Haier

Heat Pump Water Heater
Operation and Installation Manual

English

Model

HP200M7-F9
HP250M7-F9
HP200M7C-F9
HP250M7C-F9

Please read this manual carefully prior to your use of this water heater.
The appearance of the water heater given in this manual is for reference only.

Contents

Dear users of Haier,

Thank you for choosing Haier products.

Please read this manual carefully and follow the operation and safety instruction to ensure best installation and utilization of the product.

Product safety statement:

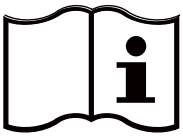
1. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
2. Children should be supervised to ensure that they do not play with the appliance.
3. Installation must be done qualified professionals. Don't open any cover, panel, or hood with tools for any check, maintenance and repairing yourself at any time, please contact qualified professionals to do those.
4. This appliance is intended to be permanently connected to the water mains and not connected by a hose set.
5. 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.

Arranging disposal of refrigerant

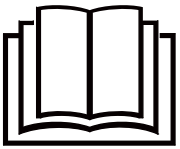
Warning: flammable hazard!

1. Please read the instructions carefully before installation and use.
2. Do not puncture or ignite this product.
3. The environment-friendly refrigerant R290 used in this product is odorless.
4. This product cannot be discarded or scrapped at will.

If necessary, please contact Haier's after-sales team to obtain the correct disposal method. When the product is disposed of, the refrigerant in the system needs to be recovered.
5. The product should not be stored in an area containing an open flame, including an area with an open fire, gas appliance or electric heater. (e.g. open fire, ignited gas appliance, open electric heater).



6. Before the refrigeration system is repaired, the refrigerant must be removed by a licensed professional.



7. Do not use any method to accelerate the defrosting process or clean frosted components of the appliance.

Warning : Risk of damage to the environment
This heat pump contains the refrigerant R290. The refrigerant must not be allowed to escape into the atmosphere.
Refrigerant must be disposed of by qualified professional.

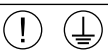
English

Safety instructions (to be followed at any time)

Interpretation of marks and symbols

Failure to respect these instructions may lead to serious malfunctions of the device and to risks for the user

	Instructions with this warning mark shall be strictly followed during operation. They relate to product and body safety of users.
	Information provided with this banning mark relates to activities that are definitely forbidden. Otherwise the machine may be damaged or users may risk personal danger.

 The water heater shall be installed in strict accordance with local wiring regulations, and equipped with power supply with a ground line. Please ensure an effective ground connection.	 Ground line and zero line of the power supply shall not be connected together. The ground line shall not be connected to pipeline conveying gas or water, lightning arresters or telephone lines.
 The water heater shall not be installed at places where water drainage is unavailable or impossible.	 It is recommended that the water heater shall be installed inside.
 This water storage tank must be fitted with a safety valve(pressure relief device) during installation. Its installation position shall not be changed. The water may drip from the discharge pipe of the safety valve (pressure-relief device) and that this pipe must be left open to the atmosphere.	 While bathing, children must be under guidance of an adult person. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Safety instructions (to be followed at any time)

ⓘ The outlet water temperature of a water heater is typically higher than the temperature indicated on the display. Hot water shall not be pointed at the human body immediately after opening the hot water valve to avoid injury caused by hot water.	ⓘ Means for disconnection from the main supply having a contact separation in all poles that provide full disconnection under overvoltage category III conditions must be incorporated in the fixed wiring in accordance with the wiring rules.
ⓘ Install the water heater in strict accordance with the installation instruction specified on page 17-30.	ⓘ If the power cord is damaged, it shall be replaced by qualified professionals to avoid hazards.
ⓘ Hands or other items shall not be put into the air grid to avoid injury or damage to the water heater.	ⓘ Risk of damage to the environment. This heat pump contains the refrigerant R 290.
ⓘ A discharge pipe connected to the safety valve (pressure-relief device) is to be installed in a continuously downward direction and in a frost-free environment.	ⓘ The safety valve (pressure-relief device) is to be operated regularly to remove lime deposits and to verify that it is not blocked. The method how to empty the water heater refers to the content in Maintenance chapter.

Safety instructions (to be followed at any time)

1.Ask your dealer or qualified personnel to carry out installation work.Do not attempt to install the product yourself. Improper Installation may result in water leakage, electric shocks, fire or explosion.
2.Electrical work must be performed in accordance with relevant local and national regulations and with instructions in this installation manual,Be sure to use a dedicated power supply circuit only. The wiring method should be in line with the local wiring standard.The type of connecting wire is H07RN-F.
3.All the cables shall have got the authentication certificate. During installation, when the connecting cables break off, it must be assured that the grouding wire is the last one to be broken off.
4.If refrigerant gas leaks during installation, ventilate the area immediately.oxic gas may be produced if the refrigerant comes into contact with fire,and explosion may be happen.
5.This appliance can be used by children aged 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given superivision or instruction concering 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.
The appliance can not be discarded or scrapped Randomly.
6.Do not install the appliance at any place where there is danger of flammable gas leakage.In the event of a gas leakage, build-up of gas near the appliance may cause a fire to break out.
7.Take adequate steps to prevent the outdoor unit being used as a shelter by small animals.Small animals making contact with electrical parts can cause malfunctions, smoke or fire.

Loading and Unloading Requirements

1) The products shall be carefully handled during loading and unloading. constant speed, and heavy acceleration/deceleration shall be avoided.
2) Dry powder extinguishers or other suitable fire extinguishing apparatus within the period of validity shall be equipped at the loading and unloading site.
3) The untrained personnel cannot be engaged in loading and unloading of flammable refrigerants air conditioner.
4) Before loading and unloading, anti-static measures shall be taken, and phones cannot be answered during loading and unloading.

Transporting Management Requirements

1) The maximum transporting volume of finished products shall be determined as per local regulations.
2) The vehicles used for transporting shall be operated as per local laws and regulations.
3) Dedicated after-sales vehicles shall be used for maintenance, and exposed transporting of refrigerant cylinders and the products to be maintained is not allowed.
4) The rain cover or similar shielding material of transporting vehicles shall be provided with certain flame retardancy.
5) Leakage warning device of flammable refrigerant shall be installed inside the closed-type compartment.

Storage Requirements

1) The storage package of equipment used shall be such that no leakage of refrigerant will be caused due tomechanical damage of the equipment inside.

Safety instructions (to be followed at any time)

2) The maximum quantity of the equipment allowed to be stored together shall be determined as per local regulations.

Electrical Safety Requirements

1. The surrounding conditions (ambient temperature, direct sunlight and rainwater) shall be noticed during electrical wiring, with effective protective measures being taken.
2. Copper wire cable in line with local standards shall be used as the power line and connector wire.
3. the appliance shall be reliably earthed.
4. The dedicated branch circuit must be used, and leakage protector with sufficient capacity must be installed.

Maintenance Precautions

1. For the faults requiring radical disassembly and bending operation of the heat exchanger, such as the replacement of integral disassembly of the condenser, inspection and maintenance at the user's site are never allowed.
2. For the faults requiring replacement of the compressor or parts & components of refrigeration system, maintenance at the user's site is not allowed.
3. For other faults not involved in the refrigerant container, internal refrigeration pipelines and refrigeration elements, the maintenance at the user's site is allowed, including the cleaning and dredging of the refrigeration system requiring no disassembly of refrigeration elements and no welding.

Qualification Requirements of Maintenance Personnel

1. All the operators or the maintenance personnel involved in refrigerating circuits shall be provided with the effective certificate issued by an industry-accepted assessment institute, to ensure that they are qualified for safety disposal of refrigerant as required in the assessment regulations.
2. The equipment can only be maintained and repaired as per the method recommended by the manufacturer. In case the assistance from personnel of other disciplines is required, the assistance shall be supervised by the personnel with qualification certificate involved in flammable refrigerant.

Inspection on Maintenance Environment

1. Continuous ventilation shall be maintained during maintenance.
2.One dry powder or carbon dioxide extinguisher shall be equipped inside the maintenance area, and the extinguisher must be under available state.

Maintenance Site Requirements

1. Welding zone and non-welding zone shall be divided at the maintenance site, and shall be clearly marked. A certain safety distance must be guaranteed between the two zones.
2. Ventilators shall be installed at the maintenance site, and exhaust fans, fans, ceiling fans, floor fans and dedicated exhaust duct can be arranged, to meet the requirements of ventilation volume and uniform exhaust, and to avoid accumulation of refrigerant gas.
3. Sufficient dedicated vacuum pumps of flammable refrigerant and refrigerant charging equipment shall be equipped, with relevant management system for maintenance equipment being established. It shall be guaranteed that the maintenance equipment can only be used for vacuumizing and charging of one type of flammable refrigerant, and mixed usage is not allowed.

Safety instructions (to be followed at any time)

4. The master power switch shall be arranged outside the maintenance site, with protective (anti-explosive) device being equipped.
5. Nitrogen cylinders, acetylene cylinders and oxygen cylinders shall be placed separately. The distance between the gas cylinders above and the working area involved in open fire shall be at least 6m. The anti-backfire valve shall be installed for the acetylene cylinders. The color of the acetylene cylinders and oxygen cylinders installed shall meet the international requirements.
6. Fire control device suitable for electric appliance such as the dry powder extinguisher or carbon dioxide extinguisher shall be equipped, and shall always be under the available state.

Leak Detection Methods

1. The environment in which the refrigerant leakage is checked shall be free from potential ignition source.Leak detection with halogen probes (or any other detector with open fire) shall be avoided.
2. The fluid used for leak detection shall be applicable to most of the refrigerant. The use of chlorinecontaining solvent shall be avoided, to avoid chemical reaction between chlorine and refrigerant and corrosion to copper pipelines.
3. In case welding is required at the leakage position, all the refrigerants shall be recovered, or be isolated at a position far from the leak point with a stop valve. Before and during welding, the whole system shall be purified.

Safety Principles

1. During product maintenance, favorable ventilation shall be guaranteed at the maintenance site, and the close of all the doors/windows is not allowed.
2. Operation with open fire is not allowed, including welding and smoking. The use of phones is also not allowed. The user shall be informed that cooking with open fire is not allowed.
3. In case the leakage of flammable refrigerant is identified during maintenance, forced ventilation measures shall be taken immediately, and the source of leak shall be plugged.
4. For the door-to-door service with refrigerant cylinders, the refrigerant charged inside the cylinder cannot exceed the specified value. The cylinder placed in vehicles or at the installation/maintenance site shall be fixed perpendicularly and be kept away from heat sources, ignition source, source of radiation and electric appliance.

Refrigerant Charging Procedures

The following requirements are added as the supplementation of conventional procedures:
1. The cylinders of refrigerant shall be kept upright;
2. A label must be pasted on the refrigeration system after refrigerant charging;
3. Excessive charging is not allowed; the refrigerant shall be charged slowly;
4. In case system leakage is identified, refrigerant charging is not allowed unless the leak point is plugged;
5. During refrigerant charging, the charging amount shall be measured with an electronic scale or a spring scale. The connecting hose between the refrigerant cylinder and the charging equipment shall be relaxed appropriately, to avoid impact on the measuring accuracy due to stress.

Safety instructions (to be followed at any time)

Requirements on storage site of refrigerant:
1. The cylinder of refrigerant shall be placed in a -10°C~50°C environment with favorable ventilation, and warning labels shall be pasted;
2. The maintenance tool in contact with the refrigerant shall be stored and used separately, and themaintenance tool of different refrigerants cannot be mixed.

Scrapping and Recovery

Scrapping
Before scrapping, the technician shall be completely familiar with the equipment and all its features. The safe recovery of refrigerant is recommended. In case the refrigerant recovered needs to be reused, before which the sample of refrigerant and oil shall be analyzed. The power supply required shall be guaranteed before tests.
(1) The equipment and operation shall be well known;
(2) Power supply shall be switched off;
(3) The followings shall be guaranteed before scrapping: The mechanical equipment shall be convenient for operation on the cylinder of refrigerant (if necessary); All personal protective equipment is available and being used correctly; The whole course of recovery shall be guided by qualified personnel; The recovery equipment and cylinders shall be in line with corresponding standards.
(4) The refrigeration system shall be vacuumized if possible;
(5) In case the vacuum state cannot be reached, vacuumizing shall be carried out from numerous positions, to pump the refrigerant in each part of the system out;
(6) It shall be guaranteed that the capacity of cylinders is sufficient before recovery;
(7) The recovery equipment shall be started and operated as per the operation instructions of the manufacturer;
(8) The cylinder cannot be charged too full. (The refrigerant charged cannot exceed 80% of the capacity of cylinders)

Recovery

During maintenance or scrapping, the refrigerant inside the refrigeration system needs to be cleared. It is recommended that the refrigerant be cleared thoroughly.
The refrigerant can only be charged into a dedicated cylinder, the capacity of which shall match with the refrigerant amount charged in the whole refrigeration system. All cylinders to be used are designated for the recovered refrigerant and labeled for that refrigerant (Dedicated Cylinder for Refrigerant Recovery).
During transporting, the space in which the flammable refrigerant air conditioners are loaded cannot be sealed. Anti-static measures shall be taken for the transporting vehicles if necessary.
During removal of the compressor or clearing of the compressor oil, it shall be guaranteed that the compressor is vacuumized to a proper level, to ensure no residual flammable refrigerant is left inside the lubricating oil. The vacuumizing shall be completed before the compressor is delivered back to the manufacturer.Safety shall be guaranteed when the oil is discharged from the system.

Safety instructions (to be followed at any time)

1.Attention is drawn to the fact that additional transportation regulations may exist with respect to equipment containing flammable gas. The maximum number of pieces of equipment or the configuration of the equipment permitted to be transported together will be determined by the applicable transport regulations.
2.Disposal of equipment using flammable refrigerants. See national regulations.
3The storage of the appliance should be in accordance with the applicable regulations or instructions, whichever is more stringent.
4.Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
5.The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
6.Do not pierce or burn.
7.Be aware that refrigerants may not contain an odour.
8.A warning to keep any required ventilation openings clear of obstruction.
9.A notice that servicing shall be performed only as recommended by the manufacturer.
10.A warning that ducts connected to an appliance shall not contain a potential ignition source.

Instructions on transport and storage

1. During transport or storage, the heat pump water heater shall be under undamaged package to avoid damage to appearance and performance of the product;

2. During transport or storage, the heat pump water heater shall be in an upright position;

3. Under special conditions, this product may be laid down within 1 hour as per indication on the side of the package case. The heat pump water heater, after being laid down for a certain time, shall be kept for more than 4 hours at upright position prior to starting up.

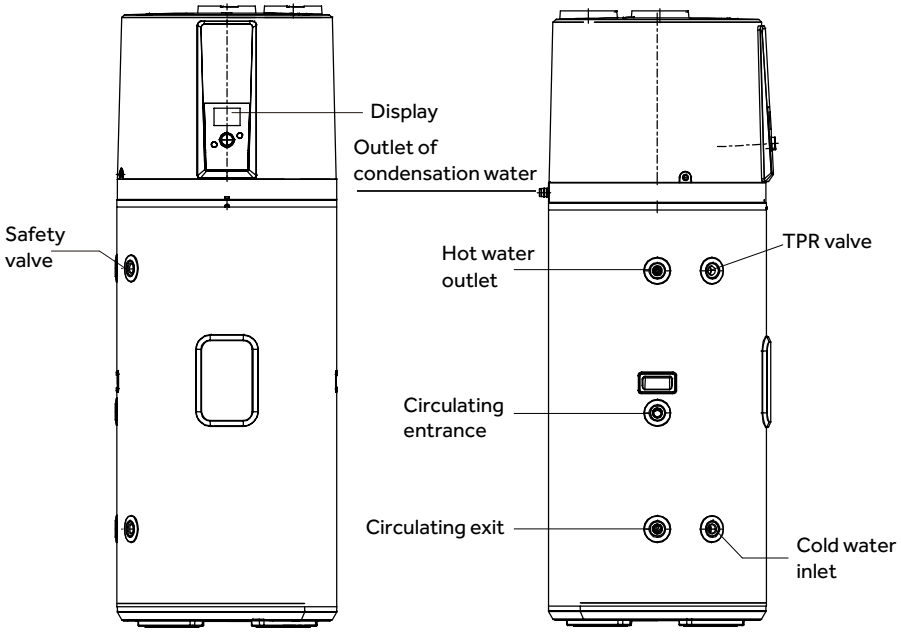
The machine shall be kept in an upright position at any time so that the best performance can be realized!

Technical parameters

Model	HP200M7-F9	HP200M7C-F9	HP250M7-F9	HP250M7C-F9
Tank				
Total cylinder capacity	194L	185L	250L	240L
Rated voltage/ frequency	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz
Tank max pressure	700kPa	700kPa	700kPa	700kPa
Corrosion protection	Magnesium rod	Magnesium rod	Magnesium rod	Magnesium rod
Insulation Protection Rating	IPX4	IPX4	IPX4	IPX4
Performances(7℃/6℃ Ambient air temperature, 10℃-55℃ water temperature)				
COP @7℃(EN16147)	3.2	3.2	3.23	3.21
COP @14℃	3.6	3.6	3.6	3.6
Power input by electric backup	1500W	1500W	1500W	1500W
Rated power input by heat pump	320W	320W	320W	320W
Maximum power input by heat pump	535W	535W	535W	535W
Maximum power input	2035W	2035W	2035W	2035W
Heating water capacity	24L/h	24L/h	24L/h	24L/h
Heating up time (10℃-55℃)@7℃	7.0h	6.8h	10.5h	10.3h
Default temperature setting	65℃	65℃	65℃	65℃
Temperature setting range- with heater	35℃-75℃	35℃-75℃	35℃-75℃	35℃-75℃
maximum temperature output for the heat pump only	65℃	65℃	65℃	65℃
Max working pressure of refrigerant	1.0/3.3MPa	1.0/3.3MPa	1.0/3.3MPa	1.0/3.3MPa
Refrigerant type / weight	R290/0.15kg	R290/0.15kg	R290/0.15kg	R290/0.15kg
Sound power level *@ 1 metre	50dB(A)	50dB(A)	50dB(A)	50dB(A)
V40	239L	228L	307L	295L
Ambient temperature of heat pump	-7℃~45℃	-7℃~45℃	-7℃~45℃	-7℃~45℃
Dimension and connections				
Water inlet and outlet connection	Rp 3/4	Rp 3/4	Rp 3/4	Rp 3/4
TPR valve connection	Rp 3/4	Rp 3/4	Rp 3/4	Rp 3/4
Drain & Water intlet connection	Rp 3/4	Rp 3/4	Rp 3/4	Rp 3/4
Product Dimensions	600*620*1694mm	600*620*1694mm	600*620*1989mm	600*620*1989mm
Packing dimension with pallet	736*695*1940mm	736*695*1940mm	736*695*2250mm	736*695*2250mm
Net/Gross weight	86/109kg	96/119kg	98/121kg	107/131kg
Filled weight of the appliance	281kg	282kg	347kg	349kg

Description of parts and components

Heat pump structure

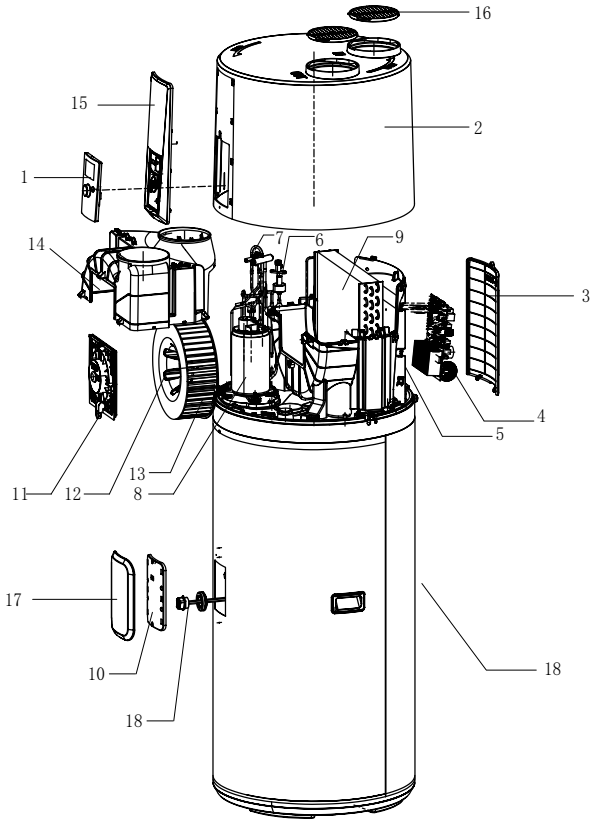


Accessorries

Part name	Heat pump water heater	Drainage pipe for condensate water	Instruction manual
Quantity	1	1	1

Description of parts and components

Exploded view of the heat pump



S/N	Description	S/N	Description
1	Display panel	10	Inner waterproof cover
2	shell	11	Support
3	Electrical box cover	12	DC motor
4	Control panel	13	Fan blade
5	Electrical box	14	Diversion air duct
6	Electronic expansion valve	15	Decoration
7	Four-way valve	16	Outlet grate
8	Compressor	17	Outer waterproof cover
9	Evaporator	18	Heating element

Installation introduction

Selection of installation site

1. The install location is stable and level. Air flow can flow in and out freely, which is affected by outdoor air to a minimum extent.

2. The surface can support the the filled weight of the appliance and the condensate water can be drained freely.

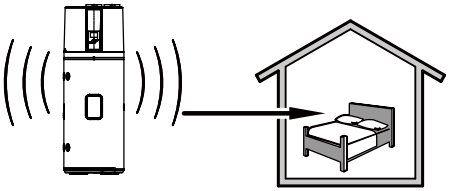
3.Select a location where the appliance noise does not bother the home owners or neighbors.

4. There is sufficient space left for installation and maintenance.

5. There is no strong electromagnetic interference around that may affect control functions.

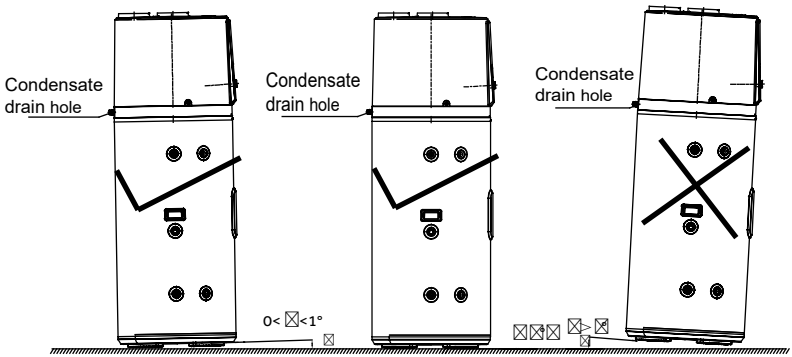
6. There are no corrosive vapors such as aerosl sprays, stain removers or household chemicals near the install location. These vapors may cause corrosion to the machine and it's fittings, which may cause corrosion of the machine and its fittings.

7. Considerations have been made to prevent connected water pipes from freezing.



Keep an adequate distance between the working heat pump and the resting places.

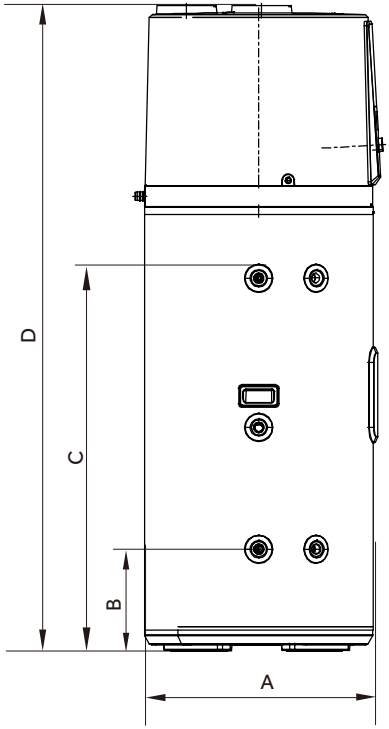
10. Installation angle refer to the following diagrams.

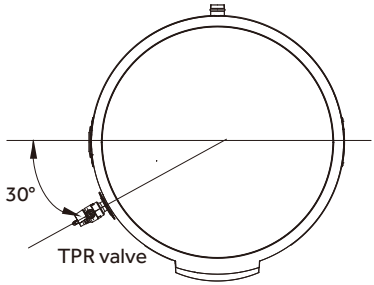


English

Installation introduction

Installation dimensions for a heat pump



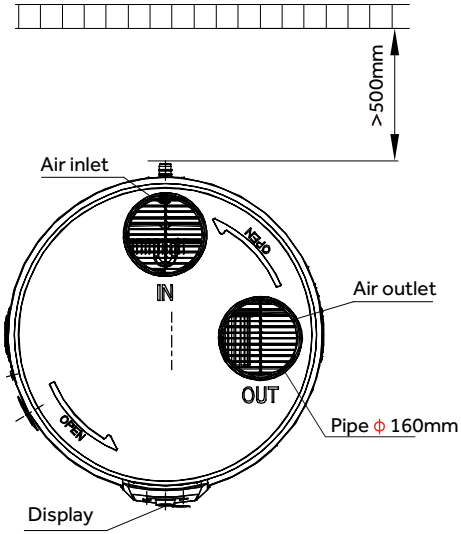


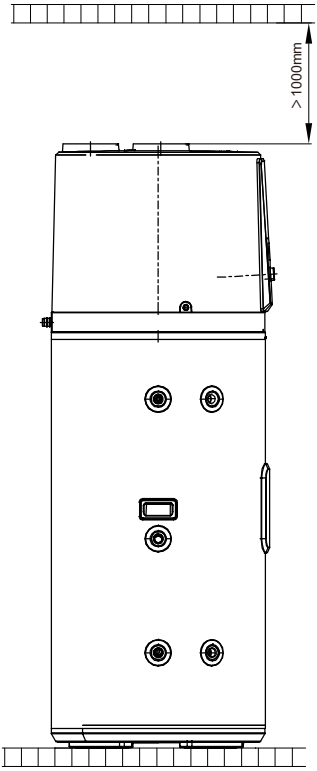
unit: mm

Model	A	B	C	D
HP200M7-F9	620	270	980	1694
HP250M7-F9	620	270	1275	1989
HP200M7C-F9	620	270	980	1694
HP250M7C-F9	620	270	1275	1989

Installation instructions

Installation drawings for the heat pump installed on a wall





English

Installation and fixing of a water tank

1. Put the water tank on a flat surface with sufficient supporting capacity. The inclination shall not exceed 1°.

2. The installation place of the water tank shall be convenient for use, maintenance and with a sewage drain system. This makes sure that it would not cause any damage to nearby or sub-layer facilities if the water tank or water pipe leaks.

Installation instructions

plumbing installation

1. The effect that the installation shall conform to the Plumbing Code of Australia (PCA). Determine the installation position of the water tank. Statement around installing to the local guidelines is required.

2. The water heater must be installed:
- by licensed trades people.
- in accordance with all local codes and regulations and standards including AS/NZS3500.4 and AS/NZS 3000.

3. Inlet water connections:
An isolating and non-return valve must be installed on the inlet to the hot water system. If it is possible that the supply pressure could exceed 600kPa, a pressure limiting valve shall also be installed on the inlet piping. A 700kPa cold water expansion control valve may also need to be installed on the inlet piping if it's required by local plumbing regulations. If the hot water system is installed in a bad water quality area where regular flushing is required due to sediment build-up, a drain cock or valve should also be installed on the inlet piping.

4. Outlet water connections:
A temperature limiting valve is supplied with this water heater and must be used for applications where the water is supplying hot water to fixtures used for sanitary use (i.e. bathrooms) according to AS/NZS 3500.4 requirements.

5. For the purpose of convenience of assembly and disassembly of the water tank, it is suggested that loose joints shall be applied to proper positions of the water inlet/outlet pipes of the water heater. The position of the water supply shall be identified to connect the inlet/outlet water pipes and water supply pipe to the place where water is consumed.

6. Inlet/outlet water pipes shall not be connected in the wrong flow direction. TPR valve shall be installed in the specified position and shall not be changed. Please use the pipeline installation diagram as a reference, but adapt the installation to specific conditions of use.

7. The inlet water pressure of water supply shall be between 0.1~0.5MPa.

8. In order to avoid negative effects on the water heater, the inlet water temperature is suggested between 10-30°C.

9. Before to fill in the tank, make sure that cold water inlet, hot water outlet and at least one fill-in valve on the installation (preferably the farthest) are opened. The filling finishes after around 10 seconds continuous flow on the faucet.

10. All hot water pipes and cold water pipes which may be at risk of freezing must be adequately insulated with 20mm thick insulation, otherwise warranty may not cover failures related to damage due to freezing.

11. In accordance with safety rules, a TPR valve(700kPa, 99°C, Rp3/4) must be installed on the tank. Never block the outlet of the safety valve or its drain line for any reason.
The diameter of the safety unit and its connection must be atleast equal to the diameter of the domestic cold water inlet.

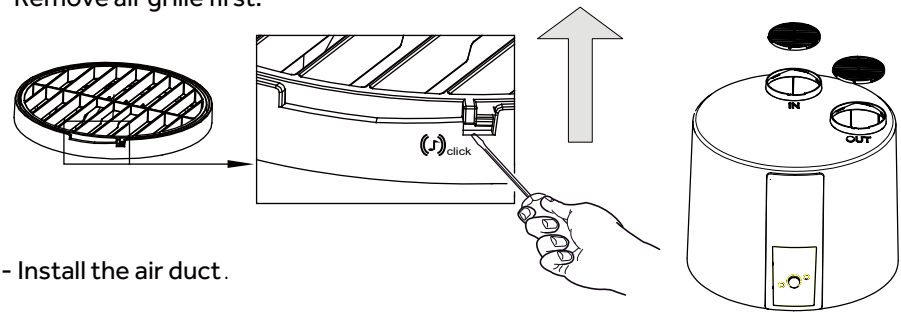
WARNING — FOR CONTINUED SAFETY OF THIS APPLIANCE IT MUST BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S.

WARNING — THIS APPLIANCE MAY DELIVER WATER AT HIGH TEMPERATURE. REFER TO THE PLUMBING CODE OF AUSTRALIA (PCA), LOCAL REQUIREMENTS AND INSTRUCTIONS TO DETERMINE IF ADDITIONAL DELIVERY TEMPERATURE CONTROL IS REQUIRED.

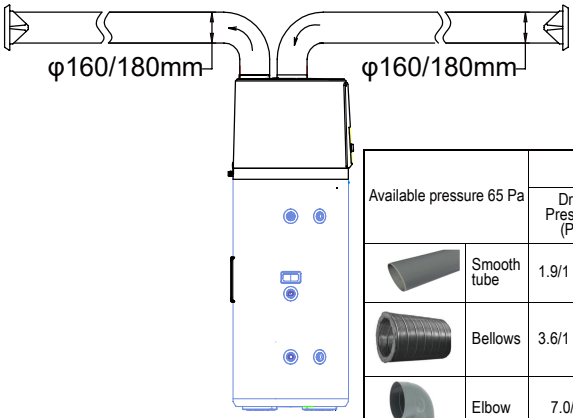
Installation instructions

Air connection

- Remove air grille first.



- Install the air duct.



Available pressure 65 Pa		φ160mm		φ180mm	
		Drop Pressure (Pa)	Equivalent 1m-long	Drop Pressure (Pa)	Equivalent 1m-long
	Smooth tube	1.9/1 meter	1	1.6/1 meter	1
	Bellows	3.6/1 meter	2	3.2/1 meter	2
	Elbow	7.0/unit	4	6.3/unit	4
	Air grid	9.0/unit	5	8.0/unit	5

- Pressure drops from duct must be lower than or equal to the static pressure of the fan.
- If the pressure drops out of range, the performance of the appliance will be impaired.

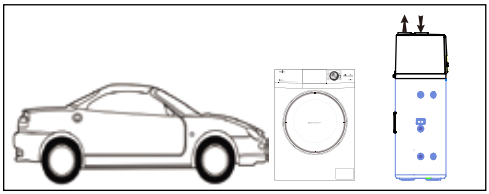
The sum of the maximum length of the air duct is 10m (Diameter of air connection 180 mm). The sum of the Maximum length of the air duct is 8m (Diameter of air connection 160 mm).

It is recommended that an air grille with a mosquito net be installed at the air inlet of the air guide duct. Ventilation area not less than 150cm^2.

English

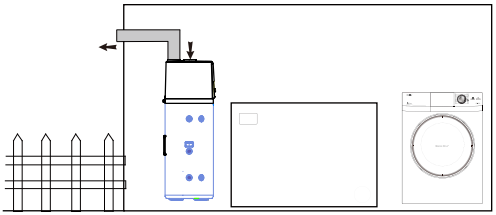
Installation instructions

Advised positions



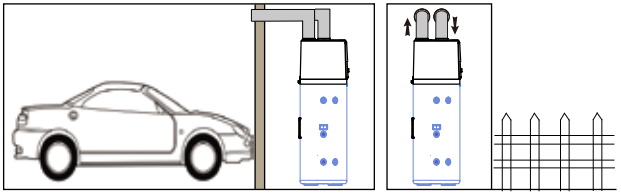
Garage or laundry room (without ducts):

-Unheated room.
-Enables recovery of the free energy released by your vehicle's engine when switched off after use or by household appliances in operation.



Laundry room (with one duct):

-Unheated room.
-Enables recovery of the free energy released by your vehicle's engine when switched off after use or by household appliances in operation.
-Referring installer menu (P26), adjust the fan speed.



Habitable room or outside air (with two ducts):

-Can obtain free heat from the garage.
-If the outside air temperature is too low,connection to the outside air may lead to overconsumption of electricity.
-Referring installer menu (P26), adjust the fan speed.
-Avoid refreshing heated room.

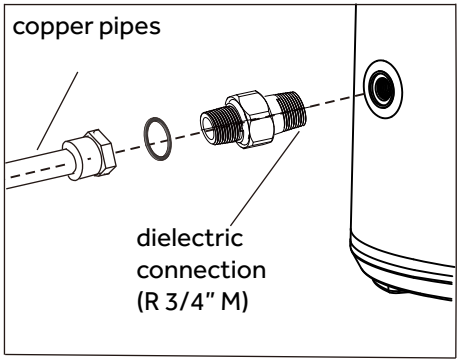
Installation instructions

Installation caution

When making the connections, you should respect the standards and local directives.

- Before making the connection, rinse the water inlet pipes and water tank exchanger (HP250M3C), in order not to introduce metal or other particles into the tank.
- Select copper pipes for pipeline connection.
- The inlet water pressure is between 0.1~ 0.5 MPa. If lower than 0.1 MPa, a booster pump shall be added at the water inlet; if higher than 0.5 MPa, a pressure relief valve shall be added at the water inlet.
- The inlet water temperature is suggested between 10-30°C.
- Outdoor water pipeline and valves should be proper insulated.
- In accordance with safety rules, a safety valve(7 bar,99°C,R3/4M) must be installed on the tank.For France, we recommend hydraulic safety units fitted with a membrane with the NF marking.
  Integrate the safety valve in the cold water circuit.Install the safety valve close to the tank in a place which is easy to access.
  No isolating devices should be located between the safety valve or unit and the tank.
  The rated pressure of the safety valve shall not exceed 0.7MPa.
- Never block the outlet of the safety valve or its drain line for any reason.
- The diameter of the safety unit and its connection must be atleast equal to the diameter of the domestic cold water inlet.
- If the mains pressure exceeds 80% of safety valve, a pressure reducer must be installed upstream of the appliance.

Do not connect the cold water inlet and hot water outlet directly to the copper pipes in order to avoid iron/copper galvanic couples (risk of corrosion).
The cold water inlet and hot water outlet must be fitted with a dielectric connection .
R 3/4" dielectric connection and pipe fittings must be used ,DO NOT use G 3/4" thread.

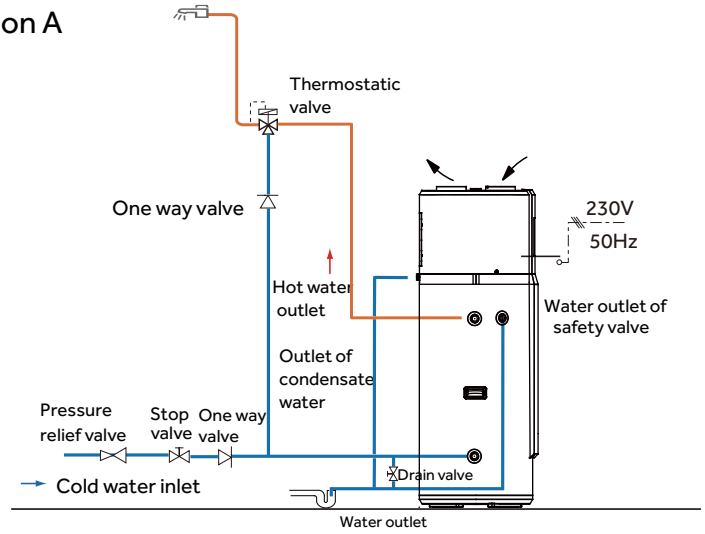


English

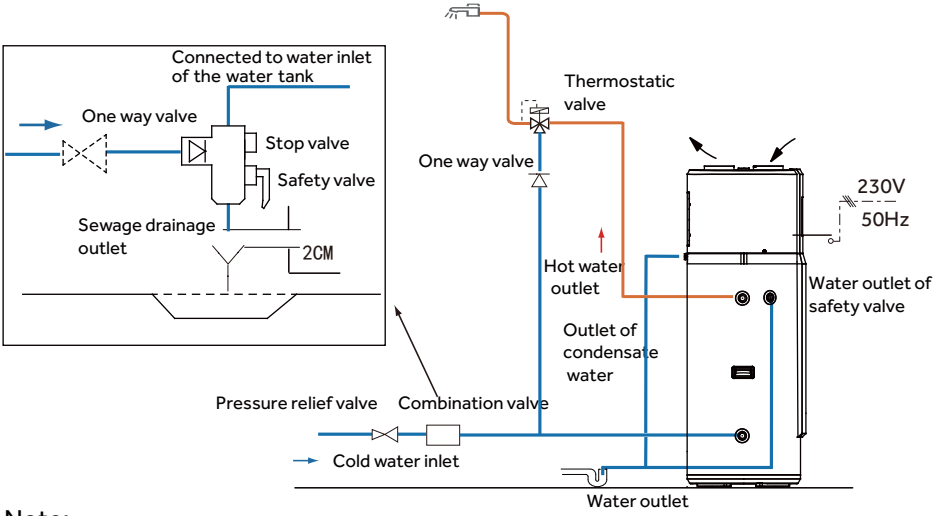
Installation instructions

Pipeline installation diagram

Installation A



Installation B(for France only)

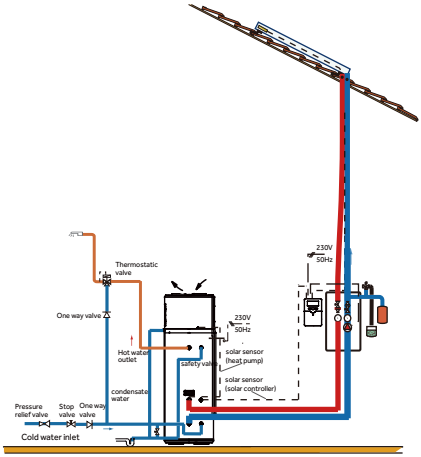


Note:

- Pressure relief valve, thermostatic valve, stop valve, One way valve,T&P valve and French combination valve are not included in the accessories, please select proper fittings in local market;
- Valves with NF/CE certification are recommended ;

Installation instructions

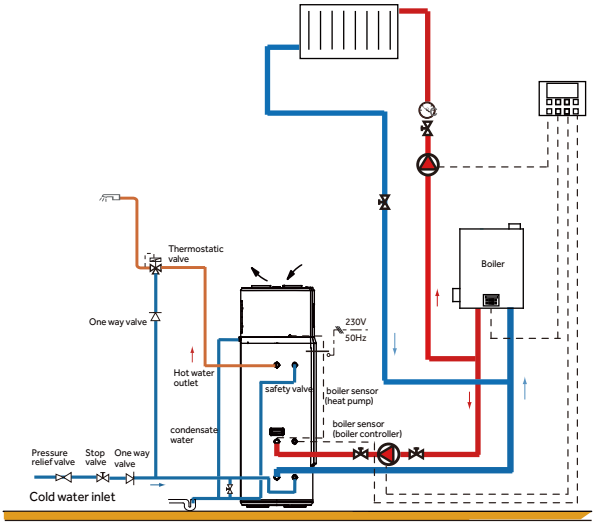
Connection to solar collectors (Version HP200M7C-F9/HP250M7C-F9)



WARING:Plumber -Be Aware

Using solar energy,please make sure that the heat pump water tank temperature does not exceed 85 ℃.

Connection to gas boiler (Version HP200M7C-F9/HP250M7C-F9)



WARING:Plumber -Be Aware

Using boiler auxiliary heating, please make sure that the heat pump water tank temperature does not exceed 85 ℃.

Installation instructions

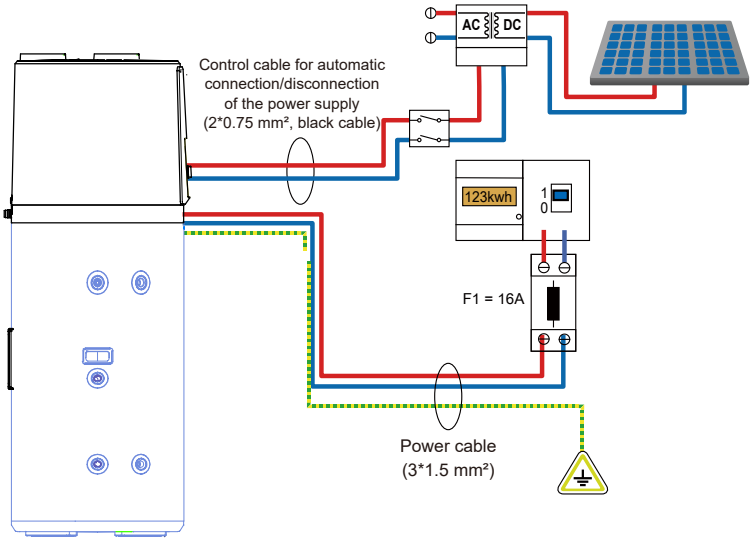
Electrical connections precautions

WARNING

- Only qualified professionals may carry out electrical connections, always with the power off.
- The earthing shall comply with local standards.

- Water heaters shall be equipped with a dedicated power line and residual current circuit breakers. The action current shall not exceed 30 mA;
- The ground line and the zero line of the power supply shall be separated entirely. Connecting the zero line to the ground line is not allowed.
- Parameter of the power line: 3×1.5mm² or more.
- If a power cable is damaged, it shall be replaced by qualified professionals to avoid risks.
- In the case of places and walls where water may be splashed to, installation height of a power socket shall not be less than 1.8 m, and it shall be ensured that water would not be splashed on these places. The socket shall be installed out of children's reach.
- The phase line, zero line and ground line inside a power socket used in your home shall be wired correctly without any wrong positioning or false connection, and internal short circuit shall be avoided. Wrong wiring may cause fire accidents.

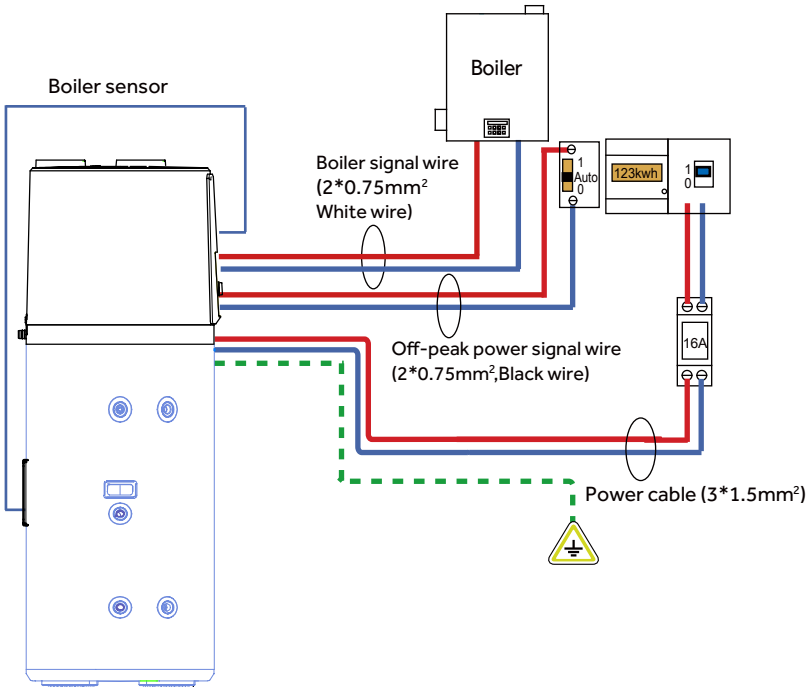
Connection to a PV system (HP200M7C-F9/HP250M7C-F9)



English

Installation instructions

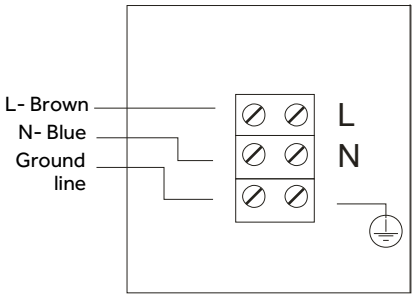
Connection with boiler back up (only for HP200M7C-F9/HP250M7C-F9)



Installation instructions

Installation precautions

- Water heaters shall be equipped with a dedicated power line and residual current circuit breakers. The action current shall not exceed 30 mA;
- The ground line and the zero line of the power supply shall be separated entirely. Connecting the zero line to the ground line is not allowed.
- Parameter of the power line: 3×1.5mm² or more.
- If a power cable is damaged, it shall be replaced by qualified electrician.



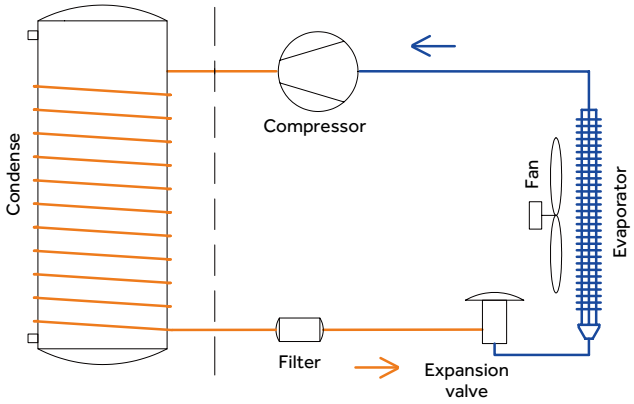
Wiring terminals of a heat pump

CAUTION: In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

Appliances shall be classified according to the accessibility as appliance not accessible to the general public.

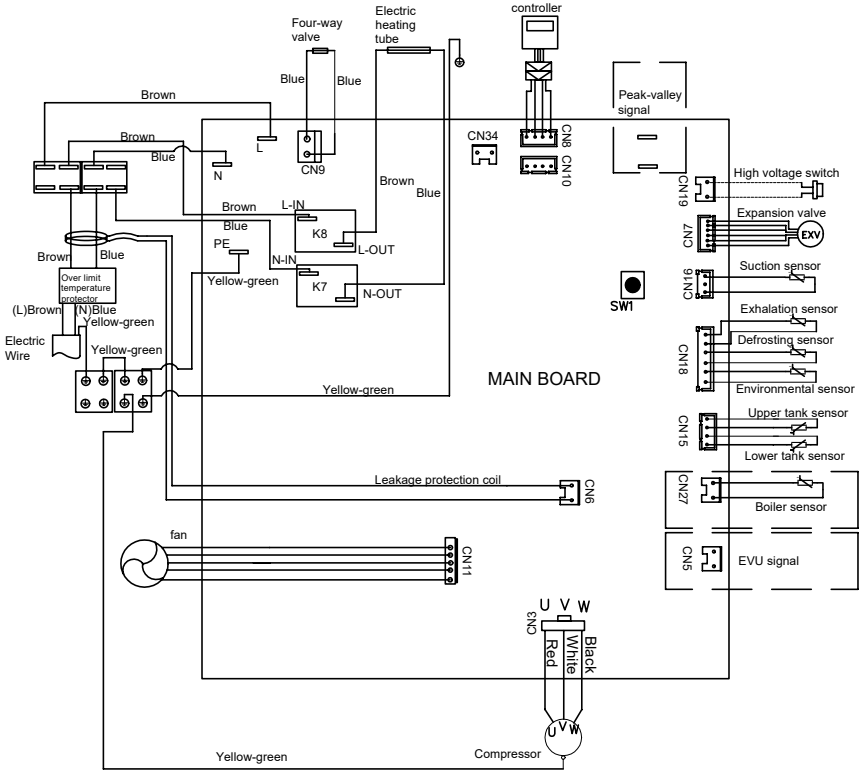
Functioning principles of heat pump products

Air source heat pump water heaters, mainly consist of compressor, expansion valve, filter, evaporator, condenser and fan. The heat pump is powered by electricity, and the compressor absorbs low-temperature and low-pressure gas refrigerant from the evaporator. Via its working, it compresses the gas into high-temperature and high-pressure gas, which enters into the condenser to transfer its heat to the water so that the water temperature keeps rising. The condensed refrigerant, after being throttled and depressurized by the expansion valve, goes through the heat pump which absorbs heat from the surrounding air via the evaporator, then is pumped into the compressor for compression, which is recycled to produce hot water.



Installation instructions

Wiring diagram



Commissioning

Installation operators shall use checking items for trial running of water heaters as per the operationmanual, and make √ in □.

☐The electrical connection is correctly connected.

☐Water drain pipes are laid correctly.

☐ the ground wire in the hardwire connection.

☐The control panel works well.

☐ The water tank has been connected with dedicated temperature pressure relief valve (TPR valve) and check valve.

☐ After the water system is completed, the water tank is filled with water. Water drained out of the water outlet of the hot water pipeline.

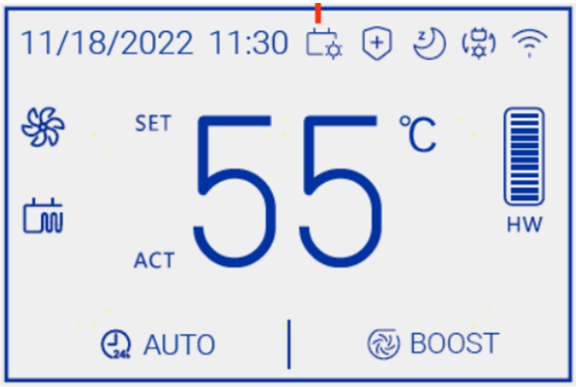
☐ After the water pipe of the water system is filled, check the whole water pipeline. There is no leakage.

☐ Once the tank is filled, the TPR valve releases water when the lever is pulled.

☐ All hot water lines are correctly insulated.

Operation and functions

Display



Functions & Protections

A. Electrical leakage protection
This machine features an electricity leakage protection function.

B. 3-minutes protection
When switched on, the system will take approximately 3 minutes to start.

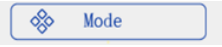
C. Automatic defrosting function
The defrosting mode is automatically activated if the outdoor temperature low and the compressor has run for some time.

D. Overload protection
The working load of the compressor will be high in warm ambient air temperatures. In order to meet hot water requirements of users and to lengthen service life of the compressor, this product automatically adjusts the fan speed to ensure reliable operation of the compressor.

E. Anti-freezing function
The heat pump maintains a minimum temperature to avoid damage to the appliance caused by freezing.

F. The default temperature setting is 55°C.

Description of the icons

Symbol	Description
 Menu key	Enter the menu.
 Return key	Returns the last operation or screen.
 Rotary key	Hold down the Rotary key for 6s to power off the machine In the off state, press the Rotary key to turn on the machine.
	Child lock setting In the child lock state, the mode, temperature and other Settings cannot be performed. Double-click the Rotary key, exit the child lock state, you can set the function.
	Boost mode. Heat pump and backup element a reactivated at the same time. Backup element means that the user is currently using a boiler or solar energy.
	Working mode selection The AUTO/ECO/ELEC/VAC/MUTE/STERILIZE mode can be selected.
	Information parameter query Users can query Energy accumulation、 Energy consumption、 Operation information and Message reset.
	Parameter setting Date, connect, language, temperature, HP Duration and volume Settings are available.
	-Optimised management of the heat pump and backup element for guaranteed comfort ; - The compressor maximum continuous working time (HP Duration) can be adjust in the installer settings.
	- In this mode ,priority of heat pump heating; User entered timer settings; If the set time starts and ends at the same time, the function is invalid.
	- Maintains a minimum temperature to prevent freezing. No heating during vacations.Automatically heated to 65 ° C before the end of the vacation. After the vacation, return to the heating mode set before the vacation.

Description of the icons

Symbol	Description
	- In this mode, the backup element is used as the only heat source. - This function ensures hot water supply when the heat pump is not working properly.
	Set the mute time. During the time period, the machine operates with low noise, and the performance may change due to system changes.
	Bactericidal mode User entered Temperature setting 、 Start time、 Frequency setting.
	Heat pump working icon.
	Auxiliary electrical heater working icon.
	PV mode -PV from the user. When the PV signal is valid, the system automatically sets the current PV. The Settings include signal type, Target temp, Starting heat source, and Activate heating.
	HC/off-peaking mode -Communication from power companies. When the HC/ off-peaking signal is valid, the system automatically executes the current HC/ off-peaking Settings. The Settings include Signal type, Target temp, Starting heat source, and Activate heating.
	SG mode -Communication from power companies. When the SG signal is valid, the system automatically executes the current SG Settings. The Settings include Target temp, Starting heat source.
	Auxiliary heat can be selected boiler, solar heating.
	Hot water volume display.

Note: Under certain conditions, ECO mode may result in shortages of hot water if the ambient air temperature is low.

Function description

1.1 Initial power-on

Start the machine and enter the initial setting. Select confirmation language (China/UK/France/Italy/Germany/Spain/Portugal/Poland) -Temperature unit (°C/°F) -Time setting -target temperature setting by rotating the rotary key. Click the rotary key to confirm.

Figure1

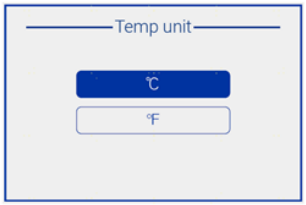


Figure2

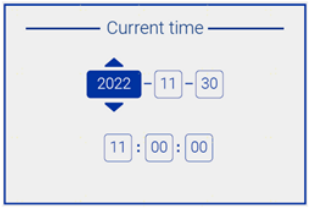


Figure3

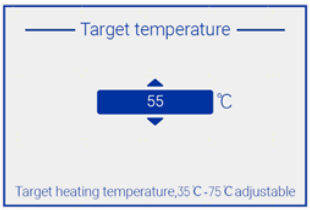


Figure4

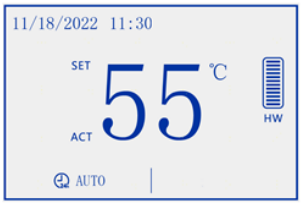


Figure5

The default mode on the home screen is AUTO. After the initial setting is complete, power off and then power on, enter the previous setting mode, and do not enter the initial setting unless the user chooses to restore the initial setting.

1.2 Temperature setting

Under the interface shown in Figure 5, the user can rotate the Rotary key to set the temperature, and automatically confirm the setting after completion.

1.3 Screen lighting time

The display board turns off after no operation on the home screen (shown in Figure 5) for 30 seconds. Operate any key and the screen lights up again.

If the 6 seconds does not perform any operation on the non-home screen, it automatically returns to the previous screen until the home screen is displayed.

1.4 BOOST

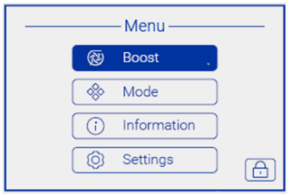


Figure6

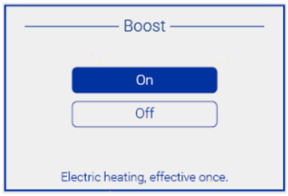


Figure7

for 30 seconds. Operate any key and the screen lights up again.

If the 6 seconds does not perform any operation on the non-home screen, it automatically returns to the previous screen until the home screen is displayed.

Function description

1.5 AUTO

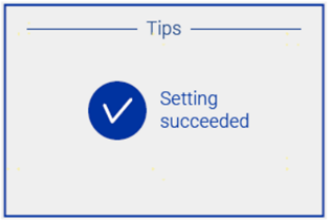


Figure8

Enter as shown in Figure 6, select Mode by rotating the rotation button, click the rotation button, enter as shown in Figure 8, then select Auto by rotating the rotation button, click the rotation button to confirm, indicating that the setting is successful.

1.6 ECO

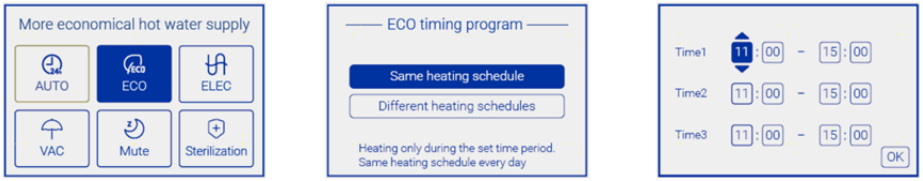


Figure9

According to the AUTO operation mode, select ECO to enter the ECO timing program interface, select heating schedule by rotating the rotation button, and click the rotation button to confirm.

1.6.1 Same heating schedule

If the user select the Same heating schedule, the user can set up to 3 different time periods. See Figure 9.

In the process of setting the time, press the Back button to exit the time selection state, and then select up or down by rotating the rotation button. Click the rotation button to re-enter the time selection state.

Time periods cannot span nights. If the start time and end time are the same, this function is not performed. The AUTO function is performed by default.

After setting the time, the user needs to click OK to confirm, otherwise the setting time is invalid.

1.6.2 Different heating schedule

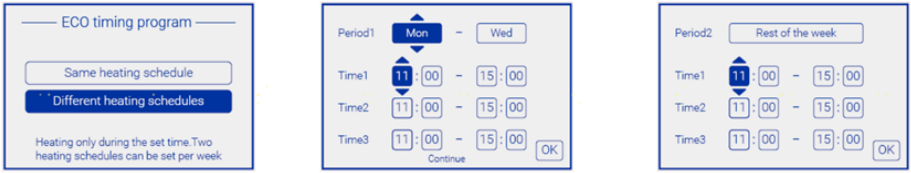


Figure10

English

The operation mode is the Same heating schedule. The difference is that the user can choose the day of the week and the remaining time to perform heating. By default, the system starts on Monday. See Figure 10.

Cross-week selection is not allowed. For example, select the start to select Sunday, the end can only select Sunday.

1.7 ELEC

Figure11

The operation mode is the same as AUTO. See Figure 11.

1.8 VAC

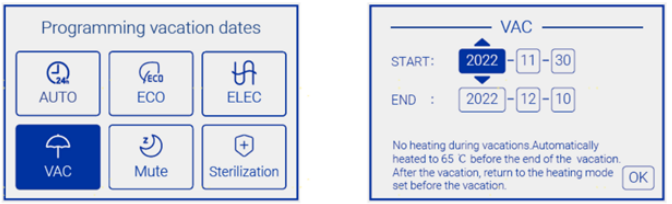


Figure12

According to the AUTO operation mode, select VAC to enter the VAC interface. Then set the start and end time. Click OK to confirm, otherwise the time setting is invalid. See Figure 12.

In the process of setting the time, press the Back button to exit the time selection state, and then select up or down by rotating the rotation button. Click the rotation button to re-enter the time selection state.

When the holiday is over, the value is automatically returned in AUTO mode.

1.9 Mute

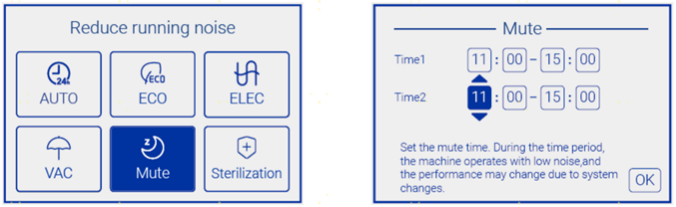


Figure13

According to the AUTO operation mode, select Mute to enter the Mute interface. Then the user can set up to 2 different time periods. Click OK to confirm, otherwise the time setting is invalid. See Figure 13.

If the start time and end time are the same, the mode cannot be selected.

MUTE mode in the selected state, the color deepens, the user needs to click the MUTE mode again, then cancel the function. This function can coexist with other Mode functions. However, heating cannot be performed during VAC.

1.10 Sterilization

Figure14

According to the AUTO operation mode, select Sterilization to enter the Sterilization interface. The user can set the heating temperature, start time, and frequency. See Figure 14.

Temperature range: 55 ° C to 75 ° C.

Execution frequency: once a month, once a week, only once, disable. Disable by default.

After the sterilization function is selected, the sterilization icon on the main interface is lit up, and the icon flashes when the function is executed.

2. Information

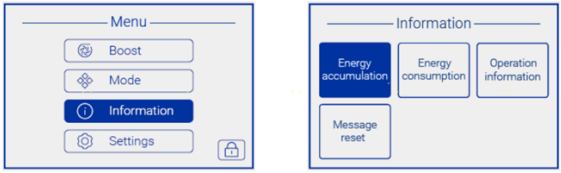


Figure15

Click the Menu button to enter the Menu, select Information by rotating the rotation button, click the rotation button, enter the Information interface. See Figure 15.

2.1 Energy accumulation

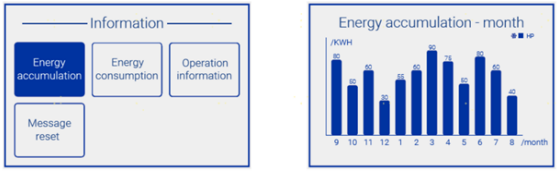


Figure16

By rotating the rotation button, select Energy accumulation, click the rotation button to enter the Energy accumulation interface. By rotating the rotation button, the user can view the energy accumulation of the press in the past 5 years, nearly 12 months, and nearly 7 days.

The calculated results are theoretical values for reference only.

2.2 Energy consumption

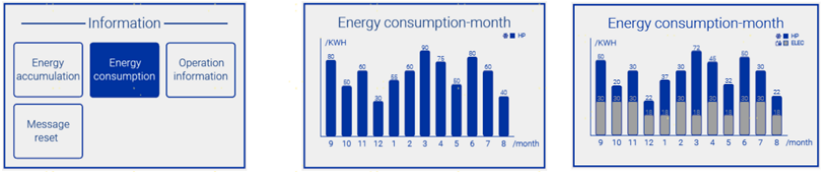


Figure17

English

Select the energy consumption by rotating the rotation button and click the rotation button to enter the energy consumption interface. By rotating the rotation button, the user can respectively view the energy consumption of the press, press and electric heating tube for nearly 5 years, nearly 12 months, and nearly 7 days.
The calculated results are theoretical values for reference only.

2.3 Operation information

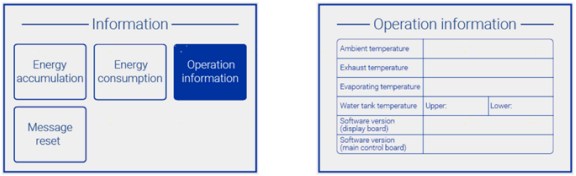


Figure18

Select the operation information by rotating the rotation button and click the rotation button to enter the operation information interface. Users can view real-time parameter values.

The displayed voltage and current are different from the actual. They are for reference only.

2.4 Message reset

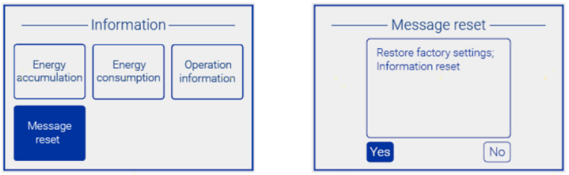


Figure19

Select the message reset by rotating the rotation button and click the rotation button to enter the message reset interface. Rotate the rotate button to select yes/no to confirm whether it is reset.

3. Setting

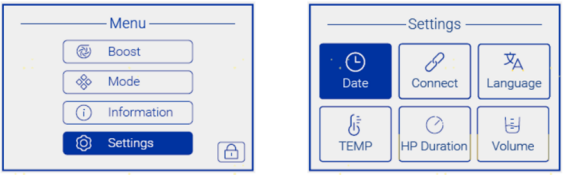


Figure20

Click the Menu button to enter the Menu, select setting by rotating the rotation button, click the rotation button, enter the setting interface. See Figure 20.

3.1 Date

After entering the time adjustment interface, the user can adjust the time by rotating the rotation button and clicking the rotation button to confirm.

3.2 Connect

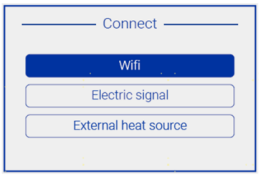


Figure21

Select the message reset by rotating the rotation button and click the rotation button to enter the message reset interface. Then select Wifi, Electric signal, External heat source.

3.2.1 Wi-Fi connection

Your appliance can be connected to your home wireless network and operated remotely using the app.

Getting started:

1.Ensure your home WiFi network is turned on.

2.After powering on, the WIFI icon ( ) will flash. If the connection is successful, the WiFi icon ( ) will always be on.

If the connection is not successful, the WiFi icon ( ) will always be flashing.

3. It may take up to 30 minutes to connect your appliance. Then exit flashing.

4. If you select WIFI factory reset, all configurations are cleared and network configuration is reconfigured.

On your mobile device:

1. In App Store search "hOn" to download and install the app.

2. Register and create an account.

3. Add your appliance and set up the WiFi connection.

3.2.2 Electric signal

By clicking the rotation button to enter the Electric signal function, the user can select Signal select, Signal type, Target temp, Starting heat source, Activate heating. See the Description of the icons for details.

3.2.2.1 Signal select

The user can choose PV\ Off-peak(HC)\SG\disable.

3.2.2.2 Signal type

The user can choose normally open and normally closed.

When the home power signal comes, the relay is on, please select NC； When the home power signal comes, the relay is off, please select NO.

The SG ready function is disabled by default.

3.2.2.3 Target temp

Set range 55-75° C.

PV default 75° C.

SG default 65° C.

The default Off-peak(HC) is 65° C.

English

3.2.2.4 Starting heat source

Users can choose the heating method.
1, Heat pump and electric heating meanwhile
2, Heat pump (electric heating is only started after the water temperature is 65° C)
3, Electric heating only

3.2.2.5 Activate heating

1, Activate and heat immediately, No signal returns to the current MODE.
2, Only activate and heat in the heating time of the current MODE.
3, Activate and heat immediately, mode is disabled. Keep the water temperature at 40° C without signal.
4, Activate and heat immediately, mode is disabled, No heating without signal.

3.2.3 External heat source

Users need to choose boilers and solar energy according to the actual use. Disable this function if no external heat source configuration is required.

3.3 Language

After entering the language interface, the user can reset the language by rotating the rotation button and clicking the rotation button to confirm.

3.4 TEMP

The operation mode is the same as 3.3. The user can set Temp unit and Temp target.

3.5 HP Duration

The operation mode is the same as 3.3. Start electric heating after the heating time exceeds the default heat pump duration, which is adjustable within 5-14h.

3.6 Volume

The operation mode is the same as 3.3.The user can choose the volume of the water tank according to the real machine.

Checking and maintenance

- Installation and maintenance of the appliance must be undertaken by a qualified professional .
- Before working on the appliance, shut down the machine and cut off the power supply .
- Do not touch with wet hands.
- Maintenance operations are important to guarantee optimal performance and extend the life of the appliance.

Checking of the TPR valve

- Operate the TPR valve at least once every sixmonths to check if it is running correctly. Otherwise check for blocking and replace the safety valve if necessary.

Checking of the hydraulic circuit

- Check the watertightness of the water connections.

Cleaning of the fan

- Check and clean the fan annually.

Checking of the evaporator

- The evaporate fins are sharp and can cause injury or cuts to hands.
- Avoid damaging the evaporator fins as this can affect the performance of the appliance.

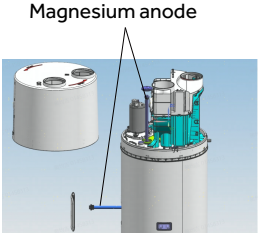
- It is recommended that the evaporator is cleaned every two years.
  Clean the evaporator with a soft brush and water if required. Do not use cleaning agents to clean the evaporator fins.

Checking of the condensates drain

- Check the pipe cleanliness .
- An obstruction may cause poor condensates flow or even a risk accumulation of water in the heat pump base.

Checking of the anode

- To avoid irreversible corrosion of the cylinder, it is recommended to check the anode every two years. If degraded, replace the anode.
- Checking magnesium anode once every 2 years.



Drain the water tank to empty

- Cut the power supply and shut down water inlet valve, then drain the cylinder. Please avoid the hot water inside the water tank to avoid injury.

English

Faults and protection

Water Quality

Water supply from an unfiltered water source that may be highly conductive or have a high mineral content may void the system warranty.
Therefore, to ensure water quality guidelines are met, the following characteristics should not be exceeded.

Total Dissolved Solids (TDS)

Water Properties	Acceptable Level
Total hardness	200 mg/litre or ppm
Total Dissolved Solids(TDS)	600 mg/litre or ppm
Chloride	200 mg/litre or ppm
Magnesium	10 mg/litre or ppm
Sodium	150 mg/litre or ppm
pH	Min 6.5 to Max 8.5
Electricity conductivity	850 μS/cm

In areas of poor water quality, it is recommended that a softener, conditioner or similar device be fitted to the water supply.

WARNING

A breach of this condition may void the warranty in the event of damage caused by water quality exceeding these characteristics.

ANODE

The vitreous enamel lined cylinder of the water heater is only covered by the warranty when the total dissolved solids (TDS) content in the water is less than 2500 mg/L and when the correct colour coded anode is used. If an incorrect colour coded anode is used in the water heater, any resultant faults will not be covered by the warranty. In addition, the use of an incorrect colour coded anode may shorten the life of the water heater cylinder.
The correct colour coded anode is as shown in the following table:

Total Dissolved Solids	Anode colour code
0 – 40 mg/L	Green
40 – 150 mg/L	Green or Black
150 – 400 mg/L	Black
400 – 600 mg/L	Black or Blue
600 – 2500 mg/L	Blue
2500 mg/L+	Blue (no cylinder warranty)

Faults and protection

Fault type	Action	Digital indication	Release
Compressor protection	Operating temperature protection	F2	After fault is solved, Automatic release.
	Air exhaust temperature protection	F3	After fault is solved, restart or switch on power supply for release.
	Evaporation high temperature protection	F5	
Electricity leakage alarming	The system will automatically cut off power supply if any line fault occurs.	E1	
Over temperature alarming	The actual water temperature≥85°C	E2	After fault is solved, Automatic release.
Fault of the inner temperature sensor	If short circuit or circuit break occurs to the sensor	E3	
Fault of the ambient temperature sensor	If short circuit or circuit break occurs to the sensor	E4	
Fault of the evaporation temperature sensor	If short circuit or circuit break occurs to the sensor	E5	
Fault of the air exhaust temperature sensor	If short circuit or circuit break occurs to the sensor	E6	
Fault of the air intake temperature sensor	If short circuit or circuit break occurs to the sensor	ED	
Communication fault	Communication of main control panel and display panel is abnormal	E7	
Ambient temperature protection	Ambient or outdoor temperature <-7°C or >45°C.	E9	
Fault of the Off-peak power switching signal	If not received the Off-peak signal when selecting switch signals by power companies.	EF	
Fault of the external heat source temperature sensor	If short circuit or circuit break occurs to the sensor.	Lb	
Pressure switch protection	Action of the pressure switch at the exhaust outlet.	E8	After fault is solved, restart or switch on power supply for release.
Fault of the fan	Fan blade is stuck or fan and control panel communication failure.	L7	
Wi-Fi communication fault	The communication between the display board and the WiFi module fails when the wifi module is in configuration mode.	F0	After fault is solved, Automatic release.

Faults and protection

Fault type	Action	Digital indication	Release
Variable frequency side fault	Compressor phase current hardware transient overcurrent.	P1	After fault is solved, restart or switch on power supply for release.
	Compressor phase current software instantaneous overcurrent.	P2	After fault is solved, Automatic release.
	IPM temperature anomaly.	P3	
	Current overload.	P4	
	Under voltage protection.	P5	
	Overvoltage protection.	P6	
	The communication between the main control and driver is faulty.	P7	
	The current detection circuit on the frequency conversion side is abnormal.	P8	After fault is solved, restart or switch on power supply for release.
	Out of step detection.	PB	
	Software transient overcurrent on the rectifier side.	PD	After fault is solved, Automatic release.
	The hardware on the rectifier side is overcurrent.	PF	After fault is solved, restart or switch on power supply for release.

The  symbol on the product or on its packaging indicates that this product is not to be treated as regular household waste. Instead, it must be taken to a recycling collection point for electrical and electronic equipment. By properly disposing of this product, you are contributing to the preservation of the environment and the wellbeing of your fellow citizens. Improper disposal is hazardous to health and environment. You can obtain further information on how to recycle this product from your municipality, your waste management service or the shop where you purchased it.

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