

Installation Instructions

Type "B" Gas Vent Model E/V 10" – 30"

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.



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.

Tested to UL441 "Gas Vent" basic standard.

www.eccomfg.com

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. Locate vent as close as possible to the appliances to obtain maximum draft and to minimize connector pipe length. 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. 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 and Figure 2

These figures show the layout of typical commercial installations.

Figure 1 – Type "B" Gas Vent Model E/V 10" – 24"

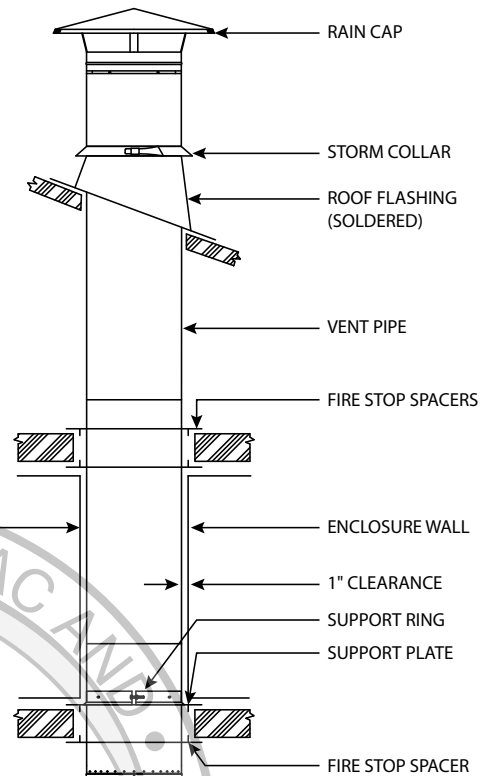
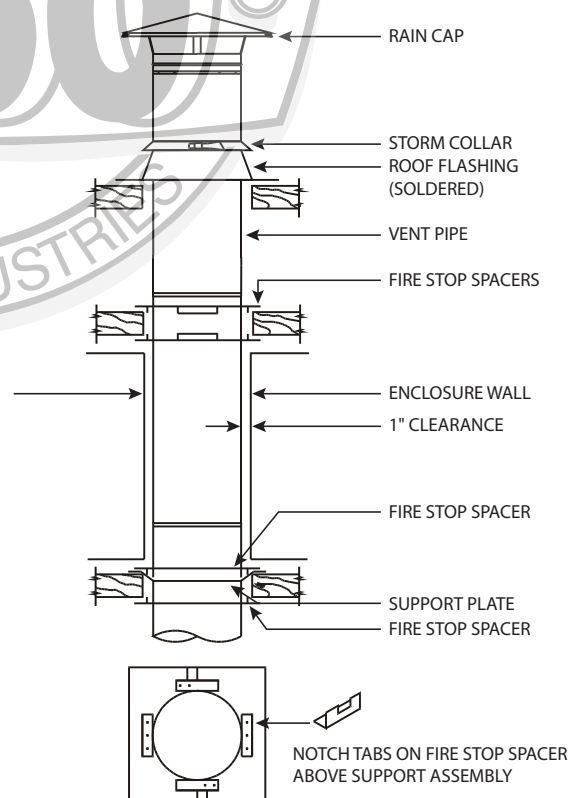


Figure 2 – Type "B" Gas Vent Model E/V 26" – 30"



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. DO NOT pack insulation or other materials around vent.

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.

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. (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.

- The vent shall extend at least 2 feet above the highest point where it passes through a flat roof and at least 2 feet higher than any part of the building within a horizontal distance of 10 feet.
- The vent shall extend at least 2 feet above the highest point where it passes through a pitch roof of 9/12 pitch or less, and at least 2 feet higher than any other obstruction within a horizontal distance of 10 feet.

8) Support Plate and Ring Assemblies

Every 30 feet of vent height requires at least one support plate and ring assembly for 10" – 24". For 26" – 30", support assembly is required for every 30 feet of vent height.

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) 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.

12) 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/V 10" – 24"

1) Location

Find the best possible location for the vent, considering the location of the appliance to be vented.

2) Headers

Nail two headers between joists with 3-1/4" nails on each side. The distance between the centres of the headers is to be 6" over diameter size.

3) Support Plate

Centre the support plate over the floor joists with spacer flanges down. Nail down onto joists and headers with 2-1/4" nails. (The 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.

4) Support Ring

Determine the location of the support ring so that the proper clearance to combustible construction can be maintained below the joists. Tighten the support ring in position with draw bolt and fasten to the vent pipe with size #8 x 1/2" sheet metal screws. Care must be taken not to damage or pierce the flue gas conduit.

5) Joining the Pipe

Set the first vent pipe with the attached support ring in place and slide the second standard vent pipe over the first one. Secure the joint by inserting the attached sheet metal screws into pre-punched holes on the couplings. Care must be taken not to damage or pierce the flue gas conduit. Following pipes should be installed similarly until the required height is reached, making sure each joint is tight.

6) 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.

7) Roof Flashing

Nail down the roof flashing in a manner to drain off water.

8) Storm Collar

Caulk over the roof flashing and set the storm collar tightly over it.

9) Rain Cap

Secure the rain cap with sheet metal screws in the same manner as the vent pipe.

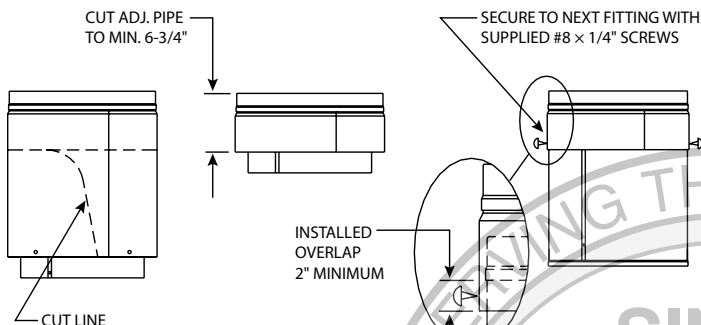
10) Enclosing the Vent

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.

11) Shortening Pipe Lengths

Adjustable pipe lengths can be shortened as follows (refer to **Figure 3**): Using sharp tin snips, carefully cut the outer casing to a minimum length of 6-3/4", then cut the inner conduit to a minimum length of 7-1/2". Inspect the inner conduit and outer casing to ensure they have not been damaged during cutting. Slide the shortened adjustable length over standard B-vent pipe length with minimum 2" overlap. Secure adjustable length using all of the supplied #8 x 1/4" sheet metal screws.

Figure 3



Steps for Typical Installation of Type "B" Gas Vent Model E/V 26" – 30"

1) Placing into Support Assembly

Place the first vent pipe into the support assembly as far as 3/8" bead and secure the support assembly to the vent pipe with the eight #8 x 1/2" sheet metal screws. Care must be taken not to pierce or damage the flue gas conduit.

2) Securing the Support Assembly

Locate the support assembly and secure the top of the straps by means of 3-1/4" nails or concrete fastening devices (depending on the construction material used). The vent pipe must project at least 6" below the joists. Every 30 feet of vent height requires at least one support assembly.

3) Securing the Pipe

Slide the second standard vent pipe over the first one. Secure the joints by inserting attached sheet metal screws into pre-punched holes on the couplings. Care must be taken not to damage or pierce the flue gas conduit. Following pipes should be installed similarly until required height is reached, making sure each joint is tight.

4) Fire Stop Spacers

Fire stop spacers are required below and above each floor and ceiling level penetrated by the vent. In the case of fire stopping over the support straps, be sure to cut out a 2-1/4" piece from the centre (as per drawing), to allow free support of the vent.

5) Roof Flashing

Nail down the roof flashing in a manner to drain off water.

6) Storm Collar

Caulk over the roof flashing and set the storm collar tightly over it.

7) Rain Cap

Secure the rain cap with sheet metal screws in the same manner as the vent pipe.

8) Enclosing the Vent

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.

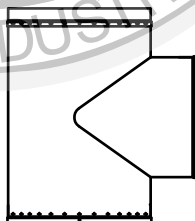
9) Shortening Pipe Lengths

Adjustable pipe lengths can be shortened as follows (refer to **Figure 3**): Using sharp tin snips, carefully cut the outer casing to a minimum length of 6-3/4", then cut the inner conduit to a minimum length of 7-1/2". Inspect the inner conduit and outer casing to ensure they have not been damaged during cutting. Slide the shortened adjustable length over standard B-vent pipe length with minimum 2" overlap. Secure adjustable length using all of the supplied #8 x 1/4" sheet metal screws.

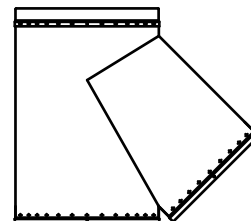
Tees and Wyes

Model E/V tees and wyes are designed for breeching or as connectors for vertical, sloped, or horizontal systems. They can also be used to provide access for inspections or drain fittings. Any unused open end of the tee or wye should be closed off with a tee cap.

Double Wall Tee



Double Wall Wye



Rain Caps

ECCO Manufacturing caps larger than 10" must be located at least 2 feet above the highest point where they pass through a roof and at least 2 feet higher than any portion of a building with a horizontal distance of 10 feet.

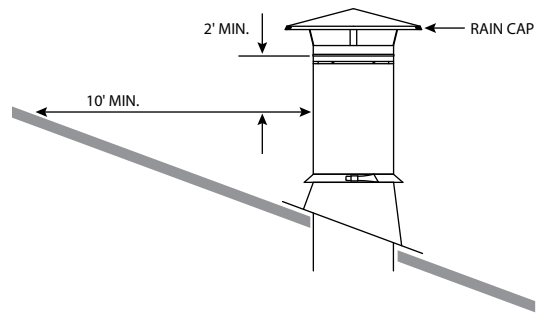


Table Of 45° Offsets

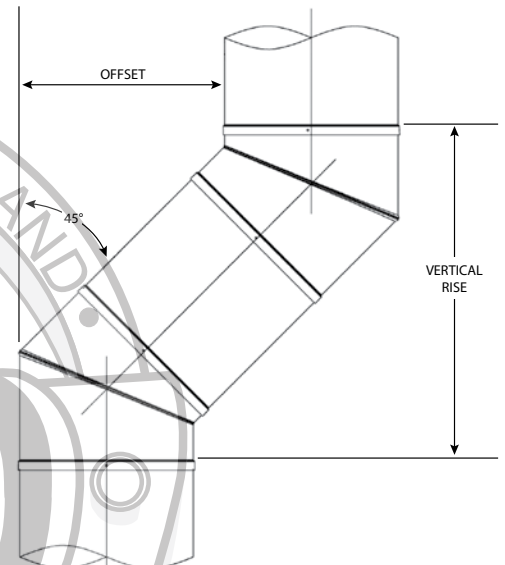
Use this table to determine the maximum offset produced by two 45° elbows and one length of vent pipe.

Offset

Vent Size	Length Used					
	None	12"	18"	24"	36"	60"
10	6-1/4	14	18-1/4	22-4/8	30-7/8	47-7/8
12	6-3/4	14-1/2	18-3/4	23	31-1/2	—
14	7-3/8	15-1/8	19-3/8	23-5/8	32-1/8	—
16	8	15-3/4	20	24-1/4	32-3/4	—
18	8-5/8	16-1/4	20-1/2	24-3/4	33-1/4	—
20	9-1/8	16-3/4	21	25-1/4	33-3/4	—
22	9-3/4	17-1/2	21-3/4	26	34-1/2	—
24	10-3/8	18	22-1/4	26-1/2	35	—
26	11	18-3/4	22-7/8	27-1/8	35-5/8	—
28	11-5/8	19-1/4	23-1/2	27-3/4	36-1/4	—
30	12-1/8	19-7/8	24-1/8	28-3/8	36-7/8	—

Vertical Rise

Vent Size	Length Used					
	None	12"	18"	24"	36"	60"
10	15-1/8	22-7/8	27-1/8	31-3/8	39-3/4	56-3/4
12	16-3/8	24-1/8	28-3/8	32-5/8	41-1/8	—
14	17-7/8	25-5/8	29-7/8	34-1/8	42-5/8	—
16	19-3/8	27-1/8	31-3/8	35-5/8	44-1/8	—
18	20-3/4	28-3/8	32-5/8	36-7/8	45-3/8	—
20	22	29-5/8	33-7/8	38-1/8	46-5/8	—
22	23-5/8	31-3/8	35-5/8	39-7/8	48-3/8	—
24	25	32-5/8	36-7/8	41-1/8	49-5/8	—
26	26-5/8	34-1/4	38-1/2	42-3/4	51-1/4	—
28	28	35-5/8	39-7/8	44-1/8	52-5/8	—
30	29-3/8	37	41-1/4	45-1/2	54	—

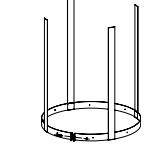


Type "B" Gas Vent Installation Model E/V 10" – 30"

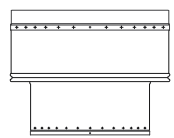
Spun Plug/TCap



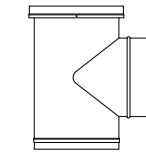
Support Assembly



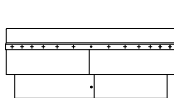
Double Wall Increaser



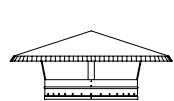
Single Wall Tee



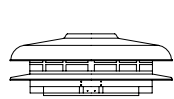
Draft Hood Connector



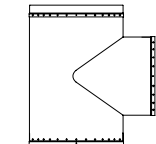
Rain Cap 14" – 30"



Rain Cap 10" – 12"



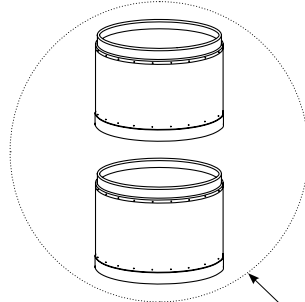
Double Wall Tee



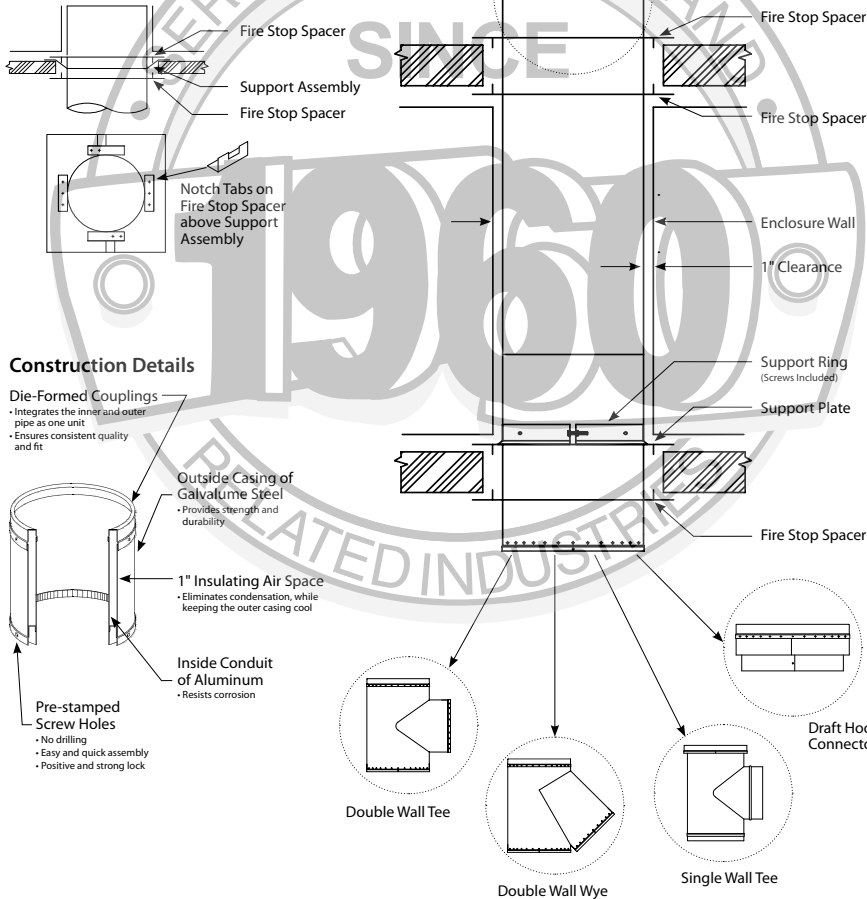
Assembly

10" – 30" Sizes

To join vent pipes; insert male coupler into female coupler and use sheet metal screws through holes in female coupler to fasten pipes



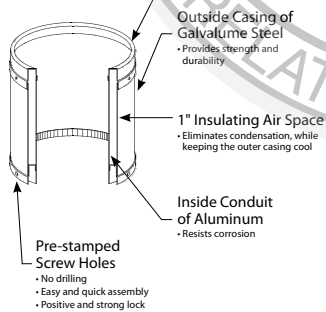
Type B Gas Vent Installation Model E/V Commercial 26" – 30"



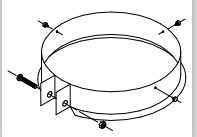
Construction Details

Die-Formed Couplings

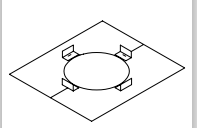
- Integrates the inner and outer pipe as one unit
- Ensures consistent quality and fit



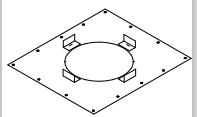
Support Ring



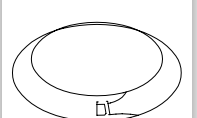
Fire Stop Spacer



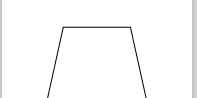
Support Plate



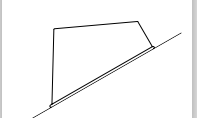
Storm Collar



Flat Roof Flashing



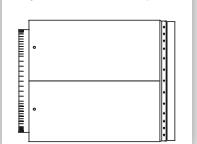
Adjustable Roof Flashing 1/12 – 7/12 Pitch



B-Vent Pipe



Adjustable B-Vent Pipe



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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