

GAS WATER HEATER- INVERTER

/ OPERATING INSTRUCTIONS /

Low Nox Series



This manual is generally suitable for all the models below:

JSG24-12Q6S, JSG28-14Q6S, JSG30-16Q6S



Catalog

Respected user:

Sincerely thanks for purchasing Macro gas water heater. In order to better understand the use of this water heater, we recommend that you read this manual carefully before using it. And please keep this manual in a safe place for you and installation or maintenance personnel to refer to.

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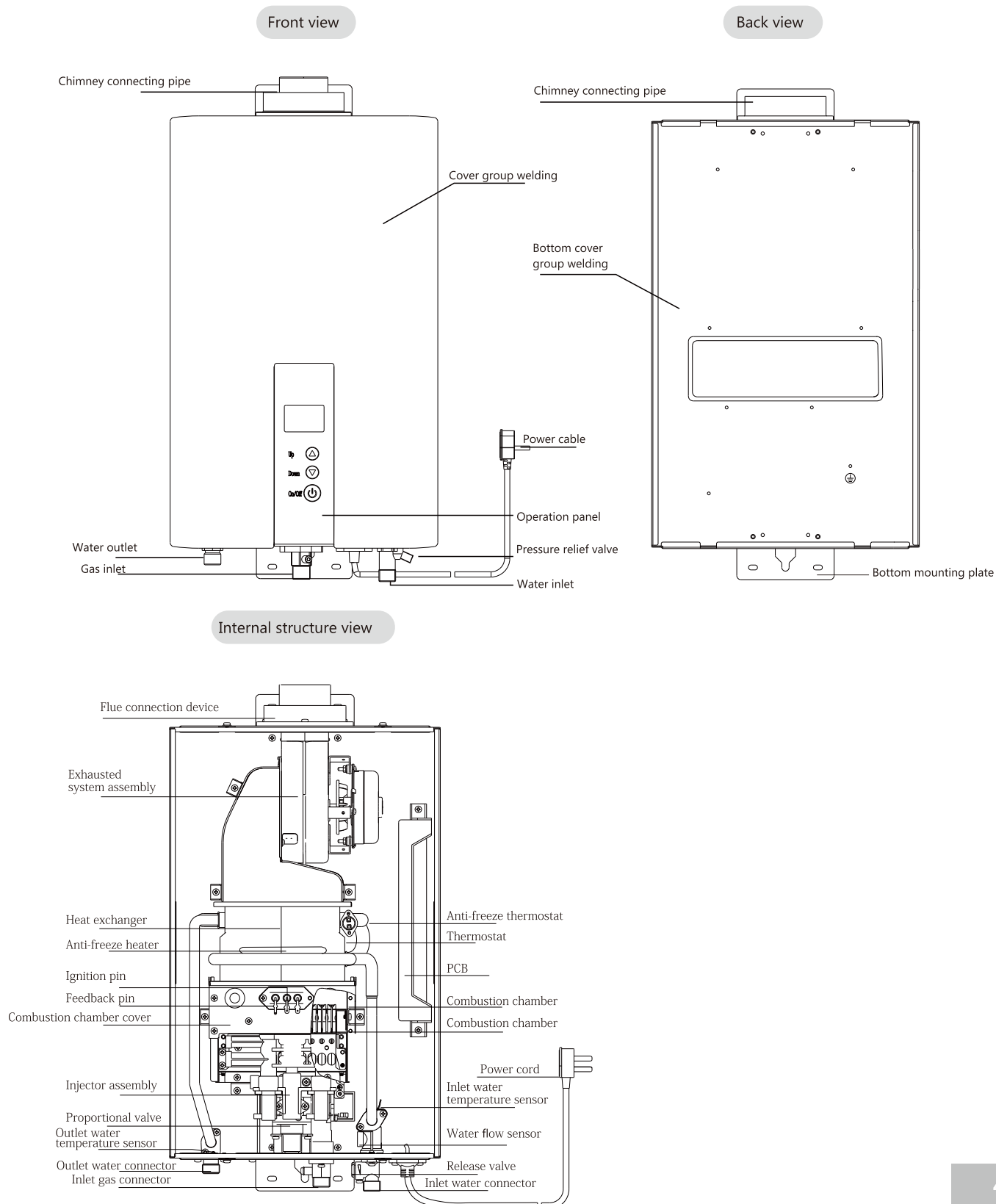
Specifications

Model	JSG24-12Q6S	JSG28-14Q6S	JSG30-16Q6S
Appliance Type	C12,C32,B22,B32		
Appliance Category	I3B/P	I3B/P	I3B/P
Gas Type	G30	G30	G30
Gas Pressure	30mbar	30mbar	30mbar
Gas Consumption(Max)	0.73m ³ /h	0.87m ³ /h	0.92m ³ /h
Electric Power	40W	40W	40W
Nominal Heat Input	24kW	28kW	30kW
Nominal Heat Output	22kW	25kW	26.5kW
Minimum Heat Input	5kW	5kW	5kW
Minimum Heat Output	4.7kW	4.7kW	4.7kW
Water Pressure	0.2~8bar	0.2~8bar	0.2~8bar
Power Supply	AC230~50Hz	AC230~50Hz	AC230~50Hz
Hot Water Capacity($\Delta T=25^{\circ}\text{C}$)	12L/min	14L/min	16L/min
Hot Water Capacity($\Delta T=40^{\circ}\text{C}$)	7.5L/min	8.75L/min	10L/min
Minimum Water Supply Pressure	0.2bar	0.2bar	0.2bar
Minimum Water Flow Rate	2.5L/min	2.5L/min	2.5L/min
Water Inlet Joint	G1/2	G1/2	G1/2
Water Outlet Joint	G1/2	G1/2	G1/2
Gas Inlet Joint	G1/2	G1/2	G1/2
Ingress Protection Level	IPX4	IPX4	IPX4
Pin No.	1336DO030	1336DO030	1336DO030
Destination Country	CY		
Burner Pressure(mbar)	Minimum Operating	Minimum Operating	Minimum Operating
	3.0mbar	3.0mbar	3.0mbar
	Igniting	Igniting	Igniting
	9.5mbar	9.5mbar	9.5mbar
	Maximum Operating	Maximum Operating	Maximum Operating
	6.2mbar	8.9mbar	10mbar
Nozzle Diameter(mm)	11×0.72	11×0.72	11×0.72
	/11×0.83	/11×0.83	/11×0.83

ERP Data			
Models	12L	14L	16L
Efficiency for water heater	80%	82.7%	83.4%
Efficiency class	A	A	A
Noise(dB)	54	57	59
Nox(mg/kWh)	43	45	50



Name of each part

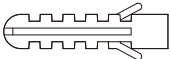
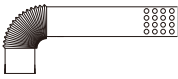




! Note

Macro products must be installed and maintained by our authorized installation and maintenance service providers, otherwise Macro will not bear any responsibility for accidents caused by installation and maintenance.

The following accessories are included with the water heater. Please check them before installation.

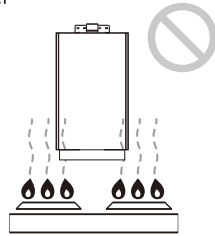
Accessories name	SHAPE	Quantity	Accessories name	SHAPE	Quantity
Nylon expansion tube		2	Mounting screw		2
Expansion bolt		1	Pipe		1
User's manual		1			

! Installation precautions

Before installing the water heater, please make sure that there is a floor drain with sufficient displacement near the installation location of the water heater, so as not to drain



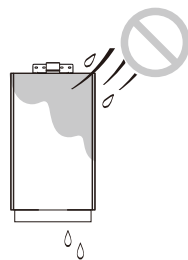
Never install on a gas stove or other heat source



It is forbidden to install near electrical equipment or flammable materials (such as gasoline, organic solvents) and corrosive chemicals (such as alcohol, hydrochloric acid, etc.) to avoid fire or corrosion of the machine.



Do not install the water heater outdoors to avoid wind, rain and frost damage.



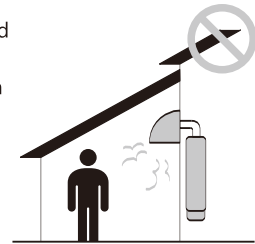
If the mounting wall is a flammable material, it is necessary to install additional flame retardant board isolation appliances, and the thickness of the flame retardant board should be greater than 10mm

Do not install on vehicles or ships.

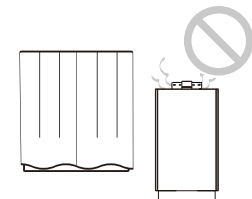
Make sure the power outlet is reliably grounded

Prohibition of use of well water or hot spring water

The water heater should be installed in a place with good ventilation. The flue pipe must be installed with an exhaust pipe, and the exhaust pipe's outlet must be placed outdoors.

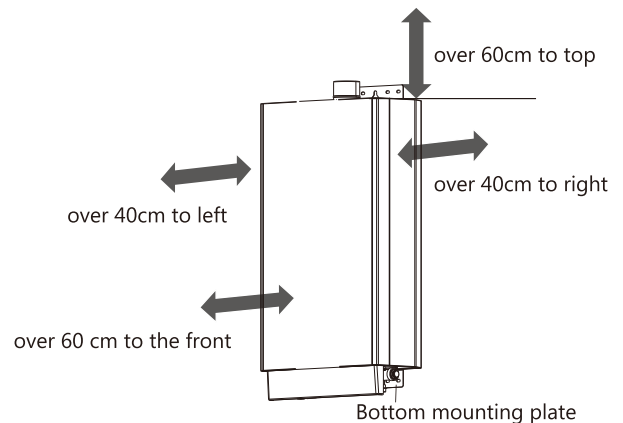


Never install in closet or near flammable materials such as curtains.

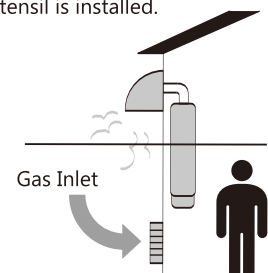


The gas water heater should be installed away from flammable materials at least 2m.

The main body, walls and ceilings should be provided with effective space.



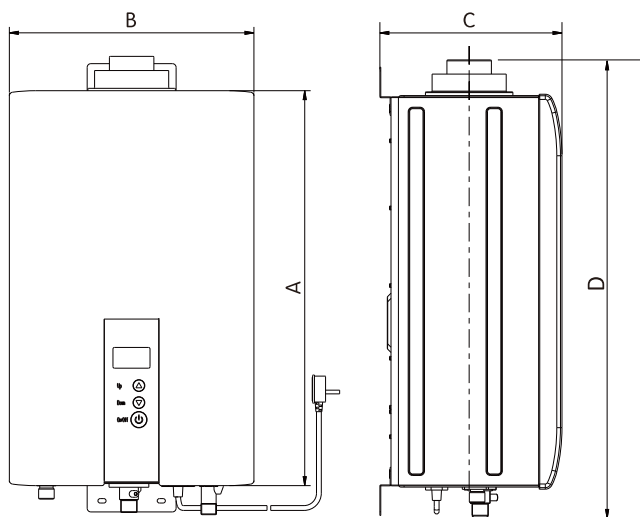
Please make sure that the installation place has an inlet and exhaust window with an area larger than 130cm². The air inlet and exhaust are respectively located near the ground and the ceiling, and can communicate directly with the outdoors. The air inlet should be as far away from the exhaust pipe of the appliance as possible to prevent the smoke from flowing back into the room where the utensil is installed.





Dimension drawing

The follow table shows dimension drawing of water heater(unit:mm)

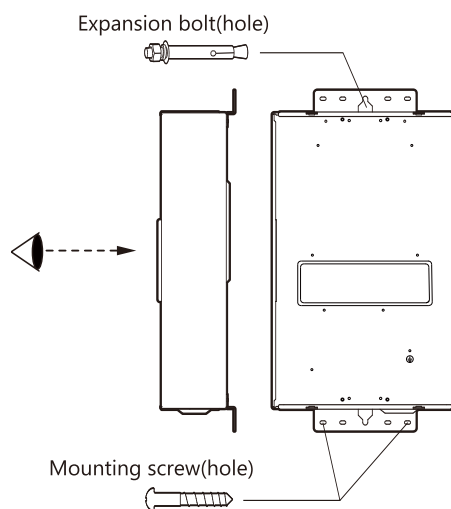


Dimension			
A	B	C	D
533	330	246	617

Installation method

■ Water heater installation

- ① Determine the installation position (see installation precautions for details) and installation height. It is advisable to level the human eye.
- ② Determine the installation position of the expansion bolt and wood screw according to the installation position and height.
- ③ Make holes in the installation position determined above.
- ④ Place the water heater in the installation position and fasten it with the expansion bolts and wood screws provided.



■ Location of Heater

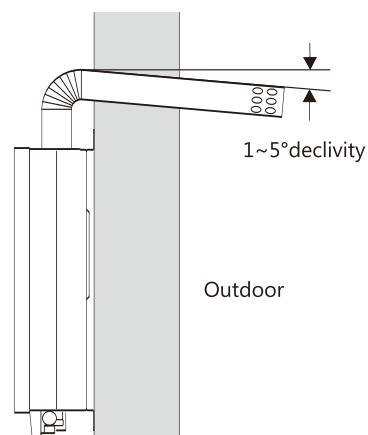
The installation of heater must be on a suitable non-combustible load bearing wall which will provide an adequate fixing for the heater mounting bracket assembly. The location should be in an area where the water pipes will not be subjected to frost conditions. The place where heater be installed should be away from flammable materials and have sufficient space for air drawn in and ventilation. Where a room sealed appliance is installed in a room containing a bath or shower any electrical switch or appliance control utilising mains electricity must be situated so that it cannot be touched by a person using the bath or shower. The Installable environment temperature is from 0°C~60°C.



■ Installation of flue

❗ Note

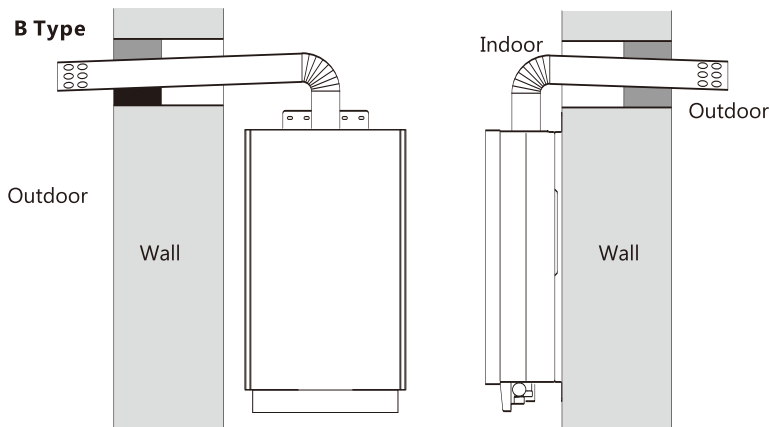
- ① The exhaust pipe must use the special smoke exhaust pipe and its accessories.
- ② The smoke exhaust port shall not be installed on the ventilation duct or public flue of the building.
- ③ When the smoke exhaust pipe passes through the combustible wall, it shall be divided and covered with an insulation material with a thickness of $\geq 20\text{mm}$.
- ④ The distance between the exhaust pipe and the combustible items such as ceiling eaves or furniture is greater than 55cm.
- ⑤ The smoke exhaust pipe should not be buried in the ceiling as much as possible.
In the case of choiceless, it is necessary to cover with a roll of flame-retardant material of which thickness more than 20mm .



Installation Method

Full installation method of exhaust pipe to the side

Installation method of smoke exhaust pipe to the back



Single diameter of chimney	60mm
Maximum length	8m
Elbow reduction length	1m

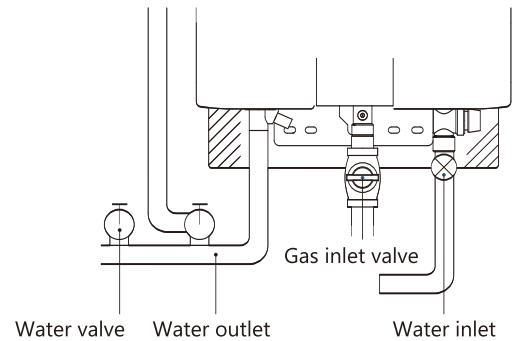
The mass rate of combustion products is.

	G30		
	12L	14L	16L
Smoke flow g/s	19.35	22.71	24
Smoke temperature °C	108	122	130



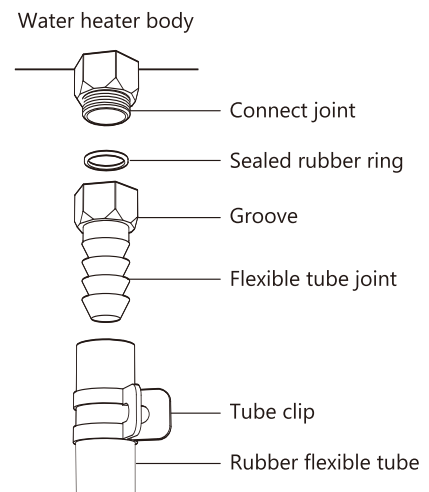
■ Installation of water pipe

- Refer to the product specification table for the cold water inlet and hot water outlet joint pipe threads.
- The cold water pipe should be passed through to clear the dirt in the pipe, and then connected to the water heater to prevent the water heater from being blocked.
- For repair and maintenance needs, please set the water inlet valve near the water inlet joint
- Please use metal hoses and gaskets to connect to appliances and pipelines. It can be tightened to avoid rupture of the water pipe caused by vigorous rotation.
- The water inlet pipe should be directly connected to the water pipe to avoid being too long, too thin, excessively bent, and reducing the pressure loss of the pipeline.
- If long-distance water supply is needed, it is better to install a control valve on the water supply pipe.
- If the installation position of the hot water supply valve is higher than the appliance, a drain valve should also be installed at a position lower than the appliance, in order to remove the accumulated water in the hot water supply pipe to prevent freezing.
- The hot water supply pipe should be able to withstand high temperature to prevent hot water pipes from rupture due to heat and pressure.
- The hot water supply pipe is as short as possible to reduce heat loss. Try to use a shower with a small pressure loss.
- In order to ensure that the appliance can be used normally, the pressure of the inlet water must be greater than (the starting water pressure of the machine) + (the lost water pressure of the pipeline)



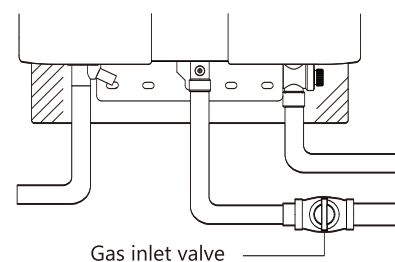
■ Gas pipe installation

- The gas supply pipe joint of the water heater is a pipe thread
- Users using liquefied gas should use a 9.5mm inner diameter hose to connect to the liquefied gas pressure regulating valve, and then fasten it with a pipe clamp; connect the hose connector attached to the machine with the gas connector (note that a rubber seal is required) then connect the rubber hose and hose connector to the red line and fasten it with a pipe clamp.
- Users who use the gas pipeline, remember to install the seal ring.
- For repair and maintenance needs, please set a gas valve near the gas connector, the diameter of the gas valve is 9.5mm.
- LPG users are prohibited from using medium and high pressure gas pressure regulators, and regulators capable of adjusting to the prescribed gas pressure should be used.



■ Electricity installation

- The power supply of this water heater is AC230/50Hz.
- Power plug should be installed around where is dry and hard to get wet.
- Make sure that the three holes socket is equipped with an effective and reliable ground wire.





This appliance is intended to be permanently connected to the water mains and not connected by a hose-set.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Check and confirm after installation

- ① If have kept a certain distance from combustibles?
- ② If the installation place and environment suitable?
- ③ If there is space left for checking and maintenance.
- ④ If meet with the installation condition of water line, gasline and electric circuit.
- ⑤ If there exists leaking problem? Please turn on the water tap for both cold and heat water, and then turn it off after confirming there is water outflowing, check the leaking after standing for a while, as this time remember do not insert the power plug into the socket.
- ⑥ If there exists gas leaking problem? Please turn on the gas valve, apply soapy water on each connection to check if there is gas leaking.

Only meet all above requirement, can confirm the heater have been installed correctly.

Checks and controls after first start-up

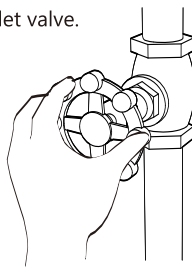
- Check there are no leaks in the gas and water circuits.
- Check the integrity of the air-flue pipes during heater operation.
- Check that the gas consumption indicated on the meter corresponds to that given in the table (page 3).
- Check that water is circulating correctly. Balance the radiators to ensure that the flow and return differential does not exceed 25°C.
- Check that the domestic hot water flow rate drop in the range of 2.5L/min~12L/min.
- Check that the gas valve modulates correctly both during the different heating phase.
- Check the combustion efficiency correspond to that given in the table (page 3)
- If any of the above are not correct, the heater is not operating correctly.

! Preparation before use

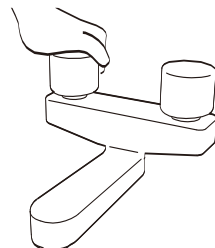
When using for the first time, please make sure that the water heater is intact and carefully check whether the connections are correct and there are no leaks. After confirming it, please follow the steps below:

- 1**

Completely turn on the water inlet valve.


- 2**

After turning on the heat water valve, make sure there is water outflowing, and then turn it off.


- 3**

Completely turn on the gas valve.


- 4**

Please plug in the power plug, or turn on the power switch.

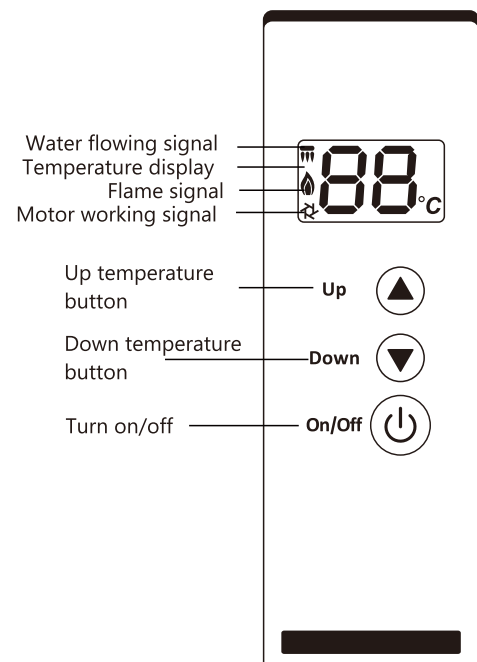
Method of use

■ Method of using the water heater

1. Press the "On / Off" button on the panel operator, the button indicator lights up, the LED display lights up, and "41" shows the set temperature.
 - The initial default value is 41 °C (First start or restart after power off).
 - Last used temperature (without power failure)
2. Turn on the hot water tap, the burner will automatically ignite, and the hot water will flow out. During the first operation, because there is air in the gas pipeline, the hot water tap should be turned on and off repeatedly until the water heater flame is lit.
2. The hot water tap should not be turned on too small, otherwise there will be a phenomenon that the ignition does not catch or goes out in the middle.

■ Regulate water temperature

1. The temperature of the outflow water could be setting around 36~60°C, making adjustment by press "+" and "-".
 - 30~48°C: Setting temperature rise 1°C by every press on "▲".
Setting temperature drop 1°C by every press on "▼".
 - 48~60°C: Setting temperature rise 3°C by every press on "▲".
Setting temperature drop 3°C by every press on "▼".
2. Keep pressing button more than 2 seconds, setting temperature will rise or drop continuously.





! Precautions of user

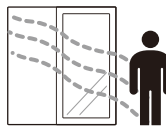
It is strictly forbidden to switch on the appliance when gas being smelled or other way that gas leak is discovered. You should immediately close the gas valve, open the doors and windows, drain the gas, and contact the local maintenance and gas supply department.



Do not use water heater when lighting or fire.



Please keep indoor ventilation



Do not let children play or leave them alone in the bathroom.



Do not open the water tap of the water heater directly on the body or head, you should first confirm the water temperature with your hand before using.

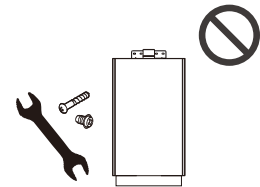


Do not change the temperature of the hot water at any time other than the user. Sudden changes in the water temperature will be uncomfortable.

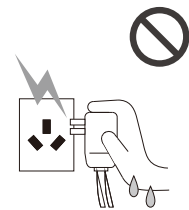
Correct disposal of this product: This marking indicates that this product should not be disposed of with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.



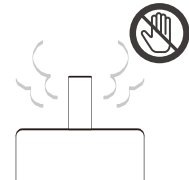
Never modify the water heater by yourself
Never open the back cover of the water heater without authorization.



It's forbidden to pull the power plug with hands wet.



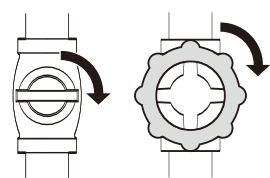
Do not touch exhaust pipe and other fittings around to prevent from scald.



Do not drink or similarly drink the water from water heater.



If the water heater is not used for a long time, please close the water inlet valve



According to the relevant national standards, from the date of sales, the service life of the gas water heater of town gas is 6 years, natural gas and liquefied gas are 8 years. Please use them within this specified period. Products that exceed the expiry date should be scrapped in time to avoid causing safety accidents.

It is recommended that the necessary inspection and appropriate servicing be carried out by a specialized workshop. If this inspection is performed regularly, the lifespan of your device may be extended.

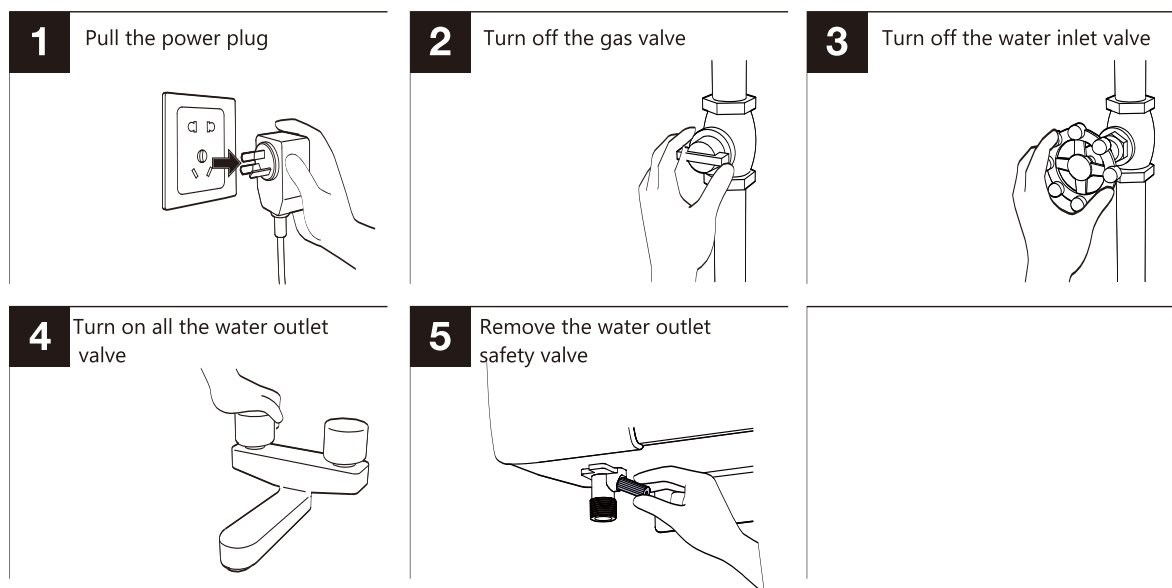
Forbid any interference with a sealed component



Antifreeze measure

■ Precautions of antifreeze

- ① Even in warm areas in winter, the water inside the supply pipe, outlet pipe, or appliances may freeze.
- ② Appliance frozen may cause the damage of the machine and water pipe inside, which also may lead to leaks.
- ③ Repairs due to frozen need to be paid even during the warranty period.
- ④ Please drain the water inside the water heater as following instruction to prevent from freezing when not use the water heater in a long time.



■ Preparation steps before the machine reused after antifreeze draining.

1. Please install water inlet cleaning plug and water outlet safety valve.
2. Operate according to the instruction of first using steps.

■ Automatically antifreeze

The Q6S series are with an electric heating device inside which can prevent temperature from down to freeze. When the temperature is lower than $5 \pm 3^{\circ}\text{C}$, the electric heating device starts, and once the temperature recover to $15 \pm 3^{\circ}\text{C}$, this device stops working. And this electric heating device is assembled inner the gas water heater when product is out of the manufacturer.

⚠ Attention

The electric heating device will not be able to operate if the power is off.



Precautions of maintenance

- ① Whether the appearance of the water heater is abnormal?
- ② Check whether abnormal flame or abnormal sound during usage?
- ③ Are there any flammable materials around the water heater, near the smoke exhaust and the exhaust pipe?
- ④ Is there good ventilation around the water heater?
- ⑤ If pipeline exists water or gas leaking?
- ⑥ Please arrange the security check every year to make sure the safety.
- ⑦ forbid any interference with a sealed component

Method of maintenance

- ① When the water heater is dirty, wipe it with a cloth or sponge which wet with neutral cleaner.
Do not wipe with banana oil, alcohol, etc.
- ② Leak detection of the gas line: Use a brush to stain hot soapy water to each connection of the gas pipeline. If bubbles are found, it is a leak.
- ③ Please turn off the water inlet valve,remove the cleaning plug,and load it
after finishing the cleaning, to keep the the water way clear.
- ④ Please turn off the gas inlet valve, remove the filter of gas inlet, and
load it after finishing cleaning and drying, to ensure gas flow smoothly.
- ⑤ Appliances should be checked and maintained periodically by a competent person.

Non-fault condition

The condition below are normal phenomenon, not fault

Phenomenon	Reason
White smoke from exhaust	For large amount of steam in the smoke, which turn white while meet cold air outside.
Turn off the hot water tap, the fan does not stop immediately	In order to cool the inside of the appliance and completely discharge the waste smoke,the fan has a delayed shutdown function.
The heat water doesn't come immediately when open the tap.	When the water heater starts working, first it will take few seconds to drain out cold water left in the pipe, and heat water comes out then.
Heat turbid water.	Once the water dissolved air is heated, the air pressure drops rapidly when the water is discharged, and small bubbles in the water overflow, that seems turbid.
Water leaking from pressure relief valve	It's a normal phenomenon to relief the pressure.
Heat water turn cold if the tap open too small	The flame may be out if the tap opened too small.



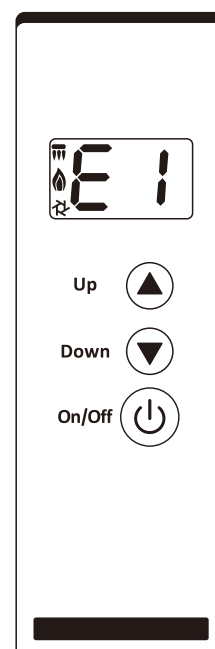
The following faults caused by improper operation

Phenomenon	Reason	
Burning indicator off	• Power cut • Power plug not in socket • Running out of gas	• Flue blocked • Air left in the pipe • Internal fault
No hot water even if the hot water switch is turned on	• The water inlet valve is not large enough • The hot water outlet valve is too small • First time use • Frozen	• Water or power cut • Long distance from water heater to water tap • Running out of gas
The water temperature is too low ,and hard to adjust	• Improper operation • The inlet or outlet valve is too large, and the water flow is too large • The valve opening is too small or the intake pipe passage is too small	
The outlet temperature is too high to be adjusted	• Water supply switch is not large enough, too little water • Improper adjustment of hot water temperature	
Water turns cold when using	• The air valve is not fully open • Water volume is too small • water heater turns off automatically	• Power cut • Running out of gas

When fault occurs,the display window will show the fault code and tell fault reason, meanwhile buzzer makes continuous alarm sounds "Bi~". Please deal the problem follow the steps below.

Note:E0 is dangerous fault,buzzer will continuously alarm when there occurs a E0 fault,and please cut off the power to ensure the safety.

Fault code	Fault types	Confirmation and solution of faulty
E0	After fire	Ensure the gas valve turned on, turn off the water tap and then restart the equipment.
E1	Fail to ignite	Ensure the gas valve turned on. Check if gas remaining in the tank. turn off the water tap and then restart the equipment.
E2	Fan motor fault	Turn off the water tap and restart the equipment. If fault still occurs, call the service center.
E3	Dry burning or overheating in the heat exchanger	Turn off the tap and restart the equipment.
E4	Temperature sensor fault	Call the service center.
E5	Temperature of hot water flow out is too high	Turn off the water tap and restart the equipment.
E6	Improper combustion	Turn off the water tap and restart the equipment.
E8	Abnormal air pressure	Turn off the water tap and turn on again.





Warranty instruction

1.Warranty period

The warranty period for this model is 2 years.(Subject to invoice date)

2.Warranty conditions

- 1.This product should be brought from legitimate retailerlegally.
- 2.The user should save the purchase invoice, instruction manual and Macro product warranty card. When buying, please check carefully whether the barcode on the product box is as same as in body and instruction manual .
- 3.The installation should be completed by the professional team specified by the manufacturer. (You should not install it yourself without guidance)
- 4.Operation must follow the instructions of user manual.
- 5.This product should be operated in a proper condition.

3.Exception condition

The faulty or damage problem belongs to below situation is not in the warranty coverage.

- 1.Obtaining this product through illegal way.
- 2.Absence of purchasing invoice and "Macro warranty card".
- 3.Overdue warranty period.
- 4.Falsify of absence of bar code and production date.
- 5.The model in "Macro warranty card" is inconsistent with the machine, or falsify purposely.
- 6.The faulty problem caused by installing or disassembling by self ,and take repair, maintenance ,operation without follow "User manual"
- 7.Damaged by frozen.
- 8.This product is a general household product,Not suitable for high frequency commercial use.
- 9.Non-quality issues(such as high and low water pressure, difference of gas type, damage of safety valve.)
- 10.Shower is not covered by warranty.
- 11.Man-made damage(both intentionally and unintentionally).
- 12.Damage caused by irresistible force(like disaster and war).

4.Warranty service

During the warranty period, if the faulty or damage problems meet with the warranty condition, and not belong to exception condition, Macro will offer all-round warranty service, which includes:

- 1.Repair for free.
- 2.Replace faulty parts for free.
- 3.Other items specified by local laws
- 4.You can transfer once for free within one year of purchase and in the same urban area.
- 5.Products that do not fall into the scope of free repair will be charged according to the standard outside the warranty period

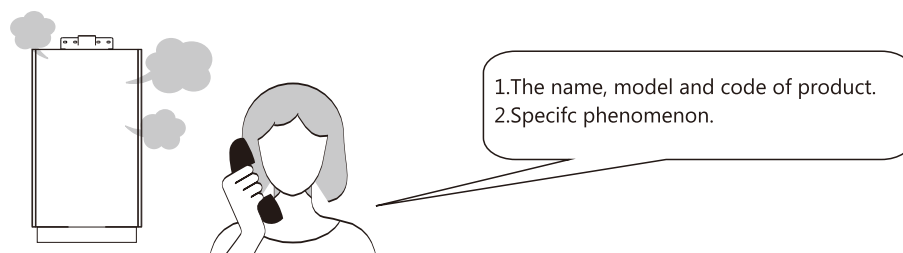


Warming tips

- For your safety, please do not place flammable liquid and gas around the gas water heater.
- After installation, checking with leaks of gas way and water way system is necessary.
- The gas type used in gas water heater must be as same as indicated on the rating label.
- Please read the manual carefully before ignition, and check with around, it's forbidden to switch on the appliance and ignite once gas smelled, and open the window and door to drain the gas out, and also find out reasons of leaks, contact with the local service and gas supply department.
- If there exists difference of content and parameter between manual and actual product, please regard practical product as a standard.
- This kind of balance type is secondary energy efficiency.

After service

If an abnormal situation occurs, please check with faulty solution content in the manual. If the problem still remains or some confusion left, please leave it to the local after-service department. You can also feed back this problem to our company, and offer the details information follow:



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Contact: +357 7000 8787 & +357 22 778743

Website: www.papettas.com

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