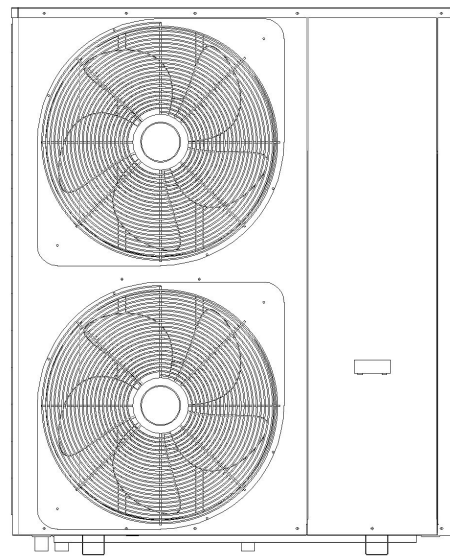
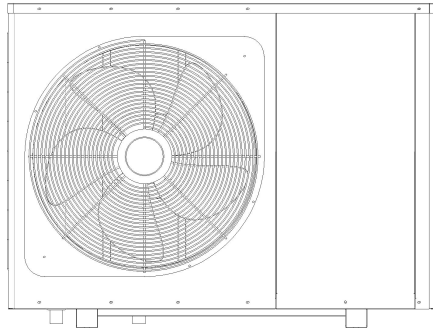




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Installation & Instruction Manual MONOBLOC SYSTEM of EVI DC Inverter Heat Pump



IMPORTANT NOTE:

Thank you very much for purchasing our product. Before using your unit, please read this manual carefully and keep it for future reference.

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1. FOREWORD

1.1. Read the Manual Before Operation

WARNING

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer. 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).

Do not pierce or burn.

Be aware that refrigerants may not contain an odour.

Initial safety checks shall include:

- ① That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- ② That no live electrical components and wiring are exposed while charging, recovering or purging the system;
- ③ That there is continuity of earth bonding.

Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the refrigerating system, the following precautions shall be completed prior to conducting work on the system.

Work procedure

Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapour being present while the work is being performed.

General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

Presence of fire extinguisher

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.

No ignition sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

Checks to the refrigeration equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

- ① The charge size is in accordance with the room size within which the refrigerant containing parts are installed;
- ② The ventilation machinery and outlets are operating adequately and are not obstructed;
- ③ If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
- ④ Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- ⑤ Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Repairs to sealed components

DD.5.1 During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

DD.5.2 Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.

Ensure that the apparatus is mounted securely.

Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

Repair to intrinsically safe components

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use. Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

NOTE The use of silicon sealant can inhibit the effectiveness of some types of leak detection equipment.

Intrinsically safe components do not have to be isolated prior to working on them.

Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

Leak detection methods

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants.

Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.

Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

Removal and evacuation

When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:

- ① Remove refrigerant;
- ② Purge the circuit with inert gas;
- ③ Evacuate;
- ④ Purge again with inert gas;
- ⑤ Open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders. The system shall be “flushed” with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task.

Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipework are to take place.

Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available.

Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed:

- ① Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them. Cylinders shall be kept upright.
- ② Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
- ③ Label the system when charging is complete (if not already).
- ④ Extreme care shall be taken not to overfill the refrigeration system. Prior to recharging the system it shall be pressure tested with OFN. The system shall be leak tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

- ① Become familiar with the equipment and its operation.
- ② Isolate system electrically.
- ③ Before attempting the procedure ensure that:
 - Mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - All personal protective equipment is available and being used correctly;

- The recovery process is supervised at all times by a competent person;
- Recovery equipment and cylinders conform to the appropriate standards.
- ④ Pump down refrigerant system, if possible.
- ⑤ If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- ⑥ Make sure that cylinder is situated on the scales before recovery takes place.
- ⑦ Start the recovery machine and operate in accordance with manufacturer's instructions.
- ⑧ Do not overfill cylinders. (No more than 80 % volume liquid charge).
- ⑨ Do not exceed the maximum working pressure of the cylinder, even temporarily.
- ⑩ When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- ⑪ Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

Labeling

Equipment shall be labeled stating that it has been decommissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely. When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labeled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants.

In addition, a set of calibrated weighing scales shall be available and in good working order.






Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

1.2. The Symbol Description of the Device

The precautions listed here are divided into the following types. They are quite important, so be sure to follow them carefully. Meanings of DANGER, WARNING, CAUTION and NOTE symbols.

Symbols	Meaning	Description
	WARNING	The symbol shows that this appliance uses a flammable refrigerant. If the refrigerant is leaked and exposed to an external ignition source, there is a risk of fire.
	WARNING	The symbol shows that this appliance uses a low burning velocity material. Please keep away from fire source.
	CAUTION	This symbol shows that the operation manual should be read carefully.
	CAUTION	This symbol shows that a service personnel should be handling this equipment with reference to the installation manual.
	CAUTION	This symbol shows that information is available such as the operating manual or installation manual.

1.3. Statement

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

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

1.4. Safety Factors

The following safety factors need to be considered:

- ① Please read the following warnings before installation;
- ② Be sure to check the details that need attention, including safety factors;
- ③ After reading the installation instructions, be sure to save them for future reference.

Warning

Make sure that the unit is installed safely and reliably.

- If the unit is not secure or not installed, it may cause damage. The minimum support weight required for installation is 21g/mm²

- If the unit was installed in a closed area or limited space, please consider the size of room and ventilation to prevent suffocation caused by refrigerant leakage.

- ① Use a specific wire and fasten it to terminal block so that the connection will prevent pressure from being applied to parts.

- ② Wrong wiring will cause fire.

Please connect power wire accurately according to wiring diagram on the manual to avoid burnout of the unit or fire.

- ③ Be sure to use correct material during installing.

Wrong parts or wrong materials may result in fire, electric shock, or falling of the unit.

- ④ Install on the ground safely, please read installation instructions.

Improper installation may result in fire, electric shock, falling of the unit, or water leaking.

- ⑤ Use professional tools for doing electrical work.

If power supply capacity is insufficient or circuit is not completed, it may cause fire or electric shock.

- ⑥ The unit must have grounding device.

If power supply does not have grounding device, be sure not to connect the unit.

- ⑦ The unit should be only removed and repaired by professional technician.

Improper movement or maintenance of the unit may cause water leakage, electric shock, or fire.

Please find a professional technician to do.

- ⑧ Don't unplug or plug power during operation. It may cause fire or electric shock.

- ⑨ Don't touch or operate the unit when your hands are wet. It may cause fire or electric shock.

- ⑩ Don't place heaters or other electrical appliances near the power wire. It may cause fire or electric shock.

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

 **Warning**

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

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

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

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

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

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

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

Pay attention to sharp edges and fins of heat exchanger.

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

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

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

Avoid abnormal vibration and noise.

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

High speed running fan will result in serious injury.

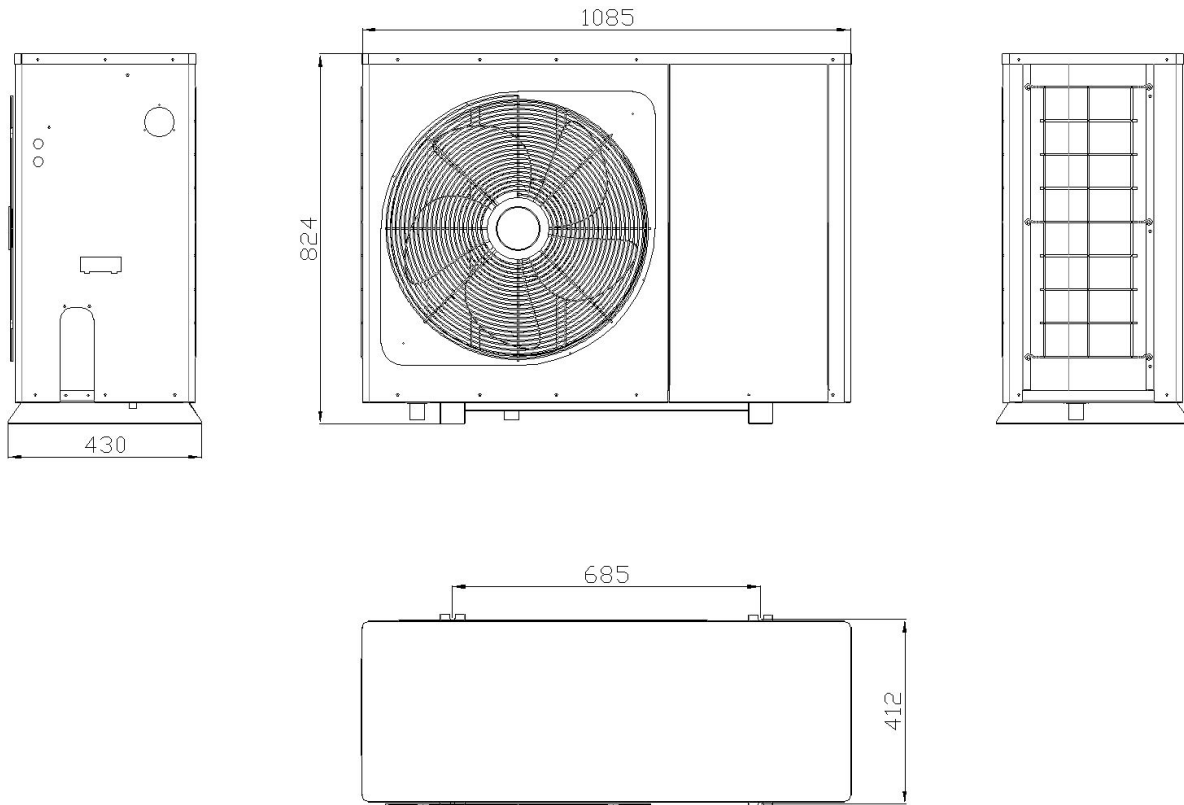
⑨ This device is not designed for people who is physically or mentally weak (including children) and who does not have experience and knowledge of heating and cooling system. Unless it is used under direction and supervision of professional technician, or has received training on the using of this unit.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



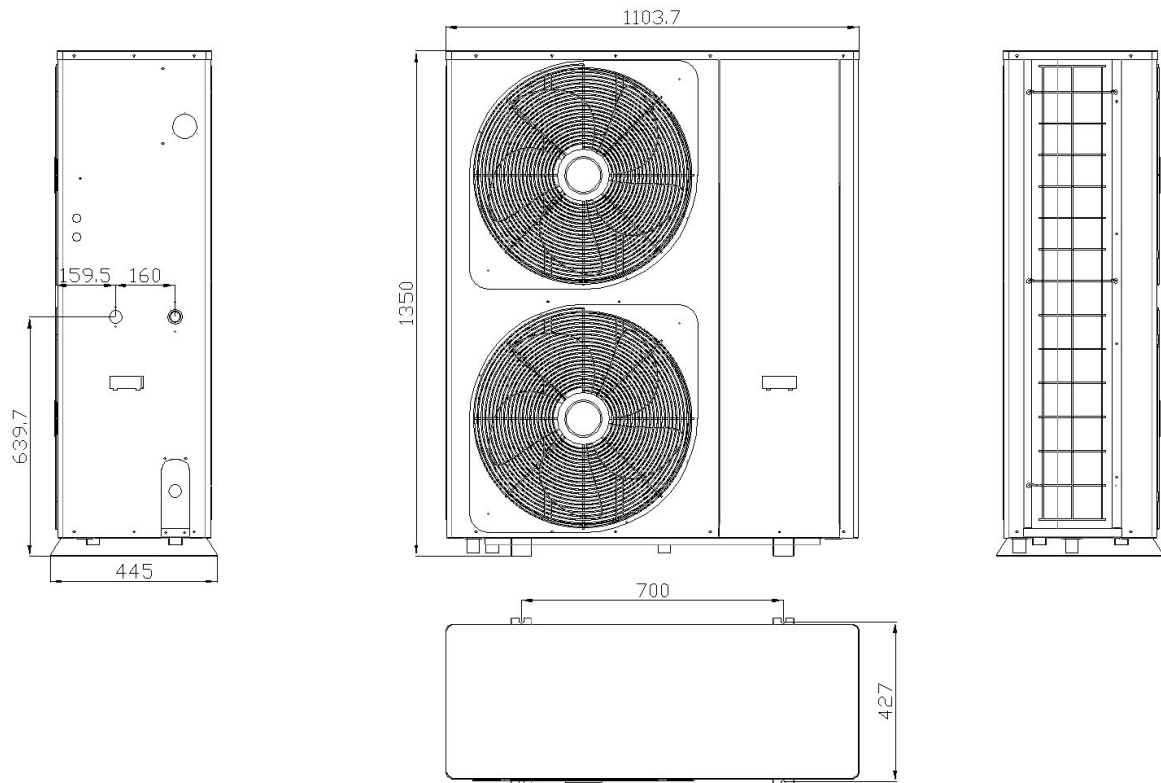
2. OVER VIEW OF THE UNIT

2.1. Dimensions of the Unit

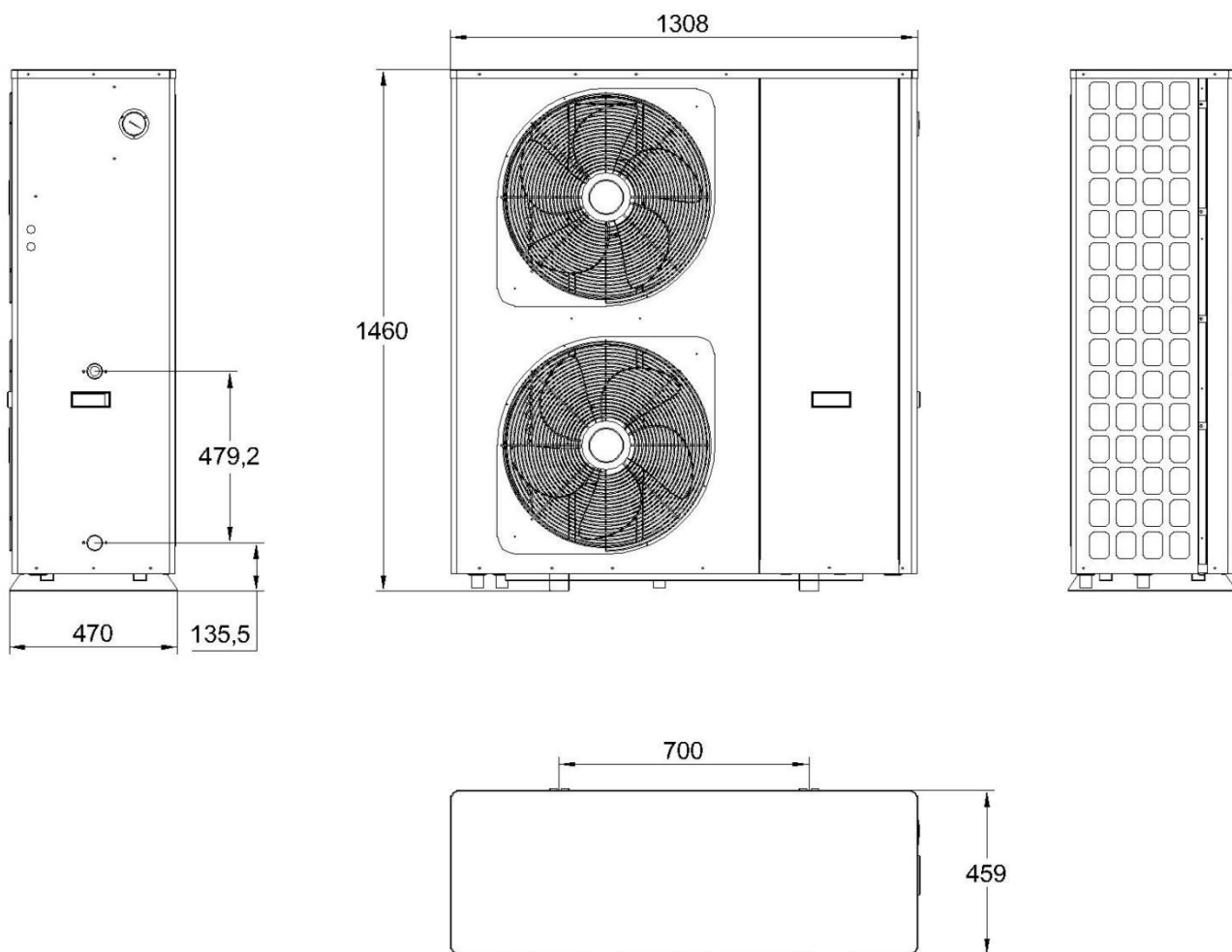
AS-03/BPKTR3、AS-04/BPKTR3



AS-05/BPKTR3-S、AS-06/BPKTR3-S、AS-05/BPKTR3、AS-06/BPKTR3

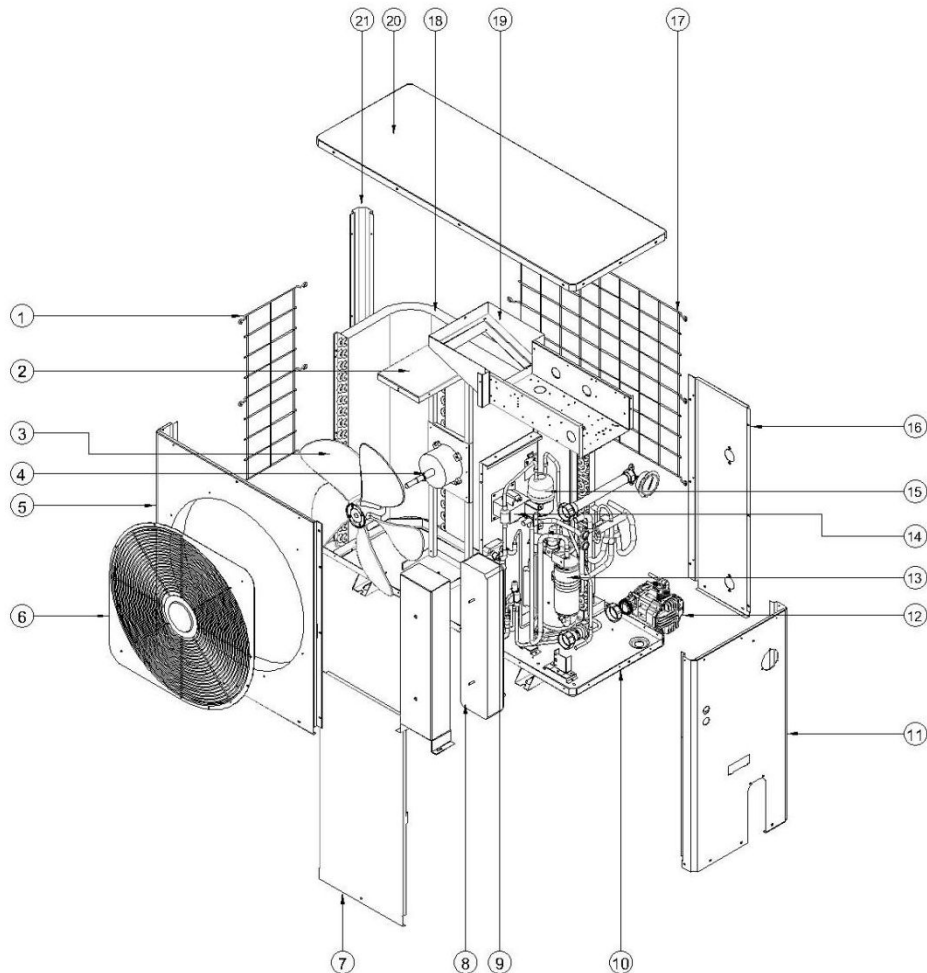


AS-08/BPKTR3-S、AS-10/BPKTR3-S



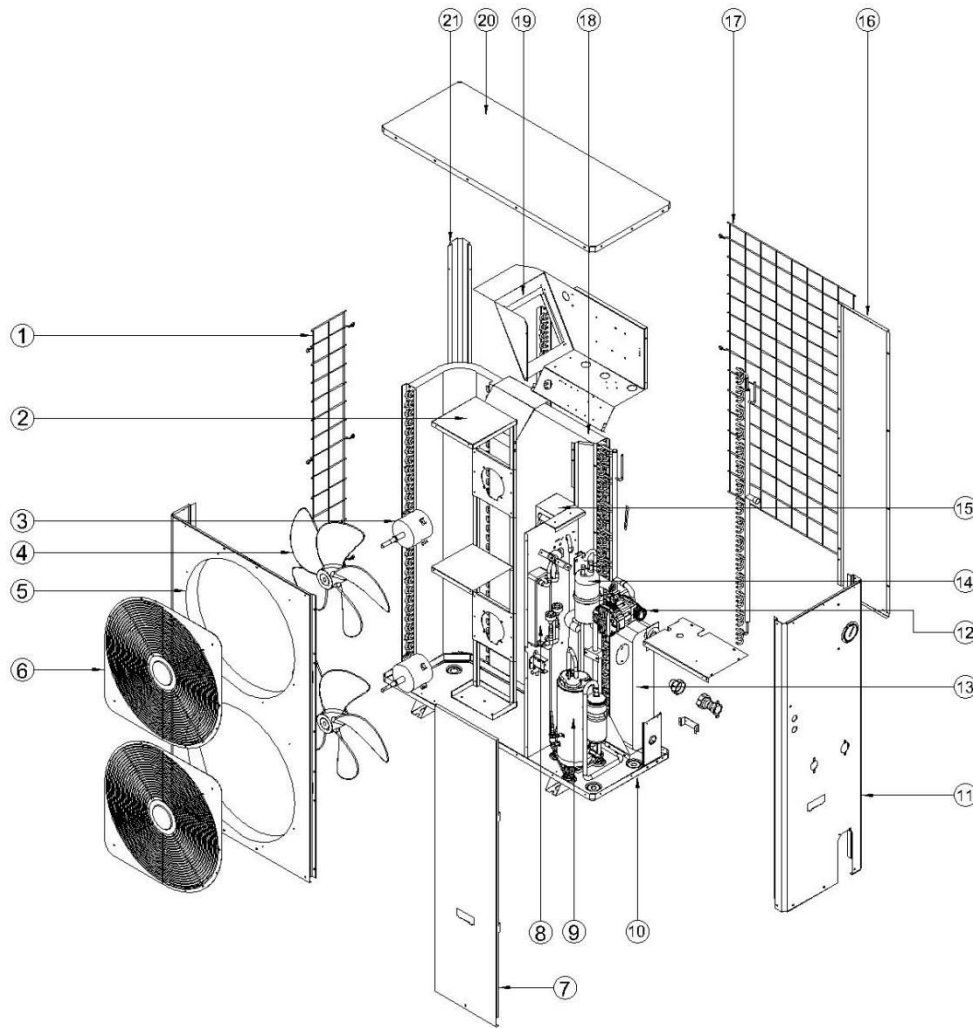
2.2. Main Parts of the Unit

AS-03/BPKTR3、AS-04/BPKTR3、AS-03/BPKTR3-S、AS-04/BPKTR3-S



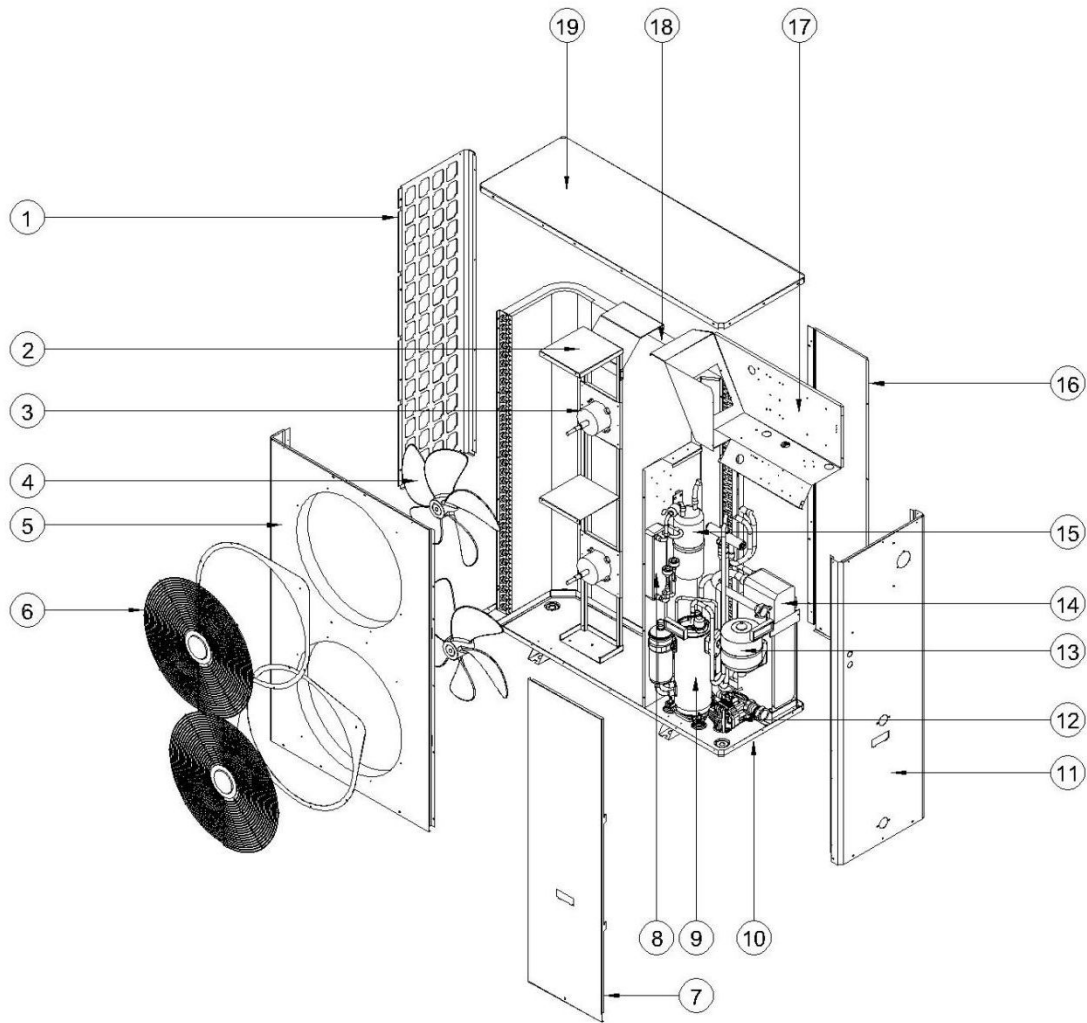
①	Left Net	⑨	Plate Heat Exchanger	⑰	Back Net
②	Motor Support	⑩	Chassis	⑱	Evaporator
③	Fan Blade	⑪	Right Plate	⑲	Electrical Box
④	Fan Motor	⑫	Water Pump	⑳	Top Cover
⑤	Air Guide Plate	⑬	Compressor	㉑	Left Column
⑥	Mesh Cover	⑭	Electric Reactor		
⑦	Front Service Plate	⑮	Liquid Reservoir		
⑧	Plate Heat Exchanger	⑯	Back Service Plate		

AS-05/BPKTR3-S, AS-06/BPKTR3-S, AS-05/BPKTR3, AS-06/BPKTR3



①	Left Net	⑨	Compressor	⑰	Back Net
②	Motor Support	⑩	Chassis	⑱	Evaporator
③	Fan Motor	⑪	Right Plate	⑲	Electrical Box
④	Fan Blade	⑫	Water Pump	⑳	Top Cover
⑤	Air Guide Plate	⑬	Plate Heat Exchanger	㉑	Left Column
⑥	Mesh Cover	⑭	Liquid Reservoir		
⑦	Front Service Plate	⑮	Electric Reactor		
⑧	Plate Heat Exchanger	⑯	Back Service Plate		

AS-08/BPKTR3-S、AS-10/BPKTR3-S



①	Left Net	⑨	Compressor	⑰	Electrical Box
②	Motor Support	⑩	Chassis	⑱	Evaporator
③	Fan Motor	⑪	Right Plate		Top Cover
④	Fan Blade	⑫	Water Pump		
⑤	Air Guide Plate	⑬	Expansion tank		
⑥	Mesh Cover	⑭	Plate Heat Exchanger		
⑦	Front Service Plate	⑮	Liquid Reservoir		
⑧	Plate Heat Exchanger	⑯	Back Service Plate		

2.3. Parameter of the Unit

Model			AS-03/BPKTR3	AS-04/BPKTR3	AS-03/BPKTR3-S	AS-04/BPKTR3-S
Power Supply		V/Ph/Hz	220~240V~/50	220~240V~/50	380-415V/3N~/ 50	380-415V/3N~/ 50
Heating1	Max. Heating Capacity	kW	9.1	12	9.1	12
	COP	W/W	4.5	4.48	4.5	4.48
	Heating Capacity Min./Max.	kW	4.0/9.1	5.3/12	4.0/9.1	5.3/12
	Heating power Input Min./Max.	kW	0.727/2.02	0.97/2.68	0.727/2.02	0.97/2.68
	COP Min./Max.	W/W	4.5/5.5	4.48/5.46	4.5/5.5	4.48/5.46
Heating2	Max. Heating Capacity	kW	8.5	11.1	8.5	11.1
	COP	W/W	3.6	3.58	3.6	3.58
	Heating Capacity Min./Max.	kW	3.8/8.5	4.8/11.1	3.8/8.5	4.8/11.1
	Heating power Input Min./Max.	kW	0.863/2.36	1.1/3.1	0.863/2.36	1.1/3.1
	COP Min./Max.	W/W	3.6/4.4	3.58/4.35	3.6/4.4	3.58/4.35
Cooling1	Max. Cooling Capacity	kW	8.2	10.8	8.2	10.8
	EER	W/W	3.45	3.42	3.45	3.42
	Cooling Capacity Min./Max.	kW	3.6/8.2	4.6/10.8	3.6/8.2	4.6/10.8
	Cooling Power Input Min./Max.	kW	0.878/2.38	1.135/3.15	0.878/2.38	1.135/3.15
	EER Min./Max.	W/W	3.45/4.1	3.42/4.05	3.45/4.1	3.42/4.05
Cooling2	Max. Cooling Capacity	kW	6.6	8.7	6.6	8.7
	EER	W/W	2.8	2.78	2.8	2.78
	Cooling Capacity Min./Max.	kW	3.05/6.6	3.92/8.7	3.05/6.6	3.92/8.7
	Cooling Power Input Min./Max.	kW	0.871/2.35	1.12/3.12	0.871/2.35	1.12/3.12
	EER Min./Max.	W/W	2.8/3.5	2.78/3.48	2.8/3.5	2.78/3.48
Rated Current		A	9	11.9	3	4
Max Current		A	14.5	19	5	6.6
SCOP Level (35°C)			A+++	A+++	A+++	A+++
SCOP Level (55°C)			A++	A++	A++	A++
Working Ambient Temperature		°C	- 30~43			
Operating Water Temperature		°C	7~60			
Refrigerant			R32			

Compressor	Type - Quantity/System		Twin Rotary -1	Twin Rotary -1	Twin Rotary -1	Twin Rotary -1
Fan	Quantity		1	1	1	1
	Airflow	m ³ /h	3000	3300	3000	3300
	Rated power	W	90	100	90	100
Water Side Heat Exchanger	Type		Plate Heat Exchanger	Plate Heat Exchanger	Plate Heat Exchanger	Plate Heat Exchanger
	Water Pressure Drop	kPa	20	23	20	23
	Piping Connection	inch	G1"	G1"	G1"	G1"
Allowable Water Flow	Min./Rated. /Max.	m ³ /h	0.95/1.6/1.8	1.3/2.1/2.4	0.95/1.6/1.8	1.3/2.1/2.4
Noise Level		dB(A)	53	54	53	54
Net Size(LxDxH)		mm	1085×430×824	1085×430×824	1085×430×824	1085×430×824
Packing Size(LxDxH)		mm	1130×440×960	1130×440×960	1130×440×960	1130×440×960
Net Weight		kg	85	85	87	87
Gross Weight		kg	94	94	96	96
Loading Quantity (20GP/40HQ)			44/96	44/96	44/96	44/96
<p>Note: Heating condition 1: Water inlet/outlet temperature:30°C/35°C, Ambient temperature:DB 7°C/WB 6°C; Heating condition 2: Water inlet/outlet temperature:40°C/45°C, Ambient temperature:DB 7°C/WB 6°C; Cooling condition 1: Water inlet/outlet temperature:23°C/18°C, Ambient temperature:DB 35°C/WB 24°C; Cooling condition 2: Water inlet/outlet temperature:12°C/7°C, Ambient temperature:DB 35°C/WB 24°C;</p>						



Model			AS-05/BPKTR3	AS-06/BPKTR3	AS-05/BPKTR3-S	AS-06/BPKTR3-S
Power Supply		V/Ph/Hz	220-240V~/50	220-240V~/50	380-415V/3N~/50	380-415V/3N~/50
Heating1	Max. Heating Capacity	kW	15	18.6	15	18.6
	COP	W/W	4.5	4.47	4.5	4.47
	Heating Capacity Min./Max.	kW	6.6/15	8.2/18.6	6.6/15	8.2/18.6
	Heating power Input Min./Max.	kW	1.2/3.33	1.5/4.16	1.2/3.33	1.5/4.16
	COP Min./Max.	W/W	4.5/5.5	4.47/5.45	4.5/5.5	4.47/5.45
Heating2	Max. Heating Capacity	kW	14	17.3	14	17.3
	COP	W/W	3.6	3.56	3.6	3.56
	Heating Capacity Min./Max.	kW	6.1/14	7.6/17.3	6.1/14	7.6/17.3
	Heating power Input Min./Max.	kW	1.39/3.89	1.75/4.85	1.39/3.89	1.75/4.85
	COP Min./Max.	W/W	3.6/4.4	3.57/4.34	3.6/4.4	3.57/4.34
Cooling1	Max. Cooling Capacity	kW	13.5	16.7	13.5	16.7
	EER	W/W	3.45	3.42	3.45	3.42
	Cooling Capacity Min./Max.	kW	5.8/13.5	7.2/16.7	5.8/13.5	7.2/16.7
	Cooling Power Input Min./Max.	kW	1.41/3.91	1.77/4.88	1.41/3.91	1.77/4.88
	EER Min./Max.	W/W	3.45/4.09	3.42/4.06	3.45/4.09	3.42/4.06
Cooling2	Max. Cooling Capacity	kW	10.9	13.5	10.9	13.5
	EER	W/W	2.79	2.78	2.79	2.78
	Cooling Capacity Min./Max.	kW	4.9/10.9	6.1/13.5	4.9/10.9	6.1/13.5
	Cooling Power Input Min./Max.	kW	1.4/3.90	1.76/4.85	1.4/3.90	1.76/4.85
	EER Min./Max.	W/W	2.79/3.5	2.78/3.46	2.79/3.5	2.78/3.46
Rated Current		A	15	18.5	5	6.2
Max Current		A	24.5	30	8.2	10
SCOP Level (35°C)			A+++	A+++	A+++	A+++
SCOP Level (55°C)			A++	A++	A++	A++
Working Ambient Temperature		°C	- 30~43			
Operating Water Temperature		°C	7~60			
Refrigerant			R32			
Compressor	Type - Quantity/System		Twin Rotary -1	Twin Rotary -1	Twin Rotary -1	Twin Rotary -1
Fan	Quantity		2	2	2	2
	Airflow	m³/h	6000	6500	6000	6500
	Rated power	W	180	200	180	200
Water Side Heat Exchanger	Type		Plate Heat Exchanger	Plate Heat Exchanger	Plate Heat Exchanger	Plate Heat Exchanger
	Water Pressure Drop	kPa	25	28	25	28

	Piping Connection	inch	G1"	G1"	G1"	G1"
Allowable Water Flow	Min./Rated./Max.	m ³ /h	1.5/2.6/3.0	1.9/3.2/3.9	1.5/2.6/3.0	1.9/3.2/3.9
Noise Level		dB(A)	56	57	56	57
Net Size(LxDxH)		mm	1104×445×1350	1104×445×1350	1104×445×1350	1104×445×1350
Packing Size(LxDxH)		mm	1140×450×1490	1140×450×1490	1140×450×1490	1140×450×1490
Net Weight		kg	132	137	132	137
Gross Weight		kg	143	148	143	148
Loading Quantity (20GP/40HQ)			22/48	22/48	22/48	22/48

Note: Heating condition 1: Water inlet/outlet temperature:30°C/35°C, Ambient temperature:DB 7°C/WB 6°C;
 Heating condition 2: Water inlet/outlet temperature:40°C/45°C, Ambient temperature:DB 7°C/WB 6°C;
 Cooling condition 1: Water inlet/outlet temperature:23°C/18°C, Ambient temperature:DB 35°C/WB 24°C;
 Cooling condition 2: Water inlet/outlet temperature:12°C/7°C, Ambient temperature:DB 35°C/WB 24°C;



Model			AS-08/BPKTR3-S	AS-10/BPKTR3-S
Power Supply		V/Ph/Hz	380-415/3N~/50	380-415/3N~/50
Heating1	Max. Heating Capacity	kW	24	30
	COP	W/W	4.48	4.46
	Heating Capacity Min./Max.	kW	10.56/24	13.2/30
	Heating power Input Min./Max.	kW	1.93/5.36	2.42/6.73
	COP Min./Max.	W/W	4.48/5.46	4.46/5.45
Heating2	Max. Heating Capacity	kW	22.3	27.8
	COP	W/W	3.58	3.57
	Heating Capacity Min./Max.	kW	9.8/22.3	12.2/27.8
	Heating power Input Min./Max.	kW	2.25/6.23	2.81/7.78
	COP Min./Max.	W/W	3.58/4.35	3.57/4.34
Cooling1	Max. Cooling Capacity	kW	21.5	26.8
	EER	W/W	3.43	3.42
	Cooling Capacity Min./Max.	kW	9.4/21.5	11.8/26.8
	Cooling Power Input Min./Max.	kW	2.32/6.26	2.91/7.83
	EER Min./Max.	W/W	3.43/4.05	3.42/4.05
Cooling2	Max. Cooling Capacity	kW	17.5	21.7
	EER	W/W	2.79	2.78
	Cooling Capacity Min./Max.	kW	7.8/17.4	9.6/21.7
	Cooling Power Input Min./Max.	kW	2.24/6.24	2.78/7.80
	EER Min./Max.	W/W	2.79/3.48	2.78/3.45
Rated Current		A	7.8	9.8
Max Current		A	12.5	15.7
SCOP Level (35°C)			A+++	A+++
SCOP Level (55°C)			A++	A++
Working Ambient Temperature		°C	- 30~43	
Operating Water Temperature		°C	7~60	
Refrigerant			R32	
Compressor	Type - Quantity/System		Twin Rotary -1	Twin Rotary -1
Fan	Quantity		2	2
	Airflow	m³/h	9000	11000
	Rated power	W	260	300
Water Side Heat Exchanger	Type		Plate Heat Exchanger	Plate Heat Exchanger
	Water Pressure Drop	kPa	30	32

	Piping Connection	inch	G1-1/4"	G1-1/4"
Allowable Water Flow	Min./Rated./Max.	m ³ /h	2.9/4.2/5.0	3.6/5.2/6.3
Noise Level		dB(A)	58	59
Net Size(LxDxH)		mm	1308×470×1460	1308×470×1460
Packing Size(LxDxH)		mm	1350×495×1600	1350×495×1600
Net Weight		kg	161	167
Gross Weight		kg	177	183
Loading Quantity (20GP/40HQ)			19/41	19/41

Note: Heating condition 1: Water inlet/outlet temperature:30°C/35°C, Ambient temperature:DB 7°C/WB 6°C;
 Heating condition 2: Water inlet/outlet temperature:40°C/45°C, Ambient temperature:DB 7°C/WB 6°C;
 Cooling condition 1: Water inlet/outlet temperature:23°C/18°C, Ambient temperature:DB 35°C/WB 24°C;
 Cooling condition 2: Water inlet/outlet temperature:12°C/7°C, Ambient temperature:DB 35°C/WB 24°C;



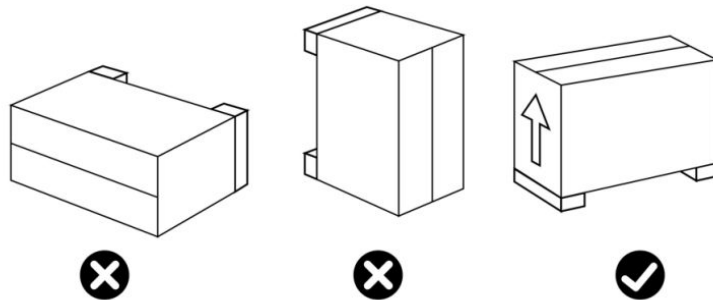
3. INSTALLATION AND CONNECTION

⚠ WARNING: The heat pump must be installed by a professional team. The users are not qualified to install by themselves, otherwise the heat pump might be damaged and risky for users' safety.

This section is provided for information purposes only and must be checked and adapted if necessary according to the actual installation conditions.

3.1. Transportation

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



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

3.2. Installation Instruction

3.2.1. Pre-requirements

Equipment necessary for the installation of your heat pump:

- ① Power supply cable suitable for the unit's power requirements.
- ② A By-Pass kit and an assembly of PVC tubing suitable for your installation as well as stripper, PVC adhesive and sandpaper.
- ③ A set of wall plugs and expansion screws suitable to attach the unit to your support.
- ④ We recommend that you connect the unit to your installation by means of flexible PVC pipes in order to reduce the transmission of vibrations.
- ⑤ Suitable fastening studs may be used to raise the unit.

3.2.2. Location and Space

Please comply with the following rules concerning the choice of heat pump location.

- ① The unit's future location must be easily accessible for convenient operation and maintenance.
- ② It must be installed on the ground, fixed ideally on a level concrete floor. Ensure that the floor is sufficiently stable and can support the weight of the unit.
- ③ A water drainage device must be provided close to the unit in order to protect the area where it is installed.

If necessary, the unit may be raised by using suitable mounting pads designed to support its weight.

④ Check that the unit is properly ventilated, that the air outlet is not facing the windows of neighbouring buildings and that the exhaust air cannot return. In addition, provide sufficient space around the unit for servicing and maintenance operations.

⑤ The unit must not be installed in an area exposed to oil, flammable gases, corrosive products, sulphur compounds or close to high frequency equipment.

⑥ To prevent mud splashes, do not install the unit near a road or track.

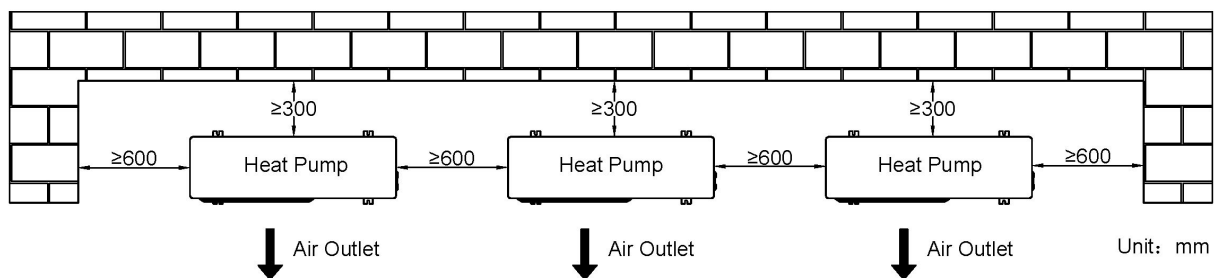
⑦ To avoid causing nuisance to neighbors, make sure the unit is installed so that it is positioned towards the area that is least sensitive to noise.

⑧ Keep the unit as much as possible out of the reach of children.

⑨ Installation space:

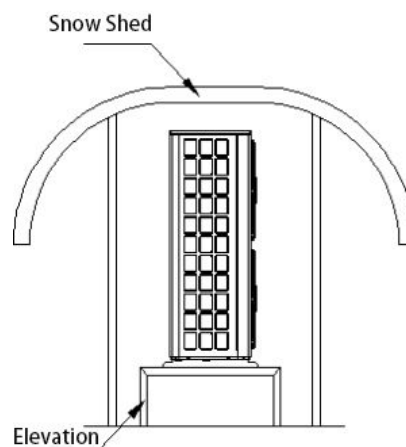
The unit shall be installed in a place with air circulation, no heat radiation or other heat sources, and the allowable minimum distance between the unit and the surrounding walls or other shelters is: the distance between the air inlet surface and the air inlet surface is more than 300 mm, the distance between every 2 units is more than 600 mm, as shown in the figure:

Unit: mm



In snowy areas, anti-snow facilities shall be installed. In order not to be affected by snow, elevated platform is adopted, and anti-snow shed is installed at air inlet and air outlet.

Snow Protection Shed Diagram

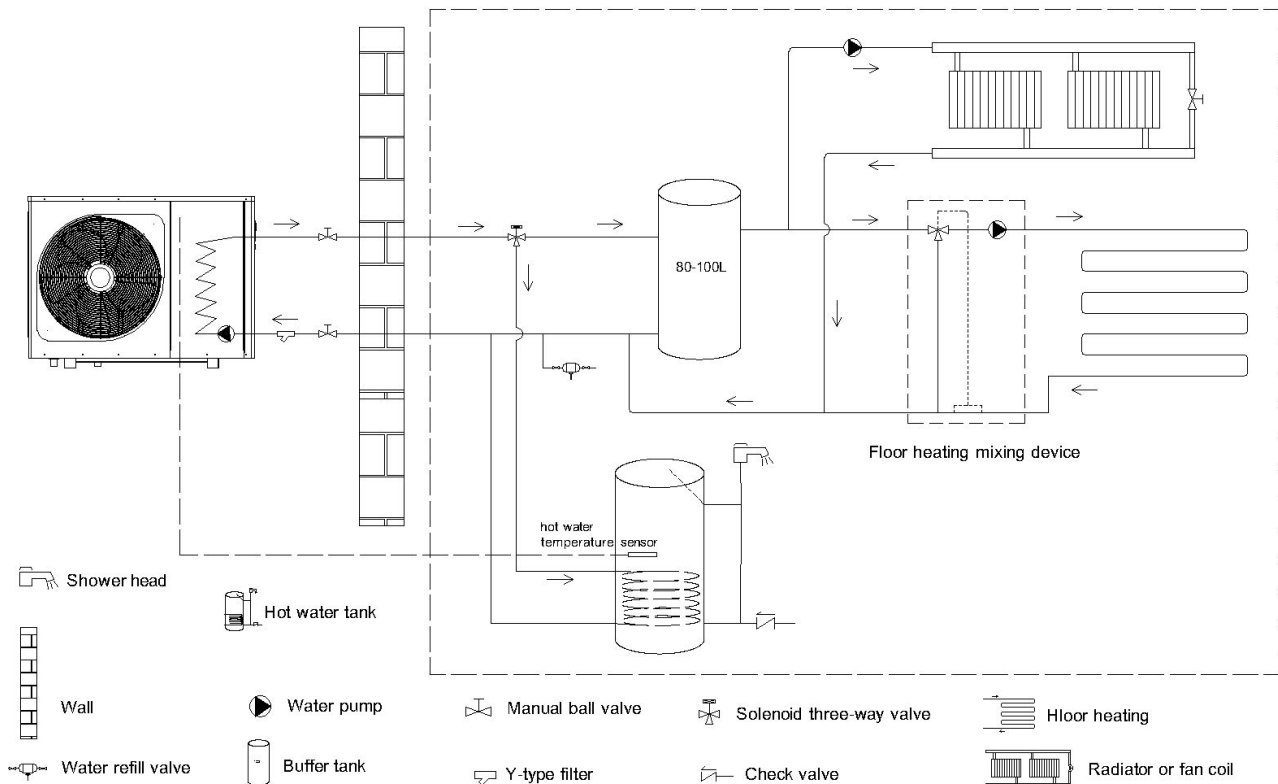


3.2.3. Installation Layout

Notice:

- ① Flexible connection between unit and circulating water pipe can prevent vibration from unit to water pipe.
- ② The gate valve must be installed at the inlet/outlet of the unit. When the pressure test is completed after the installation of the end of the water system, the gate valve shall be closed for pressure test.
- ③ Open after discharge.
- ④ "Y" filter (60 mesh) must be installed at the inlet pipe of the main engine to effectively prevent impurities from damaging the unit.
- ⑤ Clean water quality and usage regularly.
- ⑥ Installation of relief valve, bypass valve and other valve parts must be in the direction of the arrow of the valve body.
- ⑦ After installation, water injection is required to detect leakage, confirm no leakage, and clean the filter.

The installation diagram is shown in the following figure:



It is recommended to install floor heating + radiator (or fan coil) + hot water


3.2.4. Electrical Installation

To function safely and maintain the integrity of your electrical system, the unit must be connected to a general electricity supply in accordance with the following regulations:

- ① Upstream, the general electricity supply must be protected by a 30mA differential switch.
- ② The heat pump must be connected to a suitable D-curve circuit breaker in accordance with current standards and regulations in the country where the system is installed.
- ③ The electricity supply cable must be adapted to match the unit's rated power and the length of wiring required by the installation. The cable must be suitable for outdoor use.
- ④ For a three-phase system, it is essential to connect the phases in the correct sequence. If the phases are inverted, the heat pump's compressor will not work.
- ⑤ In places open to the public, it is mandatory to install an emergency stop button close to the heat pump.

Model	Power Supply Wires			If there is electric heating	
	Electricity Supply	Cable Diameter	Specification	Cable Diameter	Specification
AS-03/BPKTR3	220-240V~/50Hz	3G×2.5mm ²	AWG 14	3G×2.5mm ²	AWG 12
AS-04/BPKTR3		3G×2.5mm ²	AWG 12	3G×4mm ²	AWG 10
AS-05/BPKTR3		3G×4mm ²	AWG 12	3G×6mm ²	AWG 10
AS-06/BPKTR3		3G×6mm ²	AWG 10	3G×10mm ²	AWG 8
AS-03/BPKTR3-S	380-415V/3N~/50Hz	5G×2.5mm ²	AWG 14	5G×4mm ²	AWG 12
AS-04/BPKTR3-S		5G×2.5mm ²	AWG 14	5G×4mm ²	AWG 12
AS-05/BPKTR3-S		5G×2.5mm ²	AWG 14	5G×4mm ²	AWG 12
AS-06/BPKTR3-S		5G×2.5mm ²	AWG 12	5G×4mm ²	AWG 12
AS-08/BPKTR3-S		5G×4mm ²	AWG 12	5G×6mm ²	AWG 10
AS-10/BPKTR3-S		5G×4mm ²	AWG 12	5G×6mm ²	AWG 10

3.3. Trial After Installation

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

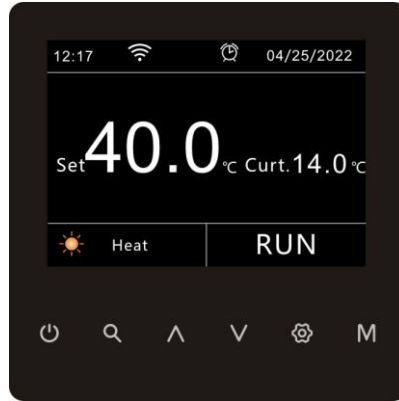
3.3.1. Inspection Before Trial Running

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

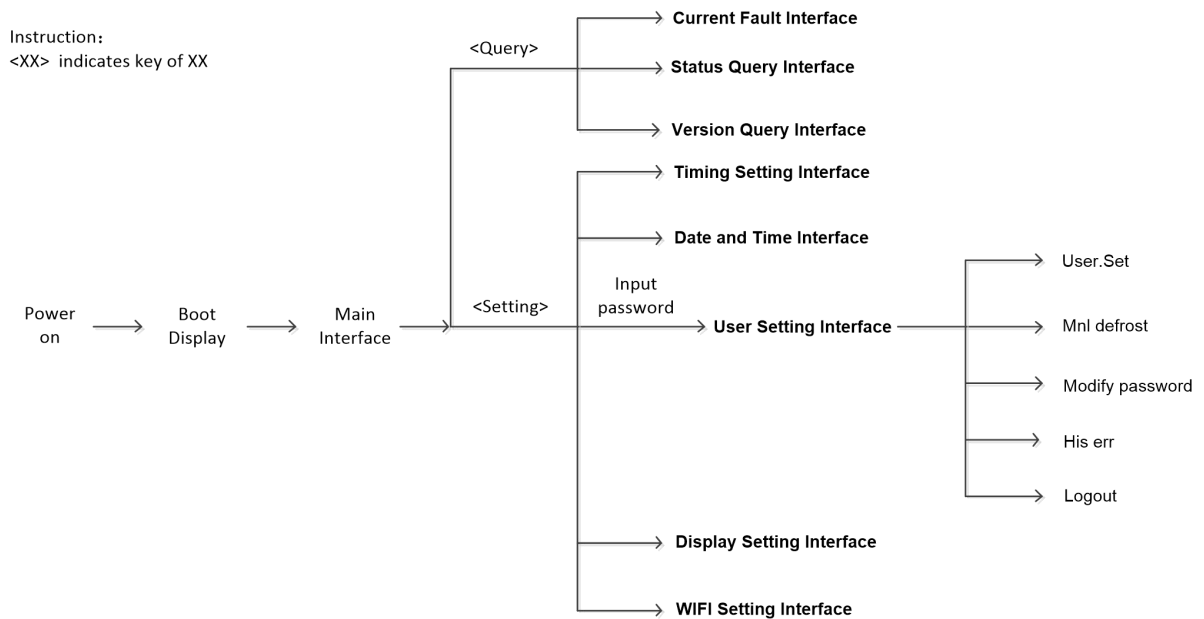
<input type="radio"/>	Correct unit installation
<input type="radio"/>	Power supply voltage is the same as unit rated voltage
<input type="radio"/>	Correct piping and wiring
<input type="radio"/>	Air inlet & outlet port of unit is unblocked
<input type="radio"/>	Drainage and venting is unblocked and no water leaking
<input type="radio"/>	Leakage protector is working
<input type="radio"/>	Piping insulation is working
<input type="radio"/>	Ground wire is connected correctly

4. REMOTE CONTROLLER OPERATION GUIDANCE

4.1 Interface Overview



There are a total of 5 physical keys in the interface: Switch (⏻) , Query (🔍) , Up (▲) , Down (▼) , Setting (⚙️) , Mode (M) .









- Note: 1) If there is no keystroke beyond the screen saver time, it will enter the Screen Saver Interface. When you light up the screen again, it will return to the Main Interface.
- 2) It means that the key "Up" can be pressed under this interface to achieve upward page turning when the sign "▲" is displayed on the right side of it.
- 3) It means that the key "Down" can be pressed under this interface to achieve downward page turning when the sign "▼" is displayed on the right side of it.

4.2 Icon of Noun

1. Glossary

- (1) Running state: it indicates the current operating state of the unit, including standby, start, run, and stop.
- (2) Running mode: it indicates the current operating mode of the unit, including refrigeration, heating, hot water, heating + hot water, refrigeration + hot water, etc.
- (3) Unit state: it indicates the current state of the unit, including anti-freezing, defrosting, preheating, etc.
- (4) Physical key: it indicates the corresponding real key on the hardware.
- (5) Function of key: it indicates the practical significance of pressing a physical key, which could correspond to multiple key functions.

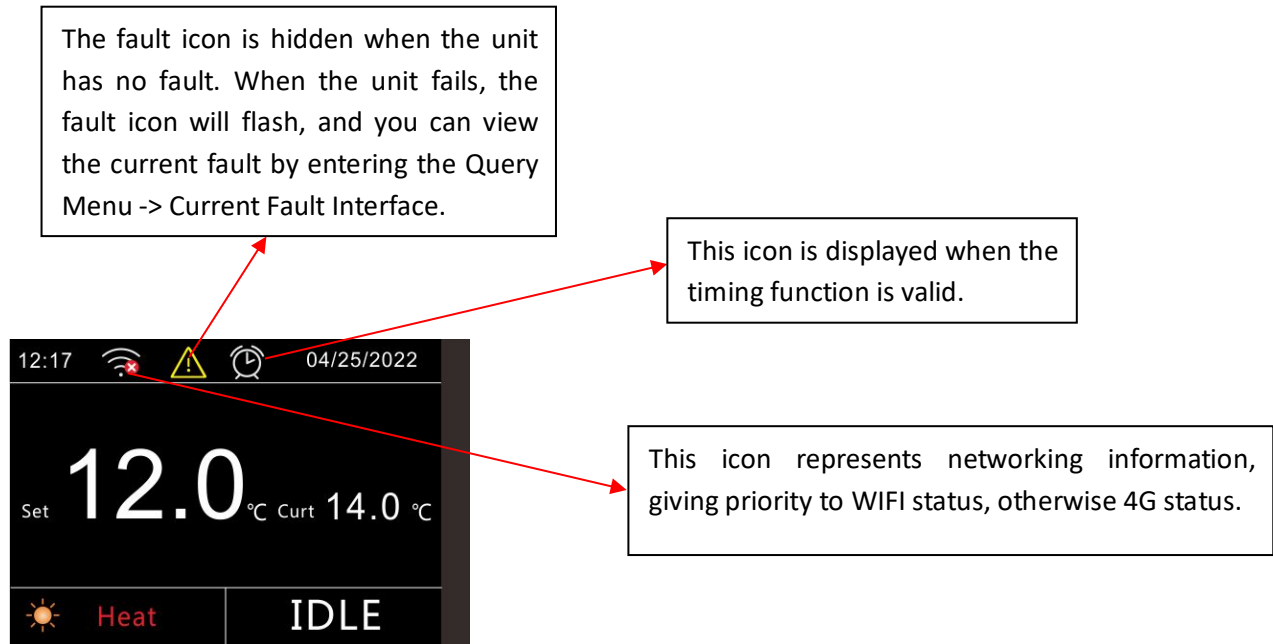
2. Function of the key

	Indicate the switch key icon, which is only used for start or stop units.
	Indicate query menu key/ return key/ switch key/ cancel key.
	Indicate select key/ numeric setting key/ pager key.
	Indicate select key/ numeric setting key/ pager key.
	Indicate menu setting key/ enter key/ setting key/ confirm key.
	Indicate mode select key/ check key/ detail key.

4.3 Main Interface

NOTE: In this chapter and the following chapters, the operation interface is described by **physical keys!!!**

After power on the display turn into the Main Interface automatically. In other interfaces, you could press the “Query” key back to the main interface step by step.

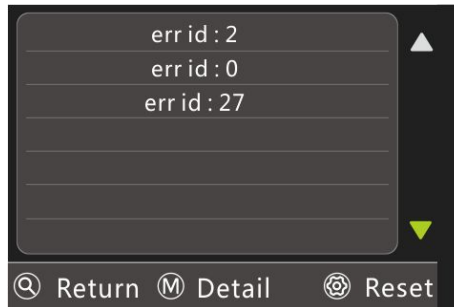


Operating instruction:

- (1) Press the “Switch” key to start or stop the unit.
Note1: When some faults occur, the unit is not allowed to start.
- (2) Press the “Query” key to enter the Menu Query Interface.
- (3) Press the “Up” or “Down” key to enter the Temperature Setting State. At this time, the set temperature will flash, and you could continue to press “Up” or “Down” key to set the temperature. When you press other keys or no operation 2S it will automatically save and exit the setting state.
- (4) Press the “Setting” key to enter the Setting Menu Interface.
- (5) Press the “Mode” key will pop up the mode setting dialog box. In the mode setting dialog box, you could press the “Up” or “Down” key to select the mode, pressing the “Set” key to confirm the selection or pressing the “Query” key to cancel.

4.4 Current Fault Interface

Press “Query” key to enter the query menu interface. You could press “Up” or “Down” key to select “Current Failure” option, press “Set” key to enter.

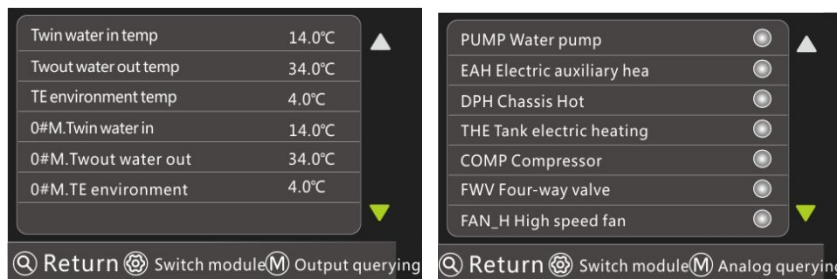


Operating instruction:

- (1) Press the “Query” key to return to the Query Menu Interface.
- (2) Press the “Setting” key to send the fault reset command.
- (3) Press the “Mode” key to view specific fault information. In the Specific Fault Information Interface, you could press any key to return to the Current Fault Interface.

4.5 Status Query Interface

Press the “Query” key to enter the Query Menu Interface. You could press the “Up” or “Down” key to select the “Status Query” option, and press the “Set” key to enter.



Operating instruction:

- (1) Press the “Query” key to return to the Query Menu Interface.
- (2) Press the “Setting” key to switch modules (in the case of multiple modules cascading).
- (3) Press the “Mode” key to switch between Output query and Analog query.
 Analog query: query unit temperature, pressure, speed and other information.
 Output query: query pump, compressor, fan output and other information.
- (4) Press “Up” or “Down” key to page.

4.6 Version Query Interface

Press “Query” key to enter the Query Menu Interface. You could press “Up” or “Down” key to select “Version Query” option, and press “Set” key to enter.

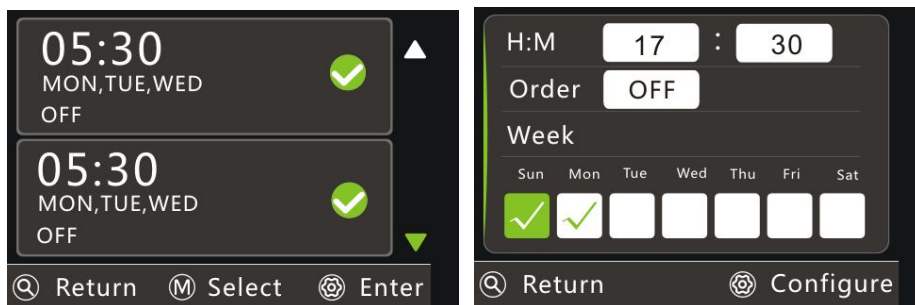


Operating instruction:

- (1) Press the “Query” key to return to the Query Menu Interface.
- (2) Press the “Up” or “Down” key to page.

4.7 Timing Setting Interface

Press the “Setting” key to enter the Setting Menu Interface. You could press the “Up” or “Down” key to select the “Timing Settings” option, and press the “Setting” key to enter.



Operating instruction:

Timing settings include two interfaces: Timing Group Selection Interface and Timing Group Editing Interface. Each group can be scheduled for a certain time, and a maximum of 6 groups is supported for the display currently.

Timing Group Selection Interface:

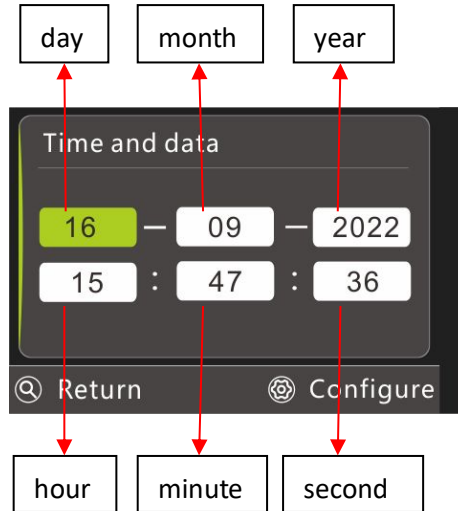
- (1) Press the “Query” key to return to the Settings Menu Interface.
- (2) Press the “Mode” key to enable the timing group.
- (3) Press the “Setting” key to enter the Timing Group Editing Interface.
- (4) Press the “Up” or “Down” key to select the timing group.

Timing Group Editing Interface:

- (1) Press the “Query” key to return the Timing Group Selection Interface.
- (2) Press the “Up” or “Down” key to select the item to set in the range of time, command and week.
- (3) Press the “Setting” key to configure the current settings.

4.8 Date and Time Interface

Press the “Setting” key to enter the Settings Menu Interface. You could press the “Up” or “Down” key to select the “Date and Time” option, and press the “Setting” key to enter.

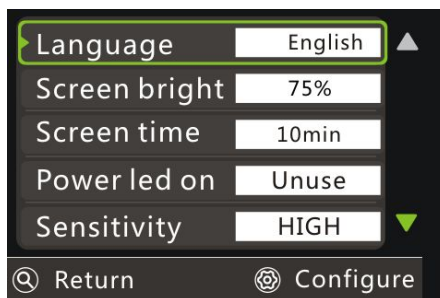


Operating instruction:

- (1) Press the “Query” key to return to the Settings Menu Interface.
- (2) Press the “Up” or “Down” key to select the settings of day, month, year, hour, minute and second.
- (3) Press the “Setting” key to enter the settings dialog. In the settings dialog box, you could press the “Up” or “Down” key to set the value, pressing the “Query” key to cancel the setting or pressing the “Setting” key to confirm the setting.

4.9 Display Setting Interface

Press the “Setting” key to enter the Settings Menu Interface. You could press the “Up” or “Down” key to select the “Show Settings” option, and press the “Setting” key to enter.



Settings description:

Language	Set the language of the display
Screen bright	Set the brightness of the screen when entering the screen saver
Screen time	Time for the display to enter the screen saver without

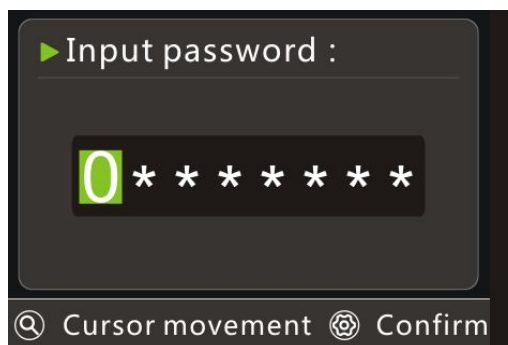
	action
Power led on	The power indicator light is often on when the unit is started
Sensitivity	Indicate the sensitivity of automatic wake-up when something or someone gets close to the display. The higher the sensitivity, the farther the sensing distance.
Indoor temperature compensation	Compensate indoor temperature (error between indoor temperature and actual temperature)

Operating instruction:

- (1) Press the “Query” key to return to the Settings Menu Interface.
- (2) Press the “Up” or “Down” key to select the display parameters that need to be set.
- (3) Press the “Setting” key to set the parameters. In the settings dialog box, you could press the “Up” or “Down” key to set the value, pressing the “Query” key to cancel the setting or pressing the “Setting” key to confirm the setting.

4.10 Password Input Interface

Accessing to user settings, advanced settings and other interfaces needs to input the password.

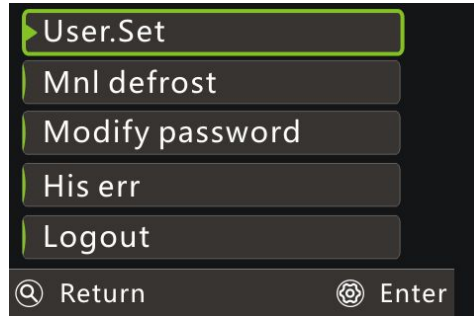


Operating instruction:

- (1) Press “Up” or “Down” key to select the password value.
- (2) Press the “Query” key to move to the next.
- (3) Press the “Confirm” key to confirm the input password. If the password is entered incorrectly, an error prompt box pops up. In the error box, you could press the “Query” key to return to the settings menu item or press the “Setting” key to re-enter the password.

4.11 User Setting Interface

Press the “Setting” key to enter the Settings Menu Interface, you could press the “Up” or “Down” key to select the “User Settings” option, and press the “Settings” key to enter with inputting correct password.



Settings description:

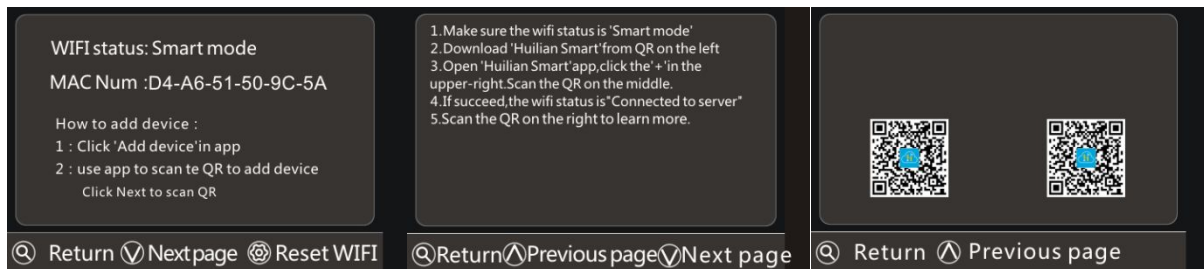
User.Set	The parameters that users can set, such as setting temperature for heating, setting temperature for refrigeration, etc.
Manual defrost	When the unit is starting and the compressor is running, the compressor can be manually allowed to enter the defrosting mode (manual defrosting conditions need to be met).
Modify password	Modify user password.
His err	Query for Historical Failures
Log out	Log out the current permissions

Operating instruction:

- (1) Press the “Query” key to return to the Settings Menu Interface.
- (2) Press the “Up” or “Down” key to select the items of setting.
- (3) Press the “Setting” key to enter the setting.

4.12 WIFI Setting Interface (display with WIFI)

Press the “Setting” key to enter the Settings Menu Interface. You could press the “Up” or “Down” key to select the “WIFI Settings” option, and press the “Setting” key to enter.



Operating instruction:

- (1) Press the “Setting” key to reset WIFI.
- (2) Distribution network according to the display prompt.

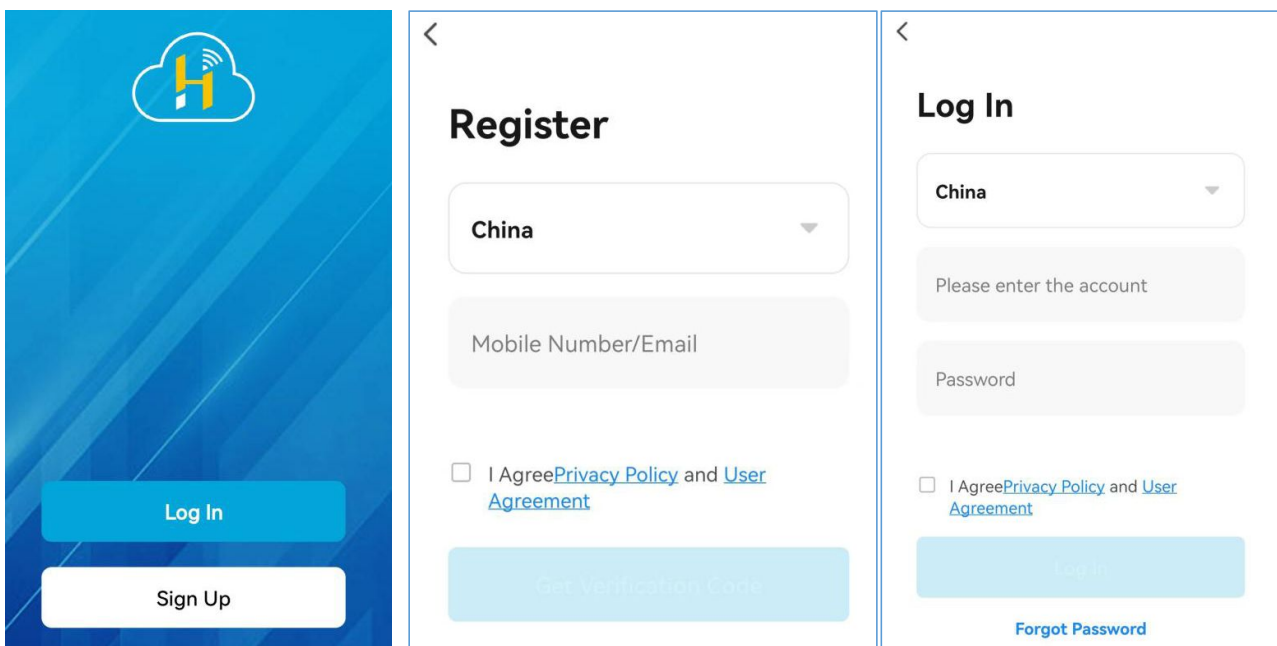
5. APP Operating Instructions

5.1 APP install

5.1.1 Mobile phone scanning code and downloading program



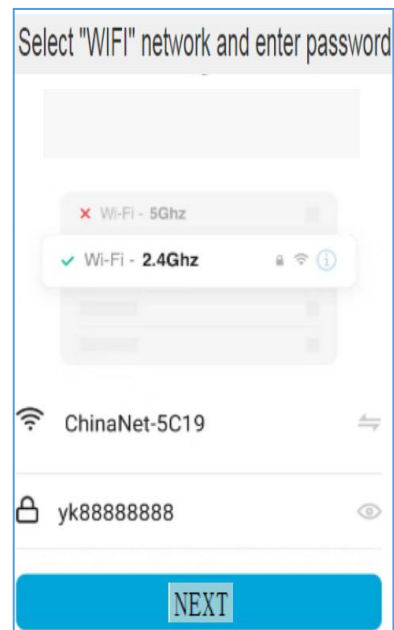
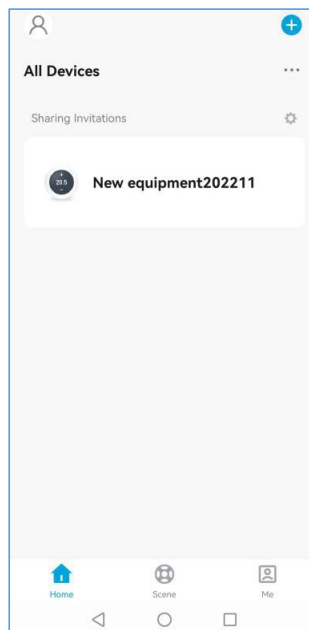
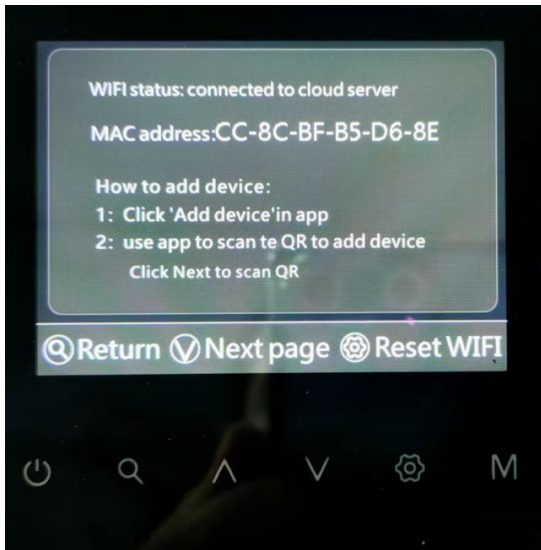
5.1.2 After installation, register and log in



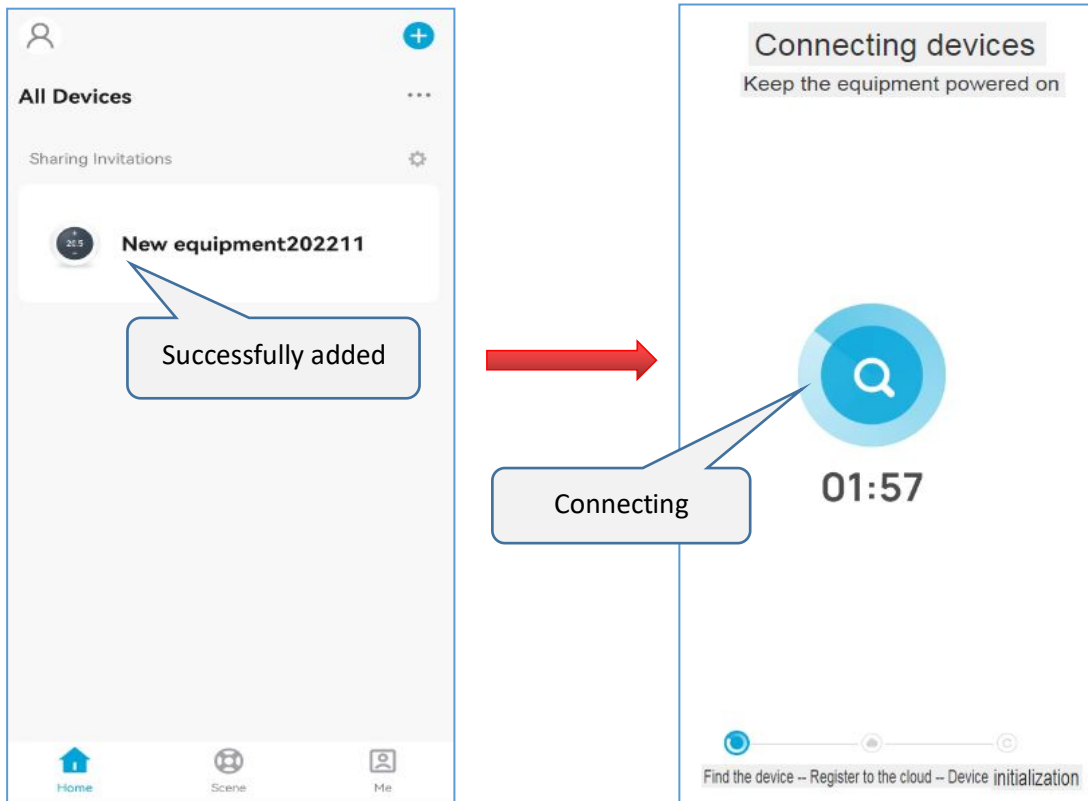
5.2 Network operation

5.2.1 The controller and mobile phone are under the same "WIFI" network

Locate the "WIFI" network in the "Settings" menu of the remote controller  Mobile phone connects to "WIFI" network

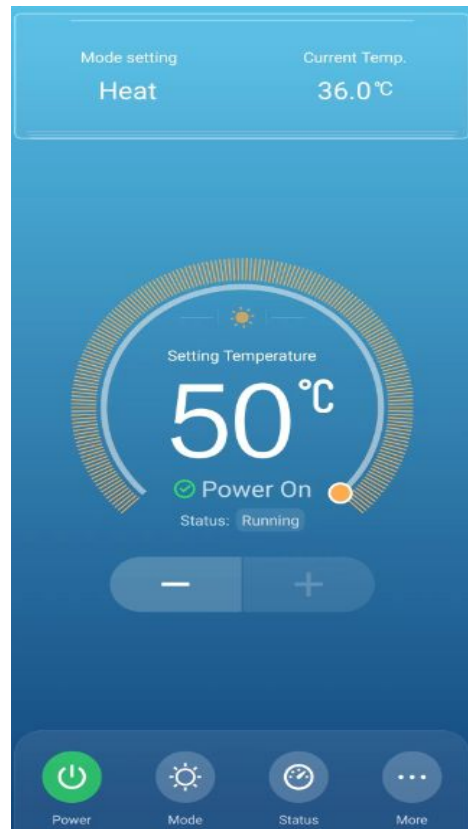
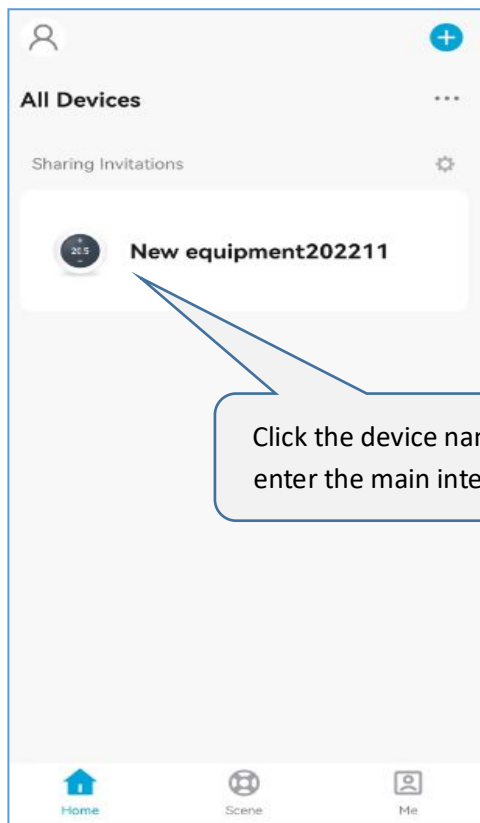


5.2.2 Mobile phone adding device



5.3 APP Interface

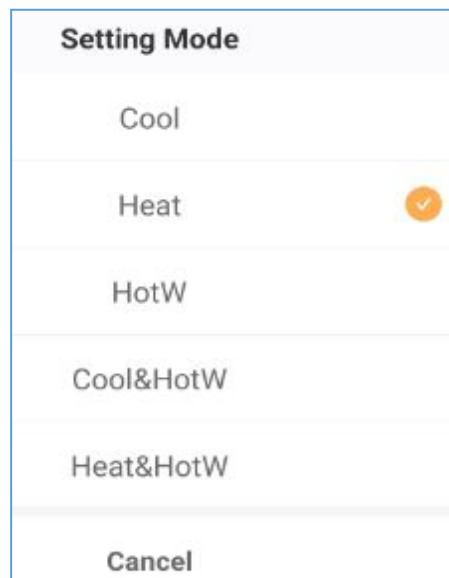




5.3.1 Power on/off:



5.3.2 Mode: Five modes selection



5.3.3 Status

Query temperature, pressure, electrical parameters, operating conditions, etc

Status Overview		
System Status		
TWin water in temp	TWout water out temp	TE environment temp
36.0 °C	39.6 °C	25.1 °C
TH DHW Tank Temp		
25.6 °C		
Module Status		
00#MOD		
M.Twin water in	M.Twout water out	M.TE environment
36.0 °C	39.6 °C	25.1 °C
	1#CM	
EEV Cur Step	255 step	
EVI Cur Step	0 step	
TW Wing temp	14.0 °C	
TEx Exhaust temp	57.1 °C	
TS Suction temp	17.6 °C	
TES evap saturat.T	11.6 °C	
PRSL low pressure	10.6 bar	
SHPVEEV EEV SV	4.0 °C	

SHPVEEV EEV PV	6.4 °C
SHSVEVI EVI SV	33.9 °C
SHPVEVI EVI PV	19.1 °C
TCI cons temp in	Opened
TCO cons temp out	Opened
TEWD No frost EWD	-99.9 °C
COMPf.SET target speed	75.0 rps
COMPf.CUR current speed	73.2 rps
INVT.Vout voltage	195.4 V
INVT.Iout current	7.6 A
INVT.T temp.	32.2 °C
INVT.INFO code	0
INVT.Iin current	11.5 A
INVT.Pout power	2.54
FAN1.SET target speed	636 rpm
FAN1.CUR current speed	650 rpm

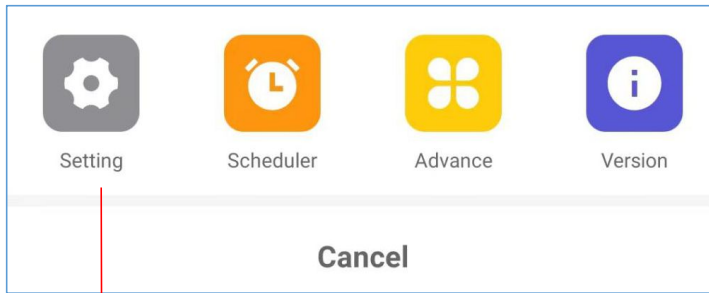
5.3.4 More

Setting

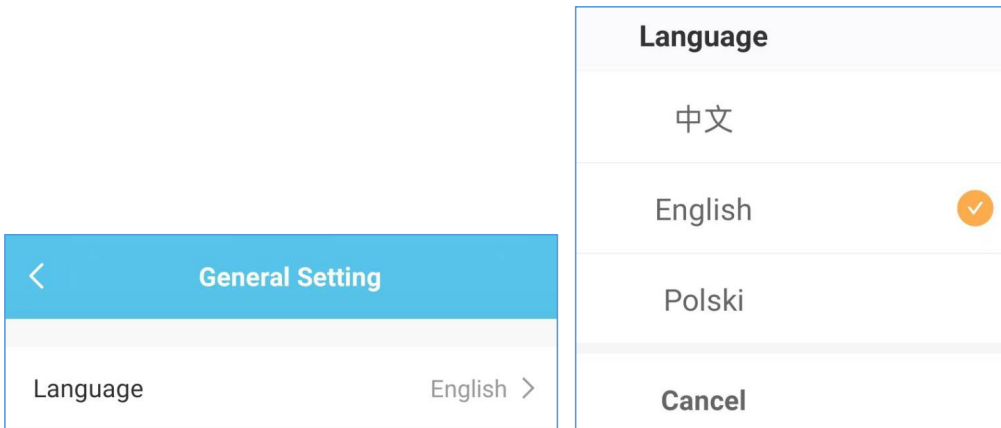
Scheduler

Advance

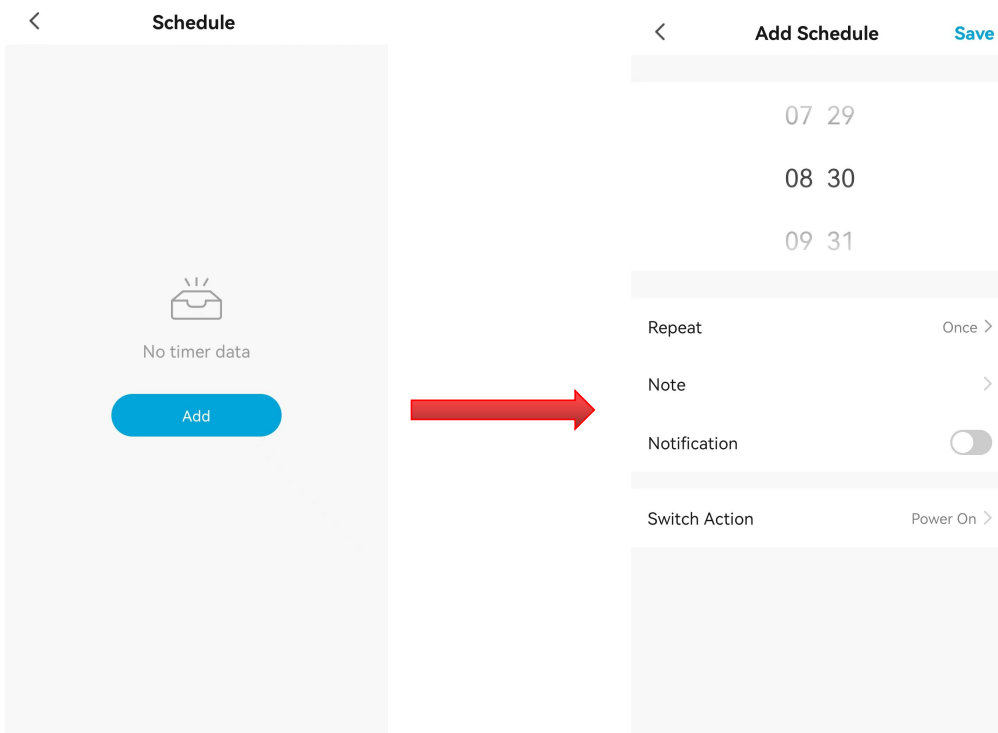
Version



a. Setting: Language switching

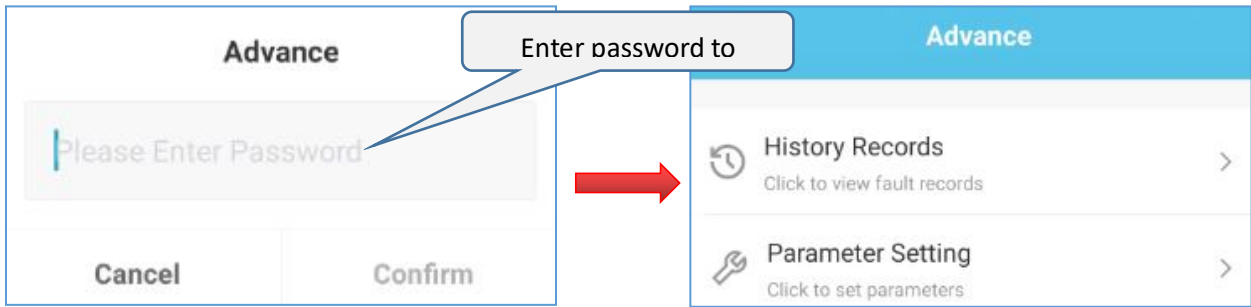



b.schedule:



c. Advanced:

Input password: the password is the same as the setting parameters of the remote controller





Historical fault  Parameter Setting: 14 parameter settings
 that Slide the parameter group up and down, select the group

needs the equipment, and press "Confirm"

Historical fault		
1	Insufficient water flow 00# modular	10/13 10:07
2	Abnormal speed of fan 2 00# modular	10/13 10:05
3	Insufficient water flow 00# modular	10/13 09:46
4	Low voltage during frequency conversion operation 00# modular	10/13 09:46
5	Low voltage protection 00# modular	10/13 09:42
6	High voltage protection 00# modular	10/13 09:34

Parameters

Param Group Select... >

Please select a group:	Please select a group:	Please select a group:
01 user para	06 EEV Set	10 Protect set.
02 SYS para 	07 EVI Set 	11 Input&Sensor
03 Comp Set	08 Defro.set.	12 Debug set.
04 Fan Set	09 Anti&FanCoil	13 Press set.
05 MORTOR Set	10 Protect set.	14 WorkingFreq
Cancel	Confi	Cor
	Cancel	Confirm



-Select the set parameter group,

-The pull-down menu goes to the submenu.


-Click this parameter to change it.

-The parameter item cannot be changed when it has a gray bottom.

Parameters			Parameters		
Param Group 01 user para >			Param Group 03 Comp Set >		
01.Control Mode Heat Mode	02.Cool Set Temp 27 °C	03.Heat Set Temp 50 °C	4U rps	1U rps	1U rps
04.DHW Set Temp 50 °C	05.Auto Set Temp 25 °C	06.power mode standard	22.defrostSpeed 15 rps	23.RpsStdAdjust 0 rps	24.startPeriod 10 sec
07.ModeSilent Night	08.SilentBgnHour 22 HH	09.SilentBgnMin 0 min	25.Proportional 600	26.Integral Tm 50	27.DerivativeTm 10
10.SilentEndHour 7 HH	11.SilentEndMin 0 min	12.Duty fun en disable	28.MotionPeriod 30 sec	30.P coef. 1.0	31.Cold Cond Up 65 °C
13.Duty set HT. 30 °C	14.Duty set CL. 17 °C	15.Duty on hour 20 HH	32.Heat Cond Up 60 °C	33.RpsEcoAdjust -5 rps	34.Heat Evap Down -40 °C
16.Duty on min. 0 min	17.Dutyoff hour 5 HH	18.Dutyoff min. 0 min	38.Exh Up Limit 110 °C	39.Reoil RSP 60 rps	41.RpsStrongAdjust 3 rps
19.HT.2-WAY.INTL K enable	20.lock screen disable	21.AlarmSoundSet once 10sec	42.SilentFreqMax 70 rps	43.AvoidFreqRange 0 rps	44.AvoidFreq1 20 rps
22.PUMP.MODE inter run	23.END.PUMP.EN disable	25.MaxRunTime 30 min	45.AvoidFreq2 20 rps	46.AvoidFreq3 20 rps	47.AvoidFreq4 20 rps
31.Unit number 1	32.00#Unit enable	40.AllCompDiff 6 °C			

6.MAINTENANCE AND WINTERZING

6.1.Maintenance

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

- **Cleaning**

- The heat pump's casing must be cleaned with a damp cloth. The use of detergents or other household products could damage the surface of the casing and affect its properties.
- The evaporator at the rear of the heat pump must be carefully cleaned with a vacuum cleaner and soft brush attachment.

- **Annual maintenance**

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

- Carry out safety checks.
- Check the integrity of the electrical wiring.
- Check the earthing connections.
- Monitor the state of the pressure gauge and the presence of refrigerant.

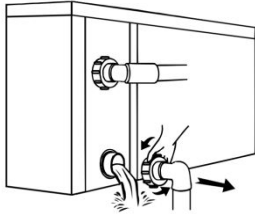
6.2.Winterizing



**“CUT OFF” power supply of the heater
before cleaning, examination and repairing**

When you don't use:

- a. Cut off power supply to prevent any machine damage.
- b. Drain water clear of the machine.



!! Important:

Unscrew the water nozzle of inlet pipe to let the water flow out.

- c. Cover the machine body when not in use.



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