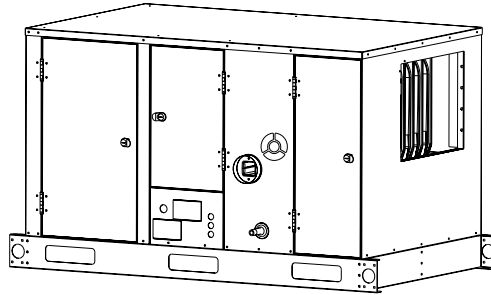


Venting Instructions

Applies to: **PREEVA® Indoor, Power-Vented Heater Model PDH**



Power-Vent Indoor Model PDH

General

This manual applies only to venting instructions and must be used with the Model PDH installation manual, Form I-PDH/SDH/PEH/SHH/PXH. Both manuals are shipped with the heater. If either manual is missing, contact your distributor before beginning installation. The venting instructions in this manual apply only to PREEVA® Model PDH.



Verify that the label near the vent outlet on the heater matches this label.

Venting Requirements

Model PDH heaters are certified as Category III appliances.

WARNING

Each heater requires its own individual vent pipe run and vent cap. Manifolding of vent runs can cause recirculation of combustion products into the building. Failure to comply could result in severe personal injury or death and/or property damage.

Venting must be in accordance with local codes and the National Fuel Gas Code NFPA 54 / ANSI Z223.1 or CAN/CSA B149.1 Natural Gas and Propane Installation Code. Local requirements supersede national requirements.

This power-vented heater is designed to operate safely and efficiently with either a horizontal or vertical vent. Comply with the specific requirements and instructions.

If this heater is replacing an existing heater, be sure that the vent is sized properly for the heater being installed and that the existing vent is in good condition. A properly sized vent system is required for safe operation of the heater. An improperly sized vent system can cause unsafe conditions and/or create condensation. Do not vent into an existing gravity vent or chimney.

1. Type of Vent Pipe

Installation should be done by a qualified agency in accordance with these instructions. The qualified service agency installing this system is responsible for the installation.

A commercial/industrial installation may have either a horizontal or a vertical vent run using one of the types of vent pipe listed.

Do not intermix different vent system parts from different manufacturers in the same venting system.	
Horizontal Vent Run	<ul style="list-style-type: none"> • Vent pipe approved to UL Std 1738 for a Category III appliance, OR • Appropriately sealed 26-gauge or heavier galvanized steel or equivalent single-wall pipe
Vertical Vent Run	<ul style="list-style-type: none"> • Vent pipe approved to UL Std 1738 for a Category III appliance, OR • Appropriately sealed 26-gauge or heavier galvanized steel or equivalent single-wall pipe
OR, if at least 75% of the equivalent length of the vent run is vertical	
Vent Terminal Section	<ul style="list-style-type: none"> • Both horizontal and vertical vent terminal section must be double-wall (Type B) vent pipe

Venting Requirements (cont'd)

2. Vent Pipe Diameter and Length

Vent pipe diameters and maximum vent lengths in **TABLE 1** apply to either a horizontal or a vertical vent. Add **all** straight sections and equivalent lengths for elbows. The total combined length must not exceed the **Maximum Vent Length**.

TABLE 1 - Vent Pipe Diameter and Length for Horizontal or Vertical Vent

- Use only one diameter of vent pipe on an installation.
- Minimum vent length is 3 feet (1M).

Cabinet Size	PDH	Vent Pipe Diameter		Maximum Vent Length		Equivalent Straight Length for 90° Elbow		Equivalent Straight Length for 45° Elbow		Field-supplied taper-type connection required at the venter outlet
		inches	mm	feet	M	feet	M	feet	M	
A	75	4	102	30	9.1	4	1.2	2	0.6	None
	100	4	102	40	12.2	5	1.5	2.5	0.8	None
B	125	4	102	40	12.2	5	1.5	2.5	0.8	None
	150	5	127	35	10.7	5	1.5	2.5	0.8	None
C	175	5	127	35	10.7	5	1.5	2.5	0.8	None
	200	5	127	50	15.2	5	1.5	2.5	0.8	None
	225	5	127	50	15.2	5	1.5	2.5	0.8	None
D	250	5	127	50	15.2	5	1.5	2.5	0.8	6" to 5" (152 to 127mm) taper-type reducer
	300	6	152	50	15.2	5	1.5	2.5	0.8	None
E	350	6	152	50	15.2	7	2.1	3.5	1.1	None
		7	178	50	15.2	4.5	1.4	2.25	0.7	6" to 7" (152 to 178mm) taper-type increaser
	400A	6	152	50	15.2	8	2.4	4	1.2	None
		7	178	50	15.2	5	1.5	2.5	0.8	6" to 7" (152 to 178mm) taper-type increaser

3. Venter (Flue) Outlet

Venter Outlet Attachment Requirements:

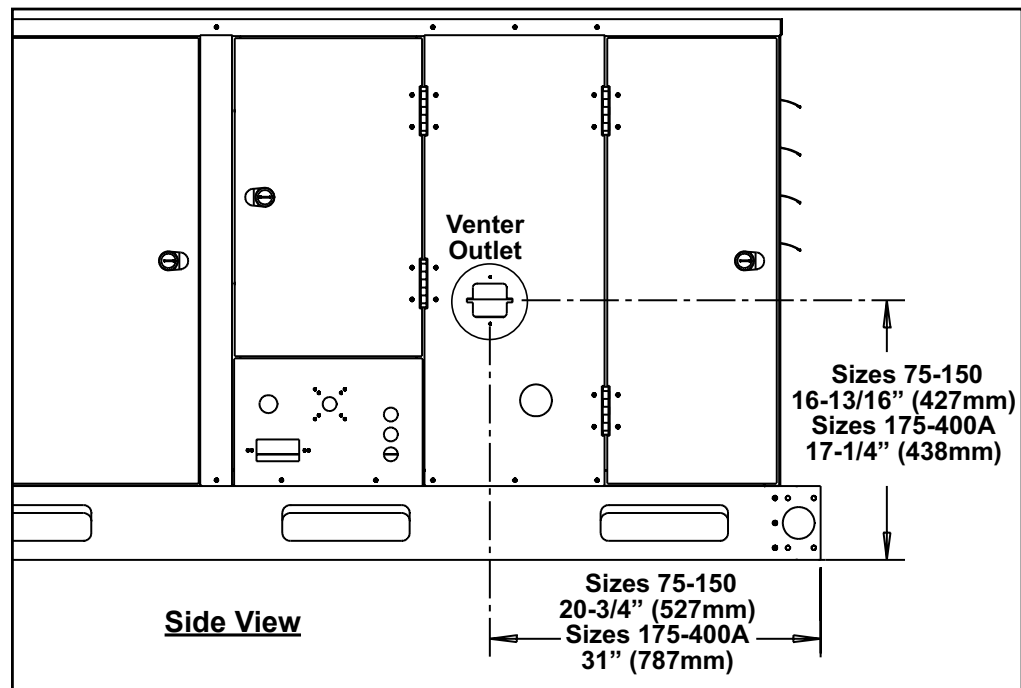
Depending on the size of vent pipe as determined in Requirement No. 2, attach either the vent pipe directly to the collar or a taper-type connector (See **TABLE 1**).

TABLE 2 - Venter Outlet Size

Cabinet Size	A		B		C			D		E	
Model PDH	75	100	125	150	175	200	225	250	300	350	400A
Venter Outlet Diameter	4 inches		5 inches		6 inches			6 inches		6 inches	
	102 mm		127 mm		152 mm			152 mm		152 mm	

FIGURE 1 - Venter Outlet Location

NOTE: Clearance from vent connection must be 18" (457mm).



4. Vent System Joints and Sealing

Vent system joints depend on the type of pipe being used (See “Type of Vent Pipe”, Requirement No. 1, page 2).

- If using single wall, 26-gauge or heavier galvanized pipe, secure slip-fit connections using sheetmetal screws or rivets. Seal all joints and seams of single-wall vent pipe inside the building with aluminum tape or silicone sealant.
- If using Category III vent pipe, follow the pipe manufacturer’s instructions for joining pipe sections. When attaching Category III pipe to the venter outlet and to the double-wall (Type B) vent terminal, make secure, sealed joints following a procedure that best suits the style of Category III pipe being used.
- When using double-wall (Type B) vent pipe, follow the pipe manufacturer’s instructions for joining pipe sections.

For joining double-wall pipe to the heater collar, single-wall pipe, and vent cap, follow the illustrated instructions in the Addendum Section, pages 5-7.

5. Vent System Support

Support horizontal runs every six feet (1.8M). Support vertical runs of Category III or Type “B” double-wall vent pipe in accordance with the requirements of the pipe manufacturer. Support single-wall vertical pipe in accordance with accepted industry practice. Do not rely on the heater for support of either horizontal or vertical vent pipe. Use non-combustible supports on vent pipe.

6. Clearance

Do not enclose vent pipe or place pipe closer than 6” (152mm) to combustible material.

7. Condensation

On all Model Sizes, 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.

8. Vent Terminal (Pipe and Vent Cap - See FIGURE 2 or FIGURE 3.)

The vent terminal pipe **must** be double-wall (Type B) vent pipe. Heaters must be equipped with a Reznor vent cap or equivalent. A different style vent cap could cause nuisance problems or unsafe conditions. The vent cap must be the same size as the vent pipe.

See **TABLE 3** and **FIGURE 2** for requirements of a horizontal vent terminal. See **FIGURE 3** for requirements of vertical vent termination.

Horizontal Vent Terminal

Maintain a minimum clearance of 6 inches (152mm) from the wall to the vent terminal cap for stability under wind conditions.

Products of combustion can cause discoloration of some building finishes and deterioration of masonry materials. Applying a clear silicone sealant that is normally used to protect concrete driveways can protect masonry materials. If discoloration is an esthetic problem, relocate the vent or install a vertical vent.

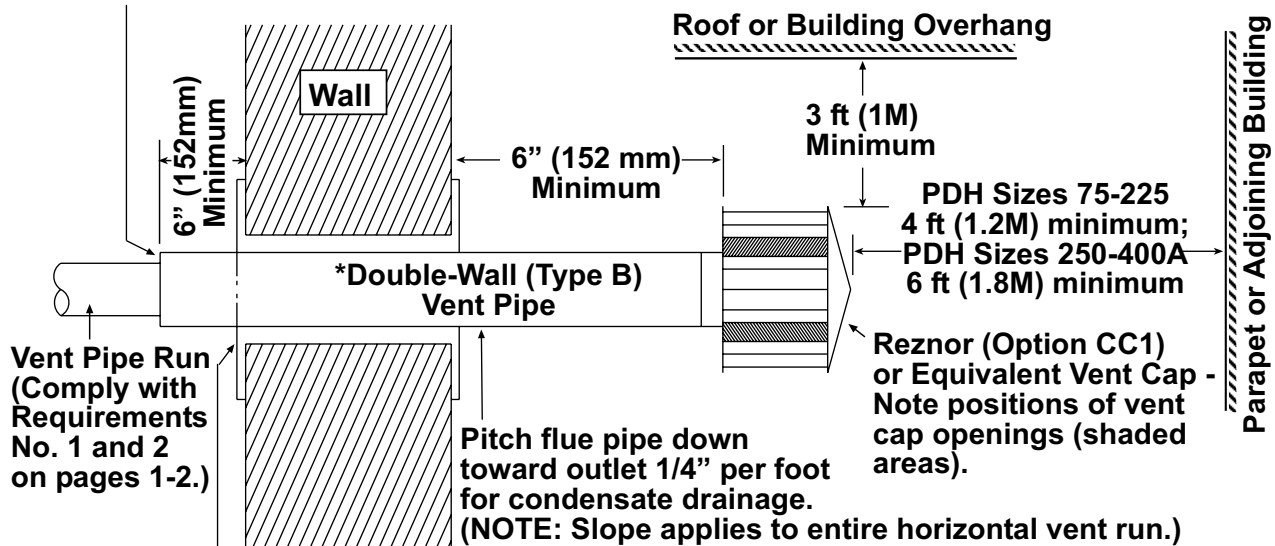
TABLE 3 - Horizontal Vent Terminal Clearances

Structure	Minimum Clearances for Vent Termination Location (all directions unless specified)
Forced air inlet within 10 ft (3.1M)	3 ft (0.9M) above
Combustion air inlet of another appliance	6 ft (1.8M)
Door, window, or gravity air inlet (any building opening)	4 ft (1.2M) horizontally
	4 ft (1.2M) below
	1 ft (305mm) above
Electric meter, gas meter*, and relief equipment	U.S. - 4 ft (1.2M) horizontally Canada - 6 ft (1.8M) horizontally)
Gas regulator *	3ft (0.9M) horizontally
Adjoining building or parapet	6 ft (1.8M)
Adjacent public walkways	7 ft (2.1M) above
Grade (ground level)	1 ft (0.9M) above**
*Do not terminate the vent directly above a gas meter or service regulator.	
** Consider local snow depth conditions. The vent must be at least 6” (152mm) higher than anticipated snow depth.	

Venting Requirements (cont'd)

FIGURE 2 - Horizontal Vent Terminal (NOTE: Read all measurements; drawing is not proportional.)

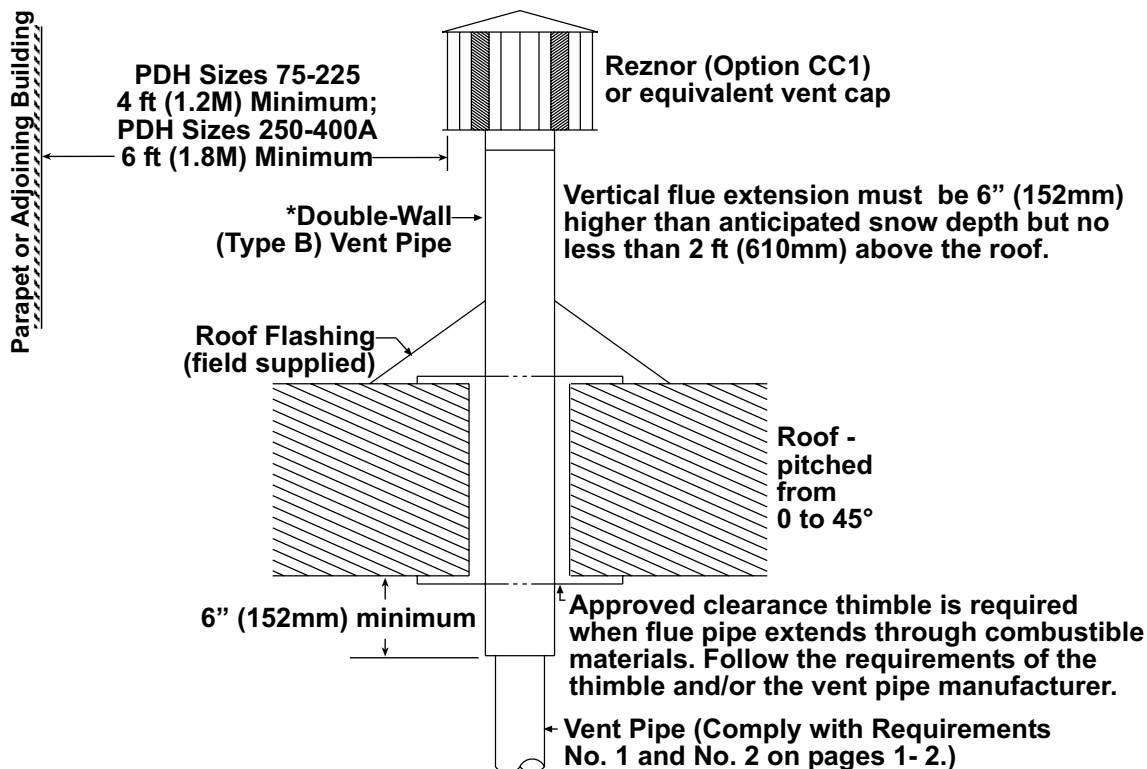
*Follow the instructions in Addendum pages 5-6, to join the double-wall vent terminal section to a single-wall vent pipe run and to the vent cap. If vent run is Category III, make secure, sealed joint that best suits type of Category III pipe being used.



Approved clearance thimble is required when flue pipe extends through combustible materials. Follow the requirements of the thimble and/or the vent pipe manufacturer.

Vertical Vent Terminal

FIGURE 3 - Vertical Vent Terminal (NOTE: Read all measurements; drawing is not proportional.)



*Follow the instructions in Addendum pages 5-7, to join the double-wall vent terminal section to a single-wall vent pipe run and to the vent cap. If vent run is double-wall (Type B), join to terminal section following pipe manufacturer's instructions. If vent run is Category III, make secure, sealed joint that best suits type of Category III pipe being used.

ADDENDUM

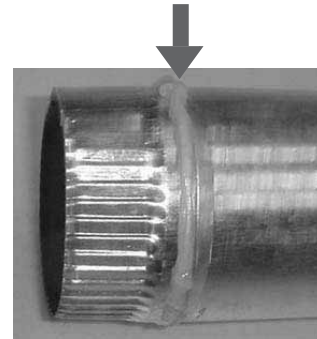
FIGURE 4 - Attaching Double-Wall (Type B) Pipe to Single-Wall Pipe

Instructions for Attaching Double-Wall Vent Pipe (Type B)

FIGURE 4 - STEP 1

On the single-wall pipe (where illustrated), place a continual 1/4 inch bead of silicone sealant around the circumference).

Do STEP 2 immediately following STEP 1.



Continual bead of sealant around Single-Wall Vent Pipe

FIGURE 4 - STEP 2

Insert the vent pipe with sealant into the inner pipe of the double-wall pipe until the bead of sealant contacts the inner pipe creating a sealed joint.

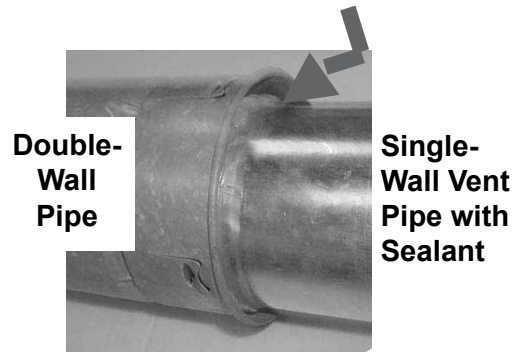
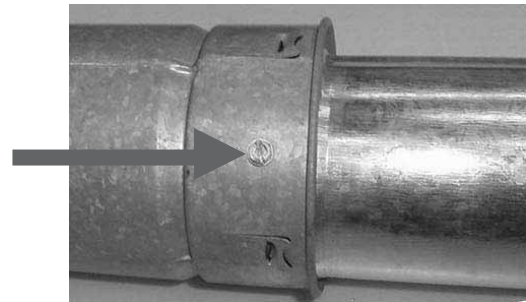


FIGURE 4 - STEP 3

Spaced equally around the double-wall pipe, drill three small holes below the sealant ring. Insert 3/4 inch long sheetmetal screws to secure the joint. Do not over tighten screws.



ADDENDUM
(cont'd)

Instructions for Attaching Double-Wall Vent Pipe (Type B) (cont'd)

**FIGURE 5 - Attaching
Double-Wall (Type B)
Pipe to a Vent Cap**

FIGURE 5 - STEP 1

Place a continual 3/8" bead of silicone sealant around the circumference of the vent cap collar. This will prevent any water inside the vent cap from running down the double-wall pipe. Do STEP 2 immediately following STEP 1.



FIGURE 5 - STEP 2

Insert the collar on the vent cap inside the inner wall of the double-wall pipe. Insert as far as possible. Add additional silicone sealant to fully close any gaps between the vent cap and the double wall pipe. This is necessary to prevent water from entering the double wall pipe.

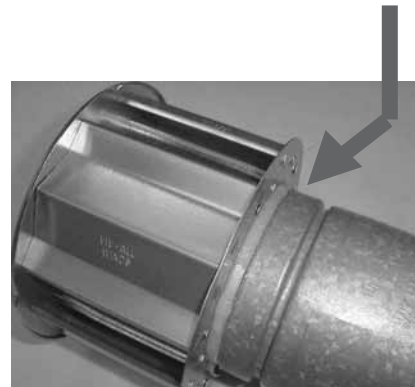


FIGURE 5 - STEP 3

Secure the vent cap to the double wall pipe by drilling and inserting a 3/4" long sheetmetal screw into the vent cap collar. Do not over tighten screw.

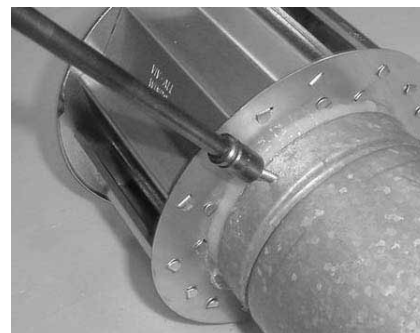


FIGURE 6 - Attaching Double-Wall (Type B) Vent Pipe to the Heater

NOTE: Double-wall (Type B) vent pipe may only be used if at least 75% of the equivalent length of the vent run is vertical. See vent pipe length on page 2.

FIGURE 6 - STEP 1

Place a continual 1/4" bead of silicone sealant around the circumference of the venter outlet collar.



Do STEP 2 immediately after STEP 1.

FIGURE 6 - STEP 2

Slide the double-wall pipe over the collar so that the collar is inside the inner pipe. Push the double-wall pipe tight to the heater cabinet. To secure the connection, spaced equal distance around the pipe, drill and insert three 3/4" long sheetmetal screws through the pipe and into the collar. Do not over tighten the screws.



