



Concentric Vent Termination Kit - Installation Instructions

Advantage Plus

Concentric Vent Termination Kit SP12161 (3")

Read this entire instruction manual before starting the installation!

INTRODUCTION

These instructions cover the installation of the concentric vent termination kit –SP12161 (3") on all 160,000 and 199,00 BTU Advantage Plus high-efficiency gas fired water heaters.



NOTE: If these instructions differ from those packaged with the advantage plus unit, follow these instructions.

SAFETY CONSIDERATIONS

Installing and servicing heating equipment can be hazardous, due to gas and electrical components. Only trained personnel should install or service heating equipment. All operations should be performed by trained service personnel. When working on heating equipment, observe all precautions in the literature, on tags, and on all labels attached to the unit. Follow all safety codes; wear safety glasses and work gloves; have a fire extinguisher available.



WARNING: BEFORE BEGINNING ANY INSTALLATION OR MODIFICATION, BE SURE THE MAIN ELECTRICAL DISCONNECT SWITCH IS IN THE "OFF" POSITION. ELECTRICAL SHOCK CAN CAUSE PERSONAL INJURY OR DEATH.

DESCRIPTION AND USAGE

The part number SP12161 (3") can be used for 3" diameter pipe systems. See Fig. 3, 5, 6, and 7 for the different applications. Both combustion air and vent pipes must attach to the termination kit. The termination kit must terminate outside the structure and must be installed as in one of the installations shown in Fig. 3, 5, 6, or 7; roof termination is preferred.



WARNING: THESE KITS ARE TO BE USED ONLY FOR THE TERMINATING THE ADVANTAGE PLUS UNIT. DO NOT USE KIT TO TERMINATE CATEGORY I, II, OR III WATER HEATERS. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN FIRE, PERSONAL INJURY, OR DEATH.

Field supplied pipe and fittings are required to complete the installation. The combustion air and vent pipe fittings must conform to American National Standards Institute (ANSI) and American



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Society for Testing and Materials (ASTM) standards D1785 (schedule – 40 PVC), D2665 (PVC-DWV), D2441 (SDR-21 and SDR-26 PVC), D2661 (ABS-DWV), or F628 (Schedule 40 ABS). Pipe cement and primer must conform to ASTM standards D2564 (PVC) or D2235 (ABS).

VENT KIT DIMENSIONS

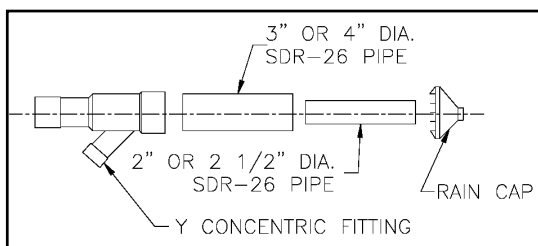


Figure 1

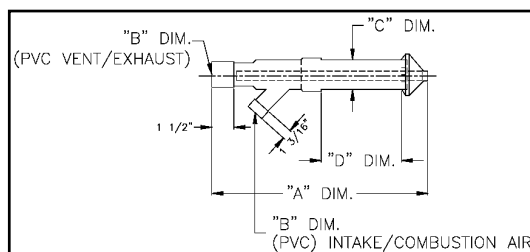


Figure 2

Kit Part No	A**	B	C	D***
SP12161	38 7/8"	3" Kit	4 1/2"	21 1/8"



**** Dimension A will change accordingly as dimension D is lengthened or shortened.**

***** Dimension D may be lengthened to 60" maximum. Dimension D may also be shortened by cutting the pipes provided in the kit to 12" minimum.**

For 160,000 and 199,000 BTU models, use the 3 in. kit (SP12161).

Installation Instructions Procedure 1 - Roof Termination (See Figure 3)

Roof termination is preferred since it is less susceptible to damage, has reduced changes to intake contaminants, and has less visible vent vapors.

1. Determine best location for termination kit.
2. NOTE: Consider the following when determining an appropriate location for the termination kit.
 - a. Termination kit positioned where the vent vapors will not damage plants, shrubs, or air conditioning equipment.
 - b. Termination kit positioned so it will not be affected by wind, that may allow re-circulation of combustion products, air borne leaves, or light snow.
 - c. Termination kit positioned where it will not get damaged or be subjected to foreign objects, stones, balls, etc.

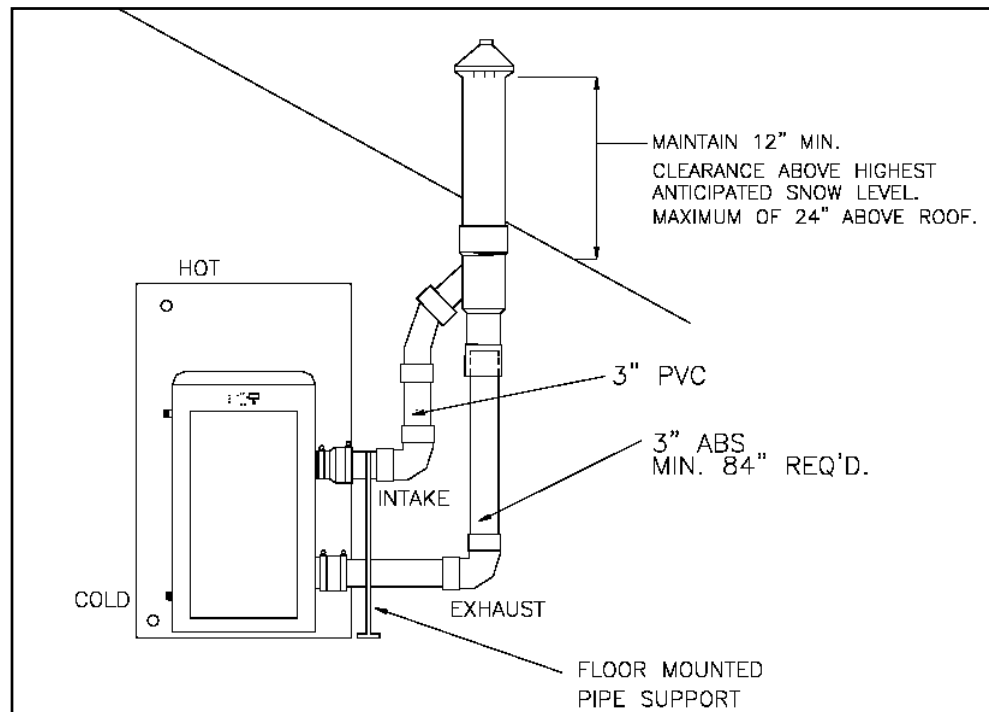




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- d. Termination kit positioned where the vent vapors will not be objectionable.
3. Cut one hole (5" diameter) for SP12161 kit.
4. Partially assemble concentric vent termination kit. Clean and cement using procedures found in the Advantage Plus Installation Service manual.
5. Cement the Y concentric fitting to the larger diameter kit pipe. (See Fig. 1)
6. Cement the rain cap to the smaller diameter kit pipe. (See Fig. 1)
7. Install Y concentric fitting and pipe assembly through the structure's hole.
8. Install rain cap and small diameter pipe assembly in Y concentric fitting and large pipe assembly. Ensure small diameter pipe is bottomed and cemented in Y concentric fitting.
9. Secure assembly to structure as shown in Fig. 7, using field supplied metal strapping or equivalent support material.
10. Cement Advantage Plus combustion air and vent pipes to concentric vent termination assembly. See Fig. 7 for proper pipe attachment.
11. Operate Advantage Plus one heat cycle to ensure combustion air and vent pipes are properly connected to concentric vent termination connections.

Figure 3



Installation Instructions Procedure 2 - Side Wall Termination (See Figure 4)

1. Determine best exterior side wall location for termination kit.
2. NOTE: Consider the following when determining an appropriate location for the termination kit:

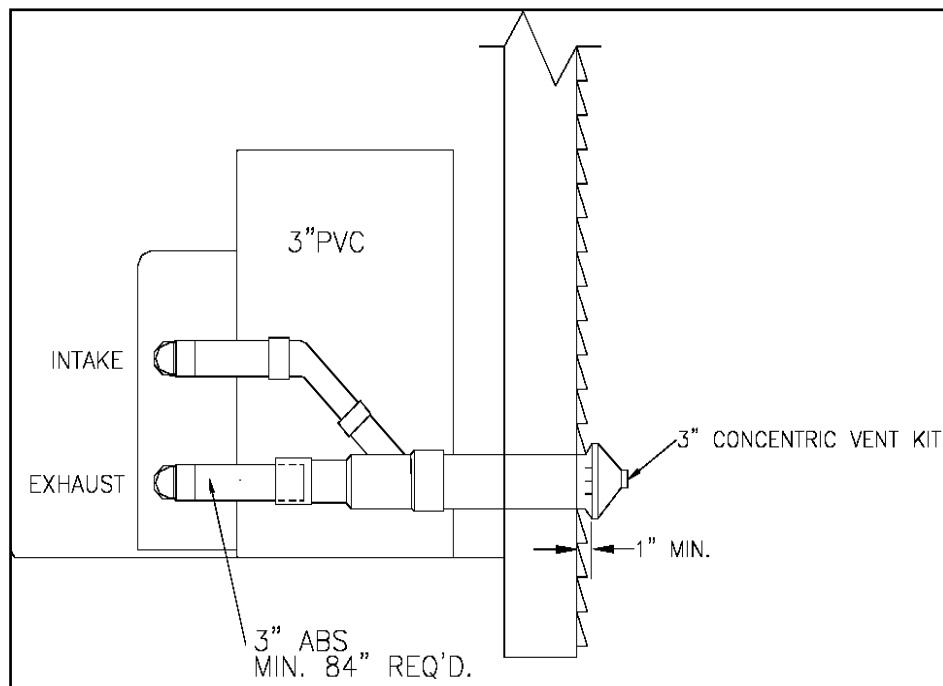


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- a. Termination kit positioned where the vent vapors will not damage plants, shrubs, or air conditioning equipment.
 - b. Termination kit positioned so it will not be affected by wind, that may allow re-circulation of combustion products, airborne leaves, or light snow.
 - c. Termination kit positioned where it will not get damaged or be subjected to foreign objects, stones, balls, etc.
 - d. Termination kit positioned where the vent vapors will not be objectionable.
3. Cut one (5 in. diameter) for SP12161 (3 in. diameter) kit.
 4. Partially assemble concentric vent termination kit. Clean and cement using procedures found in the AdvantagePlus Use and Care manual (AP12158).
 5. Cement the Y concentric fitting to larger diameter kit pipe. (See Fig. 1)
 6. Cement the rain cap to the smaller diameter kit pipe. (See Fig. 1)
 7. Install Y concentric fitting and pipe assembly through the wall structure's hole.
 8. Install rain cap and small diameter pipe assembly in Y concentric fitting and large pipe assembly. Ensure small diameter pipe is bottomed and cemented in Y concentric fitting.
 9. Secure assembly to wall structure as required using field supplied metal strapping or equivalent support materials from the floor.
 10. Cement AdvantagePlus combustion air and vent pipes to concentric vent termination assembly.
 11. Operate AdvantagePlus one heat cycle to ensure combustion air and vent pipes are properly connected to concentric vent termination connections.

Figure 4



If assembly needs to be extended to allow for side wall thickness requirement, the two pipes supplied in the kit may be replaced by using the same diameter, field

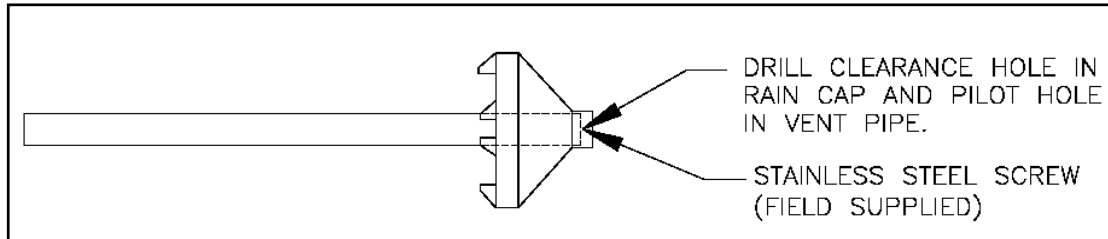


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supplied SDR-26 (D2241) pipe. Do not extend dimension "D" more than 60".
(see fig. 2)

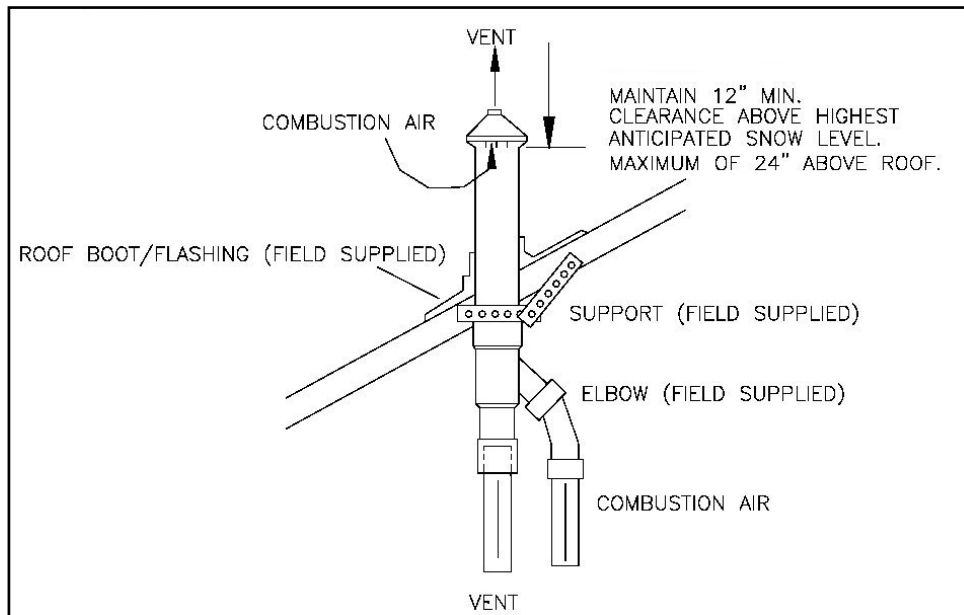
Alternate Assembly : Rain Cap to Vent Pipe

Figure 5 - Rain Cap to Vent Pipe Alternate Assembly



1. Install rain cap and small diameter pipe assembly in roof penetration assembly. Ensure small diameter pipe is cemented and bottomed in Y concentric fitting.
2. Cement AdvantagePlus combustion air and vent pipes to concentric vent termination assembly. See Fig. 6 for proper pipe attachment and support for roof termination, if required.
3. Operate AdvantagePlus through on heat cycle to ensure combustion air and vent pipes are properly connected to concentric vent termination connections.

Figure 6



Notes and Warnings



WARNING: When using alternate screw assembly method, drill clearance hole in rain cap and pilot hole in vent pipe for screw size being used. Failure to drill adequate holes may cause



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cracking of PVC components, allowing combustion products to be re-circulated. Failure to follow this warning could result in personal injury or death!

WARNING; Do not operate the AdvantagePlus unit with rain cap removed, or re-circulation of combustion products may occur. Water may also collect inside larger combustion air pipe and flow to burner enclosure. Failure to follow this warning could result in product damage, improper operation, personal injury, or death!



CAUTION: Do not use field supplied couplings to extend pipes. Airflow restriction will occur and the AdvantagePlus pressure switch may cause intermittent operation.



NOTE:

Do not allow insulation or other materials to accumulate inside pipe assembly when installing through hole.

Instead of cementing smaller pipe to rain cap, a field supplied stainless steel screw may be used to secure the two components together when field assembly is desired for cleaning (See fig. 5)

Ensure termination location clearance dimensions are respected.

Ensure termination height is above the roof surface or anticipated snow level as shown in fig. 3.



If assembly is too short to meet height requirements, the two pipes supplied in the kit may be replaced by using same diameter, field supplied SDR-26 PVC (D2241) pipe. Do not extend dimension D more than 60 in. (see fig. 2)

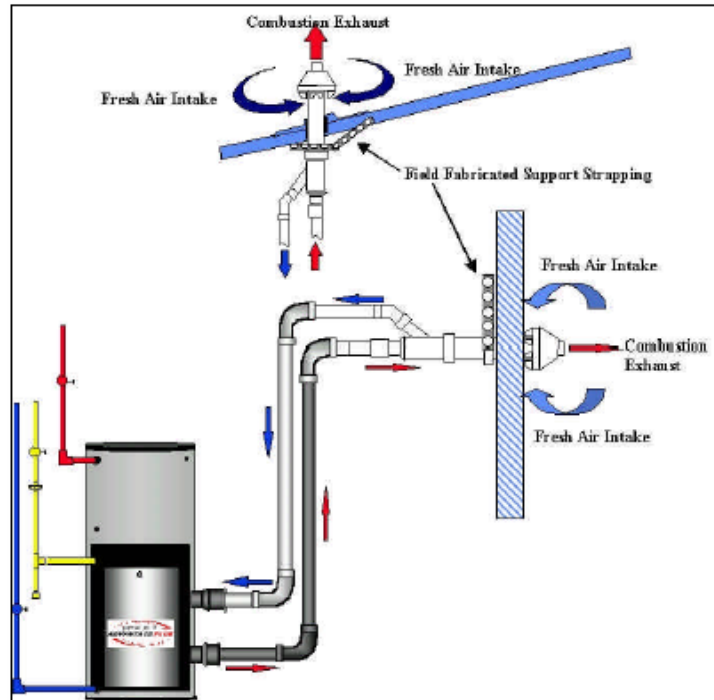
Most common AdvantagePlus Venting installation concerns

- Vent length too long
- Venting not pitched properly - condensate build up in vent
- Exhaust gas re-circulation - vent terminals not used, wrong fittings used
- Bush or wall in front of vent terminal
- Inside corner of building for vent location
- Overhang with vent underneath
- Compound roof pitch, or above roof fire wall
- Additional fittings installed into terminals
- Venting not cleaned and glued together for pressure tight joints
- Intake air containing exhaust from another vent or appliance



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For additional venting suggestions, see Technical Bulletin #1707 – AdvantagePlus Venting Samples Views. This document is available online at www.rheem.com or by emailing techanalyst@rheem.com



If you have any questions about the installation or use of the 3 inch PVC Concentric Vent Kit, call the Rheem Technical Support Line at 800-432-8373.