

## C. Venting & Use of Elbows

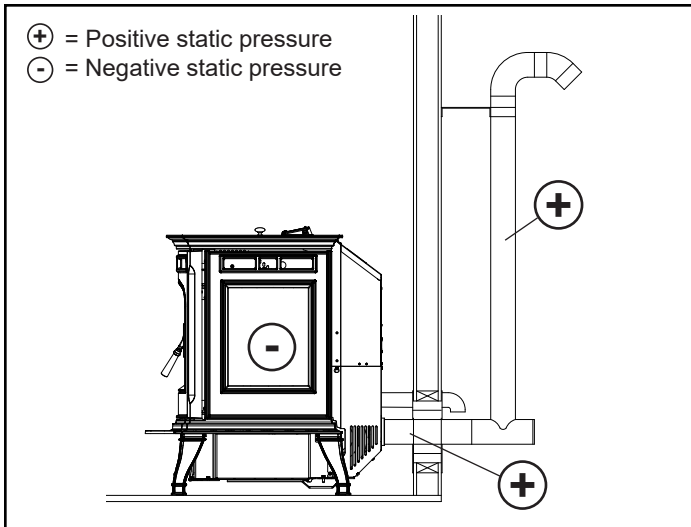


Figure 4.13

Harman pellet stoves depend on a combustion fan to pull air through the unit for combustion. The venting system restricts the ability of the combustion fan to move the required amount of air through the unit. A system with too much resistance will result in incomplete combustion, more frequent required cleaning and poor unit performance. It is always best to choose a location for the appliance that will result in a venting system with the shortest equivalent vent length (EVL).

It is best to have your venting system designed by a Harman authorized dealer before you finalize your purchase of an appliance.

**Equivalent Vent Length:** *The equivalent vent length for common pellet vent components are:*

- 90° Elbows or Tee: 5 EVL Units
- 45° elbow: 3 EVL Units
- Vertical Pipe or Liner: ½ EVL Unit
- Horizontal Pipe or liner: 1 EVL Unit

**The total allowable equivalent vent length is:**

- 20 EVL for 3" pellet vent pipe or liner.
- 30 EVL for 4" pellet vent pipe or liner.

Due to the potential for fly ash accumulation in horizontal venting sections, the maximum permissible horizontal venting length is:

- 4 ft. for 3" & 4" pellet vent pipe.

### Example: First Floor Installation

A unit is to be installed using 3" Pellet Vent Pipe with 3 feet of horizontal pipe, a Tee, 10 feet of vertical pipe, a 90° elbow and a termination cap.

**The equivalent vent length is:**

|                                       |                 |
|---------------------------------------|-----------------|
| 3 ft. of Horizontal Pipe (1 x 3 EVL)  | = 3 EVL         |
| 90° Elbow or Tee (1 x EVL)            | = 5 EVL         |
| 10 ft. of Vertical Pipe (10 x .5 EVL) | = 5 EVL         |
| 90° Elbow or Tee (1 x EVL)            | = 5 EVL         |
| Termination Cap                       | = 0 EVL         |
| <b>Equivalent Vent Length</b>         | <b>= 18 EVL</b> |

In the example system detailed above, the EVL was 18 which is less than the maximum of 20 EVL for 3" pellet vent pipe, thus this is a satisfactory venting configuration.

### Example: Connection to Masonry Chimney

A unit is to be installed using 3" Pellet Vent Pipe with 2 feet of horizontal pipe, a Tee, 4 feet of vertical pipe, an elbow, a Tee, 21 feet of vertical liner, and a termination cap.

**The equivalent vent length is:**

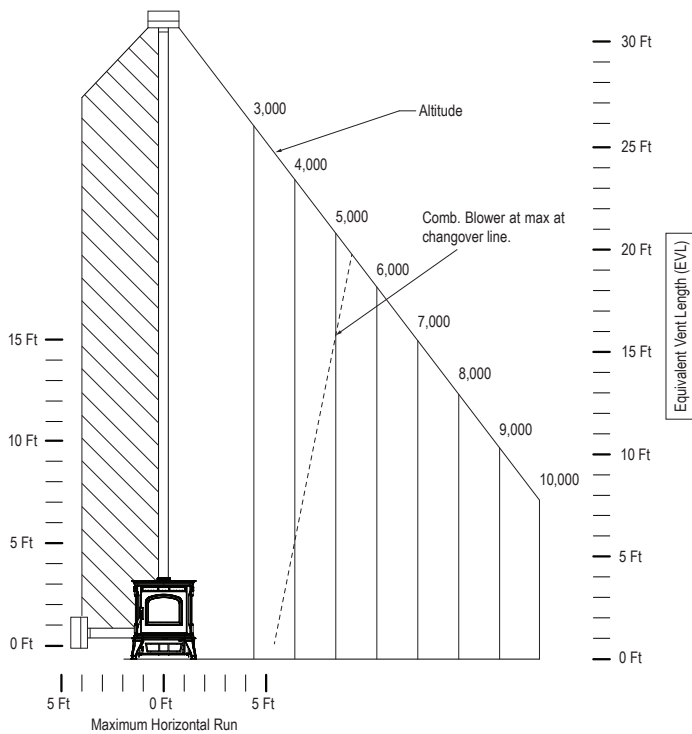
|                                        |                   |
|----------------------------------------|-------------------|
| 2 ft. of Horizontal Pipe (1 x 2 EVL)   | = 2 EVL           |
| 90° Tee (1 x 5 EVL)                    | = 5 EVL           |
| 4 ft. of Vertical Pipe (4 x .5 EVL)    | = 2 EVL           |
| 90° Elbow (1 x 5 EVL)                  | = 5 EVL           |
| 90° Tee (1 x 5 EVL)                    | = 5 EVL           |
| 21 ft. of Vertical Liner (21 x .5 EVL) | = 10.5 EVL        |
| Termination Cap                        | = 0 EVL           |
| <b>Equivalent Vent Length</b>          | <b>= 29.5 EVL</b> |

In the example system detailed above, the EVL was 29.5 which exceeds the maximum of 20 ft. for 3" pellet vent pipe, thus 3" vent pipe should not be used in this installation. However, since 4" pipe can support an EVL up to 30, the use of 4" pipe would create a satisfactory installation.

## C. Venting & Use of Elbows *continued*

**Note:** When the amount of vertical pellet vent pipe in the system exceeds 15 feet, 4" pellet vent pipe should be used.

**Note:** Equivalent Venting Length decreases as altitude increases.



### Example:

A unit with an EVL of 13, is to be installed at an altitude of 3,000 feet above sea level.

From the chart to the left, at 3,000 feet of altitude, the maximum permissible equivalent venting length is 26 feet.

However, if the same unit (EVL 13) was to be installed an altitude of 9,000 feet above sea level, the installation would no longer be acceptable and the equivalent vent length of the pipe would have to be reduced for proper unit operation.

- Long runs of flex or PL vent pipe installed directly vertical from the flue stub may require more frequent cleaning due to fly ash falling off inside and collecting directly above the combustion blower outlet.
- 4" stainless steel flex vent piping is only allowed for use in masonry fireplaces and chimneys or factory built wood-burning fireplaces with Class A metal chimneys.
- All pellet vent pipe must be secured together either by means provided by the pipe manufacturer or by 3 screws at each joint.
- Use only the specified venting components. Use of any other components will void the product warranty and may pose a hazard.
- Do Not Install a Flue Damper In The Exhaust Venting System of This Appliance.
- DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.
- Simpson DuraVent PelletVent Pro Harman®Adapter Part #3PVP-ADHB and PelletVent Pro Harman®Adapter Increaser Part #3PVPX4ADHB are highly recommended to be installed on the starter collar to insure a proper pipe connection to the unit.
- **INSTALL VENT AT CLEARANCES SPECIFIED BY THE VENT MANUFACTURER.**
- Use silicone to create an effective vapor barrier at the location where the chimney or outside air ducting passes through to the exterior of the structure.

## D. Outside Air

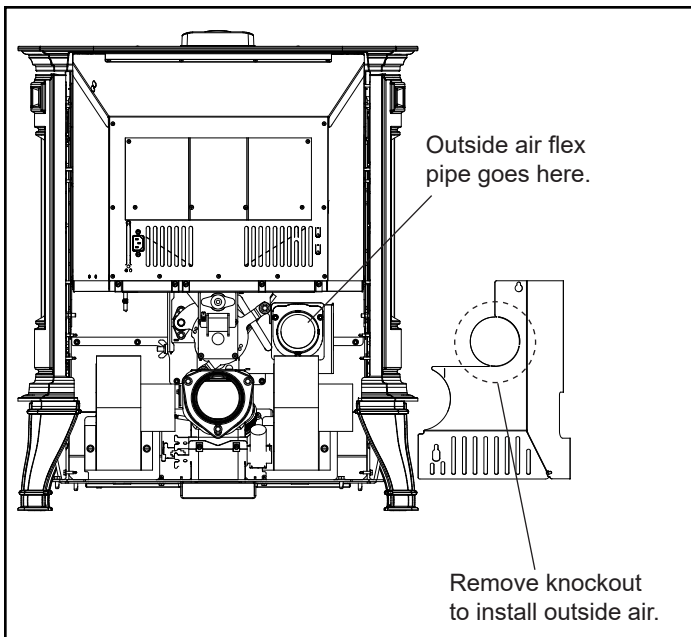


Figure 4.14

### Termination Cap Part# 1-10-09542

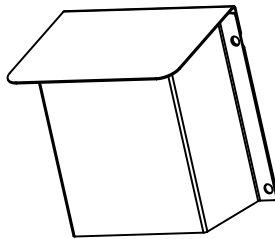


Figure 4.15

### Direct Vent Wall Pass-through Kit Part #1-00-677177

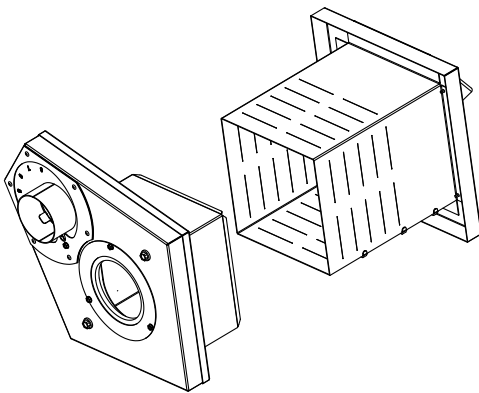


Figure 4.16

## Outside Air:

**Hearth & Home Technologies recommend attaching outside air in all installations, especially lower level and main floor locations.**

Per national building codes, consideration must be given to combustion air supply to all combustion appliances. Failure to supply adequate combustion air for all appliance demands, may lead to back-drafting of those and other appliances.

When the appliance is side-wall vented: The air intake is best located on the same exterior wall as the exhaust vent outlet and located lower on the wall than the exhaust vent outlet.

When the appliance is roof vented: The air intake is best located on the exterior wall oriented towards the prevailing wind direction during the heating season.

The outside air connection will supply the demands of the pellet appliance, but consideration must be given to the total house demand. House demand may consume some air needed for the stove, especially during a power failure. It may be necessary to add additional ventilation to the space in which the pellet appliance is located. Consult with your local HVAC professional to determine the ventilation demands for your house.

To install outside air use 3" non-combustible flex pipe. There is a break-away hole on the rear panel of the Absolute63 stove which must be removed before connecting the flex pipe, Figure 4.14. The pipe should be run outside and terminate to the side or below the vent pipe outlet so the flue outlet is more than 12" from the inlet cover. The Termination Cap should be used to keep birds, rodents, etc. out of the pipe, Figure 4.15.

You may choose to use the optional Direct Vent Wall Pass-through Kit which incorporates the venting pass-through and outside air inlet into one component, Figure 4.16.