

# Installation Manual

NORITZ AMERICA  
CORPORATION

## CONDENSING TANKLESS GAS WATER HEATER

EZ111DV (GQ-C3259WX-FF US)

EZ98DV (GQ-C2859WX-FF US)

Potential dangers from accidents during installation and use are divided into the following three categories. Closely observe these warnings, they are critical to your safety.

### **⚠ DANGER**

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

### **⚠ WARNING**

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

### **⚠ CAUTION**

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

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



Prohibited



Disconnect  
Power



Ground



Be sure to do

### **⚠ CAUTION**

## Requests to Installers

- In order to use the water heater safely, read this installation manual carefully, and follow the installation instructions.
- Failures and damage caused by erroneous work or work not as instructed in this manual are not covered by the warranty.
- Check that the installation was done properly in accordance with this Installation Manual upon completion.
- After completing installation, either place this Installation Manual in a plastic pouch and attach it to the side of the Water Heater (or the inside of the pipe cover or recess box if applicable), or hand it to the customer to retain for future reference.



Low NOx Approved by SCAQMD  
14 ng/J or 20 ppm  
(Natural Gas Only)



FOR USE IN RESIDENTIAL OR MANUFACTURED HOME APPLICATIONS.

Installation must conform with local codes, or in the absence of local codes, the National Fuel Gas Code, ANSI Z223.1/NFPA 54-latest edition and/or the Natural Gas and Propane Installation Code CSA B149.1 - latest edition.

When applicable, installation must conform with the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 or the Canadian Standard CAN/CSA-Z240 MH Mobile Homes, Series M86.

Noritz America reserves the right to discontinue, or change at any time, the designs and/or specifications of its products without notice.

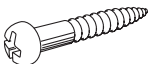
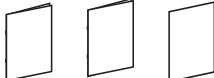
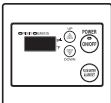

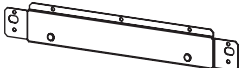
SBB80TB-3  
Rev. 04/21



\*SBB80TB\*



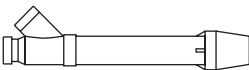

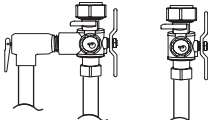

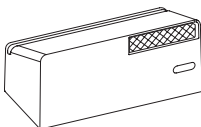
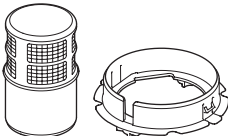
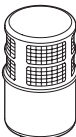
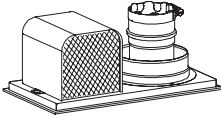
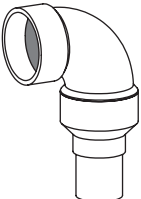
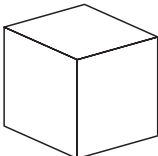
# 1. Included Accessories

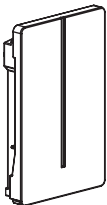


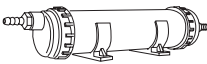
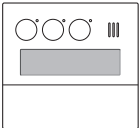
The following accessories are included with the unit. Check for any missing items before starting installation.

Part	Shape	Q'ty	Part	Shape	Q'ty
Anchoring Screw		7	Owner's Guide, Warranty, Installation Manual (this document)		1 each
Remote Controller (See p. 44)		1	Remote Controller Cord (6ft (2m))		1
Wall Mounting Bracket		1			

# 2. Optional Accessories

The accessories listed below are not included with the units, but may be necessary for installation.

Part	Shape	Q'ty	Part	Shape	Q'ty
Quick Connect Cord (QC-2)		1	Remote Controller Cord (26ft (8m))		1
PVC Concentric Termination 2"(50mm) : PVC-2CT 3"(75mm) : PVC-3CT		1	Bird Screen for 3" (75mm) PVC VT3-PVCS		2
Isolation Valves* (includes pressure relief valve)		1 each	Bird Screen for 2" (50mm) PVC VT2-PVCS		2
Outdoor Vent Cap (VC-6-1)*** (VC-6)		1	Flex Vent 2" Conversion Kit (EZ2-CK-1)		1 each
2" SV Conversion Kit (SV-CK-2-1)		1 each	Flex Vent 2" Conversion Kit (EZ2-CK)		1
2" SV Conversion Kit (SV-CK-2)		1 each	Flex Vent 2" Kit 25 Feet** (EZ2FVK-1) Flex Vent 2" Kit 35 Feet** (EZ2FVK-2)		1

Part	Shape	Q'ty	Part	Shape	Q'ty
Noritz Connect Wireless Adapter NWC-ADAPTER (NAW-1 US)		1	3"(75mm) Horizontal Hood Termination (PVT-HL)		2
Plastic Rain Cap*** (PRC-1)		1	Neutralizer (NC-1) (For 1 water heater)		1
Remote Controller (RC-9018M)		1			

Note: Additional vent pieces are available; consult the latest product catalogue for details.

\* Isolation valves are necessary for flushing the Heat Exchanger.

They allow for easy flushing of the system.

\*\* During the installation of Flex Vent 2" Kit (EZ2FVK-1 and EZ2FVK-2), ambient temperatures must be greater than 40 °F (5 °C). Afterwards, installation site ambient temperature must be greater than -4 °F (-20 °C). Flex vent pipe breakage may occur if these temperature requirements are not observed.

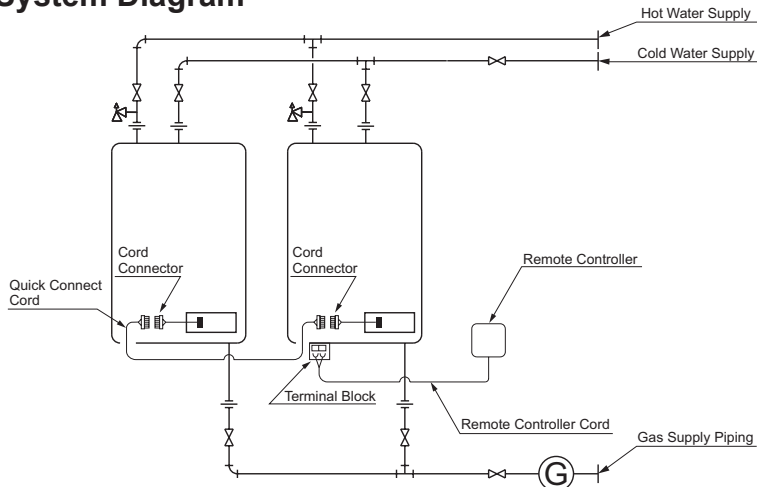
\*\*\* Not approved for use in Canada.

# 3. Quick Connect Multi System Installation

- The Quick Connect Multi System allows the installation of two units together utilizing only the Quick Connect Cord.

The Quick Connect Cord is 6 ft.(2m) long. Install the units 3-18" (75-457mm) apart from each other to ensure the cord will be able to reach between the units. (See Typical Plumbing diagram). (If the distance between the two units is too great, not only will the cord not be able to reach, but the water temperature may also become unstable because of the difference in pipe length between the two units).

## System Diagram

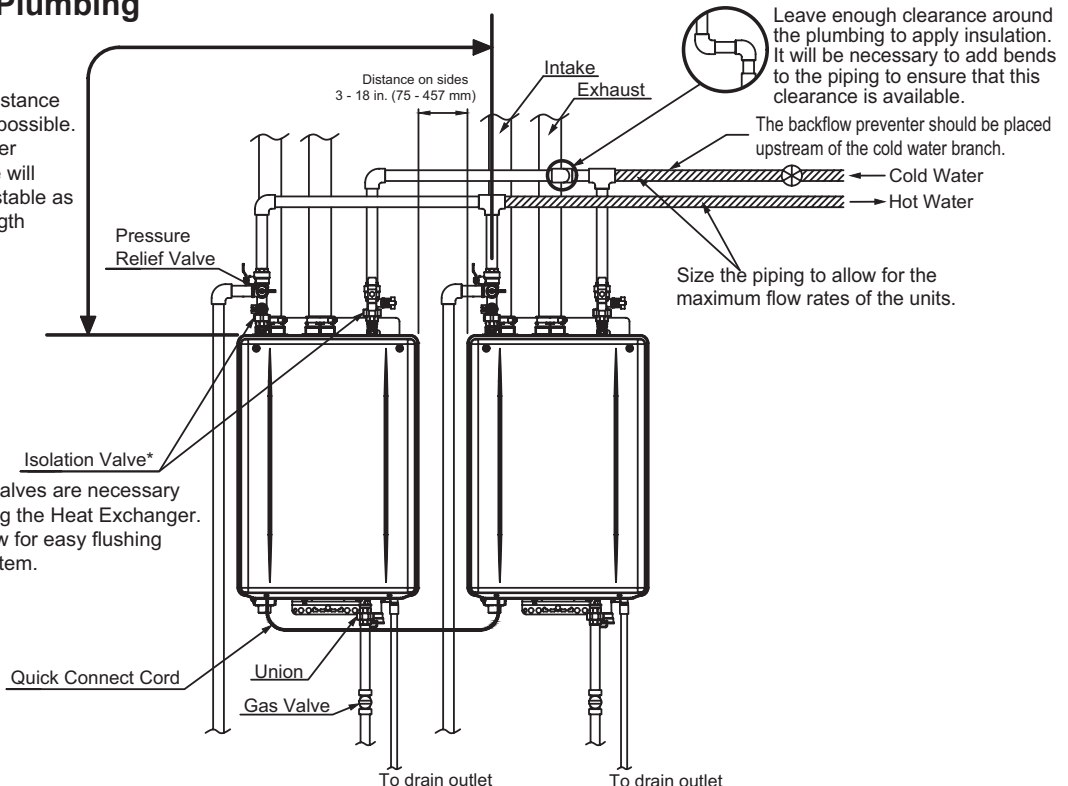


\* When connecting two units, use only a single remote controller.

**Note:** Connect the remote controller to only one of the units. Units must be same model in order to quick connect.

## Typical Plumbing

Make this distance as short as possible. The hot water temperature will become unstable as the pipe length increases.



\* Isolation valves are necessary for flushing the Heat Exchanger. They allow for easy flushing of the system.

- Insulate the hot water piping to prevent heat loss. Insulate and apply heating materials to the cold water supply piping to prevent heat loss and freezing of pipes when exposed to excessively cold temperatures.

## 4. Before Installation

### ⚠ DANGER

#### Checkup

- Check the fixing brackets and vent pipe yearly for damage or wear. Replace if necessary.

### ⚠ WARNING

#### Precautions on Vent Pipe Replacement

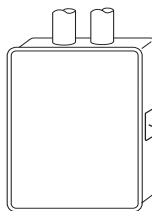
- The vent system will almost certainly need to be replaced when this appliance is being installed. Only use vent materials that are specified in this Installation Manual for use on this appliance. Refer to the "Venting the Water Heater" section for details. If PVC, CPVC, or Category IV listed pipe is already installed, check for punctures, cracks, or blockages and consult with the vent pipe manufacturer before reusing. If the flexible polypropylene pipe is already installed, replace to the new flexible polypropylene pipe. Improper venting may result in fires, property damage or exposure to Carbon Monoxide.

#### Snow Precaution

- If this product will be installed in an area where snow is known to accumulate, protect the vent termination from blockage by snow drifts or damage from snow falling off of roofs.

#### Check the Gas

- Check that the rating plate indicates the correct type of gas.
- Check that the gas supply line is sized for 199,900 or 180,000 Btuh.  
199,900 Btuh : EZ111DV(GQ-C3259WX-FF US)  
180,000 Btuh : EZ98DV(GQ-C2859WX-FF US)



e.g. EZ111DV(GQ-C3259WX-FF US)

Model(Modèle) : EZ111DV(GQ-C3259WX-FF US)	
Type of Gas(Type de gaz)	: Natural Gas(Gaz Naturel)
Input Rating(Débit calorifique)	: Max.199,900 Btuh - Min.18,000 Btuh
Recovery Rating(Capacité de recouvrement)	: 237 Gal/h(897 l/h)
Input Gas Pressure(Pression de gaz)	: Min. 3.5" W.C. - Max.10.5" W.C.

#### Check the Power

- The power supply required is 120VAC, at 60Hz.  
Using the incorrect voltage may result in fire or electric shock.

#### Use Extreme Caution if Using With a Solar Pre-Heater

- Using this unit with a solar pre-heater can lead to unpredictable output temperatures and possibly scalding. If absolutely necessary, use mixing valves to ensure output temperatures do not get to scalding levels. Do not use a solar pre-heater with the quick-connect multi-system.

#### Precautions for Mobile Home Installation

- Verify that the gas supply type matches the gas type listed on the rating plate. If a gas conversion must be done, follow the instructions listed in the gas conversion kit manual.
- If this product will be installed indoors, usage of the SV conversion kit (SV-CK-2) and Flex Vent 2" Conversion Kit (EZ2-CK) are prohibited. Make sure to follow all clearance and venting requirements outlined in this manual.

### ⚠ CAUTION

#### Do Not Use Equipment for Purposes Other Than Those Specified

- Do not use for other than increasing the temperature of the water supply, as unexpected accidents may occur as a result.

#### Check Water Supply Quality

- If the water supply is in excess of 12 grains per gallon (200 mg/L) of hardness, acidic or otherwise impure, treat the water with approved methods in order to ensure full warranty coverage.

## 5. Choosing Installation Site

- \* Locate the appliance in an area where leakage from the unit or connections will not result in damage to the area adjacent to the appliance or to the lower floors of the structure. When such installation locations cannot be avoided, a suitable drain pan, adequately drained, must be installed under the appliance. The pan must not restrict combustion air flow.
- \* As with any water heating appliance, the potential for leakage at some time in the life of the product does exist. The manufacturer will not be responsible for any water damage that may occur.

### ⚠ DANGER

- Locate the vent terminal so that there are no obstacles around the termination and so that exhaust can't accumulate. Do not enclose the termination with corrugated metal or other materials.

### ⚠ WARNING

- Avoid places where fires are common, such as those where gasoline, benzene and adhesives are handled, or places in which corrosive gases (ammonia, chlorine, sulfur, ethylene compounds, acids) are present.  
Using the incorrect voltage may result in fire or cracking.

- Avoid installation in places where dust or debris will accumulate.  
Dust may accumulate and reduce the performance of the unit's fan.  
This can result in incomplete combustion.

- Avoid installation in places where special chemical agents (e.g., hair spray or spray detergent) are used.  
Ignition failures and malfunction may occur as a result.

- Carbon Monoxide Poisoning Hazard. Do not install this water heater in a recreational vehicle or on a boat.

- The manufacturer does not recommend installing the water heater in an attic due to safety issues.

If you install the water heater in an attic:

- Make sure the unit will have enough combustion air and proper ventilation.
- Keep the area around the water heater clean. Dust may accumulate and reduce the performance of the unit's fan. This can result in incomplete combustion.
- Place the unit for easy access for service and maintenance.
- A drain pan, or other means of protection against water damage, is required to be installed under the water heater in case of leaks.

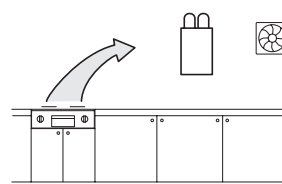


## ⚠ CAUTION

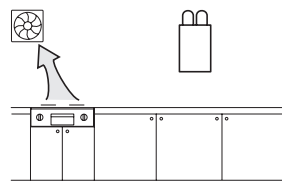
- Install the water heater in a location where it is free from obstacles and stagnant air.
- Consult with the customer concerning the location of installation.
- Do not install the water heater near staircases or emergency exits.
- Install the water heater in an area that allows for the proper clearances to combustible and non-combustible construction. Consult the rating plate on the appliance for proper clearances.
- Do not install the water heater in a place where it may be threatened by falling objects, such as under shelves.
- The water heater must be installed in a place where supply and exhaust pipes can be installed as directed.
- Do not install the water heater where the exhaust will blow on outer walls or material not resistant to heat. Also consider the surrounding trees and animals.  
The heat and moisture from the water heater may cause discoloration of walls and resinous materials, or corrosion of aluminum materials.
- Do not locate the vent termination directed towards a window or any other structure which has glass or wired glass facing the termination.
- Avoid installation where the unit will be exposed to excessive winds.
- Avoid installation above gas ranges or stoves.
- Avoid installation between the kitchen fan and stove. If oily fumes or a large amount of steam are present in the installation location, take measures to prevent the fumes and steam from entering in the equipment.
- Install in a location where the exhaust gas flow will not be affected by fans or range hoods.
- Take care that noise and exhaust gas will not affect neighbors. Avoid installation on common walls as the unit will make some operational noises while it is running.
- Before installing, make sure that the exhaust flue termination will have the proper clearances according to the National Fuel Gas Code (ANSI Z223.1-latest edition) or the Natural Gas and Propane Installation Code (CSA B149.1).
- If the unit is installed in a location with very high humidity, condensate may form inside the unit and/or cause incomplete combustion, damage to the electrical components, or electric leakage.



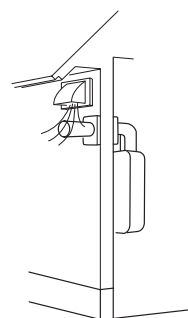
Prohibited



Be sure to do



Prohibited



State of California: The water heater must be braced, anchored or strapped to avoid moving during an earthquake. Contact local utilities for code requirements in your area or call: 1-866-766-7489 and request instructions.

The Commonwealth of Massachusetts:

- 1) This water heater can only be used in outdoor applications if the usage is restricted to summertime usage exclusively.
- 2) The water heater can be used for hot water only and not in a combination of domestic and space heating.

For Venting Manufacturers Requirements, see websites listed below:

Noritz N-Vent

[www.noritz.com](http://www.noritz.com)

# 6. Installation Clearances

## ⚠ WARNING

Before installing, check for the following:

Install in accordance with relevant building and mechanical codes, as well as any local, state or national regulations, or in the absence of local and state codes, to the National Fuel Gas Code ANSI Z223.1/NFPA 54 – latest edition. In Canada, see the Natural Gas and Propane Installation Code CSA B149.1 - latest edition for detailed requirements.

## Indoor Installation

Item	Check	Illustration
Distance from combustibles	<ul style="list-style-type: none"> <li>Maintain the following clearances from both combustible and non-combustible materials.</li> </ul>	<p>12" (300mm) or more</p> <p>4" (100mm) or more</p> <p>3" (75mm) or more</p> <p>Distance from the side</p>
Securing of space for repair/inspection	<p>In order to facilitate inspection and repair it is recommended to leave:</p> <ul style="list-style-type: none"> <li>8" (200mm) or more on either side of the unit.</li> <li>24" (600mm) or more in front of the unit.</li> <li>3" (75mm) or more above and below the vent pipe.</li> </ul>	<p>8" (200mm) or more</p> <p>24" (600mm) or more</p> <p>3" (75mm) or more</p> <p>3" (75mm) or more</p>
Cooking Equipment	<p>&lt;When the indoor air supply&gt;</p> <ul style="list-style-type: none"> <li>If the unit will be installed in the vicinity of a permanent kitchen range or stove that has the possibility of generating steam that contains fats or oils, use a dividing plate or other measure to ensure that the unit is not exposed to air containing such impurities.</li> </ul> <p>* The dividing plate should be of non-combustible material of a width greater than the water heater.</p>	<p>Exhaust hood</p> <p>Dividing plate</p> <p>Range</p> <p>Water heater</p>

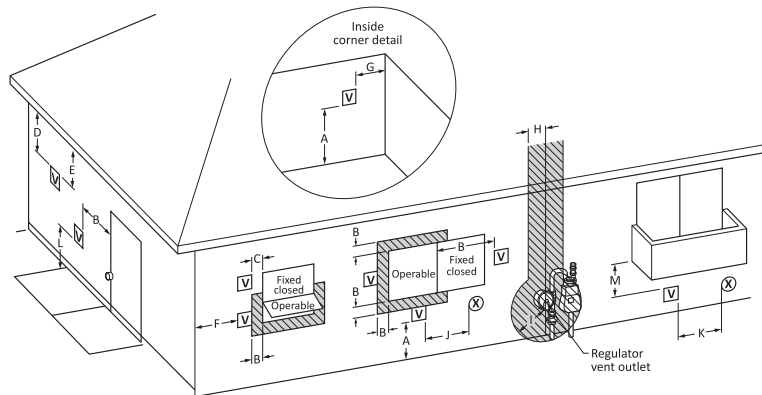


# Outdoor Installation

Item	Check	Illustration
Required Clearances From Heater	<ul style="list-style-type: none"> <li>Maintain the following clearance from both combustible and non-combustible materials.</li> </ul>	
Surrounding the area of installation	<ul style="list-style-type: none"> <li>When installing the unit in a common side corridor, provide a clearance of 47" (1,190mm) or more in front of the unit.</li> <li>Set the bottom edge of the exhaust port about 84" (2,130mm) from the corridor floor.</li> </ul>	
	<ul style="list-style-type: none"> <li>When installing the unit on a balcony, etc., secure an evacuation route of 24" (600mm) or more in width.</li> <li>Provide clearance of 24" (600mm) or more in front of the unit to facilitate inspection and repair. Do not install the unit in a location where the unit is out of reach, such as the wall of the second floor.</li> </ul>	

# Clearance Requirements from Vent Terminations to Building Openings <When supplying combustion air from the outdoors (Direct Vent)>

\* All clearance requirements are in accordance with ANSI Z21.10.3 and the National Fuel Gas Code, ANSI Z223.1 and in Canada, in accordance with the Natural Gas and Propane Installation Code CSA B149.1.



Ref	Description	Canadian Direct Vent Installations <sup>1</sup>	US Direct Vent Installations <sup>2</sup>
A=	Clearance above grade, veranda, porch, deck, or balcony	12 in (30 cm)	12 in (30 cm)
B=	Clearance to window or door that may be opened	6 in (15 cm) for appliances ≤ 10,000 Btuh (3kW), 12 in (30 cm) for appliances > 10,000 Btuh (3kW) and ≤ 100,000 Btuh (30 kW), 36 in (91 cm) for appliances > 100,000 Btuh (30 kW)	6 in (15 cm) for appliances ≤ 10,000 Btuh (3kW), 9 in (23 cm) for appliances > 10,000 Btuh (3kW) and ≤ 50,000 Btuh (15 kW), 12 in (30 cm) for appliances > 50,000 Btuh (15 kW)
C=	Clearance to permanently closed window	*	*
D=	Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet (61 cm) from the center line of the terminal	*	*
E=	Clearance to unventilated soffit	*	*
F=	Clearance to outside corner	*	*
G=	Clearance to inside corner	*	*
H=	Clearance to each side of center line extended above meter/regulator assembly	*	*
I=	Clearance to service regulator vent outlet	Above a regulator within 3 ft (91 cm) horizontally of the vertical center line of the regulator vent outlet to a maximum vertical distance of 15 ft (4.5 m)	*
J=	Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	6 in (15 cm) for appliances ≤ 10,000 Btuh (3kW), 12 in (30 cm) for appliances > 10,000 Btuh (3kW) and ≤ 100,000 Btuh (30 kW), 36 in (91 cm) for appliances > 100,000 Btuh (30 kW)	6 in (15 cm) for appliances ≤ 10,000 Btuh (3kW), 9 in (23 cm) for appliances > 10,000 Btuh (3kW) and ≤ 50,000 Btuh (15 kW), 12 in (30 cm) for appliances > 50,000 Btuh (15 kW)
K=	Clearance to a mechanical air supply inlet	6 ft (1.83 m)	3 ft (91 cm) above if within 10 ft (3 m) horizontally
L=	Clearance above paved sidewalk or paved driveway located on public property	7 ft (2.13 m)†	*
M=	Clearance under veranda, porch, deck, or balcony	12 in (30 cm)‡	*

<sup>1</sup> In accordance with the current CSA B149.1 Natural Gas and Propane Installation Code

<sup>2</sup> In accordance with the current ANSI Z223.1 / NFPA 54 National Fuel Gas Code

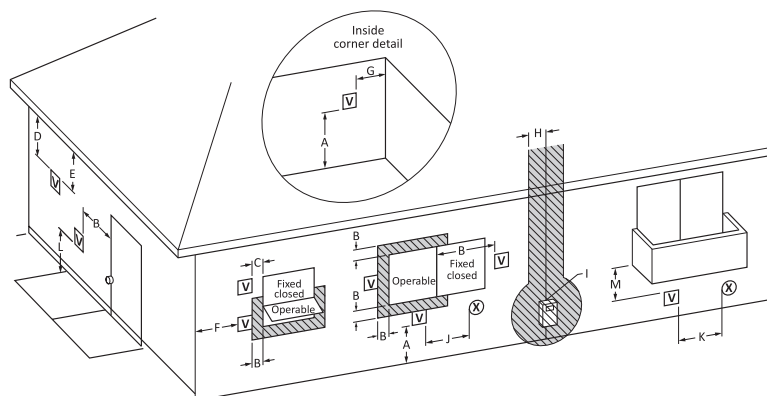
† A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

‡ Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.

\* Clearance in accordance with local installation codes and the requirements of the gas supplier.  
Clearance to opposite wall is 24 inches (60 cm).

# Clearance Requirements from Vent Terminations to Building Openings <Other than Direct Vent>

\* All clearance requirements are in accordance with ANSI Z21.10.3 and the National Fuel Gas Code, ANSI Z223.1 and in Canada, in accordance with the Natural Gas and Propane Installation Code CSA B149.1.



Ref	Description	Canadian Non-Direct Vent Installation <sup>1</sup>	US Non-Direct Vent Installation <sup>2</sup>
A=	Clearance above grade, veranda, porch, deck, or balcony	12 in (30 cm)	12 in (30 cm)
B=	Clearance to window or door that may be opened	6 in (15 cm) for appliances ≤ 10,000 Btuh (3kW), 12 in (30 cm) for appliances > 10,000 Btuh (3kW) and ≤ 100,000 Btuh (30 kW), 36 in (91 cm) for appliances > 100,000 Btuh (30 kW)	4 ft (1.2 m) below or to side of opening; 1 ft (300 mm) above opening
C=	Clearance to permanently closed window	*	*
D=	Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet (61 cm) from the center line of the terminal	*	*
E=	Clearance to unventilated soffit	*	*
F=	Clearance to outside corner	*	*
G=	Clearance to inside corner	*	*
H=	Clearance to each side of center line extended above meter/regulator assembly	*	*
I=	Clearance to service regulator vent outlet	Above a regulator within 3 ft (91 cm) horizontally of the vertical center line of the regulator vent outlet to a maximum vertical distance of 15 ft (4.5 m)	*
J=	Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	6 in (15 cm) for appliances ≤ 10,000 Btuh (3kW), 12 in (30 cm) for appliances > 10,000 Btuh (3kW) and ≤ 100,000 Btuh (30 kW), 36 in (91 cm) for appliances > 100,000 Btuh (30 kW)	4 ft (1.2 m) below or to side of opening; 1 ft (300 mm) above opening
K=	Clearance to a mechanical air supply inlet	6 ft (1.83 m)	3 ft (91 cm) above if within 10 ft (3 m) horizontally
L=	Clearance above paved sidewalk or paved driveway located on public property	7 ft (2.13 m)†	*
M=	Clearance under veranda, porch, deck, or balcony	12 in (30 cm)‡	*

<sup>1</sup> In accordance with the current CSA B149.1 Natural Gas and Propane Installation Code

<sup>2</sup> In accordance with the current ANSI Z223.1 / NFPA 54 National Fuel Gas Code

† A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

‡ Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.

\* Clearance in accordance with local installation codes and the requirements of the gas supplier.  
Clearance to opposite wall is 24 inches (60 cm).

# 7. Installation



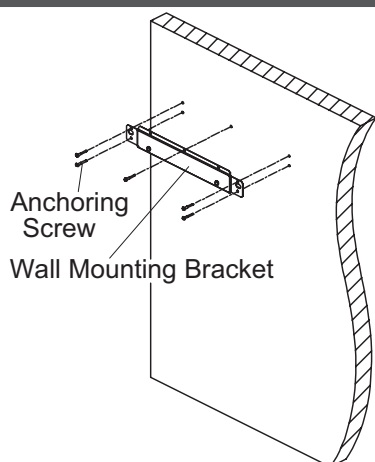
Be sure to do

- The weight of the device will be applied to the wall. If the strength of the wall is not sufficient, reinforcement must be done to prevent the transfer of vibration.
- Do not drop or apply unnecessary force to the device when installing. Internal parts may be damaged and may become highly dangerous.
- Install the unit on a vertical wall and ensure that it is level.

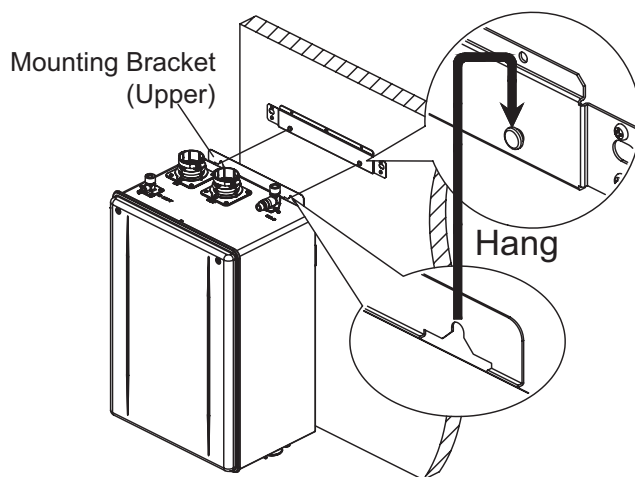
## Mounting the Water Heater to the wall

### CAUTION

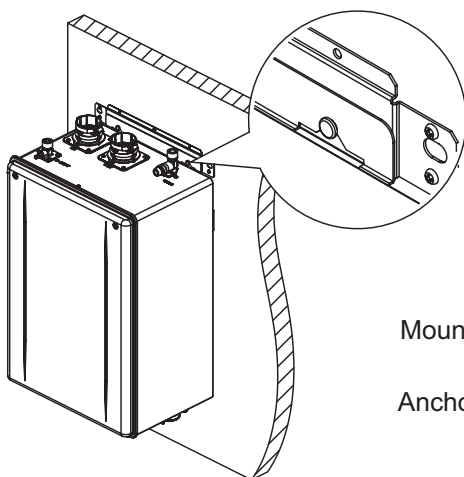
- When installing with bare hands, take caution to not inflict injury.
- Be careful not to hit electrical wiring, gas, or water piping while drilling holes.



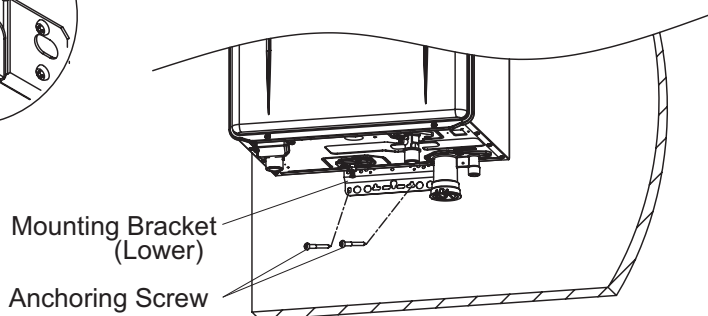
1. Drill holes for the Wall Mounting Bracket. Affix the Wall Mounting Bracket securely to the wall by 5 screws. Ensure that it is leveled, and it can support the weight of the water heater.



- 2-1. Hang the water heater on the Wall Mounting Bracket.

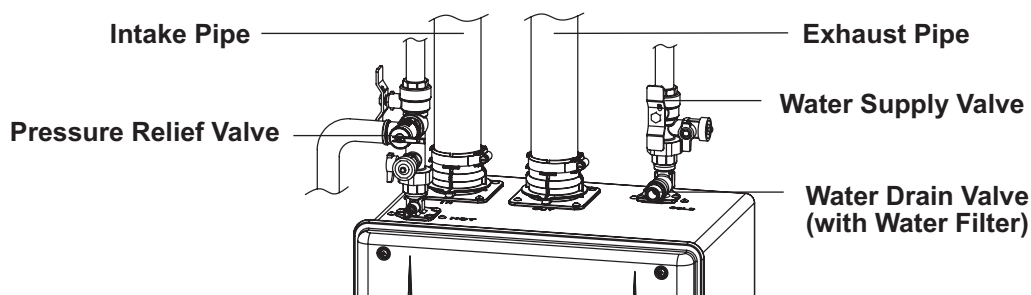


- 2-2. Hang the water heater on the Wall Mounting Bracket.



3. Affix the Mounting Bracket (Lower) to the wall by 2 screws.

## Typical plumbing (Direction of the isolation valve)

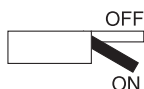
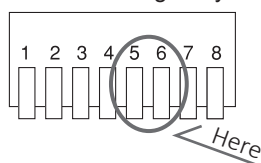


## Elevation Adjustment Above 2,000ft

- Adjust the DIP switches as illustrated in the table to the below if this water heater is installed at an altitude of 2000 ft. (610m) or higher.
- Disconnect power to the water heater before changing the DIP switches.  
Failure to perform this step will result in a "73" code displayed on the remote controller and a cease in operation. If this occurs, disconnect, then reconnect power to the water heater to reset the system.

Note : Please refer to page 28 for the location of the DIP switch bank.

\* Do not change any other DIP switches.



High elevation adjustment	DIP switches	
	#5	#6
0-2,000 ft (0-610 m)	OFF	OFF
2,001-4,000 ft (611-1,219 m)	ON	OFF
4,001-7,000 ft (1,220-2,134 m)	OFF	ON
7,001-10,000 ft (2,135-3,048 m)	ON	ON

## Filling the condensate container with water

The condensate container can be filled before connecting the vent pipe.

**Filling the condensate container before vent pipe installation.**

### **⚠ DANGER**

Prior to initial start up, make sure that you fill the condensate container with water. This is to prevent dangerous exhaust gases from entering the building. Failure to fill the condensate container could result in severe personal injury or death.

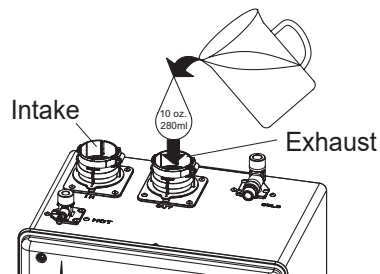
Please follow one of the procedures described below to ensure that the condensate container is filled with water.

- 1) Fill the condensate container by pouring approx. 10 oz.(280ml) of water into the exhaust accessory on the top of the appliance as illustrated right.

Or, if the vent pipe has already been installed:

- 2) After installing the drain pipe, make sure that the area around the appliance is well ventilated; open a window or a door if necessary. Then, operate the unit and verify that condensate is coming out of the drain pipe.

(During normal use of the water heater, condensate will begin to discharge from the drain pipe within 15 minutes of use. However, depending on the season and/or installation site conditions, it may take longer.)



# 8. Venting the Water Heater

## ⚠ WARNING



Be sure to do

### CARBON MONOXIDE POISONING

Follow all vent system requirements in accordance with relevant local or state regulation, or, in the absence of local or state code, in the U.S. to the National Fuel Gas Code ANSI Z233.1/NFPA 54 – latest edition, and in Canada, in accordance with the Natural Gas and Propane Installation Code CSA B149.1 – latest edition.

## Indoor Installation when using PVC/CPVC/PP material

### General Requirements

- The venting system shall be installed in accordance with the water heater manufacturer's instructions and, if applicable, the venting system manufacturer's instructions.
- This is a Category IV appliance. Only vent materials approved for use with Category IV appliances should be used.
- Under normal conditions, this appliance will not produce an exhaust flue temperature in excess of 149°F (65°C) and schedule 40 PVC pipe may be used as the vent material. If required by local code, use schedule 40/80 CPVC or PP. Refer to page 16 for additional requirements.
- Make sure the vent system is gas tight and will not leak.
- Support the vent pipe with hangers at regular intervals as specified by these instructions or the instructions of the vent manufacturer.
- All piping must be fully supported. Use pipe hangers at a minimum of 3 ft (0.9 m) intervals. Do not use the Water Heater to support the vent piping.
- This appliance is suitable for Common Vent System. To make a Common Vent System, optional accessories are required. Contact Noritz America at <http://support.noritz.com/> or 1-866-766-7489 for details.
- The total vent length including horizontal & vertical vent runs should be no less than 3' (0.9m).
- Do not store hazardous or flammable substances near the vent termination and check that the termination is not blocked in any way.
- Steam or condensed water may come out from the vent termination. Select the location for the termination so as to prevent injury or property damage.
- If snow is expected to accumulate, take care the end of the pipe is not covered with snow or hit by falling lumps of snow.
- The vent for this appliance shall not terminate:
  - i) over public walkways; or
  - ii) near soffit vents or crawl space vents or other areas where condensate or vapor could create a nuisance or hazard or cause property damage; or
  - iii) where condensate vapor could cause damage or could be detrimental to the operation of regulators, relief valves, or other equipment.

### Maximum Vent Lengths

This appliance has been designed to be vented with either 2" (50mm) or 3" (75mm) PVC, CPVC or PP pipe.

Do not exceed the following maximum vent lengths:

Pipe diameter	2" (50mm)	3" (75mm)
No. of Elbows	Max. Straight Vent Length*	
8	N/A	60' (18.0m)
7	N/A	63' (18.9m)
6	12' (3.6m)	69' (20.7m)
5	18' (5.4m)	75' (22.5m)
4	27' (8.1m)	78' (23.4m)
3	36' (10.8m)	84' (25.2m)
2	42' (12.6m)	90' (27.0m)
1	51' (15.3m)	93' (27.9m)

\* Not including the termination

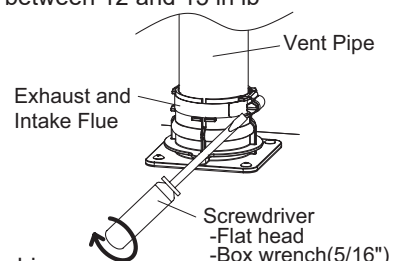
Refer to pages 20 for max. vent lengths When using PVC Concentric Termination.

### Clearances

PVC, CPVC or PP has been approved for use on this appliance with zero clearance to combustibles.

### How to tighten the Vent Pipe

1. Continue to insert the Vent Pipe until it reaches to the base of the unit Exhaust and Intake Flue. (The Vent Pipe will be inserted approximately 2.3"(60mm).)
2. Secure the Vent Pipe by tightening the band using a screwdriver.
  - The tightening torque shall be the following:
    - For PVC/CPVC pipe: between 16 and 20 in lb
    - For PP pipe: between 12 and 15 in lb



### NOTE:

Do not use electric drivers, impact drivers and so forth.

# Maximum Vent Length Adjustment DIP switches

The unit can be adjusted to accommodate longer vent runs; refer to the below table to find the maximum vent length based on the number of elbows. Adjust the DIP switches according to the vent condition noted in the tables below.

Note: By default, the unit has been set to the "① short length using 2" (50mm) pipe" condition. When adjusting the DIP switches for longer vent runs, the BTUH input of the appliance will be reduced by up to 9%.

## <Maximum Vent Length Configurations>

### ● 2" Pipe

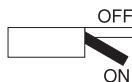
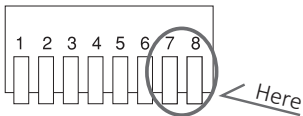
Vent length*			Elbows							
ft	m	Number of pieces**	0	1	2	3	4	5	6	
3	0.9	1								
6	1.8	2		①						
9	2.7	3								
12	3.6	4								
15	4.5	5								
18	5.4	6								
21	6.3	7								
24	7.2	8								
27	8.1	9				②				
30	9.0	10								
33	9.9	11								
36	10.8	12								
39	11.7	13								
42	12.6	14								
45	13.5	15								
48	14.4	16								
51	15.3	17								
54	16.2	18								
57	17.1	19								
60	18.0	20								

\* Not including the termination.

\*\* Table assumes straight vent pieces are 3' (0.9m) each. Shorter or longer vent pieces may also be used up to the maximum allowed vent length.

### 【DIP Switch Adjustment】

Vent length condition	DIP switches	
	#7	#8
① Short length using 2" (50 mm) pipe	OFF	OFF
② Long length using 2" (50 mm) pipe	ON	OFF
③ Short length using 3" (75 mm) pipe	OFF	ON
④ Long length using 3" (75 mm) pipe	ON	ON



- Do not change any other DIP switches.
- Please refer to page 28 for the location of the DIP switch bank.

#### [Vent length example]

Using 2"(50mm) pipe, Vent length = 42 ft. (12.6m) and Two 90° elbows  
→ Set at "② long length using 2" (50mm) pipe" condition.

### ● 3" Pipe

Vent length*			Elbows									
ft	m	Number of pieces**	0	1	2	3	4	5	6	7	8	
3	0.9	1										
6	1.8	2										
9	2.7	3										
12	3.6	4										
15	4.5	5										
18	5.4	6					③					
21	6.3	7										
24	7.2	8										
27	8.1	9										
30	9.0	10										
33	9.9	11										
36	10.8	12										
39	11.7	13										
42	12.6	14										
45	13.5	15										
48	14.4	16										
51	15.3	17										
54	16.2	18										
57	17.1	19										
60	18.0	20					④					
63	18.9	21										
66	19.8	22										
69	20.7	23										
72	21.6	24										
75	22.5	25										
78	23.4	26										
81	24.3	27										
84	25.2	28										
87	26.1	29										
90	27.0	30										
93	27.9	31										
96	28.8	32										
99	29.7	33										
100	30.0	34										

\* Not including the termination.

\*\* Table assumes straight vent pieces are 3' (0.9m) each. Shorter or longer vent pieces may also be used up to the maximum allowed vent length.

- Disconnect power to the water heater before changing the DIP switches. Failure to perform this step will result in a "73" code displayed on the remote controller and a cease in operation. If this occurs, disconnect, then reconnect power to the water heater to reset the system.



The power must be unplugged when adjusting the DIP switches to switch the airflow amount.



## Venting With PVC, CPVC or PP

This appliance can be vented with non cellular core plastic pipe materials as specified in the below table. Vent installations in Canada which utilize plastic vent systems must comply with ULC S636.

Item	Material	United States	Canada
Exhaust Vent/Air Intake	Schedule 40 PVC	ANSI/ASTM D1785	CSA B137.3
	PVC-DWV	ANSI/ASTM D2665	CSA B181.2
	Schedule 40 CPVC	ANSI/ASTM F441	CSA B137.3
	Polypropylene*	Centrotherm-InnoFule® (certified ULC 636S)	
Pipe Cement/Primer	PVC	ANSI/ASTM D2564	ULC S636 Certified Materials Only
	CPVC	ANSI/ASTM F493	
Note: Use of cellular core PVC (ASTM F891), cellular core CPVC, or Radel® (polyphenylsulfone) in non-metallic venting system is prohibited.			

\* Polypropylene : Only listed manufacture specified vent parts may be used for this appliance. Refer to the manufacture's literature for detailed information.

Approved Vent Manufacture	Parts#
Centrotherm - InnoFule® PP	Single Wall Pipe (2"/3") : ISVL02xx(UV) / 03xx(UV), ISEP02xx / 03xx, ISIA0203
	Elbow : ISELL0287(UV) / 0387(UV), ISELL0245 / 0345
	Termination** : ISELL0287UV / 0387UV, ISTT0220 / 0320
	Bird Screen : IASPP02/03

\*\* Applicable vent termination are "90 degree elbow" or "Tee type". Concentric vent termination of polypropylene are prohibited.

## PVC / CPVC / PP Installation Instructions

- Use only solid PVC / CPVC (schedule 40) or PP pipe. Cellular foam core piping is not allowed.
- Covering non-metallic vent pipe and fittings with thermal insulation is prohibited.
- 2" or 3" schedule 80 pipe may also be used on this appliance, however the BTUH input of the appliance will be reduced by up to 9%.
- In Canada, plastic vent systems must be certified to ULC S636. The components of the certified vent system must not be interchanged with other vent systems or unlisted pipe/fittings.
- In Canada, specified primers and glues of the ULC S636 certified vent system must be from a single system manufacturer and not intermixed with other system manufacturer's vent system parts.
- Follow all general venting guidelines as outlined on this page.
- PVC, CPVC or PP pipe has been approved for use on this appliance with zero clearance to combustibles.
- The pipe shall be installed so that the first 3' (0.9m) of pipe from the appliance flue outlet is readily accessible for visual inspection.
- When preparing and assembling the pipe, follow instructions as provided by the pipe manufacturer. In general, the following practices must be observed:
  - Squarely cut all pieces of pipe.
  - Remove all burs and debris from joints and fittings.
  - All joints must be properly cleaned, primed, and cemented. Use only cement and primer approved for use with the pipe material as outlined in the above table.

## ⚠ WARNING

### CARBON MONOXIDE POISONING

Failure to properly seal the vent system could cause flue products to enter the living space.

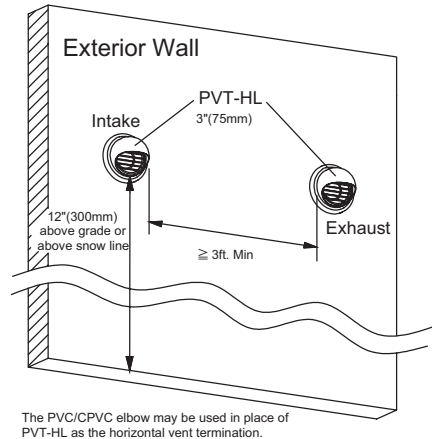
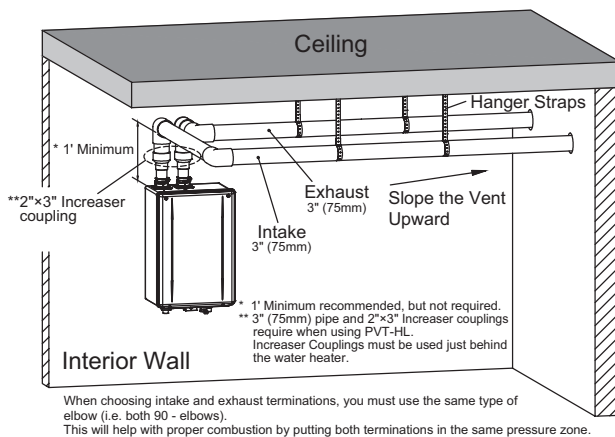
- All piping must be fully supported. Use pipe hangers at a minimum of 3' (0.9m) intervals. Do not use the water heater to support the vent piping.
- When attaching the piping to the water heater, use the appropriate primer and cement to ensure a proper seal.
- A bird screen must be installed on the vent terminations to prevent debris or animals from entering the piping. These screens are not supplied with the water heater and must be purchased separately.

Vent Material	Bird Screen Parts #
2" (50mm)/3"(50mm) PVC or CPVC	VT2-PVCS / VT3-PVCS
Centrotherm - 2"(50mm)/3"(75mm) PP	IASPP02 / IASPP03



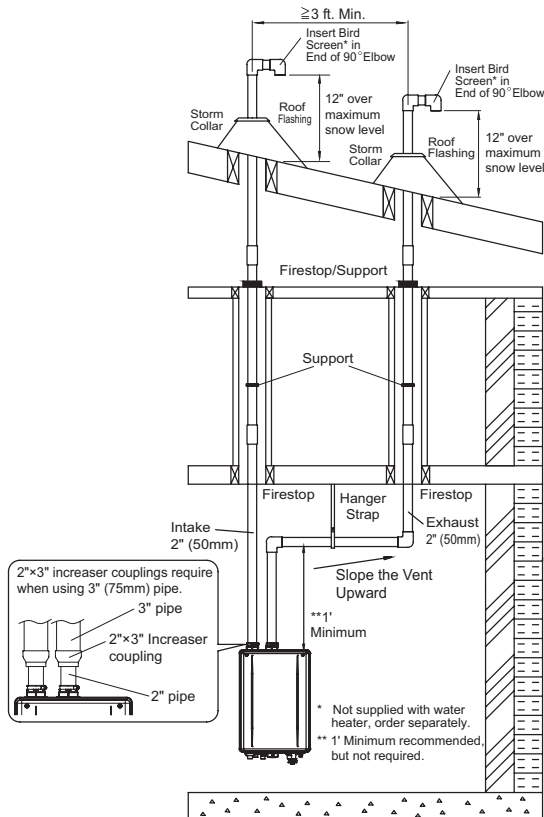
## Vent Pipe Installation

### Horizontal Vent Termination - PVC/CPVC Material Only (when using PVT-HL termination)



- Make sure to keep a distance of 3' (0.9m) or wider between the intake and exhaust when installing the vent piping. If 3' (0.9m) distance between Intake and Exhaust cannot be ensured, the installation can be carried out only in the installation method shown in page 18.
- Terminate at least 12" (300mm) above grade or above snow line.
- Slope the horizontal vent 1/4" upwards for every 12" (300mm) toward the termination.
- Use a condensation drain if necessary.
- In the Commonwealth of Massachusetts a carbon monoxide detector is required for all side wall horizontally vented gas fuel equipment. Please refer to Technical Bulletin TB 010606 for full installation instructions.

### Vertical Vent Termination - PVC, CPVC or PP Material

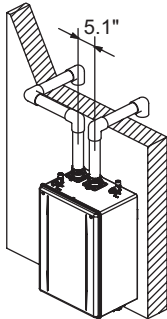


- As illustrated on the left, make sure to keep a distance of 3' (0.9m) or wider between the intake and exhaust when installing the vent piping.
- Terminate at least 3' (0.9m) from the combustion air intake of any appliance and any other building opening.
- Enclose exterior vent systems below the roof line to limit condensation and protect against mechanical failure.
- When the vent penetrates a floor or ceiling and is not running in a fire rated shaft, a firestop and support is required.
- When the vent termination is located not less than 8' (2.4m) from a vertical wall or similar obstruction, terminate above the roof at least 2' (0.6m), but not more than 6' (1.87m), in accordance with the National Fuel Gas Code ANSI Z223.1/NFPA 54 or Natural Gas and Propane Installation Code CSA B149.1.
- Provide vertical support every 3' (0.9m) or as required by the vent pipe manufacturer's instructions.
- A short horizontal section is recommended to prevent debris from falling into the water heater.
- When using a horizontal section, slope the horizontal vent 1/4" upwards for every 12" (300mm) toward the termination to drain condensate.
- When using 3" (75mm) pipe, it will be necessary to use 2" (50mm) x 3" (75mm) increaser couplings and a short section 2" (50mm) pipe to connect the Exhaust and Intake Flue of the Water Heater. Use maximum 6" (150mm) section of pipe to make the connection between the increaser couplings and the Exhaust and Intake Flue of the Water Heater.

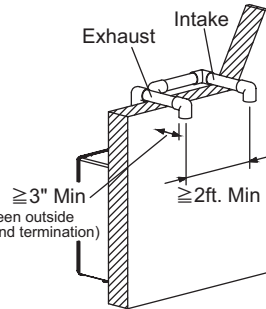
## Vent Pipe Installation

### Alternate Horizontal Vent Termination- PVC, CPVC or PP Material

- \* When 3' (0.9m) distance between Intake and Exhaust cannot be ensured.
- \* Can not use Hood termination (PVT-HL)
- \* Insert the bird screen. 90° elbow vertical setting (downward).
- \* Ensure at least 3ft (0.9m) or more distance between the near edge of the air intake pipe or exhaust pipe to the inside corner of a wall.
- \* Intake and exhaust should face the same direction. Intake and exhaust should keep the same pressure zone.

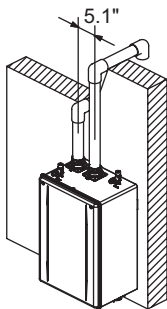


Interior View

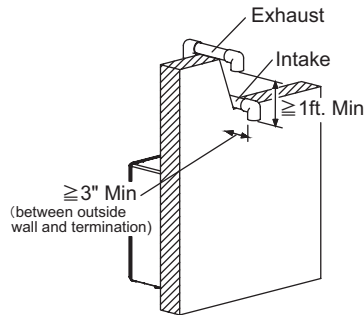


Exterior View

- Ensure at least 2ft (0.6m) or more distance between intake pipe and exhaust pipe. The distance is measured at inside of pipe to inner dimension.

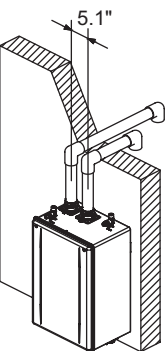


Interior View

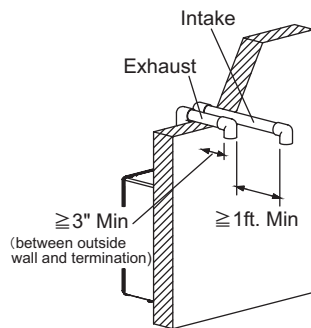


Exterior View

- Upper side is exhaust, lower side is intake. The reverse orientation is not allowed.
- Ensure at least 1ft (0.3m) or more distance between intake pipe and exhaust pipe. The distance is measured at the outlets of intake port (terminal) and exhaust port (terminal).



Interior View



Exterior View

- The side distant from wall is intake, the side near the wall is exhaust. The reverse orientation is not allowed.
- Ensure at least 1ft (0.3m) or more distance between intake pipe and exhaust pipe. The distance is measured at inside of pipe to inner dimension.

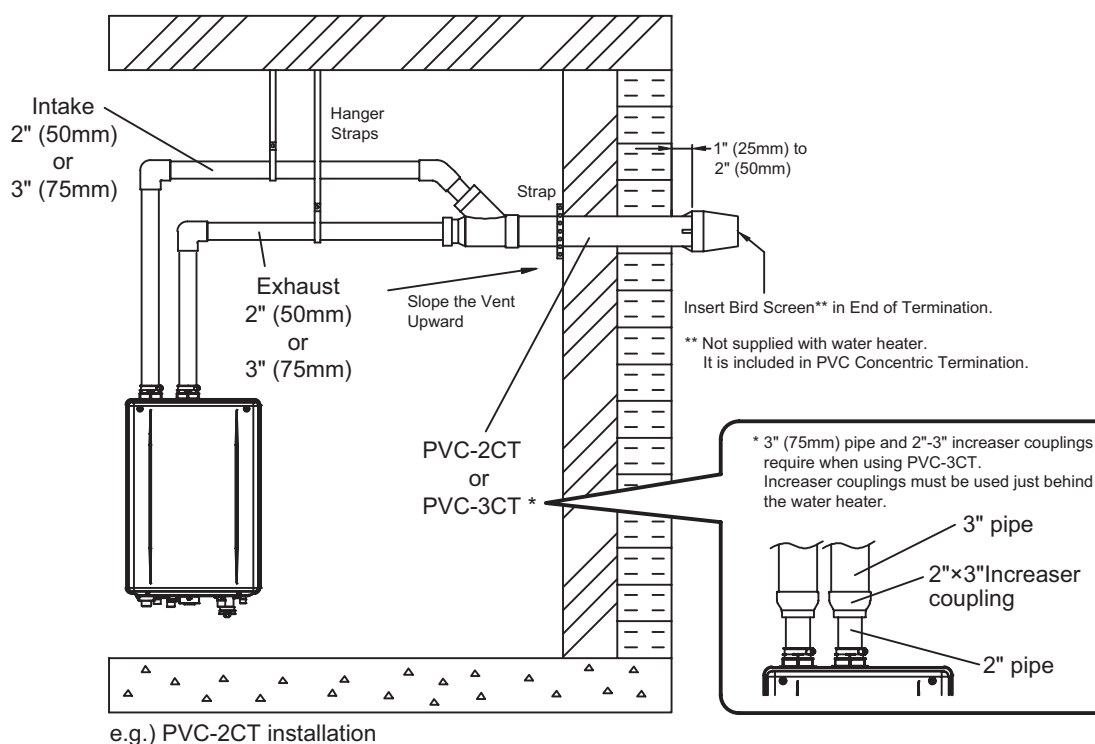
## ⚠ WARNING

- If the distance between the air inlet and exhaust vent terminations is too short, the water heater will draw in the exhaust gases through the intake. There is a risk of inadequate combustion air for the water heater, increasing Carbon Monoxide (CO) emissions and noise due to vibration.
- Termination elbows must be oriented vertically, pointing directly downward. Attempts to prevent exhaust air from entering the air inlet by angling termination elbows in directions other than directly downward will increase the risk of freezing.
- Reversing the air intake and exhaust pipes is not allowed. Carbon Monoxide (CO) emissions and noise due to vibration will increase.

## PVC Concentric Termination- PVC/CPVC Material Only

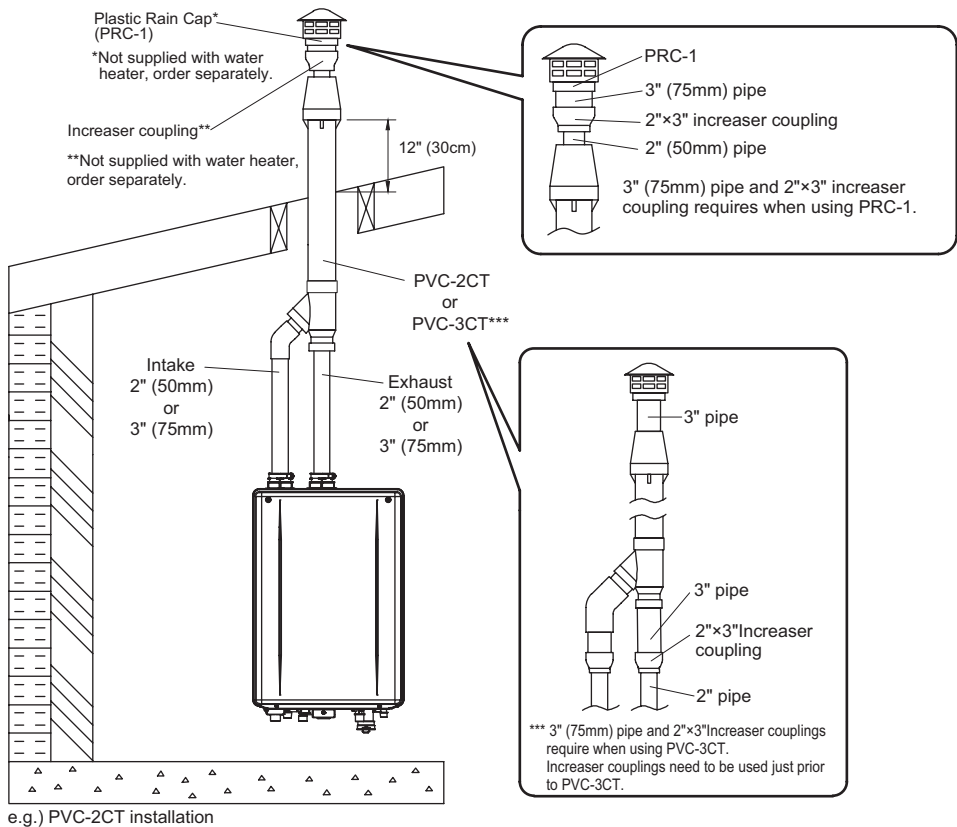
- The concentric termination may be shortened, but not lengthened from its original factory supplied length.
- 2" (50mm) or 3" (75mm) PVC or CPVC pipe may be used with the concentric termination.  
Maintain the same vent pipe diameter from the water heater flue to the termination.
- Do not exceed the maximum vent lengths as shown on next page 20.
- When using 3" (75mm) pipe, it will be necessary to use 2" (50mm)×3" (75mm) increaser couplings and a short section 2" (50mm) pipe to connect the Exhaust and Intake Flue of the Water Heater. Use maximum 6" (150mm) section of pipe to make the connection between the increaser couplings and the Exhaust and Intake Flue of the Water Heater.
- There must be a 1" (25mm) to 2" (50mm) clearance between the outside wall and the air intake section of the termination as illustrated below.
- Install a securing strap to prevent movement of the termination.
- Terminate at least 12" (300mm) above grade or above snow line.
- For vertical installation, terminate at least 3' (0.9m) from the combustion air intake of any appliance and any other building opening.
- Slope the horizontal vent 1/4" upwards for every 12" (300mm) toward the termination.
- Use a condensation drain if necessary.
- In the Commonwealth of Massachusetts a carbon monoxide detector is required for all side wall horizontally vented gas fuel equipment. Please refer to Technical Bulletin TB 010606 for full installation instructions

### Horizontal



Continue to next page

## Vertical



### <Maximum Vent length when using PVC-2CT or PVC-3CT>

#### ● 2" Pipe

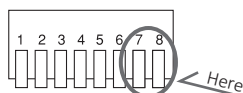
Vent length*			Elbows						
ft	m	Number of pieces**	0	1	2	3	4	5	6
3	0.9	1							
6	1.8	2		①					
9	2.7	3							
12	3.6	4							
15	4.5	5							
18	5.4	6							
21	6.3	7							
24	7.2	8							
27	8.1	9							
30	9.0	10							
33	9.9	11							
36	10.8	12							
39	11.7	13							
42	12.6	14							
45	13.5	15							
48	14.4	16							
51	15.3	17							
54	16.2	18							
57	17.1	19							
60	18.0	20							

\* Not including the termination.

\*\* Table assumes straight vent pieces are 3' (0.9m) each. Shorter or longer vent pieces may also be used up to the maximum allowed vent length.

#### [DIP Switch Adjustment]

Vent length condition	DIP switches	
	#7	#8
① Short length using 2" (50 mm) pipe	OFF	OFF
② Long length using 2" (50 mm) pipe	ON	OFF
③ Short length using 3" (75 mm) pipe	OFF	ON
④ Long length using 3" (75 mm) pipe	ON	ON



#### ● 3" Pipe

Vent length*			Elbows								
ft	m	Number of pieces**	0	1	2	3	4	5	6	7	8
3	0.9	1									
6	1.8	2									
9	2.7	3									
12	3.6	4									
15	4.5	5									
18	5.4	6									
21	6.3	7									
24	7.2	8									
27	8.1	9									
30	9.0	10									
33	9.9	11									
36	10.8	12									
39	11.7	13									
42	12.6	14									
45	13.5	15									
48	14.4	16									
51	15.3	17									
54	16.2	18									
57	17.1	19									
60	18.0	20									
63	18.9	21									
66	19.8	22									
69	20.7	23									
72	21.6	24									
75	22.5	25									
78	23.4	26									
81	24.3	27									
84	25.2	28									
87	26.1	29									
90	27.0	30									
93	27.9	31									
96	28.8	32									
99	29.7	33									
100	30.0	34									

\* Not including the termination.

\*\* Table assumes straight vent pieces are 3' (0.9m) each. Shorter or longer vent pieces may also be used up to the maximum allowed vent length.

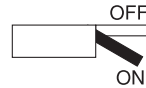
## Vent Pipe Installation (When supplying combustion air from the indoors (SV, non-direct vent))

### ⚠ DANGER

When installing this water heater in an area with a large amount of lint such as a commercial Laundromat, direct-vent ("DV") system must be used. The "-SV" configuration (using SV conversion kit) is prohibited. When installing this water heater in a mobile home, all combustion must be drawn directly from the outdoors. The "-SV" configuration (using SV conversion kit) is prohibited.

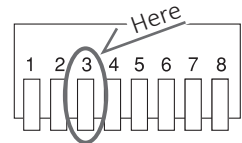
- Disconnect power and turn ON DIP switch #3 if combustion air will be supplied from the indoors as illustrated to the right. Refer to page 28 for the location of the DIP switch bank.
- SV Conversion kit SV-CK-2 is required for the air intake.
- Noritz recommends to install a Carbon Monoxide Alarm in installation site of the unit when supplying combustion air from the indoors.

\* DIP switch No.3 is turned on.

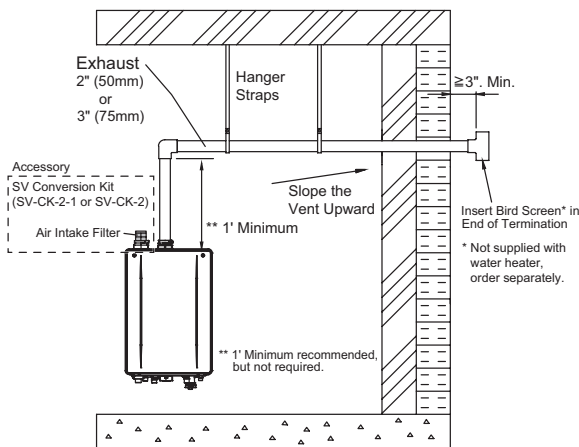


### ⚠ WARNING

Failure to perform the above 2 steps could result in a fire or explosion causing property damage, personal injury or death. Refer to the instructions provided with the conversion kit for additional details.



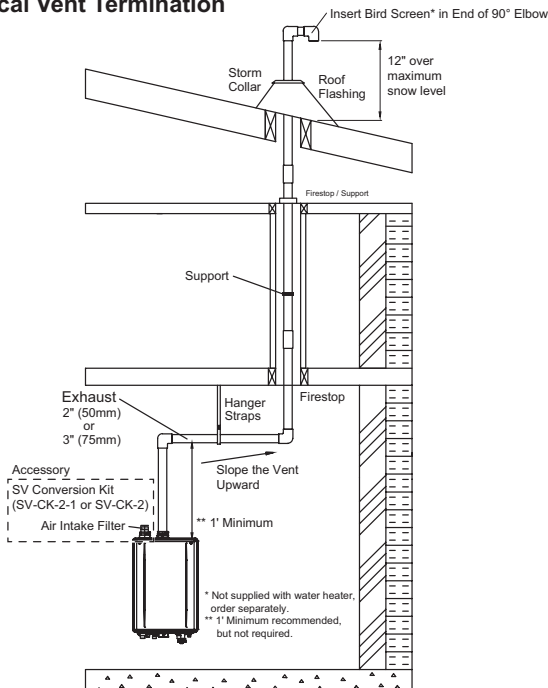
#### Horizontal Vent Termination



- A tee, the PVT-HL termination may be used for the vent termination. It is not necessary to use bird screens with the PVT-HL termination.
- Terminate at least 12" (300mm) above grade or above snow line.
- Slope the horizontal vent 1/4" upwards for every 12" (300mm) toward the termination.
- Use a condensation drain if necessary.
- In the Commonwealth of Massachusetts a carbon monoxide detector is required for all side wall horizontally vented gas fuel equipment.

Please refer to Technical Bulletin TB 010606 for full installation instructions.

#### Vertical Vent Termination



- Terminate at least 3' (0.9m) from the combustion air intake of any appliance and any other building opening.
- Enclose exterior vent systems below the roof line to limit condensation and protect against mechanical failure.
- When the vent penetrates a floor or ceiling and is not running in a fire rated shaft, a firestop and support is required.
- When the vent termination is located not less than 8' (2.4m) from a vertical wall or similar obstruction, terminate above the roof at least 2' (0.6m), but not more than 6' (1.87m), in accordance with the National Fuel Gas Code ANSI Z223.1/NFPA 54 or Natural Gas and Propane Installation Code CSA B149.1.
- Provide vertical support every 3' (0.9m) or as required by the vent pipe manufacturer's instructions.
- A short horizontal section is recommended to prevent debris from falling into the water heater.
- When using a horizontal section, slope the horizontal vent 1/4" upwards for every 12" (300mm) toward the termination to drain condensate.

## Combustion Air

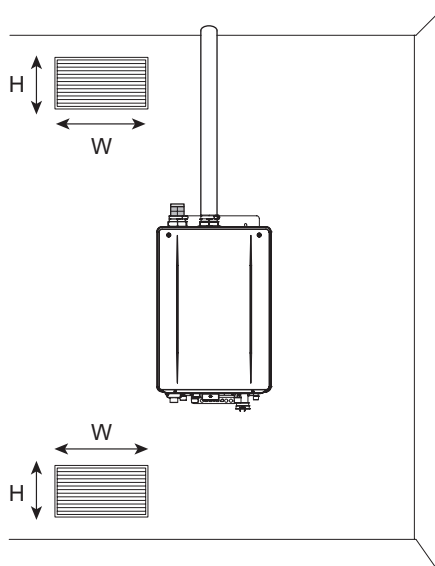
Supply combustion air to the units as per the National Fuel Gas Code, ANSI Z223.1-latest edition and in Canada, in accordance with the Natural Gas and Propane Installation Code CSA B149.1-latest edition.

**Provide adequate combustion air so as to not create negative pressure within the building.**

- Provide two permanent openings to allow circulation of combustion air.
- A minimum free area of each openings

Installation Unit	BTUH	Indoor make up air is provided	Outdoor make up air is provided	
			Direct or Vertical ducts	Horizontal ducts
EZ111DV (GQ-C3259WX-FF US)	199.9 kbtuh	200 in <sup>2</sup> 20" (W) x 10" (H)	50 in <sup>2</sup> 10" (W) x 5" (H)	100 in <sup>2</sup> 20" (W) x 5" (H)
EZ98DV(GQ-C2859WX-FF US)	180 kbtuh	180 in <sup>2</sup> 20" (W) x 9" (H)	45 in <sup>2</sup> 10" (W) x 4 1/2" (H)	90 in <sup>2</sup> 20" (W) x 4 1/2" (H)

- If the unit is installed in a mechanical closet, a minimum of permanent clearance of 4" or more in front of the unit is required. A 24" or more clearance is recommended in order to facilitate maintenance and repair.
- If combustion air will be provided through a duct, size the duct to provide as below.  
EZ111DV (GQ-C3259WX-FF US) : 70 cubic feet of fresh air per minute  
EZ98 (GQ-C2859WX-FF US) : 63 cubic feet of fresh air per minute
- If the unit is installed in a mobile home, outdoor air must be supplied. The usage of the "-SV" conversion kit is prohibited.



Openings supplying indoor air

## Indoor Installation when using 2" flexible polypropylene

### ⚠ WARNING



Be sure to do

#### CARBON MONOXIDE POISONING

Follow all vent system requirements in accordance with relevant local or state regulation, or, in the absence of local or state code, in accordance with the National Fuel Gas Code ANSI Z223.1/NFPA 54 or Natural Gas and Propane Installation Code CSA B149.1.



Be sure to do

- During the installation of Flex Vent 2" Kit (EZ2FVK-1 and EZ2FVK-2), ambient temperatures must be greater than 40 °F (5 °C). Afterwards, installation site ambient temperature must be greater than -4 °F (-20 °C). Flex vent pipe breakage may occur if these temperature requirements are not observed.

### Venting Installation Instructions (General Information)

Property damage, personal injury or death can result if these instructions are not followed. They are a guide for professional installers generally familiar with the installation and maintenance of heating equipment and related vent systems.

- Only listed manufacturer specified vent parts may be used for this equipment.

\* Information regarding certified "Flexible vent pipe and connections".

#### ① Flex Vent 2" Kit 25 feet(EZ2FVK-1) Dark gray

Standard(s)	ULC-S636-08 Standards for type BH Gas Venting Systems
Product	25Feet-Flex Pipe 2"-LE , Flex Vent 2" Rigid 45 Elbow Set - LE
Brand name	Tokyo Gas Renovation Co.,Ltd.

#### ② Flex Vent 2" Kit 35 feet(EZ2FVK-2) Light gray

Standard(s)	UL-1738 Standard for Safety for Venting Systems ULC-S636-08 Standards for type BH Gas Venting Systems
Product	PP Flexible 2", PP Single Wall Pipe 2"
Brand name	InnoFlue Flex - Centrotherm
Models	IFVL, IFSF, IANS, ISEL,

- Flex Vent 2" Kit may be used only in accordance with the installation manual included with the kit.
- Flex Vent 2" Kit can be installed at zero clearance to combustible materials.
- Appliances can be started up immediately after Flex Vent 2" Kit is installed and inspected.
- Flex Vent 2" Kit systems expand and contract slightly during heating cycles and must be installed following included instructions.
- Flex Vent 2" Kit cannot be painted.
- When installing N-Flex vent, pitch is required as detailed in Flex Vent 2" Kit installation manual.
- Do not intermingle any other venting material with allowable polypropylene venting mentioned.
- The BTUH input of the appliance will be reduced by up to 9% when maximum vent length.

### ⚠ WARNING

#### CARBON MONOXIDE POISONING

Failure to properly seal the vent system could cause flue products to enter the living space.

## General Requirements

- Flex Vent 2" Conversion Kit (EZ2-CK) must be used when using 2" flexible polypropylene pipe for vent pipe installation. Refer to the instructions provided with Flex Vent 2" Conversion Kit for additional detail.
- Under normal conditions, this appliance will not produce an exhaust flue temperature in excess of 149°F.  
Refer to page 23 for additional requirements.
- Make sure the vent system is gas tight and will not leak.
- Do not common vent or connect more than one appliance to this venting system.
- The total vent length including vertical vent runs should be no less than 5' (1.5m).
- Do not store hazardous or flammable substances near the vent termination and check that the termination is not blocked in any way.
- Steam or condensed water may come out from the vent termination. Select the location for the termination so as to prevent injury or property damage.
- If snow is expected to accumulate, take care the end of the pipe is not covered with snow or hit by falling lumps of snow.

## Maximum Vent Lengths



Be sure to do

- Maximum Vent Length varies according to Vent Kit model.  
Check the Vent Kit model.

- This appliance has been designed to be vented with 2" flexible polypropylene pipe. Do not exceed the following maximum vent lengths:

	Vent Kit	Max. Straight Vent Length
①	Flex Vent 2" Kit 25 feet (EZ2FVK-1) Dark gray	25' (7.5m)
②	Flex Vent 2" Kit 35 feet (EZ2FVK-2) Light gray	35' (10.5m)

- \* Max. number of 45 degree elbows : 2
  - Not including Rigid 45 Elbow Set included in this kit.
  - No 90° elbows
- \* Max. Straight Vent Length numbers do not include termination.
- \* Refer to Flex Vent 2" Kit installation manual for additional requirements.

## Clearances

2" flexible polypropylene pipe has been approved for use on this appliance with zero clearance to combustibles.

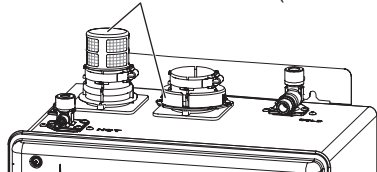
## Installation of Flex Vent 2" Conversion Kit

1. Secure the "Flex Vent 2" Conversion Kit" to top of the water heater\*.

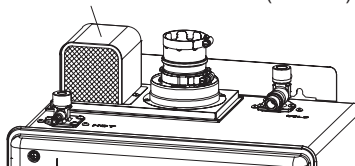
\* Refer to the instructions provided with "Flex Vent 2" Conversion Kit" for additional detail.

(Note): Flex Vent 2" Conversion Kit must be installed in the proper direction as shown below.

Flex Vent 2" Conversion Kit (EZ2-CK-1)

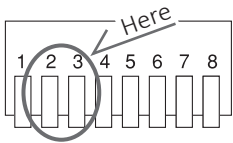


Flex Vent 2" Conversion Kit (EZ2-CK)

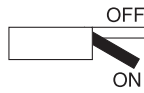




2. Disconnect power and turn on DIP switches No.2 and 3.  
Refer to page 28 for the location of the DIP switch bank.



DIP switches No.2 and 3 are turned on.



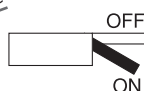
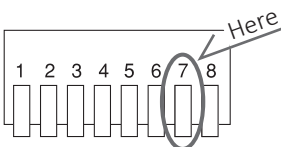
The power must be unplugged when adjusting the DIP switch to switch the airflow amount.

## Maximum Vent Length Adjustment DIP switches when using 2" flexible polypropylene

The unit can be adjusted to accommodate longer vent runs; refer to the below table to find the maximum vent length. Adjust the DIP switch according to the vent condition noted in the tables below.  
Note: When adjusting the DIP switches for longer vent runs, the BTUH input of the appliance will be reduced by up to 9%.

- Disconnect power to the water heater before changing the DIP switch. Failure to perform this step will result in a "73" code displayed on the remote controller and a cease in operation. If this occurs, disconnect, then reconnect power to the water heater to reset the system.

Color of flex pipe	Maximum Vent Length Configurations									
<div>① Flex Vent 2" Kit 25 feet (EZ2FVK-1)</div> <div>Dark gray</div>	<div>[Maximum Vent Length Example]</div> <div>- Actual Vent Length = 13 ft. (3.9m) (with DIP switch set at "Short length" condition)</div> <div>- Actual Vent Length = 25 ft. (7.5m) (with DIP switch set at "Long length" condition)</div> <table><tr><td></td><td>DIP switch #7</td><td>Vent Length</td></tr><tr><td>Short length</td><td>OFF</td><td>5' (1.5m) ~ 15' (4.5m)</td></tr><tr><td>Long length</td><td>ON</td><td>15' (4.5m) ~ 25' (7.5m)</td></tr></table>		DIP switch #7	Vent Length	Short length	OFF	5' (1.5m) ~ 15' (4.5m)	Long length	ON	15' (4.5m) ~ 25' (7.5m)
	DIP switch #7	Vent Length								
Short length	OFF	5' (1.5m) ~ 15' (4.5m)								
Long length	ON	15' (4.5m) ~ 25' (7.5m)								
<div>② Flex Vent 2" Kit 35 feet (EZ2FVK-2)</div> <div>Light gray</div>	<div>[Maximum Vent Length Example]</div> <div>- Actual Vent Length = 18 ft. (5.4m) (with DIP switch set at "Short length" condition)</div> <div>- Actual Vent Length = 35 ft. (10.5m) (with DIP switch set at "Long length" condition)</div> <table><tr><td></td><td>DIP switch #7</td><td>Vent Length</td></tr><tr><td>Short length</td><td>OFF</td><td>5' (1.5m) ~ 20' (6.0m)</td></tr><tr><td>Long length</td><td>ON</td><td>20' (6.0m) ~ 35' (10.5m)</td></tr></table>		DIP switch #7	Vent Length	Short length	OFF	5' (1.5m) ~ 20' (6.0m)	Long length	ON	20' (6.0m) ~ 35' (10.5m)
	DIP switch #7	Vent Length								
Short length	OFF	5' (1.5m) ~ 20' (6.0m)								
Long length	ON	20' (6.0m) ~ 35' (10.5m)								



Do not change any other DIP switch.

Refer to page 28 for the location of the DIP switch bank.

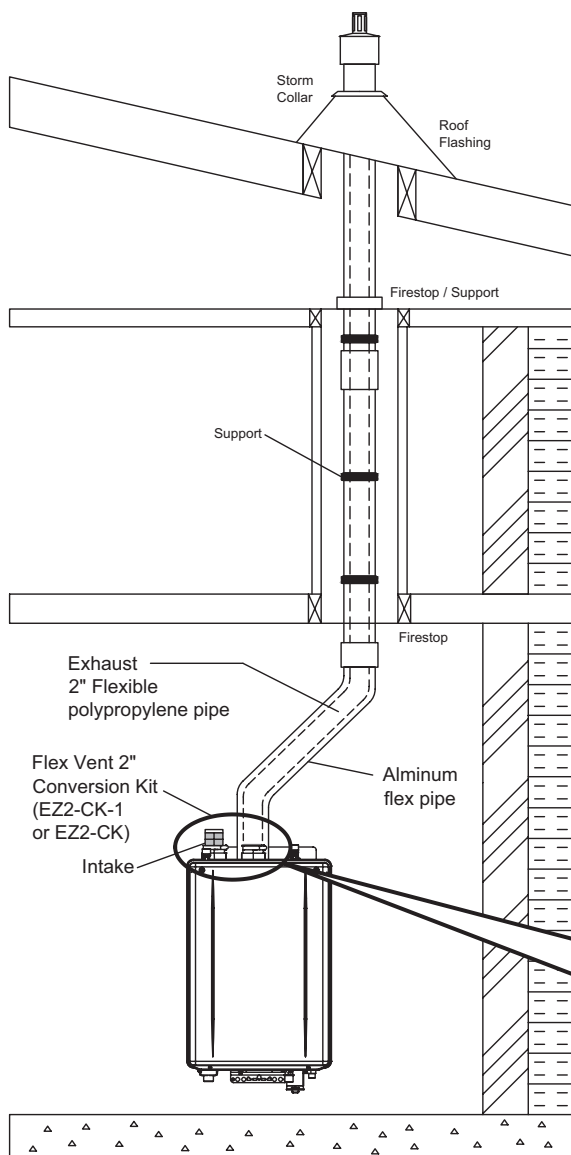


The power must be unplugged when adjusting the DIP switch to switch the airflow amount.

## ⚠ WARNING

This unit is suitable only for vertical vent.

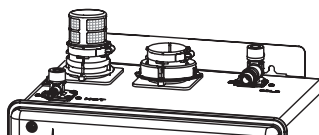
### Vertical Vent Termination with Polypropylene N-Flex system



- Terminate at least 3' (0.9m) from the combustion air intake of any appliance and any other building opening.
- Enclose exterior vent systems below the roof line to limit condensation and protect against mechanical failure.
- When the vent penetrates a floor or ceiling and is not running in a fire rated shaft, a firestop and support is required.
- When the vent termination is located not less than 8' (2.4m) from a vertical wall or similar obstruction, terminate above the roof at least 2' (0.6m), but not more than 6' (1.87m), in accordance with the National Fuel Gas Code ANSI Z223.1/NFPA 54 or Natural Gas and Propane Installation Code CSA B149.1.
- The aluminum flex pipe serves as protection against damage.

#### < Flex Vent 2" Conversion Kit (EZ2-CK-1 or EZ2-CK) >

Refer to the instructions provided with "Flex Vent 2" Conversion Kit" for additional detail.



## Combustion Air

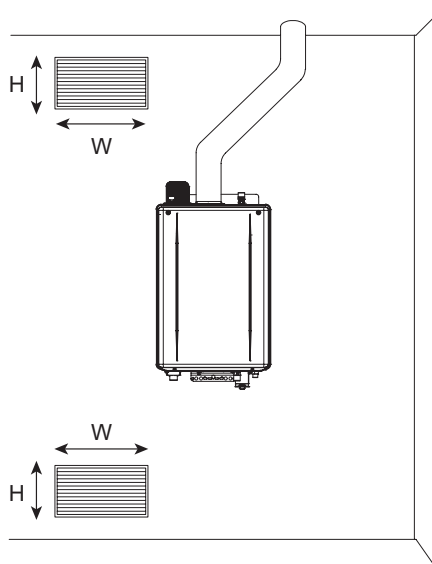
Supply combustion air to the units as per the National Fuel Gas Code, ANSI Z223.1-latest edition and in Canada, in accordance with the Natural Gas and Propane Installation Code CSA B149.1-latest edition.

**Provide adequate combustion air so as to not create negative pressure within the building.**

- Provide two permanent openings to allow circulation of combustion air.
- A minimum free area of each openings

Installation Unit	BTUH	Indoor make up air is provided	Outdoor make up air is provided	
			Direct or Vertical ducts	Horizontal ducts
EZ111DV (GQ-C3259WX-FF US)	199.9 kbtuh	200 in <sup>2</sup> 20" (W) x 10" (H)	50 in <sup>2</sup> 10" (W) x 5" (H)	100 in <sup>2</sup> 20" (W) x 5" (H)
EZ98DV (GQ-C2859WX-FF US)	180 kbtuh	180 in <sup>2</sup> 20" (W) x 9" (H)	45 in <sup>2</sup> 10" (W) x 4 1/2" (H)	90 in <sup>2</sup> 20" (W) x 4 1/2" (H)

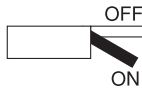
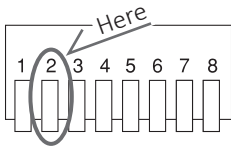
- If the unit is installed in a mechanical closet, a minimum of permanent clearance of 4" or more in front of the unit is required. A 24" or more clearance is recommended in order to facilitate maintenance and repair.
- If combustion air will be provided through a duct, size the duct to provide as below.  
EZ111DV (GQ-C3259WX-FF US) : 70 cubic feet of fresh air per minute  
EZ98DV (GQ-C2859WX-FF US) : 63 cubic feet of fresh air per minute
- If the unit is installed in a mobile home, outdoor air must be supplied. The usage of the Flex Vent 2" Conversion Kit (EZ2-CK) is prohibited.



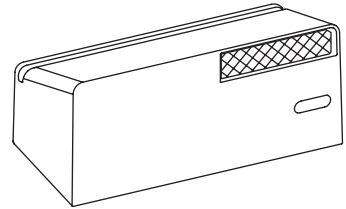
Openings supplying indoor air

## Outdoor Installation

- When installing this water heater outdoors, must be used "Outdoor Vent Cap (VC-6-1 or VC-6)".
- Disconnect power and then turn ON DIP switch #2 if outdoor installation.
- Make sure the clearance of the water heater in accordance with page 9 (Outdoor Installation).



Outdoor Vent Cap (VC-6-1 or VC-6)  
for outdoor installation



Disconnect power to the water heater before changing the DIP switches. Failure to perform this step will result in a "73" code displayed on the remote controller and a cease in operation. If this occurs, disconnect power to the water heater to reset the system.



The power must be unplugged when adjusting the DIP switch to switch the airflow amount.

Refer to the instructions provided with Outdoor Vent Cap for additional detail.

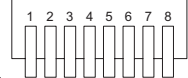
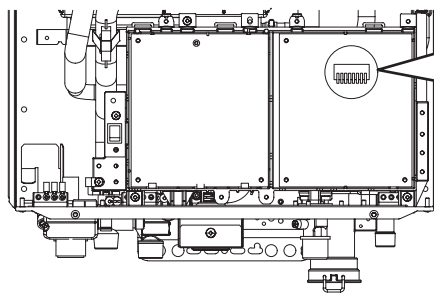
## The location of DIP Switch Bank

### • How to change the DIP switches\*

\*The DIP switch bank is placed on the circuit board.

1. Disconnect electrical power to the water heater before changing the DIP switches\*\*.
2. Open the front cover of the water heater (4 screws).
3. Adjust the DIP switches. (See the illustration.)
4. Close the front cover of the water heater (4 screws).
5. Reconnect the electrical power to the water heater.

\*\*Failure to perform this step will result a "73" code displayed on the remote controller and a cease in operation. If this occurs, disconnect, then reconnect electrical power to the water heater to reset the system.



## 9. Gas Piping

Follow the instructions from the gas supplier.

### ⚠ CAUTION

The guidelines and examples we have provided in this manual section are for reference only. The sizing and installation of the gas system for this water heater, as with any gas appliance, is the sole responsibility of the installer. The installer must be professionally trained to do such work and must always follow all local and national codes and regulations. Gas line sizing calculations must be performed for every installation. Please contact Noritz America at 866-766-7489 if you have any questions or concerns.

#### Gas Type

The gas type indicated on the water heater rating plate (NG or LP) must match the type of gas being supplied to the water heater.

#### Gas Conversions

If the gas type supplied does not match the gas type on the rating plate, contact your water heater supplier for a replacement unit with the proper gas type. If a gas type conversion must be made, there are conversion kits available for some models. [The conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. The qualified service agency is responsible for the proper installation of this kit. Improper installation of this kit will void the warranty. Conversion kits will only be shipped directly to the Distributor or Agency performing the conversion.]

#### Meter

The gas meter must be sized properly for the water heater and other gas appliances to operate properly. Select a gas meter capable of supplying the entire btuh demand of all gas appliances in the building.

### ⚠ CAUTION

#### Regulators

Ensure that all gas regulators used are operating properly and providing gas pressures within the specified range of the water heater being installed. Excess gas inlet pressure may cause serious accidents.

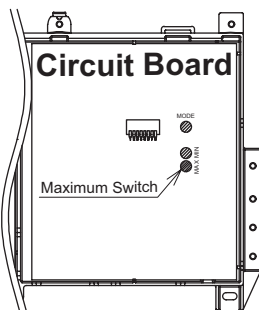
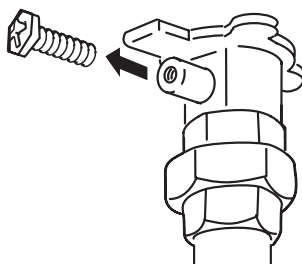
### ⚠ WARNING

#### Pressure

Check the gas supply pressure immediately upstream at a location provided by the gas company. Supplied gas pressure must be within the limits shown in the specifications section with all gas appliances operating. The inlet gas pressure must be within the range specified. This is for the purposes of input adjustment. Low gas pressure may cause a loss of flame or ignition failure at other appliances in the home, which may result in unburned gas in the home. Serious accidents such as fire or explosion may result.

#### Measuring Gas Pressure

In order to check the gas supply pressure to the unit, a tap is provided on the gas inlet. Remove the **9/32" hex head/Philips screw** from the tap, and connect a manometer using a silicon tube. Open up at least 2 fixtures and hold in the "Maximum Switch" on the circuit board. Please call Noritz for details.



## ⚠ WARNING

### Pressure Test

The appliance and its gas connections must be leak tested before placing the appliance in operation. The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ psig (3.5 kPa). We do not recommend pressure testing in excess of ½ psig (3.5kPa). If it must be done, the appliance and its individual shutoff valve must be completely disconnected from the gas supply piping system during the test process.

### Pipe Sizing/Flexible Connectors

A gas shutoff valve must be installed on the supply line. Gas flex lines are not recommended unless the minimum inside diameter is ¾" or greater and the rated capacity of the connector is equal to or greater than the BTU capacity of the water heater. Gas piping shall be in accordance with local utility company requirements and/or in the absence of local codes, use the latest edition of National Fuel Gas Code (NFPA54GC), ANSI Z223.1. In Canada, use the latest edition of CSA B149.1, National Gas and Propane installation code. Size the gas line according to total btuh demand of the building and length from the meter or regulator so that the following supply pressures are available even at maximum demand.

**Natural Gas Supply Pressure**  
**Min 3.5" WC**  
**Max 10.5" WC**

**LP Gas Supply Pressure**  
**Min 8" WC**  
**Max 14" WC**

## Reference Tools & Sample Calculations

## ⚠ CAUTION

The tables and samples below are for reference only. The professional sizing and installing the gas line should always run the appropriate calculations before all installations.

### Which Table to Use

- For NG installations with the initial supply pressure at point of delivery (at the meter, for example) is less than 8" WC, use the 0.5" WC pressure drop table (Table 1).
- For NG installations with the initial supply pressure at point of delivery is greater than or equal to 8" WC, use the 3.0" pressure drop table (Table 2).
- For all LP installation use (Table 3)

The inlet pressure must be at least 5" WC for NG or 8" WC for LP for all appliances in the gas system. If the inlet gas pressure drops below 5" WC for NG or 8" WC for LP, the heater may continue to operate, but the other appliances in the house may experience flame loss or ignition failure, which can result in gas leakage into the home. Refer to the NFPA 54 for details.

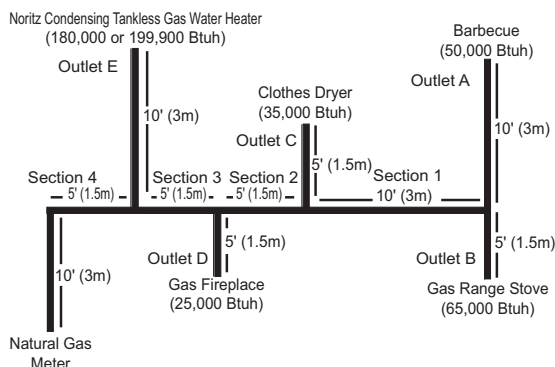
Please contact Noritz for details. For corrugated stainless steel tubing (CSST) capacity tables, please consult with the manufacturer.

**Table 1. For Less than 8" WC initial supply pressure**

Maximum Natural Gas Delivery Capacity (0.5" Pressure Drop) [Schedule 40 Metallic Pipe]

Pipe Size	Length (including fittings)										
	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	125'
	(3m)	(6m)	(9m)	(12m)	(15m)	(18m)	(21m)	(24m)	(27m)	(30m)	(38m)
3/4"	360	247	199	170	151	137	126	117	110	104	92
1"	678	466	374	320	284	257	237	220	207	195	173
1 1/4"	1,390	957	768	657	583	528	486	452	424	400	355
1 1/2"	2,090	1,430	1,150	985	873	791	728	677	635	600	532
2"	4,020	2,760	2,220	1,900	1,680	1,520	1,400	1,300	1,220	1,160	1,020
2 1/2"	6,400	4,400	3,530	3,020	2,680	2,430	2,230	2,080	1,950	1,840	1,630
3"	11,300	7,780	6,250	5,350	4,740	4,290	3,950	3,670	3,450	3,260	2,890
4"	23,100	15,900	12,700	10,900	9,660	8,760	8,050	7,490	7,030	6,640	5,890

Values in Table are in Cubic Feet of Gas per Hour (0.60 Specific Gravity, 0.5" Pressure Drop, inlet pressure less than 2psi). Contact your gas supplier for BTU/Cubic Foot ratings. For simplification of your calculations, 1 Cubic Foot of Gas is approximately equivalent to 1000 BTU.

**Sample Gas Line****Instructions**

1. Size each outlet branch starting from the furthest using the Btuh required and the length from the meter.
2. Size each section of the main line using the length to the furthest outlet and the Btuh required by everything after that section.

**Sample Calculation - (Using 0.5" WC Pressure Drop Table)**

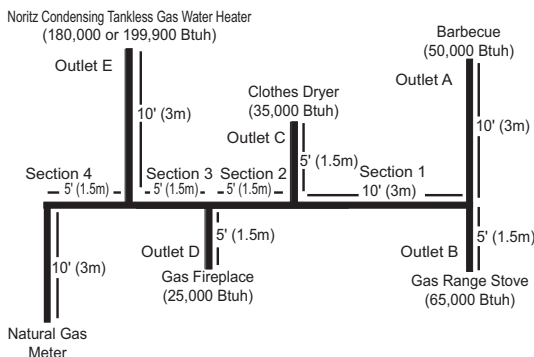
Outlet A: 45' (13.5m) (Use 50' (15m)), 50,000 Btuh requires 1/2"  
 Outlet B: 40' (12m), 65,000 Btuh requires 1/2"  
 Section 1: 45' (13.5m) (Use 50' (15m)), 115,000 Btuh requires 3/4"  
 Outlet C: 30' (9m), 35,000 Btuh requires 1/2"  
 Section 2: 45' (13.5m) (Use 50' (15m)), 150,000 Btuh requires 3/4"  
 Outlet D: 25' (7.5m) (Use 30' (9m)), 25,000 Btuh requires 1/2"  
 Section 3: 45' (13.5m) (Use 50' (15m)), 175,000 Btuh requires 1"  
 Outlet E: 25' (7.5m) (Use 30' (9m)), 180,000 or 199,900 Btuh requires 3/4"  
 Section 4: 45' (13.5m) (Use 50' (15m)), 355,000 Btuh requires 1 1/4"

**Table 2. For 8" WC – 10.5" WC initial supply pressure**

Maximum Natural Gas Delivery Capacity (3.0" Pressure Drop) [Schedule 40 Metallic Pipe]

Pipe Size	Length (including fittings)										
	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	125'
	(3m)	(6m)	(9m)	(12m)	(15m)	(18m)	(21m)	(24m)	(27m)	(30m)	(38m)
1/2"	454	312	250	214	190	172	158	147	138	131	116
3/4"	949	652	524	448	397	360	331	308	289	273	242
1"	1,787	1,228	986	844	748	678	624	580	544	514	456
1 1/4"	3,669	2,522	2,025	1,733	1,536	1,392	1,280	1,191	1,118	1,056	936
1 1/2"	5,497	3,778	3,034	2,597	2,302	2,085	1,919	1,785	1,675	1,582	1,402
2"	10,588	7,277	5,844	5,001	4,433	4,016	3,695	3,437	3,225	3,046	2,700
2 1/2"	16,875	11,598	9,314	7,971	7,065	6,401	5,889	5,479	5,140	4,856	4,303
3"	29,832	20,503	16,465	14,092	12,489	11,316	10,411	9,685	9,087	8,584	7,608
4"	43,678	30,020	24,107	20,632	18,286	16,569	15,243	14,181	13,305	12,568	11,139

Values in Table are in Cubic Feet of Gas per Hour (0.60 Specific Gravity, 3.0" Pressure Drop, 8.0" WC or greater supply pressure, inlet pressure less than 2psi). Contact your gas supplier for BTU/Cubic Foot ratings. For simplification of your calculations, 1 Cubic Foot of Gas is approximately equivalent to 1000 BTU.

**Sample Gas Line****Instructions**

1. Size each outlet branch starting from the furthest using the Btuh required and the length from the meter.
2. Size each section of the main line using the length to the furthest outlet and the Btuh required by everything after that section.

**Sample Calculation (Using 3.0" WC Pressure Drop Table)**

Outlet A: 45' (13.5m) (Use 50' (15m)), 50,000 Btuh requires 1/2"  
 Outlet B: 40' (12m), 65,000 Btuh requires 1/2"  
 Section 1: 45' (13.5m) (Use 50' (15m)), 115,000 Btuh requires 1/2"  
 Outlet C: 30' (9m), 35,000 Btuh requires 1/2"  
 Section 2: 45' (13.5m) (Use 50' (15m)), 150,000 Btuh requires 1/2"  
 Outlet D: 25' (7.5m) (Use 30' (9m)), 25,000 Btuh requires 1/2"  
 Section 3: 45' (13.5m) (Use 50' (15m)), 175,000 Btuh requires 1/2"  
 Outlet E: 25' (7.5m) (Use 30' (9m)), 180,000 or 199,900 Btuh requires 1/2"  
 Section 4: 45' (13.5m) (Use 50' (15m)), 355,000 Btuh requires 3/4"

**Table 3. Maximum Undiluted Propane (LP) Delivery Capacity in Thousands of BtuH (0.5" WC Pressure Drop) [Schedule 40 Metallic Pipe]**

Pipe Size	Length (including fittings)											
	10' (3m)	20' (6m)	30' (9m)	40' (12m)	50' (15m)	60' (18m)	80' (24m)	100' (30m)	125' (38m)	150' (45m)	175' (53m)	200' (60m)
1/2"	291	200	160	137	122	110	101	94	89	84	74	67
3/4"	608	418	336	287	255	231	212	197	185	175	155	140
1"	1,150	787	632	541	480	434	400	372	349	330	292	265
1 1/4"	2,350	1,620	1,300	1,110	985	892	821	763	716	677	600	543
1 1/2"	3,520	2,420	1,940	1,660	1,480	1,340	1,230	1,140	1,070	1,010	899	814
2"	6,790	4,660	3,750	3,210	2,840	2,570	2,370	2,200	2,070	1,950	1,730	1,570

For reference only. Please consult gas pipe manufacturer for actual pipe capacities.

## ⚠ CAUTION

### Final Check

When the installation is complete, verify that inlet gas pressure for the entire gas system does not drop below 5" WC for NG or 8" WC for LP at all appliances. This can be tested by turning on all gas burning appliances including the water heater, then check the inlet pressure at each appliance to verify all appliances are receiving a minimum of 5" WC for NG or 8" WC for LP. If all appliances are not receiving the minimum inlet pressure the gas piping system may need to be changed.



# 10. Water Piping

Installation and service must be performed by a qualified plumber. In the Commonwealth of Massachusetts, this product must be installed by a licensed plumber or gas fitter in accordance with the Massachusetts Plumbing and Fuel Gas Code 248 CMR Sections 2.00 and 5.00. Observe all applicable codes.

This appliance is suitable for combination potable water and space heating applications. It cannot be used for space heating applications only. Do not use this appliance if any part has been underwater. Immediately call a qualified service technician to inspect the appliance and replace any part of the control system and gas control which has been under water.

If the 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 a local plumbing inspector on how to control this situation.

A pressure relief valve must be installed near the hot water outlet that is rated in accordance with and complying with either The Standard for Relief Valves and Automatic Shutoff Devices for Hot Water Supply Systems, ANSI Z21.22, or The ANSI/ASME Boiler and Pressure Vessel Code, Section IV (Heating Boilers). This pressure relief valve must be capable of an hourly Btu rated temperature steam discharge of 199,900 Btuh. Multiple valves may be used. The pressure relief capacity must not exceed 150 psig. No valve shall be placed between the relief valve and the water heater. The relief valve must be installed such that the discharge will be conducted to a suitable place for disposal when relief occurs. No reducing coupling or other restriction may be installed in the discharge line. The discharge line must be installed to allow complete drainage of both the valve and the line. If this unit is installed with a separate storage vessel, the separate vessel must have its own temperature and pressure relief valve. This valve must also comply with The Standard for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems, ANSI Z21.22. (in the U.S. only). A temperature relief valve is not required, but if one is used, do not install the valve with the probe directly in the flow of water. This may cause unwarranted discharge of the valve.

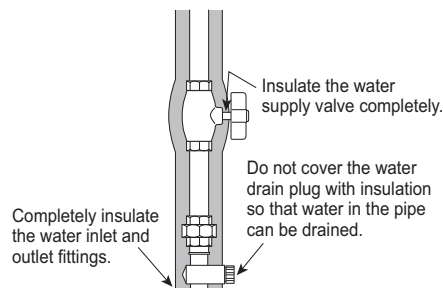
Piping and components connected to the water heater shall be suitable for use with potable water.

Toxic chemicals, such as those used for boiler treatment, shall not be introduced into the potable water.

A water heater used to supply potable water may not be connected to any heating system or components previously used with a nonpotable water heating appliance.

When water is required in one part of the system at a higher temperature than in the rest of the system, means such as a mixing valve shall be installed to temper the water to reduce the scald hazard.

- Flush water through the pipe to clean out metal powder, sand and dirt before connecting it.
- Perform the following insulation measures for prevention of freezing.
  - Take appropriate heat insulation measures (e.g., wrapping with heat insulation materials, using electric heaters) according to the climate of the region to prevent the pipe from freezing.
  - Make sure that there are no water leaks from the cold and hot water supply pipes, then insulate the pipes completely.
  - Be sure to also completely insulate the water supply valve and the cold and hot water connections on the water heater (refer to the figure on the right).
  - Do not cover the water drain plug with insulation so that water in the pipe can be drained. (Refer to the figure in the right.)
- Use a union coupling or flexible pipe for connecting the pipes to reduce the force applied to the piping.
- Do not use piping with a diameter smaller than the coupling.
- When feed water pressure is too high, insert a depressurizing valve, or take water hammer prevention measure.
- Avoid using joints as much as possible to keep the piping simple.
- Avoid piping in which an air holdup can occur.
- If installing the unit on a roof:
- About lower-level hot water supply, water heater is installed at high altitudes



If the unit is installed on a roof to supply water to the levels below, make sure that the water pressure supplied to the unit does not drop below 29 psi. It may be necessary to install a pump system to ensure that the water pressure is maintained at this level or to decrease the flow rate by adjusting the water fixture.

Check the pressure before putting the unit into operation.

Failure to supply the proper pressure to the unit may result in noisy operation, shorter lifetime of the unit, and may cause the unit to shut down frequently.

### Supply water piping

- Do not use PVC, iron, or any piping which has been treated with chromates, boiler seal or other chemicals.
- Mount a check valve and a shut off valve (near the inlet).
- In order for the client to use the water heater comfortably, 15 to 150 PSI\* (103.4 to 1034 kPa) of pressure is needed from the water supply. Be sure to check the water pressure. If the water pressure is low, the water heater cannot perform to its full capability, and may become a source of trouble for the client.  
\* Recommended 30 psi or more for maximum performance.

### Hot water piping

- Do not use lead, PVC, iron or any piping which has been treated with chromates, boiler seal or other chemicals.
- The longer the piping, the greater the heat loss. Try to make the piping as short as possible.
- Use mixing valves with low water resistance. Use shower heads with low pressure loss.
- If necessary, use a pump or other means to ensure that the supply water pressure to the inlet of the heater does not fall below 29 PSI when the maximum amount of water is being demanded. Also install a pressure meter on the inlet. If this is not done, local boiling will occur inside the water heater causing abnormal sounds and decreasing the durability of the heat exchanger.
- Noritz recommends the installation of a wye pattern strainer downstream on the hot water supply to prevent loose scale from accumulating and clogging fixtures.

### Freeze Prevention

#### <Indoor Installation>

- Freezing is prevented within the device automatically unless the outside temperature without wind is below -30°F (-35°C).  
\* When combustion air is supplied from the indoors, the room temperature must be greater than 32°F (0°C) to prevent freezing and the room inside must not have negative pressure.
- If this model is installed in an area where the outside temperature can approach freezing conditions of -30°F (-35°C) or below, then additional freeze protection measures must be used. For temporary freeze protection measures, refer to the Owner's Guide.

#### <Outdoor Installation>

- Freezing is prevented within the device automatically unless the outside temperature without wind is below -4°F (-20°C).
- If this model is installed in an area where the outside temperature can approach freezing conditions of -4°F (-20°C) or below, then additional freeze protection measures must be used.

#### <Both Indoor and Outdoor Installation>

- The freeze prevention heaters will not prevent the plumbing external to the unit from freezing. Protect this plumbing with insulation, heat tape or electric heaters, solenoids, or pipe covers.
- In order for the freeze prevention heaters to operate, the water heater must have power at all times.

Damage to the water heater as a result of the below is not covered by the Noritz America Limited Warranty.

- Water in excess of 12 gpg (200mg/L) of hardness
- Poor water quality (see table to the right)

Total Hardness*	: 200 mg/L (12 gpg) or less
Aluminum	: 0.05 to 0.2 mg/L or less
Chloride	: 250 mg/L or less
Copper	: 1 mg/L or less
Iron	: 0.3 mg/L or less
Manganese	: 0.05 mg/L or less
pH	: 6.5 - 8.5
Total Dissolved Solids	: 500 mg/L or less
Zinc	: 5 mg/L or less
Sulfate ion	: 250 mg/L or less
Residual chlorine	: 4 mg/L or less

\* Maximum limit suggested by Noritz.

## Water Treatment

If this water heater will be installed in an application where the supply water is hard, the water must be treated with either the Noritz ScaleShield or a water softener. Refer to the below tables for suggested treatment and maintenance measures to be taken based on the water hardness level. If this water heater will be installed in an application where the supply water is hard, Scale Build-up may cause damage to the Heat Exchanger. To prevent damage to the Heat Exchanger, the Heat Exchanger regularly needs to be flushed. Refer to the "Procedure for flushing the Heat Exchanger" on page 37 or contact Noritz America for more information. (<http://support.noritz.com/> or 866-766-7489)

This water heater is equipped with an automatic service reminder to announce for flushing the Heat Exchanger. The factory default of this service reminder is OFF. The customer or installer needs to set the service reminder to ON or OFF. Refer to the "How to select the Service Reminder" on page 36. If the service reminder is selected to ON, the code "C1#\*" will displayed on the remote controller after the set time period has been reached. When the code is displayed, the Heat Exchanger needs to be flushed to prevent damage from Scale Build-up.

\* # = 1, 2, 3, 4 ... 9

Damage to the water heater as a result of the items below is not covered by the Noritz America Limited Warranty.

- Water in excess of 12 gpg (200mg/L) of hardness
- Poor water quality (See the Water Quality List on page 34.)
- The water heater has displayed a "C1# (Service Reminder)" indicating Scale Build-up, but the heat exchanger has not been flushed.

Note: Water softeners may be regulated by the local water jurisdiction, consult with the manufacturer for code, sizing, and installation guidelines; the below diagram is for reference only. For more information about ScaleShield, contact Noritz America at <http://support.noritz.com/> or 866-766-7489.

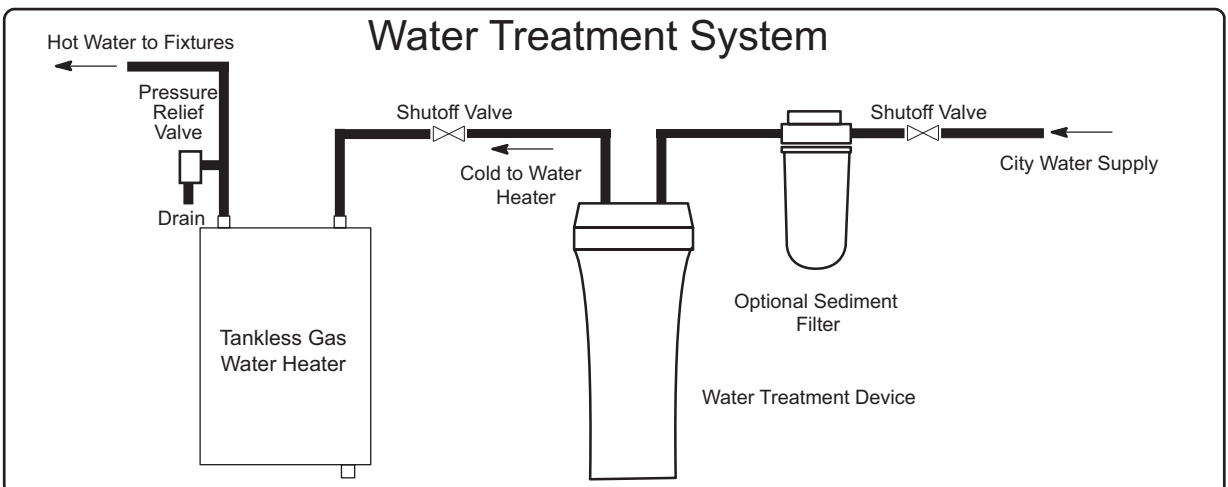
### Treatment Guidelines

Type of Water	Hardness Level	Treatment Device*	Flush Frequency**
			Residential Use
Soft	0-1 gpg (0-17 mg/L)	None	None
Slightly Hard	1-3 gpg (17-51 mg/L)	None	None
Moderately Hard	3-7 gpg (51-120 mg/L)	ScaleShield or Water Softener	Once a Year***
Hard	7-10 gpg (120-171 mg/L)	ScaleShield or Water Softener	Once a Year***
Very Hard	10-12 gpg (171-200 mg/L)	ScaleShield or Water Softener	Once a Year***
Extremely Hard	> 12 gpg (> 200 mg/L)	ScaleShield or Water Softener	Once a Year***

\* When selecting a treatment device, you must consult with the device's spec sheet and installation manual for guidelines and limitations. Not all water supplies are compatible - a water test may be required.

\*\* Install Noritz Isolation Valves to allow for flushing.

\*\*\* Flushing is required if a water treatment device is not installed.



▲ The illustration is an example. Please check with the actual water heater about the position of piping, and form.

## How to select the Service Reminder

This water heater is equipped with an automatic service reminder to announce for flushing the Heat Exchanger. The factory default of this service reminder is OFF. The customer or installer needs to set the service reminder to ON or OFF.

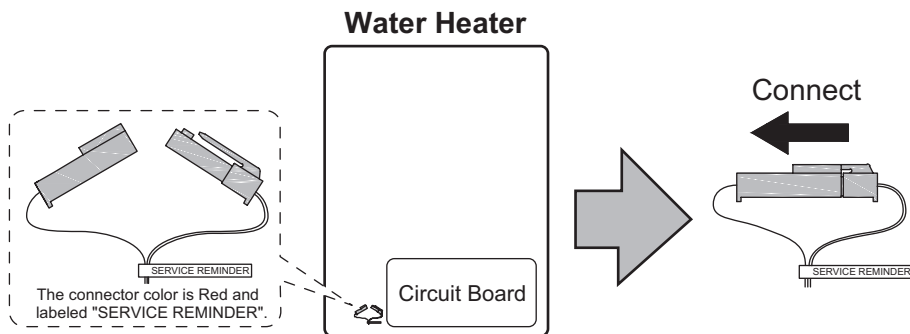
If the service reminder is selected to ON, the code "C1#" will displayed on the remote controller after the set time period has been reached. When the code is displayed, the Heat Exchanger needs to be flushed to prevent damage from Scale Build-up.

\* Nortiz recommends to flush the Heat Exchanger when the code "C1#" appears.

# = 1, 2, 3, 4 ... 9

< Procedure when turning the service reminder ON >

1. Open the Front Cover.  
There is the red connector marked "SERVICE REMINDER" near the Circuit Board.  
Factory default of the connector is disconnected.
2. Connect the red connector marked "SERVICE REMINDER".  
The service reminder is operating when connecting red connector marked "SERVICE REMINDER".
3. Close the Front Cover.



### When the code "C1#" appears:

There are two way to reset the code "C1#" as follow.

1. Disconnect the red connector marked "SERVICE REMINDER"  
The service reminder is turned OFF, and then the code "C1#" disappears.
2. Flush the Heater Exchanger.  
After finish flushing, the code will be reset.  
Refer to the "Procedure for flushing the Heat Exchanger" on page 37.

# Procedure for Flushing the Heat Exchanger

This procedure is only intended for use by a qualified service professional or authorized Noritz Service Representative. Any unauthorized use of this procedure may result in voiding the warranty. Please contact Noritz America (866-766-7489) for additional support.

If the alarm code "C1#\*" is flashing on the Remote Controller, it means there is Scale Build-up in the Heat Exchanger. To prevent damage to the Heat Exchanger from Scale Build-up, the Heat Exchanger needs to be flushed\*\* to remove the Scale Build-up.

Damage to the water heater due to Scale Build-up is not covered by the water heater's warranty.

To clear the alarm code "C1#\*", the Heat Exchanger must be flushed.

If the alarm code "C\*#" is displayed and flashing on the Remote Controller, please contact Noritz America (866-766-7489).

\* Warning indication, # = 1~9

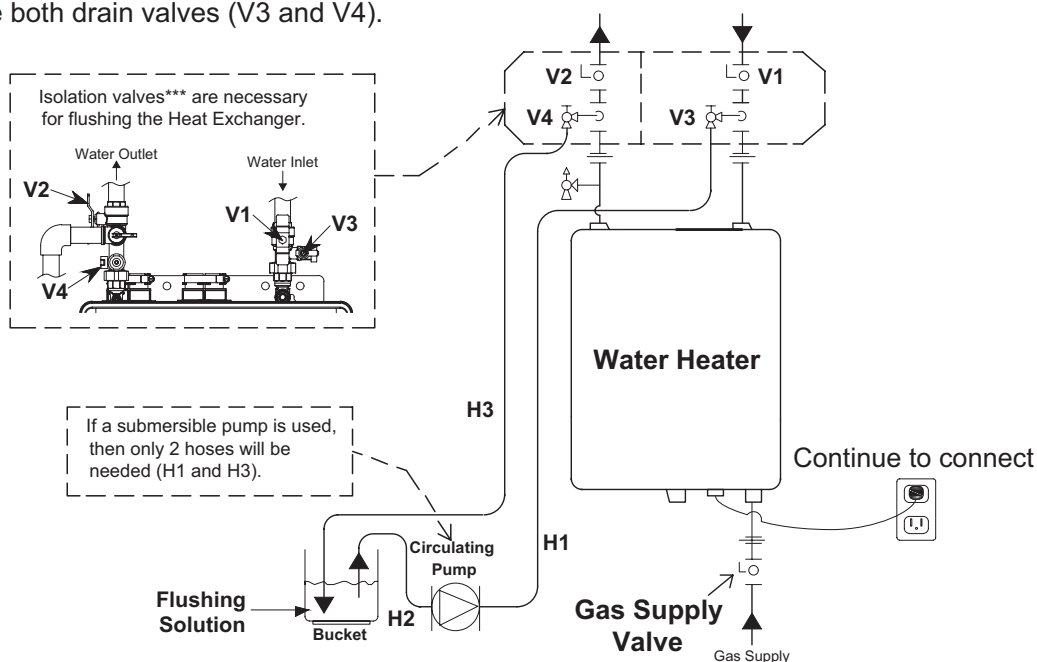
\*\* Connect the blue connector marked "FLUSH" for flushing near the Circuit when flushing the Heat Exchanger. After connecting it, the water heater is set to "Flushing Mode".

The water heater must remain connected to electrical power when flushing the Heat Exchanger.

## Basic Procedure

### «Procedure 1. The preparation of the flushing system»

1. Close the gas supply valve.
2. Close the water inlet valve (V1) and the water outlet valve (V2).
3. Connect the one drain hose (H1) to the drain valve (V3), and then the other to the circulating pump.
4. Connect the drain hose (H2) to the circulating pump.
5. Connect the drain hose (H3) to the drain valve (V4).
6. Pour 1 gallon of "Calcium, Lime and Rust Removal Product" and 1 gallon water into the bucket. Noritz recommends "Calcium, Lime and Rust Removal Product" for flushing.
7. Place the both drain hoses (H2 and H3) into the bucket filled with the flushing solution.
8. Open the both drain valves (V3 and V4).

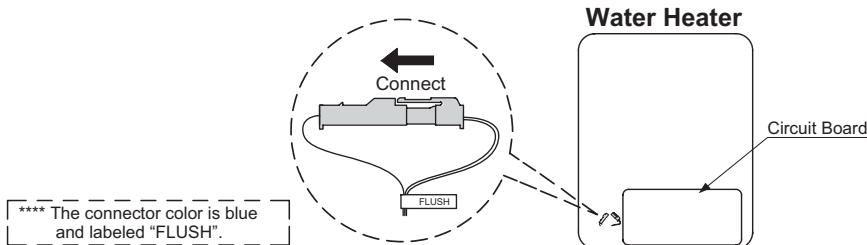


\*\*\* Isolation valves may be purchased as an accessory from an authorized Noritz wholesaler.

They allow for full diagnostic testing and easy flushing of the system. Contact Noritz America for more information.(866-766-7489)

## 《Procedure 2. Flushing the Heat Exchanger – For Single Unit》

1. Open the Front Cover.
2. Connect the blue connector\*\*\*\* marked "FLUSH" for flushing near the Circuit Board.



3. Then the code "CCC" is displayed on the Remote Controller.
4. Turn on the circulating pump to circulate the flushing solution through the water heater for 1 hour at a rate of 1.5 gallons per minute or more.
5. The code "C60" is displayed on the Remote Controller when the water heater detects the flow of the flushing solution.

When 1 minute passes, the code "C60" will change to "C59" on the Remote Controller.



Please check whether the reverse connection of the hose (H1) and (H3) if the display number will not change. In that case, the flow rate of the flushing solution may be under 1.5 gallons per minute.

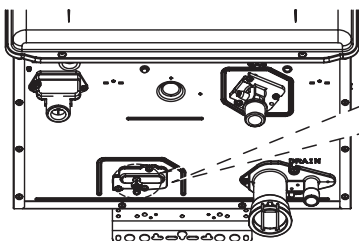
6. When 1 hour passes, the code "C00" is flashing on the Remote Controller.  
Do not disconnect the blue connector marked "FLUSH" for flushing.
7. Turn off the circulating pump.



## 《Procedure 3. Cleaning the Heat Exchanger》

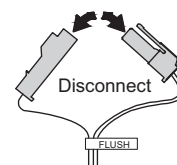
The flushing solution needs to be rinsed and cleaned out of the water heater. Below is the way to rinse and clean the flushing solution.

1. Remove both drain hoses (H2 and H3) from the bucket. And then place the drain hose (H3) into the sink or outside to drain.
2. Close the drain valve (V3) and then open the water inlet valve (V1).  
Do not open the fresh water outlet valve (V2).
3. Clean the water heater with fresh water for 3 minutes or more.  
(Needs to have enough time to clean the water heater.)



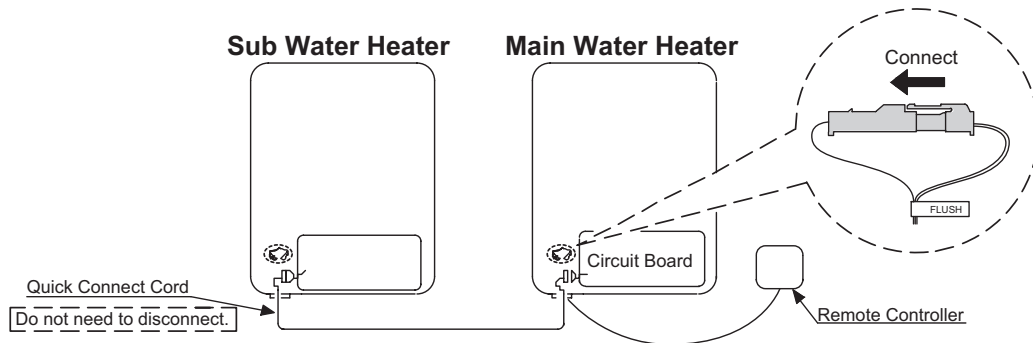
NOTE : If EZ98DV(GQ-C2859WX-FF US) or EZ111DV(GQ-C3259WX-FF US) is installed, the unit has the "Water Drain Valve" from the bottom of the water heater. Place a bucket under the water heater to drain water from the "Water Drain Valve". Carefully unscrew the "Water Drain Valve" to rinse flushing solution out of the water heater for about 10 seconds. Then close the "Water Drain Valve".

4. Close the drain valve (V4) and then remove the drain hose (H3) from the drain valve (V4).
5. Remove the drain hose (H1) from the drain valve (V3).
6. Disconnect the blue connector marked "FLUSH" for flushing.  
The code "C00" goes out on the Remote Controller.
7. Close the Front Cover.
8. Open the gas supply valve and water outlet valve (V2).
9. Check for correct operation of the water heater.



## In case of the “Quick Connect Multi System Procedure”

1. Connect the blue connector marked "FLUSH" for unit needing to be flushed.  
(The water heater is isolated from Quick Connect Multi system when the blue connector marked "FLUSH" for flushing is connected. Do not need to disconnect the Quick Connect Cord.)

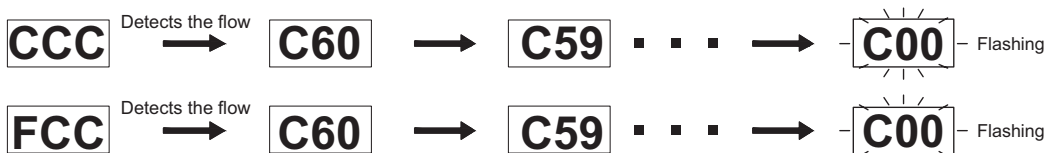


2. Then the code “CCC” or “FCC” is displayed on the Remote Controller.

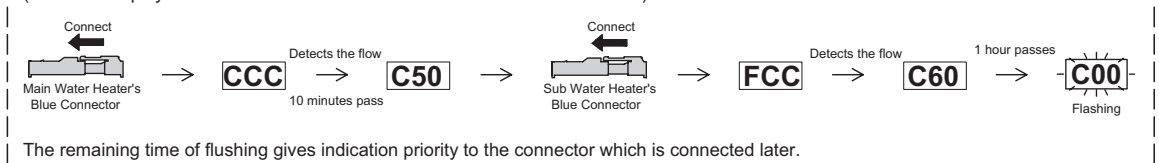
**CCC** is displayed when the Main Water Heater's blue connector is connected.

**FCC** is displayed when the Sub Water Heater's blue connector is connected.

3. Turn on the circulating pump to circulate the flushing solution through the water heaters for 1 hour at a rate of 1.5 gallons per minute or more.
4. When 1 hour passes, the code “C00” is flashing on the Remote Controller.  
Do not disconnect the blue connector marked "FLUSH" for flushing.



(Ex. : The display when the both water heaters are flushed at the same time.)



5. Turn off the circulation pump.
6. Rinse and clean the flushing solution out of the water heaters in accordance with “Procedure 3”.  
(See the “Procedure 3.1-3.5”.)



**NOTE :** Place a bucket under the water heater to drain water from the “Water Drain Valve”. Carefully unscrew the “Water Drain Valve” to rinse flushing solution out of the water heater for about 10 seconds. Then close the “Water Drain Valve”.

7. Disconnect the blue connector marked "FLUSH" for flushing.  
The Code “C00” goes out on the Remote Controller.
8. Close the Front Covers.
9. Open the gas supply valves and water outlet valves.
10. Check for correct operation of the water heaters.

Please contact Noritz America if more information is needed for flushing.  
(Phone # : 866-766-7489)

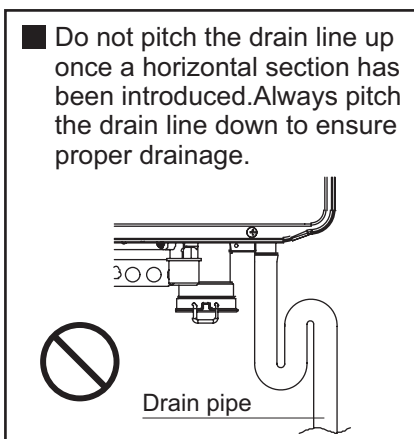
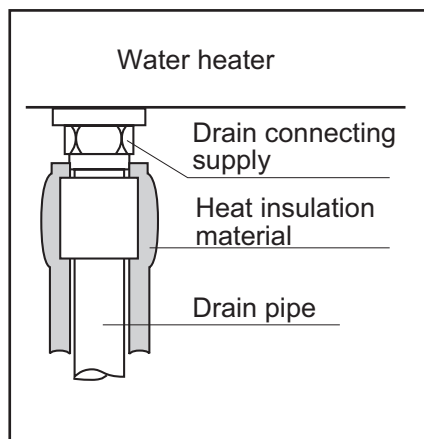


# 11. Condensate Piping

## ⚠ CAUTION

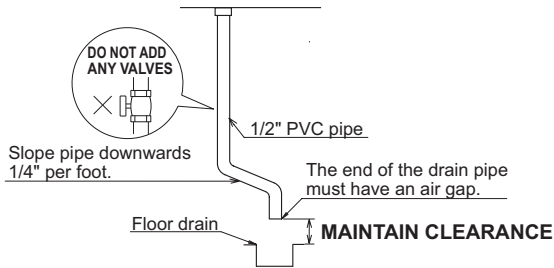
Due to the acidic nature of the condensate, be sure to properly drain and if necessary, treat the condensate prior to disposal. Damage caused by improperly handled condensate is not covered by the warranty.

- This water heater is a high efficiency, fully condensing appliance which produces acidic condensate during operation. The water heater incorporates a collection and removal system which must be properly drained in order to ensure proper operation of this appliance.
- The pH level of the condensate is approximately 2-3. An external neutralizer must be installed on the drain piping prior to disposal when required by local code or when the condensate could cause damage.
- If an external neutralizer is installed, periodic replacement of the neutralizing agent will be required. Refer to the instructions supplied with the neutralizer for suggested replacement intervals.
- In order to drain the condensate, a 1/2" threaded fitting is provided at the base of the water heater. Do not reduce the size of this fitting or the drain piping to less than 1/2". In cold climates, do not drain the condensate to the outdoors. If the drain pipe freezes during cold weather, the pipe will not drain condensate and the unit will stop operating.
- Use plastic pipe, such as PVC, for the drain line. Do not use steel, black iron, or any other material which can corrode when placed into contact with acidic condensate.
- Keep the length of the drain pipe as short as possible. Long runs or applications where the nearest drain is above the water heater will require the use of a condensate pump. Size the pump to allow for a maximum condensate discharge of 2 GPH from the water heater.
- Horizontal runs must be sloped 1/4" per foot towards the drain or condensate pump. The condensate will be discharged by gravity force only. Make the drain pipe run as short as possible.
- The end of the drain pipe must not be submerged in water or blocked in any way. To ensure proper drainage, leave the end of the drain pipe open to the atmosphere. Do not have a trap. Also, make sure that there are no obstructions blocking the drain line from discharging condensate.
- Be sure to check that condensate is freely flowing from the drain piping after the system has been installed. Condensate will begin flowing out of the water heater within 15 minutes after operation has started.
- Take measures to prevent the condensate drain lines from freezing (insulation, heat tape, electric heaters, etc.).

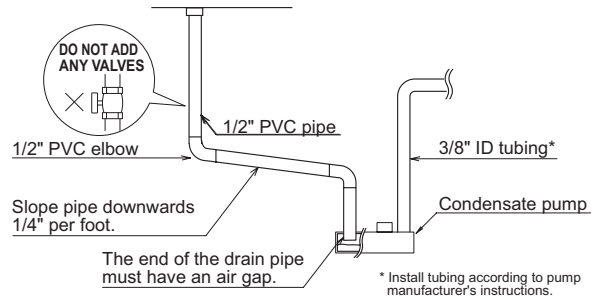




### Condensate piping to floor drain



### Condensate piping with pump



#### Note:

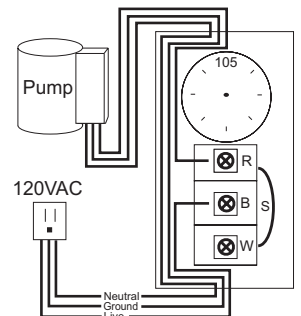
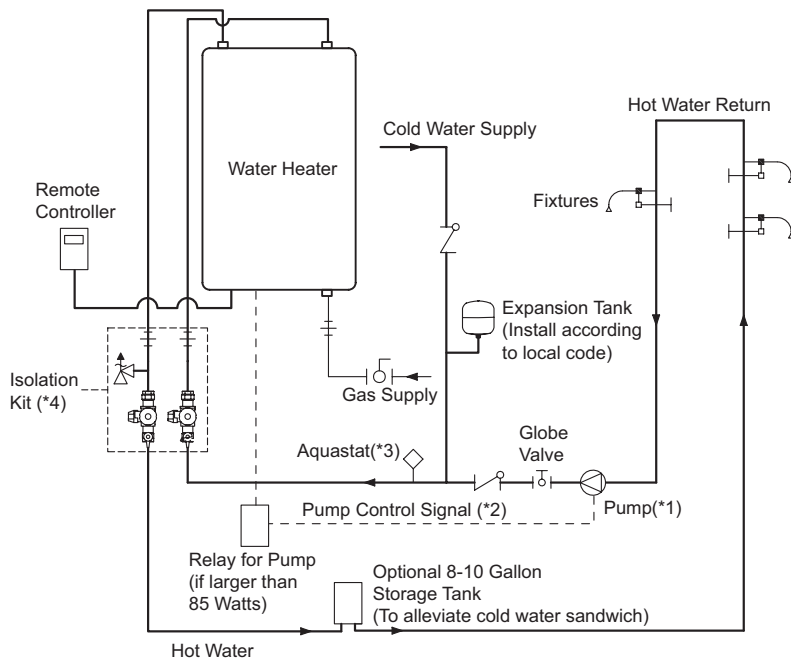
If the drain line becomes clogged or frozen, condensate will back-up into the water heater and a "90" error code will flash on the remote controller, ceasing operation. If this occurs, clear the clog or freeze so that condensate can freely flow. Be sure to slope the drain pipe, use the appropriate size pipe, allow the proper clearances, and apply freeze prevention measures (when necessary) to prevent the drain line from clogging or freezing.

# 12. Plumbing Applications

## Recirculation System

### Notes:

1. Size the pump to provide a maximum of 2 GPM (7.5 L/min.) through the system at 10 ft (3m) of head plus piping losses.  
Adjust the flow using a globe valve and verify the flow rate with the maintenance monitors.
2. Pump Control Signal is the preferred method to control the recirculation pump.  
For pumps larger than 85W, a relay connection must be used. If the Pump Control Signal is not used, an Aquastat may be used to control the pump.
3. Set the Aquastat to 10°F below the set output temperature.  
An aquastat is the minimum pump control requirement in order to maintain the full recirculation warranty.
4. Noritz recommends the use of an Isolation Kit with the installation.  
These kits include an integrated shut-off and service valve with unions and a pressure relief valve.

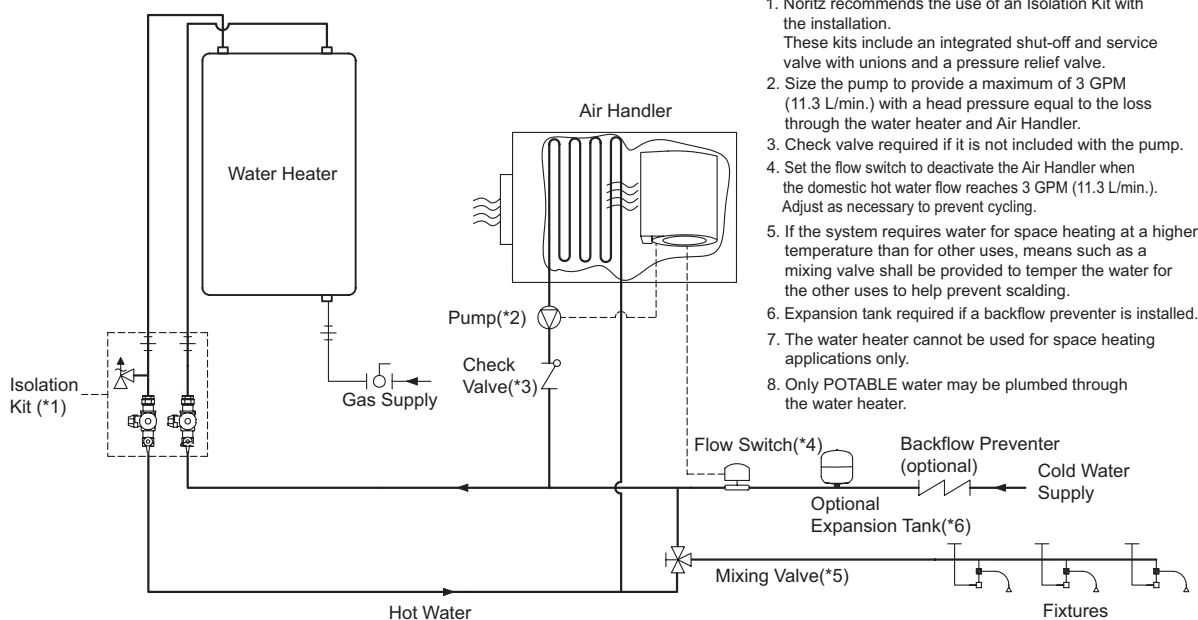


**Aquastat Wiring**  
Use Honeywell Aquastat  
(Model L6006A or L6006C)

## Combination Potable Water and Space Heating System

### Notes:

1. Noritz recommends the use of an Isolation Kit with the installation.  
These kits include an integrated shut-off and service valve with unions and a pressure relief valve.
2. Size the pump to provide a maximum of 3 GPM (11.3 L/min.) with a head pressure equal to the loss through the water heater and Air Handler.
3. Check valve required if it is not included with the pump.
4. Set the flow switch to deactivate the Air Handler when the domestic hot water flow reaches 3 GPM (11.3 L/min.).  
Adjust as necessary to prevent cycling.
5. If the system requires water for space heating at a higher temperature than for other uses, means such as a mixing valve shall be provided to temper the water for the other uses to help prevent scalding.
6. Expansion tank required if a backflow preventer is installed.
7. The water heater cannot be used for space heating applications only.
8. Only POTABLE water may be plumbed through the water heater.



# 13. Electrical Wiring

Consult a qualified electrician for the electrical work.



Disconnect Power

Do not connect electrical power to the unit until all electrical wiring has been completed.

This appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70. In Canada, the latest CSA C22.1 Electrical Code.

**Caution:** Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

Verify proper operation after servicing.

Field wiring to be performed at time of appliance installation.

## ⚠ WARNING

### Electrical Shock Hazard

Do not turn power on until electrical wiring is finished. Disconnect power before servicing.

Failure to do so may result in death or serious injury from electrical shock.

- The electrical supply required by the water heater is 120VAC at 60 Hz.  
The power consumption may be up to 178W or higher if using optional accessories.  
Use an appropriate circuit.
- Do not disconnect the power supply when not in use. When the power is off, the freeze prevention in the water heater will not activate, resulting in possible freezing damage.
- Do not let the power cord contact the gas piping.

Tie the redundant power cord outside the water heater. Putting the redundant length of cord inside the water heater may cause electrical interference and faulty operation.

### Ground

- To prevent electrical shock, provide a ground with resistance less than 100Ω. An electrician should do this work.

Do not connect the ground to the city water or gas piping. Do not tie the ground to a telephone line.

### Breaker Installation

- Mount a device which shuts off the electrical path automatically (leakage breaker) when electrical leakage is detected.

## ⚠ CAUTION

Electrostatic discharge can affect electronic components. Take precautions to prevent electrostatic discharges from personnel or hand tools during the water heater installation and servicing to protect product's electronic control.

## Remote Controller

### • Applicable Model

Remote controller

RC-7651M

\* Remarks [125 °F / 55 °C]

— Celsius display mode  
— Fahrenheit display mode

Install the remote controller according to the instructions in the Installation Guide (p. 51).

- \* Only one remote controller can be connected to the water heater.  
A malfunction may occur if two or more remote controllers are connected.
  - \* The water heater has been factory set to allow a maximum temperature setting of [120 °F / 50 °C].  
To access higher temperature settings through the remote controller, follow the below steps.
- <When setting the maximum temperature to [125 -140 °F / 55 - 60 °C]>
1. Turn the water heater off by pressing the Power On/Off Button on the remote controller.
  2. Press and hold the FLOW METER ALARM SET Button until a sound is heard (2 sec.) and [120 °F / 50 °C] appears on the display.
  3. Set the upper limit of the hot-water supply temperature to [125 °F, 130 °F, 135 °F or 140 °F / 55 °C or 60 °C] using the UP and DOWN setting Buttons.
  4. To put the water heater back into operation, press the Power On/Off Button on the remote controller.  
To keep the water heater off, let the unit sit for 30 sec. to return to the original display.

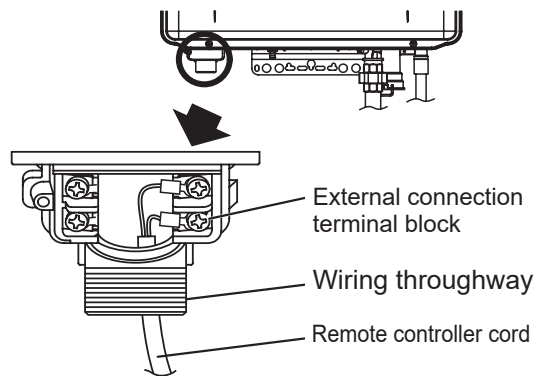
## Connecting Remote Controller Cord to Unit

- Keep the remote controller cord away from the freeze prevention heaters in the unit.
- Tie the redundant cord outside the water heater. Do not put the extra length inside the equipment.
- The remote controller cord can be extended up to 300' (90m) with 18AWG wire.
- Use a Y type terminal with a resin sleeve. (Without the sleeve, the copper wire may corrode and cause problems).
- Be sure to hand tighten when screwing to the terminal block. Power tools may cause damage to the terminal block.

### Remote controller cord

- For extensions, a 26' (8m) cord can be purchased (Part # RC-CORD26) or use 18AWG wire.
- Install according to the National Electrical Code and all applicable local codes.

1. Check to make sure that the remote controller cord has plenty of slack in order to reach the external connection terminal block.
2. Disconnect electrical power to the water heater.
3. Remove the single screw securing the terminal block cover and then remove the cover.
4. Pass the remote controller cord through the wiring throughway and connect the Y terminals at the end of the remote controller cord to the terminal block.
5. Replace the terminal block cover and install the screw previously removed in step 3.
6. Reconnect electrical power to the water heater.



## ⚠ DANGER

- When changing the temperature, make sure to confirm with the customer that the temperature of the hot water will be very high and that there is a risk of scalding.
- Hot water temperatures over 125 °F (52 °C) can cause severe burns instantly or death from scalding.

■ Changing Other Features

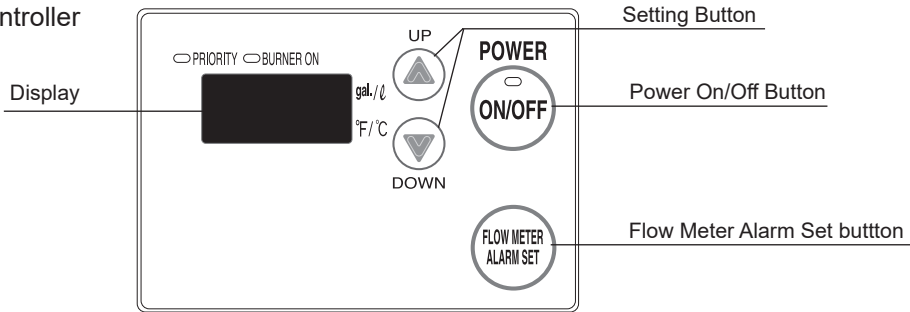
Adjusting the Temperature Display

Note: The setting must be done within the first 10 minutes of connecting electrical power to the water heater.

Table of Setting Items

Item No.	Item	Choices (factory defaults shaded)	
12	Celsius / Liter or Fahrenheit / Gallon display mode.	°F / gal (Fahrenheit / Gallon)	°C / L (Celsius / Liter)

■ Remote Controller



■ Setting Procedure

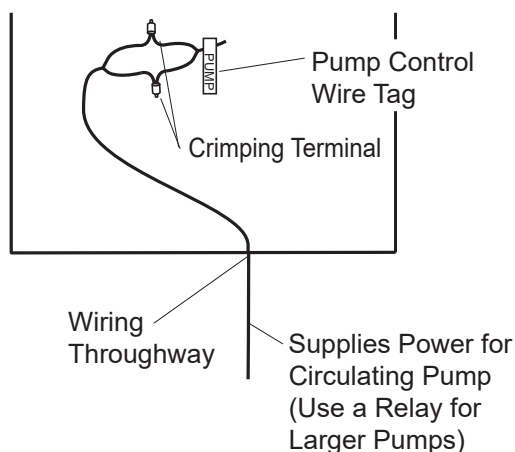
1. Turn the water heater off by pressing the Power On/Off Button on the remote controller.
2. Disconnect, then reconnect electrical power to the water heater.
3. Press the Flow Meter Alarm Set Button and hold it in for 2 seconds or more.
4. Press the Flow Meter Alarm Set Button until the remote controller displays item number "12".
5. Press Setting Button "▲" for 5 seconds or more to change the display units to " [°F / gal] ".
6. Press Setting Button "▼" for 5 seconds or more to change the display units to " [°C / L] ".
7. To confirm the setting, turn the water heater on by pressing the Power On/Off Button on the remote controller.

## Pump Wiring

\* This feature is not available when using the Quick Connect Multi System feature.

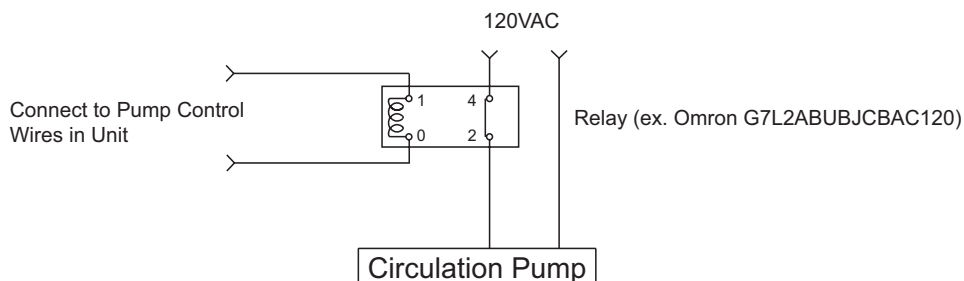
### Connecting the pump control wire

1. Leave enough slack so that the pump control wires will stay connected if the unit is removed from the wall.
2. Remove the front cover of the heater (4 screws).
3. Cut off the connector at the end of the pump control wires.
4. Wire the pump control wires through the wiring  
throughway and connect them to the wiring inside  
the pump (this will be the power supply for the pump,  
do not also connect 120VAC to the pump).  
If a large pump is being used (greater than 85W) use  
the voltage from these wires as the signal to close a  
normally open relay through which 120VAC will be  
supplied directly from a wall circuit to the pump.
5. Replace the front cover.



### Relay connection with larger pumps (>85 W)

1. Locate and prepare the pump control wires as described above.
2. Choose a suitable installation location for the relay where it will be protected from moisture.
3. Connect the pump control wires from the heater to the signal input on the relay.
4. Cut one of the electrical supply leads and wire it across the open terminals of the relay.
5. Secure all connections and replace the front cover of the heater.



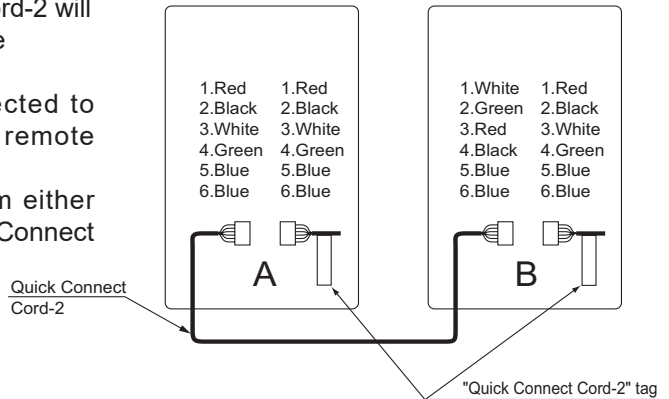
## Connecting Quick Connect Cord-2

For Quick Connect Multi System Installation  
use part #QC-2 only. (sold separately).

### Caution

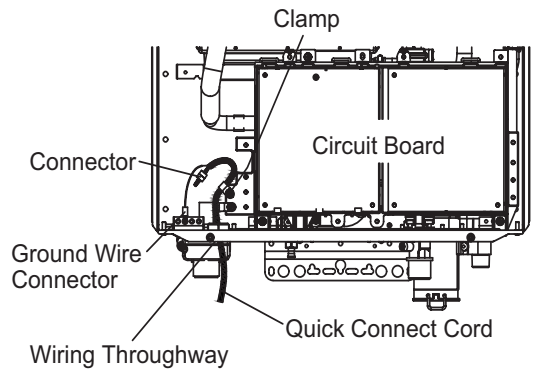
The wire coloring on the Quick Connect Cord-2 will not be the same as the wire coloring of the connection plug inside the unit.

- \* The remote controller can be connected to either unit A or B. Do not connect a remote controller to both units.
- \* Disconnect the remote controller from either unit A or B prior to installing the Quick Connect Cord.



### Connecting the Quick Connect Cord to the two units.

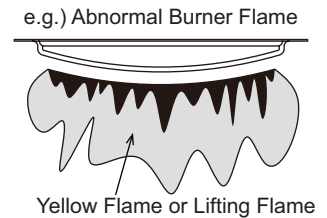
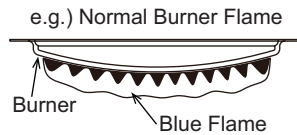
1. Turn off the power.
2. Remove the front cover of the heater (4 screws).
3. Pass the Quick Connect Cord through the wiring throughway and into the unit.
4. Plug the connector on the Quick Connect Cord to the receptacle inside the unit.
5. Attach the ground wire of the Quick Connect Cord to the terminal block fixing plate.  
(If the ground wire is not attached, electrical noise may cause problems).
6. Secure the Quick Connect Cord with a clamp.
7. Replace the front cover.



# 14. Maintenance

Periodically check the following to ensure proper operation of the water heater.

- The venting system must be examined periodically by a qualified service technician to check for any leaks or corrosion.
- The burner flame must be checked periodically for a proper blue color and consistency.
- Check the burner flame periodically for a proper blue color and consistency. The burner flame must be blue, clear and stable. The image of normal or abnormal flame is as shown figure right. If the flame does not appear normal, the burner may need to be cleaned by qualified service technician.
- Do not obstruct the flow of combustion and ventilation air.
- The pressure relief valve must be operated once a year to ensure that it is functioning properly and there is no obstruction. Turn the power off to the unit before opening the relief valve, and make sure that water draining out of the valve will not cause any damage.
- If the relief valve discharges periodically, it may be due to thermal expansion in a closed water system. Contact the water supplier or a local plumbing inspector on how to correct this situation. Do not plug the relief valve.
- See the Owner's Guide for further maintenance.



**Warning:** There is a scald potential if the output temperature is set too high. Should overheating occur, or the gas supply fail to shut off, turn off the manual gas control valve to the appliance. 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. Periodically check and clean the filter inside the cold water inlet of the unit.

# 15. Trial Operation

The installer should test operate the unit, explain to the customer how to use the unit, and give the owner this manual before leaving the installation.

- Preparation ..... (1) Open a hot water fixture to confirm that water is available, and then close the fixture.  
(2) Open the gas supply valve.  
(3) Turn on the power supply. Using the remote controller, turn on the Power On/Off button (the Operation lamp will turn on).

- (1) Open a hot water fixture and confirm that the Burner On lamp comes on, and that hot water is being produced. (If necessary, repeat until the air in the gas piping is bled out).
    - \* White smoke may be noticed from the exhaust vent during cold weather. This is not a malfunction of the unit.
    - \* If an "11" error code appears on the remote controller, turn the unit off and then back on again, and then open a hot water fixture again.
  - (2) Change the temperature setting on the remote controller and check that the water temperature changes.
    - If the water heater does not operate normally, refer to "Troubleshooting" in the Owner's Guide.
    - \* After the trial operation, clean the filter in the cold water inlet.
- <If installed with a quick connect multi-system>
- Turn the system power ON with the remote controller.
  - Slowly open a hot water fixture and check that the units ignite sequentially. Check to see that the hot water temperature is the same as the temperature displayed on the remote controller (\*1)
- \* If both units do not ignite, switch which unit will ignite first by pressing the Max. or Min. Manifold Pressure Set Button on the circuit board. (\*2)



Unit A Ignites  
Unit B Doesn't Ignite

Press Max. or Min. Manifold  
Pressure Set Button on Unit B

Unit A Doesn't Ignite  
Unit B Ignites

- \* If an 11 or F11 error code flashes on the remote controller, hit the Power Button on the remote controller off and on 2 -3 times.
- \* If (\*1) and (\*2) cannot be done, the Quick Connect Cord may not be properly connected. Check that the cord is properly connected.

## ⚠ CAUTION

### Handling after trial operation

- If the unit will not be used immediately, close off all gas and water shutoff valves, drain all of the water out of the unit and the plumbing system to prevent the unit and system from freezing, and bleed the gas out of the gas line.  
Freezing is not covered by the warranty.

## ⚠ WARNING

A fire or explosion may result if these instructions are not followed, which may cause loss of life, personal injury or property damage.

### Lighting Instructions

This water heater does not have a pilot. It is equipped with an ignition device that automatically lights the burner.

Do not try to light the burner by hand.

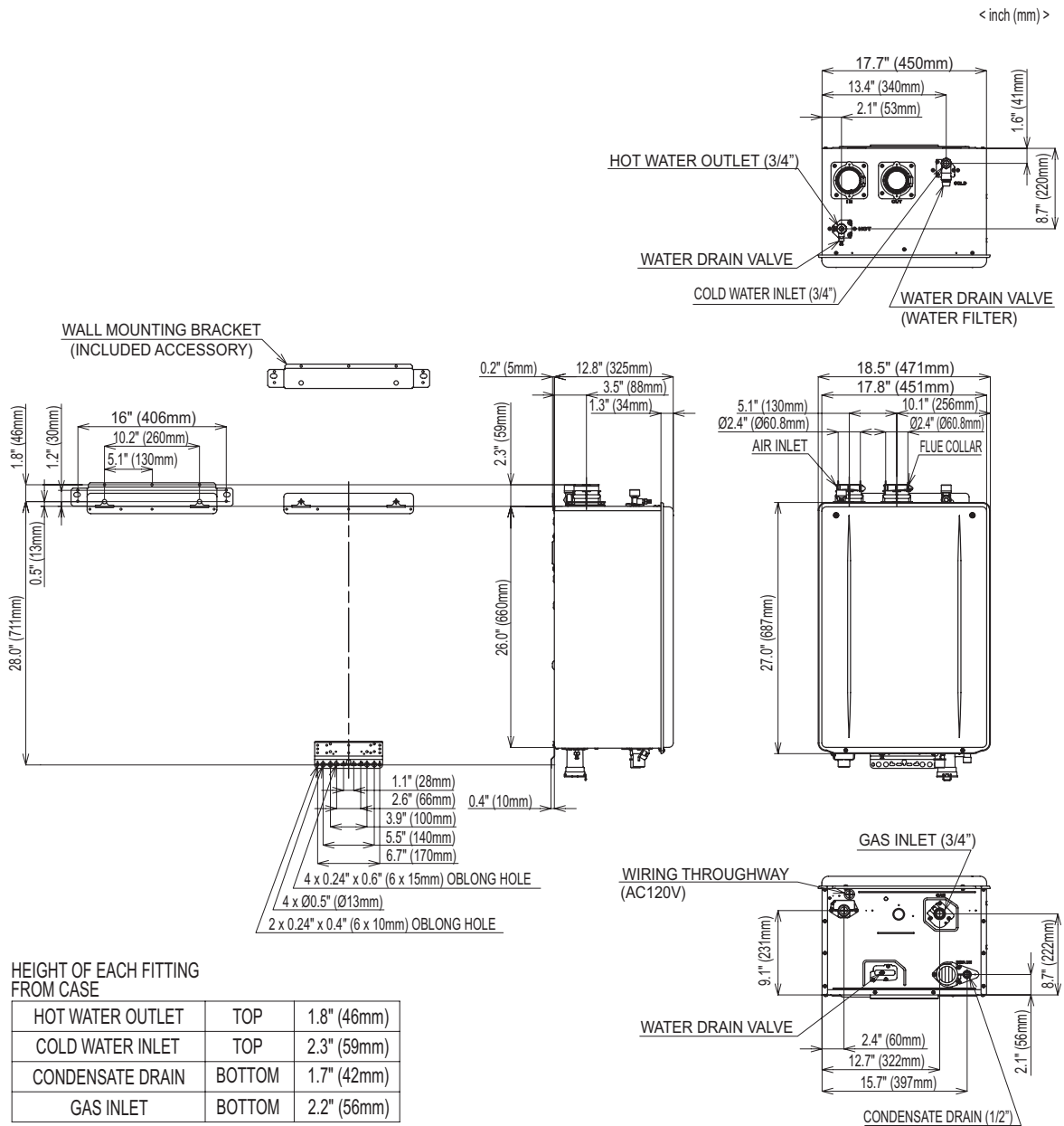
1. Read the safety information in the installation manual or on the front of the water heater.
2. Turn off all electrical power to the unit.
3. Do not attempt to light the burner by hand.
4. Turn the gas control manual valve (external to the unit) clockwise to the off position.
5. Wait five minutes to clear out any gas. If the smell of gas remains, stop, and follow the instructions on page 3 of Owner's Guide.
6. Turn the gas control manual valve counterclockwise to the on position.
7. Turn on electric power to the unit.
8. The unit will now operate whenever hot water is called for. If the unit will not operate, follow the shutdown instructions and call a service technician.

### Shutdown Instructions

1. Stop any water demand.
2. Turn off electric power.
3. Turn the gas control manual valve clockwise to the off position.

Should overheating occur, or the gas supply fail to shut off, turn off the manual control valve to the appliance.

# 16. Dimensions



## Remote Controller RC-7651M

### For Installers:

Read this installation guide carefully before carrying out installation.

# Installation Guide

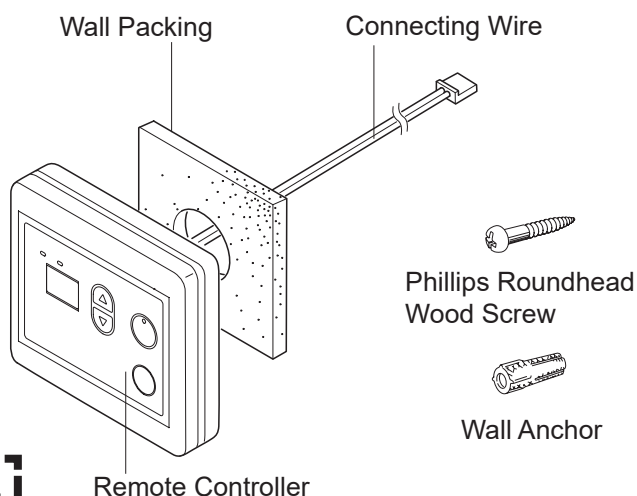
NORITZ AMERICA CORPORATION

### Note

Do not connect power to the water heater before the remote controller has been properly installed.  
Recommended installation location of the remote controller is in a bathroom.

### Included Parts List

Part Name	Quantity
Remote Controller	1
Wall Packing	1
Phillips Roundhead Wood Screw	2
Wall Anchor	2



Do not disassemble the remote controller.

### Notes on the Installation Location

- The remote should be installed in an easily accessible location.
- Avoid installing in a place where water or steam can come into contact with the controller.
- Avoid locations where special chemical agents (e.g., benzene, fatty and oily detergents) are used.
- Avoid outdoor installation, or installation in an indoor location where it will be exposed to direct sunlight.

### Connection of Remote Controller Cord

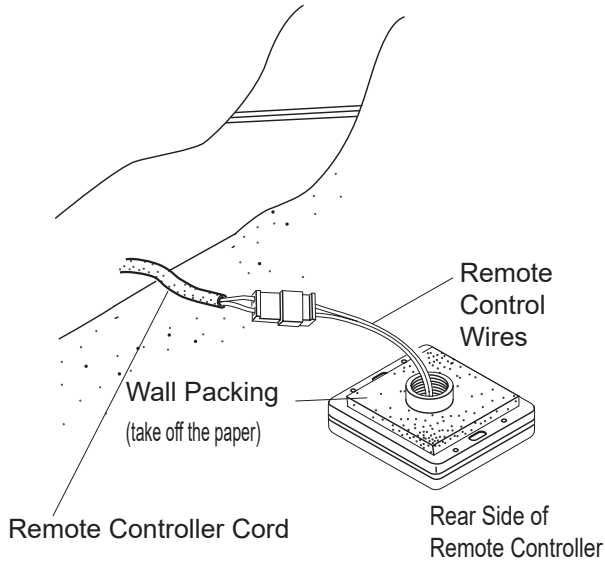
White Connector → To Remote controller

Y-shaped terminals (two-core) → To Water heater

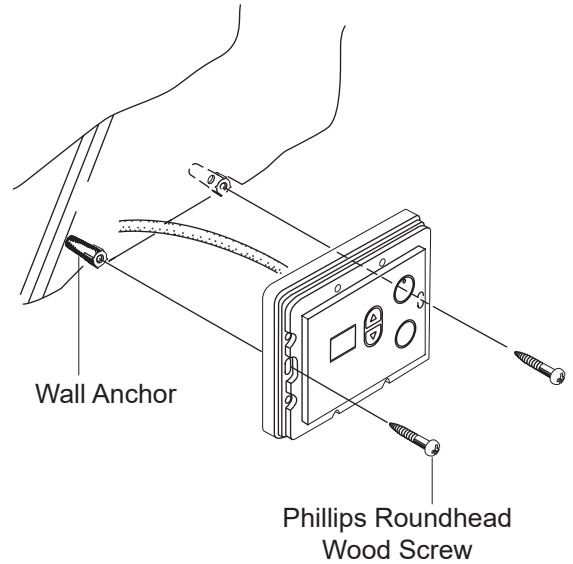
- \* Confirm the connection with the labels at both ends of the remote controller cord.
- A 26' (8m) cord can be purchased separately (Part # RC-CORD26).
- The remote controller cord can be extended up to 300 ft (90m). by splicing the cord and using 18 gauge wire to extend the cord to the appropriate length.

## Installation

1. Apply Wall Packing to the rear side of the remote controller.
2. Connect the remote controller wires to the separate remote controller cord.



3. Remove the cover of the remote control, mark the location of the screw holes, and drill holes for the wall anchors.
4. Insert the wall anchors, screw the remote control to the wall and replace the cover.



## Remote Controller RC-9018M

### Requests to Installers

- In order to use the water heater safely, read this installation guide carefully, and follow the installation instructions.
- Failures and damage caused by erroneous work or work not as instructed in this manual are not covered by the warranty.
- Refer to the Installation Manual provided with the water heater for complete installation details.

# Installation Guide

**NORITZ AMERICA CORPORATION**

In order to use this product safely, read this installation manual carefully and follow the installation instructions.

- Potential dangers from accidents during installation and use are described below. Closely observe these warnings, they are critical to your safety.

## ⚠ CAUTION

- The remote controller is not water resistant. Keep it dry.
- Do not connect power to the system unit until the remote controller installation is complete.
- Be sure to fasten the mounting screws tightly by hand so that the remote controller will be secure.
  - \* Do not use electric drivers, impact drivers and so forth. Tightening with excessive force may cause the mounting bracket to be damaged and lead to failures.
- Install the remote controller on an even wall surface.
  - \* Installing it on an uneven wall surface may cause the bracket to be damaged and lead to failures.
- This remote controller has a built-in speaker which can be damaged by metal shavings resulting in sound cracking.  
Keep the remote controller in a safe location prior to mounting it on the wall to prevent metal shavings from entering the remote controller.

## Note

- Cutting too large of a hole on the wall may result in failure to properly secure the remote controller.
- Never fasten or loosen unnecessary screws in order to complete the remote controller installation.
- Be sure to check the positions of wall studs or other obstructions when determining the installation location for the remote controller.
- Secure the remote controller cable with appropriate anchors, ties, etc.
- Wire the remote controller cable in an area where it will not be directly affected by heat.
- To embed the remote controller cable in concrete, brick, etc., enclose it in conduit in order to prevent the remote controller cable from becoming damaged.
- When penetrating a wall containing metal lath, prevent the lath from coming into contact with any metallic conduit used in order to prevent electrical interference.
- Wiring shall be provided so that the remote controller cable length is 300 ft (90m) or shorter.
- Connect the remote controller cable to the terminal block of the water heater (see Installation Manual provided with the water heater).

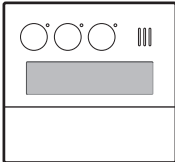
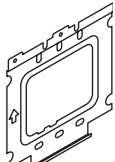


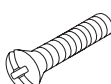

## Post-installation Checks

- (1) Check if the remote controller is installed securely.
- (2) Verify remote controller operation (see Owner's Guide).
  - \* Press the Power On/Off button approximately 5 seconds after connecting power to the system.
  - \* Check if the temperature setting on the remote controller is appropriate.

## Explanation to the Customer

Explain the "Important Safety Information", "Operation Procedures" and "Follow-up Service" according to the Owner's Guide supplied with the water heater.

## Included Parts List (The value in ( ) indicates the quantity.)

Remote Controller	Mounting bracket	Raised countersunk head wood screw	Wall anchor	Raised countersunk head screw	Machine screw
(1)	(1)	(2)	(2)	(2)	(2)
				 (For junction box installation)	

### Notes on the Installation Location

- The remote should be installed in an easily accessible location.
- Avoid installing in a place where water or steam can come into contact with the controller.
- Avoid locations where special chemical agents (e.g., benzene, fatty and oily detergents) are used.
- Avoid outdoor installation, or installation in an indoor location where it will be exposed to direct sunlight.

### Connection of Remote Controller Cord

White Connector → To Remote controller

Y-shaped terminals → To Water heater (two-core)

- \* Confirm the connection with the labels at both ends of the remote controller cord.
- A 26' (8m) cord can be purchased separately (Part # RC-CORD26).
- The remote controller cord can be extended up to 300 ft (90m). by splicing the cord and using 18 gauge wire to extend the cord to the appropriate length.

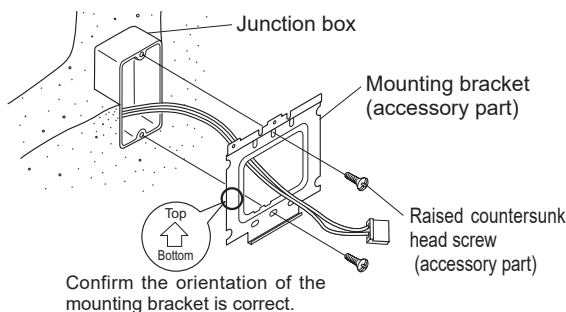
## Installation

1. Attach the mounting bracket to the wall.  
The parts to be used vary depending on the attachment method.

\* Never use electric drivers, impact drivers and so forth.  
Tightening with excessive force may result in deformation of the mounting bracket and/or failures.

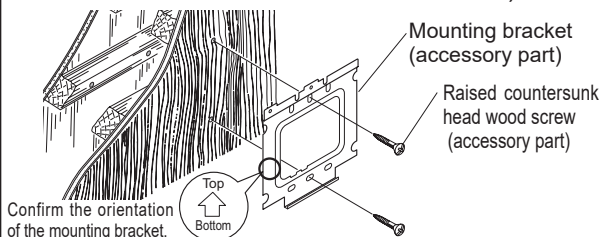
#### <When attaching to a junction box>

- Use the raised countersunk head screws to attach the mounting bracket to the junction box. (In this case, the wall anchor and raised countersunk head wood screws are not used.)



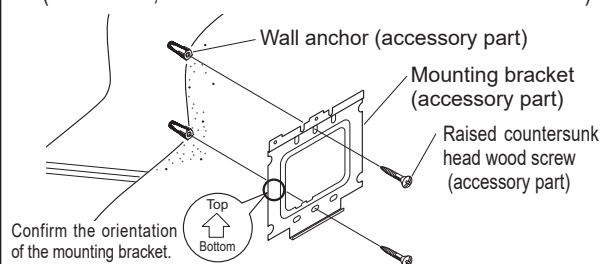
#### <When attaching to a wood surface>

- Use the raised countersunk head wood screws to attach the mounting bracket. (In this case, the wall anchor and raised countersunk head screws are not used.)

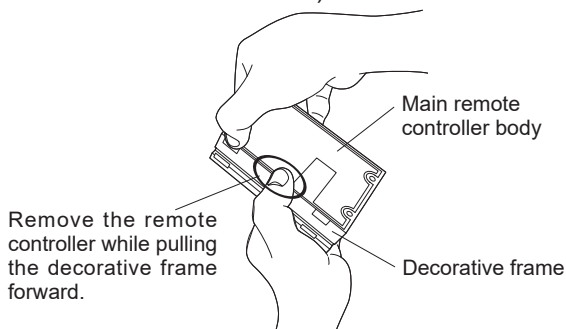


#### <When attaching to a concrete wall surface>

- Drill a  $\phi 1/4"$  ( $\phi 6\text{mm}$ ) hole, approx. 1" (25mm) in depth, and hammer in the wall anchor. Attach the mounting bracket using the raised countersunk head wood screws. (In this case, raised countersunk head screws are not used.)

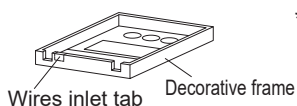
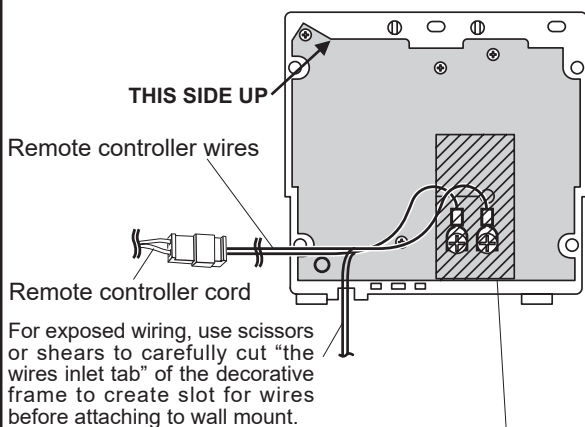


2. Remove the decorative frame from the remote controller. (The remote controller is inserted in the decorative frame.)



3. Connect the remote controller wires to the cord supplied with the water heater.

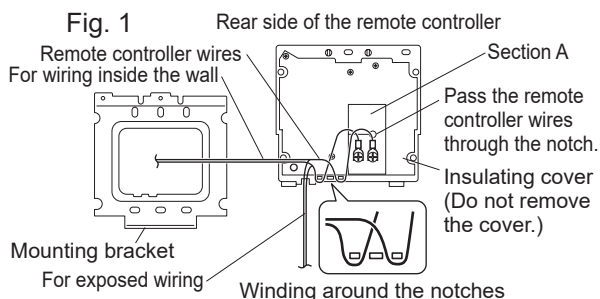
- \* Do not remove the remote controller wires from the terminal block, connect these wires to the remote controller cord.
- \* Do not remove the insulating cover (clear).
- \* Some modifications are required on the frame to complete the installation. See note below.



- \* Check the terminal is covered with Section A (hatched) of the insulating cover (clear, see Fig. 1).

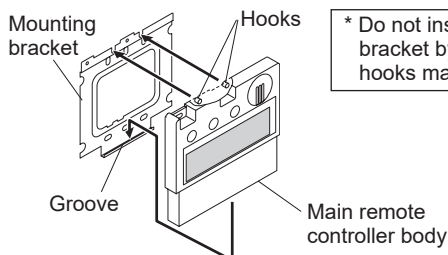
- \* If the Y-shaped terminal is not covered, the exposed section may come into contact with the mounting bracket resulting in improper operation or failure.

4. Secure the remote controller wires by winding them around the notches as shown in Fig. 1.



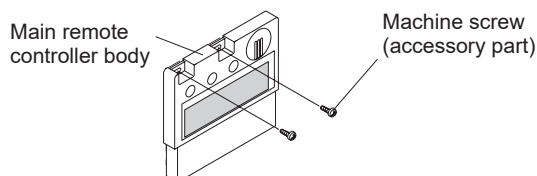
5. Attach the remote controller to the mounting bracket. Insert the bottom of the remote controller into the groove at the bottom of the bracket and push in the 2 hooks on top of the remote controller completely.

- \* If it is difficult to attach, do not try to force it as it may result in broken hooks. Check for proper alignment in the groove or for loose wires obstructing the remote controller.



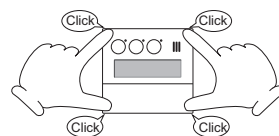
- \* Do not install on the bracket by force, the hooks may break.

6. Secure the remote using the machine screws.



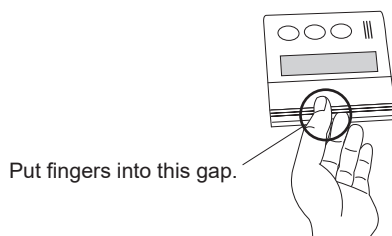
7. Attach the decorative frame which was removed in the second step. Push the 4 corners of the decorative frame until there is a click.

- \* Incomplete installation may result in failures such as switch operation failure.



Note: To remove the decorative frame after installation of the remote controller and the frame, pull the entire decorative frame forward while pressing the sections indicated (where the fingers are) in the figure below.

- \* If it does not come off, insert a flat head driver into the notch at the bottom of the decorative frame and slightly twist it to remove (due caution is required not to scratch the remote controller, decorative frame or the wall in doing so).



## Optional Remote Controller

### • Applicable Model

Remote controller	RC-9018M
-------------------	----------

\* Remarks [125 °F / 55 °C]

↑ Celsius display mode

↑ Fahrenheit display mode

Install the remote controller according to the instructions in the Installation Guide. (p. 53).

\* Only one the remote controller can be connected to the water heater.

A malfunction may occur if two or more remote controllers are connected.

\* The water heater has been factory set to allow a maximum temperature setting of [120°F / 50°C].

To access higher temperature settings through the remote controller, follow the below steps.

<When setting the maximum temperature to [125 -140°F / 55-60°C]>

1. Turn the water heater off by pressing the Power On/Off Button on the remote controller.
2. Press the MENU Button inside the remote cover, select "Misc settings" using the ▲ / ▼ Buttons.
3. Press the ENTER Button, the "Misc settings" screen appears on the display.
4. Select "Max set Temp" using the ▲ / ▼ Buttons.
5. Press the ENTER Button, [120°F / 50°C] appears on the display.
6. Set the upper limit of the hot-water supply temperature to [125°F, 130°F, 135°F or 140°F / 55°C or 60°C] using the ▲ / ▼ Buttons.
7. Press the ENTER Button, "Set complete" appears on the display and then returns to the "Misc settings" screen.
8. To put the water heater back into operation, press the Power On/Off Button on the remote controller.  
To keep the water heater off, either press the MENU Button or let the unit sit for 20 sec. to return to the original display.

## ! DANGER

- When changing the temperature, make sure to confirm with the customer that the temperature of the hot water will be very high and that there is a risk of scalding.
- Hot water temperatures over 125 °F (52 °C) can cause severe burns instantly or death from scalding.



■ Changing Other Features

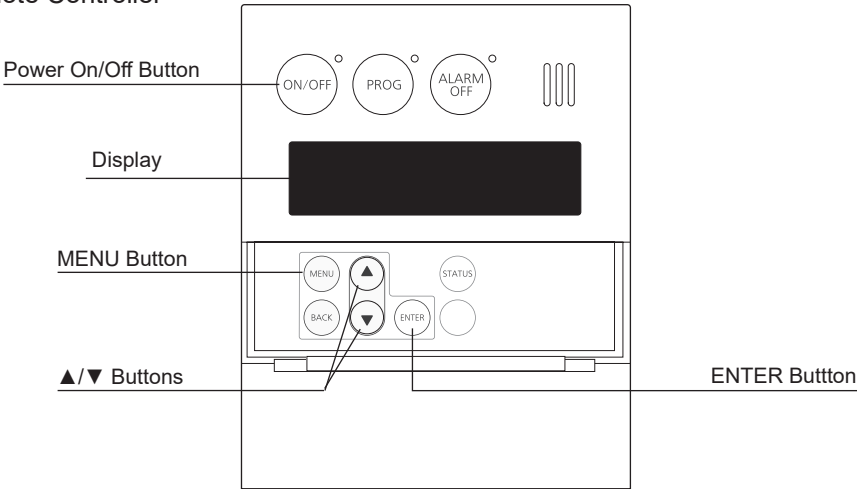
Adjusting the Temperature / Water Quantity Display

Note: The setting must be done within the first 10 minutes of connecting electrical power to the water heater.

Table of Setting Items

Item	Choices (factory defaults shaded)	
Celsius / Liter or Fahrenheit / Gallon display mode.	°F / gal (Fahrenheit / Gallon)	°C / L (Celsius / Liter)

■ Remote Controller



■ Setting Procedure

1. Turn the water heater off by pressing the Power On/Off Button on the remote controller.
2. Disconnect, then reconnect electrical power to the water heater.
3. Press the MENU Button inside the cover, select "Initial settings" using the ▲/▼ Buttons.
4. Press the ENTER button, the "Initial settings" screen appears on the display.
5. Select "[°F / gal] ↔ [°C / L]" using the ▲/▼ Buttons.
6. Press the ENTER Button and select either [°F / gal] or [°C / L] using the ▲/▼ Buttons.
7. Press the ENTER Button, "Set complete Please wait..." appears on the display for 5seconds and then the "Initial settings" screen appears on the display.
8. To confirm the setting, turn the water heater on by pressing the Power On/Off Button on the remote controller.





## CONDENSING TANKLESS GAS WATER HEATER

# Owner's Guide

Models : EZ111DV(GQ-C3259WX-FF US)  
EZ98DV(GQ-C2859WX-FF US)

FOR USE IN RESIDENTIAL OR MANUFACTURED HOME APPLICATIONS.



### WARNING

If the information in this manual 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.



Low NOx Approved  
by SCAQMD  
14 ng/J or 20 ppm  
(Natural Gas Only)



Thank you for purchasing this Noritz Tankless Gas Water Heater. Before using, please:

Read this manual completely for operation instructions.

See the warranty registration card (included separately), and then visit the Noritz website ([www.noritz.com/warranty](http://www.noritz.com/warranty)) to register your product. Keep this manual (and the warranty registration card) where it can be found whenever necessary.

Installation must conform with local codes, or in the absence of local codes, the National Fuel Gas Code, ANSI Z223.1/NFPA 54 - latest edition and/or the Natural Gas and Propane Installation Code CSA B149.1 - latest edition.

When applicable, installation must conform with the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280 or the Canadian Standard CAN/CSA-Z240 MH Mobile Homes, Series M86. Noritz America reserves the right to discontinue, or change at any time, the designs and/or specifications of its products without notice.

**NORITZ America Corporation**

SBB80T9-2  
Rev. 04/21



\*SBB80T9\*

# Important Safety Information-1

To prevent damage to property and injury to the user, the icons shown below will be used to warn of varying levels of danger. Every indication is critical to the safe operation of the water heater and must be understood and observed. Potential dangers from accidents during installation and use are divided into the following four categories. Closely observe these warnings; they are critical to your safety.

## ■ Icons warning of risk level



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



### DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



### WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



### CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

### CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

## ■ Other icons

Electric Shock.	High Temperature.	Be sure to do.	Ground.	
Prohibited	No flame.	Don't touch.	Don't disassemble the equipment.	Don't touch with a wet hand.



## DANGER



Prohibited

**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 water heater.

**Keep flammable products:**

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

**Vapors:**

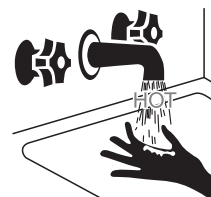
1. Cannot be seen.
2. Vapors are heavier than air.
3. Go a long way on the floor.
4. Can be carried from other rooms to the main burner by air currents.



Prohibited

**Hot Water Heater temperatures over 125°F (52°C) can cause severe burns instantly or death from scalding.**

Children, disabled and elderly are at the highest risk of being scalded. Feel water temperature before bathing or showering. Temperature limiting valves are available, consult with installer.

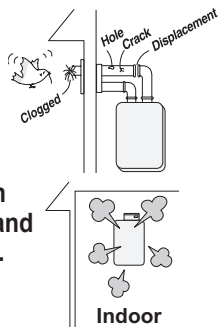


(Continued)



Prohibited

Do not use the water heater if the intake/exhaust pipe is displaced, has holes, is clogged or is corroded.



This will cause carbon monoxide poisoning and a potential fire hazard.



Prohibited

Do not allow anyone to change the water temperature while hot water is being used.

To prevent scalding, do not change the water temperature to a higher setting.

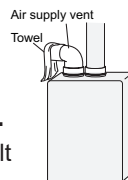


Be sure to do.

**[When supplying combustion air from the indoors]**

Check whether or not the air supply vent is blocked with dust, trash, a towel, or the like.

Blocking the opening may result in incomplete combustion.



Be sure to do.

After the water heater has been out of use for a long time make sure that you fill the condensate trap with water. This is to prevent dangerous exhaust gases from entering the building. Failure to fill the condensate trap could result in severe personal injury or death. (Refer to page 20 for further instructions.)



## WARNING



No flame.

**A. This water heater does not have a pilot. It is equipped with an ignition device that automatically lights the burner. Do not try to light the burner by hand.**

**B. BEFORE OPERATING** smell all around the water heater area for evidence of leaking 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.

**C. Use only your hand to turn the gas valve knob. Never use tools. If the knob will not 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.**

**D. 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 damaged parts.**



Be sure to do.

**When a gas leak is noticed:**

1. Stop use immediately.
2. Close the gas valve.
3. Open windows and doors.

**[Indoor Installation]**



Be sure to do.

**If you detect abnormal combustion or abnormal odors, or during an earthquake, tornado or fire:**

1. Turn off the hot water supply.
2. Turn off the power to the water heater.
3. Turn off gas and water supply valve.
4. Call the nearest Noritz agent.



Prohibited

**Explosion Hazard ;**

If the temperature and pressure relief valve is dripping or leaking, have a qualified service technician replace it. Do not plug or remove the valve.

Failure to follow these instructions can result in fire or explosion, and personal injury or death.

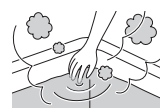


High Temperature.

**Check the temperature of the running hot water before entering the shower.**



**Check the temperature before stepping into the bath tub.**



(Continued)

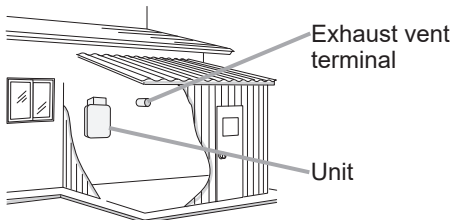
# Important Safety Information-2

(Continued)

## WARNING



**Do not place the exhaust vent terminal in an indoor environment by means of adding walls and ceiling (Do not enclose using corrugated sheets, etc.)**



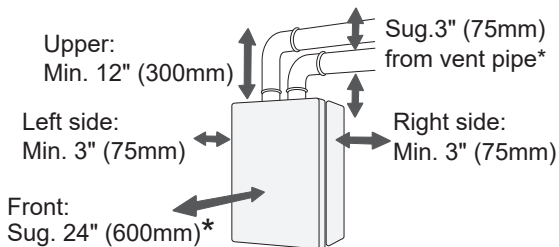
Carbon monoxide poisoning or fire may occur as a result.



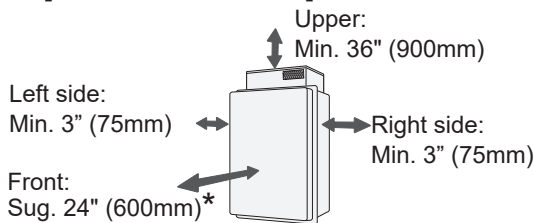
Be sure to do.

**Leave the proper clearance between the water heater and nearby objects (trees, timber, boxes with flammable materials etc.).**

### [Indoor Installation]



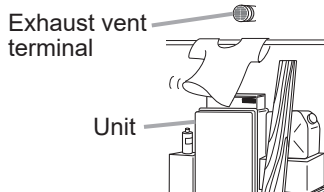
### [Outdoor Installation]



\* Indicates suggested clearances for maintenance.



**Do not place combustibles such as laundry, newspapers, oils etc. near the heater or the exhaust vent terminal.**



**Carbon Monoxide Poisoning Hazard. Do not install this water heater in a recreational vehicle or on a boat. Do not install this water heater in a mobile home when using SV conversion kit ("SV" configuration).**



**Do not use combustible chemicals such as oil, gasoline, benzene etc. in the near the heater or the exhaust vent terminal.**



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



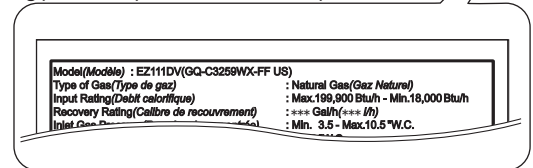
**Do not place or use a spray can near the water heater or the exhaust vent terminal.**



Be sure to do.

**Be sure the gas/power supplied matches the gas on the rating plate.**

e.g.) EZ111DV(GQ-C3259WX-FF US)



Be sure to do.

**Installation and service must be performed by a qualified installer, service agency or the gas supplier.**



**If this unit will be installed in a location where hair spray or aerosols will be used, locate the unit in a separate area that is supplied with fresh air from outdoors.**



**Do not use hair spray or spray detergent in the vicinity of the heater.**



Be sure to do.

**[When supplying combustion air from the indoors]**

**Check the air supply opening for dust or obstructions.**



(Continued)



Prohibited

Do not allow small children to play unsupervised in the bathroom.  
Do not allow small children to bath unsupervised.



Don't touch with a wet hand.



Electric Shock.

Do not touch the power cord with wet hands.



Be sure to do.

Consult the nearest Noritz agent if the water heater location needs to be changed.



Don't disassemble the equipment.

Contact a qualified service technician for any necessary repairs, service or maintenance.



Be sure to do.

Contact Noritz before using with a solar pre-heater.

California Proposition 65 lists chemical substances known to the state to cause cancer, birth defects, death, serious illness or other reproductive harm. This product may contain such substances, be their origin from fuel combustion (gas, oil) or components of the product itself.

The gas conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. The information in the instructions must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury, or death. The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation of the converted appliance is checked as specified in the manufacturer's instructions supplied with the kit.



## CAUTION



Ground.

Be sure to electrically ground the unit.



Be sure to do.

Keep power cord free of dust.



Prohibited

Do not use the water heater for other than hot water supply, shower and bath.



Prohibited

Do not use a broken or modified power cord. Do not bind, bend or stretch power cords. Do not scratch, modify, or subject them to impact or force.



Be sure to do.

To prevent burns or scalding, turn off the power button and wait until the equipment cools before performing maintenance.



Prohibited

Do not cover the water heater and the exhaust vent terminal, store trash or debris near it, or in any way block the flow of fresh air to the unit.



Prohibited

Do not turn off the water heater while someone is bathing.



Prohibited

Do not install in locations where excessive dust or debris will be in the air.

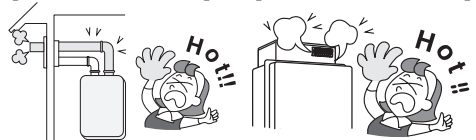


Don't touch.

Do not touch the exhaust vent pipe and exhaust vent terminal during or immediately after operation of the water heater.

[Indoor Installation]

[Outdoor Installation]



Prohibited

Do not use condensate, discharged from the drain pipe, for drinking or for consumption by animals.



Prohibited

If the unit is installed in a location with very high humidity, condensate may form inside the unit and/or cause incomplete combustion, damage to the electrical components, or electric leakage.

# Important Safety Information-3

## CAUTION

**Do not drink water that has been inside the unit for an extended period of time. Do not drink the first use of hot water from the unit in the morning.**

**Clean the filter on the water inlet as frequently as required by the quality of your local water.**

**Keep the area around the unit clean.**

If boxes, weeds, cobwebs, cockroaches etc. are in the vicinity of the unit, damage or fire can result.

**Do not install the equipment where the exhaust will blow on walls or windows.**

**If the water supply is in excess of 12 grains per gallon (200 mg/L) of hardness, acidic or otherwise impure, treat the water with approved methods in order to ensure full warranty coverage. (→p.37)**

**Problems resulting from scale formation are not covered by the warranty.**

**Check ignition during use and extinction after use.**

**Do not run water through the unit when unit is not on.**

When discharging hot water, make sure the unit is ON. If water is run through the unit with the unit OFF, water may condense inside the unit and cause incomplete combustion or damage to the internal electrical components.

For single-handle fixtures, you'd turn the handle to the left.

**This unit is only approved for installation up to 4500 ft. (1350m) above sea level.**

For installations at higher elevations, contact Noritz America for Instructions.

**Do not disassemble the remote controller.**

**Do not use benzene, oil or fat detergents to clean the remote controller.**

This may cause deformation.

**Do not get the remote controller wet.**

Although it is water resistant, too much water can cause damage.

**Do not splash water on the remote controller. Do not expose the remote controller to steam.**

Do not locate the remote controller near stoves or ovens, this may cause damage or failure.

**Preventing damage from freezing (→p.32)**

Damage can occur from frozen water within the device and pipes even in warm environments. Be sure to read below for appropriate measures. Repairs for damage caused by freezing are not covered by the warranty.

**Take necessary measures to prevent freezing of water and leakage of gas when leaving the unit unused for long periods of time. (→p.33)**

**If it is snowing, check the exhaust vent terminal for blockage.**

**Do not use parts other than those specified for this equipment.**



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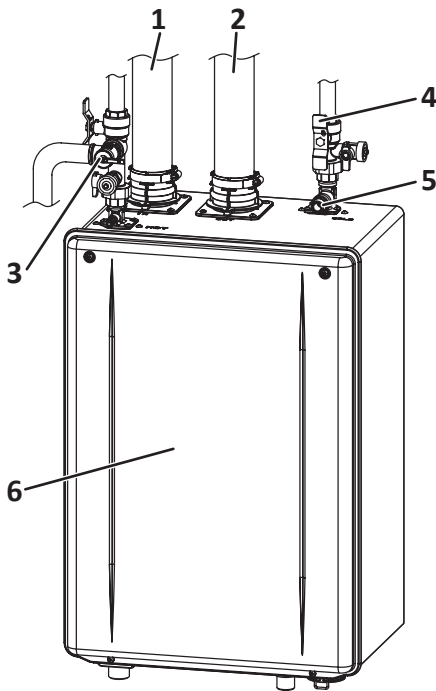
# General Parts -1

## Unit

\* This illustration shows an example of installation.  
The exact installation configuration may be slightly different.

### Indoor Installation

(e.g. Direct vent installation)



1. Intake Pipe

2. Exhaust Pipe

3. Pressure Relief Valve

4. Water Supply Valve

5. Water Drain Valve (with Water Filter)

Inside Water Inlet (→ p.36)

6. Front Cover

7. Gas Supply Valve

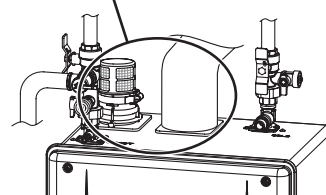
8. Drain Pipe

Discharge the condensate.

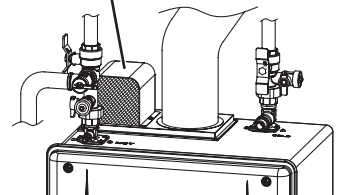
\* The exterior view of air intake side ("Intake Pipe") may be different due to the installed item.

(e.g. Non-direct vent installation)

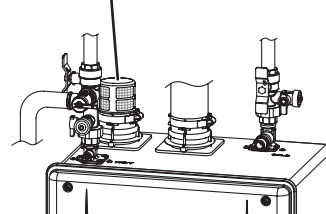
Flex Vent 2" Conversion Kit (EZ2-CK-1)



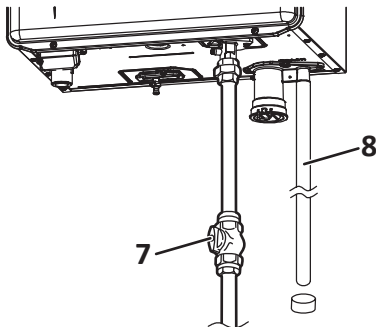
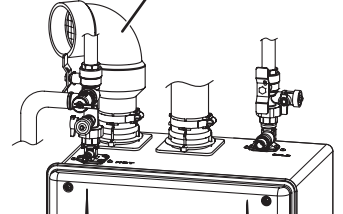
Flex Vent 2" Conversion Kit (EZ2-CK)



2" SV Conversion Kit (SV-CK-2-1)

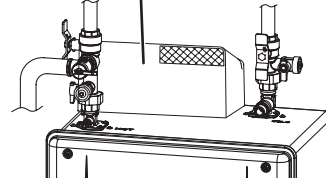


2" SV Conversion Kit (SV-CK-2)



### Outdoor Installation

Outdoor Vent Cap (VC-6-1 or VC-6)



### **The condensing tankless gas water heater discharges condensate.**

When heat from the exhaust gas is collected within the secondary heat exchanger, condensation occurs from moisture in the exhaust gas and the resulting water is discharged from the drain pipe (approx. 2 gallons/hour (7.5 liters/hour) maximum). It is not a water leak. Do not plug or block the drain line as it must always be allowed to freely flow.

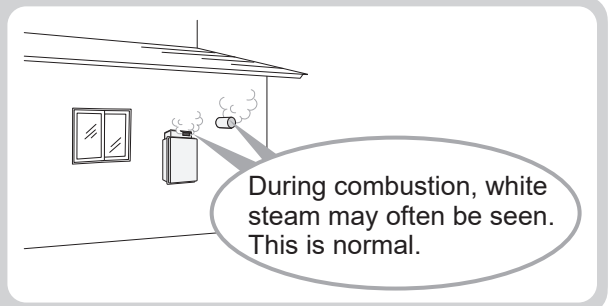
Note : The condensate discharged is acidic with a pH level of approximately 2-3.

A condensate neutralizer may be required by local code prior to disposal.

### **The condensing tankless gas water heater tends to show white steam.**

After the exhaust gas passes through the secondary heat exchanger, the low temperature and high moisture content tends to produce steam at the vent discharge terminal.

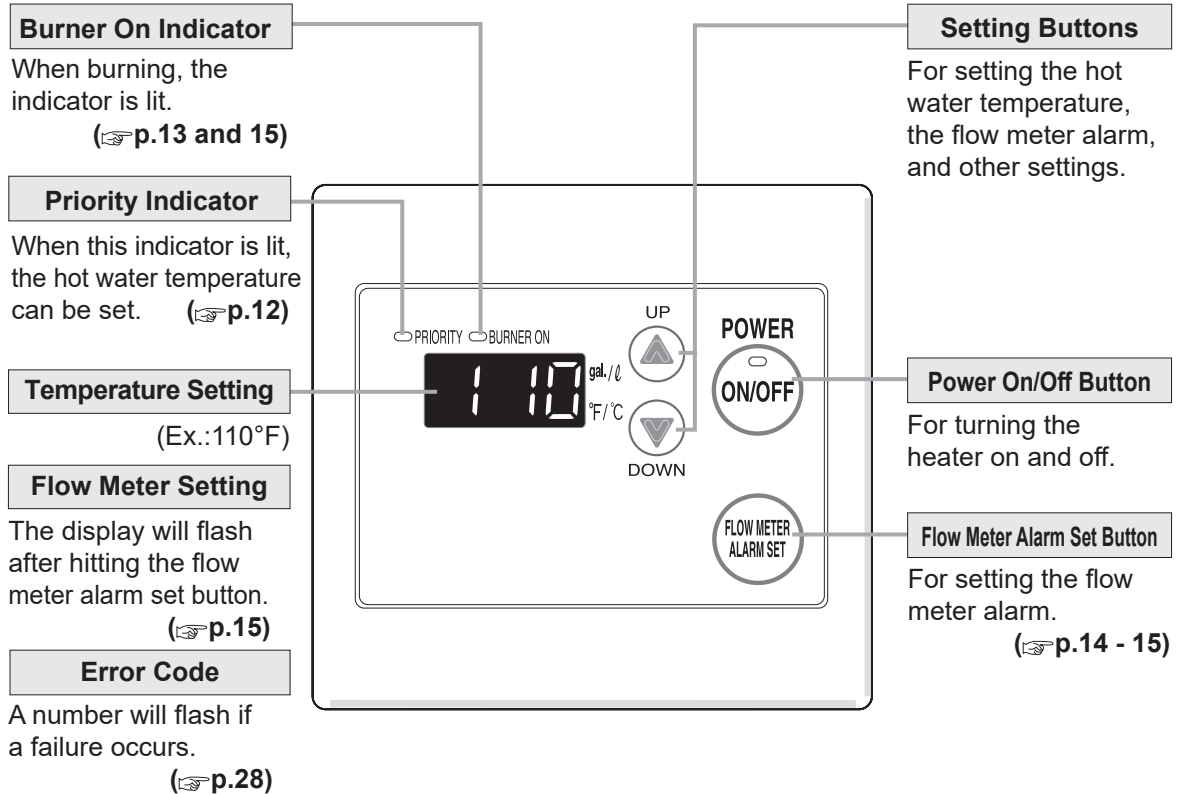
This is a normal occurrence.



# General Parts -2

## Remote Controller (RC-7651M)

What is actually displayed depends on how the water heater is set.



\* Before use, remove the protective sheet from the remote controller surface.

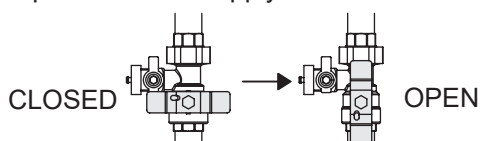
Note: As shipped from the factory, the remote controller is set to display in °F and gallons.  
To adjust the display to °C and liters, refer to the Installation Manual.

# Initial Operation

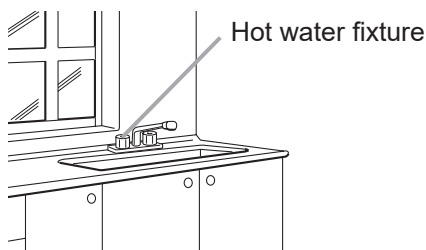
Before the first use of your water heater, do the following:

Follow steps **1 through 4.**

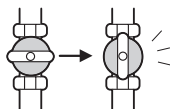
**1** Open the water supply valve.



**2** Open a hot water fixture to confirm that water is available, and then close the fixture again.

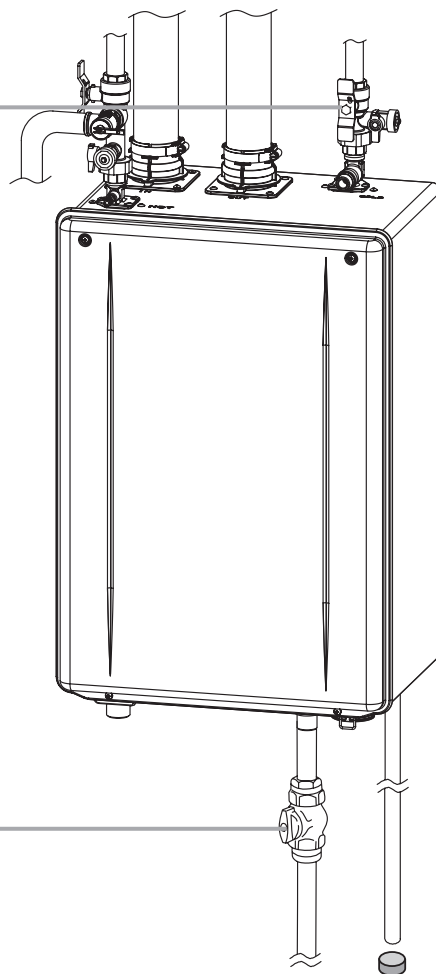


**3** Open the gas supply valve.

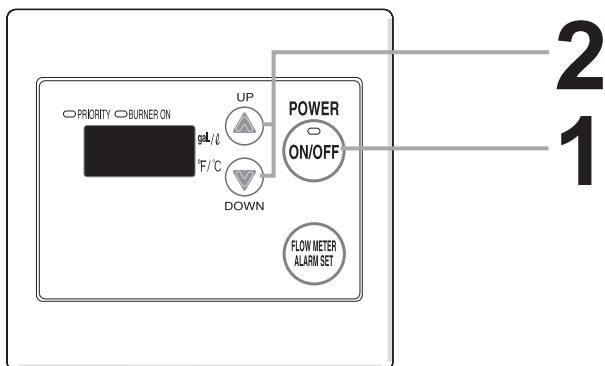


**4** Turn on the power.

**Do not touch with wet hands.**



# Setting and Using the Water Heater

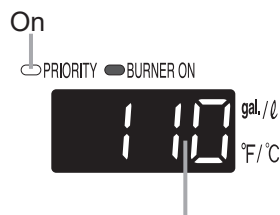


(Starting with the Power Off)

## 1 Press the Power On/Off Button.



The temperature will be displayed on the remote control thermostat.



Previous set temperature  
(Ex.: 110°F)

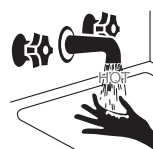
## DANGER



To prevent scalding:  
High Temperature

**Hot Water Heater temperatures over 125°F (52°C) can cause severe burns instantly or death from scalding.**

- Children, disabled and elderly are at the highest risk of being scalded. Feel water temperature before bathing or showering. Temperature limiting valves are available, consult with installer.
- When setting the unit to 125°F (55°C in °C mode) or higher, the temperature display will flash for 10 seconds and emit a tone as a high temperature warning.
- Take caution when using the unit again after setting to 125°F (52°C) or higher. Always check the set temperature before use.
- Do not allow anyone to change the water temperature while hot water is running.



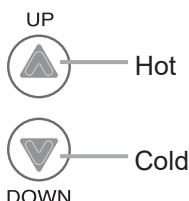
### Remote controller Display



Flashes for 10 sec



## 2 Set temperature. (Always check the temperature setting before use.)



Check the indicator lights.

☐ PRIORITY ☒ BURNER ON

105 gal./ℓ  
°F/°C

Water temperature



## 3 Turn on hot water.



On

☐ PRIORITY ☒ BURNER ON

105 gal./ℓ  
°F/°C

## 4 Turn off the hot water.



Off

☐ PRIORITY ☒ BURNER ON

105 gal./ℓ  
°F/°C

### ■ When using °F mode:

(°F: The temperature settings below are examples. The temperature setting necessary depends on the usage, the length of piping and the time of year.)

The maximum output temperature can be set using the remote controller. (→p.17)

100	105	110	115	120	125	130	135	140
Washing dishes, etc.	Shower, hot water supply, etc.				High temperature			

\*Initial factory setting is 110°F

### ■ When using °C mode:

(°C (°F): The temperature settings below are examples. The temperature setting necessary depends on the usage, the length of piping and the time of year.)

The maximum output temperature can be set using the remote controller. (→p.17)

37 (99)	38 (100)	39 (102)	40 (104)	41 (106)	42 (108)	43 (109)	44 (111)	45 (113)	46 (115)	47 (117)	48 (118)	50 (122)	55 (131)	60 (140)
Washing dishes, etc.	Shower, hot water supply, etc.												High temperature	

\*Initial factory setting is 40°C (104°F)

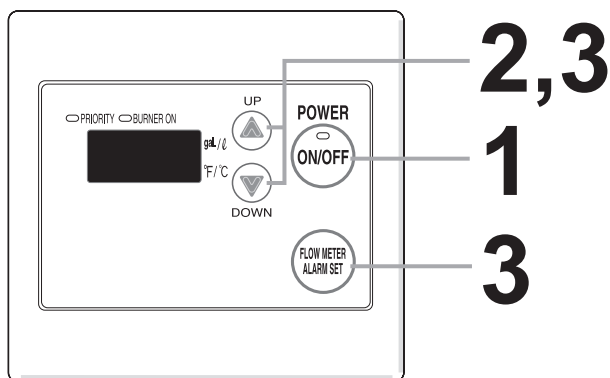
If fixtures incorporate mixing valves, set the temperature higher than usual.

\* For most residential applications, the recommended setting temperature is 120°F (50°C in °C mode) or less.

\* Consult local codes for minimum operating temperatures.

Note : Noritz recommends that water temperature is set as low as possible to prevent scale build-up in the heat exchanger.

## Flow Meter Alarm



If the flow meter alarm is being used to indicate when a tub is full:

- If any hot water is being used besides what is going into the tub, the alarm will sound before the tub is full.
- If there was water in the tub before the fill began, or if the water is not shut off manually when the alarm sounds, the tub may overflow.
- If there was water in the tub before the fill began, the temperature in the tub after it is full may be different from the temperature setting.

(Starting with the power off)

### Preparation

Plug the bath drain.

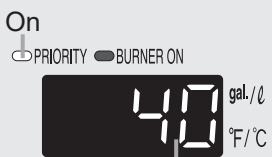
### 1 Press the Power On/Off Button



The temperature will be displayed on the remote control thermostat.

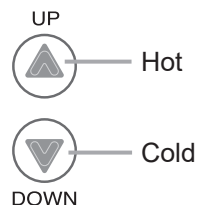


Previous set temperature (example: 110°F)



Previous set temperature (example: 40°C)

### 2 Set temperature. (Always check temperature setting before use.)

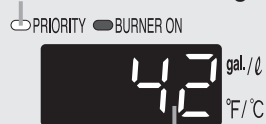


Check the indicator lights.



Water temperature

Check the indicator lights.



Water temperature

When the display setting is in Fahrenheit.

When the display setting is in Celsius.



An alarm will sound for ten seconds when the flow reaches the set level.



The water will continue to run unless it is manually turned off.

## Water Temperature

(°F : The temperatures settings below are only examples. The temperature setting necessary will depend on the usage, the length of piping and the time of year.

100	105	110	115	120
Warm	Warmer		Hot	

(°C (°F) : The temperatures settings below are only examples. The temperature setting necessary will depend on the usage, the length of piping and the time of year.

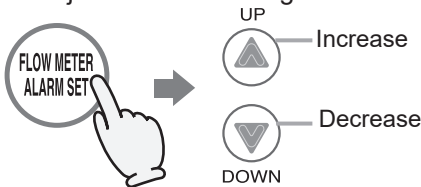
37 (99)	38 (100)	39 (102)	40 (104)	41 (106)	42 (108)	43 (109)	44 (111)	45 (113)	46 (115)	47 (117)	48 (118)
Warm			Warmer			Hot					

\* Initial factory setting: 110°F or 40°C (104°F)

To set the flow meter alarm:

### 3 Adjust flow meter alarm setting.

Press the flow meter alarm set button (the setting will flash on the display) and adjust with the setting buttons.



Choose the flow meter alarm setting from the following options: 10 - 60 gallon (40 - 240L) (In 5 gallon (20L) intervals), 70 gallon (260L), 80 gallon (300L), 90 gallon (340L), 100 gallon (380L), 990 gallon.

**Note:** The alarm will not sound if it is set for 990 gallon.

☐ PRIORITY ☒ BURNER ON

45 gal./ℓ  
°F/°C

Flow meter setting will be flashing (ex. 45 gallon)

☐ PRIORITY ☒ BURNER ON

180 gal./ℓ  
°F/°C

Flow meter setting will be flashing (ex. 180L)

### 4 Turn on hot water.

On  
☐ PRIORITY ☒ BURNER ON

105 gal./ℓ  
°F/°C

On  
☐ PRIORITY ☒ BURNER ON

42 gal./ℓ  
°F/°C

### 5 Turn off the hot water when the alarm sounds.

The alarm will sound when the set level has been reached. Stop the water.

**Note:** The alarm will not sound if it is set for 990 gallon.

Off  
☐ PRIORITY ☒ BURNER ON

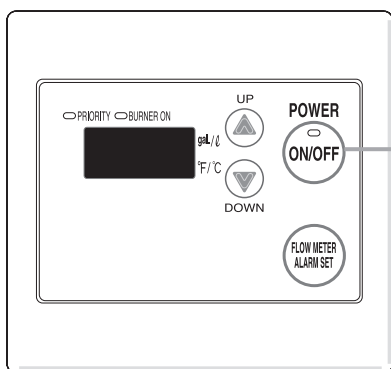
105 gal./ℓ  
°F/°C

Off  
☐ PRIORITY ☒ BURNER ON

42 gal./ℓ  
°F/°C

- \* The level can only be adjusted while the indicator is flashing.
- \* After ten seconds, the remote will again display the temperature.

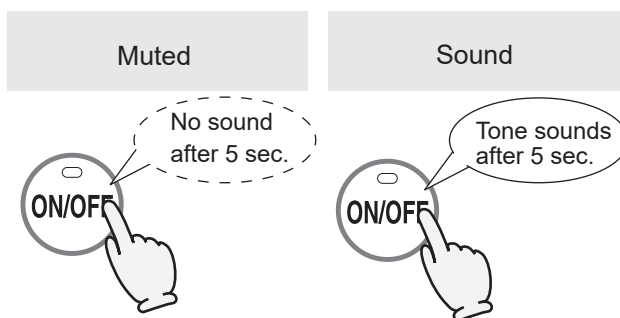
# Muting the Remote Controller



The remote controller will emit a sound when any button is pushed. This sound can be muted if it is desired.

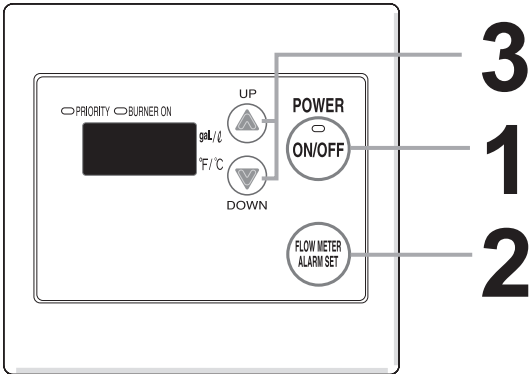
\* Initial factory setting is with sound

## 1 Hold the Power On/Off Button for five seconds.

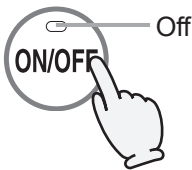


- The flow meter alarm cannot be muted.
- The high temperature warning tone when setting the unit to 125°F / 55°C (131°F) or higher will not emit a sound when muted.

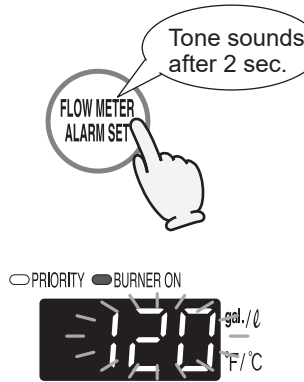
# Adjusting the Maximum Output Temperature



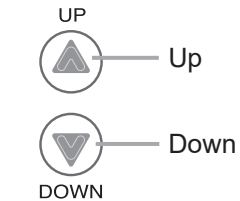
## 1 Turn off the power.



## 2 Press and hold the flow meter alarm set button until a sound is heard (2 sec.).



## 3 Change the temperature using the setting buttons.



The upper limit of the hot-water supply temperature can be changed to

(For Fahrenheit (°F))  
100°F, 105°F, 110°F, 115°F, 120°F,  
125°F, 130°F, 135°F or 140°F.

(For Celsius (°C))  
37°C, 38°C, 39°C, 40°C, 41°C, 42°C,  
43°C, 44°C, 45°C, 46°C, 47°C, 48°C,  
50°C, 55°C or 60°C.

## 4 Set the Power button to ON when continuing to use the unit as is. Otherwise, let the unit sit for 30 sec.

# Preventing Damage from Freezing-1

## CAUTION

- \* Damage can occur from frozen water within the device and pipes even in warm environments. Be sure to read below for appropriate measures.
- \* Repairs for damage caused by freezing are not covered by the warranty.

**Freezing is prevented within the device automatically by the freeze-prevention heater.**

**Freezing cannot be prevented when the power plug is unplugged. Do not remove the power plug from the wall outlet.**

Freezing will be prevented regardless of whether the operation switch is ON or OFF.

- \* In normal operation, freezing is prevented within the device automatically unless the outside temperature without wind is below -30°F (-35°C) when supplying combustion air from the outdoor (Direct Vent) or -4°F (-20°C) when the unit is installed outdoors.
- For indoor installation, when supplying combustion air from the indoors, the room temperature must be greater than 32°F (0°C) to prevent freezing and the room inside must not have negative pressure.
- \* The freeze prevention heaters will not prevent the plumbing external to the unit from freezing. Protect this plumbing with insulation, heat tape or electric heaters, solenoids, or pipe covers. If there remains a freezing risk, contact the nearest Noritz agent.

### **Take the measures below for extremely cold temperatures\*.**

Outside temperature including wind chill factor less than -30°F (-35°C) when supplying combustion air from the outdoor (Direct Vent) or -4°F (-20°C) when the unit is installed outdoors.

- For indoor installation, when supplying combustion air from the indoors, the room temperature must be greater than 32°F (0°C) to prevent freezing and the room inside must not have negative pressure.

This method can protect not only the heater, but also the water supply, water piping and mixing valves.

1. Turn off the power.
2. Close the gas supply valve.
3. Open a hot water fixture/faucet, and keep a small stream of hot water running. (0.1 gallon (400cc)/minute or about 0.2" (4mm) thick.)

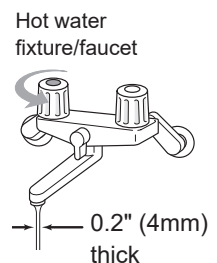
\* If there is a mixing valve, set it to the highest level.

\* When linking multiple units, discharge water equivalent to (0.1 gallon (400cc)/minute per unit.)

4. The flow may become unstable from time to time.

Check the flow 30 minutes later.

\* In general, it is not advisable to run water through the unit when it is OFF ( p. 6), but in this case freeze prevention is more important.



- \* Remember to set mixing valves and fixtures to their original levels before using the unit again to prevent scalding.

- \* If there is still a risk that the unit will freeze, drain the unit as shown on the next page.

## **If water will not flow because it is frozen**

1. Close the gas and water valves.
2. Turn off the power button.
3. Open the water supply valve from time to time to check whether water is running.
4. When the water is flowing again, check for water leaks from the equipment and piping before using.

If the heater or the piping is frozen, do not use the heater or it may get damaged.

# Preventing Damage from Freezing-2

**If the water heater will not be used for a long period of time, drain the water.**

Drain the water as follows:



**CAUTION**



High Temperature

To avoid burns, wait until the equipment cools down before draining the water. The appliance will remain hot after it is turned off.

To prevent damage from freezing, the water heater must be plugged into power at all times. If power is unplugged, drain the water completely from the water heater. Then use an air compressor to remove all water from inside the unit's water piping. It is recommended that Isolation Valves are installed on the water heater, otherwise the water connections will need to be removed to drain the unit completely. Freeze damage due to not draining properly will not be covered under warranty.

Drain water into a bucket to prevent water damage.

## Drainage Using the Remote Controller

**1**

- (1) Turn the power on/off button "off".



- (2) Press the flow meter alarm set button for about two seconds until the alarm sounds. The maximum hot water temperature will flash.



- (3) Press the flow meter alarm set button again.

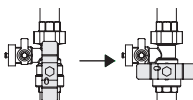


- (4) Press the setting button marked "UP". The display will change from "oF" to "on" after the button is pushed.



**2**

- Close the water supply valve.



**3**

- Fully open all hot water fixtures.



**4**

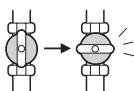
- Open all drain plugs and drain the water out of the unit.

**5**

- When the water is completely drained, replace all drain plugs and close the hot water fixtures.

**6**

- Close the gas valve and disconnect the electrical power supplied to the unit.

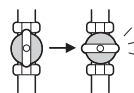


**Do not touch with wet hands.**

## Manual Draining

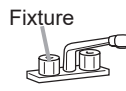
**1**

- Close the gas valve.



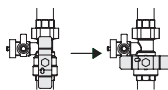
**2**

- (1) Turn the power on/off button "On".
- (2) Turn and leave open the hot water fixtures for more than 2 minutes and close.
  - \* If multiple units are being used, drain two minutes for each unit.
  - \* An 11 Error Code may appear on the remote controller. This is not a malfunction of the unit. Do not turn Power ON/OFF Button OFF.



**3**

- Close the water supply valve and disconnect the electrical power supplied to the unit.



**Do not touch with wet hands.**

**4**

- Fully open all hot water fixtures.

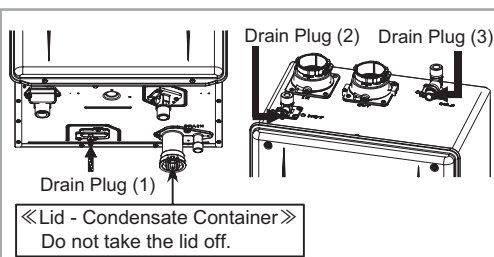


**5**

- 1) Open the drain plug (1)
- 2) Open the drain plug (2) and (3), and then drain the water out of the unit.

**6**

- When the water is completely drained, replace all drain plugs and close the hot water fixtures.



# Preventing Damage from Freezing-3

## Turning the Unit Back On

1. Check that all drain plugs are inserted.
2. Check that all hot water fixtures are closed.
3. Follow the procedure on p.11 "Initial operation", steps 1 through 4.
4. Make sure that the area around the appliance is well ventilated; open a window or a door if necessary.  
Then, operate the unit and verify that condensate is coming out of the drain pipe.  
(During normal use of the water heater, condensate will begin to discharge from the drain pipe within 15 minutes of use. However, depending on the season and/or installation site conditions, it may take longer.)

\* If water does not appear at the end of the drain line, a qualified service technician must clean the condensate line.

### **DANGER**



Be sure to do.

After the water heater has been out of use for a long time make sure that you fill the condensate trap with water.

This is to prevent dangerous exhaust gases from entering the building.

Failure to fill the condensate trap could result in severe personal injury or death.

(By performing step 4 as described above, the condensate trap will automatically fill itself with water.)

# Regular Maintenance-1

## Periodic Inspection

### CAUTION



Be sure to do.

To prevent burns or scalding, turn off the power button and wait until the equipment cools before performing maintenance.

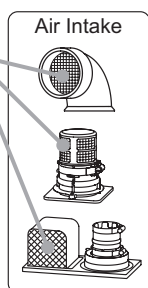
[When supplying combustion air from the indoors]

**Check** For smear or blockage with dust, oil, etc. at the air supply vent. If blocked, remove the build-up with a vacuum cleaner or damp towel.

\* Do not completely remove the inlet screen and the air screen.

**Check** For proper operation of pressure relief valve.

**Check** For laundry, newspaper, timber, oil, spray cans and other combustible materials near the heater or the exhaust vent terminal.



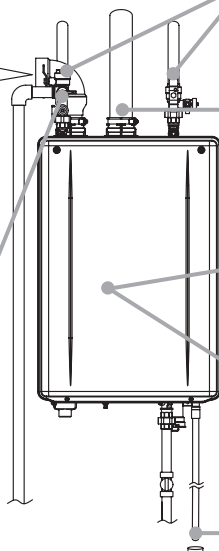
**Check** For water leaks from the equipment and piping.

**Check** For dust and soot in the exhaust vent or exhaust vent terminal.

**Check** For abnormal sounds during operation.

**Check** For abnormalities in external appearance, discoloration or flaws.

**Check** For blockage at the drain pipe discharge.



## Periodic Maintenance

### Unit

Wipe the outside surface with a wet cloth, then dry the surface. Use a neutral detergent to clean any stains. If an external condensate neutralizer is installed, periodic replacement of the neutralizing agent will be required. Refer to the instructions supplied with the neutralizer for suggested replacement intervals.

### Remote Controller

Wipe the surface with a wet cloth.

- Do not use benzene, oil or fatty detergents to clean the remote controller; deformation may occur.
- The remote controller is water resistant but not water proof. Keep it as dry as possible.

# Regular Maintenance-2

## Periodic Maintenance

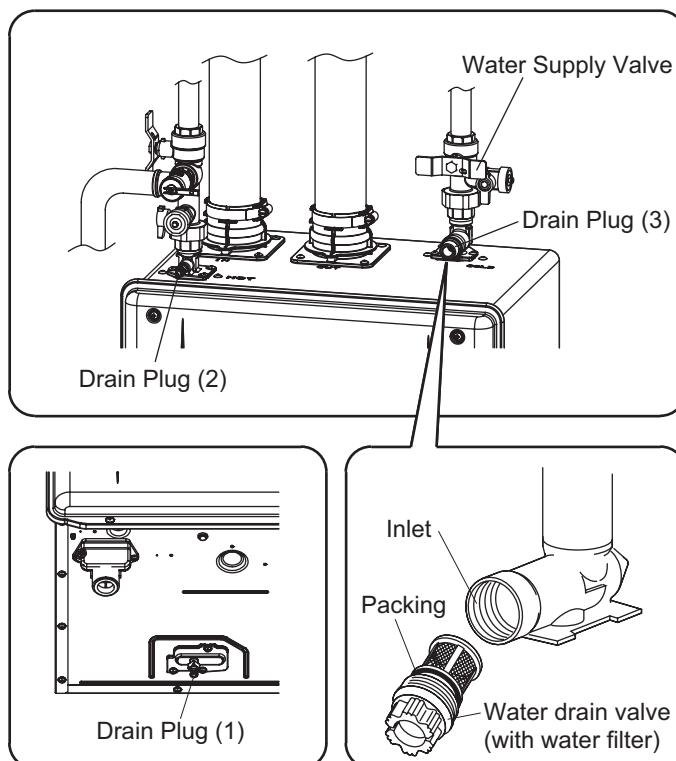
### Water Drain Valve (with Water Filter)

If the water drain valve (with water filter) is covered with debris, the hot water may not run smoothly, or the unit may put out cold water. Check and clean the filter as explained below.

\* **To avoid burns, wait until the equipment cools down before draining the water.**

**The appliance will remain hot after it is turned off.**

1. Close the water supply valve.
2. Open all hot water fixtures.
3. With a bucket ready, remove the drain plug (1) and then turn the drain plug (2) to the left to open (Not necessary to remove). Wait approximately 30 seconds.  
About 0.65 gallon (2.5 L) will drain out.  
After that remove the drain plug (3).
4. Take the water drain valve (with water filter) out of the inlet. (See illustration as below).
5. Clean the water drain valve (with water filter) with a brush under running water.
6. Replace the water drain valve (with water filter) and close the drain plugs.
- (Take care not to lose the packing.)
7. Close all hot water fixtures.
8. Open the water supply valve and check that water does not leak from the drain plugs or water drain valve (with water filter).





## Water Quality and Maintenance

For people who live in a hard water area, periodic flushing is necessary.

If the Heat Exchanger is not flushed, the Scale Build-up may cause damage to the Heat Exchanger.

To prevent damage to the Heat Exchanger, the Heat Exchanger regularly needs to be flushed.

This water heater is equipped with an automatic service reminder to announce for flushing the Heat Exchanger.

The factory default of this service reminder is OFF. The customer or installer needs to set the service reminder to ON or OFF. Refer to the "How to select the Service Reminder" in the installation Manual.

If the service reminder is selected to ON, the code "C1#" will displayed on the remote controller after the set time period has been reached. When the code is displayed, the Heat Exchanger needs to be flushed to prevent damage from Scale Build-up.

Refer to the "Procedure for flushing the Heat Exchanger" in the Installation Manual or contact Noritz America for more information. (<http://support.noritz.com/> or 866-766-7489)

\* # = 1, 2, 3, 4 ... 9

When the code "C1#" is displayed, refer to the "How to select the Service Reminder" in the Installation Manual.

Damage to the water heater as a result of below is not covered by the Noritz America Limited Warranty. To ensure full warranty coverage, treat or condition water that exceeds the target levels provided in this table.

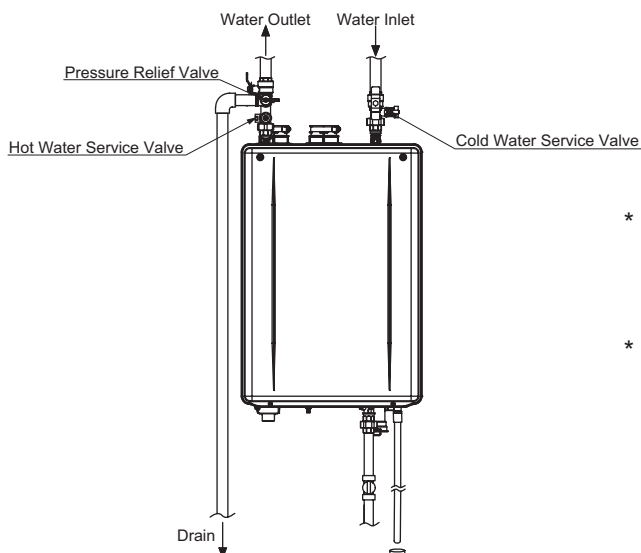
- Hard water
- Poor water quality (See the below list.)
- The water heater has displayed a "C1#" (Service Reminder) indicating Scale Build-up, but the heat exchanger has not been flushed.

Total Hardness**	: 200 mg/L (12 gpg) or less	pH	: 6.5 - 8.5
Aluminum	: 0.05 to 0.2 mg/L or less	Total Dissolved Solids	: 500 mg/L or less
Chloride	: 250 mg/L or less	Zinc	: 5 mg/L or less
Copper	: 1 mg/L or less	Sulfate ion	: 250 mg/L or less
Iron	: 0.3 mg/L or less	Residual chlorine	: 4 mg/L or less
Manganese	: 0.05 mg/L or less		

\*\* Maximum limit suggested by Noritz.

Source: EPA National Secondary Drinking Water Regulations (40 CFR Part 143.3)

### Isolation Valves



\* Isolation valves may be purchased as an accessory from an authorized Noritz wholesaler. They allow for full diagnostic testing and easy flushing of the system.

\* The kit includes two full port isolation valves and a pressure relief valve for the hot side. Contact Noritz for more information.

# Troubleshooting-1

## Initial Operation

Unit does not attempt to ignite when water is running.	<ul style="list-style-type: none"> <li>• Check for reversed plumbing or crossed pipes.</li> <li>• Check the water drain valve filter. (☞ p.22)</li> </ul>
Unit attempts to ignite but fails	<ul style="list-style-type: none"> <li>• Reset unit and try again. There may be air in the gas line.</li> <li>• Have a professional check the gas supply pressure.</li> </ul>

## Temperature

Hot water is not available when a fixture is opened.	<ul style="list-style-type: none"> <li>• Are the gas and water supply valves fully open?</li> <li>• Is the water supply cut off?</li> <li>• Is the hot water fixture sufficiently open?</li> <li>• Is the gas being cut off by the gas meter? (Can other gas devices such as stoves be used?)</li> <li>• (For LP) Is there enough gas in the tank? (Can other gas devices such as stoves be used?)</li> <li>• Is the water drain valve filter clogged? (☞ p.22)</li> <li>• Is the power button turned on?</li> </ul>
No water is available when a fixture is opened.	<ul style="list-style-type: none"> <li>• Is the water supply cut off?</li> <li>• Is the heater frozen?</li> </ul>
The hot water is not the correct temperature.	<ul style="list-style-type: none"> <li>• Is the hot water fixture sufficiently open?</li> </ul>
Water takes time to become hot when turning the hot water fixture.	<ul style="list-style-type: none"> <li>• Have you allowed enough time for the cold water in the pipes to drain out?</li> </ul>
The water is too hot.	<ul style="list-style-type: none"> <li>• Are the gas and water supply valves fully open?</li> <li>• Is the water temperature setting appropriate? (☞ p.12 and p.13)</li> <li>• If the water supply temperature is high, it is possible for the temperature to be higher than the temperature set on the remote controller.</li> <li>• If only a small amount of hot water is demanded, it is possible for the temperature to be higher than the temperature set on the remote controller.</li> </ul>
The water is not hot enough.	<ul style="list-style-type: none"> <li>• Are the gas and water supply valves fully open?</li> <li>• Is the water temperature setting appropriate? (☞ p.12 and p.13)</li> <li>• If the amount of hot water required is very high, it is possible for the temperature to be lower than the temperature set on the remote controller. Decrease the amount of hot water passing through the unit and the temperature should stabilize.</li> </ul>

(Continued)

The water is cold when only a single fixture is open.	<ul style="list-style-type: none"> <li>The unit will not heat the water if the flow rate is less than 0.29GPM (1.1L/min)*. Open the fixture more or open other fixtures so that a greater flow passes through the unit, and the unit should begin heating again.</li> <li>* Minimum activation flow rate : 0.5 GPM (2.0L/min) Minimum operating flow rate : 0.29 GPM (1.1L/min)</li> </ul>
Fluctuations in hot water temperatures.	<ul style="list-style-type: none"> <li>Set water temperature at 115°F to 120°F or 48°C (118°F) to 50°C (122°F). This will allow you to use a higher flow of hot water thus meeting the minimum flow requirement of 0.29GPM (1.1L/min)*.</li> <li>* Minimum activation flow rate : 0.5 GPM (2.0L/min) Minimum operating flow rate : 0.29 GPM (1.1L/min)</li> <li>Clean the water filter of any debris (👉 p.22)</li> </ul>
Setting temperature cannot rise.	<ul style="list-style-type: none"> <li>Is the maximum temperature setting appropriate? (👉 p.17)</li> </ul>

## Amount of Hot Water

The amount of hot water at a certain fixture is not constant.	<ul style="list-style-type: none"> <li>When hot water is demanded at other fixtures, the amount available may be reduced. The maximum flow available from EZ111DV (GQ-C3259 WX-FF US) is 8.7 GPM (33L/min.) at a 45°F (25°C) temperature rise. The maximum flow available from EZ98DV (GQ-C2859 WX-FF US) is 7.6 GPM (29L/min.) at a 45°F (25°C) temperature rise.</li> <li>Pressure fluctuations and other plumbing conditions can cause the temperature and pressure at a fixture to be unstable, but it should stabilize after a short time.</li> <li>There are some types of hot water taps that discharges large volumes of hot water at first but stabilize after time.</li> <li>To keep the temperature stable, the heater limits the amount of water that can flow through it to a small amount initially, but the amount increases over time.</li> </ul>
The amount of hot water in the tub is less/more than the set amount.	<ul style="list-style-type: none"> <li>When hot water is used for other fixtures while filling the bath tub, the tub will not fill as much.</li> <li>If there is water in the tub already, or when filling is stopped and restarted, the tub will fill more.</li> </ul>
The flow meter alarm does not sound even when filled to the set amount.	<ul style="list-style-type: none"> <li>The flow meter alarm is set to sound when hot water is continuously discharged for the set volume of water. If mixing valves are used, or if cold water is mixed with hot water at the fixture, the tub will fill more than the setting of the flow meter alarm.</li> </ul>
Amount of hot water available has decreased over time.	<ul style="list-style-type: none"> <li>Is the water filter clogged? (👉 p.22)</li> <li>If the supply water is hard and has not been treated, scale can build-up in the water heater and decrease the maximum amount of hot water available. Scale can be removed from the water heater by flushing the unit periodically. To prevent scale from forming in the water heater, a water softener or scale inhibitor is recommended.</li> </ul>

# Troubleshooting-2

## Remote Controller

The light on the power button does not come on.	<ul style="list-style-type: none"><li>• Has there been a power failure?</li><li>• Is the power connected properly?</li></ul>
The water temperature changes after a power failure or when the power is disconnected.	<ul style="list-style-type: none"><li>• The temperature setting and the flow meter alarm setting may both need to be reset after a power outage.</li></ul>
The plastic on the surface or buttons of the remote controller has torn, peeled, or air bubbles inside.	<ul style="list-style-type: none"><li>• The surface of the remote controller is affixed with a protective sheet (to prevent surface scratching, etc.) at time of shipment. This sheet can be removed or left as it is. When leaving the protective sheet on, areas frequently touched may tear or peel. However, the remote controller will not malfunction from water entering such torn or peeled areas. To restore the appearance of the remote controller surface, simply remove the protective sheet.</li></ul>

## Sounds

<p>The fan can be heard after operation is stopped.</p> <p>A motor can be heard when turning the unit ON or OFF, when opening or closing a fixture, or after the unit has been running for a while.</p>	<ul style="list-style-type: none"><li>• These noises indicate the proper operation of devices which are designed to let the unit reignite more quickly, and ensure the water temperature is stable.</li></ul>
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## Other

The Heater stops burning during operation.	<ul style="list-style-type: none"><li>• Are the gas and water supply valves fully open?</li><li>• Is the water supply cut off?</li><li>• Is the hot water fixture sufficiently open?</li><li>• Is the gas being cut off by the gas meter? (Can other gas devices such as stoves be used?)</li><li>• (For LP) Is there enough gas in the tank? (Can other gas devices such as stoves be used?)</li></ul>
White smoke comes out of the exhaust vent on a cold day.	<ul style="list-style-type: none"><li>• This is normal. The white smoke is actually steam.</li></ul>
The hot water is turbid.	<ul style="list-style-type: none"><li>• This is harmless. Small bubbles appear as the air in the water is heated and depressurized rapidly to atmospheric pressure.</li></ul>

(Continued)

(Continued)

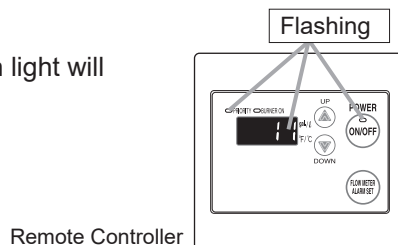
<p>The water appears blue The bath tub/wash-basin has turned blue</p>	<ul style="list-style-type: none"><li>• Coloration to a blue color may be noticed from small traces of copper ion contained in the water and fat (furring). However, there are not problems concerning health. Coloration of the bath tub/wash-basin can be prevented by cleaning frequently.</li></ul>
<p>Frequent water discharge from the drain pipe.</p>	<ul style="list-style-type: none"><li>• Condensation forms inside the unit during operation and is discharged from the drain pipe.</li></ul>

# Troubleshooting-3

## Check for an Error Code on the Remote Controller

If there is a problem with the unit, a numerical error code will flash on the remote controller. If this occurs, take appropriate measures as listed below.

When an error code appears, the display and the operation light will flash together.



Error Code	Cause	Action
11	Ignition error	Check whether the gas valve is open. Press the power button to turn the unit off, open a hot water fixture, and turn the unit back on. If the flashing number doesn't return the problem is solved.
90	[When supplying combustion air from the indoors] The air supply vent may be clogged.	Check air supply vent for blockage or obstruction. (→ p.21)
	Exhaust vent may be clogged.	Check exhaust vent for blockage or obstruction.
	Abnormal combustion, low gas supply pressur.	Have a professional check the gas supply pressure.
	Condensate drain line may be clogged.	Check condensate drain line is clogged or frozen. If the display continues, contact nearest Noritz agent.
99	Abnormal combustion	Contact the nearest Noritz agent.
C1# #=1-9	Service Reminder (Warning Indication)	This unit is equipped with an automatic service reminder. Excessive scale build-up may cause premature failure of the heat exchanger. Excessive dust or lint build-up in the fan and air intake may affect efficiency and combustion performance. Contact Noritz America for additional information about recommended maintenance procedures (866-766-7489).

### Contact Noritz America if:

- Any other error code appears.
- An error code is indicated again after the above actions were followed.
- There are any other questions.

# Follow-up Service-1

## Requesting Service

First follow the instructions in the troubleshooting section (☞ p.24 to p.28).  
If the error is not corrected, contact Noritz America Technical Support at 866-766-7489.

We will need to know:

**The Model** .....(check the rating plate)

\*See p.4 for the location of the label

**Date of purchase** .....(see the warranty)

**Details of problem** ....(flashing error codes,  
etc., in much detail as possible)

**Your name, address, and telephone number**

**Desired date of visit**



\* A request for service may be rejected if the water heater is installed in a location where working on the unit may be dangerous. Contact a plumber.

## Warranty

A warranty registration card is included separately.

Be sure that the installer name, date of purchase and other necessary information are filled in when registering your product.

Read the content carefully, and keep the warranty card in a safe place.

For repairs after the warranty period, there will be a charge on any service, and service will only be performed if the unit is deemed repairable.

## Period of Time for Stocking Repair Parts

Noritz will stock repair and maintenance parts for this unit for the time period from the date of the original installation as follows: twelve (12) years for the heat exchanger and ten (10) years for remaining parts.

## Reinstallation

If you want to reinstall the appliance at a different location, confirm that the gas and power supply indicated on the rating plate are available at the new location. If you are not sure, consult the local utility company.

# Follow-up Service-2

## Gas Conversion

If you move to a region that uses a different type of gas or if the local gas supply is converted, replacement of the gas manifold and adjustment of the appliance will be necessary.

This work must be performed by either Noritz or a qualified service agency and will be charged for even during the warranty period. The qualified installer will also be responsible for purchasing the gas conversion kit directly from the manufacturer.

For more information, contact Noritz America Technical Support at 866-766-7489.

### **WARNING**

The gas conversion kit shall be installed by a qualified service agency\* in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. The information in the instructions must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury, or death. The qualified service agency is responsible for the proper installation of this kit. The installation is not proper and complete until the operation of the converted appliance is checked as specified in the manufacturer's instructions supplied with the kit.

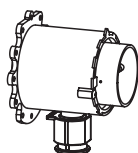
\* A qualified service agency is any individual, firm, corporation, or company which either in person or through a representative is engaged in and is responsible for the connection, utilization, repair or servicing of gas utilization equipment or accessories; who is experienced in such work, familiar with all precautions required, and has complied with all of the requirements of the authority having jurisdiction.

Before the gas conversion is performed, verify the proper gas conversion kit with your water heater model on the table provided below.

Conversion Kit	Model	Conversion Type
CK-75	EZ111DV (GQ-C3259WX-FF US)	Propane to Natural Gas
CK-76		Natural Gas to Propane
CK-77	EZ98DV (GQ-C2859WX-FF US)	Propane to Natural Gas
CK-78		Natural Gas to Propane

The following parts are supplied in the conversion kit. These items will replace the existing parts that are currently installed in the unit. Make sure that all parts are replaced and properly installed by a qualified service agency.

\* A Noritz remote controller and a digital gas manometer are required to complete the installation. Do not proceed if this equipment is not immediately available.



Venturi Mixer Set



O-Ring × 2



Conversion Kit Label

After the necessary parts have been replaced on the unit, the remote controller is then used to adjust the settings on the water heater for use with the proper gas type.

The following pressure values are verified by the installer.

- The inlet gas pressure value at the gas supply inlet fitting
- The offset pressure value at the gas valve

Proper adjustments will be made to ensure safe and efficient operation.

Once this is completed, a final gas leak check will be performed to confirm that all parts have been securely installed.

If you notice the smell of gas at any time after the installation has been completed, turn the water heater off and contact your gas supplier immediately.



# Specifications-1

- Specifications may be changed without prior notice.
- The capacity may differ slightly, depending on the water pressure, water supply, piping conditions, and water temperature.

## Specifications

Item		Specification	
Model Name		EZ111DV (GQ-C3259WX-FF US)	EZ98DV(GQ-C2859WX-FF US)
Type	Installation	Indoor / Outdoor Wall mounted	
	Air Supply/Exhaust	Power Vented	
Ignition		Direct Ignition	
Operating Pressure		15-150 psi (Recommended 30 psi or more for maximum performance)	
Minimum Activation Flow Rate*		0.5 GPM (2.0 L/min)	
Minimum Operating Flow Rate*		0.29GPM (1.1 L/min)	
Dimensions (Height) x (Width) x (Depth)		27.0" (687mm) × 18.5" (471mm) × 12.8" (325mm)	
Weight		81 lbs.	
Water Holding Capacity		0.65 Gallon (2.5L)	
Connection Sizes	Water Inlet	NPT 3/4"	
	Hot Water Outlet	NPT 3/4"	
	Gas Inlet	NPT 3/4"	
	Condensate Drain	NPT 1/2"	
Power Supply	Supply	120 VAC (60Hz)	
	Consumption	NG : 100W LP : 90W Freeze Prevention 178W	NG : 98W LP : 98W Freeze Prevention 178W
Materials	Casing	Front Cover, Side/Top Plate : Hot-dipped zinc-aluminum-magnesium-alloy-coated steel w/ Polyester Coating Back Plate : Hot-dipped zinc-aluminum-magnesium-alloy-coated steel w/o Coating Bottom Plate : Zincified Steel Plate/Polyester Coating	
	Flue Collar	PP	
	Primary Heat Exchanger	Stainless Steel : 316L	
	Secondary Heat Exchanger	Stainless Steel : 316L	
Safety Devices		Flame Rod, High Limit Switch, Lightning Protection Device (ZNR), Freezing Prevention Device, Fan Rotation Detector	
Accessories		Remote Controller, Remote Controller Cord, Anchoring Screws, Wall Mounting Bracket	

\* Specifications may be changed without prior notice.

\* The capacity may differ slightly, depending on the water pressure, water supply, piping conditions, and water temperature.

\* Minimum operating flow rate may change by setting temperature and water temperature.

# Specifications-2

- Specifications may be changed without prior notice.
- The capacity may differ slightly, depending on the water pressure, water supply, piping conditions, and water temperature.

## Performance

Item		EZ111DV (GQ-C3259WX-FF US)	EZ98DV (GQ-C2859WX-FF US)
Gas Consumption	NG	Maximum Performance 199,900 btuh	Maximum Performance 180,000 btuh
		Minimum Performance 18,000 btuh	Minimum Performance 18,000 btuh
	LP	Maximum Performance 199,900 btuh	Maximum Performance 180,000 btuh
		Minimum Performance 18,000 btuh	Minimum Performance 18,000 btuh
Maximum Hot Water Capacity	45°F (25°C) Rise	8.7 GPM (33 L/min.)	7.6 GPM (29 L/min.)
Capacity Range		0.5-11.1 GPM (2-42 L/min.)	0.5-9.8 GPM (2-37 L/min.)
Temperature Settings	°F Mode:	100-140°F (In 5°F intervals) (9 Options)	
	°C Mode:	37-48°C (In 1°C intervals), 50,55,60°C (In 5°C intervals) (15 Options)	