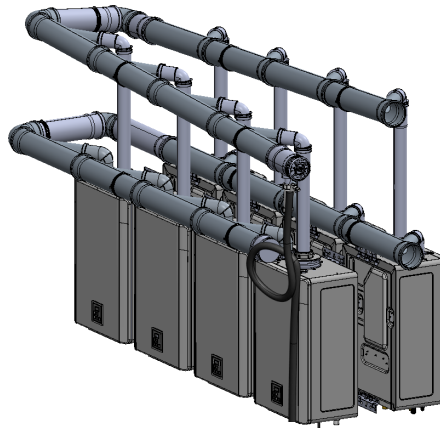


# Centrotherm Polypropylene (PP) Common Venting INSTALLATION INSTRUCTIONS

|                   |   |
|-------------------|---|
| Vent Diameters    | 3 in. (76 mm), 4 in. (102 mm), 6 in. (152 mm)   |
| Installations     | For U.S. and Canadian Installations   |
| Compatible Models | <b>CU199i</b> (REU-N3237FFC-US), <b>CU160i</b> (REU-N2530FFC-US), <b>RU199i</b> (REU-N3237FF-US), <b>RU180i</b> (REU-N2934FF-US), <b>RU160i</b> (REU-N2530FF-US), <b>RU130i</b> (REU-N2024FF-US), <b>RUR199i</b> (REU-NP3237FF-US), <b>RUR160i</b> (REU-NP2530FF-US), <b>Demand Duo</b> (CHS199100CU), <b>RX199i</b> (REU-NB3237FF-US), <b>RX180i</b> (REU-NB2934FF-US), <b>RX160i</b> (REU-NB2530FF-US), <b>RX130i</b> (REU-NB2024FF-US), <b>RXP199i</b> (REU-NBP3237FF-US), <b>RXP160i</b> (REU-NBP2530FF-US), <b>RSC199i</b> (REU-NP3237FF-US(A)), <b>RSC160i</b> (REU-NP2530FF-US(A)), <b>CX199i</b> (REU-NB3237FFC-US), <b>CX160i</b> (REU-NB2530FFC-US), <b>CXP199i</b> (REU-NBP3237FFC-US), <b>CXP160i</b> (REU-NBP2530FFC-US) |



CERTIFIED TO ANSI Z21.10.3 - CSA 4.3

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

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a licensed professional.

# Rinnai

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## Welcome

This document provides instructions for Centrotherm InnoFlue® common venting and is a supplement to the Installation and Operation Manual supplied with the Rinnai Tankless Water Heater.

For PVC/CPVC common venting, refer to the installation instructions for PVC/CPVC common venting.

Common venting must satisfy all the requirements of the Installation and Operation Manual, as well as the requirements in the Centrotherm InnoFlue® Installation Instructions.

For detailed information on the Rinnai Tankless Water Heater, including installation instructions, refer to the Tankless Water Heater Installation and Operation Manual or view an online version at [rinnai.us](http://rinnai.us) or [rinnai.ca](http://rinnai.ca).

Illustrations of tankless water heaters in this document represent one of the applicable Rinnai tankless water heaters. Your water heater may look different.

## To The Installer


- This manual is intended for the trained and qualified professional and is designed for licensed installers who should have skills such as:
  - Gas sizing
  - Connecting gas lines, water lines, valves, and electricity
  - Knowledge of applicable national, state, and local codes
  - Installing venting through a wall or roof
  - Training in installation of tankless water heaters. Training on Rinnai Tankless Water Heaters is accessible at [rinnai.pro.myabsorb.com](http://rinnai.pro.myabsorb.com).
- A trained and qualified professional must test the common venting system for leaks before use.
- The installation must conform to the Centrotherm Installation Instructions, local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA 54.
- Proper installation is the responsibility of the installer.

## To The Consumer

- Keep this manual for future reference.
- Be sure your common venting system is installed by a trained and qualified professional.

# Safety

## READ ALL INSTRUCTIONS BEFORE INSTALLATION

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

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- WHAT TO DO IF YOU SMELL GAS
  - Do not try to light any appliance.
  - Do not touch any electrical switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a trained and qualified installer, service agency or the gas supplier.

### **WARNING**

- The warning signs in this manual are here to prevent injury to you and others. Please follow them explicitly.
- Installations must comply with local requirements and with the National Fuel Gas Code, ANSI Z223.1/NFPA 54 for U.S. installations.
- Use only the materials listed in this manual for vent, air intake pipe, and fittings. Failure to comply with this warning could result in property damage.
- **DO NOT** apply PVC/CPVC glues, solvents, or cleaners to the tankless water heater's intake or exhaust gasket connections. Failure to correctly assemble the components according to these instructions and the Rinnai water heater installation and operation manual may result in property damage, personal injury, or death.

## Safety Symbols

This manual contains the following important safety symbols. Always read and obey all safety messages.



Safety alert symbol. Alerts you to potential hazards that can kill or hurt you and others.

 **WARNING**

Indicates a potentially hazardous situation which, if not avoided, could result in personal injury or death.

 **DANGER**

Indicates an imminently hazardous situation which, if not avoided, will result in personal injury or death.

 **CAUTION**

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also be used to alert against unsafe practices.

# About the Common Venting System

The Common Vent System provides longer vent lengths and fewer wall or roof penetrations than conventional single-unit venting. Features include:

- 3 in. (76 mm), 4 in. (102 mm) and 6 in. (152 mm) Polypropylene (PP) common vent components from Centrotherm are approved for use in the U.S. and Canada.
- ICC evaluations to UL 1738 and ULC-S636 for U.S. and Canadian installations.
- Venting material is comprised of Polypropylene (PP).
- The various sections are self-locking and sealing, and can be pushed together without use of cement or glue.

**For detailed installation steps, refer to Centrotherm's Installation Instructions.**

## Venting Guidelines

### **WARNING**

Exhaust components must be UL 1738 or ULC-S636 certified for U.S. installations. All venting components used in Canada must be ULC-S636 certified. Intake components to be in accordance with national and/or local codes having jurisdiction.

### **Do Not**

- Do not exceed the maximum number of units indicated in the Rinnai Tankless Water Heater Installation and Operation Manual.
- Do not use cellular core PVC/CPVC, Radel, ABS or galvanized material for the exhaust vent.
- Do not combine vent components from different manufacturers.
- Do not connect the venting system with an existing vent or chimney.
- Do not cover vent components with thermal insulation.
- Do not common vent with the vent pipe of any other type of water heater or appliance.
- Do not reduce vent length diameter below header vent size.
- Do not install the water heater in an area of negative pressure.
- Do not install the water heater, venting, and vent termination(s) in any areas where the air may contain corrosive compounds.

### **Must Do**

- You must use vent components that are certified and listed with the water heater model.
- The vent system must vent directly to the outside of the building and use outside air or room air for combustion.
- Avoid dips or sags in horizontal vent runs by installing supports per the vent manufacturer's instructions.
- Support horizontal vent runs a minimum of every four feet and all vertical vent runs a minimum of every six feet.
- Venting should be as direct as possible with a minimum number of pipe fittings.
- Vent connections must be firmly pressed together so that the gaskets form an air tight seal.
- Vent components connected to the water heater must be secured with one self-tapping screw. Do not use any glues or solvents to connect vent components to the water heater.
- Condensation must be disposed of in accordance with local code compliance. Connect drain line to the condensation trap at the end of the exhaust header.
- Set the temperature setting on all water heaters being common vented to the same temperature.

### **Information:**

- Unless recovering a tank, Rinnai recommends electronically connecting with common venting and where water heaters are in a manifold system. Refer to the Rinnai Tankless Water Heater Installation and Operation Manual for additional details on electronically connecting multiple water heaters.
- Multi-story and common venting systems are allowed. Such venting system shall be in accordance with the *National Fuel Gas Code*, ANSI Z223.1/NFPA54 and/or the *CSA B149.1, Natural Gas and Propane Installation Code* (Current Edition), local codes, and the manufacturer's instructions. Refer to "Vertical Common Venting System Installation Instructions" for additional information.

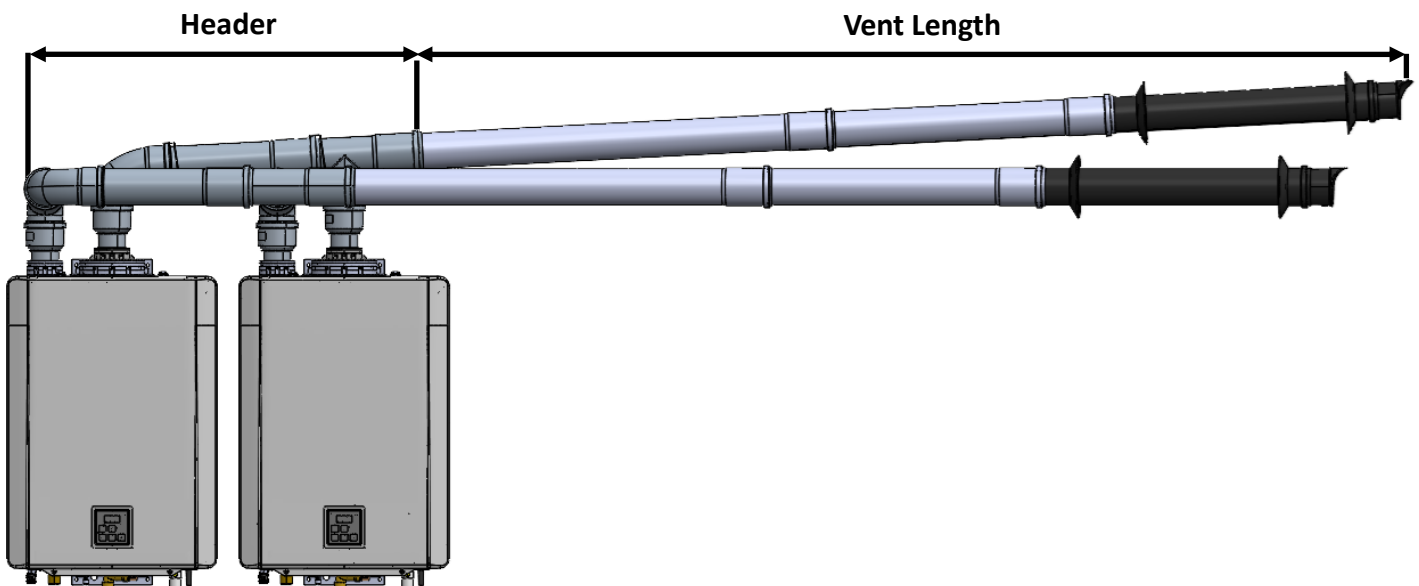
## High Altitude Installations

- High altitude installations are certified up to 10,200 ft (3,109 m).
- Reference the respective Rinnai Tankless Water Heater Installation and Operation Manual to set the water heaters for the altitude at which they will be operating.
- Tankless water heaters using common venting at altitudes over 2,000 ft (610 m) will automatically derate.

## Common Vent Maximum Equivalent Vent Lengths

Reference the image below for the table on next page:

Header is the main vent pipe into which several vents connect. Vent Length is the distance from the end of the header to the vent termination. Maximum vent length starts at the end of the header system. Use 10 ft (3 m) as equivalent vent length for 90° elbows. For use with SENSEI™ internal (indoor) tankless water heaters.



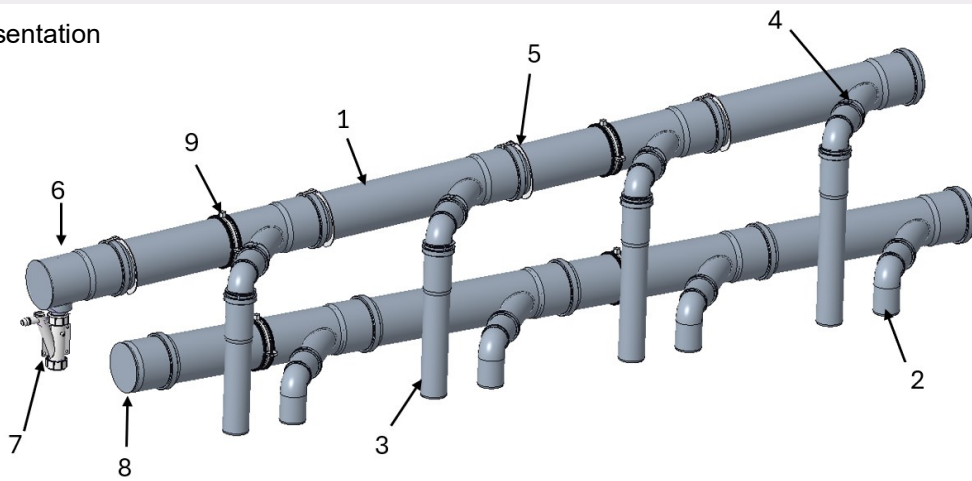
**Common Vent Maximum Equivalent Vent Length / Rinnai Common Vent System**






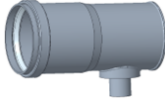



| Water Heater Model   | # Water Heaters  | Max System BTU/HR | HEADER DIAMETER             |                              |                              |                              |               |
|--|--|-------------------|-----------------------------|------------------------------|------------------------------|------------------------------|---------------|
|  |  |                   | 3 in. (76 mm)               | 4 in. (102 mm)               |                              | 6 in. (152 mm)               |               |
|  |  |                   | 3 in. (76 mm) Vent Diameter | 4 in. (102 mm) Vent Diameter | 6 in. (152 mm) Vent Diameter | 6 in. (152 mm) Vent Diameter |               |
| RU199i<br>(REU-N3237FF-US)<br>CU199i<br>(REU-N3237FFC-US)<br>RUR199i<br>(REU-NP3237FF-US)<br>RSC199i<br>(REU-NP3237FF-US(A))<br>RX199i<br>(REU-NB3237FF-US)<br>CX199i<br>(REU-NB3237FFC-US)<br>RXP199i<br>(REU-NBP3237FF-US)<br>CXP199i<br>(REU-NBP3237FFC-US) | 2  | 398,000           | 65 ft (20 m)                | 150 ft (46 m)                | 150 ft (46 m)                | 150 ft (46 m)                |               |
|  | 3  | 597,000           |                             |                              |                              |                              |               |
|  | 4  | 796,000           |                             | 65 ft (20 m)                 |                              |                              |               |
|  | 5  | 995,000           |                             |                              |                              |                              |               |
|  | 6  | 1,194,000         |                             |                              |                              |                              |               |
|  | 7  | 1,393,000         |                             |                              | 70 ft (21 m)                 |                              |               |
|  | 8  | 1,592,000         |                             |                              |                              |                              |               |
|  | 9  | 1,791,000         |                             |                              |                              |                              |               |
|  | 10   | 1,990,000         |                             |                              |                              |                              | 90 ft (27 m)  |
|  | 11   | 2,189,000         |                             |                              |                              |                              |               |
|  | 12   | 2,388,000         |                             |                              |                              |                              | 41 ft (12 m)  |
|  | RU160i<br>(REU-N2530FF-US)<br>CU160i<br>(REU-N2530FFC-US)<br>RUR160i<br>(REU-NP2530FF-US)<br>RSC160i<br>(REU-NP2530FF-US(A))<br>RX160i<br>(REU-NB2530FF-US)<br>RXP160i<br>(REU-NBP2530FF-US)<br>CX160i<br>(REU-NB2530FFC-US)<br>CXP160i<br>(REU-NBP2530FFC-US) | 2                 | 320,000                     | 90 ft (27 m)                 | 150 ft (46 m)                |                              | 150 ft (46 m) |
| 3  |  | 480,000           |                             | 100 ft (30 m)                |                              |                              |               |
| 4  |  | 640,000           |                             | 65 ft (20 m)                 |                              |                              |               |
| 5  |  | 800,000           |                             |                              |                              |                              |               |
| 6  |  | 960,000           |                             |                              |                              |                              |               |
|  |  |                   |                             |                              |                              |                              |               |
|  |  |                   |                             |                              |                              |                              |               |
|  |  |                   |                             |                              |                              |                              |               |
|  |  |                   |                             |                              |                              |                              |               |
|  |  |                   |                             |                              |                              |                              |               |
|  |  |                   |                             |                              |                              |                              |               |
|  |  |                   |                             |                              |                              |                              |               |
| RU180i<br>(REU-N2934FF-US)<br><br>RX180i<br>(REU-NB2934FF-US)  | 2  | 360,000           | 65 ft (20 m)                | 150 ft (46 m)                | 150 ft (46 m)                | 150 ft (46 m)                |               |
|  | 3  | 540,000           |                             |                              |                              |                              |               |
|  | 4  | 720,000           |                             | 65 ft (20 m)                 |                              |                              |               |
|  | 5  | 900,000           |                             |                              |                              |                              |               |
|  | 6  | 1,080,000         |                             |                              |                              |                              |               |
|  | 7  | 1,260,000         |                             |                              | 70 ft (21 m)                 |                              |               |
|  | 8  | 1,440,000         |                             |                              |                              |                              |               |
|  | 9  | 1,620,000         |                             |                              |                              |                              |               |
|  | 10   | 1,800,000         |                             |                              |                              |                              | 90 ft (27 m)  |
|  | 11   | 1,980,000         |                             |                              |                              |                              |               |
|  | 12   | 2,160,000         |                             |                              |                              |                              | 41 ft (12 m)  |
|  | RU130i<br>(REU-N2024FF-US)<br><br>RX130i<br>(REU-NB2024FF-US)  | 2                 | 260,000                     | 90 ft (2 m)                  | 150 ft (46 m)                |                              | 150 ft (46 m) |
| 3  |  | 390,000           |                             | 100 ft (30.4 m)              |                              |                              |               |
| 4  |  | 520,000           |                             | 65 ft (20 m)                 |                              |                              |               |
| 5  |  | 650,000           |                             |                              |                              |                              |               |
| 6  |  | 780,000           |                             |                              |                              |                              |               |
|  |  |                   |                             |                              |                              |                              |               |

# Vent Components

## Inline

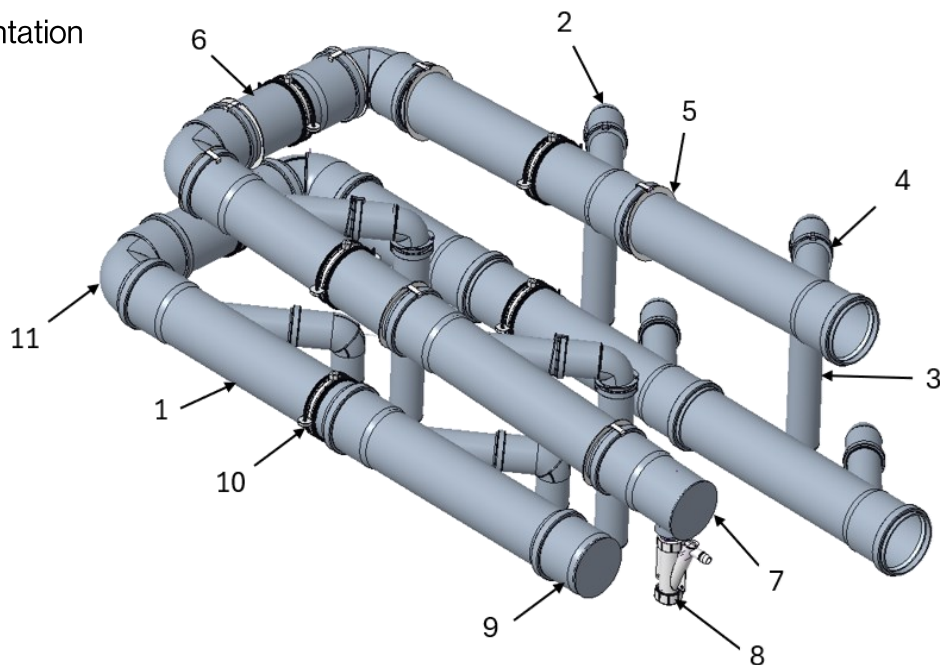
Sample Representation







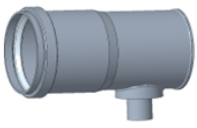





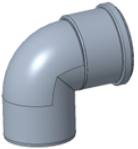
| Item | Image   | Description                 |
|------|---|-----------------------------|
| 1    |    | 4" Branch Tee               |
| 2    |   | 2" Elbow                    |
| 3    |  | 2" Rigid Extension          |
| 4    |  | 2" Connector Ring           |
| 5    |  | 4" Connector Ring           |
| 6    |  | 4" Horizontal Drain Fitting |
| 7    |  | Condensate Drain Connection |
| 8    |  | 4" Tee Cap                  |
| 9    |  | 4" Support Clamp            |

# Back-to-Back

Sample Representation



| Item | Image   | Description                 |
|------|---|-----------------------------|
| 1    |   | 4" Branch Tee               |
| 2    |  | 2" Elbow                    |
| 3    |  | 2" Rigid Extension          |
| 4    |  | 2" Connector Ring           |
| 5    |  | 4" Connector Ring           |
| 6    |  | 4" Rigid Extension          |
| 7    |  | 4" Horizontal Drain Fitting |
| 8    |  | Condensate Drain Connection |

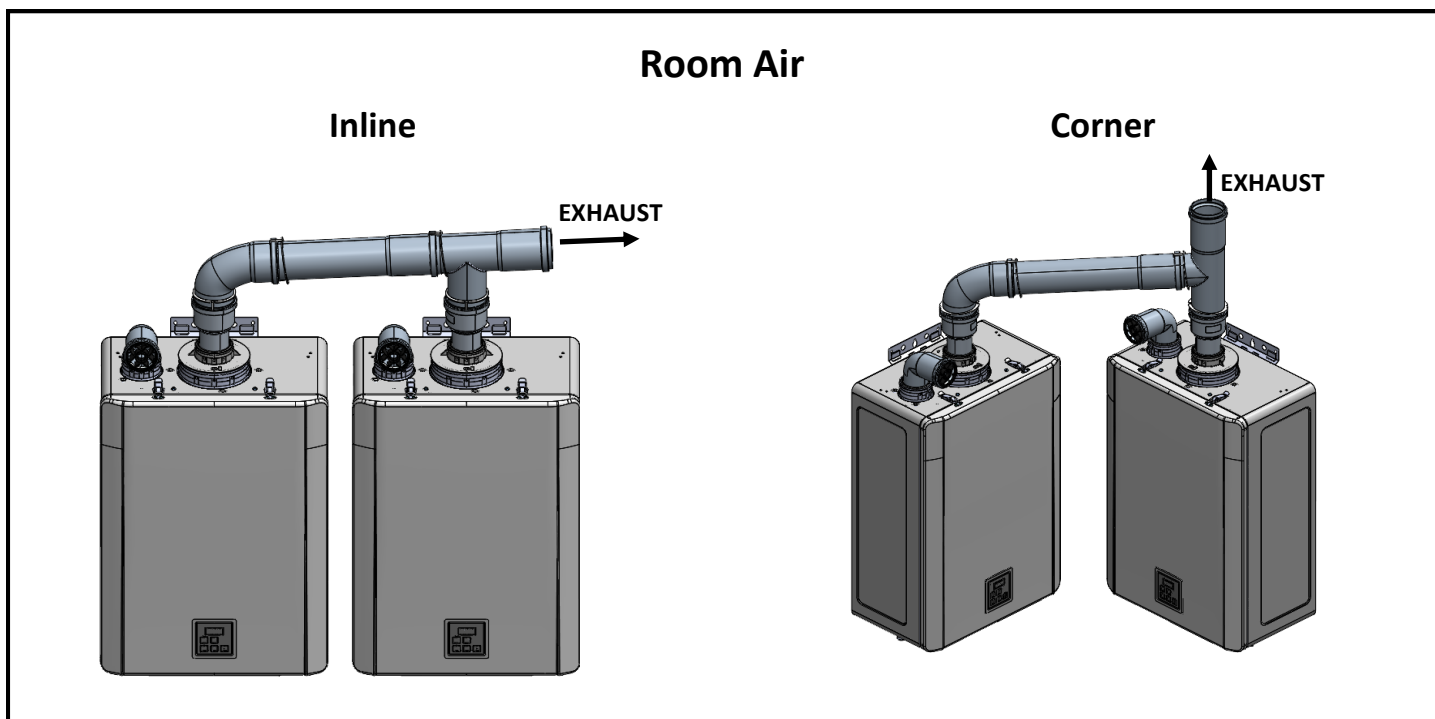
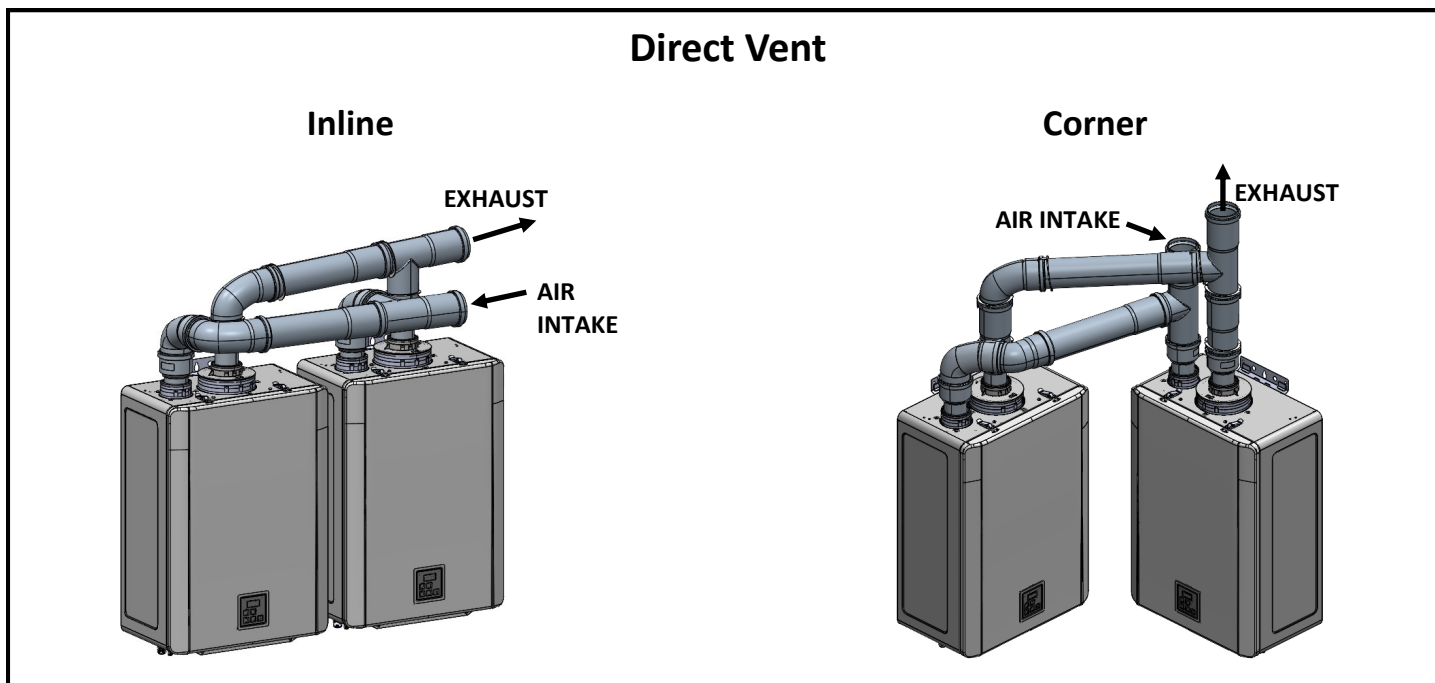
| Item | Image   | Description      |
|------|---|------------------|
| 9    |   | 4" Tee Cap       |
| 10   |  | 4" Support Clamp |
| 11   |  | 4" Elbow         |

Contact Centrotherm for additional venting details, including part numbers.



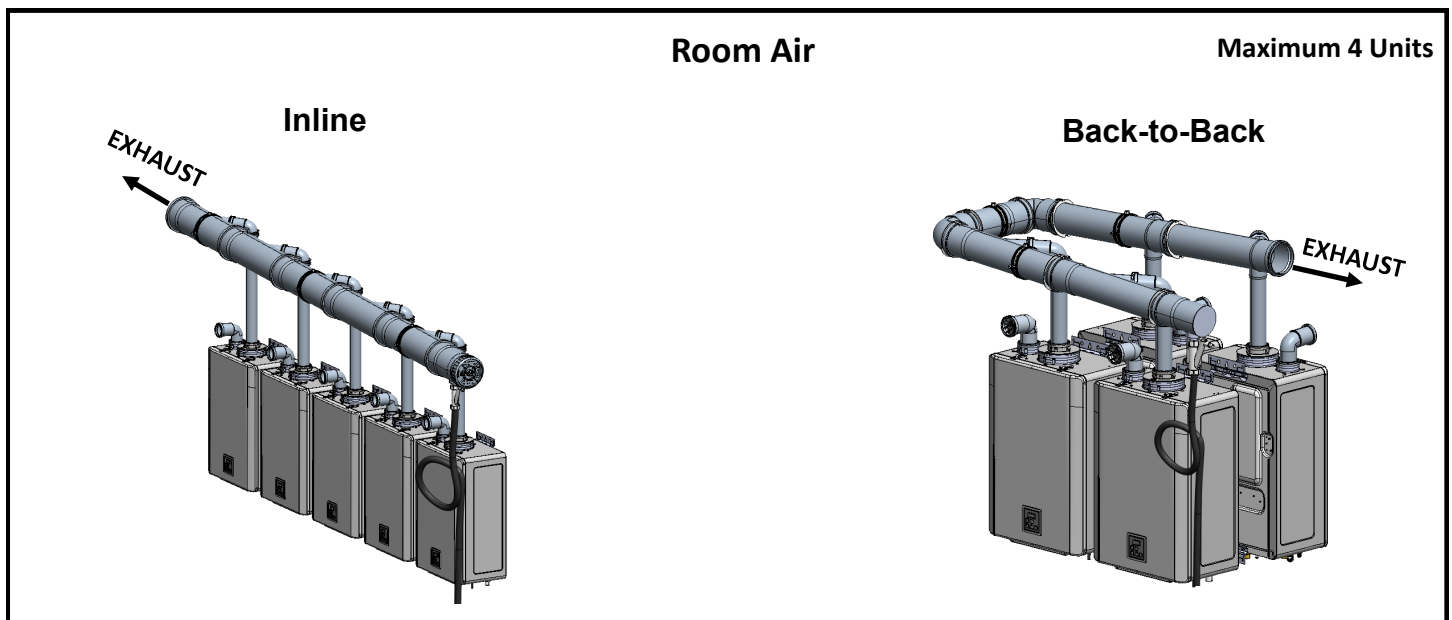
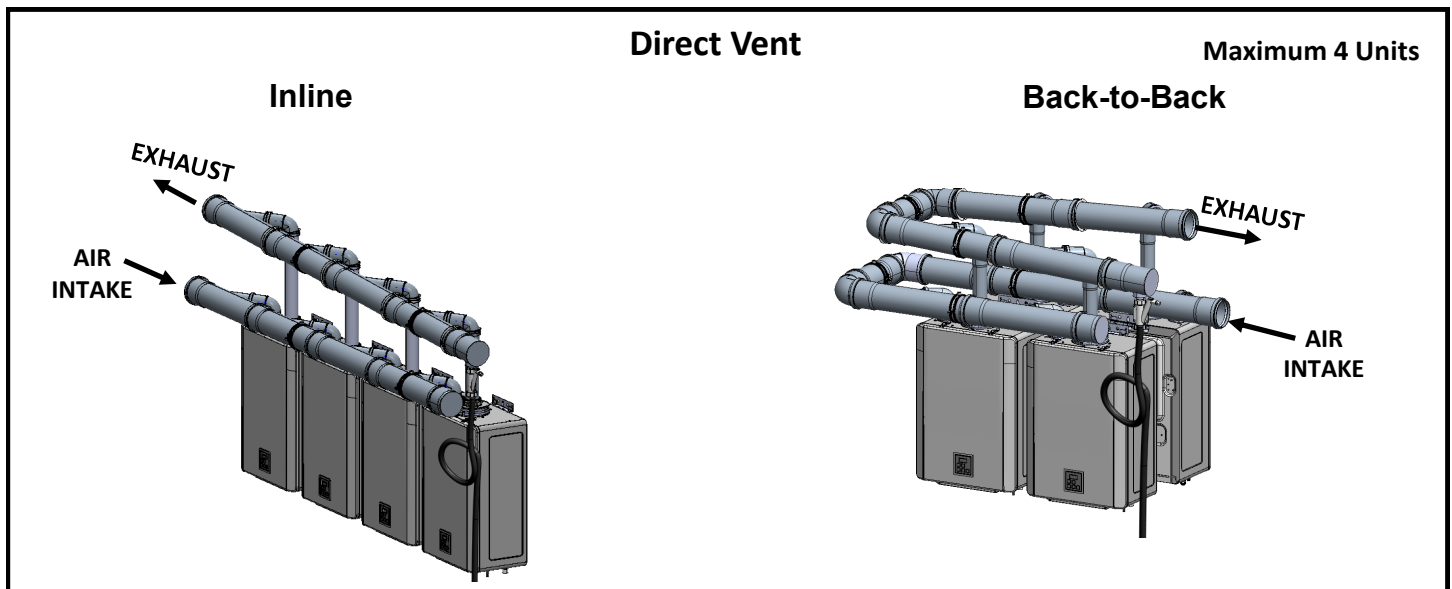
# 3 in. (76 mm) Common Venting

## 3 in. (76 mm) Direct Vent and Room Air



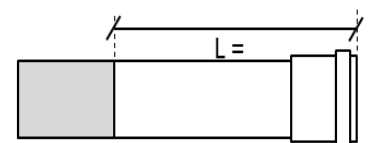
# 4 in. (102 mm) Common Venting

## 4 in. (102 mm) Direct Vent and Room Air



Cutting Line table applicable up to 4 units.

| Inline<br># of Water Heaters | L =              | Back-to-Back<br># of Water Heaters | L =              |
|------------------------------|------------------|------------------------------------|------------------|
| 1                            | 5.5 in. (140 mm) | 1+1a                               | 5.5 in. (140 mm) |
| 2                            | 6.5 in. (165 mm) | 2+2a                               | 6.5 in. (165 mm) |
| 3                            | 7.5 in. (191 mm) | 3+3a                               | 7.5 in. (191 mm) |
| 4                            | 8.5 in. (216 mm) | 4+4a                               | 8.5 in. (216 mm) |

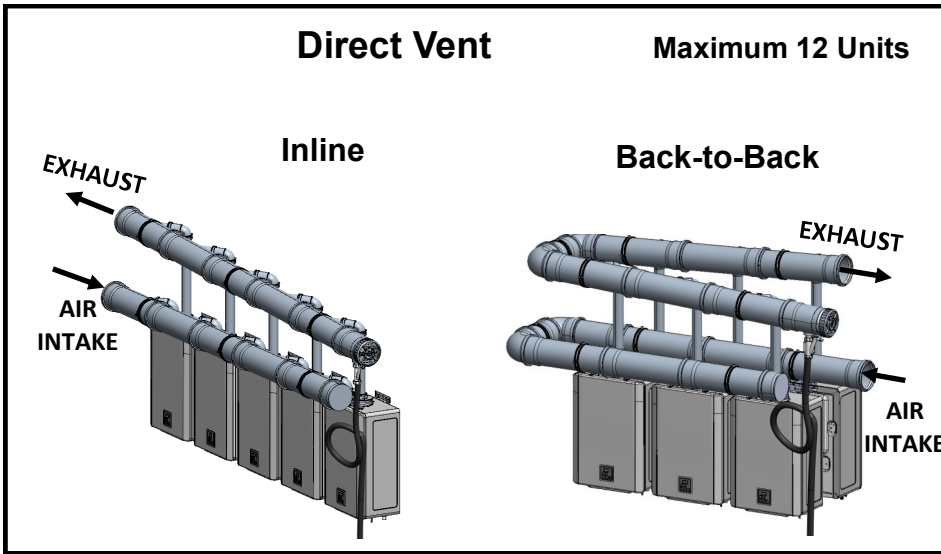


\* Cutting line  
Deburr edges after cutting

For detailed venting installation steps, refer to Centrotherm's Installation Instructions.

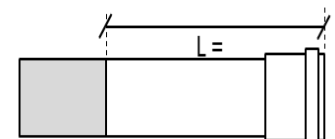
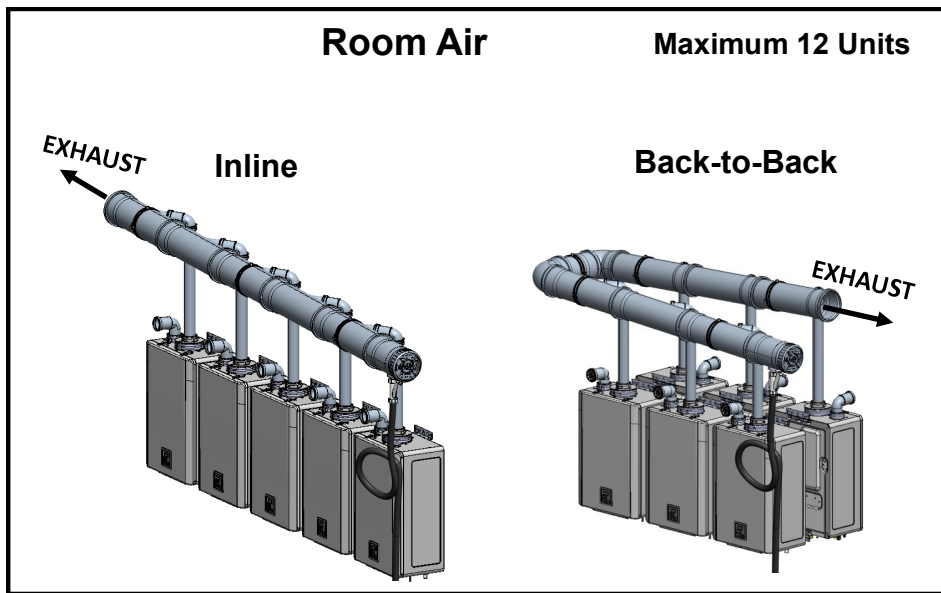
# 6 in. (152 mm) Common Venting

## 6 in. (152 mm) Direct Vent and Room Air



Cutting Line table applicable up to 12 units.

| Inline # of Water Heaters | L =               | Back-to-Back # of Water Heaters | L =              |
|---------------------------|-------------------|---------------------------------|------------------|
| 1                         | 5.5 in. (140 mm)  | 1+1a                            | 5.5 in. (140 mm) |
| 2                         | 6.5 in. (165 mm)  | 2+2a                            | 6.5 in. (165 mm) |
| 3                         | 7.5 in. (191 mm)  | 3+3a                            | 7.5 in. (191 mm) |
| 4                         | 8.5 in. (216 mm)  | 4+4a                            | 8.5 in. (216 mm) |
| 5                         | 9.5 in. (241 mm)  | 6+6a                            | 9.5 in. (241 mm) |
| 6                         | 10.5 in. (267 mm) |                                 |                  |
| 7                         | 11.5 in. (292 mm) |                                 |                  |
| 8                         | 12.5 in. (318 mm) |                                 |                  |
| 9                         | 13.5 in. (343 mm) |                                 |                  |
| 10                        | 14.5 in. (368 mm) |                                 |                  |
| 11                        | 15.5 in. (394 mm) |                                 |                  |
| 12                        | 16.5 in. (419 mm) |                                 |                  |



**\* Cutting line**  
**Deburr edges after cutting**

For detailed venting installation steps, refer to Centrotherm's Installation Instructions.