

Operation Manual

Domestic gas instantaneous water heater



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Foreword

Dear users, thank you for using our company's domestic gas instantaneous water heater. This product is manufactured in accordance with the standard EN26-2015. Proper installation and use of this product will add new enjoyment to your good life. Please read this manual carefully before installing and using this water heater and save it for future reference.

Warning

- For unauthorized disassembly, repair and modification of the company's products, in addition to making the product out of warranty, and resulting in infringement. The company is not responsible for any malfunctions or accidents that may occur in such products.
- If the electrical components are damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- A backflow prevention device compliance IEC 61770 must be installed.
- Read the technical instructions before installing the appliance
- Read the user's instructions before lighting the appliance
- The appliance may only be installed in a room which complies with the appropriate ventilation requirements

Factory declaration:

WAGAPARTS Gas Instantaneous water heater is in conformity with the following EU directive:

-Gas Appliance Regulation (EU) 2016/426

-EMC Directive (2014/30/EU)

-LVD Directive (2014/35/EU)

and that the following harmonised standards have been applied:

- EN 26: 2015

- EN 55014-1: 2017,

- EN55014-2: 2015

- EN 61000-3-2: 2014

- EN 61000-3-3: 013

- EN60335-2-102: 2016

- EN60335-1: 2012 + A11: 2014+ A13: 2017

- EN62233: 2008

1 Special advice

When the water heater is working, the gas combustion consumes a large amount of oxygen and generates carbon monoxide gas, and the inhalation of excessive carbon monoxide gas may cause harm to human health and even cause casualties. Therefore, the user must install and use the water heater strictly in accordance with the requirements of this manual to achieve a safe effect. The company will not be held liable for any adverse consequences caused by failure to install and use it in accordance with the requirements of this manual.

The company sincerely warns all users:

- This product must be installed with an effective exhaust pipe as required and connected to the outside to use the water heater.
- Make sure that the installation site is constructed of non-combustible materials, and there is no combustible material within 150mm of the water heater.
- When the outdoor temperature is lower than 0 °C, the water in the machine must be discharged as required after use.

2 Performance characteristics

2.1 Suitable for bathroom installation: This product adopts the combustion mode of forced air supply and exhaust. The air required for combustion is taken from the outside, and the generated exhaust gas is forcibly discharged to the outside. It does not pollute and consume the indoor air, and fundamentally eliminates the lack of oxygen and risk factors such as carbon monoxide poisoning can be used without worry in the bathroom installation.

2.2 Water-controlled automatic ignition: Just open the water outlet valve, the pulse igniter will automatically ignite, and then the hot water will flow out.

2.3 Water temperature adjustment: Different water temperature can be adjusted arbitrarily between 35~65 °C.

2.4 Forced exhaust: Force exhaust gas to the outside to keep the indoor air fresh.

2.5 Low water pressure start: The starting water pressure is low and the scope of application is wide.

2.6 Flameout protection: When the water heater is unexpectedly turned off during use, it can automatically cut off the gas source to ensure that the gas will not leak.

2.7 Water-gas linkage control: When the tap water supply is interrupted or the outlet valve is closed, the water heater will automatically stop burning and shut down.

2.8 Overpressure protection: When the water supply pressure is too high, the water heater safety valve can automatically relieve pressure to avoid damage to the water heater.

2.9 Anti-freezing protection: When used in cold areas,

a. The water heater with mechanical antifreeze device can effectively prevent cold air from entering the water heater from the venting pipe when the outside temperature is lower than 0 °C, to avoid damagefreezing in the waterway system of the water heater.


b. With anti-freeze drain valve, in the cold area (outdoor temperature is lower than 0 °C), after using the water heater, please drain the water inside the unit to avoid the accumulated water freezing and then damage the water heater

c. Water heater with electric heating antifreeze device, when the surface temperature of the water pipe inside the water heater is lower than 4 °C ± 2 °C, the electric heating antifreeze device automatically heats. When the surface temperature of the water pipe reaches 10 °C ~ 16 °C, the electric heating antifreeze device will automatically stop working. It can effectively prevent the water in the water pipe from freezing and damaging the water heater (only some models have this device, please refer to the sticker on the unit).

2.10 Overheat protection: When the temperature of the hot water flowing out of the water heater is too high, the water heater automatically cuts off the air source and stops working.

2.11 Timing protection: After the water heater has been running for 40 minutes, the air supply will be shut off automatically and restarted to continue.

2.12 Constant temperature control technology: The water heater adopts a gas proportional valve to accurately control the change of the burner. The amount of air required for combustion is supplied by an DC fan with excellent performance. The microcomputer uses fuzzy control technology to instantaneously calculate the set temperature and the outlet temperature through the water temperature sensor to determine the amount of gas and the required amount of air; to quickly raise and lower the temperature to reach the required outlet temperature, and at the same time, by detecting the water temperature, Adjust to ensure a constant outlet temperature.

2.13 Simple operation: The microcomputer intelligent control system controls the whole process of the water heater. Press  the button to start the water heater. After setting the required temperature, turn on the water heater. The microcomputer intelligent control system automatically detects that the machine is in a safe working state and automatically turns on the gas valve. The gas source automatically ignites the burner and you can enjoy a constant stream of hot water.

2.14 Outlet water temperature display: Unique water temperature display function.

2.15 Flue blockage or fan failure protection: When there is a flue blockage or a fan failure, the water heater can automatically shut down and cannot be automatically turned on.

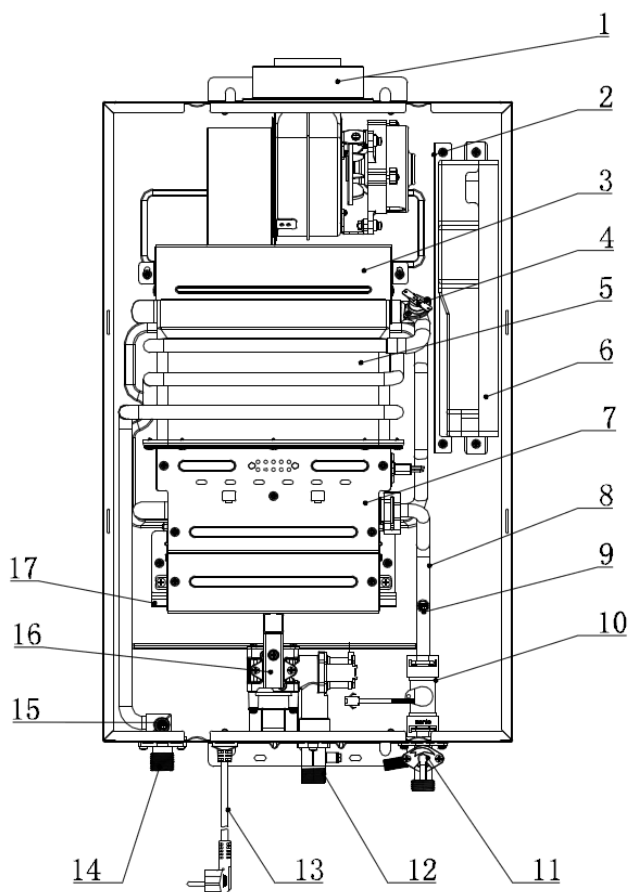
2.16 Power-down memory kinetic energy: After power-off, the set temperature parameters will not be lost, avoiding repeated settings.

2.17 Automatic fault diagnosis and fault code display kinetic energy: intelligent microcomputer monitors various safety devices in real time, gas parts such as proportional valves find faults and stop safely in time. Advanced fault code display function, use, maintenance more convenient.

2.18 High energy efficiency rating: The energy efficiency rating meets the national energy efficiency standards. Please refer to the energy efficiency label on the unit.

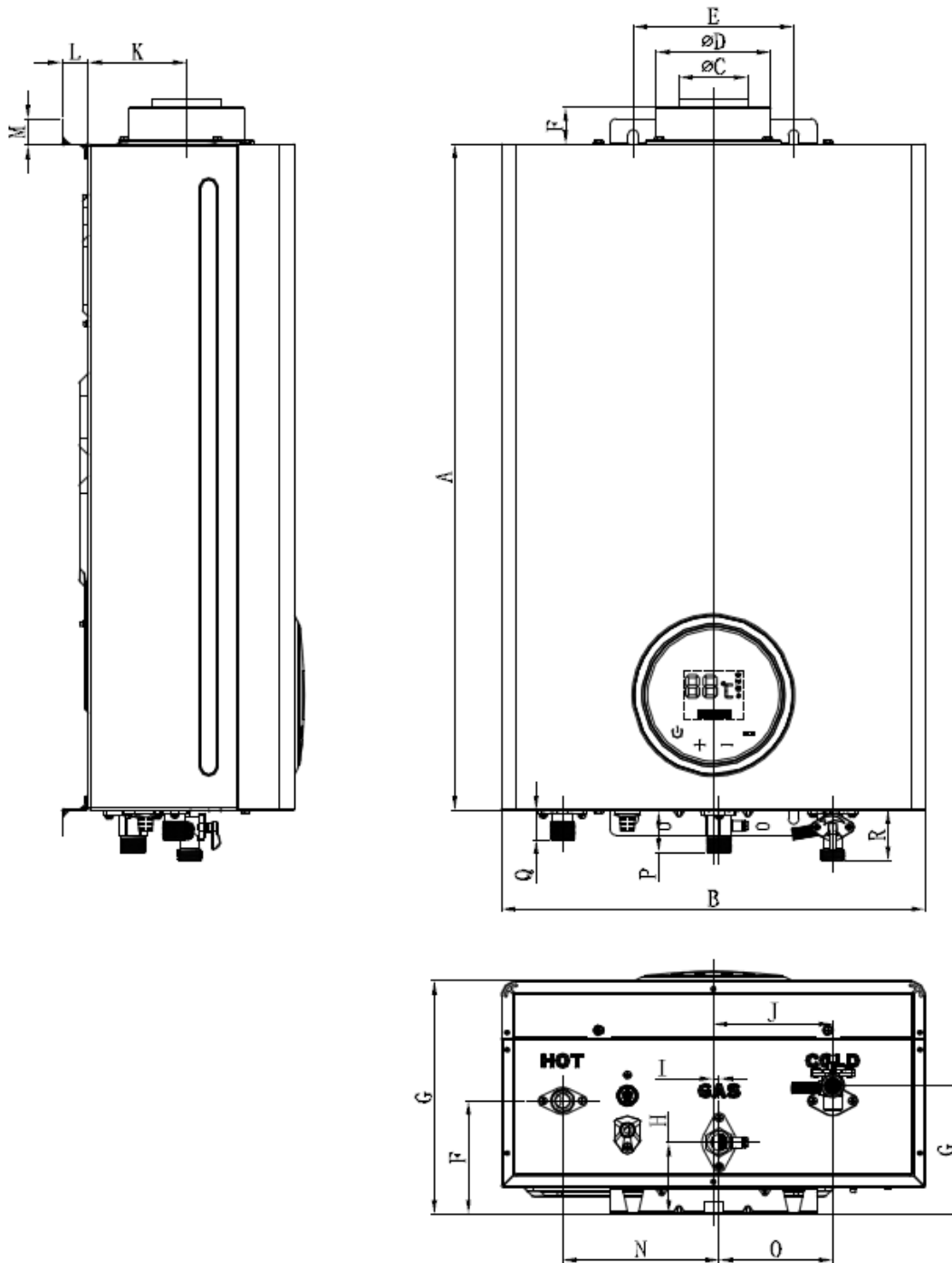
3 Part Name

3.1 Internal structure



1. Venting base
2. Controller insulation board
3. Motor fan
4. Overheat protection thermostat
5. Heat exchanger
6. Controller
7. Burner
8. Water inlet pipe
9. Inlet water temperature probe
10. Water flow sensor
11. Water inlet
12. Gas inlet
13. Power cord
14. Water outlet
15. Water temperature probe
16. Manifold adapter
17. Manifold

3.2 Dimensions



MODELO	Dimensiones (mm)																	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
12 Litros	580	370	60	100	140	32	203	62.3	5	104	85.8	23	23	131.5	99	37	26	44
11 Litros	580	370	60	100	140	32	203	62.3	5	104	85.8	23	23	131.5	99	37	26	44
10 Litros	580	370	60	100	140	32	203	62.3	5	104	85.8	23	23	131.5	99	37	26	44

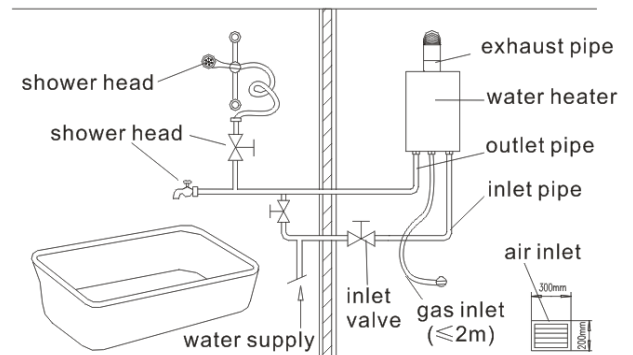
4 Technical Data

Model No.	Unit	PB1223S-01-XX	PB1121S-01-XX	PB1020S-01-XX
PIN code	-	2531CT-0192		
Type	-	C12, C82		
Heat input Q _n (Hi)	kW	23	21	19.5
Min. Heat input Q _{min} (Hi)	kW	10	10	10
Nominal useful output P _n (Hi)	kW	21	19.5	18
Min. useful output P _{min}	kW	9	9	9
Nominal heat efficiency	%	84%		
Gas data				
Country of destination		Category	Pressure	
CZ, DE, EE, ES, FR, GR, IT, NO, PT, SI		II _{2R/3R}	20mbar 30/28-30 mbar 37mbar	
Gas consumption				
NG (G20)	m ³ /h	1.0-2.5	1.0-2.2	1.0-2.1
LPG (G30)	kg/h	0.62-1.58	0.62-1.42	0.62-1.33
LPG (G31)	kg/h	0.6-1.5	0.6-1.4	0.6-1.3
Flue gas data (15°C, 1013.25mbar, dry flue gas)				
Flue gas nominal flow rate	g/s			
Flue gas average temperature	°C	145	136	125
Hot water data				
Nominal water flow rate	L/min	12	11	10
Cold inlet water is 15°C, waterTemperature of maximum flame can reach	°C			
Cold inlet water is 15°C, waterTemperature of minimum flame can reach	°C			
Minimum water pressure, P _w	bar	0.25	0.25	0.25
Maximum water pressure, P _w	bar	10	10	10
Electricity data				
Electracity source	-	220V/50Hz		
Connectors' data				
Water pipe connector	inch	G1/2"	G1/2"	G1/2"
Gas pipe connector	inch	G1/2"	G1/2"	G1/2"
Flue diameter	mm	ø60/ø100	ø60/ø100	ø60/ø100
Flue length min. /max.	m	1-3	1-3	1-3
Dimension / Weight				
Width × Height × Depth	mm	580*370*180	580*370*180	580*370*180
Weight	kg	15.32	15.32	15.32
Nozzle specification				
Nozzles quantity	pcs	22	22	22
Nozzle diameter (G20)	mm	0.86	0.86	0.86
Nozzle diameter (G30/G31)	mm	0.60	0.60	0.60

5 Water heater installation

Before installing the water heater, please contact the local gas company or the gas management department to select qualified gas pipes, pressure regulating valves, cylinders, clamps, exhaust pipes, etc., and must be commissioned by qualified professional technicians. Installation, because improper installation will have a great impact on safety performance, and even endanger the user's life). Before installation, please reconfirm whether the type of gas you use is the same as the type of gas specified on the nameplate of the water heater.

The water heater is a strong drain type water heater, and the exhaust gas produced by the water heater must be discharged to the outdoor atmosphere in strict accordance with the requirements. It is strictly forbidden to use this water heater without properly installing the exhaust pipe according to the

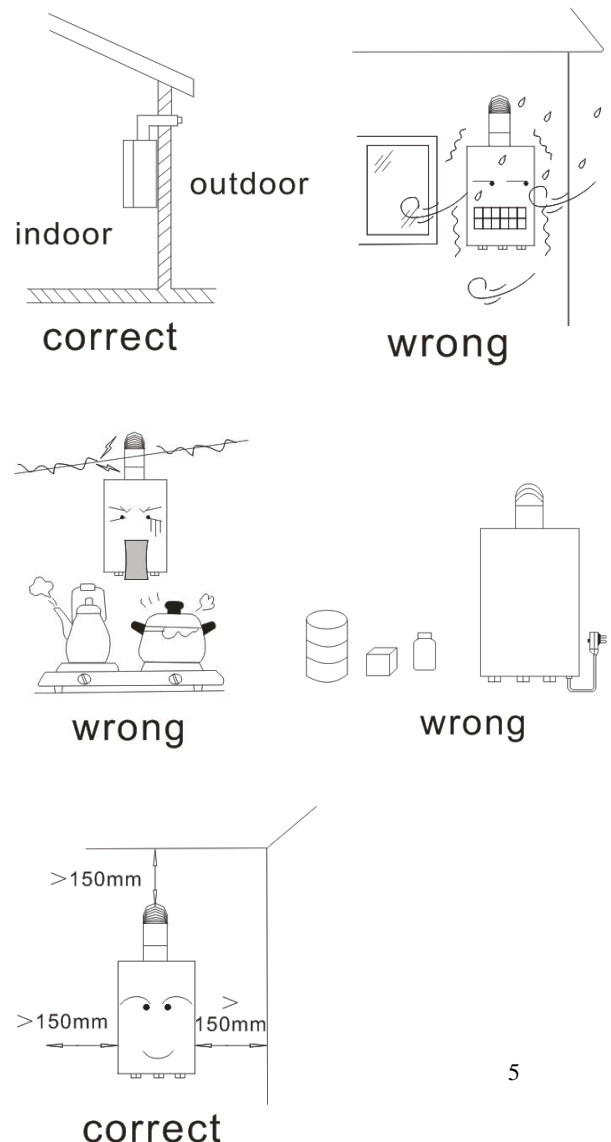


Note: The internal connector sequence will vary depending on the model. Please refer to the actual product when connecting.

5.1 Installation Position

Precautions

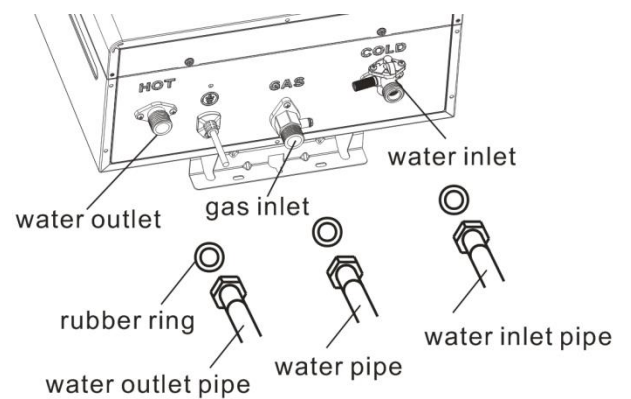
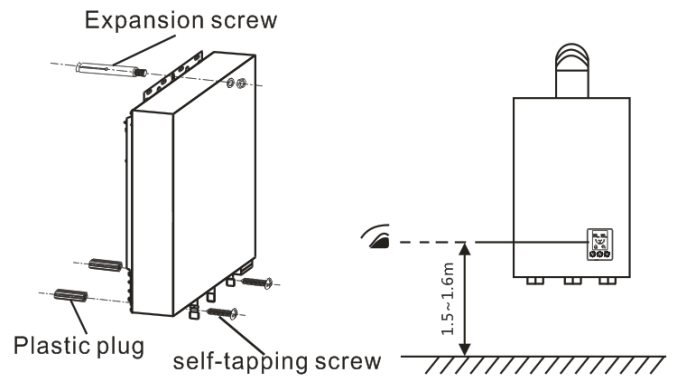
1. The installation of the water heater should fully consider the direction of the exhaust pipe, especially the outlet should meet the installation requirements of the exhaust pipe. Please note that the exhaust pipe outlet must be outside the house.
2. The water heater is forbidden to be installed outside the house to avoid wind, sun and freezing of the water heater.
3. It is strictly forbidden to install in the closet, living room and bedroom.
4. Do not install the water heater in an unstable place such as a vehicle or a ship.
5. Do not install the water heater next to flammable materials (such as curtains, gasoline/organic solvents, etc.) and corrosive chemicals (such as alcohol) to avoid fire or corrosion.
6. There shall be no electric power line, electrical equipment, gas pipeline, etc. above the installation position of the water heater. The horizontal distance between the water heater and the electrical equipment shall be greater than 40cm.
7. There should be no gas appliances such as gas ovens and gas stoves under the water heaters; and should not be close to strong electric radiation appliances such as induction cookers and microwave ovens.
8. The distance between the installation of the water heater and the surrounding wall and the ceiling should be 150mm or more. The installation site should be constructed of non-combustible materials. If the installation site is flammable or flame retardant, the heat shield should be used for isolation, heat shield and wall. The distance should be greater than 10mm.



Installation method

Caution: Don't use the gas water heater without installing the exhaust pipe

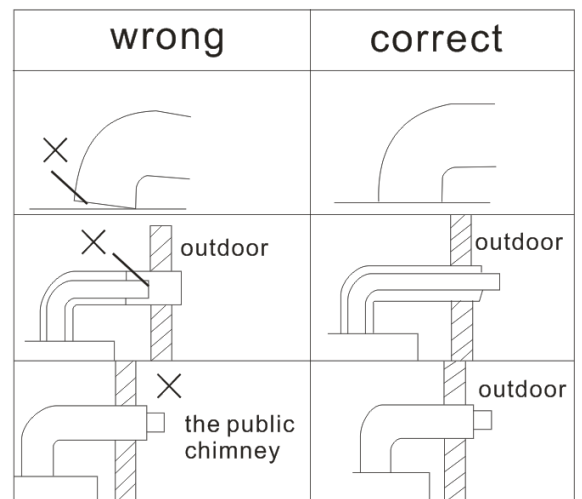
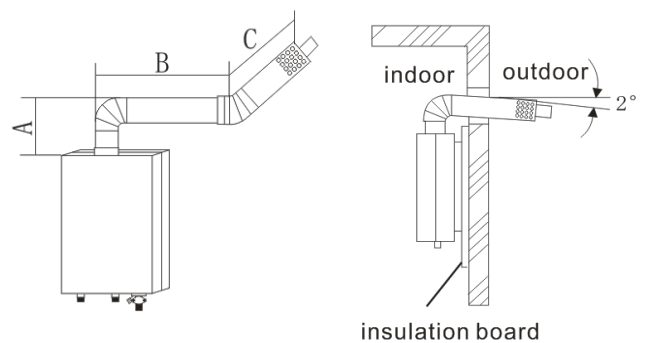
1. Determine the installation location (see installation precautions for details) and the installation height. It is advisable to visually level the operation panel of the water heater with the human eye (generally 1.5-1.6m).
2. Should be vertical when mounting the water heater, not tilted
3. As shown on the right, first install the mounting hole on the wall. The upper mounting hole is fixed by the expansion screw, and the lower mounting hole is inserted into the plastic plug. Hang the water heater, place the washer and nut on top, and tighten the nut. Screw the self-tapping screws underneath.
4. Install the exhaust pipe, gas pipe, water pipe and circuit respectively according to the following instructions



5.2 Exhaust pipe installation

Notes:

1. The exhaust pipe must be installed when the water heater is used. Please use the special exhaust pipe configured by our company. It is strictly forbidden to use other types and specifications of the exhaust pipe.
2. The length of each section of the exhaust pipe can be determined as needed, but the total length of the straight pipe (A+B+C) must not exceed 3m, and the number of elbows must not exceed three.
3. After installation of the exhaust pipe, ensure that there is a 2° slope outwards and downwards.
4. When the flue passes through a wall made of combustible materials, it must be covered with an insulating flame retardant material with a thickness greater than 20 mm.
5. The flue should not be hidden in the ceiling as much as possible. If it is unavoidable, it needs to be wrapped with flame-retardant insulation material, covering a thickness of 20mm or more. The distance from the flue to the combustible items should be greater than 150mm.
6. The exhaust vents shall not be installed in the ventilation of the building and on the public chimney.
7. Do not install the exhaust pipe outlet on the wall where the window needs to be opened. In the process, if the window is opened, the exhaust gas may flow back into the room, posing a safety hazard.
8. The gap between the exhaust pipe and the wall shall be sealed with concrete. For example, the exhaust pipe shall be installed at the glass, and the glass pipe shall be sealed between the exhaust pipe and the glass.



Exhaust pipe installation

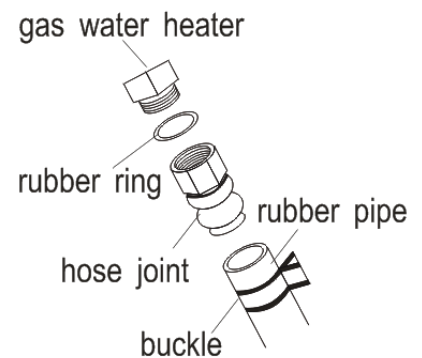
Installation method:

- a. Open a through hole with a diameter slightly larger than the diameter of the exhaust pipe at a suitable position near the water heater, so that it can be loosely placed into the horizontal exhaust pipe, and the exhaust pipe is extended outside the house, and the outdoor end is slightly inclined downward. .
- b. The exhaust port should be set at a higher position, and the minimum should not be lower than the top height of the water heater.
- c. After the flue is inserted, seal the interface with aluminum foil.
- d. Seal the gap between the pipe and the mounting wall.

5.3 Installation of gas pipelines

Matters needing attention:

1. Special rubber hoses or qualified rigid tubes and gas pressure regulators must be selected.
2. Select the size of the tube according to the joint specifications in the Technical Performance Data table.
3. For maintenance and maintenance needs, please set the gas valve near the inlet joint, the gas valve diameter is above $\phi 95\text{mm}$.
4. When using liquefied gas, the length of the rubber tube should not exceed 2m.
5. The piping system must ensure that the supplied gas pressure is sufficient to meet the minimum requirements before it can be used. To reach the rated heat load of the water heater, the gas pressure must reach the rated gas pressure in the technical parameter table. The minimum pressure values for each gas are as follows:



Caution : Rubber gasket should be added when using metal hose

Installation method:

1. For users who use liquefied gas, use a $\phi 9.5\text{mm}$ inner diameter hose to connect with the liquefied gas pressure regulating valve, and then fasten it with a clamp; connect the gas connector attached to the unit to the gas inlet connector (note that rubber sealing ring is required), then insert the rubber tube and the gas connector to the end and fasten it with a clamp.
2. For users who use piped gas, please contact the gas supply company or the relevant management department to connect the gas pipe.
3. After installation, turn on the gas supply and inspect the area with soapy water to ensure that there is no gas leak before use.

5.4 Installation of waterways

Installation method:

1. The cold water inlet is preferably connected by a stainless steel bellows or a rigid water pipe. A control valve is required for the inlet pipe.
2. The inlet pipe should be cleaned by removing water from the pipe before it is connected to the water heater to prevent the dirt from clogging the water heater.
3. The inlet pipe should be connected directly to the water pipe to avoid too long, too small or too much bending, resulting in too little inlet pressure and the water heater cannot start.
4. When the hot water outlet is directly connected to the shower, it can be connected by a hose or a rigid water pipe. If a control valve, faucet or shower with a switch is installed at the hot water outlet, the water heater shall not use a water pipe that is not resistant to pressure or heat, such as a plastic pipe or an aluminum pipe, to prevent the pipe from rupturing and causing burns.
5. If hot water is to be supplied from a distance, the control valve should be installed on the outlet pipe.
6. If the installation position of the valve on the outlet pipe is higher than that of the water heater, install a drain valve below the water heater to drain the water in the water pipe to prevent freezing.
7. The outlet pipe should use a pipe that can withstand high temperatures to prevent the outlet pipe from being crushed by heat.
8. The outlet pipe should be as short as possible to avoid reducing heat loss. Otherwise, use insulation measures on the pipe to reduce additional temperature loss.
9. Try to use a shower with a small pressure loss.
10. In order to ensure the normal use of the water heater, the pressure of the inlet water must be greater than the sum of the starting water pressure of the water heater and the water pressure lost by the pipeline.

Installation method:

Use suitable piping and seals to connect to the water inlet and outlet pipes of the water heater and tighten them. Please avoid excessively strong screwing to cause the water pipe to rupture.

5.5 Circuit installation

Installation Notes

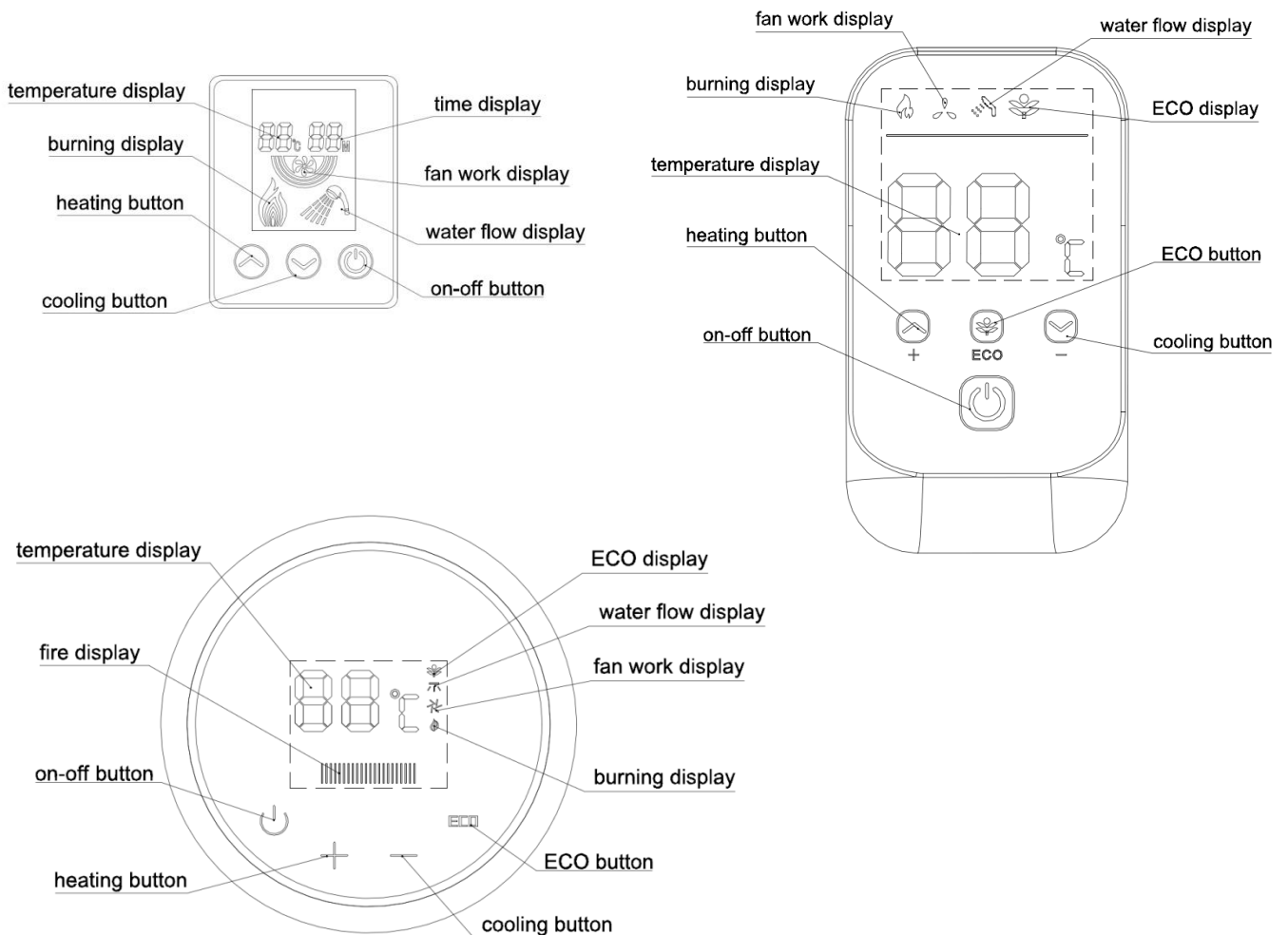
1. The water heater uses AC220V/50Hz, and selects the socket that matches the power plug of the water heater.
2. To ensure personal safety, the power outlet must have a reliable grounding. It is strictly forbidden to use the water heater when the grounding wire is live.
3. The power socket should be installed on the side of the water heater. It must be dry, not easily splashed by water, too close to the heat source, and exposed to the sun and rain. If it can only be installed in a place where it may be splashed by water, a splash-proof socket must be used.

5.6 Installation confirmation matters

1. Whether to keep a certain distance from combustible materials.
2. Whether the installation location and environment are satisfied.
3. Whether there is necessary space for inspection and maintenance?
4. Whether it conforms to the installation conditions of waterways, gas routes and circuits.
5. Whether there is water leakage: please open the hot water valve of the chiller and check whether there is water leakage after the hot water valve is closed and placed for a period of time.
6. Whether there is gas leakage: please open the gas valve and apply soap and water to each connection to check whether there is gas leakage.

6 Application method

6.1 Operation button and status display panel



6.2 Start water heater

1. Plug the power plug into a separate 220V~50Hz power outlet.
2. Press the switch to start the water heater and press the temperature/cool button to set the temperature.
3. Open the gas valve completely.
4. When the bathing water valve is opened and the indicator light indicating that the water flow and the working state of the fan are on, the water heater starts to ignite. After the ignition is successful, the burning indicator lights up, indicating that the water heater has started normally.



CAUTION

- a. The first time or the water heater is not used for a long time because there is air in the gas pipeline, it is necessary to start and shut down the water heater several times to discharge the air in the pipeline before it can be used normally.
- b. At the beginning of use, the cold water in the water pipe should be drained before the hot water can come out.
- c. If the water flow is too small, the water heater may not ignite, even if it is barely ignited, it may turn off in the middle.
- d. It is recommended that gas water heaters do not install mixing valves. If a mixing valve has been installed, please rotate the mixing valve to full hot water when using the gas water heater.

6.3 Stop using

Close the bath water valve, the water heater automatically stops working, and the fan stops after the water heater is cleaned. (When the power is off, only the water valve needs to be opened for the next use, and the water heater can be turned on again.)



CAUTION

If the water heater is not used for a long time, please unplug the power plug, close the gas valve, close the cold water valve; unscrew the filter and pressure relief valve to drain the residual water in the machine to reduce scale and freeze.





6.4 Temperature memory

When the water heater is turned on, it automatically remembers the temperature of the last time it was used.

6.5 Timing protection




When the water heater is turned on, it will automatically remember the temperature when it was last used.

6.6 Temperature adjustment

1. Each time the “  +” key is pressed, the set temperature is increased by 1°C, up to 65°C, the temperature display is automatically confirmed after 3 seconds of flashing, and the current temperature is redisplayed;
2. Each time the “  -” key is pressed, the set temperature is lowered by 1 ° C, the lowest is 35°C, the temperature display is automatically confirmed after 3 seconds of flashing, and the current temperature is redisplayed.
3. To prevent burns, use a shower bath to avoid sudden showering to the head or body. It is advisable to confirm the hot water temperature by hand before using it.



6.7 ECO adjustment

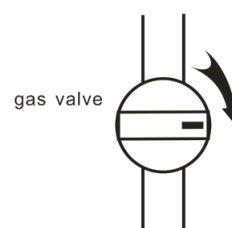
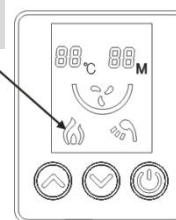
Press “ /  ” to enter ECO mode, the ECO symbol of the display screen “ ” lights up, the water temperature is set to 40 °C by default, and press / again to exit ECO mode.

7 Safety precautions:

7.1 Prevention of gas accidents

1. Gas type must be the same as specified on the water heater. Please do not modify the water heater.
2. Check that the burner has been turned off after use and remember to turn off all gas valves.
3. Check for gas leak regularly. If there is gas leak, please is found, turn off all gas valves and open doors and windows immediately. Do not ignite or touch the switch of the electrical equipment such as the exhaust fan and plugs. Flame or ignition will cause fire and explosion.
4. Check for any crack on the gas pipe regularly. Gas pipe should be replaced once a year.
5. For LPG heaters user, please shut off the heater if the flame is unstable. The gas pressure valve may malfunction. Please replace it or looking for professionals.
6. For NG heater user please shut off the heater if the flame is unstable. Gas pressure in the gas pipe is not stable. Continue use the heater may cause malfunction or accidents.

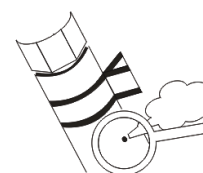
Lights off indicates no fire



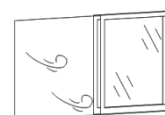
Pls check if there's no fire and close gas valve

7.2 Fire prevention

1. Never leave home or go to bed when the water heater flame is on.
2. It is forbidden to place flammable items such as towels and clothes on the exhaust port and air supply port of the water heater.
3. Do not store flammable, explosive, or volatile materials where the water heater is installed.
4. Users of liquefied petroleum gas should not pour or liquefy the liquefied petroleum gas cylinder. Otherwise, when liquid fuel is accumulated in the inner layer of the bottle, it will be easily brought into the water heater and cause a fire.



Pls often check kinds of joints if there's gas leakage



correct

7.3 Prevention of CO poisoning

1. The water heater is forced exhaust type. The exhaust pipe must be used to take air and discharge the combustion. Failure to do so may result in injury or death. Please use certified pressure release valve.
2. Correct gas must be used. Do not use any gas other than those specified on the label. Different gas or gas from different regions cannot be mixed.
3. Do not discharge the combustion into the ventilation area of the building.
4. Due to long-term use, dust and carbon deposits block the heat exchanger, affecting the combustion conditions, resulting in a significant increase in carbon monoxide. Please ask professional technician to clean the heat exchanger to ensure better performance every 6 months.
5. The water heater must be installed vertically. Installed obliquely will cause the flame contact heat exchanger, which may cause a significant increase in CO.
6. When using artificial gas or natural gas, if the gas supply pressure is insufficient, it is likely to cause tempering, which will affect the normal operation of the gas water heater. At this time, the flame will change from blue to yellow with the burner's "beep" abnormal sound, which will easily cause carbon monoxide emission and the CO will be increased huge. Please stop to use the gas water heater temporarily.

7.4 Prevent burns

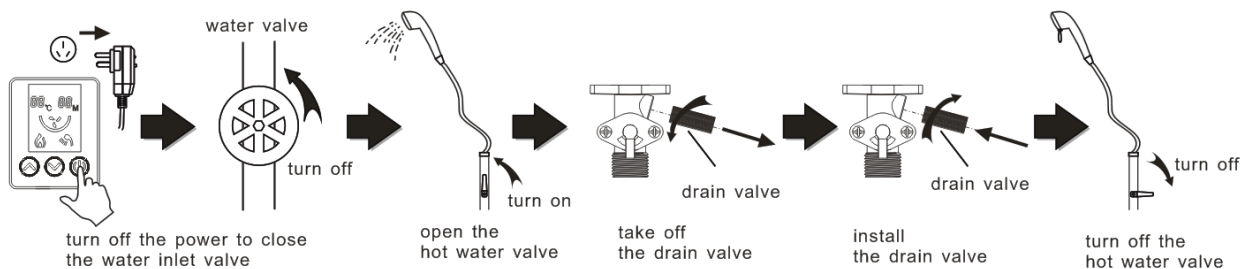
1. When using hot water intermittently, or when setting the temperature in a high temperature zone, be aware the hot water.
2. Please do not touch areas outside of display just after the heater shut off.
3. Please do not touch the exhaust pipe just after the heater shut off.

7.5 Unusual event

When using the water heater, if abnormalities such as odor or abnormal noise are found, or in other emergency situations, shut the main gas valve and contact professional or the gas company.

7.6 Others

1. It should not be used to supply drinking water.
2. Adjust the water temperature knob to control or adjust temperature.
3. Do not operate the water heater unsupervised. Children using water heaters must be used under the guidance of an adult.
4. Do not plug the power connector with wet hands.
5. It is strictly forbidden to use water heaters during lightning and fire.
6. It is strictly forbidden to block the air inlet and outlet of the water heater during use.
7. After use, please drain the water from the water heater to prevent scaling.
8. Prevent freezing: After using the water heater in a cold area (outdoor temperature below 0 °C), the water stored in the water heater must be drained to avoid damage to the water heater due to water freezing. The drainage method is as follows:
 - a. Press the switch button to turn off the water heater, unplug the plug, turn off the power, and close the inlet valve.
 - b. Open the hot water valve (this step is not available if the hot water valve is not installed).
 - c. Unscrew the drain valve and after draining the water, screw the drain valve to close the hot water valve.



9. The water heater is a water flow rate inspection device to open the gas passage. When the water pressure is lower than 0.02 MPa, or the water output is too small, the water heater will not start, which is normal.
10. The pressure relief valve (drain valve) dripping is due to the high water supply pressure which is normal.
11. When several hot waters are supplied at the same time, the amount of hot water will be reduced and it might not able to supply.
12. When the outdoor temperature is too low, the combustion will condense into a white mist when it encounters outdoor cold air, this is normal.
13. The ambient temperature is high, the temperature is set low and the hot water tap is not widely open. The hot water temperature may be too high. Please adjust the water volume to the maximum position to reduce the hot water temperature.
14. After closing the water valve, the water heater will stop working immediately, and the air heater inside the water machine will work for 15s to let combustion out.
15. When using the multi-function shower, the water pressure of the shower is too high, the water pressure of the water heater is too low or the flow rate of the water is too low (below the starting water pressure), which will cause flameout or not ignite.
16. When outdoor wind pressure is too high, the wind pressure protection device will start working. The water heater will temporarily fail to start. Please stop using the water heater until the outdoor wind pressure is normal.

8 Daily Maintenance

1. Check whether the gas inlet pipe (rubber hose) is intact, with or without aging/cracks, abnormal phenomenon should be dealt with in a timely manner.
2. Check the exhaust pipe once every six months: whether there is damage, smoke leakage and other phenomena; if so, the exhaust pipe must be repaired or replaced before using the water heater.
3. In order to reduce the formation of scale, please close the gas valve after using the gas water heater to ensure that all the hot water heater flows out. Until the hot water outlet is with cold water, then you can close the cold water valve.
4. Please clean the cold water inlet filter regularly; especially in areas with poor water quality, should increase the frequency of cleaning.
5. Check if the gas water heater is with water leakage; if any, please identify the cause and repair it before using gas water heater.
6. Authorize qualified professional mechanic to check if the heat exchanger is in carbon deposit or blockage every six months and clean up in time to ensure that the water heater is working properly.
7. When the ignition pin is in carbon deposit, please call qualified professional mechanic to clean up to ensure the quality of ignition.
8. Please keep the panel clean.
9. In the cold winter, the accumulation of water inside the water heater will be frozen the gas water heater to expand the heat exchanger, so after using, please must drain out the water inside the heater (refer to safety precautions "drainage method")
10. It is normal phenomenon that the exhausted gas condenses into white mist when encountering the outdoor cold air.
11. When ambient temperature is high, set the low temperature and the hot water tap is with small volume, the outlet hot water temperature will be too high, then please turn the hot water tap to the largest volume and the water temperature can be lowered.
12. In order to ignite immediately, the fan will continue to rotate automatically for some while, and it is a normal phenomenon.
13. When using the multi-function shower, shower water pressure is too high and inlet water temperature us too low (below the start-up water pressure), it will cause the flame out or no ignition. In this case, please select the proper bath function stalls.
14. In the cold winter, storage in the water heater in the water will be frozen and Expand the heat exchanger, so please must drain out the water inside the heater after using (refer to safety precautions "drainage method")

9 Instruction for Fault Elimination

9.1 Fault

When the water heater fails, the display window will display the fault code, and the buzzer will continuously send out "beep" alarm sound, please follow the table to deal with.

Fault Code	Fault Description and Elimination Method
E0	Fault of temperature sensor
E1	Fault of flame: please check the if the gas supply is in good state.
E2	Fake fair
E3	Thermostat protection
E4	Water inlet temperture sensor fault
E5	Fault of fan: please check if the fan exit is blocked or inside room is with big wind.
E6	Overheating protection
E7	Solenoid valve falut
En	Timer protection: when gas water heater is operated to the set time, you need re-start

Phenomenon	Cause	Solutions
No Ignition Indicator is off	Power is not connected or power off	Connect the power
	No connection of gas supply or gas is used up	Connect the gas supply

the gas water heater.
Remarks: If the gas water heater is with above fault code and everything is in good state after checking, then please contact after-sales person for maintenance.

9.2 Below Phenomenon is not fault

Phenomenon	Cause and Elimination Method
White smoke in exit area	Outdoor temperature is too low and the exhausted gas condenses into white mist when encountering the outdoor cold air
Small flow of hot water outlet and then change to cold water	Too small hot water outlet causes flame-out, thus becomes cold water, so please don't set the hot water flow too low
Lower temperature of hot water in winter	Lower hot water temperature and water adjustment knob is turned to largest volume, it may exceed the hot water capacity of gas water heater itself, so please decrease the water volume.
Higher temperature of hot water in summer	Higher hot water temperature and water adjustment knob is turned to small volume, the hot water temperature will be high, so please increase the water volume.
Flame-out 20min's or 40 min's later	To avoid anoxia, some gas water heaters are with 40min't timer protection: gas water heater will be flamed out automatically 40 min't later. In this case, please turn off the tap for some while and then use again.
Turn off the hot water valve, the fan will not stop at once	Fan is with delay shutdown function to drain out the smoke inside the gas water heater completely to ensure the safety.
Turn on the hot water valve, no hot water instantly.	There is some distance between gas water heater and hot water valve – as the cold water residue inside the pipe, it need some time to drain out the cold water and then hot water comes out. The longer the distance of the pipe, the longer time is needed for the hot water outlet.
Water outlet from relief valve	Higher water pressure inside gas water heater: relief valves drains out inside water to reduce the pressure.

9.3 Common Improper Operation and Solutions

	Air inside the gas pipe	Exit air inside the pipe and then turn on the gas water heater
	Too high or too low gas pressure	Adjust the gas pressure
	Blockage of chimney or too large wind outside	Clear the blockage or wait for the wind pressure to be stable
	No water supply	Connect the water supply
	Lower inlet water pressure	Adjust the water pressure
No hot water when open the hot water tap	Water inlet valve is not turned on enough	Turn on the water inlet valve to largest volume
	Water outlet valve is turned on with small volume	Turn on the water outlet valve to the largest volume
	First usage	Turn on and off the gas water heater for several times
	Frozen	Wait for the gas water heater to be melted
	Power off or no water supply or no gas supply	Wait for the power, water and gas supply in good condition
	Power off or no water supply or no gas supply	Wait for the power, water and gas supply in good condition
Lower temperature of outlet hot water	Set too lower hot water temperature	Set the hot water temperature higher
	Too large water flow and exceed the capacity of gas water heater	Adjust the water flow in lower volume
	Too lower gas pressure	Adjust the gas supply
	Gas valve is with small volume or too thin gas pipe	Turn on the gas valve to largest volume or change to thick gas pipe
Higher temperature of outlet hot water	Set too higher hot water temperature	Set the hot water temperature lower
	Too small water flow	Too small water flow

10 Packing

List

1. Gas instantaneous water heater
2. Instruction manual
3. Accessories package
 - Expansion screw
 - Self-tapping screw
 - Clamp
 - Intake nozzle and nut
 - Air inlet rubber ring
 - Green rubber