

INSTALLATION INSTRUCTIONS

FOR 6" (15 cm) CONCENTRIC VENT TERMINATION

INTRODUCTION

This instruction covers installation of the 6" (15 cm) concentric vent termination for BTH 400 and 500 Cyclone XHE water heaters.

KIT COMPONENTS

Each kit is comprised of the following:

Item No.	Part No.	Description	Qty.
1	197407-000	6" (15 cm) Concentric Vent Sub-Assembly	1
2	197437-000	Vent Terminal Assembly	1
3	197454-000	Vent/Rain Cap Assembly	1
4	197313-001	Installation Instructions	1

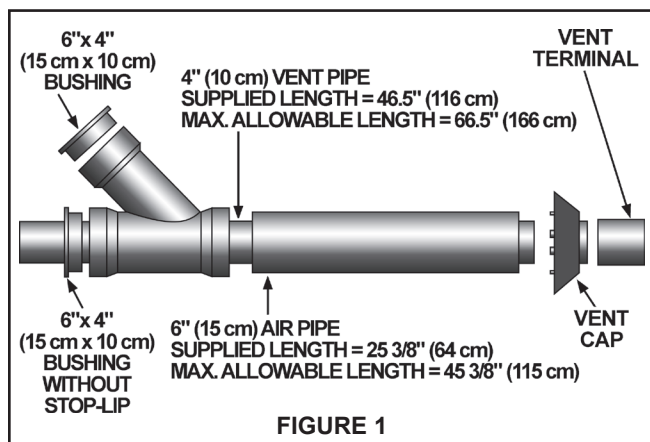


FIGURE 1

Note: Read the entire instruction manual before starting the installation.

Field supplied pipe and fittings are required to complete the installation. See water heater installation and operation manual for venting specification.

SAFETY CONSIDERATIONS

Installing and servicing water heating equipment can be hazardous due to gas and electrical components. Only trained personnel should install or service this equipment. All precautions in the literature, on tags, and labels attached to the unit must be observed.

Follow all safety codes. Wear safety glasses and work gloves. Have a fire extinguisher available.

INSTALLATION PROCEDURE. 1 ROOF TERMINATION (See Figure 2)

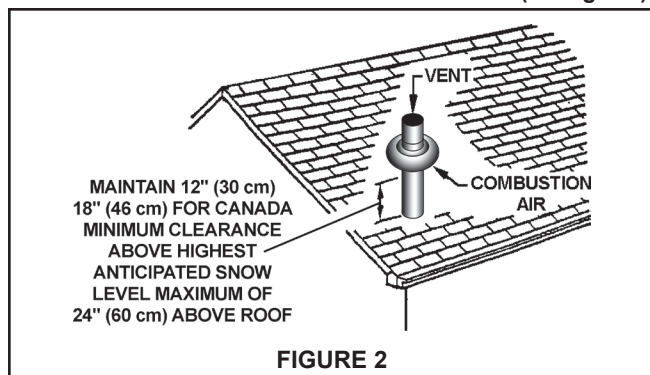


FIGURE 2

- Determine best location for termination kit.

NOTE: Roof termination is preferred since it is less susceptible to damage, has reduced chances of intake contaminants, and produces less visible vent vapors.

- Cut 1 hole 7" diameter (18 cm).
- Partially assemble concentric vent termination kit.
 - Cement Y concentric fitting to larger diameter kit pipe, see Figure 1.
 - Cement 4" x 6" (10 cm x 15 cm) bushings to Y fitting, see Figure 1. The bushing without the stop-lip must be installed at the straight end for installing the 4" (10 cm) vent pipe, see Figure 1.
 - Slide rain cap into the 4" (10 cm) vent pipe. Cement the vent terminal to the 4" (10 cm) end, see Figure 3.
 - Push the rain cap back until the cap collar touches the vent terminal, see Figure 3. Secure the rain cap with field supplied stainless steel screws, apply water proof silicone sealant between the rain cap collar and the vent terminal, see Figure 3.



FIGURE 3

WARNING

Do not operate the heater with rain cap removed or recirculation of combustion products may occur. Water may also collect inside larger combustion-air pipe and flow to the burner enclosure. Failure to follow this warning could result in product damage or improper operation, personal injury or death due to carbon monoxide poisoning.

- Install Y concentric fitting and pipe assembly through structure's hole and field supplied roof boot/flashing.

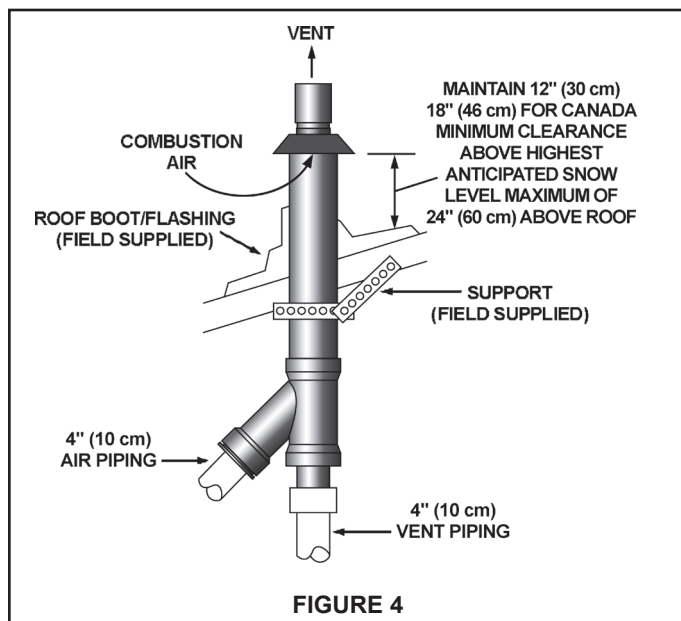


FIGURE 4

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

5. Secure assembly to roof structure as shown in Figure 5 using field supplied metal strapping or equivalent support material.

NOTE: Ensure termination height is above the roof surface or anticipated snow level (1 ft. (30 cm) in U.S.A. or 1-1/2 ft. (46 cm) in Canada) as shown in Figure 3.

6. Push rain cap and small diameter pipe assembly through roof penetration assembly. Ensure small diameter pipe is cemented in Y concentric fitting. Secure the rain cap to the 6" (15 cm) pipe with stainless steel screw.
7. Cement heater combustion-air and vent pipes to concentric vent termination assembly. See Figure 4 for proper pipe attachment.
8. Operate heater through 1 heat cycle to ensure combustion air and vent pipes are properly connected to concentric vent termination connections.

NOTE: All vent terminations must be the same height when installing multiple unit venting. If assembly is too short to meet height requirement, the 2 pipes supplied in the kit may be replaced by using same diameter, field supplied SDR-26 PVC (D2241) pipe.

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

INSTALLATION PROCEDURE: SIDE WALL TERMINATION (See Figure 5, 6 and 7)

1. Determine best location for termination kit.

NOTE: Consideration for the following should be used when determining an appropriate location for the termination kit:

- Termination kit positioned where the vent vapors will not damage plants/shrubs or air conditioning equipment.
- Termination kit positioned so it will not be affected by wind eddy that may allow recirculation of combustion products, or airborne leaves, or light snow.
- Termination kit positioned where it will not get damaged or be subjected to foreign objects, such as stones, balls, etc.
- Termination kit positioned where the vent vapors will not be objectionable.

NOTE: See water heater installation and operation manual for additional vent location requirements.

2. Cut 1 hole 7" diameter (18 cm).
3. Partially assemble concentric vent termination kit.
 - a) Cement Y concentric fitting to larger diameter kit pipe, see Figure 1.
 - b) Cement 4" x 6" (10 cm x 15 cm) bushings to Y fitting, see Figure 1. The bushing without the stop-lip must be installed at the straight end of the "Y" to install the 4" (10 cm) vent pipe.
 - c) Slide rain cap into the 4" (10 cm) vent pipe. Cement the vent terminal to the 4" (10 cm) end, see Figure 3.
 - d) Push the rain cap back until the cap collar touches the vent terminal, see Figure 3. Secure the rain cap with field supplied stainless steel screws, apply water proof silicone sealant between the rain cap collar and the vent terminal, see Figure 3.



WARNING

Do not operate the heater with rain cap removed or recirculation of combustion products may occur. Water may also collect inside larger combustion-air pipe and flow to the

burner enclosure. Failure to follow this warning could result in product damage or improper operation, personal injury or death due to carbon monoxide poisoning.

4. Install Y concentric fitting and pipe assembly through structure's hole.

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

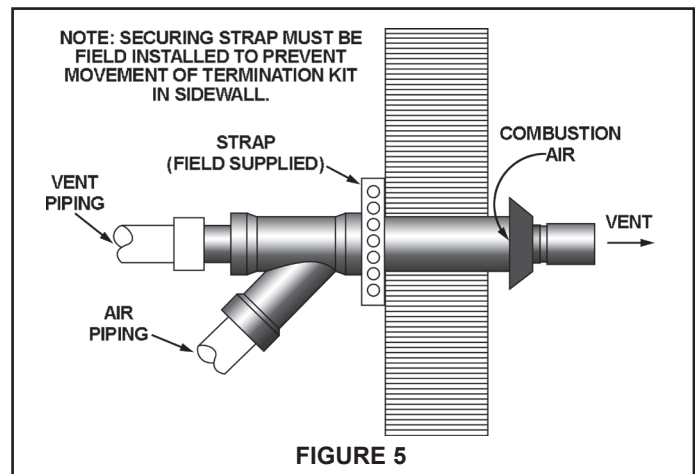
5. Push rain cap and small diameter pipe assembly through Y concentric fitting and large pipe assembly. Ensure small diameter pipe is cemented in Y concentric fitting. Secure the rain cap to the 6" (15 cm) pipe with field supplied stainless steel screw.
6. Secure assembly to structure as shown in Figure 5 using field supplied metal strapping or equivalent support material.

NOTE: Ensure termination location clearance dimensions are as shown in Figures 6 and 7 and in the heater installation and operation instructions in the BTH manuals.

NOTE: If assembly needs to be extended to allow side wall thickness requirement, the 2 pipes supplied in the kit may be replaced by using same diameter, field-supplied SDR-26 PVC (D2241) pipe. Do not extend 25 3/8" (64 cm) dimension more than 45 3/8" (115 cm) (See Figure 2).

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

7. Cement heater combustion-air and vent pipes to concentric vent termination assembly. See Figure 5 for proper pipe attachment.
8. Operate heater through 1 heat cycle to ensure combustion-air and vent pipes are properly connected to concentric vent termination connections.



INSTALLATION PROCEDURE: MULTIPLE ROOF OR SIDEWALL TERMINATION



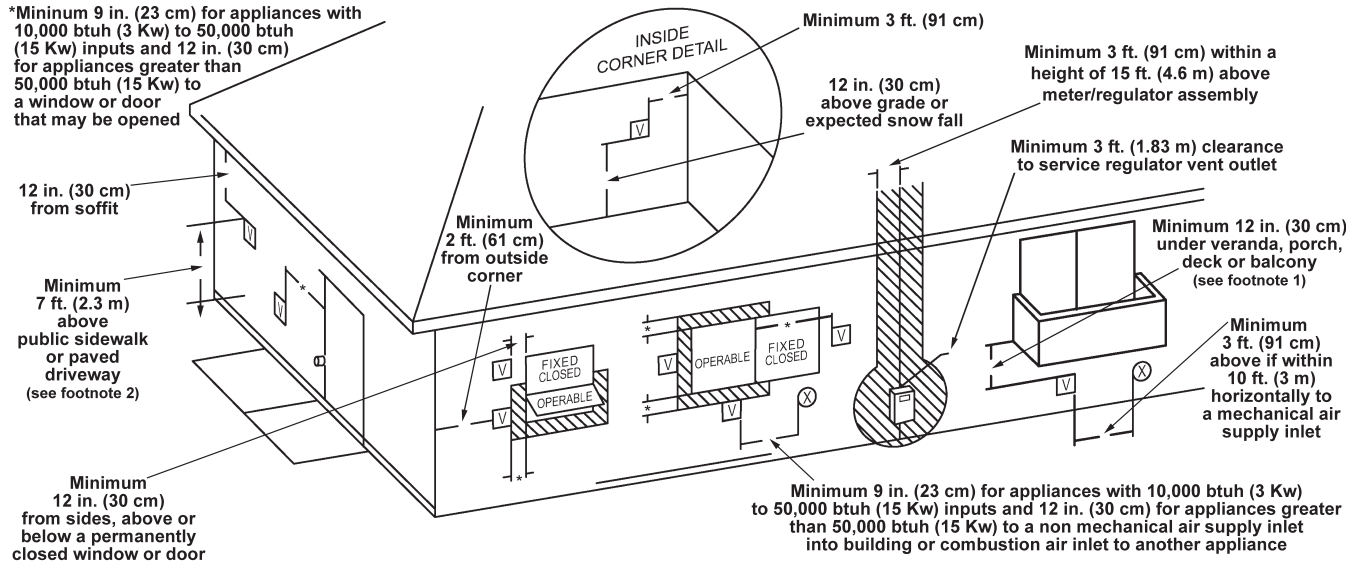
WARNING

All vent outlets of the termination assemblies must be of the same height to avoid flue gas recirculation and the possibility of severe personal injury or death due to carbon monoxide poisoning.

On installations of multiple BTH water heaters, install the concentric vent/air termination assemblies as described in this manual.

The roof or wall penetration of the terminal assemblies should be such that the vent outlet is a minimum 12" (30 cm) between the centerlines of adjacent vent terminals for installations in the U.S. For installations in Canada, provide clearances as required by the Natural Gas and Propane Installation Code CAN/CSA-B149.1.

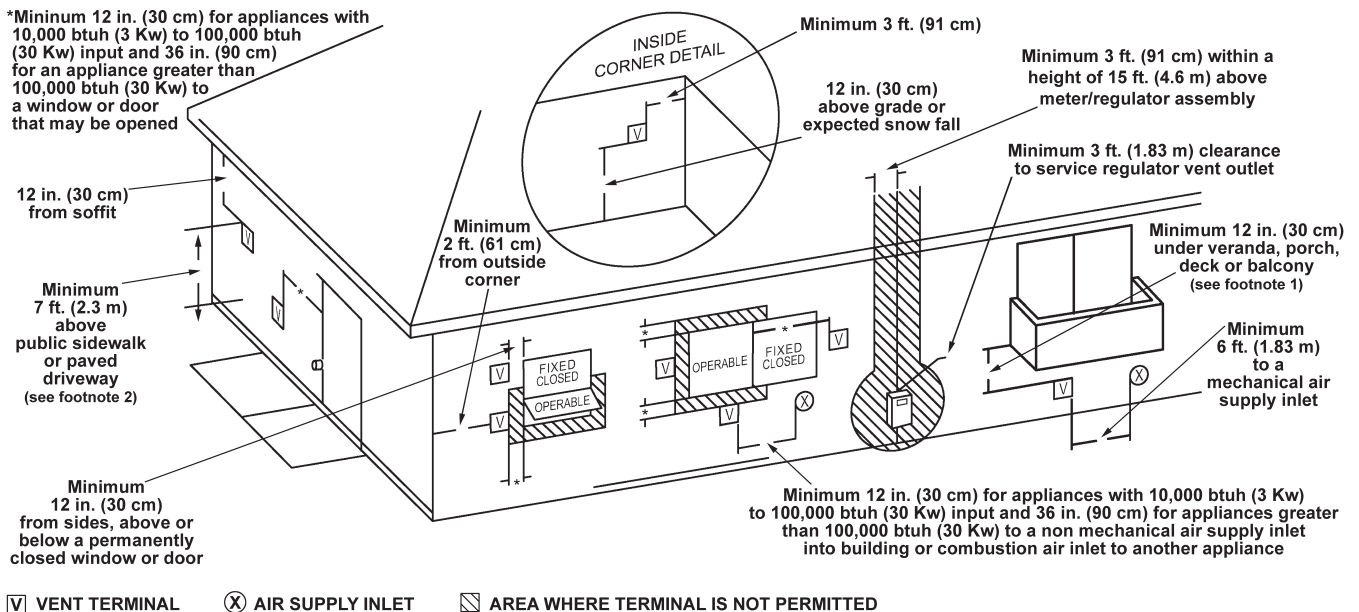
U.S. DIRECT VENT TERMINATION CLEARANCES



1. Permitted only if veranda, porch, deck or balcony is fully opened on a minimum of two sides beneath the floor.
2. A vent shall not terminate above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

FIGURE 6

CANADIAN DIRECT VENT TERMINATION CLEARANCES



1. Permitted only if veranda, porch, deck or balcony is fully opened on a minimum of two sides beneath the floor.
2. A vent shall not terminate above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

FIGURE 7

A.O. Smith
Water Heaters

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500 TENNESSEE WALTZ PARKWAY • ASHLAND CITY, TN 37015
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