

# Installer's Guide



Model: **BAYAIR30CNVENT**

## Concentric Vent Kit for Condensing Furnaces

For use with \*UH, \*DH, M95, \*UY, \*DY, \*UX, \*DX, \*UC, \*DC, S9, A9, and L9 furnaces

\* may be A or T

ALL phases of this installation must comply with NATIONAL, STATE and LOCAL CODES.

**IMPORTANT** — This Document is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

**NOTE:**

Canada requires that all Category IV heating appliances use venting material that meets ULC S636. This kit meets the requirements to be used in a venting system.

### ⚠ WARNING

INSTALLATION OR REPAIRS MADE BY UNQUALIFIED PERSONS CAN RESULT IN HAZARDS TO YOU AND OTHERS. INSTALLATION MUST CONFORM WITH LOCAL CODES OR, IN THE ABSENCE OF LOCAL CODES, WITH CODES OF THE COUNTRY HAVING JURISDICTION. THE INFORMATION CONTAINED IN THESE INSTRUCTIONS IS INTENDED FOR USE BY A QUALIFIED SERVICE TECHNICIAN FAMILIAR WITH SAFETY PROCEDURES AND EQUIPPED WITH THE PROPER TOOLS AND TEST INSTRUMENTS. FAILURE TO CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS IN THESE INSTRUCTIONS CAN RESULT IN FURNACE MALFUNCTION, PROPERTY DAMAGE, PERSONAL INJURY AND/ OR DEATH.

**NOTE:** Codes and local utility requirements governing the installation of gas fired equipment, wiring, plumbing, and flue connections must be adhered to. In the absence of local codes, the installation must conform with CSA B149.1 "latest edition" Natural gas and propane installation code. The latest code may be obtained from the Canadian Standards Association 178 Rexdale Blvd. Toronto, ON Canada M9W 1R3, 1-800-463-6727 or [www.csagroup.org/store/](http://www.csagroup.org/store/).

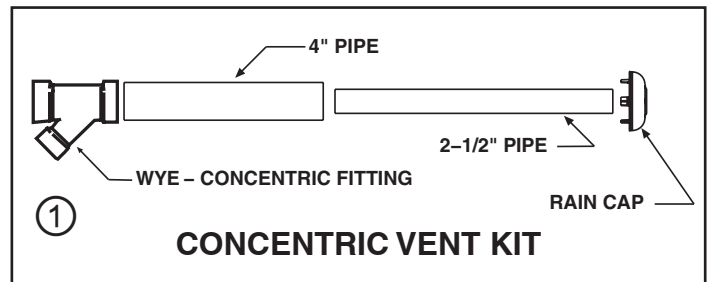
**NOTE:** Read the Installer's Guide before starting the installation. Refer to the Furnace Installer's Guide for equivalent vent lengths. The BAYAIR30CNVENT is 5 equivalent feet.

## INTRODUCTION

This Installer's Guide covers installation of the concentric vent kit on all gas fired direct vent condensing furnaces.

### ⚠ WARNING

INSTALLING AND SERVICING HEATING EQUIPMENT CAN BE HAZARDOUS DUE TO GAS AND ELECTRICAL COMPONENTS. ONLY TRAINED PERSONNEL SHOULD INSTALL OR SERVICE HEATING EQUIPMENT. FAILURE TO FOLLOW THIS WARNING CAN RESULT IN PRODUCT DAMAGE, PERSONAL INJURY AND/OR DEATH.



DO NOT APPLY TO A NON-CONDENSING FURNACE.

**NOTE:** If these instructions differ from those packaged with the furnace, follow these instructions.

## DESCRIPTION AND USAGE

Kit Contents:

Qty.	Description
1	Rain cap
1	4" Diameter Pipe, 23.75" Long
1	2-1/2" Diameter Pipe, 33.12"
1	Wye concentric Fitting
4	#8 SS Pan head screws

Only one vent kit per each furnace is allowed.

Vent kit is for 2, 2-1/2 or 3 in. diameter pipe systems, (See Figures 3, 4, 5, and 6 for the different applications). Both the combustion air and vent pipes must attach to the vent kit. The vent kit must terminate outside of the structure and should be installed vertically as shown in Figures 3 and 4, or horizontal as shown in Figures 5 and 6.

**NOTE:** The roof vent location is preferred since it is less susceptible to damage, has reduced chances to intake contaminants, and vent vapors are less visible.

### ⚠ WARNING

THIS VENT KIT IS ONLY TO BE USED FOR VENTING CATEGORY IV FURNACES. DO NOT USE TO VENT CATEGORY I, II OR III VENT FURNACES. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN FIRE, PERSONAL INJURY OR DEATH.

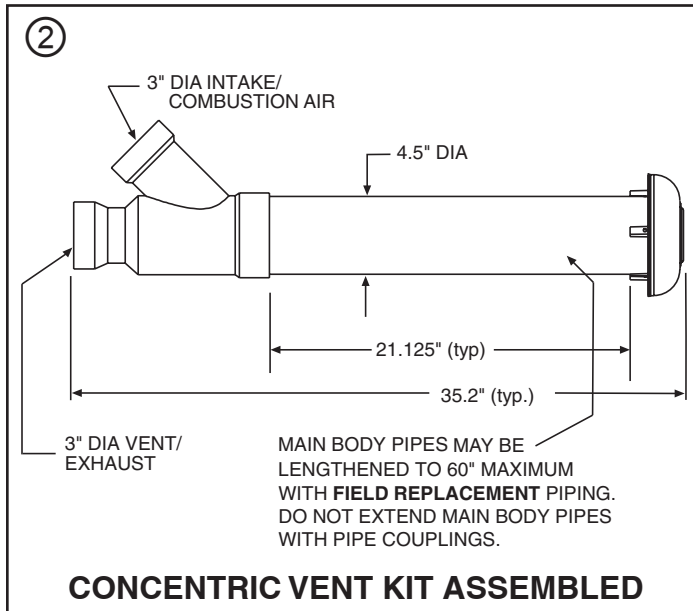
# INSTALLER'S GUIDE

## ⚠ WARNING

**DISCONNECT POWER SUPPLY BEFORE BEGINNING INSTALLATION TO PREVENT PERSONAL INJURY OR DEATH FROM ELECTRICAL SHOCK AND EQUIPMENT DAMAGE.**

Field supplied pipe and fittings are required to complete the installation.

The vent pipe and fittings must conform to ULC S636 "latest edition". Approved Materials are ASTM D2846/D2846M or CSAB137.6 (CPVC 41), ASTM F441/F441M or CSAB137.6 (schedule 40 and 80 CPVC), ASTM F442/F442M (SDR-21 and SDR-26 CPVC). Pipe cement must conform to ASTM F493. Primer must conform to IPS P-70 or Oatey Industrial Grade.



### INSTALLATION - ROOF TERMINATION (SEE FIG. 3)

1. Determine best location for termination kit.
2. Cut one hole (5 in. diameter) for vent kit.

**NOTE: Ensure termination height is 18 inches above the roof surface or anticipated snow level as shown in Figure 4.**

**NOTE: If assembly is too short to meet the height requirement, the two pipes supplied in the kit may be replaced by using same diameter, field supplied SDR-21, SDR-26, or SCH 40 CPVC pipe. Do not extend the 4" pipe (24" as shipped) to more than 60 in. (See Figure 2).**

## ⚠ CAUTION

**DO NOT USE FIELD SUPPLIED COUPLINGS TO EXTEND MAIN BODY PIPES (4" AND 2-1/2" PIPES). AIRFLOW RESTRICTION WILL OCCUR AND THE FURNACE PRESSURE SWITCH MAY CAUSE INTERMITTENT OPERATION.**

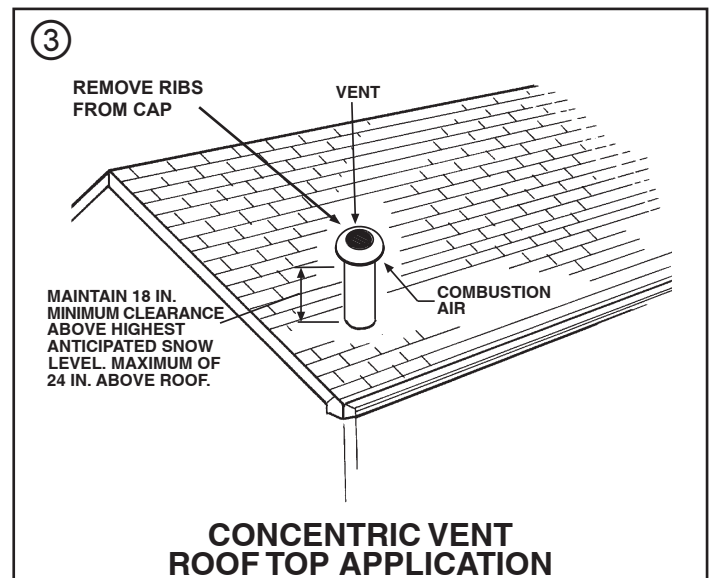
3. Partially assemble the vent kit. If needed, rotate the 4" pipe so that the lettering is not seen. Clean the pipe ends and adjoining sockets with primer and cement.
  - a. Cement the Wye concentric fitting to larger diameter kit pipe (See Figure 1).
  - b. Cement the rain cap to smaller diameter kit pipe (See Figure 1).

**NOTE: Instead of cementing the smaller pipe to the rain cap, RTV silicon sealant may be used to permit future field disassembly for cleaning**

4. Install Wye fitting and pipe assembly from the inside through structure's hole. Install field supplied roof boot/ flashing.

**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 4 using field supplied metal strapping or equivalent support material.



6. Remove ribs from rain cap. Install the rain cap and the small diameter pipe assembly in the Wye fitting and pipe assembly. Ensure that the small diameter pipe is cemented and bottomed into the Wye fitting.

## ⚠ WARNING

**FAILURE TO REMOVE RIBS FROM RAIN CAP FOR VERTICAL VENT KIT INSTALLATIONS MAY CAUSE ICE OR SNOW TO FORM ON THE RAIN CAP, LEADING TO AN INOPERABLE FURNACE. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**

**NOTE: Kit supplied stainless steel screw will be used to secure the rain cap to the pipe.**

## ⚠ WARNING

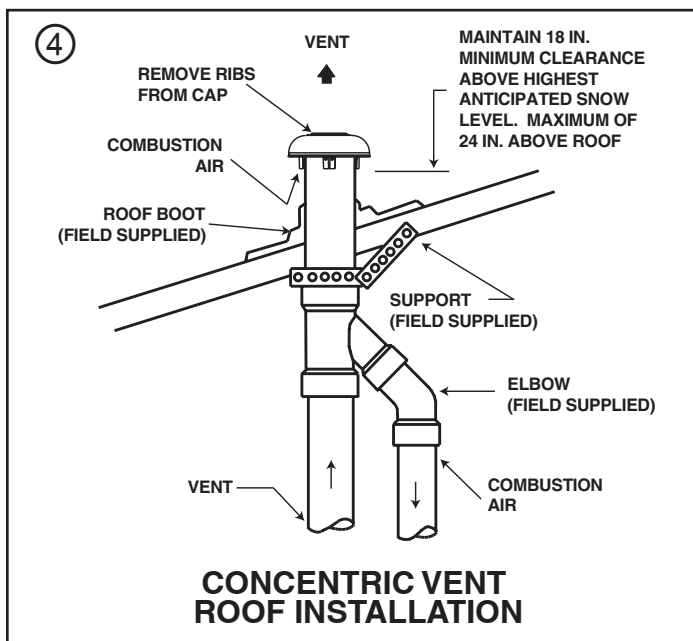
**DRILL A PILOT HOLE IN THE VENT PIPE FOR THE SCREW SIZE BEING USED. FAILURE TO DRILL ADEQUATE HOLES MAY CAUSE CRACKING OF THE PVC COMPONENTS, ALLOWING FLUE GASES TO BE RECIRCULATED. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**

7. Cement the furnace combustion air and vent pipes to the concentric vent termination assembly. See Figure 4 for proper pipe attachment.
8. CHECKOUT: Operate the furnace to make sure ALL pipe joints are fastened and sealed to prevent the escape of combustion products into the building.

**NOTE:** Two or more installations require a minimum separation distance of 12 inches between vent kits.

## ⚠ WARNING

DO NOT OPERATE THE FURNACE WITHOUT THE RAIN CAP IN PLACE AS RECIRCULATION OF COMBUSTION PRODUCTS MAY OCCUR. WATER MAY ALSO COLLECT INSIDE THE 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.



**CONCENTRIC VENT ROOF INSTALLATION**

### INSTALLATION - SIDE WALL VENT (SEE FIGURE 5)

1. Determine the best location for the vent kit according to the Natural gas and propane installation code CSA B149.1 "latest edition" or local code.

**NOTE:** Consider the following when determining the vent kit location:

- A. Vent kit positioned where the vent vapors will not damage planting/ shrubs or air conditioning equipment or building structure.
- B. Vent kit positioned so it will not be affected by wind eddy that may allow recirculation of combustion products, or air-borne leaves, or light snow.
- C. Vent kit positioned where it will not get damaged or be subjected to foreign objects, such as stones, balls, etc.
- D. Vent kit positioned where the vent vapors will not be objectionable.

2. Cut 1 hole (5 in. diameter) for Vent kit.
3. Partially assemble the vent kit. If needed, rotate the 4" pipe so that the lettering is not seen. Clean the pipe ends and adjoining sockets with primer and cement.

- a. Cement the Wye concentric fitting to larger diameter kit pipe (See Figure 1).
  - b. Cement the rain cap to smaller diameter kit pipe (See Figure 1).
4. Install Wye 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.

## ⚠ CAUTION

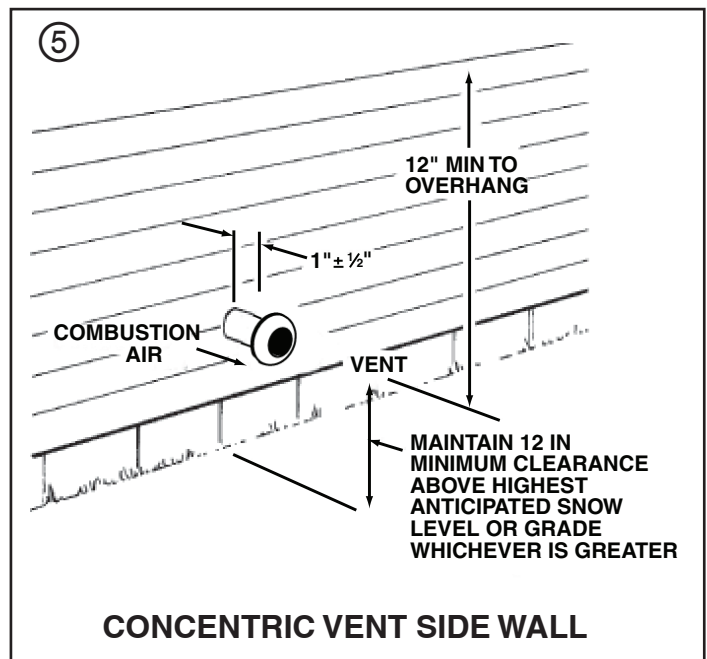
DO NOT USE FIELD SUPPLIED COUPLINGS TO EXTEND MAIN BODY PIPES (4" AND 2-1/2" PIPES). AIRFLOW RESTRICTION WILL OCCUR AND THE FURNACE PRESSURE SWITCH MAY CAUSE INTERMITTENT OPERATION.

5. Secure assembly to structure as shown in Figure 6 using field supplied metal strapping or equivalent support material.
6. Install rain cap and small diameter pipe assembly in Wye concentric fitting and large pipe assembly. Ensure small diameter pipe is bottomed and cemented in Wye concentric fitting.

**NOTE:** Kit supplied stainless steel screw will be used to secure the rain cap to the pipe.

## ⚠ WARNING

DRILL A PILOT HOLE IN THE VENT PIPE FOR THE SCREW SIZE BEING USED. FAILURE TO DRILL ADEQUATE HOLES MAY CAUSE CRACKING OF THE PVC COMPONENTS, ALLOWING FLUE GASES TO BE RECIRCULATED. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

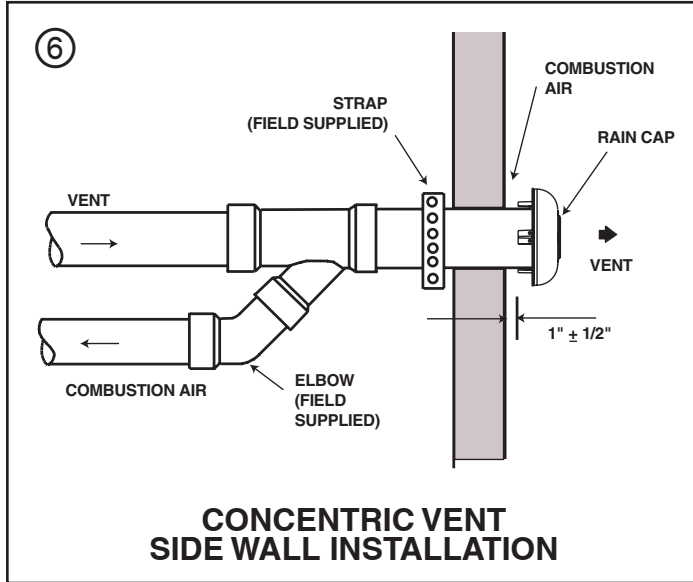


**CONCENTRIC VENT SIDE WALL**

**NOTE:** To prevent the possibility of condensate freeze-up, do not install vent kits one above the other.

**NOTE: FLUE GAS DEGRADATION**

The moisture content of the flue gas may have a detrimental effect on some building materials. This can be avoided by using the roof or chimney venting option. When wall venting is used on any surface that can be affected by this moisture, it is recommended that a corrosion resistance shield (24 inches square) be used behind the Vent Terminal. This shield can be made of wood, plastic, sheet metal, etc. Also, silicone caulk all cracks, seams, and joints within 3 feet of the Vent Terminal.



7. Cement furnace combustion air and vent pipes to concentric vent assembly. See Figure 6 for proper pipe attachment.
8. CHECKOUT: Operate the furnace to make sure ALL pipe joints have fastened and sealed to prevent the escape of combustion products into the building.

**NOTE: Two or more installations require a minimum separation distance of 12 inches between vent kits.**

**NOTE: Ensure termination location clearance dimensions as shown in Figure 5. Do not locate the vent cap directly to the wall surface. A distance of 1" ± 1/2" is required to prevent water accumulating between the vent fins.**

**NOTE: If assembly needs to be extended to allow side wall thickness requirement, the two pipes supplied in the kit may use same diameter, field supplied SDR-21, SDR-26, or SCH 40 CPVC pipe. Do not extend the 4" pipe (24" as shipped) to more than 60 in. (See Figure 2). The 4" pipe may be shortened to 14" minimum.**

This appliance requires a special venting system. If BAYAIR30CNVENT or BAYVENTCN200B are used, a copy of the installation instructions for the kit shall remain with the appliance or equipment at the completion of installation. The venting system installation instructions can be obtained from the manufacturer by writing to the following address:

6200 Troup Highway  
Tyler, TX 75707  
Attention: Manager of Field Operations Excellence

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