NORITZ

## COMMON VENT SYSTEM

# Installation Manual

**Applicable Models : EZ111DV (GQ-C3260WX-FF US)**
**EZ98DV (GQ-C2860WX-FF US)**
**NCC199CDV (GQ-C3260WZ-FF US)**
**NRCR111DV (GQ-C3260WXQ-FF US)**
**NRCR92DV (GQ-C2660WXQ-FF US)**

**Refer to the unit Installation Manual for information regarding proper installation of the units.**

**⚠ WARNING**

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

**⚠ CAUTION**

**Requests to Installers**

**Licensed Professional Installers Only**
Only licensed professionals may install Noritz tankless water heaters ("unit" or "Water Heater") and the Common Vent System. The licensed professional installer must have the following skills, knowledge and experience:
- Connecting water lines, gas lines, electricity and valves;
- Knowledge of applicable local, state and national codes.

**Important Information for Installers**
- Ensure that the unit is properly installed according to the Installation Manual and Owner's Guide for the unit, as well as applicable codes.
- Read this Installation Manual completely prior to installation of the Common Vent System and carefully follow the instructions.
- Upon completion of installation, check and confirm that installation of the Common Vent System was done properly in accordance with this Installation Manual. A Checklist After Installation at the end of this Installation Manual is provided.
- Noritz does not manufacture or provide any warranty for the Common Vent System and Noritz assumes no liability or obligation for warranty or other claims for personal injury or death, damage or destruction of the Common Vent System, property damage or loss, or claims for any other damages, losses, contribution, or indemnification whatsoever with respect to the Common Vent System.
- Further, Noritz assumes no liability or obligation for warranty or other claims for personal injury or death, damage or destruction of the Noritz unit or the Common Vent System, property damage or loss, or claims for any other damages, losses, contribution, or indemnification whatsoever, all of which are excluded if the instructions in this Installation Manual are not completely and carefully followed.
- After completing installation, please either place this Installation Manual in a plastic pouch and attach it to the side of the unit (or the inside of the pipe cover if applicable), or hand it to the customer to retain for future reference. Also be sure to fill in all of the required items on the Warranty Registration and hand the Warranty and Warranty Registration to the customer, along with the Owner's Guide.

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

This System has been Independently Tested and Approved by CSA.

**NORITZ America Corporation**

SBB816N
Rev. 05/19

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 | Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. |
| ⚠ WARNING | Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. |
| ⚠ CAUTION | Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. |

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# 1 General Information

## 1.1 Warranty and Liability Exclusions

- Noritz does not manufacture or provide any warranty for the Common Vent System and Noritz assumes no liability or obligation for warranty or other claims for personal injury or death, damage or destruction of the Common Vent System, property damage or loss, or claims for any other damages, losses, contribution, or indemnification whatsoever with respect to the Common Vent System.
- Noritz provides a Limited Warranty for the unit as included with the unit's packaging or as available on-line at www.noritz.com/about-noritz/warranty. Noritz assumes no liability or obligation for warranty or other claims for personal injury or death, damage or destruction of the Noritz unit, property damage or loss, or claims for any other damages, losses, contribution, or indemnification whatsoever, all of which are excluded if such claims are due to any of the following:
  - Failure to comply with the instructions contained in this Installation Manual.
  - Failure to install to applicable code regulations.
  - Modifications to any portion of the unit or Common Vent System not expressly provided for in this Installation Manual.
  - Failure to use approved materials as specified in this Installation Manual.
  - Use or installation of components other than those expressly specified in this Installation Manual.
  - Improper operation or maintenance.
  - Deliberate damage.
  - Damage occurring subsequent to becoming aware of defects in the unit or Common Vent System due to continued use of the defective unit or Common Vent System.
  - Force Majeure or acts of God, including but not limited to, earthquake, flood, energy failure or utility spikes, war, acts of terrorism, etc.

THE LIMITED WARRANTY TO THE PURCHASER FOR THE NORITZ TANKLESS WATER HEATER UNIT IS AS PROVIDED IN THE NORITZ AMERICA CORPORATION LIMITED WARRANTY FOR TANKLESS HOT WATER HEATERS. THIS INSTALLATION MANUAL DOES NOT EXTEND, ENLARGE OR OTHERWISE MODIFY SUCH LIMITED WARRANTY.

NOTWITHSTANDING ANYTHING TO THE CONTRARY, NORITZ DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES REGARDING THE COMMON VENT SYSTEM, ANY COMPONENT THEREOF, OR ADDITIONAL PARTS THERETO (TOGETHER, THE "SYSTEM"), ITS FUNCTIONALITY, PERFORMANCE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE. NORITZ DISCLAIMS ALL OTHER OBLIGATIONS OR LIABILITIES ON ITS PART AND NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON OR ENTITY TO AGREE TO OR ASSUME FOR NORITZ ANY OTHER OBLIGATIONS OR LIABILITIES IN CONNECTION WITH THE SYSTEM.

NORITZ SHALL NOT BE LIABLE FOR ANY CLAIM OR DEMAND BY ANY PERSON OR ENTITY FOR DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO SPECIAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES, ARISING OUT OF THE SYSTEM, INCLUDING BUT NOT LIMITED TO THE INSTALLATION.

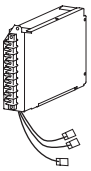
## 1.2 Noritz Common Vent Specifications

| | | |
|---|---|---|
| Applicable Models | | EZ111DV (GQ-C3260WX-FF US)<br>EZ98DV (GQ-C2860WX-FF US)<br>NCC199CDV (GQ-C3260WZ-FF US)<br>NRCR111DV (GQ-C3260WXQ-FF US)<br>NRCR92DV (GQ-C2660WXQ-FF US)<br><br>**All Common Vent System units must be same model.**<br>When connecting with 59 Series (NCC199CDV (GQ-C3259WZ-FF US), EZ111DV (GQ-C3259WX-FF US), EZ98DV (GQ-C2859WX-FF US)), contact to Noritz at 1-866-766-7489 for detailed information. |
| Venting | | Direct vent (DV) / Non-Direct Vent (SV) |
| Termination | | Horizontal / Vertical / Split Horizontal and Vertical |
| Vent Material | Exhaust | • Polypropylene (PP) manufactured by Centrotherm Eco System<br>• PVC or CPVC Schedule 40 pipe |
| | Intake | • Polypropylene (PP) manufactured by Centrotherm Eco System<br>• PVC or CPVC Schedule 40 pipe |
| Maximum allowable number of units for 1 Common Vent System | | EZ111DV (GQ-C3260WX-FF US)..... 2 units<br>EZ98DV (GQ-C2860WX-FF US)..... 2 units<br>NCC199CDV (GQ-C3260WZ-FF US) ..... 6 units<br>NRCR111DV (GQ-C3260WXQ-FF US) ..... 2 units<br>NRCR92DV (GQ-C2660WXQ-FF US)..... 2 units |

# 2 Accessories

## 2.1 Required Accessories

System Controller (× 1) (For more than 2 units)
[SC-401-6M]



Quick Connect Cord (× 1) (For 2 units)
[QC-2]



## 2.2 Optional Accessories

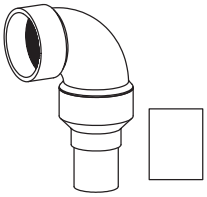
### 2.2.1 Noritz products

Air Intake 2” to 4” Increaser (4” PP vent only)
[CDV2X4-ADAPT]



- Consist of ISIA0203, ISIA0304 and IANS03

2” SV Conversion Kit (1 each (SV vent))
[SV-CK-2]



### 2.2.2 Centrotherm Eco System products

Model number or specification are subject to change by the manufacturer.
Be sure to contact Centrotherm Eco system to confirm latest edition.

**Vent parts (only indoor use)**

45° Elbow
[ISELL0245]



87° Elbow
2”: [ISELL0287]
3”: [ISEL0387]
4”: [ISELL0487]
6”: [ISEL0687]
8”: [ISELS0887]



Increaser
2” to 3”: [ISIA0203]
3” to 4”: [ISIA0304]



Connector Ring (1 each junction)
2”: [IANS02]
3”: [IANS03]
4”: [IANS04]
6”: [IANS06]
8”: [IANS08]



2” × 12” Vent Length
[ISVL021]



2” × 24” Vent Length
[ISVL022]



36” Vent Length
2”: [ISVL023]
3”: [ISVL033]
4”: [ISVL043]
6”: [ISVL063]
8”: [ISVL083]



Branch Tee
3”: [ISBT030336]
4”: [ISBT040436]
6”: [ISBT060436]
8”: [ISBT080436]



8” Branch Tee for Back to Back arrangement
[ISBT080412N]



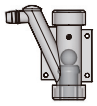
Horizontal Drain Fitting
4”: [ISHDF04]
6”: [ISHDF06]
8”: [ISHDF08]



Tee Cap
4”: [ISTC04]
6”: [ISTC06]
8”: [ISTC08]



Ball-Check Siphon
[IASJBVS]



**Vent parts for outdoor termination**

End Pipe PPS-UV
3”: [ISEP0339]
4”: [ISEP0439]
6”: [ISEP0639]
8”: [ISEP086]



87° Elbow PPS-UV
3”: [ISELL0387UV]
4”: [ISELL0487UV]
6”: [ISEL0687UV]
8”: [ISEL0887]



Termination Tee
3”: [ISTT0320]
4”: [ISTT0420]
6”: [ISTT0620]
8”: [ISTT0820]



Bird Screen
3”: [IASPP03]
4”: [IASPP04]
6”: [IASPP06]
8”: [IASSS08]



**Other parts**

Support Clamp
3”: [IASCM03]
4”: [IASCM04]
6”: [IASCM06]
8”: [IASCM08]



- 3/8” Threaded rod is field supplied.

Centrocerin (Lubricant)
[IACE50]



# 3 Common Venting Guidelines

To ensure the safe and correct installation of the Common Vent System, carefully follow the instructions and guidelines.

**⚠ DANGER**

**Checkup**
Check the vent pipe yearly for damage or wear. Replace if necessary.

- Do not use cellular core PVC (ASTM F891), cellular core CPVC, or Radel® (polyphenylsulfone) in non-metallic venting system.
- Do not connect the Common Vent System to existing vent (e.g. B-vent or chimney).
- Do not use any parts not specified in this manual.
- Make sure the vent system is gas-tight and will not leak.

**⚠ WARNING**

**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 Z223.1/NFPA 54 – latest edition, and in Canada, in accordance with the Natural Gas and Propane Installation Code CSA B149.1 – latest edition.

**Preventing Damage from Freezing**
Do not install the unit in a place where the inside temperature is below 32°F (0°C).
(PP venting only) The Ball-Check Siphon will be frozen and break. Exhaust may leak into the room.

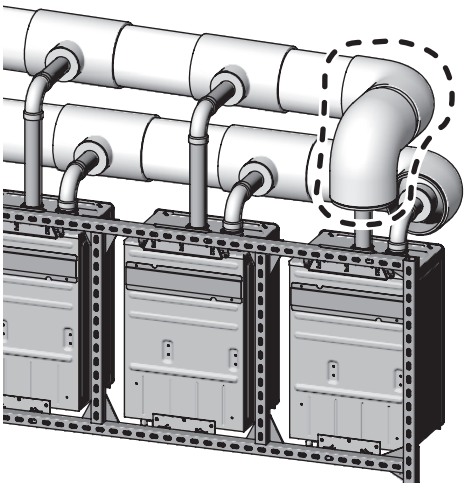
**Snow Precaution**
If this product will be installed in an area where snow is known to accumulate, protect the vent termination from blockage by snow drifts or damage from snow falling off of roofs.

**Vent Material**
- Centrotherm PP Vent parts or PVC, CPVC material can be used on air Intake and exhaust.
- For Canadian installation, all materials must be ULC-S636 approved.
- Do not apply the weight of the venting directly to the unit.
- Do not connect vent components to other manufacturer's unit.
- Do not use vent parts if there are signs of damage or dents.
- Do not store hazardous or flammable substances near the vent termination and check that the air intake and termination is not blocked in any way.
- You must use vent components that are certified and listed in this Installation Manual.
- The exhaust vent system must vent directly to the outside of the building.
- Avoid places in the room where sunlight is directed to the Common Vent System.
  The PP Vent parts may be damaged by UV light.
- 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.

[PP venting only]
- Install a Connector Ring to every 2", 3" and 4" joint connection.
- Vent connections must be firmly pressed together so that the gaskets form an air tight seal.

## ⚠ CAUTION

- Vent diameter must not be reduced.
- All Common Vent System units must be same model. (e.g. Installing NCC199CDV (GQ-C3260WZ-FF US) and EZ98DV(GQ-C2860WX-FF US) with same vent system is prohibited.)
- **[For NCC199CDV (GQ-C3260WZ-FF US)]**
  Do not connect separate water distribution systems to 1 Common Vent System. All units must be in the same cold and hot water distribution system and must not exceed 6 units.
  If you need 7 units or more, divide the Common Vent Systems within maximum allowable number of units (page 3).
- **[For EZ111DV (GQ-C3260WX-FF US), EZ98DV (GQ-C2860WX-FF US), NRCR111DV (GQ-C3260WXQ-FF US), NRCR92 (GQ-C2660WXQ-FF US)]**
  Do not connect separate water distribution systems to 1 Common Vent System. All units must be in the same cold and hot water distribution system and must not exceed 2 units. If you need 3 units or more, divide the Common Vent Systems within maximum allowable number of units (page 3).
- **[For NCC199CDV (GQ-C3260WZ-FF US)]**
  Do not connect over 6 units to the same Common Vent System.
  If you need 7 units or more, use 2 Common Vent Systems.
- **[For EZ111DV (GQ-C3260WX-FF US), EZ98DV (GQ-C2860WX-FF US), NRCR111DV (GQ-C3260WXQ-FF US), NRCR92DV (GQ-C2660WXQ-FF US)]**
  Do not connect over 2 units to the same Common Vent System.
- The unit Dip Switch setting must always be set to Common Vent setting (SW1 in Dip Switches should be set to ON position).
- 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.
- When using a horizontal section, slope the horizontal exhaust vent 1/4" (5/8" for PP vent) upwards for every 12" (300 mm) toward the termination to drain condensate by installing supports.
- Support all horizontal and vertical vent runs a minimum of 1 every 3 feet. Support the vent pipe with hangers at regular intervals or as required by local codes.
- Position the units as close as possible to the vent termination.
- Install a 2" SV Conversion Kit (SV-CK-2) onto each unit in Non-Direct Vent configuration.
- Quick Connect Cord (QC-2) or System Controller (SC-401-6M) must be installed per 1 Common Vent System.
- Install a new Common Vent System with unit. If an existing Common Vent System is reused, thoroughly inspect it for punctures, cracks, or blockages prior to connecting it to the unit.
- To avoid significant rain into the unit, place the Elbow or Termination Tee on the end of the termination vent pipe.
- Insert Bird Screen in the end of termination.
- Ensure that the vent termination is at least 12" (305 mm) above ground, 12" (305 mm) above the highest anticipated snow level, or as required by local codes, whichever is greater.
- [PVC/CPVC and 3" PP vent only]
  Do not reduce the trunk vent diameter for any unit connected to the Common Vent System because of returning the condensation inside exhaust trunk line to the unit.



**Recommendation**
Install the Common Vent System length as short as possible.

# 4 Installation Clearances

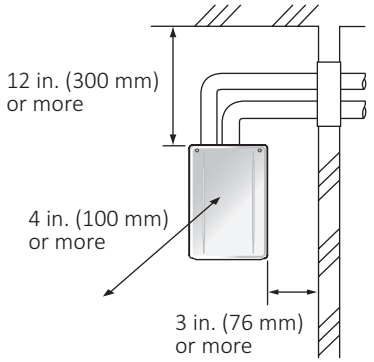
**⚠ WARNING**

**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, refer to 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.

## 4.1 Water Heater Clearances

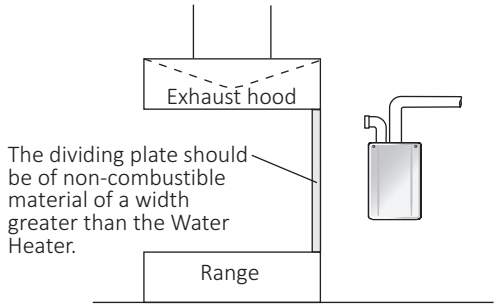
**Required Clearances From the Water Heater**

Maintain the clearances from both combustible and non-combustible materials.




**Cooking Equipment**

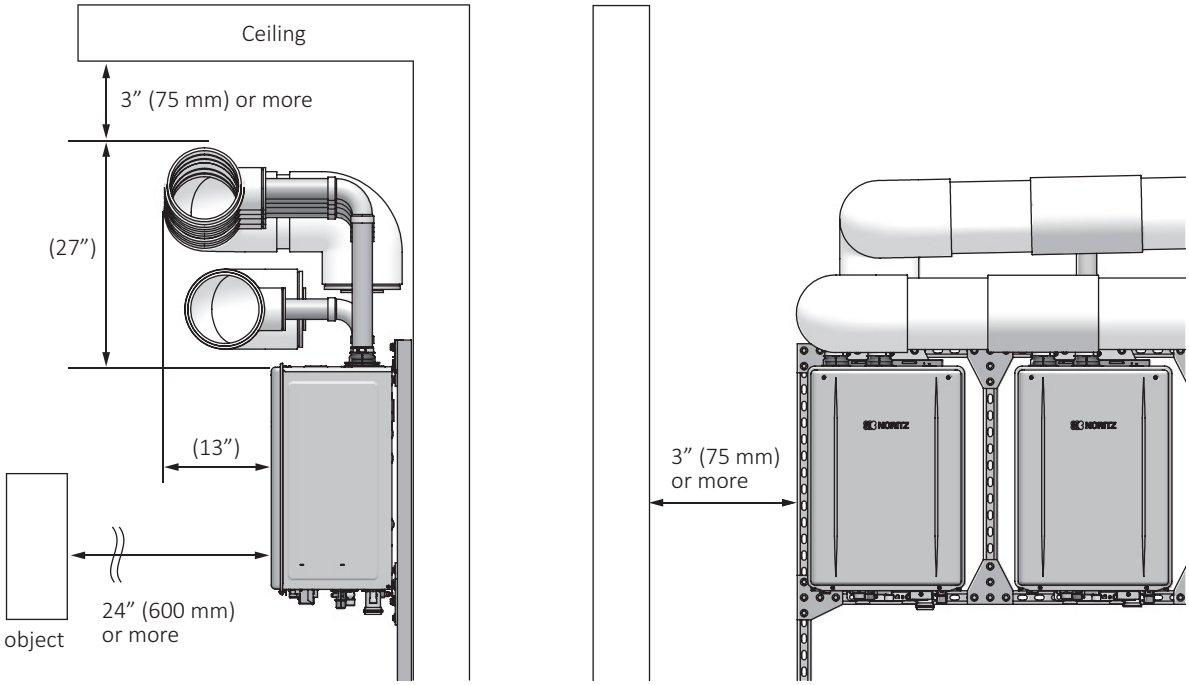
When utilizing an indoor air supply, if the Water Heater will be installed in the vicinity of a permanent kitchen range or stove that has the possibility of generating steam that contains fats or oils, use a dividing plate or other measure to ensure that the Water Heater is not exposed to air containing such impurities.



## 4.2 Clearances for installation/repair/inspection for PVC vent

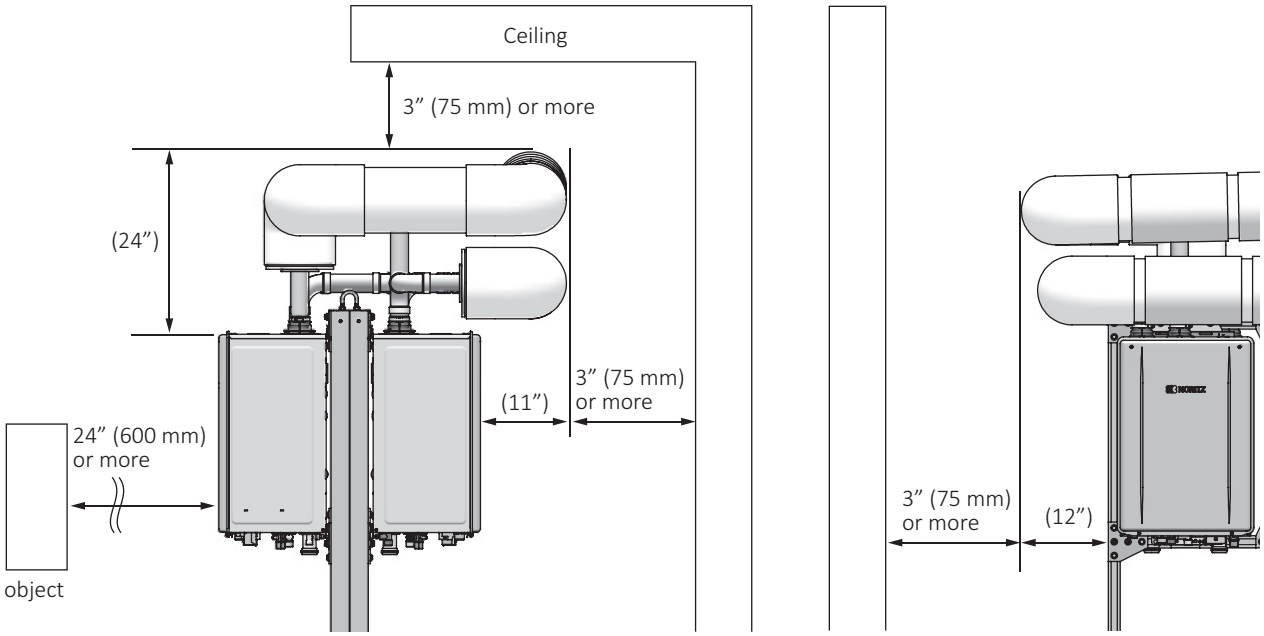
Exhaust vent parts (Refer to 6.2) can be installed at zero clearance to combustible materials.
In order to facilitate inspection and repair it is recommended to leave minimum clearances as below:

**[In Line Configuration]**




e.g. 8” Vent Diameter- In Line Configuration

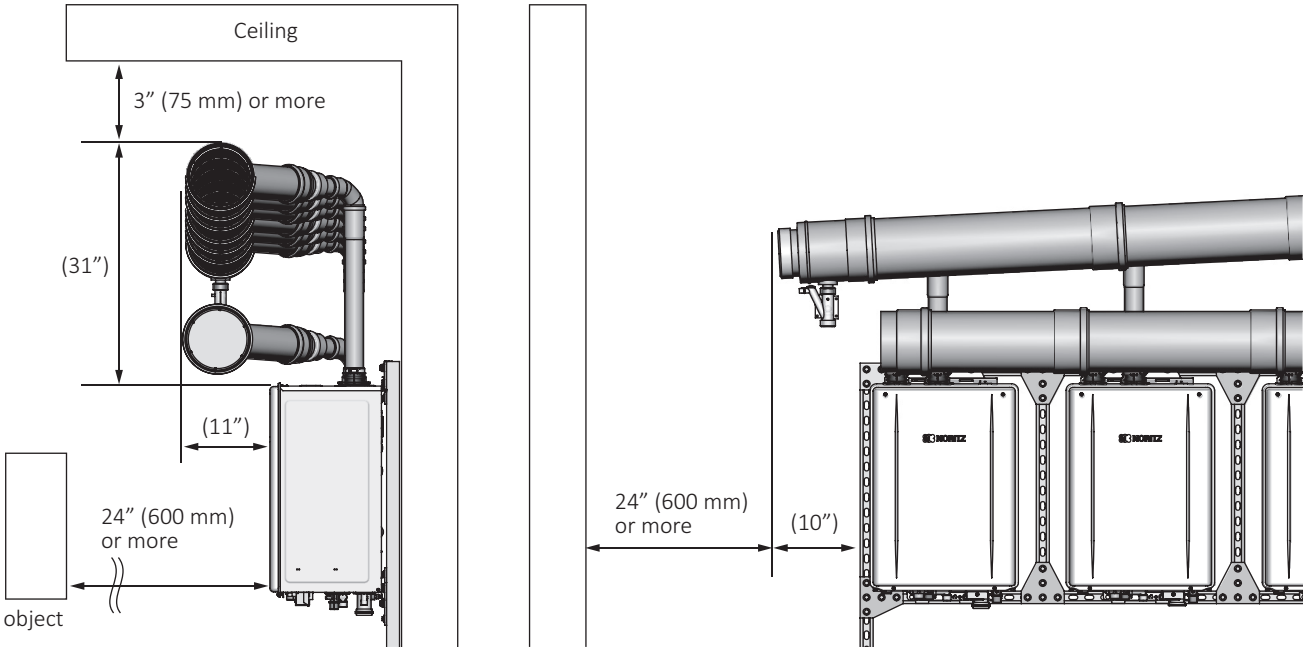
**[Back to Back Configuration]**
If a back to back configuration utilizing the Noritz Commercial Water Heating System (CWHS) is needed.



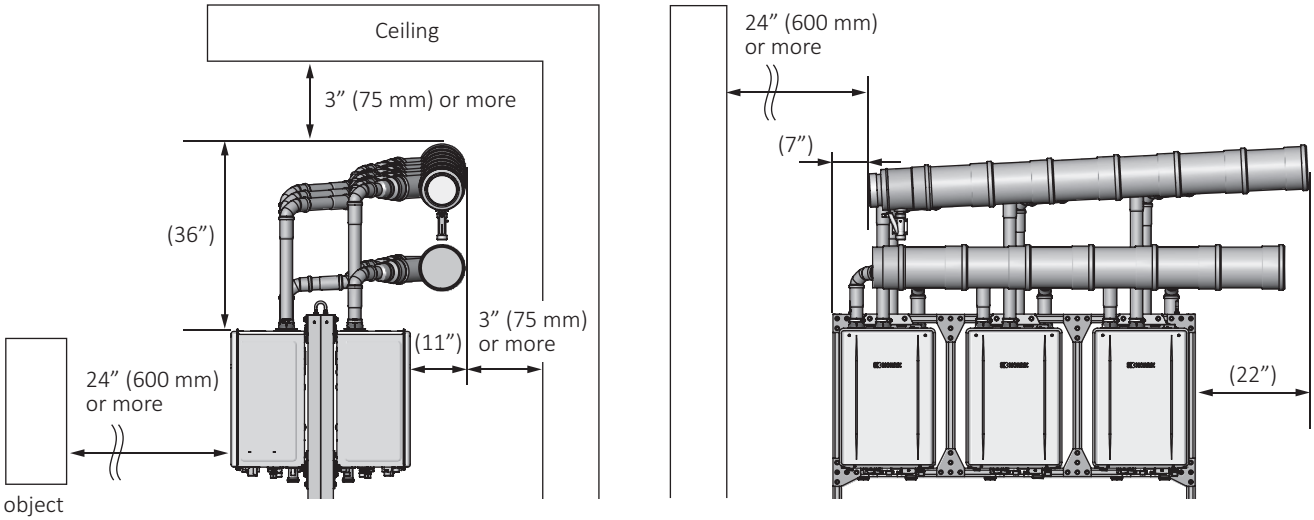

e.g. 8” Vent Diameter- Back to Back Configuration

## 4.3 Clearances for installation/repair/inspection for PP vent

Centrotherm PP vent parts can be installed at zero clearance to combustible materials.
In order to facilitate inspection and repair it is recommended to leave minimum clearances as below:




e.g. In Line Configuration (e.g. 6 units)




e.g. Back to Back Configuration (e.g. 6 units)

# 5 Unit Installation and Settings

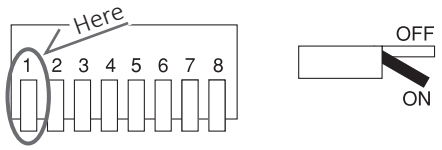
## 5.1 Unit Installation

- Install the units in accordance with unit's installation manual.
- If the units will be installed in a "Back to Back" arrangement, it is highly recommended to use the Noritz Commercial Water Heating System (CWHS) to secure the units.
  Distance between units is restricted when using the "Back to Back" arrangement. Details are described in Chapter 6.4.3.

## 5.2 Unit Settings

Disconnect the electrical power and then turn ON Dip Switch #1 on all units.
Refer to the unit's installation manual for the location of the Dip Switch bank.
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 the electrical power to the Water Heater to reset the system.

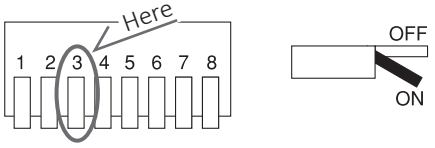
***NOTE*** Do not change any other dip switches.




**When using a "Non-Direct Vent" configuration**

- Adjust the Dip Switch #3 to Non-Direct Vent setting if you install Non-Direct Vent system.
- Disconnect the erectrical power and then turn ON Dip Switch #3 if combustion air will be supplied from the indoors.
  Refer to the unit's installation manual for the location of the Dip Switch bank.
  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 the electrical power to the Water Heater to reset the system.

***NOTE*** Do not change any other dip switches.



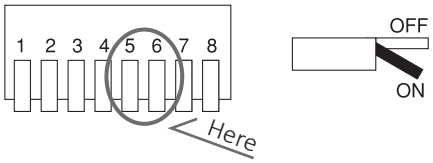

**Elevation Adjustment Above 2,000 ft**

- Adjust the Dip Switches as illustrated in the table below, if this Water Heater is installed at an altitude of 2,000 ft (610 m) or higher.
- Disconnect the electrical power and then adjust the Dip Switches.
  Refer to the unit's installation manual for the location of the Dip Switch bank.
  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 the electrical power to the Water Heater to reset the system.

***NOTE*** Do not change any other Dip Switches.

ON = ● / OFF = ○

| High Elevation Adjustment | Dip Switches | |
|---|---|---|
| | #5 | #6 |
| 0-2,000 ft (0-610 m) | ○ | ○ |
| 2,001-4,000 ft (611-1,219 m) | ● | ○ |
| 4,001-7,000 ft (1,220-2,134 m) | ○ | ● |
| 7,001-10,000 ft (2,135-3,048 m) | ● | ● |



# 6 Vent Pipe Installation

## 6.1 Determining the Vent Diameter of Common Vent

- Minimum equivalent vent length is 3 ft.
- Table 1: Vent Diameter and Maximum Equivalent Vent Length

| Model | Configuration | Number of Units | Vent Diameter (inch) and Maximum Equivalent Vent Length (feet) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | PVC or CPVC Schedule 40 Pipe | | | | PP vent | | | |
| | | | 3” | 4” | 6” | 8” | 3” | 4” | 6” | 8” |
| EZ98DV (GQ-C2860WX-FF US) NRCR92DV (GQ-C2660WXQ-FF US) | Both Direct Vent (DV) and Non-Direct Vent (SV) | 2 | 28* | 130* | 200 | | 28* | 150* | 200 | |
| EZ111DV (GQ-C3260WX-FF US) NRCR111DV (GQ-C3260WXQ-FF US) | | 2 | 18* | 95* | 200 | | 18* | 110* | 200 | |
| NCC199CDV (GQ-C3260WZ-FF US) | | 2 | 18* | 95* | 200 | | 18* | 110* | 200 | |
| | | 3 | N/A | 39* | 155* | 200 | N/A | 45* | 155* | 200 |
| | | 4 | N/A | N/A | 90* | 200 | N/A | N/A | 90* | 200 |
| | | 5 | N/A | N/A | 50* | 150* | N/A | N/A | 50* | 150* |
| | | 6 | N/A | N/A | 35* | 130* | N/A | N/A | 35* | 130* |

* The Btu/h input of the unit will be reduced by up to 9%.

***NOTE*** The sizing method shown in Table 1 is provided for the convenience of the installer. Maximum acceptable vent system static pressure drop is 0.6” W.C.

- Table 2: Equivalent Length of each Elbow

| | Equivalent Length of each Elbow (feet) | | | |
|---|---|---|---|---|
| Diameter of Elbow | 3” | 4” | 6” | 8” |
| Length | 5 | 12 | 18 | 20 |

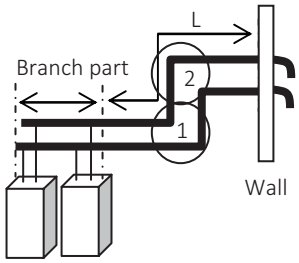
**How to determine the Vent diameter of Common Vent**

*Total Equivalent Vent Length (TL) = Straight Vent Length (L) + Equivalent Length of Elbows*

- TL shall be less than the value in Table 1.
- Count the number of elbows and multiply equivalent length of each elbow in accordance with Table 2.
- A termination elbow has already been counted and does not need to be added.
- Branch part has already been counted and does not need to be added.

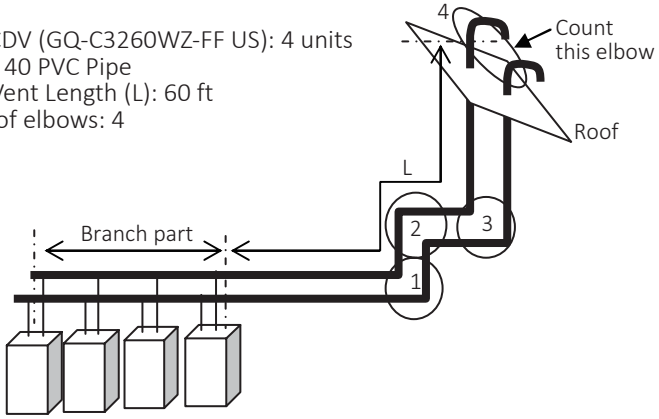
**[Calculation example]**

(e.g. 1)
- EZ98DV (GQ-C2860WX-FF US): 2 units
- Schedule 40 PVC Pipe
- Straight Vent Length (L): 35 ft
- Number of elbows: 2




Total Equivalent length
= 35 ft + 2 × 18 ft (6” Elbow)
= **71 ft** < 200 ft (Refer to Table 1)
6” vent system is suitable

(e.g. 2)
- NCC199CDV (GQ-C3260WZ-FF US): 4 units
- Schedule 40 PVC Pipe
- Straight Vent Length (L): 60 ft
- Number of elbows: 4




Total Equivalent length
= 60 ft + 4 × 18 ft (6” Elbow) = **132 ft** > 90 ft (Refer to Table 1)
6” vent system is NOT suitable

= 60 ft + 4 × 20 ft (8” Elbow) = **140 ft** < 200 ft (Refer to Table 1)
8” vent system is suitable

## 6.2 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.

[Exhaust Vent / Air Intake]

| Material | United States | | Canada | |
|---|---|---|---|---|
| | Exhaust | Air Intake | Exhaust | Air Intake |
| Schedule 40 PVC | ANSI/ASTM D1785 | | ULC S636 Certified Materials Only | CSA B137.3 |
| PVC-DWV | ANSI/ASTM D2665 | | | CSA B181.2 |
| Schedule 40 CPVC | ANSI/ASTM F441 | | | CSA B137.3 |
| Polypropylene (PP)* | Centrotherm- InnoFlue® (certified ULC S636) | | | |

* Only listed manufacture specified vent parts may be used for this Water Heater. Refer to the manufacture's literature for detailed information.

[Pipe Cement / Primer]

| Material | United States | Canada |
|---|---|---|
| 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 / PP Installation Instructions**

- 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 the Water Heater set temperature is 160°F (70°C) or higher and there is a return line to the Water Heater from either a recirculation pump or a combination space heating system, use schedule 40 CPVC or PP.**
- 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.
- 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 installation manual.
- 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 on this page.

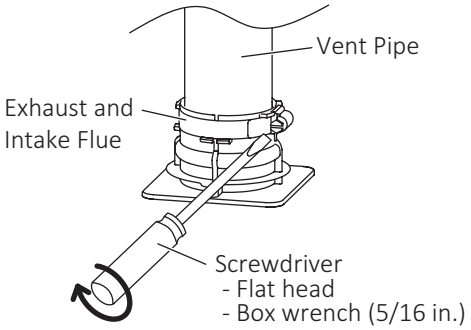
**⚠ WARNING**

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

- Do not use the unit to support the venting.
- All piping must be fully supported. Use pipe hangers at a minimum of 3' (0.9 m) intervals. Do not use the Water Heater to support the vent piping.
- 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.

**How to tighten the Vent Pipe**

1. Continue to insert the Vent Pipe until it reaches to the base of the Water Heater Exhaust and Intake Flue.
   - The Vent Pipe will be inserted approximately 2.3" (60 mm).
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



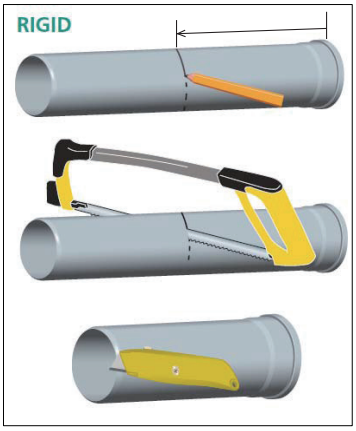
## 6.3 Assembling PP vent pipe

### 6.3.1 Field Cutting PP vent pipe

- Measure the length from edge of female-end and mark the vent pipe.
- Use trade tools (e.g. hacksaw) to create a perpendicular, clean cut.
- Deburr cut end so that damage to the gasket is avoided.
- Remove debris from inside the pipe prior to assembly.
- Only Rigid Vent Length, Branch Tees, End Pipes and Termination Tee can be cut. Do not cut elbows or other fittings.

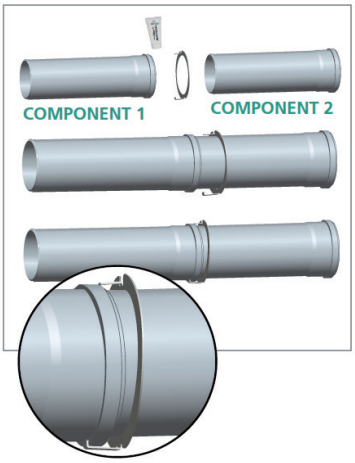
**⚠ WARNING**

Damaged gaskets can cause leakage of dangerous levels of carbon monoxide or property damage due to condensate leaks.



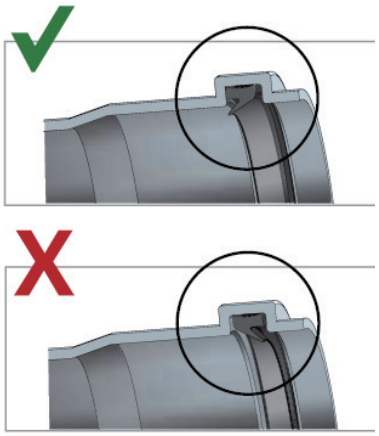

### 6.3.2 Joint Connections

- Each female-end of every Centrotherm Vent Length or component features a factory installed gasket. Before assembly, make sure gaskets are in place correctly.
- Measure the depth of the female socket. Mark the male-end of each component just shy of the depth of the female socket from its end.
- Place a thin layer of Centrocerin, a water based lubricant onto the male-end of component 2 for ease of assembly.
- Slip a Connector Ring over the male-end of component 2 so that it can grip the gasket bead of component 1.
- Push and twist male-end until properly seated in component 1, aligning the mark with the top of the female-end.
- Clip the Connector Ring onto the gasket bead to secure the two components to each other.



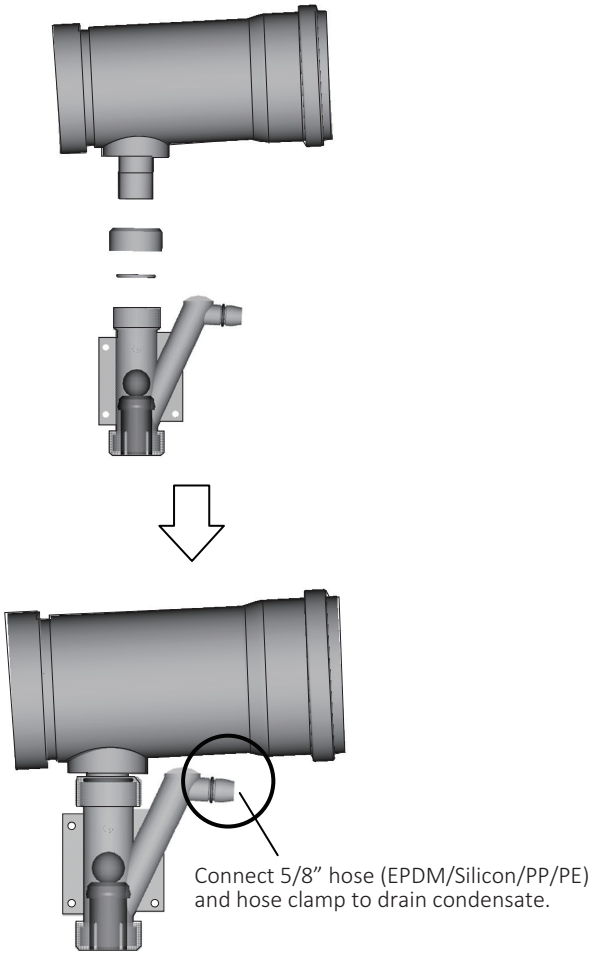
### 6.3.3 Gasket Placement

- Gaskets are factory installed in Centrotherm components.
- If a gasket is missing or damaged, it must be replaced by a correctly sized, Centrotherm supplied gasket.
- Make sure gasket bead and gasket itself is clean, then insert the new gasket as per drawing.
- Gasket must fit evenly within the gasket bead.
- Spare gaskets are available for 3” to 8” (ISGE0X). X indicates vent diameter.



### 6.3.4 Installing Ball-Check Siphon to Horizontal Drain Fitting

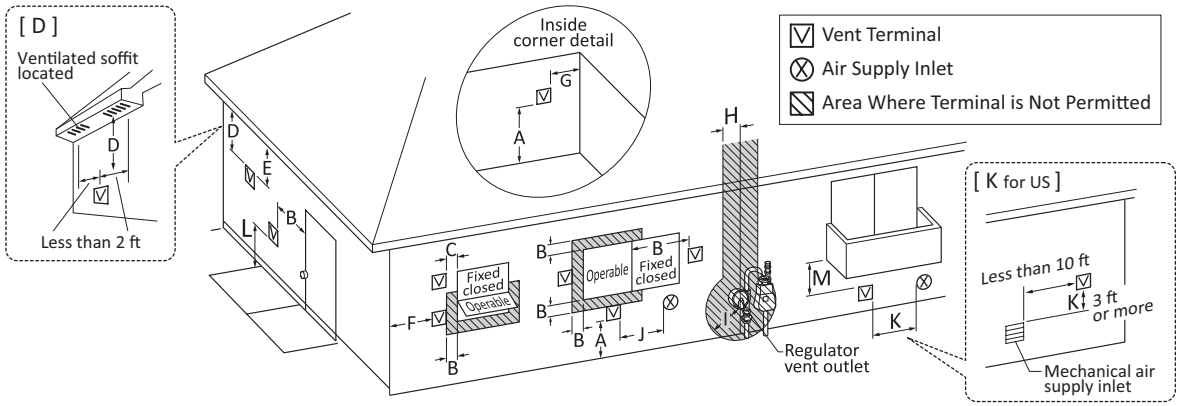
- Install the Horizontal Drain Fitting with Ball-Check Siphon to the end of the last Branch Tee in the exhaust vent pipe.
  The Horizontal Drain Fitting removes condensate from the system and allows for inspections and system clean out.
- Condensation drain tubes and hose clamps are connected to a drain and must be disposed of in compliance with local code.



## 6.4 Vent Installation for Direct Vent Configuration

### 6.4.1 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 [1] | US Direct Vent Installations [2] |
|---|---|---|---|
| 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 non-mechanical 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)‡ | * |

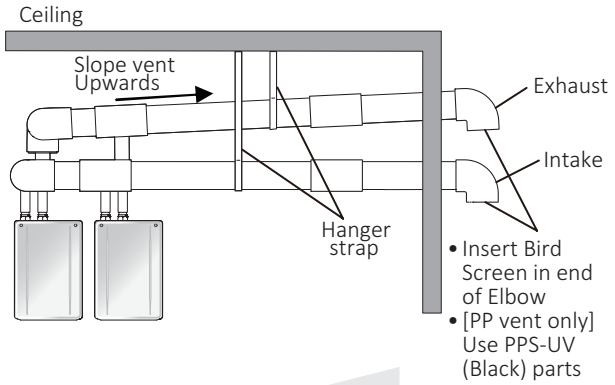
[1] In accordance with the current CSA B149.1 Natural Gas and Propane Installation Code
[2] In accordance with the current ANSI Z223.1 / NFPA 54 National Fuel Gas Code
† A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves 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 in. (60 cm).

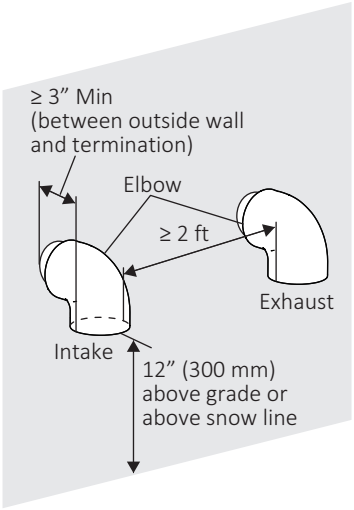
## 6.4.2 Vent termination

**⚠ WARNING**

- If the distance between the air inlet and exhaust vent terminations is too short, the unit will draw in the exhaust gases through the intake. There is a risk of inadequate combustion air for the unit, 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.

**Horizontal Vent Termination**

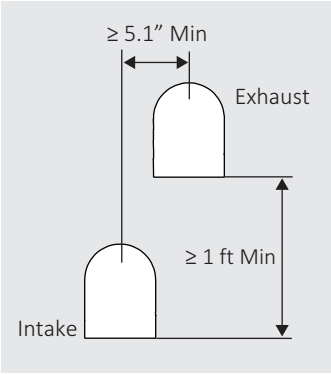


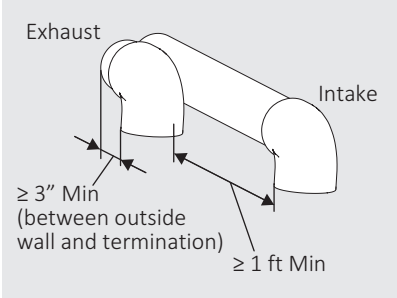

- Make sure to keep a distance of 2 ft (0.6 m) or wider between the intake and exhaust when installing the vent piping.
  The distance is measured at inside of pipe to inner dimension.
  If 2 ft (0.6 m) distance between Intake and Exhaust cannot be ensured, the installation can be carried out only in the installation method shown on the follow page.
- Terminate at least 12” (300 mm) above grade or above snow line.
- Slope the horizontal vent 1/4" (5/8” for PP vent) upwards for every 12” (300 mm) toward the termination.
- 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.
- Intake and exhaust should face the same direction. Intake and exhaust must be terminated in the same pressure zone (plane).
- Ensure at least 3 ft (0.9 m) or more distance between the near edge of the air intake pipe or exhaust pipe to the inside corner of a wall.

[PP vent only]

- Use PPS-UV vent parts to terminate the vent outside except for 8” Common Vent System. (Use 87° Elbow (ISEL0887) when install 8” Common Vent System.) PP vent can be damaged by UV light.
- Install the Horizontal Drain Fitting with Ball-Check Siphon to the end of the last Branch Tee in the exhaust vent pipe. For 3” vent system, refer to DV Case.8 in Chapter 6.4.3 (page 27).




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



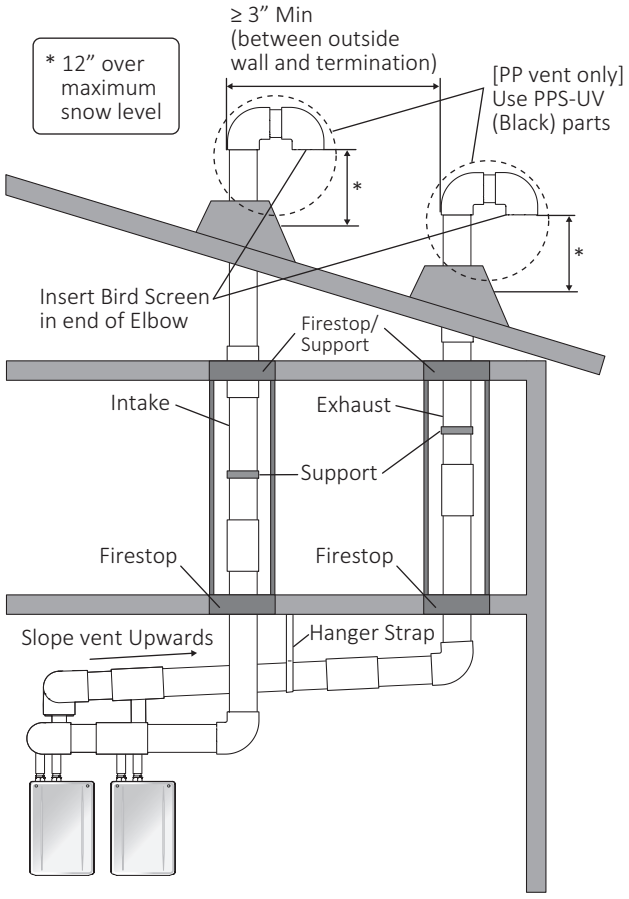

- The side distant from wall is intake, the side near the wall is exhaust.
  The reverse orientation is not allowed.
- Ensure at least 1 ft (0.3 m) or more distance between intake pipe and exhaust pipe.
  The distance is measured at inside of pipe to inner dimension.

**Vertical Vent Termination**

- As illustrated on the right, make sure to keep a distance of 3 ft (0.9 m) or wider between the intake and exhaust when installing the vent piping.
- Terminate at least 3 ft (0.9 m) from the combustion air intake of any appliance and any other building opening.
- To prevent excessive condensation formation, only the vent termination should be located on the exterior of the building.
- 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 ft (2.4 m) from a vertical wall or similar obstruction, terminate above the roof at least 2 ft (0.6 m), but not more than 6 ft (1.87 m), 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 ft (0.9 m) or as required by the vent pipe manufacturer's instructions.
- A short horizontal section is recommended to prevent debris from falling into the unit.
- When using a horizontal section, slope the horizontal exhaust vent 1/4" (5/8" for PP vent) upwards for every 12" (300 mm) toward the termination to drain condensate.

[PP vent only]

- Use PPS-UV vent parts to terminate the vent outside except for 8" Common Vent System. (Use 87° Elbow (ISEL0887) when install 8" Common Vent System.) PP vent can be damaged by UV light.
- Install the Horizontal Drain Fitting with Ball-Check Siphon to the end of the last Branch Tee in the exhaust vent pipe. For 3" vent system, refer to DV Case.8 in Chapter 6.4.3 (page 27).

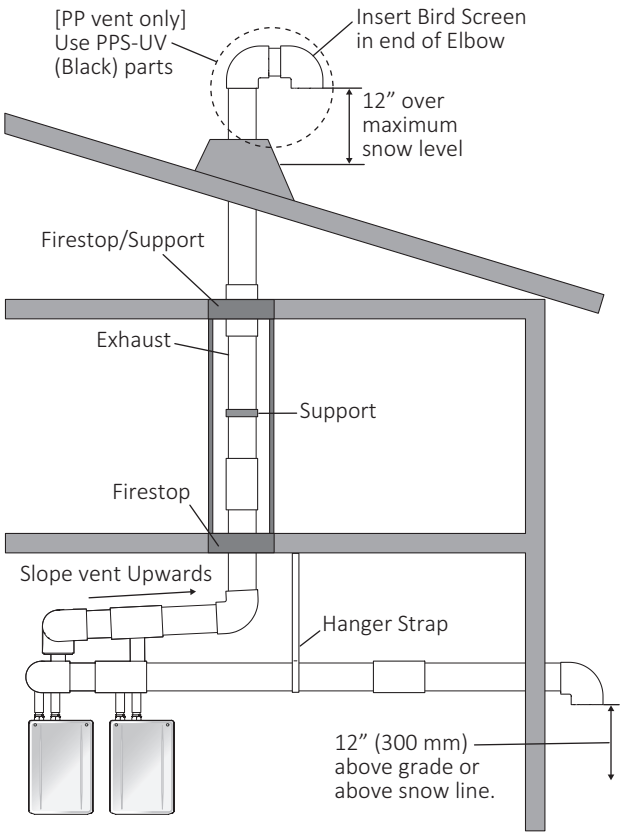


**Vertical Exhaust Vent Termination and Horizontal Air Intake Termination**

- Terminate at least 12” (300 mm) above grade or above snow line.
- 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.
- Terminate at least 3 ft (0.9 m) from the combustion air intake of any appliance and any other building opening.
- To prevent excessive condensation formation, only the vent termination should be located on the exterior of the building.
- 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 ft (2.4 m) from a vertical wall or similar obstruction, terminate above the roof at least 2 ft (0.6 m), but not more than 6 ft (1.87 m), in accordance with the National Fuel Gas CodeANSI Z223.1 / NFPA 54 or Natural Gas and Propane Installation Code CSA B149.1.
- Provide vertical support every 3 ft (0.9 m) or as required by the vent pipe manufacturer’s instructions.
- A short horizontal section is recommended to prevent debris from falling into the unit.
- When using a horizontal section at exhaust line, slope the horizontal exhaust vent 1/4” (5/8” for PP vent) upwards for every 12” (300 mm) toward the termination to drain condensate.

[PP vent only]

- Install the Horizontal Drain Fitting with Ball-Check Siphon to the end of the last Branch Tee in the exhaust vent pipe. For 3” vent system, refer to DV Case.8 in Chapter 6.4.3 (page 27).
- Use PPS-UV vent parts to terminate the vent outside except for 8” Common Vent System. (Use 87° Elbow (ISEL0887) when install 8” Common Vent System.) PP vent can be damaged by UV light.

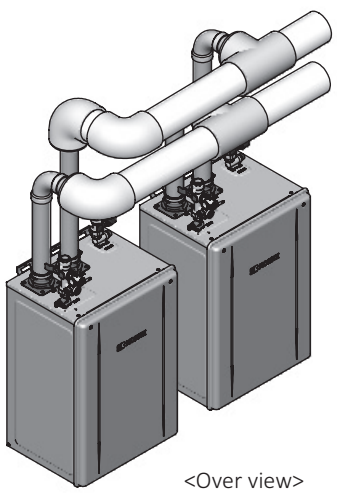



## 6.4.3 Contents of Sample Installation Case (for Direct Vent)

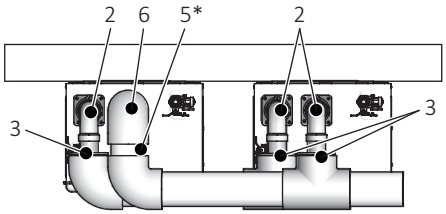
| Case | Model | Number of Units | Vent Material | Diameter | Unit Arrangement | Intake/Exhaust Direction | Page |
|---|---|---|---|---|---|---|---|
| 1 | EZ111DV (GQ-C3260WX-FF US)<br>EZ98DV (GQ-C2860WX-FF US) | 2 | PVC | 4” | In-line | Right | 20 |
| 2 | EZ111DV (GQ-C3260WX-FF US)<br>EZ98DV (GQ-C2860WX-FF US) | 2 | PVC | 3” | In-line | Right | 21 |
| 3 | NCC199CDV (GQ-C3260WZ-FF US) | 6 | PVC | 8” | In-line | Right | 22 |
| 4 | NCC199CDV (GQ-C3260WZ-FF US) | 6 | PVC | 8” | Back to Back | Right | 23 |
| 5 | NCC199CDV (GQ-C3260WZ-FF US) | 6 | PVC | 8” | Back to Back | Left | 24 |
| 6 | EZ111DV (GQ-C3260WX-FF US)<br>EZ98DV (GQ-C2860WX-FF US) | 2 | PP | 4” | In-line | Right | 25 |
| 7 | NRCR111DV (GQ-C3260WXQ-FF US)<br>NRCR92DV (GQ-C2660WXQ-FF US)<br>NCC199CDV (GQ-C3260WZ-FF US) | 2 | PP | 4” | In-line | Right | 26 |
| 8 | EZ111DV (GQ-C3260WX-FF US)<br>EZ98DV (GQ-C2860WX-FF US) | 2 | PP | 3” | In-line | Right | 27 |
| 9 | NCC199CDV (GQ-C3260WZ-FF US) | 6 | PP | 8” | In-line | Right | 28 |
| 10 | NCC199CDV (GQ-C3260WZ-FF US) | 6 | PP | 8” | Back to Back | Right | 29 |
| 11 | NCC199CDV (GQ-C3260WZ-FF US) | 6 | PP | 8” | Back to Back | Left | 30 |

**(DV Case.1) 4” PVC Quick Connect (2 units) system, EZ series**

Below is a typical installation case. It’s possible to shorten the overall length of No. 1 in accordance with job site ceiling height.



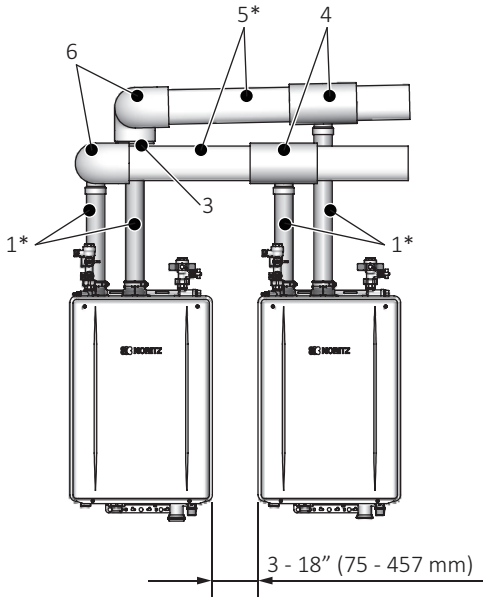

<Over view>



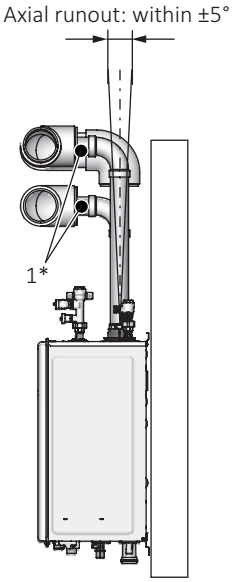

<Top view>

- EZ111DV (GQ-C3260WX-FF US) or EZ98DV (GQ-C2860WX-FF US)
- 2 units
- In-Line Arrangement
- 4” PVC Direct Vent

*Adjust the pipe length appropriately




<Front view>




<Side view>

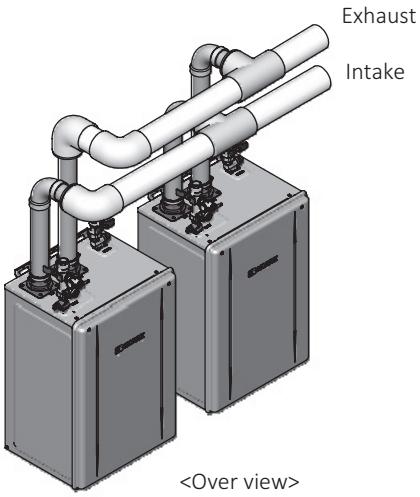
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” Pipe | | 7 |
| 2 | 2” 90° Elbow | | 3 |
| 3 | 2” × 4” Increaser | | 4 |

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 4 | 4” Tee | | 2 |
| 5 | 4” Pipe | | 3 |
| 6 | 4” 90° Elbow | | 3 |

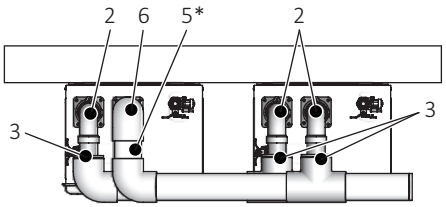
• No. 3 and 4 can be replaced to 4” × 4” × 2” Reducing Tee.

**(DV Case.2) 3” PVC Quick Connect (2 units) system, EZ series**

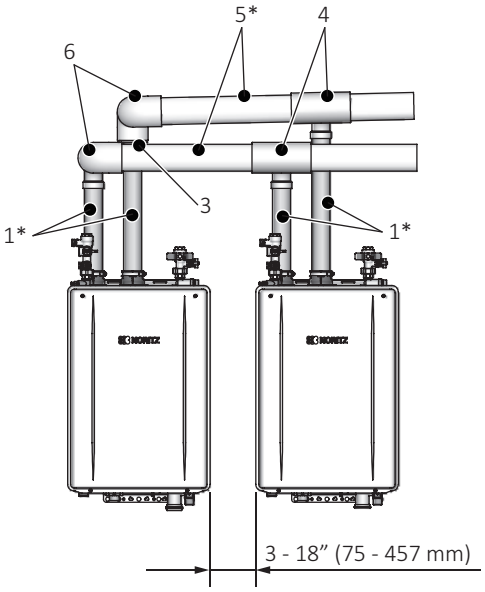
Below is a typical installation case. It’s possible to shorten the overall length of No. 1 in accordance with job site ceiling height.



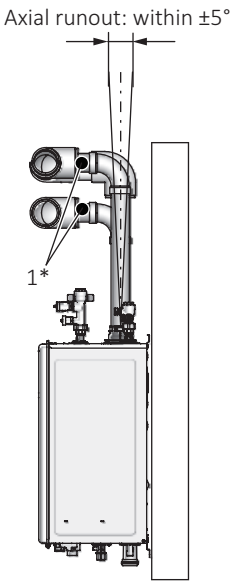
<Over view>



<Top view>



<Front view>



<Side view>

- EZ111DV(GQ-C3260WX-FF US) or EZ98DV (GQ-C2860WX-FF US)
- 2 units
- In-Line Arrangement
- 3” PVC Direct Vent

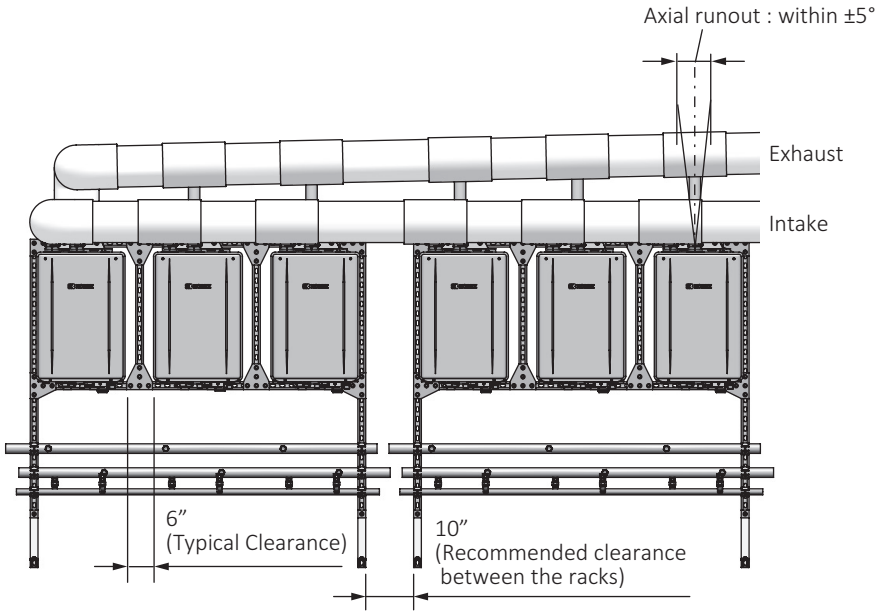
*Adjust the pipe length appropriately

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” Pipe | | 7 |
| 2 | 2” 90° Elbow | | 3 |
| 3 | 2” × 3” Increaser | | 4 |

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 4 | 3” Tee | | 2 |
| 5 | 3” Pipe | | 3 |
| 6 | 3” 90° Elbow | | 3 |

**(DV Case.3) 8” PVC 6 units Multi system, In-line Arrangement**

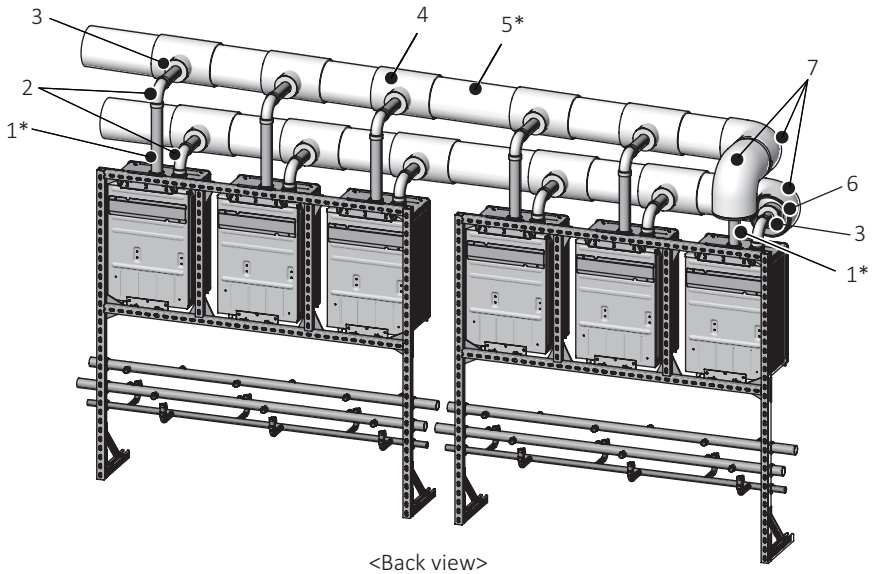
Below is a typical installation case. It’s possible to shorten the overall length of No. 1 in accordance with job site ceiling height.




<Front view>

- NCC199CDV (GQ-C3260WZ-FF US)
- 6 units
- In-Line Arrangement
- 8” PVC Direct Vent

*Adjust the pipe length appropriately




<Back view>

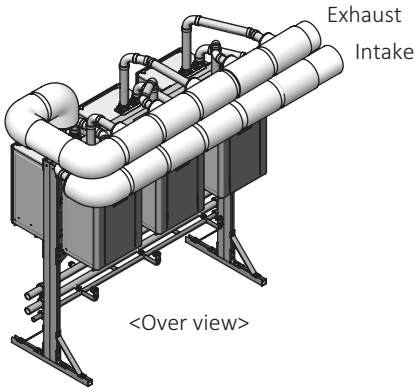
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” Pipe | | 23 |
| 2 | 2” 90° Elbow | | 11 |
| 3 | 2” × 4” Increaser | | 12 |
| 4 | 8” × 8” × 4” Reducing Tee | | 10 |

| No. | Part | Part # | Q'ty |
|---|---|---|---|
| 5 | 8” Pipe | | 11 |
| 6 | 4” × 8” Increaser | | 2 |
| 7 | 8” 90° Elbow | | 3 |

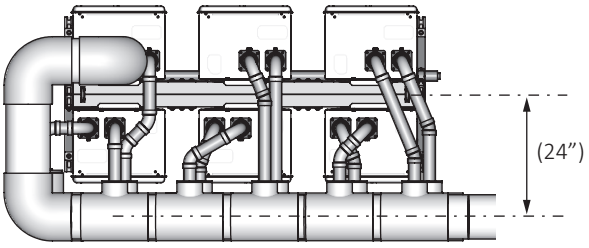
**(DV Case.4) 8” PVC 6 units Multi system, Back to Back Arrangement, Right Facing**

Below is a typical installation case. It’s possible to shorten the overall length of No. 1 in accordance with job site ceiling height.

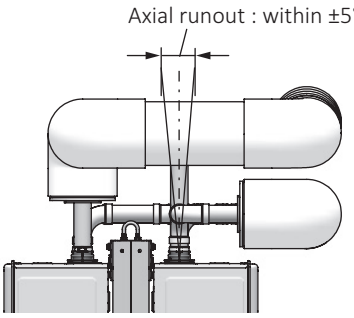
***NOTE*** When installing a left side exhaust and intake configuration, refer to next page.



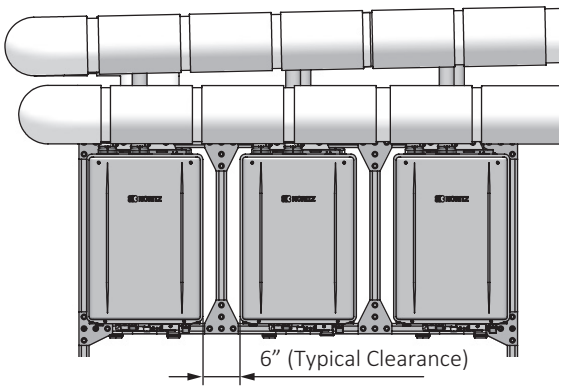
<Over view>



<Top view>



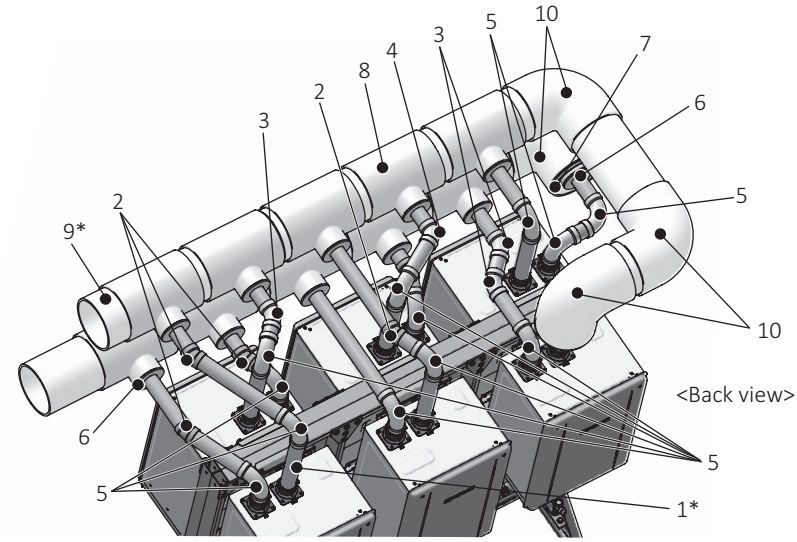
<Side view>



<Front view>

- NCC199CDV (GQ-C3260WZ-FF US)
- 6 units
- Back to Back Arrangement
- 8” PVC Direct Vent

*Adjust the pipe length appropriately



<Back view>

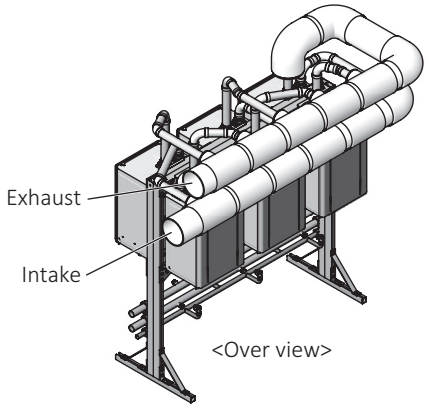
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” Pipe | | 33 |
| 2 | 2” 22.5° Elbow | | 4 |
| 3 | 2” 45° Elbow | | 3 |
| 4 | 2” 60° Elbow | | 1 |
| 5 | 2” 90° Elbow | | 12 |

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 6 | 2” × 4” Increaser | | 12 |
| 7 | 4” × 8” Increaser | | 2 |
| 8 | 8” × 8” × 4” Reducing Tee | | 10 |
| 9 | 8” Pipe | | 12 |
| 10 | 8” 90° Elbow | | 4 |

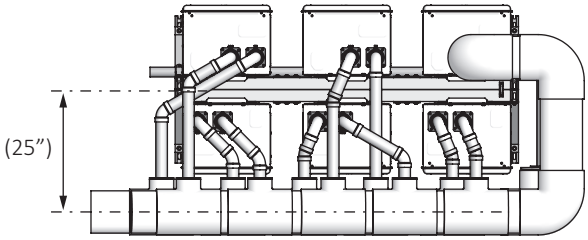
**(DV Case.5) 8” PVC 6 units Multi system, Back to Back Arrangement, Left Facing**

Below is a typical installation case. It’s possible to shorten the overall length of No. 1 in accordance with job site ceiling height.

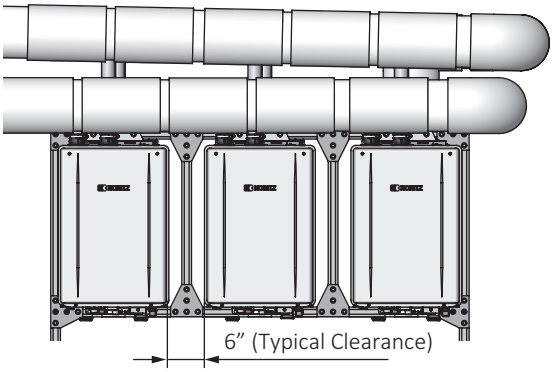
***NOTE*** When installing a right side exhaust and intake configuration, refer to previous page.



<Over view>

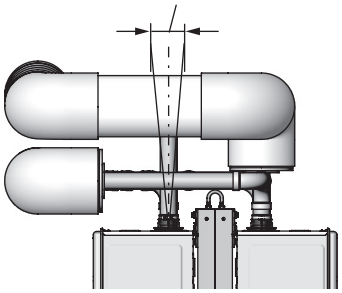


<Top view>



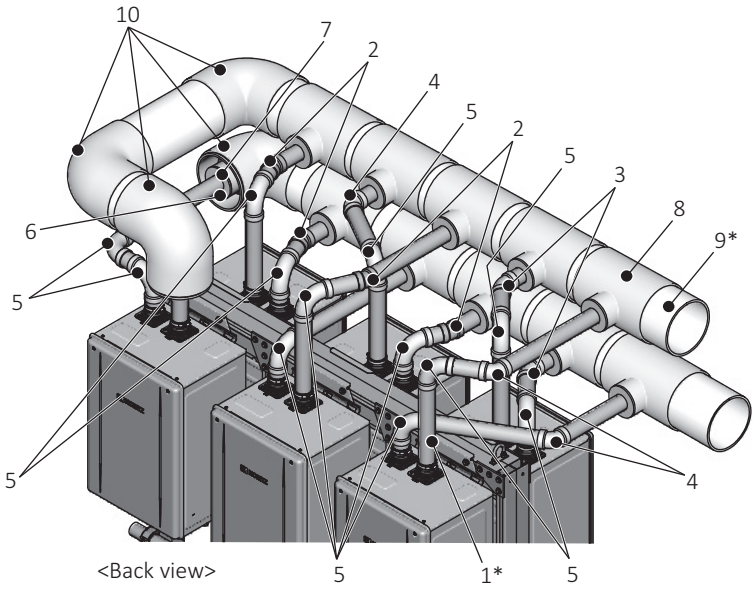
<Front view>

Axial runout : within ±5°


<Side view>

- NCC199CDV (GQ-C3260WZ-FF US)
- 6 units
- Back to Back Arrangement
- 8” PVC Direct Vent

*Adjust the pipe length appropriately



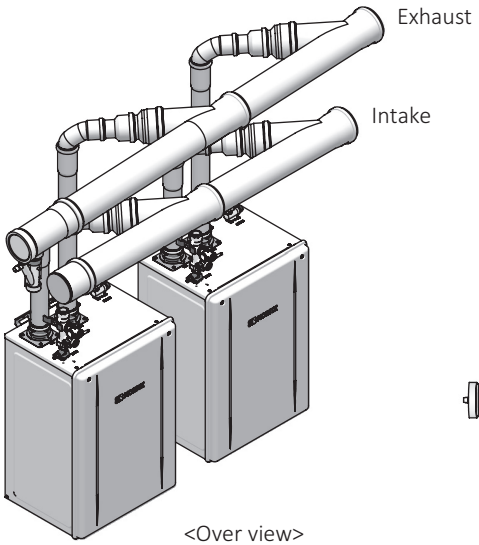
<Back view>

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” Pipe | | 33 |
| 2 | 2” 22.5° Elbow | | 4 |
| 3 | 2” 45° Elbow | | 2 |
| 4 | 2” 60° Elbow | | 3 |
| 5 | 2” 90° Elbow | | 12 |

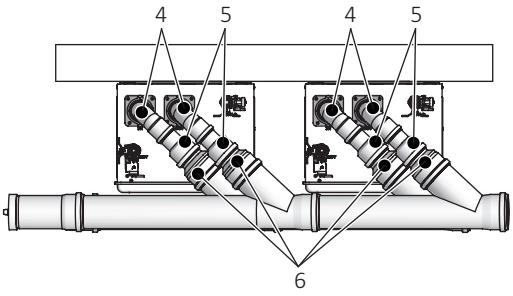
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 6 | 2” × 4” Increaser | | 12 |
| 7 | 4” × 8” Increaser | | 2 |
| 8 | 8” × 8” × 4” Reducing Tee | | 10 |
| 9 | 8” Pipe | | 12 |
| 10 | 8” 90° Elbow | | 4 |

**(DV Case.6) 4” PP Quick Connect (2 units) system, EZ series**

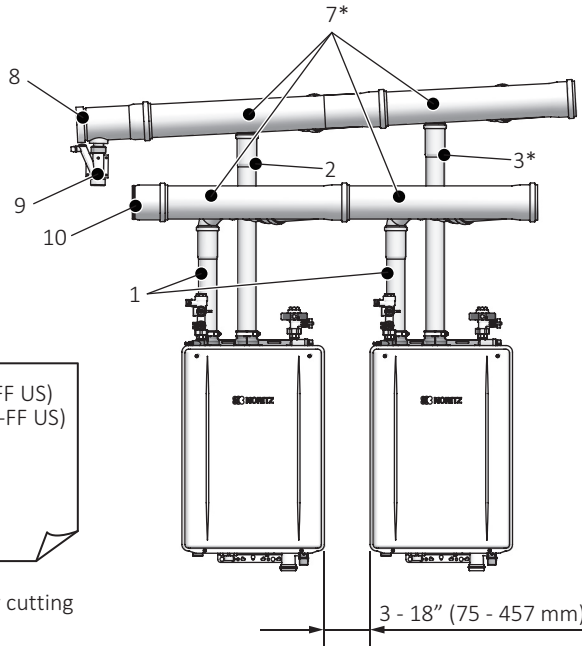
Below is a typical installation case. It’s possible to shorten the overall length of No. 1, 2 and 3 in accordance with job site ceiling height.



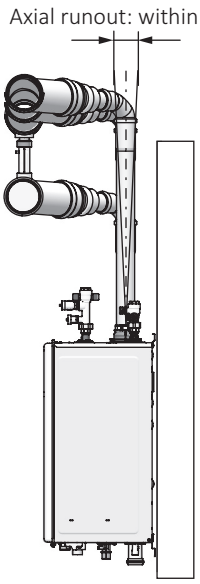

<Over view>




<Top view>




<Front view>




<Side view>

- EZ111DV (GQ-C3260WX-FF US) or EZ98DV (GQ-C2860WX-FF US)
- 2 units
- In-Line Arrangement
- 4” PP Direct Vent

*Adjust the overall length by cutting

***NOTE*** Left side exhaust and intake configuration can be assembled by using the parts below.

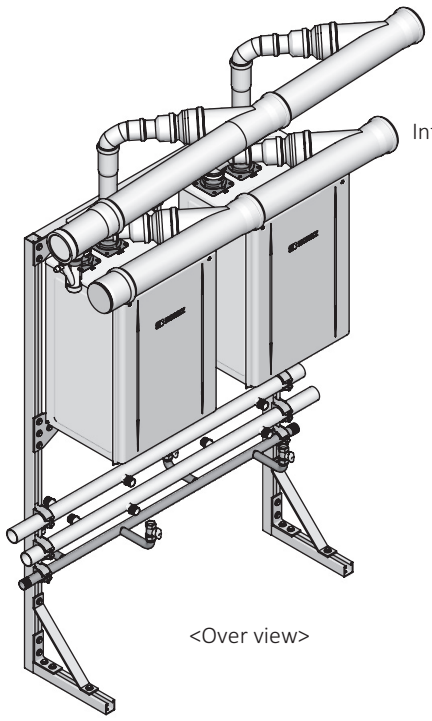
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” × 12” Vent Length | ISVL021 | 2 |
| 2 | 2” × 24” Vent Length | ISVL022 | 1 |
| 3 | 2” × 36” Vent Length | ISVL023 | 1 |
| 4 | 2” × 87° Elbow | ISELL0287 | 4 |
| 5 | 2” to 3” Increaser | ISIA0203 | 4 |

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 6 | 3” to 4” Increaser | ISIA0304 | 4 |
| 7 | 4” Branch Tee | ISBT040436 | 4 |
| 8 | 4” Horizontal Drain Fitting | ISHDF04 | 1 |
| 9 | Ball-Check Siphon | IASJBVS | 1 |
| 10 | 4” Tee Cap | ISTC04 | 1 |

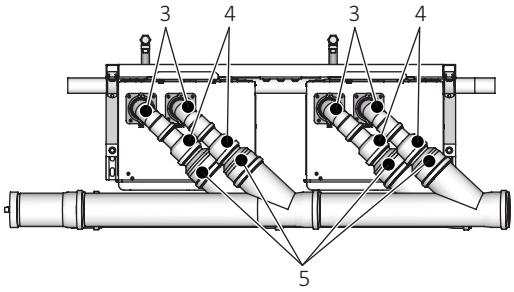
- No. 5 and 6 can be replaced to CDV2X4-ADAPT.

**(DV Case.7) 4” PP Quick Connect (2 units) system, NCC/NRCR series**

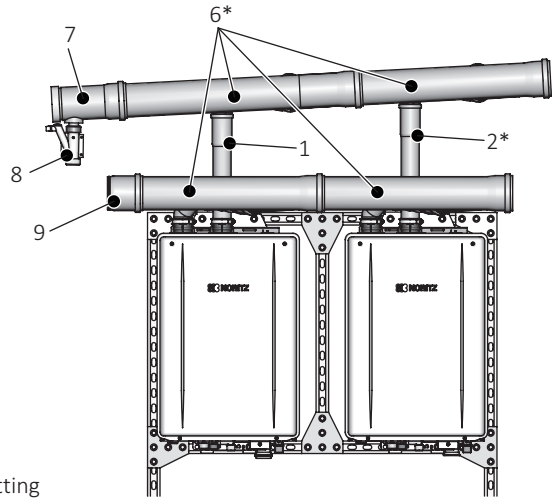
Below is a typical installation case. It’s possible to shorten the overall length of No. 1 and 2 in accordance with job site ceiling height.



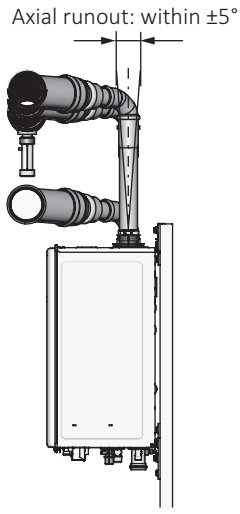

<Over view>




<Top view>




<Front view>




<Side view>

- NCC199CDV (GQ-C3260WZ-FF US), NRCR111DV (GQ-C3260WXQ-FF US), NRCR92DV (GQ-C2660WXQ-FF US)
- 2 units
- In-Line Arrangement
- 4” PP Direct Vent

*Adjust the overall length by cutting

***NOTE*** Left side exhaust and intake configuration can be assembled by using the parts below.

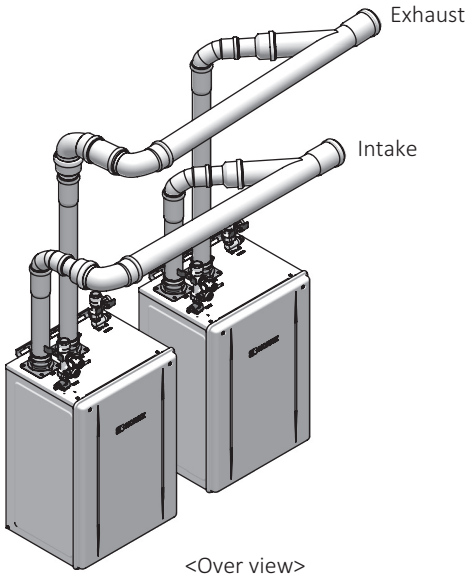
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” x 12” Vent Length | ISVL021 | 1 |
| 2 | 2” x 24” Vent Length | ISVL022 | 1 |
| 3 | 2” x 87° Elbow | ISELL0287 | 4 |
| 4 | 2” to 3” Increaser | ISIA0203 | 4 |
| 5 | 3” to 4” Increaser | ISIA0304 | 4 |

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 6 | 4” Branch Tee | ISBT040436 | 4 |
| 7 | 4” Horizontal Drain Fitting | ISHDF04 | 1 |
| 8 | Ball-Check Siphon | IASJBVS | 1 |
| 9 | 4” Tee Cap | ISTC04 | 1 |

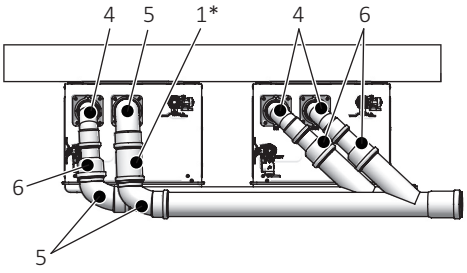
- No. 4 and 5 can be replaced to CDV2X4-ADAPT.

**(DV Case.8) 3” PP Quick Connect (2 units) system, EZ series**

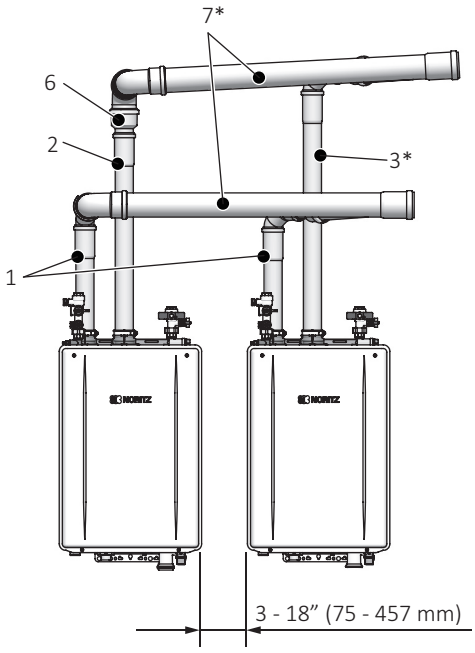
Below is a typical installation case. It’s possible to shorten the overall length of No. 1, 2 and 3 in accordance with job site ceiling height.



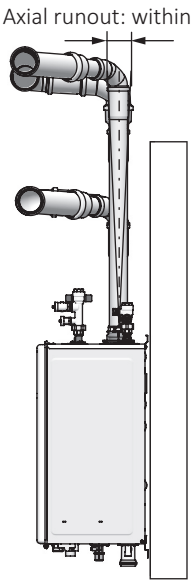

<Over view>




<Top view>




<Front view>




<Side view>

- EZ111DV(GQ-C3260WX-FF US) or EZ98DV (GQ-C2860WX-FF US)
- 2 units
- In-Line Arrangement
- 3” PP Direct Vent

* Adjust the overall length by cutting

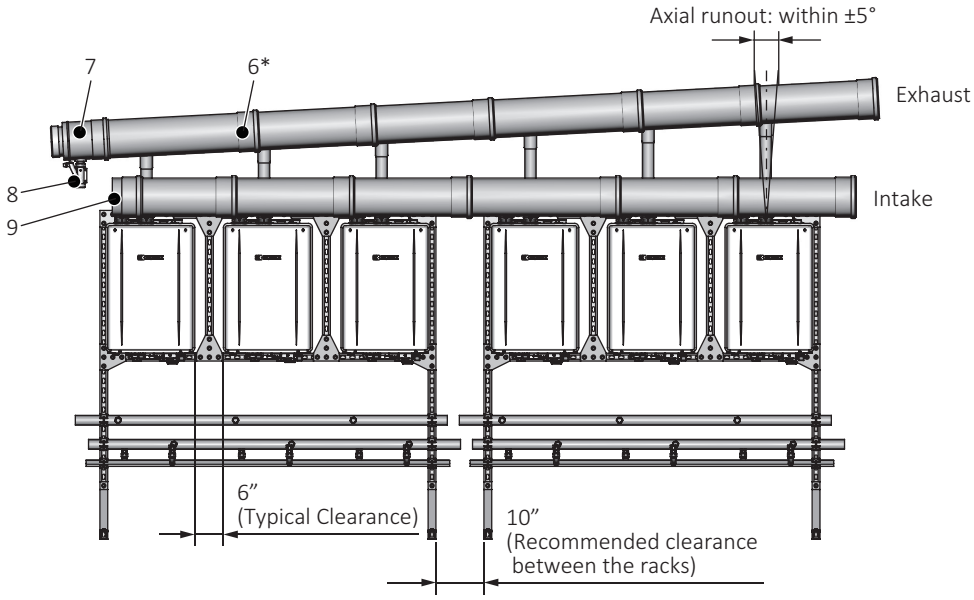
***NOTE*** Left side exhaust and intake configuration can be assembled by using the parts below.

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” × 12” Vent Length | ISVL021 | 2 |
| 2 | 2” × 24” Vent Length | ISVL022 | 1 |
| 3 | 2” × 36” Vent Length | ISVL023 | 1 |
| 4 | 2” × 87° Elbow | ISELL0287 | 3 |

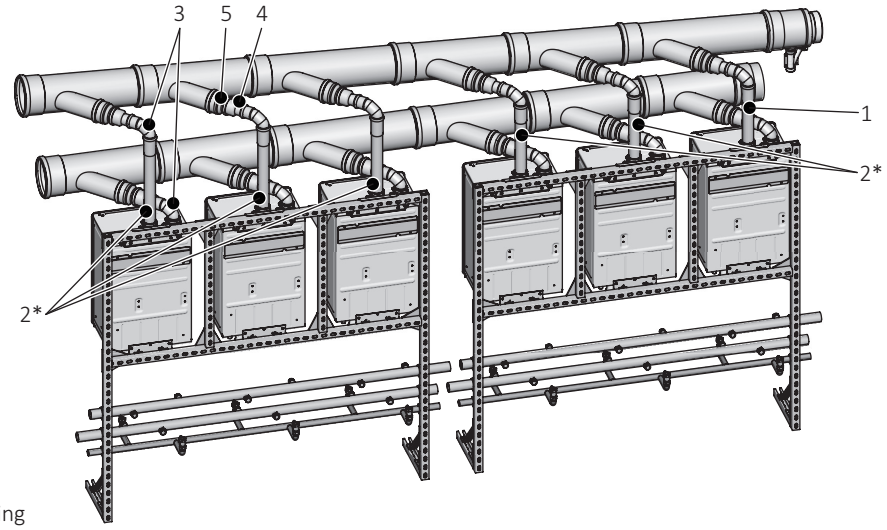
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 5 | 3” × 87° Elbow | ISEL0387 | 3 |
| 6 | 2” to 3” Increaser | ISIA0203 | 4 |
| 7 | 3” Branch Tee | ISBT030336 | 2 |

**(DV Case.9) 8” PP 6 units Multi system, In-line Arrangement, PP Intake line**

Below is a typical installation case. It’s possible to shorten the overall length of No. 1 and 2 in accordance with job site ceiling height.




<Front view>




- NCC199CDV (GQ-C3260WZ-FF US)
- 6 units
- In-Line Arrangement
- 8” PP Direct Vent

*Adjust the overall length by cutting

<Back view>

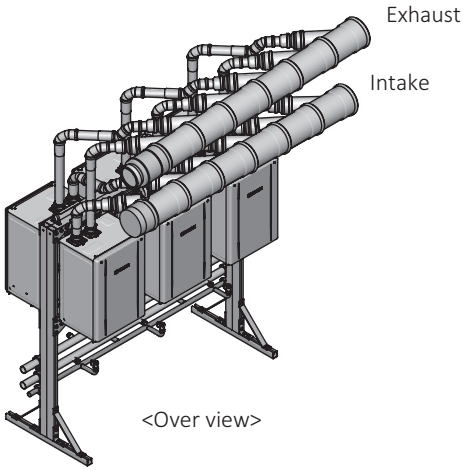
***NOTE*** Left side exhaust and intake configuration can be assembled by using the parts below.

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” × 12” Vent Length | ISVL021 | 1 |
| 2 | 2” × 24” Vent Length | ISVL022 | 5 |
| 3 | 2” × 87° Elbow | ISELL0287 | 12 |
| 4 | 2” to 3” Increaser | ISIA0203 | 12 |
| 5 | 3” to 4” Increaser | ISIA0304 | 12 |

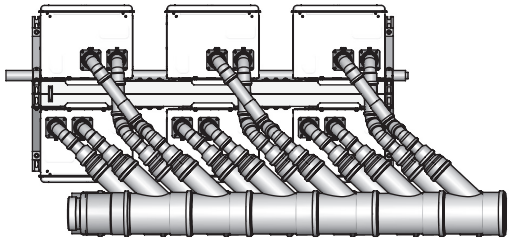
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 6 | 8” Branch Tee | ISBT080436 | 12 |
| 7 | 8” Horizontal Drain Fitting | ISHDF08 | 1 |
| 8 | Ball-Check Siphon | IASJBVS | 1 |
| 9 | 8” Tee Cap | ISTC08 | 1 |

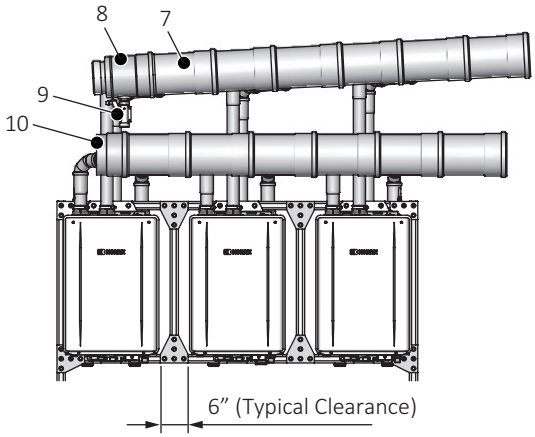
**(DV Case.10) 8” PP 6 units Multi system, Back to Back Arrangement, Right Facing**

Below is a typical installation case. It’s possible to shorten the overall length of No. 1 and 2 in accordance with job site ceiling height.

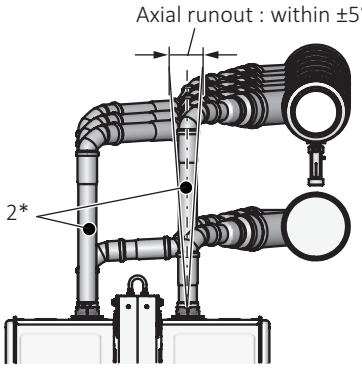


<Over view>

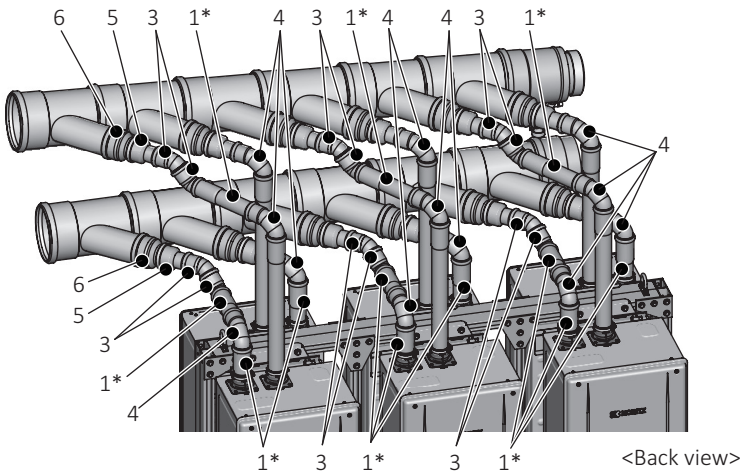

<Top view>



<Front view>



<Side view>



<Back view>

- NCC199CDV (GQ-C3260WZ-FF US)
- 6 units
- Back to Back Arrangement
- 8” PP Direct Vent

*Adjust the overall length by cutting

***NOTE*** When installing a left side exhaust and intake configuration, refer to next page.

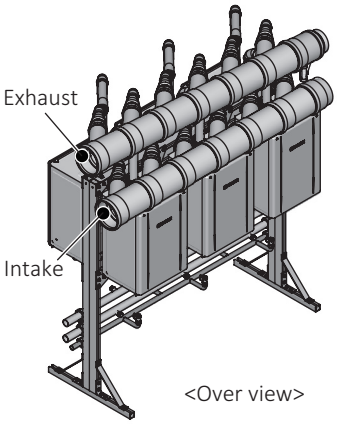
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” × 12” Vent Length | ISVL021 | 12 |
| 2 | 2” × 24” Vent Length | ISVL022 | 6 |
| 3 | 2” × 45° Elbow | ISELL0245 | 12 |
| 4 | 2” × 87° Elbow | ISELL0287 | 12 |
| 5 | 2” to 3” Increaser | ISIA0203 | 12 |

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 6 | 3” to 4” Increaser | ISIA0304 | 12 |
| 7 | 8” Branch Tee for B to B | ISBT080412N | 12 |
| 8 | 8” Horizontal Drain Fitting | ISHDF08 | 1 |
| 9 | Ball-Check Siphon | IASJBVS | 1 |
| 10 | 8” Tee Cap | ISTC08 | 1 |

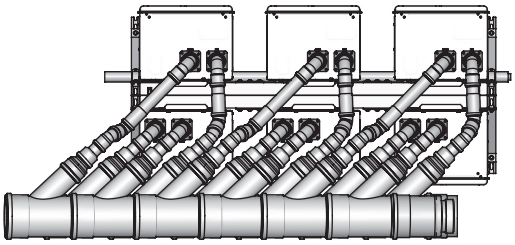
• No. 5 and 6 can be replaced to CDV2X4-ADAPT.

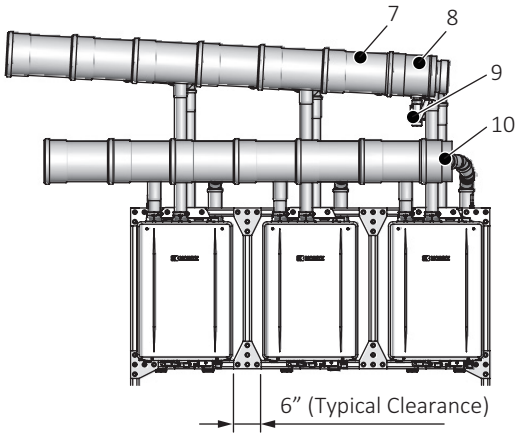
**(DV Case.11) 8” PP 6 units Multi system, Back to Back Arrangement, Left Facing**

Below is a typical installation case. It’s possible to shorten the overall length of No. 1 and 2 in accordance with job site ceiling height.

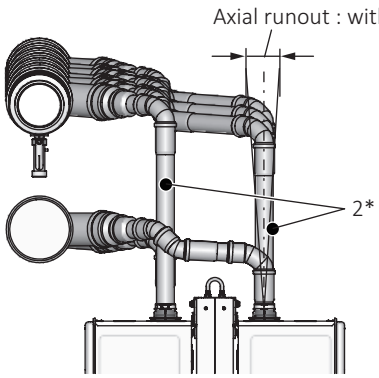


<Over view>


<Top view>



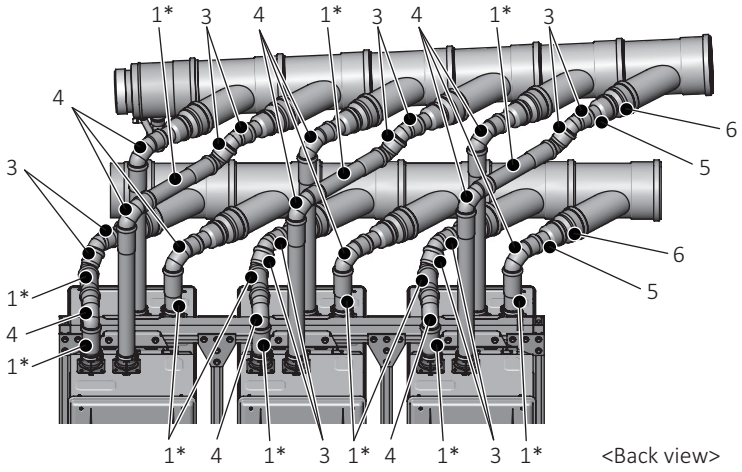
<Front view>



<Side view>

- NCC199CDV (GQ-C3260WZ-FF US)
- 6 units
- Back to Back Arrangement
- 8” PP Direct Vent

*Adjust the overall length by cutting



<Back view>

***NOTE*** When installing a right side exhaust and intake configuration, refer to previous page.

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” × 12” Vent Length | ISVL021 | 12 |
| 2 | 2” × 24” Vent Length | ISVL022 | 6 |
| 3 | 2” × 45° Elbow | ISELL0245 | 12 |
| 4 | 2” × 87° Elbow | ISELL0287 | 12 |
| 5 | 2” to 3” Increaser | ISIA0203 | 12 |

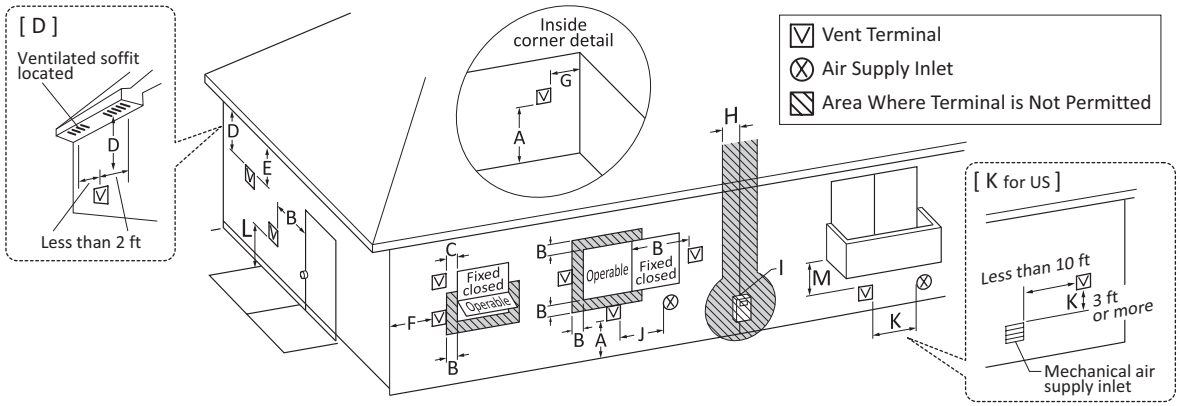
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 6 | 3” to 4” Increaser | ISIA0304 | 12 |
| 7 | 8” Branch Tee for B to B | ISBT080412N | 12 |
| 8 | 8” Horizontal Drain Fitting | ISHDF08 | 1 |
| 9 | Ball-Check Siphon | IASJBVS | 1 |
| 10 | 8” Tee Cap | ISTC08 | 1 |

• No. 5 and 6 can be replaced to CDV2X4-ADAPT.

## 6.5 Vent Installation for Non-Direct Vent configuration

### 6.5.1 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 Installations [1] | US Non-Direct Vent Installations [2] |
|---|---|---|---|
| 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 non-mechanical 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)‡ | * |

[1] In accordance with the current CSA B149.1 Natural Gas and Propane Installation Code
[2] 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 in. (60 cm).

## 6.5.2 Consideration for Installation

**⚠ DANGER**

When installing this unit 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 an SV conversion kit) is prohibited.

**⚠ WARNING**

Failure to change Dip Switch and use SV Conversion kit SV-CK-2 could result in a fire or explosion causing property damage, personal injury or death.
Refer to page 11 for setting the Dip Switch and the instructions provided with the conversion kit for additional details.

- SV Conversion kit SV-CK-2 is required for the air intake.
- Noritz recommends a carbon monoxide alarm installed in same room space as Water Heater when supplying combustion air from the indoors.

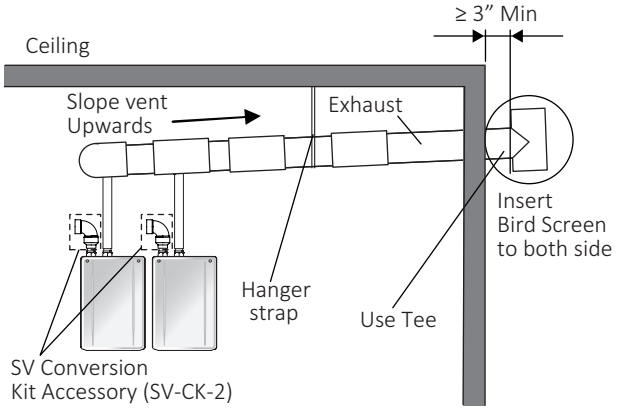
## 6.5.3 Vent termination

**Horizontal Vent Termination**

- A Termination Tee may be used for the vent termination.
- Terminate at least 12" (300 mm) above grade or above snow line.
- Slope the horizontal vent 1/4" (5/8" for PP vent) upwards for every 12" (300 mm) toward the termination.
- 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.

[PP vent only]

- Install the Horizontal Drain Fitting with Ball-Check Siphon to the end of the last Branch Tee in the exhaust vent pipe. For 3" vent system, refer to DV Case.8 in Chapter 6.4.3 (page 27).
- Use Termination Tee to terminate the vent outside. PP vent can be damaged by UV light.

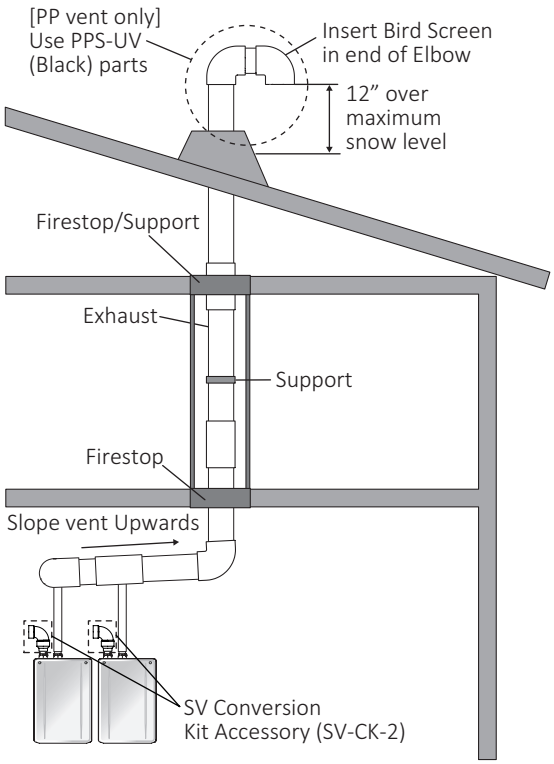



**Vertical Vent Termination**

- Terminate at least 3 ft (0.9 m) from the combustion air intake of any appliance and any other building opening.
- To prevent excessive condensation formation, only the vent termination should be located on the exterior of the building.
- 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 ft (2.4 m) from a vertical wall or similar obstruction, terminate above the roof at least 2 ft (0.6 m), but not more than 6 ft (1.87 m), 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 ft (0.9 m) or as required by the vent pipe manufacturer's instructions.
- A short horizontal section is recommended to prevent debris from falling into the unit.
- When using a horizontal section, slope the horizontal exhaust vent 1/4" (5/8" for PP vent) upwards for every 12" (300 mm) toward the termination to drain condensate.

[PP vent only]

- Install the Horizontal Drain Fitting with Ball-Check Siphon to the end of the last Branch Tee in the exhaust vent pipe. For 3" vent system, refer to DV Case.8 in Chapter 6.4.3 (page 27).
- Use PPS-UV vent parts to terminate the vent outside except for 8" Common Vent System. (Use 87° Elbow (ISEL0887) when install 8" Common Vent System.) PP vent can be damaged by UV light.



## 6.5.4 Combustion Air Supply

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

- 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.
- A minimum free area of each opening per unit:

  - NCC199CDV (GQ-C3260WZ-FF US),
    EZ111DV (GQ-C3260WX-FF US),
    NRCR111DV (GQ-C3260WXQ-FF US)

| Btu/h | | | 199.9 kBtu/h |
|---|---|---|---|
| Indoor make up air is provided | | | 200 in.² |
| | | example | 20” (W) × 10” (H) |
| Outdoor make up air is provided | Direct or Vertical ducts | | 50 in.² |
| | | example | 10” (W) × 5” (H) |
| | Horizontal ducts | | 100 in.² |
| | | example | 20” (W) × 5” (H) |

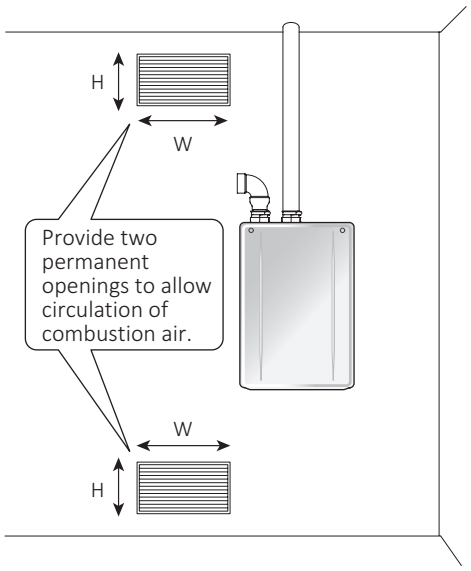
  - EZ98DV (GQ-C2860WX-FF US)

| Btu/h | | | 180 kBtu/h |
|---|---|---|---|
| Indoor make up air is provided | | | 180 in.² |
| | | example | 20” (W) × 9 in. (H) |
| Outdoor make up air is provided | Direct or Vertical ducts | | 45 in.² |
| | | example | 10” (W) × 4 1/2” (H) |
| | Horizontal ducts | | 90 in.² |
| | | example | 20” (W) × 4 1/2” (H) |

  - NRCR92DV (GQ-C2660WXQ-FF US)

| Btu/h | | | 165 kBtu/h |
|---|---|---|---|
| Indoor make up air is provided | | | 165 in.² |
| | | example | 20” (W) × 8 1/4” (H) |
| Outdoor make up air is provided | Direct or Vertical ducts | | 41 in.² |
| | | example | 10” (W) × 4 1/10” (H) |
| | Horizontal ducts | | 82 in.² |
| | | example | 20” (W) × 4 1/10” (H) |

[Example]
6 units of NCC199CDV (GQ-C3260WZ-FF US):
6 units × 200 $in^2$ = 1,200 $in^2$ make up air



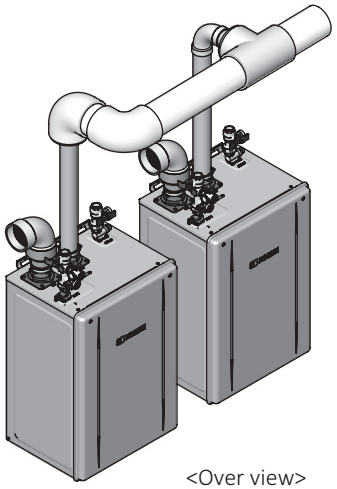

- If the unit is installed in a mechanical closet, a minimum of permanent clearance of 4” or more in front of unit is required. In order to facilitate maintenance and repair, a minimum clearance (24” or more) should be met.
- If combustion air will be provided through a duct, size the duct to provide as below.
  - NCC199CDV (GQ-C3260WZ-FF US),
    EZ111DV (GQ-C3260WX-FF US),
    NRCR111DV (GQ-C3260WXQ-FF US):
    70 cubic feet of fresh air per minute per unit.
  - EZ98DV (GQ-C2860WX-FF US):
    63 cubic feet of fresh air per minute per unit.
  - NRCR92DV(GQ-C2660WXQ-FF US) :
    58 cubic feet of fresh air per minute per unit.

## 6.5.5 Contents of Sample Installation Case (for Non-Direct Vent)

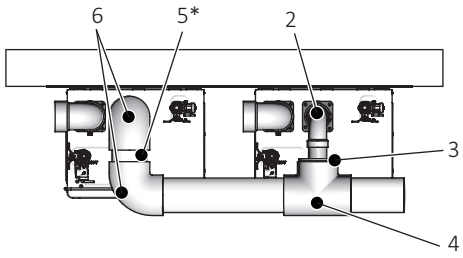
| Case | Model | Number of Units | Vent Material | Diameter | Unit Arrangement | Intake/Exhaust Direction | Page |
|---|---|---|---|---|---|---|---|
| 1 | EZ111DV (GQ-C3260WX-FF US)<br>EZ98DV (GQ-C2860WX-FF US) | 2 | PVC | 4” | In-line | Right | 34 |
| 2 | NCC199CDV (GQ-C3260WZ-FF US) | 2 | PP | 4” | In-line | Right | 35 |

**(SV Case.1) 4” PVC Quick Connect (2 units) system, EZ series**

Below is a typical installation case. It’s possible to shorten the overall length of No. 1 in accordance with job site ceiling height.



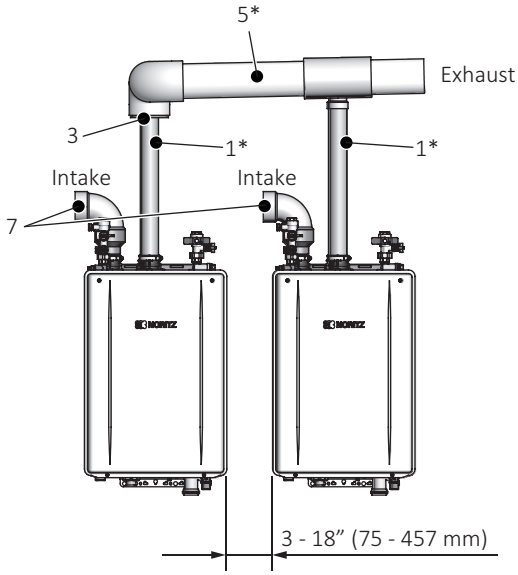
<Over view>



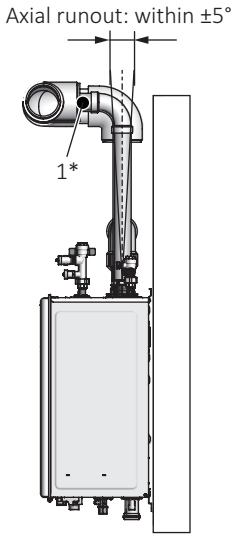

<Top view>

- EZ111DV (GQ-C3260WX-FF US) or EZ98DV (GQ-C2860WX-FF US)
- 2 units
- In-Line Arrangement
- 4” PVC Non-Direct Vent

*Adjust the pipe length appropriately




<Front view>




<Side view>

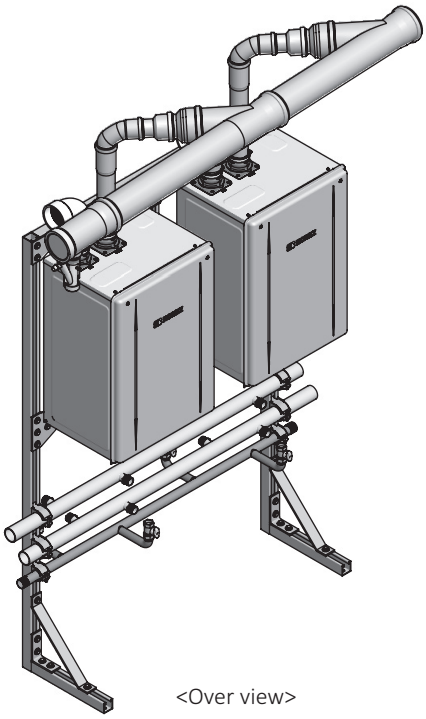
| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” Pipe | | 3 |
| 2 | 2” 90° Elbow | | 1 |
| 3 | 2” × 4” Increaser | | 2 |
| 4 | 4” Tee | | 1 |

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 5 | 4” Pipe | | 2 |
| 6 | 4” 90° Elbow | | 2 |
| 7 | 2” SV Conversion Kit | SV-CK-2 | 2 |

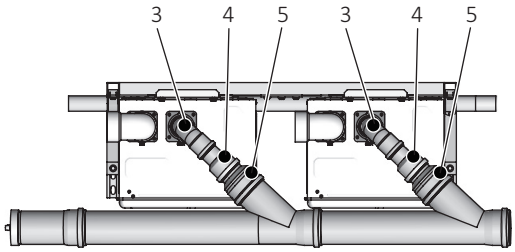
• No. 3 and 4 can be replaced to 4” × 4” × 2” Reducing Tee.

**(SV Case.2) 4” PP Quick Connect (2 units) system, NCC/NRCR series**

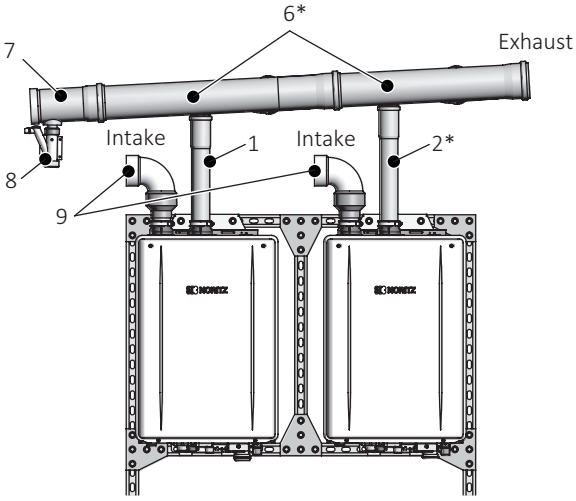
Below is a typical installation case. It’s possible to shorten the overall length of No. 1 and 2 in accordance with job site ceiling height.



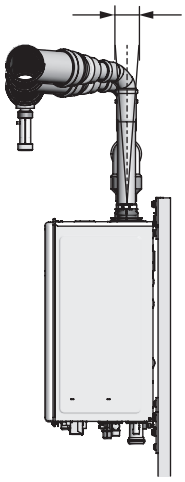
<Over view>




<Top view>




<Front view>




<Side view>

- NCC199CDV (GQ-C3260WZ-FF US), NRCR111DV (GQ-C3260WXQ-FF US), NRCR92DV (GQ-C2660WXQ-FF US)
- 2 units
- In-Line Arrangement
- 4” PP Non-Direct Vent

*Adjust the overall length by cutting

***NOTE*** Left side exhaust and intake configuration can be assembled by using the parts below.

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 1 | 2” x 12” Vent Length | ISVL021 | 1 |
| 2 | 2” x 24” Vent Length | ISVL022 | 1 |
| 3 | 2” x 87° Elbow | ISELL0287 | 2 |
| 4 | 2” to 3” Increaser | ISIA0203 | 2 |
| 5 | 3” to 4” Increaser | ISIA0304 | 2 |

| No. | Part | Part # | Q’ty |
|---|---|---|---|
| 6 | 4” Branch Tee | ISBT040436 | 2 |
| 7 | 4” Horizontal Drain Fitting | ISHDF04 | 1 |
| 8 | Ball-Check Siphon | IASJBVS | 1 |
| 9 | 2” SV Conversion Kit | SV-CK-2 | 2 |

- No. 4 and 5 can be replaced to CDV2X4-ADAPT.

# 7 Checklist After Installation

After installing Common Vent System, review the following checklist and confirming proper installation of the units. You should be able to answer “Yes” to all of the items in the checklist. If you answer NO to any item, installation is not complete. Review the appropriate sections to complete the installation.
If you have any additional questions or need assistance with installation, contact Noritz at 1-866-766-7489, or refer to our support website (http://support.noritz.com/).

| Checklists | Yes | No |
|---|---|---|
| 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. | | |
| Ensure you have completely followed this Installation Manual and unit Installation Manual, and that you have used the correct venting products described in this manual. | | |
| Verify that units connected with Common Vent System consist of only the same model as follows: NCC199CDV (GQ-C3260WZ-FF US), EZ111DV (GQ-C3260WX-FF US), EZ98DV (GQ-C2860WX-FF US), NRCR111DV (GQ-C3260WXQ-FF US), or NRCR92DV (GQ-C2660WXQ-FF US) | | |
| Clearances from the Exhaust termination and the Intake termination are suitable. | | |
| Verify that Dip Switches have been adjusted to “Common Vent” setting in each unit. | | |
| Verify the appropriate Dip Switch settings are selected for the DV/SV configuration, Elevation. | | |
| Verify that Quick Connect Cord or System Controller is installed correctly. | | |
| No blockages in either the Intake or Exhaust pipe. | | |
| Confirm the vent system is within allowable maximum equivalent length. | | |
| [PP vent only]<br>Install the Connector Ring to every 2”, 3” and 4” joint connection. | | |
| All horizontal Exhaust vent pipes are sloped 1/4” (5/8” for PP vent) upwards for every 12” (300 mm) toward the termination. | | |
| [PP vent only]<br>Condensation drain tubes and hose clamps are connected to a drain and must be disposed of in compliance with local code. | | |
| Carry out trial operation for at least 15 minutes. Confirm each unit operate correctly in accordance with unit’s Installation Manual. | | |
| No exhaust or condensate leakage from any joint connection. | | |
| Confirm that an adequate amount of combustion air has been provided. | | |
| Explain to the customer that the vent termination or air intake must never be blocked. | | |
| Explain to the customer the operation of the unit, safety guidelines, maintenance, and warranty. | | |
| After completing installation, either place this Installation Manual in plastic pouch and attach it to the side of the unit or hand it to the customer to retain for future reference. | | |