English

KWIKOT

powered by Haier

Heat Pump Water Heater
Operation and Installation Manual

Model

HP200M7-F9/B(GN-K)

HP250M7-F9/B(GN-K)

HP200M7C-F9/B(GN-K)

HP250M7C-F9/B(GN-K)

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 KWIKOT,

Thank you for choosing KWIKOT 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:

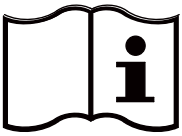
1. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
2. Children 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 top cover 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

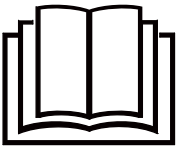
Warning: flammable hazard!

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 KWIKOT'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.

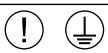
Warning : Risk of damage to the environment
This heat pump contains the refrigerant R290. The refrigerant must not be allowed to escape into the atmosphere.
Refrigerant must be disposed of by qualified professional.

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 14-25.	ⓘ 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.

Loading and Unloading Requirements

1) The products shall be carefully handled during loading and unloading.
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 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.
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/B(GN-K)	HP200M7C-F9/B(GN-K)	HP250M7-F9/B(GN-K)	HP250M7C-F9/B(GN-K)
Tank				
Total cylinder capacity	192L	185L	246L	240L
Rated voltage/frequency	220-240V/50Hz	220-240V/51Hz	220-240V/52Hz	220-240V/53Hz
Tank max pressure	0.7MPa	0.7MPa	0.7MPa	0.7MPa
Thermal insulation	50mm	50mm	50mm	50mm
Corrosion protection	Electronic anode			
Insulation Protection Rating	IPX4			
Performances				
Type of extraction	Ambient/Exterior			
COP@2℃/EN16147(*)	2.80	2.43	2.67	2.81
COP@7℃/EN16147(*)	3.27	3.27	3.20	3.29
COP@14℃/EN16147(*)	3.52	3.55	3.45	3.46
Air Flow	300m³/h	300m³/h	300m³/h	300m³/h
Tapping cycle(*)	L	L	XL	XL
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
Standby power input/Pes(*)	22W	35W	43W	29W
Heating up time (7℃)(*)	8.33h	6.71h	10.51h	10.09h
Heating up time (14℃)(*)	6.91h	6.12h	9.04h	8.70h
Volume of mixed water at 40℃ @7℃ (*)	221L	229L	314L	313L
Reference Hot Water Temperature@7℃ (*)	54.11℃	53.11℃	54.05℃	53.7℃
Default temperature setting	56℃	56℃	56℃	56℃
Heating temperature range(HP)	35℃-65℃	35℃-65℃	35℃-65℃	35℃-65℃
Heating temperature range(HP&heating)	35℃-75℃	35℃-75℃	35℃-75℃	35℃-75℃
Maximum length of air duct	22m	22m	22m	22m
Diameter of air duct connection	160mm	160mm	160mm	160mm
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(**)	50dB(A)	50dB(A)	50dB(A)	50dB(A)
Sound Pressure at 1 m	36dB	36dB	36dB	36dB
Ambient temperature for use of product	-7℃ ~ 45℃	-7℃ ~ 45℃	-7℃ ~ 45℃	-7℃ ~ 45℃
Operating temperature of heat pump	-7℃ ~ 45℃	-7℃ ~ 45℃	-7℃ ~ 45℃	-7℃ ~ 45℃
Thermal dispersion [kWh/24h]	0.53	0.84	1.032	0.7
Thermal dispersion S [W]	22	35	43	29
Thermal dispersion Ktank [W/K]	0.49	0.78	0.96	0.65
Dimension and connections				
Water inlet and outlet connection	Rp 3/4	Rp 3/4	Rp 3/4	Rp 3/4
Safety valve connection	Rp 3/4	Rp 3/4	Rp 3/4	Rp 3/4
Drain & Water inlet connection	Rp 3/4	Rp 3/4	Rp 3/4	Rp 3/4
Product Dimensions	(600*620*1694)mm	(600*620*1694)mm	(600*620*1989)mm	(600*620*1989)mm
Packing dimension with pallet	(736*695*1940)mm	(736*695*1940)mm	(736*695*2250)mm	(736*695*2250)mm
Net/Gross weight	92/116kg	102/126kg	104/128kg	113/138kg

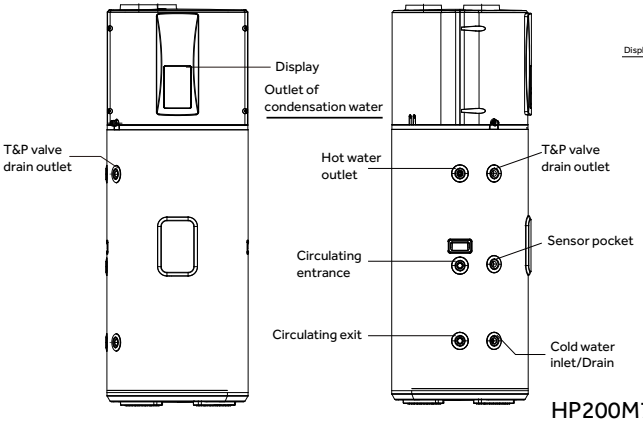
(*) According to EN16147; (**) According to EN12102;

The COP values obtained with external air temperature of 7℃ and 14℃, inlet water temperature of 10℃ and set temperaturet of 54℃ , according to EN16147;

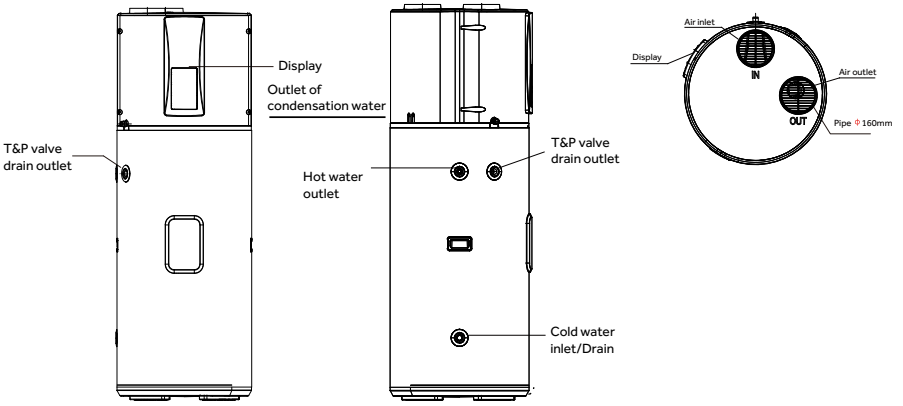
The Sound power level data obtained with external air temperature of 7℃, inlet water temperature of 10℃ and set temperaturet of 55℃ , according to EN12102.

Description of parts and components

Heat pump structure



HP200M7C-F9/B(GN-K)
HP250M7C-F9/B(GN-K)



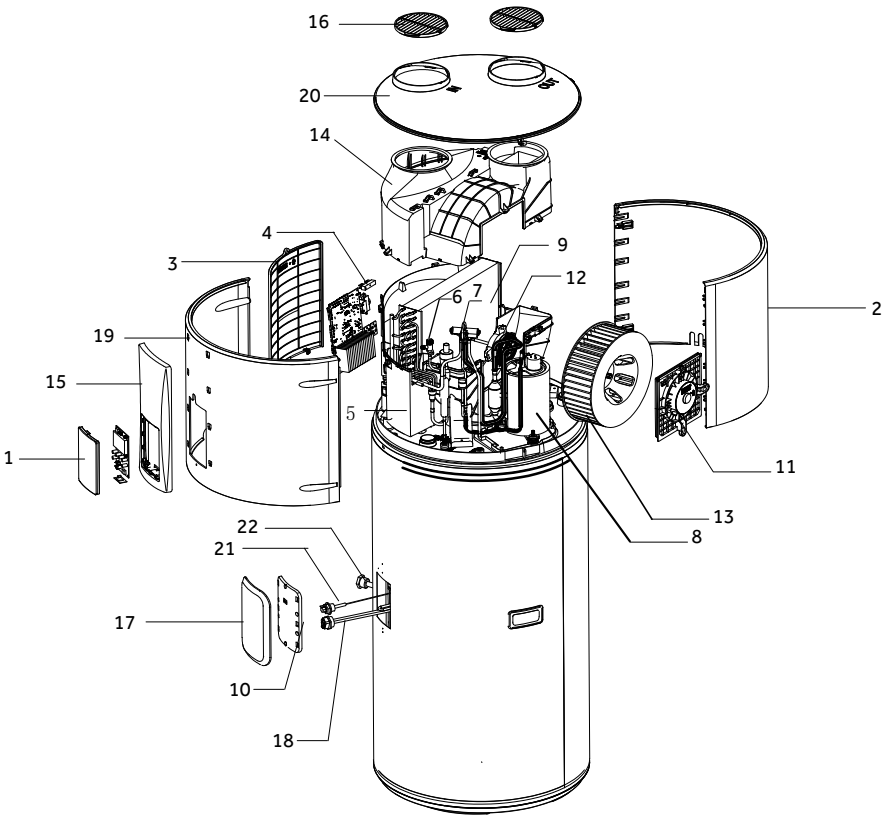
HP200M7-F9/B(GN-K)
HP250M7-F9/B(GN-K)

Accessorries

Part name	Drainage pipe for condensate water	Instruction manual	Fiber washer	Dielectric connection
Quantity	1	1	5	2

Description of parts and components

Exploded view of the heat pump



S/N	Description	S/N	Description
1	Display panel	12	DC motor
2	Back cover	13	Fan blade
3	Electrical box cover	14	Diversion air duct
4	Control panel	15	Decoration
5	Electrical box	16	Outlet grate
6	Electronic expansion valve	17	Outer waterproof cover
7	Four-way valve	18	Heating element
8	Compressor	19	Back cover
9	Evaporator	20	Top cover
10	Inner waterproof cover	21	Electronic anode
11	Support	22	Temperature measurement blind tube

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.

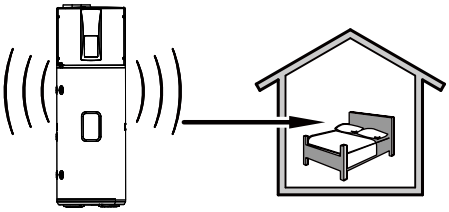
3.Select a location where the appliance noise does not bother the home owners or neighbors.

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

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

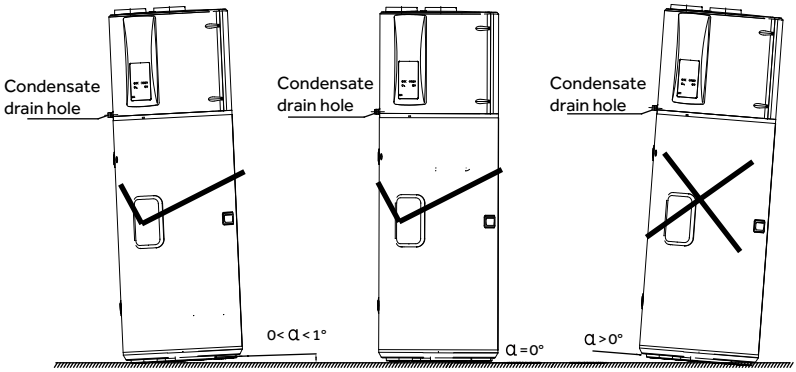
6. There are no corrosive vapors such as aerosl sprays, stain removers or household chemicals near the install location. These vapors may cause corrosion to the machine and it's fittings, which may cause corrosion of the machine and its fittings.

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



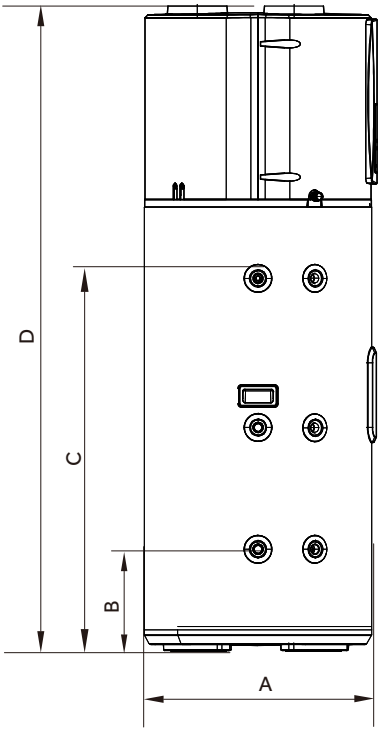
Keep an adequate distance between the working heat pump and the resting places.

10. Installation angle refer to the following diagrams.



Installation introduction

Installation dimensions for a heat pump



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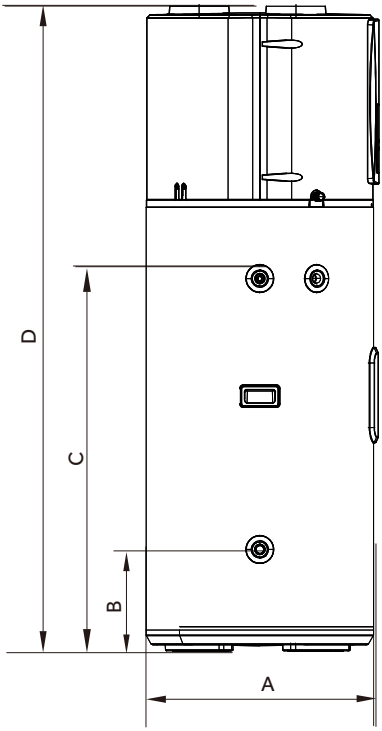


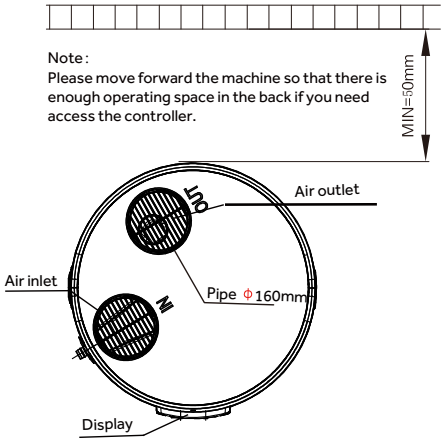
HP200M7-F9/B(GN-K)
HP250M7-F9/B(GN-K)

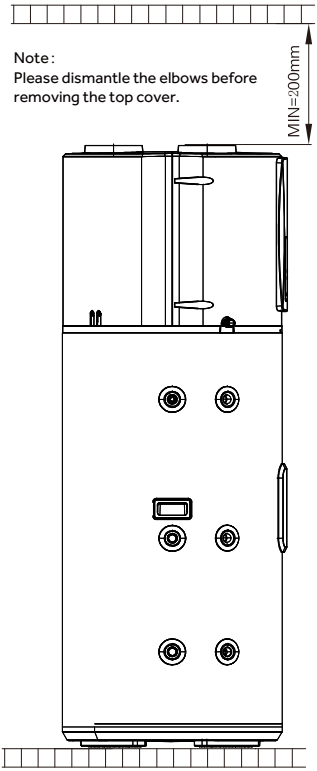
unit: mm

Model	A	B	C	D
HP200M7-F9/B(GN-K)	620	270	980	1694
HP250M7-F9/B(GN-K)	620	270	1275	1989
HP200M7C-F9/B(GN-K)	620	270	980	1694
HP250M7C-F9/B(GN-K)	620	270	1275	1989

Installation instructions

Installation drawings for the heat pump installed on a wall





Installation and fixing of a water tank

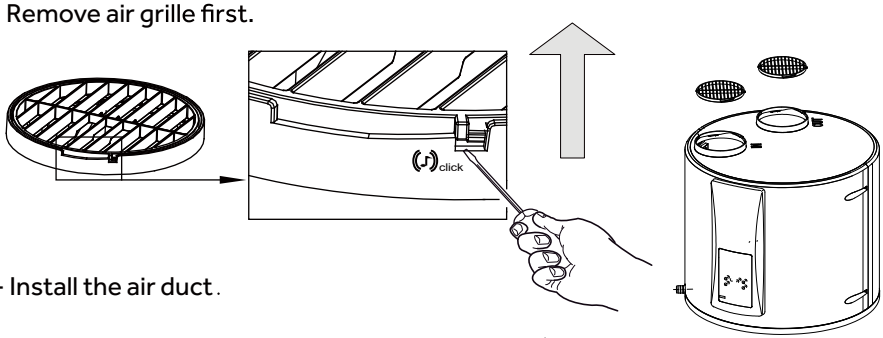
1. Put the water tank on a flat surface with sufficient supporting capacity. The inclination shall not exceed 1°.

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.

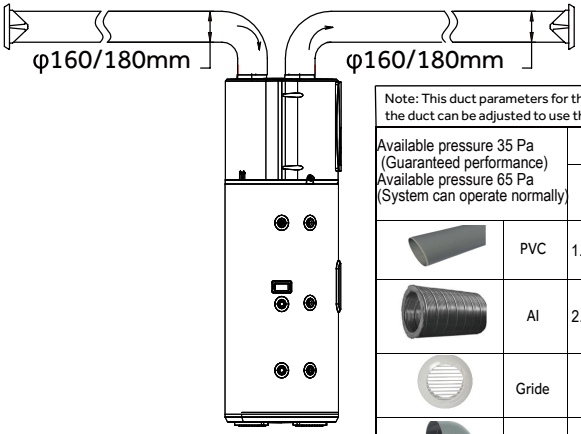
Installation instructions

Air connection

- Remove air grille first.



- Install the air duct.



Note: This duct parameters for the system's default air speed parameters, if you need to lengthen the duct can be adjusted to use the system V1/V2 block to strengthen the exhaust air

Available pressure 35 Pa (Guaranteed performance) Available pressure 65 Pa (System can operate normally)		φ160mm		φ180mm	
		Drop Pressure (Pa)	Equivalent 1m-long	Drop Pressure (Pa)	Equivalent 1m-long
	PVC	1.50/1 meter	1.00	0.96/1 meter	1.00
	Al	2.75/1 meter	1.83	1.67/1 meter	1.74
	Gride	3.41/unit	2.27	2.69/unit	2.80
	90° PVC	4.49/unit	2.99	2.86/unit	2.98
	90° Al	3.54/unit	2.36	2.72/unit	2.83

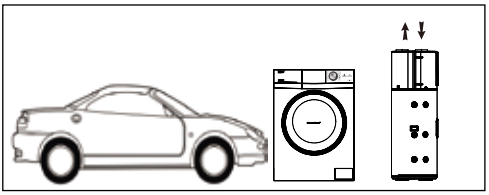
Installation suggestions: 160mm x + y < 11m (PVC) x + y < 6m (Al)	Installation suggestions: 180mm x + y < 22m (PVC) x + y < 13m (Al)

- 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.

It is recommended that an air grille with a mosquito net be installed at the air inlet of the air guide duct. The ventilation area shall not be less than 180 cm^2.

Installation instructions

Advised positions

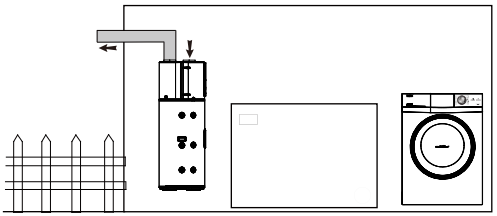


Garage or laundry room (without ducts):

-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.

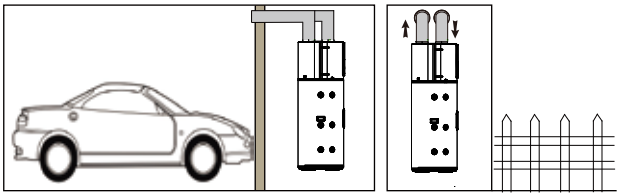
-The room volume shall not be less than $15m^3$ and shall be maintained in a ventilated state.



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.



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.

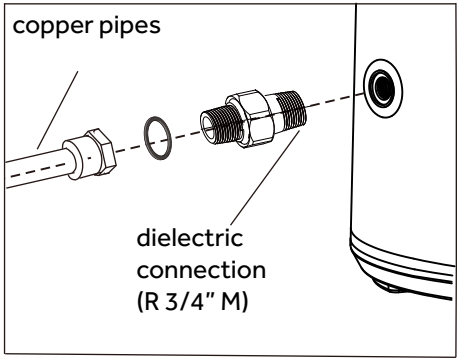
Installation instructions

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 (HP200M7C-F9/B(GN-K)/HP250M7C-F9/B(GN-K)), in order not to introduce metal or other particles into the tank.
- Select copper pipes for pipeline connection.
- The inlet water pressure is between 0.1MPa~0.5MPa. 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°C-30°C.
- Outdoor water pipeline and valves should be proper insulated.
- In accordance with safety rules, a safety valve(7bar,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.

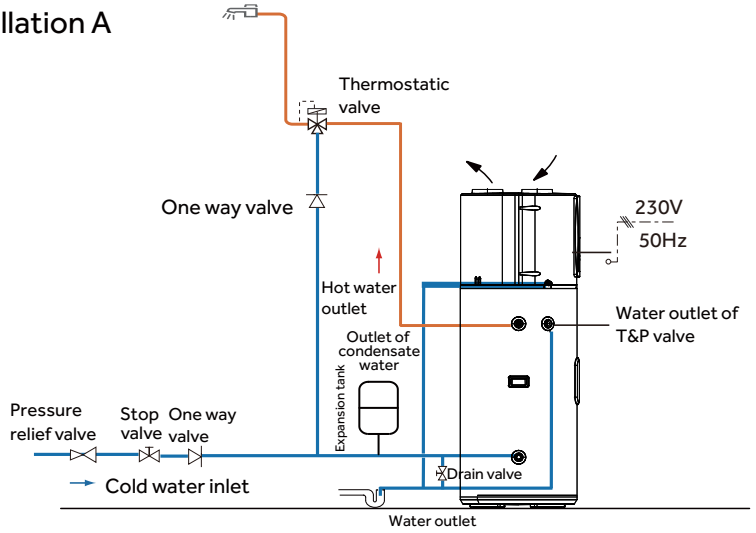
Do not connect the cold water inlet and hot water outlet directly to the copper pipes in order to avoid iron/ copper galvanic couples (risk of corrosion).
It is mandatory that the cold water inlet and hot water outlet must be fitted with a dielectric connection . R 3/4" dielectric connection and pipe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



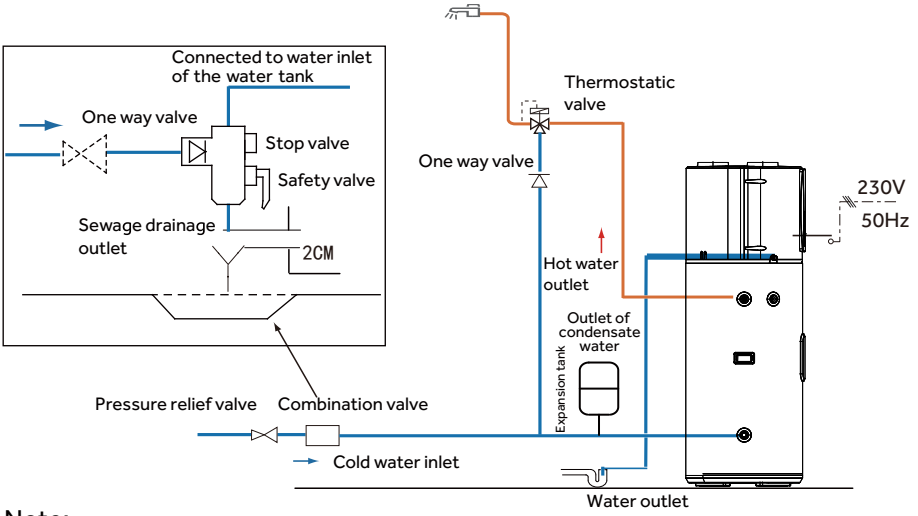
Installation instructions

Pipeline installation diagram

Installation A



Installation B(for France only)



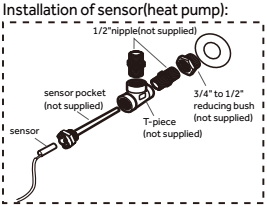
Note:

- 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.

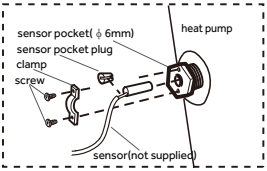
Installation instructions

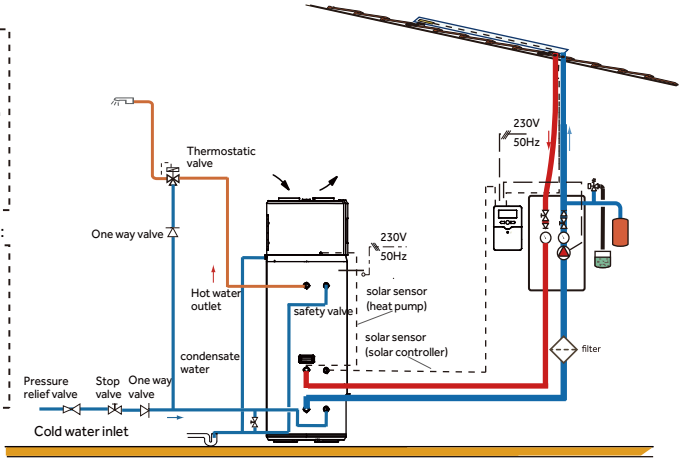
Connection to solar collectors (HP200M7C-F9/B(GN-K), HP250M7C-F9/B(GN-K))

Installation of sensor(heat pump):

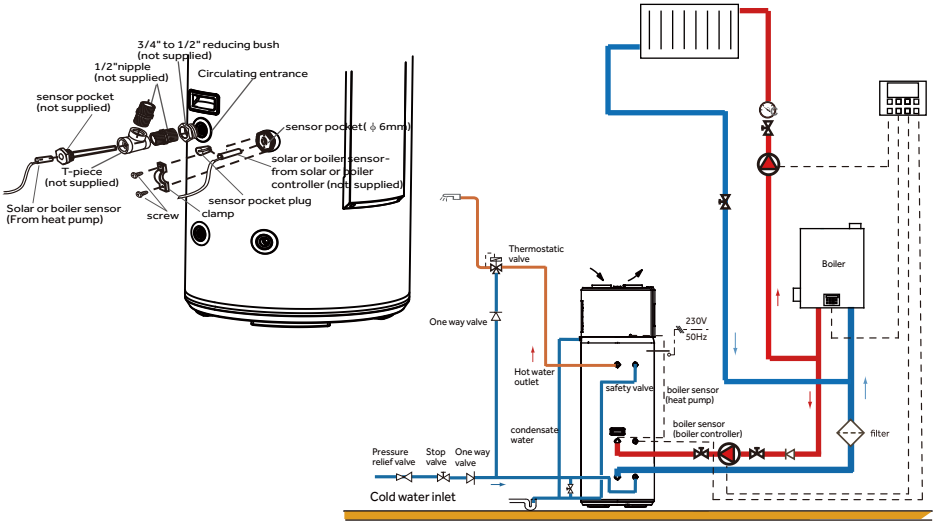


Installation of sensor(solar controller):





Connection to gas boiler (HP200M7C-F9/B(GN-K), HP250M7C-F9/B(GN-K))



WARNING: Plumber -Be Aware

1. When using solar energy or boilers for auxiliary heating, please ensure that the water temperature does not exceed 85 ° C.
2. When using a heat pump circulating coil to connect with other heating equipment, a high-temperature resistant filtration device should be installed at the outlet of the circulating coil before entering other heating equipment. In order to better protect other heating equipment and ensure that the water output of the heating equipment is not affected, it is recommended to use a magnetic filter with high filtration accuracy to ensure the effective removal of impurities such as scale, sediment, rust, suspended solids, etc. The filter can be cleaned irregularly according to the actual dirty situation. Please install a one-way valve before the inlet of the heat pump circulating coil to prevent liquid backflow and ensure the correct operation of the circulation system.

Installation instructions

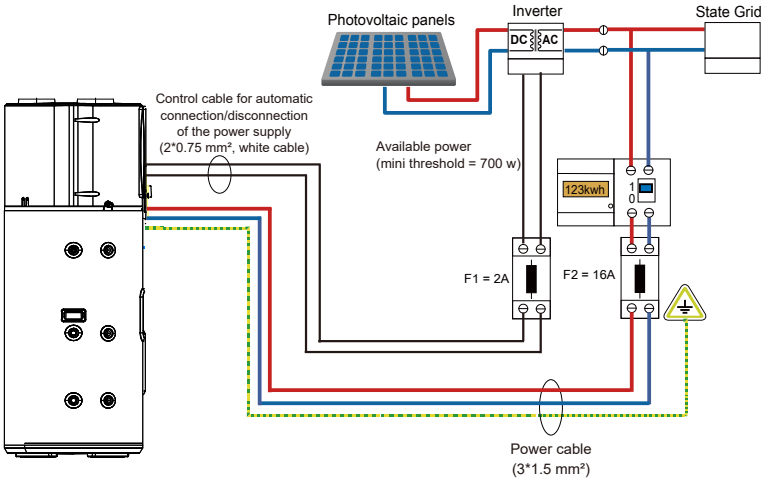
Electrical connections precautions

WARNING

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

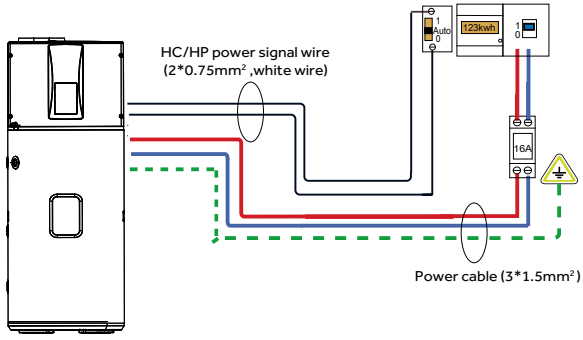
- Water heaters shall be equipped with a dedicated power line and residual current circuit breakers. The action current shall not exceed 30 mA;
- The ground line and the zero line of the power supply shall be separated entirely. Connecting the zero line to the ground line is not allowed.
- Parameter 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

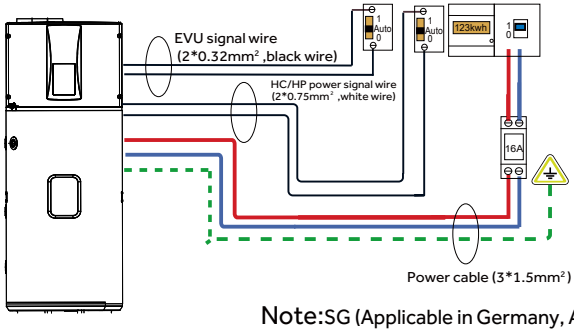


Installation instructions

HC/HP power signal wire connection



SG signal wire connection

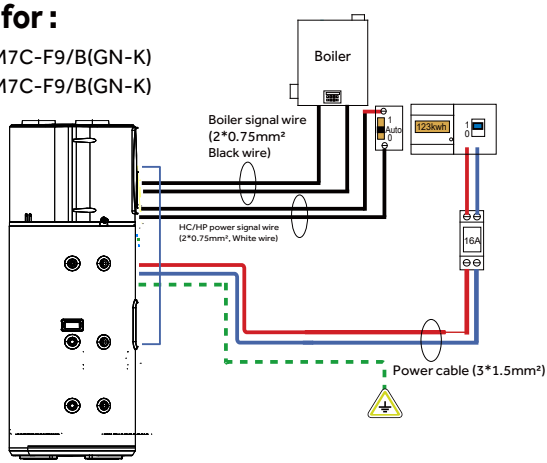


Note:SG (Applicable in Germany, Austria and Switzerland only)

Connection with boiler back up

Only for :

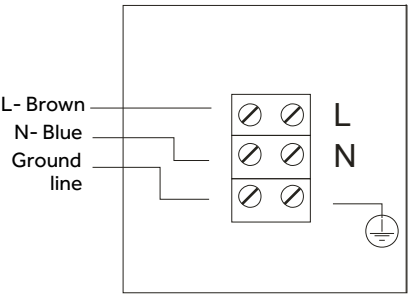
HP200M7C-F9/B(GN-K)
HP250M7C-F9/B(GN-K)



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.



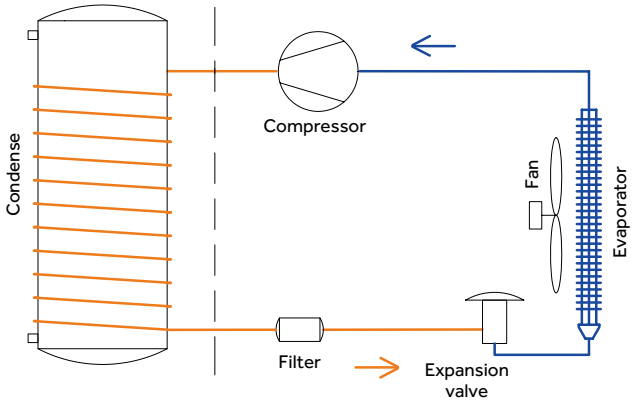
Wiring terminals of a heat pump

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.

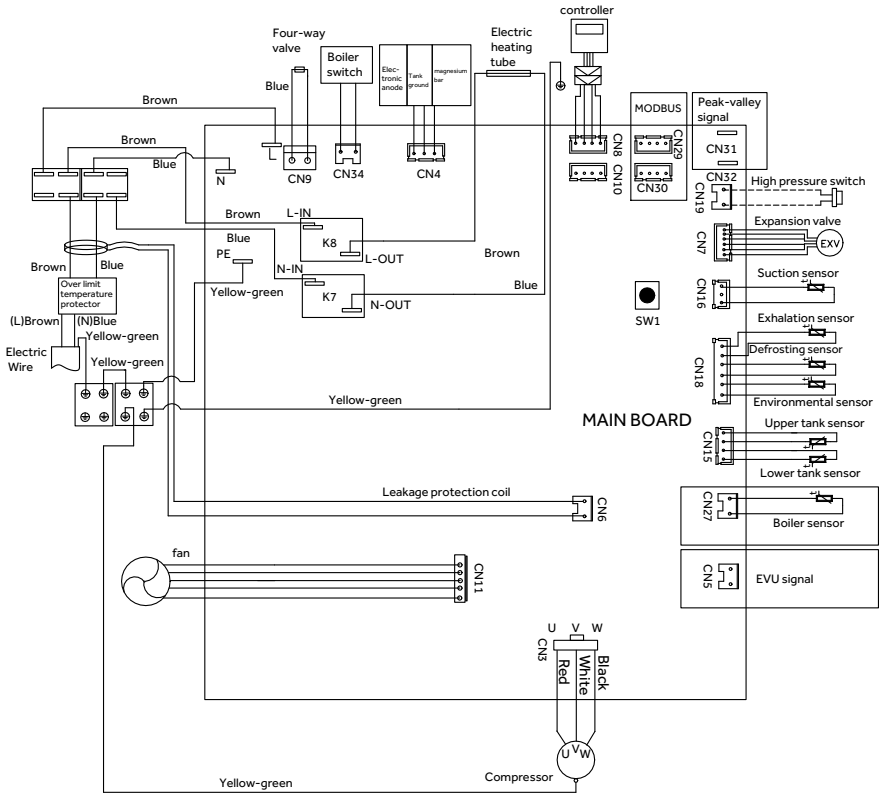
Functioning principles of heat pump products

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
The control system of this machine features an electricity leakage protection function.

B. 3-minutes protection
When starting the machine after electricity input, the system will start after approximately 3 minutes ,which is considered to be normal.

When restarting the machine immediately after shutdown, the system goes into the protection mode and starts after approximately 3 minutes, which is considered to be normal.

C. Automatic defrosting function
The defrosting mode is automatically activated if the outdoor temperature is too low and after the compressor already runs continuously for a certain period.

D. Overload protection
The working load of the compressor will be heavy if temperature is high in summer. 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 starts heating to avoid freezing of the water tank if the temperature in the water tank is too low.

F. The default temperature setting is 56°C.

Description of the icons

Symbol	Description
	Power ON/OFF switch
	Working mode selection
	Confirm button
	Press the TIMER button to adjust the value in the order of hour, minute, week, day, month, and year. All data must be set at one time, and exit in the middle is invalid.
	Boost mode. Heat pump and auxiliary power are activated at the same time.
	Auto mode -Optimised management of the heat pump and the electrics for guaranteed comfort; - Prior using heat pump; - If compressor works more than the default 20 hours , start the auxiliary power; - The compressor maximum continuous working time (AA) can be adjust in the installer settings.
	ECO (off-peak) mode -In this mode, priority using heat pump,refer to Installer setting for details; -the user can set the off-peak period and does not work outside the off-peak period. -After entering the ECO mode, press SET to enter the four time ranges. The L1 and L2 time ranges are valid from Monday to Friday, and the L3 and L4 time ranges are valid from Saturday to Sunday. The start time and end time must be different; otherwise, the setting is invalid.
	Electric heating mode - In this mode, the electric heating function is turned on, and the electric heating function remains effective. - This function ensures hot water supply when the heat pump is not working properly.
	Holiday mode - According to the vacation dates in advance to prepare hot water; -In VAC mode, the number of vacation days should be set first. The range of vacation days is 1 to 99 days. For example, you leave home for vacation on 1st January and return home on 5th January, the number of vacation days should be set to 5-1=4 days. -The day before the end of the holiday, the unit starts heating according to the sterilization start time and sterilization target temperature set in the installation Settings. -After the heating is completed, the unit returns to AUTO mode at 0:00 on the day of the end of the holiday.

Function Introduction

Symbol	Description
	BOOST mode. Heat pump and backup element are activated at the same time under AUTO/ECO .Only backup element are activated in VAC mode and ELEC mode.The Boost function works once. BOOST mode has the highest priority and can be started in any mode.
	Heat pump working icon.
	Auxiliary electrical heater working icon.
	When the PV/HC/SG signal is active, the light will be lit, and the unit will operate according to the function parameters set in the Installer settings (P31) operation.
	Sterilization - The unit will be heated at intervals according to the set sterilization interval, sterilization start time and sterilization target temperature to achieve the purpose of killing Legionella bacteria in the tank. -Sterilization switch, sterilization target temperature, sterilization interval and sterilization start time can be performed through the display board installation setting menu. -During the sterilization process, the user manually operates (switching mode, Switch on and off, outage) to exit the sterilization function. - If the sterilization interval is selected to be executed only once, it will be executed at the set time of the next day, after the sterilization heating is completed, the sterilization will be withdrawn and the sterilization function will be automatically turned off. No sterilization during VAC mode.
	Hot water volume display.
	WIFI signal icon.
	Lock screen display icon 1. Enter: In the power-on state, press and hold TIMER+BOOST (combination key) for 6s at the same time, the lock sign will be on, and the screen lock mode will be turned on. 2. After the screen lock mode is turned on, the device will not respond when the user touches any key. 3. Exit: press and hold TIMER+BOOST (combination key) for 6s at the same time, the lock sign is closed, and the screen lock mode is exited.

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

Function Introduction

	When the Fan speed function is enabled, the light will be lit, and the unit will operate according to the function parameters set in the Installer settings (P32) operation.
Modbus function	MODBUS function setting In the case of shut down, hold down the"+ "key for 5s, the slave address is set, The Ad is displayed on the double 8 on the top of the display board, The first digit of small four 8 below the display board is not displayed, and the last three digits display the current address value. From left to right are hundreds, tens, ones, Set in sequence. Slave address Settings range from 1 to 254. The default value is 001.

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.

1 Boiler

When the boiler starting conditions are met, the boiler heating can be started only after the heating temperature range of the press is exceeded. In ELEC mode, boiler heating is not started. The boiler can be started in Boost mode.

When the working conditions of the boiler are met, the boiler switch signal is drawn, and the electric heating stops heating; otherwise, only the electric heating works while the boiler switch signal is disconnected.

2 Solar photothermal

If the Solar photothermal starting conditions are met, stop the heat pump heating and carry out solar heating. If not, keep the heat pump or electric heating heated.

If the actual temperature exceeds the operating range of the heat pump, the solar energy will not work. In Boost mode, the solar still works.

Function description

Energy accumulation and energy consumption query

1.Press the "+" and "SET" keys at the same time for 5 seconds when the unit is turned on, and the buzzer will sound once to enter the energy accumulation and energy consumption interface, on the display, dual 8-digit tube displays the cumulant code, and the four 8-digit tube displays the cumulant data(which is rounded down), press the “+” or “-” key to switch between pages, the meanings of different pages are as follows:
-A1: Accumulated heat for nearly a month
-A2: Accumulated heat for nearly a year
-C1: Compressor cumulative power consumption for nearly a month
-C2: Compressor cumulative power consumption for nearly a year
-E1:Element cumulative power consumption for nearly a month
-E2:Element cumulative power consumption for nearly a year

2.If 20 seconds no operation or press the switch to exit, return to the main interface.

3.Energy unit: kWh

4. After entering the energy accumulation & energy consumption query interface, continue to press the "+" and "SET" keys for 5 seconds, all data is cleared, the four 8-digit tube displays 0, and the data starts to accumulate again.

Function Introduction

Installer settings

- To open the installer settings, press ⏻ switch off the system, then press + and SET at the same time for 5 seconds.
- When menu is open, press + or − to change the value of the settings.
- Press SET to confirm the settings.
- Press ⏻ to close the menu.

Parameters	Description	Factory setting	Adjustment range
LP 01, 02 03, 04	Off-peak logic type -In four ways -01：Disable function. -02：HC signal. -03：PV signal. -04：SG signal. (Applicable in Germany, Austria and Switzerland only)	01	01 , 02 03 , 04
LL no,nc	Off-peak signal type When you use off-peak time clock control, first determine the type of signals,Only allow professional installers to operate. - When the home power signal comes, the relay is off, please select NO; - When the home power signal comes, the relay is on, please select NC; - If LP is set to 04, LL can only be set to NO	NO	NO , NC
LA 01, 02	Heating method -01: Heat according to the initial heating or insulation heating starting condition, and change the target temperature according to the "Lb" setting temperature. No signal returns to the current mode. -02: Only activate and heat in the heating time of the current mode, and change the target temperature according to the "Lb" setting temperature. No signal returns to the current mode. - This parameter is valid only when the LP value is not 01 .If LP is set to 04, LA can only be set to 01	01	01, 02
Lb 55-75	Target temperature when PV/SG/HC signal is active -The temperature setting is adjustable between 55°C and 75°C. - This parameter is valid only when the LP value is not 01 .If LP is set to 04, LA can only be set to 01.	65	55-75
LC 01, 02 03	Heat source selection in PV/SG/HC function -01 Compressor and electric heating work at the same time. -02 The compressor shall be started first. When the system does not meet the operating conditions, the electric heating can be started. -03 Only electric heating is operated. - This parameter is valid only when the LP value is not 01 . If LP is set to 04, LA can only be set to 01.	02	01,02,03

Installer settings

Parameters	Description	Factory setting	Adjustment range
	Sterilize -This parameter is the switch of sterilization function. - Every once in a while, heat all domestic hot water to 60° C~75 ° C	ON	ON , OFF
	The sterilization target temperature - The sterilization target temperature can be adjusted between 60° C and 75 ° C.	65	60-75
	Sterilization interval - Sterilization interval can be 7 days, 30 days, only once effective, choose one of the three 07,30,once.	07	07,30, ONCE
	Start time of sterilization - Start sterilization at the set time, only hours can be set.	00:00	00:00-23:00
	Compressor maximum continuous working time - If the maximum continuous working time of the compressor more than Set Time, start auxiliary power.	20	5-20
	Average water temperature starting return difference -When the actual average water temperature is 10°C lower than the set temperature, the heat pump will start again, and the adjustment range is 5° C-15 ° C.	10	5-15
	Upper water temperature starting return difference -When the actual upper water temperature is 5°C lower than the set temperature, the heat pump will start again, and the adjustment range is 5° C-15 ° C.	5	5-15
	Fan speed function -This function can be enabled when the total length of air ducts exceeds 20MB. This function is equivalent to the constant speed during heating start-up and heating, which has a certain adverse effect on system performance. -00: Disable function -01: V1 gear (fan speed 700RPM) -02 : V2 gear (fan speed 800RPM)	00	00,01,02
	External auxiliary heating source -This function can be set when the external boiler or solar energy is connected. -00: Disable function -01: boiler -02: solar energy	00	00,01,02

Installer settings & WIFI connection

WIFI connection

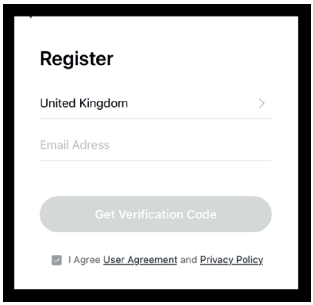
Your appliance can be connected to your home wireless network and operated remotely using the app.
Getting started:

1. Search for "Smart App" in the app store, download and install it on your phone.
2. Register an account and log in.
3. Ensure your home Wi-Fi network is turned on and that the device is powered on.
4. Turn off the device, then press and hold the " ⏻ " button to enter the distribution network status. At this point, the Wi-Fi icon will start flashing.
5. Open the app and click "Add Device" in the upper right corner. Add the device through either autodiscovery or by scanning the QR code below. If the connection is successful, the Wi-Fi icon will remain solid.

Step1 Download the "Smart Life" App on the stores, search "Smart Life" App.

GET IT ON Google Play | Download on the App Store | EXPLORE IT ON AppGallery

Step2 Create your account on the "Smart Life" App or log in if you already have an account.



1. When the download is finished, click 'Create New Account'.
2. Enter your email address and press 'Get Code'.
3. You will receive an email with a verification code (if it doesn't appear in your inbox, check your spam/junk folder).
4. Set your password and click 'Done' to finish.

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 six months 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.

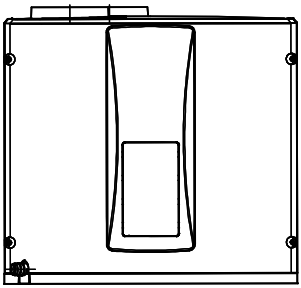
Cleaning of the fan

- Check and clean the fan annually.

Top Cover Removal

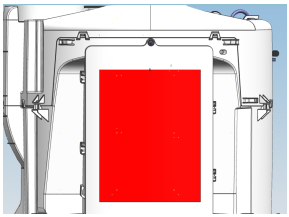
- Remove the 4 screws on the left side with a screwdriver;

- Push forward to open the front housing.



Checking of the main control board

- Use a screwdriver to remove the screw.



Checking and maintenance

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

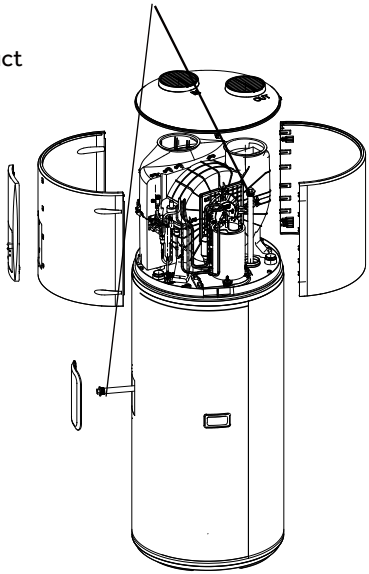
- Check the pipe cleanliness.
- An obstruction may cause poor condensates flow or even a risk accumulation of water in the heat pump base.

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.

Magnesium anode

- Note:
  When checking the magnesium rod, remove the air duct and top cover first.



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.

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.

Faults and protection

Fault type	Action	Digital indication	Release
Compressor protection	Range 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	Low electrical insulation	E1	
Over temperature alarming	The actual water temperature≥88°C	E2	After fault is solved, Automatic release.
Fault of the tank 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 compressor exhaust temperature sensor	If short circuit or circuit break occurs to the sensor	E6	
Fault of the compressor 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	
Fault of Electronic anode	Failure of electronic anodprotection due to damage to the control board or water tank.	LE	After fault is solved, Automatic release.
Fault of Electronic anode	Electronic anode overcurrentor short circuit failure	LF	
Fault of Electronic anode	The water tank is short of water or the electronic anode is disconnected	Ld	
Wi-Fi communication fault	The communication between the display board and the WiFi module fails when the wifi module is in configuration mode	F0	

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.
As we can see the latest errors in memory and reset it.			

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.

Product Fiche

Model		HP200M7-F9/B(GN-K)	HP200M7C-F9/B(GN-K)	HP250M7-F9/B(GN-K)	HP250M7C-F9/B(GN-K)
Power supply	Ph/V/Hz	AC220-240V, 50Hz			
The water heating energy efficiency (ηwh)	%	135.0	138.0	133.0	138.0
Water heating energy efficiency class	-	Class A+	Class A+	Class A+	Class A+
Annual energy consumption (AEC)	kWh/annum	757	740	1255	744
The daily electricity consumption (Qelec)	kWh	3.566	3.564	5.951	3.546
The sound power level (indoors)	dB(A)	50	50	50	50
Mixed water at 40 °C	L	221	229	314	313
Load profiles of water heaters, Type	-	L	L	XL	L

Manufacturer	Qingdao Economic & Technology Development Zone Haier Water-Heater Co.,Ltd.
Address	Haier Industry Park, Economic & Technology Development Zone, 266101 Qingdao, PEOPLE'S REPUBLIC OF CHINA
Denomination	Heat pump water heater
Intended use	Hot water
Assembly type	single package
Refrigerant	R290 /150g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