

**AQUAKING**

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**CONDENSING TANKLESS  
GAS WATER HEATER**

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**OPERATION  
& INSTALLATION  
MANUAL**

## AQUAKING CONDENSING TANKLESS GAS WATER HEATER

<b>TRIDENT</b>	
Maximum Gas Consumption BTU/h	70,000
Hot Water Supply at 45f Temperature Rise	3.2GPM
LPG (Propane)	11" WC
NG (Natural Gas)	8" WC
Exhaust System	Forced Exhausted Mode
Ignition System	Automatically Continuous
Electric Supply	110V/60Hz
Safety Devices	Flame Sensors Thermal Limit Switch Thermal Fuse Fan RPM Sensor Surge Protect Fuse
Usable Water Pressure	3-100 PSI
Water Connection	1/2" NPT
Gas Connection	3/4" NPT
Net/Gross Weight	13kg/16kg
Dimension	580mm X 360mm X 155mm
Safety protection	Flameout, anti over-heat, anti dry-combustion, anti flue blocked, over wind pressure, over water pressure etc.

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*Note: Please ensure that the contents of this manual have been fully understood prior to installation or operation of this gas tankless water heater.*



will we include a what's included page on this manual?? If so, what's included?

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Dear User,

Thank you for buying this energy efficient gas water heater. We appreciate your confidence in our products. Before installation and operation of this gas water heater, please thoroughly read the User Manual. Please keep this manual for the guidance of installation or maintenance.

- The installation, maintenance should be proceeded by the authorized person by our company. Otherwise, our company will not be responsible for any accident caused by the wrong installation and maintenance.
- Please install the flue pipe correctly that make the waste gas exhausted outside. There should be floor drain inside the installation location that can discharge the water from the safety valve to outside.
- Please use the specified gas type and power supply shown in the nameplate.
- Please make sure the power outlet should be connected with earth wire. The power-supply system should be connected with earth wire as well.
- The power outlet should be installed in the dry place.
- Please make sure it's ventilated inside the bathroom. In the condition of waste gas leakage and blocked caused by not installing the flue pipe, please do not use the gas water heater. Otherwise it would make the accident by carbon monoxide poisoning.
- Children and the people do not know how to use the gas water heater are not allowed using the gas water heater alone.
- Please do not directly take shower once the hot water comes out. You should detect the hot water temperature by hand first to make sure the water temperature is in proper.
- It's forbidden to modify the gas water heater and open the covers of the gas water heater.
- It's forbidden to plug in/out the power cable with wet hand.
- Please do not drink the hot water from the gas water heater. And do not wash your hand with the condensing water.
- When the temperature is lower than 0 °C in winter or the gas water heater is not used for long time, please take measure to protect the gas water heater as page 14.

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## 2.1 FEATURES AND BENEFITS

### • REAL TEMPERATURE CONSTANT

With intelligent gas proportional valve, the gas water heater can provide you the requested temperature for the hot water according to the setting temperature and water flow.

### • INTELLIGENT BROADBAND PRECISE CONSTANT TEMPERATURE

Quickly switch from 36°C to 48 °C, fast and precise constant temperature. Above 48°C is high temperature not for bathing. Precisely switch with an interval of 3°C, more convenient operation.

### \* INTELLIGENT COMBUSTION

With intelligent gas proportional valve, the combustion can be intelligently converted based on the demand.

### • MEMORY FUNCTION

The gas water heater can keep the same temperature and “on/off” situation before you switching off the gas water heater.

### \* REAL FREE-OXYGEN COPPER RESTRAINING FROM BACTERIA

Our product is with real free-oxygen copper which is restraining from bacteria, providing clean hot water for your shower.

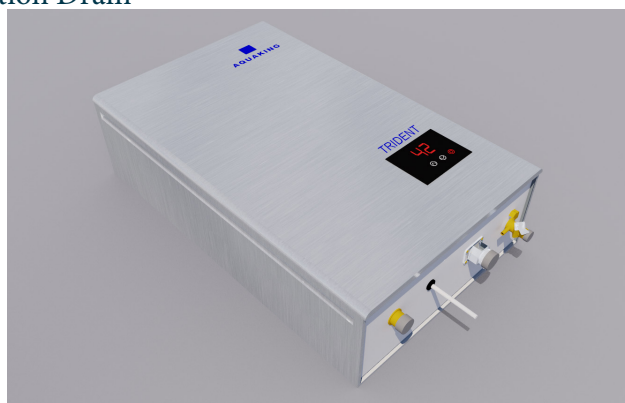
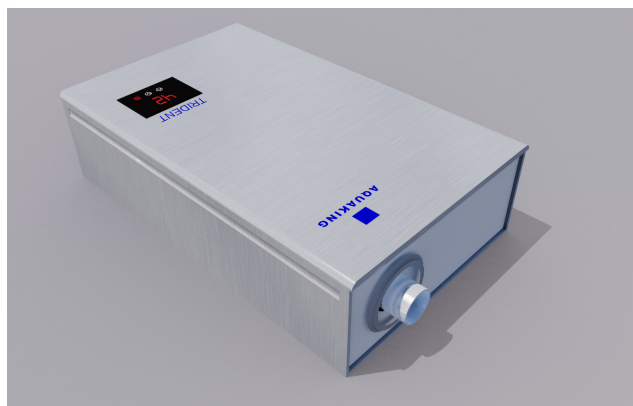
### • MULTIPLE FUNCTIONS SETTING FOR COMFORTABLE EXPERIENCE

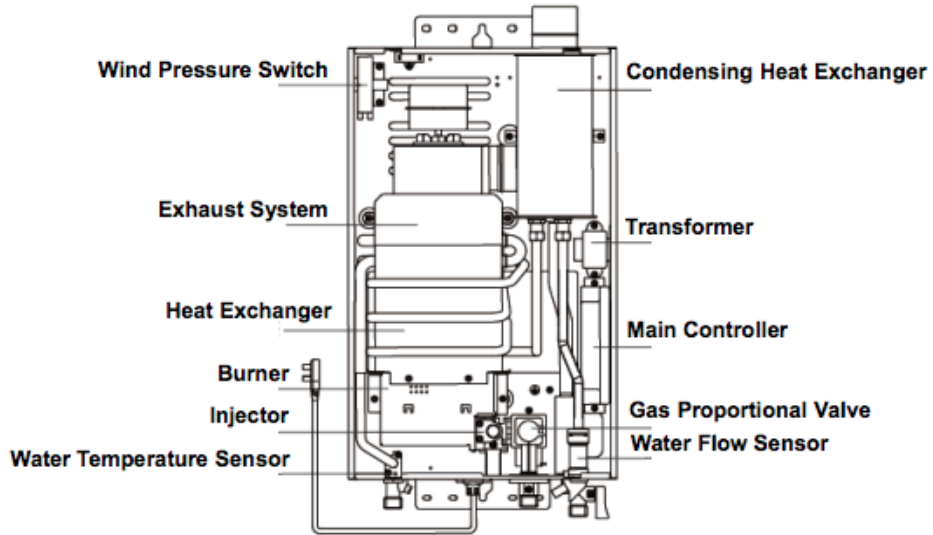
With multiple function setting such as memory function, temperature-constant controlling, start up with low water pressure, with supper silence, combust with low gas pressure, energy saving, low energy consumption, wide adjustment for the electric pressure and water-purified etc.

### • MULTIPLE SAFETY PROTECTION FUNCTIONS

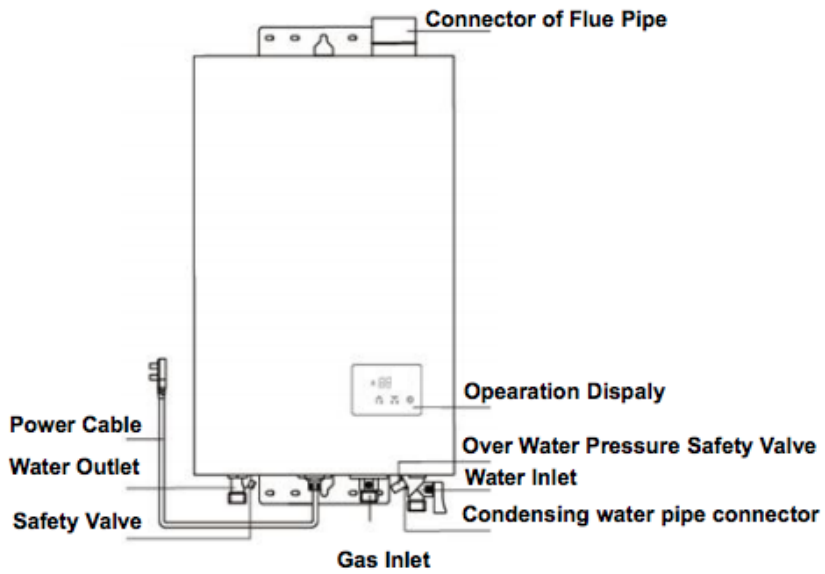
With multiple safety protection functions, including flameout, anti over-heat, anti dry-combustion, anti flue blocked, over wind pressure etc.

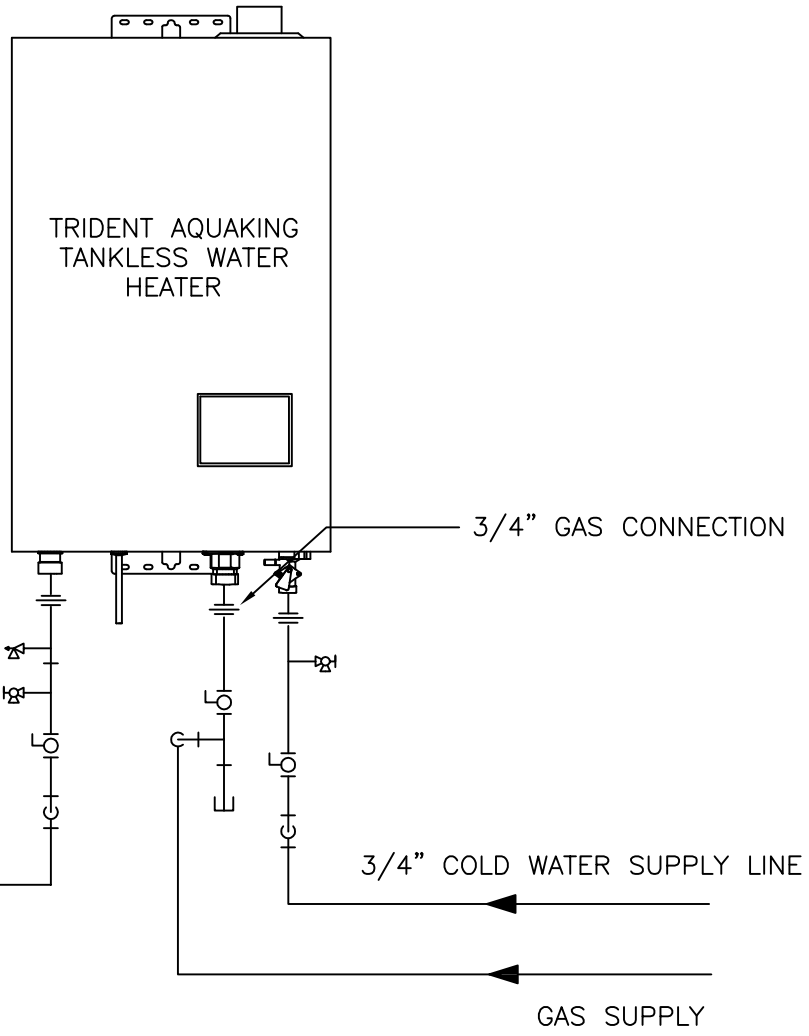
- |                       |                      |
|-----------------------|----------------------|
| ① Touch Control Panel | ⑤ Gas Inlet          |
| ② Temperature Display | ⑥ Power Cord         |
| ③ Water Inlet         | ⑦ Flue Outlet        |
| ④ Water Outlet        | ⑧ Condensation Drain |





**Name of Spare Parts**





KEY

-  3/4" Ball Valve    
  Pressure Relief Valve
-  3/4" Union    
  Boiler Drain Valve
-  XXXXX

This drawing is not an engineered drawing. It is intended for use only as a guide and does not act as replacement for professionally engineered installation drawings. This drawing is not intended to portray a complete installation system. The project engineer and/or installation contractor should determine the necessary components for configuration of the system being installed. This drawing does not imply compliance with local building code requirements. It is the responsibility of the project engineer and/or contractor to ensure that the installation is fully in accordance with the applicable building code through the authority having jurisdiction. Obtain approval with local building code officials prior to installation.



EZ TANKLESS WATER HEATERS

Aquaking Trident – Standard Installation Schematic



## 3.0 INSTALLATION

Make sure that it would be enough floor drain to exhaust out the water.

It's forbidden to install the gas water heater on the gas stove or other heating places.

It's forbidden to install the gas water heater near to the flammable material (such as gasoline, organic solvent) and the Corrosive chemicals (such as alcohol , hydrochloric acid) to avoid any fire and machine corrosion.

Please do not install the gas water heater in outside to avoid the rain, wind and frost damage.

If the installation wall is with flammable material, it's necessary to add one inflaming retarding board to insulate the gas water heater and the wall. The board should be with thickness of more than 10mm.

Do not install the gas water heater on the car and ship.

The gas water heater should be installed in ventilated place, with flue pipe that exhausting the waste gas to outside.

It's forbidden to install the gas water heater near to the flammable material such as closet and the curtain,etc.

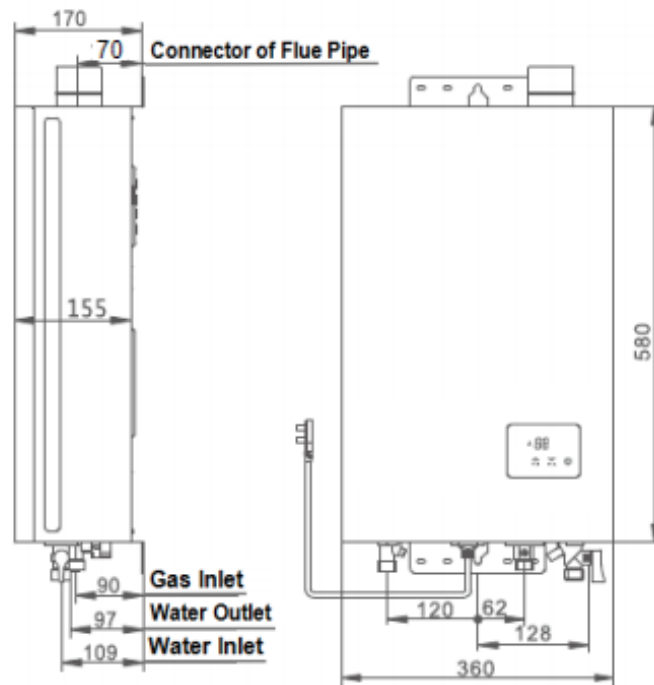
There should be enough space interval with the ceiling and the wall.

Make sure that there will be more than 13000mm<sup>2</sup> area for the air inlet window in the installation location. The air inlet window should be near the ground and directly connected with outdoor and far away with flue pipe that it can avoid the waste gas flowing back to the room.

Be sure of using the specified type of gas and voltage shown in the nameplate.

It's forbidden to use well water and thermal spring water.

The dimension of gas water heater and the installation size diagram is as below. (Unit: mm)

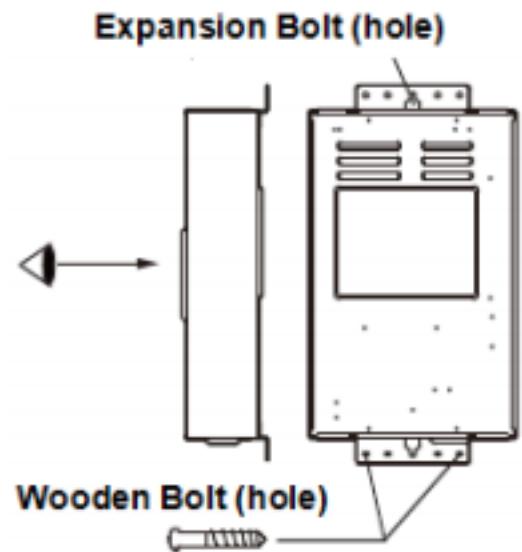


### Installation Guidance

Make sure the gas type should be the same with the name plate shown in the gas water heater.

### Installation of Main Body

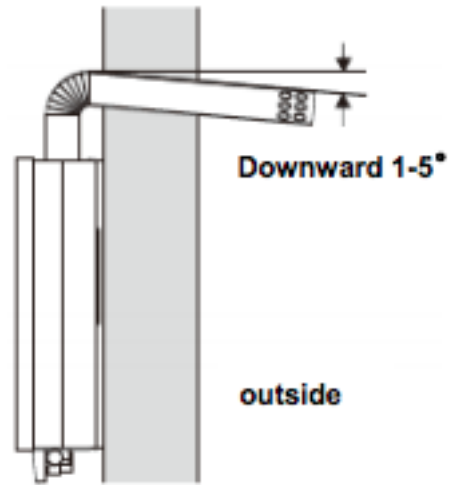
1. Confirm the installation location (see the “Installation Attention”) and the height of installation.  
The height should be according to the horizontal position between the eyes to the temp. operator of gas water heater.
2. Confirm the installation location of the expansion bolt and the wooden bolt according to the installation location and height of the gas water heater.
3. Punch hole according to the above installation location.
4. Put the gas water heater to the confirmed location, and fix it by the expansion bolt and the wooden bolt



## Installation of Flue Pipe

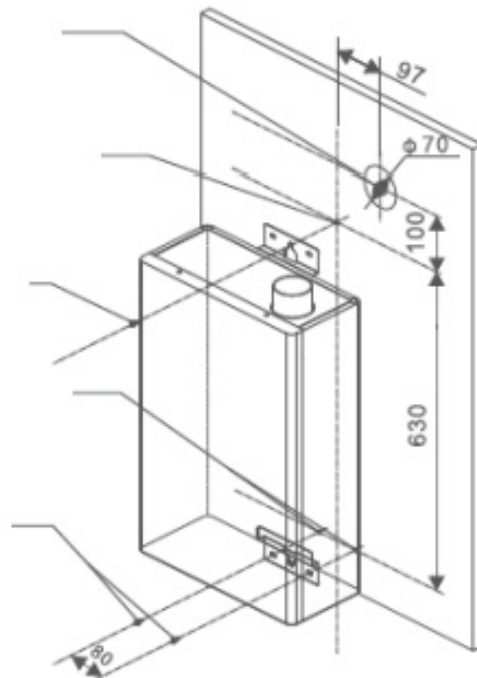
### Attention

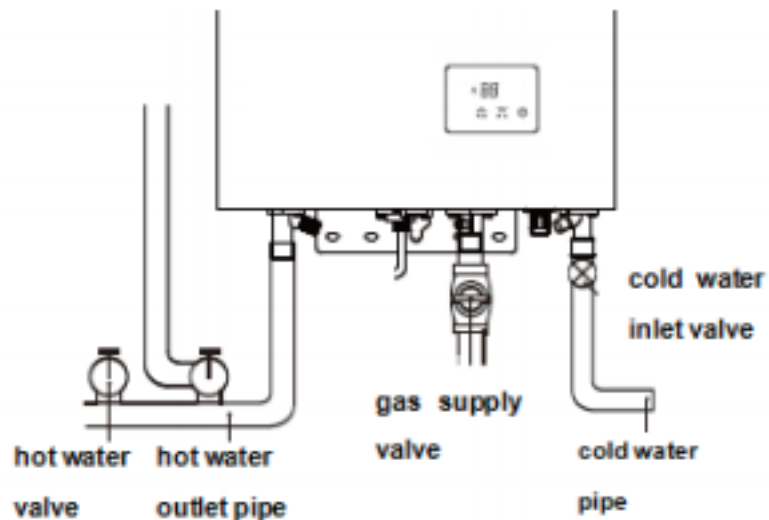
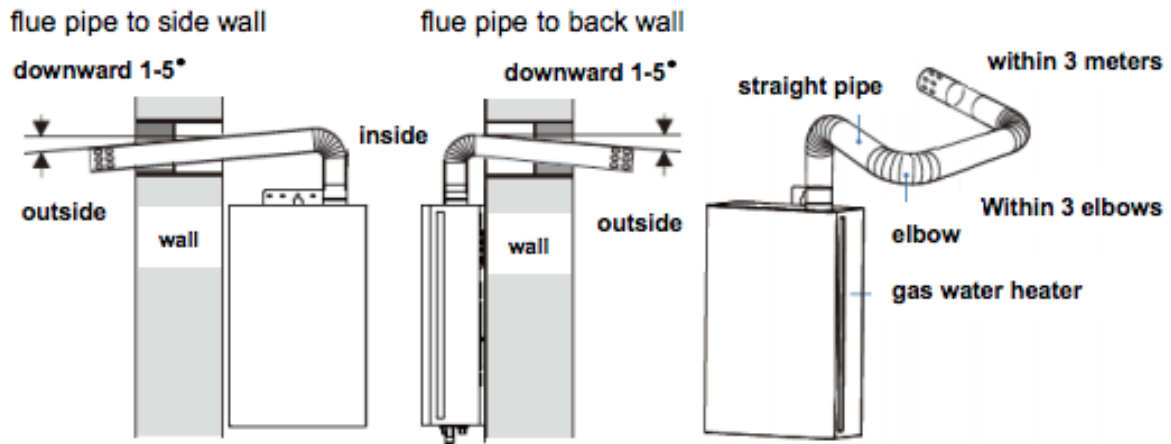
1. The connected flue pipe should be used as the one provided with the gas water heater.
2. The most length for the flue pipe should be 3 Meters with not more than 3 connected elbows.
3. The waste gas outlet should not be installed in the air duct and the shared gas flue system.
4. The flue pipe should be facing outside and down for 1-5° to avoid rain flowing back.(see right picture).
5. If the flue pipe is installed and passed through by flammable wall, it should be insulated by inflaming retarding board with the thickness more than 20mm.



### Installation

Make sure the location of gas water heater, and then punch the installation holes. The flue pipe should be toward down for 1-5°. After connecting the flue pipe, seal the joint with aluminum foil.





#### Installation of Water Inlet/Outlet Pipe

- The thread of the water inlet/outlet pipe should be the same as shown on the specification sheet.
- Before connecting with the gas water heater, the water inlet pipe should be removed the dirty by water going through to avoid any block.
- Set the water inlet valve near by the water pipe connector for the convenience to the maintenance.
- Connect the gas water heater with the pipes by metal hose and seal washer
- The water inlet pipe should not be too long, too thin and too curved to reduce the pressure loss of the pipe.
- If hot water supply is needed over a long distance, then a control valve had better be installed on the hot water supply pipe.
- If the height for hot water valve is higher than that of the heater, another hot water valve has to be installed at a place lower than the heater to drain water remained in the pipe and to prevent freezing.
- The hot water pipe should not be too long that can reduce the heat loss. And it is recommended to use the sprayer with less pressure loss.
- To make sure the normal use of the gas water heater, the water inlet pressure should be more than the “start up water pressure” + ”lost water pressure inside the pipe”

### Installation of Gas Pipe

- The connected gas pipe should be with thread.
- For LPG, the LPG pressure adjusting valve should be connected with 9.5mm rubber hose and then fixed by clamp; Connect the hose connector with the gas connector (must be install the washer inside) to the red line and then fix it by clamp.
- A gas valve should be installed at Gas Inlet. (Diameter of valve is more than 9.5mm)
- For LPG, it's forbidden to use the gas pressure regulator with mid-high pressure class. It should be used the gas pressure regulator that can adjust to specified gas pressure.

### Installation of Power Supply

- The power supply is AC110V/60Hz.
- The power outlet should be installed in dry place
- The power outlet must be connected with earth wire.

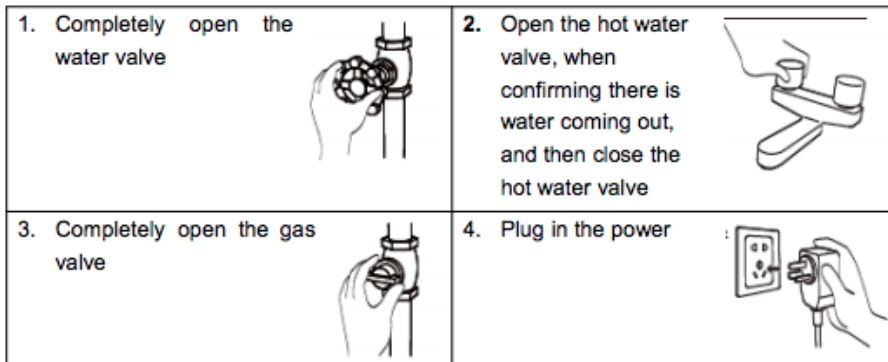
### Check and Confirm after Installation

1. Check if there is proper distance with the flammable material
2. Check if the installation location and environment is suitable
3. Check if there is enough place for check and maintenance.
4. Check if the gas way, water way, electric way is proper
5. Check if there is any water leakage: Pull out the power plug, and then open the water inlet and hot water outlet tap. When seeing the water coming out, close the hot water outlet tap, and then wait a while to check if there is any water leakage.
6. Check if there is any gas leakage: Open the gas valve and then smear some soap-suds to check the gas leakage.

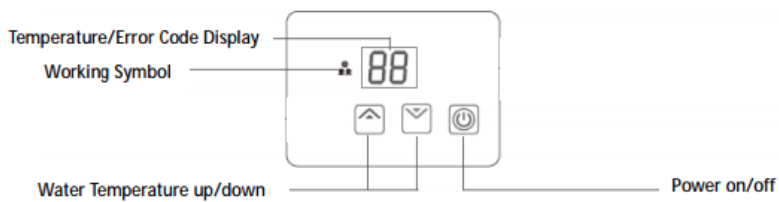
## Chapter Three: Usage Instruction

### Preparation before Usage

For the first-time use, please confirm the gas water heater is installed properly and check all the joints are connected well without leakage. And then, please go ahead as below:



### Operation Display



### Usage Guidance

#### Usage of shut on Gas Water Heater

Press , and the light of the operator shows up. And then the LED light shows up the setting temperature.

1. For the first-time use, the default temperature is 41 .
2. The gas water heater will keep the same mode and temperature after switching off the power.

### Adjustment of water temperature

The water outlet temperature can be set during 36-60 , and can be adjusted by pressing and .

36 -48 : The temperature rises 1 for pressing every time; And reduce 1 for pressing every time.

48 -60 : The temperature rises 3 for pressing every time; And reduce 3 for pressing every time.

Remark:

When the gas water heater is running, if the origin setting temperature is lower 48 , the rising temperature only can be adjusted during 36-48 .

If you want to set the temperature over 48 , to avoid the temperature suddenly getting very high to cause scald, you should shut off the gas water heater by pressing , and then repress the to adjust the temperature again. Or you can shut off the water to adjust the temperature.

If the origin setting temperature is over 48 , the temperature can be adjusted up to 60 .

If you want to reduce the temperature lower than 48 , you don't need to shut off the gas water heater and then to adjust the temperature.

## USAGE ATTENTION

It's forbidden to open the gas water heater or make ignition when smelling the gas and finding the gas leakage. You should shut off the gas valve immediately and then open the windows and doors to exhaust out the leakage gas. You should contact the local maintenance department and gas-supply department

Please make sure it's ventilated inside the bathroom. In the condition of waste gas leakage and blocked caused by not installing the flue pipe, please do not use the gas water heater. Otherwise it would make the accident by carbon monoxide poisoning.

It's forbidden to use the gas water heater when there is thunder or fire.

It's forbidden to modify the gas water heater and open the covers of the gas water heater

It's forbidden to plug or pull the plug with wet hand

Do not touch the flue pipe or around by hand to avoid burning.

Children and the people do not know how to use the gas water heater are not allowed using the gas water heater alone

Please do not drink the hot water from the gas water heater. And do not wash your hand with the condensing water

Please do not directly take shower once the hot water comes out. You should detect the hot water temperature by hand first to make sure the water temperature is in proper.

Please shut off the gas inlet valve and water inlet valve when the gas water heater is not in use for along time.

If you do not use the gas water heater, please do not change the setting water temperature

For service life for the gas water heater using NG/LPG is 8 years. If the service time is more than 8 years, please scrap it to avoid any safety danger.



## Anti-freezing Measure

### Attention

1. It's possible that there is frozen in the water inlet pipe, water outlet pip and the water inside the gas water heater in winter even though it's warm area. It will cause the damage of the gas water heater and pipes, as well as the danger of water leakage.

2. If there is a long time not using gas water heater, please exhaust out the water for anti-freezing.

l If the temperature is lower than 0 , please exhaust out the water for anti-freezing as below methods.(for normal model)





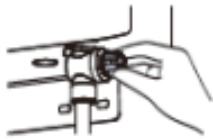
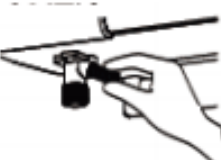
l If the temperature is lower than 0 , please exhaust out the water for anti-freezing as below methods.(anti-freezing model)

l If the temperature is lower than -15 , please exhaust out the water for anti-freezing as below methods.(anti-freezing model)

### Automatic Anti-freezing (suitable for anti-freezing model)

To avoid freezing, the gas water heater is assembled with electric heating element. When the temperature is lower than certain temperature, the heating element will automatically heat. Please make sure that the gas water heater is with power.

### ※ Method of Exhausting Water for Anti-freezing

1. Pull out the plug. 	2. Shut off the gas valve. 
3. Shut off the water valve. 	4. Open the water outlet valve. 
5. Remove the filter from the water inlet connector. 	6. Remove the safety valve from the water outlet connector. 

### Usage Preparation if Gas Water Heater Restarts

1. Install well the filter in the water inlet connector and the safety valve in the water outlet connector.

2. Please operate it as the first-time usage instruction.

## Chapter Four: Maintenance and Protection

### Maintenance Attention

1. Check if the appearance of gas water heater is normal.
2. Check if the flame and the voice is normal when the gas water heater is running.
3. Check if there is any flammable material near by the gas water heater and the flue pipe.
4. Check if it's ventilated around the gas water heater.
5. Check if there is any gas leakage or water leakage in the pipes.
6. Please arrange the safety check every year.

### Maintenance Guidance

1. When the gas water heater gets dirty, please clean and remove the dirty by cloth or sponge dipped with detergent, but not banana oil or alcohol.
2. Check the gas leakage: Open the as valve and then smear some soap-suds in the joints of the gas pipes. If there is bubble, there is gas leakage.
3. Shut off the water inlet valve, and remove down the filter. Clear up the filter, and then reinstall it on the water inlet connector to make sure the water way is clean.

### Non-failure Condition

#### Cases

White smoke comes out from the flue pipe

When shut off the hot water tap, the fan cannot stop immediately.

When open the hot water tap, there is no hot water coming out immediately

The hot water is white and turbid

The water spills out from the over-pressure safety valve.

When the hot water tap Is open small, the outlet water gets cold.

#### Causes and Solutions

As there is much water vapor from the smoke, when the high-temperature smoke touching with the cold air outside, it will produce rime fog. It's normal.

To cold down the gas water heater and exhaust out the waste gas, the fan is with the function of retarding stop.

There is certain distance from the gas water heater to the hot water tap. As there is also some cold water inside the water pipe, the hot water will come out after the cold water coming out.

When the air blending into the water and heating, as the air pressure gets lower quickly, the bubble in the water spills out and makes the hot water white and turbid.

To avoid damage to the spare parts caused by the over water pressure inside the gas water heater, when the water pressure is higher than certain value, the over-pressure safety valve will spill out some water to release the pressure.

If the hot water flow is too small (lower than the start-up water flow), it will make ignition failure or flameout.

## Failure Solution

When show the failure as below, it would be caused by improper operation.

Case	Causes
The lights are off on the display	<ul style="list-style-type: none"><li>l Power gets off</li><li>l The plug is not plugged in the power socket.</li><li>l The gas is used up or not enough</li></ul>
There is no hot water even though the hot water valve is open	<ul style="list-style-type: none"><li>l The flue pipe is blocked caused by the over high wind pressure.</li><li>l There is air into the gas pipe(You should turn on the gas water heater for several times)</li></ul>
The temperature of outlet water is too low and cannot be adjusted to up.	<ul style="list-style-type: none"><li>l Failure for inner spare parts( You should contact with the maintenance staff to check)</li></ul>
The temperature of outlet water is too high and cannot be adjusted to down..	<ul style="list-style-type: none"><li>l The hot water outlet valve is open too small.</li><li>l The water inlet valve is open too small.</li><li>l It's on the first-time use( You should turn on the gas water heater for several times)</li><li>l It's frozen.</li><li>l The water or the power is shut off</li><li>l The distance from the gas water heater to the water tap is too long.</li></ul>
The water gets cold during using the gas water heater	<ul style="list-style-type: none"><li>l The gas is used up or not enough.</li></ul>
	<p>The water flow is too big</p> <ul style="list-style-type: none"><li>l The gas valve is open too small or the dimension of the gas pipe is too small.</li><li>l The setting of the temperature of hot water is not proper.</li></ul>
	<p>The water supply valve is open too small. The water flow is too small.</p> <ul style="list-style-type: none"><li>l The setting of the temperature of hot water is not proper</li></ul>
	<ul style="list-style-type: none"><li>l The gas valve is not completely opening.</li><li>l The water flow is too small that the gas water heater automatically shut off.</li><li>l Power gets off.</li><li>l The gas is used up or not enough.</li></ul>

When the failure happens, the display window will show up the error code. Meantime, the buzzer rings continuously for 10 times for “bee” alarm sound. In this case, you should proceed as below:

Remark: E0 means danger error, the buzzer will continuously ring. You need to switch off the power to clear the error

Error Code Failure Type Solution

E0 Slash Fire Danger error. You should contact the maintenance staff for check.

E1 Ignition Failure or Flameout

Check: if the gas valve is open; If the gas is enough. You should shut off the water valve and restart the gas water heater to clear the error. The pressure of LPG is high (the pressure-reduce valve is damaged)

E2 Fan Failure or Flue Way Blocked

Shut off the water valve and restart the gas water heater. You should contact the maintenance staff for check.

E3 Over-heat Protection Shut off the water valve and restart the gas water heater.

E4 The temperature sensor is in open/short circuit

Contact with maintenance staff for check.

E5 The hot water temperature is over 85

Shut off the water valve and restart the gas water heater.

E6 Fault Flame Shut off the water valve and restart the gas water heater.

E9 The exhausted way of the condensing water is blocked

Please check if the condensing water exhausted pipe is blocked and restart the gas water heater. Contact with maintenance staff for check.

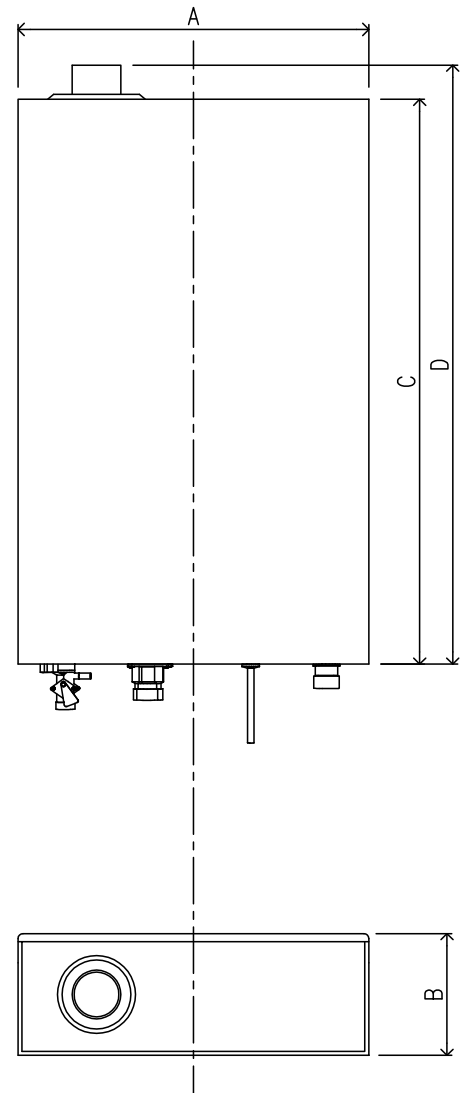
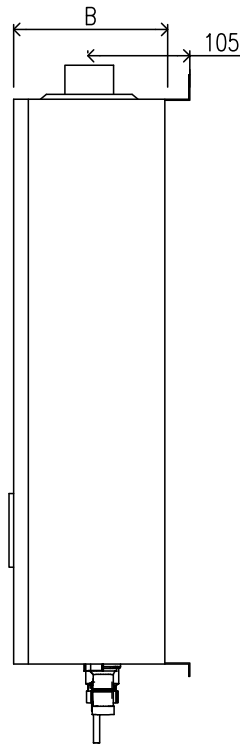
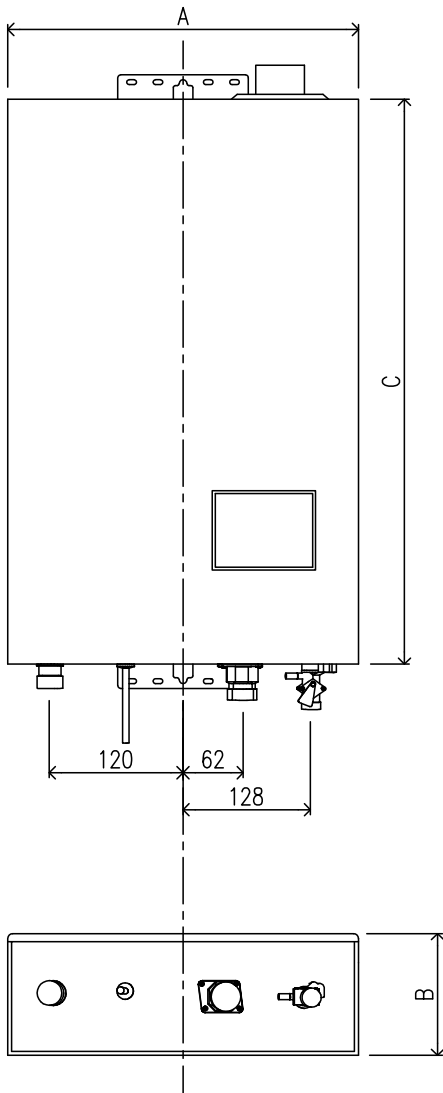
FF (Anti-freezing model)

Failure of Anti-freezing Please exhaust the water for anti-freezing

En (With time setting model)

Time up. Shut off the water valve and restart the gas water heater.

# 7.0 INFORMATIONAL DRAWINGS



	DESCRIP-	
<b>A</b>	Width	13-7/8" or 351mm
<b>B</b>	Depth	4-7/8" or 125mm
<b>C</b>	Height - Unit	22-7/8" or 566mm
<b>D</b>	Height - Including Brackets	24-5/16" or 618mm
<b>E<sub>1</sub></b>	Hot Water Outlet (from wall)	3/4" or 20mm
<b>E<sub>2</sub></b>		1-3/4" or 42mm
<b>E<sub>3</sub></b>		2-1/4" or 52mm