



MULTI-FUEL PELLETT VENTING

By

**Bernard Dalsin Mfg. Co.**



BERNARD DAL SIN MFG. CO.

5205 208<sup>th</sup> St Farmington MN 55024

**L-VENT TYPE 3 "and 4"**

**Factory-built venting system for wood pellet, corn or biomass  
and low-temperature gas or liquid fuel appliances**

## **Installation and Operating Instructions**

**Read these instructions and keep them for future reference**

Contact local building or fire officials about restrictions, installation inspection, and permit that may be required in your area.

**A MAJOR CAUSE OF CHIMNEY-RELATED FIRES IS  
FAILURE TO MAINTAIN REQUIRED CLEARANCES  
(AIR SPACES) TO COMBUSTIBLE MATERIALS. IT  
IS CRITICAL THAT THIS VENT SYSTEM BE  
INTALLED ONLY IN ACCORDANCE WITH THESE  
INSTRUCTIONS.**



Listed to UL 641-2009, ULC S609-M89, and  
ULC/ORD-C441-1992, Report No. 369-P-01b-2

## **GENERAL INSTALLATION NOTES**

**Install the Bio Vent as described in these instructions. Only use parts supplied by Bernard Dalsin Mfg. Co., they will provide clearances necessary for a safe installation. Failure to do so will void the certification of this vent system.**

### **Gaskets *MUST BE* Lubricated (Soap or Vaseline)**

#### **THE MINIMUM CLEARANCE TO COMBUSTIBLE IS: 1" in USA & CANADA.**

1. The Bio Vent is intended for use with wood pellet or corn burning appliances and low temperature gas or liquid fuel burning appliances that are approved for use with type L venting systems.
2. Caulking of vent joints is not required because Bio Vent comes with factory installed silicone gaskets.
3. Maximum vent supporting height is:

<b>Vent Size:</b>	<b>3"</b>	<b>4"</b>
Ceiling Support:	45'	45'
Tee Support:	45'	45'
4. The Vent termination cap shall extend at least 12" higher than any wall or roof around the pipe.
5. When passing through ceilings and walls, only use required firestops and thimbles and make sure all combustible materials are a minimum of 1" away from the vent.
6. Do not fill the 1" air space around the vent with insulation or any other material. Insulation placed in this area could cause adjacent combustible to overheat. In unoccupied attic, a flat ceiling firestop with integrated insulation shield or an enclosure having a fire resistance rating equal to or greater than that of the floor or roof assembly should be used to avoid any contact from the insulation with the vent.
7. Never choose a vent with an inside diameter that is smaller than the appliance's outlet.

8. When exiting through the wall, make sure the local building code rules are followed for distance from windows and openings.
9. Bio Vent must be installed so easy access can be provided for inspection and cleaning.
10. Do not use chemical cleaner, they can damage the vent pipe.
11. Bernard Dalsin Mfg. is not responsible for flue by-products that might discolor roofs or walls.
12. Have your chimney cleaned at least twice per year (more based on use of the appliance) by a certified sweep or contractor. If you do it yourself, never use a stiff metallic brush; always use a plastic or flexible steel brush.

## **GENERAL INSTALLATION NOTES**

1. Always follow the appliance manufacturer's instruction carefully.
  - a. Choose an appliance that is listed by a recognized testing laboratory.
  - b. Connect only one appliance per flue.
  - c. Always maintain the appliance manufacturer's specified minimum clearances.
  - d. Choose a location that will minimize offsets to allow the appliance to vent optimally.
  - e. Do not install damaged parts.
2. The vent can be installed either vertically (see figure 1), horizontally (see figure 2), or both (see figure 3) depending on your appliance location.
3. Always use Bernard Dalsin Bio Vent wall thimble, support, or firestop and accessories to ensure proper fitting of the installation.
4. The Bio Vent can also be installed inside a masonry chimney.

# VERTICAL INSTALLATION

1. Locate appliance according to manufacturer's instruction and required clearances.
2. Drop a plumb bob over the center of the flue outlet and mark center point on the ceiling.
3. Cut and frame the holes in the floor, ceiling, and roof where the vent will pass through.  
**For 3" pipe; the framing dimensions will be 6 ½" x 6 ½"**  
**For 4" pipe; the framing dimensions will be 7 ½" x 7 ½"**
4. From above, place the support on the floor in the center of the hole. Nail it using #8-2" nails.
5. If going through an attic, install the flat ceiling firestop support kit which includes an attic insulation shield and the support. Adjust its height to the maximum possible within the space available.

Note: A decorator collar should be installed over the ceiling firestop for a more finished look.

Note: You may replace the firestop and support with the cathedral roof support if you are going through a vaulted roof.

6. Connect the appliance adaptor to the stove. If the outlet of the appliance is at the back, attach a tee before stacking up the flue sections.
7. Attach a support bracket at base of tee and secure it to a sturdy location on the wall in order to support the tee and pipe above.
8. Attach each section of pipe by pushing male and female ends of pipe together until it bottoms out. (up to indent on outer shell).
9. Install three screws at each section of the pipe. Only install screws at the top ½" section of pipe. **(Never put screws below ½" as you will pierce the pipe.)**  
**Note: Use only 1/4" screws provided and never use screws that are long enough to pierce the inner section of pipe.**
10. When pipe passes through fire-stop and support at ceiling, install and tighten a support clamp around the vent, then secure it by using (3) ¼" long metal screws through the collar and into the vent casing. Be sure the screw does not penetrate into the inner flue.

**11.** Stack the sections until the required vent height is reached.

Note: If elbows are needed, a wall strap must be installed over the deviation.

**12.** At each floor or ceiling through which the vent passes, install a fire-stop and support clamp below the floor.

**13.** If you are building a chase whereby enclosing the vent run; a chasing box will need to be installed to provide cooling at the base and top of the chase. (See pages 13 & 14.)

**14.** Put the roof flashing in place.

Note: Nail the flashing to the roof using roofing nails.

Seal the joint between the roof and flashing with roof caulking or appropriate material.

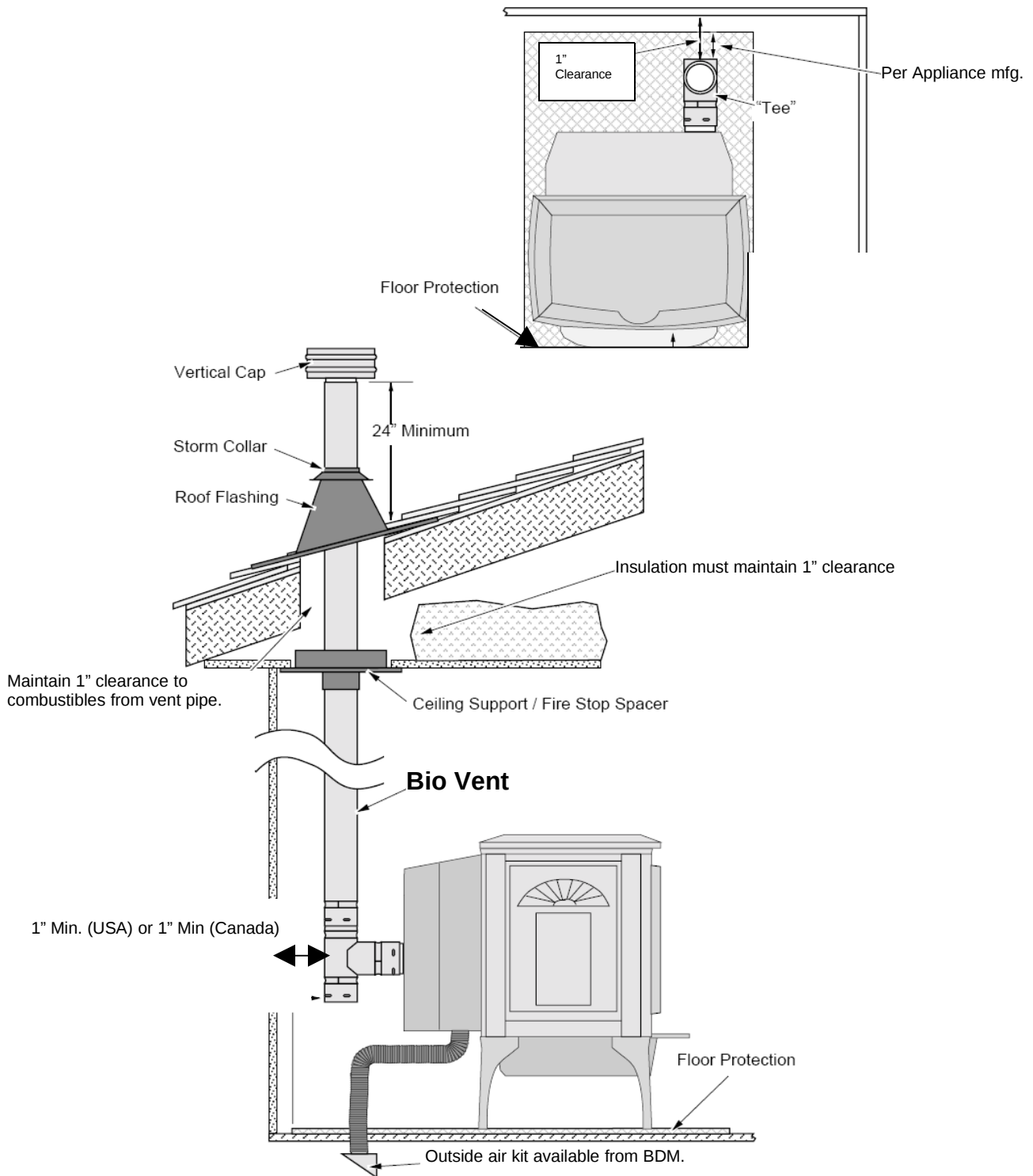
**15.** For pitched roofs, place the flashing under the upper shingles and on top of the lower shingles.

**16.** Place the storm collar over the vent pipe and the flashing.

Seal the joint between the vent and collar with silicon caulking

**17.** Fit the vertical termination cap to the top of the vent. Secure it by pushing it down on the vent until it snaps in place. Secure with three ¼" metal screws.

## Installation Example: Interior Vertical Installation



# HORIZONTAL INSTALLATION

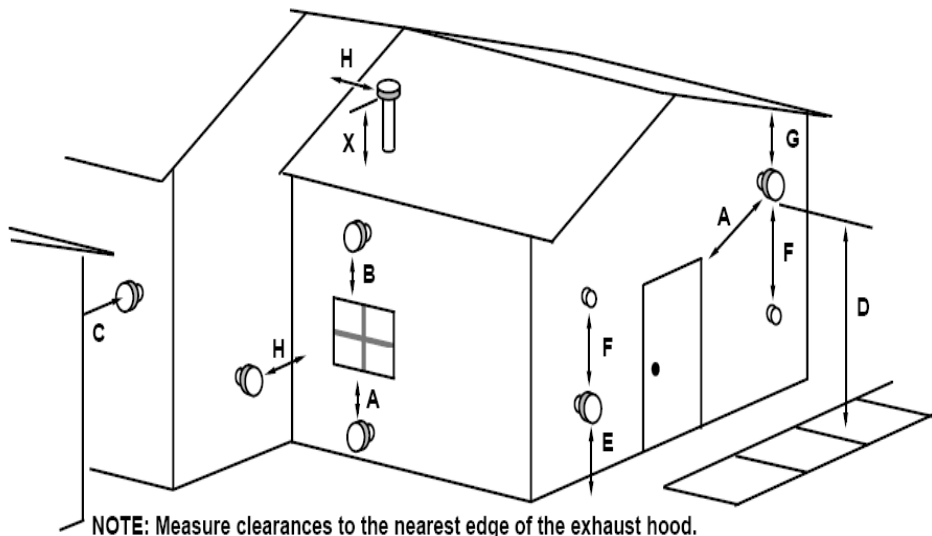
1. Locate your appliance according to manufacturer's instruction and clearance requirements.

Be sure to abide by your local building code regulations for minimum distance of flue exhaust from windows and openings.

In absence of overriding local requirement, use the following rules as depicted in figure 5.0.

## **Pellet Vent Termination**

- Vent must terminate on the exterior of the dwelling. Horizontal terminations must protrude a minimum of 12" (305 mm) from the wall. Vertical terminations must protrude a minimum of 24" (610 mm) from the roof surface. In addition, all clearances listed below must be met.
- Must have an approved cap (to prevent water from entering) or a 45° downturn with a rodent screen.
- If the termination is located on a windy side of the house, an approved house shield is recommended to prevent soot from building on the side of the house.
- Must not be located where it will become plugged by snow or other material.
- **WARNING: Side wall venting shall not exceed 48" (1200 mm).**



### **Minimum Clearances**

- A. 4 ft (1220 mm) below or beside any door or window that opens.  
1 ft (305 mm) below or beside any window that does not open.
- B. 1 ft (305 mm) above any door or window that opens.
- C. 39.5 inches (1 m) from any adjacent building.
- D. 7 ft (2.134 m) above any grade when adjacent to public walkways.

**NOTE:** Vent may not terminate in a covered walkway or breezeway.

- E. 2 ft (610 mm) above any grass, plants or other combustible materials.
- F. 5 ft 10 in (1.8 m) from any forced-air intake of any other appliance.
- G. 5 ft 10 in (1.8 m) from a gas service regulator vent outlet.
- H. 2 ft (610 mm) below eaves or overhangs.
- I. 1 ft (305 mm) horizontally from a combustible wall.
- J. 1 ft (300 mm) above grade.
- X. Must be a minimum of 2 ft (610 mm) above the roof.

## **HORIZONTAL INSTALLATION (con't)**

2. Cut and frame a hole in the wall, where the vent will pass through  
 Note: **For required 1" clearance a 6 ½" x 6 ½" square hole must be cut and framed when using 3" Bio Vent pipe. A 7 ½" x 7 ½" square hole must be cut and framed when using 4" Bio Vent pipe.**
3. Install the wall Thimble by bending the tabs according to required clearance.  
 Note: The wall thimble interior and exterior sleeves must always overlap at least 1" when going through a combustible wall. Extensions are available or can be made in the field.
4. Seal the joint between the wall thimble and the outside wall with silicone caulking.
5. Install the decorator collar to the interior wall with supplied screws.
6. Install the exterior wall flashing to the exterior wall. Caulk around perimeter of flashing.
7. Connect the first piece of pipe (or appliance adaptor if necessary) to the back of the stove and attach sufficient pipe to penetrate wall thimble and extend at least 12" (recommended but not required) beyond exterior wall.
8. Fit the horizontal termination cap to the end of the Bio Vent and secure it tightly in place by pushing it down until it bottoms out. Secure with three ¼" metal screws. (Screws are not required)

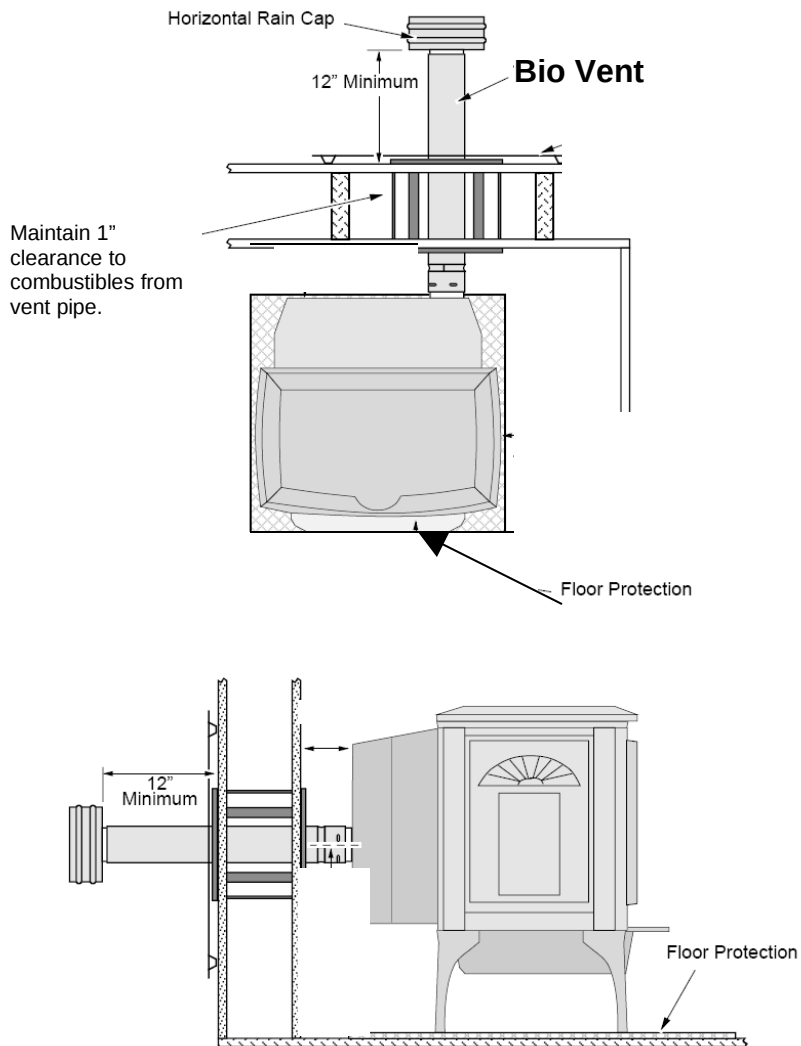
Note: When using standard horizontal termination or 45 degree horizontal cap always make sure the base of the cap is at a minimum of 12" (recommended but not required) away from the exterior of the house. The 45 degree cap must be pointed in a downward direction.



Rain Cap Removal:  
Remove the three 1/4" sheet metal screws. Then lift the rain cap off of the pipe.

***Installation Example: Direct "Through-the-wall" Installation***

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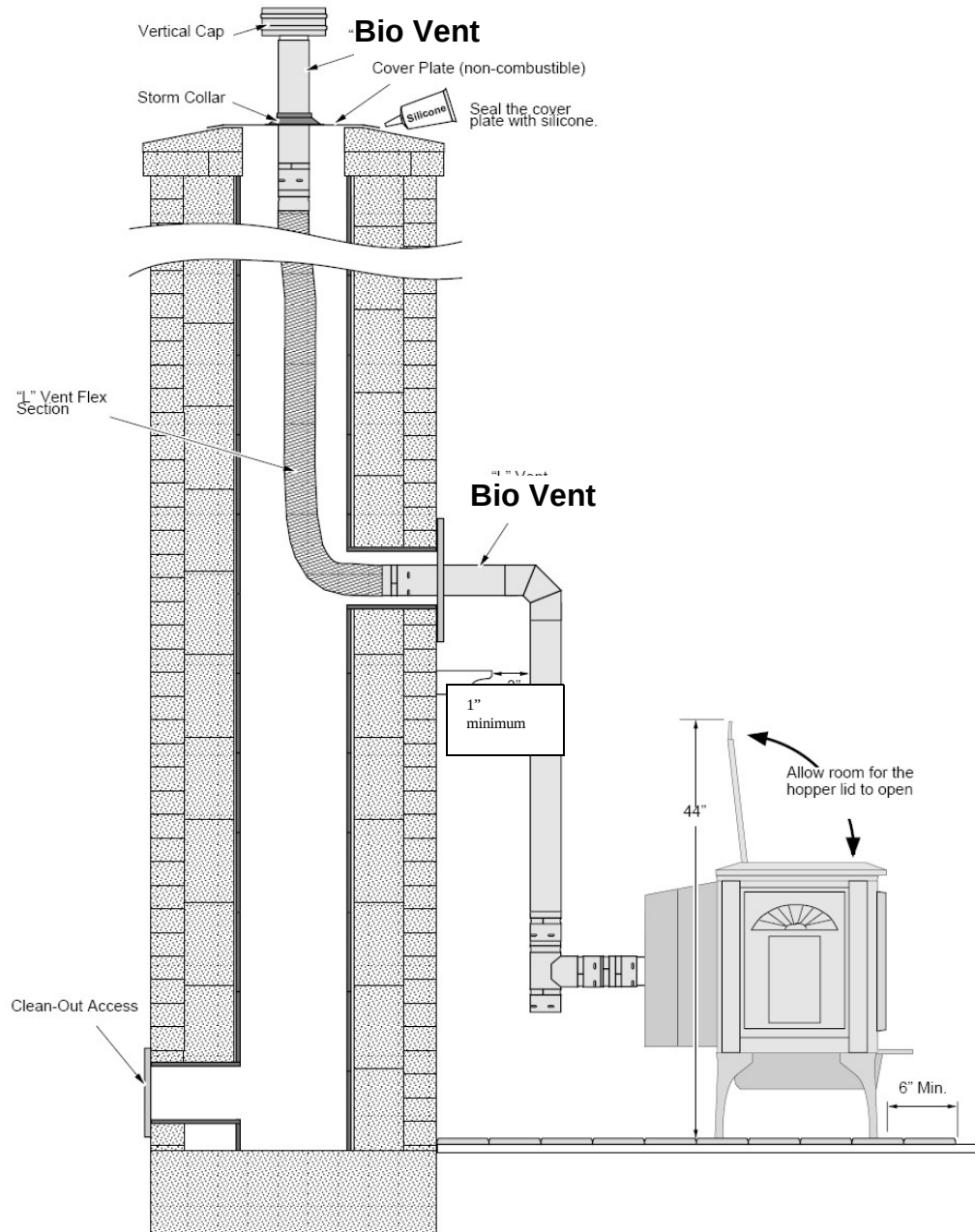
## **MASONRY INSTALLATION**

1. Have your masonry chimney inspected by a qualified chimney sweep or installer to determine its condition.
2. Determine the length of rigid sections needed (subtract 2" per joint). Note that the flexible pipe is ordered to length. See BDM catalog for Stainless Steel Flex liner.
3. Install the appropriate size support plate on top of the masonry chimney with masonry anchor bolts.
4. Assemble the first piece of rigid Bio Vent section to the flex pipe. Lowering the assembly in the chimney, connect the remaining sections until the desired length is reached.
5. Use stainless steel ¼" long sheet metal screws to attach Bio Vent to the flex liner. Be careful not to penetrate the inner flue liner of the Bio Vent.

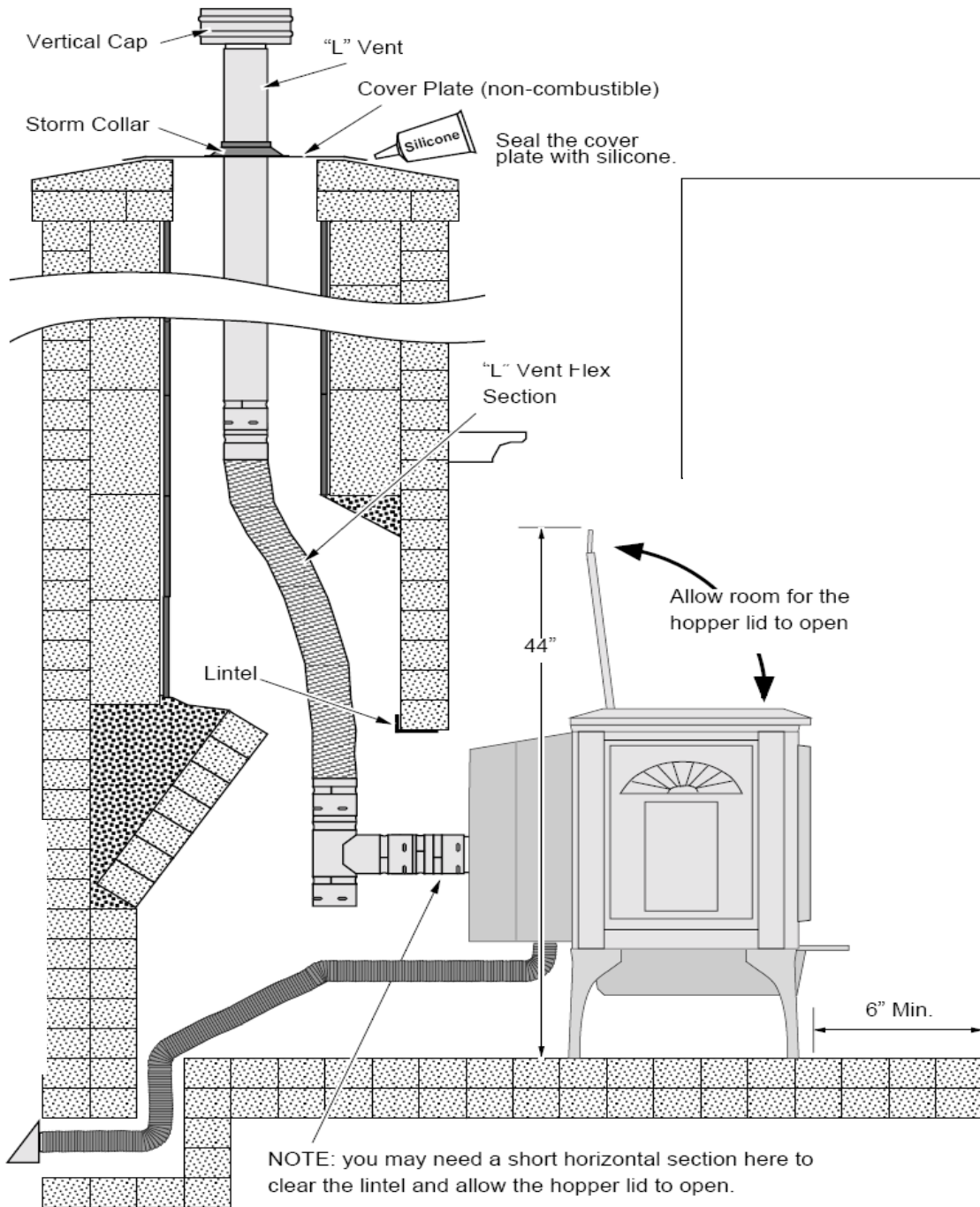
**Note: The flex liner can only be used inside the masonry chimney.**

- a. Assemble and tighten the support clamp just above the support plate collar letting it rest on the collar for support. Install a storm collar above the support clamp.
- b. Install the vertical termination cap to the last section of pipe by pushing down on the cap until it snaps into place. Secure with three ¼" stainless steel sheet metal screws. Be careful not to penetrate the inner flue of the vent.
- c. Connect the flex pipe to the Tee or the stove.

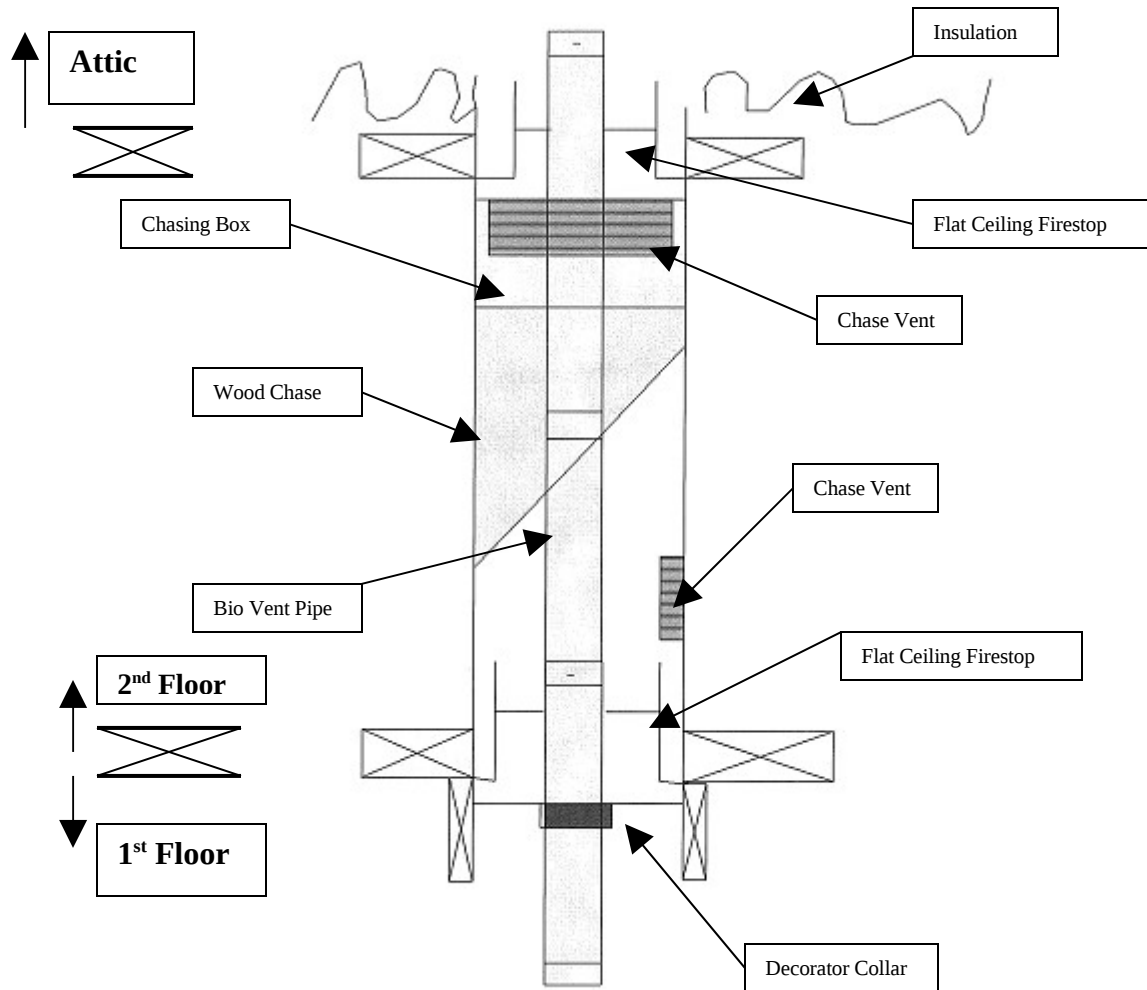
## Installation Example: Freestanding Masonry Chimney



## Installation Example: Masonry Chimney



## Constructing a chase for multi-floor installation



Chase Construction and Framing Dimensions:

	I.D. of Chase	O.D. of Chase	Framing Dimensions
<b>3" Bio Vent Pipe</b>	6 ½" x 6 ½" min.	7 ½" x 7 ½"	6 ½" x 6 ½"
<b>4" Bio Vent Pipe</b>	7 ½" x 7 ½" min.	8 ½" x 8 ½"	7 ½" x 7 ½"

## Constructing a chase for multi-floor installation

1. Using a plumb bob mark the location where the center of the pipe will pass through each floor and ceiling.
2. At 1<sup>st</sup> floor ceiling cut and frame a 6 ½” x 6 ½” or 7 ½” x 7 ½” hole depending upon either 3” or 4” pipe respectively.
3. Install a flat ceiling firestop and support clamp securing to the required framing above.
4. Install a decorator collar over the installed flat ceiling firestop.
5. Run the Bio Vent pipe from the stove up through the first floor and firestop assembly.
6. At 2<sup>nd</sup> floor ceiling cut and frame a 6 ½” x 6 ½” or 7 ½” x 7 ½” hole depending upon either 3” or 4” pipe respectively.
7. Install a flat ceiling firestop and support clamp securing to the required framing above.
8. Install a chasing box directly below the flat ceiling firestop and screw to required framing.
9. Connect the required sections of Bio Vent Pipe until you have run through the 2<sup>nd</sup> floor flat ceiling firestop assembly.
10. With ½” x ½” sheet rock, construct a chase (with I.D. and O.D. requirements listed on previous page); while insuring that the pipe is centered within the chase. Construct the chase from floor to ceiling and around firestop assemblies. Always maintain at least 1” clearance between pipe and chase material. Construct chase of materials allowed by national, state, and local codes.
11. Cut a 5” W x 4” H hole at the base of chase and install a chase vent directly over cut hole.
12. Cut a 5” W x 4” H hole at top of chase directly over the 5” x 4” hole in the previously installed chasing box assembly.
13. Install a chase vent over the hole cut at top of chase.
14. continue to install Bio Vent pipe sections in attic and out roof following the procedures described in vertical installation on pages 4 through 6.

# BIO VENT

## By

### Bernard Dalsin Mfg. Co.

PART #	DESCRIPTION
71010603	3" X 6" BIO VENT PIPE
71010603B	3" X 6" BIO VENT PIPE BLACK
71010604	4" X 6" BIO VENT PIPE
71010604B	4" X 6" BIO VENT PIPE BLACK
71011203	3" X 12" BIO VENT PIPE
71011203B	3" X 12" BIO VENT PIPE BLACK
71011204	4" X 12" BIO VENT PIPE
71011204B	4" X 12" BIO VENT PIPE BLACK
71011803	3" X 18" BIO VENT PIPE
71011803B	3" X 18" BIO VENT PIPE BLACK
71011803SS	3" X 18" BIO VENT PIPE (ALL S.S.)
71011804	4" X 18" BIO VENT PIPE
71011804B	4" X 18" BIO VENT PIPE BLACK
71011804SS	4" X 18" BIO VENT PIPE (ALL S.S.)
71012403	3" X 24" BIO VENT PIPE
71012403B	3" X 24" BIO VENT PIPE BLACK
71012404	4" X 24" BIO VENT PIPE
71012404B	4" X 24" BIO VENT PIPE BLACK
71013603	3" X 36" BIO VENT PIPE
71013603B	3" X 36" BIO VENT PIPE BLACK
71013604	4" X 36" BIO VENT PIPE
71013604B	4" X 36" BIO VENT PIPE BLACK
71011103	3" X 3"-10" BIO VENT SLIP JOINT
71011103B	3" X 3"-10" BIO VENT SLIP JOINT BLACK
71011104	4" X 3"-10" BIO VENT SLIP JOINT
71011104B	4" X 3"-10" BIO VENT SLIP JOINT BLACK
71024503	3" 45 DEG BIO VENT 1 PC ELBOW
71024503B	3" 45 DEG BIO VENT 1 PC ELBOW BLACK
71024504	4" 45 DEG BIO VENT 1 PC ELBOW
71024504B	4" 45 DEG BIO VENT 1 PC ELBOW BLACK
71029003	3" 90 DEG BIO VENT 1 PC ELBOW
71029003B	3" 90 DEG BIO VENT 1 PC ELBOW BLACK
71029004	4" 90 DEG BIO VENT 1 PC ELBOW
71029004B	4" 90 DEG BIO VENT 1 PC ELBOW BLACK
71040103	3" VERTICAL BIO VENT CAP
71040104	4" VERTICAL BIO VENT CAP
71030203	3" HORIZONTAL BIO VENT JET CAP
71030204	4" HORIZONTAL BIO VENT JET CAP
71030103	3" HORIZONTAL BIO VENT TERM CAP
71030104	4" HORIZONTAL BIO VENT TERM CAP
71050303	3" X 3" BIO VENT TEE W/ END CAP
71050303B	3" X 3" BIO VENT TEE BLACK W/ END CAP
71050304	4" BIO VENT TEE W 3" BRANCH W/ END CAP
71050304B	4" BIO VENT TEE W 3" BRANCH BLACK W/ END CAP
71050404	4" X 4" BIO VENT TEE W/ END CAP
71050404B	4" X 4" BIO VENT TEE BLACK W/ END CAP
71050303ST	3" X 3" BIO VENT STARTER TEE W/ END CAP
71050303STB	3" X 3" BIO VENT STARTER TEE BLACK W/ END CAP
71050304ST	4" BIO VENT STARTER TEE W 3" BRANCH W/ END CAP
71050304STB	4" BIO VENT STARTER TEE W 3" BRANCH BLACK W/ END CAP
71050404ST	4" X 4" BIO VENT STARTER TEE W/ END CAP
71050404STB	4" X 4" BIO VENT STARTER TEE BLACK W/ END CAP
71050303DT	3" X 3" BIO VENT DOUBLE TEE W/ 2 END CAPS
71050303DTB	3" X 3" BIO VENT DOUBLE BLACK TEE W/ 2 END CAPS
71050304DT	3" X 4" BIO VENT DOUBLE TEE W/ 2 END CAPS

<b>71050304DTB</b>	3" X 3" BIO VENT DOUBLE BLACK TEE W/ 2 END CAPS
<b>71050404DT</b>	4" X 4" BIO VENT DOUBLE TEE W/ 2 END CAPS
<b>71050404DTB</b>	4" X 4" BIO VENT DOUBLE BLACK TEE W/ 2 END CAPS
<b>71060003</b>	3" BIO VENT END CAP
<b>71060004</b>	4" BIO VENT END CAP
<b>71090304</b>	3" TO 4" APPLIANCE ADAPTOR/INCREASER BIO VENT
<b>71090304B</b>	3" TO 4" APPLIANCE ADAPTOR/INCREASER BLACK BIO VENT
<b>71080003</b>	3" BIO VENT APPLIANCE ADAPTOR
<b>71080003B</b>	3" BIO VENT APPLIANCE ADAPTOR W GASKET BLACK
<b>71080004</b>	4" BIO VENT APPLIANCE ADAPTOR W GASKET
<b>71080004B</b>	4" BIO VENT APPLIANCE ADAPTOR W GASKET BLACK
<b>71081003</b>	3" BIO VENT APPLIANCE COLLAR EXTENSION
<b>71091303</b>	3" TO 3" FLEX TO PIPE ADAPTOR/INCREASER BIO VENT
<b>71091304</b>	3" TO 4" FLEX TO PIPE ADAPTOR/INCREASER BIO VENT
<b>71091404</b>	4" TO 4" FLEX TO PIPE ADAPTOR/INCREASER BIO VENT
<b>71094303</b>	3" TO 3" PIPE TO FLEX ADAPTOR/INCREASER BIO VENT
<b>71094304</b>	3" TO 4" PIPE TO FLEX ADAPTOR/INCREASER BIO VENT
<b>71094404</b>	4" TO 4" PIPE TO FLEX ADAPTOR/INCREASER BIO VENT
<b>71092603</b>	3" TO 6" CLASS "A" PIPE ADAPTOR/INCREASER / MASONRY ADAPTOR BIO VENT
<b>71092604</b>	4" TO 6" CLASS "A" PIPE ADAPTOR/INCREASER / MASONRY ADAPTOR BIO VENT
<b>71092803</b>	3" TO 8" CLASS "A" PIPE ADAPTOR/INCREASER BIO VENT
<b>71092804</b>	4" TO 8" CLASS "A" PIPE ADAPTOR/INCREASER BIO VENT
<b>71080003HS</b>	3" HARMAN STOVE APPLIANCE ADAPTOR
<b>71080003BHS</b>	3" HARMAN STOVE APPLIANCE ADAPTOR BLACK
<b>71080004TRV</b>	4" BIO VENT TRAVIS APPLIANCE ADAPTOR W/ GASKET
<b>71080004TRVB</b>	4" BIO VENT TRAVIS APPLIANCE ADAPTOR W/ GASKET BLACK
<b>71080003ETB</b>	3" ECOTECK BIO VENT APPLIANCE ADAPTOR W/ GASKET BLACK
<b>71080003STETB</b>	3"X3" ECOTECK BIO VENT STARTER TEE BLACK W/ END CAP
<b>71121203</b>	3" BIO VENT OUTSIDE SS WALL FLASHING W GASKET 3" CLEARANCE
<b>71121204</b>	4" BIO VENT OUTSIDE SS WALL FLASHING W GASKET 3" CLEARANCE
<b>71201203</b>	3" BIO VENT FLAT CEILING FIRESTOP SUPPORT 3" CLEARANCE
<b>71201204</b>	4" BIO VENT FLAT CEILING FIRESTOP SUPPORT 3" CLEARANCE
<b>71210003</b>	3" VERTICAL SUPPORT CLAMP
<b>71210004</b>	4" VERTICAL SUPPORT CLAMP
<b>712603KT</b>	3" BIO VENT CATHEDRAL SUPPORT KIT
<b>712604KT</b>	4" BIO VENT CATHEDRAL SUPPORT KIT
<b>71101203</b>	3" TELESCOPING WALL THIMBLE 3" CLEARANCE BIO VENT
<b>71101204</b>	4" TELESCOPING WALL THIMBLE 3" CLEARANCE BIO VENT
<b>71111203</b>	3" INSIDE DECORATOR CLR BLACK W GASKET 3" CLEARANCE BIO VENT
<b>71111204</b>	4" INSIDE DECORATOR CLR BLACK W GASKET 3" CLEARANCE BIO VENT
<b>71220103</b>	3" GALVANIZED ADJUSTABLE WALL STRAP
<b>71220104</b>	4" GALVANIZED ADJUSTABLE WALL STRAP
<b>71440203</b>	3" X 24" BIO VENT DELUXE TERMINATOR W 2" COLLAR
<b>71440204</b>	4" X 24" BIO VENT DELUXE TERMINATOR W 2" COLLAR
<b>71440303</b>	3" X 24" BIO VENT DELUXE TERMINATOR W 3" COLLAR
<b>71440304</b>	4" X 24" BIO VENT DELUXE TERMINATOR W 3" COLLAR
<b>71450002</b>	2" BIO VENT FRESH AIR INTAKE KIT
<b>71450003</b>	3" BIO VENT FRESH AIR INTAKE KIT
<b>95270225</b>	2" X 25' ALUMINUM FLEX ONLY W/O ENDS
<b>9550030445</b>	3" x 45' ALUMINUM INSULATED FLEX
<b>9550040545</b>	4" X 45' ALUMINUM INSULATED FLEX
<b>711403KT</b>	3" BIO VENT WALL VENT KIT 3" CLEARANCE
<b>711404KT</b>	4" BIO VENT WALL VENT KIT 3" CLEARANCE
<b>713003KT</b>	3" BIO VENT FLAT CEILING VENT KIT
<b>713004KT</b>	4" BIO VENT FLAT CEILING VENT KIT
<b>71410104</b>	3" BIO VENT ADJUSTABLE FLASHING & STORM COLLAR KIT
<b>71410105</b>	4" BIO VENT ADJUSTABLE FLASHING & STORM COLLAR KIT
<b>71400103</b>	3" BIO VENT GASKET
<b>71400104</b>	3" BIO VENT GASKET
<b>71400201</b>	BIO VENT TOUCH-UP PAINT