Installation Instructions

FasNSeal Single-Wall vent for
Category II, III, and IV appliances

FASNSEAL®

DuraVent
Member of M&G Group

A MAJOR CAUSE OF VENT RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF THE UTMOST IMPORTANCE THAT FASNSEAL BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.

IMPORTANT:
Read through all of these instructions before beginning your installation. Failure to install this product as described in these instructions will void the manufacturer's warranty, may create a fire or other safety hazard, and may affect your homeowner's insurance and safety listing of your appliance.

Keep these instructions for future reference.

Dear Customer, Installer, or End User:
We welcome any comments regarding matters pertaining to our DuraVent products. We welcome any ideas, input or complaints and I'll make sure that someone responds directly back to you.
Send your emails to:
president@duravent.com

If you are searching for tech support or product information, please phone us at 800-835-4429.
Or e-mail us at:
techsupport@duravent.com

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LISTED

FASNSEAL SINGLE-WALL VENT FOR CATEGORY II, III, AND IV APPLIANCES

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

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INTRODUCTION

M&G DuraVent's FasNSeal is a stainless steel vent system for Category II, III, and IV gas-fired appliances. FasNSeal is listed to UL 1738 and ULC S636 with a maximum rated operating temperature of 480°F (249°C) and a rated pressure of 15 in-w.c. FasNSeal® must be installed by an experienced professional familiar with the operation and maintenance of heating appliances and venting. Before installing this product, examine all components for possible shipping damage and read the complete installation manual. Failure to follow proper installation procedures, including vent pitch and improper appliance connections may cause unsafe conditions. When venting Category II, III, or IV appliances, FasNSeal® must be used for the entire length of the system. Do not mix pipe, fittings, or joining methods from different manufacturers. See the DuraVent Product Catalog for a complete list of parts and products. Every vent system must be planned and installed for optimum performance and safety. The venting system must be free to expand and contract and must be supported in accordance with these instructions. (Check for unrestricted vent movement through 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: In the US: NPFA 211 and NFPA 54/ANSI Z223.1 National Fuel Gas Code or the International Fuel Gas Code.
In Canada: CAN/CGA B149.1 Natural Gas and Propane Installation Code.

IMPORTANT NOTICE

The UL listing for this product is void if components other than those supplied as Listed Components 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 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. DuraVent 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 NFPA 211, the National Fuel Gas Code, the International Fuel Gas Code, or the Canadian Gas and Propane Installation Code as well as local codes and regulations.

GENERAL INSTALLATION REQUIREMENTS

Failure to conform with these installation instructions and all applicable codes may result in catastrophic property damage, personal injury, or death. 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 specified 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 for multiple appliance connections.
•If required by the appliance manufacturer, a drain fitting must be located as close as possible to the appliance flue outlet. Depending on the arrangement of the vent, more than one drain may be required. Unless

a drain fitting is supplied with the appliance, install a FasNSeal® Drain Fitting.
•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 multiple venting. Cat. II, III or IV appliances may not be common vented with Cat. I, natural draft appliances.
•FasNSeal® must not come in contact with plumbing or electrical systems.
•Maintain rated clearances to combustibles over the entire length of the vent system. Refer to ***Table 1*** for clearance to combustible requirements.
•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 be provided with an enclosure having a fire resistance rating equal to or greater than that of the floor or roof assemblies through which it passes.

⚠ IMPORTANT

When Installing FasNSeal of 5" diameter or greater, any enclosures must be of non-combustible materials!

•Never install FasNSeal® on an appliance that is not listed for use with a Special Gas Vent or Type BH vent.
•FasNSeal® shall not be routed into, through, or within any vent, such as an existing masonry or factory-built chimney, that is connected to another appliance.
•Do not install insulation in any required clearance space around FasNSeal®.

⚠ IMPORTANT

Follow appliance manufacturer's allowances for elbows.

Clearance to Combustibles					
Rated Operating Temperatures		**Minimum Clearance Enclosed**		**Clearance Unenclosed**	
3" & 4"	**300° F/ 149° C**	**HOR. SIDE: 8" TOP: 12"**	**VERT. 4" / 101.6 MM**	**HOR. 1" / 25.4 MM**	**VERT. 1" / 25.4 MM**
	480°F / 249° C	**BOTTOM: 4"**	**4" / 101.6 MM**	**3" / 76.2 MM**	**3" / 76.2 MM**
5" - 16"	**300° F/ 149° C**	**NON-COMBUSTIBLE ENCLOSURES**			**3" / 76.2 MM**
	480°F / 249° C				**3" / 76.2 MM**
Rated Operating Temperature of 300°F = Max Flue Gas Temperature of 375°F **Rated Operating Temperature of 480°F = Max Flue Gas Temperature of 550°F**					

Table 1

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 clearances (air space) to combustibles, or specifications for the use of Elbows, Tees, or Drain Tees.

Although our Adjustable Vent Length and Wall Thimble are designed to eliminate cutting, there may be occasions when you must field cut a vent length.

FIELD CUTTING: When necessary, cut the male end only and keep in mind that a minimum of 2" vent length is needed to obtain a seal on the female end. Make a **straight cut** to ensure the gasket is completely covered. **Sand all burrs off to avoid damaging the gasket** during installation. When these procedures are followed, FasNSeal® may safely be cut in the field.

ADJUSTABLE VENT LENGTH

The FasNSeal Adjustable Vent Length (FSAVL) is available in all diameters and allows the installer to easily adjust the vertical or horizontal length of a vent system. Cutting, or piecing together several vent lengths can be avoided.

The FasNSeal Wall Thimble (FSWT) already incorporates the FSAVL. In most system layouts, this provides enough adjustability for the horizontal vent run.

Use the FSAVL vertically for easy adjustment of the required minimum 1/4" per foot pitch.

Technical details about the stand alone FSAVL (***see Figure 1***): The overall length of all FSAVL Adjustable Vent Length is 18" (1).

The female end (2) measures 2", leaving 12" to telescope into a standard vent length.

The FSAVL must penetrate no less than 4" into a standard vent length (3) to assure a good seal and structural stability. This leaves up to 12" in true axial adjustability (4).

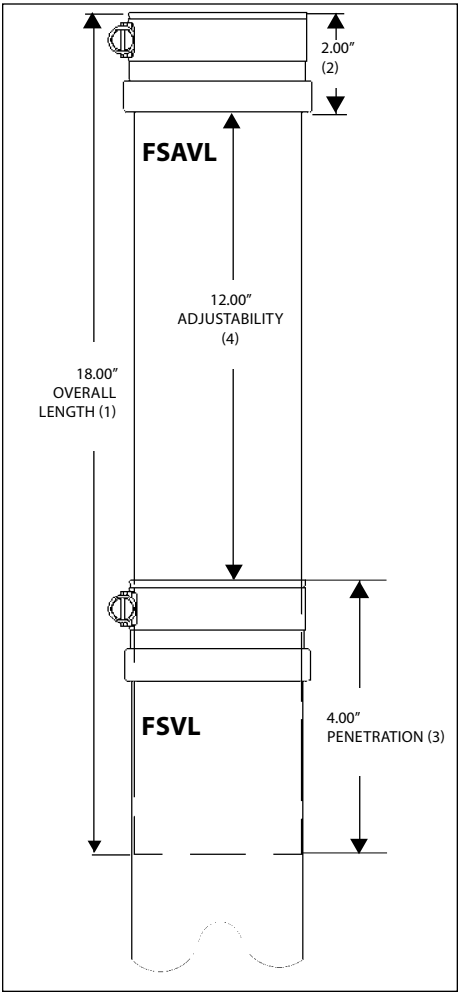
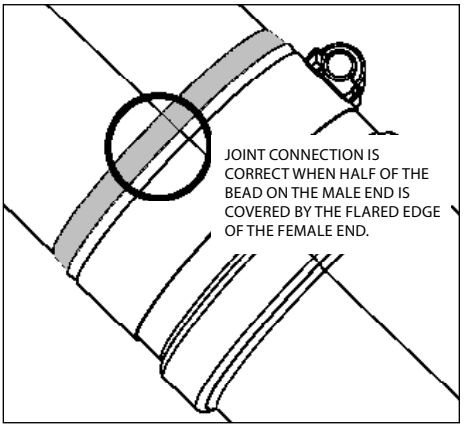
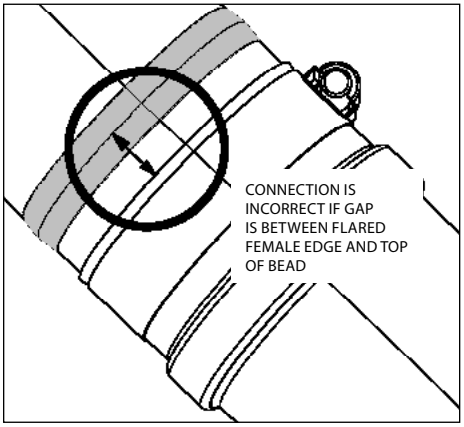


Figure 1



Correct Joint Connection.
Male/Female sections fully engaged.



INCORRECT Joint Connection.
Male/Female sections
NOT fully engaged.

Figure 2

JOINT CONNECTIONS

The female end of each FasNSeal® component incorporates a sealing gasket and a mechanical locking band. Examine all components prior to installation. Gaskets must be in proper position or flue gases could leak and result in carbon monoxide poisoning.

1. Insert the male end into the female section. Push the units together and turn them until half of the bead on the male end is covered by the flared edge of the female end. (***see Figure 2***). This creates the needed airtight seal for Category II, III or IV appliances. Align the seams on the vent lengths and orient them upward in all horizontal applications.

2. Tighten the locking band with a nut driver until snug plus 1/4 turn.

Before proceeding, recheck all joints and ensure that all male sections extend to the top of the flared female end and all clamps are tightened.

APPLIANCE CONNECTION

Connect FasNSeal® to the appliance flue collar as directed in the appliance manufacturer's instructions. If the appliance flue collar is not designed to accept FasNSeal® directly, an adapter may be available.

CONDENSATE DRAINS

If instructions or local regulations call for a condensate drain, use a FasNSeal® Drain Fitting (FSDF) and a 5/8" ID plastic tube (3/8" for the Horizontal Drain Fitting, FSHDT) of appropriate size to connect the Tee into the sanitary sewer drain. Always create a siphon loop in the plastic tube. Follow all local and national codes for draining acidic effluent. Do not use copper as a drain as it may corrode.

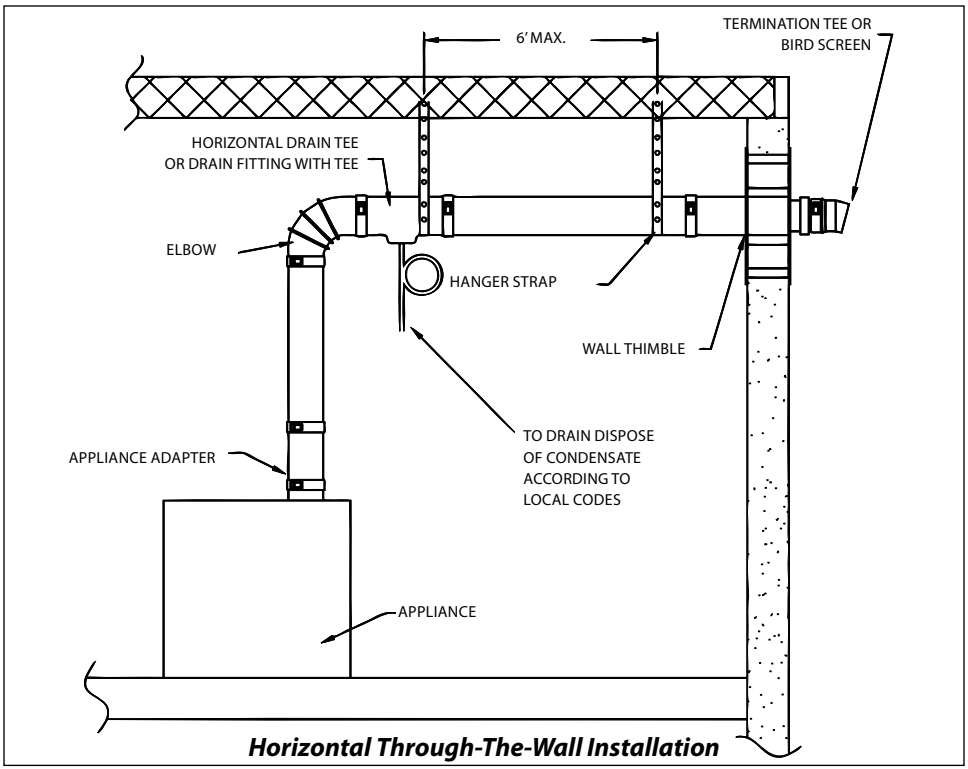


Figure 3

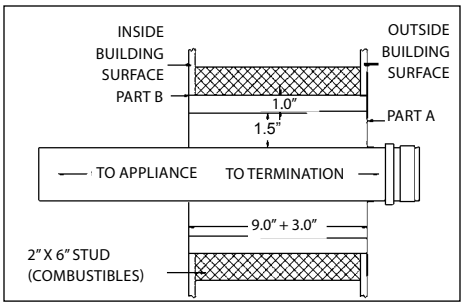
HORIZONTAL, THROUGH THE WALL INSTALLATION

• For a typical Horizontal Through the Wall installation, refer to ***Figure 3.*** When venting through a sidewall, 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 also shall terminate at least 3' (.9m) above any forced air inlet within 10' (3.1m) and shall terminate at least 4' (1.2m) below, 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/NFPA 54 or the International Fuel Gas Code. Proper judgement 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 be far enough away from trees, shrubs or decorative items to prevent damage.

•The total vent length from the appliance flue collar to the outside termination shall not be greater than specified in the appliance manufacturer's instructions.

•A horizontal installation shall have a slope (upwards away from the appliance for



Wall Thimble Installation

Figure 4

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 the installation of condensate drain fittings and the pitch of the system.

•Use non-combustible hanger straps a minimum of every 6' (1.8m) to support the vent system from ceiling joints or other solid structures. Do not puncture the vent system!

1. Determine the location and install the Wall Thimble so that a continuous minimum slope of 1/4" per foot is maintained in any horizontal portion of the vent system. **Condensate must flow freely and may not be retained in any part of the vent system.**

2. Cut the opening for the Wall Thimble to allow the spacer tabs protruding from the outer plate to sit comfortably within the opening. (See ***Figure 4***, Wall Thimble Installation diagram)

3. Position Part A into the opening so that the gasketed end of the Wall Thimble is located on the outside of the structure.

4. 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 of the structure.

5. 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 structure surface. Fasten with screws or nails.

IMPORTANT

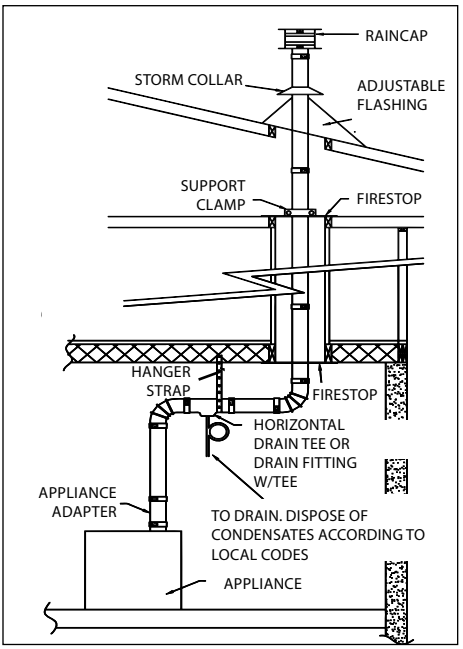
When terminating through a non-combustible wall, the wall thimble is optional.

6. Use a Termination Tee or a Birdscreen to finish the system's exterior.

7. When the vent system must pass through an interior wall, use a FasNSeal Wall Pass Through (FSWPT). Cut the same size hole for the FSWPT as was cut for the Wall Thimble and install using the same method.

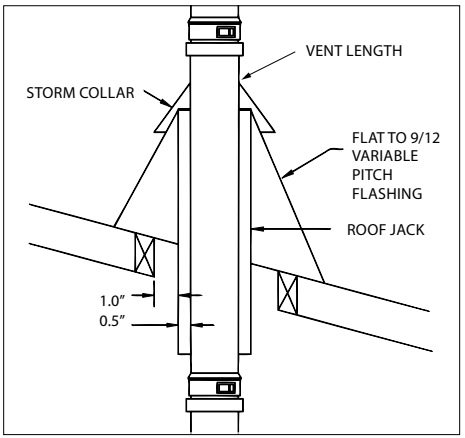
8. Assemble FasNSeal® from the appliance towards the Wall Thimble. Refer to "Joint Connections" in these installation instructions for procedure.

Do not drill through or penetrate any part of the vent system.



Vertical Through the Roof Installation

Figure 5



Vertical Termination

Figure 6

VERTICAL, THROUGH THE ROOF INSTALLATION

• For a typical Vertical Through the Roof installation, refer to ***Figures 5 and 6***. Terminate the system 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) above the roof line and any wall or vertical structure closer than 8' (2.4m). Additional support is required for systems that extend more than 6' (1.8m) above the roof line.

•Enclose residential exterior vent systems below the roof line or use FasNSeal® W2 to limit condensation and protect against mechanical failure.

•Install a Wall Bracket after every transition from horizontal to a vertical run of over 10' (3.05m), a minimum of every 12' (3.66m) of vertical run, and after any offset in the vertical run. (***See Detailed FNS® Wall Bracket Installation***)

•Unless FasNSeal® is installed in a fire rated shaft, a fire stop and support is required when penetrating through each floor/ceiling level (***See Figure 5***). A Firestop is not needed at the roof level.

•The total equivalent vent length from appliance flue collar to the termination shall not be greater than specified in the appliance manufacturer's installation instructions.

•A FasNSeal® Rain Cap or any other provision as required by the appliance manufacturer must be used to keep rain or debris out of the vent.

1. Locate the path for the vent system.

2. Cut and frame openings in floors and ceilings to accommodate Firestops.

3. Cut the opening in the roof for the Roof Jack. Cut the opening so that a minimum distance of 1"/25.4 mm is between the Roof

Jack and any combustibles.

4. When installing on a pitched roof, place the Roof Flashing under the roofing material up slope from the vent and above the roofing material below the vent. Seal as required.

5. Install a Roof Jack into the Roof Flashing to ensure proper ventilation.

6. Now begin installing FasNSeal® from the appliance upward.

7. Once FNS® reaches the roof line, slide the Storm Collar onto the vent length. Install vent length through the Roof Jack and Flashing. Slide the Storm Collar down to rest on the Flashing, then seal as required. Add additional vent lengths as needed, attach Rain Cap, then tighten all connections.

8. To inspect the vent system, open the locking band and remove the Rain Cap.

VENTING THROUGH A MASONRY CHIMNEY

Supporting a FasNSeal vertical stack through a masonry chimney presents a series of challenges not faced by other vertical installations. The narrow and enclosed space of a chimney prevents easy access to most of the chimney interior. Installing wall brackets or other types of support can be nearly impossible.

As an alterative method to supporting installations that pass through a masonry chimney, a series of tension wires and FasNSeal support clamps can be used. Refer to ***Figure 7*** for a typical installation. It is critical to use enough clamps and proper bracing to safely support the weight of the entire vertical stack. DuraVent, also recommends the use of a FasNSeal drain fitting at the base of the vent.

In all situations, it is important to make sure that all workmanship meets and/or exceeds jurisdictional requirements. Contact the

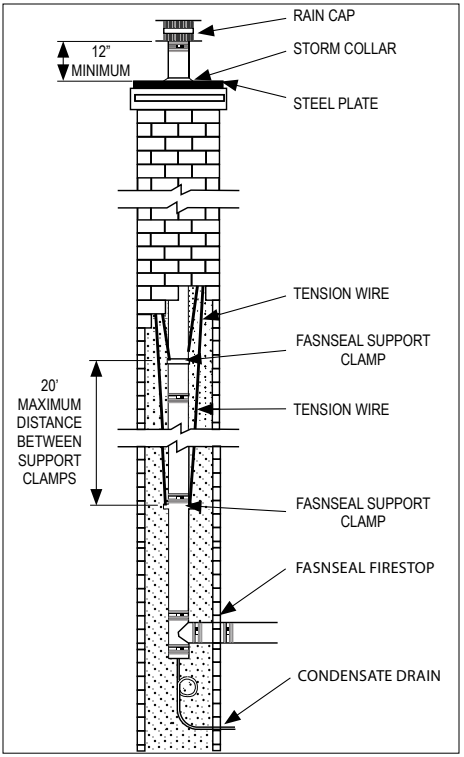


Figure 7

local building inspector regarding codes or regulations that might be applicable to your installation. These instructions are based on an installation through a typical masonry chimney. Consult the DuraVent Engineering Department, at 800-835-4429 or via e-mail at engineering@duravent.com, if your installation has any significant variations.

BEFORE BEGINNING THE INSTALLATION

Before beginning an installation within a masonry chimney, a steel support plate must be constructed in order to anchor the supporting tension wires. This plate is not supplied by DuraVent. The thickness of the plate will vary depending on the amount of weight being supported.

A hole ½" larger than the outside diameter

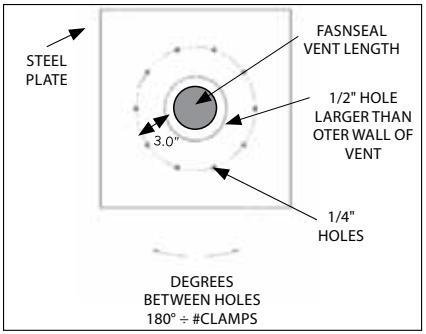


Figure 8

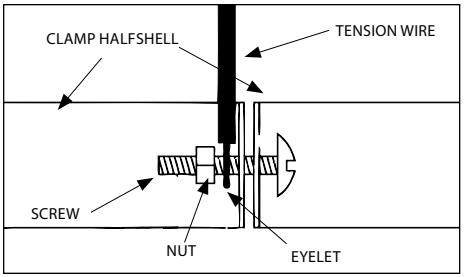


Figure 9

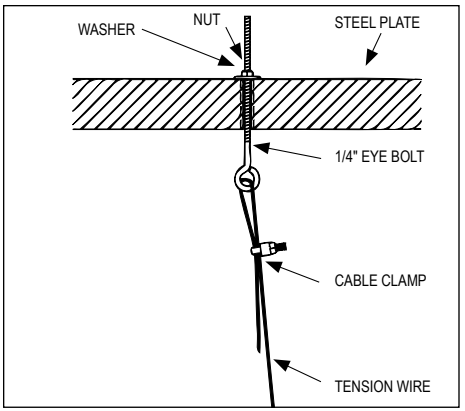


Figure 10

of the vent will provide some lateral stability to the system. Additional ¼" threaded holes will have to be drilled around the vent for the anchors. These smaller holes should be evenly spaced around the diameter of the central hole. Refer to ***Figure 8*** for the recommended pattern.
Install ¼" eye bolts with washers and nuts. These will be used to anchor the tension wires to the support plate.

IMPORTANT

The loads, plate and cable thickness, as well as the eyelet sizes specified in these instructions are representative and must be calculated for each individual application.
Be sure to remember to connect the condensate drain at the bottom of the stack. Condensates must be directed to a safe point of discharge.

1. Inspect and verify the structural integrity of the chimney and chimney cap. The weight of the vent will be resting on the chimney and an unstable chimney may shift and/or collapse.

2. Install a FasNSeal support clamp at the base of the vent stack. The first support clamp should be located directly below the upper joint on the bottom most straight vent length (***Figure 7***). Refer to ***Figure 9*** for the proper method of securing tension wires to the FasNSeal support clamp. Do not fasten the cable between the clamp half-shells. This will prevent the clamp from gripping the vent stack properly

3. Gradually lower the vent stack into the chimney. Secure additional FasNSeal support

clamps, ensuring that they are fastened tightly around the vent. Each support clamp beyond the first must be rotated. To calculate the angle of rotation, divide 180 by the total number of support clamps required.

4. Once the vent stack has been lowered into the chimney, install a steel support plate over the top of the chimney. Run the tension wires through the anchors as shown in ***Figure 10***.

5. Install a FasNSeal storm collar on top of the steel support plate. Use silicone to seal around the base of the collar as well as the around the diameter of the vent. The breaching through which the horizontal vent passes can be covered and sealed with a FasNSeal firestop.

6. Install a FasNSeal rain cap to terminate the venting system.

WHEN USING FASNSEAL FLEX FOLLOW THE INSTRUCTION BELOW.

IMPORTANT

When installing FasNSeal Flex the direction of exhaust flow is away from the appliance. There is an arrow printed on each section of liner and components that will point in the direction of the exhaust gas. If the liner is installed correctly the proper direction can be determined by running your fingernails up the inside wall of the liner. If the direction is correct your nails will catch at the seams of the inner wall. If it is incorrect your nails will slide smoothly across the inner surface.

ATTACHING ADAPTERS TO FASNSEAL FLEX LINER

1. The adapter with the blue gasket is the Female Flex Adapter and designed for the top of the flex liner. The Adapter without the blue gasket is the Male Flex Adapter and is designed for the bottom of the flex liner. If field cutting the liner make sure the cut is square.

2. Make 4 marks on both ends of liner 90° apart 1 ½" from each end as shown in ***Figure 11***. These marks will act as the reference point for when the adapters are fully seated onto the flex liner.

3. Do a dry fit by pushing the liner into the adapters until it bottoms out.

4. Apply RTV 500 silicone in the channel of the Male Flex Adapter adapter (between the inner and outer tubes) as seen in ***Figure 12.***

5. Place adapter on liner (the inner tube fits inside the liner and the outer tube fits outside the line). The adapter when properly seated will cover marks made on liner in ***step 1 (Figure 13)***.

6. Tighten clamp

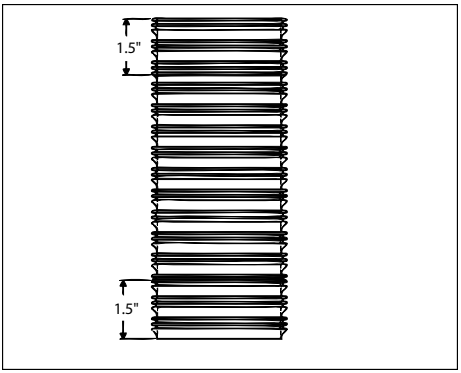


Figure 11

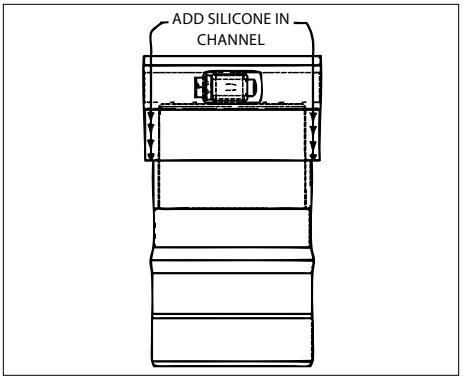


Figure 12

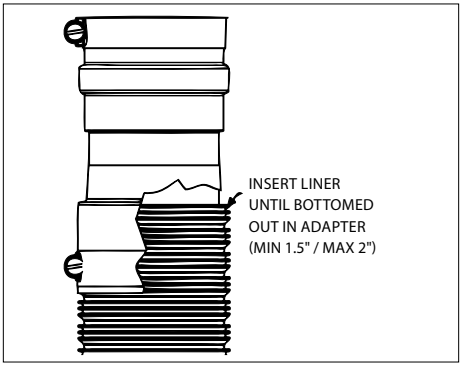


Figure 13

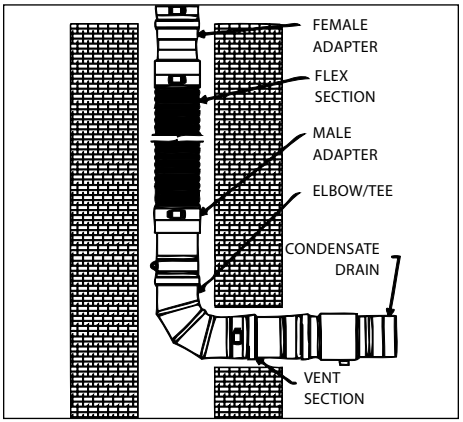


Figure 14

7. Repeat ***steps 3 through 5*** for other end.

8. Before installation, let cure for a minimum of 24 hours or follow the cure time called out by the silicone manufacturer.

BASIC FASNSEAL FLEX LINER INSTALLATION

1. Determine the required location and opening in the masonry chimney. For a basic FasNSeal Flex installation the opening must be large enough for the mortar sleeve and Male Flex Adapter to easily pass through. If a Tee application is necessary, a larger hole may be required. (***See Tee Installation Section***)

2. Make sure the union of the Male Flex Adapter and the FasNSeal Flex is supported at the bottom of the chimney.

3. The flex liner must be installed from the top of the masonry chimney. To prevent damage, one person should feed the liner through the chimney and another person should pull the liner from the bottom. To ease the installation, you can attach a rope to the FasNSeal Flex liner above the Male Flex Adapter. Doing this will reduce the chance of breaking the seal between the FasNSeal Flex and the Male Flex Adapter.

4. The FasNSeal Flex must stay within the masonry chimney; however the Elbow or other FasNSeal components will extend beyond the masonry chimney. ***(Figure 14)***

5. It is strongly recommended to use either a Universal Condensate Drain or Tee with Condensate Fitting right off the Male Adapter coming out of the chimney.

TEE INSTALLATION

INSTRUCTIONS

1. If a tee is needed lower down the liner as in ***Step 3*** of the previous section to the proper location, even with the opening in the chimney.

2. Attach the appropriate drain fitting to the bottom of the Tee Body.

3. Be sure to remember to connect the condensate drain at the bottom of the stack. See previous section on Condensate Drains for instructions.

FASNSEAL FLEX TERMINATIONS

For the standard vertical termination installations see previous section vertical, through the roof installation or follow steps below.

1. Slide the Top Plate over the Flex Liner and seal the Top Plate to the masonry chimney using a bead of non-hardening sealant around the top of the chimney and underside of the Top Plate ***(Figure 15).***

2. Leave at least 4 additional inches of FasNSeal Flex to allow the Rain Cap to sufficiently grab the liner.

3. Slip the Storm Collar portion of the Rain Cap over the liner, position it over the Top Plate and tighten draw band. Reassemble Rain Cap ***(Figure 16).***

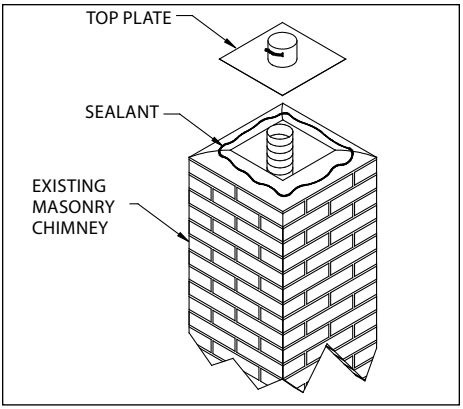


Figure 15

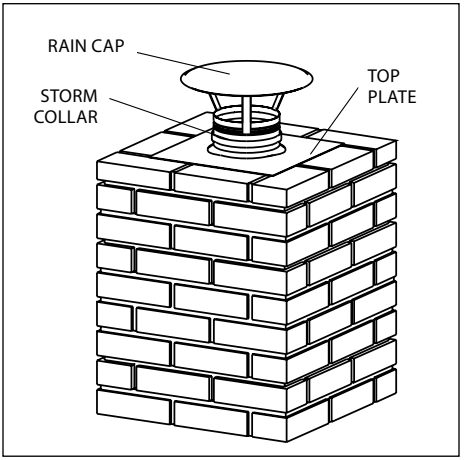


Figure 16

THE FASNSEAL VENT KIT IS DESIGNED FOR SIDEWALL VENTING OF INSTANTANEOUS TANKLESS WATER HEATERS AND WALL HUNG BOILERS.

This kit contains three easy to install parts that provide the ability to vent through any combustible wall. The Vent Kit is compatible with standard FasNSeal® (FNS) products.

Be sure to read these instructions completely, and those of the appliance itself, before proceeding with the installation of this kit. Local codes and regulations may be applicable and should always be adhered to. Proper joint assembly is essential for a safe installation.
Failure to follow these instructions and good sound installation practices can lead to risk of pipe breakage, fire and carbon monoxide poisoning.

KIT COMPONENTS:
The following items are included in the box for this kit:
• Wall thimble termination
• Telescoping 90-degree elbow
• 12-inch long appliance adapter for the FSWMK4 or a 12-inch standard vent length for the FSWMKB3
• Installation Instructions

GENERAL REQUIREMENTS

IMPORTANT

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.

• Proper operation of the vent system and appliance depends on the use and correct assembly of all parts specified by M&G DuraVent., Inc.. for a particular installation.
• If required by the appliance manufacturer, a drain fitting must be located as close as possible to the appliance flue outlet.
• More than one appliance may not be connected into the same vent kit termination.
• FNS must avoid any contact with plumbing or electrical systems.

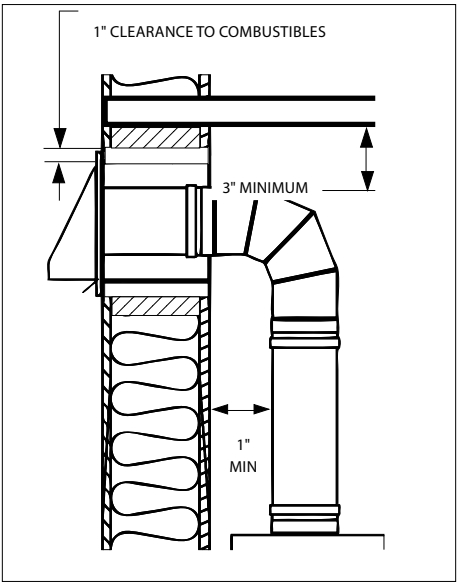


Figure 17

• Proper clearances to combustibles must be maintained over the entire length of the system (refer to ***Figure 17***).
• Never install FNS on an appliance that is not listed for use with a Special Gas Vent or Type BH vent.
• Additional FNS vent lengths can be installed for extended runs. The overall equivalent length of the system shall not exceed the specifications of the appliance manufacturer's instructions.
• Horizontal vent runs shall have a slope of no less than ¼ inch (6.4mm) every 12 inches (305mm) to prevent collection of condensates.
• The termination should be away from trees, shrubs, or decorative items as flue gases could cause damage.
• The venting system must be free to expand and contract.
• 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.
• Clearances must be increased in applications exceeding 400 degree outlet temperatures.

GENERAL TERMINATION GUIDELINES:

NOTICE: The following is to be used as a guideline only.
Check with the Code enforcement office in your area forspecific termination requirements. A mechanical draft vent system, excluding direct-vent appliances, shall terminate at least 4 feet (1219 mm) below, 4 feet (1219 mm) horizontally from, or 1 foot (305 mm) above any door, window, or gravity air inlet into any building. The bottom of the vent terminal shall be located at least 12 inches (305 mm) above grade. In geographical areas where snow accumulates, terminate the system at least 12 inches above the snow line. The termination must be kept clear of snow and ice at all times. Do not terminate over public walkways or over an area where condensate or vapor could create a nuisance or hazard or could be detrimental to the operation of regulators, relief valves, or other equipment.

FASNSEAL VENT KIT INSTALLATION INSTRUCTIONS

1. Examine all components for possible shipping damage prior to installation

2. Determine the location and cut an opening for the wall thimble (refer to ***Figure 18***).
• Position Part A into the opening so that angled hood is located on the outside of the structure.
• Apply a bead of silicone between the structure and mounting plate before nailing or screwing Part A to the outside surface of the building.
• From the inside, slide the sleeve of Part B onto the sleeve of Part A until the plate of Part B is flush against the inside wall. Fasten with screws or nails.

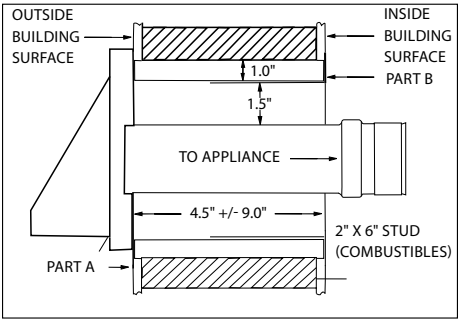


Figure 18

3. Slide the 12-inch long appliance adapter or 12-inch standard vent length over one end of the elbow. Insert the other end of the elbow into the wall thimble.
• For kit FSWMK4 pull the appliance adapter over the vent collar and secure it with the built-in locking band.
For kit FSWMKB3 insert the male end of the standard vent length into appliance collar and secure it with the built-in locking band.
• Adjust the elbow to achieve the desired pitch.
• Fasten the locking band located on the wall thimble using 1/4" drive rachet with 5/16 socket.

When installing the elbow, it is important to make sure that each end is inserted past the silicone gasket. To ensure the elbow fully engages each gasket, at least two inches of the elbow must be inserted. This minimum requirement is met as soon as the double lines etched into the ends of the elbow are covered (refer to ***Figure 19***).
If you are unable to install the elbow past the indicated lines, additional vent lengths must be installed. Prior to initial start up, check the

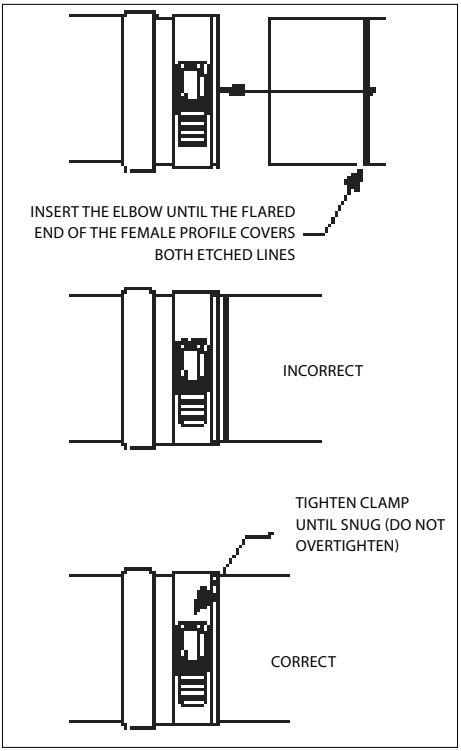


Figure 19

entire system to ensure all joints are secured and sealed correctly. The seams and joints must be checked for gas tightness when using the venting system with Category III or IV appliances and for free movement of flap. M&G DuraVent recommends that a qualified inspector check the entire system at least once annually following the 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.

M&G DURAVENT LIMITED LIFETIME WARRANTY

M&G DuraVent, Inc. ("DuraVent") provides this limited lifetime warranty for all of its products with the exception of Ventinox® (lifetime), and PolyPro® (ten years). Subject to the limitations set forth below, DuraVent warrants that its products will be free from defects in material or manufacturing, if properly installed, maintained and used. DuraVent products are fully warranted if installed only by a professional installer. This Warranty is transferable from the original homeowner to the buyer of the home. 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 installation instructions included with the product as determined by DuraVent. Installation instructions are available online at www.duravent.com under Support/Literature and through our Customer Service Department 800-835-4429 or customerservice@duravent.com. This limited lifetime warranty applies only to parts manufactured by DuraVent.

DuraVent provides the following warranties for its products: One Hundred Percent (100%) MSRP 15 years from the date of purchase, and Fifty Percent (50%) thereafter, except for the following limitations on: all Termination Caps and DuraBlack® are warranted at One Hundred Percent (100%) for five years.

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 warranty. This warranty provides no cash surrender value. The terms and conditions of this 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.

Corn, bio-fuels, 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 not installed by a qualified professional installer: DuraTech®, DuraPlus HTC®, DuraChimney® II, PelletVent Pro®, DirectVent Pro®, FasNSeal®, FasNSeal® W2, FasNSeal® Flex, and PolyPro®, and M&G DuraVent's relining products including DuraLiner®, DuraFlex® (SW, Pro, 316, 304), 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 must be notified and given the opportunity to inspect defective product prior to 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 Warranty Service, 877 Cotting Ct., 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

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Customer Service Support 800-835-4429 707-446-4740 FAX www.duravent.com

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