



MegaLife



Owner's Manual

Original Instructions

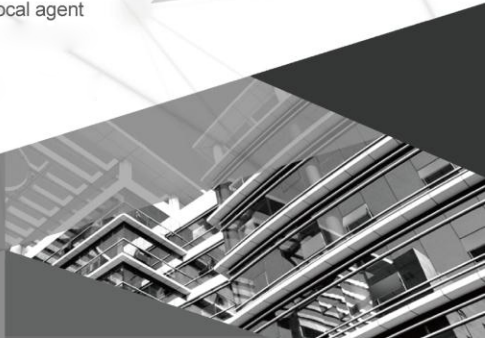
Air Source Heat Pump Water Heater

Models:

T ŠRS-2.4/D270ANbA-K

Thank you for choosing commercial air conditioners. Please read this Owner's Manual carefully before operation and retain it for future reference.

If you have lost the Owner's Manual, please contact the local agent or visit www.megalife.com



To Users

Thank you for selecting our product. Please read this instruction manual carefully before installing and using the product, so as to master and correctly use the product. In order to guide you to correctly install and use our product and achieve expected operating effect, we hereby instruct as below:

- (1) 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.
- (2) In order to ensure reliability of product, the product may consume some power under stand-by status for maintaining normal communication of system and preheating refrigerant and lubricant. If the product is not to be used for long, cut off the power supply; please energize and preheat the unit in advance before reusing it.
- (3) Please properly select the model according to actual the using environment, otherwise it may impact the using convenience.
- (4) This product has gone through strict inspection and operational test before leaving the factory. In order to avoid damage due to improper disassembly and inspection, which may impact the normal operation of unit, please do not disassemble the unit by yourself. You can contact with the special maintenance center of our company if necessary.
- (5) When the product is faulted and cannot be operated, please contact with our maintenance center as soon as possible by providing the following information.
 - 1) Contents of nameplate of product (model, cooling/heating capacity, product No., ex-factory date).
 - 2) Malfunction status (Specify the situations before and after the error occurs).
- (6) All the illustrations and information in the instruction manual are only for reference. In order to make the product better, we will continuously conduct improvement and innovation. We have the right to make

necessary revision to the product from time to time due to the reason of sales or production, and reserve the right to revise the contents without further notice.

- (7) The final right to interpret for this instruction manual belongs to TSCA & Co. E

Exception Clauses

Manufacturer will bear no responsibilities when personal injury or property loss is caused by the following reasons:

- (1) Damage the product due to improper use or misuse of the product;
- (2) Alter, change, maintain or use the product with other equipment without abiding by the instruction manual of manufacturer;
- (3) After verification, the defect of product is directly caused by corrosive gas;
- (4) After verification, defects are due to improper operation during transportation of product;
- (5) Operate, repair, maintain the unit without abiding by instruction manual or related regulations;
- (6) After verification, the problem or dispute is caused by the quality specification or performance of parts and components that produced by other manufacturers;
- (7) The damage is caused by natural calamities, bad using environment or force majeure.

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1 Safety Notices (Please be sure to abide)



WARNING: If not abide strictly, it may cause severe damage to the unit or the people.



NOTICE: If not abide strictly, it may cause slight or medium damage to the unit or the people.



This sign indicates that the operation must be prohibited. Improper operation may cause severe damage or death to people.



This sign indicates that the items must be observed. Improper operation may cause damage to people or property.



WARNING!

This product can't be installed at corrosive, inflammable or explosive environment or the place with special requirements, such as kitchen. Otherwise, it will affect the normal operation or shorten the service life of the unit, or even cause fire hazard or serious injury. As for the special places above, please adopt special product with anti-corrosive or anti-explosion function.

Air source water heater is a thermal storage water heater. The user shall open the cold water valve first, then adjusting cold and hot water flow to proper water temperature gradually to avoid scald injury. If not using the unit in winter in short time, please ensure that it is energized for the whole 24h, if not unit using the unit for a long period, discharge water in water tank and pipeline in case the system is frosted. If you think the discharge operation is inconvenient, please directly contact our local distributors or authorized service branch, we will appoint special staff to provide inspection, debug, cleaning and maintenance services.

This manual is the usage and installation manual for unitary air source water heater. Usage method for displayer shall refer to the attached Displayer Manual.

Air Source Heat Pump Water Heater



Water tank must install TP valve as required, the TP valve provided by user;



Try to use tap water, avoid not using well water or river water;











To guarantee water quality, clean the water tank periodically as required;




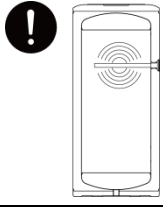
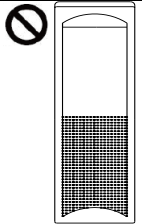

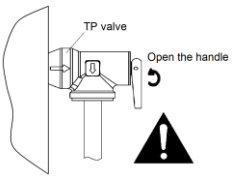
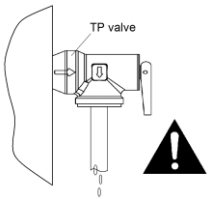
Water tank shall be installed in places without rainwater. If not, take rain-proof measures.

NO.	Safety Notices	Graphic symbol
1	<p>★ Once abnormality like burning smell occurs, please cut off the power supply immediately and then contact with service center.</p> <p>If the abnormality still exists, the unit may be damaged and electric shock or fire may result.</p>	
2	<p>★ Don't operate water heater with wet hand.</p> <p>Otherwise, it may cause electric shock.</p>	
3	<p>★ Before installation, please see if the voltage of local place accords with that on nameplate of unit and capacity of power supply, power cord or socket is suitable for input power of this unit.</p>	
4	<p>★ Special circuit must be adopted for power supply to prevent fire.</p> <p>Do not use octopus multipurpose plug or mobile terminal board for wire connection.</p>	
5	<p>★ Be sure to pull out the power plug and drain the main unit and water tank when water heater is not in use for a long time.</p> <p>Otherwise, the accumulated dust may cause overheating, fire or freeze of water tank or coaxial heater exchanger in winter.</p>	
6	<p>★ Never damage the electric wire or use the one which is not specified.</p> <p>Otherwise, it may cause overheating or fire.</p>	

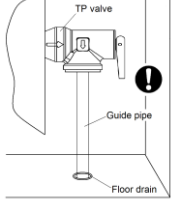
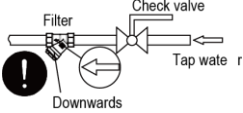
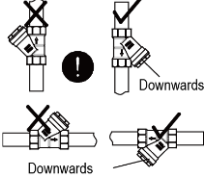



Air Source Heat Pump Water Heater

NO.	Safety Notices	Graphic symbol
7	<p>★ Before to clean, please cut off the power supply. Otherwise, an electric shock hazard may be caused.</p>	
8	<p>★ The power supply must adopt special circuit with leakage switch and enough capacity.</p>	
9	<p>★ 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.</p>	
10	<p>★ Earthing: the unit must be earthed reliably! The earthing wire should connect with special device of buildings. If not, please ask the qualified personnel to install. Furthermore, don't connect earth wire to gas pipe, water pipe, drainage pipe or any other improper places which professional does not recognize.</p>	
11	<p>★ Do not put any foreign matter into the unit, otherwise it would cause the unit being damaged or result in danger. Never put your hands at the air outlet of the unit.</p>	
12	<p>★ Do not repair the unit by yourself, in case of electric shocks or fire hazards. Please contact the T S O ^ & c [} & # appointed service center.</p>	
13	<p>★ Do not step or place objects on the unit, as they would be injured or damaged when falling off.</p>	
14	<p>★ Do not block the air inlet of the unit, otherwise it would reduce the efficiency of the unit, stop it, or even result in fire hazards.</p>	

Air Source Heat Pump Water Heater

NO.	Safety Notices	Graphic symbol
15	<p>★ Keep the chemical spray, gas tank or others similar at least 1m away from the unit, otherwise it would lead to fire hazards or explosion.</p>	
16	<p>★ To improve durability of the water tank, a Magnesium rod is installed inside the water tank. The Magnesium rod has a lifespan of two to three years, and must be replaced by professional maintenance personnel if a replacement is required.</p>	
17	<p>★ If thermal water tank has no water or water is not full, please do not energize the unit for startup, otherwise, it might damage the unit or result in fire hazard.</p>	
18	<p>★ It is highly recommended to place the unit where good ventilation is available.</p>	
19	<p>★ Open the TP valve handle on a regular (about one month) basis to check whether it is blocked. Perform sewage disposal by following the guide on a regular (about once a year) basis.</p> <p>Notes: The TP valve provided by user.</p>	
20	<p>★ It is normal that the TP valve drips.</p>	

Air Source Heat Pump Water Heater

NO.	Safety Notices	Graphic symbol
21	<p>★ The pressure relief opening of the TP valve must be connected to one end of a securely fixed guide hose, and the other end is connected to the floor drain. Ensure that the guide hose is not twisted or folded.</p>	
22	<p>★ It is recommended to install horizontally the filter downstream of the main cut-off valve of the user's water pipe. Please note that the direction arrow on the filter shall indicate the direction the same as the water flow. When it is required to remove impurity inside the water circuit, open the end cover of this filter.</p>	
23	<p>★ When the filter is installed vertically, the direction arrow can not be upward and the end cover shall be placed slantwise downwards.</p>	
24	<p>★ This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it possibly to promote the sustainable reuse of material resources. To return you used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.</p>	
25	<p>★ This unit contains fluorinated gas with greenhouse effect covered by the Kyoto Protocol. Maintenance and disposal must be carried out by qualified persons only. Refrigerant gas R134a, GWP=1430.</p>	
26	<p>★ The fuse model and rated value are in accordance with the corresponding controller or the silk screen attached on the protective tube.</p>	

2 Technical Description

2.1 General Description

(1) High Efficiency and Energy-saving

This unit adopts the adaptive control of the electronic expansion valve, whose opening angle will be adjusted automatically according to the working condition of the unit. This unit is using the heat in the air to heat the domestic water. It will operate at the optimized condition all the time under the condition of ensuring reliability. The water tank adopts external winding microchannel heat exchanger, which is contacted with the inner port directly for ensuring high heat-exchanging efficiency and better pressure-bearing capacity. The high-efficiency heat-conducting materials are adopted between microchannel heat exchanger and inner port of water tank for better thermal conductivity.

(2) Reliable and durable

Adopt the special compressor for the heat pump water heater, high temperature and high pressure resistant. The water tank adopts the advanced stainless steel inner port, equipping with the anticorrosive design for the super-long magnesium. The complete unit is with multiple kinds of protection.

(3) Eco-friendly and safe

Adopt eco-friendly R134a refrigerant, no pollution to air and no risk of carbon monoxide poisoning for ensuring safety.

(4) Convenient for installation

The installation is not limited by the environment, which can be installed at car barn, storage room, basement, balcony and so on. Not need person to take care of it. It's applicable for family and villa and other places, no circulating waterway system. It's very convenient for installation and maintenance.

(5) Deluxe configuration

The unit is equipped with high-class touchable wired controller. There's hotwater, save, preset, night and electric heating five kinds of heating mode for free selection. The setting range for the water temperature is 35°C~70°C. You can select fast heating, timer ON and OFF, preset, i-know, disinfect and other functions.

(6) Intelligent defrosting

The unit is with freeze prevention and auto defrosting functions, which can solve the problem of icing and frost.

(7) High water temperature

The highest heating temperature for the heat pump can be up to 70°C, which can satisfy the requirement for different places and users.

(8) All-weather operation

This unit can provide hot water all the year round.

2.2 Main Parts

2.2.1 Appearance

Because of the product improvement, the actual product may be different from the skect map. Please refer to the actual product.



Figure 2-1 Sketch map for the appearance

2.2.2 Main Parts

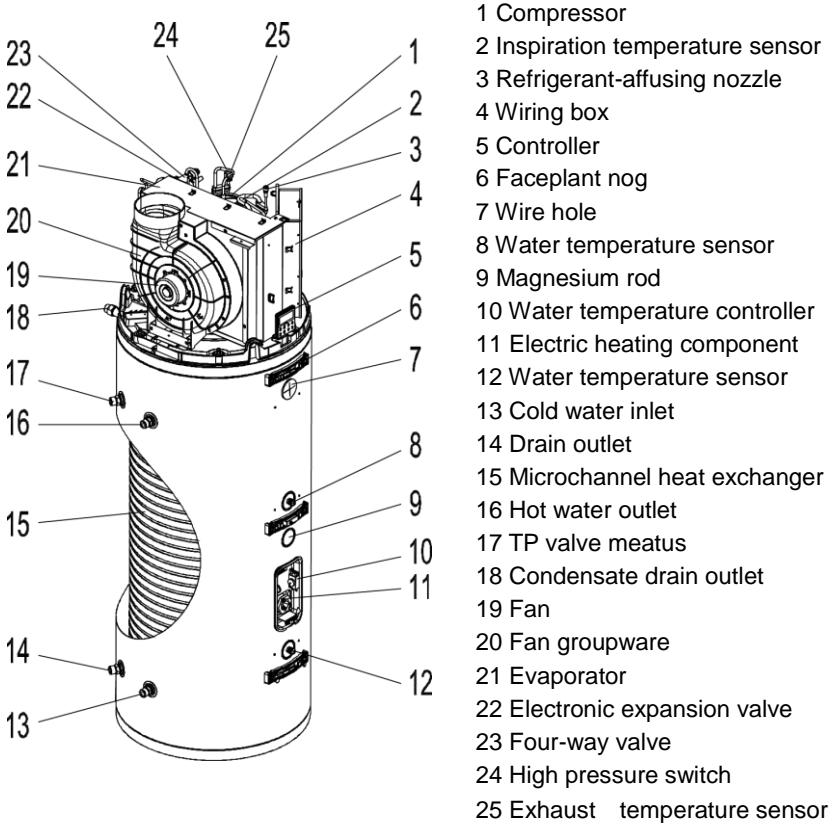


Figure 2-2 Sketch map for main parts

2.3 Operating Principle

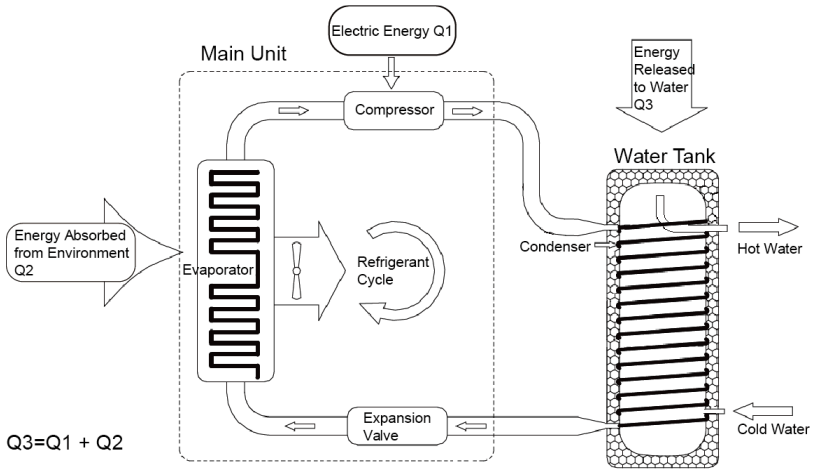


Figure 2-3 Air source water heater operating principle

The air source water heater is driving the compressor by some part of electricity by using the heat pump principle. Through the thermal circuit, absorb the heat from the low-grade energy (air) in the surrounding environment, transmit it to the heat exchanger of water tank and then release it to the water inside the water tank for heating water.

The heating principle for air source water heater and heat pump air conditioner is the same. Heat pump air conditioner supplies the absorbed heat from natural environment to indoor air, while air source will use that heat to heat domestic water. Air source water heater is a kind of new, high-efficiency, energy-saving and eco-friendly water heater.

2.4 Technical Specifications

Model		T ŠERS-2.4/D270ANbA-K	
Rated Heating Capacity ^(*)	W	2400	
Rated Input Power ^(*)	W	685	
COP ^(*)	W/W	3.50	
Capacity	L	270	
Load Profile	-	XL	
COP _{DHW} ^(**)	W/W	2.61	
Energy Efficiency Class ^(**)	-	A	
Water Heating Energy Efficiency ^(**)	-	105%	
Annual electricity consumption (average climate conditions)	kWh	1594	
Maximum Input Power	W	1300+1500W (Electric Heater)	
Outlet Water Temperature	°C	Default: 55°C, 35°C~70°C	
Power Supply	-	220V-240V ~50Hz	
Insulation Level	-	I	
Protection of Ingression	-	I PX4	
Refrigerant	Name		R134a
	Charge	kg	1.10
Outline Dimensions	W x D x H	mm	660x667x1958
Package Dimensions	W x D x H	mm	813x813x2100
Gross/Net Weight		kg	See the nameplate
Sound Power Level ^(***)		dB(A)	60
Operating Range		°C	-7~45

Notes:

- (1) (*) Value obtained with the following conditions: Outdoor temperature: 20°C DB/15°C WB; Water tank temperature (start/end): 15°C /55°C.
- (2) (**) Value obtained with an air temperature of 7°C and a water inlet at 10°C, as per EN16147-2011, (EU) No 814-2013.

- (3) (***) Value obtained indoor placement, with 2m long suction and backflow conduits, as per EN 12102-2008, (EU) No 814-2013.
- (4) The installation of suction and backflow conduits on the heat pump lessens its performance.
- (5) Under RAPID function, electric heater helps to heating water.
- (6) Please always see the nameplate for the exact data as this table is subject to change.

3 Installation

3.1 Important Hint

- (1) The air source water heater must be installed by professional person according to national wiring regulation and this instruction manual.
- (2) Although the heat pump can operate when the ambient temperature is above -7°C , the water heater can only be put indoors and must be installed at the places where the ambient temperature is above 0°C . If the ambient air temperature falls lower than 0°C , the condensate water drainage may be freezing.
- (3) If it needs to install and move the air source water heater, please contact T SÖ^&[] } & appointed local maintenance center. If the air source water heater is installed by unappointed unit, T SÖ^&[] } & won't take the responsibilities for the malfunction and other problems due to the installation.
- (4) If the users use the own prepared installation materials to install the air source water heater, T SÖ^&[] } & won't take any responsibilities for all the loss due to leakage of pipeline, drop of unit and poor installation.
- (5) The water quality for the air source water heater should comply with the local sanitation standard for the domestic drinking water. If using the water in well, ground water or sea water, it will accelerate the consumption of magnesium rod in water tank and shorten the service life of the unit.
- (6) The water passed through the iron-exchange water softener will accelerate the consumption of magnesium rod of water tank. Therefore, you are not suggested connecting the water softener to the water inlet of air source water heater.

3.4 Installation Space Requirement and Installation Diagram

3.4.1 Main Size

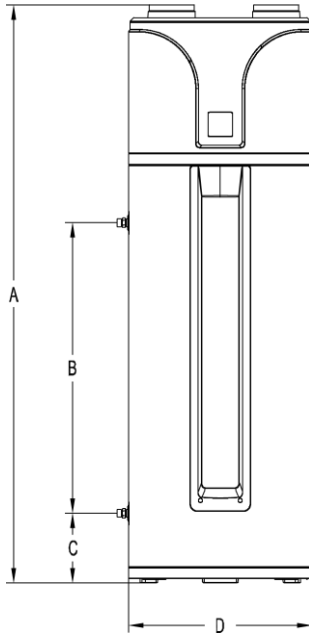


Figure 3-1 Sketch map for main size

Model	A(mm)	B(mm)	C(mm)	D(mm)
T SERS-2.4/D270ANbA-K	1958	984	235.5	620

3.4.2 Installation Requirement

- (1) Do not point the air outlet of water heater at the upwind direction.
- (2) The water heater should be installed at the places where the ambient temperature is above 0°C; The distance between hot water outlet and the hot water using position can't be too long. Conduct heat treatment protection for the hot water pipeline to reduce heat loss.
- (3) The distance between water heater and surrounding wall or other shelter objects can't be too small. The installation space should satisfy the drawing requirement.

- (4) If install a rain shed for protecting the water heater, please make sure that it won't affect the heat radiation and absorption for the heat exchanger.
- (5) The water heater should be installed at the solid place uprightly. Fix the water heater with ground bolt if necessary.
- (6) There should be tap water pipe, joint of hot water pipe and floor drain nearby the water heater for water supply for water tank, hot water supply and water drainage.
- (7) Condensate water drainage: connect the drainage hose to the drainage hole on the unit according to the drawing tightly and then lead to drainage hose to proper place for discharge.

3.5 Water Pipe Connection

(1) Pipeline preparation

Adopt the special pipe for the hot water exit pipe of water heater. S2.5 series PPR pipe with the external diameter of dn20 are suggested. If adopt other similar insulated pipe materials, you can select it by referring to above external diameter and the pipe thickness. Aluminium pipe are not suggested to be adopted.

(2) Installation of water inlet pipe and water outlet pipe of water tank

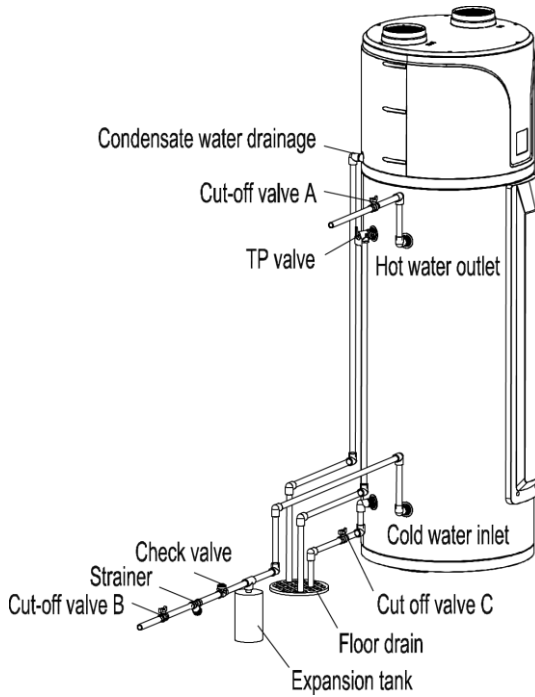
The water inlet pipe must be installed with safe device, strainer and cut-off valve, and the installation sequence must be the same with the sketch map of unit installation. A cut-off valve must be installed on the water outlet pipe.

For the convenience of drainage or clean for water tank, you are suggested to install a three-way valve and a cut-off valve at the water outlet of water tank; if the water tank is far away from the water using point (hot water pipe is more than 20m) or the hot water using point is lower than the cold water inlet of water tank, three-way valve and cut-off valve must be installed.

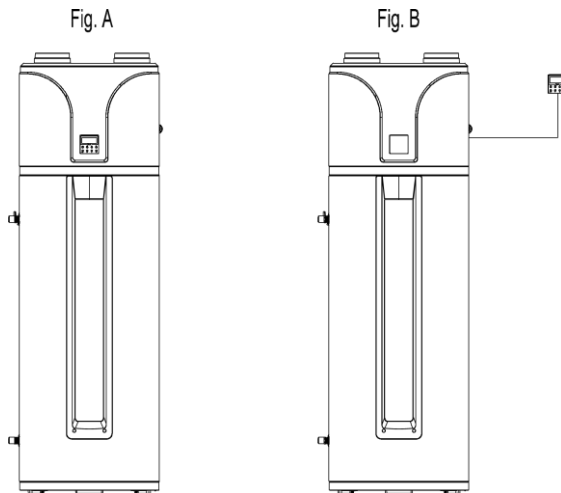
(3) Installation of drainage pipe

Take out the choke plug of drainage outlet, and then connect the drainage outlet and the floor drain with pipeline. The position for the connection end for drainage pipeline and floor drain should be lower than the bottom part of water tank; otherwise, the water can't drain completely. A cut-off valve must be installed at the drainage pipeline, and the cut-off valve must be installed at the position where is convenient for the operation.

3.6 Unit Installation Diagram



3.7 Installation Instruction of Wired Controller



- (1) Fig. A is the standard installation way of wired controller. The wired controller is installed on the unit before ex-factory;
- (2) Fig. B is the detached installation way of wired controller. Long communication wire shall be equipped to install the wired controller on the wall. If this kind of installation way is adopted, please contact the after-sales installation personnel to select the communication cable with proper length;

Instructions for installing the wired controller on the wall:

- ① Remove the 6 fixing screws on the top cover;
- ② Remove the top cover;
- ③ Remove the 6 fixing screws on the front outer case subassembly;
- ④ Remove the front outer case subassembly;
- ⑤ Remove the 3 fixing screws of the gland of wired controller ;
- ⑥ Remove the gland and wired controller (please keep the gland of wired controller properly for future use);Please change the original short communication cable with long communication wire, which is led out from the cable-crossing hole of unit;
- ⑦ Install decoration cover;
- ⑧ Tighten the fixing screw of decoration cover;
- ⑨ Install the front outer case subassembly;
- ⑩ Tighten the 6 fixing screws of front outer case subassembly;
- ⑪ Install the upper cover;
- ⑫ Tighten the fixing screw of upper cover;
- ⑬ Connect the wired controller with long communication cable and then install the wired controller on the wall;

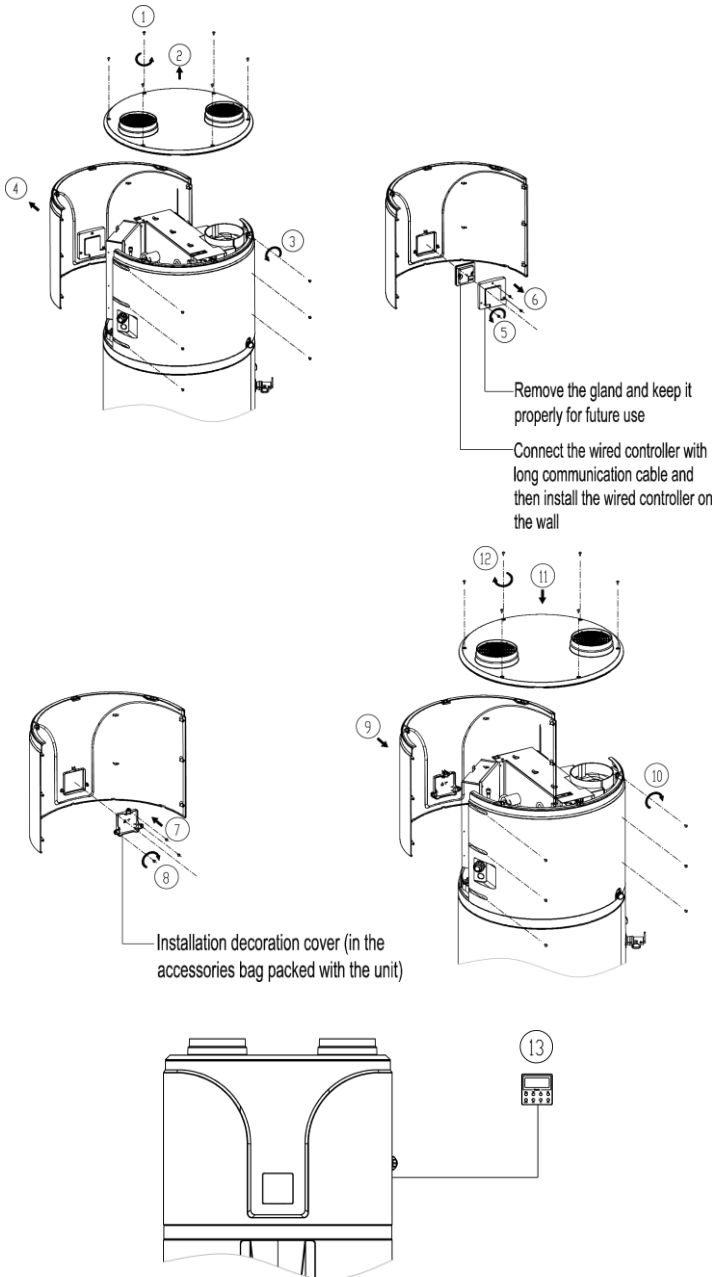
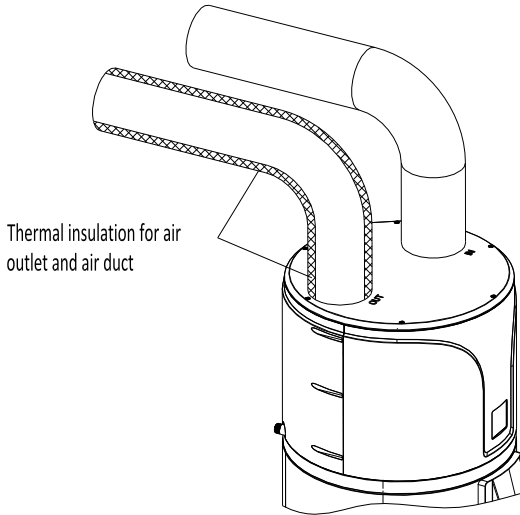


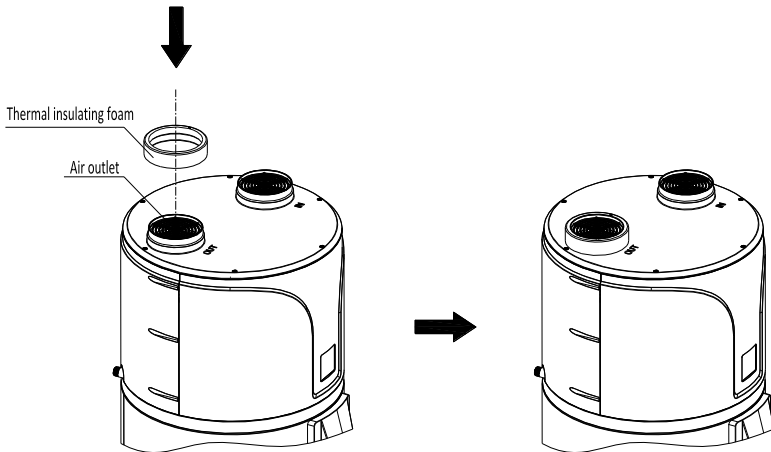
Figure 3-2 Sketch map for Installation Instruction of Wired Controller

3.8 Thermal Insulation for Air Outlet

- (1) When installing the unit with air duct, please conduct thermal insulation for air outlet and air duct to prevent condensate water;



- (2) When installing the unit without air duct, please install the equipped thermal insulating foam at the air outlet to prevent condensate water at air outlet. See below fig.



3.9 Wired Controller Installation

3.9.1 Requirements for Wired Controller Installation Locations

- (1) Do not install the wired controller in a wet place or a place exposed to direct sunlight.
- (2) Do not install the unit or wired controller of the air source water heater in a place susceptible to electromagnetic interference.
- (3) Ensure that the communication line is connected to the correct interface. Otherwise, communication will be failure.

3.9.2 Wired Controller Installation

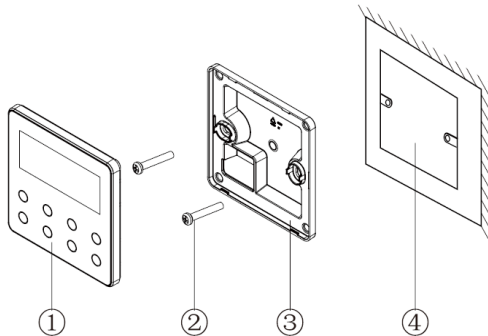


Figure 3-3 Accessories of Wired Controller

No.	1	2	3	4
Name	Front panel of wired controller	Screw	Soleplate of controller	Socket's base box installed in the wall

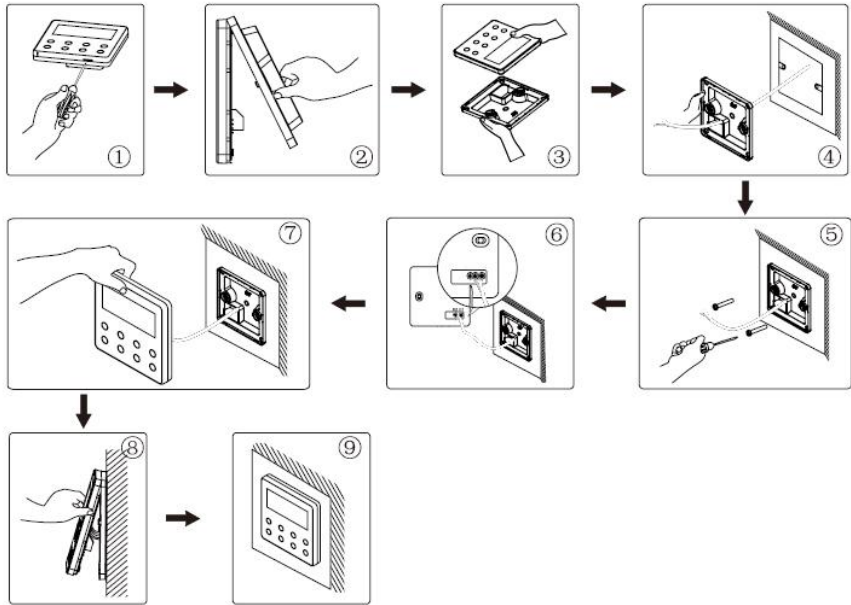


Figure 3-4 Installation Diagram of Wired Controller

Figure 3-4 is the installation diagram of wired controller. Cut off power supply of heavy-current wire embedded in mounting hole in the wall before installation. The installation method is as below:

Pry the removal port with straight screwdriver to separate the front panel and soleplate of wired controller;

Pull out the communication cable (4-core twisted pair wire) in the base box and then make the communication cable go through the hole of soleplate of wired controller;

Joint the controller's soleplate and base box with screws M4×25;

Insert the communication cable (4-core twisted pair wire) into controller's slot;

Buckle the front panel and soleplate of controller together.



NOTICE!

During the following connections, pay special attentions to prevent malfunction due to electromagnetic interference:

- (1) The communications line of the wired controller and the line of the temperature sensor should be separated from the power cable, and the

distance between them should be greater than 20 cm. Otherwise, the unit may not be able to communicate properly.

- (2) If the unit is installed in a place susceptible to electromagnetic interference, the communications line of the wired controller and the line of the temperature sensor must be used, shielded twisted pair.

3.9.3 Rainproof Box Installation

If the wired controller is to be installed in outdoors or dank places, please install a rainproof box for wired controller. Pay attention to cut off the power supply of heavy current wire embedded in the installation hole of wall. The whole installation procedure shall be done without electricity. The installation method is as follows:

Separate the panel of wired control and bottom plate with a flat screwdriver;

Pull out the communication wire (4-core twisted pair wire) inside the installation box and make this wire go through the wire-crossing hole of rainproof box and wired controller bottom plate;

Secure the bottom plate of wired controller, rubber cushion, rainproof box at the installation box with screws; if there is no installation box in the wall, please drill hole on the wall and install plastic expansion pipe. Secure the bottom plate of wired controller, rubber cushion and rainproof box at the plastic expansion pipe with tapping screws (plastic expansion pipe and tapping screw are provided by our company);

Insert the communication cable (4-core twisted pair wire) into the groove of wired controller;

Align the panel of wired controller with the bottom plate and then fasten them together.

Note: When disassembling the wired controller, please use the flat screwdriver carefully (As shown in Figure 3-6).

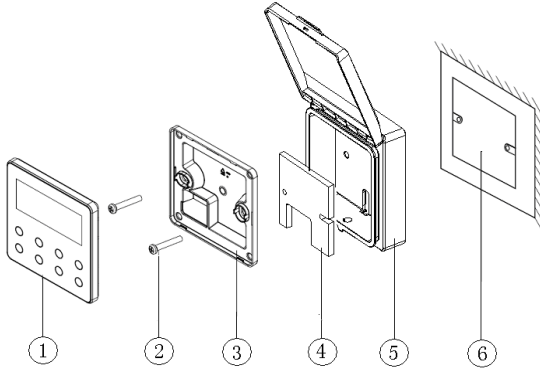


Figure 3-5 Rainproof Box Accessories of Wired Controller

No.	Name	No.	Name
1	Panel of wired controller	4	Rubber cushion(rainproof box)
2	Screw	5	Rainproof box
3	Bottom plate of wired controller	6	Installation box inside the wall

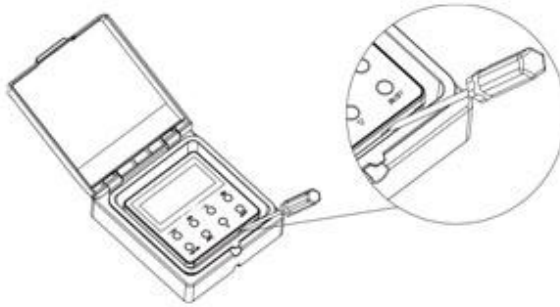


Figure 3-6 Disassembly Diagram of Wired Controller

4 Electrical Installation

4.1 Precautions on Safety

- (1) This air source water heater is class I appliance. Ensure that wire layout is performed by professional personnel according to national wiring rules.
- (2) Ensure that a switch for all-pole disconnection is available for the fixed lines and is directly connected to wiring terminals of the power supply. Ensure that contactor opening distance on all poles meets the disconnection requirements under overvoltage category III conditions.
- (3) Ensure that reliable earthing are taken. A dedicated grounding apparatus should be used.
- (4) Use the power supply with specifications provided in the nameplate, and use circuits dedicated for air conditioners.
- (5) Copper-conductor cables must be adopted for power cables, and the operating temperature should not greater than the stipulated value. The diameter of the cables should be large enough. For details, refer to Table 9-1. If the length of the power cable is greater than 15 meters, choose a power cable with a larger cross-sectional area to prevent problems caused overloading. Do not pull the power cable during the installation.
- (6) Use independent fixed socket for the supply. The structure of the socket must match the power plug of the water heater and be in line with relevant national standards. The socket should be placed in the safe position that is out of the reach of water and does not cause electric shock hazards. It must not be placed in the bathroom, kitchen, balcony, and other wet places.
- (7) Do not use the socket converter, extension cords, or wiring boards to adapt to the size of the plug of the water heater, and do not use another plug to for the socket. The water heater should use independent wires, and do not share a line with other appliances.
- (8) If the installation conditions on site change, consider using cables whose reduced capacity can still meet site requirements, based on the specifications of the power cables and air circuit breakers provided by the vendor.

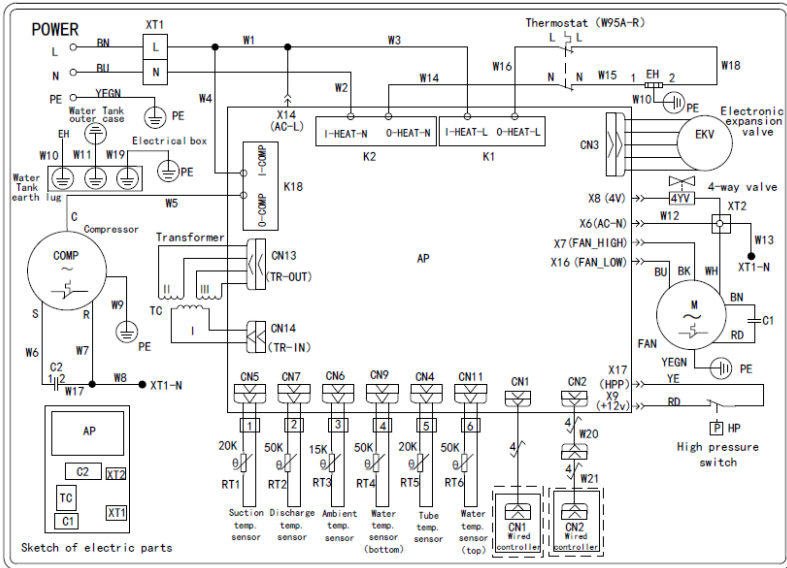
- (9) If the power flexible wire is damaged, it must be replaced by professional personnel of the vendor, maintenance center of the vendor, or relevant other department to avoid dangers.

Table 4-1 Power configuration table

Model	Power type	The minimum sectional area for power cord (mm ²)			Capacity of air switch (A)
		Live wire	Neutral wire	Earthing wire	
T ŠERS-2.4/D270ANbA-K	220V-240V ~50Hz	1.5	1.5	1.5	16

4.2 Connection of electric wire

- (1) Principle diagram for electric wiring



- (2) If the unit is equipped with earth wire, please connect one end of earth wire to earthing screw of water tank, and the other end to the earthing screw of the wiring box for the right side plate of main unit.
- (3) Please select the proper power cord according to the power configuration table and then connect it to the main power.
- (4) Fix the heavy-current wire with wire-fixing clamp and reinstall the wiring box cover.

5 Debugging for the Complete Unit

When the waterway system and the electric wires for air source water heater are installed well, please check the unit according to below table.

Table 5-1 Check table for the unit

Check items	If the unit is not installed properly, it may cause below circumstances
Check whether the water heater is installed reliably?	The unit may rave about, vibrate or give out sound.
Check whether there're obstacles at the air inlet and air outlet?	The unit can't operate normally.
Check whether there's proper insulated pipeline for the pipe of water tank?	There may be the risk for safety.
Check whether the insulation measure is conducted well for the water pipeline?	It may affect the performance of unit and the pipeline damage be frozen
Check whether the power voltage is same as that on nameplate?	There may be malfunction for the unit or parts may be burnt out.
Whether the model of electric wire complies with the regulation?	There may be malfunction for the unit or parts may be burned out.
Check whether the water inlet pipeline is installed with safety device?	The operation pressure for the water tank is high and there's the risk of
Check whether the water replenishing pressure for tap water is too high?	The operation pressure for the water tank is too high. If the unit is <u>generating water successively, there</u>
When the water replenishing pressure is high, check whether the pressure stabilizing valve is installed on the water inlet pipeline?	The operation pressure for the water tank is too high. If the unit is <u>generating water successively, there will be abnormal sound.</u>
Check whether the earth wire for the water heater is reliable?	There may be the risk of safety.

When above items are OK, please debug the unit for the complete unit. The debugging procedure is as below:

(1) Add water for the water tank

Add water for the water tank according to 9.1 or the mark on the water tank, and then check whether there's water leakage for the pipeline and joint. As for the initial installation, it must be operates by installor. If user operates it again after discharging water, it also needs to add water before turning on the unit.

(2) Energize the complete unit

After be energized, the wired controller will give out a sound. Observe whether the display on the wired controller is normal. The wire controller is with memory function. For the first time be energized, wire controller may display OFF or standby.

(3) Engineering parameters setting on wire controller

System clock time setting, disinfection function setting, etc.

(4) Complete unit operation

After the unit is filled with water, check the water system. Confirm the faucet or the sprayer heat is turned off. Turn on the unit when the cut-off valve at the water inlet pipe and water outlet pipe is opened. When the wired controller display the heating icon, check whether the unit operates normally. Determinant standard: the fan operates normally, the complete unit operates normally; there's no obvious vibration and abnormal sound; let users operate by themselves after the unit has operated normally for at least 20 min.

6 Method to Supplement or Discharge Refrigerant

6.1 Supplement Refrigerant

Connect the middle hose from refrigerant manometer to the refrigerant tank, connect one end of blue hose of low pressure manometer to the refrigerant-affusing nozzle of gas valve (do not tighten it), open the valve of refrigerant tank, open valve next to the low pressure manometer to discharge air for 5S and then close it, and then tighten the hose joint on the nozzle of refrigerant-charging nozzle. When the low pressure needle on the manometer is decreasing slowly, twist off the valve next to the low-pressure manometer to add refrigerant.

6.2 Discharge Refrigerant

To open the refrigerant affusing nozzle of gas valve to discharge the refrigerant.



NOTICE!

This operation must be finished by professional persons. Do not operate it by yourself to avoid hazard. Refrigerant must be charged according to the volume indicated on the nameplate.

7 Unit Performance

7.1 Water Heating Capacity

During heating, the unit absorbs heating capacity in the air from outdoor, then release it to the water to heat up water on the water tank. Once outdoor temperature decreases, heating capacity might have certain decay.

If pressing the “Rapid” button on displayer, it will startup the auxiliary electrical heater of 1,500W to heat with heat pump, at this time, water production capacity will increase 32L/h.

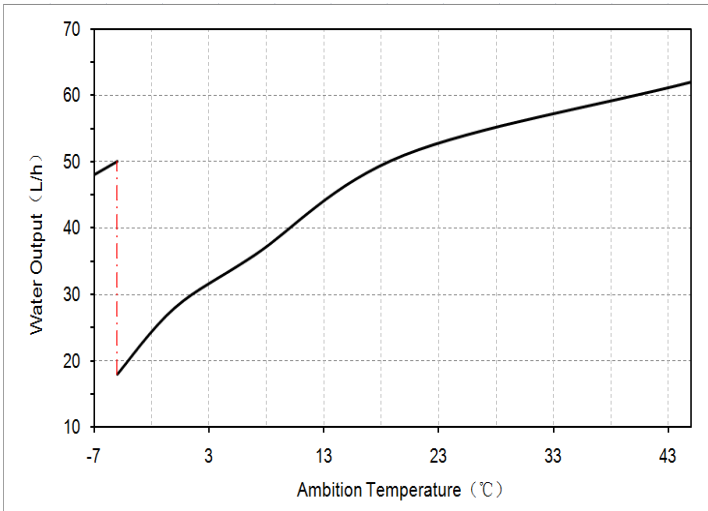


Figure 7-1 Water Heater capacity correction diagram

7.2 Operation Performance

(1) Defrost

- 1) When frosting occurs, the unit will automatically perform defrosting to improve the heating efficiency.
- 2) During defrosting, the motor of the supply fan will stop.
- 3) Under high temperature(>10°C), if defrosting occur and the unit is abnormal, please submit for reparation.

(2) Startup again after long-term shut down

When the unit which has not been used for a long period is started (including the first startup), dirty water will flow out from tap faucet, it is a normal phenomenon

and will disappear a while later.

(3) Power failure

- 1) When power failure occurs during operation, the unit will stop.
- 2) The displayer has memory function.
- 3) Please switch off the power switch when the unit malfunctions occur because of the thunder and automobile radio. Then turn on the unit again.

(4) Memory function

Before the unit is power off, the displayer will automatically memorize ON/OFF status of the unit; when it is re-energized, wired controller will send ON/OFF signal to the unit according to the status memorized before power off, to ensure it keeps the original status set by the user.

8 Operation Notices in Winter

- (1) Before starting the unit which has not been used for a long period or in quite low temperature in winter, energize it at least 8h ahead.
- (2) Do not disconnect the power supply when the outdoor temperature is quite low in winter, otherwise the automatic antifreeze protection will fail to work. Under low ambient temperature, anti-freezing operation function of the unit will conduct heating for anti-freezing before water temperature of the water tank come near to freezing point, and it stops if water temperature of the water tank rises to safe temperature. But the auto anti-freezing operation function of the water tank is invalid for water inlet/outlet pipe of the water tank. If ambient temperature of unit installation location is below 0°C, pipeline anti-freezing tracing belt must be installed and ensure the aforementioned belt is energized. If the water tank is installed outdoor inevitably, shorten outdoor piping length as much as possible, including refrigerant connection pipe and water inlet pipe of the water tank, otherwise, heat dissipation loss of the unit is big, power consumptive and water system is easy to be frozen. Special attention shall be paid to thermal insulation blind spot on local valve connection location and water pipe curve, strengthen the thermal insulation, otherwise, local pipe will be frozen.

- (3) When the unit is not to be used for a long period, drain the water tank and pipe according to discharge operation, otherwise, water system will be damaged. After draining water and to reuse the unit again, pours water to the water tank fully before starting up. Please refer to water input and drainage operation of the water tank.

Warm hint:

If it's not convenient for operation or there's hazard, please contact the local appointed dealer or appointed service center directly. We will appoint profession persons to check, debug and clean the unit, and discharge water and fill the water tank with water for you.

9 Maintenance

9.1 Water Input and Drainage of Water Tank

- (1) Operation process for water input on the water tank
 - 1) Cut off the power supply and open the cut-off valve at the water inlet of the tap faucet;
 - 2) Open the cut-off valve at the hot water drain outlet and valve in user water use site;
 - 3) Close the valve in user water use site when water is flowing out from user water use site;
 - 4) Complete water input operation and reenergize the unit.
- (2) Operation process for drainage on the water tank
 - 1) Cut off the power supply and close the cut-off valve at the water outlet of the tap faucet;
 - 2) Open the cut-off valve at the hot water drain outlet and valve in user water use site;
 - 3) Open the cut-off valve on the joint (3-way) pipe;
 - 4) Close the drainage cut-off valve after draining water on the water tank to complete drainage operation.

9.2 Periodic Cleaning for Water Tank

Please clean the water tank periodically to get good-quality water according to the following steps:

- (1) Cut off the power supply.
- (2) Close the cut-off valve at the water inlet of the water tank.
- (3) Open the cut-off valve at the hot water drain outlet and valve in user water use site.
- (4) Open the cut-off valve in joint (3-way) connector, and wait for drainage of water inside water tank.
- (5) Close the cut-off valve in joint (3-way) connector, open the cut-off valve at the water inlet of the water tank, close the cut-off valve at the water inlet when water flows from user water use site, then reopen the cut-off valve in joint (3-way) connector, repeat the drainage operation, close the cut-off valve in joint (3-way) connector when water discharged is clean.
- (6) Conduct water input for the water tank according to water input operation.
- (7) Water tank cleaning completed and energize it.

9.3 Replacement of magnesium rod

As for ensuring the service life of water tank, magnesium rod is installed inside the water tank. In general, the service life for the magnesium rod is 2-3 years. If the water quality for the hot water is bad, the service life for the magnesium rod will be shortened. The process for replacing the magnesium rod is as below:

- (1) Drain out the water inside the water tank completely before disassembly;
- (2) Open the protection cover at the installation outlet of the magnesium rod of water tank;
- (3) Twist off the magnesium rod with inner hexagon, and then take it out carefully to prevent sillage of magnesium rod dropping into the inner pot of water tank;
- (4) Install the new magnesium rod and then fix it with inner hexagon wrench;
- (5) Close the protection cover and then fill the water tank with water according to water supply operation.

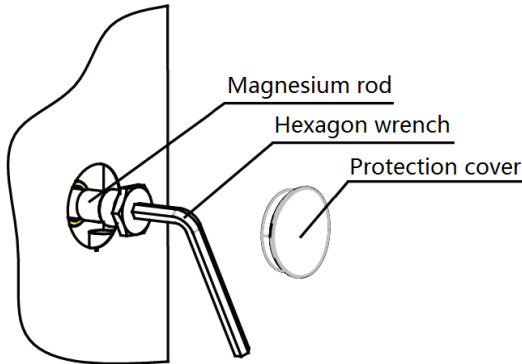


Figure 9-1 Sketch map for the replacement operation for the magnesium rod



NOTICE!

The replacement for the magnesium rod must be conducted by the professional person. Do not replace it by yourself. Please contact the appointed local dealer or appointed service center.

9.4 Maintenance of the Unit

- (1) Check the water inlet and outlet for blockage periodically. If so, eliminate it.
- (2) Check the water circuits, pipe connectors and valves for blockage, damage or leakage, and if the filter has been blocked by impurities.

10 Precautions for Safety Usage

- (1) For comfort usage, it's suggested to use shower head with flow rate of 6~7L/min.
- (2) User should have regular check and maintenance for heat pump water heater. If there is abnormal condition, please contact to the after-sales service for help immediately so as to guarantee normal, safe and reliable unit operation.
- (3) Regular check and replace the magnesium bar is necessary. Customer can contact serviceman for replacement. Recommended replace period is 2~3 years.

- (4) Cut off the power supply prior to any maintenance or services. A unprofessional personnel is not allowed to adjust or service the heat pump water heater.
- (5) Improper operation might cause scald due to hot water. Water heating without enough water might produce high-temperature steam or hot water, which might cause serious scald. Hence, guarantee the water tank is filled with water.
- (6) The water heater is equipped with safe relief valve for reliable operation, please don't change its location and never block its outlet. The pipe should be directly connected to floor drain.
- (7) Never drink the water inside the water tank.
- (8) Children bath should be supervised by adults.
- (9) 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.
- (10) In order to prevent the hazard due to the invalidation if electric heating of water tank, the electric heating circuit is equipped with thermostat. If the water temperature is higher than 95°C, the thermostat will be activated to cut off the electric heating power. However, if the electric heating is abnormal, it needs to contact a service man to maintain or replace it.
- (11) The water inlet pressure for the water tank is 0.1MPa~0.7MPa. Before installation, please confirm the water pressure range. And the hose-sets should not be reused.

Notes: TP valve provided by user. Suggest to choose TP valve that the pressure is less than 8.5bar and the temperature is less than 95°C.

11 Malfunction Analysis




WARNING!

Do not repair the unit by yourself, otherwise it would lead to electric shocks or fire hazards. Instead, please contact the appointed service center and it is better to check the items listed in the table below at first.

Table 11-1

Malfunction phenomena	Troubleshooting
The unit won't operate immediately once immediate re-startup of the unit after stop.	In order to protect the unit, the control of the unit will delay the turn-on command for five minutes.
There is water flowing sound during operation of the unit.	During operation of unit, there will be swoosh or fizzle, which is flowing sound of refrigerant and is normal.
There is condensate drained from main unit.	It is normal. Do not worry about it. Please refer to Chapter 3.6, connect to suitable discharge location with discharge pipe.
There is water drained from safety valve.	During heating, if pressure of inner tank of the water tank is too high, it will discharge little water to release pressure through safety valve, which is a normal phenomenon. However, if water of big outflow occur in safety valve obviously, even result in vibration of pipeline and give out abnormal noise, please contact with our authorized maintenance center for inspection.
The controller tells that the unit is under antifreeze protection	The unit will automatically activate the antifreeze function in winter, which is normal.
The nozzle provides water flow for quite a short period.	It is because the nozzle is oversized. Please replace it. The nozzle with the flow rate of 6~7L/min is preferred.
Wired controller displays L6 and water temperature alternately	Ambient temperature is too bad, which exceeds operation range of main unit.

Table 11-2

 When the following situations occur, please contact with authorized maintenance center	
Error phenomenon	Error analysis
The unit is shut down and E1 is displayed on the controller	System high pressure protection
The unit is shut down and E4 is displayed on the controller	Discharge protection
The unit is shut down and E6 is displayed on the controller	Communication error
The unit is shut down and F3 is displayed on the controller	Outdoor temperature sensor error
The unit is shut down and F4 is displayed on the controller	Discharge temperature sensor error
The unit is shut down and F6 is displayed on the controller	Outdoor heat exchanger tube sensor error
The unit is shut down and Fd is displayed on the controller	Suction temperature sensor error
The unit is shut down and FE is displayed on the controller	Upper temperature sensor error on water tank
The unit is shut down and FL is displayed on the controller	Lower temperature sensor error on water tank
The unit is shut down and L6 is displayed on the controller	Unit capacity is insufficient
The unit is shut down and anti-freeze icon is displayed on the controller *The controller displays anti-freeze icon and the unit keeps operating, which is normal anti-freeze operation, not error.	4-way reversing valve is abnormal
Harsh voice; Disagreeable smell; Air switch or circuit breaker tripping frequently	There is probably the potential security hazard and it is high recommended to stop and unplug the unit.
After-sales service	
If there is any quality or other problem, please also contact the appointed service center.	



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