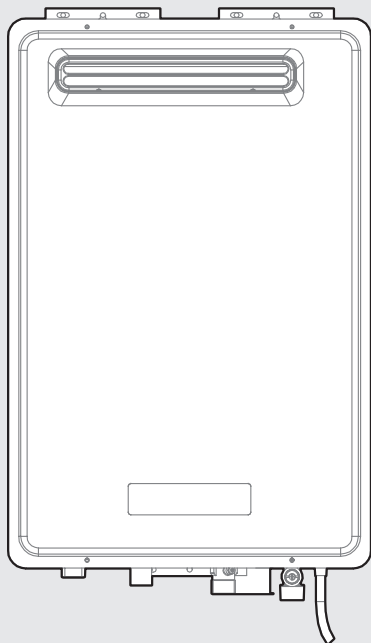




Instantaneous Gas Water Heater Outdoor Series

Installation & Operation Manual

MGWH150OSNN
MGWH150OSPN
MGWH199OSNN
MGWH199OSPN

Warning notices: Before using this product, please read this manual carefully and keep it for future reference. The design and specifications are subject to change without prior notice for product improvement. Consult with your dealer or manufacturer for details.
The diagram above is just for reference. Please take the appearance of the actual product as the standard.



WARNING: If the information in these instructions is not followed exactly a fire or explosion may result causing property damage, personal injury, or death.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone.
- Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency, or the gas supplier.

THANK YOU LETTER

Thank you for choosing Midea! Before using your new Midea product, please read this manual thoroughly to ensure that you know how to operate the features and functions that your new appliance offers in a safe way.

CONTENTS

THANK YOU LETTER	01
SAFETY INSTRUCTIONS	02
SPECIFICATIONS	12
PRODUCT OVERVIEW	14
QUICK START GUIDE	19
PRODUCT INSTALLATION	20
OPERATION INSTRUCTIONS	33
CLEANING AND MAINTENANCE	37
TROUBLESHOOTING	42
CERTIFICATIONS AND SAFETY APPROVALS	46
TRADEMARKS, COPYRIGHTS AND LEGAL STATEMENT	47
DISPOSAL AND RECYCLING	48
DATA PROTECTION NOTICE	49

SAFETY INSTRUCTIONS

Read Before Installation!

Incorrect installation may cause serious damage or injury!
The seriousness of potential damage or injuries is classified as either a **WARNING!** Or **CAUTION!**

Explanation of Symbols

	Warning This symbol indicates ignoring instructions may cause death or serious injury.
	Caution This symbol indicates that ignoring instructions may cause moderate personal injury, damage to the unit, or other property.
	DO NOT This symbol indicates that you should NEVER perform the indicated action.

Important Safety Information Read All Instructions Before Using

Be sure to read and understand the entire user manual before attempting to install or operate this appliance. It may save you time and money. Pay particular attention to the Safety Instructions. Failure to follow these warnings could result in serious bodily injury or death. Should you have problems understanding the instructions in this manual, or have any questions, STOP, and get help from a qualified service technician, or the local gas utility.

DANGER **Properly install water heater**

Failure to properly install the appliance indoors as outlined in the Installation Guide in this manual can result in unsafe operation of the water heater. To avoid the risk of fire, explosion, or asphyxiation from carbon monoxide, never operate this appliance unless it is installed properly and has an adequate air supply for proper operation. Be sure to inspect the flue terminal for proper installation at initial start-up and at least annually thereafter. Refer to the Care & cleaning section of this manual for more information regarding flue terminal inspection.

 **WARNING**
Gasoline, as well as other flammable materials and liquids (adhesives, solvents, paint thinners etc.), and the vapors they produce are extremely dangerous. DO NOT handle, use or store gasoline or other flammable or combustible materials anywhere near or in the vicinity of a appliance or any other appliance. Be sure to read and follow the labels on the appliance as

well as the warnings printed in this manual: Failure to do so can result in property damage, bodily injury or death.

Vapors from flammable liquids will explode and catch fire causing death or severe burns.

⚠ **DO NOT** use or store flammable products such as gasoline, solvents or adhesives in the same room or area near the appliance.

Keep flammable products:

1. Far away from heater
2. In approved containers
3. Tightly closed
4. Out of children's reach

The appliance has a main burner flame. The main burner flame

1. Can come on at any time
2. Will ignite flammable vapors

Vapors:

1. Cannot be seen
2. Are heavier than air
3. Go a long way on the floor
4. Can be carried from other rooms to the main burner flame by air currents

Installation:

Do not install the appliance where flammable products will be stored or used unless the main burner flame is at least 18" above the floor. This will reduce, but not eliminate, the risk of vapors being ignited by the main burner flame.



Read and follow water heater warnings and instructions. If user manual is missing, contact the retailer or manufacturer.

⚠ WARNING: California Proposition 65

This appliance contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or death. Do not discard this manual. Please read carefully and keep in a safe place for future reference.

⚠ WARNING

- This appliance is not approved for use in manufactured (mobile) homes! Please check local code restrictions pertaining to permanent/ fixed installations in manufactured homes in your area.
- Improper installation, adjustment, alteration, service or maintenance can cause death, personal injury, or property damage. Refer to this manual. Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Read all instructions before using

Be sure to read and understand the entire user manual before attempting to install or operate this appliance. It may save your time and money. Pay particular attention to the Safety Instructions. Failure to follow these warnings could result in death or serious bodily injury. Should you have problems understanding the instructions in this manual, or have any questions, STOP and get help from a qualified service technician or the local gas utility

DANGER

Properly install water heater

Failure to properly install the appliance outdoors as outlined in the installation guide in this manual can result in unsafe operation of the appliance. To avoid the risk of fire, explosion, or asphyxiation from carbon monoxide, never operate this appliance unless it is installed properly and has an adequate air supply for proper operation. Be sure to inspect the flue terminal for proper installation at initial start-up, and at least annually thereafter.

- Combustible construction refers to adjacent walls and ceilings and should not be confused with combustible or flammable products and materials. Combustible materials, such as clothing, cleaning materials, or flammable liquids, should never be stored in the vicinity of this appliance or any gas appliances. Fire or explosion can occur causing death, personal injury, and/or property damage

NOTICE: use or store flammable products such as gasoline, solvents or adhesives in the same room or area near the appliance.

CAUTIONS

This appliance must only be used with the following water supply system conditions:

- With clean, potable water free of corrosive chemicals, sand, dirt, or other contaminants.
- With inlet water temperature above 32°F (0°C), but not exceeding 118°F (48°C).

 **DO NOT** reverse the hot and cold water connections. The appliance will not operate.

DANGER

Natural gas and liquefied petroleum models safety

Both propane and natural gas have odorants added to aid in detecting a gas leak. Some people may not physically be able to smell or recognize this odorants. If you are unsure or unfamiliar with the smell of propane or natural gas, ask the gas supplier.

Other conditions, such as “odorants fade”, which causes the odorant to diminish in intensity, can also hide or camouflage a gas leak. Always check with commercial leak odorants or soapy water

- Gas detectors are recommended in propane and natural gas applications and their installation should be in accordance with the detector manufacturer’s recommendations and/or local laws, rules, regulations or customs.
- Water heaters utilizing propane gas are different from natural gas models. A natural gas water heater will not function safely on propane gas and vice versa.
- No attempt should ever be made to convert the appliance from natural gas to propane gas. To avoid possible equipment damage, personal injury or fire, do not connect the water heater to a fuel type not in accordance with the appliance data plate; propane for propane units and natural gas for natural gas units. These appliances are not certified for any other fuel type.

- Propane water heaters should not be installed below grade (for example in a basement) if such installation is prohibited by federal, state and/or local laws, rules, regulations or customs.
- Propane or propane gas must be used with great caution. It is heavier than air and will collect first in lower areas making it hard to detect at nose level.
- Before attempting to light the appliance, make sure to look and smell for gas leaks. Use a soapy solution to check all gas fittings and connections. Bubbling at a connection indicates a leak that must be corrected. When smelling to detect a gas leak, be sure to sniff near the floor also.
- It is recommended that more than one method, such as soapy solution, gas detectors, etc., be used to detect leaks in gas applications.

NOTICE: If a gas leak is present or suspected:

- ⊘ **DO NOT** Attempt to find the cause yourself.
- ⊘ **DO NOT** try to light any appliance.
- ⊘ **DO NOT** touch any electrical switch.
- ⊘ **DO NOT** use any phone in your building.
- Leave the house immediately and make sure your family and pets leave also.
- Leave the doors open for ventilation and contact the gas supplier, a qualified service agency or the fire department
- Stay away from the house(or building) until the service call has been made, the leak is corrected and a qualified agency has determined the area to be safe.
- Follow the steps listed under "WHAT TO DO IF YOU SMELL GAS" found on Page 9 of this manual.

WARNING

- The installation must conform to local codes or in the absence of local codes, the National Fuel Gas Code, ANSI Z23.1/NFPA 54, and/or CSA B149.1, Natural Gas and Propane Installation Code
- Should overheating occur or the gas supply fail to shut off, turn off the manual gas control valve to the appliance.

CAUTIONS

- DO NOT attempt repair of electrical wiring, gas piping, burners, vent connectors, or other safety devices. Refer repairs to qualified service personnel
- Turn off the manual gas shut off valve if the appliance has been subjected to overheating, fire, flood, physical damage, or if the gas supply fails to shut off.
- DO NOT turn on the appliance unless the water and gas supplies are completely opened.

For your safety read before operating

WARNING

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

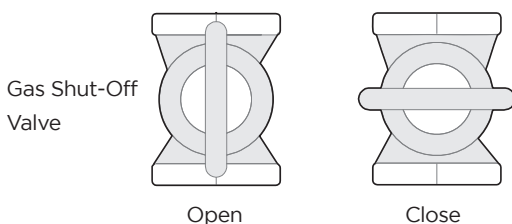
- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. Before operating, smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

What to do if you smell gas

- ⊘ **DO NOT** try to light any appliance.
- ⊘ **DO NOT** touch any electrical switch, do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions
- If you cannot reach your gas supplier, call the fire department.
- ⊘ **DO NOT** return to your home until authorized by the gas supplier or fire department.
- Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, do not try to repair it. Call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- ⊘ **DO NOT** use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

Operating instructions

1. STOP! Read the safety information above on this manual.
2. Turn off all electric power to the appliance.
3. Do not attempt to light the burner by hand.
4. Turn the gas shut off valve located on the outside of the unit clockwise to the "OFF" position.
5. Turn off all electrical power to the appliance
6. Wait five(5) minutes to clear out any gas. If you smell gas, STOP! Follow "B" in the safety information above on this manual. If you don't smell gas, go to the next step.
7. Turn the gas shut off valve located on outside of the unit counterclockwise to the "ON" position.
8. Turn on all electric power to the appliance.
9. Set thermostat to desired setting
10. If the appliance will to operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.



To turn off gas to appliance

1. Turn off all electric power to the appliance if service is to be performed.
2. Turn the gas shut-off valve located on the outside of the unit clockwise to the "OFF" position.

Electrical safety

DANGER

Shock hazard-make sure the electrical power to the subjected is off to avoid electric shock that will result in death or serious personal injury.

WARNINGS

- For your safety, the information in this manual must be followed to minimize the risk of fire, explosion, or electric shock that can result in death, personal injury, and/or property damage
- If an external electrical source is utilized, the appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70, and/or the CSA C22.1, Canadian Electrical Code, Part I.

CAUTIONS

- Label all wires prior to disconnecting for service. Wiring errors can cause dangerous and improper operation. Verify correct operation after servicing.
- For your safety, burner inspection and cleaning should be performed only by qualified service personnel.
- Make certain the power to the appliance is OFF before removing the unit cover panel. Expose electrical components and moving parts can cause personal injuries
- For your safety, DO NOT attempt repair of electrical wiring, gas piping burners, vent connectors, or other safety devices. Refer repairs to qualified service personnel.

For installations in the state of california

California Law gas tankless that gas tankless water heaters must be braced, anchored or strapped to resist falling or horizontal displacement due to earthquake motions. For gas tankless water heaters up to 52 gallon capacity, a brochure with generic earthquake bracing instructions can be obtained from the warranty card ask a water heater dealer However, applicable local codes shall water heater govern installation. For gas tankless water heater of a capacity greater than 52 gallons or tankless style, consult the local building jurisdiction code for acceptable bracing procedures.

Safety precautions

Have the installer show you the location of the gas shut off valve and how to shut it off if necessary. Turn off the manual shut off valve if the appliance has been subjected to overheating, fire, flood, physical damage or if the gas supply fails to shut off.

- Read this manual entirely before installing or operating the appliance
- Use this appliance only for its intended purpose as described in this user manual and Care Manual
- Be sure your appliance is properly installed in accordance with local codes and the provided installation instructions.
- Part of the appliance unless it is specifically recommended in this manual.
- All other servicing should be referred to a qualified technician.

- Read this manual entirely before installing or operating the appliance
- Use this appliance only for its intended purpose as described in this user manual.
- Be sure your appliance is properly installed in accordance with local codes and the provided installation guide
- Part of the appliance unless it is specifically recommended in this manual.
- All other servicing should be referred to a qualified technician.

Selecting location

- This appliance is for OUTDOOR installation ONLY!
- Make sure before installation that the gas type you will use is the same type on the data plate on the side of the appliance.
- The appliance should be installed by professionals from your local gas company.
- Please, don't attempt installation by yourself.
- Improper installation may cause failure or dangerous conditions such as gas leaks or explosion.
- This appliance is an outdoor model and must be mounted on a vertical wall.
- It must not be installed outdoors or in a confined space.
- The appliance should be installed close to the most frequently used outlet and its position chosen with safety and service in mind.
- Make sure people (particularly children, disabled, and elderly) will not touch the hot water outlet or the flue terminal.
- The flue terminal and air inlet must be clear of obstruction and shrubbery.
- If installed in a public corridor, please assure that the surrounding area is free of debris, obstruction and flammable materials.
- The appliance must be installed on a fire retardant area, and must be away from all flammable materials.
- Clearance should be 1.75 ft to the left and right side of flammable materials, and 6.75 ft to the front.
- The appliance should be installed in open area where strong currents are not prevalent.
- This appliance is of high power and will consume a lot of oxygen when working, so the installation area must be well ventilated, and air in and out of the area has no blockage.
- The appliance should not be installed in a corridor with rooms on the both sides or in the closed corridor.
- Take measures to avoid direct wind, rain and snow.
- The installation area should be constructed of fire retardant materials.
- The power socket connecting the appliance should be properly grounded.
- The appliance must be located so it is not subject to physical damage, for example, by moving vehicles, area flooding, etc. The appliance must be installed vertically with the water, gas, and power connections on the underside, pointing toward the ground.
- Failure to properly install the appliance outdoors as outlined in this manual can result in unsafe operation.
- Hot and cold water lines should be insulated to conserve water and energy.
- ⓪ **DO NOT** install the appliance where subject to vibrations.
- ⓪ **DO NOT** install the appliance in Recreational Vehicles, Mobile Homes, Boats and other Watercraft.
- ⓪ **DO NOT** install the appliance near vents for heating or cooling.

- A minimum of 4 feet should be maintained.
- If the clearances stated on the Instruction/Warning Label, located on the front panel of the heater differ, install the appliance according to the clearances stated on the label.

WARNING

Combustible construction refers to adjacent walls and ceilings and should not be confused with combustible or flammable products and materials.

Combustible and/or flammable products and materials should never be stored in the vicinity of this or any gas appliances.

Proper operation of the appliance requires air for combustion and ventilation.

Provisions for combustion and ventilation air must comply with referenced codes and standards.

Combustion and ventilation air. This appliance is for OUTDOOR installation ONLY.

It must NOT be installed indoors or in a confined space.

Corrosive atmospheres

The air in beauty shops, dry cleaning establishments, photo processing labs, and storage areas for liquid and powdered bleaches or swimming pool chemicals often contain such halogenated hydrocarbons.

An air supply containing halogenated hydrocarbons may be safe to breathe, but when it passes through a gas flame corrosive elements are released that will shorten the life of any gas burning appliance.

Propellants from common spraycans or gas leaks from A/C and refrigeration equipment are highly corrosive after passing through a flame.

The appliance warranty is voided when failure of the appliance is due to operation in a corrosive atmosphere.

NOTICE: The appliance should not be installed near any air supply containing halogenated hydrocarbons.

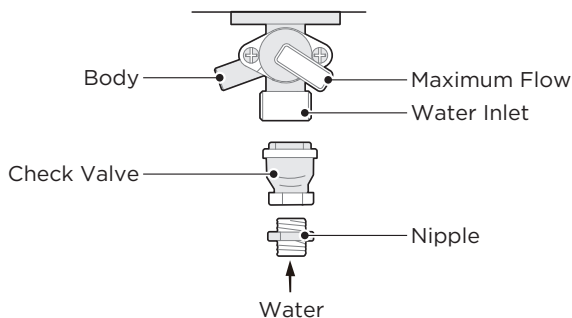
Check the unit

Inspect the appliance for possible damage. Check the markings on the rating plate of the appliance to be certain the type of gas supplied corresponds to the appliance requirements. Verify all included parts are present (Check details from In The Box at Page 16).

Water supply connections

Plumbing should be carried out by a qualified plumber in accordance with local codes. Use approved plumbing materials and tools only.

Install a checkvalve between the appliance and the water shut off valve.



To conserve energy and to prevent freezing, insulate both cold and hot water supply lines. DO NOT cover the drain valves. Install a shut off valve near the inlet of the appliance for service and draining purposes. Before connecting the water supply pipe to the appliance, open the shut off valve and clean out sand, debris, air, caulking material, etc inside the pipe. Connect to the water inlet, then check water flow. Close the shut off valve and clean the water filter.

If a appliance is installed in a close water supply system, such as one having a backflow preventer in the cold water supply line, means shall be provided to control thermal expansion. Contact the water supplier or local plumbing inspector on how to control this situation. To ensure proper operation of the appliance, the following water pressure guidelines should be followed:

- Operation of the appliance requires the minimum water pressure of 14 PSI and a minimum water flow rate of 0.75 GPM.
- Additional water pressure is required for long pipe runs and outlet fitting(s) water pressure drops.
- To maintain proper performance, ensure sufficient water supply pressure. The Required Water Pressure=Min. Operating Water Pressure (14 PSI)+Pipe Pressure Loss +Faucet and Shower Pressure Loss + Safety Margin (more than 5 PSI).
- To supply hot water to upper floors, additional water pressure (0.44 PSI / FT) must be ensure.
- The measurement should be calculated by the distance between the water inlet of the appliance (ground level) to the hot water faucet (upper floor level).
- Well water systems should be set at a range of 50-60 PSI.
- When the water is supplied from a water supply tank, the height of the tank and the diameter of the pipes and their relation to water pressure, should be taken into consideration. Gravity water pressure is not recommended.

IMPORTANT: Do not apply heat to the HOT or COLD water connections.

Any heat applied to the water supply fittings will permanently damage the internal components of the appliance.

IMPORTANT: Do not apply heat to the HOT or COLD water connections.

Any heat applied to the water supply fittings will permanently damage the internal components of the appliance.

NOTICE: If the water flow resistance of a shower head is too high, the burner in the appliance will fail to ignite. Keep the shower head clean from debris that could cause additional pressure drop.

NOTICE: If using mixing valves on the outlet, choose one which prevents cold water pressure from overcoming hot water line pressure.

⚠ **DO NOT** use pipes with smaller diameters than the water supply connection of the appliance.

Be sure to connect the water inlet and the hot water outlet as shown on the appliance. If reversed, the appliance will not function.

Installation of unions or flexible copper connections are recommended on the HOT and COLD water lines, so that the appliance may disconnect easily for servicing if necessary.

SPECIFICATIONS

Note: Pls check the model on the brand, the explanation of the model have been list below.

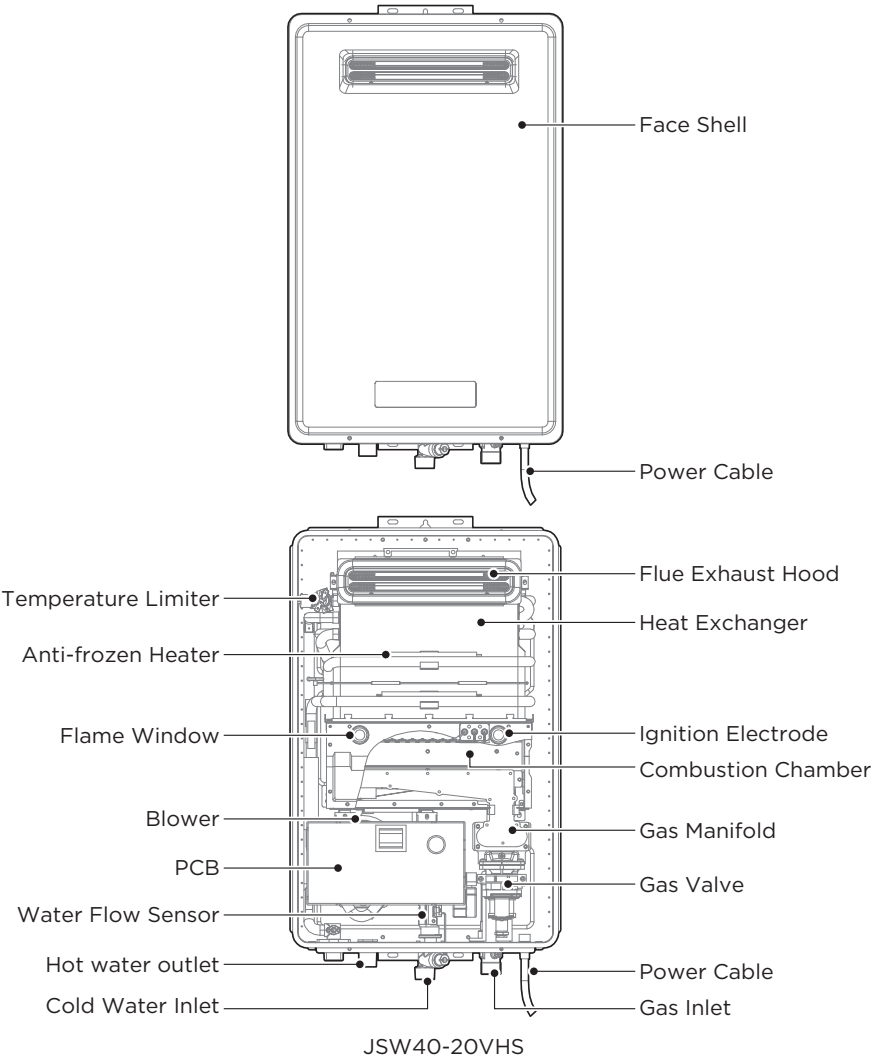
MGWH	199	IX	N	P
	:		:	:
	Reated power		N: Natural Gas P:Propane	P:Pump mode N:No pump

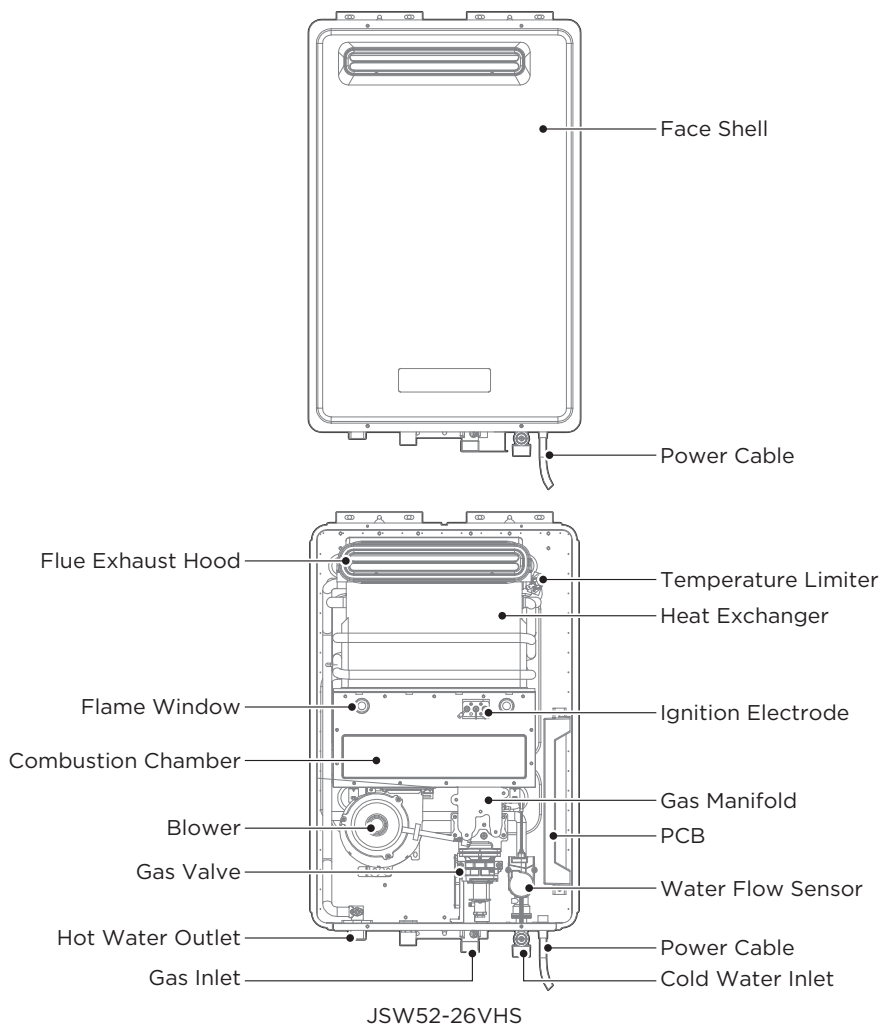
Nature Gas Model		MGWH150OSNN	MGWH199OSNN
Propane Gas Model		MGWH150OSPN	MGWH199OSPN
Heat Capacity (Input)	Natural Gas, Propane Gas	24000-150000B TU/H	23000-199000B TU/H
Uniform Energy Factor	UEF (for NG & LP)	0.81	0.81
Flow Rate (DHW)	37°F (20 °C) Temp Rise	6.6	8.6
	47°F (26 °C) Temp Rise	5.2	6.8
	67°F (37 °C) Temp Rise	3.7	4.8
Dimensions		22.2x14x5.9in (565*355*150mm)	24.7x16.3x7.6in (627*413*192mm)
Weight		31.3lbs(14.2kg)	40.8lbs(19.9kg)
Installation Type		Outdoor	
Ignition		Electronic Ignition	
Water Pressure		15-150 PSI	
Natural Gas Supply Pressure (from source)		3.5in.WC-10.5in WC (870Pa-2610Pa)	
Propane Gas Supply Pressure (from source)		8in.WC-13in WC (1990Pa-3230Pa)	

Minimum Flow Rate		0.7GPM (2.6 L/min)
Con- nection Sizes	Cold Water Inlet	3/4NPT
	Hot Water Outlet	3/4NPT
	Gas Inlet	3/4NPT
Power Supply	Main Supply	120V, 60Hz
	Maximum Power Consumption	180W
Materials	Casing	SPCC
	Heat Exchangers	Copper
Safety Devices		• Water Temperature High Limit Switch (185°F / 85°C) • Freeze Protection Ceramic Heater (Turns on at 41°F / 5°C & Turns off at 59°F / 15°C)

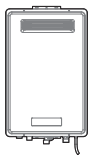
PRODUCT OVERVIEW

Product





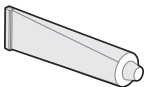
Part List



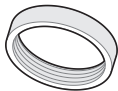
Tankless Gas
Water Heater x 1



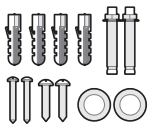
Styrofoam Packing
Materials x 2



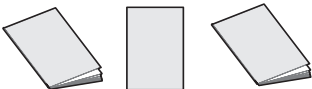
Silicone x1 Piece



Sealing Gasket



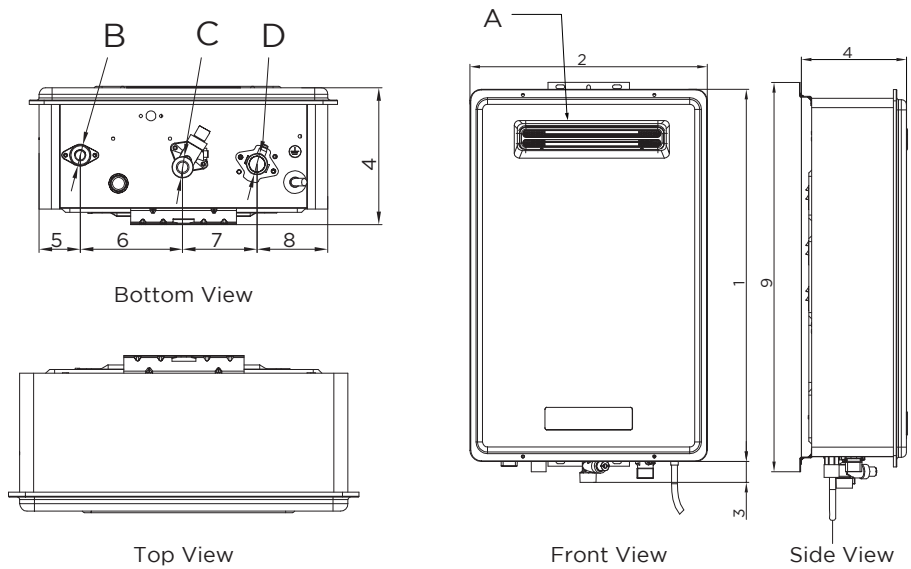
Fastener
Packet x 1



Manual x 1
Warranty card x 1
1:1 Installer Drawing x 1

Dimension

Model:MGWH150OSNN & MGWH150OSPN



Appliance Components

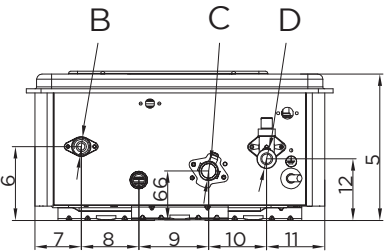
No.	Description	Size
A	Flue Hood	/
B	Hot Water Outlet	G 3/4 in
C	Cold Water Inlet	G 3/4 in
D	Gas Inlet	G 3/4 in

Appliance Dimensions

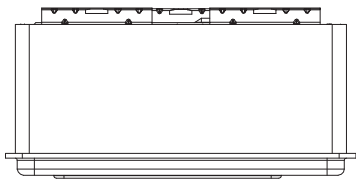
Item	Bottom View	Front View	Side View
1	/	595 mm	/
2	/	375 mm	/
3	/	34 mm	/
4	169 mm	/	169 mm
5	51 mm	/	/
6	126 mm	/	/
7	92 mm	/	/
8	87 mm	/	/
9	/	/	613 mm

Dimension

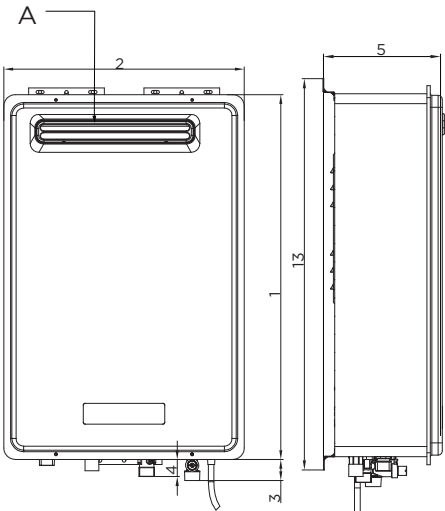
Model:MGWH150OSNN & MGWH150OSPN



Bottom View



Top View



Front View

Side View

Appliance Components

No.	Description	Size
A	Flue Hood	/
B	Hot Water Outlet	G 3/4 in
C	Cold Water Inlet	G 3/4 in
D	Gas Inlet	G 3/4 in

Appliance Dimensions

Item	Bottom View	Front View	Side View
1	/	627 mm	/
2	/	413 mm	/
3	/	36 mm	/
4	/	36 mm	/
5	197 mm	/	197 mm
6	99 mm	/	/
7	62 mm	/	/
8	78 mm	/	/
9	94 mm	/	/
10	78 mm	/	/
11	83 mm	/	/
12	78 mm	/	/
13	/	/	647 mm

QUICK START GUIDE

Before first use

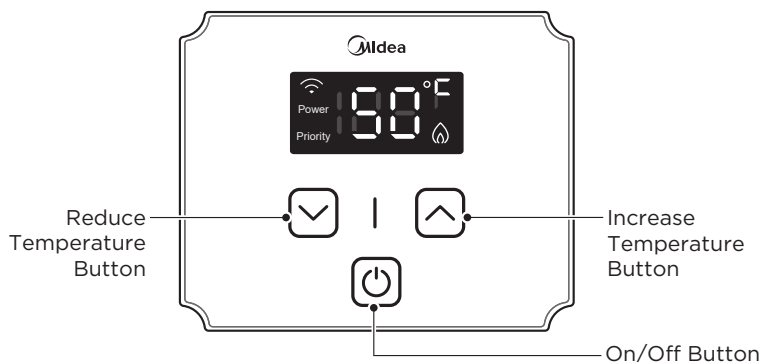
CAUTION

Before first using, a trial running should be carried out by authorized professionals. Before using, please make sure the gas water heater is installed properly. Trial running and quick start.

1. Connect the remote controller.
2. Insert the power supply plug and switch on the power on the controller.
3. Turn on the gas switch.
4. Open the water inlet valve before ignition
5. Turn on the hot water faucet., adjust the temperature on the controller.
6. Turn off the hot water faucet.

Trial running and quick start

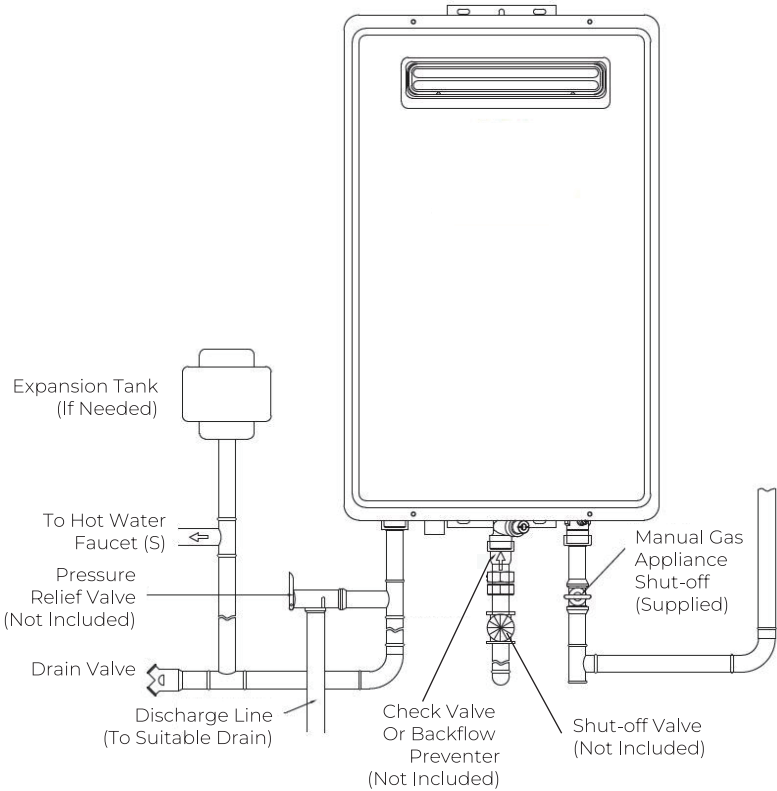
1. Insert the power supply plug and switch on the power.
2. Turn on the gas switch.
3. Open the water inlet valve before ignition
4. Turn on the hot water faucet. Observe the flame from the screen.
5. Turn off the hot water faucet



PRODUCT INSTALLATION

Installing the Water Heater

Typical Installation*
Model: MGWH1990SNN



*Some Items may not apply

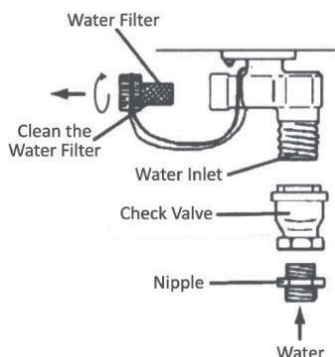
Water Supply Connections

Plumbing should be carried out by a qualified plumber in accordance with local codes. Use approved plumbing materials and tools only.

Install a check valve between the water heater and the water shutoff valve. (See illustration below). To conserve energy and to prevent freezing, insulate both cold and hot water supply lines. DO NOT cover the drain valves.

Install a water shutoff valve near the inlet of the water heater for service and draining purposes. Before connecting the water supply pipe to the water heater, open the shutoff

valve, and clean out sand, debris, air, caulking material, etc. inside the pipe. Connect to the water inlet, then check water flow. Close the shutoff valve and clean the water filter. If a water heater is installed in a closed water supply system, such as one having a backflow preventer in the cold-water supply line, means shall be provided to control thermal expansion. Contact the water supplier or local plumbing inspector on how to control this situation.



⚠ CAUTION

This water heater must only be used with the following water supply system conditions:

- With clean, potable water, free of corrosive chemicals, sand, dirt, or other contaminants.
- Inlet water temperatures above 32° F, but not to exceed 90° F.
- Free of lime and scale deposits. See Page 29 for acceptable Water Quality guidelines.
- Water quality conditions outside of these parameters may void product warranty.
- DO NOT reverse the hot and cold-water connections. The water heater will not operate.

To ensure proper operation of the water heater, the following water pressure guidelines should be followed:

- Operation of the water heater requires the minimum water pressure of 14 PSI and a minimum water flow rate of 0.8 GPM .
- Additional water pressure is required for long pipe runs and outlet fitting(s) water pressure drops.
- To maintain proper performance, ensure sufficient water supply pressure. The Required Water Pressure = Min. Operating Water Pressure (14 PSI) + Pipe Pressure Loss + Faucet and Shower Pressure Loss + Safety Margin (more than 5 PSI).
- To supply hot water to upper floors, additional water pressure (0.44 PSI/ft) must be ensured. The measurement should be calculated by the distance between the water inlet of the water heater (ground level) to the hot water faucet (upper floor level).
- Well water systems should be set at a range of 50-60 PSI.
- When the water is supplied from a water supply tank, the height of the tank and the diameter of the pipes and their relation to water pressure should be taken into consideration. Gravity water pressure is not recommended.

Important

Do not apply heat to the HOT or COLD water connections. Any heat applied to the water supply fittings will permanently damage the internal components of the water heater.

NOTICE

If the water flow resistance of a shower head is too high, the burner in the water heater will fail to ignite.

Keep shower heads clean from debris that could cause additional pressure drop.

NOTICE

If using mixing valves on the outlet, choose one which prevents cold water pressure from overcoming hot water line pressure.

DO NOT use pipes with smaller diameters than the water supply connection of the water heater.

Be sure to connect the water inlet and the hot water outlet as shown on the water heater. If reversed, the water heater will not function.

Installation of unions or flexible copper connections are recommended on the HOT and COLD water lines so that the water heater may disconnect easily for servicing if necessary.

Regarding the Hot Water Outlet

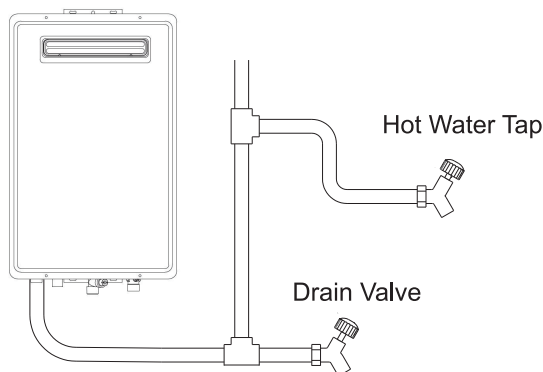
- Connections between the water heater and point(s) of use should be as short and direct as possible.
- DO NOT use lead or non-approved plastic pipe.
- To conserve energy and minimize heat loss, insulation of the hot water piping is recommended.

NOTICE

The flow rate of hot water may vary when more than two outlets (faucets, appliances, fixtures, etc) are being used simultaneously.

NOTICE

The pipes MUST be completely drainable. If the hot water faucets are located at a point higher than the water heater, place a drain valve at the lowest point (see diagram to the below).



Relief Valve

A new pressure relief valve (not supplied), complying with the Standard for relief Valves and Automatic Gas Shut-Off Devices for Hot Water Supply Systems, ANSI Z21.22, must be installed at the hot water outlet connection of the water heater at the time of installation. Local codes shall govern the installation of relief valves.

For safe operation of the water heater, be sure that:

- The pressure rating of the relief valve must not exceed 150 PSI, the maximum working pressure of the water heater as marked on the rating plate.
- The BTU/Hr rating of the relief valve must equal or exceed the BTU/Hr input of the water heater as marked on its rating plate.
- No valve of any type should be installed between the relief valve and the water heater.
- Discharge from the relief valve should be piped to a suitable drain to eliminate potential water damage. Piping used should be of a type approved for the distribution of hot water.
- HOT and COLD water lines should be insulated up to the water heater, but not covering any connections.
- The discharge line must be NO SMALLER than the outlet of the valve and must pitch downward to allow complete drainage (by gravity) of the relief valve and discharge line.
- The end of the discharge line should not be threaded or concealed and should be protected from freezing.
- No valve of any type, restriction, or reducer coupling should be installed in discharge line.

NOTICE

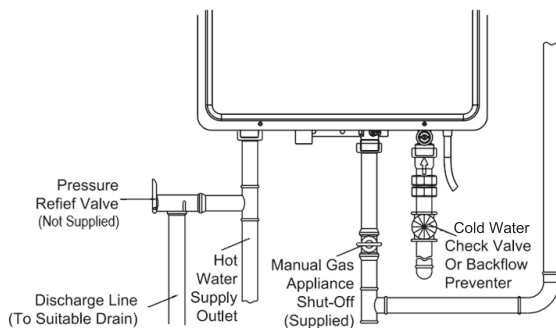
The diagram below illustrates a pressure only relief valve. If local codes require a combination temperature and pressure relief valve be installed, an extension piece may be needed.

Local codes govern the installation of relief valves. If local codes require that a temperature and pressure relief valve should be installed the manufacturer recommends a type 40XL Watts T&P relief valve or an equivalent model be used.

Manual operation of relief valves should be performed at least once a year. Turn off the electrical power and manual gas appliance shutoff valve. Lift and release lever on the relief valve and check the manual operation of the relief valve.

You should take precautions to avoid contact with the hot water coming out of the relief valve and to prevent water damage.

If the relief valve on the system discharges periodically, this may be due to thermal expansion in a closed water supply system. Contact the water supplier or local plumbing inspector on how to correct this situation. Do not plug the relief valve.



Gas Supply

⚠ WARNING

Do not attempt to convert this water heater for use with a different type of gas other than the type shown on the rating plate. Such conversion could result in hazardous operating conditions.

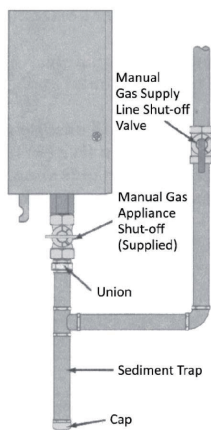
Only have a professional connect the gas pipe.

The supplied manual gas appliance shut-off valve must be installed at the gas connection of the water heater at the time of installation.

The branch gas supply line to the water heater should be a clean black steel pipe or other approved gas piping material.

A ground joint union or ANSI design certified semi-rigid or flexible gas appliance connector should be installed in the gas line close to the water heater.

The National Fuel Gas Code (NFGC) mandates a manual gas shut-off valve: See NFGC for complete instructions.



A sediment trap should be installed at the bottom of the gas line. The inlet gas pressure to the water heater must not exceed 10.5" WC.

For purposes of input adjustment, the minimum inlet gas pressure (with main burner on) is shown on the water heater rating plate. If high or low gas pressures are present, contact your gas supplier for correction.

The water heater and its individual manual gas appliance shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of $\frac{1}{2}$ PSI (14" WC or 3.5 kPa). The water heater must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than $\frac{1}{2}$ PSI (14" WC or 3.5 kPa).

DO NOT use excessive force (over 31.5 ft lbs.) in tightening the pipe, particularly if pipe compound is used, as the unit may be damaged.

The compound used on the threaded joints of the gas piping must be of the type resistant to the action of natural gas. Use compound sparingly and use on male threads only.

Leak Testing

⚠ WARNING

Never use an open flame to test for gas leaks, as property damage, personal injury, or death could result. The water heater and its gas connections must be leaktested at normal operating pressures before it is placed into operation.

- Turn on the gas shut-off valve(s) to the water heater.
- Use a commercial leak detector or soapy water solution to test for leaks at all connections and fittings.

Bubbles indicate a gas leak that must be corrected.

All connections should also be leak tested after the water heater is placed into operation.

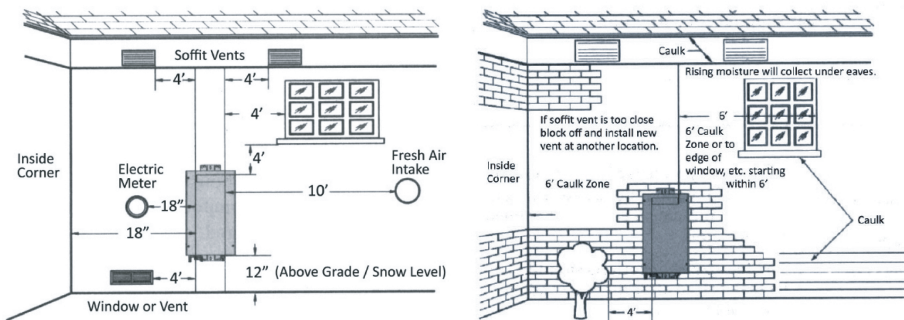
Pressure Testing the Gas Supply System

⚠ WARNING

Install a gas pressure regulator in the gas supply line which does not exceed the maximum supply pressure. DO NOT use an industrial type gas regulator. The water heater must be isolated from the gas piping system by closing the manual gas shut-off valve during any pressure testing of the gas supply piping at pressures equal to or less than 1/2 PSI (14" wc).

Flue Terminal Location

The location of the vent terminal depends on the following minimum clearances and considerations (see illustration):



Additional Considerations

⚠ WARNING

Moisture in the flue gas will condense as it leaves the flue terminal. In cold weather this condensate can freeze on the exterior wall, under the eaves and on surrounding objects. Some discoloration to the exterior of the building is to be expected. However, improper location or installation can result in severe damage to the structure or exterior finish of the building. Code requirements are subject to change and may vary by location. Twelve (12) inches above grade level and above normal snow levels. Four (4) feet below, or four (4) feet horizontally from any door, window, soffit, under eave vent or gravity air inlet to the building or other appliances, or from gas or electric meters. Do not locate vent above walkways, doors, windows, air inlets, gas or electric meters or other equipment. Ten (10) feet from any forced air inlet to the building. Any fresh or make-up air inlet such as for a dryer or furnace area is considered to be a forced air inlet. Eighteen (18) inches from an inside corner formed by two exterior walls. DO NOT install vent terminal under any patio/deck or too close to shrubbery, as flue gases or condensate vapor may become a nuisance or hazard and may cause property damage. Condensate vapor could cause damage and be detrimental to the operation of regulators, relief valves, or other equipment. To help prevent moisture from freezing on walls and under eaves, do not locate vent terminal on the side of a building with prevailing winter winds. The appliance must be located as close as practicable to a chimney or gas vent. Caulk all cracks, seams and joints within six (6) feet of vent terminal.

All painted surfaces should be primed to lessen the chance of physical damage. Painted surfaces will require maintenance.

Use of cellular core PVC (ASTM F891), cellular core CPVC, or Radel (polyphenylsulfone) in non-metallic venting systems is prohibited. Covering non-metallic vent pipe and fittings with thermal insulation is prohibited.

DO NOT connect to a chimney flue serving a separate appliance designed to burn solid fuel.

MWARNING: Field wiring connections and electrical grounding must comply with local codes, or in the absence of local codes, with the latest edition of the National Electrical Code, ANSI/NFPA 70, or in Canada, Canadian Electrical Code, CSA C22.1 Part 1.

Remote Control Installation & Connection

The following are considerations for determining the location of the remote control(s):
DO NOT install any remote control outdoors.

Place remote control(s) out of children's reach.

The remote control(s) can be installed in convenient locations such as the kitchen, laundry room, or utility room. The included remote control can be placed in a convenient location in a bathroom, however, AVOID areas where water may come into contact with the control(s).

Avoid areas where the remote control(s) may be exposed to heat, e.g stove ranges or heaters.

Avoid areas where the remote control(s) may be subjected to oil and/or steam from cooking.

Avoid areas where chemical agents (such as thinner, benzine and alkaline) are used.

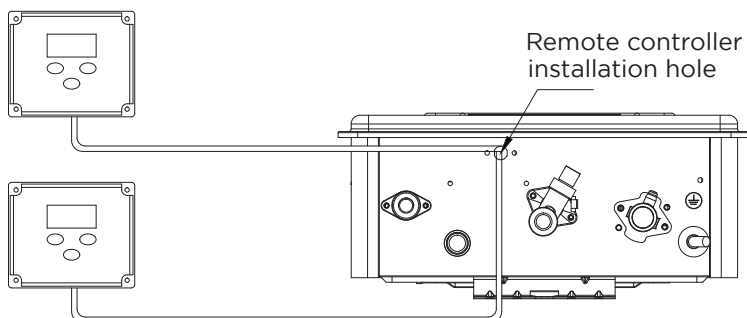
Avoid areas of direct sunlight.

The MAXIMUM distance between the appliance and the remote control(s) installation location is limited to 50 feet. No other manufacturer's controls are suitable for use with this appliance.

DO NOT attempt to disassemble the remote control.

Remote Control Connection (For Panel Control/Remote Control and Remote Control Units)

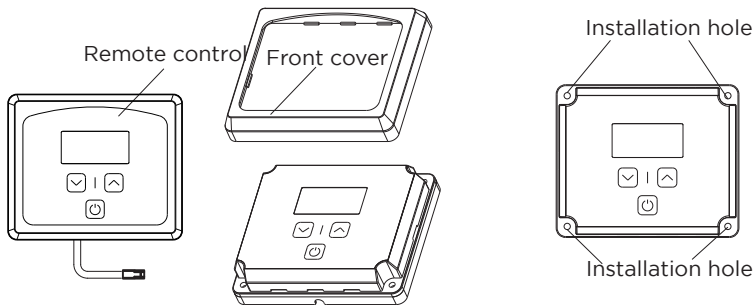
The appliance is able to connect three Panel Control/Remote Control units at most. Plug the aviation joint through the installation hole and connect to the PCB (see the electric wiring diagram) in the appliance. (see illustration below)



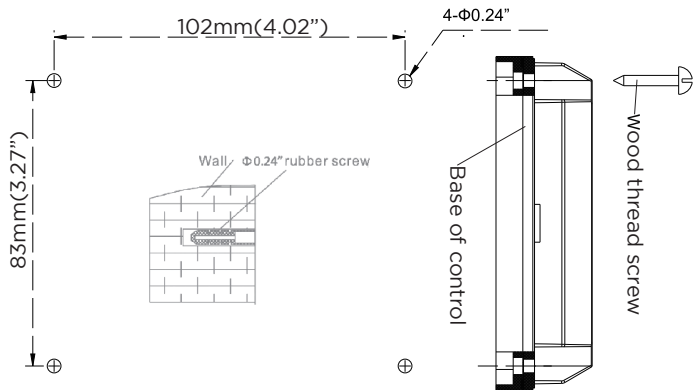
If multiple controller are installed,the number for the second and third controller shall be set before use.Press “^” and “v” code on the controller for 3 seconds,and the screen shows “0X”,press“^” and “v”to set the number “02” and “03” for the second and third controller,then quit by pressing power button.

Installation of Remote Control

1. Remove the front cover of the Remote Control. (See illustration below)



2. At installation site, mark and screw two holes with 0.24” with 1.2” depth. Insert 4rubber screws into the holes. Place the remote control against the wall, align the holes of control with the holes in the wall, and fasten them with wood thread screws.(See illustration below)



3. Replace the front cover on the remote control.

Electrical Connections

Powercord

- The electric power supply requirement for this water heater is 120 VAC/60Hz, 2 Amps.
- The water heater comes with a three (3) pin power supply cord. Use only a power outlet with a ground terminal.
- The installation of an electric leakage breaker (GFCI) is recommended.
- Keep any excess of the power supply cord on the outside of the water heater.
- If local codes require hardwiring, see instructions for "HARDWIRING THE ELECTRICAL CONNECTIONS" below.

WARNING

Shock hazard line voltage is present. Before servicing the water heater, turn off the electrical power to the water heater at the main disconnect or circuit breaker. Failure to do so could result in severe personal injury or death. Additionally, it is recommended to unplug the power cord from the outlet serving the unit and wait at least ten (10) seconds after disconnecting before servicing the unit.

Hard Wiring the Electrical Connections

WARNING

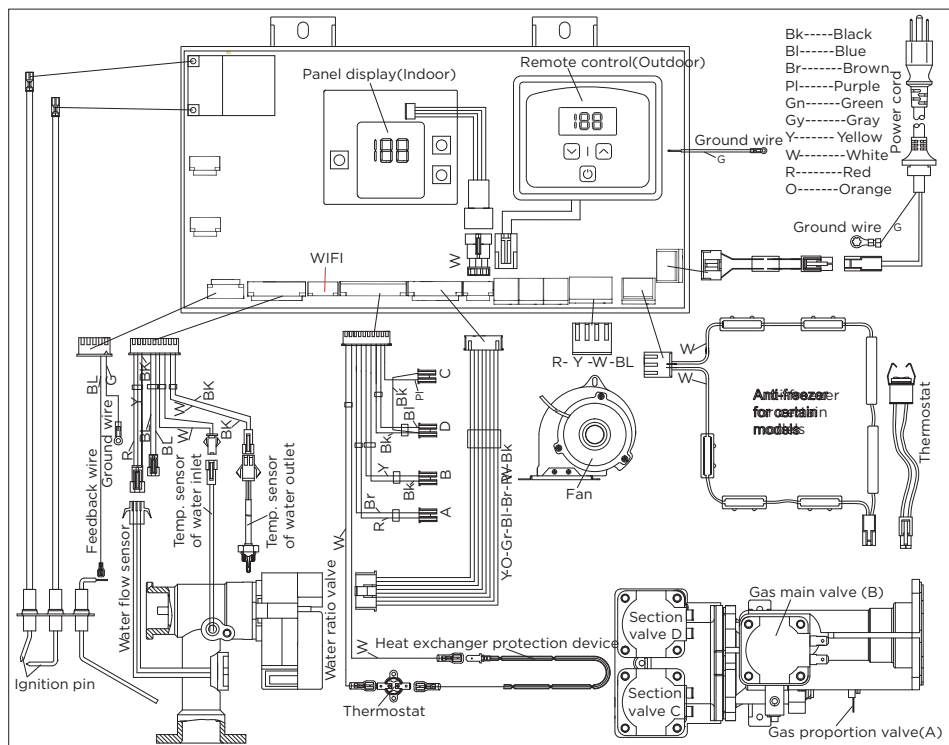
Field wiring connections and electrical grounding must comply with local codes, or in the absence of local codes with the latest edition of the National Electrical Code ANSI/NFPA 70.

- Wiring should be carried out by a qualified electrician in accordance with local codes.
- The water heater requires 120 VAC/60Hz and should be properly grounded.
- DO NOT connect grounding wire to water pipes, gas pipes, telephone cables, lightning conductor circuits and to grounding circuits of other equipment that carry a ground-fault interrupter.
- An ON/OFF switch must be provided and installed for incoming 120 VAC power.
- Wire the water heater exactly as shown below. A wiring diagram is also found inside the cover panel.
- A green screw is provided in the junction box for grounding connection.
- Connect the live wire to black leg wire and neutral wire to the white neutral wire.

CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify correct operation after servicing.

Electric Wiring Diagram



Insulation Blankets

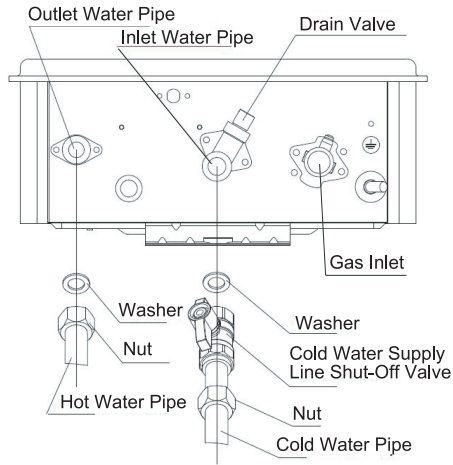
⚠ WARNING

Do not use an insulation blanket with this product.
Utilizing an external insulation blanket will void this product's warranty.
For increased energy efficiency, please use pipe insulation.

Pipe Installation

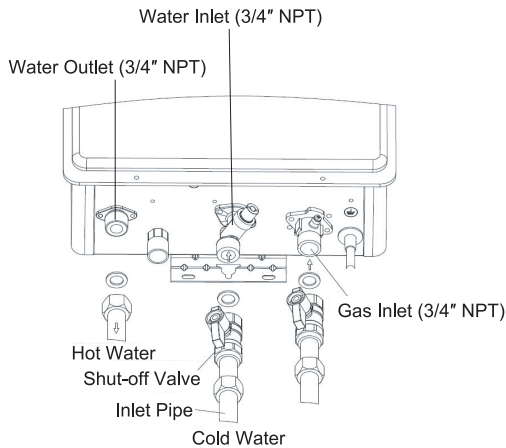
Powercord

Use pressure resistant pipe to connect the inlet and outlet water pipes of the water heater and the local water pipe (Make sure to place a rubber gasket (supplied) when connecting). Before connecting the inlet water pipe, flush the inside of the pipe.



Hot And Cold Pipe Insulation

When installing pipe insulation, please install the insulation according to the manufacturer's instructions making sure to insulate all the way to the top of the pipe to the nut. Do not cover any drain or pressure valve(s).



During Installation of This Water Heater

MUST DO

- DO check inlet gas pressure to ensure that it is within the range specified on the rating plate.
- DO provide adequate air for combustion and ventilation as discussed in this Manual and the National Gas Code.
- DO maintain proper clearances to combustibles as specified by applicable code.
- DO ensure that the flue terminal location complies with the guidelines found in this Manual and National Fuel Gas Code.

DO NOT

- DO NOT block or restrict Air Intake Opening located on the back side of the water heater.
- DO NOT remove the front cover unless necessary and mandatory.
- DO NOT install this product where standing water may occur.

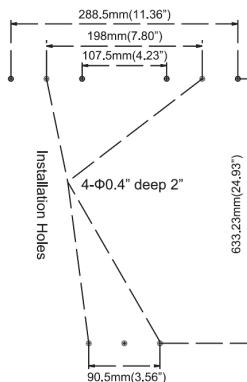
Mounting the Water Heater

Make sure the location of the water heater allows for easy access and operation. In case of dry wall or concrete wall, use dry wall anchors or lag bolts.

The water heater requires 120 VAC/ 60Hz. Have a receptacle with ground terminal near the water heater. The length of the power supply cord is five (5') feet.

Drill the holes as per the sizes in the figure to the right, put two (2) expansion screws into the top holes, and two (2) plastic expansion inserts into the bottom holes.

Hang up the water heater unit, tighten the expansion screws, and put two (2) wood thread screws into the bottom holes.



⚠ CAUTION

Reinforcement of the wall is required in case the wall is not strong enough to hold the water heater.

Installation Check List

A. Water Heater Location

- Installed indoors.
- Close to area of mostly used outlet.
- Protected from freezing temperatures.
- Proper clearance from combustible surfaces observed.
- Sufficient fresh air supply for proper operation of water heater.
- Air supply free of corrosive elements and flammable vapors.
- Provisions made to protect area from water damage.
- Sufficient room to service heater.
- Combustible materials, such as clothing, cleaning materials, rags, etc. clear of the heater and vent piping.
- Water heater is properly attached to the wall.

B. Water Supply

- Water supply has sufficient pressure.
- Water quality is within operating parameters as outlined on Page 29.
- Air purged from water heater and piping.
- Water connections tight and free of leaks.
- Water filter is clean and in place.
- Materials used are as instructed in this manual.
- Water pipes are insulated.

C. Relief Valve

- Pressure Relief Valve properly installed and discharge line run to open drain.
- Discharge line protected from freezing.

D. Gas Supply

- Gas type matches rating plate.
- Gas supply pressure is sufficient for the water heater.
- Gas line equipped with shut-off valve, union, and sediment trap.
- Approved pipe joint compound used.
- Commercial leak detector or soap and water solution used to check all connections and fittings for possible gas leak.
- Gas company inspected installation (if required).

E. Electrical Wiring

- Voltage matches rating plate.
- Water heater is properly grounded.
- Wiring meets all local codes.
- GFCI Protection where required.

OPERATION INSTRUCTIONS

Lighting the Water Heater

Before operating this water heater, be sure to read and follow the instructions on the label pictured on the following page and all other labels on the water heater, as well as the warnings printed in this manual. Failure to do so can result in unsafe operation of the water heater resulting in property damage, personal injury, or death. Should you have any problems reading or following the instructions in this manual, STOP and get help from a qualified service technician.

For your Safety Before Using the Water Heater

WARNING

If you do not follow these instructions exactly, a fire or explosion may result in causing property damage, personal injury, or loss of life.

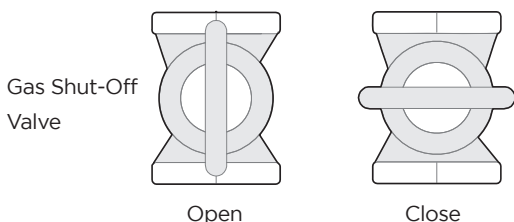
- A. This water heater does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. BEFORE OPERATING smell all around the water heater area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor. Test all connections with a commercial leak detector or soapy water.

What To Do If You Smell Gas

-  **DO NOT** try to light any appliance.
-  **DO NOT** touch any electric switch.
-  **DO NOT** use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier or fire department.
 -  **DO NOT** return to your home until authorized by the gas supplier or fire department.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
-  **DO NOT** use this water heater if any part has been under water. Immediately call a qualified service technician to inspect the water heater and to replace any part of the control system.

Operating Instructions

1. STOP! Read the safety information in previous page.
2. Turn off all electric power to the water heater.
- 3 Set the thermostat to lowest setting.
4. DO NOT attempt to light the burner by hand.
5. Turn the Gas Shut-off Valve located on the outside of the unit clockwise to the “CLOSE” / “OFF” position.
6. Wait five (5) minutes to clear out any gas. If you smell gas, STOP! Follow “B” in the safety information above on this label. If you don’t smell gas, go to the next step.
7. Turn the Gas Shut-off Valve located on outside of the unit counterclockwise to the “OPEN” position.
8. Turn on all electric power to the water heater.
9. Set thermostat to desired setting.
10. If the water heater will not operate, follow the instructions below “TO TURN OFF GAS TO WATER HEATER” and call your service technician or gas supplier.



To Turn off Gas to Water Heater

1. Turn off all electric power to the water heater if service is to be performed.
2. Turn the Gas Shut-off Valve located on the outside of the unit clockwise to the “CLOSE” / “OFF” position.

NOTE: THIS MANUAL AND ALL KINGS PEAK CONTENT IS SUBJECT TO CHANGE WITHOUT NOTICE.

Operating the Water Heater

Turning on the Water Heater

1. Make sure the gas type you will use is the same as the type on the data plate.
2. OPEN the main gas valve, plug in the power cord (be sure the socket is well grounded), and press the “ON/OFF” button on the control panel. Set temperature to desire temperature (e.g. 120°F).
3. Turn on a hot water faucet, and the fan will start working. You will hear the ignition sound for a few seconds and the burner will ignite and hot water will come out. If the burner is not ignited successfully, the ignition click sound will last more than a few seconds. If the burner still fails to ignite, turn off the faucet and wait for 10-20 seconds, and repeat the above procedures.

For first use and/or if the water heater has not been used for a considerable period of time, repeating the above procedures may be required due to accumulated air inside the gas pipe.

Safety Precautions

If there is any difficulty in understanding or following the “OPERATING THE WATER HEATER” instructions or the “CARE AND CLEANING” Section, it is recommended that a qualified person or serviceperson perform the work.

- DO CLOSE the manual gas shut-off valve if water heater has been subjected to overheating, fire, flood, physical damage, or if the gas supply fails to shut off.
- ⊘ **DO NOT** turn on the water heater unless water and gas supplies are fully opened.
- ⊘ **DO NOT** turn on the water heater if cold water supply shut-off valve is closed.
- ⊘ **DO NOT** allow combustible materials such as newspaper, rags, or mops to accumulate near water heater.
- ⊘ **DO NOT** store or use gasoline or other flammable vapors and liquids, such as adhesives or paint thinner, in vicinity of this or any other appliance. If such flammables must be used, open doors and windows for ventilation and all gas burning appliances in the vicinity should be shut off including their pilot lights to avoid vapors lighting.

NOTICE: Flammable vapors can be drawn by air currents from surrounding areas to the water heater.

Operating the Water Heater

DANGER

There is a hot water scald potential if the temperature is set too high. Households with small children, disabled, or elderly persons may require a 120°F or lower temperature setting to prevent contact with excessively hot water.

Water Temperature	Time To Produce a Serious Burn
120° F	More than 5 minutes
125° F	IV2 to 2 minutes
130° F	About 30 seconds
135° F	About 10 seconds
140° F	Less than 5 seconds
145° F	Less than 3 seconds
150° F	About 11/2seconds
155° F	About 1 second

Table courtesy of Shriners Burn Institute

Output temperature of water is regulated by setting the temperature on the display. Safety factors should be considered when selecting the water temperature setting of the water heater's control. The control was set at 120°F before the water heater was shipped from our factory. This is the recommended starting point.

Be sure to read and follow the warnings outlined in this manual and on the label located on the water heater. Mixing valves are available for reducing point of use water temperature by mixing hot and cold water in branch water lines.

Set Temperature Memory

- This water heater contains an electronically controlled thermostat. The temperature range can be set between 90° F and 140° F.
- The control is factory preset to 120° F.
- To turn the control ON or OFF, press and hold the POWER button for more than three (3) seconds.
- To adjust the temperature to a desired setting, press the UP or DOWN temperature buttons.

Press and hold UP or DOWN to raise or lower the temperature continuously until desired temperature is reached.

- When the unit is on and in use, the set temperature can only be increased to 122° F, but there is no limit to temperature decrease. To increase the temperature more than 122° F, the water heater will need to be shut off first.

NOTICE

If the inlet water temperature is high, and set temperature is low, the actual temperature might be higher than the set temperature.

- The display will read the set temperature if the water heater is not in use or there is no water flow. If the water heater is in use or has water flow, the display will read the actual temperature. To view the set temperature in this condition, press UP or DOWN and the set temperature will flash for three (3) seconds.
- The hottest temperature water will be at the hot water faucet closest to the water heater.
- Always remember to test the water temperature with your hand before use and remember that hotter water increases the risk of a scalding injury.
- Always supervise young children or others who need special assistance.
- If the water heater has been subjected to fire, flood, or physical damage, CLOSE the manual gas shut-off valve, and do not operate the water heater again until it has been checked by qualified personnel.

WARNING

Should overheating occur or the gas supply fails to shut off, CLOSE the manual gas shut-off valve to the water heater.

CLEANING AND MAINTENANCE

Water Quality

Proper maintenance of the water heater is required to ensure that your water meets EPA quality standards.

- The following table shows the maximum contaminant levels allowed based on the EPA National Secondary Drinking Water Regulations (40 CFR Part 143.3).
- Water quality conditions outside of these parameters may void product warranty and may impact your health.

Contaminant	Maximum Allowable Level
Total Hardness	Up to 200 mg/l (12 grains/gallon)
Aluminum	0.05 to 0.2 mg/l
Chloride	Up to 250 mg/l
Copper	Up to 1.0 mg/l
Iron	Up to 0.3 mg/l
Manganese	Up to 0.05 mg/l
PH	6.5 to 8.5
Sulfate	Up to 205 mg/l
Total Dissolved Solids (TDS)	Up to 500 mg/l
Zinc	Up to 5 mg/l
Chlorine	Up to 4 mg/l

Notice

If you suspect that your water is contaminated in any way, discontinue use of the water heater, and contact an authorized technician or licensed professional.

Care and Cleaning of the Water Heater

Routine Preventative Maintenance

DANGER

Before manually operating the relief valve, make certain no one will be exposed to the danger of the hot water released by the valve. The water may be hot enough to create a scalding hazard. The water should be released into a suitable drain to prevent injury or property damage.

DANGER

Hotter water increases the potential for hot water scalds.

Properly maintained, your water heater will provide years of dependable trouble-free service. It is recommended that a periodic inspection of the burner, relief valve, water filter, and venting system should be made by service personnel qualified in gas appliance repair.

It is suggested that a routine preventive maintenance program be established and followed by the user.

At least once a year, lift and release the lever handle on the pressure relief valve, located in the hot outlet piping of the water heater, to make certain the valve operates freely. Allow several gallons to flush through the discharge line to an open drain.

Rapid closing of faucets or solenoid valves in automatic water using appliances may cause a banging noise heard in a water pipe. Strategically located risers in the water pipe system or water hammer arrestors can be used to minimize this problem.

Inspect the area around the water heater to ensure a safe operating environment. Keep the water heater area clear and free from combustible materials, gasoline, and other flammable vapors and liquids.

Ensure the unit has not been damaged. If damage or denting to the appliance is present, contact a service personnel to verify proper operation.

Check for any abnormal sounds during normal operation of the water heater.

All piping should be checked for gas and/or water leaks. Refer to the "LEAK TESTING" section on Page 17 of this manual for instructions on how to test.

The air intake and cold water supply filter should be cleaned monthly. Refer to the "HOW TO CLEAN THE WATER FILTER" section on Page 31 for further information.

DO NOT operate the water heater if you feel something is wrong with the water heater.

DO NOT allow children to operate or otherwise handle the water heater.

DANGER

Failure to perform the recommended routine preventative maintenance can harm the proper operation of this water heater, which can cause carbon monoxide dangers, excessive hot water temperatures, and other potentially hazardous conditions.

NOTICE

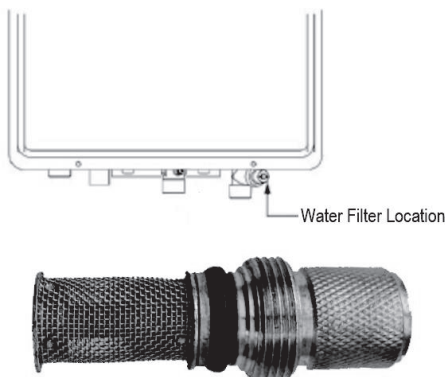
If the pressure relief valve on the hot water heater discharges periodically, this may be due to a problem in the water system. Contact the water supplier or your plumbing contractor on how to correct this. DO NOT plug the relief valve outlet.

NOTICE

After inspection, maintenance, and/or cleaning, ensure proper operation by turning on a hot water faucet.

How to Clean the Water Filter

1. Make sure the unit is OFF, the power cord is unplugged, and the electrical power supply has been disconnected at the circuit breaker.
2. CLOSE the water supply to the heater.
3. Unscrew the water filter and slide the filter out.
4. DO NOT tap the filter as it may deform and/or damage the filter.
5. To remove severe debris, use a soft brush and wash with running water.
6. Return the filter to the water heater and screw in the filter.
7. Plug in the power cord to the outlet and reconnect the electrical power supply and OPEN the cold water supply to the water heater.
8. The water filter should be cleaned on a monthly basis.



Water Filter Unscrewed from Appliance

Six (6) Month Cleaning Routine

To prevent water scale, lime, or rust deposit buildup and ensure your new tankless water heater is running as efficiently as possible, it is highly recommended that you clean your tankless water heater every 6 months. We recommended using a descaling kit, such as the Kings Peak EZ-Descale Kit, available at our website, www.kingspeakhome.com. Before performing any cleaning and maintenance tasks to this water heater, be sure to turn the unit OFF and disconnect the power supply.

Vacuum around the water heater for dust, debris, and lint on a regular basis. Clean the exterior of the water heater by using a damp soft cloth with a few drops of mild detergent and gently wiping the surfaces of the unit. Wipe any remaining moisture with a dry soft cloth.

To ensure sufficient ventilation and combustion air supply, proper clearances must be maintained.

Cleaning the Exterior of the Water Heater

- Make sure the unit is OFF and the electrical power supply has been disconnected.
- DO NOT scrub the appliance with a brush.
- Use only mild soapy water, other cleaners may damage the surface of the water heater.
- DO NOT remove any label including the rating plate while cleaning or servicing.

DANGER

Shock Hazard. Make sure the electrical power to the water heater is off to avoid potential serious injury or damage to components.

DANGER

Combustible materials, such as clothing, cleaning materials, or flammable liquids, etc., must not be placed against or next to the water heater.

Vacation and Extended Shut-down

If the water heater is to remain idle for an extended period, the power and water to the appliance should be turned off.

The water heater and piping should be drained if they might be subjected to freezing temperatures.

After a long shut-down period, the water heater's operation and controls should be checked by qualified service personnel.

Anti-freezing Electric Warming System

An Anti-Freezing system inside the unit will help to protect from near to slightly below freezing temperatures, it will in no way guarantee protection from water freezing damage. DO NOT rely on the anti-freezing system to fully protect the unit from freezing, especially when exposed to extreme cold environments. Take all precautions to prevent extreme cold damage the unit.

NOTICE

The anti-freezing device works for the water heater unit, and not the inlet nor outlet water pipes.

WARNING

Freezing at any point within the plumbing system may result in damage to the water heater, such as a rupture in your heat exchanger. All pipes must be adequately protected from freezing.

This unit is equipped with an automatic heating system that will help to avoid freeze damage, but the power to the unit and the unit itself must remain ON. Freezing will occur with no power or power loss. In colder areas, where the air temperature around the unit is at or under 32° F, freezing will occur if the heating power limit of the anti-freeze system is exceeded. If these conditions take place, please follow the procedures explained below.

Draining Procedure

When the temperature falls below 32° F, water in your plumbing system or water heater can turn to ice and then expand, causing damage to the water heater. This damage is not covered under the Limited Product Warranty. If these conditions are anticipated or have been experienced, please drain the water heater as follows to help, but not guarantee, protection from freezing water damage:

Draining the Water Heater

1. CLOSE the main gas valve and unplug power to the unit. Disconnecting the breaker serving the outlet for this unit at the breaker box is strongly recommended for your safety. For extra precaution, we recommend waiting at least ten seconds after disconnecting power to the unit to move to step 2.
2. CLOSE the water Shut-off inlet water valve.
3. OPEN all faucets, cold water should be coming out of all hot water faucets, bypassing the hot water heater.
4. OPEN the drain valve and allow water to drain for three (3) minutes or until the unit is empty.
5. Once you are sure all water is out of the unit, CLOSE the drain valve and shut the faucets.

⚠ WARNING

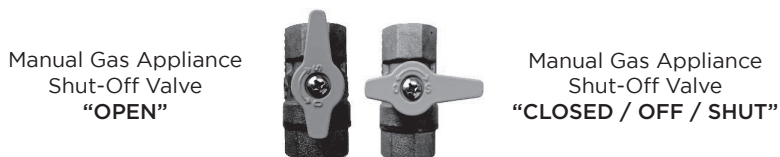
Failure to follow these instructions while draining the water heater can cause serious damage to the water heater as well as personal injury including scalding.

Resuming Operation Of The Unit

1. Reattach the water filter, if previously removed for cleaning.
2. OPEN a hot water faucet, then close the hot water outlet drain valve from the unit.
3. OPEN the water shut-off valve and close again after making sure that water comes out from hot water faucets. (This step is to remove air from the water lines.)
4. Reconnect the power plug of the unit to an outlet.
5. Reconnect the breaker at the breaker box that serves the outlet for this unit.
6. Turn the on/off switch to the ON position, fully OPEN the gas shut-off valve and the water shut-off valve.
7. Ensure hot water is now available from the open faucet from step 2 above.

NOTICE

The water heater may not operate unless the above procedure is followed correctly.



TROUBLESHOOTING

Before Inquiring to Customer Service

Troubleshooting Tips

Save time and money! Review the charts below first and you may not need to call for service. This water heater incorporates a variety of shut off devices that prevent the operation of the water heater if undesirable combustion conditions occur, such as the presence of a blockage of the combustion air vent, or insufficient gas or gas pressure which can impact the safe operation of the water heater. Please contact a qualified service technician if this occurs.

Problem	Possible Cause	Possible Solution
Not enough or no hot water	Water shutoff valve is not fully opened	Check shutoff valve and open fully
	Hot water faucet is not fully opened	Open hot water faucet completely (The main burner goes off when incoming water volume is inadequate)
	Water pipes are frozen	Allow pipes to thaw, DO NOT USE APPLIANCE until pipes are un-frozen
	No electricity or water supply is cut off	Check that proper power is being supplied and/or water supply is adequate
	Unit is not "ON"	Turn the unit "ON"
	The temperature may be set too low	Increase the temperature setting
	Mixing Valve malfunction (if applicable)	Check and replace if necessary
	Error code displayed on the control display panel	See instructions for Error Codes on Page 34
	Water filter is clogged	Clean the filter with a toothbrush
	Water shutoff valve is not fully opened	Check shutoff valve and open fully
	Small amount of water has been heated	Allow more water to flow

Problem	Possible Cause	Possible Solution
Water not hot enough	The temperature may be set too low	Increase the temperature setting
	The gas valve is not fully opened	Check and open the gas valve fully
Water too hot	The temperature is set too high	Decrease the temperature setting
Fan continues to rotate after hot water faucet is closed	This function is to purge unburned gas for 10-15 seconds	Normal operation. There is no need to call for service
An error code is showing on the display	The unit has detected an abnormal operation	Please see the next page for Error Code Explanations and Potential Solutions

Error Code Guide and Possible Solutions

When an Error Code is Displayed

- Close the hot water faucet, turn OFF the unit using the power button on the unit.
- Wait for about five (5) minutes before turning the power ON to the unit.
- Open a hot water faucet.

If the Error Code remains displayed on the unit:

- Close the hot water faucet and turn OFF power to the unit using the button on the unit.
- Review the Error Code chart below and try the potential solution for the associated code displayed.
- Resume use of the hot water faucet.

If the Error Code still displays on the unit:

- Close the hot water faucet and turn OFF power to the unit using the button on the unit.
- Call customer service at (855)855-4647 for further assistance.

Error Code	Error Description	Potential Solution
E0	Water outlet temperature sensor failure	Connect the water outlet temperature sensor
		Replace the water outlet temperature sensor
E1	Accidental flameout failure	Turn off the hot water faucet or turn OFF the power button on the display
E2	Fake flame failure	Turn off the hot water faucet or turn OFF the power button on the display
E3	Thermostat failure	Connect the thermostat

Error Code	Error Description	Potential Solution
E3	Thermostat failure	Replace the thermostat
E4	Water outlet sensor recorded an "overtemperature" alert failure	Connect the water outlet temperature sensor
		Replace the water outlet temperature sensor
E5	Fan failure	Connect the fan
		Replace the fan
E6	Solenoid valve failure	Connect the valve
		Replace the valve
EE	Timeout fault	Turn off the hot water faucet or turn OFF the power button on the display
C0	Ignition failure	Turn off the hot water faucet or turn OFF the power button on the display
C1	Residual flame failure	Turn off the hot water faucet or turn OFF the power button on the display
C4	Vent blockage	Clean the vent pipe
F2	Cold water inlet temperature sensor failure	Connect the water inlet temperature sensor
		Replace the water inlet temperature sensor

NOTICE

If an Error Code other than those listed in the chart below is displayed, immediately close the hot water faucet, take note of the Error Code, turn OFF power to the unit, and call the customer assistance number on the warranty card.

WARNING

For your safety, DO NOT attempt to repair gas piping, the display, burners, vent connectors, or other safety devices. Refer all repairs to qualified service personnel. This product is not serviceable by the end consumer outside of the remedies outlined in the "TROUBLESHOOTING TIPS" and "ERROR CODES" sections of this manual. Failure to defer service to a professional may result in property damage, injury, and/or loss of life.

DANGER

Make sure the unit is OFF, the power cord fully disconnected from the outlet, and the power to the outlet that services this unit is disconnected at the breaker before removing the protective front panel cover FOR ANY REASON.

CERTIFICATIONS AND SAFETY APPROVALS

Declaration of Conformity

Certifications and Safety Approvals
Declaration of Conformity
We hereby confirm that the following customer model names and Midea model names match each other respectively

Brand	Midea model	Marketing Model
Midea	JSW40-20VHS-NG	MGWH150OSNN
	JSW40-20VHS-LP	MGWH150OSPN
	JSW52-26VHS-NG	MGWH199OSNN
	JSW52-26VHS-LP	MGWH199OSPN

NSF Compliance: Fabricate and label equipment components that will be in contact with potable water to comply with NSF 61 and NSF 372
CSA Compliance: Gas Water Heaters, Volume III, Gas Fired Automatic Storage Type Water Heaters with Input Ratings above 75,000 BTUH, Circulating and Instantaneous.

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All the described functions and instructions were up to date at the time of printing this manual. However, the actual product may vary due to improved functions and designs.

DISPOSAL AND RECYCLING

Important Instructions for Environment

Compliance with the WEEE Directive and Disposing of the Waster Product:
This product complies with EU WEEE Directive (2012/19/EU). This product bears a classification symbol for waster electrical and electronic equipment (WEEE).

This symbol indicates that this product shall not be disposed with other household wastes at the end of its service life. Used device must be returned to official collection point for recycling of electrical electronic devices. To find these collection systems please contact to your local authorities or retailer where the product was purchased. Each household performs important role in recovering and recycling of old appliance. Appropriate disposal of used appliance helps prevent potential negative consequences for the environment and human health.



Compliance with RoHS Directive

The product you have purchased complies with EU RoHS Directive (2011/65/EU). It does not contain harmful and prohibited materials specified in the Directive.

Package Information

Packaging materials of the product are manufactured from recyclable materials in accordance with our National Environment Regulations. Do not dispose of the packaging materials together with the domestic or other wastes. Take them to the packaging material collection points designated by the local authorities.



DATA PROTECTION NOTICE

For the provision of the services agreed with the customer, we agree to comply without restriction with all stipulations of applicable data protection law, in line with agreed countries within which services to the customer will be delivered, as well as, where applicable, the EU General Data Protection Regulation (GDPR).

Generally, our data processing is to fulfil our obligation under contract with you and for product safety reasons, to safeguard your rights in connection with warranty and product registration questions. In some cases, but only if appropriate data protection is ensured, personal data might be transferred to recipients located outside of the European Economic Area.

Further information are provided on request. You can contact our Data Protection Officer via **MideaDPO@midea.com**. To exercise your rights such as right to object your personal data being processed for direct marketing purposes, please contact us via **MideaDPO@midea.com**. To find further information, please follow the QR Code.



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