

DCVK-20 & DCVK-30

CONCENTRIC VENT TERMINATION KIT

INSTALLATION INSTRUCTIONS

Description

This kit is designed to allow the terminations of a direct vent furnace to be “concentrically” vented through a wall or roof. This kit allows a single penetration to support terminations for both the vent/flue pipe and the combustion air intake pipe.

Use this kit and these instructions for installation of the concentric vent termination kit on 40” tall condensing furnace models. (See *Kit Components on page 2.*)

WARNING

THIS KIT MUST NOT BE APPLIED TO ANY FURNACE NOT CERTIFIED BY MANUFACTURER. THIS KIT IS TO BE USED FOR TERMINATION CONDENSING CATEGORY IV VENT FURNACES. DO NOT USE THIS KIT TO TERMINATE CATEGORY I, II, OR III VENT FURNACES. FAILURE TO FOLLOW THIS WARNING CAN RESULT IN DAMAGE TO PROPERTY, EQUIPMENT, PERSONAL INJURY OR DEATH.

Follow the furnace installation instructions for locating the furnace clearances, operation and safety procedures.

NOTE: Field supplied pipe and fittings are required to complete installation. All pipe, fittings, solvent cement, primers and procedures MUST conform to American National Standards Institute (ANSI) and the American Society for Testing and Materials (ASTM) Standards:

Pipe and Fittings: D1785, D2466, D2661, D2665, F-891, F628, & D2241

PVC Primer & Solvent Cement: D2564 & D2235

Procedure for Cement Joints: D2855

In Canada, venting must conform to the requirements of the current CAN/CSA-B149.1 (latest edition) Installation Code. Use only CSA-listed, ULC-S636 compliant two- or three-inch diameter PVC or ABS pipe solvent cement, and fittings

throughout. The certified piping should be clearly marked with the ULC Std “S636” on the pipe and fittings. Carefully follow the pipe manufacturers’ instructions for cutting, cleaning and solvent cementing PCV and/or ABS.

The vent can be run through an existing unused chimney, provided the space between the vent pipe and the chimney is insulated and closed with weather-tight, corrosion-resistant flashing.

PLEASE READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY.

WARNING

TO AVOID BODILY INJURY, FIRE OR EXPLOSION, SOLVENT CEMENTS MUST BE KEPT AWAY FROM ALL IGNITION SOURCES (I.E. SPARKS, OPEN FLAMES, AND EXCESSIVE HEAT) AS THEY ARE COMBUSTIBLE LIQUIDS. AVOID BREATHING CEMENT VAPORS OR CONTACT WITH SKIN AND/OR EYES.

WARNING

HIGH VOLTAGE
DISCONNECT ALL ELECTRICAL POWER AND SHUT OFF GAS SUPPLY BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



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RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.

ATTENTION INSTALLING PERSONNEL

As a professional installer, you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting.
 Most dealers have a list of specific, good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.



IMPORTANT INFORMATION

WARNING

IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

- DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.
- **WHAT TO DO IF YOU SMELL GAS:**
 - DO NOT TRY TO LIGHT ANY APPLIANCE.
 - DO NOT TOUCH ANY ELECTRICAL SWITCH; DO NOT USE ANY PHONE IN YOUR BUILDING.
 - IMMEDIATELY CALL YOUR GAS SUPPLIER FROM A NEIGHBOR'S PHONE. FOLLOW THE GAS SUPPLIER'S INSTRUCTIONS.
 - IF YOU CANNOT REACH YOUR GAS SUPPLIER, CALL THE FIRE DEPARTMENT.
- INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO EXPLOSION OR FIRE, INSTALL A GAS DETECTING WARNING DEVICE. SINCE THE ODORANT IN PROPANE GAS CAN BE REDUCED BY IRON OXIDE (RUST), A GAS DETECTING WARNING DEVICE IS THE ONLY RELIABLE METHOD TO DETECT PROPANE GAS LEAKS.

WARNING

PROPERTY DAMAGE, FURNACE MALFUNCTION, PERSONAL INJURY OR DEATH MAY RESULT FROM IMPROPER INSTALLATION OR MAINTENANCE PERFORMED BY UNTRAINED PERSONNEL. INSTALLATION MUST CONFORM WITH LOCAL CODES, WITH CODES OF THE COUNTRY HAVING JURISDICTION. CALL YOUR INSTALLING DEALER OR OTHER QUALIFIED SERVICE COMPANIES TO PERFORM THE INSTALLATION OR MAINTENANCE INSPECTION.

WARNING

TO AVOID THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, SHUT OFF GAS SUPPLY FIRST, THEN DISCONNECT THE ELECTRICAL SUPPLY BEFORE PROCEEDING WITH THE KIT INSTALLATION.

VENT TERMINATION CLEARANCES

- Determine termination locations based on clearances specified in furnace installation instructions, and following steps as shown in **Figures 1, 3, 6, 7, 8 and 9.**

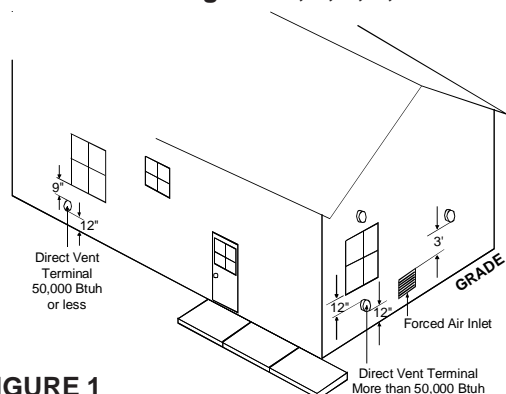


FIGURE 1

- The vent termination must be located at least 12" above ground or normally expected snow accumulation levels.

- Do NOT terminate over public walkways. Avoid areas where condensate may cause problems such as above planters, patios, or adjacent to windows where steam may cause fogging.
- The vent termination shall be located at least 4' horizontally from any electric meter, gas meter, regulator and any relief equipment. These distances apply ONLY to U.S. Installations.
- The vent termination is to be located at least 3' above any forced air inlet located within 10'.
- In Canada, the Canadian Fuel Gas Code takes precedence over the preceding termination instructions.

CONCENTRIC VENT TERMINATION KIT DCVK-20 & DCVK-30

Kit Components:

3" Rain Cap or 2" Rain Cap
3" Diameter SDR-26 Pipe, 19 5/8" Long or 4" Diameter SDR-26 Pipe, 24 1/8" Long
2" Diameter SDR-26 Pipe, 31 1/2" Long or 2 1/2" Diameter SDR-26 Pipe, 37" Long
3" Y Concentric Fitting or 2" Y Concentric Fitting

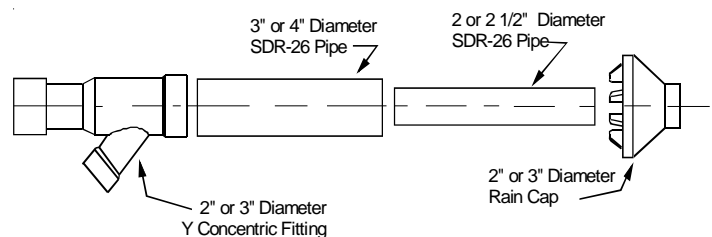


Figure 2

These kits are for vertical or horizontal termination of the combustion air inlet and the exhaust vent pipes on Category IV gas-fired condensing furnaces. The DCVK-30 kit can be used for 3" diameter pipe systems. The DCVK-20 kit can be used for the 2" diameter pipe system. Refer to Table 1 for the correct pipe size for the furnace. Both the combustion air inlet and the exhaust vent pipes must attach to the termination kit. The termination kit must terminate outside the structure and must be installed per the instructions outlined below for vertical or horizontal termination. Vertical termination is preferred.

Installation of 1/4" or larger mesh screen is strongly recommended to prevent animals from building nests in the pipe, but it is not required and will not affect the performance of the unit.

Field supplied pipe and fittings are required to complete installation.

VERTICAL & HORIZONTAL TERMINATION

- Refer to the furnace installation instructions to determine the vent pipe diameter and maximum allowable vent length. Do not include the field supplied 45° elbow in the total elbow count. If more than four elbows are required, reduce the length of both the inlet and the exhaust pipes five feet for each additional elbow used. Elbows are DWV long radius

type for 2" and 3" vents.

NOTE: Feet of pipe is whichever pipe run is the longest, either inlet or outlet side.

- Determine the best location for the termination kit. See Figure 3 for vertical termination or Figure 6 and Figure 7 for horizontal termination. Roof termination is preferred since it is less susceptible to damage, has reduced intake contaminants and less visible vent vapors.

For side termination, consideration should be given to:

- possible damage from the vapors to plants/shrubs, other equipment and building materials
- possible damage to the terminal from foreign objects
- wind effects that may cause recirculation of flue products, debris or light snow
- visible vent vapors

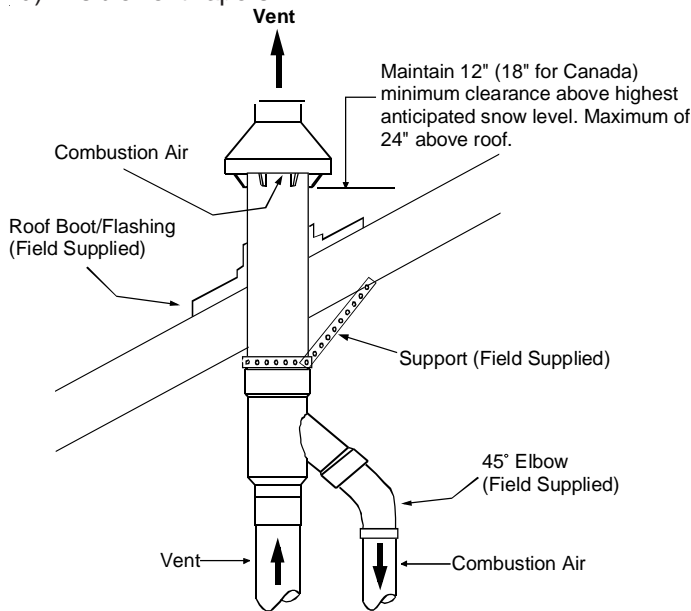


FIGURE 3

- Cut one 5" diameter hole through the structure for the DCVK-30 kit or one 4" diameter hole for the DCVK-20 kit.
- Refer to Figure 4 for Concentric Vent Dimensional Drawing and refer to Table 1 for Concentric Vent Dimensions.

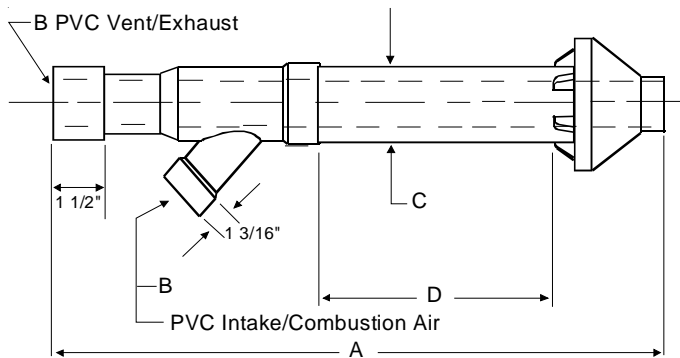


FIGURE 4

MODEL	A*	B	C	D**
DCVK-20	33 3/8	2	3 1/2	16 7/8
DCVK-30	38 7/8	3	4 1/2	21 1/8

* Dimension will change accordingly as Dimension D is lengthened or shortened.
 ** Dimension D may be lengthened to 60" and may also be shortened by cutting the kit provided pipes to 12" minimum.

TABLE 1

⚠ CAUTION

DO NOT USE FIELD-SUPPLIED COUPLINGS TO EXTEND THE PIPES. AIRFLOW RESTRICTION WILL OCCUR AND THE FURNACE PRESSURE SWITCH MAY CAUSE INTERMITTENT OPERATION.

- Partially assemble the concentric vent termination kit. Clean and cement the parts using the procedures for Joining Pipe and Fittings section of the furnace installation manual.

- Cement the Y Concentric fitting to the larger diameter kit pipe (See Figure 2)
- Cement the rain cap to the small diameter kit part (See Figure 2).

NOTE: A field supplied stainless steel screw may be used to secure the rain cap to the pipe instead of cementing when field disassembly is desired for cleaning (See Figure 5).

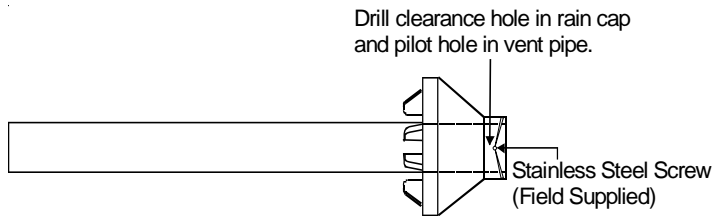


FIGURE 5

⚠ WARNING

WHEN USING THE ALTERNATE SCREW ASSEMBLY METHOD, DRILL A CLEARANCE HOLE IN THE RAIN CAP AND 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 CIRCULATED. FAILURE TO FOLLOW THIS WARNING CAN RESULT IN PROPERTY DAMAGE, EQUIPMENT DAMAGE, PERSONAL INJURY OR DEATH.

⚠ WARNING

DO NOT OPERATE THE FURNACE WITH THE RAIN CAP REMOVED, AS RE-CIRCULATION OF THE FLUE GASES MAY OCCUR. WATER MAY ALSO COLLECT INSIDE THE LARGER COMBUSTION AIR PIPE AND FLOW TO THE BURNER ENCLOSURE. FAILURE TO FOLLOW THIS WARNING CAN RESULT IN PROPERTY AND EQUIPMENT DAMAGE, PERSONAL INJURY OR DEATH.

- Install the Y concentric fitting and the pipe assembly through the structure's hole. For vertical termination, install the parts through the field supplied roof boot/flashing. **NOTE:** Do not allow insulation or other materials to accumulate inside the pipe assembly when installing through the

structure's hole.

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

NOTE:

- Ensure that the strap is installed to prevent movement of termination kit in side wall.
- Ensure the termination height is above the roof surface or anticipated snow level as shown in Figure 3 for vertical termination.
- Ensure the termination location clearance dimensions are as shown in Figure 6 and Figure 7 for horizontal termination.

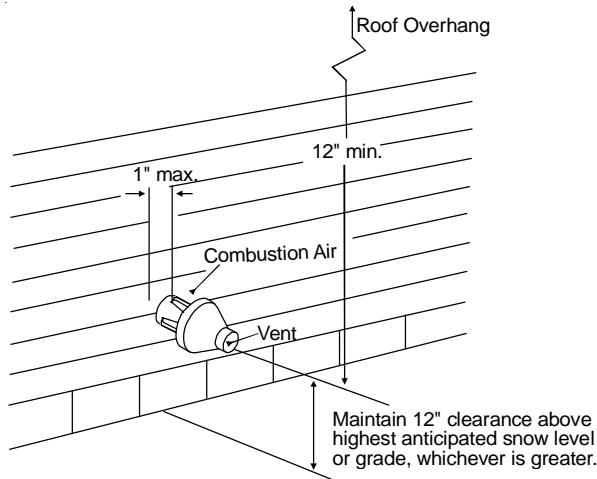


FIGURE 6

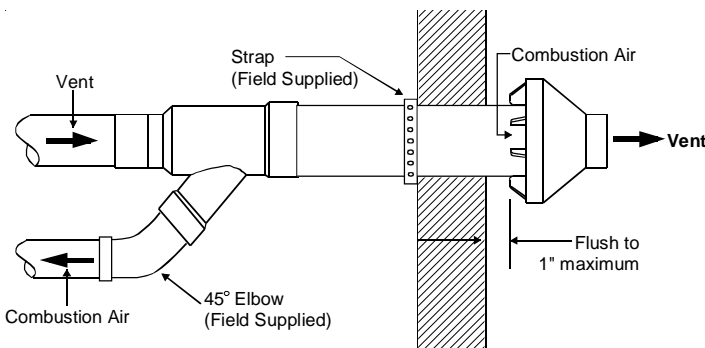


FIGURE 7

- Install the rain cap and the small diameter pipe assembly in the Y concentric fitting and the large pipe assembly. Ensure that the small diameter pipe is bottomed out and securely cemented in the Y concentric fitting.
- Cement the furnace combustion air and vent pipes to the concentric vent termination assembly. See Figure 3 or Figure 7 for proper pipe attachment.
- Operate the furnace through one heat cycle to ensure

combustion air and vent pipes are properly connected to the concentric termination connections.

MULTI-VENT TERMINATION CLEARANCES

When two (2) or more furnaces are vented near each other, each furnace must be individually vented.

Two (2) vent terminations may be installed as shown in Figure 8 and Figure 9, but the next vent termination must be at least 36" away from first 2 terminations. It is important that vent terminations be made as shown to avoid recirculation of flue gases.

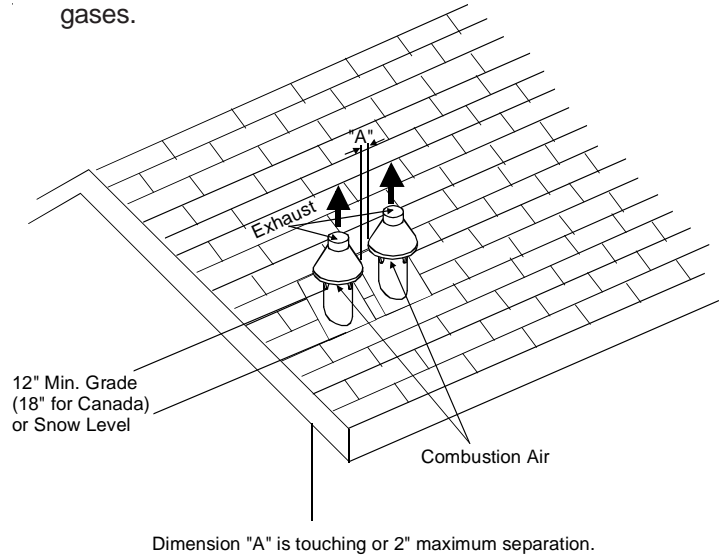


FIGURE 8

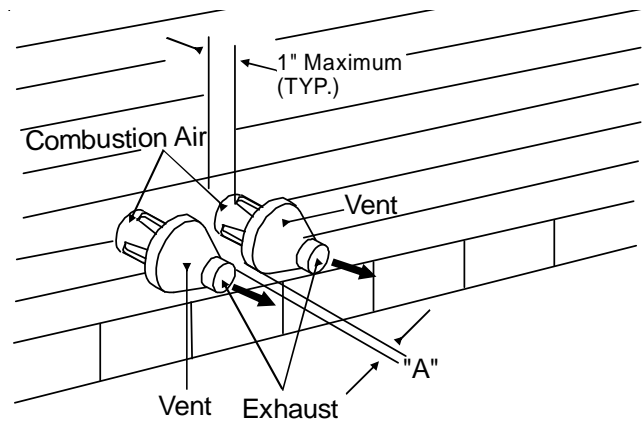


FIGURE 9