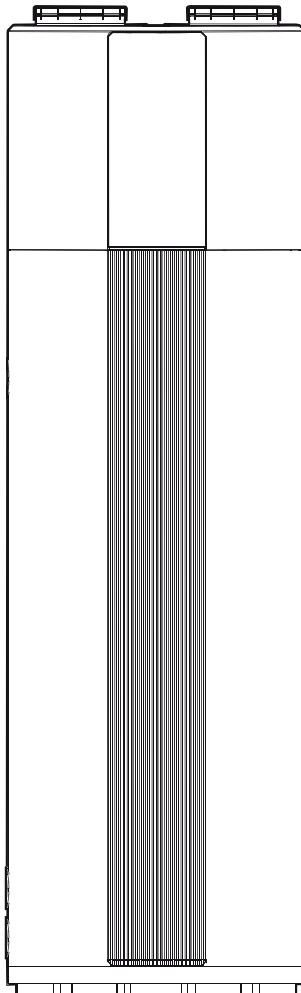




INSTALLATION AND OWNER'S MANUAL

Heat-pump Water Heater



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 SAFETY PRECAUTIONS

This product is intended for domestic use only and is used to prepare domestic hot water at 30-75°C.

To ensure your safety, please read this manual carefully before using this product. In order to correctly install and safely use our products, please refer to the following:

ATTENTIONS

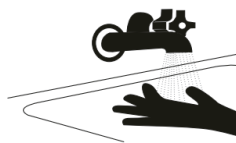
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision. Keep the appliance and its cord out of reach of children aged less than 8 years.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- Select the model correctly according to the actual use, otherwise it will affect the comfort of use.
- All illustrations and information in the instruction manual are for reference only. In order to improve the product, we will continue to make improvements and innovations. If the product changes, please refer to the actual product.
- Running without water in the water tank may damage the auxiliary electric heater, and the manufacturer is not responsible for any damage caused by this problem.
- The manufacturer is not responsible for damage to the equipment caused by improper installation, wrong or improper use.
- The manufacturer is not responsible for any damage caused by modifying, replacing, repairing or using the product with other equipment without following the manufacturer's instruction manual.

WARNING

- Household electricity must have reliable grounding.
- The grounding pole of the plug must be well grounded, and ensure that the power plug and the base plug are dry enough and well connected. If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or similarly qualified persons.
- Leakage protection devices must be installed for household electricity. Do not operate the unit with wet hands. Electric shock could occur.
- Do not remove any permanent instructions, labels or parameter plates on the casing of the product or inside any plates.
- It is recommended that qualified personnel be contacted for reliable grounding, installation, and relocation, repair, and maintenance of the equipment. Examples of qualified persons include: licensed plumbers, authorized power company personnel, and authorized maintenance personnel.
- Electrical connection work must obey the company's instructions local electrical service, the local electrical utility, and this manual. If the electrical installation requirements of the product are not met, installation of the product is prohibited until the product is rectified.
- The height of the power supply must be at least 1.8 m. If there is water splash, isolate the power supply from the water.
- Do not use cables and fuses with incorrect current ratings, otherwise it may cause equipment failure and cause fire.
- Please keep the unit powered on. When the power is suddenly cut off and restored, the system will automatically stop or restart heating. Except for repairs and maintenance, water heating requires continuous power supply.
- The product should be installed on a safety tray when installed indoor. The product must be installed securely.
- Equipment must be installed, used and stored in a room with a floor area greater than 4 square meters.
- Do not allow flammable materials or gases to touch or come near the unit. Such as hair spray, lacquer paint and other close to the unit. This could cause a fire.
- If the unit has an auxiliary electric heater, it must be installed at least 3 feet (1 meter) away from any flammable material.
- Install the unit in a frost-free room. The warranty does not cover damage to the unit due to excessive pressure caused by a blocked safety valve.
- The water inlet temperature of the unit must not be lower than 4°C (to avoid freezing), and the maximum water temperature of the unit can be set to 75°C.
- Maximum inlet water pressure is 0.65MPa, minimum inlet water pressure is 0.15MPa. And should be installed on the main water supply pipe.
- DANGER: The operation of the thermal cut-out indicates a possibly dangerous situation. Do not reset the thermal cut-out until the water heater has been serviced by a qualified person.
- DANGER: Failure to operate the relief valve easing gear at least once every six months may result in the water heater exploding. Continuous leakage of water from the valve may indicate a problem with the water heater.
- The drain pipe connected to the pressure relief device should be installed continuously downward and installed in a freezing-free environment. The water may drip from the discharge pipe of the pressure-relief device and that this pipe must be left open to the atmosphere.
- It is normal for water to drip from the over pressure safety device or the EN 1487 safety unit when the appliance is heating. For this reason, it is necessary to install an open air drain, with a pipe sloping continuously downwards, in an area not exposed to sub-zero temperatures. A condensate drain must also be connected to the same pipe using a special coupling.
- The pressure-relief device is to be operated regularly to remove lime deposits and to verify that it is not blocked.
- A non-return valve must be installed on the water inlet side.
- Do not connect the hot water pipe directly to the copper pipe. It must be equipped with a dielectric connection (not provided with the unit).
- Connect the safety device to a drain pipe placed outdoors, in a frost-free environment and with a permanent downward slope to remove the expansion water during heating or to drain the water from the water heater.
- The drain pipe must be well insulated to prevent water in the pipe from entering the drain pipe. The pipe freezes in cold weather.
- Fix the drain pipe to ensure smooth drainage. Improper drainage may cause moisture in buildings, furniture, etc.
- If the water heater is not used for a long time (more than 2 weeks), Hydrogen, which is extremely flammable, may be generated in the hot water piping system. In this case, in order to reduce the danger, it is recommended to turn on the hot water faucet for a few minutes before using any electrical appliances connected to the hot water system. If hydrogen is existed inside the system, you may hear an abnormal sound like air passing through the pipe, when the water is flowing inside the pipe. Do not smoke or light an open flame near the faucet during usage.

NOTE

- If water heated to over 50°C is poured directly into the tap, it may cause severe scalding immediately. Children, disabled people and the elderly are particularly at risk.



- We recommend installing a thermostatic mixer or a water temperature limit valve in the water supply line. Feel the water temperature before taking a bath or shower.
- Do not insert fingers, sticks or other objects into the air inlet or outlet, as this may cause injury when the fan is rotating at high speed.
- Keep packaging materials (staples, plastic bags, polystyrene foam, etc.) out of the reach of children, as they may cause serious injuries
- After prolonged use, check the base and accessories of the unit. If damaged, the unit may collapse and cause injury.
- Do not touch the internal parts of the controller.



Caution: Risk of fire/
flammable materials

WARNING

Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.

Special requirements for R290

WARNING

- Do not have refrigerant leakage and open flame.
- Be aware that the R290 refrigerant does NOT contain an odour.
- The ducts connected to an appliance shall not contain a potential ignition source. Keep any required ventilation openings clear of obstruction.
- The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (example: open flames, an operating gas appliance) and have a room size as specified below.
- Make sure installation, servicing, maintenance and repair comply with instruction and with applicable legislation (for example national gas regulation) and are executed only by authorized persons.

NOTE

- Pipework should be protected from physical damage.
- Installation of pipework shall be kept to a minimum length.

Explanation of symbols displayed on the monobloc

	WARNING	This symbol shows that this appliance used a flammable refrigerant. If the refrigerant is leaked and exposed to an external ignition source, there is a risk of fire.
	CAUTION	This symbol shows that the operation manual should be read carefully.
	CAUTION	This symbol shows that service personnel should handle this equipment with reference to the installation manual.
	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.

! WARNING



BATTERY WARNING



WARNING: Contains a coin cell or button cell.

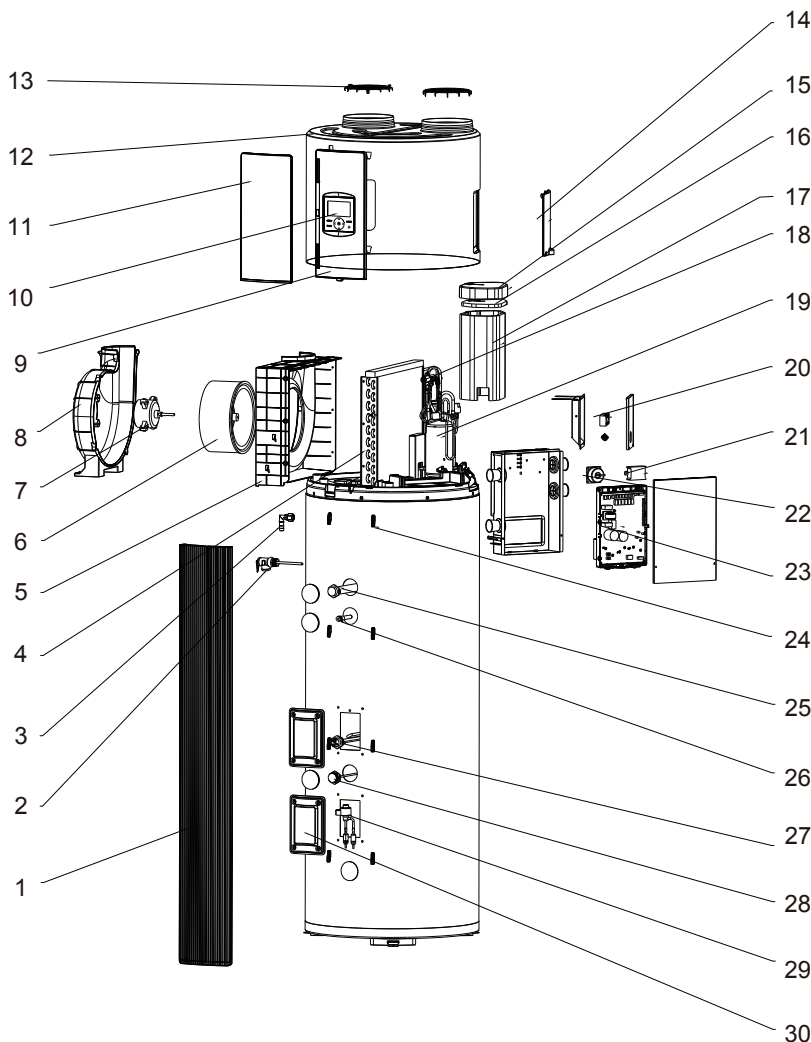
The battery is dangerous and KEEP IT OUT OF THE REACH OF CHILDREN.(Whether the battery is new or used)
If the battery compartment (if applicable) does not close securely, discontinue use of the product and keep it away from children.

! WARNING

- For devices containing button cell or lithium batteries.
- Swallowing a damaged battery leads to chemical burns, perforation of soft tissues. Severe burns can occur within 2 hours of ingestion. In case of ingestion, seek medical attention immediately.
- To make the battery last longer, it is recommended to turn off the power when the device is not in use for a long time.

2 INSTALLATION OF PRODUCT

2.1 Explosive view



SN	Name	Quantity
1	Front panel 2	1
2	PT valve(Optional)	1
3	Drain kit	1
4	Evaporator assembly	1
5	Volute assembly 1	1
6	Centrifugal fan blade	1
7	Brushless DC motor	1
8	Volute assembly 2	1
9	Display mounting plate	1
10	Wire controller	1
11	Front panel 1	1
12	Top cover	1
13	Safety grill	2
14	Terminal box cover	1
15	Top compressor insulation cover	1
16	Rubber cover	1
17	Compressor insulation	1
18	4 way valve assembly	1
18.1	4 way valve	1
18.2	4 way valve coil	1
19	Compressor	1
20	Terminal block	1
21	Electronic anode controller	1
22	Inductance	1
23	Main control board component	1
24	Front panel 2 buckle	8
25	Magnesium rod	1
26	Temperature sensor	2
27	Electric heater	1
28	Electronic anode	1
29	Electronic expansion valve assembly	1
30	Electric component cover	2

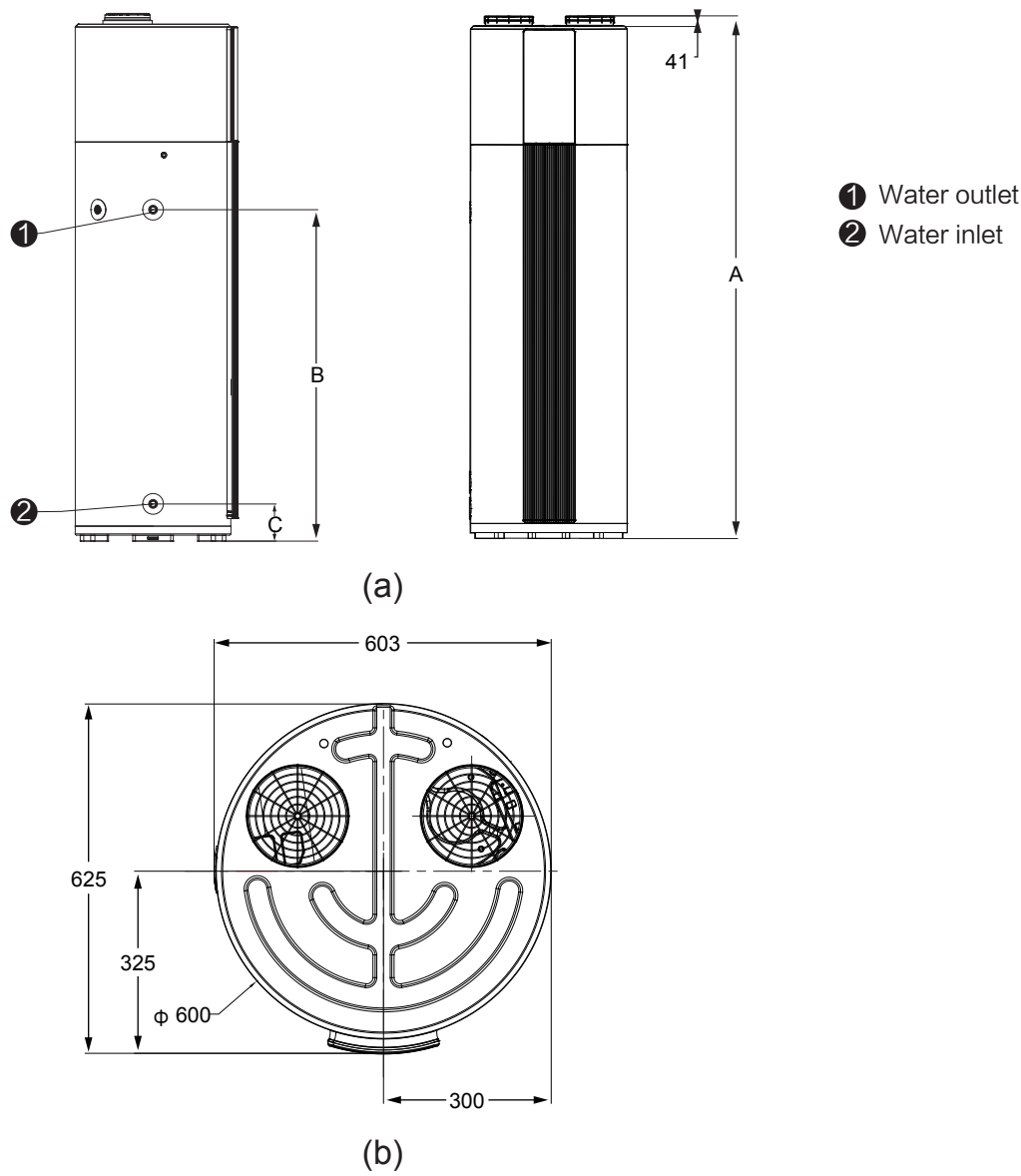
NOTE: This diagram is only for reference, and the appearance of the product may not be the same as that of the real object. Subject to the actual model.

2.2 TRANSPORTATION

- The following requirements must be observed when transporting equipment:
- Use a forklift or pallet truck to transport the product to the installation site.
 - When moving, the inclination of the unit should not exceed 25°, and the installation should be kept vertical.
 - Use protective coatings as appropriate to avoid scratching or damaging the equipment.
 - Due to the heavy weight of the equipment, it must be carried by two or more people to avoid injury and/or damage.

2.3 STRUCTURAL DIMENSION

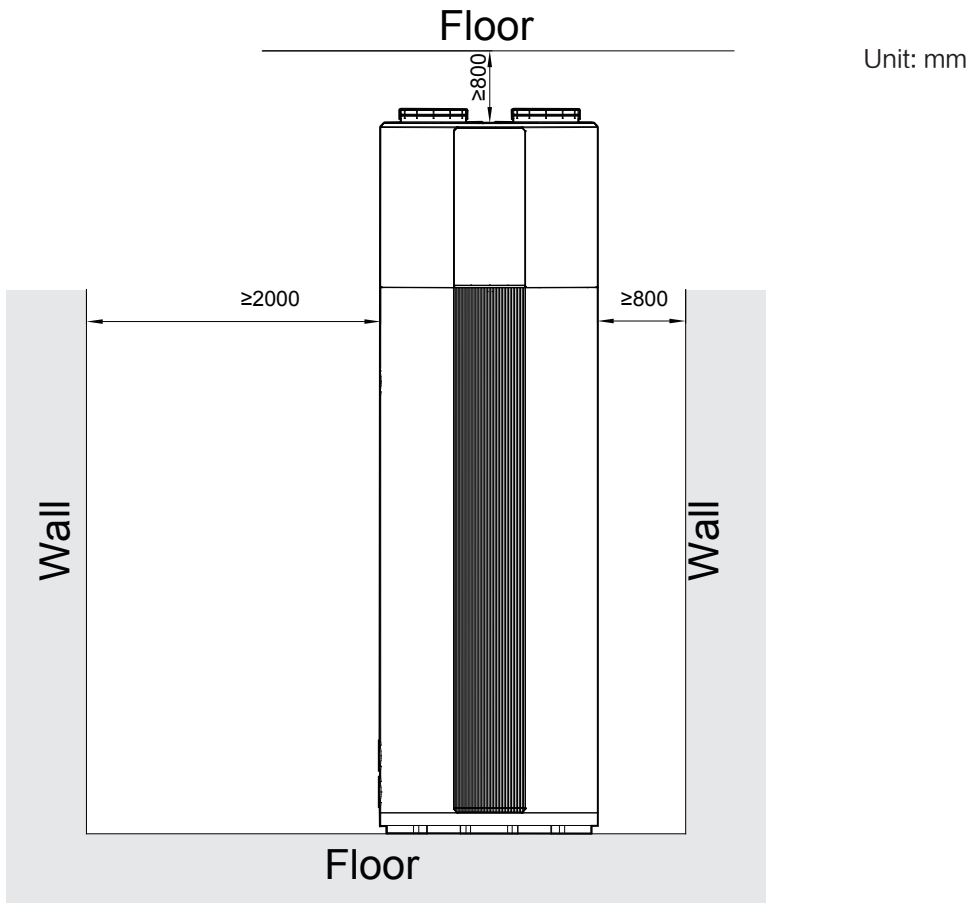
Unit: mm



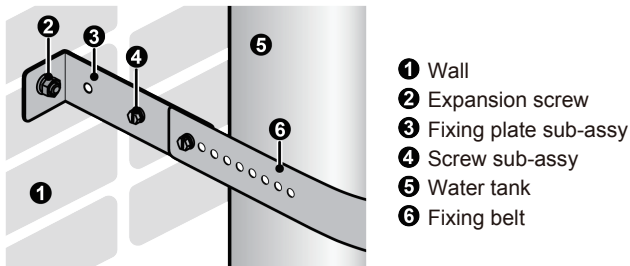
Model	200L	250L
Parameter		
A	1802	2022
B	1038	1278
C	124	124

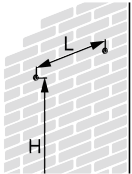
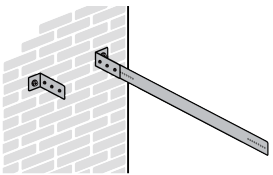
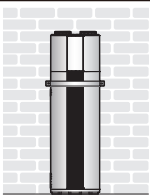
2.4 SPACE REQUIREMENT

(1) Installation dimension requirement

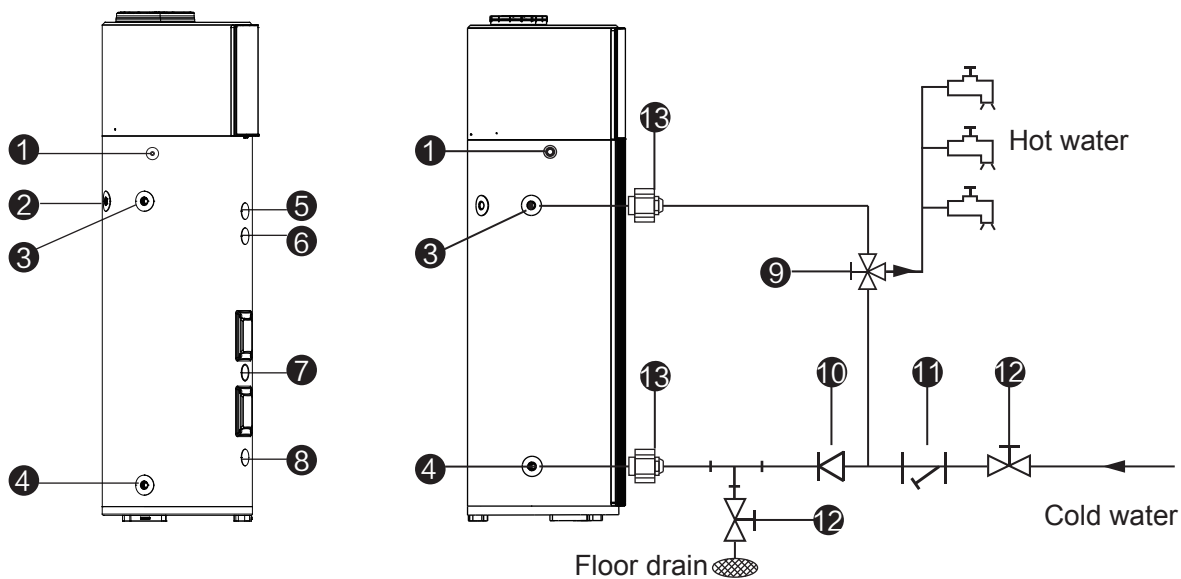


(2) Fixing of the unit



Step 1: Confirm the installation location of the fixing belt. The installation height (H) of the expansion screw can be adjusted according to actual needs, but it must be ensured that the fixing belt does not press against the gaskets at each pipe port of the unit's water tank during installation. Step 2: Install expansion screws. Secure the expansion screws to the wall.	
Step 3: Install the fixing belt. Attach one end of the fixing belt to one of the fixing plate sub-assemblies. Step 4: Install the fixing plate sub-assemblies. Mount the two sets of fixing plate sub-assemblies onto the expansion screws respectively.	
Step 5: Fix the unit. Position the unit onto the fixing plate sub-assemblies, select the appropriate connection holes on the fixing belt based on the actual installation situation, and use the screw sub-assembly to complete the fixation.	

2.5 INSTALLATION DIAGRAM



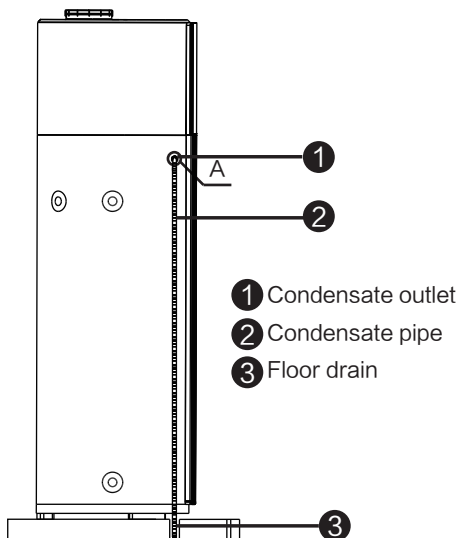
- | | | | |
|---------------------------------|----------------------|--------------------|----------------------|
| ① Condensate outlet | ② PT valve | ③ Water outlet | ④ Water inlet |
| ⑤ Magnesium rod | ⑥ Temperature sensor | ⑦ Electronic anode | ⑧ Temperature sensor |
| ⑨ Thermostatic mixer tap | ⑩ One Way Valve | ⑪ Filter | ⑫ Cut-off valve |
| ⑬ Anti-electric wall (Optional) | | | |

! WARNING

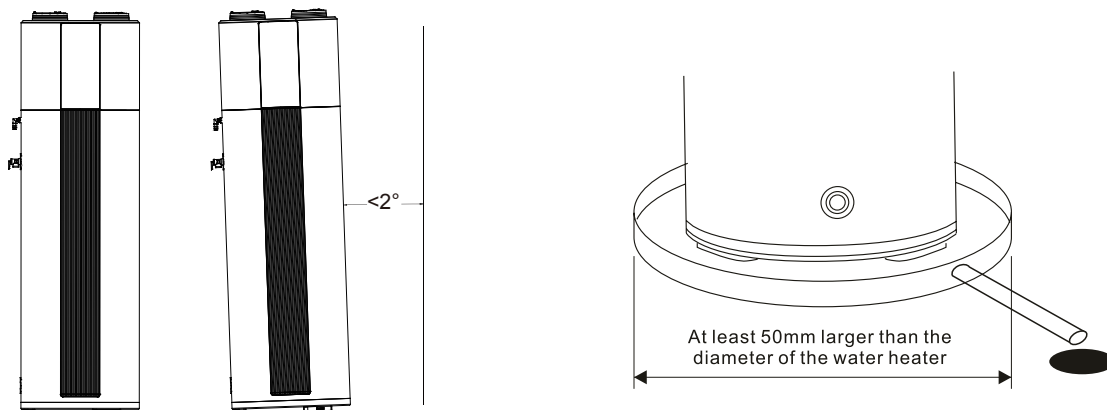
- To ensure water safety, it is recommended to use insulated plastic pipes, such as PPR pipes. The length of the PPR pipe at the water inlet and outlet should be calculated using the formula: $L \geq 70 \times R^2$, where L represents the pipe length and R represents the inner diameter of the pipe in centimeters.

2.6 LOCATION REQUIREMENTS

- Ensure that the sound and airflow of the equipment do not cause interference to people, animals, plants, etc.
- Ensure that the equipment installation environment is well ventilated. If a canopy protection device is installed, ensure that heat dissipation and heat absorption are not affected.
- If the equipment is installed in an area with strong winds, typhoons or earthquakes, in addition to using fixing straps for installation, additional reinforcement measures must be taken to prevent the equipment from tipping under external forces, causing unnecessary damage to the equipment or personal injury. The fixing straps of the equipment only serve as auxiliary fixing and cannot bear the weight of the water tank.
- Ensure that the equipment's condensate drain pipe is connected reliably, and move the drain pipe to a suitable location for drainage.
- The equipment must be installed in a place with protection against rain and sunlight.



- The pipes and valves of the equipment and water supply system must be installed in an environment above 0°C, preferably close to the hot water intake point.
- In order to avoid inconvenience or material loss to users due to leakage caused by incorrect water pipe connection or normal water discharge of the safety valve, it is strictly forbidden to install the equipment in a place with poor drainage.
- The installation surface must be flat and spacious, and the foundation must be strong enough to easily support the weight of the equipment after water filling. Hanging is strictly prohibited. When installing the equipment, the equipment must be protected by fixing belts.
- During unit operation, condensed water droplets may occur at the air outlet, and the water outlet may be accidentally blocked. In such cases, water droplets may leak from the surface of the unit. To ensure that your safety is not compromised and your belongings are not damaged, it is recommended to use a water pan to collect the condensed water. Please refer to the following figure.
- To ensure smooth drainage of condensate from the unit, please install the main unit on a horizontal floor. Otherwise, please ensure that the drain is at the lowest point. The recommended inclination angle of the unit should be no more than 2°.

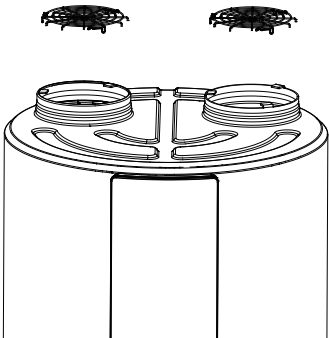
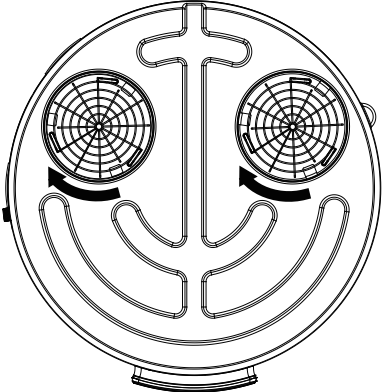
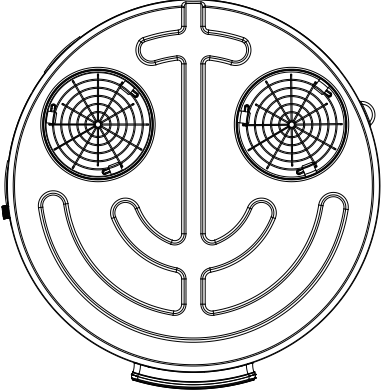


! ATTENTIONS

If the unit is installed in outdoor locations where the temperature is below 0°C, take appropriate water pipe insulation measures based on the local minimum temperature to prevent the water pipes from freezing and bursting.

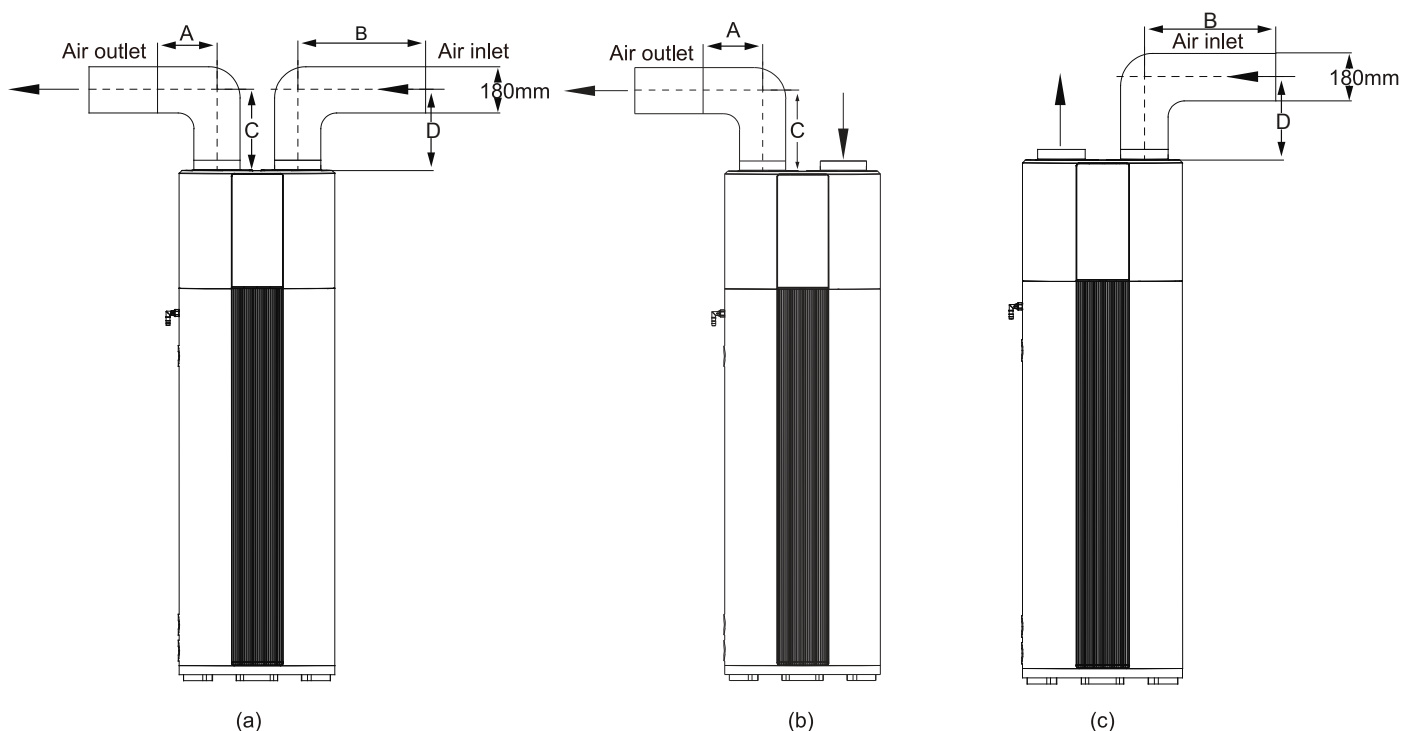
2.7 DUCT INSTALLATION

To prevent debris from entering the unit through the air intake or outlet, a safety grille must be installed prior to duct installation.

Step 1: Take out the protective grille from the accessory kit and install it onto the top cover.	Step 2: Position the grille as shown in the diagram, then rotate it clockwise.	Step 3: Continue rotating the grille clockwise to the diagram position until it engages with the retaining tabs on the top cover.
		

Two ventilation ducts can be connected to the top of this product for internal and external ventilation. One is used to bring fresh air from the outside, and the other is used to exhaust the air inside the device to the outside. When air flows through the duct, the duct will impose a certain resistance on the airflow. The greater the resistance, the smaller the air volume. In addition, the resistance of the duct will increase as the length of the duct increases. A small diameter or too many bends will also increase the resistance, thereby reducing the air volume. Therefore, please follow the installation and design instructions:

- The rated static pressure of the equipment is 30 Pa, and the maximum static pressure is 90 Pa.
- PVC pipes are recommended for air ducts to reduce system resistance. Generally, the length of each vent pipe should not exceed 5 meters.
- Minimize the use of elbows in the duct. The total number of elbows in each duct should be limited to within 5 meters ($A + C \leq 5$ meters; $B + D \leq 5$ meters). Elbows should be designed with a gentle arc to avoid sharp 90° bends.
- The inner wall of the duct must be smooth.
- The temperature difference between the air circulating in the duct and the air in the installation room will cause condensation on the outer surface of the duct. Insulation must be installed at the outlet duct, inlet duct, and duct joints to prevent heat loss and cold. It is recommended that the thickness of the insulation layer be at least 15 mm.
- The supply and return ducts must be fixed with iron frames. Seal the duct joints to prevent air leakage.
- To prevent the exhaust air from recirculating, a certain distance (≥ 0.5 meters) should be maintained. The distance between the two ends of the air hose is 220 mm.
- The design and construction of air ducts must comply with relevant national and local technical specifications.
- It is recommended that the distance between the edge of the inlet duct and the wall is 150 mm or more, and a grille must be installed.
- The grilles must be cleaned or replaced regularly. During planning and installation, leave space for repairs on one side of the air duct.
- After installing the duct, do not touch the internal components.
- The design and construction of air ducts must take sound attenuation and shock absorption into consideration. Do not design the air inlet in areas such as offices and rest areas. If the user requires minimizing the internal noise, simply consider connecting an appropriate silencer.
- When the ventilation mode is selected, for the case of a single outlet duct connected to the outside (b), the dirty indoor air is discharged to the outside; or when a single inlet duct is connected to the outside (c), fresh outdoor air is brought into the room.



2.8 WATER PIPE INSTALLATION

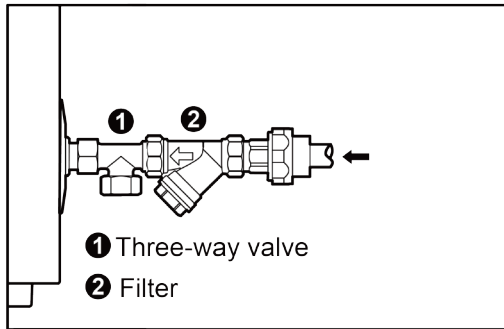
2.8.1 INSTALLATION REQUIREMENTS

- It is recommended to use PPR pipes for the water supply.
- Each valve must be installed correctly, following the sequence shown in the equipment installation diagram.
- The hot water outlet of the equipment should not be far from the hot water extraction point, and a floor drain must be installed nearby.
- If the tap water contains impurities, a water filter must be installed.
- All water pipe connections must be carefully inspected to prevent leaks.
- All components in the water supply system (pipes, valves, joints, etc.) must be insulated. The insulation thickness should be no less than 15 mm.
- When the temperature of the installation environment is below 0°C, pipes should be equipped with appropriate heating devices.
- When the water tank is heated, the pressure will gradually rise, and a small amount of water will be discharged through the safety valve to relieve the pressure. Incorrect or absent installation of the equipment may result in expansion, deformation, or other forms of damage, potentially causing personal injury. It is strictly forbidden to install a shut-off valve or check valve between the safety valve and the equipment, as this would prevent the safety valve from functioning properly to relieve pressure.

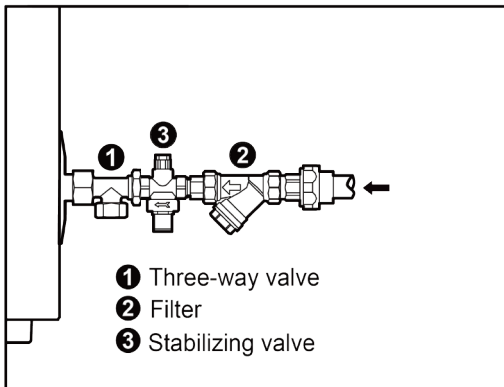
The safety valve must be connected to a drainage pipe, and this connection should be firm to prevent disconnection. The drainage pipe should lead directly to the floor drain in a natural way, without any bends or kinks. After connecting to the floor drain, any redundant pipes must be removed to avoid drainage problems. The type of pressure-relief valve employed is an external pressure-relief valve, which is connected to the safety valve (pressure-limiting device) through the drainage pipe.

2.8.2 WATER INLET PIPE INSTALLATION

Method 1: Cold water inlet pressure 0.15~0.65Mpa



Method 2: Cold water inlet pressure greater than 0.65Mpa



Install a pressure stabilizing valve to ensure that the water tank inlet pressure is between 0.15~0.65MPa. The direction of the arrow on the stabilizing valve must be consistent with the direction of flow.

2.8.3 WATER QUALITY REQUIREMENTS

The water quality of the water heater must comply with local drinking water hygiene standards, and refer to the following water quality requirements

PH (25℃)	6.8~8.0	Turbidity (scattering turbidity unit)/NTU	<1
Chloride/(mg/L)	<50	Iron/(mg/L)	<0.3
Sulfate/(mg/L)	<50	Silica(SiO ₂)/(mg/L)	<30
Total hardness (calculated in CaCO ₃)/(mg/L)	<70	Nitrate (calculated in N)/(mg/L)	<10
Conductivity(25℃)/(μs/cm)	<300	Ammonia nitrogen(calculated in N)/(mg/L)	<1.0
Total alkalinity(calculated in CaCO ₃)/(mg/L)	<50	Sulfide/(mg/L)	Shall not tobe detected

2.9 ELECTRICAL WIRING

⚠ WARNING

- The installation of the equipment must comply with national or local wiring regulations and should be performed by qualified professionals.
- The power supply must meet the specifications indicated on the rating label. Before installation, check the load capacity of the power supply, cable, and socket.
- The fixed circuit must be equipped with a residual current device (RCD) and a circuit breaker of sufficient capacity to ensure that power to all poles can be disconnected when necessary. The operating time of the RCD must be less than 0.1 seconds.
- The equipment must be properly grounded.
- The equipment circuit must be at least 1.5 meters away from any flammable surfaces.
- The power supply device must be a separate fixed unit designed to match the water heater's power supply and comply with relevant national and local standards.
- Do not use a socket converter, extension cord, or any other device to connect the water heater's power cord. Connect the water heater cable directly and do not share the same circuit with other appliances.
- If the power cord is damaged, it must be replaced by the manufacturer, maintenance department, or similarly qualified personnel to avoid hazards. A damaged power cord must not be reconnected.
- Please refer to the circuit diagram for further details.

2.9.1 POWER SUPPLY SPECIFICATIONS

Model \ Item	Power type	Power cable diameter (mm ²)		Breaker	Residual current device (RCD)
		L/N (Length<30m)	PE	Rated current(A)	
200L	220-240V~ 50HZ	≥1.5	≥1.5	16	30mA Below 0.1 sec
250L					

2.9.2 INSTALLATION OF POWER CABLE

- Use a cross screwdriver to remove the two screws at the bottom of the safety cover and take it off.
- Use a cross screwdriver to loosen the two screws at the bottom of the wiring box cover, then remove the cover.
- Pass the power cord through the wire clamp and connect it to the appropriate terminal positions.
- After connecting the power cord, reassemble the components as illustrated in the diagram.

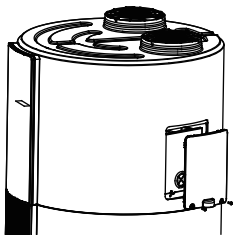


Diagram 1

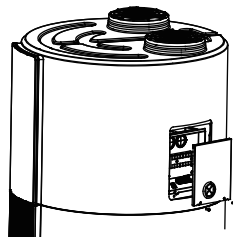


Diagram 2

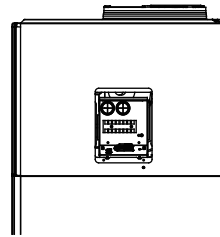


Diagram 3

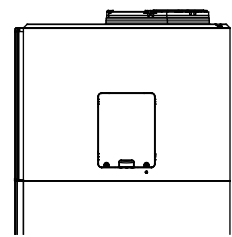
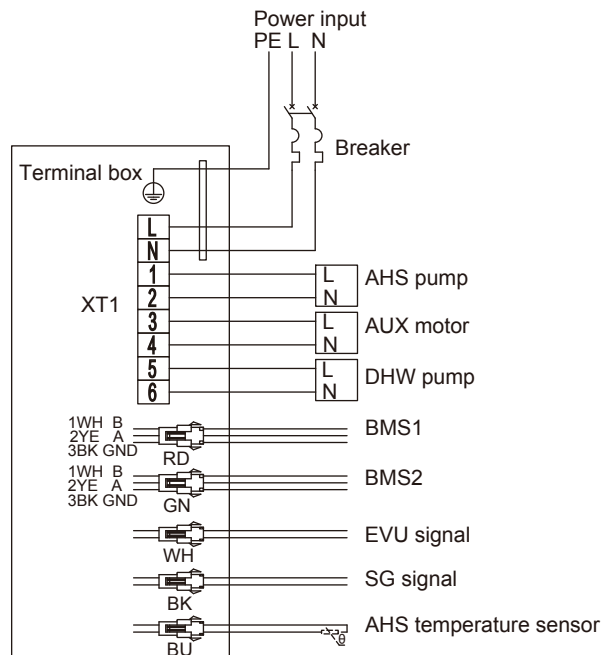


Diagram 4

2.9.3 Electrical wiring and connection requirements

- The external wiring diagram of the device is shown below. For the internal wiring diagram, please refer to the circuit diagram attached to the machine.
- Once the wiring is complete, the power cord must be secured with a fixed wire clamp. The clamp should be positioned on the outer sheath of the connecting cable.



Port	Specification
AHS pump,AUX motor,DHW pump	Rated power of the external load: $P \leq 300W$. If the power exceeds this value, an AC contactor is required for control
BMS1,BMS2	It is recommended to use $2 \times 0.75mm^2$ with shielding layer, and the shielding layer is grounded
EVU signal,SG signal,AHS temperature sensor	It is recommended to use $2 \times 0.75mm^2$

2.9.4 INSTALLATION OF WIRE CONTROLLER

By default, the wire controller is installed on the front panel of the device. If it needs to be relocated outside the unit, it is recommended that the communication cable length between the wire controller and the unit not exceed 60 meters.

2.10 CHECK AND DEBUGGING



WARNING

- Safety measures are essential during operations. All personnel involved in commissioning and maintenance must familiarize themselves with construction safety rules and adhere to them rigorously.
- Electricians, welders, and other operators must possess the necessary qualifications. Before operating any equipment, ensure that the power supply is completely disconnected. Always use the equipment in strict accordance with relevant safety guidelines.
- All installation and maintenance activities must align with product design specifications as well as national and local safety regulations. Any operations that deviate from these standards are strictly prohibited.

2.10.1 CHECK BEFORE COMMISSIONING SERVICE

After installing the heat pump water heater, please check the unit according to the following inspections:

Check point	Installation exceptions will result in
Whether the equipment installed reliably	The Equipment generates noise or vibration during operation, which may also cause a fall hazard
Whether there are air obstructions at the outlet and inlet	Equipment operation abnormality
Whether the cold water inlet pipe and hot water outlet pipe use PPR pipes	There may be safety hazards
Whether the tank safety valve is installed	Excessive working pressure in the water tank may pose a danger to the unit.
Whether a pressure reducer has been installed in case of high inlet pressure to the tank	Tank operating pressure is high; safety valves continue to discharge water and produce noise anomalies
Whether all parts of the water pipe are insulated	Equipment of equipment may be affected; pipes may be damaged by freezing
Whether the supply voltage corresponds to the rated voltage plate of the product and the cable type complies with the regulations	Equipment malfunction or component catch fire

2.10.2 START-UP OPERATION



WARNING

Before starting, the water tank needs to be filled with water.
If the unit tilts during transportation, it needs to be left stationary for 6 hours before starting.
Only after the equipment has passed the installation inspection can the entire equipment be debugged.

The debugging steps are as follows:

- Add water to the equipment: Add water according to the installation instructions. Make sure there is no water leakage in the pipes, joints, etc.
- Power on the equipment: After the equipment is powered on, observe whether the display screen of the wire controller lights up.
- Set the time of the wire controller: Set the time according to the manual of the wire controller.
- Operation of the equipment: Turn on the equipment with the controller. When the controller displays the heating icon, check whether the equipment is operating normally.
- Normal judgment: The fan is operating normally, and the entire device is operating stably without obvious vibration and abnormal noise.

2.10.3 STATIC PRESSURE SETTING

The default static pressure is 30 Pa. If the air outlet resistance is too high, it can negatively impact the air volume and overall device performance. Therefore, during the installation process, it is important to address the air duct resistance to ensure that the air volume remains consistent with the rated value. Once the equipment is installed, the air volume can be adjusted by modifying the static pressure setting on the wired controller based on the actual conditions. You can set the static pressure of the unit by following this path: [MENU] - [4. PARAMETERS CONFIG.] - [3. INSTALLER SETTING] - [1. TURBO MODE].

The setting range of static pressure is 10~90Pa at intervals of 10 Pa. Please consult the dealer when setting the static pressure value.

Notes: Increased external static pressure will result in elevated noise levels of the unit.

3 PRODUCT INFORMATION

3.1 PRODUCT PARAMETERS

			200L	250L
Power supply		Ph-V-Hz	1-220~240-50	1-220~240-50
Water Tank Volume		Ltr	204	250
Rated Heating Capacity*		kW	1.65	1.65
Power input*		kW	0.405	0.405
Refrigerant	Type	-	R290	R290
	Charge	g	150	150
Average Climate (7/6℃) (EN16147)	Load profile	-	XL	XL
	Energy efficiency class	-	A+	A+
	Energy efficiency-η	%	136%	145%
	COP _{DHW}		3.30	3.50
	Annual electricity consumption-AEC	kWh	1233	1154
Warmer Climate (14/13℃) (EN16147)	Energy efficiency-η	%	143%	160%
	COP _{DHW}		3.47	3.85
	Annual electricity consumption-AEC	kWh	1167	1041
Colder Climate (2/1℃) (EN16147)	Energy efficiency-η	%	118%	119%
	COP _{DHW}		2.87	2.90
	Annual electricity consumption-AEC	kWh	1417	1402
Operation Range	Heat pump	℃	-7~43	-7~43
	Heat pump+E-heater	℃	-25~43	-25~43
Max. Hot water temperature	Heat pump	℃	70	70
	Heat pump+E-heater	℃	75	75
Water Tank Rated Pressure		MPa	0.85	0.85
Compressor	Type	-	Rotary	Rotary
Tank	Material	-	Enamelled steel	Enamelled steel
	Cathodic protection	-	Mg rod+Electronic anode(Optional)	Mg rod+Electronic anode(Optional)
	Water inlet pipe	G"	3/4"	3/4"
	Water outlet pipe	G"	3/4"	3/4"
	Drainage pipe	G"	3/4"	3/4"
Power Input	Maximum heat pump power input	W	850	850
	E-heater	W	1600	1600
	Maximum power input	W	2450	2450
Refrigerant design pressure		MPa	3.2/1.1	3.2/1.1
Sound power level		dB(A)	53	53
Net/gross weight		kg	94/114	106/125
Dimension (W×D×H)		mm	600×625×1802	600×625×2022
Packing (W×D×H)		mm	690×690×1960	690×690×2180
Loading Quantity	20GP/40GP/40HQ	Pcs	24/51/51	24/51/51

*Indicates that the parameters obtained with the following conditions: ambient temperature: 14℃ DB/13℃ WB; water tank temperature (start/end): 10℃/55℃

4 OPERATING INSTRUCTIONS

4.1 WIRE CONTROLLER OPERATION

This is the wire controller for European water heaters heat pump.

4.1.1 WIRE CONTROLLER DISPLAY DESCRIPTION



Key Name	[MENU]	[ON/OFF]	[BACK]	[MODE]	[UP]	[DOWN]	[LEFT]	[RIGHT]	[OK]
Icon	MENU		BACK	MODE					OK

4.1.2 ICON EXPLANATION

SN	Content		Function description
1	20-12-2022	Date	Day-Month-Year, displayed by default
2	23:58	Time	24-hour time, displayed by default
3		Daily timer	When the daily timer is effective, the icon displays
4		Weekly timer	When the weekly timer is effective, the icon displays
5		Ambient temperature	Room temperature, displayed by default
6		Child Lock	When the CHILD LOCK function is enabled, the icon displays
7		WiFi	This icon will be displayed after WiFi networking is successful

8	100% 	Water volume	Display the water volume of the target water temperature
	75% 		
	50% 		
	25% 		
	0% 		
9		STANDARD Mode	Heat pump operates at standard power
10		ECO Mode	Heat pump operates at energy-saving power
11		VENT. Mode	Heat pump operating in fan-only mode
12		HYBRID Mode	Electric heating and heat pump on
13	OFF	Turn off	Unit turns off
14	ON	Turn on	Unit turns on
15	 45°C	Setting temperature	The icon indicates the target water tank temperature
16	45°C	Water Tank temperature	Water Tank current water temperature (THW1 TEMP)
17		Solar energy heating	This icon indicates that the solar energy function is in operation
18		Sterilization	Indicates that the hot water tank is being sterilized
19		Error	Display when there is a error, and display the error code at the same time
20		Compressor	When the compressor is on, the icon displays
21		Water Pump	When the water pump is turned on, the icon displays

22		E-heater	When the electric heating is turned on, the icon displays
23		Anti-freeze protection	When the whole unit enters anti-freeze protection , the icon displays
24		Defrost	When the unit enters defrost state, the icon displays
25		HOLIDAY AWAY	When holiday away from home mode is on, the icon displays
26		HOLIDAY HOME	When holiday at home mode is on, the icon displays
27		FREE ELEC. I	Smart Grid function to indicate different states of electricity usage
28		FREE ELEC.II	
29		OFF-PEAK ELEC.	
30		PEAK ELEC.	
31		GAS B. MODE	This icon indicates that the gas boiler function is in operation
32		AI Function	When AI energy saving function is turned on, the icon displays
33		Silent Mode	When the silent mode is enabled, the icon displays

Remarks:

When an icon is displayed, it means that the corresponding function/system/device is switched on and vice versa.
Some functions may vary on different devices, please refer to the actual prototype for accuracy.

4.1.3 EXPLANATION OF DISPLAY ITEMS

(1) Initial state

After the wire controller is powered on, its display screen will display "loading,please wait"; after the loading process is completed, it will automatically enter the general page.



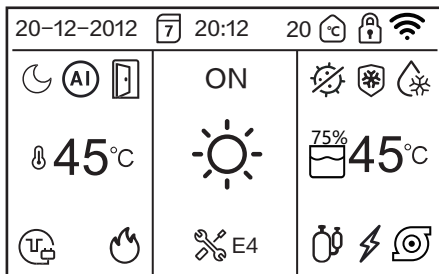
(2) Buzzer state

In the default state: when the key is pressed, the buzzer will give a short beep. The sound of buzzer can be turned off in the setting.

(3) Backlight display (10-level gradual change in backlight)

- When the backlight goes out, if any key is pressed, the backlight will change from the state of going out to the state of maximum luminance and system will not respond to this operation.
- When the last key pressing starts timing, if the key is not pressed for 15 seconds, the backlight will gradually change from the state of maximum luminance to the state of half maximum luminance.
- The timer starts from the backlight changes to the state of half maximum luminance; if the key is not pressed for 105 seconds, the backlight will gradually change from the state of half maximum luminance to the state of going out; however, if the key is pressed during this period, the backlight will immediately change to the state of maximum luminance and the timing will restart.
- When the backlight is in the state of maximum luminance or half maximum luminance, the key is in the state of being awakened and it will respond to any operation.

(4) Home page display



4.1.4 EXPLANATION OF KEYS

(1) [MODE] key

When the wire controller is powered on for the first time, the standard mode is switched off by default. On the home page, when you quickly press the [MODE] key, the mode icon zone will switch to next mode. switching sequence:

(2) [UP], [DOWN], [LEFT], [RIGHT] keys

On the main interface, you can press the [V] or [>] key to decrease the target water temperature or lower the target fan speed. To increase the water temperature or raise the target fan speed, press the [^] or [<] key.

For quick adjustments, you can long-press the aforementioned keys for more than 0.6 seconds to complete the rapid setting.



NOTE

Setting temperature values of Standard, HYBRID, ECO modes and setting fan speed of VENT. mode are backed up independently; when the unit enters the same modes next time, it will display the last set temperature values of the corresponding modes.

Water temperature adjusting range:

Mode	°C		°F		Note setting
	Setting range	Initial Value	Setting range	Initial Value	
STANDARD	30~75	50	86~167	122	
HYBRID	30~75	55	86~167	130	
ECO	30~60	45	86~140	112	
VENT.	LOW/MED/HIGH	LOW	/	/	Corresponding to low/medium/high fan speed

(3) [ON/OFF] key

- In the main interface, short press the [⏻] key to turn the unit on or off.
- When the device is powered off, short press the [⏻] key to power on the unit.
- When the device is powered on, short press the [⏻] key to shut down the unit.

(4) [BACK] key

If you quickly press the [BACK] key, it will go back to the previous menu.

(5) [MENU] key

On the home page, if you quickly press the [MENU] key, it will enter the main menu page.

4.1.5 EXPLANATION OF MENUS

(1) Main menu display

MENU 2/2	
1. OPERATION MODE	
2. ADVANCED FUNCTION	
3. FUNCTION	
4. PARAMETERS CONFIG	
5. PARAMETER QUERY	
6. RESET WIFI	
OK	^ V BACK

MENU 2/2	
7. HISTORY ERROR	
8. VERSION QUERY	
OK	^ V BACK

Menu operation interface operation instructions:

- When the Menu is selected, You can choose the relevant menus by pressing the [^] or [V] key and then confirm by pressing the [OK] key.
- If the current item has more than two options, the left option is the title and the right option is the setting item. You can press [>] or [<] to select an object. After selecting the setting item, you can press [^] or [V] to change the setting value. After the setting is completed, press [OK] to save and return.
- In the menu interface, press [Back] to return to the previous menu. Press [⏪] to return to the main interface without saving.

(2) Operation mode display

OPERATION MODE 1/1	
 STANDARD	 HYBRID
 ECO	 VENT.
OK	< > BACK

There are four modes, namely "STANDARD", "HYBRID", "ECO" and "VENT.". You can choose the modes by pressing the [<] or [>] key, keep the setting results by pressing the [OK] key or the [MENU] key then go back to the main page by pressing the [BACK] key or the [⏪] key.

(3) Basic settings of wire controller

Select [4. PARAMETERS CONFIG] from the main menu and press [OK] to enter the settings.

PARAMETERS CONFIG 1/1	
1. SETTINGS	
2. SPECIAL FUNCTION	
3. INSTALLER SETTING	
4. PROCUDER SETTING	
5. PASSWORD SET	
6. RESET	
OK	^ V < > BACK

Select [1.SETTINGS] and press [OK] to enter the follow interfaces.

SETTINGS 1/2	
1. SCREEN BRIGHT	10
2. KEY BUZZER	ON
3. CHILD LOCK	OFF
4. LANGUAGE	EN
5. TEMP DISPLAY TYPE	OUTDOOR
6. UNIT	°C
OK	^ V < > BACK

(4) Current date and time settings

Select [TIME AND DATE], press [>] and the setting items on the right correspond to the current date, month, year, hour and minute respectively, then press [^] [V] to set the current correct time, and press [OK] to save after setting.

Note: When you power on for the first time, please set the time parameters of the wire controller according to the correct time. After that, the wire controller will record the time normally. If you do not set the correct time, the weekly timer/daily timer, holiday away/home, sterilization timer and other functions will not be executed correctly.

(5) Other options of wire controller

- The SCREEN BRIGHT: It can be set wire controller brightness level from 1 to 10 and OFF.
- The KEY BUZZER: sets the wire controller button buzzer switch. You can set the wire controller buzzer on or off.
- LANGUAGE: set the display language, display English as default.

- **TEMP DISPLAY TYPE:** Ambient temperature display type, can be set to INDOOR/OUTDOOR, which respectively represents the indoor. temperature of the wire controller surface or the outdoor ambient temperature of the whole machine. The current model is an indoor integrated model, so there is no difference.
- **UNIT:** can set the wire controller temperature unit to display °C or °F.
- **RETRUN TO HOMEPAGE TIME:** You can set the time for the menu option to return to the home page after the timeout.

4.2 ADVANCED FUNCTIONS SETTING

Press [MENU] at the home page then Select [2.ADVANCED FUNCTION]

ADVANCED FUNCTION		1/1
1. AI MODE		ON
2. SMART GRID		OFF
3. FORCE AHS		OFF
4. PERFORMANCE		
OK	^ V < >	BACK

4.2.1 AI MODE

The AI function can be turned on or off. After turning on AI energy-saving, the unit will execute the AI energy-saving algorithm, the mode will switch to ECO mode, and the main interface will display the AI icon.

Notes:

- 1) The AI function and the smart grid function are mutually exclusive and cannot be turned on at the same time. A prompt window will pop up.

ADVANCED FUNCTION		1/1
1. A	ON	
2. S	Do you want to disable	OFF
3. F	Smart Grid function and	OFF
4. F	enable AI mode?	
YES NO		
OK	^ V < >	BACK

- 2) When manually switching to other modes, the AI function will be exited.

OPERATION MODE		1/1
ST	Do you want to disable	
	AI mode and enable mode	
	selection?	
YES NO		
OK	< >	BACK

- 3) When the holiday mode function is turned on and you are away from home or at home during the holiday, the Holiday Away/Home mode function will be executed first and AI mode will not be executed.
- 4) After AI function is turned on,If the weekly timer/daily timer function is set, the power on time will be based on the weekly timer/daily timer, and the mode will be executed according to ECO. AI function will be executed. The ventilation mode set by the timer setting will not be affected.

4.2.2 SMART GRID

The [SMART GRID] can be set to on or off. After the smart grid is turned on, the unit will detect the smart grid power consumption signal and control the unit on/off or set the unit's operating mode according to the four electricity price states of free electricity I, free electricity II, peak electricity, and valley electricity. The main interface will display the corresponding electricity price icon.

Unit operation under different signals

EVU signal	SG signal	Operation
OFF	ON	Units with E-heater: Priority run in HYBIRD mode for heating at set temperature. Unit without E-heater: Run in Standard mode for heating at set temperature.
ON	ON	Units with E-heater: Priority run in HYBIRD mode for heating at set temperature of 75℃. Unit without E-heater: Run in Standard mode for heating at set temperature of 70℃.
OFF	OFF	Run in standard mode.
ON	OFF	Unit shuts down.

Notes:

1) Smart grid and AI functions are mutually exclusive and cannot be turned on at the same time.

ADVANCED FUNCTION		1/1
1. AI	ON	
2. SM	Do you want to disable	FF
3. FO	AI mode and enable Smart	FF
4. PE	Grid function?	
YES NO		
OK BACK		

2) When manually switching to other modes, the smart grid function will be exited.

OPERATION MODE		1/1
ST Do you want to disable Smart Grid function and enable mode selection? YES NO		
OK BACK		

When SMART GRID is enabled and the unit is in free electricity status, the unit cannot be powered off without disabling the SMART GRID function.

- 3) When the holiday mode function is turned on and you are away from home or at home during the holiday, the Holiday Away/Home mode function will be executed first and the smart grid function will not be executed.
- 4) After the smart grid function is turned on, if the weekly/daily timer function is set, the smart grid function will be executed first and the weekly/daily timer function will not be executed.

4.2.3 FORCE AHS

You can set whether the unit is forced to turn on the Auxiliary Heat Source to speed up the hot water production. When this function is activated, the wired controller's main interface will display a [🔥] icon or [🌞] icon if the unit has been connected to an auxiliary heat source.

4.2.4 PERFORMANCE QUERY

Press [OK] to enter and query the total power consumption of the current unit.

4.2.5 FORCE DEFROST

Select [4.PARAMETERS CONFIG] on the main menu and press [OK] to enter .
Then select [2.SPECIAL FUNCTION] and press [OK] to enter the submenu.

SPECIAL FUNCTION		1/1
1. FORCE DEFROST	OFF	
2. RECYCLE REFRIG	OFF	
OK BACK		

Set [1. FORCE DEFROST] to on to turn on the function.

Notes:

- 1) When the Unit is started and in the "HEAT" mode, if the frost on the heat exchanger of the outdoor unit is thick, the heating effect will be affected; the function of "FORCE DEFROST" can be enabled only in the " HEAT" mode. On the "SPECIAL FUNCTION" page of the Wire Controller, if you select "FORCE DEFROST" and set it to [ON], the whole machine system will be forced to enter the "FORCE DEFROST" operation.
- 2) During normal operation of the unit, be careful in setting the temperature. Forced defrosting will affect the efficiency of hot water production.

4.3 BASIC FUNCTION SETTINGS

4.3.1 CHILD LOCK

The child lock is used to prevent children from wrongly operating. The mode setting and temperature adjustment can be locked or unlocked by the child lock function. Go to "[MENU]-[3.FUNCTION]-[1.CHILD LOCK]",the following interface will be displayed. After setting the child lock, pressing any key will prompt that the unit is in the child lock state. Need to press and hold the [OK] button for 3 seconds if you want to cancel the child lock function.

FUNCTION	1/1
1. CHILD LOCK	ON
2. STERILIZATION	
3. SILENT MODE	
4. TIMER SETTING	
5. HOLIDAY MODE	
OK	^ V < > BACK

4.3.2 STERILIZATION

Select STERILIZATION option, press [OK] to enter the STERILIZATION setting.

STERILIZATION	1/1
1. ONE TIME STERIL.	ON
2. STERIL. TIMER	ON
3. STERIL. TSET	70°C
4. STERIL. TIME	10:30
5. STERIL. DATE	
OK	^ V < > BACK

If [1.ONE TIME STERIL.] select ON and the unit will be sterilized once immediately.

[STERIL. TIMER] is used to set the sterilization regularly. You can select the dates and press OK to continue setting the time.

When sterilization is executed, the main interface of the wired controller will display the sterilization icon.

4.3.3 SILENT MODE

SILENT MODE	1/1
1. SILENT MODE	ON
2. SILENT LEVEL	LEVEL 2
3. SILENT TIMER 1	ON
4. PERIOD 1	10:30 - 11:40
5. SILENT TIMER 2	ON
5. PERIOD 2	10:30 - 11:40
OK	^ V < > BACK

The silent function is divided into two levels, the higher the level the better silent effect. If [CURRENT STATE] select ON, silent timer 1&2 sets OFF, the silent function is used all the time by default. When one timer is on, the silent function will be enabled according to the setting time period.

4.3.4 TIMER SETTING

Select [TIMER SETTING] option, press [OK] to enter the timer function submenu.

TIMER SETTING	1/1
1. CLEAR ALL SETTINGS	
2. WEEKLY TIMER SETTING	
3. DAILY TIMER SETTING	
OK	^ V BACK

(1) Clear all timing settings

Select [CLEAT ALL SETTINGS] and press [OK], a prompt message will pop up to let you to confirm disable all timers.

TIMER SETTING	1/1
1. C	
2. W	Whether to disable all
3. D	timers?
	YES NO
OK	^ V BACK

(2) WEEKLY TIMER

Select [WEEKLY TIMER SETTING] and press [OK] to enter the weekly timer submenu.

WEEKLY TIMER SETTING		1/1
1. WEEKLY TIMER 1		
2. WEEKLY TIMER 2		
3. WEEKLY TIMER 3		
4. WEEKLY TIMER 4		
5. WEEKLY TIMER 5		
6. WEEKLY TIMER 6		
OK	^ V	BACK

You can set up to 6 weekly timers. Select the corresponding setting option and press [OK] again to enter the specific weekly timer setting options.

WEEKLY TIMER 1		1/1				
SUN	MON	TUE	WED	THU	FRI	SAT
☒	☐	☐	☐	☐	☐	☐
Y/N	START	END	MODE	TEMP		
☐	10:10	10:30	ECO	60℃		
OK	^ V < >				BACK	

You can choose the weekly timer function enabling option by pressing the [<] [>] [^] [V] key and then confirm the enabling on or off by pressing the [OK] key.If enabled, it displays ☒. When the Y(N)/START/END/MODE/TEMP setting option is selected, press [<] [>] to switch options, and press [^] [V] to set the value. Finally, press [BACK] to save and return.

(3) DAILY TIMER

DAILY TIMER SETTING		1/2		
Y/N	START	END	MODE	T/S
1. ☒	01 : 00	00 : 00	STD	60℃
2. ☐	00 : 00	02 : 00	HYBRID	60℃
3. ☐	00 : 00	00 : 00	VENT.	LOW
4. ☐	00 : 00	00 : 00	ECO	60℃
5. ☐	00 : 00	00 : 00	ECO	60℃
OK	^ V < >			BACK

DAILY TIMER SETTING		1/2		
Y/N	START	END	MODE	T/S
6. ☒	01 : 00	00 : 00	STD	60℃
OK	^ V < >			BACK

- Notes:**
- 1) After the weekly/daily timer function is on, the wire controller interface will display the icon / .
 - 2) Weekly timer and daily timer are mutually exclusive. You cannot set weekly timing and daily timing at the same time.
 - 3) If the holiday mode function is set and the system is in the holiday away/home state, the holiday away/home function will be executed first, and the weekly/daily timer function will be invalid.
 - 4) After setting the smart grid function, the smart grid function will be executed first, and the weekly/daily timer function will be invalid.
 - 5) After setting the AI function, when executing the weekly/daily timer startup, AI will be executed in ECO mode, the VENT. mode set by the timing will not be affected.

4.3.5 HOLIDAY MODE

Select [HOLIDAY MODE] option, press [OK] to enter the submenu.

HOLIDAY MODE		1/1
1. CLEAR ALL SETTINGS		
2. HOLIDAY AWAY		
3. HOLIDAY HOME		
OK	^ V < >	
		BACK

CLEAR ALL SETTINGS

HOLIDAY MODE		1/1
1. CLEAR ALL SETTINGS		
2. HOLIDAY AWAY		
3. HOLIDAY HOME		
Whether to disable all Holiday mode?		
YES NO		
OK	^ V < >	BACK

Select [CLEAR ALL SETTINGS]. After pressing the OK button, a pop-up window will be shown as the figure, Select YES and press [OK] confirm that all holiday mode functions will be disabled.

(1) HOLIDAY AWAY

Select [HOLIDAY AWAY] and press [OK] to enter the submenu.

HOLIDAY AWAY		1/1
1. HOLIDAY AWAY	ON	
2. DATE	25. 7. 24 - 28. 9. 24	
3. AUTORUN	ON	
4. ACTIVATION TIME	10:30	
5. TARGET TEMP	65℃	
OK	^ V < >	BACK

If you're planning a holiday away from home, you can use the holiday away mode to realize energy conservation and freeze prevention. You can set the following content: Holiday away on/off, holiday start date and end date, whether to prepare hot water in advance after the holiday, the hot water preparation time, the hot water target temperature.

Notes:

- 1) The functions of "Holiday away and Holiday home" are mutually exclusive. One is set, another one will be turned off.
- 2) After the holiday away function is turned on, the wire controller will display the icon  when the unit executes the holiday away function on the date.
- 3) When in holiday away mode, any button operation on the wire controller will trigger a prompt, reminding that you're in holiday mode. You can choose [OK] to disable the holiday mode and manually adjust the setting.

(2) HOLIDAY HOME

Select [HOLIDAY HOME] and press [OK] to enter the submenu.

HOLIDAY HOME		1/1
1. HOLIDAY HOME	ON	
2. DATE	10. 11. 24 - 15. 11. 24	
3. HOLIDAY AT HOME TIMER		
OK	^ V < >	BACK

If you're planning a holiday at home, you can use the Holiday at Home Mode to realize energy saving and freeze prevention; To avoid modifying existing schedules, the daily timer for Holiday at Home Mode can be configured independently from previous daily/weekly timers. You can set the following content: Holiday at home on/off, holiday start date and end date, Daily timer of holiday home.

HOLIDAY AT HOME TIMER					1/2
Y/N	START	END	MODE	T/S	
1. ☒	01 : 00	00 : 00	STD	60℃	
2. ☐	00 : 00	02 : 00	HYBRID	60℃	
3. ☐	00 : 00	00 : 00	VENT.	LOW	
4. ☐	00 : 00	00 : 00	ECO	60℃	
5. ☐	00 : 00	00 : 00	ECO	60℃	
OK	^ V < >				BACK

Notes:

- 1) The functions of "Holiday away and Holiday home" are mutually exclusive. One is set, another one will be turned off.
- 2) After the holiday home function is turned on, the wire controller will display the icon  when the unit executes the holiday home function.
- 3) When in holiday home mode, any button operation on the wire controller will trigger a prompt, reminding that you're in holiday mode. You can choose [OK] to disable the holiday mode and manually adjust the setting.

4.3.6 PARAMETER QUERY

Go to [MENU]-[5. PARAMETER QUERY] and press [OK] to enter the parameter query interface.
This interface will display the current operating status of the unit.

PARAMETER QUERY		1/4
1. AHS TEMP	-30.0℃	
2. AHS	OFF	
3. DHW PUMP	OFF	
4. AUX FAN	OFF	
5. EVU	OFF	
6. SG	OFF	
OK	^ V	BACK

4.3.7 RESET WIFI

WiFi setting

(1) APP download

Download " TSmart " APP from App store or Google Play and install it.

(2) Login APP

For the first time to use, please register an account and log in. If the user already registered an account, enter the account password to log in to the APP.

(3) Matching network

Method 1: If you press the [MODE] key and the [V] key of the wire controller for 5 seconds at the same time, you can quickly reset the WiFi. When you hear a beep, release the button. At this time, the wire controller enters the configure network mode.

Method 2: Press Menu key on the main interface. Select [6.RESET WIFI] and press [OK] to confirm. The wire controller enters the network configuration mode.

MENU		2/2
1. OPERATION MODE		
2. ADVANCED FUNCTION		
3. FUNCTION		
4. PARAMETERS CONFIG		
5. PARAMETER QUERY		
6. RESET WIFI		
OK	^ V	BACK

During the network configure process, the WiFi icon flashes. When the network has not been connected to the distribution network for 8 consecutive minutes, the WiFi icon goes out. When the WiFi connects successfully, the WiFi icon is always on. When the controller enters the distribution network mode, please use the " TSmart" APP to add devices according to the APP prompt, then you can always use the APP to operate devices remotely.

When the APP need you to scan QR code or put in activation code, see below.

Activation code is :EVO

QR code is as follows :



4.3.8 RESET

If the unit malfunctions due to accidental changes to factory settings, you can restore it to default using the wired controller.

Select [4. PARAMETERS CONFIG] in the main menu and press [OK] to enter the settings.

Select [6. RESET], press [OK], then input "2345" to activate the factory reset.

RESET		1/1
Please input password:		
* * * *		
OK	^ V < >	BACK

4.3.9 HISTORY ERROR

Select [7.HISTORY ERROR] on the main menu and press [OK].On this page, there are three secondary menus, namely [CURRENT ERROR], [HISTORY ERROR] and [CLEAR HISTORY ERROR],the maximum number of history errors is 10.

HISTORY ERROR		1/1
1. CURRENT ERROR		
2. HISTORY ERROR		
3. CLEAR HISTORY ERROR		
OK	^ v	BACK

4.3.10 VERSION QUERY

Key operations and display:

Go to [MENU] -[VERSION QUERY], and press [OK], the program versions of the current wire controller, indoor unit, and outdoor unit can be checked.

VERSION QUERY		1/1
WIRE CONTROLLER:		
SWXK000725V01		
MAIN BOARD:		
MAIN BOARD EEPROM:		
OK	BACK	

4.4 APPENDIXES

ERROR LIST AND TROUBLESHOOTING

When an abnormality occurs in the unit, it will display the error codes shown in the following table.

- When multiple errors occur at the same time, the error code is updated every 5 seconds.

Error Code	Content	Type	The exclusion method
C7	WIFI communication failure	H	Check WIFI module
db	THW2 temp. sensor failure	H	Check the temperature. Check the resistance of temperature sensor. The sensor connector is loosen. Reconnect it. The sensor failure, change a new sensor.
dd	THW1 temp. sensor failure	H	
dj	Solar temp. sensor failure	H	
L7	Anti-freezing protection	R	Check the thermal insulation of the water pipe
E3	Coil Temperature sensor error	H	Check the temperature. Check the resistance of temperature sensor. The sensor connector is loosen. Reconnect it. The sensor failure, change a new sensor.
E7	Ambient Temperature sensor error	H	
E8	Discharge Temperature sensor error	H	
Eb	Communication failure between main PCB and wire controller	H	Check the connection between the main control and the wire controller
EC	Inter-module communication failure	H	Check the communication between the driver chip and the main control chip, and contact after-sales service
EE	EEPROM error	H	Needs to updated EE program
EF	Fan motor error	H	Check whether the fan motor is normal

EH	Suction Temperature sensor error	H	Check the temperature. Check the resistance of temperature sensor. The sensor connector is loosen. Reconnect it. The sensor failure, change a new sensor.
F5	PFC protection	S	Compressor overload, emergency protection
F6	Phase protection	S	PCB chip temperature too high, emergency protection
F7	Module temperature protection	S	Abnormal phase current
F9	Module temperature circuit error	S	Compressor Protection (frequency limit/frequency reduction)
FA	Phase current detection error	H	Compressor Current Protection (frequency limit/frequency reduction)
Fb	Over-load limitation	S	PCB chip temperature protection (frequency limit/frequency reduction)
FE	Phase current limitation	H	Compressor protection (frequency limit/frequency reduction)
FF	Module temperature limitation	S	Frequency limit/frequency reduction
FH	Inverter limitation	S	Main board current (frequency limit/frequency reduction)
Fj	Discharge Temperature limitation	S	Compressor overload, emergency protection
Fn	Current limitation	S	PCB chip temperature too high, emergency protection
H2	Low pressure switch error	H	System low pressure protection
P0	IPM protection	S	The unit has protection such as frequency limit/frequency reduction, check whether the ambient temperature exceeds the limit
P1	Over-voltage protection	S	Check whether the voltage is normal
P2	Over-current protection	S	Unit current is too high
P4	Discharge Temperature protection	S	Discharge temperature is too high
P7	Over-heating protection	S	Water tank temperature is too high
P8	Over-range protection	S	Outdoor ambient temperature exceeds the limit

H-Hardware code S-Software code R-Reminding code.

5 REFRIGERATION SYSTEM MAINTENANCE

5.1 SAFETY NOTICES



WARNING

- This appliance contains R290 refrigerant gas. Before repair it, read the service manual first and in strict accordance with the requirement of manufacturer.
- This chapter mainly introduces the special maintenance requirements for equipment that uses R290 refrigerant.

Any person involved in operating or disassembling a refrigerant circuit should hold a valid certificate issued by an industry-recognized assessment body authorizing them to be competent to safely handle refrigerants in accordance with industry-recognized assessment specifications.

Repairs should be performed only as recommended by the equipment manufacturer. Maintenance and repairs that require the assistance of other technicians should be performed under the supervision of a person skilled in the use of flammable refrigerants.

5.2 SAFETY PREPARATIONS

Before starting work on a system containing flammable refrigerants, a safety check must be carried out to ensure that the risk of ignition is reduced to a minimum. For refrigeration system repairs, the following precautions must be observed.

5.2.1 WORK PROCEDURES AND AREA REQUIREMENT

Work should be carried out under controlled procedures to minimize the risk of flammable gases or vapors being present during work.

All personnel should be informed of the nature of the work being carried out. Confined working spaces should be avoided and zones should be established around the work area. This ensures safety by controlling flammable materials.

Before entering the system or carrying out any hot work, ensure the area is open or well ventilated. Some level of ventilation should be maintained during work. Ventilation should safely disperse any released refrigerant, preferably to the outside atmosphere.

Note: If any hot work is to be conducted on the refrigeration 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.

5.2.2 WORK SAFETY INSPECTION

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

non-sparking, adequately sealed or intrinsically safe.

Any ignition source that may cause a fire or explosion is prohibited

- All possible ignition sources, including smoking, should be kept away from the installation, maintenance, removal and disposal site.
- Before work begins, the area around the equipment should be checked for ignition sources and a "No Smoking" sign should be placed in the work area.

The following checks should be performed when using flammable refrigerants:

- Refrigeration pipes or components should be installed in a location that ensures they are not exposed to any substances that may cause corrosion, unless the materials of these components are corrosion-resistant or appropriate corrosion protection measures are taken.
- The ventilation equipment and air outlets should be in good working order and unobstructed.
- If an indirect refrigeration circuit is used, check whether there is refrigerant in the auxiliary circuit.
- The name of the refrigerant and its rated charge must be filled in accurately, and the maximum charge shall not exceed 152g.
- The markings on the equipment should remain clearly visible, and any unclear markings should be corrected.

When replacing electrical components, ensure that they are fit for purpose and meet the correct specifications. Always follow the manufacturer's maintenance and service guidelines. If in doubt, Please consult the manufacturer's technical department. If there is a error that may endanger safety, do not connect power to the circuit until the fault is properly corrected. If the fault cannot be repaired immediately but operation must continue, use an appropriate temporary solution. Repair and maintenance of electrical components should include safety checks and component inspection procedures.

Safety checks should include:

- Continuity of ground connection.
- Live parts and cables must not be exposed when the system is charged, restored or purged.
- Capacitor discharge should be carried out in a safe manner to avoid sparks.
- The cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. Also take into account the effects of aging or continual vibration from sources such as compressors or fans.

5.2.3 SEALED COMPONENTS REPAIR

Before repairing sealed components, disconnect all electrical supplies from the equipment. If electrical power is essential during servicing, install a continuous leak detection system at the most critical point to alert of any hazards.

Pay special attention to the following: damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc. So as not to affect the enclosure protection level during operation.

- 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.

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.

5.2.4 INTRINSICALLY SAFE COMPONENTS REPAIR

Do not place any permanent inductive or capacitive loads on the circuit unless ensuring that it does not exceed the allowable voltage and current of the equipment used.

Intrinsically safe components are the only type that can be operated live in a flammable atmosphere. Test equipment should be of the correct rating.

Replace components only with manufacturer-specified parts. Other parts may cause leaks that could ignite refrigerant in the atmosphere.

5.2.5 REFRIGERANT LEAK DETECTION

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.

The following leak detection methods are deemed acceptable for all refrigerant systems.

- Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need recalibration. 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 pipework.

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. For appliances containing flammable refrigerants, oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

5.2.6 REFRIGERANT HANDLING

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

- Safely remove refrigerant following local and national regulations.
- Evacuate then purge the circuit with inert gas (optional for A2L).
- Evacuate and continuously flush or purge with inert gas when using flame to open circuit.
- Open the circuit.

The refrigerant charge shall be recovered into the correct recovery cylinders. For appliances containing flammable refrigerants, 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 purging refrigerant systems.

For appliances containing flammable refrigerants, refrigerant purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation shall be available.

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

- 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 in an appropriate position according to the instructions.
- Ensure that the refrigerating system is earthed before charging the system with refrigerant.
- Label the system when charging is complete, if it not already labeled.
- Extreme care shall be taken not to overfill the refrigerating system. Before recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak tested on completion of charging but before commissioning. A follow-up leak test shall be carried out before leaving the site.

5.2.7 RECOVERING REFRIGERANT

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 reuse 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.
- Do not overfill cylinders. (No more than 80% volume liquid charge).
- Do not exceed the maximum working pressure of the cylinder, even temporarily.
- (8) 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.
- (9) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

5.2.8 DECOMMISSIONING

Equipment shall be labeled stating that it has been decommissioned and emptied of refrigerant.

The label shall be dated and signed. For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

- (1) 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 is available.
- All cylinders to be used are designated for the recovered refrigerant and labeled for that refrigerant. Use 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.
- (2) 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 all appropriate refrigerants including, when applicable, 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.
- (3) 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 specially not in cylinders.
- (4) 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 before 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.

WARNING

Equipment shall be labeled stating that it has been decommissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

6 PRODUCT MAINTENANCE

During product maintenance, when repairing or replacing related parts, please contact our dealers or local service centers.

6.1 WATER SYSTEM MAINTENANCE

During maintenance process, the filling and draining of the equipment must be monitored to avoid electric shock caused by water. Please disconnect the power supply before filling, draining or cleaning.

(1) Adding water

- Open the cold water inlet valve.
- Open the hot water outlet valve and the hot water tap and fill the device with water.
- Once water flows out of the hot water tap, make sure all air in the system is exhausted, then close the hot water tap.

(2) Draining the system

- Close the cold water inlet valve and open the hot water tap.
- Open the drain valve, drain all water from the tank.
- Close the drain valve, fill the tank with water, and then power on the unit.

(3) Cleaning the device's water tank

Repeat the draining and filling operations until the water in the tank is clear. Please clean the water tank regularly (once every six months) to obtain high-quality water.

6.2 ELECTRONIC ANODE MAINTENANCE

For equipment water tank with electronic anode, do not disconnect the power supply the power supply after turning off the equipment, otherwise the electronic anode will not be able to protect the water tank. If the equipment is not used for a long time, it is necessary to disconnect the power supply and drain the water in the water tank and pipes.

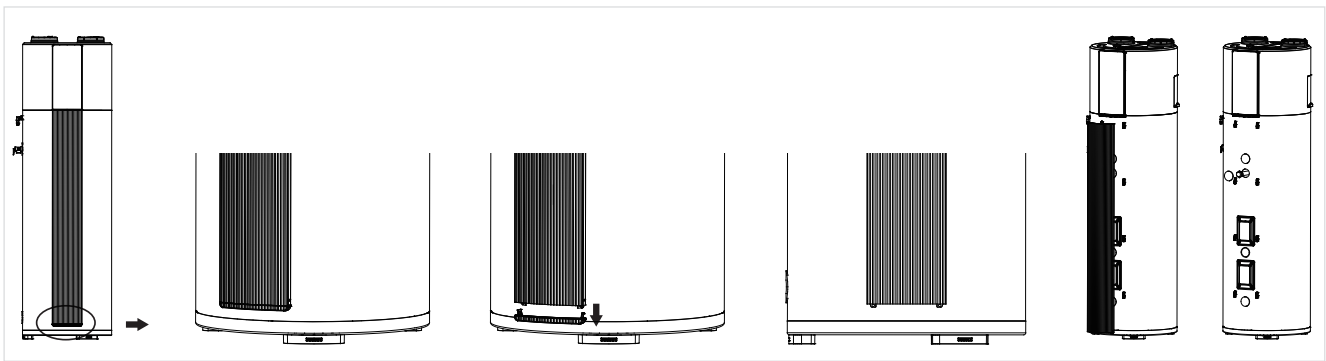
6.3 MAGNESIUM ROD MAINTENANCE

For water heaters with magnesium rods, repair and replacement should follow the steps below:

Break open the lower part of the decorative panel and remove its lower end cover.

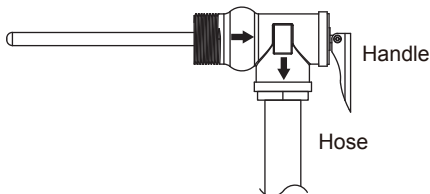
Unscrew the two screws at the bottom of the decorative strip and move the decorative panel downwards.

Remove the rubber sleeve as shown in the figure below and use the hexagonal wrench to remove the magnesium rod and replace it.



6.4 SAFETY VALVE MAINTENANCE

The safety valve handle must be opened regularly for inspection. It is recommended to check it every six months. If no water comes out, it means that the safety valve is blocked. Please replace the safety valve of the same model. During the heating operation, the water tank will discharge a small amount of water through the safety valve, which is a normal pressure relief phenomenon. But if the drainage is large or even the pipe vibration is obvious, maintenance is required.



6.5 WINTER MAINTENANCE

When using this product in winter (ambient temperature may be below 0°C), please ensure that the unit is always powered on. If the unit is not in use, be sure to drain the water in the water tank and pipes to prevent freezing and system failure.