

# INSTALLATION INSTRUCTION

## 1CT0302 / 1CT0303 CONCENTRIC VENT TERMINATION FOR CATEGORY IV FURNACES

Supersedes: 650.75-N2.4U (799)

650.75-N2.4U (301)

035-14287

### VENT TERMINAL ASSEMBLY FOR USE WITH MODELS P\*UR/P\*DH/P\*XU-V/G9T/G9V/G9D/DGA/FG9

#### GENERAL

This accessory allows both the intake for combustion air and the exhaust vent to pass through a common roof or sidewall penetration. This termination is available as an option to the standard two pipe intake/vent shown in the basic furnace installation instructions.

Follow this instruction for installation of the concentric termination kit. Follow the basic furnace installation instruction for installation of the intake/vent pipe(s) and all furnace installation procedures.

Two concentric intake/vent termination accessories are available. 1CT0302 is for use with 2" intake/vent systems. 1CT0303 is for use with 3" intake/vent systems. Refer to Table 1 for allowable intake/vent system lengths when using these kits.

Refer to Table 1 for intake/vent pipe sizing information.

**NOTE:** This concentric termination accessory reduces the allowable intake/vent piping length by 5 feet from that listed in the basic furnace installation instructions.

**TABLE 1 - MAXIMUM ALLOWABLE INTAKE / VENT SYSTEM LENGTH USING THIS CONCENTRIC TERMINATION ACCESSORY**

| INPUT/OUTPUT | PIPE SIZE | LENGTH | ELBOWS |
|--------------|-----------|--------|--------|
| 40/37        | 2"        | 45'    | 4      |
| 60/55        |           |        |        |
| 80/75        |           |        |        |
| 100/95       |           |        |        |
| 40/37        | 3"        | 70'    | 5      |
| 60/55        |           |        |        |
| 80/75        |           |        |        |
| 100/95       |           |        |        |
| 120/112      | 3"        | 45'    | 4      |
| 140/130      |           |        |        |



**WARNING:** This accessory must be used only for terminating the vent of a Category IV furnace. Do not use this termination kit for any other type furnace. Failure to follow this warning could result in fire, personal injury or death.



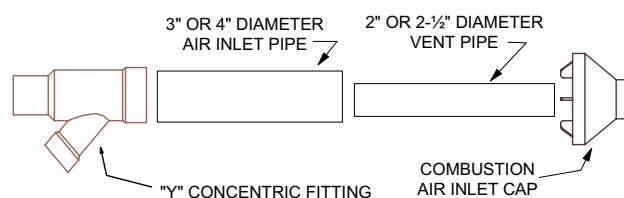
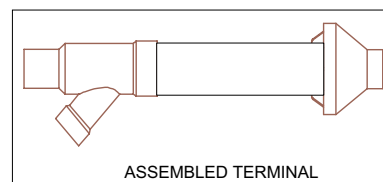
**WARNING:** Do not operate the furnace until the installation and assembly of this intake/vent terminal and all piping are completed. Failure to follow this warning could result in product damage or improper operation, personal injury or death.

This kit contains the following parts:

- (1) Combustion Air inlet Cap
- (1) Air Inlet Pipe
- (1) Vent Pipe
- (1) Intake/Vent Concentric "Y"
- (1) Installation Instruction (650.75-N2.4U)

Field supplied pipe and fittings are required to complete installation. The combustion air and vent pipe fittings must conform to American National Standards Institute (ANSI) and American Society for Testing and Materials (ASTM) standards D1785 (Schedule 40 PVC), F891 (PVC-DWV cellular core), D2665 (PVC-DWV), D2241 (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).

In Canada, construct all combustion air and vent pipes for this unit of CSA or ULC certified Schedule 40 PVC, PVC-DWV, or ABS-DWV pipe and pipe cement.



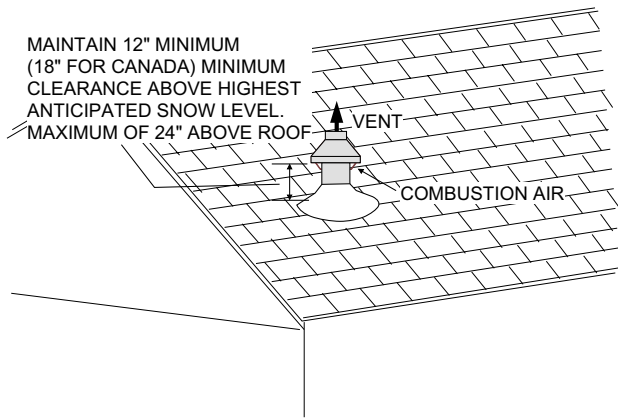
**FIGURE 1 - VENT TERMINAL ASSEMBLY**

| MODEL   | INTAKE/VENT NOM. PIPE SIZE | OVERALL ASSEM'D LENGTH <sup>1</sup> | INTAKE PIPE OUTSIDE DIA. | AIR INLET PIPE LENGTH <sup>2</sup> |
|---------|----------------------------|-------------------------------------|--------------------------|------------------------------------|
| 1CT0302 | 2"                         | 41"                                 | 3-1/2"                   | 27-1/4"                            |
| 1CT0303 | 3"                         | 47"                                 | 4-1/2"                   | 31-7/8"                            |

NOTES:

<sup>1</sup> This is the dimension as shipped. This may be field modified by cutting or extending both the intake and exhaust pipes. 12" is the minimum allowable length and 60" is the maximum allowable length for this dimension. SDR-26 PVC (D2241) only may be used for extending pipes. Do not use Schedule 40 PVC or use couplings to extend pipes.

<sup>2</sup> This dimension will change if the intake/vent pipes are lengthened or shortened.

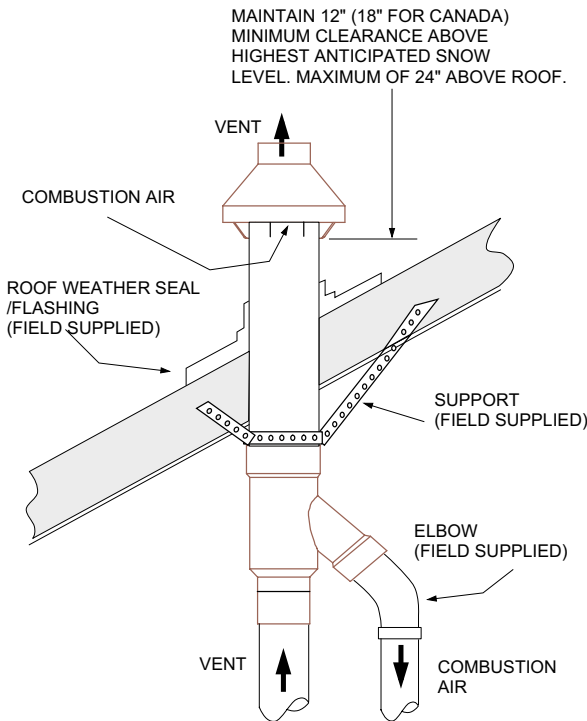


**FIGURE 2 - TYPICAL ROOF INSTALLATION**

**VERTICAL ROOF MOUNTING**

**NOTE:** Roof mounting is the recommended intake/vent location. This allows less intake air contaminants and also reduces complaints caused by exhaust vapors near ground level.

1. Determine pipe diameter from Table 1.
2. Determine correct concentric vent termination accessory for the pipe diameter selected.
3. Determine the best location for the intake/vent.
4. Cut a 4" diameter hole for 1CT0302, 2" kit, or a 5" hole for 1CT0303, 3" kit.
5. Partially assemble concentric vent termination kit. Clean and cement using procedures explained in the furnace installation instructions.



**FIGURE 3 - TYPICAL ROOF INSTALLATION**

- a. Cement "Y" concentric fitting to larger diameter air inlet pipe (refer to Figure 1).
  - b. Cement combustion air inlet cap to smaller diameter pipe (refer to Figure 1).
6. Install "Y" concentric fitting and pipe assembly through the structure's hole and field supplied roof boot/flashings.

**NOTE:** Do not allow insulation to accumulate inside assembly when installing through hole.

7. Secure assembly to roof structure as shown in Figure 3 using field supplied metal strapping or equivalent support material.

**NOTE:** Ensure termination height is above roof surface or anticipated snow level (minimum 1-ft. in U.S. or minimum 1-1/2-ft. in Canada) as shown in Figures 2 & 3.

**NOTE:** 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 Schedule 40 PVC or couplings to extend pipes. The additional wall thickness will restrict combustion air and may cause operational problems. Do not extend air inlet pipe more than 60" (refer to Figure 3).



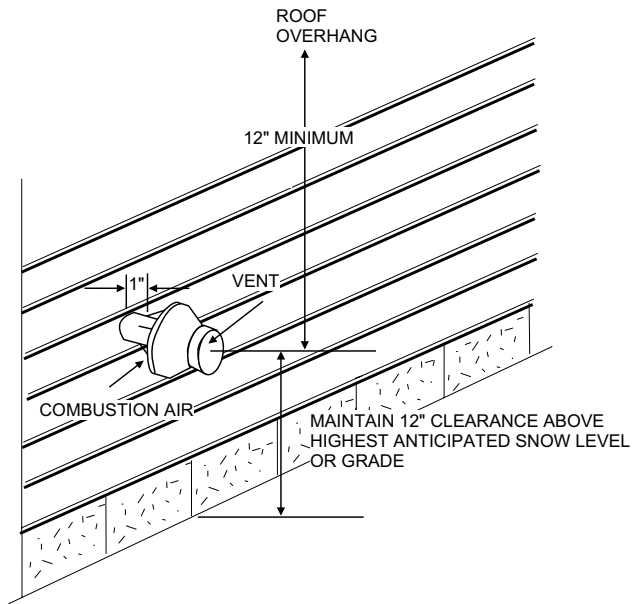
**CAUTION:** Do not use field supplied couplings to extend pipes.

8. Install combustion air inlet cap and small diameter pipe assembly into roof penetration. Make sure small diameter pipe is cemented and bottomed in "Y" concentric fitting.
9. Cement furnace combustion air and vent pipes to concentric vent termination assembly. Refer to Figure 3 for proper pipe attachment.
10. Operate furnace through one heat cycle to verify proper system operation.

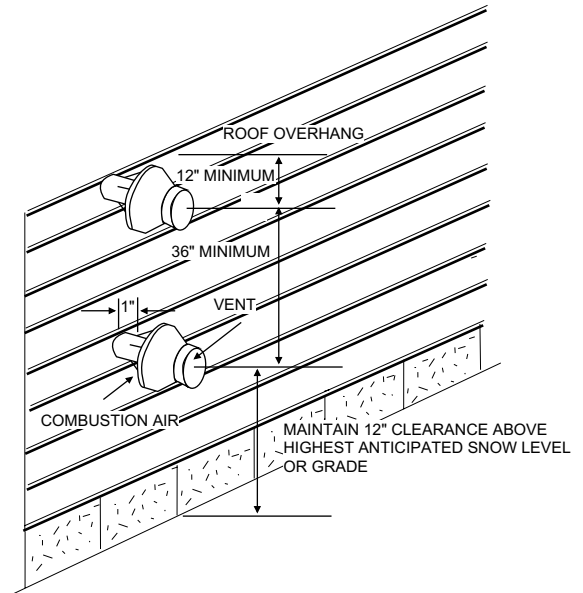
**HORIZONTAL SIDEWALL MOUNTING**

**NOTE:** In all horizontal intake/vent applications the following items should be considered before a final location is determined.

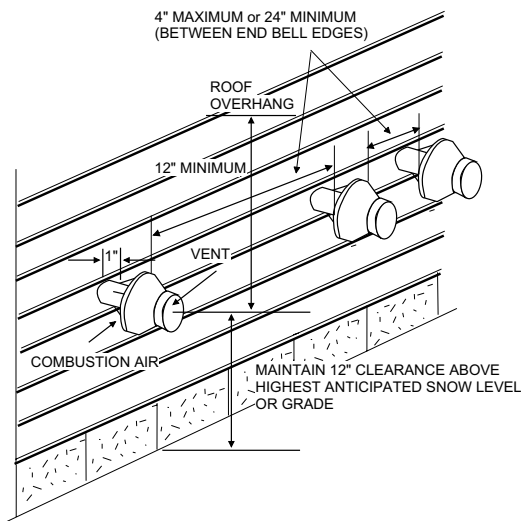
1. Refer to 2-pipe vent clearances in the "Two-Pipe Sealed Combustion Air and Vent System" section on page 9 in the furnace installation instructions to determine allowable locations and required clearances.
2. If venting multiple units using multiple concentric vents, refer to Figures 5 & 6 for specific clearances.
3. Do not locate this termination where it is subjected to prevailing winds.
4. Do not locate this termination where it is likely to receive physical damage.
5. Do not locate this termination where vent vapors are objectionable, or may damage the structure, plants or air conditioning condensing unit.



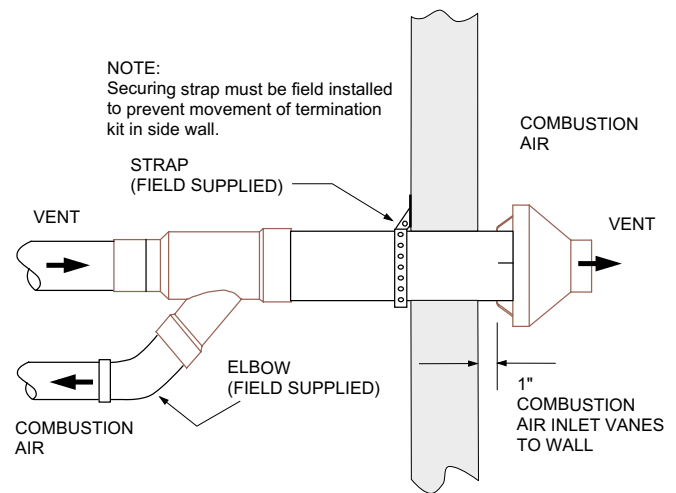
**FIGURE 4 - SIDEWALL TERMINATION FOR CONCENTRIC VENT**



**FIGURE 5 - SIDEWALL TERMINATION FOR MULTIPLE VERTICAL CONCENTRIC VENTS**



**FIGURE 6 - SIDEWALL TERMINATION FOR MULTIPLE HORIZONTAL CONCENTRIC VENTS**



**FIGURE 7 - SIDEWALL TERMINATION DETAILS FOR CONCENTRIC VENT**

1. Determine pipe diameter from Table 1.
2. Determine correct concentric vent termination accessory for the pipe diameter selected.
3. Determine the best location for the intake/vent.
4. When installing multiple concentric vents, the following guidelines should be followed:
  - a) Multiple Concentric Vents should not be installed directly above one another unless separated by a minimum distance of 3 feet.
  - b) Multiple Concentric Vents should be installed where the horizontal distance between the end bells of each air intake is 4" or less or greater than 24" to prevent a. a.

recirculation of flue gas from one vent to the adjacent air outlet.



**WARNING:** Recirculation of flue gases may occur causing the intake pipe to freeze shut during cold weather operation if the venting system is not installed per these guidelines.

5. Cut a 4" diameter hole for 1CT0302, 2" kit, or a 5" hole for 1CT0303, 3" kit.
6. Partially assemble concentric vent termination kit. Clean and cement using procedures explained in the furnace installation instructions.

- a. Cement "Y" concentric fitting to larger diameter air inlet pipe (refer to Figure 1).
  - b. Cement combustion air inlet cap to smaller diameter pipe (refer to Figure 1).
7. Install "Y" concentric fitting and pipe assembly through the structure's hole.

**NOTE:** Do not allow insulation to accumulate inside assembly when installing through hole.

8. Install combustion air inlet and small diameter pipe assembly into "Y" concentric fitting and large pipe assembly. Make sure small diameter pipe is bottomed and cemented in "Y" concentric fitting.
9. Secure assembly to structure as shown in Figure 7 using field supplied metal strapping or equivalent support material

**NOTE:** Maintain clearance dimensions as shown in Figure 4, 5, 6 & 7.

**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 use Schedule 40 PVC or couplings to extend pipes. The additional wall thickness will restrict combustion air and may cause operational problems. Do not extend air inlet pipe more than 60 inches (Refer to Figure 7).



**CAUTION:** Do not use field-supplied couplings to extend pipes.

10. Cement furnace combustion air and vent pipes to concentric vent termination assembly. Refer to Figure 7 for proper pipe attachment.
11. Operate furnace through one heat cycle to verify proper system operation.