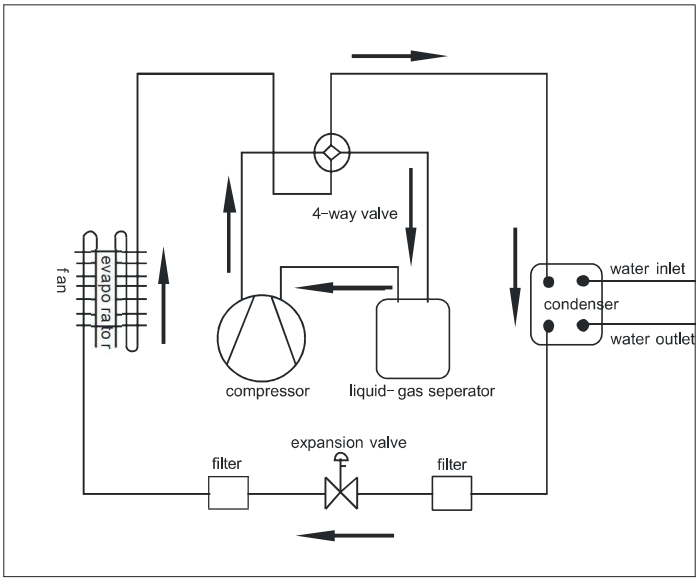
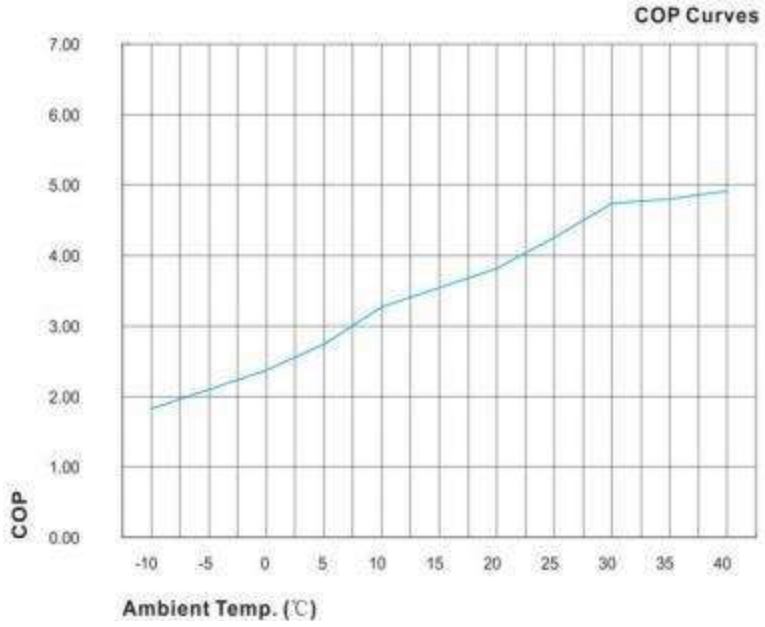


Figure 1

Q_c (Heat energy get) =Q_a (Compressor consumption) +Q_b (Heat energy absorbed from ambient environment)

3. Heat pump performance curve for variable working condition



Attention pipeline anti-freezing in case the environmental temperature drops to 0°C.

Figure 2

Installation of the unit

1. Installation attention

● Avoid installations in such locations with mineral oil.

● Avoid installation in locations where air contains salt or other corrosive gas.

● Avoid installation in locations with serious power supply voltage fluctuation.

● Avoid installation in locations as car or cabin， such unstable place.

● Avoid installation near flammable items.

● Avoid installation in locations with strong electromagnetic wave.

● Avoid installation in locations with special harsh environmental conditions.

2. Installation check

● Check the model， number, name etc, avoid mistake installation.

● Make sure enough space for installation and maintenance.

● Make sure barrier-free for air inlet and outlet, also dry ventilated place.

● Make sure the bearing surface can meet the requirement and avoid shocks.

● The power supply and its capacity, wire diameter choice should be in accordance with the electrical installation requirements.

● Electrical installation must comply with the relevant technical standards of electrical equipment, and electrical insulation work must be done.

● The unit must be power on for at least eight hours before running and debugging.

3. Installation space

Keep the following indicated space for maintenance first before installation

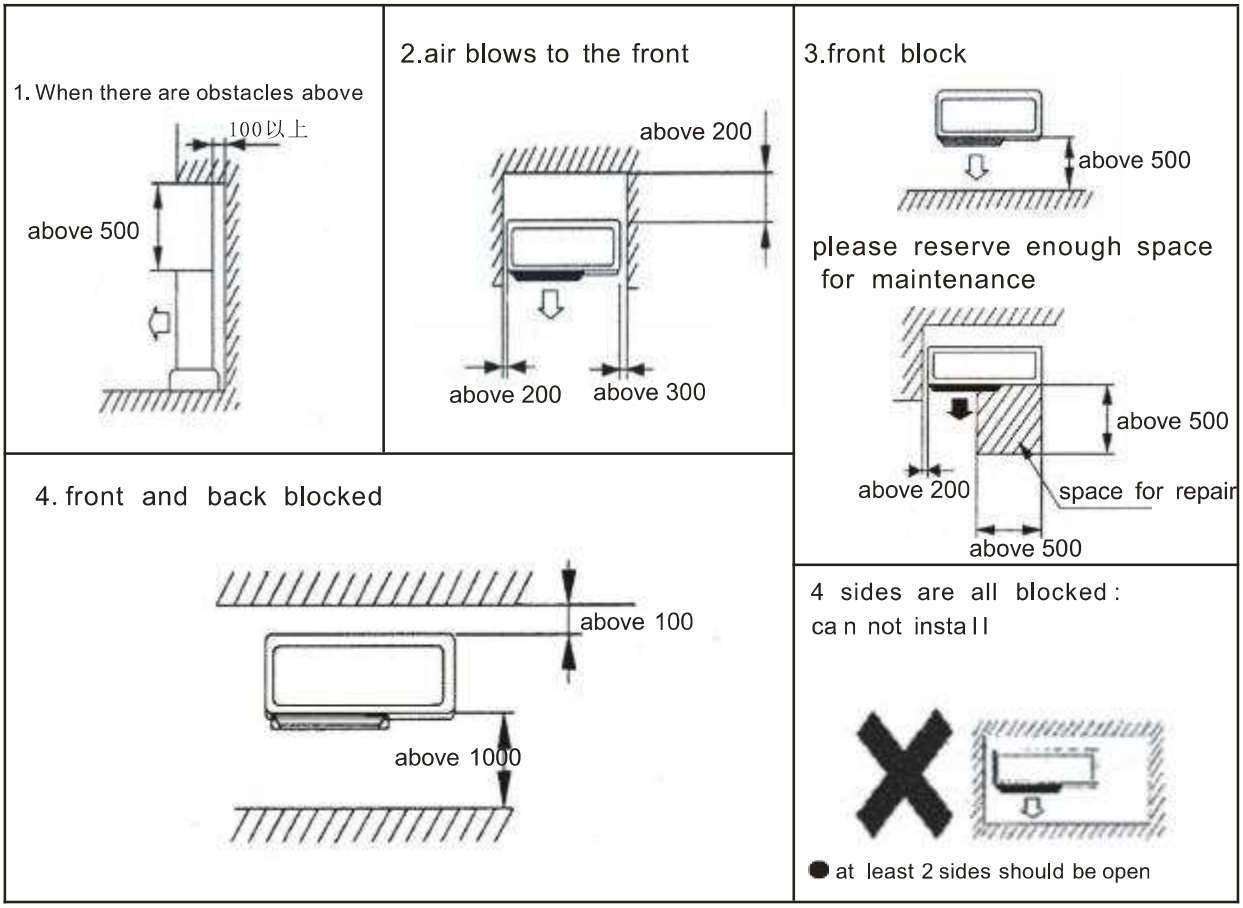


Figure 3 Horizontal type installation space, side air outlet（units: mm）

(2)There shall be no obstacles within 1 meters in front of the heat pump.

(3)The reserved space beside the water pipe can be enlarged according to actual requirement.

4. Heat pump unit size

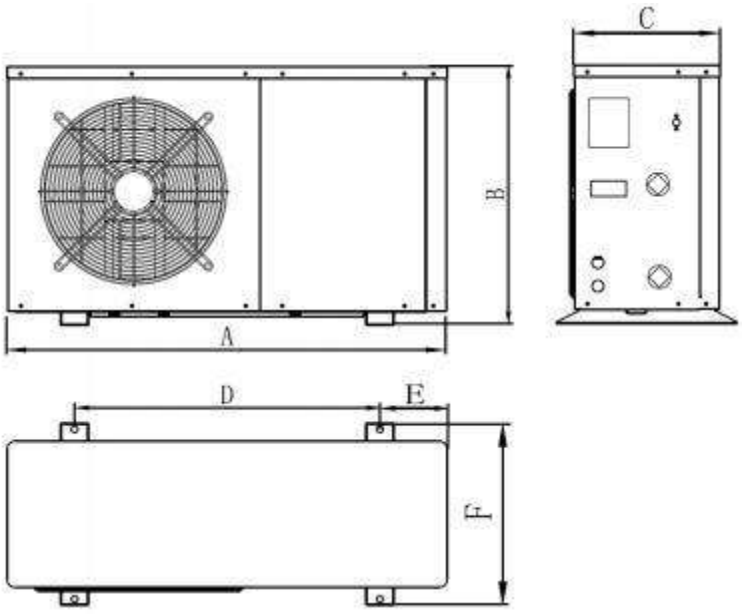


Figure 4 Horizontal type heat pump size, side air outlet

Size（mm） / Model No.	A	B	C	D	E	F
SRS-DHP3.6p1v1	936	550	311	650	143	385
SRS-DHP5.4p1v1	936	550	311	650	143	385
SRS-DHP7.6p1v1	1011	615	357	645	183	420
SRS-DHP10.8p1v1	986	798	376	695	146	420
SRS-DHP13.2p1v1	986	798	376	695	146	420
SRS-DHP18.8p3v1	999	1299	374	780	112	420

5. Reserve the installation base for the heat pump,

Please refer to Figure 5.

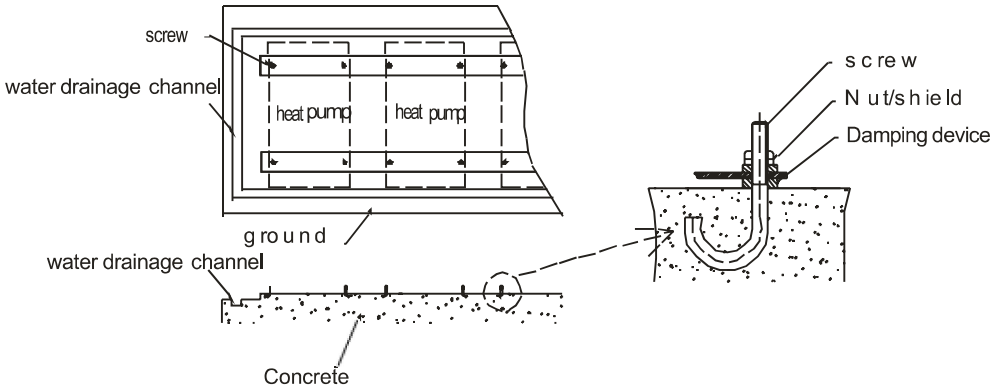


Figure 5 Reserved installation base

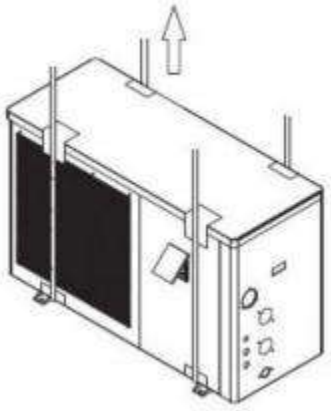
6. Hoisting attention

●Please use four or more soft lifting belts to move the sets Figure 6.

●Please use protective plate on the surface of the sets when moving, to avoid scratch and deformation.

●Recheck whether the foundation is correct before hoisting the unit.

● The heat pump will produce condensation water, please consider the drainage channel when make the installation base.



●Please put shock absorber on base surface.

Figure 6 Hoisting diagram

Installation of the pipeline

1. Attention

● Prevent air, dust and other sundries from going into the water pipes.

● Fix the whole system before install the water pipes.

● Water inlet and outlet pipes shall be protected by the insulation layer.

● Stable water velocity shall be ensured, so that excessive throttling can be avoid.

● When moving, water inlet and outlet pipe shall not be used for hanging, only the holes on the beam of the base can be used, please refer to Figure 6

● When connect the water inlet and outlet pipes, two pipe wrenches shall be used to control the two parts of the pipes, and ensure the water inlet and outlet pipes not turning around, please refer to the Figure 7

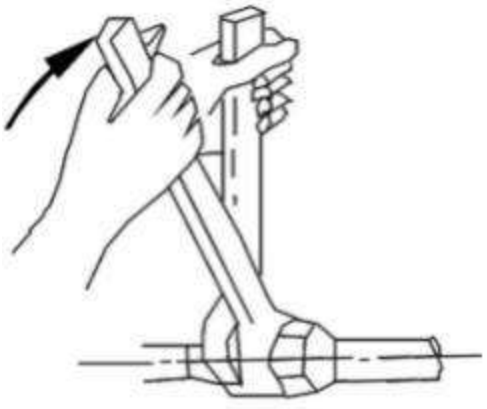
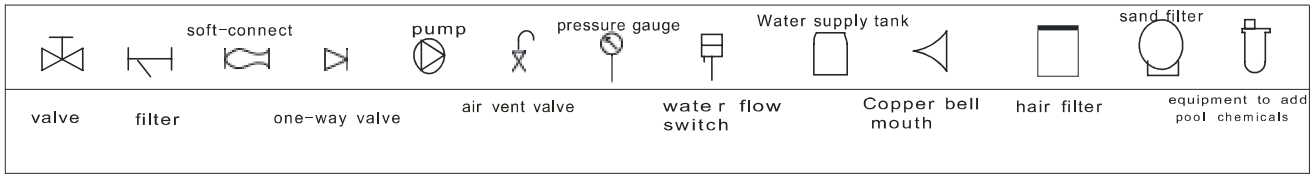


Figure 7

2. Instruction

(1) Marginal data



(2) Pipeline installation diagram

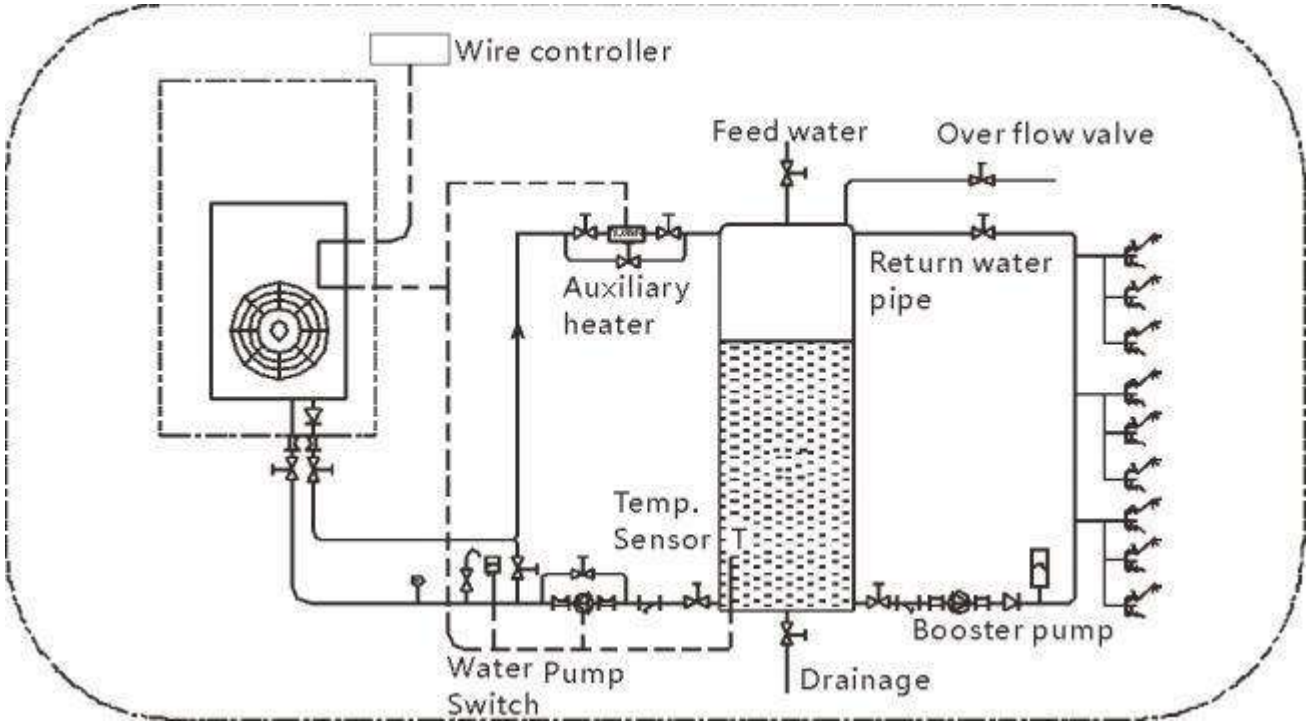


Figure 8 Diagram Ⅰ（Single unit for reference）

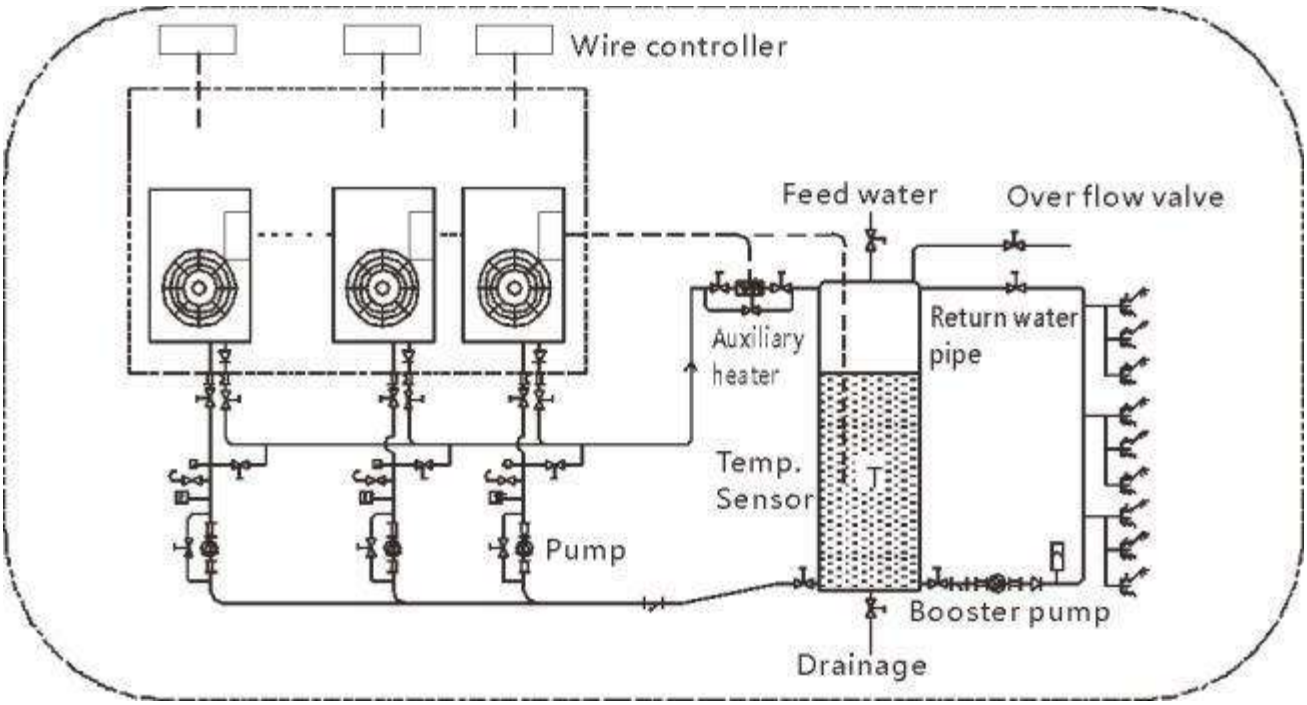


Figure 9 Diagram II（Multiple units for reference）

●The one-way valve is suggested for each unit, to prevent the water back flow.

●The system can be combined with multiple units, but should be controlled by each unit independently.

●Regarding the installation of backup pump, maintenance valve and temperature measure point, please consider it yourself.

●All pipes and valves of the unit need the heat preservation.

● The reference diagram used non-pressure water tank, the system also can be pressurized system, use the pressurized water tank.

(3) Selection of the water pipes

Model No.	Inlet	Outlet
SRS-DHP3.6p1v1	DN20	DN20
SRS-DHP5.4p1v1	DN20	DN20
SRS-DHP7.6p1v1	DN20	DN20
SRS-DHP10.8p1v1	DN20	DN20
SRS-DHP13.2p1v1	DN20	DN20
SRS-DHP18.8p3v1	DN20	DN20

●The pipe press and flow rate should be calculated before the diameter selection, the range of pressure drop is 0.3 ∽ 0.5 kgf/cm2(3 ∽ 5m） the range of head pipe flow rate is 1 .2∽ 2. 5 m/s.

●The hydraulic calculation should be made after the selection of pipe diameter, if the resistance is

more than pump head, then need to choose a more power pump, orchoose a bigger pipe.

(4) The demanded quality of water

● The bad quality water will produce more scale and sand, so this kind of water should be filtered and demineralized.

●The water quality should be analyzed before system running, to measure the PH value, conductivity, Chloride ion concentration and sulphate ion concentration.

●The acceptable water quality standard is showed as below table.

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

● Suggest the filter meshes is about 40 meshes.

Installation of optional accessories

1. Selection of the water pump （If there is no the built-in pump or the built-in pump is too small）

●The circulation pump is needed for the system, the power port is prepared for the pump, (one phase)

NOTE ⚠

For the single phase pump, please check the circuitry diagram.

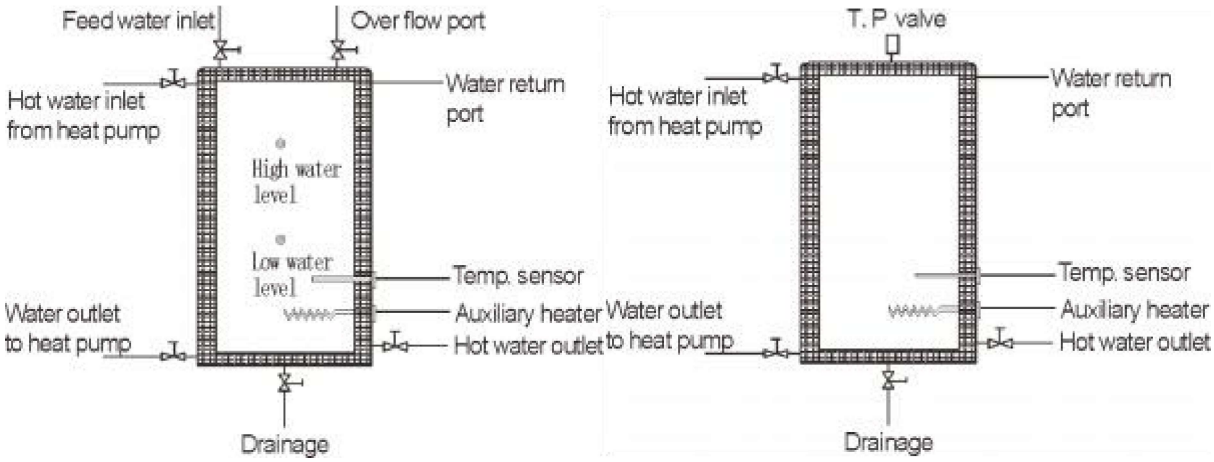
●The head of circulation pump = height difference between tank and main unit + total pipelines resistance (determined by the hydraulic calculation) + pressure loss of main unit (see the nameplate on heat pump).

NOTE ⚠

when multi-paralleled, the head is subject to the worst working condition loop.

3. Selection of the storage tank

● The heat pump should be used with a hot water storage tank, below the tank structure for reference Figure 10



Non-pressure tank Pressurized tank

Figure 10

3. Selection of the flow switch

●The selection of the flow switch is based on the actual system, the target flow switch is recommended. Temperature of fluid: 0-120 °C , max working pressure 13.5 bar.

●The flow switch can be installed on the horizontal pipeline or the vertical pipeline which the fluid flow direction is upward, but should not be installed on the vertical pipeline which the fluid flow direction is downward.

● The flow switch must be installed on a straight pipeline, there must be more than five times the length of the pipe diameter at its two sides. And, the direction of fluid must follow the arrow on the controller. The terminal block should be located at the position where is easy operation, (Figure 10)

●The pannier is absolutely forbid to touch the flow switch floor, or the switch will be deformed and invalid, (Figure 11)

●Please be sure that the model of target sheet is determined by the system rated flow, diameter of outlet pipe and the adjustable range of the target(see the user manual). And the target sheet can not contact the inwall of pipe or other throttlers in pipe, or will cause the switch can not reset.

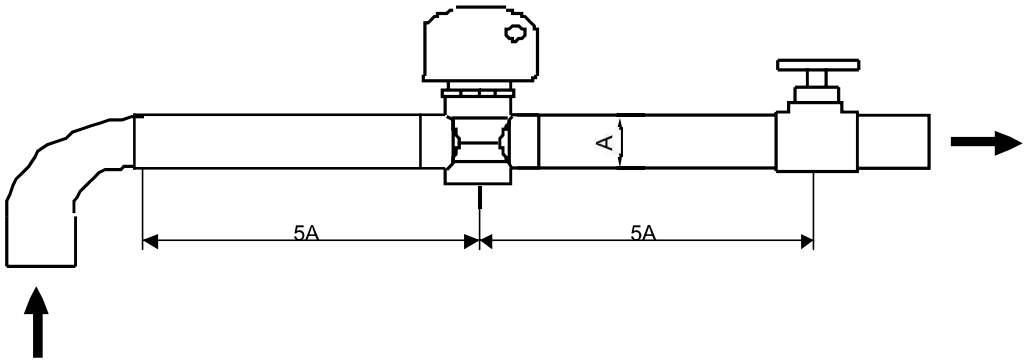


Figure 11

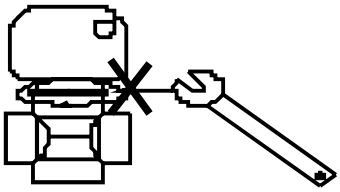


Figure 12

Installation of electric devices

1. Electrical wiring

●The unit should use a dedicated power supply, power supply voltage with rated voltage.

●Unit power supply circuit must be ground, power supply wire and external grounding reliable connection, and the external grounding is effective.

●Wiring must be constructed by the professional installation technicians in accordance with the circuit diagram.

●Power line and signal line layout should be neat, reasonable, can not interfere with each other, but not with the connecting pipe and the valve body contact.

●The unit is not matching the power line, please supply specifications refer to provisions, does not allow the wires connecting.

●After all wiring construction is completed, please carefully check it before switch on the power supply.

2. Electrical Wiring Specification

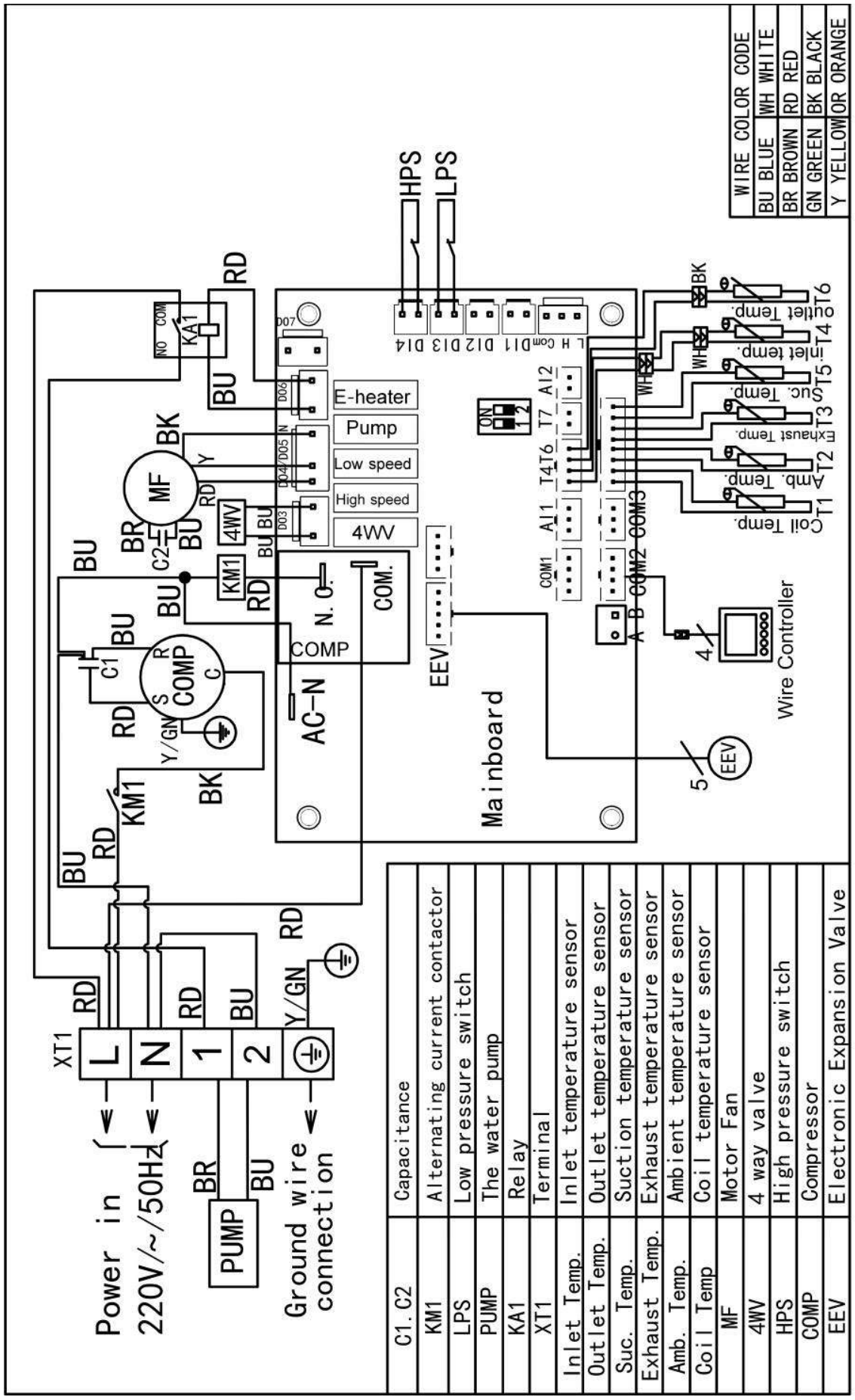
Model No.	Electrical Wiring Specification
SRS-DHP3.6p1v1	3*2.5mm2
SRS-DHP5.4p1v1	3*2.5mm2
SRS-DHP7.6p1v1	3*2.5mm2
SRS-DHP10.8p1v1	3*2.5mm2
SRS-DHP13.2p1v1	3*4mm2
SRS-DHP18.8p3v1	5*2.5mm2

3. Circulation pump installation

Model No.	Pump
SRS-DHP3.6p1v1	Built-in Wilo 15/6
SRS-DHP5.4p1v1	Built-in Wilo 15/6
SRS-DHP7.6p1v1	Built-in Wilo 15/6
SRS-DHP10.8p1v1	Built-in Wilo 25/8
SRS-DHP13.2p1v1	Built-in Wilo 25/8

The model which have built-in circulation pump, don't need add an extra circulation pump, it depend on the system design, if it can not meet the requirement of flow rate and head, then can add an extra pump to drive the system work well.

4. Electric wiring diagram



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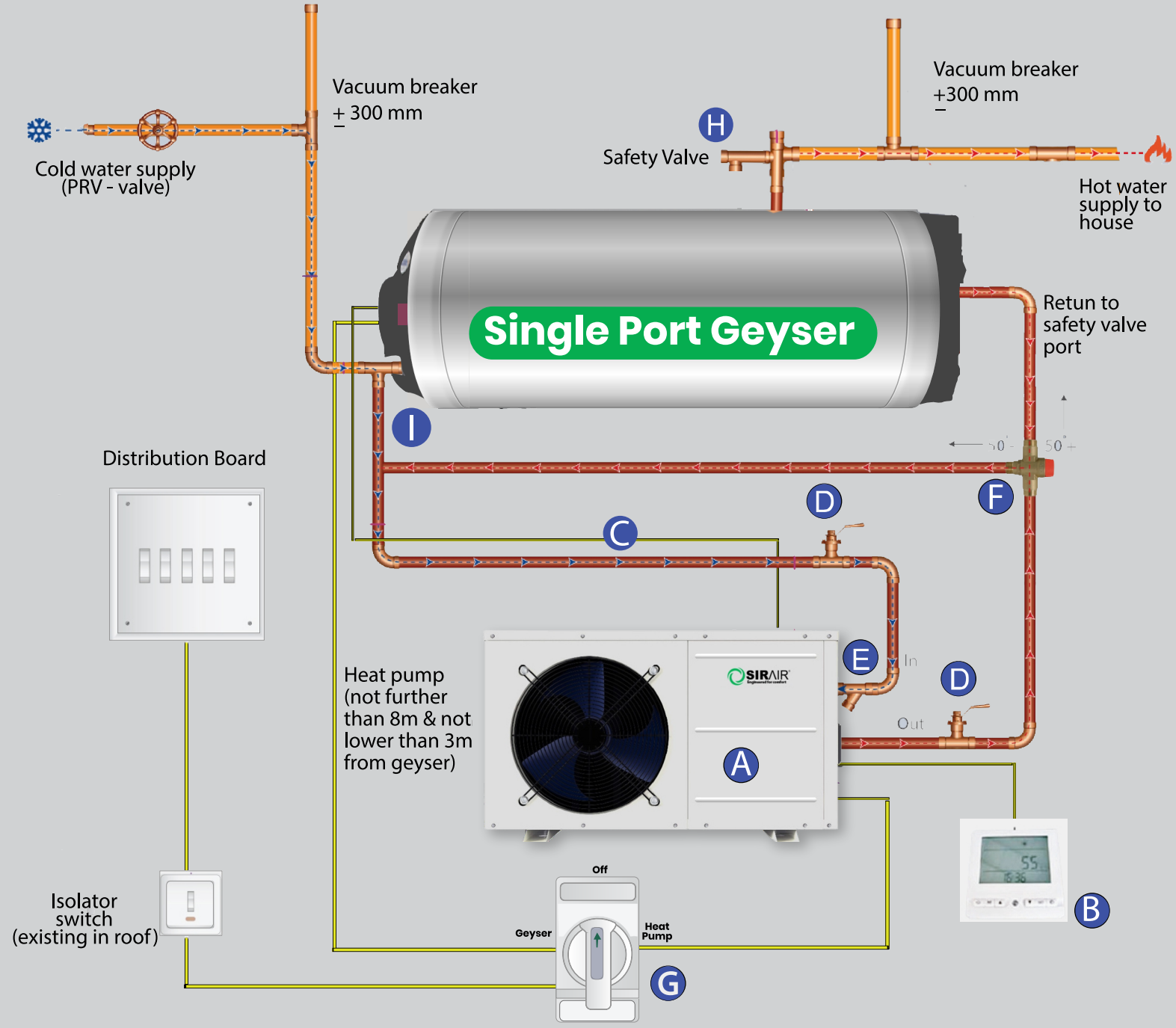
Heat Pump Retrofit Installation Diagram (Single)



- A Heatpump (in box)
- B Control Panel (in box)
- C Temperature Probe (in box)
- D Lever ball valve (SABS) within 1m of HP
- E Y strainer/ in-line strainer (SABS)
- F Diverter Valve (SABS)
- G Change over switch (Back up)
- H Banjo Valve/Valve Solar Safety Male (400Kpa)
- I Draincock With Thermo Pocket

- 3/4 copper piping
- 3/4" piping (SABS)

CIRCUIT BREAKERS:

Model	Kw	Manual Switch (A)	Fuse (A)
SRS-DHP3.6P1V1	3.6Kw (134a)	20	15
SRS-DHP5.4P1V1	5.4Kw (134a)	20	15
SRS-DHP7.6P1V1	7.6Kw (134a)	30	25

SABS copper piping must be used externally.
All pipes must be insulated (minimum R1 value).

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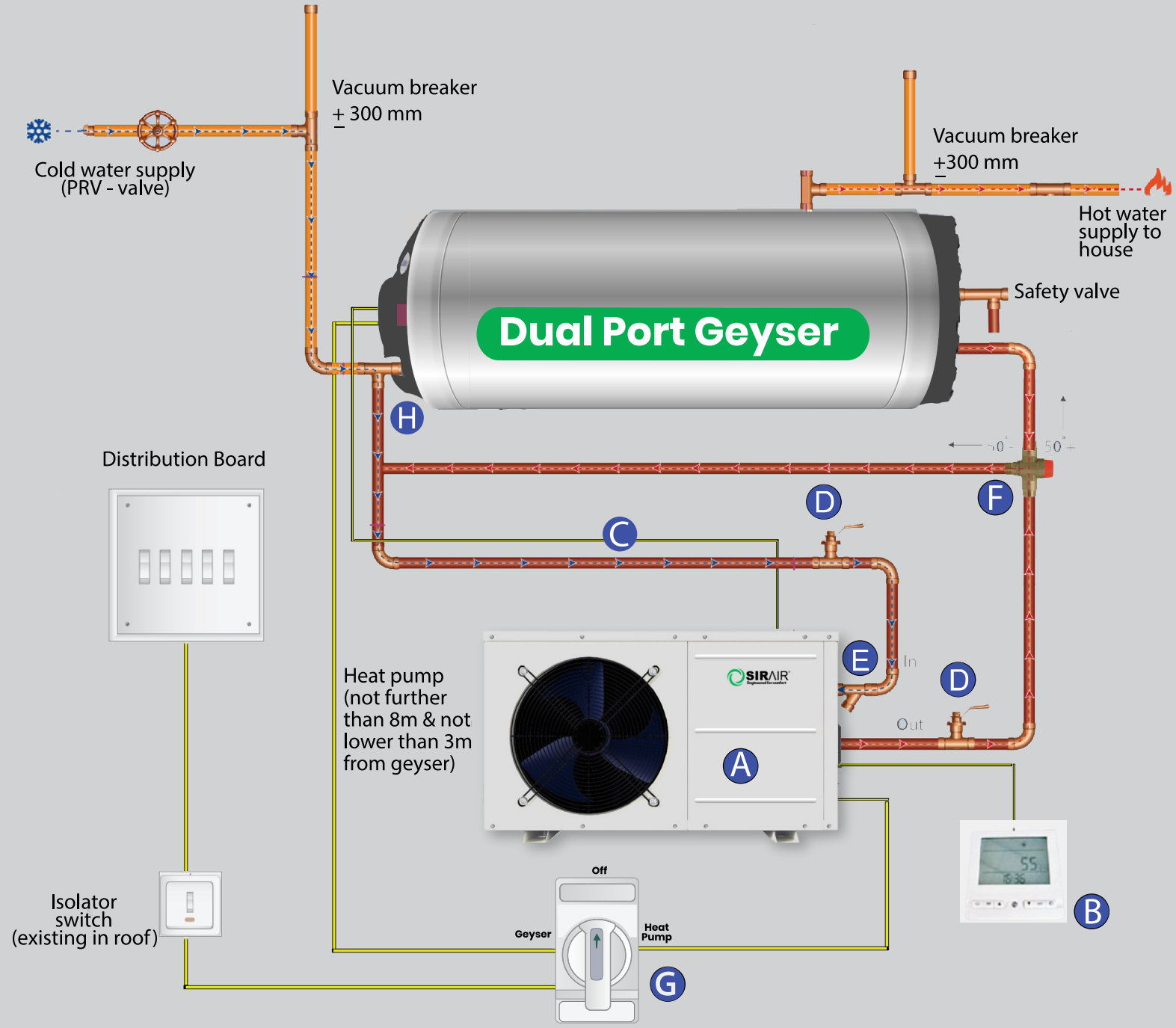
Heat Pump Retrofit Installation Diagram (Dual)



- A Heatpump (in box)
- B Control Panel (in box)
- C Temperature Probe (in box)
- D Lever ball valve (SABS) within 1m of HP
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- G Change over switch (Back up)
- H Draincock With Thermo Pocket

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SRS-DHP7.6P1V1	7.6Kw (134a)	30	25

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All pipes must be insulated (minimum R1 value).

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Instruction of operation

1. Control system specifications

(1) Operating condition

- Voltage:220V~±10%,50Hz±1Hz.
- Ambient temperature: -15～+43℃
- Storage temperature: -20～+75℃
- Relative humidity: 0～95%RH
- Temperature accuracy: ±1℃

(2) Main function

- Display the pool 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.
- Forced to defrost.
- Large LCD display.
- Has perfect protection function.
- The error code display and query
- Key-Lock Function
- Anti-freezing function
- When there is no wire controller or wire controller is broken, the system can recognize it, and control the heat pump to run automatically.

2. Wire controller and operation

The wire controller has memory function (about 96h) when it loses power.

It locks buttons automatically after 60s without any click.

The background light is on when you click buttons, and it turns off without any click after 1 minutes.

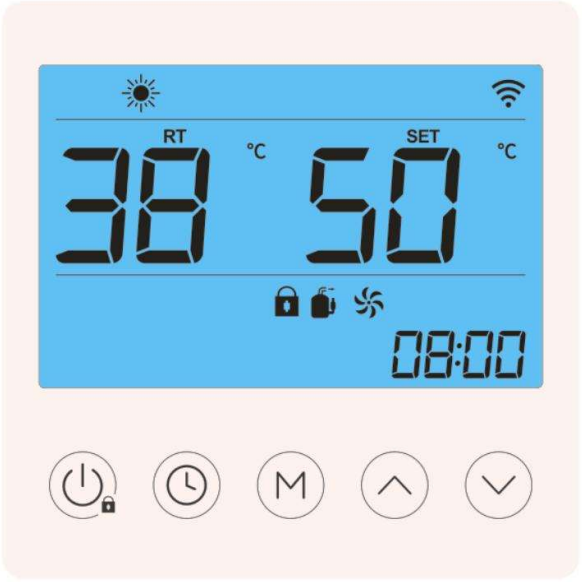


Fig.1 Main page

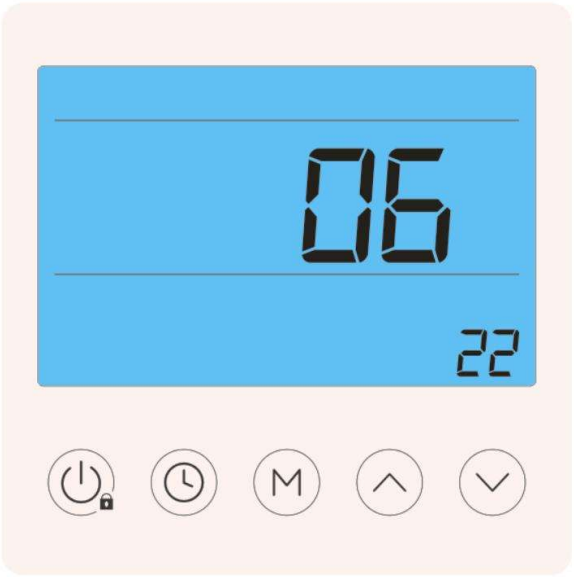


Fig.2 Operation parameters page

Button function

NO.	Button icon	Function
1	Power / Lock	• Press and hold 1s, then power on/off unit. • Return to Home Page. • Press and hold 3s at Home page to Lock/Unlock page.
2	Clock	• Press to enter the clock setting, and press to select "hour" and "minute" • Press and hold 3s, start and enter or disable the timer settings. • In the clock setting state, hold down for 3 seconds to enable or disable the weekly function.
3	Mode	• Press it to switch unit mode when unit is running. • Press and hold 3s to enter factory parameter settings.
4	Up	• Change value • Press and hold 3s at Home interface to running parameter query
5	Down	• Change value

Running status icons description

NO.	ICON	FUNCTION
1		The heat pump is turned on
2		Blinking indicates that the electric heater is manually turned on. The icon displays all the time means the electric heater is turned on.
3	RT	Tank water temperature.
4	OUT	Heat pump outlet water temperature.
5	SET	Setting water temperature.
6	°F	Displays temperature in Fahrenheit.
7	℃	Displays temperature in Celsius.
8		Maintenance mode.
9		The controller is locked.
10		Compressor is running.
11		The fan runs at high speed.
12		The fan runs at low speed.
13		Water pump is running.
14		Blinking indicates that the refrigerant is being charged or recovered. The icon displays all the time means the heat pump is defrosting.
15		Heat pump failure.
16		The current week is 1, 2, 3, 4, 5, 6, and 7.
17		Timer started.
18	ON	Blinking indicates that the start time of the timer is being set. The icon displays all the time means the timer is being enable.
19	OFF	Blinking indicates that the end time of the timer is being set. The icon displays all the time means the timer is being enable.
20	123	The group number of appointments. Blinking indicates that the group of appointment is being set. The icons display all the time means the specified appointments are enabled
21		The current time.

3.Operation of the controller

Multiple functions:

Up and down: ∧ and ∨

a. In the main interface and in the power-on state, click to set the temperature.
b. In the main interface, press and hold for 3 seconds to enter the query state.
c. In the query state, click to switch the state to query the serial number.
d. In the parameter setting state, click with the mode key to modify the parameters.
e. Modify the timing and clock values.

Clock setting: [Clock]

a. On the main page, press the key to enter the real-time clock setting status.
b. Under the clock setting status, when you click the key, the "Hour" digitals start to flash, and then you can click "∧" key or "∨" key to set hour. When you are finished, click key again, you can set minutes. When you click the key third time, the time setting is completed.

Timing time setting: [Clock 3']

a. On the home page, press the key for 3 seconds, you can enter the appointment setting.
b. There are 3 groups for appointment. Click "∧" key or "∨" key to select group. When the group is selected, the group number is flashing. And then click the key, you can set the power on time of appointment, click the key again you can set the power off time of appointment. The appointment time setting method is the as same as clock setting.
c. If you need more appointment, you can repeat the operation "b".
d. Set the start time of appointment same as the end time of appointment, then this appointment of this group is canceled.
e. If there is not action during setting appointment, the last click will be kept.
f. Click the key, then the appointment is confirmed and back to home page.
g. When the appointment is confirmed but you want to cancel it, press the key 3 seconds.

Boost mode: M + ∧ [Mode+Up 3']

a. In standard mode, press the **"M"** and the "∧" key for 3 seconds to enter or exit the Rapid heating mode. When the electric heating is on, "" symbol lights up all the time. When the electric heating is not turned on, the ""icon is flashing.
b. When unit powers off, the boost mode also exits.

Manual defrost function: M + ∨ [Mode+Down 5']

a. When the heat pump is on, press and hold the "M" key and "∨" key for 5 seconds to activate Manual defrost function. Meanwhile and the "" icon lights up.
b. When unit powers off or reach the defrost setting temperature, manual defrost deactivates and the "" icon disappears.

Note: Only the coil temperature is lower then the exit temperature of defrost mode, manual

defrost function can be activated.

Reset the controller: ⏻ + 🕒 + ∧ + ∨ [Power+ Clock +Up+Down 5']

This action shall start after unit power-on within 5 minutes, press hold the "⏻" key, "🕒" key, "∧" and "∨" key 5s to reset the controller to default setting.

Controller professional setting for maintain

Refrigerant charging/recovery mode: M + ∨ [Mode+Down 10']

a. When the heat pump power off, press and hold the **"M"** key and "∨" key for 10 seconds to enter refrigerant charging/recovery mode.

b. Press the ⏻ power button to exit.

Water pump emptying function: ⏻ + ∧ + ∨ [Power+Up+Down 5']

a. When the unit powers off, press and hold the ⏻ key, "∧" key, and "∨" key for 5 seconds to enter water pump emptying function.

b. Press and hold ⏻ key + "∧" key + "∨" key 5 seconds again or press the ⏻ key to exit.

Check operation parameters: ∧ [Up 3']

a. In the main page, press and hold the "∧" key for 3 seconds to query the operating parameters.

b. For example, the picture bellowing is showing Parameter "06", refer to the table, "22" means current ambient temperature is 22℃.

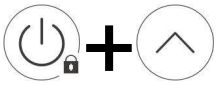
Fig.4 controller interface-Running parameter query

Para.	Description	Remark
00	Gas/Water circulation	0=water.1=gas
01	High pressure switch	0=disconnect.1=connect
02	Low pressure switch	0=disconnect.1=connect
03	Water flow switch	0=disconnect.1-connect
04	EEV data	Real Measurement
05	Coil temp.	Real Measurement (℃)
06	Ambient temp.	Real Measurement (℃)
07	Air return temp.	Real Measurement (℃)
08	Exhaust temp.	Real Measurement (℃)
09	Water inlet temp.	Real value +Compensation
10	Water outlet temp	Real value +Compensation
11	Compressor	0=inactive.1=active
12	4-way valve	0=inactive.1-active

13	High air speed	0=inactive.1=active
14	Low air speed	0=inactive.1=active
15	Water pump	0=inactive.1=active
16	Heating element	0-inactive.1=active
17	Compressor running time before defrost	Real Measurement
18	Linkage switch	0=disconnect.1=connect
19	Current model tooling value	Current value
20	DIP switch 1	0=disconnect.1=connect
21	DIP switch 2	0=disconnect.1=connect
22	Phase sequence module detection	0=good,3=phase loose. 4=phase error,5=no connection

3.Wi-Fi Setting

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.

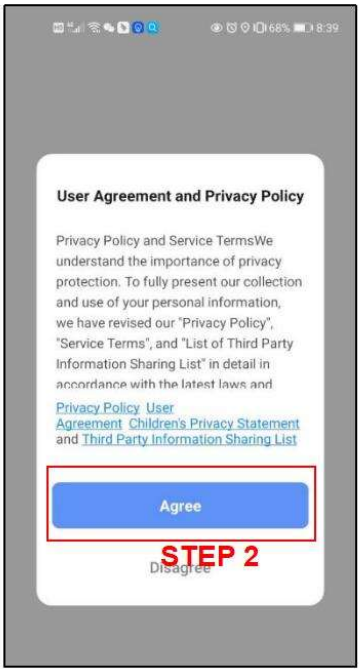
	Press and hold the two keys for 5s, enter into manual intelligent distribution network connection by manual

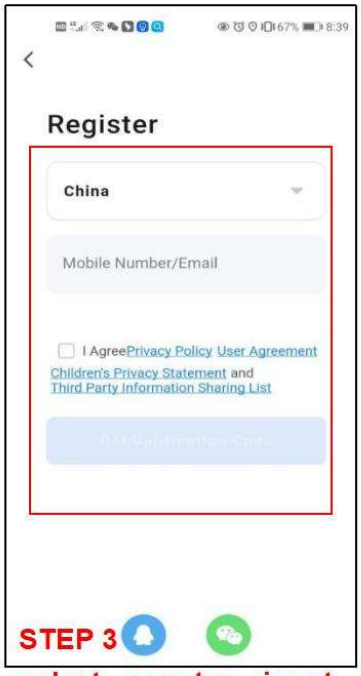
A. Download and Install the App

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)

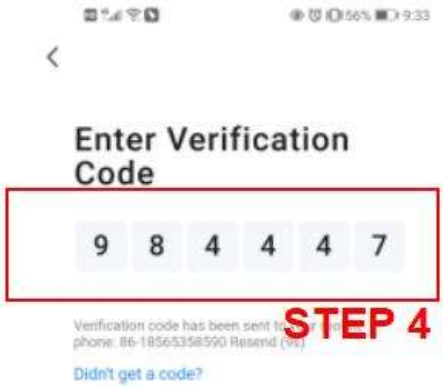
2) Sign up

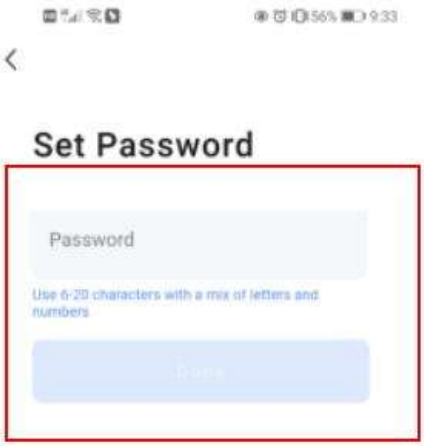
After installing the app, press the " " icon and open the Smart Life app, if there is no account, should sign up at first time, refer to following process:





select country, input mobile number;select I Agree then get the verification code

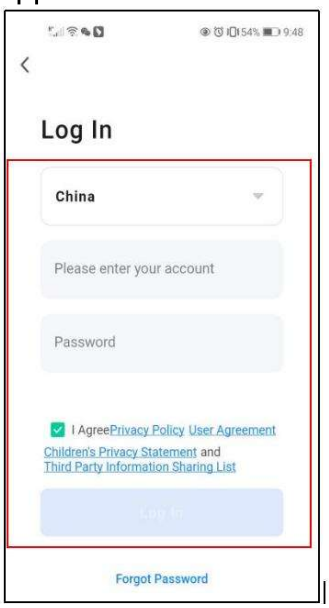




STEP 5

3) Log in

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

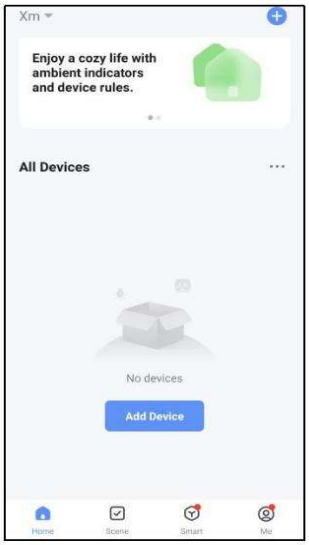


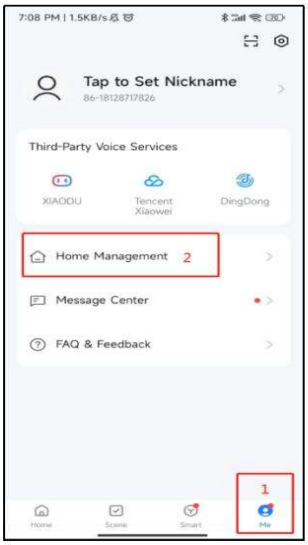
STEP 2
Input account and password and log in

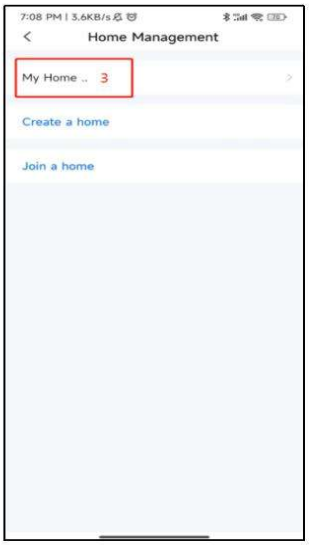
4) Create home

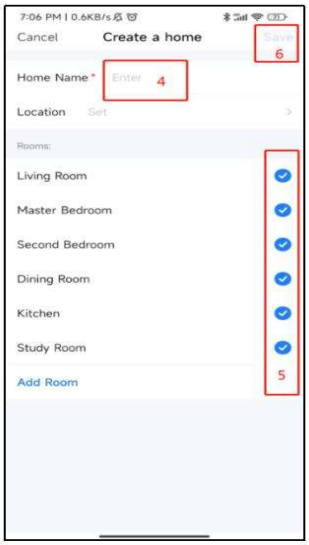
After signing up, should create " **home** ", refer to following process:

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







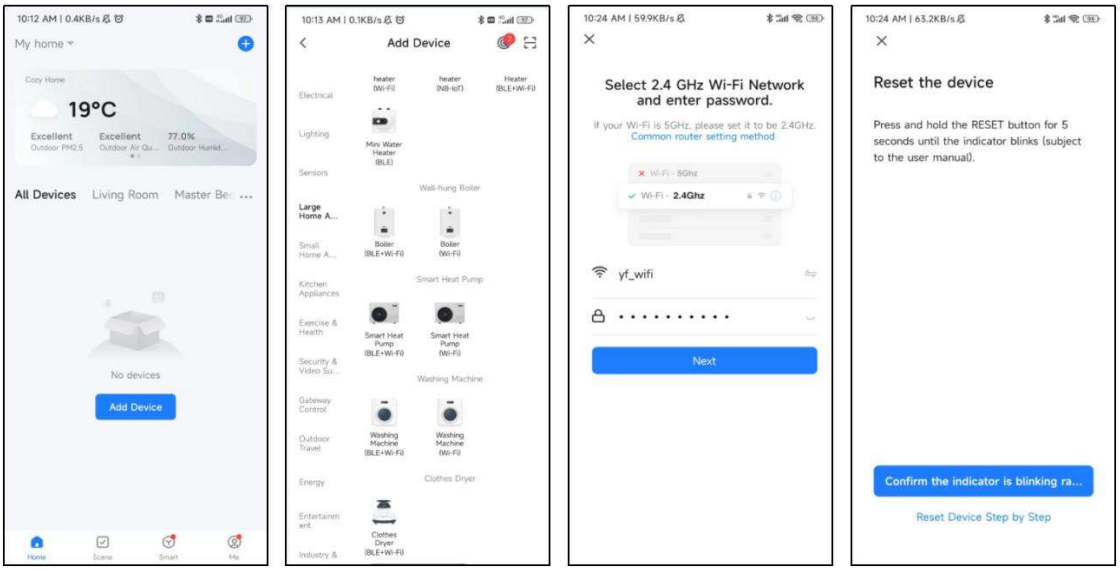


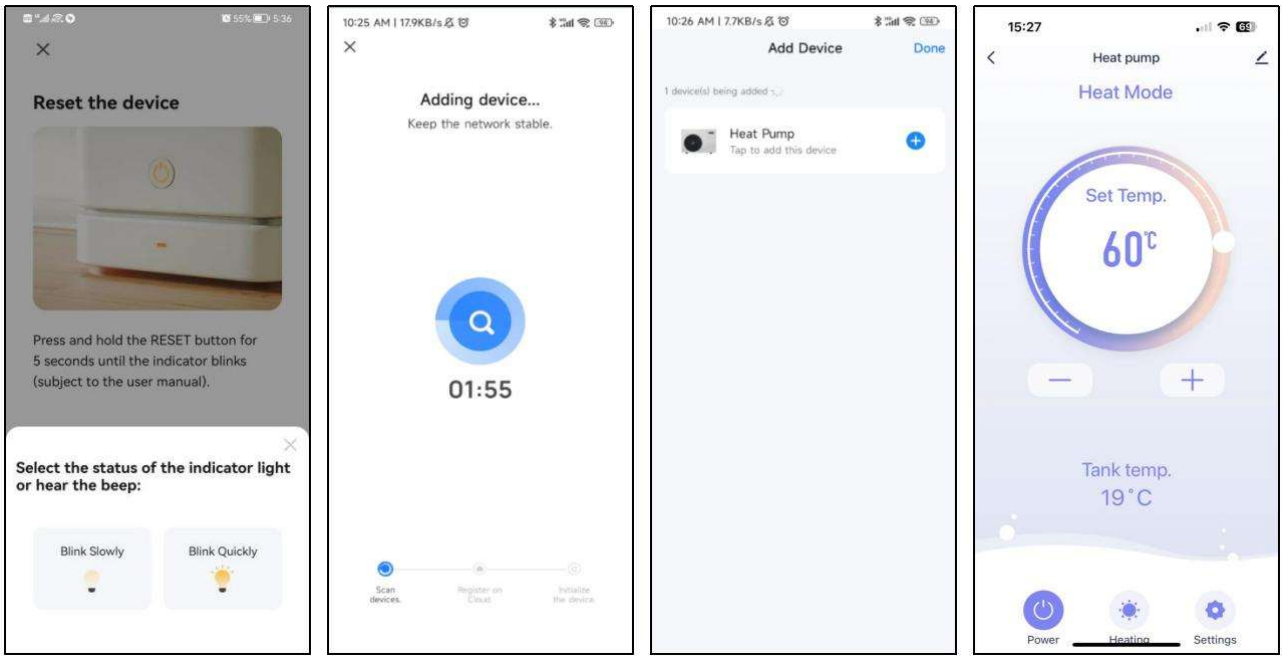
B.Connect the WIFI

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.

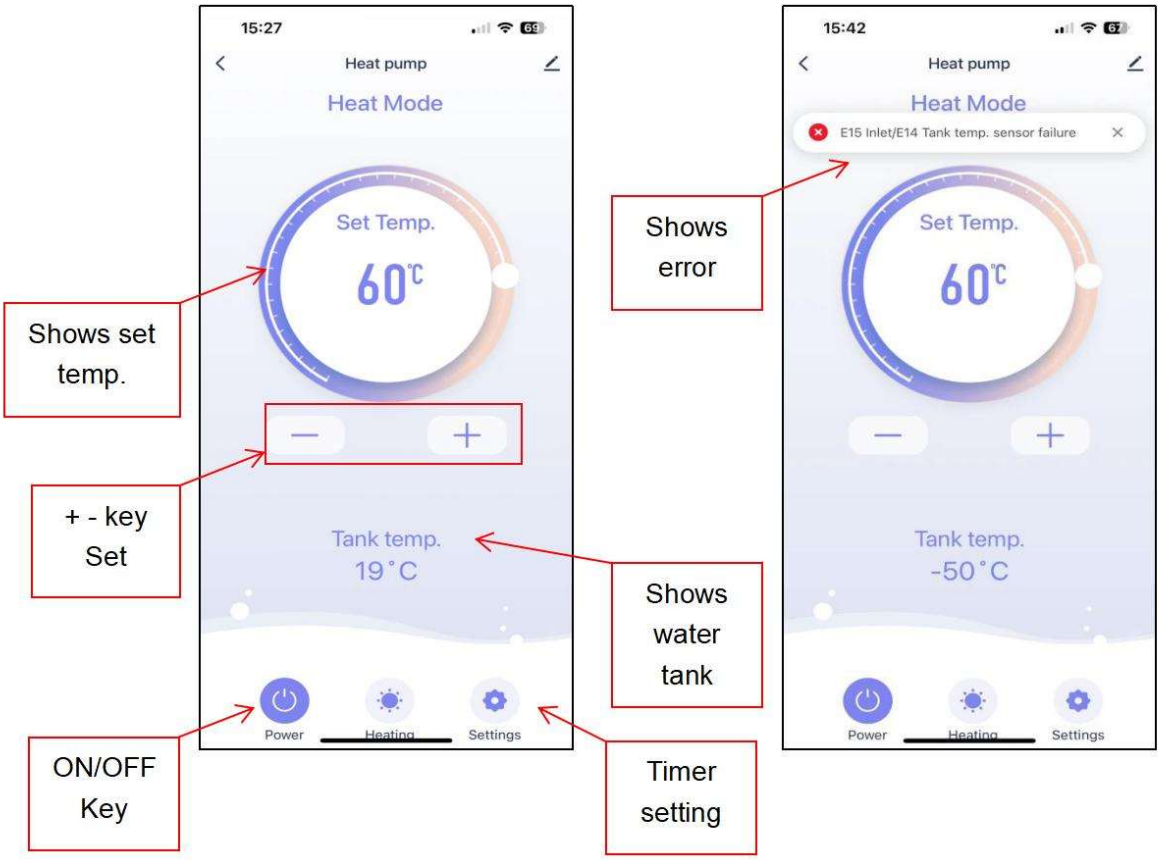
3) Open the app Smart Life and log in, press the icon " + ", or press " **Add Device** " → find " **Large Home Appliance** " → select the" **Smart Heat Pump (Wi-Fi)** " → enter into WIFI connecting interface, input the WIFI password (the WIFI account must be same as the WIFI which mobile phone connected), → 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.



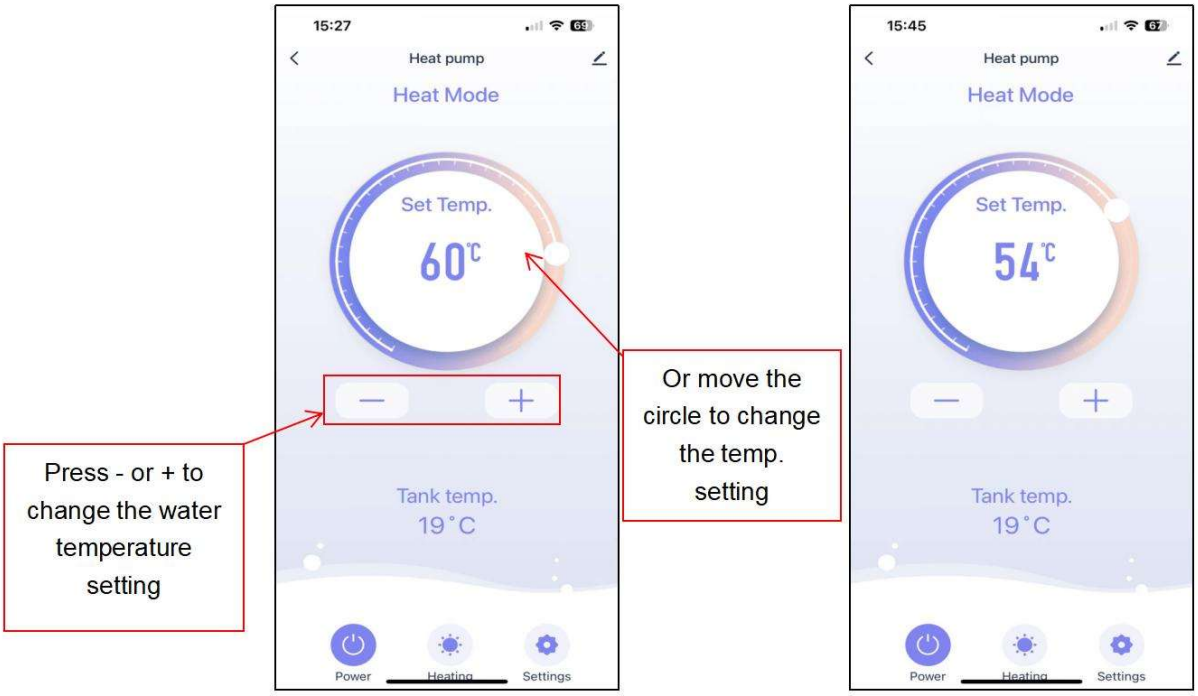


C. Operation

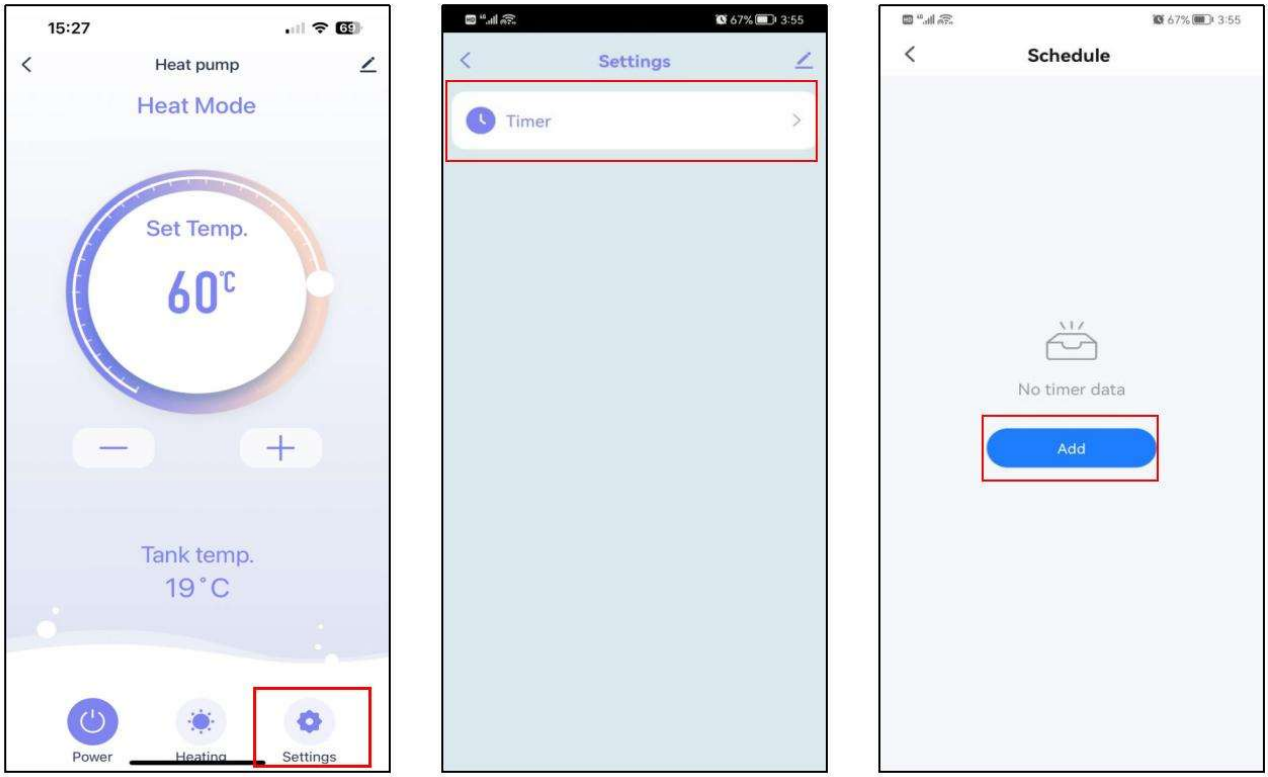
1) Operation interface

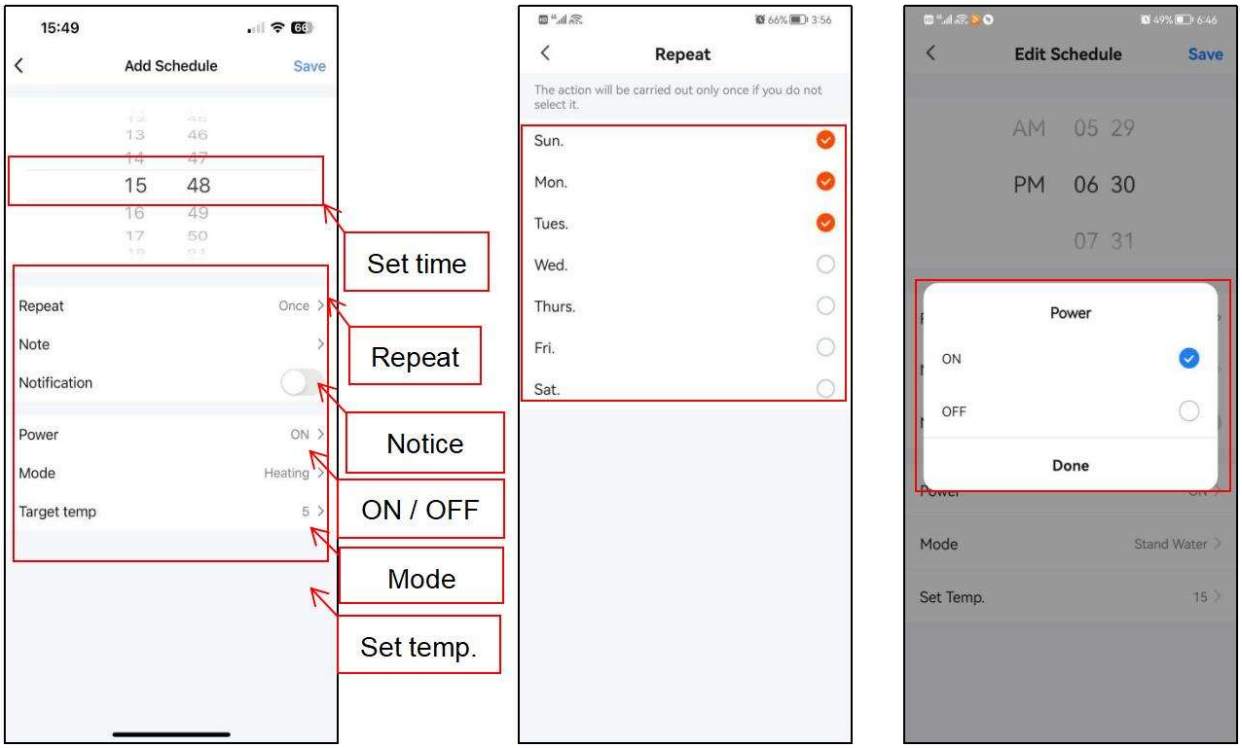


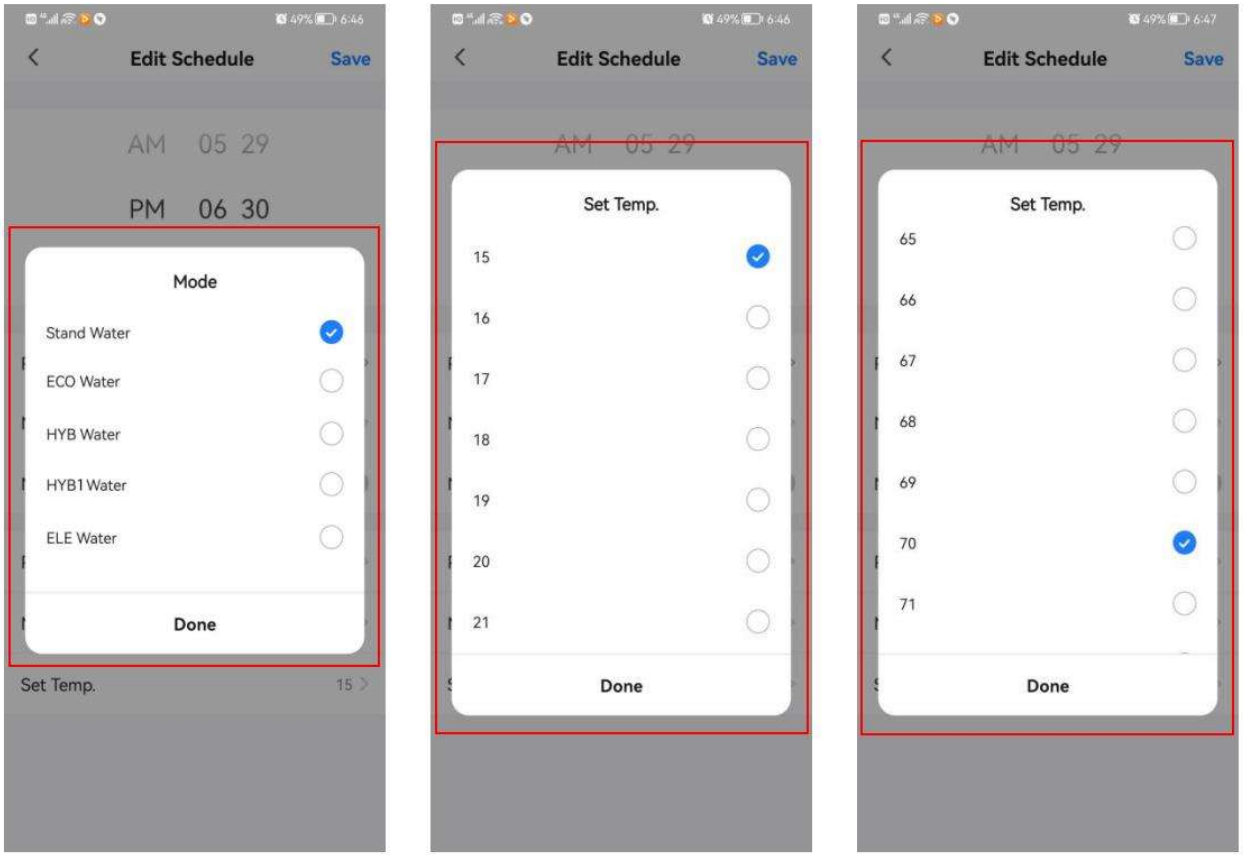
2) Set water temperature

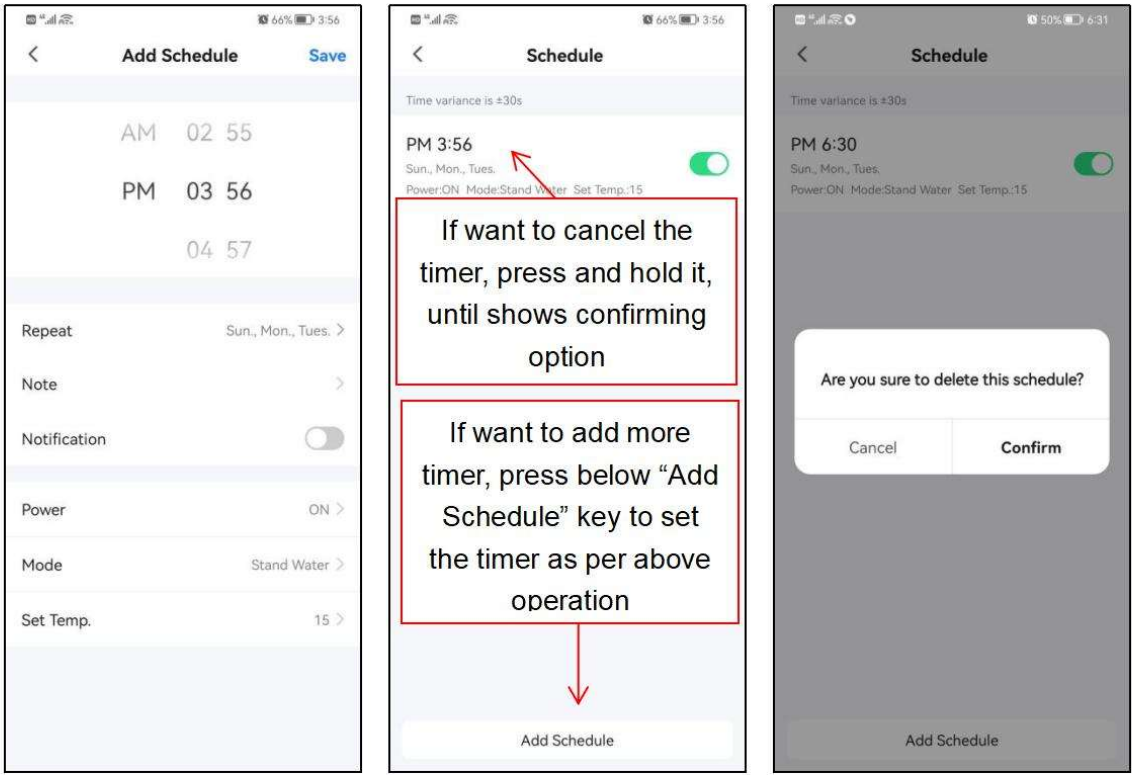


3) Set timer

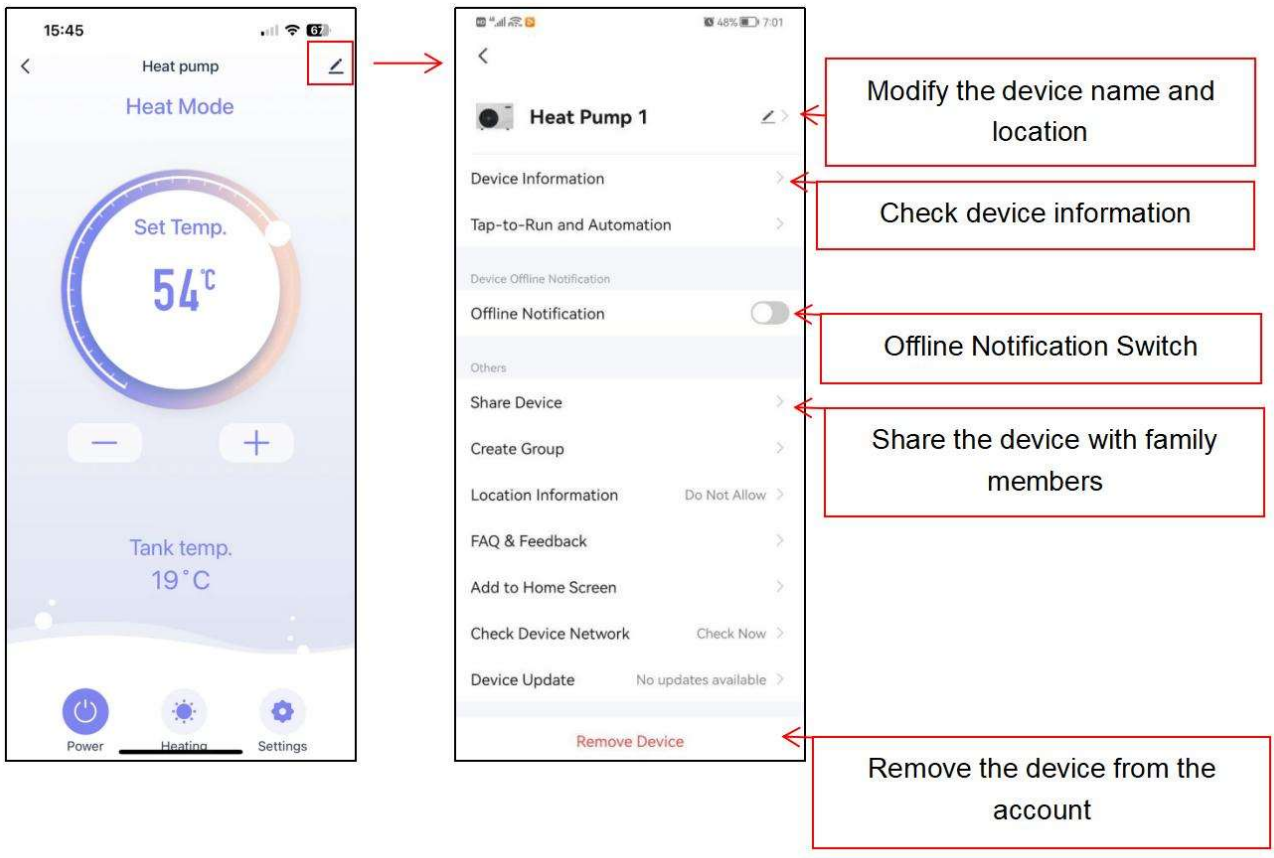



15:49
Add Schedule
Save
15 48
Repeat
Once
Note
Notification
Power
ON
Mode
Heating
Target temp
5
Set time
Repeat
Notice
ON / OFF
Mode
Set temp.
Repeat
The action will be carried out only once if you do not select it.
Sun.
Mon.
Tues.
Wed.
Thurs.
Fri.
Sat.
Edit Schedule
Save
AM 05 29
PM 06 30
07 31
Power
ON
OFF
Done
Mode
Stand Water
Set Temp.
15


Edit Schedule
Save
AM 05 29
PM 06 30
Mode
Stand Water
ECO Water
HYB Water
HYB1 Water
ELE Water
Done
Set Temp.
15
Edit Schedule
Save
AM 05 29
Set Temp.
15
16
17
18
19
20
21
Done
Edit Schedule
Save
AM 05 29
Set Temp.
65
66
67
68
69
70
71
Done



4) Others operation



Adjusting and Initial operation

1. Attention

●Within 12 hours after running, please connect the circuit breaker, and make the crankcase heater be pre-heated.

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

●Do adjustment after electrical safety inspection.

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

●Forced operation is forbidden, because it is very dangerous to work without protector.

2. Preparation Before Adjustment

●The system is installed correctly.

●Tubes and lines are putted in the right place.

●Accessories are installed.

●Ensure the smooth drainage.

●Ensure the perfect insulation.

●Correct connection of ground lead.

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

●Air inlet and outlet function can work well.

●Electrical leakage protector can work well.

3. Adjustment Process

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

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

● Check if the indicator light can work well.

●Check if the drainage system can work well.

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

●Check if the water outlet temperature is acceptable.

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

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

●Check if there is refrigerant leakage.

●If any fault occurs, please check the instructions first, to analyze and remove the fault.

Operation and maintenance

1. Personals shall possess professional knowledge or operate according to professionals from our company. To ensure the well functioning, the system shall be checked and maintained after a period of time. During the maintenance, please pay attention to some points below:

●Control and protect the equipment, please do not adjust any settings discretely.

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

●Examine regularly whether the electrical connection is loose, if yes, fasten it on time. ●Examine regularly the reliability of the electrical components, change all the failed or unreliable components on time.

●There will be calcium oxidized or other mineral substance deposition on the surface of water heat exchanger copper coil after long period of operation, which will influence the heat exchange performance and lead to high electrical consumption, discharge pressure increasing and air suction pressure drop, unit hot water volume produced is less. We can adopt formic acid, citric acid, acetic acid or other organic acid to clean.

●The dirt retention on the surface of evaporator fin should be blowed by more than 0.6Mpa compressor air, brushed by fine copper wire, or flushed by high pressurized water, usually one time per month; if too much dirt, we can use paintbrush dipping gasoline to clean.

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

●Replacement parts must use our company original accessories, can not be replaced by other similar accessories.

2. Refrigerant filling

Examine the refrigerant filling condition through reading the data of liquid level from display screen, also the air suction and exhaust pressure. If there is leakage or changing components of the refrigeration circulation system, we have to make air tightness examination first.

3. Leak detection and air tightness experiment:

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

4. To remove the compressor, please follow the following steps

●Turn off the power supply

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

●Remove the compressor air suction and exhausting pipe.

●Remove the compressor power cables.

●Remove the compressor fixing screws.

●Remove the compressor.

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

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

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

●Malfunction: if malfunction occurs, should find out the reason, eliminate it and then reboot the unit. Never boot the unit forcibly if the malfunction has not been eliminated. If refrigerant leakage or frozen liquid leakage, please turn off all the power switch, if the unit can not stop buy controlling switch, please turn off the general power switch.

●Never short connect the wire for protection required device, or else, in case unit malfunction, it can not be protected normally and will damage the unit.

Fault analysis and elimination method

	◆Refrigerant charging is too less, the refrigerant air goes into liquid pipeline	ambient environment. ●Please refer to "Fluorine filling if suction pressure too low"
Suction pressure is too high.	◆Discharge pressure is too high. ◆Refrigerant charging is too much. ◆Liquid refrigerant flow through evaporator to compressor.	●Drain part of the refrigerant. ●Examine and adjust the expansion valve, make sure the expansion valve temperature sensor bulb is close connected with the air suction pipe, and absolutely insulated with the ambient environment.
Suction pressure is too low.	◆Ambient temperature is too low. ◆The evaporator liquid inlet or compressor suction pipe is blocked, expansion valve unadjusted, or failed. ◆The refrigerant is not enough in the system.	●Adjust suitable overheat temperature, examine whether there is Fluorine leakage from the expansion valve temperature sensor bulb. ●Examine Fluorine leakage. ●Examine the installation condition.
Compressor stopped because of high pressure protection.	◆The water inlet temperature is too high, circulation water is not enough. ◆The high pressure stop setting is not correct, the air suction overheat greatly. ◆Fluorine filling is too much.	●Examine water system pipeline and water pump. ●Examine the high pressure switch. ●Examine the Fluorine filling volume, drain part of refrigerant.
Compressor stopped because of motor overloading.	◆The voltage is too high or too low. ◆Discharge pressure is too high or too low. ◆Device loading failure. ◆Ambient temperature is too high. ◆Motor or connecting terminal is in short circuit.	●The voltage should be controlled within more or less 20V than rated voltage, and phase difference within ±30%. ●Examine the compressor current, compare with the full loading current indicated in the user manual. ●Improve air ventilation.
Compressor stopped because of built-in thermostat.	◆The voltage is too high or too low. ◆Discharge pressure is too high. ◆The refrigerant in the system is not enough.	●Examine the voltage to make sure it is within the specialized range. ●Examine the discharge pressure and find out the reason. ●Examine whether there is Fluorine leakage.
Compressor stopped because of low voltage production	◆Dry filter clogging. ◆Expansion valve failure. ◆The refrigerant is not enough.	●Examine, maintain, or change dry filter. ●Adjust or change expansion valve. ●Fill in refrigerant.
High noise of compressor	◆There is liquid hammer for liquid refrigerant flowing through evaporator to compressor.	●Adjust liquid supply, examine whether normal for the expansion valve and air suction over heat degree.
Compressor can not start.	◆Over current relay is tripped, insurance is burn. ◆The control circuit is not connected. ◆No current. ◆The pressure is too low, which can not conduct the pressure switch. ◆The contactor coil is burn out. ◆Water system failure, relay is tripped.	●Set the control circuit in manul mode, restart the compressor after maintenance. ●Examine controlling system. ●Examine power supply. ●Examine whether the refrigerant is too less. ●Reconnect, adjust two of the wiring.

Technical parameter

Model No.	SRS-DHP3.6p1v1	SRS-DHP5.4p1v1	SRS-DHP7.6p1v1	SRS-DHP10.8p1v1	SRS-DHP13.2p1v1	SRS-DHP18.8p3v1
Power Supply	220~240V/1/50Hz					380~415V/3/50Hz
Heating Capacity at Air 20℃/15℃, Water Temperature from 15℃ to 55℃						
Heating Capacity（kW)	3.6	5.4	7.6	10.8	13.2	18.8
Power Input（kW)	0.86	1.26	1.81	2.54	3.17	4.56
COP	4.18	4.29	4.20	4.25	4.16	4.12
Max Power Input（kW)	1.45	2.01	2.75	3.02	4.51	6.02
Max Current(A)	6.5	9.0	12.0	15.2	23.0	11.0
Rated Hot Water(L/h)	80	120	165	230	285	400
Refrigerant	R410a	R410a	R410a	R410a	R410a	R410a
Expansion Valve	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic
Air Flow Direction	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Water Pump inside	Yes	Yes	Yes	Yes	Yes	N0
Water Pressure Drop（kPa）	35	35	40	45	45	45
Net Dimensions(L*W*H)(mm)	936*385*550	936*385*550	1011*420*614	986*420*798	986*420*798	1000*375*1320
Package Dimensions(L*W*H)(mm)	1030*445*592	1030*445*592	1105*480*657	1158*560*1017	1158*560*1017	1070*445*1440
Working temperature range（℃）	-15～43	-15～43	-15～43	-15～43	-15～43	-15～43
Noise（dB(A))	47	49	52	52	53	54
Net Weight（kg）	50	54	68	68	85	149
Water connection(mm)	20	20	20	20	20	25

Note : We reserves the right to discontinue, or change at any time, specifications or designs without notices and without incurring obligations

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.