

Model DCV AL29-4C® Double Wall Vent System



Sheet DCV

Installation Instructions for Model DCV Double Wall Vent System

Model DCV, is a special stainless steel, double wall vent system for gas fired appliances listed as Category II, III, & IV or in Canada, Type BH Gas Venting Systems as noted in ULC-636, with a maximum flue gas temperature of 550 F, and a maximum positive pressure rating of 6" Water Column (tested and passed at 15" W.C.). When connected to natural draft heating units, it may also be used as a lining system inside masonry chimneys. Model DCV must be installed by an experienced professional, familiar with the operation and maintenance of heating appliances and vent systems. Failure to follow proper installation procedures, including vent pitch and proper appliance connections may cause unsafe conditions. Selkirk L.L.C. recommends the system to be inspected at least once a year by a qualified service technician.



⚠ WARNING
Failure to follow the installation instructions could cause **FIRE, CARBON MONOXIDE POISONING, OR DEATH**. If you are unsure of the installation requirements, call the phone number listed on the instructions or catalog.

TOOLS AND SUPPLIES

The following tools and supplies may be required when installing a Model DCV Gas Vent System:

Tape Measure	5/16" Nut Driver
Hammer	Safety Glasses
Level	Electric Drill
Framing Square	Work Gloves
Screwdriver	Hacksaw
Ladders/Scaffold	Key Hole Saw

PARTS LIST

Component	Part #	Component	Part #
6" Length	DCV-6	Adjustable Vent Length	DCV-AJ
12" Length	DCV-12	Wall Thimble	DCV-WT
18" Length	DCV-18	Firestop	DCV-FF
24" Length	DCV-24	Termination Tee*	DCV-TT
36" Length	DCV-36	Round Top	DCV-RT
45° Elbow	DCV-EL45	Support Clamp	DCV-SCL
90° Elbow	DCV-EL90	Various Adapters	—
Tee	DCV-TS	Reducer 4" to 3"	4DCV-R3
Reg. Tee Cap	DCV-TC	Increaser 3" to 4"	3DCV-I4
Drain Fitting	DCV-DF	Horizontal Drain*	DCV-DHT
Storm Collar	DCV-SC	Bird Screen	DCV-BS
Support Hanger	DCV-SH100	Adj. Roof Flashing	DCV-AF
Wall Bracket	DCV-WB		

*Available only in 3" & 4" diameters.
See catalog for complete parts listing.

CLEARANCE TO COMBUSTIBLES

Systems Operating Temperatures		Enclosed		Unenclosed	
		H	V	H	V
3" to 16"	370F/173C	3"	3"	1"	1"
3" & 4"	550F/273C	6"	4"	3"	3"
5" to 16"	550F/273C	6"	6"	3"	3"

H= Horizontal V=Vertical

GENERAL INSTALLATION REQUIREMENTS

When venting Category II, III, or IV appliances, Model DCV must be used for the entire length of the system. Do not mix pipe, fittings, or joining methods from different manufacturers. Every vent system must be planned and installed for optimum performance and safety. The vent system must be free to expand and contract and must be supported in accordance with these instructions. (Check for unrestricted vent movement through the walls, ceilings, and roof penetrations). Refer to the gas appliance manufacturer's instructions to determine venting requirements and limitations with respect to installation and use of the appliance. It is the responsibility of the installer to contact local building and fire officials concerning any installation restrictions and/or inspection requirements that may apply. Permits may be required before starting an installation. This product must be installed in accordance with local building code requirements as well as National codes: USA – National Fuel Gas Code ANSI-Z223.1, NFPA Standard 54, or NFPA 211. In CANADA – install per CAN/CGA-B149.

- **WARNING!** Failure to conform to any of these requirements may violate local, state, or national codes and create conditions that may cause catastrophic property damage or personal injury. Selkirk L.L.C. recommends that experienced professionals familiar with vent systems install Model DCV. These instructions are a guide to assist a professional installer.
- Proper operation of the vent system and appliance depends on the use and correct assembly of all parts as specified by Selkirk L.L.C. for a particular installation.
- Tee sections should only be incorporated in conjunction with a drain on appliances tested for use with a drain, or if allowed by the appliance manufacturer.
- If required by the appliance manufacturer, a drain fitting must be located as close as possible to the appliance flue outlet. Depending on the configuration of the vent, more than one drain may be required. Unless a drain fitting is supplied with the appliance, install a Model DCV Tee (DCV-TS) with a Drain Fitting (DCV-DF). The drain must be vertical.
- More than one Category II, III, or IV appliance may not be connected into the same vent system unless the appliance manufacturer specifically approved such a system and the appliances are designed for common venting.
- Model DCV must avoid any contact with plumbing or electrical systems.
- Model DCV must maintain proper clearance to combustibles over the entire length.
- Except for installation in one or two family dwellings, a vent system that extends through any zone above that on which the connected appliance is located, shall have an enclosure with a fire resistance rating equal to or greater than that of the floor or roof assemblies through which it passes and meet the requirements as stated in the "Clearance to Combustible Chart"
- Never install Model DCV on an appliance that is not listed for use with a Special Gas Vent or Type B vent.
- Model DCV shall not be routed into, through, or within any other vent such as an existing masonry or factory-built chimney.

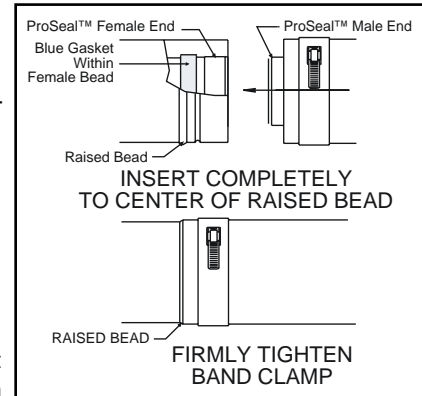
EXCEPTION: A masonry chimney may be used to route the

vent system only if no other appliance is vented into the space surrounding Model DCV.

Do not install insulation in any required clearance space around Model DCV.

JOINT CONNECTIONS

The female end of every Model DCV component incorporates a silicone sealing gasket. The mechanical locking band is built into the outer tube of the Model DCV male end (see drawing). Examine all components prior to installation. Gaskets must be in proper position



or flue gases could leak and result in carbon monoxide poisoning. Adjustable vent lengths are available for all diameters – therefore, cutting the pipe is unnecessary. Cutting pipe can leave sharp edges and damage the gaskets.

1. Insert the Model DCV male end into the Model DCV female end. Push the units together and turn them clockwise until the outer tube of the male end reaches the center of the raised bead on the female end (see drawing). From within the tube, the sealing gasket must not be visible. This creates the needed airtight seal for Category II, III, or IV appliances. Align seams on outer tubes and orient them upward in all horizontal applications.
2. Tighten the locking band with a nut driver until snug and then rotate an additional 1/4 turn.
3. The generic end of the Model DCV Adjustable Vent length has no bead, enabling it to adjust 4" to 12". The pipe must be inserted into the female end a minimum of 2" to achieve proper seal with the gasket.

Before proceeding, recheck all joints and insure all male sections extend to the center of raised bead and all band clamps are firmly tightened.

VENT SIZE AND LENGTH

Refer to the appliance manufacturer's installation instructions for proper size and vent configuration. Follow any horizontal/vertical length and height limitations, minimum clearance (air space) to combustibles, or specifications for the use of Elbows, Tees, or Drain Fittings.

APPLIANCE CONNECTION

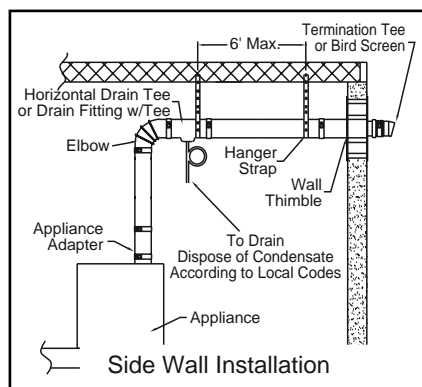
Connect Model DCV to the appliance flue collar as directed in the appliance manufacturer's instructions. If the appliance flue collar is not designed to accept Model DCV directly, an adapter may be available from the appliance manufacturer or Selkirk L.L.C.. Some appliance adapters may require a Single Wall to Double Wall Transition Adapter (DCV-SWDW).

CONDENSATE DRAINS

If instructions or local regulations call for a condensate drain, use a Model DCV Horizontal Drain Tee or a Model DCV Drain Fitting (DCV-DF) and a 5/8 inch (15.88 mm) ID plastic tube to drain condensates into the sanitary sewer. Follow all local and national codes for draining acidic effluent. Do not use copper tubing for a drain as it may corrode.

HORIZONTAL INSTALLATION

- When venting through a side-wall, terminate the system not less than 12" (.3m) above the ground and above the snow line in geographical areas where snow accumulates. The termination area must be kept clear of snow and ice at all times.

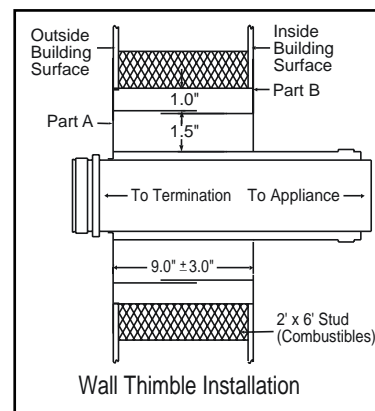


- Terminate the system at least 7' (2.1m) above a public walkway or driveway, no less than 6' (1.8m) from the combustion air intake of any appliance or 3' (.9m) from any other building opening, gas utility meter, service regulator or the like. It shall also terminate 3' (.9m) above any forced air inlet within 10' (3.1m) and at least 4' (1.2m) below and 4' horizontally from or 1' (.3m) above any door, window, or gravity air inlet into any building as provided in the National Fuel Gas Code ANSI Z223.1 and NFPA 54. Some installations may require greater distances depending on the size of the equipment installed or to allow for snow drifting or falling from overhead roofs or trees. The termination should always be away from trees, shrubs, or decorative items as flue gases could cause damage.
- The total horizontal vent length from the appliance flue collar to the outside termination shall not be greater than specified in the appliance manufacturer's instructions. When using the standard DCV-WT (Wall Thimble) through a combustible wall, the minimum horizontal vent length for Model DCV between the inside wall and elbow must be 36" (914.4mm).
- A horizontal installation shall have a slope (upwards or downwards for Category II, III, or IV appliances) of no less than 1/4" (6.4mm) every 12" (305mm) to prevent collection of condensates, formation of ice build-up, or blockage at any location within the assembly. Refer to appliance manufacturer's installation instructions for further details regarding proper slope and installation of condensate drain fittings.
- Use non-combustible hanger straps to support the vent system every 6' (1828.8mm) from ceiling joists or other solid structures. Do not puncture the vent system! Wall Brackets (DCV-WB) are available for support.

- Maintain the clearances as required and noted in the "Clearance to Combustibles Chart."

HORIZONTAL INSTALLATION INSTRUCTIONS

NOTE: The Wall Thimble consists of Parts A & B (see drawing). They are shipped assembled and need to be separated before installation.



- Determine the location and install the Wall Thimble (DCV-WT) so that a continuous minimum slope of 1/4" per foot is maintained in the horizontal portion of the vent system. Condensate must flow and may not be retained in any part of the vent system.
- Cut the opening for the Wall Thimble so that the spacer brackets affixed to the outer plate sit comfortably within the opening.
- Position Part A into the opening so that the gasketed end of the Wall Thimble is located on the outside of the building.
- Apply a bead of silicone between the two surfaces and around the edges before nailing or screwing the plate on Part A to the outside building surface.
- From the inside, slide the sleeve of Part B onto the sleeve of Part A until Part B's plate is flush against the inside building surface. Fasten with screws or nails.
- NOTE: When terminating through a solid masonry or metal wall, the Wall Thimble is optional.
- Use a Termination Tee (DCV-TT), or Bird Screen (DCV-BS) to finish the system's exterior.
- Assemble Model DCV from the heater towards the Wall Thimble, beginning with the Appliance Adapter, Vent Length or Tee. Refer to "Joint Connections" in these installation instructions for proper procedure.

Do not penetrate any part of the system with fasteners or otherwise.

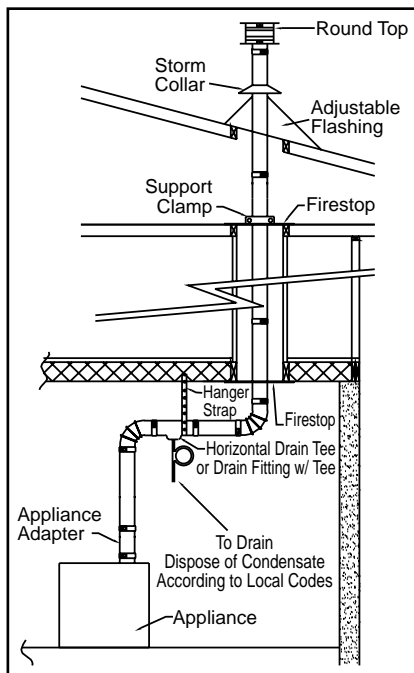
VERTICAL INSTALLATION

- Terminate the system at least 6' (1.8m) from the combustion air intake of any appliance.
- Terminate the system at least 3' (.9m) from any other building opening, gas utility meter, service regulator or the like.
- Terminate the system at least 2' (.61m) and no more than 6' (1.8m) above the roofline and no closer than 8' (2.4m) from any wall or vertical structure.
- Enclose residential exterior vent systems below the roofline to limit condensation and protect against mechanical damage.
- For exterior systems, install a Wall Bracket (DCV-WB) after every transition from horizontal to a vertical run of over 10' (3.05m); after every 12' (3.66m) of vertical run, and after any offset in the vertical run. (See Detailed Model DCV Wall Bracket Installation Instructions)
- Unless Model DCV is installed in a fire rated shaft, a fire stop and support clamp is required when penetrating floors or ceilings.

- The total vertical vent length from the appliance flue collar to the rain cap termination shall not be greater than specified in the appliance manufacturer's installation instructions.
- A Model DCV Rain Cap (DCV-RC) or other device specified by the appliance manufacturer must be used to keep rain and debris out of the vent.
- No continuous vertical run shall be longer than 120' (36.6m) unless reviewed and approved by our engineering department.

VERTICAL INSTALLATION INSTRUCTIONS

1. Determine the path for the vent system.
2. Cut and frame openings in floors, ceilings, and roof to accommodate Fire Stops (DCV-FS) with the required clearances to combustibles.
3. Cut the opening so that the minimum clearance between the outer sleeve and any combustibles is maintained.
4. When installing on a pitched roof, place the Roof Flashing (DCV-ARF) under the roofing material upslope from the vent and above the roofing material below the vent. Seal is required.
5. Begin installing Model DCV from the appliance upward.
6. Once Model DCV reaches the roofline, slide the pipe through the Roof Flashing.
7. Slide the Storm Collar (DCV-SC) over the pipe, applying a bead of silicone sealant where the Storm collar contacts the pipe. The Storm Collar (DCV-SC) shall rest on the flashing. Tighten the clamp of the Storm Collar to achieve a snug fit.
8. Add additional vent lengths as needed.
9. Attach the Rain Cap (DCV-RC) to finish.
10. To inspect the vent system, open the locking band and remove the Rain Cap.



Installation

1. Use the Wall Bracket as a template for marking the hole locations on the wall surface.
2. If the Wall Bracket is secured to a masonry structure, drill 3/16" pilot holes for 1/4" Tapcon screws.
3. If the Wall Bracket is secured to a steel structure, drill and tap holes for 1/4-20 screws.
4. If the Wall Bracket is secured to a wood structure, it may be helpful to pre-drill for #8 wood screws.
5. Always install a 1" diameter washer between each fastener and Wall Bracket.
6. Securely attach the Wall Bracket to the wall, using the appropriate fasteners.
7. Tighten Wall Bracket to the Model DCV vent using 45-50 in/lb torque.

IMPORTANT NOTICE

The listing for this product is void if components other than those supplied as listed components by Selkirk L.L.C. are used. All warranties, stated or implied, are void if this product and the appliances to which it is connected are not installed in accordance with their respective instructions and local code requirements.

After completing the installation, check the entire system to make sure all joints are secure and sealed correctly. The seams and joints must be checked for gas tightness when using the venting system with Category II, III or IV appliances. Selkirk L.L.C. recommends that the entire system be checked by a qualified inspector at least once annually following initial installation.

The installation must conform to the requirements of the appliance manufacturer's instructions, the National Fuel Gas Code and Local Codes and regulations and our installation instructions.



Model DCV EXTERIOR WALL BRACKET (DCV-WB)

Pre-Installation

1. Wall Brackets must be securely fastened to a solid member of the building using appropriate fasteners – Tapcon screws for solid masonry, wood screws for wood framing, or sheet metal screws for structural steel.
2. A wall bracket must be installed after any transition from horizontal to a vertical run of 10' or more, after every 12' of vertical run or after any offset in the vertical run.