

Top / Rear Outlet

This unit is shipped with a top outlet collar which is field-convertible to rear outlet—see page 21 for details.

Vent Material

This unit is approved for installation using 4 by 6-5/8 inches co-axial direct vent pipe and accessories—see list of approved venting pipes and accessories on pages 37–38.

This unit may also be converted to co-linear (two 3 inches) venting (**rear vent only**) for use in solid-fuel burning fireplaces and chimneys using adapters and accessories—see list of approved venting pipes and accessories on pages 37–38. Instructions for co-linear conversion are packaged with the co-linear adapter.

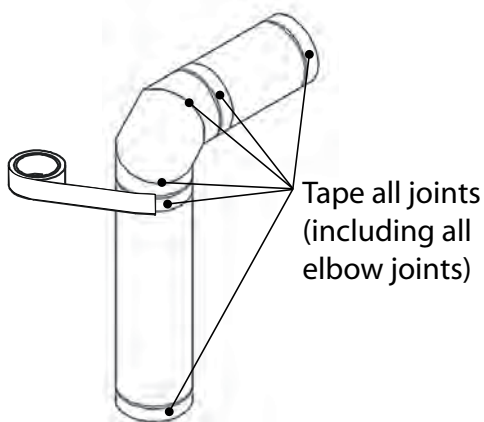
Do not mix components from different vent manufacturers, with the exception of Valor's 551DVK Horizontal Termination Kit which can be used in combination with approved manufacturers' venting pipes listed on pages 37–38. Follow the installation instructions supplied with the individual venting components.

Vent Sealing

Seal all outer coaxial pipe and elbow joints, including sectioned elbow joints, using high quality, high temperature 2 inch wide self-adhesive aluminum foil tape (Nashua-322-2 brand or similar). Wrap the tape completely around all joints and press firmly to seal.

A high temperature black silicone sealant may be used in the outer joints as a substitute to foil tape.

Ensure all the pipe joints have a minimum of 1 ¼ inch overlap.

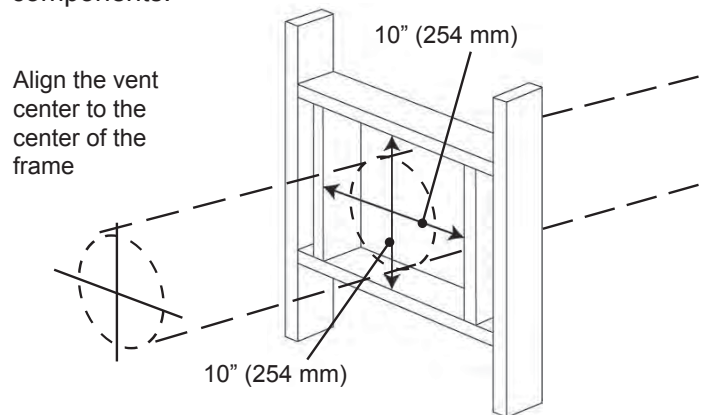


Wall Thickness

The appliance vent is suitable for penetrating a combustible wall assembly up to 14 inches (36 cm) in thickness. A non-combustible wall can be of any thickness up to the maximum horizontal run of vent pipe allowed for the particular installation.

Framing Vent in Combustible Walls & Ceilings

When penetrating through combustible walls and ceilings, frame a minimum of 10 by 10 inches opening to ensure that the insulation is kept clear of the vent pipe. Also, seal all joints between the wall plates, the wall and the vent pipe. Follow the installation instructions supplied with the individual venting components.



Important Installer Notice – Weather Sealing & Vapor Barriers

It is the installer's responsibility to ensure that vent installations through exterior walls are caulked and weatherproofed in such a manner as to:

- Prevent rain water from entering the wall from the weather side by adequately caulking the outer vent plate to the exterior wall surface.
- Prevent moisture inside the home from penetrating into the wall structure by ensuring the inside wall plate is adequately sealed to the inside vapor barrier.
- Prevent rain water and moisture from entering the walls by sealing the joints between the outer vent tube and the inner and outer wall plates.

We recommend the use of a high quality polyurethane sealant.

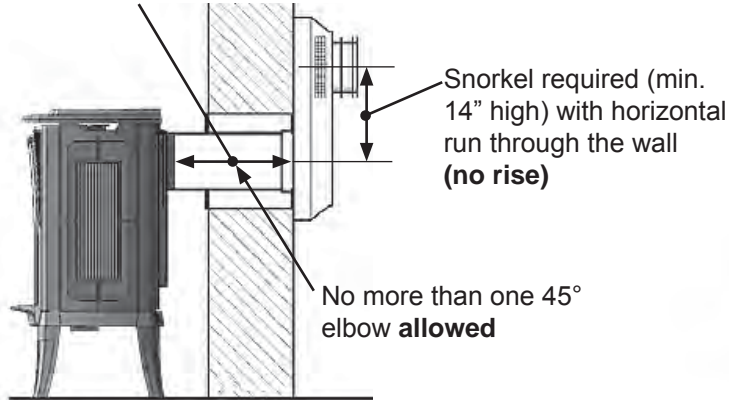
Typical Venting Components

See list of approved venting pipes and accessories on pages 37–38.

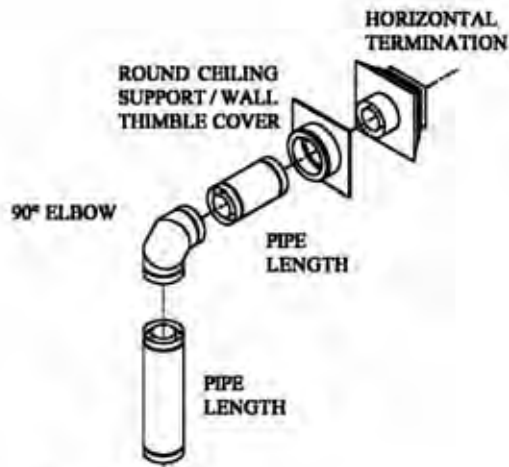
Maximum pipe length:

24" (straight out with snorkel)

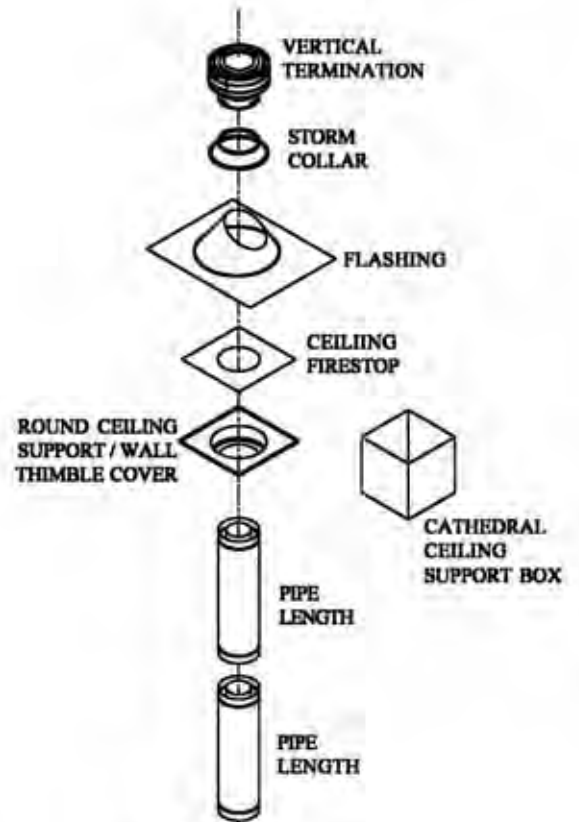
14" (45° elbow out with snorkel)



Through wall (without vertical rise)



Through wall (with vertical rise)



Through roof

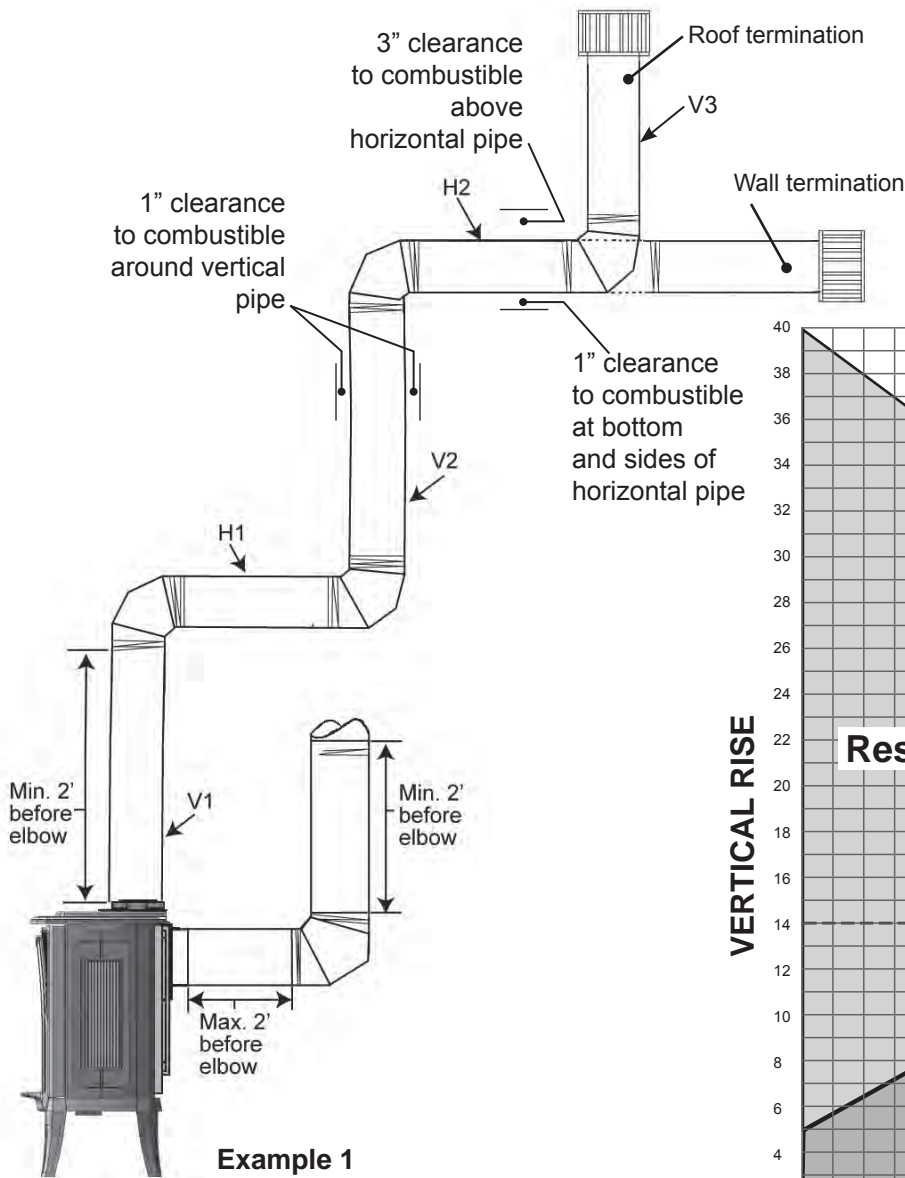
How to Read the Venting Chart

The chart below applies to top or rear outlet, roof or wall termination **with a vertical rise**.

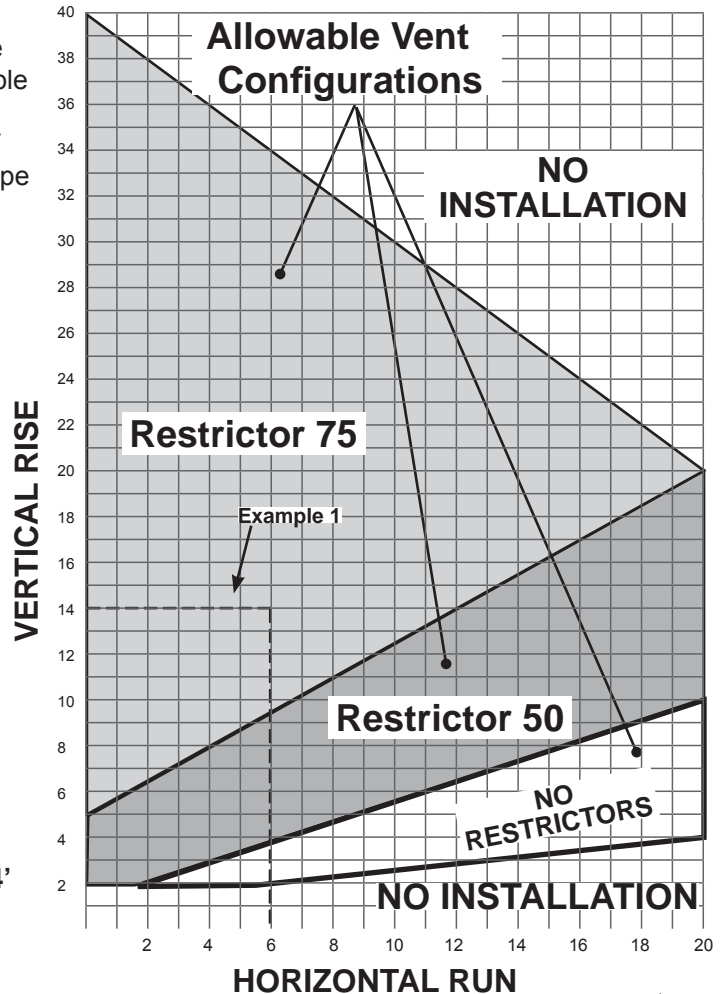
All rear outlet venting without a vertical rise must be terminated by a snorkel.

1. The total length of the vent pipe cannot exceed 40 feet (12.2 m).
2. The minimum vertical height with roof termination is 8 feet (2.45 m).
3. Any combination of rise and run can be used as long as they are within the allowable limits shown on the chart below.

4. A maximum of 5 x 90 degrees elbows or equivalent (2 x 45 degrees = 90 degrees) can be used.
5. Each 90 degrees elbow installed on the horizontal plane is equivalent to a 3 feet horizontal pipe; therefore, 3 feet must be subtracted from allowable horizontal run. (45 degrees elbow is equivalent to 18 inches horizontal pipe.)
6. All horizontal pipe runs must be graded 1/4 inch per foot upwards in the direction of the exhaust flow.
7. **Co-linear rear venting** in existing chimney systems is limited to 40 feet vertical rise.
8. **Restrictors are not required** for co-linear installations.



5 x 90° ELBOWS MAXIMUM



Example 1
 V Value = V1 (6') + V2 (6') + V3 (2') = 14'
 H Value = H1 (3') + H2 (3') = 6'
75% restrictor required

Not to scale

Restrictors

SOME INSTALLATIONS REQUIRE RESTRICTORS.

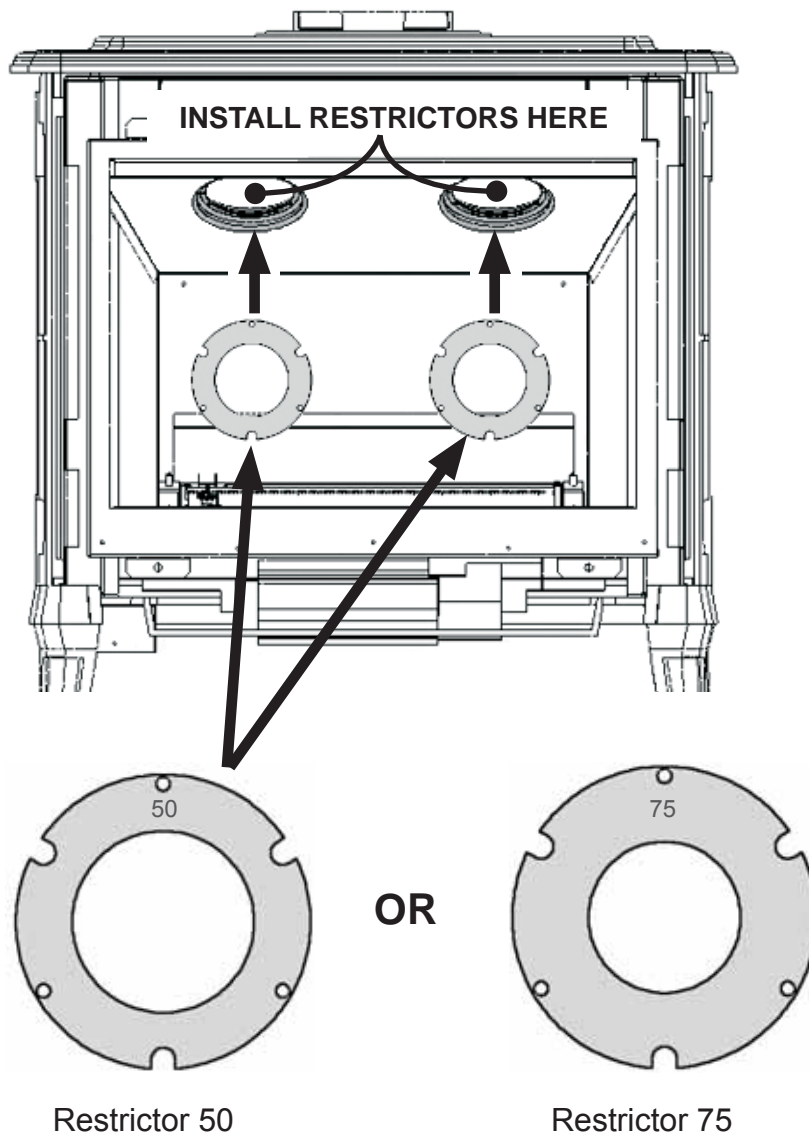
For improved flame picture and performance, this unit is supplied with two different sets of vent restrictors. The level of restriction required depends on the vertical rise in the venting system and, to a lesser degree, the horizontal run and number of elbows.

The amount of restriction is based on laboratory tests. The ideal restrictor position may vary slightly, especially when the vent pipe length is near the limits of the acceptable configurations for each type of restrictors.

The chart on the previous page shows the vent restrictor required relative to the length of the vent pipe. Restrictors are not required for co-linear applications.

To install restrictors:

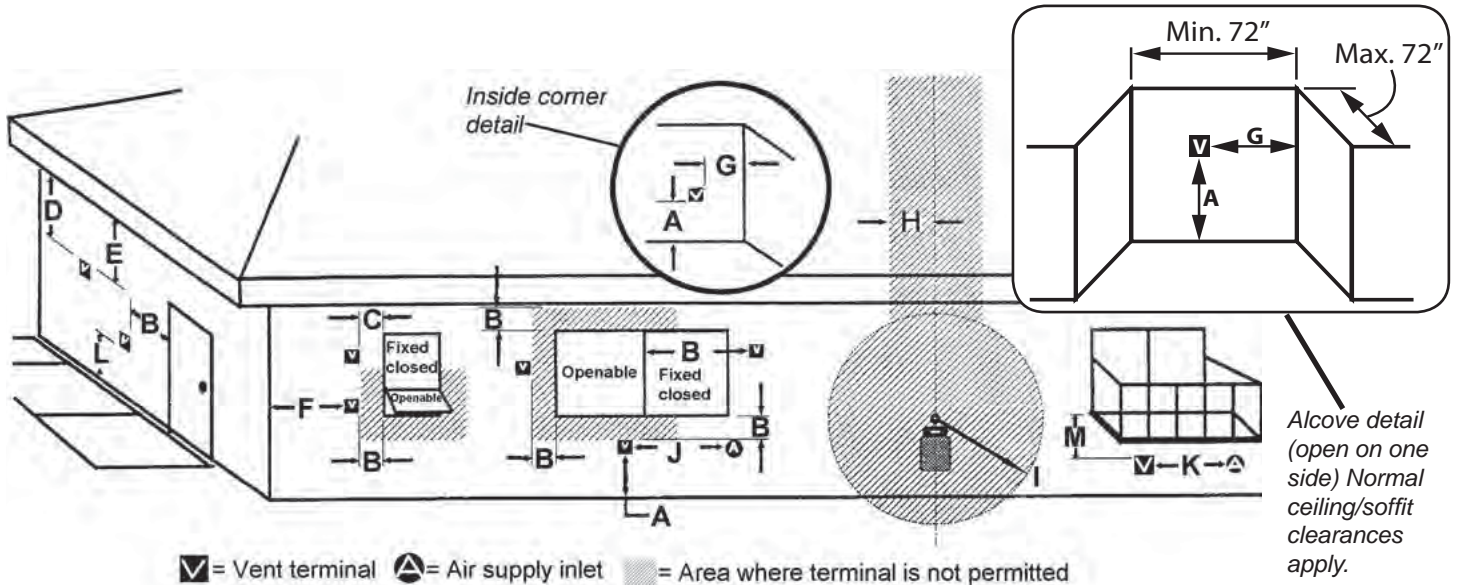
1. Remove every second screw from the **exhaust ports in the top of the firebox.**
2. Install the restrictors with the removed screws.



Horizontal Vent Termination

- The vent terminal must be located on an outside wall or through the roof.
- This direct vent appliance is designed to operate when an undisturbed airflow hits the outside vent terminal from any direction.
- The minimum clearances from this terminal that must be maintained when located on an outside wall are shown in the figure below.

- Any reduction in these clearances could result in a disruption of the airflow or a safety hazard. Local codes or regulations may require greater clearances.
- The vent terminal must not be recessed into a wall or siding.
- The vent terminal should be positioned where it will not be covered by snowdrifts.
- 551DVK sidewall vent termination requires the terminal guard 835TG when accessible—within 7 ft of ground.



KEY	VENT TERMINAL LOCATIONS - MINIMUM DISTANCES	MINIMUM CLEARANCE	
		Inches	Cm
A	Clearance above grade, verandah, porch, deck or balcony	12	30
B	Clearance to window or door that may be opened	12	30
C	Clearance to permanently closed window (recommended to prevent condensation on window)	12	30
D	Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet (60 cm) from the center-line of the terminal	18	46
E	Clearance to unventilated soffit	12	30
F	Clearance to outside corner	12	30
G	Clearance to inside corner	12	30
H	Horizontal clearance to center-line of meter/regulator assembly located within 15 feet (4.6 m) below the terminal	36	90
I	Clearance to service regulator vent outlet	36	90
J	Clearance to non-mechanical air supply inlet to the building or the combustion air inlet to any other appliance	12	30
K	Clearance to a mechanical air supply inlet	72	180
L	Clearance above paved sidewalk or a paved driveway located on public property Note: A vent must not terminate directly above a sidewalk or paved driveway, which is located between two single-family dwellings and serves both dwellings	84	210
M	Clearance under a verandah, porch, deck or balcony Only permitted if veranda, porch, deck or balcony is fully open on a minimum of 2 sides beneath the floor	12	30

Note: Local codes and regulations may require different clearances.

INSTALLATION

Venting

Vertical Vent Termination

Roof Pitch	Minimum "H" (feet)
Flat to 7/12	1'
Over 7/12 to 8/12	1.5'
Over 8/12 to 9/12	2'
Over 9/12 to 10/12	2.5'
Over 10/12 to 11/12	3.25'
Over 11/12 to 12/12	4'
Over 12/12 to 14/12	5'

