Ventis Direct Vent

Installation Instructions

A MAJOR CAUSE OF CHIMNEY RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES), TO COMBUSTIBLE MATERIALS. IT IS OF THE UTMOST IMPRORTANCE THAT THIS VENTING SYSTEM BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.

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General Product Information

The quality and workmanship of *Ventis Direct Vent Pipe* is reflected in the recognition Underwriters Laboratories has given these products. The rigorous UL testing and listing requirements, is your assurance of consistent quality in materials and manufacturing standards used for this chimney system.

In addition, the industry leading warranty on *Ventis Direct Vent Pipe* is a further indication of our confidence in the quality of these products. Thank you for choosing Ventis!

The *Ventis Direct Vent Pipe* is ULC/ORD-C441 listed to 570 degrees Fahrenheit or 300 degrees Celsius in 4" (76mm) and 5" (102mm) Diameters and Listed to UL 2112 as a direct vent system for gas fired direct vent appliances.

This product must be installed by a qualified chimney or venting professional, according to these installation and maintenance instructions. Read through, and become familiar with these installation instructions before installing this product. Failure to follow these instructions may void the manufacturer's warranty and the UL listing status of this product.

Codes & Permits

The criteria for installation must be in conformance with the specifications contained in the latest version of the NFPA 211 (Standard for Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances) and local or state building codes, whichever has jurisdiction. Contact local building or fire officials about restrictions and installation inspection in your area. It may be necessary to obtain permits before installing the chimney system. ALWAYS CONTACT YOUR LOCAL BUILDING OFFICIAL OR FIRE OFFICIAL REGARDING PERMITS, RESTRICTIONS AND INSTALLATION INSPECTIONS IN YOUR AREA.

Product Applications

Ventis Direct Vent Pipe is tested and listed to UL 641/ULC/ORD-C441 for venting listed wood or corn pellet fuel fired appliances producing flue gas temperatures between 100 Celsius (212 degrees F) and 300 Celsius (570 degrees F). It is also listed to UL 2112 and ANSI Z21.EE standards for gas fired direct vent appliances.

General Specifications

Clearances

Ventis Direct Vent Pipe is listed by Underwriters Laboratories as a vent for listed pellet stoves. The minimum clearance from pellet vent to combustibles is 1" (25.4mm). Never fill any required clearance space with insulation or any other materials.

Installation Preparation

Equipment, Tools, and Hardware

Tools:	
Reciprocating Saw	Plumb Bob
Keyhole Saw	Level
Drill	Tape Measure
Hammer	Caulk Gun
Metal Snips	Screw Drivers

Equipment:
Ladder
Safety Glasses
Protective Gloves

Hardware:
Framing Nails
Roofing Nails
Silicone Sealant

Ventis Direct Vent Components (Part No.)			
Appliance Adapter (VDV-AAxx)	Attic Insulation Shield (VDV-AISxx))	Ceiling Support - Round (VDV-CSRyyxx)	Ceiling Support - Square (VDV-CSSxx)
4" to 5" Adapter (VDV-45)	5" to 4" Adapter (VDV-54)	Elbow – 45 degree (VDV-ELxx45)	Elbow - 90 degree (VDV-ELxx90)
Firestop/Radiation Shield (VDV-FSxx)	Pipe Lengths (VDV-xxyy)	Wall Support (VD-WSxx)	Siding Stand Off (VDV-SSOxx)
Wall Trim Collar (VDV-WTCxx)	Wall Pass Thru (VDV-WPTxx)	Adjustable Pipe Length (VDV-xxyySL)	Replacement Gasket (4" Pellet Gasket)
Roof Flashing – Flat (VDV-FxxF)	Roof Flashing - Pitched (VDV-Fxxvv)	Storm Collar (VDV-SCxx)	Replacement Gasket (5" Pellet Gasket)
Horizontal Cap (VDV-HCxx)	Vertical Rain Cap (VDV-VCxx)	Air Intake Adapter (VDV-APIxx)	

Note: xx=diameter; yy=length; vv=pitch

Approved Installations

Use of any parts or materials not specified in this installation manual may not provide a listed system and may void the *Ventis Direct Vent* warranty. Do not attempt to match Ventis components or pipe sections with another manufacturer's products. Do not use damaged or modified parts.

Safety Considerations

Caution: The ends of the chimney sections, edges of the cap, roof flashings, tee, and other components can be sharp! We strongly recommend the use of gloves during installation.

Direct Vent Gas Installation Examples

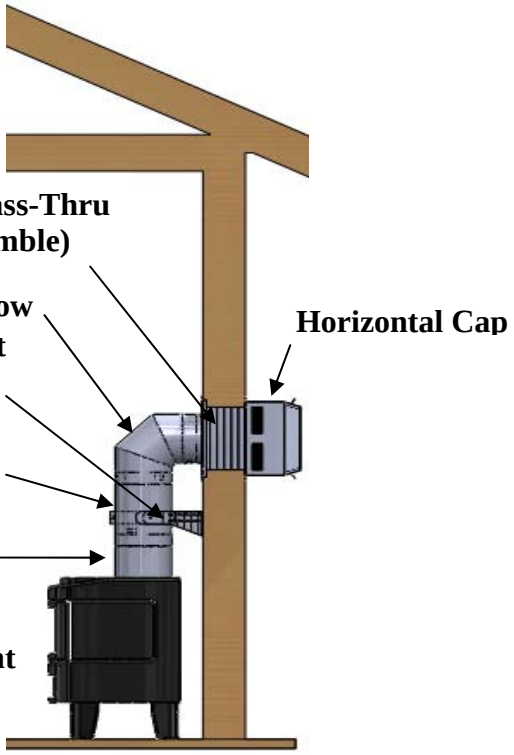


FIG. 2A
Horizontal (Up & Out)
Installation

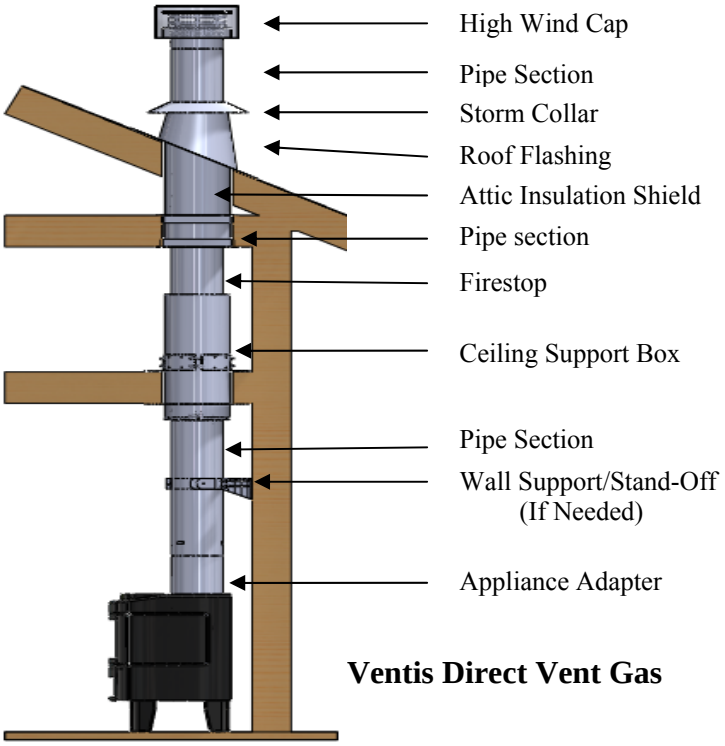


FIG. 1A
Vertical Installation

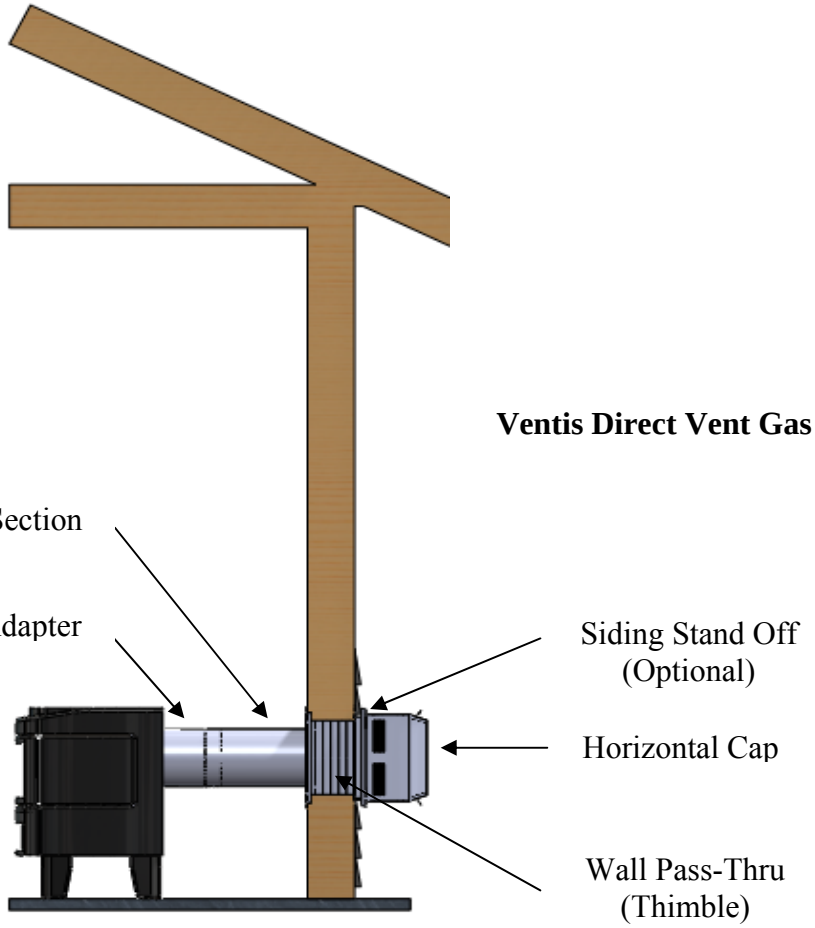


FIG. 2B
Horizontal Installation

Direct Vent Gas Installation

The Ventis Direct Vent system is designed for use only with direct vent gas fired appliances certified for use with Ventis Direct Vent, in accordance with applicable ANSI and/or CSA gas appliance standards.

General Use:

Use Ventis Direct Vent only on Direct Vent gas appliances certified for use with Ventis Direct Vent systems.

Refer to the appliance manufacturer's instructions to determine limitations regarding clearances, maximum horizontal length for the appliance, maximum height, and maximum number of joints allowed.

Ceiling Supported Installation (See Figure #1A)

Step 1- Position appliance: Locate the appliance in accordance with the appliance manufacturer's instructions and clearance/ventilation specifications. Pay particular attention to the outlet flue collar of the appliance and endeavor to position it between the rafters and joists above.

Step 2- Frame ceiling opening: Use a plumb bob from the ceiling to the center of the appliance outlet flue collar and mark this point on the ceiling above. (Refer to table 1 regarding rough framing dimensions for each Direct Vent pipe diameter). Mark the ceiling for proper rough opening and cut a hole for the appropriate ceiling support. Frame rough opening.

TABLE #1 Rough Openings	
PIPE SIZE	OPENING
4" PIPE	8-3/4" X 8-3/4""
5" PIPE	10-1/8"" X 10-1/8"

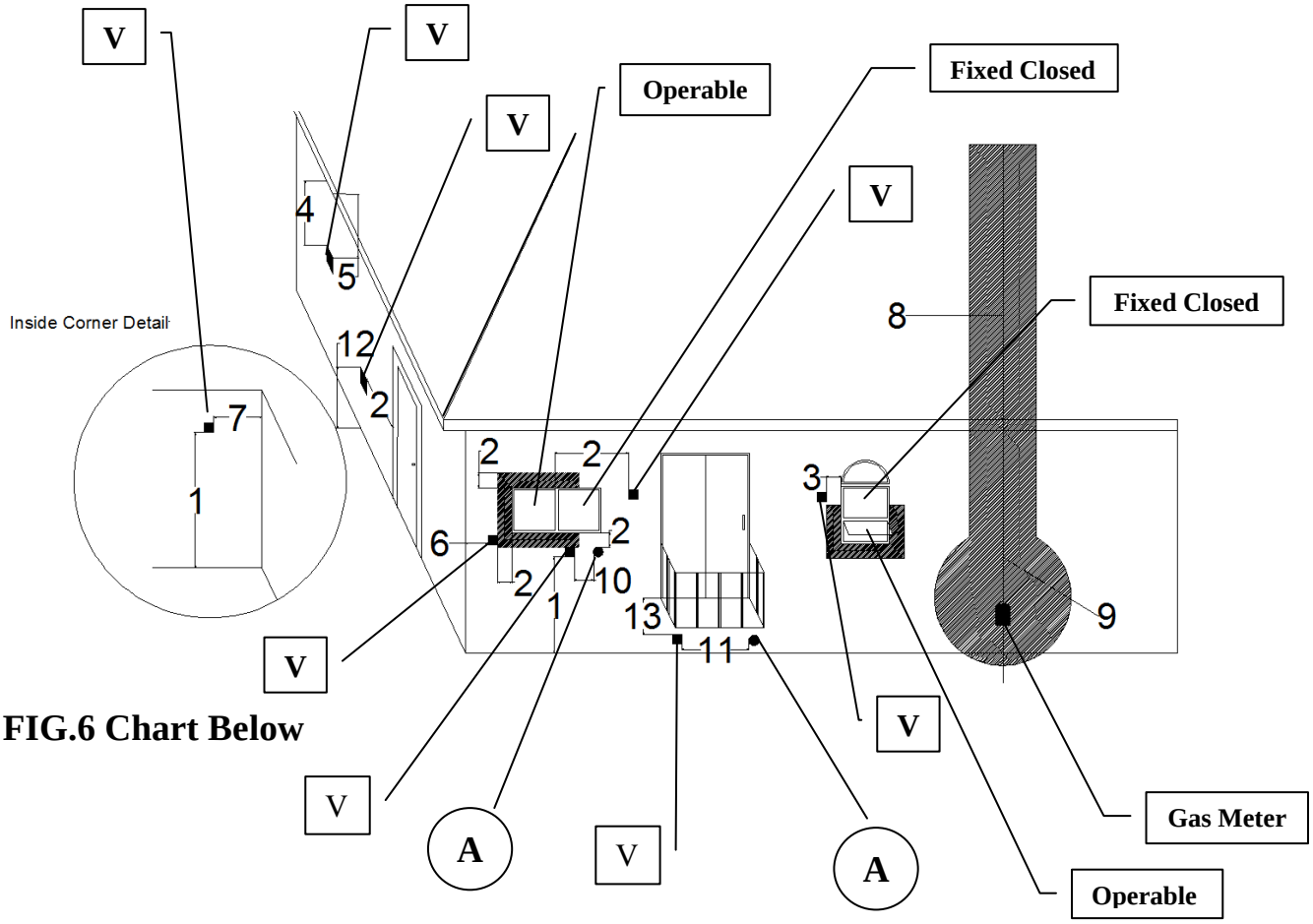
Step 3- Cathedral Ceiling support Installation: Level the ceiling support into the rough opening and secure to the framing using a minimum of three 8-penny nails or three #8 x 1 ½" wood screws per side. Secure the trim collar using screws supplied with the collar. The ceiling support must extend 3 inches into the room. In most cases, the cathedral support will extend above the roof opening. You can either trim the support to be flush with the roof, or slit the corners of the square support and fold them down flat against the roof. Nail the flaps with 1" roofing nails.

Step 4- Firestops and Attic Insulation Shields: It is significant to note that a firestop is required whenever the Direct Vent pipe penetrates a floor or ceiling. To install the firestop cut a hole in the floor/ceiling and install the firestop from above or below the joist. Fasten the firestop with four- 8-penny nails or four #8 x 1 ½" wood screws at each corner. An attic insulation shield is required any time the vent is passing through an insulated attic. An attic insulation shield is installed in the same manner as a firestop but only from the top. An aluminum collar is included with each attic insulation shield and must be installed around the pipe just above the attic insulation shield. This collar will prevent insulation from coming into contact with the Direct Vent pipe sections.

Step 5- Installing the Pipe: Place the pipe clamp (which comes taped inside of the support box) above the top of the hole on the bottom of the support box. Connect the required pipe sections to reach the appliance at a point where the cap will be at least 12" above the roof line. Place the assembled pipe sections down through the clamp of the support box and connect to the appliance with an appliance adapter. **Before installing the appliance adapter, be sure to apply high temperature silicone to the inner pipe of the appliance adapter to create a seal.** All pipe sections must be pushed together firmly until the extruded buttons on the female end of the outer pipe snap into the outer bead on the male end of the outer pipe securely. Adjust the pipe lengths until the pipe is truly vertical. Note the overall length of assembled pellet vent pipe cannot be more than 40 feet. A vent must be enclosed at the proper clearance anytime it passes through an occupied living space above the appliance.

Step 6- Completing the Top Termination: Fasten the roof support on each side using four 8-penny nails or four #8 x1 ½" wood screws. Use the pivot adjustment on the roof support to ensure the pipe is centered through the roof cutout and a minimum of a 1" clearance is maintained around the pipe. Slide the roof flashing over the chimney and place the flashing under the upper shingles and on top of the lower shingles. Nail the flashing to the roof along the upper edge and down each side with 1" roofing nails, but do not nail the lower edge. Seal the nail heads with a water proof silicone sealant. Install a storm collar (VDV-SCxx) around the pipe and slide it down to fit against the roof flashing. Caulk the joint between the chimney and the storm collar with a waterproof silicone sealant. If the vent pipe extends 5 feet or more above the roof, an extended roof brace must be used to provide lateral support. Fit the vertical cap (VDV-VCxx) to the top of the pipe and attach it.

FIG. 6
Side Wall Vent Termination Requirements



See FIG.6 Chart Below

V = Vent Termination

A =Air Inlet

= Area where termination is not permitted

FIG.6 Chart

Description	US Installations*	Canadian Installations**
1-Clearance above grade, veranda, deck, balcony or porch.	12 inches (30cm)	12 inches (30cm)
2-Clearance to door or window that can be opened.	6 inches (15cm) for appliances ≤ 10,000 Btuh (3kW), 9 inches (23cm) for appliances ≥ 10,000 Btuh (3kW) and ≤ 50,000Btuh (15kW), 12 inches (30cm) for appliances ≥ 50,000 Btuh (15kW)	6 inches (15cm) for appliances ≤ and including 10,000 Btuh (3kW), 12 inches (30cm) for appliances ≤100,000 Btuh (30kW), 36 inches (91cm) for appliances ≥ 100,000 Btuh (30kW)
3-Clearance to permanently closed window.	12 inches (30cm) recommended	12 inches (30cm) recommended
4-Vertical clearance to ventilated soffit located above the termination within a horizontal distance of 2 feet from the centerline of the termination.	18 inches (45cm)	18 inches (45cm)
5-Clearance to unvented soffit	12 inches (30cm)	12 inches (30cm)
6-Clearance to outside corner	6 inches (15cm)	6 inches (15cm)
7-Clearance to inside corner	Non-Combustible and combustible – As determined by manufacturers installation instructions	Non-Combustible and combustible – As determined by manufacturers installation instructions
8-Clearance to each side of center line extended above meter/regulator assembly	3 feet (91cm)	3 feet (91cm)
9-Clearance to service regulator vent outlet	3 Feet (91cm)	3 Feet (91cm)
10-Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance	6 inches (15cm) for appliances ≤ 10,000 Btuh (3kW), 9 inches (23cm) for appliances ≥ 10,000 Btuh (3kW) and ≤ 50,000Btuh (15kW), 12 inches (30cm) for appliances ≥ 50,000 Btuh (15kW)	6 inches (15cm) for appliances ≤ and including 10,000 Btuh (3kW), 12 inches (30cm) for appliances ≤100,000 Btuh (30kW), 36 inches (91cm) for appliances ≥ 100,000 Btuh (30kW)
11-Clearance to mechanical air supply inlet	3 Feet (91cm) above if within 10 feet (3m) horizontally	6 Feet (1.83m)
12-Clearance above paved sidewalk or paved driveway located on public property	7 Feet (2.13m)***	7 Feet (2.13m)***
13-Clearance under porch deck, balcony, or veranda	12 inches (30cm)****	12 inches (30cm)****
*-In accordance with the current ANSI Z223.1/NFPA 54 National Fuel Gas Code	**-In accordance with the current CAN/CSA-B149.1-00 Installation Codes ****-Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of 2 sides beneath the floor.	***-A vent shall not terminate directly above a paved driveway or sidewalk that is located between two single family dwellings and serves both dwellings.

Horizontal Installation (See Figure 2A & 2B)

Typical Direct Vent Gas horizontal installations are shown in Figure 2B. When selecting the location for an appliance and venting pipe it is necessary to take into account the rules of NFPA 54/ANSI Z223.1 and CAN/CSA-B149.1-00

Step 1- Position appliance: Locate the appliance in accordance with the appliance manufacturer's instructions and clearance specifications. The termination should be at least 12" above grade, remain above the snow line in geographical areas that accumulate snow, and be away from traffic areas such as walkways, if it is less than 7" high (see Figure 4). Pay particular attention to the outlet flue collar of the appliance and endeavor to position it between the wall studs. Install an appliance adapter. **Before installing the appliance adapter, be sure to apply high temperature silicone to the inner pipe of the appliance adapter to create a seal.**

Step 2- Rough Frame Wall Opening: The wall opening should be centered between two wall studs. To determine the height of the opening it is helpful to preassemble the pipe and fit to the appliance adapter. Mark the location on the wall. Cut and frame the opening. Refer to table 1 for rough opening dimensions.

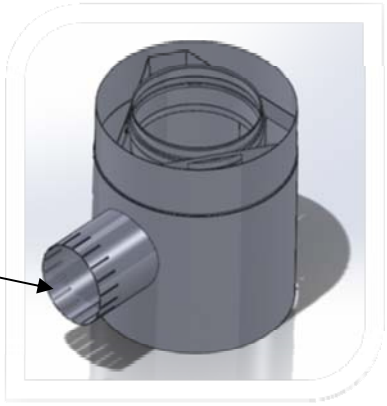
Step 3- Wall Thimble Installation: A wall thimble (VDV-WPTxx) must be used when the direct vent pipe passes through a combustible wall. The wall thimble consists of three parts: The exterior fire stop section, the adjustable extension, and the interior trim plate. Install the firestop section on the outside wall with the tube section pointing to the structure interior. It is recommended to seal the outside edges of the firestop section with a water proof silicone. Secure the fire stop section to the framing with a minimum of four 8-penny nails or four #8 x 1 ½" wood screws. From the interior, slide the adjustable extension onto the firestop section tube. Adjust the extension so that it will be flush with the interior trim plate once installed. Use a minimum of three self drilling screws to secure the adjustable extension to the firestop tube.

Step 4- Pipe Installation: Insert the first pipe section through the thimble and connect its female end to the appliance adapter. Fasten with a minimum of three #8 x ½" self drilling screws. Horizontal runs must be supported every 4 feet. All pipe sections must be pushed together firmly until the extruded buttons on the female end of the outer pipe snap into the outer bead on the male end of the outer pipe securely. Any horizontal installed pipe sections must have no less than a 1/4" slope per foot. In exterior applications when the venting system is below the roof line; the pipe may be enclosed to limit any potential condensation that may occur.

Step 5- Install Cap: Install the Horizontal Termination (VDV-HCxx) to the exterior wall using four #8 x 1-1/2" screws. If the house has vinyl siding; a siding stand-off (VDV-SSOxx) is recommended. Attached the siding stand-off to the exterior wall with four #8 x 1-1/2" screws and then secure the horizontal termination. Follow the installation instructions for the Horizontal Termination.

Pellet Instructions

Air Intake Adapter-The Air Intake Adapter comes with an inlet end that will properly connect to Ventis Direct Vent and a 3" fresh air line. This will allow the appliance to receive fresh air directly from the venting pipe.



Ceiling Supported Installation

Step 1- Position appliance: Locate the appliance in accordance with the appliance manufacturer's instructions and clearance/ventilation specifications. Pay particular attention to the outlet flue collar of the appliance and endeavor to position it between the rafters and joists above.

Step 2- Frame ceiling opening: Use a plumb bob from the ceiling to the center of the appliance outlet flue collar and mark this point on the ceiling above. (Refer to table 1 regarding rough framing dimensions for each Direct Vent pipe diameter). Mark the ceiling for proper rough opening and cut a hole for the appropriate ceiling support. Frame rough opening.

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Step 4- Firestops and Attic Insulation Shields: It is significant to note that a firestop is required whenever the pellet vent pipe penetrates a floor or ceiling. To install the firestop cut a hole in the floor/ceiling and install the firestop from above or below the joist. Fasten the firestop with four-8-penny nails or four #8 x 1 ½" wood screws at each corner. An attic insulation shield is required any time the vent is passing through an insulated attic. An attic insulation shield is installed in the same manner as a firestop but only from the top. An aluminum collar is included with each attic insulation shield and must be installed around the pipe just above the attic insulation shield. This collar will prevent insulation from coming into contact with the pipe.

Step 5- Installing the Pipe: Place the pipe clamp (which comes taped inside of the support box) above the top of the hole on the bottom of the support box. Connect the required pipe sections to reach the appliance at a point where the cap will be at least 12 inches above the roof line. Place the assembled pipe sections down through the clamp of the support box and connect to the stove with a pellet stove adapter. If fresh air is required you will need to install an Air Intake Adapter (VDV-APIxx) immediately after the Stove Adapter. Adjust the pipe lengths until the pipe is truly vertical. All pipe sections must be pushed together firmly until the extruded buttons on the female end of the outer pipe snap into the outer bead on the male end of the outer pipe securely. Note the overall length of assembled pellet vent pipe cannot be more than 40 feet. A vent must be enclosed at the proper clearance anytime it passes through an occupied living space above the appliance.

Step 6- Completing the Top Termination: Fasten the roof support on each side with four 8-penny nails or four #8 x 1 ½" wood screws. Use the pivot adjustment on the roof support to ensure the pipe is centered through the roof cutout and a minimum of a 1" clearance is maintained around the pipe. Slide the roof flashing over the chimney and place the flashing under the upper shingles and on top of the lower shingles. Nail the flashing to the roof along the upper edge and down each side with 1" roofing nails, but do not nail the lower edge. Seal the nail heads with a waterproof silicone sealant. Install a storm collar around the pipe and slide it down to fit against the roof flashing. Caulk the joint between the chimney and the storm collar with a waterproof silicone sealant. If the vent pipe extends 5 feet or more above the roof, an extended roof brace must be used to provide lateral support. Fit the cap to the top of the pipe and attach it.

Horizontal Installation

Typical Pellet Vent Horizontal installations are shown in Figure 3. When selecting the location for an appliance and venting pipe it is necessary to take into account the rules of NFPA 211

Codes: Refer to NFPA 211 for rules for the distance of exit terminal from windows and openings. The exit terminal of a mechanical draft system, other than a direct vent appliance shall be located in accordance with the following:

1. Not less than 3ft (1 meter) above any forced air inlet located within 10 feet (3 meters).
2. Not less than 4 feet below (1.2 meters), 4 feet (1.2 meters) horizontally from or 1 foot (300mm) above any door, window, or gravity air inlet into any building, and;
3. Not less than 2 feet (600mm) from an adjacent building and not less than 7 feet (2 meters) above grade when located adjacent to public walk ways.
4. Cannot be located less than 12 inches (300mm) above grade.
5. Cannot be located above a gas meter/regulator within 3 feet (900mm) horizontally of the vertical center line of the regulator.
6. Not within 6 feet (1.8 meters) of a gas service regulator vent outlet.
7. Not within 3 feet (1 meter) of a building opening, or air inlet of another appliance.

Step 1- Position appliance: Locate the appliance in accordance with the appliance manufacturer's instructions and clearance specifications. Pay particular attention to the outlet flue collar of the appliance and endeavor to position it between the wall studs. Install a stove adapter. If fresh air is required you will need to install an Air Intake Adapter (VDV-APIxx) immediately after the stove adapter.

Step 2- Rough Frame Wall Opening: The wall opening should be centered between two wall studs. To determine the height of the opening it is helpful to preassemble the pipe and fit to the stove adapter/tee. Mark the location on the wall. Cut and frame the opening. Refer to table 1 for rough opening dimensions.

Step 3- Wall Thimble Installation: A wall thimble must be used when the pellet vent pipe passes through a combustible wall. The wall thimble consists of three parts: The exterior fire stop section, the adjustable extension, and the interior trim plate. Install the firestop section on the outside wall with the tube section pointing to the structure interior. It is recommended to seal the outside edges of the fire stop section with a water proof silicone. Secure the firestop section to the framing with a minimum of four 8-penny nails or four #8 x 1 ½" wood screws. From the interior, slide the adjustable extension onto the firestop section tube. Adjust the extension so that it will be flush with the interior trim plate once installed. Use a minimum of three self drilling screws to secure the adjustable extension to the firestop tube.

Step 4- Pipe Installation: Insert the first pipe section through the thimble and connect its female end to the appliance adapter with a minimum of 3 #8 x ½" self-drilling screws. Attach sufficient pipe to extend 6" beyond the exterior wall. All pipe sections must be pushed together firmly until the extruded buttons on the female end of the outer pipe snap into the outer bead on the male end of the outer pipe securely. For pellet installations a horizontal run of pipe cannot exceed 4 feet (1200mm) in length.

Step 5- Install Cap: Follow the above listed NFPA rules for distance of exit termination from windows and openings. Attach a horizontal cap by pushing together firmly until the extruded buttons on the female end of the outer pipe snap into the outer bead on the male end of the outer pipe securely around the last section of pipe. The cap must be at least 6" from the wall.

Maintenance Instructions

This pellet vent system must be installed and serviced by a qualified chimney or venting professional. The criteria for the inspection and maintenance must be in conformance with local or state building codes, whichever has jurisdiction. It is recommended you use an inspection form and make notes that you can review with the homeowner.

Maintenance Procedures

It is important that this venting system is checked and cleaned annually. This is for the safety of the homeowner and is necessary to meet the warranty requirements of Ventis Direct Vent Pipe. During the heating season the venting system should be inspected for build-up at least once every two months. If a build-up has accumulated, it should be removed immediately to reduce the risk of a chimney fire.

To clean the venting system it is recommended to perform the following:

For Pellet Vent applications:

1. Remove the cap by loosening the clamp band (if using a vertical cap).
2. Select the proper sized plastic chimney brush to clean the chimney.
3. In some instances, proper cleaning will require removing the appliance and disassembling the connector assembly to thoroughly inspect and clean parts that cannot be reached otherwise.
4. Inspect and clean the chimney cap by either removing the 4 bolts on the cap lid or by loosening the clamp band. Spark arrestors and other screens may be necessary or required in some areas, but may be susceptible to blockage from fly ash or through freezing moisture in areas of low ambient temperature.
5. Reinstall the chimney cap.
6. Before the initial firing of the appliance, check the appliance's operating instructions for initial firing precautions.

For Direct Vent applications:

1. Check all exterior pipe and components for damage or corrosion. If found replace the part immediately.
2. Remove any termination caps and check pipe for blockages. If found clear any blockage before firing appliance.
3. Check inside of pipe for excessive moisture. Condensation can cause premature failure, or damage to the venting system. Replace any damaged parts.
4. Inspect joints for integrity. If loose tighten or replace to resolve issue.
5. Before the initial firing of the appliance, check the appliance's operating instructions for initial firing precautions.