

Installation Instructions



Double wall / Direct Vent system for Pellet
Fuel, Category II, III and IV condensing and
non-condensing gas appliances.

DuraVent®

CONCENTRIC STAINLESS

NOTE:

- **EXAMINE ALL COMPONENTS FOR POSSIBLE SHIPPING DAMAGE PRIOR TO INSTALLATION.**
- **PROPER JOINT ASSEMBLY IS ESSENTIAL FOR A SAFE INSTALLATION.**
- **FOLLOW THESE INSTRUCTIONS EXACTLY AS WRITTEN.**
- **CHECK THE INTEGRITY OF ALL JOINTS UPON COMPLETION OF ASSEMBLY.**
- **THIS VENTING SYSTEM MUST BE FREE TO EXPAND AND CONTRACT.**
- **THIS VENTING SYSTEM MUST BE SUPPORTED IN ACCORDANCE WITH THESE INSTRUCTIONS.**
- **CHECK FOR UNRESTRICTED VENT MOVEMENT THROUGH WALLS, CEILINGS, AND ROOF PENETRATIONS.**
- **DIFFERENT MANUFACTURERS HAVE DIFFERENT JOINT SYSTEMS AND ADHESIVES.**
- **DO NOT MIX PIPE, FITTINGS, OR JOINING METHODS FROM DIFFERENT MANUFACTURERS.**

NOTE:

Read through all of these instructions before beginning your installation. Failure to install as described in this instruction will void the manufacturer's warranty, and may have an effect on your homeowner's insurance and UL listing status. Keep these instructions for future reference. This booklet also contains instructions for installing a venting system within an existing masonry chimney, and for installations passing through a cathedral ceiling.

Dear Customer, Installer, or End User:

We welcome any comments, ideas, input or complaints regarding matters pertaining to our DuraVent products.

If you are searching for tech support or product information, please phone us at 800-835-4429.

Or email us at:
techsupport@duravent.com



MH25700, MH8381, MH21150

CONCENTRIC STAINLESS VENT INSTALLATION INSTRUCTIONS

For the most up-to-date installation instructions, see www.duravent.com

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APPLICATIONS

Listed to UL 1738 (DGS.H.MH25700) and ULC S636 (DGS.H.MH25700) for Category II, III, and IV gas appliances. Inner pipe is pressure rated to 10" W.C.

Listed to UL 641 (DFTX.MH8381), ULC S609 (DFTX7.MH8381), and ULC/ORD 441 (DFVAC.MH21150) for pellet fuel and L Vent.

CVS can also be used as a direct vent system (inner pipe is the exhaust, outer pipe supplies the combustion air for the appliance). For direct vent gas appliances, the vent is considered a component of the appliance, and is listed with the appliance to the corresponding appliance standard. Check with your appliance manufacturer or look in the appliance installation instructions to verify that DuraVent's CVS has been listed as a direct vent for use with your gas appliance.

CLEARANCES

CVS is listed to 0" clearance as a double-wall vent system for Category II, III, and IV appliances, for flue temperature of up to 400-degrees F for horizontal enclosures, and up to 480-degrees F for vertical enclosures. CVS must maintain 1" clearance to combustibles when used with pellet fuel. When CVS is used as a concentric/direct vent system on gas, the clearance to combustibles are specified by the appliance manufacturer. Check with your appliance manufacturer for specifications about clearance to combustibles for the vent pipe, which may vary from one appliance to another. Never fill any required clearance space with insulation or any other materials. Combustible materials include, but are not limited to, lumber, plywood, sheetrock, plaster and lath, furniture, curtains, electrical wiring, and building insulation.

PERMITS

Before installation, check with your local Building Official, Fire Official, or other authority having jurisdiction regarding permits, restrictions, and installation inspections in your area.

GENERAL INSTALLATION NOTES

Read through these installation instructions before beginning your installation. Proper planning for your Vent system installation will result in greater safety, efficiency, and convenience, as well as saving time and money. You must use only authorized DuraVent parts, or other parts specifically authorized and listed by the appliance manufacturer in order to maintain a safe, approved system. Do not mix parts or try to match with other products or use improvised solutions. Do not install damaged or modified parts. Practice good workmanship. Sloppy work could jeopardize your vent's safety. Keep electrical wiring and building insulation away from all chimneys and vents. When deciding the location of your installation, try to avoid modifications to structural components of the building. If you have any questions, contact either your dealer or DuraVent directly.

Check with the appliance manufacturer for the maximum and minimum allowed vent runs for your specific appliance model, including maximum number elbows allowed in the system. The total vent length from the appliance to the termination shall not be greater than what is specified by the appliance manufacturer. For condensing appliances, always follow the appliance manufacturer's recommendation for handling condensate drainage.

Plan the layout of the vent system:

- Consider the length of horizontal runs, elbows, clearance requirements, and location of terminations.
- For horizontal vent runs, maintain at least a $\frac{1}{4}$ " rise per foot away from the appliance to prevent collection of condensate or buildup of heat in the vent.
- Consider condensate drainage, if needed for your appliance. Refer to the appliance manufacturer's installation instructions for requirements of condensate drainage.
- The CVS system must not be routed into, through, or within any other vent or chimney, with the exception of running the vent through an otherwise unused masonry chimney.
- The vent system must terminate in accordance with local code requirements and appropriate National Codes:
 - o For the US (Gas): NFPA 54 / ANSI Z223.1 National Fuel Gas Code or the International Fuel Gas Code
 - o For the US (Pellet): NFPA 211 Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances
 - o For Canada: CAN/GGA-B149.1 Natural Gas Installation Code or CAN/CGA-149.2 Propane Installation Code.

JOINT CONNECTIONS

DuraVent's Concentric Vent is connected together by aligning the Alignment Dimples on the male and female vent sections, sliding together and twist locking in either direction (**Fig.1**). The joints will only connect and come apart at the point where the Alignment Dimples are aligned. The CVS joint section can rotate 360-degrees to allow elbows to point in the desired direction. The vent pipe sections cannot be cut. Telescoping Adjustable lengths are available to accommodate specific installation length requirements. Screws are

not required for joint connection, except as where indicated for Telescoping Adjustable lengths and Horizontal Termination Caps.

APPLIANCE CONNECTION

Connect CVS vent pipe to the appliance as directed by the appliance manufacturer, as it can vary depending on the make and model of your appliance. In some cases, this may require an Appliance Adaptor; in other cases, the vent pipe may be able to slip on to the appliance directly. Check with your appliance manufacturer for the connection method.

CONDENSATE DRAINS- GAS FUEL

CVS has an available Condensate Drain if required by the appliance, and has a $\frac{3}{8}$ " ID outlet which can be attached to an appropriate size plastic tube for drainage. The Condensate Drain can be used in either horizontal or vertical orientation. When installing the Condensate Drain, always create a siphon loop in the plastic tube to prevent the leakage of exhaust gases. Follow all local and national codes for draining acidic condensate.

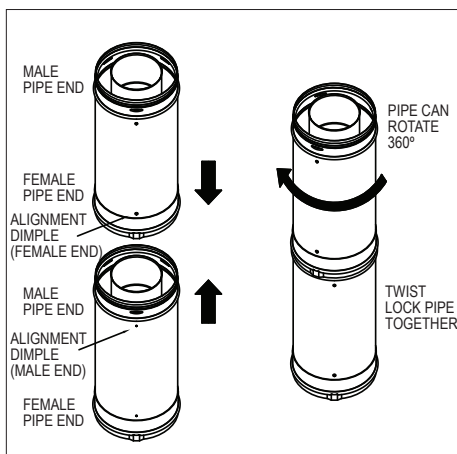


Figure 1

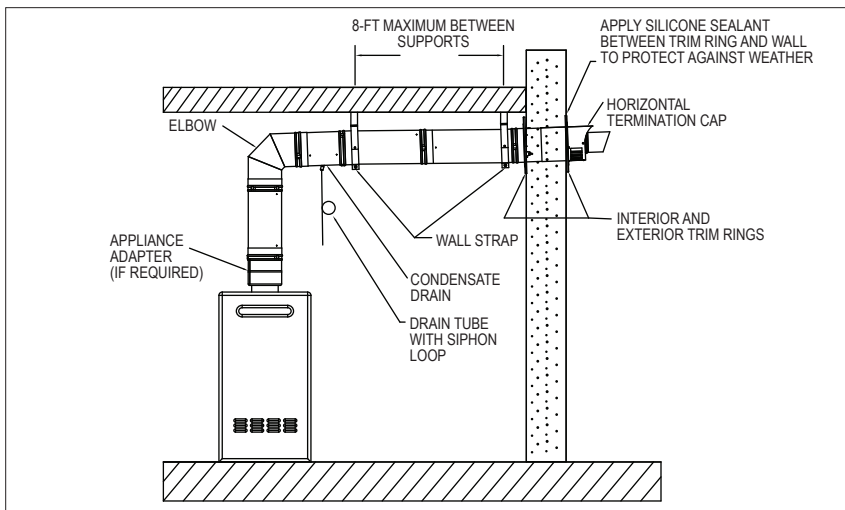


Figure 2- Gas Fuel

INSTALLATION

Determine the venting path required for your installation. There are two general types of installations: Horizontal Installations, and Vertical Installations.

Always check with the appliance manufacturer for requirements or restrictions with the venting. To determine the installed length of vent pipe, subtract 1-1/4" for each joint due to the joint overlap.

HORIZONTAL INSTALLATIONS

1. Install Appliance. Determine where your appliance will be installed and follow the Appliance manufacturer's installation instructions accordingly.

2. Determine location of wall penetration.

Identify where you want the vent to penetrate through the wall to the outside. Consider the restrictions and requirements for the location of the Horizontal Vent Cap, listed below.

When determining the location of the wall penetration, be sure to account for the height

of the Appliance Adapter (if needed) and the radius/height of the Elbow. For horizontal vent runs, always maintain at least a 1/4" rise per foot away from the appliance (**Fig.2**) to prevent collection of condensate or buildup of heat in the vent. Also make sure you have accommodated any minimum vent height, if any, that the appliance manufacturer may require.

The Horizontal Termination Cap must meet the following requirements:

- (a) Clearance above the ground, veranda, porch, deck, or balcony: 12 inches minimum.
- (b) Clearance to a window (operable or fixed closed) or door: 12 inches minimum.
- (c) Vertical clearance to a ventilated soffit located above the Termination Cap (if soffit extends a horizontal distance of 2 feet out over the center-line of the termination): 18 inches minimum.
- (d) Clearance to an unventilated soffit: 12 inches minimum.
- (e) Clearance to an outside corner: as tested

by appliance manufacturer.

(f) Clearance to an inside corner: as tested by appliance manufacturer.

(g) Not to be installed above a meter/regulator assembly within 3 feet horizontally from the center-line of the regulator.

(h) Clearance to a gas service regulator vent outlet: 6 feet minimum.

(i) Clearance to non-mechanical air supply inlet to a building or the combustion air inlet to any other appliance: 12 inches minimum (US), 6 ft (Canada)

(j) Clearance to a mechanical air supply inlet: 6 feet minimum.

(k) Clearance above a paved sidewalk or paved driveway located on public property: refer to local code.

(l) Terminate above the snowline for the area.

3. Cut wall penetration. Refer to the appliance manufacturer for clearance to combustible requirements from the vent. To accommodate the flared end of the vent pipe, the minimum hole size should be 5-3/8" x 5-3/8" for a square cut, or 5-3/8" diameter for a round cut (**Fig.4**). Always check with the appliance manufacturer for any additional clearance to combustibles (if any) from the venting that may be required. For reference, the Outside Trim Ring provided with the Horizontal Termination Cap measures a maximum of 8-1/2" diameter, and has a hole pattern of 7" diameter. **For pellet fuel installs, a wall thimble is required.**

4. Layout the Vent. Verify which CVS vent lengths and components you will need for your installation. Note: for gas fuel, the Horizontal Termination Cap must fit at a specific distance outside of the exterior wall (**Fig.2,3**). This distance is needed to ensure proper airflow and pressure within the CVS

vent system. To ensure this distance, the Horizontal Termination Cap is adjustable. Also, Telescoping Adjustable lengths are available.

5. Install Vent. Once the vent path and components have been determined, install the vent. Align the male and female pipe ends as described in the Joint Connection section, push together and twist lock (**Fig.1**). Note the direction of the pipe is important. The outer wall female end must face downward/towards the appliance; and the outer wall male end must face upward/away from the appliance. The direction is to ensure correct condensate drainage and weatherization.

If Telescoping Adjustable lengths are used, secure them at the desired length by using (3) 1/2" screws provided.

6. Support Vent. Wall Straps are required every 8-ft of horizontal run in order to properly support the vent system (**Fig.2**). If the installation extends through the wall in

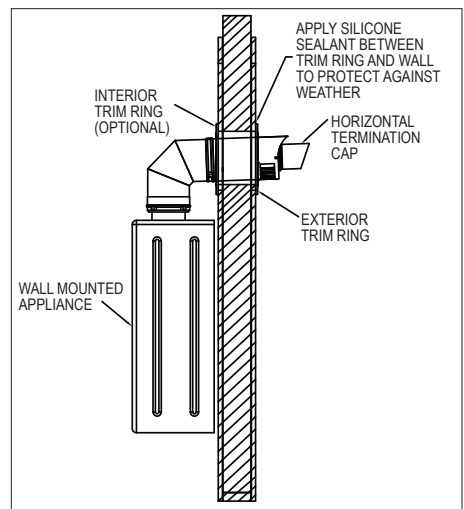


Figure 3- Gas Fuel

less than 8-ft of vent pipe, a wall strap is not required. Wall Straps are designed to provide a 1" standoff from nearby walls or ceilings. Use (2) 1-1/2" wood screws to secure each Wall Strap. If a standoff further than 1" is needed, the use of plumbers tape or other support deemed acceptable to the AHJ is permissible. Support must not damage or deform the vent system.

7. Install Wall Termination. If the optional Interior Trim Ring will be installed (gas fuel), bend the three tabs and slip the ring onto the pipe section previous to the Horizontal Termination Cap. Adjust the length of the Horizontal Termination Cap so that the inside edge of the bead of the black-painted exterior portion is flush with the outer wall. This bead is used in combination with the Outer Trim Ring (supplied with the cap) to hold the cap in place at the wall. Once the Horizontal Termination Cap has been adjusted to the correct length, secure it in place with (3) 1/2" sheet metal screws (**Fig.4**). Then twist-lock on the Horizontal Termination Cap, and align the cap so the air inlet openings are downward (**Fig.2,3**).

Install the black-painted Outer Trim Ring over the Horizontal Termination Cap and secure in place with the (3) 1-1/2" wood screws (**Fig.4**). Seal the Outer Trim Ring against the exterior wall using weatherizing silicone sealant.

If the Interior Trim Ring is installed, slide the Trim Ring against the interior wall and secure in place with (3) 1-1/2" wood screws. Secure the Interior Trim Ring to the CVS pipe by using (3) 1/2" sheet metal screws through the tabs in the Trim Ring. Be sure you do not drill through the gasket in the outer wall of the CVS vent pipe.

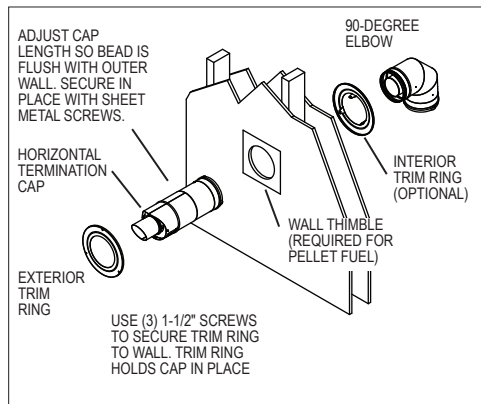


Figure 4

CVS- PELLET CONNECTIONS

To adapt CVS to pellet appliances with separate exhaust and air intake ports, or when needing a cleanout tee, reference **Fig.5,6,7**. Intake flex and CVS cleanout tee cap are affixed using included hardware.

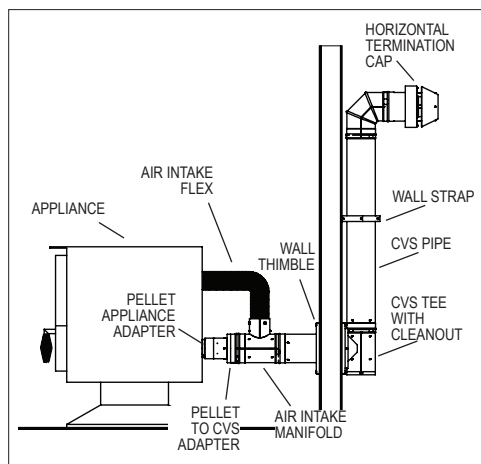


Figure 5- Pellet Fuel

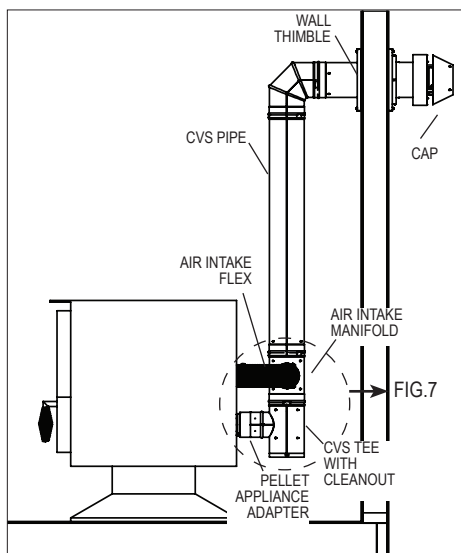


Figure 6- Pellet Fuel

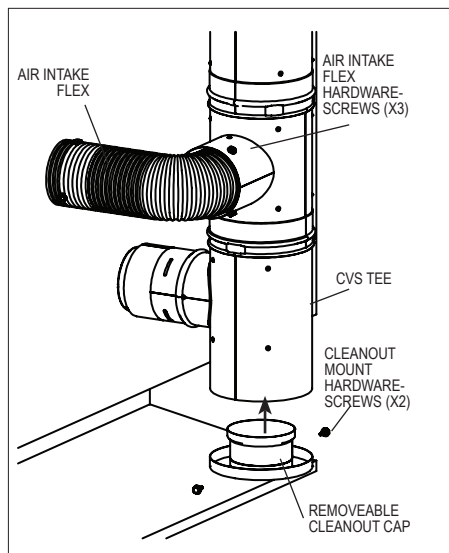


Figure 7- Pellet Fuel

VERTICAL INSTALLATION:

If you plan on terminating your vent vertically above the roof, check with the appliance manufacturer for any restrictions or requirements on vent lengths.

1. Install Appliance. Determine where your appliance will be installed and follow the Appliance manufacturer's installation instructions accordingly.

2. Determine the location of your ceiling and/or roof penetration. Avoid cutting floor or roof supporting members. Always make sure to follow the appliance manufacturer's required minimum clearance to combustibles.

3. Cut and frame floor penetration openings. Cut and frame 7-1/2" x 7-1/2" openings at each floor level through which the CVS vent system will penetrate. The opening at the roof does not require framing. Vertical installations of the CVS vent need to

be supported. A Firestop Support is required where the vent system passes through the first floor, and additional Firestops are required at each floor opening, except the roof. Follow the appliance manufacturer's requirements for minimum clearance to combustibles

4. Install Firestop Support(s). At each framed floor opening, install a Firestop Support. The Firestop Support is listed to support up to 40-ft of CVS vent pipe. The Firestop Support is installed from underneath the opening, held in place by (4) 1-1/2" wood screws in the corners (**Fig.9**). From the other side, extend the straps of the Firestop Support and secure them to nearby framing members with additional 1-1/2" wood screws. As the vent passes through the Firestop Support, install the clamp around the vent and tighten with the screws provided, so the weight of the vent is supported by the Firestop Support (**Fig.9**).

5. Install Attic Insulation Shield. If your appliance utilizes pellet fuel and the vent system is unenclosed and run through an attic, you must install an attic insulation shield to ensure required clearance to combustible materials (**Fig.8,9**).

6. Install CVS Vent Pipe. If your appliance requires an Appliance Adapter, install it onto the appliance. Twist-lock on the first section of CVS vent pipe and continue to add vent pipe sections for your installation. As the vent passes through Firestop Supports, tighten the supporting clamp around the vent pipe.

Any elbow offsets must be supported by Wall Straps. Wall Straps must be used to support any horizontal or inclined sections longer than 8-ft. Plumbers tape is allowed to be used to support the vent pipe for interior offsets only, if nearby walls/ceilings/framing members are not close enough to use the Wall Straps.

As the CVS vent passes through the roof, install a Roof Support at the roof level to hold the vent in place, if there are no Wall Straps within 8-ft (**Fig.9**). The Roof Support is clamped around the vent pipe and is secured to the topside or underside of the roof with at least (4) nails or wood screws.

7. Enclosures. Check with your local authority for enclosure requirements when installing a vent through an occupied area. Except for installation in one and two family dwellings, a vent system that extends through any zone above where the connected appliance is located shall have an enclosure with a fire resistance rating equal or greater than that of the floor or roof assembly through which it passes.

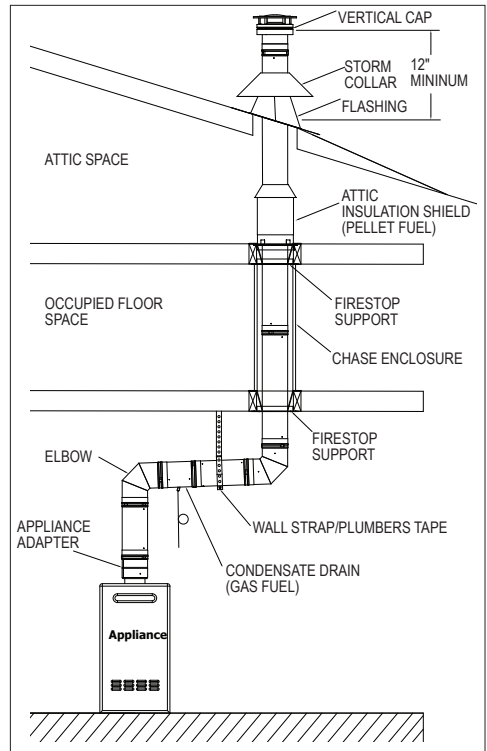


Figure 8

For exterior mounted systems, it is recommended that the vent system be enclosed below the roof-line to limit condensation and protect against possible incidental damage that may occur to the vent pipe.

8. Install Flashing and Vertical Termination. Install enough vent pipe through the roof penetration to allow the Adjustable Flashing to fit over the pipe. The Adjustable Flashing will fit roofs from 0/12-12/12 pitch. Slide the Flashing over the vent pipe and secure to the roof. The upper edge of the flashing should slide under the uphill shingles/roofing material, if

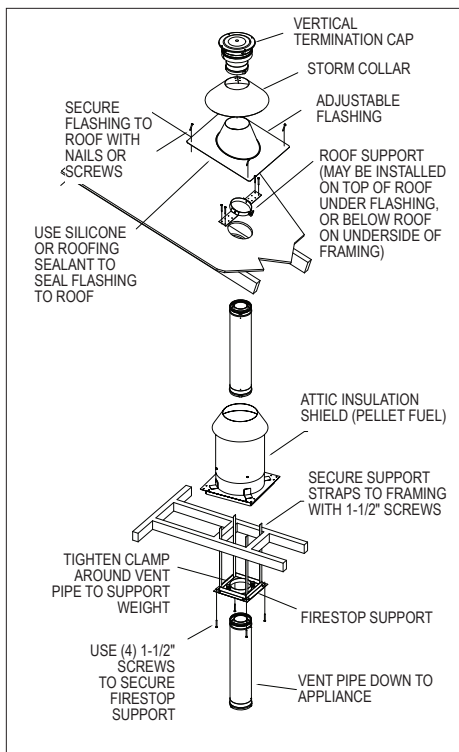


Figure 9

applicable. Use appropriate roofing sealant to weatherize the flashing to the roof, and secure the flashing in place using at least (4) roofing nails/screws per side of the flashing (**Fig.9**).

After the Flashing is installed, wrap the Storm Collar around the vent pipe, inserting the tab and folding it back to secure the collar tightly against the pipe. A sheet metal screw may be used to secure the tab in place. Slide the Storm Collar down on top of the Flashing. Use a bead of sealant where the Storm Collar sits on the Flashing to prevent any rain infiltration. The vent pipe must extend above the roof a minimum of 12", but the installation must

also meet any additional height requirements as specified in the appliance manufacturer's installation instructions. Once the required vent height has been reached, twist-lock the Vertical Termination Cap onto the top section of CVS vent pipe to complete the Vertical Installation (**Fig.9**). If more than 4 feet of CVS extends above the roof, then the vent pipe will need to be supported.

MAINTENANCE

Conduct an inspection of the venting system semiannually. Recommended areas to inspect are as follows:

1. Check areas of the Venting System which are exposed to the elements for corrosion. These will appear as rust spots or streaks, and in extreme cases, holes. These components should immediately be replaced.

2. Remove the Termination Cap, and shine a flashlight down the Vent. Clean and remove any deposited or foreign material.

3. Check for evidence of excessive condensation, such as water droplets forming in the inner liner, and subsequently dripping out at joints. Continuous condensate can cause corrosion of caps, pipe, and fittings. It may be caused by having excessive lateral runs, too many elbows, and exterior portions of the system being exposed to cold weather.

4. Inspect joints, to verify that no Pipe Sections or Fittings have been disturbed, and consequently loosened. Also check mechanical supports such as Wall Straps, or plumbers' tape for rigidity.

DURAVENT WARRANTY

DuraVent, Inc. ("DuraVent") provides this limited lifetime warranty for all of its products to the original purchaser, with the exception of Ventinox (lifetime), DuraBlack (five years) and all Termination Caps (five years). Subject to the limitations set forth below, DuraVent warrants that its products will be free from substantial defects in material or manufacturing, if properly installed, maintained and used. This Warranty is non-transferable with the exception of Ventinox which is transferable from the original homeowner to the buyer of the home for a period of ten (10) years. This warranty does not cover normal wear and tear, smoke damage or damage caused by chimney fires, acts of God, or any product that was: (1) purchased other than from an authorized DuraVent dealer, retailer or distributor; (2) modified or altered; (3) improperly serviced, inspected or cleaned; or (4) subject to negligence or any use not in accordance with the printed materials provided with the product as determined by DuraVent. This limited lifetime warranty applies only to parts manufactured by DuraVent.

DuraVent provides the following warranties for its products: One Hundred Percent (100%) of the purchase price or MSRP at time of purchase, whichever is lower, for 15 years from the date of purchase, and Fifty Percent (50%) thereafter, except for the following limitations: Ventinox liner and components in wood, oil, wood pellet, and gas installations are warranted at One Hundred Percent (100%) for the lifetime of the original homeowner; Ventinox 316 liner and components for coal burning installations which are warranted One Hundred Percent (100%) for ten years; all Termination Caps and DuraBlack® are warranted at One Hundred Percent (100%) for five years, and at Ten Percent (10%) thereafter.

All warranty obligations of DuraVent shall be limited to repair or replacement of the defective product pursuant to the terms and conditions applicable to each product line. These remedies shall constitute DuraVent's sole obligation and sole remedy under this limited warranty. This warranty provides no cash surrender value. The terms and conditions of this limited lifetime warranty may not be modified, altered or waived by any action, inaction or representation, whether oral or in writing, except upon the express, written authority of an executive officer of DuraVent.

VENTINOX WARRANTY CONDITIONS

Liner and Component warranties contained herein are subject to the following conditions: (1) The Liner and Components must be installed according to DV's installation instructions; (2) The Liner and Components are used only to line or reline chimneys venting residential appliances for which the liner was intended; and (3) documented annual inspection of the Liner and Components and maintenance as deemed necessary, beginning one year after the date of installation and continuing throughout the warranty period, by a Nationally Certified Chimney Sweep or VENTINOX® installer. The Liner and Components warranty is further subject to compliance with the following requirements throughout the warranty period: The chimney must have a chimney cap and chemical chimney cleaners must not be used when cleaning the Liner or Components. Plastic-bristle flue cleaning brushes are recommended. Corn, biofuels, driftwood or other wood containing salt, preservative-treated lumber, plastic and household trash or garbage, or wood pellets containing such materials must not be burned in the appliance or fireplace. In case of a chimney fire, the chimney must be inspected and approved by a certified Chimney Sweep before reuse. After each annual inspection, maintenance, and cleaning, the certified Chimney Sweep must fill out and date the appropriate section of the warranty card provided with the chimney liner.

LIMITATIONS ON INTERNET SALES:

Notwithstanding any other terms or conditions of this limited lifetime warranty, DuraVent provides no warranty for the following specific products if such products are both: (a) purchased from an Internet seller; and (b) not installed by a qualified professional installer: DuraTech®, DuraPlus HTC®, PelletVent Pro®, FasnSeal®, and DuraVent's relining products including DuraLiner®, DuraFlex® 304, DuraFlex® 316, DuraFlex® Pro, DuraFlex® SW, and Ventinox®. For purposes of this warranty, a trained professional installer is defined as one of the following: licensed contractors with prior chimney installation experience, CSIA Certified Chimney Sweeps, NFI Certified Specialists, or WETT Certified Professionals.

DuraVent reserves the right to inspect defective product to determine if it qualifies for replacement under the terms of this limited lifetime warranty. All warranty claims must be submitted with proof of purchase. Labor and installation costs are not covered under this warranty. To obtain warranty service contact DuraVent promptly at DuraVent Warranty Service, 902 Aldridge Rd., Vacaville CA 95688, or call 800-835-4429.

WHERE LAWFUL, DuraVent DISCLAIMS ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL DuraVent BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES OR DIRECT OR INDIRECT LOSS OF ANY KIND, INCLUDING BUT NOT LIMITED TO PROPERTY DAMAGE AND PERSONAL INJURY. DuraVent's ENTIRE LIABILITY IS LIMITED TO THE PURCHASE PRICE OF THIS PRODUCT. SOME STATES DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

For the most up-to-date installation instructions, see www.duravent.com

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Manufactured in Vacaville CA and Albany NY

DuraVent®

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