

Installation Procedures

WARNING: Gas-fired appliances are not designed for use in hazardous atmospheres containing flammable vapors or combustible dust, or atmospheres containing chlorinated or halogenated hydrocarbons.

Installations in public garages or airplane hangars are permitted when in accordance with ANSI Z223.1 and NFPA 54 codes or CAN1-B149 and enforcing authorities.

FOR YOUR SAFETY

What to do if you smell gas:

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, immediately call your fire department.

FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.

Requirements for installation vary depending on the model of heater and the type of installation. Follow the manufacturer's instructions and comply with all applicable codes.

Some venting requirements that apply to specific gas-fired models are shown on the following pages.

Venting of Power-Vented Models - Applies to FE, BE, FT

Venting must be in accordance with the National Fuel Gas Code Z223.1 or CAN/CGA B149.1 and B149.2, Installation Code for Gas Burning Appliances and Equipment, and all local codes. Local requirements supersede national requirements.

These power-vented unit heaters are designed to operate safely and efficiently with either a horizontal or vertical vent. (Horizontal vent run is recommended for maximum fuel savings.) A vent cap is required.

If this heater is replacing an existing heater, be sure that the vent is sized properly for the heater being installed. A properly sized vent system is required for safe operation of this heater. An improperly sized vent system can cause unsafe conditions and/or create condensation.

Follow venting instructions in the heater installation manual. General requirements are listed below.

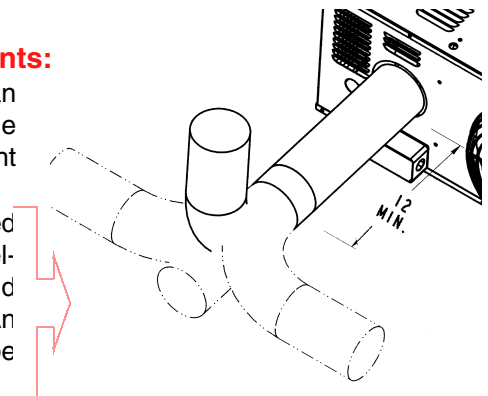
1. Venter (Flue) Outlet

Venter Outlet Size:

Models	Outlet Diameter
FE & BE	
25 - 100	4"
125 - 250	5"
300 - 400	6"
Model	Outlet Diameter
FT	
30-125	4"
150-200	5"
300	6"

Venter Outlet Attachment Requirements:

- If the pipe used in the vent run is larger than the diameter of the venter outlet, make the transition at the venter outlet. See the Vent Length Tables on page 32.
- A minimum of 12" of straight pipe is required at the venter outlet before installing an elbow in the vent system. An elbow should never be attached directly to the venter. An elbow attached to the straight pipe can be in any position at or above horizontal.





Installation Procedures (cont'd)

Venting of Power-Vented Models (cont'd) - Applies to FE, BE, FT

2. Vent Pipe - Vent pipe requirements vary depending on the installation. Refer to the installation manual for the heater being installed to determine appropriate type of vent pipe.

3. Vent Length - Minimum vent length is 5 feet.

Maximum Permissible Vent Lengths

Model FT	Vent Pipe Diameter (inches)	Maximum Vent Length (ft) (see Note below)	Equivalent Straight Length (ft)*	
			90° Elbow	45° Elbow
30	3 or 4	30	5	2.5
45	3 or 4	30	5	2.5
60	3	30	5	2.5
	4	40	5	2.5
75	3	30	5	2.5
	4	40	5	2.5
100	4	50	5	2.5
125	4	50	5	2.5
150	5	50	5	2.5
200	5	50	5	2.5
250	5	50	5	2.5
300	6	50	5	2.5
Models FE & BE	Vent Pipe Diameter (inches)	Maximum Vent Length (ft) (see Note below)	Equivalent Straight Length (ft)*	
			90° Elbow	45° Elbow
25	4	30	3.5	1.8
50	4	40	5	2.5
75	4	50	7	3.5
100	4	50	7	3.5
	5	60	8	4.0
125	5	50	5	2.5
	6	60	10	5.0
200	5	50	8	4.0
	6	60	12	6.0
250	5	50	10	5.0
	6	70	8	4.0
300	6	50	11	5.5
	7	70	13	6.5
400	6	50	15	7.5
	7	90	14	7.0

* Reduce the maximum vent length by the amount indicated for each elbow used.

NOTE: If the system contains all vertical pipe or a combination of horizontal and vertical vent pipe, the Maximum Permissible Vent Length may be increased one foot for each foot of vertical rise up to a maximum increase of 10 feet for Model FE and BE Sizes 25 -100 and all sizes of Model FT; and up to 20 feet for Model FE and BE Sizes 125 - 400.

4. Vent System Joints and Support - All pipe joints must be sealed to prevent leakage of flue gases into the building. Consult the heater manual.

Lateral runs should be supported every six feet using a noncombustible material, such as strap steel or chain. Do not rely on the heater for support of either horizontal or vertical vent pipe.

5. Condensation - Any length of single-wall vent pipe exposed to cold air or run through an unheated area or an area with an ambient temperature of 45°F or less must be insulated along its entire length with a minimum of 1/2" foil-faced fiberglass, 1-1/2# density insulation. Where extreme conditions are anticipated, install a means of condensate disposal.

Depending on the model and size being installed, special instructions may apply; consult the heater installation manual.

6. Vent Terminal (Pipe and Vent Cap) - The vent system must be terminated with a suitable vent cap that is the same size as the vent run. Heaters with an A.G.A. rating plate that are ordered with an optional vent cap and all heaters with a C.G.A. rating plate have a vent cap shipped with the heater. If the vent cap is field-supplied, use of a Type L Breidert *Air-x-hauster*® or equivalent vent cap is recommended.

WARNING: Power-vented units installed in multiples require individual vent pipe runs and vent caps. Manifolding of vent runs is not permitted due to possible recirculation of combustion products into the building and possible back pressure effects on the combustion air proving switch.

OPTIONAL POWER VENTING OF GRAVITY VENTED UNITS - Models F and B

Use only the Reznor® power venter designed for the particular model and size of heater.

Understand the operation before installing. When a venter is used with a heater, the room thermostat turns the venter on and off, and the venter turns the gas controls on and off. When the space calls for heat, the room thermostat contacts close the circuit which starts the venter. When the venter starts, air from the venter blower closes an air switch that is built into the venter.

Closing of the air flow switch sends an electric current to the burner controls, opening the gas valve and sending gas to the burners. When the thermostat is satisfied, the thermostat turns off the venter and the gas controls. As the venter blower stops, the airflow switch resets to the open position.

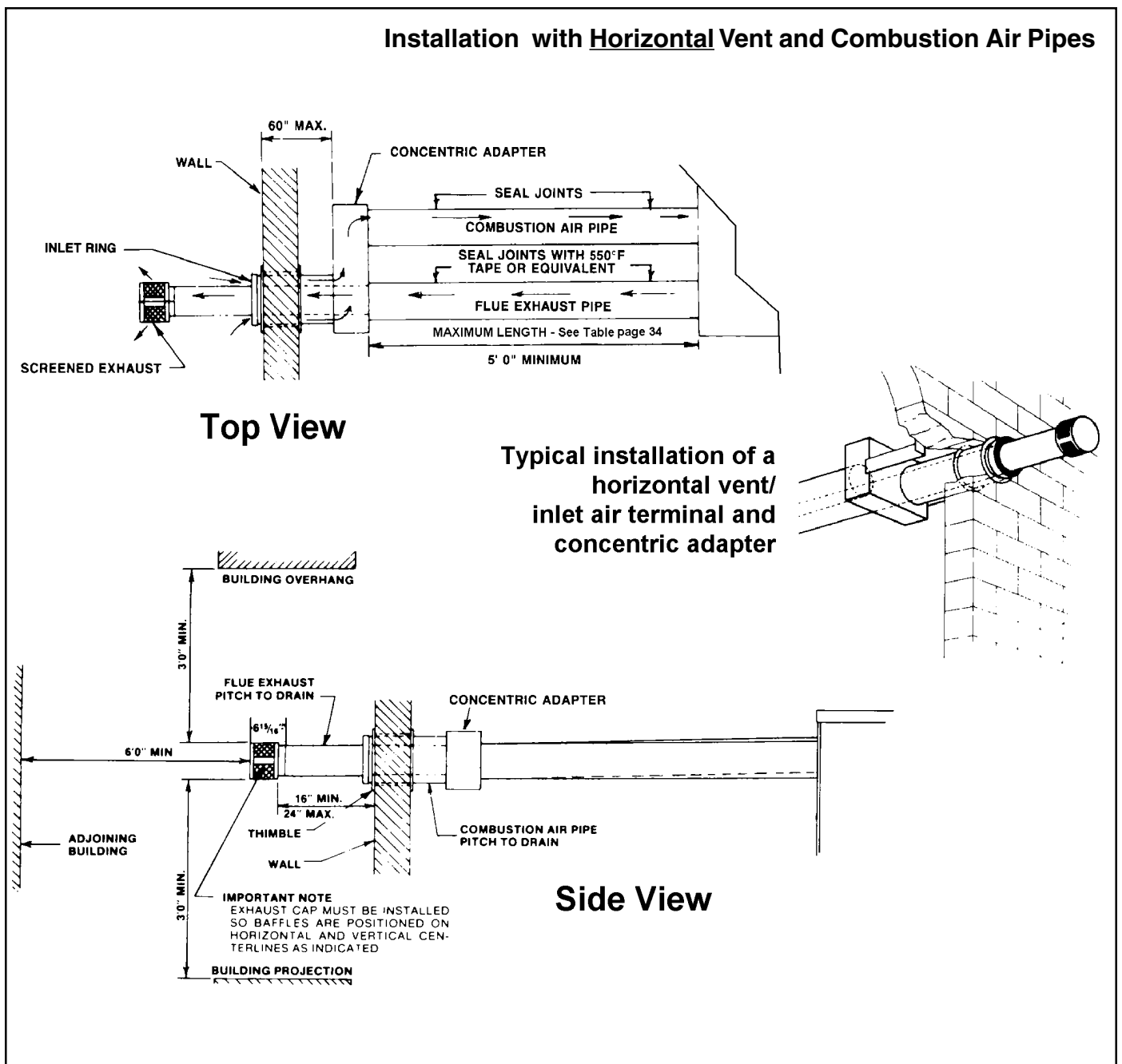
Venting/Inlet Air for Separated Combustion Models - Applies to Models SHE, SFT, SCA and SCB

Separated-combustion principles used in these Reznor® products.

- Air for combustion is mechanically induced from outside the building, preventing dirt, lint, dust or other contaminants in the indoor atmosphere from entering the burner or combustion zone of the furnace.
- The airflow is metered to provide optimum and efficient combustion that is unaffected by negative building pressure or wind.
- After combustion, the air is exhausted back to the outdoor atmosphere.

Reznor® separated combustion products provide all of these benefits while requiring only one building penetration. See the venting illustrations.

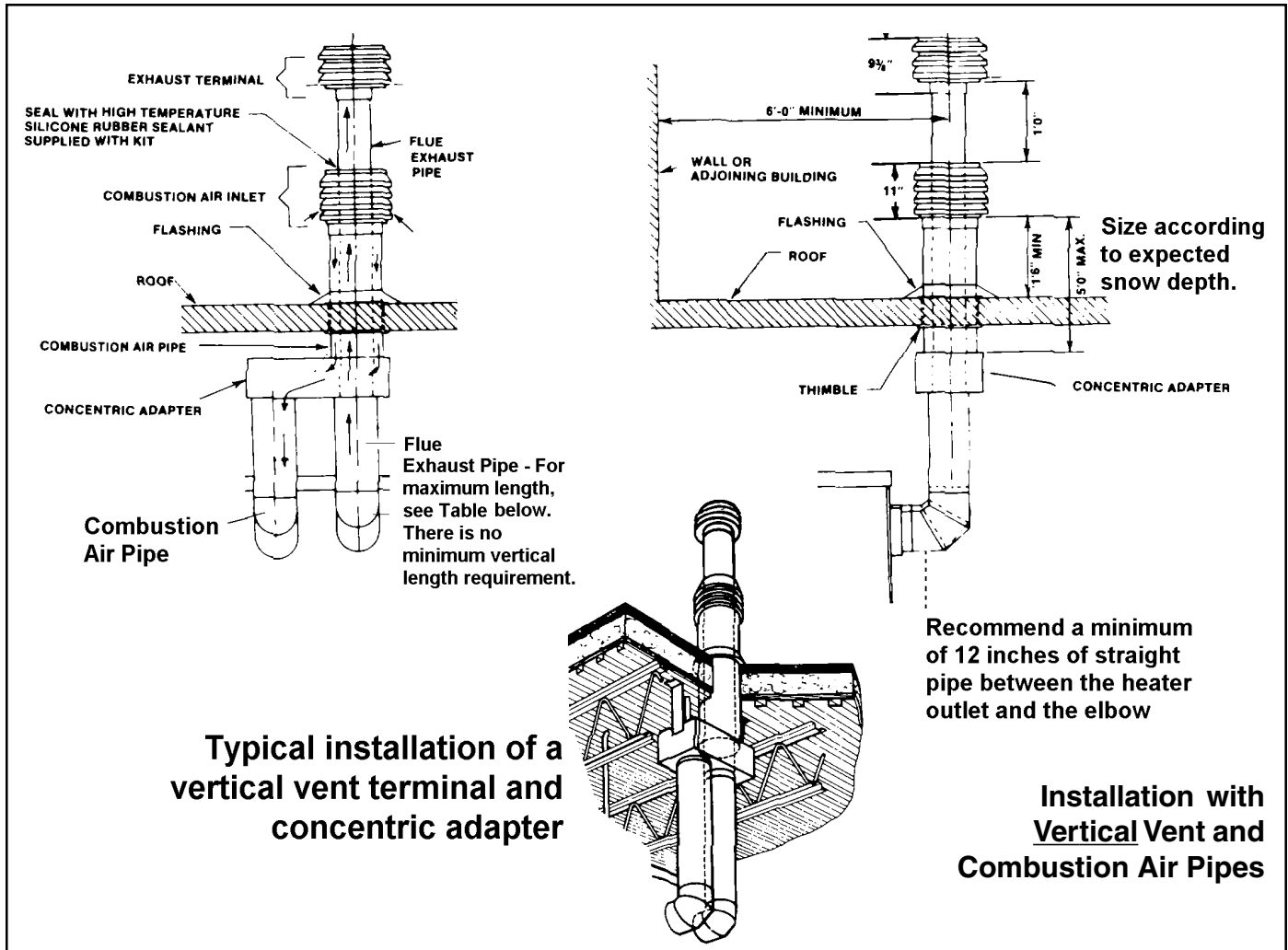
IMPORTANT NOTE: The illustrations on pages 33 and 34 do not accurately picture all models, but the fundamental principle is the same. Refer to the heater installation manual for specific vent/inlet air requirements.





Installation Procedures (cont'd)

Venting/Inlet Air for Separated Combustion Models (cont'd)



Vent Length Tables - Apply to REZNOR® Separated-Combustion Unit Heater Models

Model SHE	Pipe	Pipe Diameter	Maximum Length	90°	45°
				Elbow Equals	Elbow Equals
225 & 300	Both	4"	27 ft	5 ft	3.5 ft
	Both	6"	30 ft	5 ft	3.5 ft
400	Both	6"	30 ft	5 ft	3.5 ft

Models SCA & SCB	Pipe	Pipe Diameter	Maximum Length	90°	45°
				Elbow Equals	Elbow Equals
100	Inlet Air	6"	40 ft	8 ft	4 ft
	Exhaust	6"	40 ft	8 ft	4 ft
125 - 300	Inlet Air	6"	50 ft	8 ft	4 ft
	Exhaust	6"	50 ft	8 ft	4 ft
200 - 400	Inlet Air	7"	70 ft	8 ft	4 ft
	Exhaust	7"	70 ft	8 ft	4 ft
350 - 400	Inlet Air	6"	30 ft	8 ft	4 ft
	Exhaust	6"	30 ft	8 ft	4 ft

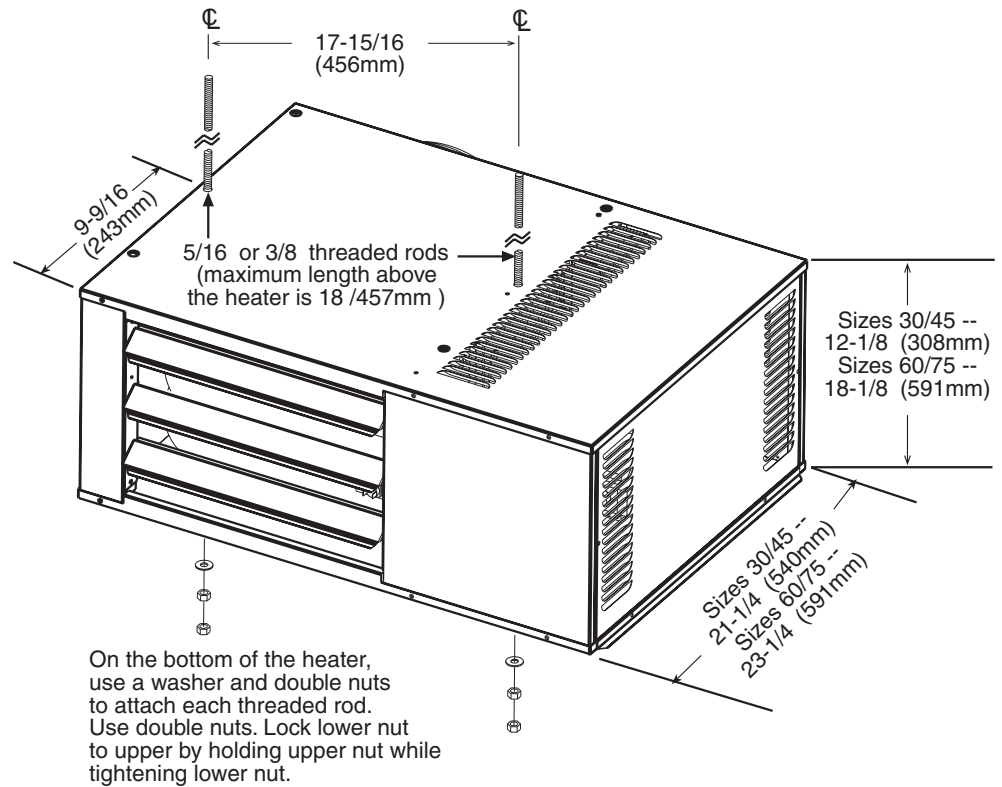
Model SFT	Pipe	Pipe Diameter	Maximum Length	90° Elbow	45° Elbow
				Equals	Equals
45	Inlet Air	3"	30 ft	5 ft	2.5 ft
	Exhaust	3" or 4"	30 ft	5 ft	2.5 ft
60 & 75	Inlet Air	4"	40 ft	5 ft	2.5 ft
	Exhaust	4" or 5"	40 ft	5 ft	2.5 ft
100 & 125	Inlet Air	4"	40 ft	5 ft	2.5 ft
	Exhaust	4" or 5"	40 ft	5 ft	2.5 ft
150 & 200	Inlet Air	5"	40 ft	5 ft	2.5 ft
	Exhaust	5"	40 ft	5 ft	2.5 ft
250	Inlet Air	5"	50 ft	5 ft	2.5 ft
	Exhaust	5"	50 ft	5 ft	2.5 ft
300	Inlet Air	6"	50 ft	5 ft	2.5 ft
	Exhaust	6"	50 ft	5 ft	2.5 ft

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Installation Procedures (cont'd)

Installing Models FT and SFT with 2-Point Suspension

Model FT Sizes 30, 45, 60 and 75 can be installed by using only two suspension points as shown in this drawing.



Model SFT Sizes 45, 60 and 75 can be installed by using only two suspension points as shown in this drawing.

