

TM

Installation Instructions

Type "B" Gas Vent Model E/R 3" – 8"

ECCO TYPE "B" GAS VENT AND ACCESSORIES ARE FOR USE ONLY WITH LISTED CATEGORY 1 GAS-FIRED APPLIANCES OR APPLIANCES LISTED FOR USE WITH TYPE "B" GAS VENT. TEMPERATURE AT THE OUTLET OF THE APPLIANCE SHALL NOT EXCEED 245°C (470°F).

Vent sizing and installation are to be made in accordance with the applicable codes shown below.

In USA

Connection to appliance and vent sizing to be in accordance with the NATURAL FUEL GAS CODE, ANSI Z223.1 (NFPA 54), NFPA 211, GAMA VENTING TABLES, and/or the requirements of the local authorities having jurisdiction.



In Canada

Connection to appliance and vent sizing to be in accordance with the NATURAL GAS INSTALLATION CODE, CAN/CGA-B149.1 or the PROPANE INSTALLATION CODE, CAN/CGA-B149.2, and/or the requirements of the local authorities having jurisdiction.



Tested to UL441 "Gas Vent" basic standard.

ECCO Type B Gas Vent and accessories are for venting listed Natural Gas or Liquid Propane Category 1 appliances only. ECCO Type B Gas Vent Systems may be used on other gas-burning appliances, providing the appliance is certified for use with Type B Gas Vent, the installation conforms to the appliance manufacturer's certified installation instructions, and the installation is acceptable to the requirements of the local authority having jurisdiction. Type B Gas Vent shall not be used to vent flue products from incinerators, combination gas/oil appliances, oil-fired, or wood-burning appliances. If there is a question about the use of Type B Gas Vents, contact the appliance manufacturer, the authority having jurisdiction, or ECCO Manufacturing™ for further information.

www.eccomfg.com

MH-12111

Read through all of these instructions before beginning your installation. Failure to install as described in these instructions will void the manufacturer's warranty and may have an effect on insurance and UL listing. Keep these instructions for future reference.

General

Type B Gas Vents are for venting listed Natural Gas or Liquid Propane Category I appliances only. ECCO Type B Gas Vent Systems may be used on other gas-burning appliances, providing the appliance is certified for use with Type B Gas Vent, the installation conforms to the appliance manufacturer's certified installation instructions, and the installation is acceptable to the requirements of the local authority having jurisdiction. Do not use Type B Vents for Category II, III, or IV gas appliances. Type B Vent shall not be used to vent flue products from incinerators, combination gas/oil appliances, oil-fired, or woodburning appliances. The vent should always be sized for the sea-level name plate input rating of appliances in accordance with the procedures set forth in the *Gas Vent Capacity Tables*, which appear in the NFPA 54 (USA) or CAN/CGA-B-149.1 (Canada). If there is a question about the use of Type B Gas Vents, contact the appliance manufacturer, the local authority having jurisdiction, or ECCO Manufacturing™ for further information.

Planning

1) Appliances

Carefully review the appliance manufacturer's installation instructions for positioning the unit, any special venting or connector requirements, and verify that it is a Category I appliance or an appliance that requires the use of Type B gas vent.

2) Placement

The placement of the vent and fittings must be in accordance with local codes, as well as accepted venting practices. If more than one appliance is to be connected to one venting system, the common vent must be correctly sized. It is a good idea to make a sketch of the proposed installation, labelling the components you will need. Adjustable pipe lengths are available to make up odd lengths. Minimize the number of turns and lateral runs, as the National Fuel Gas Code places limitations on these. A 45° turn is preferable to a 90° turn. The appliance reference material should be consulted at this time, as well as any local authority having jurisdiction. In most localities, building permits are required for any new appliances, or modifications to existing venting systems.

3) Figure 1

Shows layout of typical residential installation.

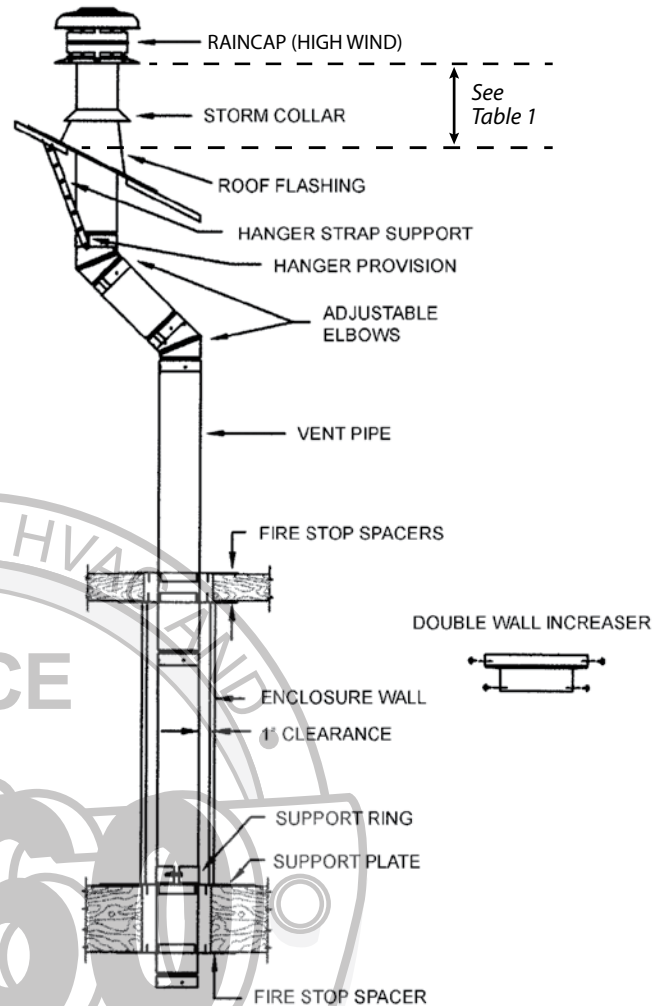
4) Clearance to Combustibles

A 1-inch clearance (air space) to combustible materials must be maintained, when using ECCO Type B Vent, regardless of the pipe diameter.

5) Combustion Air

Refer to appliance installation instructions and local building codes to ensure compliance with required volume of combustion air for each appliance installed.

Figure 1



6) Slope

If the venting system contains lateral (horizontal) components, they shall be positioned so they have an upwards slope away from the appliance of not less than 1/4" rise per foot of run. (Horizontal vent installed in attics, unconditioned area, or between floors have further restrictions. Please consult your local building codes for specific limitations.)

7) Termination Area

Examine the area where the vent system will terminate. The height of the termination above the roof is determined by the roof pitch, and also its proximity to adjacent walls or obstructions.

All gas vent caps up to 8 inches in internal diameter have been investigated for wind effects and are for installation on compatible listed systems, terminating a sufficient distance from the roof so that no discharge opening is less than 2 feet horizontally from the roof surface, and the lowest discharge opening will be no closer than the minimum height specified below. These minimum heights may be used provided that the vent is not less than 8 feet from any vertical wall. Consult **Table 1**.

Table 1

Roof Pitch	Min. Height from Roof to Lowest Discharge Opening (Ft.)
Flat to 7/12	1.0
Over 7/12 to 8/12	1.5
Over 8/12 to 9/12	2.0
Over 9/12 to 10/12	2.5
Over 10/12 to 11/12	3.25
Over 11/12 to 12/12	4.0
Over 12/12 to 14/12	5.0
Over 14/12 to 16/12	6.0
Over 16/12 to 18/12	7.0
Over 18/12 to 20/12	7.5
Over 20/12 to 21/12	8.0

Figure 2

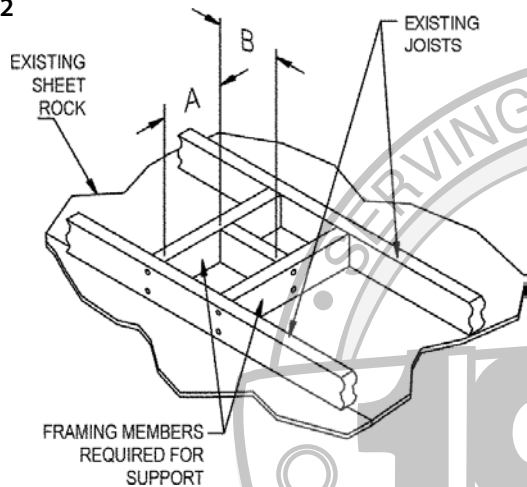


Table 2

Pipe Size	Stock Number Support Plate	Framed Inside Dimensions (A x B) Fig. 2
3 inch	3SP	10 x 14
4 inch	4SP	10 x 14
5 inch	5SP	10 x 14
6 inch	6SP	10 x 14
7 inch	7SP	10 x 14
8 inch	8SP	10 x 14

8) Support Plate and Ring Assemblies

Every 30 feet of vent height requires at least one support plate and ring assembly.

9) Enclosures

Except for installation in single and two family dwellings, gas vents which extend through any storey above that on which the connected appliance is located are to be provided with enclosures having a fire resistance rating equal to, or greater than, that of the floor or roof assemblies through which they pass.

10) Parts

To ensure a safe and proper installation, install the vent using all the parts as specified in the Installation Instructions.

11) Rain Caps

Rain caps may be susceptible to blockage through freezing moisture in areas of low ambient temperature. Consult authority having jurisdiction.

12) Posting Notices

Installers are required to post a notice where the connection is made to the gas vent stating: This gas vent is limited for use with natural gas or propane burning appliances only. Homeowners are reminded to check the rain cap for icing during low ambient temperatures.

13) Screws

When fastening components together with sheet metal screws as outlined in these instructions, care must be taken not to pierce or damage the inner flue gas conduit. Screws must be short #8 x 1/4".

14) Connections

It is the responsibility of the user to check the B-Vent connections during and after assembly to ensure that the joints are gas tight and safe for use.

Steps for Typical Installation of Type "B" Gas Vent Model E/R 3"-8"

1) Location

Building code requires the appliance(s) to be located as close to the vent as possible. After consulting the local codes, appliance installation instructions, and any other applicable reference material, determine the optimum location for the appliance(s).

2) Penetration Point

Locate and mark the center of the penetration point through the ceiling. See **Figure 2** and **Table 2** for clearances and dimensions.

3) Ceiling Support

- At the support plate location nail 2 headers between the joists with 3-1/4" nails on each side. The centre distance of the headers is to be 16" x 12-1/4".
- Center the support plate over the floor joists with spacer flanges down. Nail down onto joists and headers with 2-1/4" nails. (The standard support plate is designed to provide 1" clearance to combustible construction.) Every 30 feet of vent height requires at least one support plate and ring assembly.
- Determine the location of the support ring on the vent pipe so that the correct vent height can be obtained. Clamp and fasten with the #8 x 1/4" screws provided.
- A strap release has been provided on the bottom end of the vent to assist in installations where hanger strap is permitted for supporting the vent. The folded portion of the strap must not extend past the release provided. The vent can be assembled with the strap in place.

4) Pipe Assembly

Sections of ECCO B-Vent round pipe are joined together in the following ways:

- **Sizes 3", 4", 5"** – Align the seams, slide the upper vent over the lower vent and rotate the upper vent 1/4 turn to the left.
- **Sizes 6", 7", 8"** – Align the seams, slide the upper vent over the lower vent and snap the lock into place.
- Correctly assembled pipes will have the bottom end of the vent meeting the step of the adjoining vent. Make sure locking tabs are securely locked behind locking edge. If not, take a screwdriver and push tabs into place.
- The portion of the vent which may extend through accessible spaces shall be enclosed (allowing minimum 1" clearance to combustibles) to avoid personal contact with the vent and damage to it.
- Should the vent pipes require dismantling, simply locate a punch mark on the bottom vent and rotate the top vent to the right until the locking tabs snap over the stops. The vent can then be pulled apart.

5) Fire Stop Spacers

Fire stop spacers are required below and above each floor and ceiling level penetrated by the vent. Nail the fire stop spacers securely over each framed opening.

6) Connectors

Only ECCO B-Vent draft hood connectors should be used between the appliance and the venting system. Some appliances require Type B-Vent as a complete dedicated system from the flue collar of the appliance to the termination of the vent to the outside atmosphere.

- Install Double Wall increasers with #8 × 1/4" screws provided as shown in **Figure 1**.

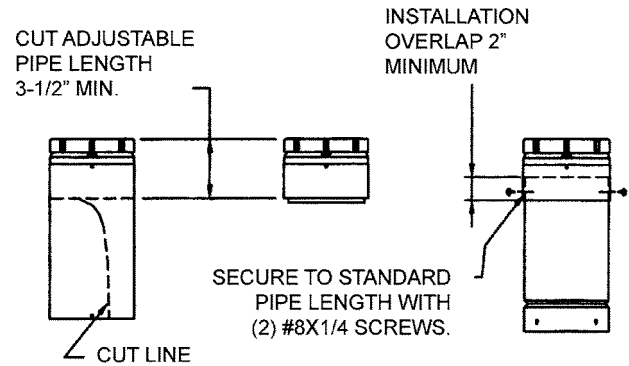
7) Elbows

- When adjusting elbows for offset applications, grasp both inner conduit and outer casing and the elbows will turn freely.
- **IMPORTANT:** The offset must be supported with hanger strap to prevent the weight from stressing the elbows, as shown in **Figure 1**.

8) Adjustable Lengths

Adjustable pipe lengths can be shortened as follows (refer to **Figure 3**). With sharp tin snips, carefully cut the outer liner first, minimum length 3-1/2", followed by the inner conduit. Inspect the outer liner/inner conduit after cutting to ensure they are not damaged during cutting. Slide the shortened, adjustable length over standard B-Vent pipe length with minimum 2" overlap. Secure adjustable length with (2) #8 × 1/4" screws provided.

Figure 3



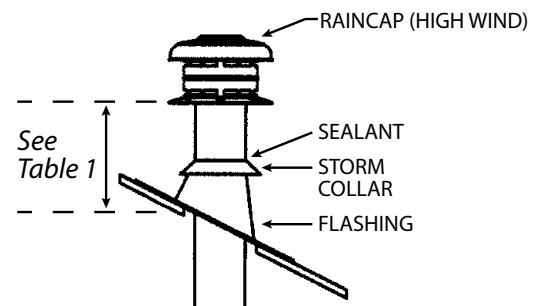
9) Tees and Wyes

- Tees and wyes are used to combine connectors from 2 or more appliances into a common vent.
- When using aluminum tee reducers to adapt from single wall to double wall, fasten the aluminum tee reducer to the B-Vent using (2) #8 × 1/2" sheet metal screws. Bend tabs at 90° and fasten single wall pipe with sheet metal screws through holes provided in tabs.

10) Terminations

Where the pipe sections pass through the roof, a hole must be cut to provide a minimum clearance (air space) of 1" between the pipe and construction materials. Straight lengths of pipe are run up above the roof (see **Table 1**). A roof flashing is placed down over the pipe, and adjusted so it fits tightly against the roof, with the pipe section held in a position maintaining the 1" minimum clearance from combustibles. The flashing is then nailed to the roof. The roofing material (shingles, asphalt paper, etc.) should overlap the top edge (uphill side) of the flashing. Non-hardening sealant is placed around the joint between the flashing and the vertical pipe section and the storm collar is then placed over this joint, to make a watertight seal. Add sufficient pipe sections to attain the height specified in **Table 1**.

- Secure the rain cap by pushing down until snap-in head is locked. To remove the cap, grip the skirt with both hands and pull upwards with a rocking motion.



Installation with White Metal Products Inc. and Metal-Fab Oval B-Vent (USA only)

- When connecting ECCO Round B-Vent to White Metal Products/Metal Fab Oval B-Vent (as shown in **Figure 2A** and **2B**), assemble the components together and secure with (2) #8 x 1/4" sheet metal screws.
- Care must be taken not to pierce or damage the inner flue gas conduit. Check the connection to ensure that the inner conduit is not damaged and that the joint is gas tight and safe for use.
- ECCO cannot assume any responsibility for any changes in other manufacturers' B-Vent products that may impede the safe connection with ECCO B-Vent products .
- ECCO B-Vent is UL listed for use with White Metal Products Inc. Twinstack, and Metal-Fab Oval Type B Gas Vent. (USA Only).

Figure 2A

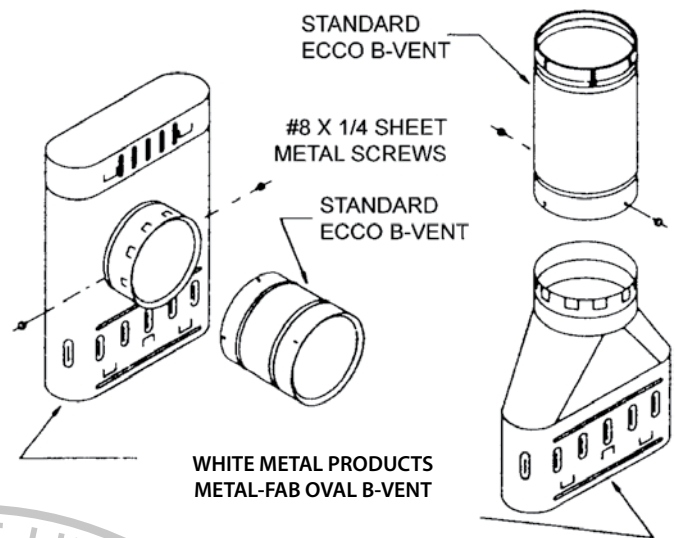


Figure 2B

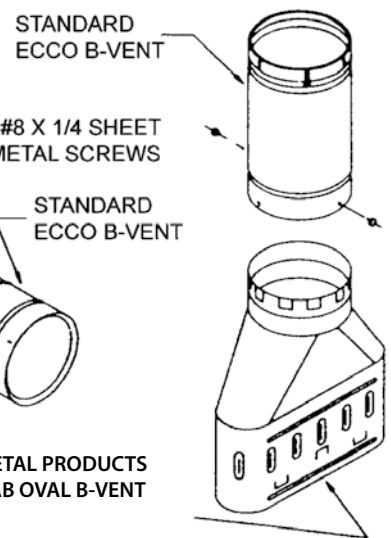


Table of 45° Offsets (for attic area where required)

Use this table to determine the maximum offset produced by two 45° elbows and one length of vent pipe.

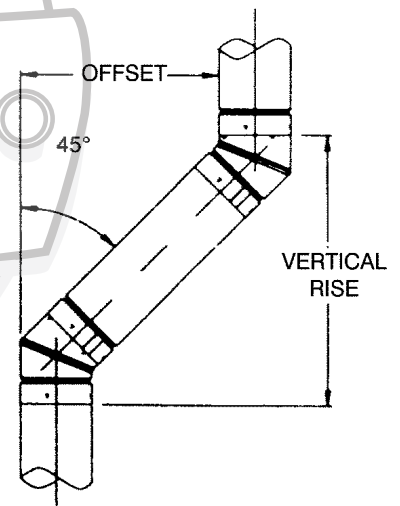
NOTE: Maximum Offsets for 4", 5", and 6" elbows are at 60°

Offset

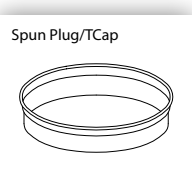
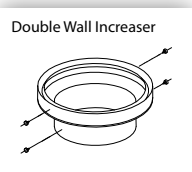
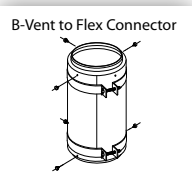
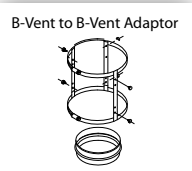
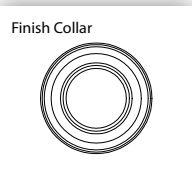
Vent Size	Length Used							
	None	6"	12"	18"	24"	36"	48"	60"
3	3-1/2	6-5/8	10-7/8	15-1/8	19-3/8	27-3/4	36-1/4	44-3/4
4	6-1/4	10	15-1/4	20-3/8	25-5/8	36	46-3/8	56-3/4
5	6-3/4	10-1/2	15-3/4	20-7/8	26-1/8	36-1/2	46-7/8	57-1/4
6	7-3/8	11-1/8	16-3/8	21-1/2	26-3/4	37-1/8	47-1/2	57-7/8
7	5	8-1/8	12-3/8	16-5/8	20-7/8	29-1/4	37-3/4	46-1/4
8	5-1/2	8-5/8	12-7/8	17-1/8	21-3/8	29-3/4	38-1/4	46-3/4

Vertical Rise

Vent Size	Length Used							
	None	6"	12"	18"	24"	36"	48"	60"
3	8-3/8	11-1/2	15-3/4	20	24-1/4	32-5/8	41-1/8	49-5/8
4	10-3/4	13	16	19	22	28	34	40
5	11-3/4	14	17	20	23	29	35	41
6	12-1/2	14-3/4	17-3/4	20-3/4	23-3/4	29-3/4	35-3/4	41-3/4
7	11-7/8	15	19-1/4	23-1/2	27-3/4	36-1/8	44-5/8	53-1/8
8	12-5/8	15-3/4	20	24-1/4	28-1/2	36-7/8	45-3/8	53-7/8

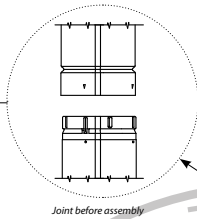


Type "B" Gas Vent Installation Model E/R 3" - 8"



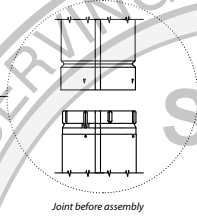
Assembly

3", 4", and 5" Sizes
To join vent pipes:
align the seams,
slide the upper vent
over the lower vent,
and rotate the upper
vent 1/4 turn to the left



Joint before assembly

6", 7", and 8" Sizes
To join vent pipes:
align the seams,
slide the upper vent
over the lower vent,
and snap lock in place



Joint before assembly

Construction Details

Roll Formed Finish
• Eliminates sharp edges
• Integrates the inner and outer pipe as one unit

Locking Indentation
• Assures a secure connection

Positive Connect Indicator
• Ensures installer has achieved complete connection

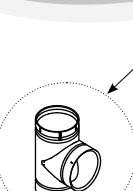
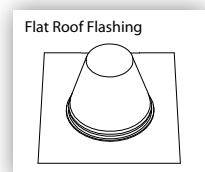
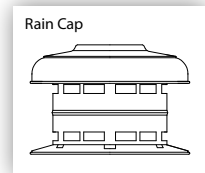
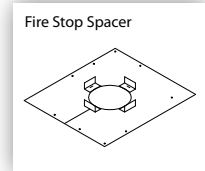
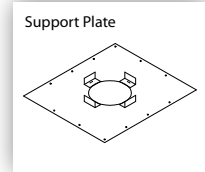
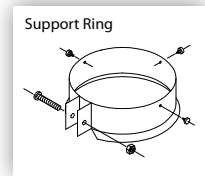
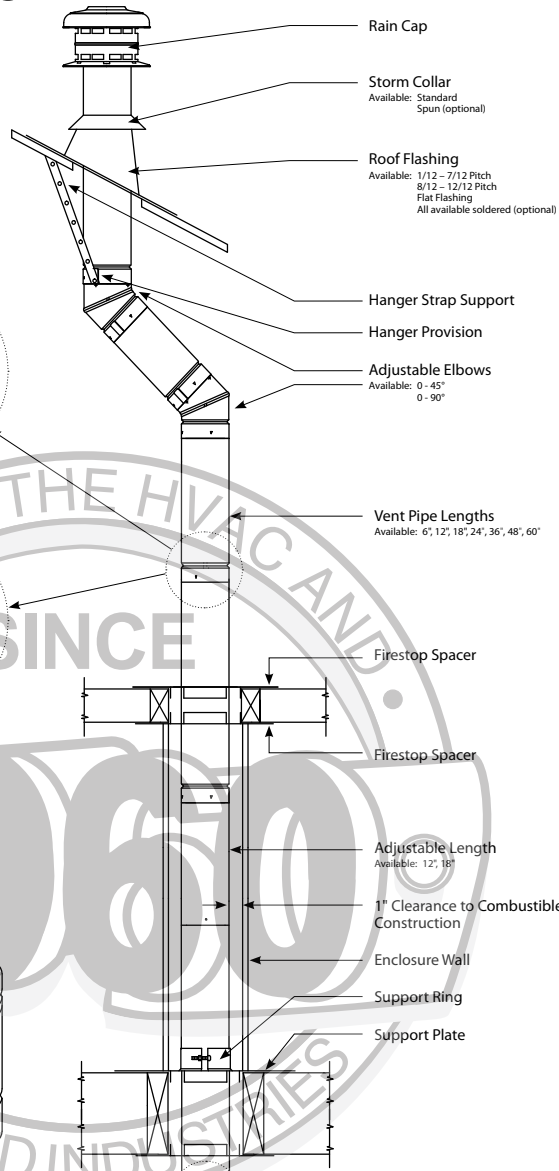
Aluminum Inner Conduit
• Resists corrosion

1/4" Insulating Air Space
• Eliminates condensation while keeping the outer casing cool

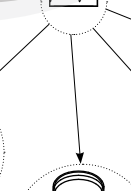
Galvalume Outer Casing
• Provides strength and durability

Locking Tabs
• Assures positive connection

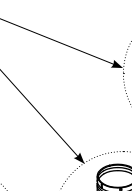
Hanger Provision
• Provided on every vent pipe and elbow
• Allows insertion of hanger strap for convenient support of the vent system



Double Wall Tee



Double Wall Wye

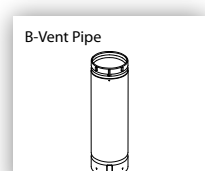
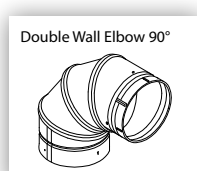


Single Wall Tee



Draft Hood Connector (C-Vent Adaptor)

Custom branch sizes available.



Gas Vent, Type B — Limited Lifetime Warranty

This limited LIFETIME warranty is granted by ECCO Manufacturing™, a division of ECCO Heating Products Ltd. 19860 Fraser Highway Langley B.C. Canada V3A 4C9 (Hereinafter referred to as “Warrantor”).

Limited Warranty

The Warrantor grants a warranty to the initial consumer that the **ECCO GAS VENT** will be free from defects in material and workmanship under normal use for the lifetime of the product. This warranty is not valid if the **ECCO GAS VENT** is not installed in accordance with the recommendations provided in the installation manual and with all the components provided by the manufacturer. This product must be used for the application for which it was designed and intended.

The Warrantor shall not be liable for damages due to normal wear of the **ECCO GAS VENT**, accidents, misuse, lack of reasonable and necessary maintenance, improper installation or unauthorized repairs, alterations or modifications of the product.

The Warrantor’s liability with respect to defects shall be limited to the replacement of the **ECCO GAS VENT** chimney lengths considered defective by the Warrantor for the lifetime of the product. The initial consumer shall bear all other costs.

The Warrantor reserves the right to replace **ECCO GAS VENT** chimney lengths with an equivalent product and the replacement must be carried out in accordance with the Warrantor’s recommendations.

The warranty is limited to the replacement of defective lengths and does not include any damages resulting from any defect in the product nor does it include expenses sustained in connection with the product, including damages to property.

IN NO EVENT WILL WARRANTOR BE LIABLE TO YOU OR ANY OTHER PERSON FOR ANY DAMAGES, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW THE ABOVE LIMITATION OR EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

The warranty is only valid for an initial consumer who buys ECCO GAS VENT lengths and may not be assigned.

EXCEPT AS EXPRESSLY SET FORTH ABOVE, NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, WRITTEN OR ORAL, ARE MADE INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THE WARRANTOR EXPRESSLY DISCLAIMS ALL WARRANTIES NOT STATED HEREIN. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

Obtaining Replacement

To obtain a replacement, contact the Warrantor or the dealer. **Proof of purchase is required.** If defective lengths have to be returned, it will be at the consumer’s expense. The Warrantor will replace any lengths which, upon examination by Warrantor or its designated representative, prove to be defective.

REV: 1
03 – 2010



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