

### N-Vent Installation & Maintenance Instructions

N-Vent Category III Stainless Steel Vent Pipe



Failure to follow the installation instructions could cause RISK OF BREAKAGE, RISK OF FIRE, RISK OF CARBON MONOXIDE POISONING, or DEATH.



This is a special stainlesss steel vent system for gas-fired appliances listed as Category II, III, and IV or in Canada, Type BH Venting systems as noted in ULC-636, and this is for use only with special appliances.

Failure to follow the installation instructions could cause not only decreased performance of the appliance but also property damage and, or personal injury.

Always wear gloves and appropriate eye, foot, and other protection when handling these products.

Different manufacturers have different joint systems and adhesives. Do not mix pipe, fittings, or joining methods from different manufacturers.

Examine all components for possible shipping damage prior to installation.

Proper joint assembly is essential for a safe installation. Follow these instructions exactly as written. Check quality of joints upon completion of assembly.

The venting system must be free to expand and contract and must be supported in accordance with these instructions.

Check for unrestricted vent movement through walls, ceilings, and roof penetrations.



All warranties stated or implied are void if this product and the appliances to which it is connected are not installed in accordance with their respective instructions and all national and local code requirements.

The warranty for this product is void if components other than those supplied as listed components by Noritz America and N-Vent are used.

After installation, check the entire system to make sure that all joints are secure and sealed correctly.



Thank you for purchasing N-Vent Category III, Stainless Steel Vent Pipe. Before using, please read this manual completely for correct installation and operation instructions.

Keep this manual where it can be found whenever necessary.

Noritz America Corporation 25172 Arctic Ocean Drive, Suite 102 Lake Forest, CA 92630 1-866-766-7489 (1-866-7NORITZ) www.noritz.com

### Table of Contents

| Contents                                 | 2  |
|--|----|
| General Precautions                      | 3  |
| General Installation Requirements        | 3  |
| Selecting an Installation Site           | 4  |
| Clearances                               | 4  |
| Joint Structure                          | 4  |
| Connection & Disconnection               | 5  |
| Appliance Connection                     | 5  |
| Condensate Removal                       | 6  |
| Support Straps                           | 6  |
| Adjustable Vent Lengths                  | 7  |
| Elbows & Flexible Vent Lengths           | 7  |
| Horizontal Terminations                  | 7  |
| Horizontal Termination Instructions      | 8  |
| Vertical Termination Instructions        | 9  |
| Vertical Termination Exploded Parts View | 10 |
| N-Vent Pieces (1)                        | 11 |
| N-Vent Pieces (2)                        | 12 |
| N-Vent Pieces (3)                        | 13 |
| N-Vent Pieces (4)                        | 14 |
| N-Vent Pieces (5)                        | 15 |
| N-Vent Pieces (6)                        | 16 |

### **General Precautions**



- This installation manual is for the N-Vent system of vent pipe for tankless gas water heaters supplied by Noritz America Corporation. Refer to the appliance manufacturer's instruction for its installation.
- The vent system must be installed by an experienced professional familiar with the operation and maintenance of heating appliances & venting systems. These instructions are a guide to assist a professional installer.
- Before commencing installation, please read all installation instructions.
- The maximum flue gas temperature is 480 degrees F (249 degrees C), and the maximum positive pressure is 15" water column (100 Pa) for the vent system.
- Refer to the appliance manufacturer's instructions to determine requirements & limitations for the venting system with respect to installation and use, such as maximum horizontal length from the appliance, maximum height or the required installation clearances.
- Contact local building or fire officials about restrictions and installation inspections in your area.

### **General Installation Requirements**

- Proper operation of the venting system and appliance is dependent on the use of all parts specified by the manufacturer for use in the particular installation. Proper performance of the system may be affected if the proper assembly of all required parts is not accomplished.
- Except for installation in one and two family dwellings, a venting system that extends through any zone above that on which the connected appliance is located shall be provided with an enclosure having a fire resistance rating equal to or greater than that of the floor or roof assemblies through which it passes.
- The venting system shall not be routed into, through, or within any other vent, such as an existing masonry or factory-built chimney flue.
- Do not install insulation within any required clearance space around this venting system.
- Exterior mounted venting systems must be enclosed below the roof line to limit condensation and protect against mechanical damage.
- Any horizontally installed portion of a venting system shall have a slope (downwards for category III appliances) no less than 1/4" per foot to prevent collection of condensate at any location in the assembly.
- Due to ice build-up and blockage, it is required that the proper sloping be employed when the vent is installed in a horizontal installation. Refer to the appliance manufacturer's installation instructions for further details regarding the installation of condensate drain fittings.
- The horizontal & vertical vent length and the number of elbows from the appliance flue collar
  to the outside termination shall not be greater than which is specifed in the appliance
  manufacturer's installation instructions.
- If the instructions of the appliance manufacturer or local regulations call for a condensate drain, locate the drain tee as close as possible to the appliance exhaust outlet. Follow the appliance manufacturer's instructions, or all local and national building codes for draining condensate.
   Do not use copper as a drain as it may corrode.

### Selecting an Installation Site

- A venting sytem that exits the structure through a sidewall shall terminate no less than 12 inches above ground.
- A termination of the venting system shall be located above the snow line in geographical areas where snow may accumulate.
- The termination of the venting system shall not be located in traffic areas such as walkways, unless the venting termination is at least 7 feet above the ground.

### **Clearances**

Maintain clearances to combustible materials as follows in Table 1:

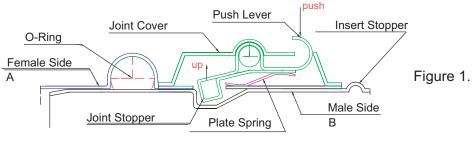
|    |                        | С                  | LEARANCE <sup>1</sup> | то сомв  | USTIBLES           |          |
|----|------------------------|--------------------|-----------------------|----------|--------------------|----------|
| Ма | ıx. Fl                 | ue Gas             | Unencl                | losed    | Enclosed           |          |
| Τe | empe                   | erature            | Horizontal            | Vertical | Horizontal         | Vertical |
|    | 480° F 3" 3" To        |                    | Top: 15"/381mm        | 4"       |                    |          |
|    | т                      | 249℃               | 76.0 76.0 76.0        |          | Sides: 10"/254mm   | 101.6 mm |
|    | _,,   480° F   3"   3" |                    |                       | 6"       |                    |          |
|    | 5                      | 249 <sup>°</sup> C | 76.2mm                | 76.2mm   | Bottom: 6"/152.4mm | 152.4 mm |

Table 1.

- Terminate the system 6 feet from the combustion intake of any appliance.
- Terminate the system at least 3 feet from any other building opening, utility meter, service regulator or the like.

### Joint Structure (Patent Pending)

- The female end of each N-Vent component incorporates a sealing O-ring and a mechanical locking joint. Examine the O-ring prior to installation.
- The joint is composed of a Push Lever, Pin, Plate Spring, and a Joint Stopper as shown in Figure 3-1.

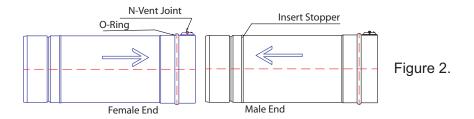


### **Joint Connection & Disconnection**

 All vent lengths, elbows, rain caps, storm collar pipes, drain tees, and termination pieces are connected and detached by the following method.

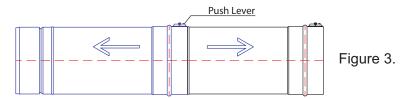
### Connection, Figure 2.

- 1. Distinguish between female and male end of the vent piece. The female end has the O-ring and N-Vent joint.
- 2. Insert the male end fully into the female end until it is seated against the insert stopper on the female section.



### Disconnection, Figure 3.

3. Push the male end fully into the female end. Then pull out on the male end while holding the Push Lever.



### **Appliance Connection**

• Connect the N-Vent to the appliance flue collar as directed by the appliance manufacturer's instructions.

### **Condensate Removal**

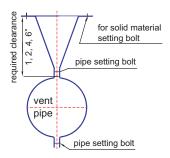
 If appliance manufacturer's instructions or local regulations call for a condensate drain, use an N-Vent Drain Tee and 3/8" (OD) plastic tube of appropriate length to drain the condensate from the system.



 Follow all local and national codes for draining acidic condensate. Do not use copper as it may corrode.

### **Support Straps**

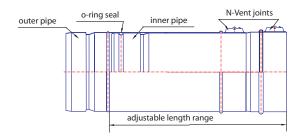
• Supports must be installed at intervals of no more than 6 feet.



• Vent pipe is inserted in the cylinder part of the support and lightly fixed with included screw. The supports must be secured to solid material using screws, then fasten the loose screw. Use supports that maintain proper clearances to combustible materials. Install according to required clearances, using one of four available Support Straps: 1, 2, 4, and 6" clearances.

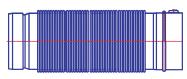
### **Adjustable Vent Lengths**

- Adjustable vent lengths are available for installations where fixed-length sections do not produce the desired dimensions.
- Adjustable lengths may also be used to compensate for linear thermal expansion between two fixed points.
- Adjustable pipe is available in the following lengths: 7-9.4", 9-13.4", and 13-21.4".



### **Elbows & Flexible Vent Lengths**

 45 Degree Elbows, 90 Degree Elbows, and Flexible Vent Lengths are available for changing the direction of the vent system.



18" Flexible Vent Length

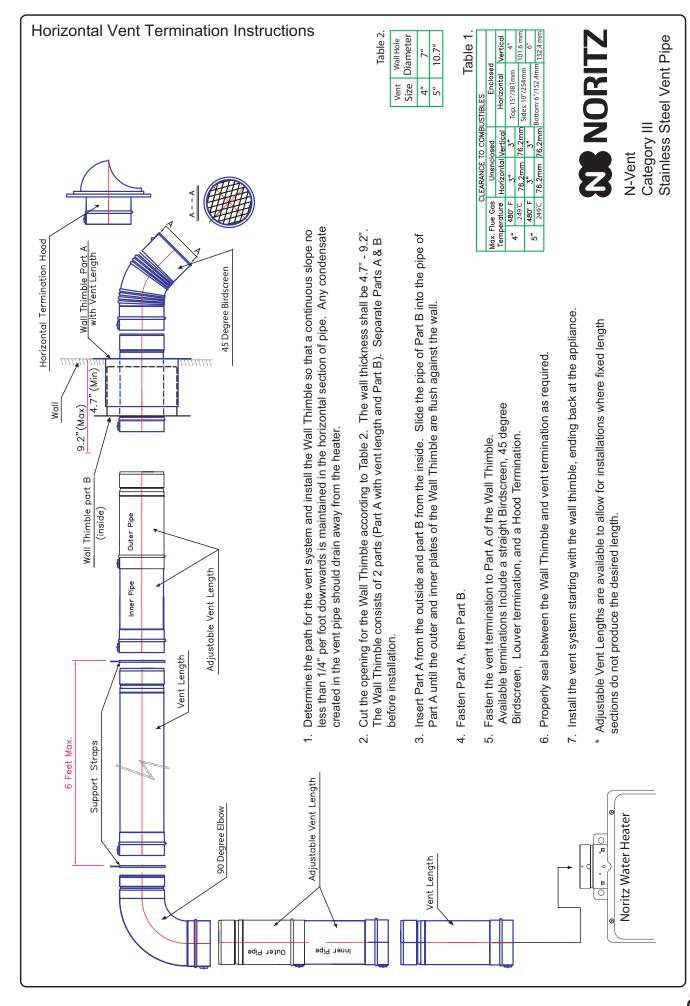




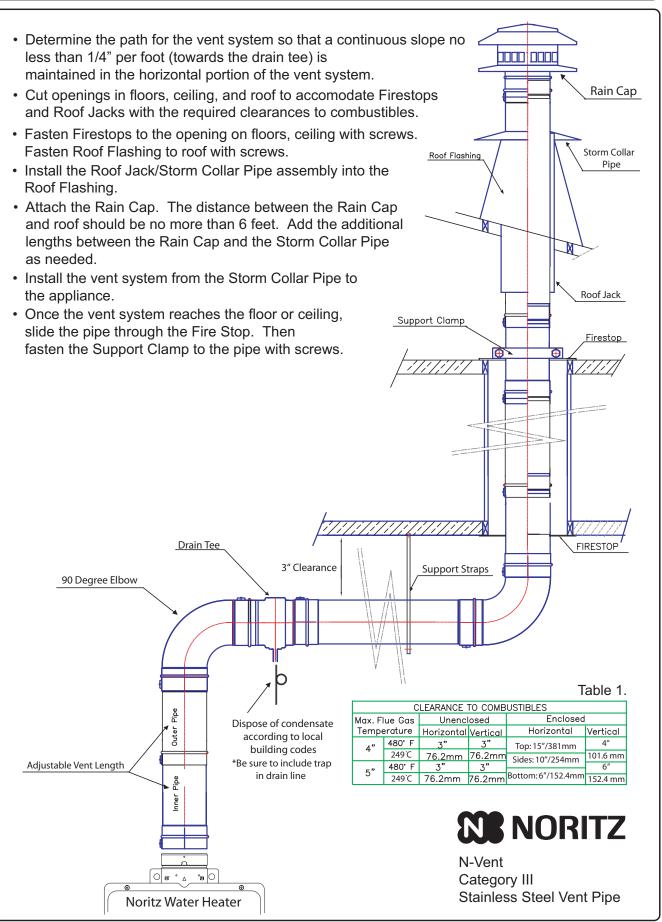
The flexible section of vent can be manually adjusted to small angles. Do not bend repeatedly
or to extreme angles. This may cause a gas leak.

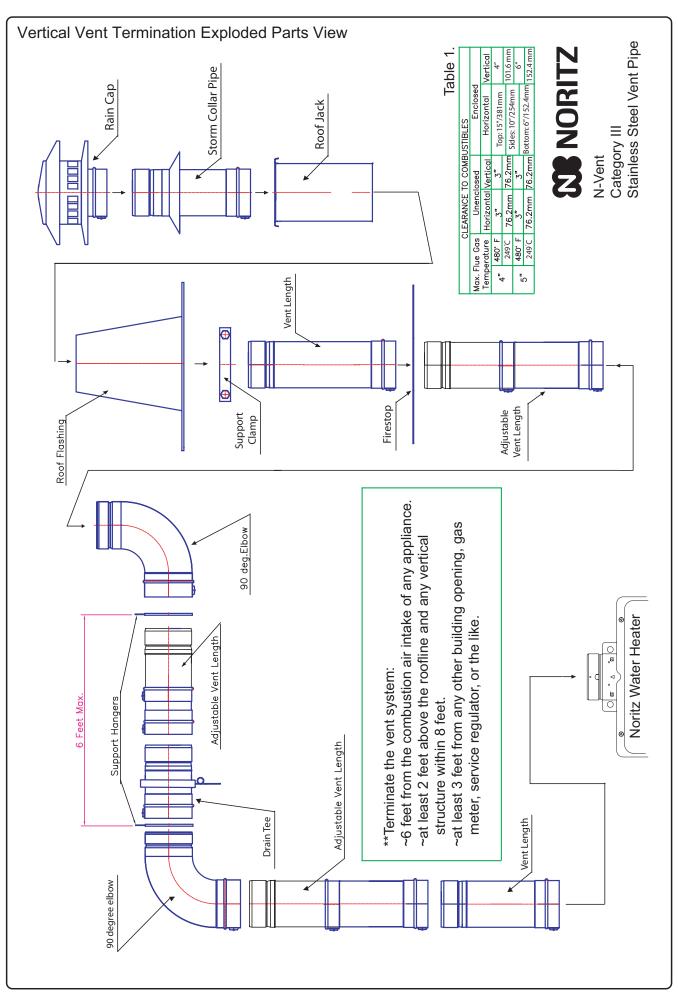
### **Horizontal Terminations**

- The total horizontal vent length from the appliance flue collar to the outside termination shall not be greater than specified in the appliance manufacturer's instructions.
- A venting system that exits the structure through a sidewall shall terminate no less than 12" above the ground.
- A termination of the venting system shall be located above the snow line in geographical areas where snow accumulates.
- The termination of the venting system shall not be located in traffic areas such as public walkways, unless the venting system terminates at least 7 feet above the ground.
- Use steel hanger straps a minimum of every 6 feet to support the vent system from the ceiling joint or other solid structure.



### **Vertical Vent Termination Instructions**





### VP4- 9.4ADJ VP4-13.4ADJ VP4-21.4ADJ VP5- 9.4ADJ Part Number Part Number VP4-12STR VP4-24STR VP4-36STR Part Number Part Number VP5-12STR VP5-24STR VP5-36STR VP4-18FLEX VP5-13.4ADJ VP5-18FLEX VP5-21.4ADJ VP4-45EL VP5-45EL 6.8 ~ 9.1 9.5 ~ 14.65 19.76 20.4 15.4 ~ 26.5 6.8 ~ 9.1 9.5 ~ 14.65 13.86 25.67 37.48 14.49 26.3 38.1 15.4 ~ 26.5 \_ 2.05 2.68 Dimensions (Inches) 5.36 17.7 ニ 17.7 4 11.8 23.6 35.5 11.8 23.6 35.5 $\Box$ 2.05 2.68 $\Box$ Ω 4 2 Ω 4 2 ۵ 2 ۵ 2 SIZE SIZE SIZE 2 4 2 SIZE 2 4 2 Inner Pipe L (Effective Length) Drawing $\Box$ Outer Pipe Δ 13"-21.4" Adjustable 9"—13.4" Adjustable 7"-9.4" Adjustable Description 18" Flexible 45 Degree 12" Straight 24" Straight 36" Straight Photo Currently Not Available N-Vent Pieces (1) Photo (Telescoping) Vent Length Adjustable Flexible Elbow Type Rigid Category Vent Pipe

### N-Vent Pieces (2)

| hoto Description Drawing Dimensions (Inches) | 90 Degree 4 4 2.05 6.15 vP4-90EL 5 5 2.68 7.9 vP5-90EL | Straight Birdscreen  5 5 5 2.68 7.9 VTS-S | 45 Degree Birdscreen L1 Part Number 5 5.36 2.68 V75-45 | Currently for other Tankless Heaters to use N-Vent Tankless House Adapter    Currently for other Tankless Heaters to use N-Vent    N-Vent    D  SIZE D L1 L D1 Part Number    SIZE D L1 L D1 Part Number    4 4 1.17 4.92 4.03 VP4-ADAPT-1 |
|--|--|---|--|--|
| Photo  |  |   |  | Photo Currently<br>Not Available   |
| Туре   | Elbow  | T   |  | Adapter  |
| Category                                     | Vent Pipe  | Vent                                      | Termination  | Vent Pipe  |

# N-Vent Pieces (3)

| Photo Description Drawing Dimensions (Inches) | Hood bi   | Louver D1 52 5 2.76 3.7 7.4 VT5-SL | Rain Cap L1 L1 RC5 | Horizontal Drain Tee D L L1 Part Number 4 4 7.2 2.05 DT4 5 5 8 2.7 DT5 | Photo Currently Not Available Not Available  Lift D  L |
|---|-----------|------------------------------------|--------------------|--|--|
| Photo   |           |                                    |                    |  | Photo Currently<br>Not Available   |
| Туре  | Horizonta |                                    | Vertical           | Horizontal   | Vertical   |
| Category                                      |           | Vent<br>Termination                |                    |  | Condensation<br>Drain  |

## N-Vent Pieces (4)

| $\overline{}$       |  |  |                                   |                                      |
|---------------------|--|--|-----------------------------------|--------------------------------------|
| (Inches)            | Part Number<br>FRF4<br>FRF5            | Part Number<br>ARF4<br>ARF5                | Part Number<br>RJ4<br>RJ5         | Part Number<br>SCP4<br>SCP5          |
| Dimensions (Inches) | SIZE B H C 4 5.3 11.5 17 5 6.3 11.5 18 | SIZE B H C<br>4 6.0 6.0 17<br>5 7.0 6.0 18 | SIZE B H 4 5.0 18 5.0 18 5 6.0 18 | SIZE D A H 4 4 7.8 23.6 5 5 8.9 25.2 |
| Drawing             | H Roof Jack                            | D D D D D D D D D D D D D D D D D D D      | H                                 | Pipe Guide                           |
| Description         | Flat Roof<br>Flashing                  | Angled Roof<br>Flashing                    | Roof Jack                         | Storm<br>Collar<br>Pipe              |
| Photo               | Photo Currently<br>Not Available       |  |                                   |                                      |
| Type                |  |  | Vertical                          |                                      |
| Category            |  |  | Roof Piece                        |                                      |

### N-Vent Pieces (5)

| Category            | Type       | Photo                            | Description   | Drawing   | Dimensions (Inches)   |
|---------------------|------------|----------------------------------|---|---|---|
| Fire Stop           | Vertical   |                                  | Fire Stop   | 0   | size D C Part Number 4 4.4 15 FS4 5 5.4 17 FS5  |
| Wall<br>Penetration | Horizontal |                                  | Wall Thimble  | 9.2" (Max) Integral Spacer 4.7" (Min) D B                             | size         D         B         C         Part Number           4         4         7         10         WT4           5         5         10.7         12.2         WT5   |
| Subport             | Strap      | ~                                | 1" Clearance 2" Clearance 4" Clearance 6" Clearance | C pipe setting bolt  D min pipe setting bolt  D min pipe setting bolt | SIZE         D         A         H         C         Part Number           4         4.73         6.6         2"         SS4-2           10.7         6.6         2"         SS4-4           10.7         6"         SS4-6           6.8         1"         SS5-1           5         7.8         2"         SS5-1           6.8         4"         SS5-1           11.8         6"         SS5-4           11.8         6"         SS5-6 |
|                     | Clamp      | Photo Currently<br>Not Available | Support Clamp                                       |   | SIZE         D         C         Part Number           4         4         6         SC4           5         5         7         SC5  |

# N-Vent Specialty Pieces (6)

