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 material

General Requirements

- 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 or 80 CPVC. 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.
- 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.

Maximum Vent Lengths

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

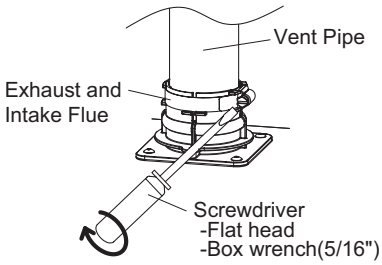
Refer to pages 20 for max. vent lengths When using PVC Concentric Termination.

Clearances

PVC or CPVC 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 between 16 and 20 in lb.)



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 "①short 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							
9	2.7	3				①			
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.

●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									

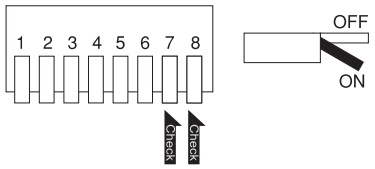
* Not including the termination.

** 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.

【Dip Switch Adjustment】

Vent length condition	Dip switches	
	#7	#8
① Short length using 2" (50mm) pipe	○	○
② Long length using 2" (50mm) pipe	●	○
③ Short length using 3" (75mm) pipe	○	●
④ Long length using 3" (75mm) pipe	●	●

ON=● OFF=○



• 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.

- 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 or CPVC

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
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.			

PVC/CPVC Installation Instructions

- Use only solid PVC or CPVC schedule 40 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 or CPVC 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:
    - o Squarely cut all pieces of pipe.
    - o Remove all burs and debris from joints and fittings.
    - o 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.

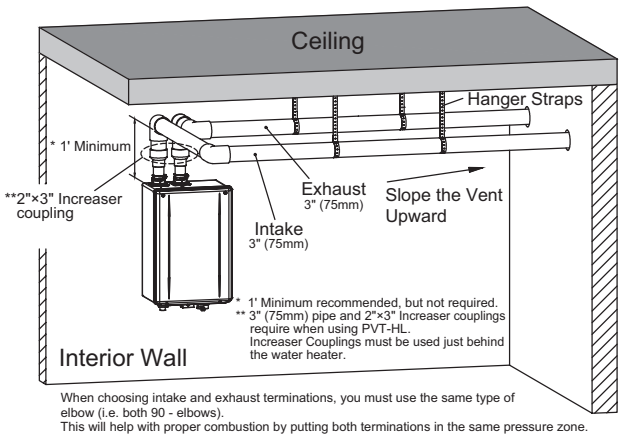
⚠ WARNING

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

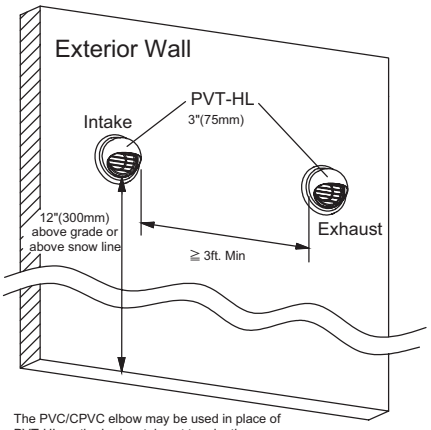
- All piping must be fully supported. Use pipe hangers at a minimum of 3' (0.9m) intervals. Do not use the water heater to support the vent piping.
- When attaching the piping to the water heater, use the appropriate primer and cement to ensure a proper seal.
- A bird screen must be installed on the 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,
    - Part # VT2-PVCS when using 2" (50mm) PVC or CPVC
    - Part # VT3-PVCS when using 3" (75mm) PVC or CPVC

Vent Pipe Installation

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



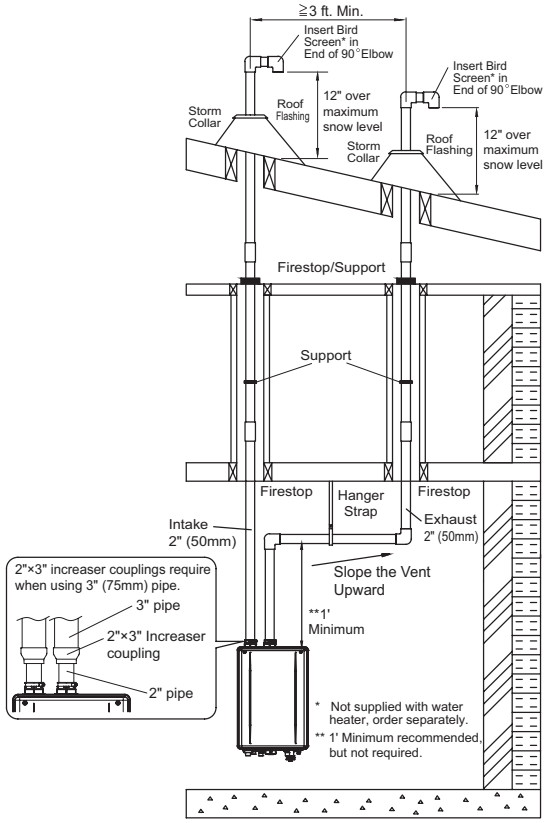
When choosing intake and exhaust terminations, you must use the same type of elbow (i.e. both 90 - elbows).
This will help with proper combustion by putting both terminations in the same pressure zone.



The PVC/CPVC elbow may be used in place of PVT-HL as the horizontal vent 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 Material Only



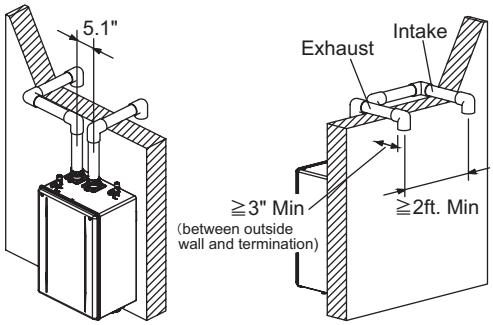
When choosing intake and exhaust terminations, you must use the same type of elbow (i.e. both 90° elbows).
This will help with proper combustion by putting both terminations in the same pressure zone.

- 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) ×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.

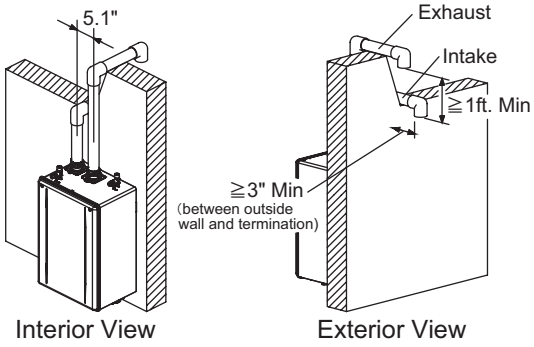
Vent Pipe Installation

Alternate Horizontal Vent Termination- PVC/CPVC Materials Only

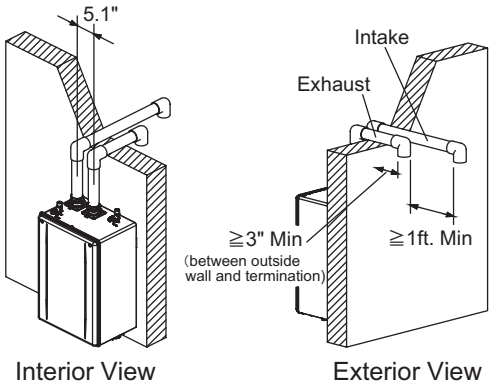
* When 3' (0.9m) distance between Intake and Exhaust cannot be ensured.
* Can not use Hood termination (PVT-HL)
* Insert the bird screen. 90° elbow vertical setting (downward).
* Ensure at least 3ft (0.9m) or more distance between the near edge of the air intake pipe or exhaust pipe to the inside corner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



- 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.



- 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).



- 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.

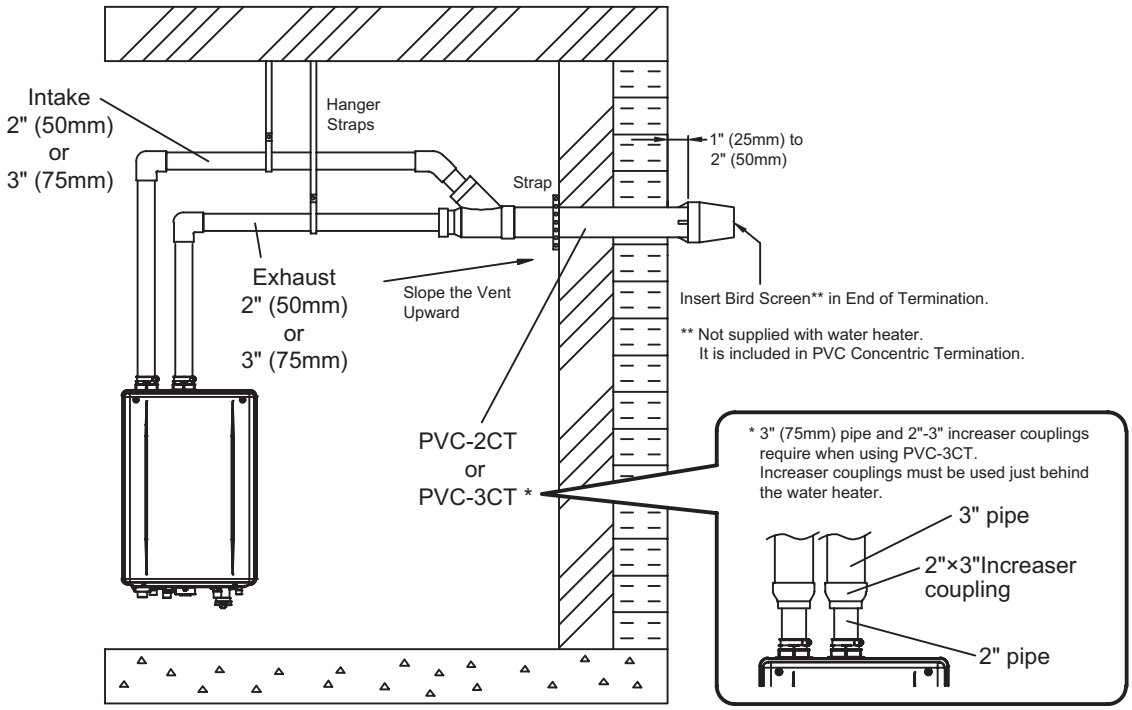
⚠ WARNING

- 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

- 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 4" (100mm) 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

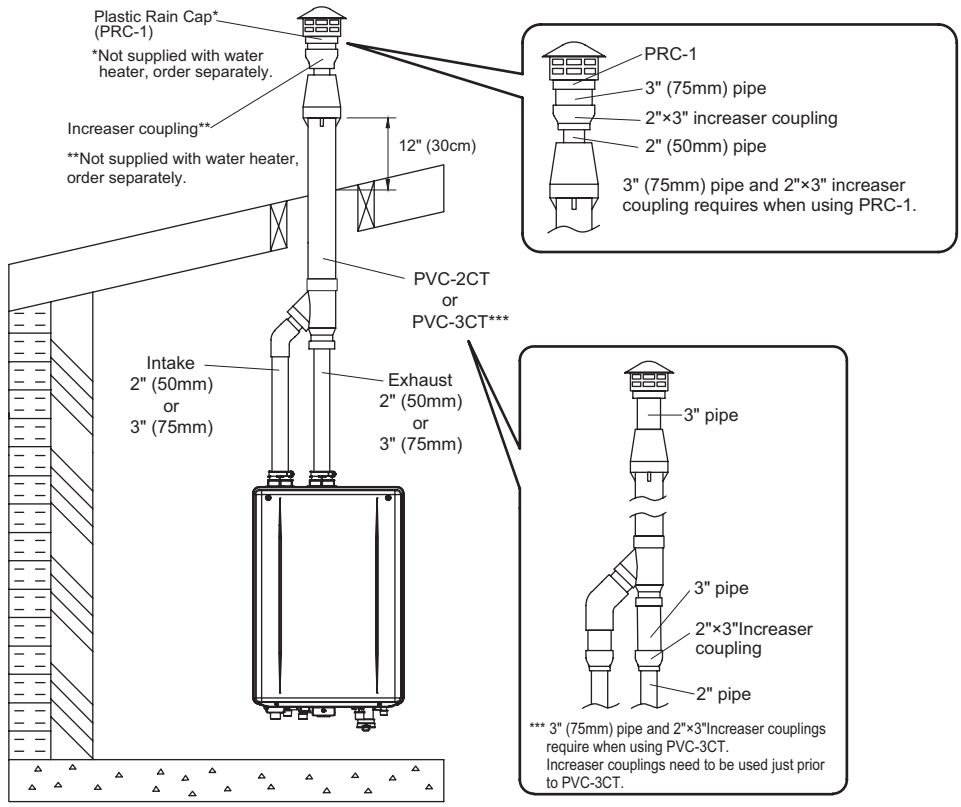
Horizontal



e.g.) PVC-2CT installation

Continue to next page

Vertical



e.g.) PVC-2CT installation

＜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				②			
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							

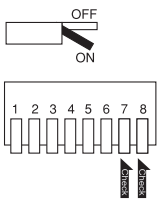
* Not including the termination.

** 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" (50mm) pipe	○	○
② Long length using 2" (50mm) pipe	●	○
③ Short length using 3" (75mm) pipe	○	●
④ Long length using 3" (75mm) pipe	●	●

ON=● OFF=○



●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.

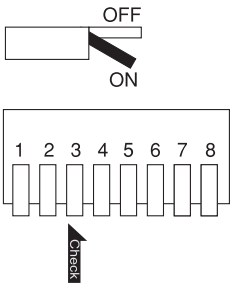
Vent Pipe Installation (When supplying combustion air from the indoors (SV, non-direct vent))

⚠ 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.**

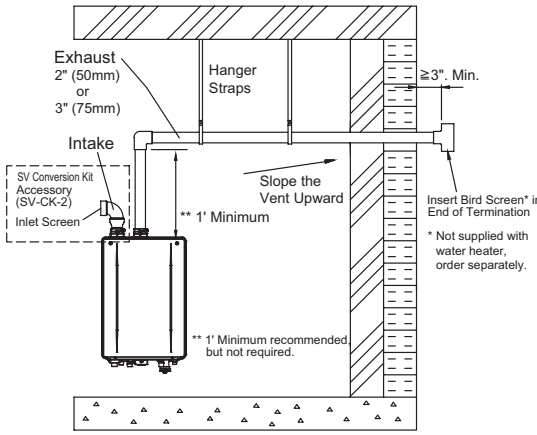
* Dip switch No.3 is turned on.



⚠ WARNING

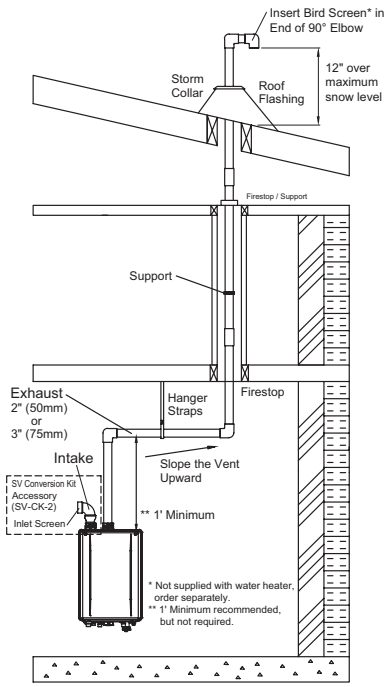
Failure to perform the above 2 steps could result in a fire or explosion causing property damage, personal injury or death.
Refer to the instructions provided with the conversion kit for additional details.

Horizontal Vent Termination- PVC/CPVC Materials Only



- 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- PVC/CPVC Materials Only



- 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.

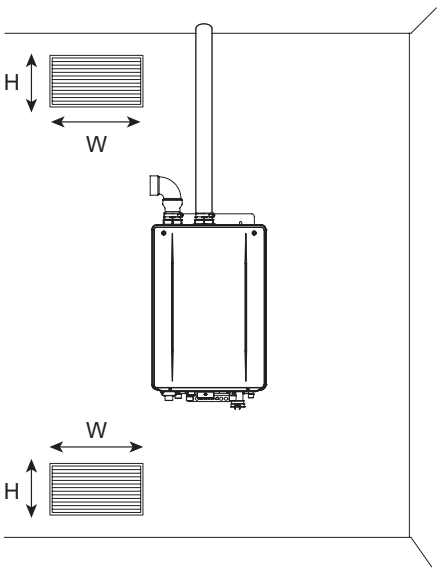
- Provide two permanent openings to allow circulation of combustion air.
- A minimum free area of each openings

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^2 20" (W) x 10" (H)	50 in^2 10" (W) x 5" (H)	100 in^2 20" (W) x 5" (H)
EZ98DV(GQ-C2859WX-FF US)	180 kbtuh	180 in^2 20" (W) x 9" (H)	45 in^2 10" (W) x 4 1/2" (H)	90 in^2 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 the U.S. to the National Fuel Gas Code ANSI Z233.1/NFPA 54 – latest edition.

Be sure to do

- Do not install the water heater when the inside/outside temperature is below 40°F (5°C).
- Do not use 2" flexible polypropylene in Canada.

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	Living Engineering 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.
- Keep Flex vent greater than 40°F (5°C) during installation.
  Damage will occur if handled or installed at lower temperatures.
- 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

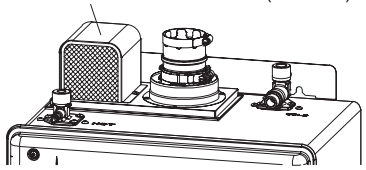
* Max. Straight Vent Length numbers do not include termination.
* Refer to Flex Vent 2" Kit installation manual for additional requirements.

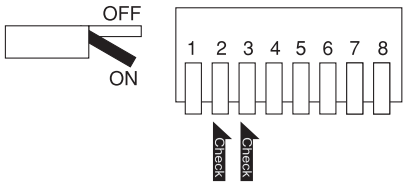
Clearances

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

Installation of Flex Vent 2" Conversion Kit

Flex Vent 2" Conversion Kit (EZ2-CK)





Dip switches No.2 and 3 are turned on.

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 left.

2. Disconnect power and turn on dip switches No.2 and 3.
   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.

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
① Flex Vent 2" Kit 25 feet (EZ2FVK-1) Dark gray	[Maximum Vent Length Example] - Actual Vent Length = 13 ft. (3.9m) (with DIP switch set at "Short length" condition) - Actual Vent Length = 25 ft. (7.5m) (with DIP switch set at "Long length" condition)

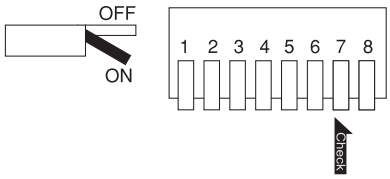
	DIP switch #7	Vent Length
Short length	○	5' (1.5m) ~ 15' (4.5m)
Long length	●	15' (4.5m) ~ 25' (7.5m)

ON= ● OFF= ○

Color of flex pipe	Maximum Vent Length Configurations
② Flex Vent 2" Kit 35 feet (EZ2FVK-2) Light gray	[Maximum Vent Length Example] - Actual Vent Length = 18 ft. (5.4m) (with DIP switch set at "Short length" condition) - Actual Vent Length = 35 ft. (10.5m) (with DIP switch set at "Long length" condition)

	DIP switch #7	Vent Length
Short length	○	5' (1.5m) ~ 20' (6.0m)
Long length	●	20' (6.0m) ~ 35' (10.5m)

ON= ● OFF= ○



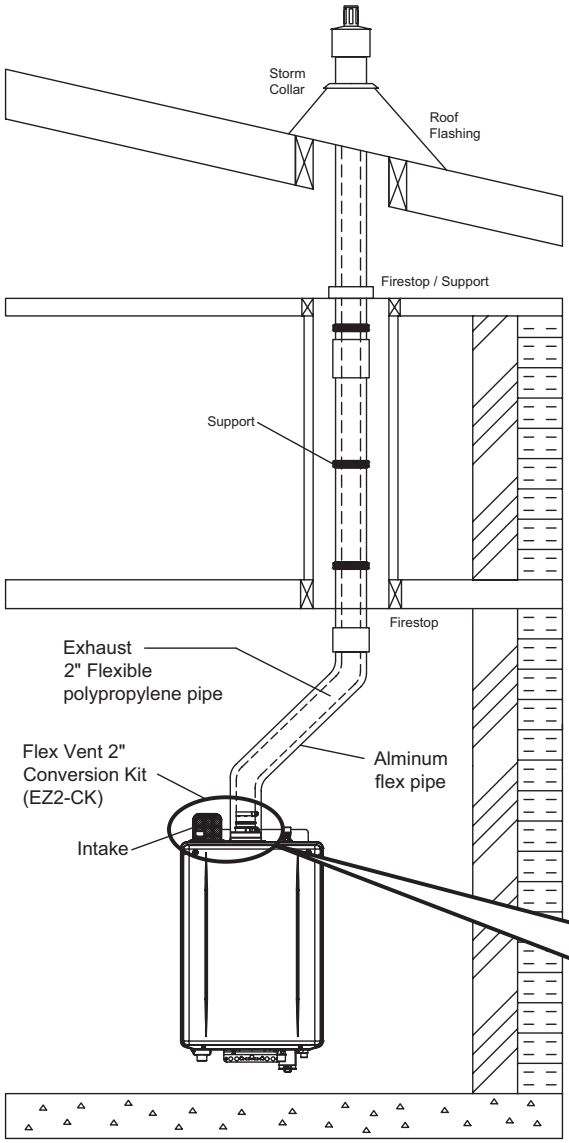
Do not change any other dip switch.
Refer to page 28 for the location of the dip switchbank.

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

⚠ WARNING

This unit is suitable only for vertical vent.

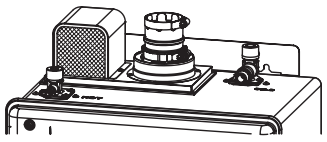
Vertical Vent Termination with Polypropylene N-Flex system



- 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.
- The aluminum flex pipe serves as protection against damage.

< Flex Vent 2" Conversion Kit (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.

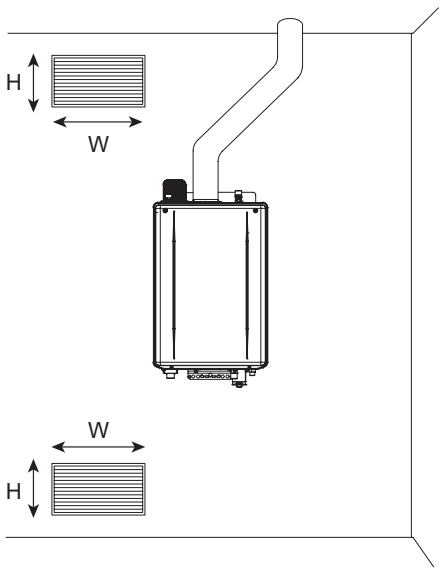
- Provide two permanent openings to allow circulation of combustion air.
- A minimum free area of each openings

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^2 20" (W) x 10" (H)	50 in^2 10" (W) x 5" (H)	100 in^2 20" (W) x 5" (H)
EZ98DV (GQ-C2859WX-FF US)	180 kbtuh	180 in^2 20" (W) x 9" (H)	45 in^2 10" (W) x 4 1/2" (H)	90 in^2 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.

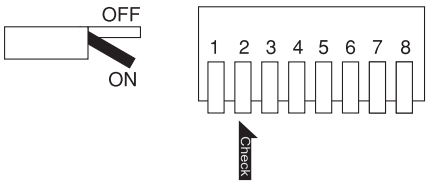


Openings supplying indoor air

Outdoor Installation

- When installing this water heater outdoors, must be used "Outdoor Vent Cap (VC-6)".
- 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).

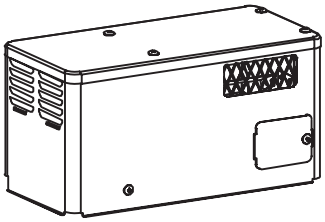
* Dip switch No.2 is turned on.



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.

Outdoor Vent Cap (VC-6) for outdoor installation



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.