

REZNOR® Thomas & Betts

Venting Instructions for V 3° Power Vented Unit Heaters

Vent Installation Form RZ-NA I-UD-V-PV (Version A) Obsoletes Form RZ-NA I-V-PV

APPLIES TO:

Indoor Power Vent Model UDAP and Model UDBP

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Use this Venting Manual with the
Heater Installation Manual
Heater Installation Form
Model UDAP Form I-UDA

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General

This manual applies only to venting instructions and must be used with the installation manual. Both manuals are shipped with the heater. If either manual is missing, contact your distributor before beginning installation. The instructions in this manual apply to fan type Model UDAP and blower type Model UDBP.



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

Venting Requirements

Model UDAP and UDBP heaters are certified as Category III heaters. Under specified conditions, Model UDAP Sizes 30-75 may be installed as a Category I heater.

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 Z223.1 or CAN/CGA B149.1 and B149.2, Installation Code for Gas Burning Appliances and Equipment. Local requirements supersede national requirements.

These power-vented unit heaters are 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.

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.

Requirements and instructions vary depending on whether the installation is residential or commercial/industrial. Select and follow the venting instructions that apply to the installation only. All sizes of Model UDAP and Model UDBP unit heaters are certified for commercial/industrial installation. Model UDAP Sizes 30, 45, 60, 75, 100, and 125 are also certified for residential installation.

Is the Installation Residential or Commercial/Industrial?

Select and follow the venting instructions that apply. **Do not mix** any instructions or requirements. •**Residential - Pages 2-6**

•Commercial/Industrial - Pages 6-9

1. Type of Vent
Pipe is
Determined by
whether Vent is
1A). Special
Horizontal,
1B). Standard
Horizontal, or
1C). Vertical

A residential unit may be installed with either a horizontal or vertical vent run using **one** of the types of vent pipe listed in 1A), 1B), or 1C).

1A). Special Horizontal Vent (Category I) - applies to Sizes 30, 45, 60, 75 only

Maximum horizontal vent pipe length is five feet (1.5M) - See FIGURE 1.

- 26 gauge or heavier galvanized steel single-wall pipe, OR
- Double-wall (Type B) vent pipe

IMPORTANT NOTE: If the installation does not comply with the requirement of 5 ft (1.5M) or less of horizontal pipe length, ignore FIGURE 1. Unless specifically referenced in FIGURE 1, do not mix the venting requirements in FIGURE 1 with the requirements for any other type of residential or commercial installation.

FIGURE 1 - Vent Pipe Length and Configuration for a Model UDAP Heater with a Special Horizontal Vent *only*

Applies only to UDAP Sizes 30, 45, 60, and 75 with five feet (1.5M) maximum horizontal length of vent pipe Category I applies only to 8" (203mm) minimum Model UDAP 30, 45, 6" (152mm) minimum 60, and 75 Approved clearance thimble is **Provide** required when flue pipe extends support. through combustible materials. Follow the requirements of the (203mm)single-wall or double-wall pipe minimum and thimble manufacturer. Single-Wall or Double-Wall* Vent Pipe If using single wall pipe, drill 5 ft (1.5M) maximum a 3/8" diameter hole in the elbow Pitch horizontal pipe 1/4" per foot for water dainage. toward outlet for water drainage.

*Follow the instructions in Addendum Section A, pages 10-11, to attach double-wall pipe to the heater and to the vent cap.

TABLE 1 - Vent Pipe Diameter for Model UDAP Heater with Special Horizontal Vent *only*

List of Venting
Requirements for Model
UDAP Heater Installation
with a Special Horizontal
Vent as illustrated in
FIGURE 1 only

Model UDAP	Vent Pipe Diameter		Venter Outlet Diameter		Field-supplied taper-type ''enlarger'' required to connect pipe to venter outle				
Size	inches	mm	inches	mm	inches	mm			
30	4	102	4	102	No	one			
45	5	127	4	102	4 to 5	102 to 127			
60	5	127	4	102	4 to 5	102 to 127			
75	5	127	4	102	4 to 5	102 to 127			

- MAXIMUM horizontal vent length is 5 feet (1.5M)
 (not including the elbow that connects to the vertical portion)
 NOTE: The only elbow permitted is the one that connects to the vertical.
- MINIMUM vertical vent height is 8 inches (203mm).

FIGURE 1 Special Venting Requirements (cont'd)

- **Pipe** Use either type of pipe listed above for Special Horizontal Vent (Category I). Use only diameter listed in **TABLE 1** above.
- Sealing Seal all joints and seams of single-wall vent pipe inside the building with aluminum tape or silicone sealant. If using double-wall pipe, follow the pipe manufacturer's instructions. When connecting double-wall to heater and vent cap, see Addendum Section A, pages 10-11, for illustrated instructions.
- **Terminal** Use a Reznor or equivalent vent cap and comply with horizontal vent terminal clearances (See **TABLE 4**, page 5.).
- **Elbow** If using single-wall pipe, drill a 3/8" diameter hole in the elbow for water drainage (Refer to **FIGURE 1** illustration).
 - **Installation Tip:** If using single-wall pipe, making the elbow rigid by adding silicone sealant to the full circumference of all elbow section joints will help to stabilize the vent.

1. Type of Vent Pipe (cont'd)

1B). Standard Horizontal Vent (Category III)

• Vent pipe approved for Category III heater

1C). Vertical Vent (Category III)

- Vent pipe approved for Category III heater, OR
- 26 gauge or heavier galvanized steel single-wall pipe

Or, if at least 75% of the equivalent length of the vent run is vertical

• Double-wall (Type B) vent pipe

2. Vent Pipe Diameter and Maximum Vent Length

TABLE 2 - Vent Pipe Diameter and Maximum Vent Length for a Heater with either a Standard Horizontal or a Vertical Vent

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

Vent pipe diameters and maximum vent lengths in **TABLE 2** apply to both **Standard Horizontal** and **Vertical** vents. Add **all** straight sections and equivalent lengths for elbows. The total combined length must not exceed the **Maximum Vent Length**.

UDAP	Vent Diam	-	Maximum Vent Length		Straight	valent t Length Elbow	Straight	valent t Length Elbow	Field-supplied taper type connection required at the
	inches	mm	feet	M	feet	M	feet	M	venter outlet
30	3	76	20	6.1	3	0.9	1.5	0.5	4" to 3" (102mm to 76mm) reducer
	4	102	10	3.0	2	0.6	1	0.3	None
45	3	76	20	6.1	3	0.9	1.5	0.5	4" to 3" (102mm to 76mm) reducer
	4	102	10	3.0	2	0.6	1	0.3	None
60	3	76	30	9.1	4	1.2	2	0.6	4" to 3" (102mm to 76mm) reducer
	4	102	15	4.6	2	0.6	1	0.3	None
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
125	4	102	40	12.2	5	1.5	2.5	0.8	None

Outlet

Diameter

inches

3. Venter (Flue) Outlet Diameter

Depending on the size of vent pipe (either 3 or 4 inch) as determined in Step No. 2, attach 4" vent pipe directly to the collar or use a taper-type reducer to attach 3" pipe.



mm

102

inches

mm

102

TABLE 3 - Venter Outlet Diameter

dum, Sect	tion A, page	11.				
UDAP Size	30	45	60	75	100	125

mm inches

102

mm inches

102

NOTE: If attaching double-wall pipe to the heater, follow instructions in Adden-

4. Vent System Sealing

Vent system joints depend on the type of pipe being used:

mm

102

mm inches

102

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.

inches

- 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 or the vent cap, make secure, sealed joints following a procedure that best suits the style of Category III pipe being used.
- If using double-wall (Type B) vent pipe, follow the pipe manufacturer's instructions for joining pipe sections.

For joining double-wall pipe to outlet collar, single-wall pipe, and vent cap, follow the illustrated instructions for attaching double-wall pipe (Type B) in Addendum Section A, pages 10-11.

5. Vent System Support

Support a horizontal vent run every six feet (1.8M) using a non-combustible material, such as strap steel or chain. Do not rely on the heater for support of either horizontal or vertical vent pipe.

6. Condensation

Single-wall vent pipe 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. Insulation rated for 250°F is required.

Where extreme conditions are anticipated, install a means of condensate disposal.

7. Vent Terminal (Pipe and Vent Cap)

The vent terminal pipe must be either Category III vent pipe or double-wall (Type B). Heaters must be equipped with a Reznor vent cap, a Type L Breidert *Air-x-hauster*® 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 4** and **FIGURE 2** for requirements of a horizontal vent terminal. See **FIGURE 3** for requirements of vertical vent termination.

See Addendum Section A, page 10, for illustrated instructions for attaching double-wall pipe (Type B) to the vent cap or to a vertical single-wall vent run.

For Category III vent pipe, follow the vent pipe manufacturer's instructions. See Addendum Section B, pages 11-12, for instructions on installing Flex L® Category III vent pipe (a specific brand of Category III vent pipe).

TABLE 4 - Horizontal Vent Terminal Clearances

A vent cap is required. Maintain a clearance of 6 to 12 inches (152-305mm) from the wall to the vent terminal cap for stability under wind conditions.

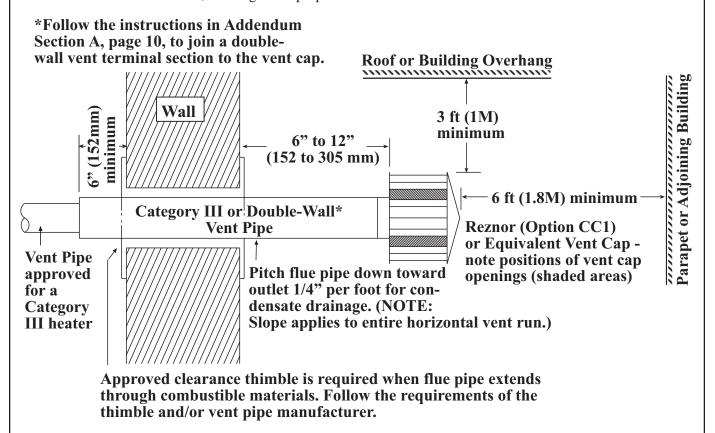
Products of combustion can cause discoloration of some building finishes and deterioration of masonry materials. Applying a clear silicone sealant that is normally used to protect concrete driveways can protect masonry materials. If discoloration is an esthetic problem, relocate the vent or install a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

	Minimum Clearances for Vent Termination Location (all
Structure	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	4 ft (1.2M) horizontally
(any building opening)	4 ft (1.2M) below
	1 ft (305mm) above
Electric meter, gas meter*, gas regulator*,	U.S 4 ft (1.2M) horizontally
and relief equipment	Canada - 6 ft (1.8M) horizontally)
Gas regulator *	U.S 3 ft (0.9M)
	Canada - 6 ft (1.8M)
Adjoining building or parapet	6 ft (1.8M)
Adjacent public walkways	7 ft (2.1M) above
Grade (ground level)	1 ft (305mm) above**

^{*}Do not terminate the vent directly above a gas meter or service regulator.

FIGURE 2 - Standard Horizontal Vent Terminal - Residential

NOTE: Read all measurements; drawing is not proportional.

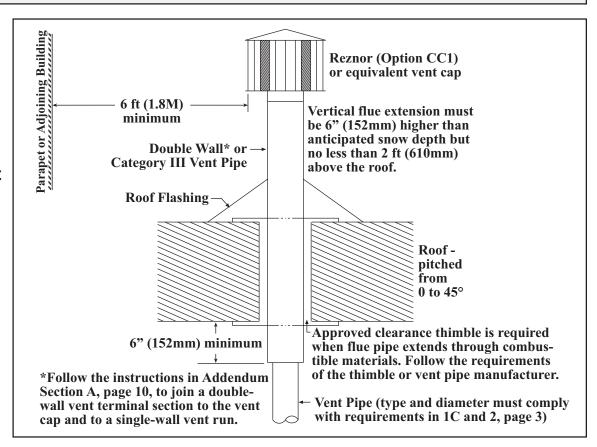


^{**} Consider local snow depth conditions. The vent must be at least 6" (152mm) higher than anticipated snow depth.

7. Vent
Terminal
(Pipe and
Vent Cap) cont'd

FIGURE 3 -Vertical Vent Terminal -Residential Installation

NOTE: Read all measurements; drawing is not proportional.



Commercial/Industrial Installation Models UDAP and UDBP - All Sizes

1. Type of Vent
Pipe is
Determined by
whether Vent is
Horizontal or
Vertical

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

Horizontal

- Vent pipe approved for a Category III appliance, OR
- Appropriately sealed 26-gauge or heavier galvanized steel or equivalent single-wall pipe

Vertical

- Vent pipe approved 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

• Double-wall (Type B) vent pipe

Commercial/Industrial Installation Models UDAP and UDBP - All Sizes

2. Vent Pipe Diameter and Length

TABLE 5 - Vent Pipe Diameter and Length for Horizontal and Vertical Vents

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

Vent pipe diameters and maximum vent lengths in **TABLE 5** apply to both **Horizontal** and **Vertical** vents. Add **all** straight sections and equivalent lengths for elbows. The total combined length must not exceed the **Maximum Vent Length**.

UDAP and UDBP	Vent l	- 1	Maximum Vent Length		Straight	valent Length Elbow	Straight	valent Length Elbow	Field-supplied taper type connection required at the	
ОВВ	inches	mm	feet	M	feet	M	feet	M	venter outlet	
30	3	76	20	6.1	3	0.9	1.5	0.5	4" to 3" (102mm to 76mm) reducer	
	4	102	10	3	2	0.6	1	0.3	None	
45	3	76	20	6.1	3	0.9	1.5	0.5	4" to 3" (102mm to 76mm) reducer	
	4	102	10	3	2	0.6	1	0.3	None	
60	3	76	30	9.1	4	1.2	2	0.6	4" to 3" (102mm to 76mm) reducer	
	4	102	15	4.6	2	0.6	1	0.3	None	
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	
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	
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	
250	5	127	50	15.2	5	1.5	2.5	0.8	None	
300	6	152	50	15.2	5	1.5	2.5	0.8	None	
	6	152	50	15.2	7	2.1	3.5	1.1	None	
350	7	178	50	15.2	4.5	1.4	2.25	0.7	6" to 7"(152 to 178mm) enlarger	
	6	152	50	15.2	8	2.4	4	1.2	None	
400	7	178	50	15.2	5	1.5	2.5	0.8	6" to 7"(152 to 178mm) enlarger	

3. Venter (Flue) Outlet

TABLE 6 - Venter Outlet Size

Venter Outlet Attachment Requirements:

Depending on the size of vent pipe as determined in Step No. 2, attach either the vent pipe directly to the collar or a taper-type connector.

UDAP or	UDBP	30	45	60	75	100	125	150	175	200	225	250	300	350	400
Outlet	inches	4	4	4	4	4	4	5	5	5	5	5	6	6	6
Diameter	mm	102	102	102	102	102	102	127	127	127	127	127	152	152	152

NOTE: If attaching double-wall pipe to the heater, follow instructions in Addendum, Section A, page 11.

Commercial/Industrial Installation Models UDAP and UDBP - All Sizes

4. Vent System Sealing

Vent system joints depend on the type of pipe being used (See "Type of Vent Pipe", Requirement No. 1, page 6).

- 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 or the vent cap, make secure, sealed joints following a procedure that best suits the style of Category III pipe being used.
- If using double-wall (Type B) vent pipe, follow the pipe manufacturer's instructions for joining pipe sections.

 For joining double-wall pipe to heater collar, single-wall pipe, and vent cap, follow the illustrated instructions in Addendum Section A, pages 10-11.

5. Vent System Support

Horizontal runs should be supported every six feet (1.8M) using a non-combustible material, such as strap steel or chain. Do not rely on the heater for support of either horizontal or vertical vent pipe.

6. 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.

7. Vent Terminal (Pipe and Vent Cap)

The vent terminal pipe must be either Category III vent pipe or double-wall (Type B). Heaters must be equipped with a Reznor vent cap, a Type L Breidert *Air-x-hauster*® 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 7** and **FIGURE 4** for requirements of a horizontal vent terminal. See **FIGURE 5** for requirements of vertical vent termination.

TABLE 7 - Horizontal Vent Terminal Clearances

A vent cap is required. Maintain a clearance of 6 to 12 inches (152-305mm) 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.

	Minimum Clearances for Vent Termination Location (all
Structure	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	4 ft (1.2M) horizontally
(any building opening)	4 ft (1.2M) below
	1 ft (305mm) above
Electric meter, gas meter*, gas regulator*,	U.S 4 ft (1.2M) horizontally
and relief equipment	Canada - 6 ft (1.8M) horizontally)
Gas regulator *	U.S 3' (0.9M); Canada - 6' (1.8M)
Adjoining building or parapet	6 ft (1.8M)
Adjacent public walkways	7 ft (2.1M) above
Grade (ground level)	1 ft (305mm) above**
*D	

^{*}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.

Commercial/Industrial Installation Models UDAP and UDBP - All Sizes

FIGURE 4 - Horizontal Vent Terminal - Commercial/Industrial

NOTE: Read all measurements; drawing is not proportional.

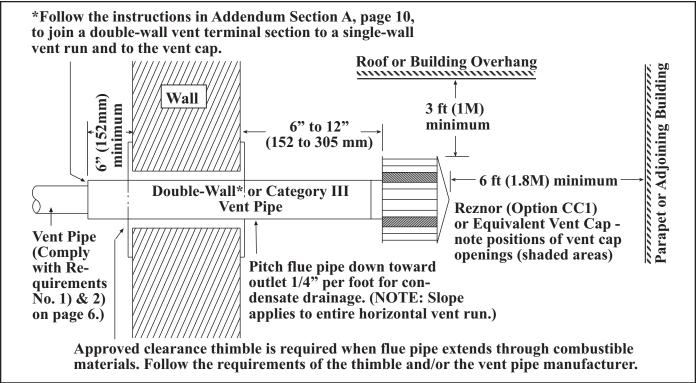
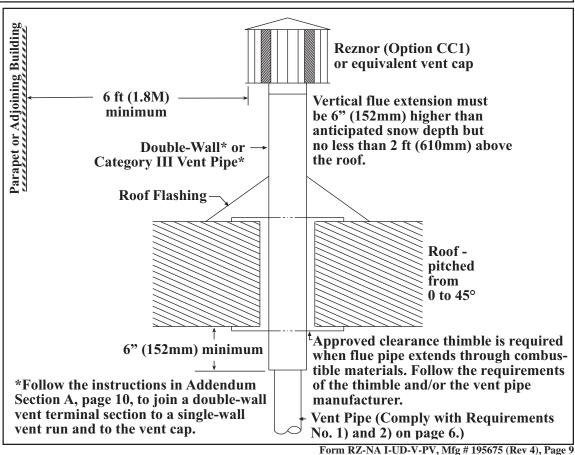


FIGURE 5 -Vertical Vent Terminal -Commercial/ Industrial

NOTE: Read all measurements; drawing is not proportional.



ADDENDUM

Section A -

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

FIGURE 6 - Attaching Double-Wall (Type B) Pipe to <u>Single Wall</u> <u>Pipe</u>

Figure 6 - 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.

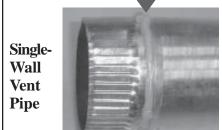
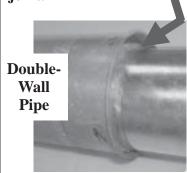


Figure 6 - STEP 2

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



Single-Wall Vent Pipe with Sealant

Figure 6 - 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.

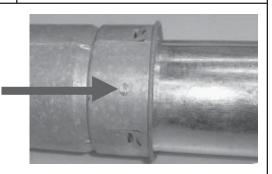


FIGURE 7 - Attaching Double-Wall (Type B) Pipe to a Vent Cap

Figure 7 - 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 7 - 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 7 - 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 8 - Attaching Double-Wall (Type-B) Vent Pipe to the Heater

Figure 8 - 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.

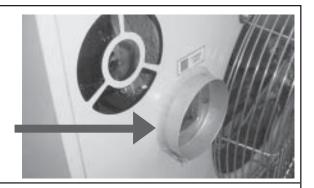
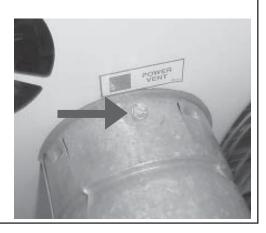


Figure 8 - STEP 2

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.

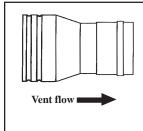


ADDENDUM Section B -

Instructions for Installing Flex-L® Category III Vent Pipe on a Reznor® Model UDAP or UDBP Power-Vented Heater

FIGURE 9 -Flex-L[®] Vent Pipe Adapters SUPPLIER NOTE: The adapters for Flex-L® vent pipe illustrated in Figure 9 are not available from Reznor or Thomas & Betts; the adapters are available from a Flex-L® vent pipe distributor. These instructions are designed to assist the contractor who has selected to use Flex-L® brand Category III vent pipe to install a Reznor power vented heater with a 4" (102mm) venter outlet.

1. Attach the Adapter Pipe or Reducer to the Venter Collar



4" to 3" (102 to 76mm) diameter, 6-3/4" long Adapter Reducer, Flex-L® #SRARZA43, specially designed for attaching Flex-L® Category III vent pipe to a Reznor® Model UDAP or UDBP 30, 45, and 60 for 3" (76mm) diameter vent pipe.



4" (102mm) diameter, 12" long Adapter Pipe, Flex-L® #SRARZA4, specially designed for attaching Flex-L® Category III vent pipe to a Reznor® Model UDAP or UDBP 30, 45, 60, 75, 100, and 125 for 4" (102mm) diameter vent pipe.

- a) On the end of the adapter or reducer that attaches to the venter collar (the end of the adapter with the double emboss without the locking ring hole), run a continuous bead of high temperature silicone around the inside of the pipe. See FIGURE 10.
- **b)** Push the adapter pipe or reducer over the flue collar.
- c) On the top of the overlap, drill a 1/8" hole and insert a sheetmetal screw to secure the connection.

ADDENDUM, Section B (cont'd)

Instructions for Installing Flex-L® Category III Vent Pipe (cont'd)

FIGURE 10 - Attach to Venter Outlet

2. Run the Vent Pipe

a) Refer to either the residential or commercial/industrial venting instructions in this manual for vent length requirements.

Slide the adapter pipe or reducer over the venter

outlet. Secure with a sheetmetal screw.

Sheetmetal Screw

b) If using a 4" to 3" (102 to 76mm) reducer - Following the vent pipe manufacturer's instructions, attach a straight piece of 3" diameter horizontal pipe or an elbow in any direction above horizontal.

If using a 4" (102mm) diameter, 12" (305mm) long adapter pipe - Following the vent pipe manufacturer's instructions, attach one of the following:

• an elbow in any direction above horizontal, or

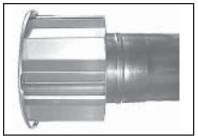
• a straight horizontal pipe

Run a continuous bead of high temperature silicone

around the inside of the pipe.

FIGURE 11 - Extend vent in any direction above horizontal

FIGURE 12 - Attach Vent Cap



- c) Follow the pipe manufacturer's instructions to connect the vent pipe sections and install the vent pipe run. The length of vent must not exceed the maximum allowed for the heater being installed.
- d) Extend the vent pipe through the wall or roof to the outdoors. An approved clearance thimble is required when flue pipe extends through combustible materials. Follow the requirements of the pipe and thimble manufacturer. Be sure to comply with local and national codes when selecting the vent terminal location. The vent pipe installer is responsible for following the manufacturer's instructions and complying with all applicable codes.

3. Attach the Vent Cap (FIGURE 12)

a) Use a Type L Breidert Air-x-hauster® or equivalent vent cap (either supplied as an option or field-supplied).

Flex-L® elbow attached to the 12" adapter pipe

- **b)** Slide the vent cap collar into the vent pipe.
- c) Around the end of the vent pipe, drill three evenly spaced 1/8" holes through the vent pipe and vent cap. Insert sheetmetal screws to secure the vent cap to the vent pipe.



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