

Isokern[®] MAXIMUS Direct Vent Gas Fireplaces and Chimney System

Installation, Operation, Maintenance and Owner's Manual Isokern MAXIMUS Models 80D46 & 82D48

A PRODUCT OF EARTHCORE[®] INDUSTRIES, LLC

Important: This manual contains assembly rules, installation steps, guidelines, use and maintenance instructions for the Isokern MAXIMUS Series Direct Vent gas fireplaces and chimney system. This manual must become the property of and be reviewed by all current and future users of this product. It is the responsibility of the general contractor and the installer of this product to ensure that the instructions in this manual are followed exactly and be installed in strict accordance with the following sizing, installation and operation instructions. It is the responsibility of the general contractor to provide adequate clearances from all firebox surfaces as specified in this manual.

INSTALLER: Leave this manual with the appliance
CONSUMER: Retain this manual for future reference

Be Sure to Read Entire Manual Before Beginning Construction.

Contents of this manual may change without prior notification.

WARNING:

FIRE OR EXPLOSION HAZARD

Failure to follow safety warning exactly could result in serious injury, death, or property damage.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **WHAT TO DO IF YOU SMELL GAS**
 - Do not try to light any appliance.
 - Leave the building immediately.
 - Do not touch any electrical switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.



DANGER



**HOT GLASS WILL
CAUSE BURNS.**

**DO NOT TOUCH GLASS
UNTIL COOLED.**

**NEVER ALLOW CHILDREN
TO TOUCH GLASS.**

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals.

**Do not install the MAXIMUS Direct Vent Gas
Fireplace in a manufactured home or mobile home
or recreational vehicle.**



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Tested and Listed to ANSI Z21.50(2014)
Listing Services Report NO. F14-100

**THESE FIREPLACES ARE DESIGNED for USE with:
PROPANE (LP) or NATURAL GAS (NG), ONLY**

THIS MANUAL CAN ONLY BE REPRODUCED IN ITS ENTIRETY

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General Information

The MAXIMUS Series is a decorative gas fireplace and may not be installed and operated as the primary heat source in a dwelling. It cannot be on a thermostat. Electrical power (120 VAC line voltage) is required to operate the fireplace; however, four (4) "AA" batteries can be used as a backup in case of a power outage.

MAXIMUS Direct Vent Models are tested and listed by PFS Corp., USA Report No. F14-100 to ANSI Z21.50 2014. The MAXIMUS Direct Vent models are direct-vent, gas only fireplaces that are listed for use only with the approved Gas Log Burner Assembly and log set in this installation manual.

The exhaust flue gases are to be vented through the top of the unit with listed 8DV Direct Vent venting system. An eight inch (8") diameter inner liner, with eleven inch (11") outer liner system and a listed vent cap are required for proper operation of all MAXIMUS Direct Vent models. See venting instructions on pages 36-50. These approved vent system components are labeled for identification.

DO NOT USE ANY OTHER TYPE OF DIRECT VENT COMPONENTS WITH THESE APPLIANCES.

Intended Use Statement:

The MAXIMUS Direct Vent is intended to burn propane (LP) gas or natural gas (NG), only. This appliance is not intended to be used as a primary source of heat or for continuous operation in a commercial application.

The MAXIMUS Direct Vent and its approved components are safe when installed according to this installation manual and when operated as recommended by the manufacturer. Unless you use Earthcore Industries approved components tested for this appliance, you may cause a fire hazard or serious injury.

Before you begin the installation of this appliance, read these instructions completely.

Earthcore Industries disclaims any responsibility for the following actions:

1. Modification of the appliance or any of its components.
2. Use of any component part not approved by Earthcore Industries in combination with this appliance.
3. Installation or operation in a manner other than instructed in this manual.
4. Burning of anything (solid fuel) other than the listed gas log unit and the type of gas approved for use in this gas appliance.

Notes: The most important areas of concern with the installation of the MAXIMUS Direct Vent are clearance to combustible materials, proper assembly of component parts, load carrying capacity of underlying floor system, height of chimney system and the techniques employed in applying finishing materials to the wall surrounding the unit.

Each of these topics will be covered in detail throughout this manual. Special attention must be given to each topic as the installation progresses.

The installation of the MAXIMUS Direct Vent must conform with local codes or, in the absence of local codes, with the current National Fuel Gas Code, ANSI-Z223.1/NFPA 54 or the current Natural Gas and Propane Installation Code, CSA B149.1.

State of Massachusetts: These appliances are approved for installation in the US state of Massachusetts if the following additional requirements are met:

1. Install this appliance in accordance with Massachusetts Rules and Regulations 248 C.M.R. Sections 4.00 through 8.00.
2. Installation and repair must be done by a plumber or gas fitter licensed in the Commonwealth of Massachusetts.
3. The flexible gas line connector used shall not exceed 36 inches (92 centimeters) in length.
4. The individual manual shut-off must be a T-handle type valve.

Seismic Code Specifications

If installation of the Isokern Firebox is to be installed in an area with Seismic Codes please follow these instructions. Four No. 4 ASTM A615 Grade 40 minimum, vertical reinforcing bars, 2 on each side of the firebox running from mid-height of the structure to approximately 4 inches into the concrete slab (for anchorage). The cavities should be filled with concrete mix to seal.

Important: The top plate of the firebox is not meant to be used as a structural support. Please consult structural engineer for structural support of any veneer bearing weight on the Isokern top plate.

Note: Do not scale drawings. Illustrations in this manual are not to scale and are intended to show "typical" installations.

Nominal dimensions are given for design and framing reference only, since actual installations may vary due to job specific design preferences. Always maintain the stated minimum clearances to combustible materials. Do not violate any specific installation requirements.

Safety Instructions

WARNING: This product contains or generates chemicals known to the state of California to cause cancer or birth defects or other reproductive harm.

IMPORTANT: Read this owner's manual carefully and completely before trying to assemble, operate or service this fireplace. Improper use of this fireplace can cause serious injury or death from fire, burns, explosions and carbon monoxide poisoning.

DANGER: CARBON MONOXIDE POISONING MAY LEAD TO DEATH!

This fireplace is a vented product and will not produce any gas leakage into your home if properly installed by a qualified service person. If this unit is not properly installed by a qualified service person, gas leakage may occur.

Propane (LP) gas and natural gas (NG) are both colorless and odorless gases. An odor-making agent is added to each of these gases to help you detect a gas leak. However, the odor added to these gases can fade and gas may be present even though no odor exists.

Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning resemble flu symptoms, including headaches, dizziness or nausea. If you have these signs the fireplace may not have been installed properly, get fresh air at once! Have the fireplace inspected and serviced by a qualified service person or your gas supplier. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung diseases or anemia, people at high altitude or under the influence of alcohol. Earthcore Industries strongly recommends the use of a carbon monoxide detector/alarm device wherever gas fired appliances are in use.

All parties either involved in or associated with the installation, service and use of this fireplace must read this entire manual. Keep this manual for reference and as a guide book to safe operation of this fireplace.

WARNING: This unit is not for use with solid fuel.

1. Always check local building codes governing fireplaces and fireplace installations. The MAXIMUS Series installation must comply with all local, regional, state and national codes and regulations.

2. The MAXIMUS Series fireplaces are listed for use with the decorative gas log appliance listed in this manual only.

3. This appliance is only for use with the type of gas indicated on the rating plate. This appliance can be field converted for use with other gases with Propane (LP) or Natural Gas (NG).

4. For propane (LP) use do not place propane supply tank(s) inside any structure. Locate propane supply tank(s) outdoors.

To prevent performance problems, do not use propane fuel tank of less than 100 lbs. capacity.

5. Do not install the MAXIMUS Direct Vent Gas Fireplace in a manufactured home or mobile home or recreational vehicle.

6. This fireplace reaches high temperature. Keep children and adults away from hot surfaces to avoid burns or clothing ignition. Fireplace will remain hot for a time after shutdown. Allow surfaces to cool before touching.

7. Turn the MAXIMUS Fireplace off and allow to cool before servicing. Always shut off any electricity and gas to the MAXIMUS Fireplace while working on it. Only a qualified service person should install, service or repair this fireplace. Have your fireplace inspected annually by a qualified service person.

8. It is imperative that the unit's control areas, burners and circulation air passages be kept clean.

9. Venting system should be inspected annually by a qualified service person. If needed have venting system cleaned or repaired.

10. Keep all combustible material, gasoline and other flammable liquids at a safe distance from the fireplace. Do not use the fireplace where these items are used or stored. Decorations, clothing and other such combustible items should not be placed on the fireplace.

11. Do not use the MAXIMUS Series Fireplace to cook food or burn paper or other objects.

12. Do not use any solid fuels - wood, coal, paper, cardboard, etc. - in this fireplace. Use only the gas type listed on the fireplace's gas log label.

13. Do not in any way obstruct the flow of combustion and ventilation air. Provide adequate clearances around air openings into the combustion chamber as well as adequate accessibility clearances for servicing and proper operation.

14. Keep all insulation and vapor barriers a minimum of three inches (3") away from all MAXIMUS Series and Direct Vent chimney components.

15. This American Gas Association fact sheet provides an overview of the requirements for the electrical bonding of fuel gas piping systems to the electrical grounding

Safety Instructions

system based on ANSI Z223.1/NFPA 54, National Fuel Gas Code - 2015 (NFGC). The bonding requirements in previous code editions, in local jurisdictions or in specific situations, may differ.

16. Do not pack or fill required air spaces with insulation or other material. No material is allowed in these spaces.

17. Never install a MAXIMUS Series component, chimney component or accessory that has visible or suspected physical damage as a result of handling or transportation. These items should be inspected by a qualified representative to ensure safe condition. When in doubt, consult your local supplier.

18. Do not alter or modify the MAXIMUS Series, Direct Vent venting system or venting components under any circumstances. Modification or alteration of the venting components may void manufacturer's warranty, listings and approvals.

19. Do not use a fireplace blower insert, heat exchanger or any other product not specified by the manufacturer herein for use with this fireplace.

20. Do not use any MAXIMUS Series appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

21. The MAXIMUS Series is not intended to heat an entire home or to be used as a heat source.

22. Children and adults should be alerted to the hazards of high surface temperature and should stay away from this appliance to avoid burns or clothing ignition.

23. Young children should be carefully supervised when they are in the same room as the appliance. Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at-risk individuals in the house. To restrict access to the fireplace, install an adjustable safety gate to keep toddlers, young children and other at-risk individuals out of the room and away from hot surfaces.

24. Clothing or flammable material should not be placed on or near the appliance.

25. Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.

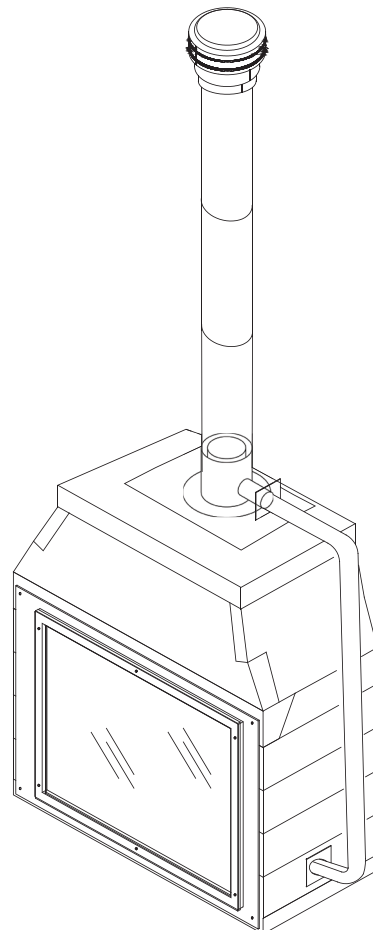
26. A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals. If the barrier becomes damaged, the barrier shall be replaced with the manufacturer's barrier for this appliance.

27. Any safety screen, guard, or barrier removed for servicing an appliance must be replaced prior to operating the appliance.

28. Installation and repair should be done by a qualified service person. The appliance should be inspected before use and at least annually by a professional service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etcetera. It is imperative that control compartments, burners, and circulating air passageways of the appliance be kept clean.

29. Only the fixed glass door that is certified with the appliance shall be used.

30. Do NOT clean glass front when hot or in use. Wait until appliance is OFF and has cooled to room temperature before cleaning glass. Do not use abrasive cleaners on the glass.



PFS Listing Label

ISOKERN MAXIMUS DIRECT VENT GAS FIREPLACE: MODELS 80D46 AND 82D48

**EARTHCORE INDUSTRIES, INC.
JACKSONVILLE, FL 32256**



LISTED VENTED GAS FIREPLACE PER ANSI Z21.50 (2014)
NOT FOR USE WITH SOLID FUEL

MODEL #MDV
 80D46 82D48

SERIAL NO: 000100

SUITABLE FOR USE WITH PROPANE (LP) OR NATURAL GAS, SEE GAS IDENTIFYING TAG ON BURNER

- MODEL MDV46 PROPANE (LP) BTU: 51,000; INLET PRESSURE MIN: 8.0 MAX: 14.0 NOM: 11.8**
- MODEL MDV46 NATURAL GAS BTU: 52,000; INLET PRESSURE MIN: 3.5 MAX: 10.5 NOM: 7.0**
- MODEL MDV48 PROPANE (LP) BTU: 51,000; INLET PRESSURE MIN: 8.0 MAX: 14.0 NOM: 11.8**
- MODEL MDV48 NATURAL GAS BTU: 52,000; INLET PRESSURE MIN: 3.5 MAX: 10.5 NOM: 7.0**

**See Burner Rating Plate For Additional Information*

MANIFOLD PRESSURE: PROPANE (LP): 10" WATER COLUMN; NATURAL GAS: 3.5" WATER COLUMN

**MINIMUM PERMISSIBLE GAS SUPPLY PRESSURE FR PURPOSE OF INPUT ADJUSTMENT:
PROPANE (LP): 11" WATER COLUMN / NATURAL GAS: 5" WATER COLUMN**

ELECTRICAL RATING:
UNIT: ELECTRONIC
1 PH
60 HZ
120 VOLTS
LESS THAN 5 AMPS

CLEARANCE TO COMBUSTIBLES:

UNIT FRONT	= 0in	
UNIT SIDES AND REAR	= 1.5in.	60mm
COMBUSTIBLE SHEATHING ABOVE OPENING TOP	= 8in.	205mm
SHEATHING OR TRIM TO OPENING SIDES	= 8in.	205mm
MANTLE ABOVE OPENING	= 12in.	305mm
INSULATION FROM FIREBOX	= 3in.	75mm

"CAUTION: DO NOT OPERATE THE APPLIANCE WITH BARRIER/GLASS REMOVED, CRACKED OR BROKEN. REPLACEMENT OF PANEL SHOULD BE DONE BY A LICENSED OR QUALIFIED SERVICE PERSON." "THIS APPLIANCE IS ONLY FOR USE WITH THE TYPE OF GAS INDICATED ON THE RATING PLATE AND MAY BE INSTALLED IN THE AFTER-MARKET, PERMANENTLY LOCATED, MANUFACTURED HOME (USA ONLY) OR MOBILE HOME, WHERE NOT PROHIBITED BY LOCAL CODES. SEE OWNER'S MANUAL FOR DETAILS. THIS APPLIANCE IS NOT CONVERTIBLE FOR USE WITH OTHER GASES, UNLESS A CERTIFIED KIT IS USED."

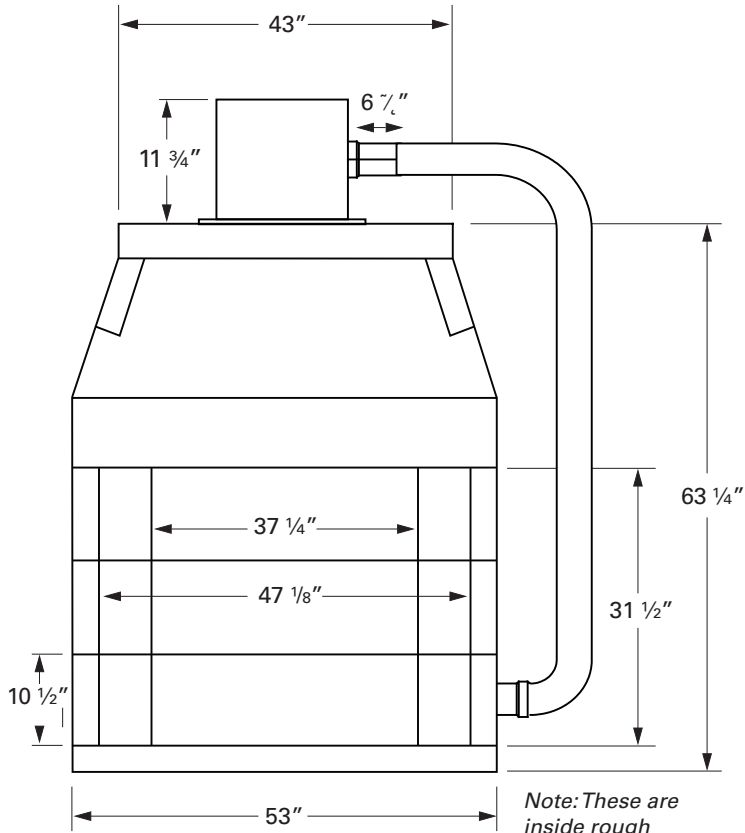
This appliance must be installed in accordance with local codes, if any, if none, follow the current ANSI Z223.0/NFPA 54 or CSA B149.1

Isokern MAXIMUS Fireplace and Chimney Systems are tested and listed to ANSI standards: ANSI Z21.50 2014
The listing labels shown above outline the listed clearances to combustibles and indicates that the units are suitable for use with listed gas appliances. Refer to the manufacturer's installation manual for detailed description of clearances to combustibles and all other installation information.

A metal listing label similar to those shown above is affixed to each fireplace. Do not remove the listing label from the fireplace.

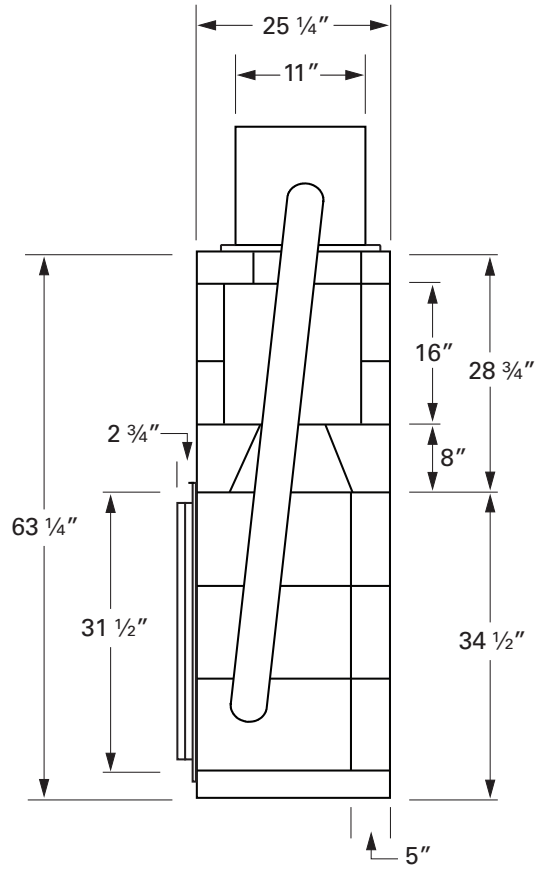
Prior to beginning installation, contact your local building official to determine the need to obtain a permit.

MAXIMUS Series 46" (80D46)

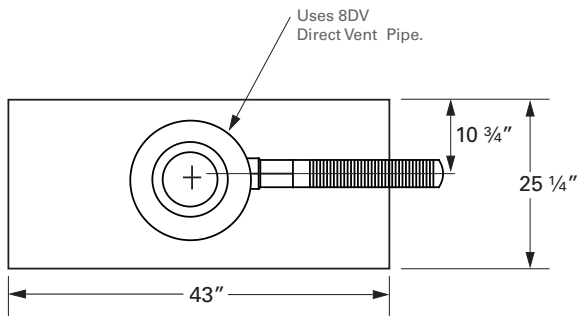


Front View

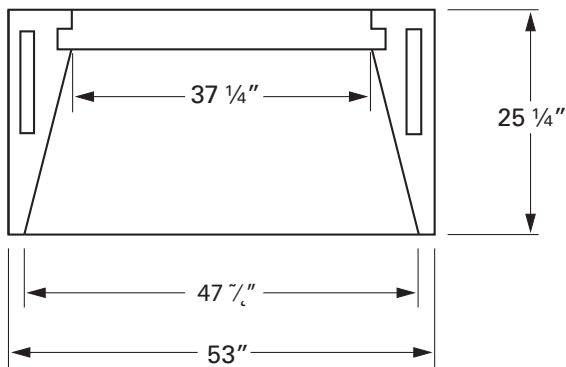
Note: These are inside rough dimensions before firebrick



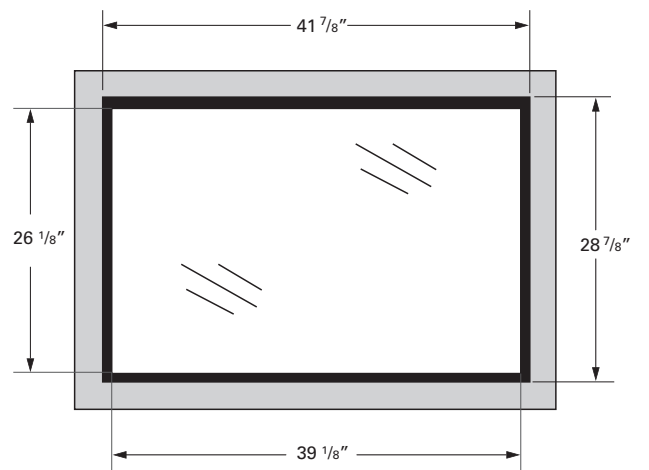
Side View



Top View

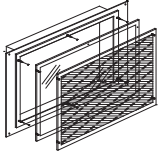
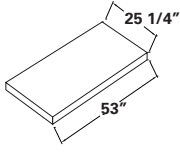
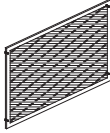
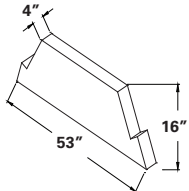
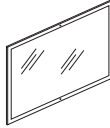
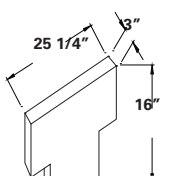
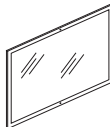

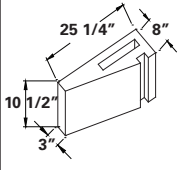

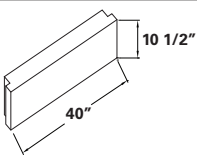
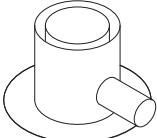
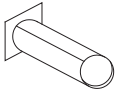
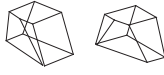

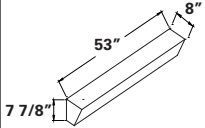

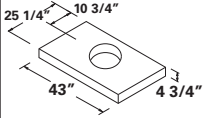

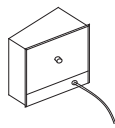
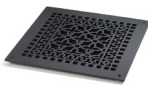
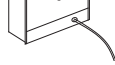



Plan View

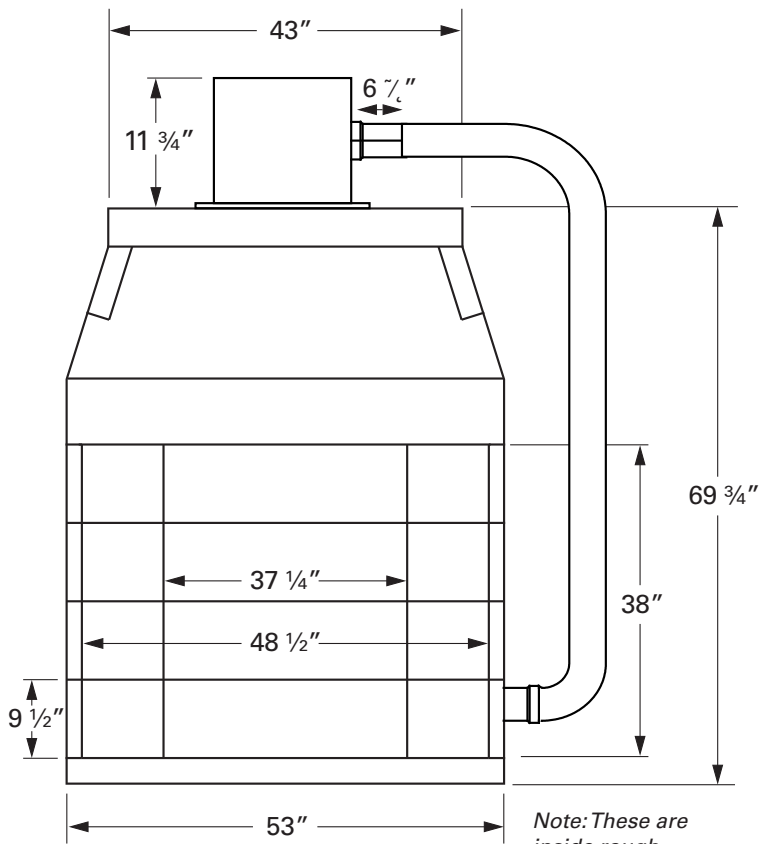


Door Frame/Glass View

Component List - MAXIMUS Series 46" (80D46)

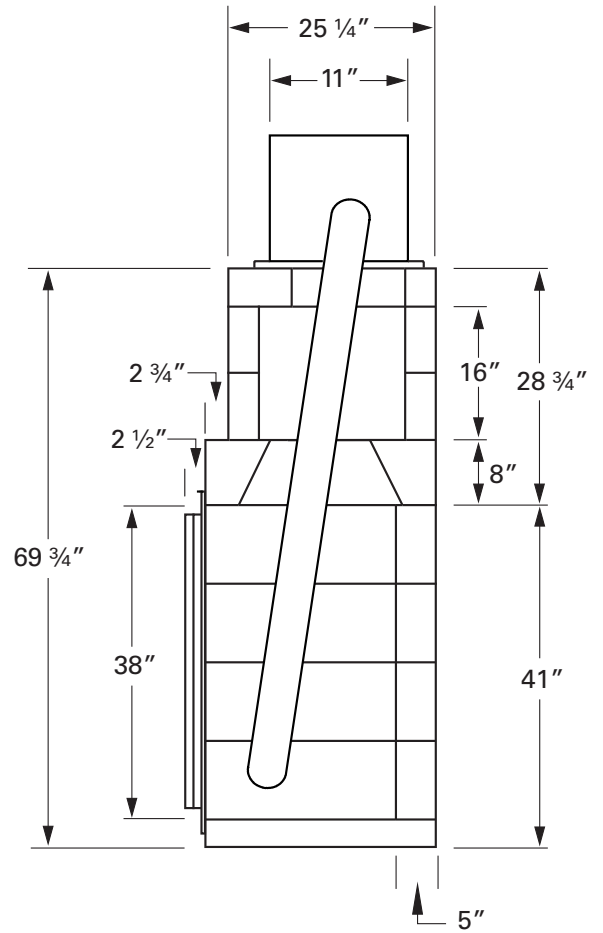
Component	Part#	Description	Component	Part#	Description
	IDV46CGDFK	46" Maximus Ceramic Glass Door Frame Kit Includes: Frame, Glass & Barrier		23D	STD Base Plate - Red
	IDV46TGDFK	46" Maximus Tempered Glass Door Frame Kit Includes: Frame, Glass & Barrier			
	IDV46BR	46" Maximus Barrier		13D	Smoke Dome, Front/Back 46/48" - Red (Qty. 2)
	IDV46CGD	46" Maximus Ceramic Glass Door		34D	Smoke Dome Side - Red (Qty. 2)
	IDV46TGD	46" Maximus Tempered Glass Door			
	MILLPACK	Mill-Pac Black (Qty. 4)		20D	STD Firebox Sidewall - Red (Qty. 6)
	IDVHCN	Hex Head Cap Nut (Qty. 6)		31D	Back Wall 46" - Red (Qty. 3)
	8DVCB	Collector Box/Anchor Plate			
	F2674	Flex Pipe Adapter		S95LD & S95RD	STD Damper Support Left & Right - Red
	F2674	Stainless Steel Flex Pipe		M70D	Isokern Standard 46" Damper Beam (Qty. 2)
	MP35	Max Sealcoat Mortar (Qty. 2)		M81D	Top Plate 46/48" - Red
	R808	Air Inlet Cover 8"x8"		F2668	IDV230EN Isokern Valve Control Box & Burner - NG (Natural Gas)
	R1012	Valve Control Box Cover 10"x12"		F2669	IDV2430EP Isokern Valve Control Box & Burner - LP (Propane)
				F2671	IDV30 Log Set - Coastal Oak

MAXIMUS Series 48" (82D48)

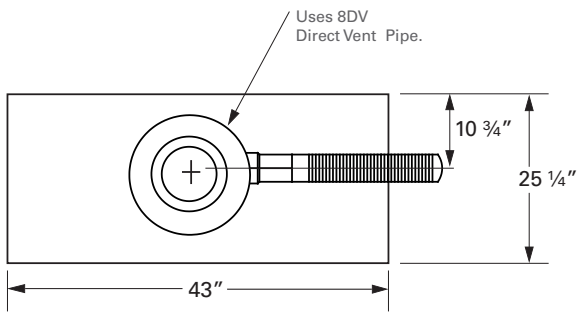


Front View

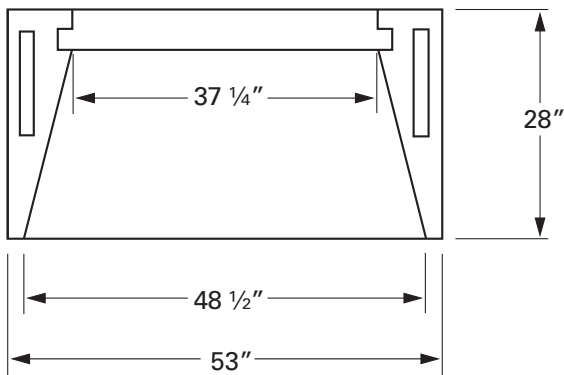
Note: These are inside rough dimensions before firebrick



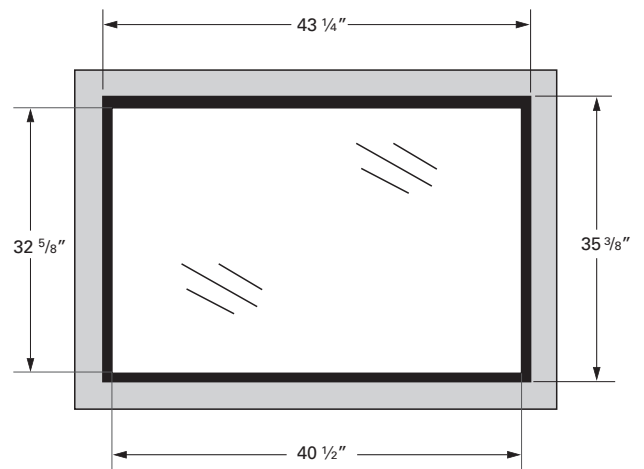
Side View



Top View

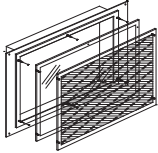
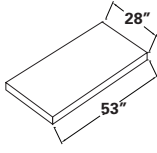
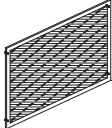
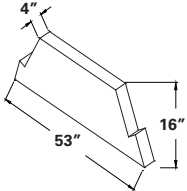
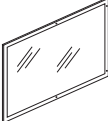
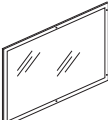
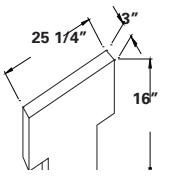


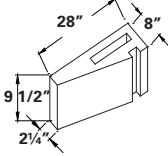
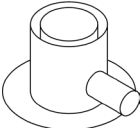
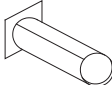
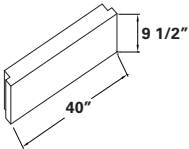


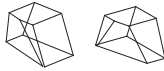

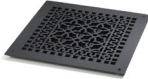
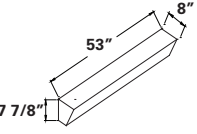
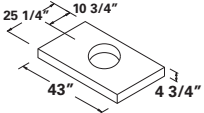
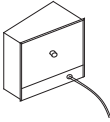



Plan View



Door Frame/Glass View

Component List - MAXIMUS Series 48" (82D48)

Component	Part#	Description	Component	Part#	Description
	IDV48CGDFK	48" Maximus Ceramic Glass Door Frame Kit Includes: Frame, Glass & Barrier		M93D	MGM Base Plate - Red
	IDV48TGDFK	48" Maximus Tempered Glass Door Frame Kit Includes: Frame, Glass & Barrier			
	IDV48BR	48" Maximus Barrier		13D	Smoke Dome, Front/Back 46/48" - Red (Qty. 2)
	IDV48CGD	48" Maximus Ceramic Glass Door			
	IDV48TGD	48" Maximus Tempered Glass Door		34D	Smoke Dome Side - Red (Qty. 2)
	MILLPACK	Mill-Pac Black (Qty. 4)			
	IDVHHCN	Hex Head Cap Nut (Qty. 6)		M90D	MGM Sidewall - Red (Qty. 8)
	8DVCB	Collector Box/Anchor Plate			
	F2674	Flex Pipe Adapter		M67D	Back Wall 48" - Red (Qty. 4)
	F2674	Stainless Steel Flex Pipe			
	MP35	Max Sealcoat Mortar (Qty. 2)		M94LD & M94RD	MGM Damper Support Left & Right - Red
	R808	Air Inlet Cover 8"x8"			
	R1012	Valve Control Box Cover 10"x12"		M70D	Damper Support, Front/Back - Red (Qty. 2)
				M81D	Top Plate 46/48" - Red
				F2668	IDV230EN Isokern Valve Control Box & Burner - NG (Natural Gas)
				F2669	IDV2430EP Isokern Valve Control Box & Burner - LP (Propane)
				F2671	IDV30 Log Set - Coastal Oak

Required Clearance to Combustibles

The MAXIMUS fireplaces and chimney systems are tested and listed for installation with "clearance to combustibles" as follows:

The Isokern MAXIMUS Direct Vent Series firebox side walls and back wall require 1-1/2" clearance. The smoke dome front wall requires 0" clearance.

All MAXIMUS venting components require 1" clearance to combustibles at all sides for all vertical runs; and 3" (76 mm) at the top, 1" (25 mm) at sides, and 1" (25 mm) at the bottom for all horizontal/inclined runs.

When installing directly on carpet, tile or other combustible material other than wood flooring, the appliance should be installed on a metal or wood panel extending the full width and depth of the appliance.

NOTE: "Combustibles" are defined but not limited to "normal construction materials" and are considered to be: wood framing materials, particle board, mill board, plywood sub-flooring, plywood paneling and wood flooring.

Sheathing materials, such as plywood, particle board and drywall may cover the smoke dome front at 0" clearance. All combustible sheathing materials that protrude beyond front of firebox must be held 8" away from the sides of the firebox opening and 8" above the top of the firebox opening.

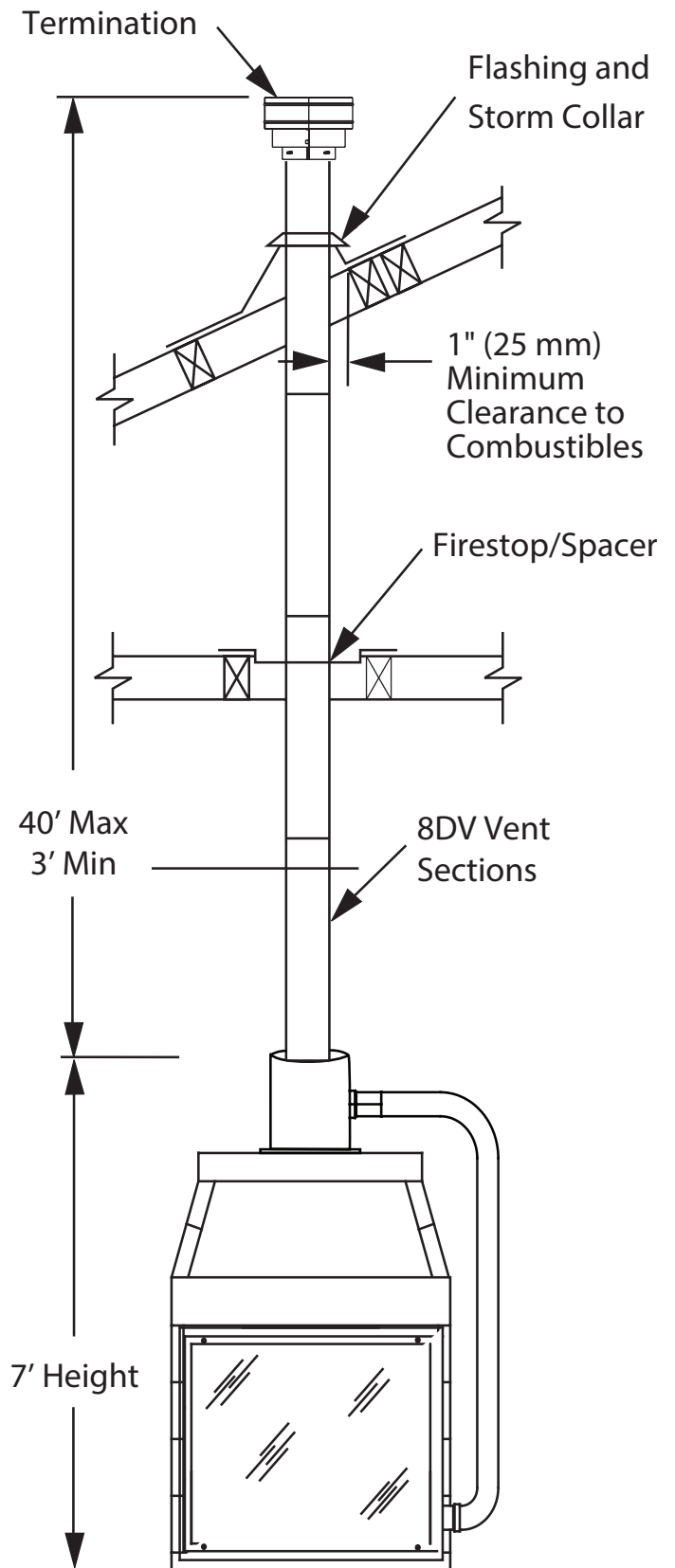
Wherever insulation is used, the Fireplaces must not be placed directly against it. Keep all insulation, vapor barriers, "house wrap" paper and other insulating type membranes and products, including fiberglass, cellulose and other insulation, (anything that carries an "R" rating) a minimum of three inches (3") away from all firebox and chimney surfaces.

EXCEPTION: If insulation is used in walls surrounding the fireplace, insulation may be installed behind sheathing of gypsum board, plywood, particle board or other rigid, fire rated material on the side facing the Isokern. The facing material cannot be within 1 1/2" to the fireplace sidewalls.

NOTES:

A. The fireplaces must sit upon a support designed to bear the total installed weight of the fireplace.

B. Additional clearance of 12" may be required from side wall where air intake flex tube is located. Flex tube is listed at zero (0") clearance to combustible framing and can be routed through framing if required.



Rough Framing Dimensions

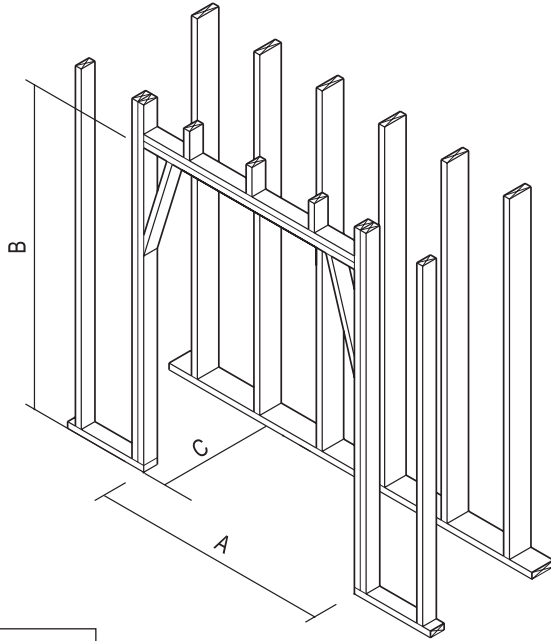


FIGURE 1

Typical Installation Framing Dimensions

<u>MAXIMUS</u>	Width A	Height B	Depth C
Model 46	56"	65"	26 ¾"
Model 48	56"	71"	29 ½"

Notes:

1. "B" includes the 3" thick base plate.
2. "Raised hearth" requires additional rough opening height at "B" equal to the height of the raised hearth detail.
3. Rough framing dimension for width "A" allows for the required 1 1/2" clearance at the sides of the Fireplace.
4. Rough framing dimension for depth "C" allows for the required 1-1/2" clearance at the back of the Fireplace.
5. Rough framing dimension for "D" allows for the required 12" needed for the flex air intake tube. Flex air intake tube can be placed on either side of firebox.

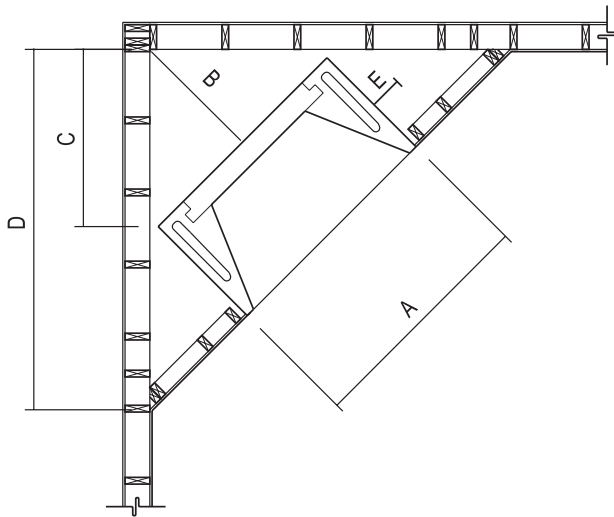


FIGURE 2

Corner Installation Framing Dimensions

<u>MAXIMUS</u>	A	B	C	D	E
Model 46	53"	25 ¾"	39"	79"	12"
Model 48	53"	28 ½"	39"	85 ¾"	12"

Note: Make allowance for 12" clearance for intake air flex pipe at anchor plate of firebox top plate when turning for offset.

General Assembly Instructions

General Isokern MAXIMUS Direct Vent Assembly Instructions:

There are two installation options for the Isokern MAXIMUS Direct Vent System.

OPTION 1: The first option allows for the valve box to be located outside the firebox in an accessible cabinet, bookcase, etc. See pages 14-17

OPTION 2: The second option allows for the valve box to be located within the firebox inside the lowest layer of sidewall. Instructions for both will be described and outlined in this manual. See pages 18-21

The Isokern components will arrive parged from the factory. The base plate will need to be placed parged side down with the uncoated side up. **(Figure 3)**

Earthcore Max Sealcoat is mixed with clean water to a smooth, workable texture (without lumps or dry pockets) of a "toothpaste" consistency. This mixture is suitable for application onto Isokern components by using a masonry grout bag supplied with the unit.

Attention should be paid that the mortar mixture is not too thin or runny, as this will not allow the mortar to reach its maximum bonding strength.

Earthcore Max Sealcoat is squeezed from a grout bag onto the contact surfaces of the Isokern components as they are fitted together.

Before starting the construction of the firebox a 5" x 5" cut needs to be made to one side wall for the air intake access. Air intake access hole should be cut like shown in Figure 4. The sleeve of the outside air passes through the firebox side wall and is connected to flexible metal pipe that leads to the source for outside air intake in the collector box/anchor plate at the top plate of the fireplace. **(Figure 4)**

It is important that a 1/2" bead of mortar on all the components' contact surfaces is applied at about 1/2" in from all edges of the contact surface of the component. **(Figure 5)**

When setting the next component onto the mortared contact surface of the base plate, some mortar should squeeze out along the face of the entire joint as a sign of complete and proper sealing of the joint.

On broader contact surfaces it is advisable to apply several additional 1/2" beads of the Earthcore Max Sealcoat to the area to assure proper sealing of the joint.

Properly mortared firebox and smoke dome assembly requires approximately 30 pounds (dry measure) of Earthcore Max Sealcoat.

Leveling and Aligning Components:

Be sure to assemble all Isokern components level and flush with adjoining components.

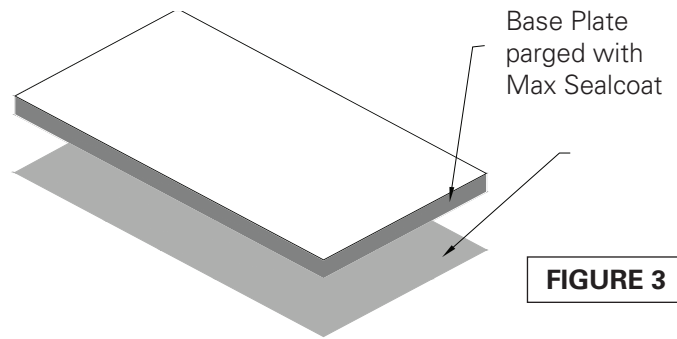


FIGURE 3

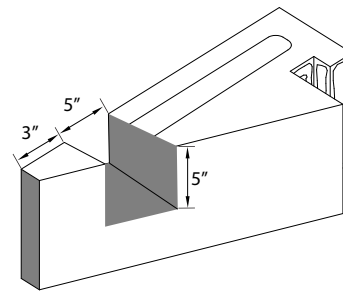


FIGURE 4

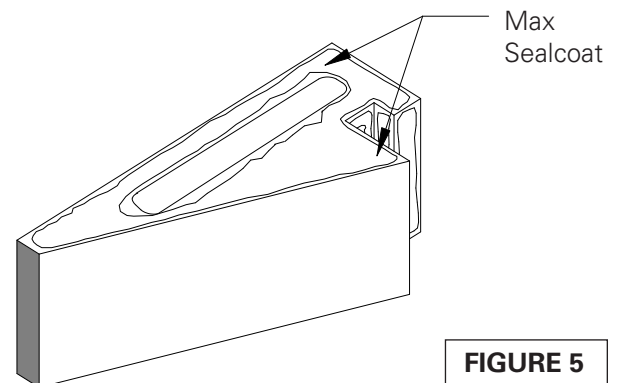


FIGURE 5

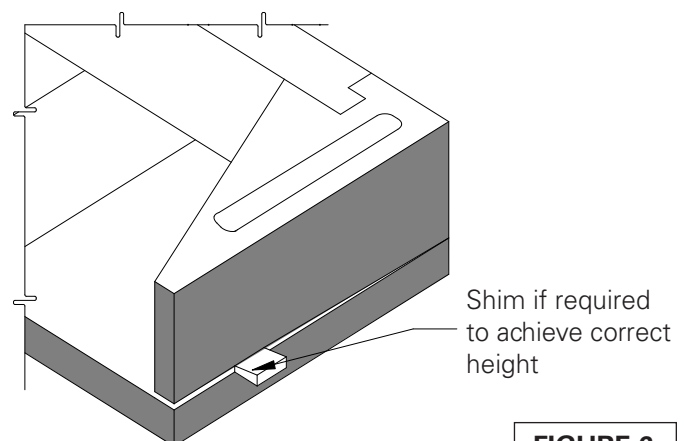


FIGURE 6

Assembly Instructions: Option 1

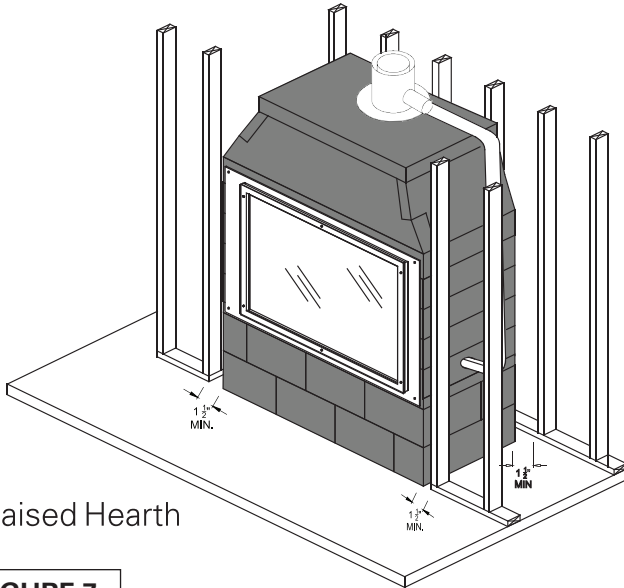


FIGURE 7

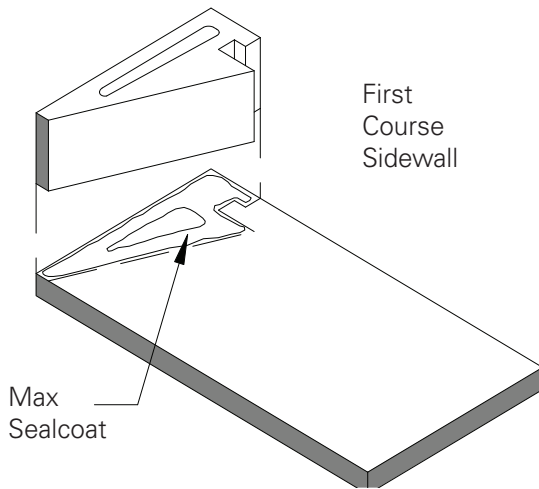


FIGURE 8

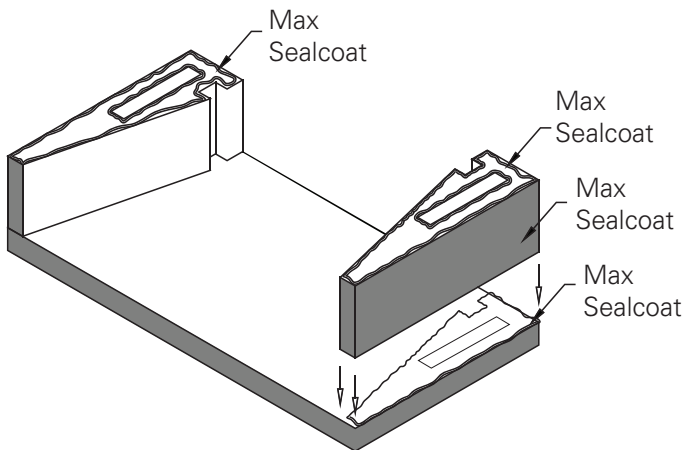


FIGURE 9

Earthcore mortar is not intended to create a mortar joint of any thickness for leveling purposes. Therefore, leveling and alignment adjustments are made by the use of small plastic shims supplied with the unit. **(Figure 6)**

The shims can be inserted under a component to level and align it with adjacent Isokern components. Be sure to re-grout any and all gaps resulting from shim insertion to maintain components to full bearing.

BROKEN COMPONENTS:

Components can be repaired by using Earthcore mortar along the break line as the component is set into place. Components broken into multiple small pieces should be discarded and replaced.

NOTES:

1. Do not mix Earthcore mortar with anti-freeze agents.
2. The maximum recommended mortar joint thickness at Isokern components is 1/4".

OPTION 1: Valve Box Exterior of Firebox

1. Set the base plate in a full bed of Earthcore Mortar on a level support surface. **(Figure 3)**. Do not set the base plate so that it is in span.

NOTE: The Isokern base plate must be used in all Isokern MAXIMUS Direct Vent installations.

If the design preference is for a raised hearth (floor of the fireplace elevated above the room's floor), then the base plate can be set on a platform that is built up to the desired raised hearth height. **(Figure 7)**

When calculating raised hearth height, be sure to allow for the three inch (3") thick base plate in addition to the height of the platform.

For all "raised hearth" construction where concrete blocks are used to create the raised platform, CMU used for base support should be rated ASTM 90.

2. Set the first course of the firebox back wall and side walls into place. **(Figure 8)**

It may be convenient to dry set the first course of side wall and back wall into place on the Isokern base plate and then to trace their position on the base plate with a pencil. **(Figure 9)**

Assembly Instructions: Option 1

After outlining the dry set pieces, remove them and apply Earthcore Mortar to the areas traced on the base plate where the side walls and back wall are to sit. By doing this, the first layer of wall components can be set directly into mortar already applied to the proper areas on the base plate.

Be sure to put Earthcore Mortar on the contact surfaces of the vertical joints where the side wall and back wall components connect.

NOTE: At all component placement, be sure to mortar all component contact surfaces with Earthcore Mortar. Check for complete sealing of each contact joint while assembly progresses. **(Figure 11)**

3. Continue assembly of the consecutive courses of the firebox side wall and back wall. (Three courses for the Isokern MAXIMUS 80D46 Series, Four courses for the Isokern MAXIMUS 82D48 Series). Apply mortar to the top of each layer of wall components, set the next course above into place. Be sure to mortar all vertical joints of the side wall to back wall connection when setting each component to its mate.

Look for some mortar to squeeze out along the joints of all contact surfaces as a sign that the joint is thoroughly sealed with the approved mortar.

4. When all of the firebox wall components are set, check the top surface of the firebox for level. If necessary, adjust the top surface of the box assembly for level by inserting a shim between the lowest wall component and the top surface of the base plate. **(Figure 6)**

Any gap created under the wall components during the Shim leveling process must be filled with Max Sealcoat to full bearing against the base plate.

5. Make sure that the firebox assembly has been set level and square. Adjust as required while the mortar is still wet.

Make a final inspection of all contact joints in the firebox assembly to be sure they are properly sealed. Fill any and all gaps in the assembly, as necessary, with the approved Max Sealcoat. **(Figure 12)**

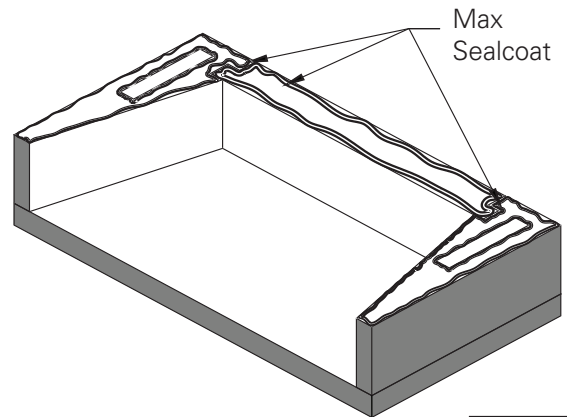


FIGURE 10

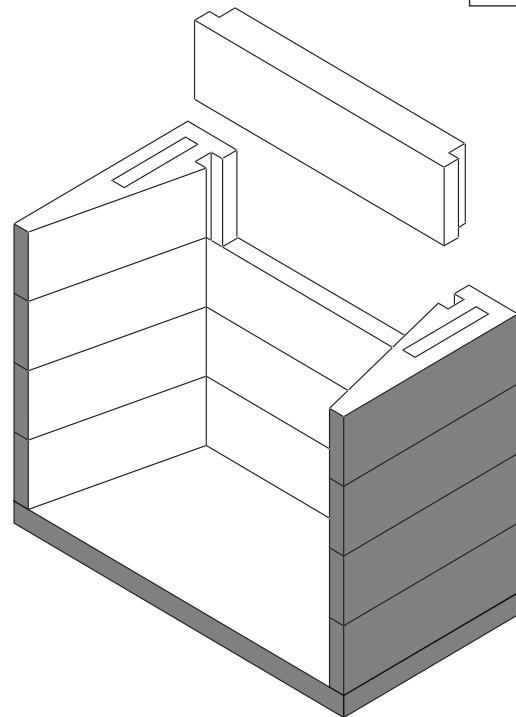


FIGURE 11

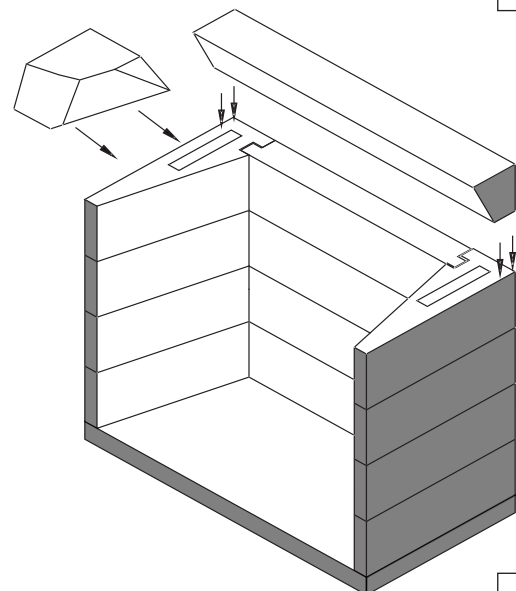


FIGURE 12

Assembly Instructions: Option 1

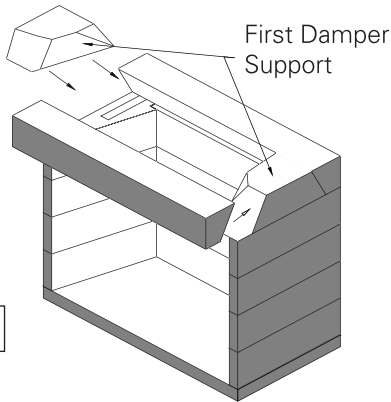


FIGURE 13

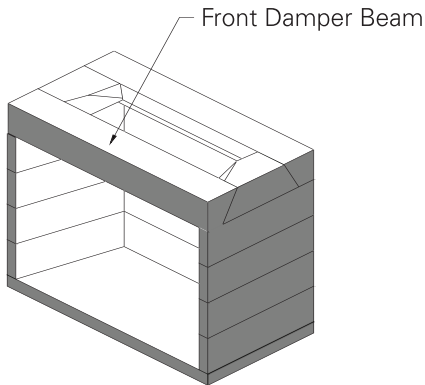


FIGURE 14

2 3/4" on 48"
Model (82D48)
ONLY

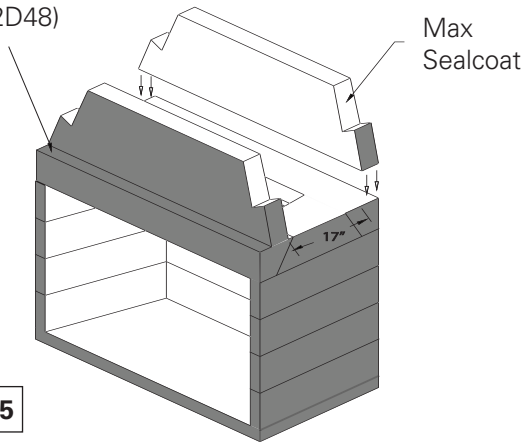


FIGURE 15

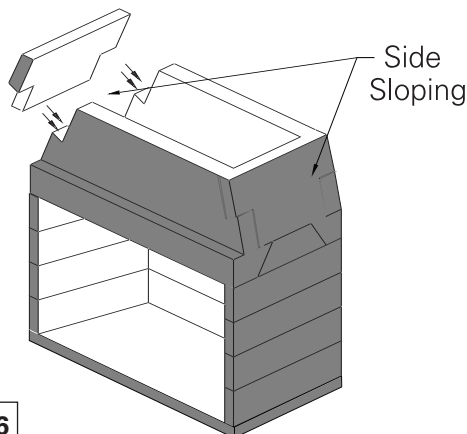


FIGURE 16

6. The fireplaces come with an eight inch (8") thick damper beam assembly, a four piece component group that is to be assembled on top of the firebox sidewalls.

The damper beam assembly consists of two long lintel pieces and two short damper beam side pieces.

The damper side pieces are designed to sit on the firebox side wall between the front lintel and the back lintel. Each of the damper side pieces is designed specifically for its own side of the unit. When properly set, each damper side piece fits flush with the outside face of the firebox sidewall so that its interior bottom edge aligns with the interior angle of the firebox side wall that it sits on. **(Figure 13)**

The two long lintels are identical in shape, size and in length, equal to the width of the fireplace model that they serve. Properly placed, one lintel is to sit on top of the firebox back wall and flush with it; the other lintel sits flush with the front of the firebox, spanning the firebox opening. These components both sit on their narrow base so that their beveled face points down and into the firebox interior. **(Figure 14)**

Be sure to mortar all damper beam components to the top surfaces of the firebox. Mortar the contact surfaces of each damper side component where it meets the front and back damper beam lintel components.

7. Set the rear smoke dome component across the damper beam in a bed of mortar and flush with the back face of the back damper beam lintel.

Set the Isokern 80D46 front smoke dome component in mortar across the front damper beam and flush with it. Set the 82D48 front smoke dome component in mortar across the front damper beam and 2 -3/4 inches back from the front of the front damper beam lintel. This placement should create a space of 17 inches (17") between the front and rear smoke dome components. **(Figure 15)**

8. Position the smoke dome's sloping sidewalls at each end of the smoke dome components.

The sloping sidewalls fit in between the front and rear smoke dome components and also fit into the haunches at the ends of the front and rear smoke dome components. Mortar all contact surfaces thoroughly. The smoke dome sloping sidewalls have a beveled bottom edge so that they will sit tight onto the flat top of the damper beam assembly. **(Figure 16)**

Assembly Instructions: Option 1

9. Make sure that all component contact surfaces have been properly sealed with approved Max Sealcoat. Check smoke dome front and rear walls to see that they are plumb, level and in alignment with mating components.

Check alignment of the smoke dome sloping sidewall components to see that they are fully seated.

11. Set the top plate into position and mortar on top of the smoke dome wall assembly.

One side of the top plate shows a thickened center. This side is the bottom face. The flue hole in the top plate is centered in the smoke dome from side to side but is offset from front to back, the center being 10 3/4" from the back of the firebox. **(Figure 17)**

12. After firebox is assemble in the field make sure that all joints are parged with Max SealCoat mortar and that there is no area missing the SealCoat. Any missing SealCoat on exterior of the firebox needs to be covered. **(Figure 18)**

13. Gas Line Feed (three foot gas flex line) can be routed through the firebox side walls by drilling an appropriately sized hole using a masonry drill bit. **(Figure 19)** Be sure to fill any gaps around conduit with Max Sealcoat. See page 39 for further gas line installation details.

14. The valve box is equipped with a five foot (5'-0") pilot line that allows the valve box to be located in an exterior closet, shelf system or other convenient location within the scope of this gas line. Screw Valve box to framing members allowing door accessible for maintenance. **(Figure 18)**

NOTE: Pilot and gas lines cannot be modified in any way. Valve box must be positioned within the length of the lines as provided.

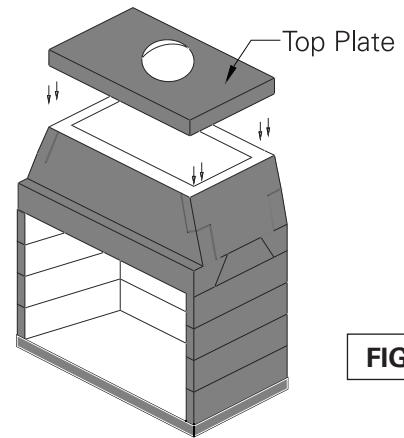


FIGURE 17

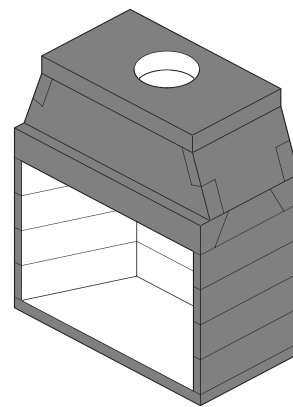


FIGURE 18

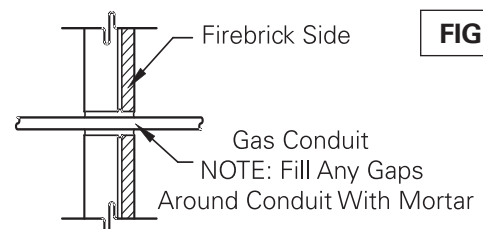
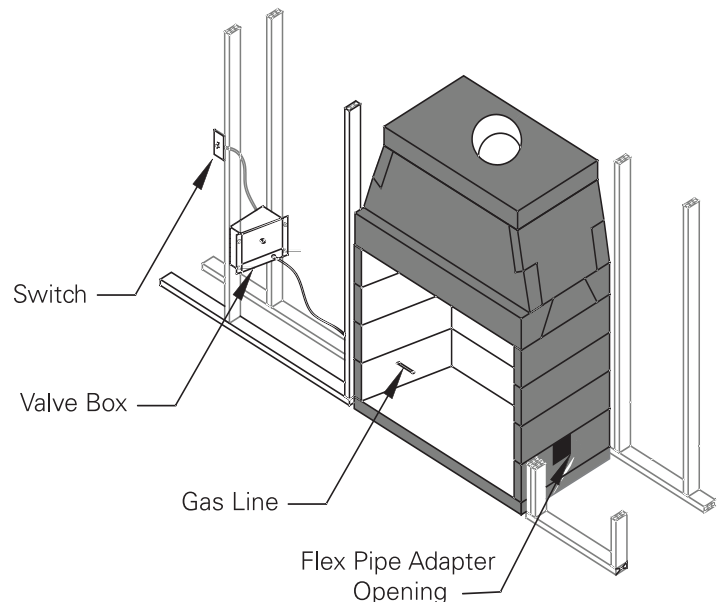


FIGURE 19

Assembly Instructions: Option 2

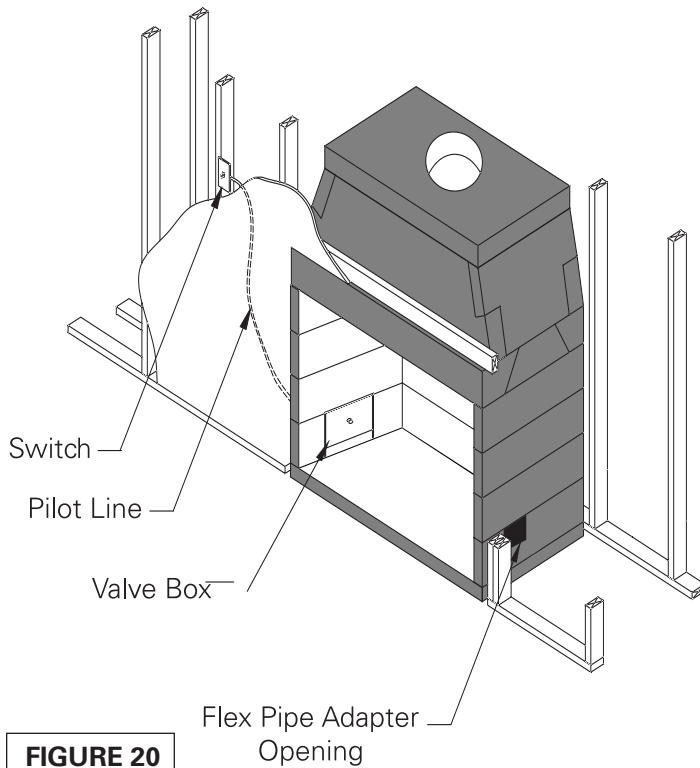


FIGURE 20

OPTION 2: Valve Box Interior of Firebox

1. If the preference is to insert the valve box inside the firebox follow these instructions. **(Figure 20)** Start by setting the base plate in a full bed of Earthcore Mortar on a level support surface. **(Figure 3)**. Do not set the base plate so that it is in span.

NOTE: The Isokern base plate must be used in all Isokern MAXIMUS Direct Vent installations.

The Control Valve box needs to be placed in the sidewall opposite of where the Flex Pipe Adapter is placed. There will not be enough room in the same sidewall for the Control Valve box and the Flex Pipe Adapter.

If the design preference is for a raised hearth (floor of the fireplace elevated above the room's floor), then the base plate can be set on a platform that is built up to the desired raised hearth height on the support. **(Figure 6)**

When calculating raised hearth height, be sure to allow for the three inch (3") thick base plate in addition to the height of the platform, as well as, the thickness of the firebrick for the true finished inside of the fireplace unit.

For all "raised hearth" construction where concrete blocks are used to create the raised platform, CMU used for base support should be rated ASTM 90.

Assembly Instructions: Option 2

2. Measure in 6" from small, front end of Sidewall toward wider, rear end of sidewall.

3. Cut twelve inch section of sidewall out of base sidewall on just one side of unit. **(Figure 21)**

4. Replace twelve inch (12") section of side wall with valve box to log set. Door of valve box should face interior of fireplace. **(Figure 22)**

5. Mortar all flat areas of valve box to all areas of side wall and base plate. Look for some mortar to squeeze out along the joints of all contact surfaces as a sign that the joint is thoroughly sealed with the approved mortar. Set as first course of side wall on base plate and mortar in place. **(Figure 23)**

6. Set the additional first course of the firebox back wall and side walls into place.

Be sure to put Earthcore Mortar on the contact surfaces of the vertical joints where the side wall and back wall components connect.

NOTE: At all component placement, be sure to mortar all component contact surfaces with Earthcore Mortar. Check for complete sealing of each contact joint while assembly progresses.

7. Continue assembly of the consecutive courses of the firebox side and back walls. (Three courses for the

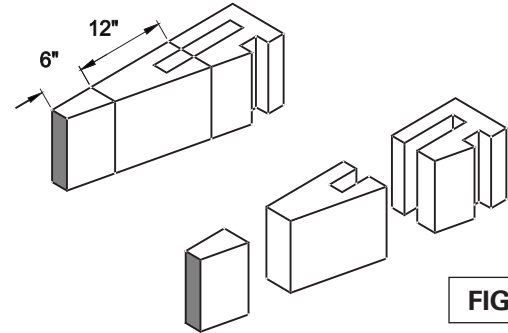


FIGURE 21

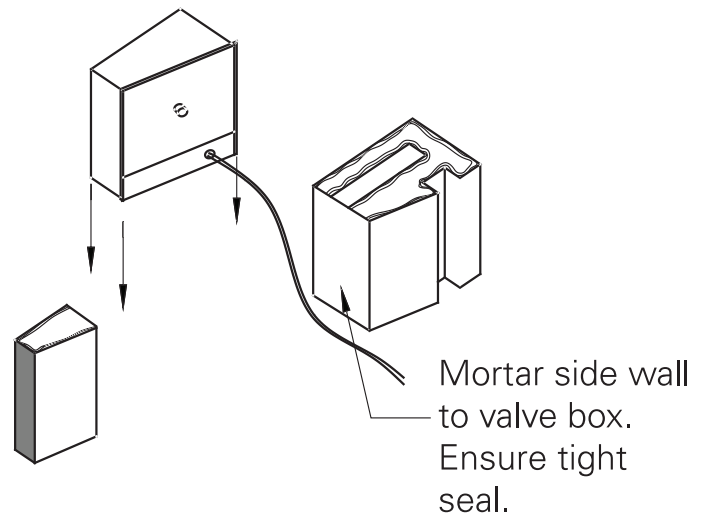


FIGURE 22

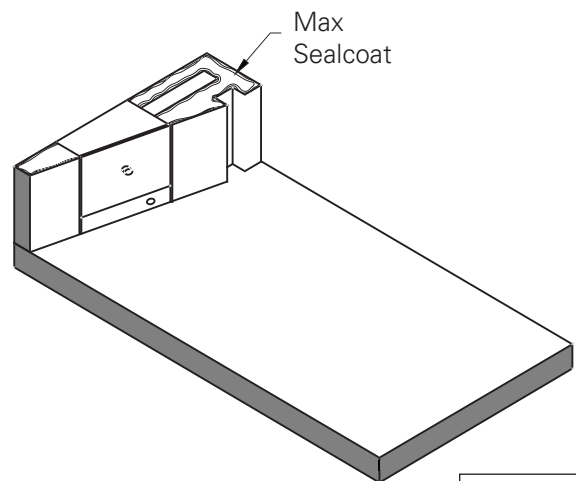


FIGURE 23

Assembly Instructions: Option 2

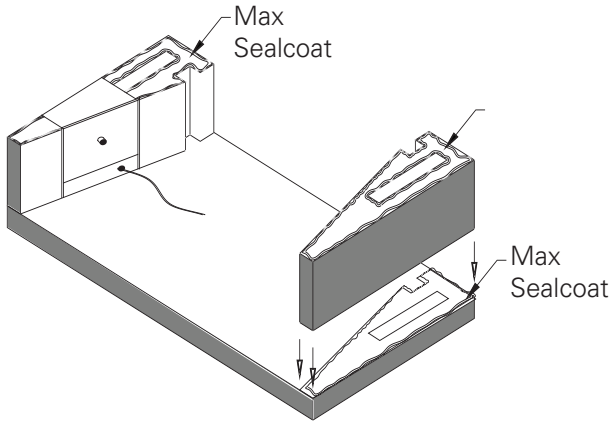


FIGURE 24

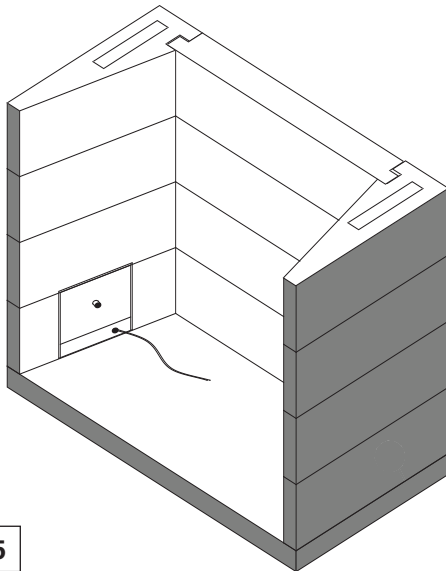


FIGURE 25

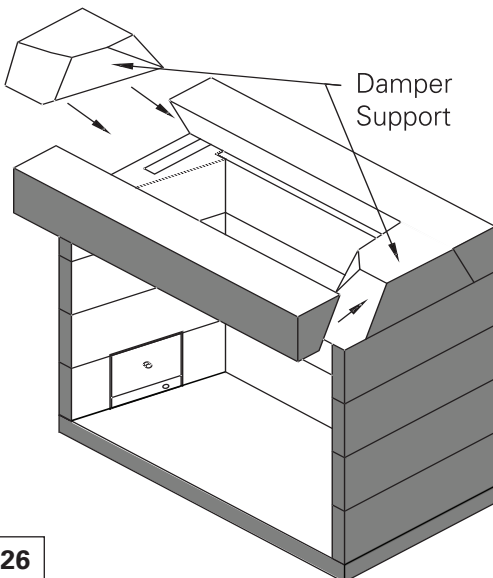


FIGURE 26

Isokern 80D46, Four courses for the 82D48 Series). Apply mortar to the top of each layer of wall components, set the next course above into place. Be sure to mortar all vertical joints of the side wall to back wall connection when setting each component to its mate. **(Figure 25)**

Look for some mortar to squeeze out along the joints of all contact surfaces as a sign that the joint is thoroughly sealed with the approved mortar.

8. The fireplaces come with an eight inch (8") thick damper beam assembly, a four piece component group that is to be assembled on top of the firebox sidewalls. The damper beam assembly consists of two long lintel pieces and two short damper beam side pieces.

The damper side pieces are designed to sit on the firebox side wall between the front lintel and the back lintel. Each of the damper side pieces is designed specifically for its own side of the unit. When properly set, each damper side piece fits flush with the outside face of the firebox sidewall so that its interior bottom edge aligns with the interior angle of the firebox side wall that it sits on. **(Figure 26)**

The two long lintels are identical in shape, size and in length, equal to the width of the fireplace model that they serve. Properly placed, one lintel is to sit on top of the firebox back wall and flush with it; the other lintel sits flush with the front of the firebox, spanning the firebox opening. These components both sit on their narrow base so that their beveled face points down and into the firebox interior.

Be sure to mortar all damper beam components to the top surfaces of the firebox. Mortar the contact surfaces of each damper side component where it meets the front and back damper beam lintel components.

9. Set the rear smoke dome component across the damper beam in a bed of mortar and flush with the back face of the back damper beam lintel.

Set the Isokern 80D46 front smoke dome component in mortar across the front damper beam and flush with it. Set the 82D48 front smoke dome component in mortar across the front damper beam and two and three-fourths inches (2 $\frac{3}{4}$ "") back from the front of the front damper beam lintel. This placement should create a space of 17 inches (17") between the front and rear smoke dome components. **(Figure 27)**

10. Position the smoke dome's sloping sidewalls at each end of the smoke dome components.

Assembly Instructions: Option 2

The sloping sidewalls fit in between the front and rear smoke dome components and also fit into the haunches at the ends of the front and rear smoke dome components. Mortar all contact surfaces thoroughly. The smoke dome sloping sidewalls have a beveled bottom edge so that they will sit tight onto the flat top of the damper beam assembly. **(Figure 28)**

11. Make sure that all component contact surfaces have been properly sealed with approved Max Sealcoat.

Check smoke dome front and rear walls to see that they are plumb, level and in alignment with mating components.

Check alignment of the smoke dome sloping sidewall components to see that they are fully seated.

12. Set the top plate into position and mortar on top of the smoke dome wall assembly.

One side of the top plate shows a thickened center. This side is the bottom face.

The flue hole in the top plate is centered in the smoke dome from side to side but is offset from front to back, the center being ten and three-fourths inches (10 $\frac{3}{4}$ "") from the back of the firebox. **(Figure 29)**

13. Prepare Red, Earthcore SealCoat. Covering joints in the fireplace will require approximately two 35lb buckets of Earthcore SealCoat.

Earthcore SealCoat is mixed with clean water to a smooth, workable texture similar to the Earthcore mortar, to a "toothpaste" consistency. This mixture is suitable for application onto Isokern components by using a roller ensuring complete coverage.

Make sure that the SealCoat is on to every outside surface of the Isokern firebox, smoothing over all joints and surfaces. After application, all exterior surfaces of fireplace should be covered with SealCoat product. **(Figure 29)**

2 $\frac{3}{4}$ " on 48"
Model (82D48)
ONLY

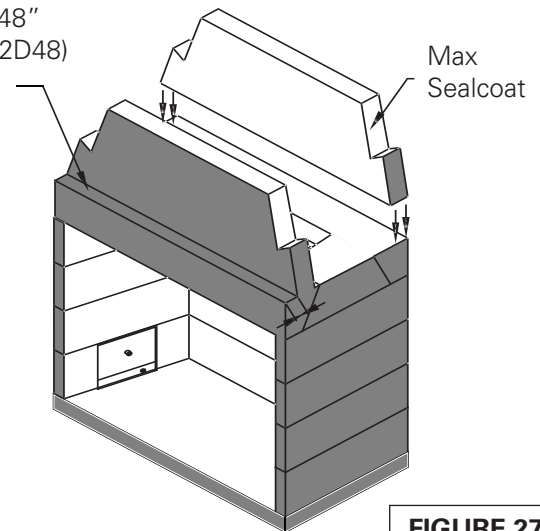


FIGURE 27

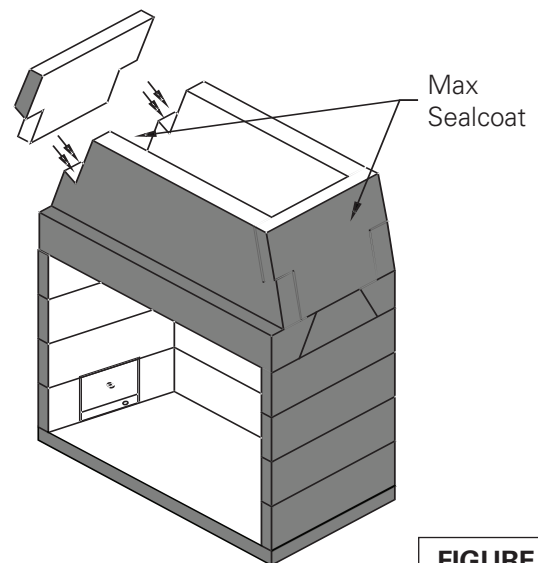


FIGURE 28

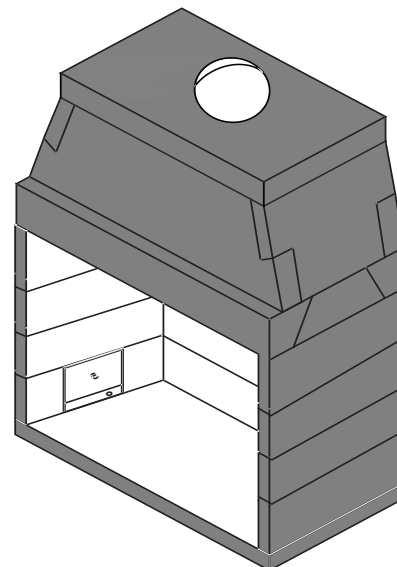


FIGURE 29

Connecting Collector Box and Air Intake Flex Tube

Collector Box Installation:

1. Squeeze a one-fourth inch (1/4") thick bead of Mill-Pac on the bottom of the collector box/anchor plate before attaching to the Isokern top plate. Making sure at that connections are completely sealed with the Mill-Pac Black.

2. Place the collector box/anchor plate on top of the top plate and align the top plate hole with the hole in collector box.

NOTE: Make sure that the air intake hole on the collector box/anchor plate is facing the side wall of the Isokern fireplace. **(Figure 30)**

3. Using anchor bolt screws, screw collector box to Isokern top plate. Make sure it is secure and Mill-Pac Black squeezes out ensuring a good seal.

4. Once all connections of the collector box/anchor plate have been made and sealed with Mill-Pac Black, installation of the 8DV pipe can begin. The first connection of 8DV pipe should be sealed with Mill-Pac Black to the collector box/anchor plate. Please follow venting installation instructions on pages 23-37.

Air Intake Flex Tube Installation:

1. Begin at the top and insert one end of the flex tube into the round hole at the collector box. Insert approximately six inches of flex tubing into hole. Make sure it is secure and to seal with Mill-Pac Black.

2. Tighten stainless steel hose clamp around collector box sleeve to secure.

3. Seal with Mill-Pac Black at seam. Vent pipe will attach to the collector box/anchor plate.

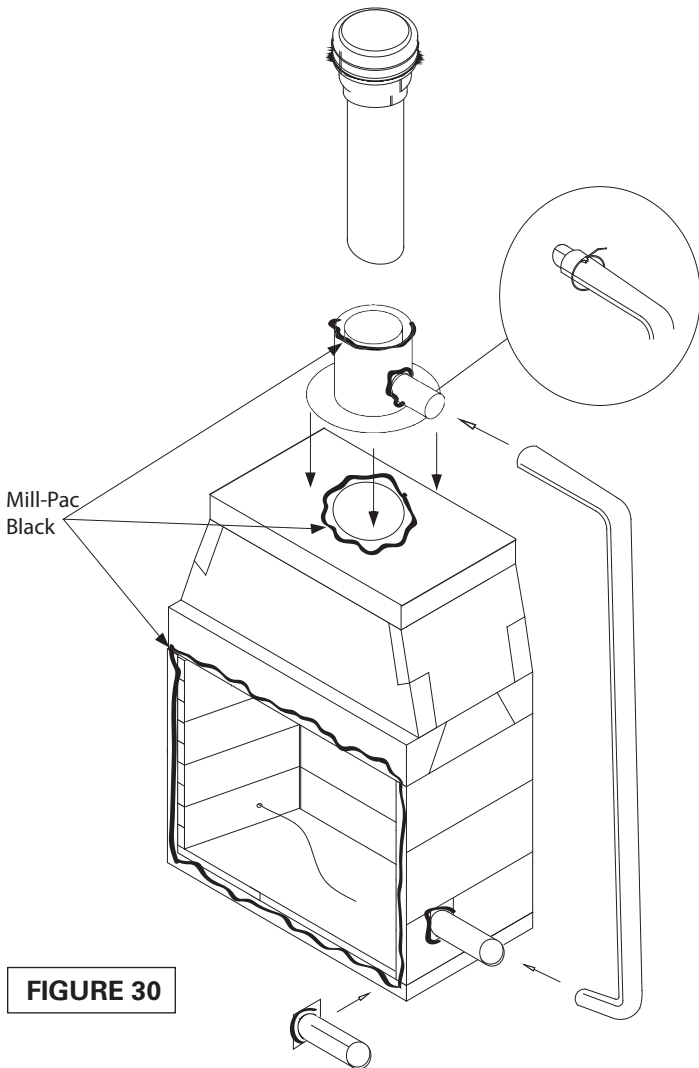


FIGURE 30

Venting System Components

Introduction

The Isokern MAXIMUS Direct-Vent, sealed-combustion gas fireplace operates on natural or propane gas. These appliances feature a remotely controlled electronic intermittent pilot ignition system (manual adjustment of the gas valve settings is not possible).

Approved Vent Components

These fireplaces are designed, tested, and listed for operation and installation with Isokern MAXIMUS Direct Vent system components (8" inner, 11" outer).

These approved vent system components are labeled for identification. USE ONLY APPROVED Direct Vent COMPONENTS. DO NOT use any other type vent components with these appliances, as it will void the listing of the this appliance.

Codes and Standards

These appliances comply with National Safety Standards and are tested and listed by PFS to ANSI Z21.50 2014 in USA, as vented gas Direct Vent fireplaces.

Installation must conform to local codes. In the absence of local codes, installation must comply with the current National Fuel Gas Code, ANSI Z223.1.

Installation and repair should be done by a qualified service person. The appliance should be inspected before use and annually by a professional service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etcetera. It is imperative that control compartments, burners and circulating air passageways of the appliance be kept clean.



Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any parts of the control system and any gas control which have been under water.

Provide adequate clearances around air openings and adequate accessibility clearance for service and proper operation. Never obstruct the front openings of the appliance.

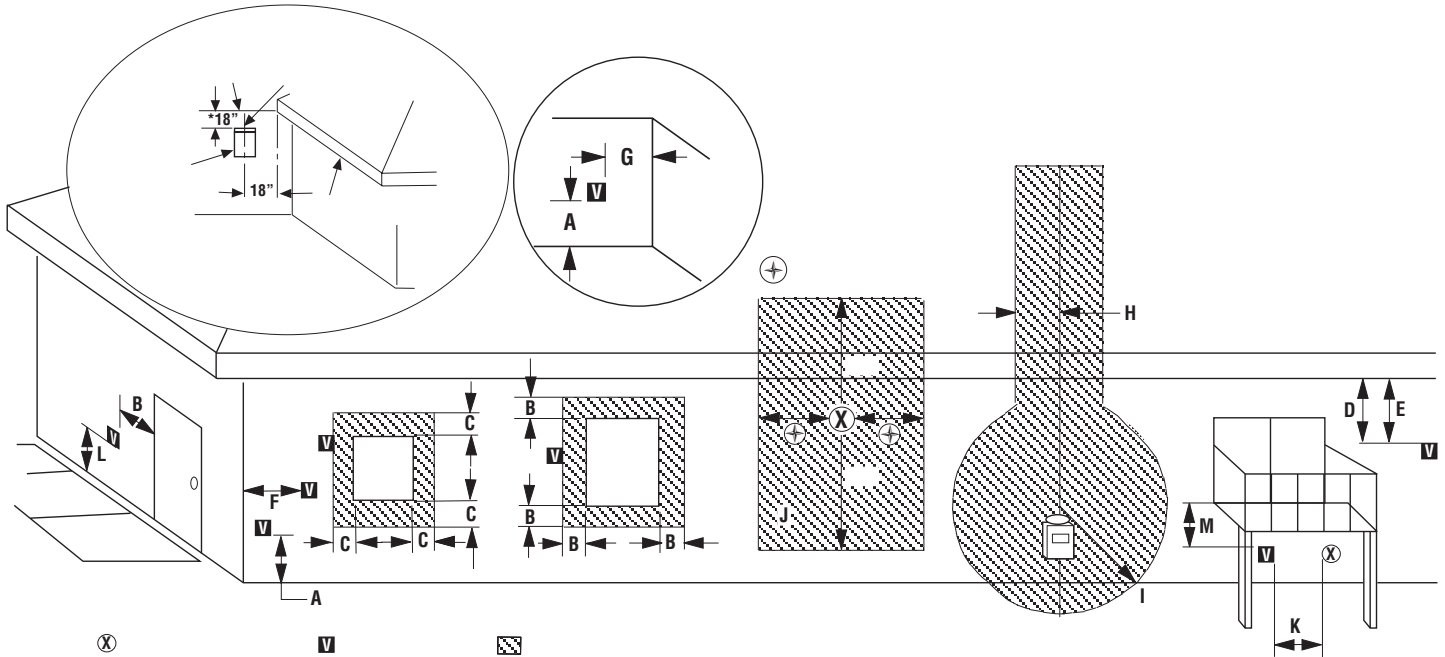
These appliances are designed to operate on natural or propane gas only. The use of other fuels or combination of fuels is prohibited with this system.

These appliances must not be connected to a chimney or flue serving a separate solid fuel burning appliance.

Component	Part#	Description
	8DVHT	Horizontal Termination
	8DVVT	Vertical Termination
	8DV45L	45 Degree Elbow
	8DV90L	90 Degree Elbow
	8DVF	Flashing: 2/12 to 5/12 Pitch
	8DVF-12	Flashing: 6/12 to 12/12 Pitch
	8DVSC	Storm Collar
	8DVSS	Support Strap
	8DVFSH	Firestop / Horizontal
	8DVFSV	Firestop / Vertical
	8DV6	Vent Sections: 6"
	8DV12	12"
	8DV24	24"
	8DV36	36"
	8DV48	48"
	8DVAL	Adjustable Straight Length

Component	Part#	Description
	8DVIS	Attic Insulation Radiation Shield
	8DVFSV	Support Plate

Vertical & Horizontal Termination Clearances



Minimum Clearances	US Installation **
A = Clearance above grade, veranda, porch, deck or balcony.	12" (30 cm) **
B = Clearance to window or door that may be opened.	6" (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 9" (23 cm) for appliances > 10,000 BTU/hr (3kW) and < 50,000 BTU/hr (15kW), 12" (30 cm) for appliances > 50,000 BTU/hr (15kW)*
C = Clearance to permanently closed window	9" (229 mm) recommended to prevent window condensation
D=Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 36" (91.4cm) from the center line of the terminal	24" (61.0 cm)
E = Clearance to unventilated soffit	24" (61.0 cm)
F = Clearance to outside corner	5" (12.7 cm)
G = Clearance to inside corner	24" (61.0 cm)
H = Clearance to each inside of center line extended above meter / regulator assembly	3 feet (91 cm) within a height of 15 feet above the meter / regulator assembly **
I = Clearance to service regulator vent outlet	3 feet (91 cm) **
J = Clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance	6" (15.2 cm) for appliances < 10,000 BTU/hr (3kW), 9" (23 cm) for appliances > 10,000 BTU/hr (3kW) and < 50,000 BTU/hr (15kW), 12" (30 cm) for appliances > 50,000 BTU/hr (15kW)*
K = Clearance to mechanical air supply inlet	3 feet (91 cm) above, if within 10 feet (3 m) horizontally**
L = Clearance above paved sidewalk or paved driveway located on public property	7 feet (2.13 m) ‡
M = Clearance under veranda, porch, deck or balcony	18" (46.0 cm) ** ‡
** In accordance with the current ANSI Z223.1 / NFPA 54 National Fuel Codes—Latest Edition.	
‡ A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.	
*‡ Only permitted if veranda, porch, deck or balcony is fully open on a minimum 2 sides beneath the floor.	

Vertical & Horizontal Termination Clearances

These instructions should be used as a guideline and do not supersede local codes in any way. Install vent according to local codes, these instructions, or the current National Fuel Gas Code (ANSI-Z223.1) in the USA.

Vertical Vent Termination Clearances

Terminate multiple vent terminations according to the installation codes listed. **(Figure 31)**

Terminate single vent caps relative to building components according to the chart below. **(Figure 32)**

Horizontal Vent Termination Clearances

The horizontal vent termination must have a minimum of 3" (76 mm) clearance to any overhead combustible projection of 2-1/2" (64 mm) or less. For projections exceeding 2-1/2" (64 mm). **(Figure 33)**

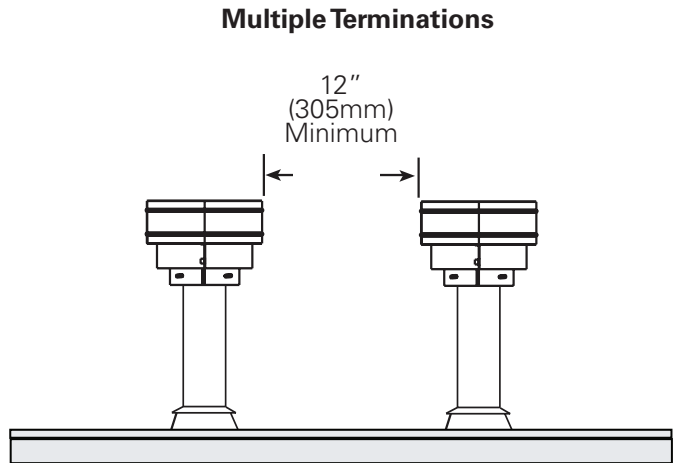
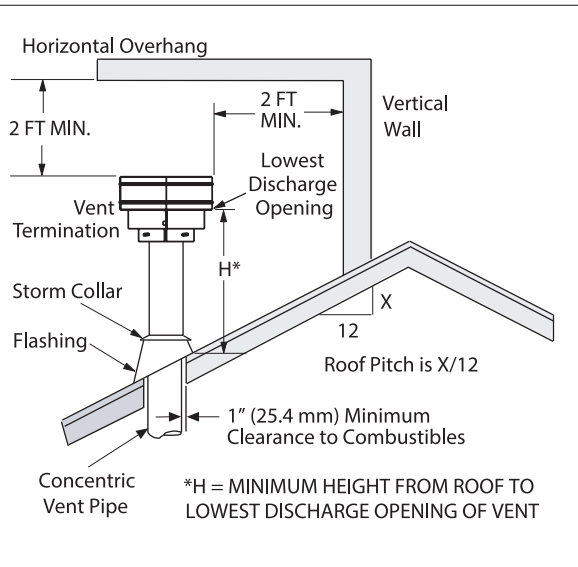


FIGURE 31

Termination Heights For Vents Above Flat Or Sloped Roofs		
Ref. NFPA 54 / ANSI Z223.1		
Roof Pitch	* Feet	* Meters
Flat to 6/12	1.0	0.3
6/12 to 7/12	1.25	0.38
7/12 to 8/12	1.5	0.46
8/12 to 9/12	2.0	0.61
9/12 to 10/12	2.5	0.76
10/12 to 11/12	3.25	0.99
11/12 to 12/12	4.0	1.22
12/12 to 14/12	5.0	1.52
14/12 to 16/12	6.0	1.83
16/12 to 18/12	7.0	2.13
18/12 to 20/12	7.5	2.29
20/12 to 21/12	8.0	2.44



The vent / air intake termination clearances above the high side of an angled roof is as shown in this chart.

FIGURE 32

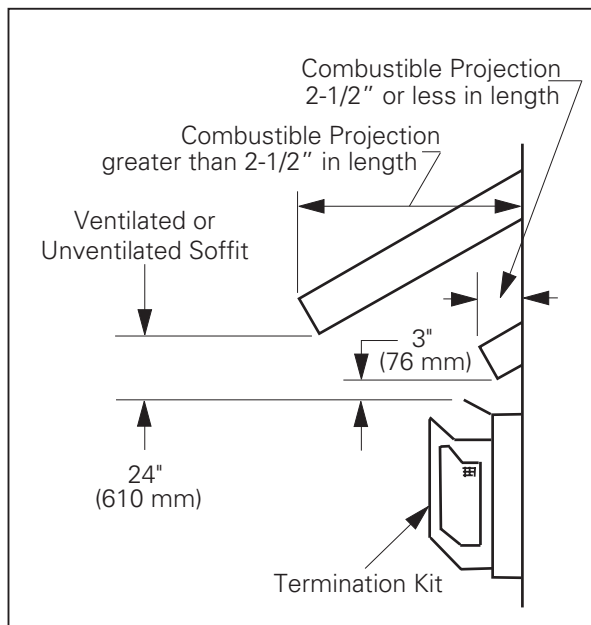


FIGURE 33

Selecting Horizontal or Vertical Venting System

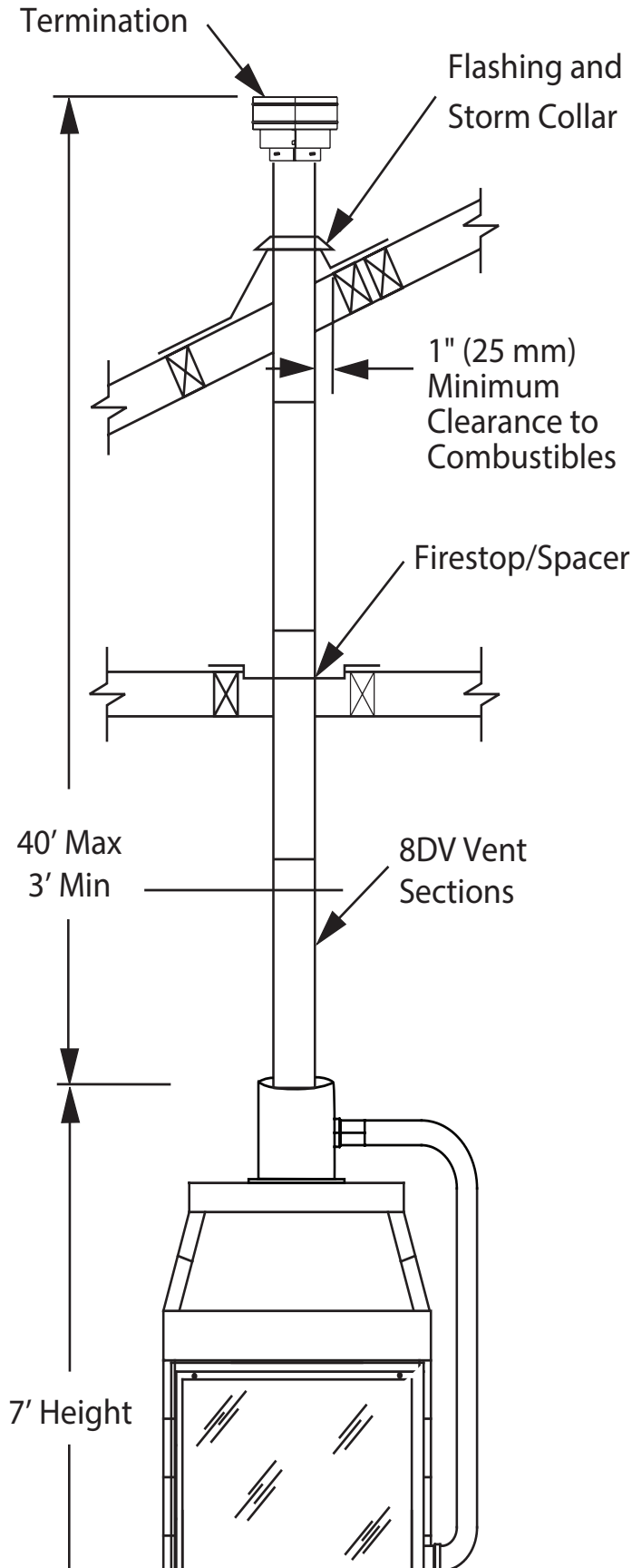


FIGURE 34

General Information

These instructions should be used as a guideline and do not supersede local codes in any way. Install vent according to local codes, these instructions, the current National Fuel Gas Code (ANSI-Z223.1) in the USA.

Ensure clearances are in accordance with local installation codes and the requirements of the gas supplier.

Use only approved venting components. See Approved Vent Components on Page 23.

These fireplaces must be vented directly to the outside.

The vent system may not service multiple appliances, and must never be connected to a flue serving a separate solid fuel burning appliance. The vent pipe is tested to be run inside an enclosing wall (such as a chase). There is no requirement for inspection openings in the enclosing wall at any of the joints in the vent pipe.

Select Venting System – Horizontal or Vertical

With the appliance secured, determine vent routing and identify the exterior termination location. The following sections describe vertical (roof) and horizontal (exterior wall) vent applications. Refer to the section relating to your installation.

Vertical Termination Systems (Roof)

See Figure 32 and Figures 42 through 44 on Pages 31 & 32 and their associated Vertical Vent Tables which illustrate the various vertical venting configurations that are possible for use with these appliances. 8DV Secure Vent® pipe applications are shown in these figures. A Vertical Vent Table summarizes each system's minimum and maximum vertical and horizontal length values that can be used to design and install the vent components in a variety of applications.

The vertical vent system terminates through the roof. The minimum vent height above the roof and/or adjacent walls is specified in ANSI Z223.1—latest edition by major building codes. Always consult your local codes for specific requirements. A general guide to follow is the Gas Vent Rule (refer to Figure 32 on Page 25).

Vertical (Straight) Installation

Determine the number of straight vent sections required. 4-1/2" (114 mm), 10-1/2" (267 mm), 22-1/2" (572 mm), 34-1/2" (876 mm) and 46-1/2" (1181 mm) net section lengths are available (see Tables on page 27 — Venting System - Length Chart). Plan the vent lengths so that a joint does not occur at the intersection of ceiling or roof joists.

Venting System - Length Chart

Nominal Section Length (inches)		6	12	24	36	48	TOTAL
Net Section Length (inches)		4-1/2	10-1/2	22-1/2	34-1/2	46-1/2	
Height of Vent		Number of Vent Sections					QTY
inches	ft						
4.5	0.375	1	0	0	0	0	1
9	0.75	2	0	0	0	0	2
10.5	0.875	0	1	0	0	0	1
15	1.25	1	1	0	0	0	2
19.5	1.625	2	1	0	0	0	3
21	1.75	0	2	0	0	0	2
22.5	1.875	0	0	1	0	0	1
25.5	2.125	1	2	0	0	0	3
31.5	2.625	0	3	0	0	0	3
34.5	2.875	0	0	0	1	0	1
37.5	3.125	1	1	1	0	0	3
43.5	3.625	0	2	1	0	0	3
45	3.75	0	0	2	0	0	2
46.5	3.875	0	0	0	0	1	1
49.5	4.125	1	0	2	0	0	3
51	4.25	1	0	0	0	1	2
55.5	4.625	0	1	2	0	0	3
57	4.75	0	0	1	1	0	2
66	5.25	0	2	2	0	0	4
67.5	5.625	0	0	3	0	0	3
69	5.75	0	0	0	2	0	2
72	6	1	0	3	0	0	4
73.5	6.125	1	0	0	2	0	3
79.5	6.625	0	1	0	2	0	3
81	6.75	0	0	0	1	1	2
90	7.5	0	2	1	0	1	4
91.5	7.625	0	0	2	0	1	3
93	7.75	0	0	0	0	2	2
96	8	1	0	1	2	0	4
97.5	8.125	1	0	0	0	2	3
102	8.5	2	0	0	0	2	4
103.5	8.625	0	0	0	3	0	3
108	9	1	0	0	3	0	4
114	9.5	0	2	0	0	2	4
117	9.75	1	0	5	0	0	6
118.5	9.875	1	1	0	3	0	5
126	10.5	0	0	1	3	0	4
130.5	10.875	1	0	1	3	0	5
135	11.25	0	0	6	0	0	6
138	11.5	0	0	0	4	0	4
139.5	11.625	0	0	0	0	3	3
142.5	11.875	1	0	0	4	0	5

Nominal Section Length (inches)		6	12	24	36	48	TOTAL
Net Section Length (inches)		4-1/2	10-1/2	22-1/2	34-1/2	46-1/2	
Height of Vent		Number of Vent Sections					QTY
inches	ft						
144	12	1	0	0	0	3	4
150	12.5	0	1	0	0	3	4
154.5	12.875	1	1	0	0	3	5
160.5	13.375	0	2	0	0	3	5
172.5	14.375	0	0	0	5	0	5
177	14.75	1	0	0	5	0	6
183	15.25	0	1	0	5	0	6
186	15.5	0	0	0	0	4	4
190.5	15.875	1	0	0	0	4	5
196.5	16.375	0	1	0	0	4	5
205.5	17.125	0	1	1	5	0	7
207	17.25	0	0	0	6	0	6
211.5	17.625	1	0	0	6	0	7
217.5	18.125	0	1	0	6	0	7
229.5	19.125	0	0	1	6	0	7
232.5	19.375	0	0	0	0	5	5
237	19.75	1	0	0	0	5	6
241.5	20.125	0	0	0	7	0	7
246	20.5	1	0	0	7	0	8
252	21	0	1	0	7	0	8
264	22	0	0	1	7	0	8
276	23	0	0	0	8	0	8
279	23.25	0	0	0	0	6	6
280.5	23.375	1	0	0	8	0	9
283.5	23.625	1	0	0	0	6	7
289.5	24.125	0	1	0	0	6	7
301.5	25.125	0	0	1	0	6	7
310.5	25.875	0	0	0	9	0	9
315	26.5	1	0	0	9	0	10
325.5	27.125	0	0	0	0	7	7
330	27.5	1	0	0	0	7	8
336	28	0	1	0	0	7	8
345	28.75	0	0	0	10	0	10
349.5	29.125	1	0	0	10	0	11
372	31	0	0	0	0	8	8
376.5	31.375	1	0	0	0	8	9
379.5	31.625	0	0	0	11	0	11
418.5	34.875	0	0	0	0	9	9
423	35.25	1	0	0	0	9	10
465	38.75	0	0	0	0	10	10

NOTE: Convert inches into metric equivalent measurement, as follows:

- Millimeters (mm) = Inches x 25.4**
- Centimeters (cm) = Inches x 2.54**
- Meters (M) = Inches x .0254**

Venting System - Vertical Installation

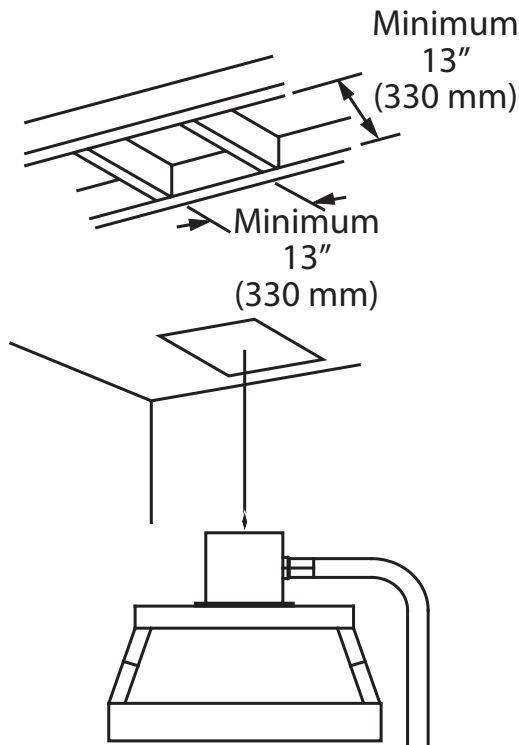


FIGURE 35

Align the dimple (four places) of the upper vent section with the opening of the locking incline channel on the lower vent section or appliance collar. Twist vent component clockwise to engage and seal until arrow and dimple align.

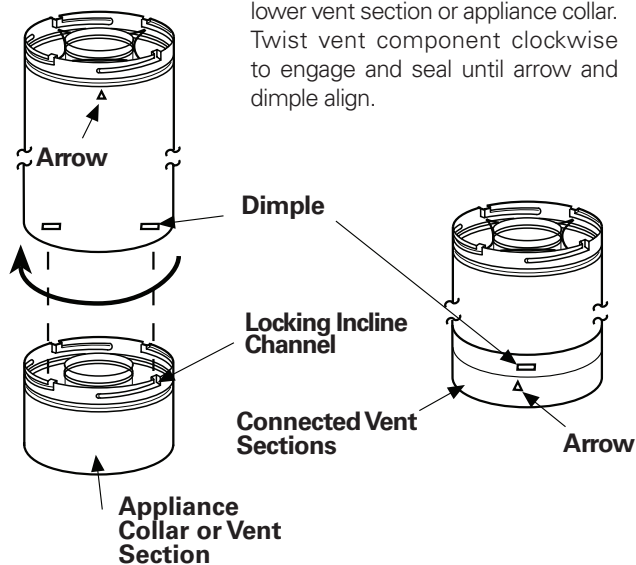


FIGURE 36

Analyze the vent routing and determine the quantities of vent sections and number of elbows required. Refer to Vertical Vent Figures and Tables on Pages 31 and 32 to select the type of vertical installation desired. Vent sections are available in net lengths of 4-1/2" (114 mm), 10-1/2" (267 mm), 22-1/2" (572 mm), 34-1/2" (876 mm) and 46-1/2" (1181 mm). Refer to the Vent Section Length Chart on Page 27 for an aid in selecting length combinations. Elbows are available in 90° and 45° configurations. Refer to Figure 38 on Page 30 for the elbow dimensional specifications.

Where required, a telescopic vent section may be used to provide the installer with an option in installing in tight and confined spaces or where the vent run made up of fixed length pieces develops a joint in a undesirable location, or will not build up to the required length. The Telescopic Vent Section has an effective length of from 1-1/2" (38 mm) to 6-3/4" (171 mm). It is fitted with a dimpled end (identical to a normal vent section component) and a plain end with 3 pilot holes. Slip the dimpled end over the locking channel end of a standard vent component the required distance and secure with three screws.

Maintain a minimum 1" (25 mm) clearance to combustible materials for all vertical elements. Clearances for all horizontal elements are 3" (76 mm) on top, 1" (25 mm) on sides and 1" (25 mm) on the bottom.

1. Frame ceiling opening

Use a plumb line from the ceiling above the appliance to locate center of the vertical run. Cut and/or frame an opening, 13" x 13" (330 mm x 330 mm) inside dimensions, about this center mark. **(Figure 35)**

2. Attach vent components to appliance

Direct Vent system components are unitized concentric pipe components featuring positive twist lock connections. **(Figure 36)**

All of the appliances covered in this document are fitted with collars having locking inclined channels. The dimpled end of the vent components fit over the appliance collar to create the positive twist lock connection.

To attach a vent component to the appliance collar, align the dimpled end over the collar, adjusting the radial alignment until the four locking dimples are aligned with the inlet of the four inclined channels on the collar. Push the vent component against the collar until it fully engages, then twist the component clockwise, running the dimples down and along the incline channels until they seat at the end of the channels. The unitized design of the components will engage and seal both the inner and outer pipe without the need for sealant or screws. If desired a #6 x 1/2" screw may be used at the joint, but it is not required as the pipe will securely lock when twisted.

Venting System - Vertical Installation

3. Attach vent components to each other

Other vent sections may be added to the previously installed section in accordance with the requirements of the vertical vent figures and tables. To add another vent component to a length of vent run, align the dimpled end over the inclined channel end of the previously installed section, adjusting the radial alignment until the four locking dimples are aligned with the inlets of the four incline channels of the previous section.

Push the vent component against the previous section until it fully engages, then twist the component clockwise running the dimples down and along the incline channels until they seat at the end of the channels. This seating position is indicated by the alignment of the arrow and dimple as shown in Figure 43.

4. Install firestop/spacer at ceiling at ceiling joists.

If there is living space above the ceiling level, the firestop/spacer must be installed on the bottom side of the ceiling. If attic space is above the ceiling, the firestop/spacer must be installed on the top side of the joist.

Route the vent sections through the framed opening and secure the firestop/spacer with 8d nails or other appropriate fasteners at each corner. Remember to maintain 1 1/2" (38.1 mm) clearance to combustibles, framing members, and attic or ceiling insulation when running vertical chimney sections. Attic insulation shield (H3908) may be used to obtain the required clearances indicated here. The gap between the vent pipe and a vertical firestop can be sealed with mill-pac.

5. Support the vertical vent run sections

NOTE: Proper venting support is very important. The weight of the vent must not be supported by the fireplace in any degree.

Support the vertical portion of the venting system every 8 feet (2.4 m) above the fireplace vent outlet. One method of support is by utilizing field provided support straps (Galvanized Perforated Steel Vent Strap). Secure the Steel Vent Strap to the framing members with nails or screws. Place strap around the vent, securing the ends of the strap to the framing. If desired, sheet metal screws #6 x 1/2" length may be used to secure the support straps to the vent pipe. (Figure 37)

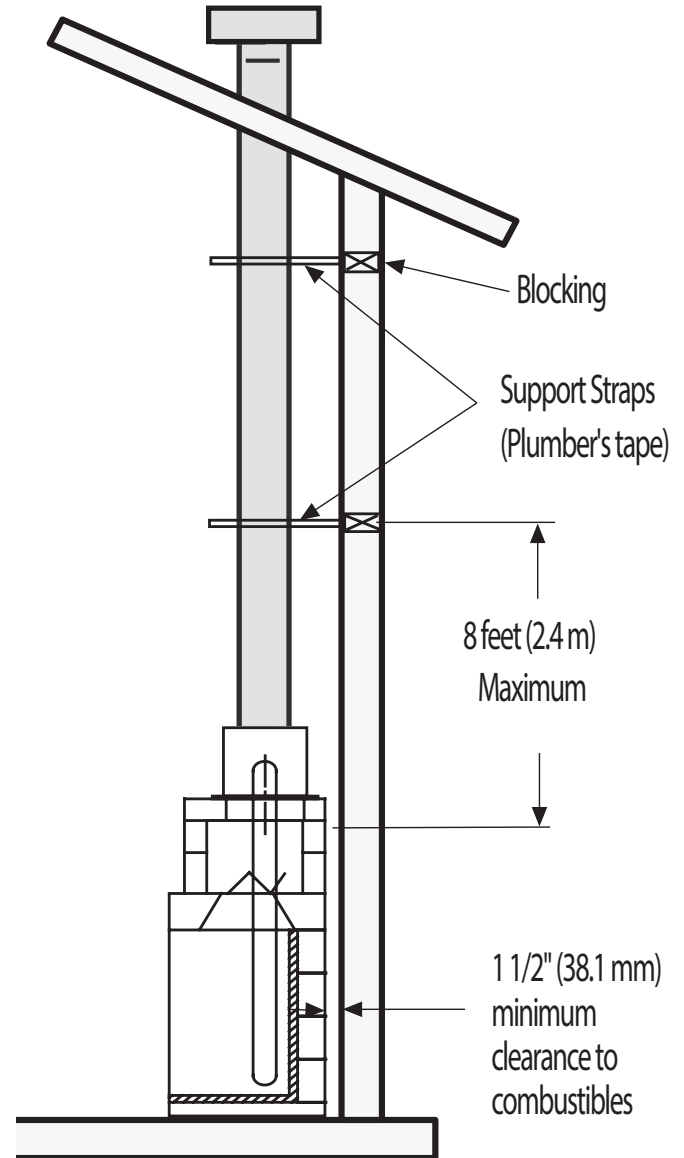


FIGURE 37

Venting System - Vertical Installation

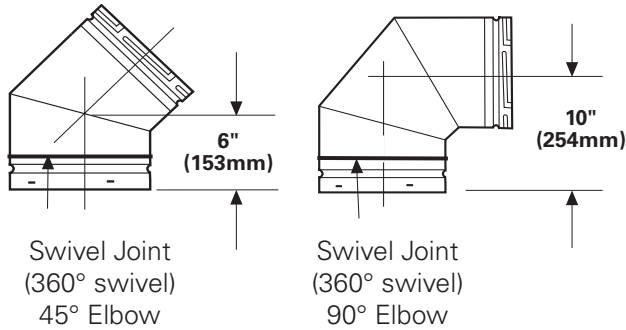
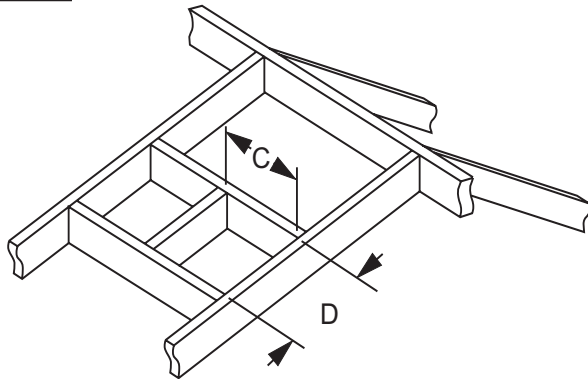


FIGURE 38



Framing Dimensions for Roof Inches (millimeters)		
Pitch	C	D
0/12	13" (330 mm)	13" (330 mm)
6/12	13" (330 mm)	15-1/2" (394 mm)
12/12	13" (330 mm)	20-1/2" (541 mm)

FIGURE 39

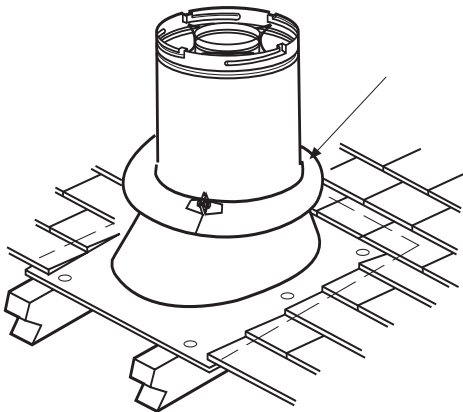


FIGURE 40

6. Change vent direction to horizontal/inclined run

At transition from or to a horizontal/inclined run, install the 45 or 90 degree elbows in the same manner as the straight vent sections. The elbows feature a twist section to allow them to be routed about the center axis of their initial collar section to align with the required direction of the next vent run element. Twist elbow sections in a clockwise direction only so as to avoid the possibility of unlocking any of the previously connected vent sections. **(Figure 36 & 38)**

7. Continue installation of horizontal/inclined sections

Continue with the installation of the straight vent sections in horizontal/inclined run as described in Step C. Install support straps every 3 ft (914 mm) along horizontal/inclined vent runs using Steel Vent Strap. See Page 46, Figure 58. It is very important that the horizontal/inclined run be maintained in a straight (no dips), slightly elevated plane. The recommended incline is approximately 1/4" per foot (20 mm per meter) horizontal, in a direction away from the fireplace. The rise per foot run ratios that are smaller are acceptable all the way down to at or near level. Use a carpenter's level to measure from a constant surface and adjust the support straps as necessary.

It is important to maintain the required clearances to combustibles: 1" (25 mm) at all sides for all vertical runs; and 3" (76 mm) at the top, 1" (25 mm) at sides, and 1" (25 mm) at the bottom for all horizontal/inclined runs.

8. Frame roof opening

Identify location for vent at the roof. Cut and/or frame opening per Roof Framing Chart. **(Figure 39)**

9. Install the roof flashing

Extend the vent sections through the roof structure. Install the roof flashing over the vent section and position such that the vent column rises vertically (use carpenter's level) (Figure 53). Nail along perimeter to secure flashing or adjust roofing to overlap the flashing edges at top and sides only and trim where necessary. Seal the top and both sides of the flashing with waterproof caulking.

10. Install the storm collar

Install the storm collar, supplied with the flashing, over the vent/flashing joint. Loosen the storm collar screw. Slide collar down until it meets the top of the flashing. Tighten the adjusting screw. Apply non-combustible caulking or mastic around the circumference of the joint to provide a water tight seal. **(Figure 40)**

Venting System - Vertical Installation

11. Install the vertical termination

The final step involves installation of the Vertical Termination. Extend the vent sections to the height as shown in the "Vertical & Horizontal Termination Clearances" on Page 25. The Vertical Termination can be installed in the exact same fashion as any other section. Align the termination over the end of the previously installed section, adjusting the radial alignment until the four locking dimples of the termination are aligned with the inlets of the four incline channels of the last vent section. Push the termination down until it fully engages, then twist the termination clockwise running the dimples down and along the incline channels until they seat at the end of the channels. (Figure 41)

Vertical Vent Figures/Tables:

Note: It is very important that the horizontal/inclined run be maintained in a straight (no dips), slightly elevated plane. The recommended incline is approximately 1/4" per foot (20 mm per meter) horizontal, in a direction away from the fireplace. The rise per foot run ratios that are smaller are acceptable all the way down to at or near level.

A firestop/spacer must be used anytime vent pipe passes through a combustible floor or ceiling. Firestop/spacer must be used anytime vent pipe passes through a combustible wall.

Two 45° elbows may be used in place of one 90° elbow. The same rise to run ratios, as shown in the venting figures for 90°.

Note: If the vent system extends more than 5 feet (1.5 m) above the roof flashing, stabilizers may be necessary. Additional screws may be used at section joints for added stability. Guide wires may be attached to the joint for additional support on multiple joint configurations.

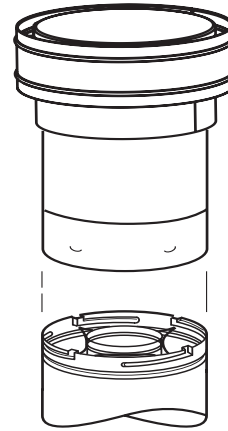


FIGURE 41

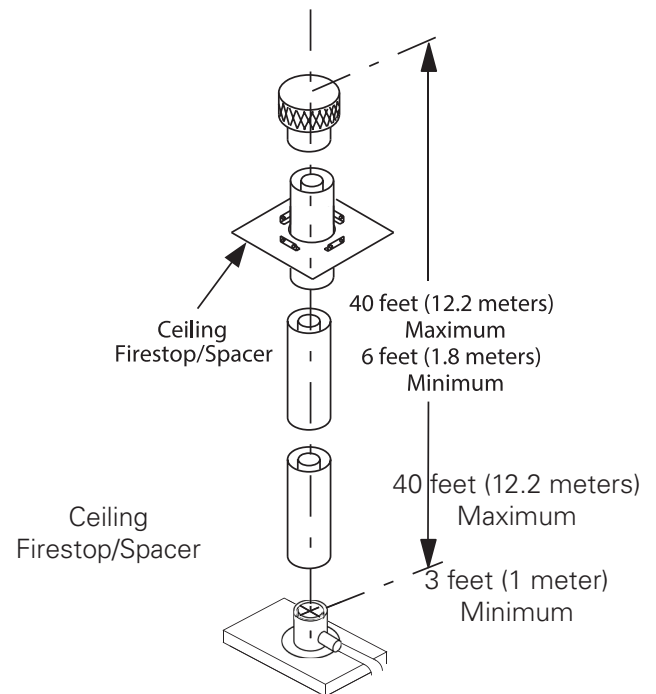


FIGURE 42

Venting System - Vertical Figures/Tables

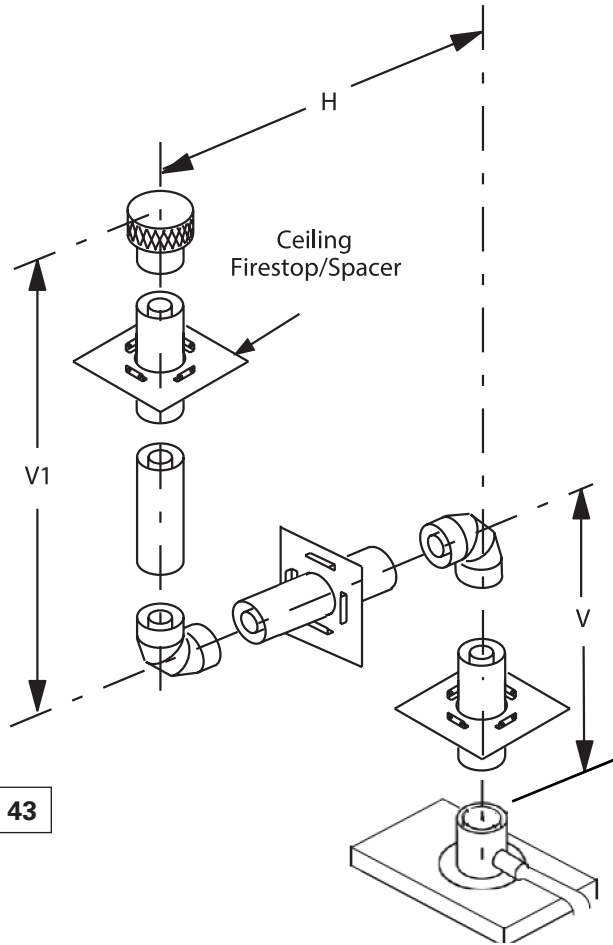


FIGURE 43

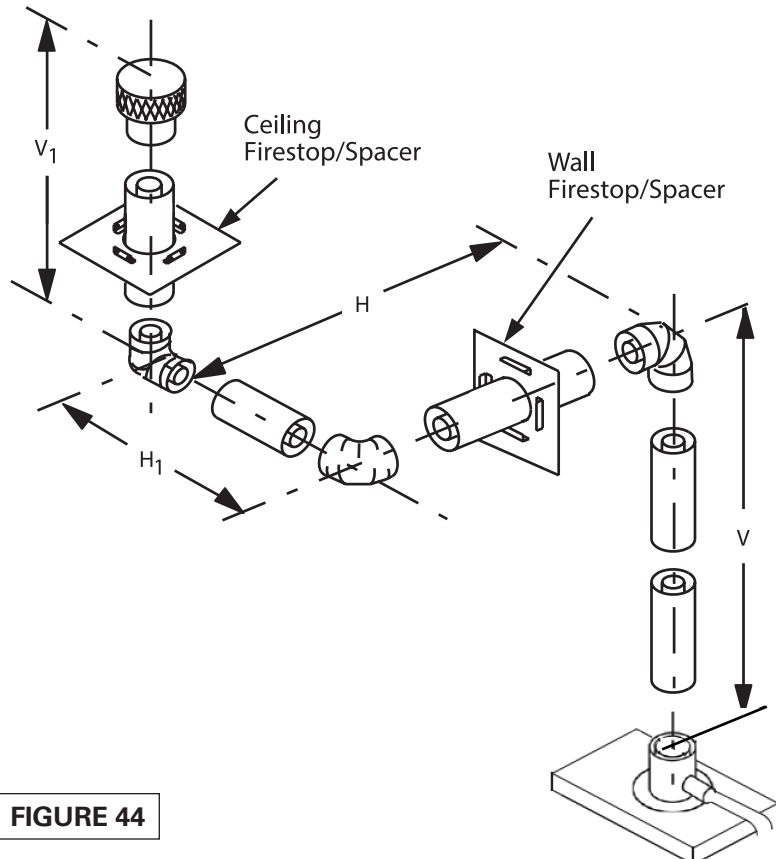


FIGURE 44

Top Vent—Two 90 Degree Elbows (Corner Framing with Square Termination)

Table A			
H Maximum		V Minimum	
feet	(meter)	feet	(meter)
10	(3.1)	2.5	(0.762)
15	(4.65)	3.5	(1.07)
20	(6.2)	4.5	(1.37)

$V + V_1 + H = 40$ feet (12.4 meters) Max.
 $V + V_1 = 11$ feet (3.3 meters) Minimum for 46 in. units
 $V + V_1 = 10.5$ feet (3.2 meters) Minimum for 48 in. units

Example: If 20 feet of (H) horizontal vent run is needed, then 4-1/2 feet minimum of (V) vertical vent will be required.

NOTE: The use of a 90 Degree elbow can be taken right off the top of the Collector Box. Not Shown in Diagram.

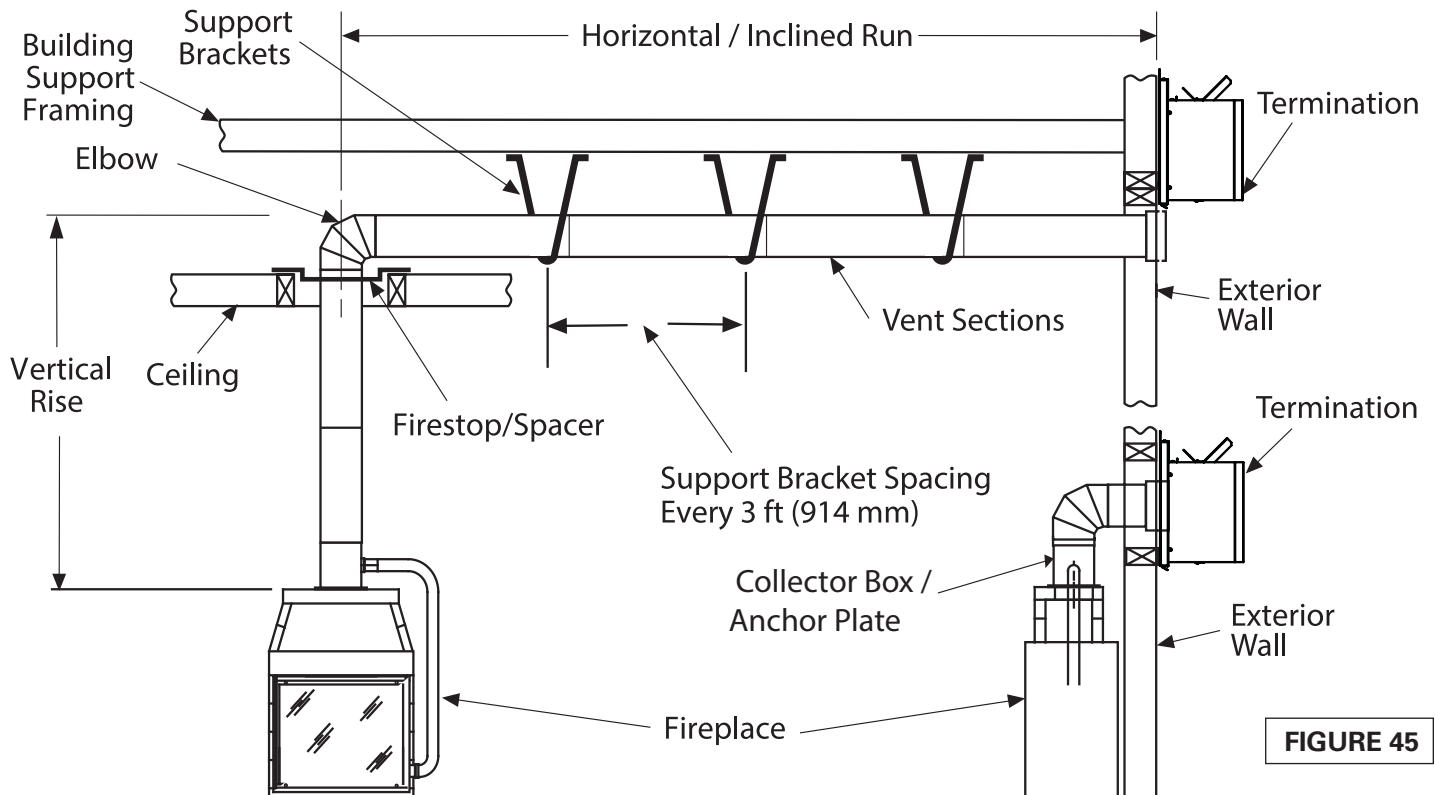
Top Vent—Three Elbows

Table B			
H + H ₁ Maximum		V Minimum	
feet	(meter)	feet	(meter)
10	(3.1)	2.5	(0.762)
15	(4.65)	3.5	(1.06)
20	(6.2)	4.5	(1.37)

$H + H_1 = 20$ feet (6.2 m) Max.
 $V + V_1 + H + H_1 = 40$ ft. (12.4 m) Max.
 $V + V_1 = 11$ feet (3.3 meters) Min. for 46 in. units
 $V + V_1 = 10.5$ feet (3.2 meters) Min. for 48 in. units

Example: If 20 feet of (H + H₁) horizontal vent run is needed, then 4-1/2 feet minimum of (V) vertical vent will be required.

Venting System - Horizontal Installation



Horizontal (Outside Wall) Termination System:

See Figures 45-50 and their associated Horizontal Vent tables that illustrate the various horizontal venting configurations that are possible for use with these appliances. A Horizontal Vent table summarizes each system's minimum and maximum vertical and horizontal length values that can be used to design and install the vent components in a variety of applications.

The horizontal vent system terminates through an outside wall. Building Codes limit or prohibit terminating in specific areas. Refer to Page 24 for location guidelines. Direct Vent system components are unitized concentric pipe components featuring positive twist lock connection, (refer to Figure 36 on Page 28). All of the appliances covered in this document are fitted with collars having locking inclined channels. The dimpled end of the vent components fit over the appliance collar to create the positive twist lock connection.

1. Plan the vent run.

Analyze the vent routing and determine the types and quantities of sections required 4-1/2" (114 mm), 10-1/2" (267 mm), 22-1/2" (572 mm), 34-1/2" (876 mm) and 46-1/2" (1181 mm) net section lengths are available. It is recommended that you plan the venting so that a joint does not occur in the ceiling or roof joists. Allow for elbows as indicated. **(Figure 45)**

Maintain a minimum 1" (25 mm) clearance to combustibles on the vertical sections. Clearances for the

horizontal runs are; 3" (76 mm) on top, 1" (25 mm) on sides, and 1" (25 mm) at the bottom.

2. Frame exterior wall opening

Locate the center of the vent outlet on the exterior wall. Cut and/or frame an opening, 15" x 13" (381 mm x 330 mm) inside dimensions, with 9" above center and 7" below center. **(Figure 46)**

3. Frame ceiling opening

If the vertical route is to penetrate a ceiling, use plumb line to locate the center above the appliance. Cut and/or frame an opening, 13" x 13" (330 mm x 330 mm) inside dimensions, about this center. **(Figure 35)**

4. Attach vent components to appliance

To attach a vent component to the appliance collar, align the dimpled end over the collar, adjusting the radial alignment until the four locking dimples are aligned with the inlets of the four incline channels on the collar. **(Figure 36)**

Push the vent component against the collar until it fully engages, then twist the component clockwise, running the dimples down and along the incline channels until they seat at the end of the channels. The unitized design of the components will engage and seal both the inner and outer pipe elements with the same procedure. Sealant and securing screws are not required.

Venting System - Horizontal Installation

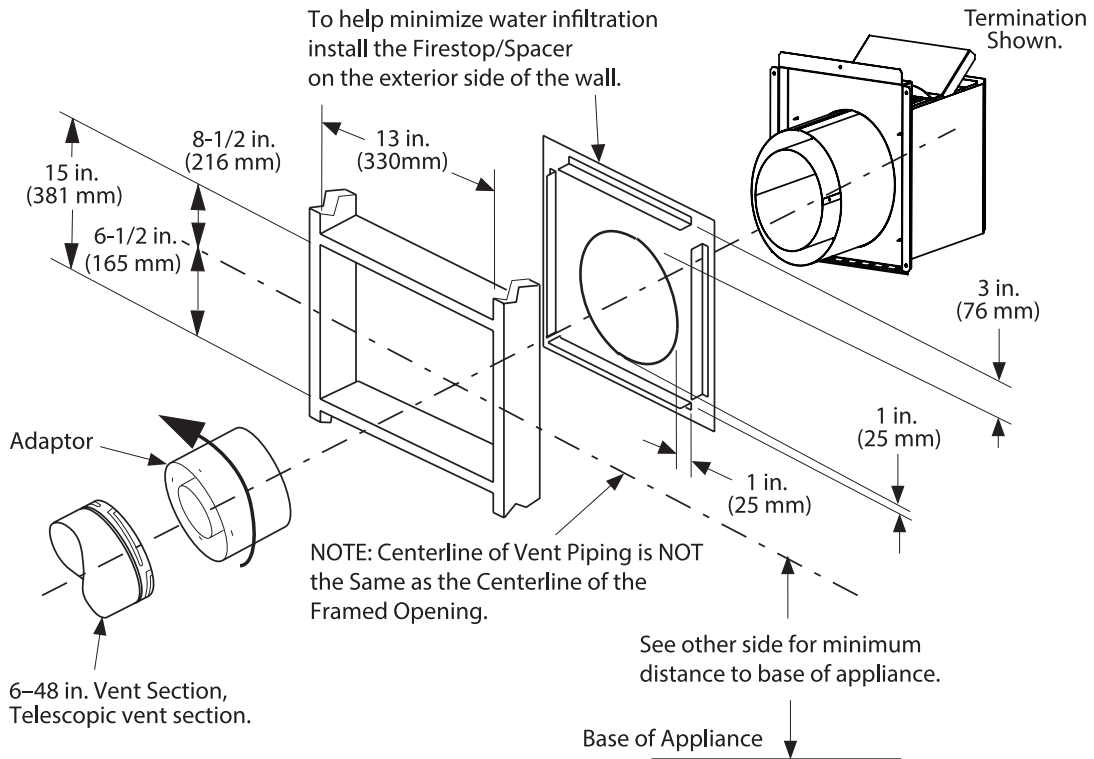


FIGURE 46

5. Attach vent components to each other

Other vent sections may be added to the previously installed section in accordance with the requirements of the vent tables. To add another vent component to a length of vent run, align the dimpled end of the component over the inclined channel end of the previously installed section, adjusting the radial alignment until the four locking dimples are aligned with the inlets of the four incline channels of the previous section. Push the vent component against the previous section until it fully engages, then twist the component clockwise running the dimples down and along the incline channels until they seat at the end of the channels. This seating position is indicated by the alignment of the arrow and dimple as shown in **Figure 36** on Page 28.

6. Install firestop/spacer at ceiling

Use a firestop/spacer at ceiling joists. If there is living space above the ceiling level, the firestop/ spacer must be installed on the bottom side of the ceiling. If attic space is above the ceiling, the firestop/ spacer must be installed on the top side of the joist. Route the vent sections through the framed opening and secure the firestop/spacer with 8d nails or other appropriate fasteners at each corner.

Remember to maintain 1" (25 mm) clearance to combustibles, framing members, and attic or ceiling insulation when running vertical chimney sections.

7. Support the vertical run sections

See Step 5 on page 29.

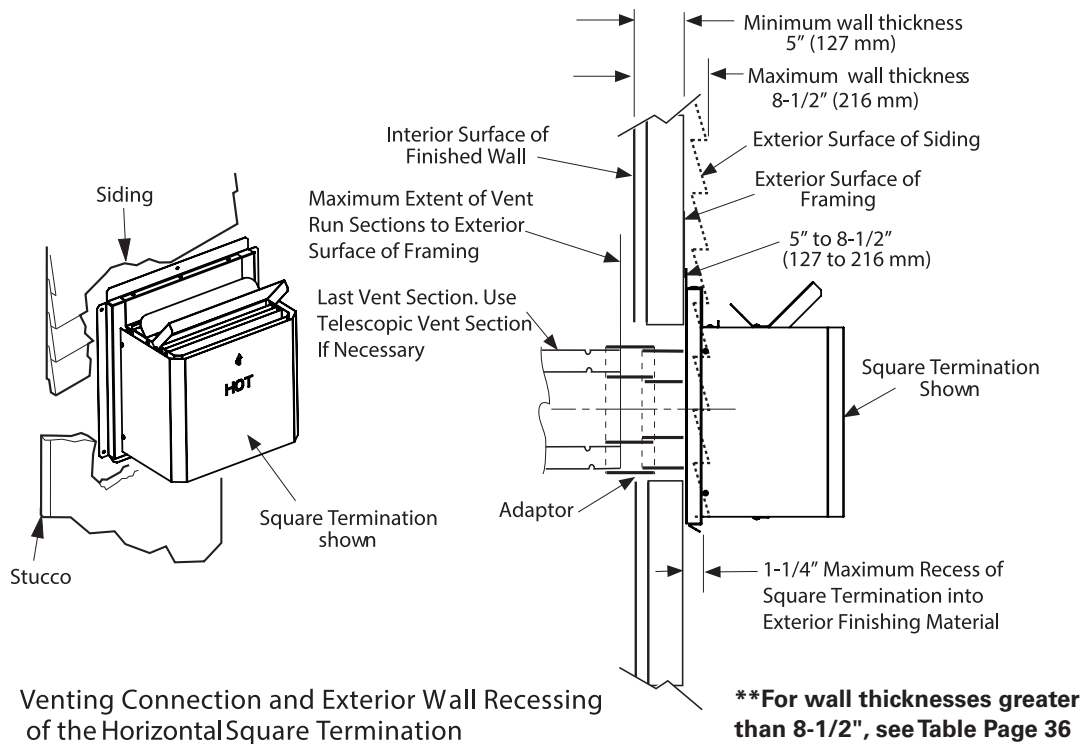
8. Change vent direction

At transition from or to a horizontal/inclined run, install the 45 and 90 elbows in the same manner as the straight vent sections. The elbows feature a twist section to allow them to be routed about the center axis of their initial collar section to align with the required direction of the next vent run element. Twist elbow sections in a clockwise direction only so as to avoid the possibility of unlocking any of the previously connected vent sections (**Figure 36**)

9. Continue installation of horizontal/inclined sections

Continue with the installation of the straight vent sections in horizontal/inclined run as described in Step 5. Install support straps every 3 feet (914 mm) along horizontal/inclined vent runs using conventional plumber's tape. See Figure 45, It is very important that the horizontal/inclined run be maintained in a straight (no dips), slightly elevated plane. The recommended incline is approximately 1/4" per foot (20 mm per meter) horizontal, in a direction away from the fireplace. The rise per foot run ratios that are smaller are acceptable all the way down to at or near level. It is important to maintain the required clearances to combustibles: 1" (25 mm) at all sides for all vertical runs; and 3" (76 mm) at the top, 1" (25 mm) at sides, and 1" (25 mm) at the bottom for all horizontal/inclined runs. Use a carpenter's level to measure from a constant surface and adjust the support straps as necessary.

Venting System - Horizontal Installation


FIGURE 47

10. Assemble vent run to exterior wall

If not previously measured, locate the center of the vent at the exterior wall. Prepare an opening as described in Step 1 on Page 33. Assemble the vent system to point where the terminus of the last section is within 5" (127 mm) to 8-1/2" (216 mm) inboard of the exterior surface to which the termination is to be attached. **(Figure 46)**

If the terminus of the last section is not within this distance, use the telescopic vent section, as the last vent section. For wall thicknesses greater than that shown in **Figure 48**, refer to Table on Page 36. This table lists the additional venting components needed (in addition to the termination and adaptor) for a particular range of wall thicknesses.

11. Attach termination adapter

Attach the adapter (adapter provided with the termination) to the vent section or telescoping vent section), or elbow as shown in **Figure 46** in the same manner as any vent component.

12. Install Firestop/Spacer at exterior wall

When using the square termination, install the Firestop/Spacer over the opening at the exterior side of the framing, long side up, with the 3" spacer clearance at the top as shown in **Figure 46**, and nail into place. (The Firestop/Spacer may also be installed over the opening at the interior side of the framing).

13. Install the square termination

For the last step, from outside the exterior wall, slide the collars of the termination onto the adaptor (the outer over the outer and the inner inside the inner) until the termination seats against the exterior wall surface to which it will be attached. Orient the housing of the termination with the arrow pointed upwards. Secure the termination to the exterior wall. The horizontal termination must not be recessed into the exterior wall or siding by more than the 1-1/4" (32 mm). **(Figure 47)**

IMPORTANT: The vent termination is hot while in operation and for a period of time following the use of the fireplace. Young children should be carefully supervised.

NOTE: Horizontal terminations have been designed to perform in a wide range of weather conditions. Our terminations meet or exceed industry standards.

When selecting the locations of your horizontal terminations, do not place the termination where water from eaves and adjoining roof lines may create a heavy flow of cascading water onto the termination cap. If the cap must be placed where the possibility of cascading water exists, it is the responsibility of the builder to direct the water away from the termination cap by using gutters or other means.

Take care to carefully follow the installation instructions for the termination, including the use of Mill-Pac Black where required.

Venting System - Horizontal Figures/Tables

Venting Components Required for Various Exterior Wall Thicknesses, when using Square Termination Kit	
Vent Components Required	Exterior Wall Thickness – inches (mm)
Termination Kit Only	5 to 8-1/2 (127 to 216)
Termination Kit and 6" Vent Section	9-3/4 to 14 (248 to 356)
Termination Kit and Telescopic Section	6-3/4 to 15-1/4 (171 to 387)
Termination Kit and Telescopic Section and 6" vent section	11-1/4 to 19-3/4 (286 to 502)

NOTE: Direct Vent components (rigid vent pipe and terminal) are shown in the figures.

Two 45° elbows may be used in place of one 90° elbow. The same rise to run ratios, as shown in the venting figures for 90° elbows, must be followed if 45° elbows are used.

A firestop/spacer must be used anytime vent pipe passes through a combustible floor or ceiling. Firestop/spacer must be used anytime vent pipe passes through a combustible wall.

It is very important that the horizontal/inclined run be maintained in a straight (no dips), slightly elevated plane. The recommended incline is approximately 1/4" per foot (20 mm per meter) horizontal, in a direction away from the fireplace. The rise per foot run ratios that are smaller are acceptable all the way down to at or near level.

Square Termination One 90 Degree Elbow

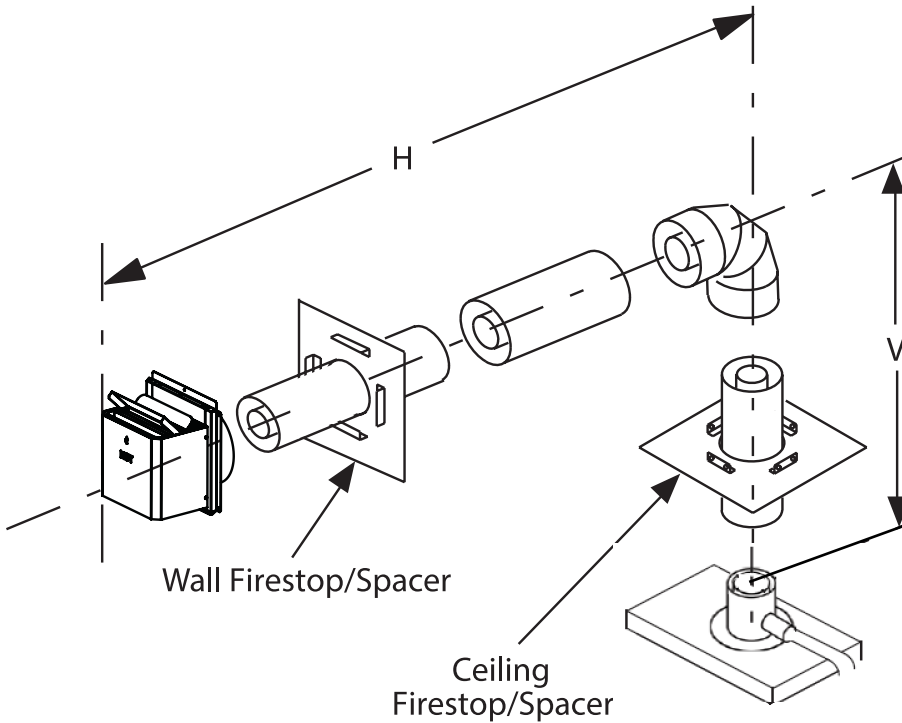


Table C			
H Maximum		V Minimum	
feet	(meter)	feet	(meter)
3.5	(1.07)	2.5	(0.762)
6.5	(1.98)	3.5	(1.07)
8.5	(2.6)	4.5	(1.37)
10.5	(3.2)	5.5	(1.68)
12.5	(3.8)	6.5	(1.98)
14.5	(4.4)	7.5	(2.3)
16.5	(5.0)	8.5	(2.6)
18.5	(5.6)	9.5	(2.9)
20	(6.0)	10	(3.0)
V + H = 40 feet (12.4 m) Max.			
H = 20 ft. (6.2 m) Max.			

Example: If 20 feet of (H) horizontal vent run is needed, then 10 feet minimum of (V) vertical vent will be required.

FIGURE 48

See Table Above as an aid in venting component selection for a particular range of exterior wall thicknesses.

Venting System - Horizontal Figures/Tables

Square Termination Two 90 Degree Elbow

Table D			
H + H ₁ Maximum		V Minimum	
feet	(meter)	feet	(meter)
3.5	(1.07)	2.5	(0.762)
6.5	(1.98)	3.5	(1.07)
8.5	(2.6)	4.5	(1.37)
10.5	(3.2)	5.5	(1.68)
12.5	(3.8)	6.5	(1.98)
14.5	(4.4)	7.5	(2.3)
16.5	(5.0)	8.5	(2.6)
18.5	(5.6)	9.5	(2.9)
20	(6.0)	10	(3.0)

V + H + H₁ = 40 feet (12.4 m) Max.
H + H₁ = 20 ft. (6.2 m) Max.

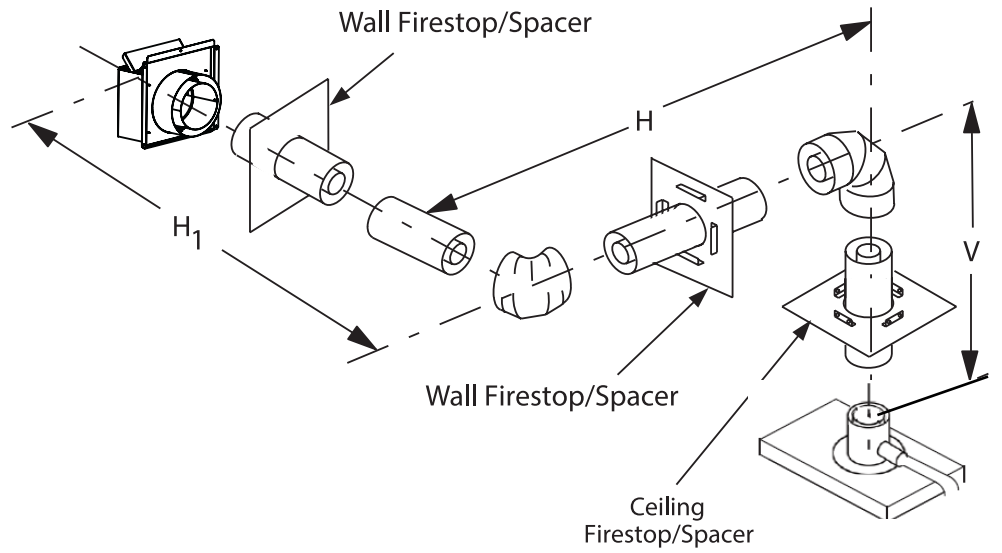


FIGURE 49

Square Termination Three 90 Degree Elbow

Table E
H + H ₁ = 20 feet (6.2 m) Max.
V + V ₁ + H + H ₁ = 40 ft. (12.4 m) Max.
V = 2.5 feet Min. (0.762 m)
V + V ₁ = 11 feet (3.35 m) Min. for 46 in. units
V + V ₁ = 10.5 feet (3.2 m) Min. for 48 in. units

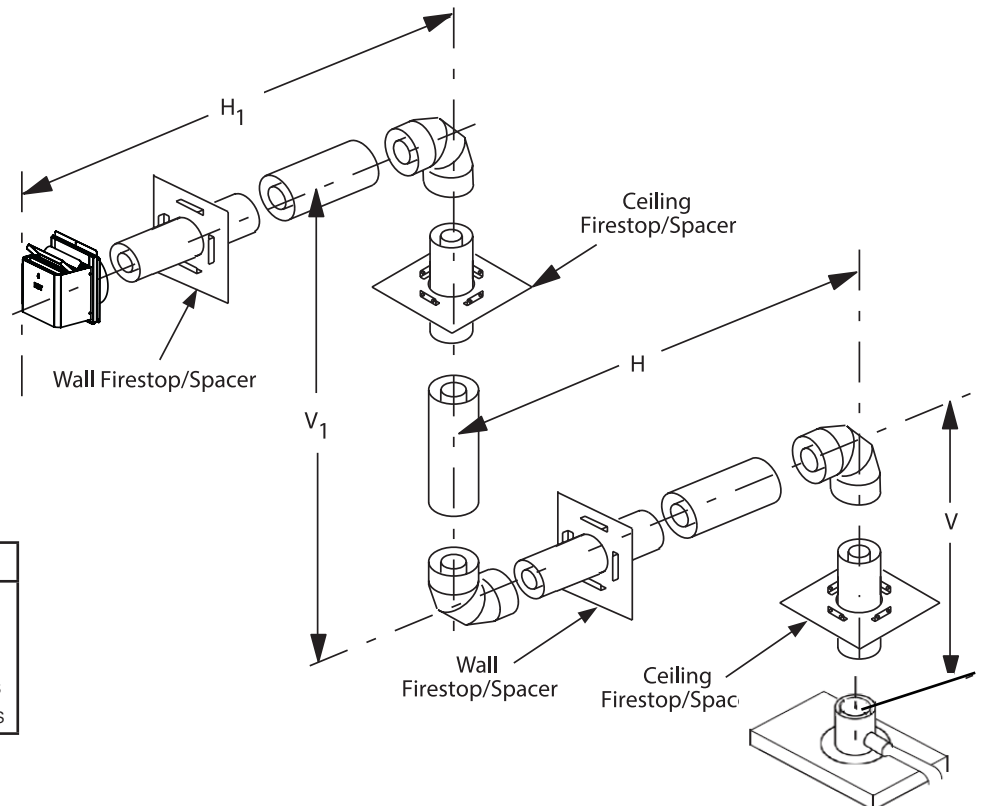


FIGURE 50

Firebrick Installation

Firebrick Installation:

The manufacturer requires that the fireplace fireboxes be lined with a minimum one and one-eighth (1-1/8") thick firebrick. Thicker firebrick may be used as an option. The pattern for the firebrick lining is an owner option. Standard N or S type brick mortar is suitable mortar for the fireplace.

Firebrick mortar needs to be suitable to both adhere the firebrick to the inside of the firebox and to create the finished face joints of the brick work. Based on a history of field applications and experience, a suitable mortar would be as follows:

Mix:

- * 1 bucket masonry mortar (S or N type)
- * Up to 1/2 lbs Earthcore mortar (optional)
- * One part Fire Clay (optional)
- * Water to a sticky, toothpaste consistency

NOTE: Heat Stop or Alsey Pre-Mix Mortar are acceptable alternatives to the Type S or N mortar.

These instructions may vary because of different climates and conditions. The use of good masonry practices for your area should also be considered. It takes about 25 lbs. of mortar mix (dry measure) to firebrick line a fireplace.

Installation Instructions:

1. Wet mop the inside of the fireplace with a damp sponge to remove dust and loose particles from the interior before firebricking.

For Best Results:

1. After wet sponged interior of firebox apply a 1/4 notch bed joint on rear sides and floor.
2. Dip each firebrick in a pale of water before applying mortar to one side for adherence to firebox.

2. Face joint dimensions of 1/4" to 3/8" in the brick work is recommended and has the best appearance. Other face joint dimensions are acceptable however smaller joints may not leave room for heat expansion of firebrick.

3. Start the firebrick at the front edge of the floor of the Isokern firebox, proceeding inward toward the back. Let the floor brick gap approximately 1/2" off the back wall and side walls. This air space allows heat expansion of the firebrick and is to be left empty of mortar. **(Figure 51)**

4. Next, apply firebrick to the back wall of the unit. The back wall firebrick covers the 1/2" expansion gap left at the brick floor along the back wall of the firebox. **(Figure 52)**

5. Set the side wall firebrick by starting at the front edge of the unit's side wall and working inward toward the back wall firebrick. The side wall firebrick, when completed, covers the 1/2" expansion gaps where both the floor firebrick and the back wall firebrick were held off the units side walls. **(Figure 53)**

All required through-wall accesses (gas and air intake supply access holes) should be drilled before the required firebrick lining is installed. Do not cover these areas with firebrick.

Earthcore makes no claims as to the performance of firebrick or firebrick mortar(s). It is typical for heat stress cracks to appear in the firebrick in fireplaces.

FIGURE 51

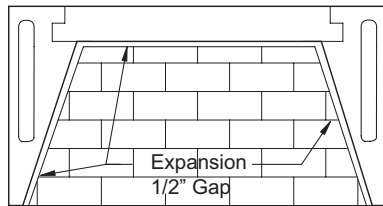


FIGURE 52

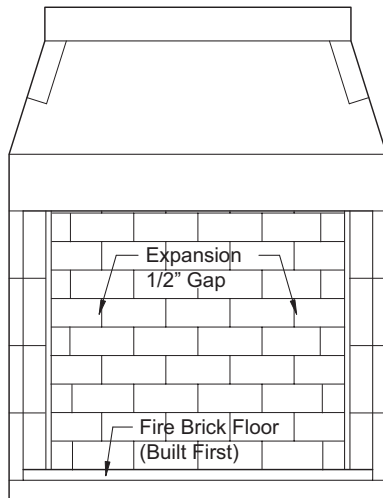
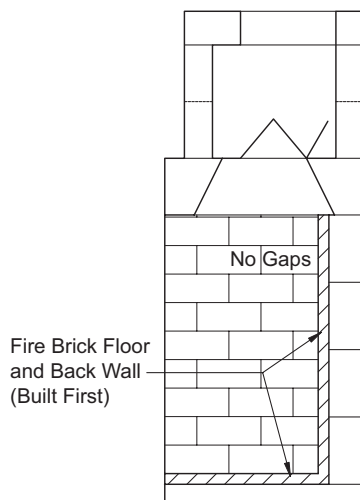


FIGURE 53



Gas Line Installation

After leveling, position the insert in the fireplace - holding it about six inches out from its final location.

CAUTION: Specific hearth requirements apply (see Clearances to Combustibles.)

This appliance must be connected to the gas line in accordance with local codes and/or the National Fuel Gas Code, ANSI Z223.1. This appliance comes with an 5" nipple, provided in the literature package. After connecting the gas line, all joints in the line and connections at the valve should be checked for leaks before final positioning of the unit. Conduct a gas leakage test of the appliance piping and control system downstream of the shutoff valve in the supply line to the appliance.

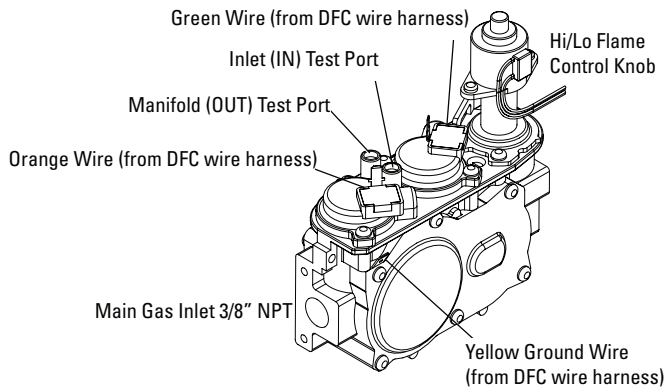


FIGURE 54

Gas Pressure Requirements

A MAJOR CAUSE OF OPERATING PROBLEMS WITH APPLIANCES IS IMPROPER GAS PRESSURE!

The most important item to check during the initial installation and the first thing to check when operating problems occur is gas pressure. This appliance will not function properly unless the required gas pressure is supplied. See the table on this page for gas pressure requirements.

Two pressure taps are provided on the appliance's valve to check gas pressures. **(Figure 54)** To check the inlet pressure (with the appliance burning), insert a small flat screw driver into the tap and turn half turn counter-clockwise. Cover the tap with the line from a manometer and check the pressure. Close the tap gently but securely after completing the check. To check manifold pressure insert a small flat blade screwdriver into the tap and turn half turn counter-clockwise. Cover the tap with the line from the manometer and check the pressure. Again, close the tap gently but securely after completing the check. Check the taps for gas leaks with a gas leak test solution (re-tighten if necessary).

If the pressure is not sufficient, make sure the gas supply line is large enough, the supply regulator is properly adjusted and the total gas load for the residence does not exceed the amount supplied.

Propane tanks are at pressures that will cause damage to valve components. Verify that the tanks have step down regulators to reduce the pressure to safe levels.

NOTE: The appliance must be isolated from the gas supply piping system by closing its equipment shutoff valve during any pressure testing of the gas supply system at test pressures equal or less than 1/2 psig (3.5 kPa).

The appliance and its appliance main gas valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa).

LP and Natural Gas Supplies

This appliance is equipped from the factory for use with natural gas only as specified on the Safety/Listing label attached to the appliance. This appliance can only be operated using propane gas (LP) if a certified fuel conversion kit provided by Earthcore Industries is installed by a qualified service technician.

Also check the orifice size on the label which is located in the valve box. It must be the correct size for the fuel and altitude.

DO NOT run propane tank dry. Running the tank dry may cause a hazardous condition due to the pressure drop in empty tank.

Fuel Type	Inlet Pressure			Manifold Pressure	
	Desired	Minimum	Maximum	On Hi Fire	On Lo Fire
Natural Gas	7" WC	5" WC	10.5" WC	3.5" WC	1.6" WC
LP Gas	11" WC	10.5" WC	13" WC	10" WC	6.4" WC

Valve Box & Burner Wiring Diagram

VENTED GAS FIREPLACE - NOT FOR USE WITH SOLID FUEL

WARNING: This appliance is equipped with a three-prong(grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

CAUTION: Hot while in operation. Do Not Touch. Severe Burns may result. Keep children, clothing, furniture, gasoline and other liquids having flammable vapors away.

CAUTION: Do not operate the appliance with firebrick removed, cracked or broken. Replacement of the firebrick should be completed by a licensed or qualified service person.

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to the owner's information manual provided with this appliance. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

Due to high temperatures, keep children, and furniture away.

Keep burner and control compartment clean.

WARNING: Do Not connect 120 V AC to the control valve.

DIRECT VENT ED APPLIANCES MUST NOT BE OPERATED WITHOUT THE FRONT GLASS PANEL INSTALLED.

DO NOT OPERATE APPLIANCE WITH BROKEN, CRACKED OR MISSING GLASS DOORS OR BARRIER PANEL.

The appliance and its appliance main gas valve must be disconnected from the gas supply piping system during and pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa).

The appliance, when installed, must be electrically grounded in accordance with local codes or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70.

If not installed and maintained in accordance with the manufacturer's instructions, this product could expose you to substances in fuel or fuel combustion which are known to the state of California to cause cancer, birth defects or other reproductive harm.

For a copy of the home owner's care and operation manual, go to www.earthcore.co or call 1-800-642-2920.

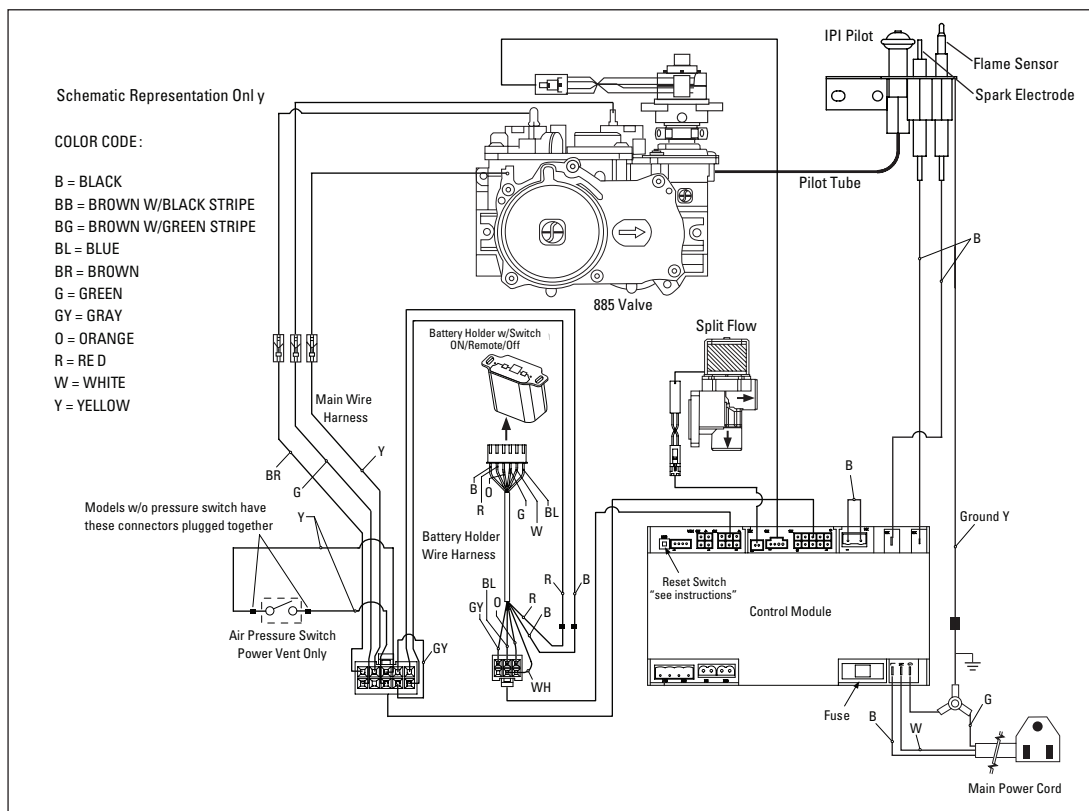


FIGURE 55

Remote Control System

Remote Control System

The Remote allows you to command the functions of your appliance from the comfort of your chair and is configured to control the On/Off primary burner operation, its flame height through six (6) levels, and provides On/Off control of the appliance. **(Figure 56)**

The system controls blower speed through six (6) levels and has a constantly powered 120V/60Hz power outlet. The remote sends commands via radio frequency from the Remote(transmitter) and does not require line-of-sight operation.

Install the remote control system

Required Items (not provided):

1. Standard Junction Box
2. Paper Clip or similar object (for remote control system initialization)

The receiver for the remote control system connects directly to the gas valve, stepper motor, and fan control module with an umbilical cord wiring harness.

1. Install a junction box (not provided) on the wall adjacent to the appliance, within reach of the remote system umbilical cord wiring harness.
2. Position the terminal within the junction box in preparation for attachment to the remote wall switch.
3. When wall finish is complete, install the wall switch in the previously installed junction box, and connect the terminal to the connector on the back of the wall switch.
4. Install the wall switch cover plate, taking care to ensure the wall switch is properly indexed with the switch cover when aligning the components for attachments.

Initializing The System For The First Time

1. Insert the three (3) provided AAA batteries into the battery bay in the transmitter. Correctly align polarity (+/-).
2. Insert the four (4) provided AA batteries into the wall switch battery bay (behind the wall switch plate). Correctly align polarity (+/-).
3. On the wall switch, place the three-position slider switch in the REMOTE position (Figure 28).
4. On the wall switch front cover, insert the end of a paper clip (or other similar object) into the hole marked PRG.

NOTE: The Receiver will beep three (3) times to indicate it is ready to synchronize with the transmitter.

5. On the transmitter, press the ON button. The receiver

will beep four (4) times to indicate acceptance of the transmitter's command (and set the receiver to the transmitter's specific code). The system is now initialized.

Low Battery Power Detection

The life span of the Receiver batteries depends on various factors: quality of the batteries used, the number of ignitions of the appliance, the number of changes to the room thermostat set point, etc.

When the Receiver batteries are low, two "beeps" will be emitted from the Receiver when it receives an ON/OFF command from the Remote.

This is an alert for a low battery condition for the Receiver. When the batteries are replaced the "beep" will be emitted from the Receiver when the ON/OFF key is pressed (See Initializing The System).

WARNING: Fire hazard. Can cause severe injury or death. The receiver causes ignition of the appliance. The appliance can turn on suddenly. Keep away from the appliance burner when operating the remote system or activating manual bypass of the remote system.

WARNING: Property damage hazard. Excessive heat can cause property damage. The appliance can stay lit for many hours. Turn off the appliance if it is not going to be attended for any length of time. Always place the Transmitter where children cannot reach it.

Temperature Indicator Display

With the system in the "OFF" position, press the Thermostat Key and the Mode Key at the same time. **(Figure 56)** Look at the LCD screen on the Remote to verify that a C or F is visible to the right of the Room Temperature display. **(Figure 57)**

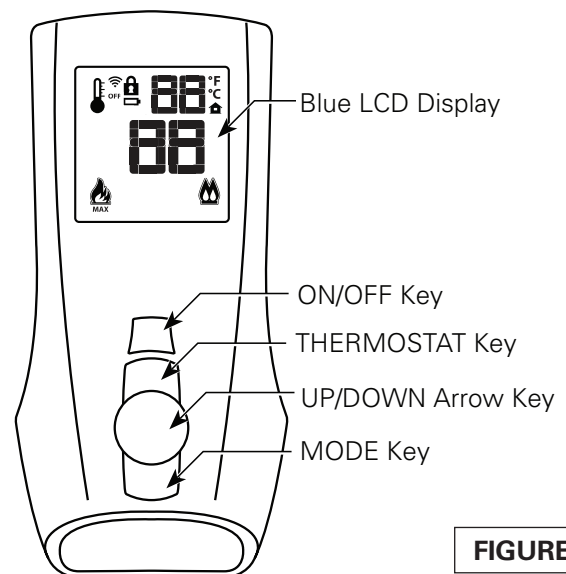


FIGURE 56

Remote Control System

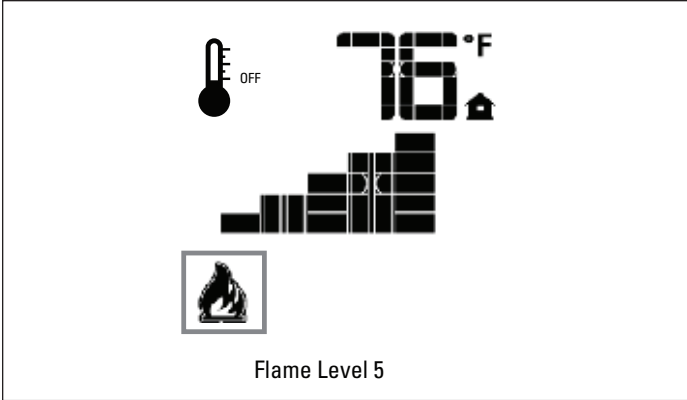


FIGURE 57

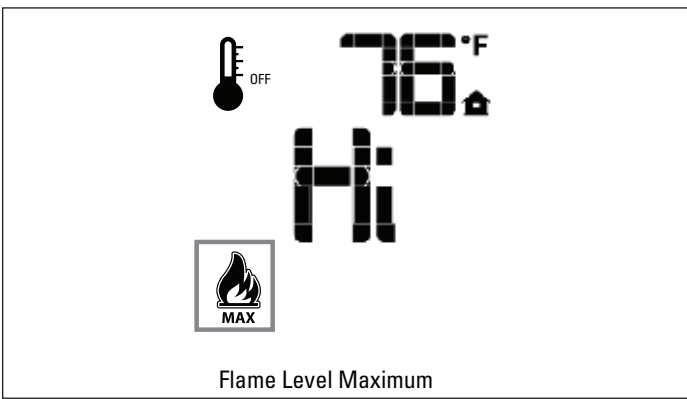


FIGURE 58

Turn On The Appliance

Press the ON/OFF Key on the Remote. The Remote display will show all active Icons on the screen and the appliance main burner will turn on. **(Figure 57)** A single “beep” from the Receiver will confirm reception of the command.

Turn Off The Appliance

Press the ON/OFF Key on the Remote. The Remote LCD display will only show the room temperature and Icon and the appliance burner will turn off. A single “beep” from the Receiver confirms reception of the command.

Remote Flame Control

The system has six (6) flame levels. See **Figure 57** for an example. With the system on, and the flame level at the maximum in the appliance, pressing the Down Arrow Key once will reduce the flame height by one step until the flame is turned off.

The Up Arrow Key will increase the flame height each time it is pressed. If the Up Arrow Key is pressed while the system is on but the flame is off, the flame will come on in the high position. **(Figure 58)** A single “beep” will confirm reception of the command.

Flame Color and Behavior

This appliance is designed for maximum heating efficiency. Therefore, upon lighting of the main burner, the flames will be semi-transparent or “bluish.” After 10-20 minutes of operation the logs will heat up and the flames will become a yellow/orange color.

Adjusting the appliance to cause the flames to turn orange sooner may result in poor combustion, sooting and a hazardous situation. See **Figure 59** showing proper flame appearance.

When testing for proper operation - If an optional thermostat is installed adjust it to its highest temperature setting. Visually determine that main burner gas is burning properly: i.e., no floating, lifting or flashback. Adjust the primary air shutter(s) as required. Check for proper main burner operation at both high and low flame.

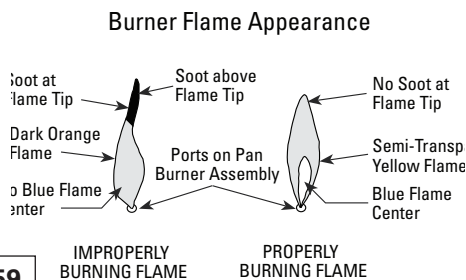


FIGURE 59

Burner Lighting Instructions

Installer Instructions

It is required that the set of safety instruction labels that have been supplied with the appliance be affixed to the operation and control points of the appliance. It is the installers responsibility to ensure these warnings are properly affixed during installation. These warning labels are a critical step in informing consumers of safe operation of this appliance.

Pre-Lighting Checklist

Be sure to check these items before the initial lighting of the insert:

- Gas pressure has been checked carefully - pg 39
- All gas fittings have been checked for leaks.
- All clearances to combustibles have been met - pg 46
- All combustibles materials have been removed from the area in front of the insert.
- All vented areas of the insert face are unobstructed.
- House is ventilated to clear initial paint curing odors
- All packaging materials have been removed from the firebox.
- While appliance is cool, fingerprints or other marks have been cleaned from any plated surfaces with denatured alcohol and a soft cloth. Marks left on these surfaces may become permanent into the finish if not removed prior burning the unit.
- Firebox liner panels and log set have been installed.
- The glass door is in place and is properly sealed.

WARNING: IF YOU DO NOT FOLLOW THESE INSTRUCTIONS EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

Safety Instructions

A. This appliance is equipped with an ignition device which automatically lights the pilot. Do NOT try to light the pilot by hand.

B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS:

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

C. If any portion of this appliance does not operate as the instructions indicate, do not try to repair it, call a qualified service technician. Do not use tools. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the system and any gas control which has been under water.

Operating Instructions

1. The Main Power switch located in the control compartment functions as a burner and pilot override switch. When in the OFF position, it will not let the burner or pilot to be turned on by the remote. When in the ON position, it gives the remote full control over burner and pilot functions.

2. See Remote Control System on Page 41 for remote specific operating instructions..

To Turn Off Gas to Appliance

1. Turn the burner ON/OFF switch in the control compartment to "OFF"

2. Turn off all electric power to the appliance if service is to be performed.

3. Close the main line gas shut-off valve.

WARNING: OPERATION OF THIS APPLIANCE WHEN NOT CONNECTED TO A PROPERLY INSTALLED AND MAINTAINED VENTING SYSTEM CAN RESULT IN CARBON MONOXIDE (CO) POISONING AND POSSIBLE DEATH.

Intermittent/Standing Pilot Mode

(On/Auto Pilot Mode Switch)

This appliance can be switched from intermittent ignition to a standing pilot simply by using the remote to switch from IPI to CPI. This is done when the remote is in the off position. Press the mode key and use the up/down arrow key to change between IPI and CPI. To save energy, switch to intermittent mode. To have a standing pilot which will help startup during cold climate conditions by warming the flue and the glass, switch to standing pilot.

The continuous pilot mode is indicated by a pilot that comes on and remains lit when the fireplace is off.

Log Set Installation

Once the pilot wire has been connected to the burner, (refer to page 40), the logs are ready to be assembled. The following steps are an example of the assembly steps for the log sets.

Check Appliance Operation

Turn on burner then observe the individual tongues of flame on the burner. Make sure all ports are open and producing flame evenly across the burner. If any ports are blocked, or partially blocked, clean out the ports. With gas line installed, run initial system checkout before closing up the front of the unit.

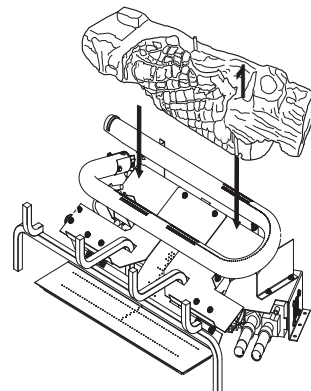
NOTE: When first lighting the appliance, it will take a few minutes for the line to purge itself of air.



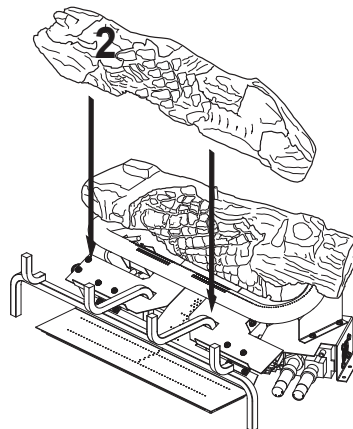
ENGELMANN OAK LOG PLACEMENT

It is very important to install these logs exactly as instructed. Do not modify logs. Only use logs supplied with appliance or as identified for use with the appliance.

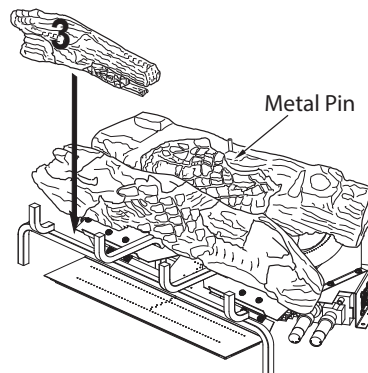
1. Place rear log (#1) on base assembly as shown. Log will fit over right end of burner and rest in middle of U-burner.



2. Place left bottom log (#2) onto base assembly as shown. Log will fit over metal brackets and flat onto base assembly.

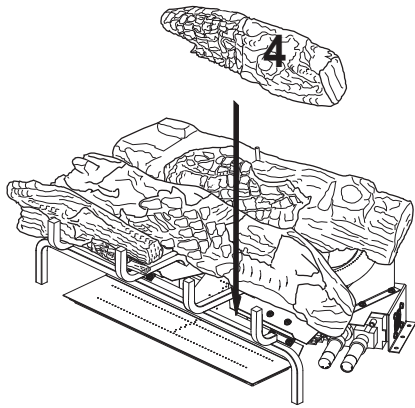


3. Place right bottom log (#3) onto pan burner as shown.

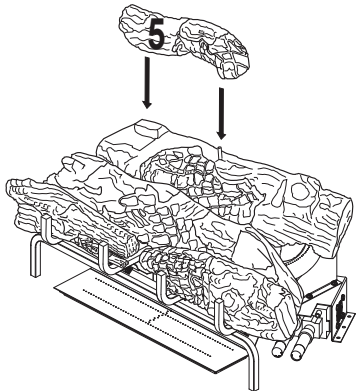


Log Set Installation

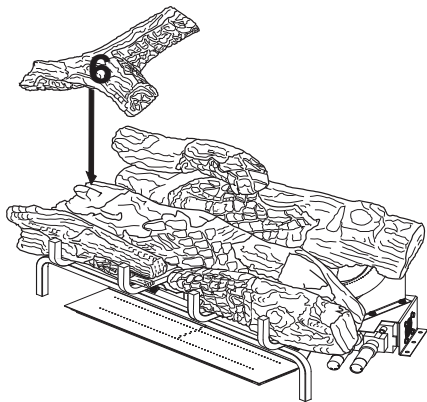
4. Place front log (#4) on top of left and right bottom logs as shown. Notches in bottom of log #4 will fit over ribs in logs #2 and #3.



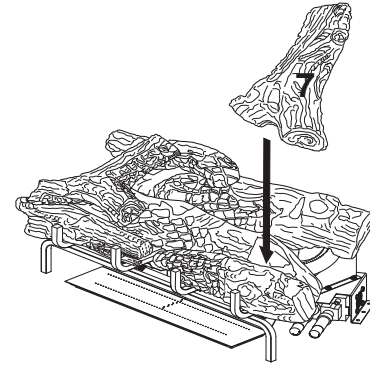
5. Place top left log (#5) onto rear log (#1) and front log (#3). Match round peg on bottom of top left log (#5) with round hole in front log (#3) and square hole in log #5 with square peg on log #1.



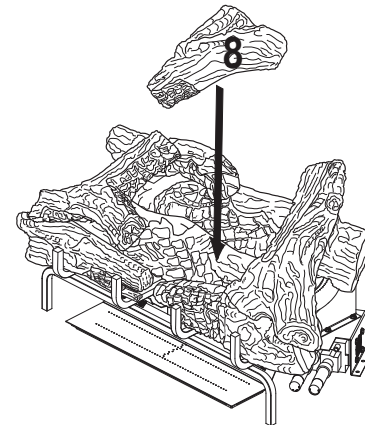
6. Place top middle log (#6) onto rear log (#1) and front log (#3). Match square peg on bottom of log #6 with square hole on log #4 and round hole on log #6 with peg on log #1.



7. Place top right log (#7) onto top middle log #6 and front log (#3) matching peg on bottom of top right log #7 with hole on top middle log #6 and hole in top right log #7 with peg on front log (#3).



8. Final Assembly is shown. See Page 44 for additional views.



Door & Barrier Installation

1. Apply a thick bead of Mill-Pac Black, supplied with your MAXIMUS Direct Vent Fireplace about an inch from the firebox opening, all around the outside perimeter of the fireplace opening.
2. Place the door frame up against the opening, pressing firmly, so that the frame holds with the frame centered with the inside flanges resting on the interior firebrick floor. Screw frame into place using screws provided.
3. Next, take the glass door and line up holes in the frame attached to the Isokern fireplace. Use the 1-1/2" x 2" screws provided to screw through holes in glass door, through frame and into Isokern firebox. Secure with washer and Barrel Nut. **(Figure 60)**
4. Once the glass front is secured to the frame, attach the barrier by placing it on the glass front. The magnets attached to the barrier will adhere it to the door.



DANGER



**HOT GLASS WILL
CAUSE BURNS.
DO NOT TOUCH GLASS
UNTIL COOLED.
NEVER ALLOW CHILDREN
TO TOUCH GLASS.**

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals.

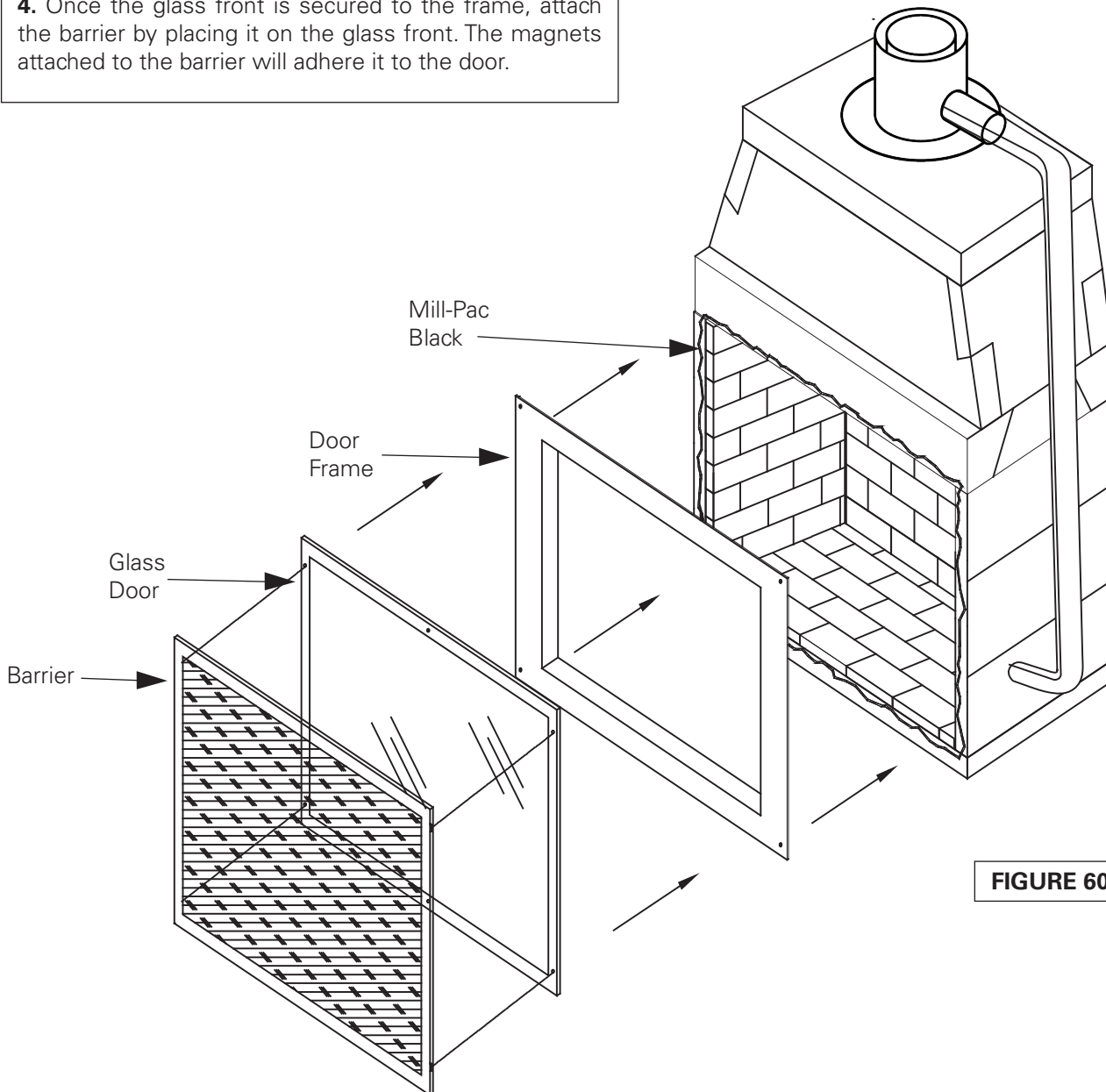


FIGURE 60

Clearance to Combustible Trim

Hearth Extensions

Though MAXIMUS Direct Vent fireplaces do not require a hearth extension, it is recommended to put one in made of brick, concrete, stone, tile or other code approved noncombustible material to protect flooring while cleaning or maintenance is being done. Suitable hearth extension material for the fireplaces should be placed on the hearth extension's substrate directly in front of MAXIMUS fireplace front.

Mantel and Mantel Shelf Clearances

All combustible material shall be kept at least eight inches (8") from the finished fireplace opening. (Figure 61)

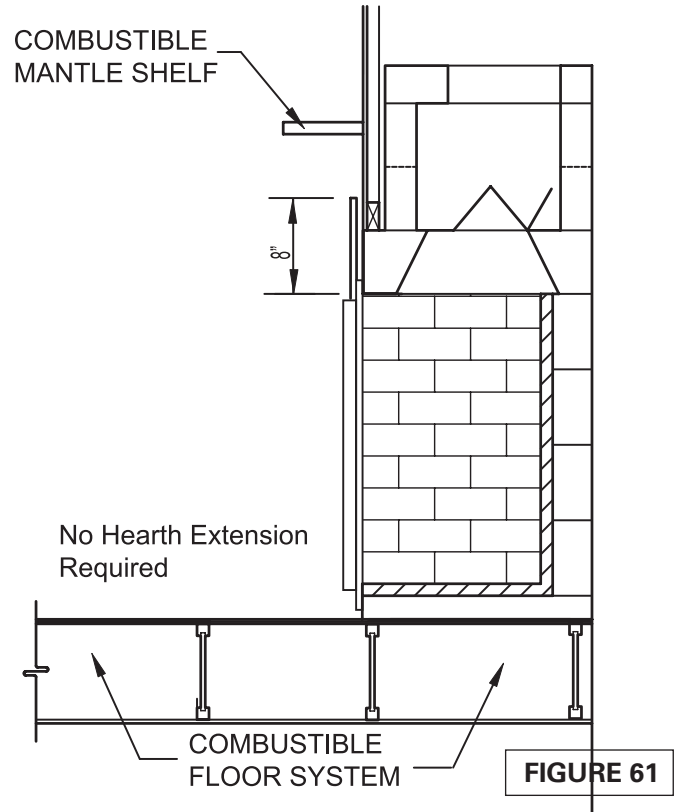
Combustible material located along the sides of the fireplace opening, shall be kept at least eight inches (8") from the finished fireplace opening.

Vertical installation clearances to combustible mantels vary according to the depth of the mantel. **(Figure 63)** Mantels constructed of non-combustible materials may be installed at any height above the appliance opening.

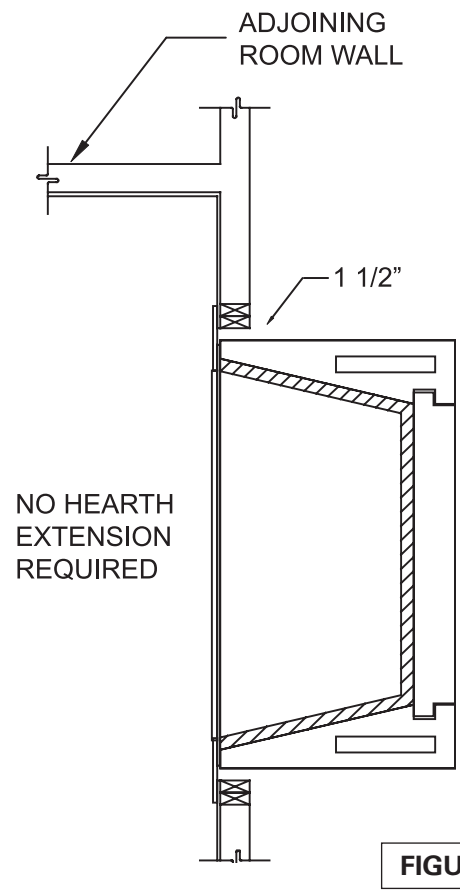
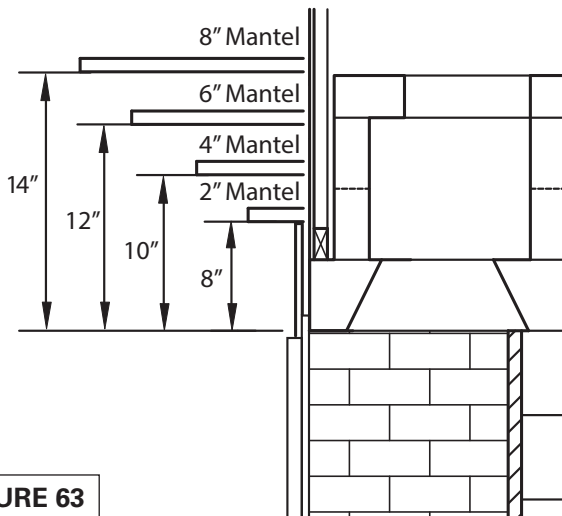
Note: The local authority having jurisdiction may require greater clearances for projecting combustible mantel shelves. Be sure to check local building codes regarding required clearances to projecting combustible mantels.

"Clearance to Combustible Trim" are those distances required to ensure that a fireplace mantel or facing will not catch fire. In most cases the distances should also be adequate to prevent any discoloration or warping due to heat. However each installation presents a unique and completely different set of circumstances involving many variables.

These include paint or finish composition, previous exposure to heat, methods and quality of construction, air flow patterns, etc. Because of these variables, the manufacturer does not guarantee that heat warping or discoloration will never occur.



Mantel Shelf Clearances



Flush Wall Finish Detail

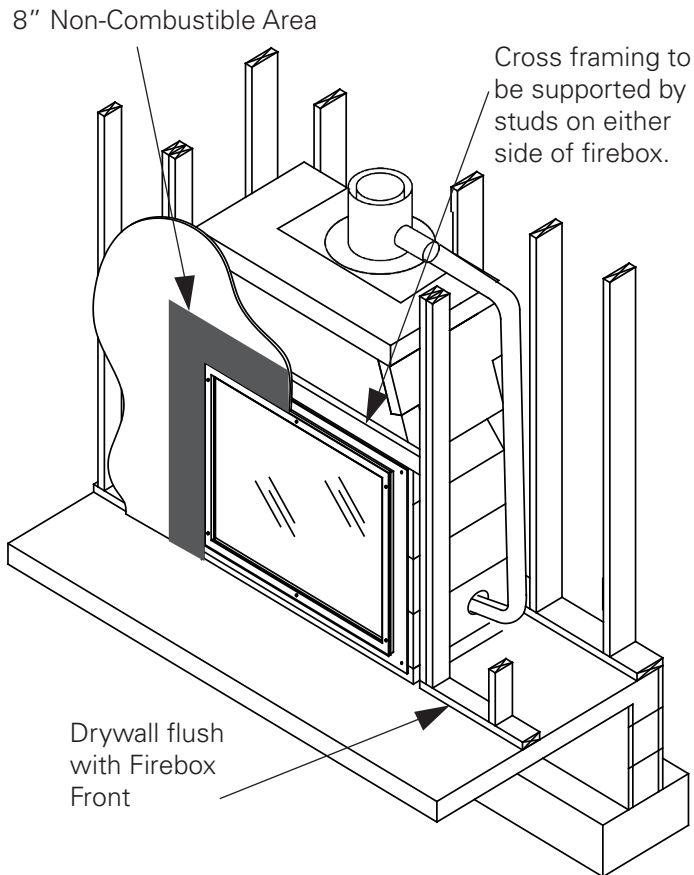


FIGURE 64

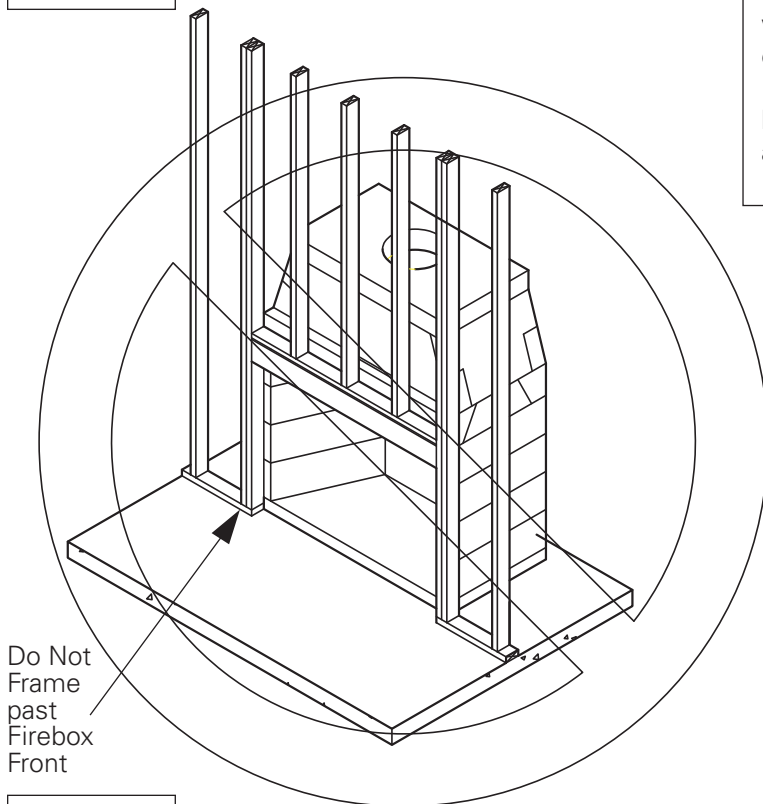


FIGURE 65

MAXIMUS Direct Vent Gas fireplaces are designed to be installed so that the rough front face of the Isokern firebox and smoke dome sit flush to the room face of the rough framing members that create the room wall finish. **(Figure 64)**

Important: Do not build a combustible frame wall in front of the MAXIMUS firebox / smoke dome assembly. **(Figure 65)** Wall Framing for the room wall where the MAXIMUS is set must not be placed across the front face of the MAXIMUS firebox and smoke dome assembly.

Clearance to Drywall

Drywall can be placed directly in contact with the front of the 82D48 MAXIMUS firebox and smoke dome. With the Isokern firebox/smoke dome set flush with the interior face of wall framing, drywall can be hung on the framing members and pass across the face of the MAXIMUS smoke dome and in contact with it. If necessary, the drywall can be affixed to the face of the Isokern smoke dome with drywall screws, maximum length one inch (1") - do not use nails.

A non-combustible board that is 8" wide for each side of the surround of the fireplace. This board is not provided but is readily supplied by others. The drywall must be cut back a minimum of eight inches (8") from the sides of the firebox glass frame and eight inches (8") back from the top of the MAXIMUS firebox glass frame, leaving framing material exposed around the face of the MAXIMUS firebox opening. These drywall cut back areas will be filled with grout in conjunction with the installation of the required firebrick lining requirements.

Note: Maintain 1 1/2" Clearance to combustible framing at sides and rear of fireplace.

Registration Card

Please tear out along dashed lines and send to:

Earthcore Industries
Attn: Technical Department
6899 Phillips Industrial Blvd
Jacksonville, FL 32256

Dealer _____

Date of Purchase: _____ Date Of Installation: _____

Address: _____

City, State, Zip: _____

Phone No.: _____

Fireplace Size (Circle One): MAXIMUS 46" (80D46) MAXIMUS 48" (82D48)

Gas Type (Circle One): Natural Gas Propane

Fireplace Serial Number: _____

(Located on Rating Plate Inside Fireplace)

Buyer: _____

Address: _____

City, State, Zip: _____

Phone No.: _____

Installed By: _____

Address: _____

City, State, Zip: _____

Phone No.: _____

Warranty & Disclaimer

Isokern MAXIMUS Direct Vent Gas Fireplace

ISOKERN offers a Lifetime Warranty for all Isokern components, to be free from defects in materials that negatively affect system performance from the date of purchase, subject to the terms and conditions of this limited warranty.

This warranty covers only the above stated components. THIS WARRANTY DOES NOT COVER DRAFTING, SMOKING OR PUFFING OF THE FIREPLACE SYSTEM. Factors beyond the manufacturer's control affect fireplace drafting, smoking, and puffing, and ISOKERN cannot guarantee these aspects of performance.

EXCLUSIONS AND LIMITATIONS

This Lifetime Warranty applies only if the Product is installed in the United States and Canada and only if operated and maintained in accordance with the printed instructions accompanying the Product and in compliance with all applicable installation and building codes and good trade practices. This warranty is non-transferable and extends to the original owner only. The following do not carry the Lifetime Warranty but are warranted as follows:

Burner – Repair or replacement for five years from the date of installation

Gas components & electrical components – Repair or replacement for one year from the date of installation

Gaskets – Repair or replacement for one year from the date of installation

Batteries – Replacement for 90 days from the date of installation

Logs – Replacement for five years from the date of installation against thermal breakage only

Remote controls – Repair or replacement for one year from the date of installation

Ceramic Glass door – Repair or replacement for one year from the date of installation

Parts not otherwise listed carry a 90 day warranty from the date of installation.

If a component is found to be defective under the terms of this warranty the party to whom this warranty is extended shall, notify ISOKERN, 6899 Phillips Industrial Blvd, Jacksonville, Florida 32256, in writing, by registered mail, within thirty (30) days following the discovery of the defect within the lifetime warranty period. The notice shall contain (1) the date of purchase; (2) place of purchase; (3) address of installation; (4) name, address and phone number of the owner; and (5) a brief description of the defect.

ISOKERN, or any division thereof, is not responsible for any labor costs or indirect costs incurred for the replacement of defective components.

ISOKERN is not responsible for misuse or mishandling of components. Nothing in this warranty makes ISOKERN, or any division thereof, liable in any respect for any injury or damage to the building or structure in which the fireplace or chimney system has been installed or to persons or property therein arising out of the use, misuse, or installation of properly manufactured ISOKERN product.

ISOKERN, OR ANY DIVISION THEREOF, SHALL NOT BE HELD LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR EXPENSES ARISING OUT OF THE USE OF THE FIREPLACES OR CHIMNEY SYSTEMS. ALL SUCH DAMAGES AND EXPENSES ARE HEREBY EXCLUDED.

This warranty is null and void when the fireplace or chimney systems are not installed pursuant to the installation instructions provided by ISOKERN or local building codes have not been followed completely.

This warranty applies only to those fireplace and chimney systems installed in the continental United States and Canada. If any part of this warranty is found to be unenforceable, the remaining parts shall remain in force and effect.

ISOKERN HEREBY DISCLAIMS ALL GUARANTEES AND WARRANTIES, EXPRESS OR IMPLIED, BEYOND THE WARRANTIES SET FORTH HEREIN.

earthcore[®]

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