

# Isokern® MAXIMUS Linear Series

## See-Thru Gas Fireplace and Chimney System

### Installation, Operation, Maintenance and Owner's Manual

Isokern Models: 82L48ST, 82L72ST, 82L96ST & 82L120ST

**A PRODUCT OF EARTHCORE® INDUSTRIES, LLC**

**IMPORTANT:** This manual contains assembly rules, installation steps and guidelines, and use and maintenance instructions for Isokern MAXIMUS Linear Series See-Thru gas appliances. 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 distributor, general contractor, and the installer of this product that the instructions in this manual are followed exactly and, further that the allowed gas log appliance used in this product be installed in strict accordance with the gas log manufacturer's listing and explicit installation and operation instructions.

**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.

Do not install the Isokern MAXIMUS Linear Series Gas Fireplace in a manufactured home or mobile home or recreational vehicle.

- This appliance complies with National Safety and is tested and listed to ANSI/CSA Z21.50 – 2019 as vented gas fireplaces.
- Installation must conform to local codes. Check local codes prior to installation. In the absence of local codes, installation must conform with current National Fuel Gas Code, ANSI Z223.1.

PFS Report No. F19-161  
USA: ANSI Z21.50 - 2019  
Canadian: CSA 2.22- 2019  
ICC Report No. ESR - 4873



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Revision: 001  
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**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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PFS REPORT NO. F19 - 161

**ISOKERN SEE THRU LINEAR GAS FIREPLACE**  
LISTED VENTED GAS FIREPLACE PER ANSI Z21.50 - 2019  
CSA 2.22-2019

**NOT FOR USE WITH SOLID FUEL**



MADE IN THE USA  
CHESAPEAKE, VA 23323

**SERIAL NO:** SL000001

**MODEL #**

☐ 82L48ST
☐ 82L72ST

☐ 82L96ST
☐ 82L120ST

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

☐ 82L48ST NATURAL GAS MAX BTU 54,000; PROPANE MAX BTU 48,000

☐ 82L72ST NATURAL GAS MAX BTU 90,000; PROPANE MAX BTU 80,000

☐ 82L96ST NATURAL GAS MAX BTU 108,000; PROPANE MAX BTU 96,000

☐ 82L120ST NATURAL GAS MAX BTU 110,000; PROPANE MAX BTU 105,000

\*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 FOR PURPOSE OF INPUT ADJUSTMENT:

PROPANE (LP): 11" WATER COLUMN; NATURAL GAS: 5" WATER COLUMN

| ELECTRICAL RATING: | CLEARANCE TO COMBUSTIBLES:             | Open Front Only | Glass Front Only |
|--------------------|--|-----------------|------------------|
| UNIT: ELECTRONIC   | SMOKE DOME FRONT                       | = 0in           | = 0in            |
| 1 PH               | UNIT SIDES AND REAR                    | = 1.5in.        | = 1.5in.         |
| 60 HZ              | COMBUSTIBLE SHEATHING ABOVE OPENING    | = 8in           | = 0in            |
| 120 VOLTS          | TOP SHEATHING OR TRIM TO OPENING SIDES | = 8in           | = 0in            |
| LESS THAN 5 AMPS   | MANTEL ABOVE OPENING                   | = 12in.         | = 0in            |
|                    | INSULATION FROM FIREBOX                | = 3in.          | = 3in            |

**CAUTION: THIS APPLIANCE IS ONLY FOR USE WITH THE TYPE OF GAS INDICATED ON THE RATING PLATE. 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 Z223.1/NFPA 54 or CSA B149.1  
See Installation and Operating Instructions for this model and ICC # ESR - 4873

EARTHCORE INDUSTRIES HEADQUARTERS  
JACKSONVILLE, FL 32256

The latest revision of this manual may be obtained at the Earthcore website:

<https://www.earthcore.com/installation-manuals/>

OR

Scan this QR code



## General Information

Isokern Maximus Linear Series See-Thru Models 82L48ST, 82L72ST, 82L96ST and 82L120ST are tested and listed by PFS Corp., USA Report No. F19 – 161 to ANSI Z21.50 - 2019 and Canadian Standard CSA 2.22 - 2019. The Isokern Maximus Linear Series See-Thru fireplaces are top-vented, gas only fireplaces that are listed for use only with the Isoflames Linear Burner gas appliance listed in this installation manual. These gas appliances come with a gas control valve that includes an automatic shut-off switch. The gas valve is available in a millivolt remote control pilot assembly.

The exhaust flue gases are to be vented through the top of the unit with listed B-Vent piping. A twelve-inch (12") diameter, double wall B-Venting system will terminate with the Enervex 12" Mechanical Fireplace Damper (MFD) and fan combination as detailed in this manual (RS012, RS014, or RS016). The damper and fan combinations are model specific and are required for proper operation of all Isokern Maximus Linear models 48, 72, 96 and 120.

**WARNING!!!**: This gas appliance must not be connected to a chimney flue servicing a solid fuel burning appliance.

### **INTENDED USE STATEMENT**

The Isokern Maximus Linear Series See-Thru 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.

The Isokern Maximus Linear Series See-Thru 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, LLC 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, LLC 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.

The most important areas of concern with the installation of the Isokern Maximus Linear Series See-Thru are clearance to combustible materials, proper assembly of component parts, load carrying capacity of underlying floor system, heights of chimney system, hearth extensions, and the techniques employed in applying finishing materials to the wall surrounding the Isokern Maximus Linear Series See-Thru. Combustion air inlet kits are not required for the Isokern Maximus Linear Series See-Thru, however may help improve fireplace operation. Check local codes for combustion air requirements.

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 Isokern Maximus Linear Series See-Thru 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.

### **SEISMIC CODE SPECIFICATIONS**

If installation of the Isokern Firebox is to be installed in an area with seismic codes, please follow these instructions. Four #4 ASTM A615 Grade 40 minimum, vertical reinforcing bars, 2 on each side of the firebox running from top of sidewalls to approximately 4 inches into the concrete slab (for anchorage).

**IMPORTANT:** The top plate of the firebox shall not be used as a structural support. The top plate is not designed to be a weight / load bearing surface.

**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. 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, or 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 guidebook to safe operation of this fireplace.

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

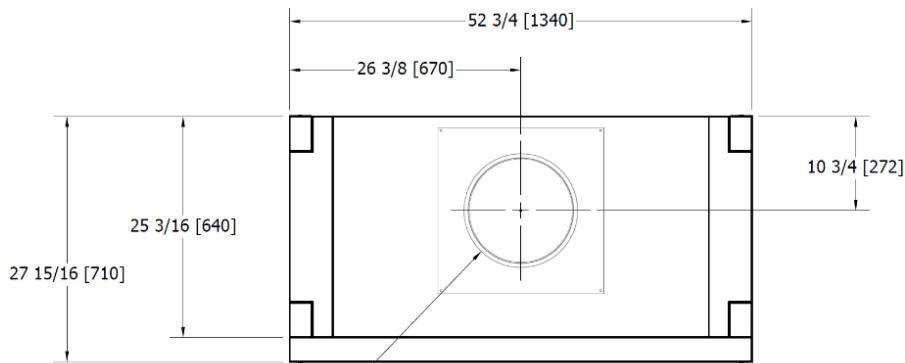
- 1) Always check local building codes governing fireplaces and fireplace installations. The Isokern Maximus Linear Series installation must comply with all local, regional, state, and national codes and regulations.
- 2) The Isokern Maximus Linear Series fireplaces are listed for use with the specific venting and burner system as detailed 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 either Propane (LP) or Natural Gas (NG). Contact your local Isokern Sales Representative for details.
- 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 Isokern Maximus Linear Series 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 Isokern Maximus Linear Series fireplace off and allow to cool before servicing. Always shut off any electricity and gas to the Isokern Maximus Linear Series See-Thru 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.



## Safety Instructions

- 11) Do not use the Isokern Maximus Linear 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 burner rating plate.
- 13) Keep all unshielded insulation and vapor barriers a minimum of three inches (3") away from all Isokern Maximus Linear Series and chimney components.
- 14) Do not pack or fill required air spaces with insulation or other material. No material is allowed in these spaces.
- 15) Never install Isokern Maximus Linear Series components, chimney components, or accessories that have visible or suspected physical damage due to handling or transportation. These items should be inspected by a qualified representative to ensure safe condition. When in doubt, consult your local supplier.
- 16) Do not alter or modify the Isokern Maximus Linear Series and/or venting components under any circumstances. Modification or alteration of the venting components may void manufacturer's warranty, listings, and approvals.
- 17) Do not use a fireplace blower insert, heat exchanger or any other product not specified by the manufacturer herein for use with this fireplace.
- 18) Do not use any Isokern Maximus Linear 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.
- 19) The Isokern Maximus Linear Series is not intended to heat an entire home or to be used as a primary heat source.
- 20) 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.
- 21) 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.
- 22) Clothing or flammable material should not be placed on or near the appliance.
- 23) Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
- 24) 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.
- 25) **Do not nail or screw any material into the Isokern fireplace, which includes firebox or smoke dome components unless specifically instructed in this manual. This may alter the integrity of the fireplace and cause a house fire. THIS WILL VOID THE WARRANTY OF THE FIREPLACE.**
- 26) Never spray or apply any type of sealer, insulation, or other materials to the fireplace.

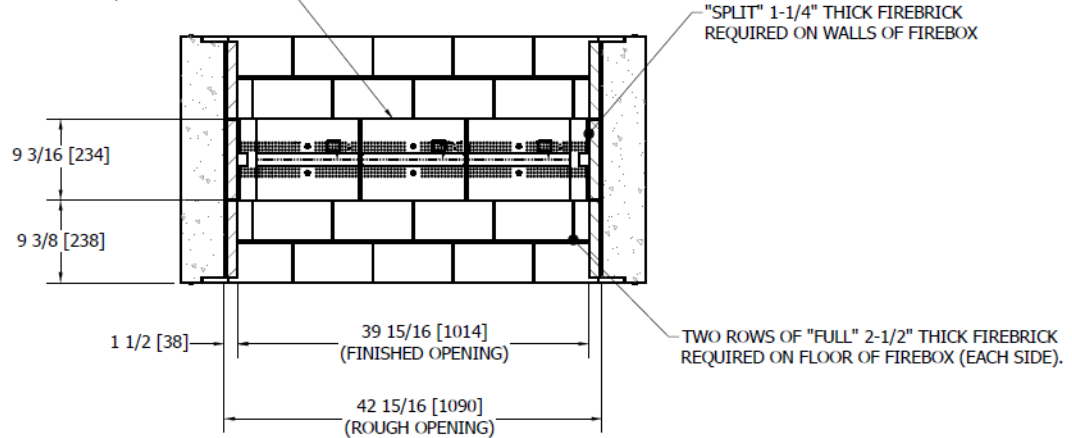
# Isokern Maximus Linear Series 48" See-Thru (82L48ST)



METAL-FAB 12" B-VENT PIPE W/  
DOWN-DRAFT DIVERter.  
ENERVEX 12" MFD, RS 012 FAN,  
AND ADC 100 CONTROL W/ PDS  
REQUIRED. MAINTAIN MIN. 1"  
CLEARANCE TO COMBUSTIBLES.

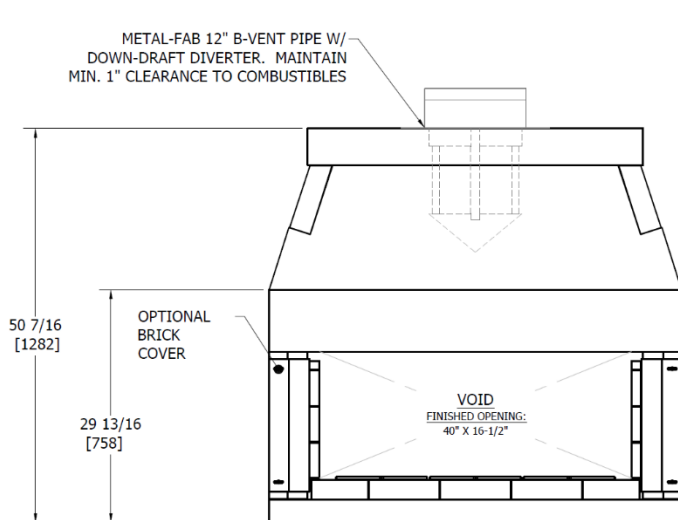
TOP VIEW

ISOFLAMES 36" LINEAR BURNER  
W/ SMALL END CAPS

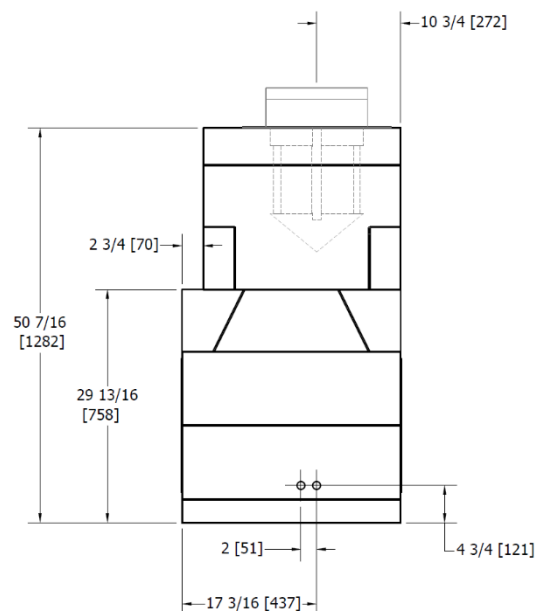


PLAN VIEW

METAL-FAB 12" B-VENT PIPE W/  
DOWN-DRAFT DIVERter. MAINTAIN  
MIN. 1" CLEARANCE TO COMBUSTIBLES

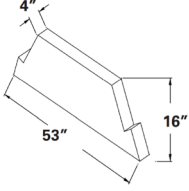
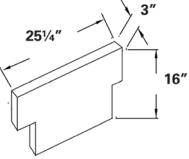
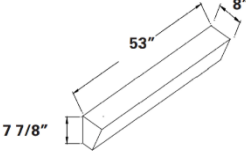
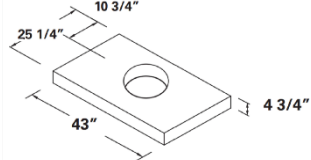


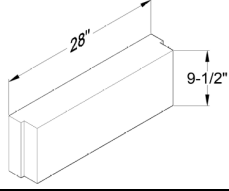
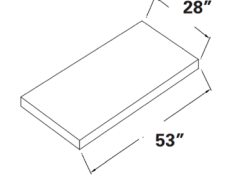
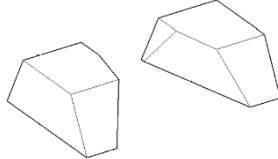
FRONT VIEW



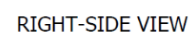
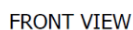
RIGHT-SIDE VIEW

**Isokern Maximus Linear Series 48" See-Thru Components (82L48ST)**

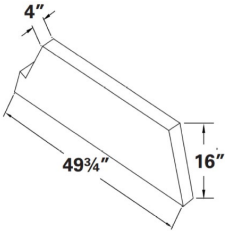
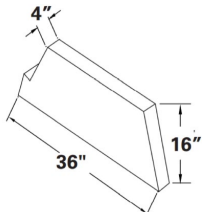
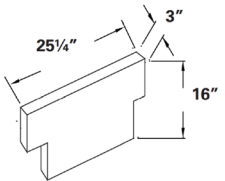
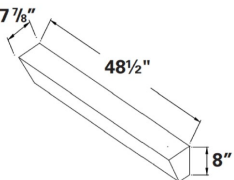
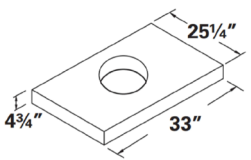
| Component   | Part# | Description                      |
|---|-------|----------------------------------|
|  | 13    | Smoke Dome-46/48<br>(Qty: 2)     |
|  | 34    | Smoke Dome Side Wall<br>(Qty: 2) |
|   | 70    | Damper Beam-46/48<br>(Qty: 2)    |
|  | 81    | Top Plate-46/48<br>(Qty: 1)      |

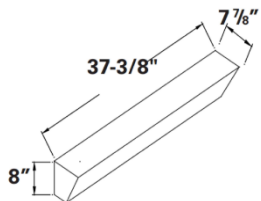
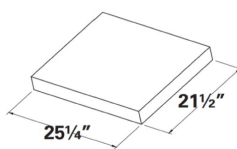
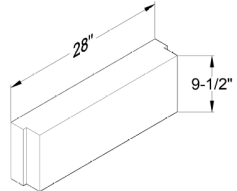
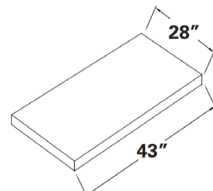
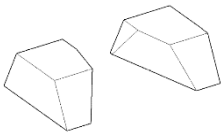
| Component  | Part#          | Description   |
|--|----------------|---|
|  | M65A           | Sidewall-<br>Maximus Linear<br>See-Thru<br>(Qty: 4)               |
|  | M93            | Magnum Base<br>Plate-48<br>(Qty: 1)                               |
|  | M94L &<br>M94R | Magnum<br>Damper End<br>Block; Left and<br>Right<br>(Qty: 1 Each) |

**Steel angle: 6" x 6" x 1/2" cut to span firebox opening. This item is not included in the components and can be sourced locally**



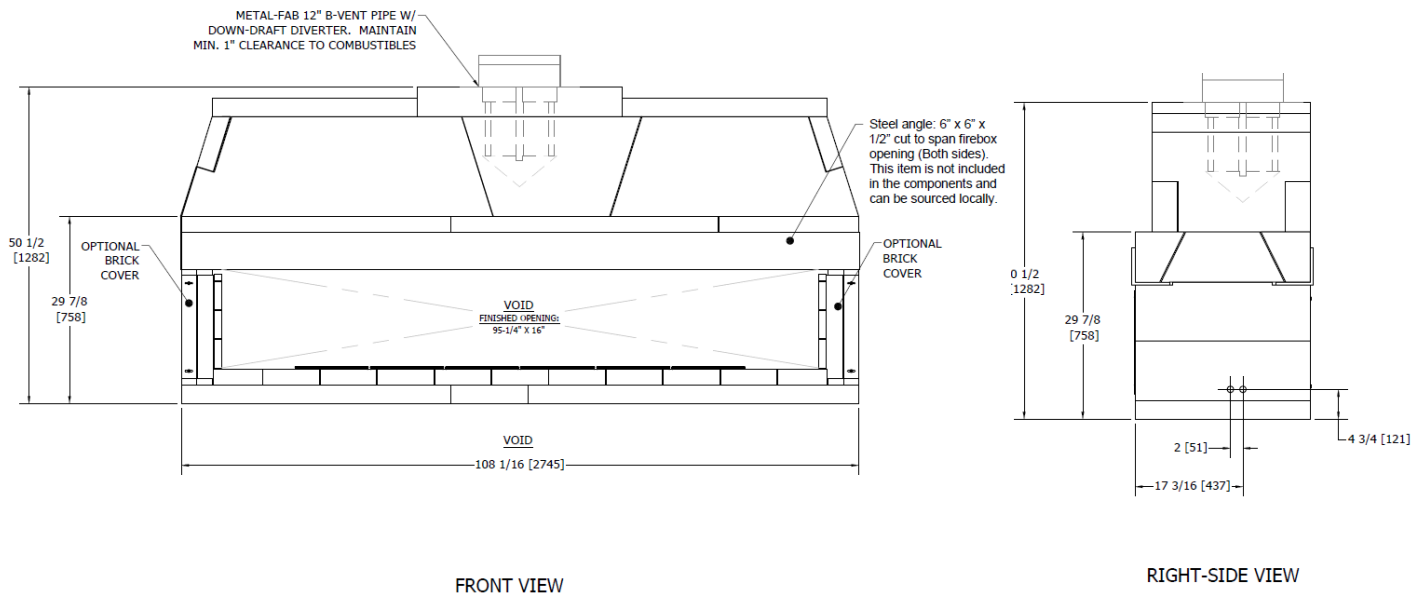
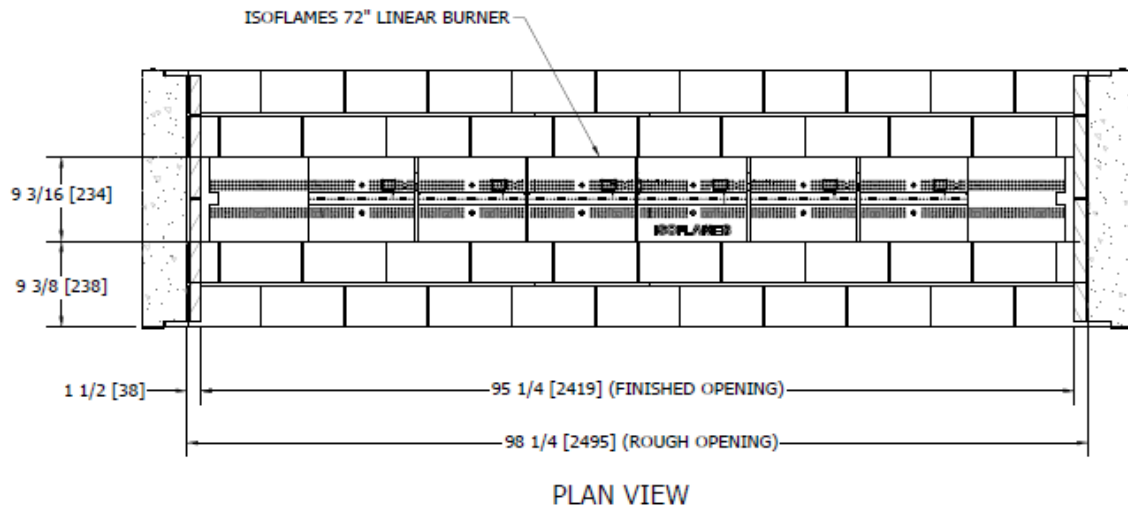
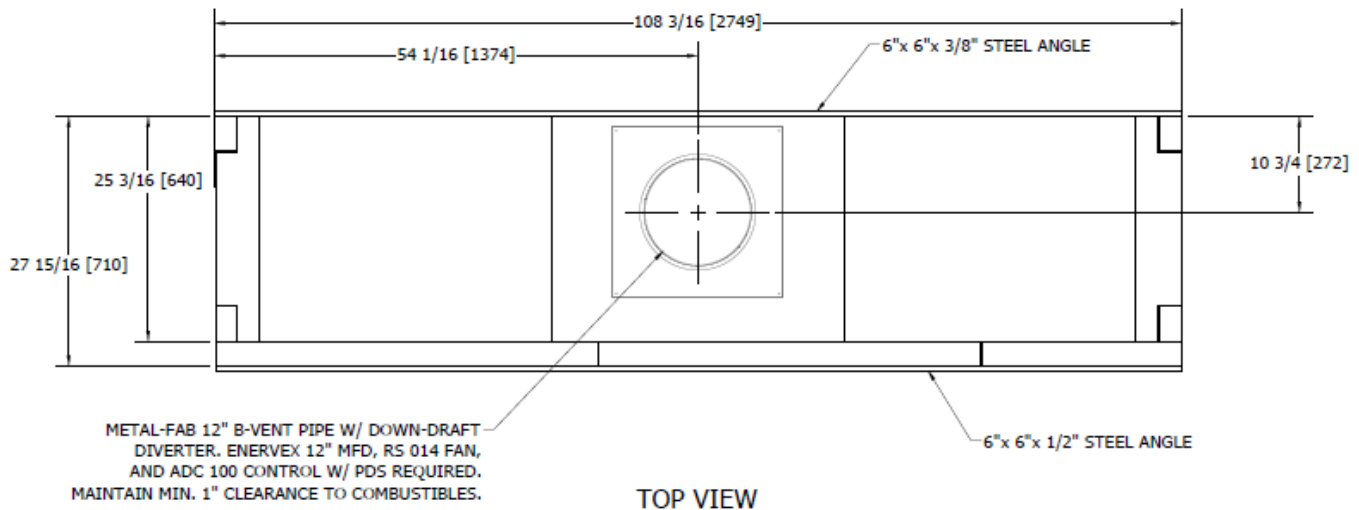
**Isokern Maximus Linear Series 72" See-Thru Components (82L72ST)****Steel angle: 6" x 6" x 1/2" cut to span firebox opening. This item is not included in the components and can be sourced locally**

| Component   | Part# | Description                   |
|---|-------|-------------------------------|
|    | 16    | Smoke Dome-60/72 (Qty: 2)     |
|    | 18    | Smoke Dome-72 (Qty: 2)        |
|   | 34    | Smoke Dome Side Wall (Qty: 2) |
|  | 69    | Damper Beam-42 (Qty: 2)       |
|  | 77A   | Top Plate-36/42 (Qty: 1)      |

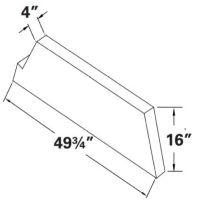
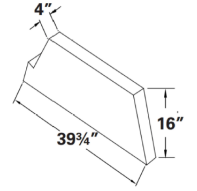
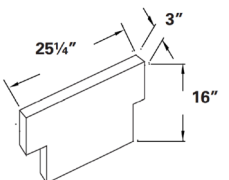
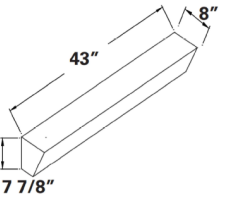
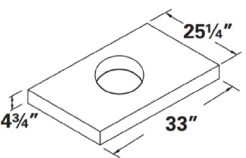
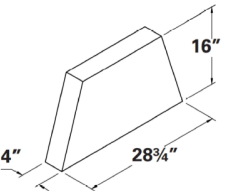
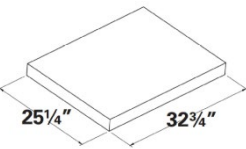
| Component  | Part#       | Description   |
|--|-------------|---|
|    | 83          | Damper Beam-72 (Qty: 2)                               |
|    | 121         | Top Plate-82L72 (Qty: 2)                              |
|   | M65A        | Sidewall-Maximus Linear See-Thru (Qty: 4)             |
|  | M91         | Magnum Base Plate-36 (Qty: 2)                         |
|  | M94L & M94R | Magnum Damper End Block; Left and Right (Qty: 1 Each) |

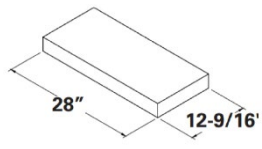
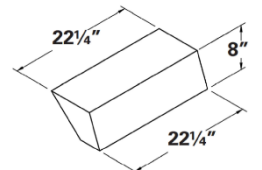
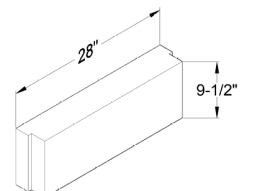
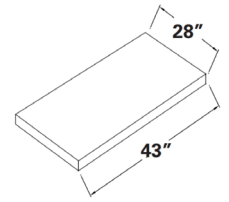
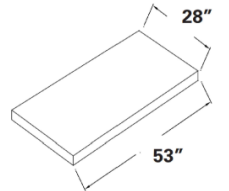
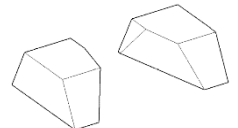
## Isokern Maximus Linear Series 96" See-Thru (82L96ST)

**Steel angle: 6" x 6" x 1/2" cut to span firebox opening. This item is not included in the components and can be sourced locally**



**Isokern Maximus Linear Series 96" See-Thru Components (82L96ST)****Steel angle: 6" x 6" x 1/2" cut to span firebox opening. This item is not included in the components and can be sourced locally**

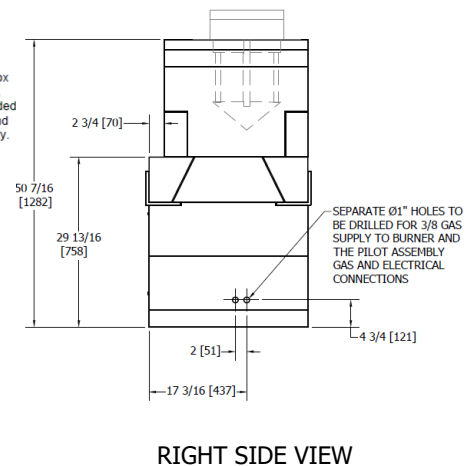
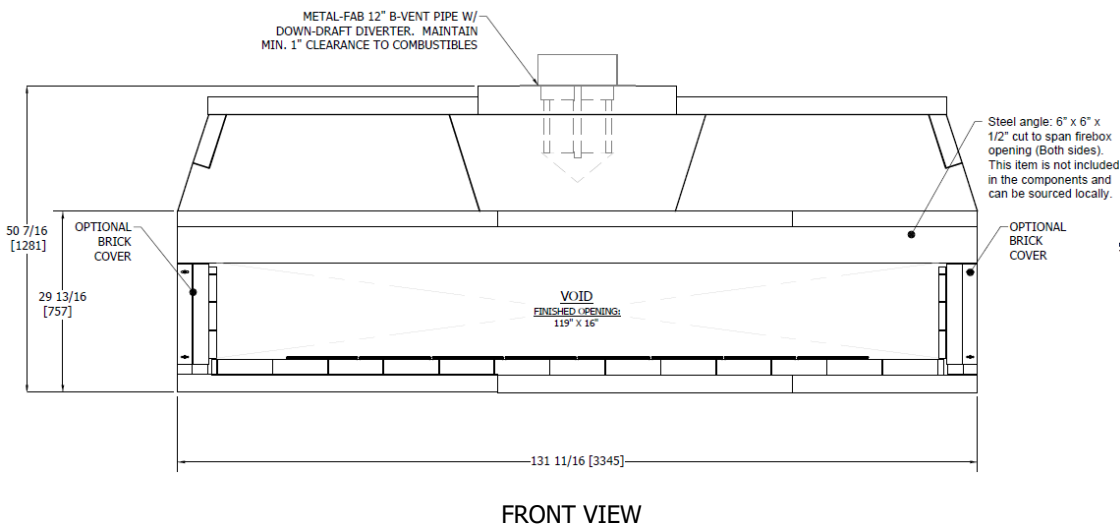
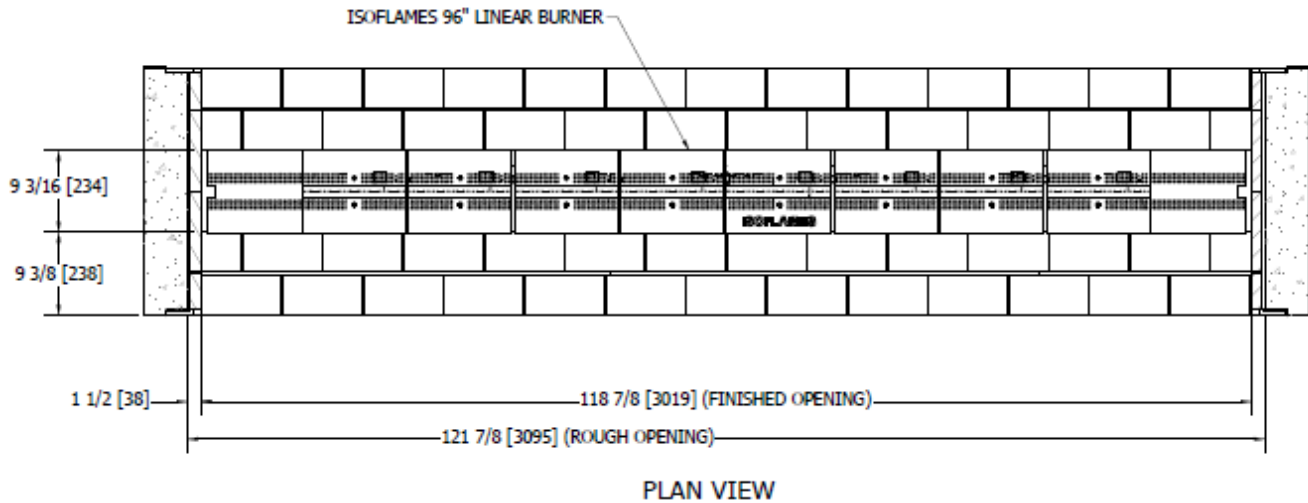
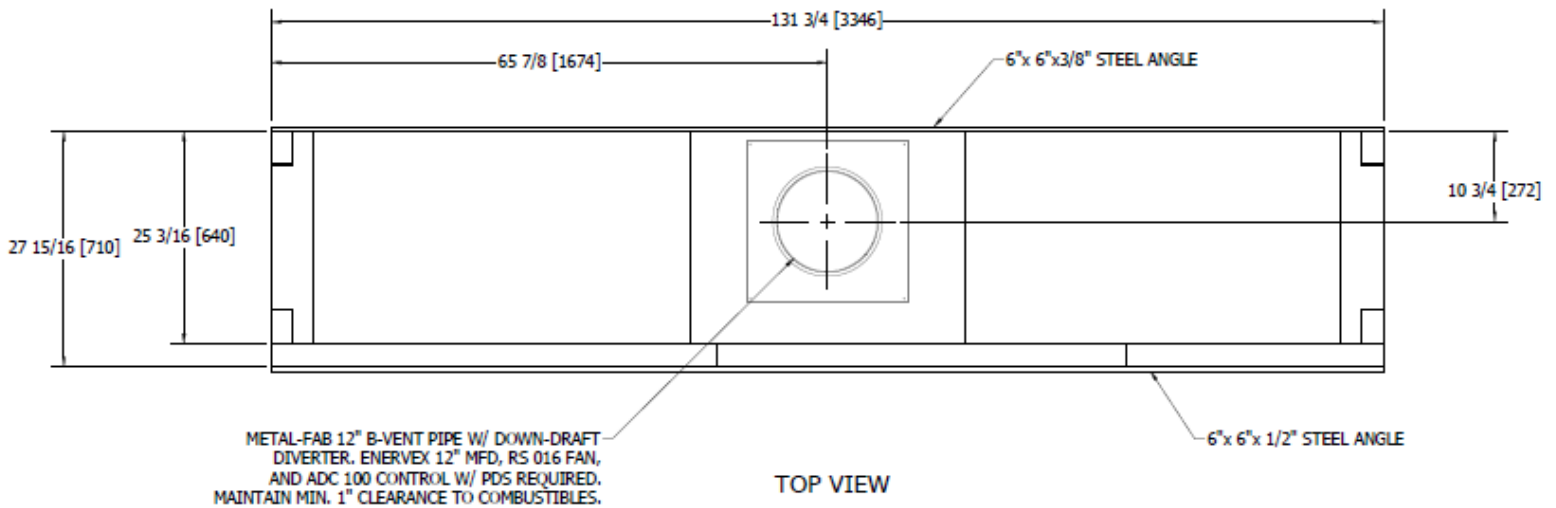
| Component   | Part# | Description                      |
|---|-------|----------------------------------|
|    | 16    | Smoke Dome-60/72<br>(Qty: 2)     |
|    | 17    | Smoke Dome-60<br>(Qty: 2)        |
|    | 34    | Smoke Dome Side Wall<br>(Qty: 2) |
|   | 68    | Damper Beam-36<br>(Qty: 2)       |
|  | 77A   | Top Plate-36/42<br>(Qty: 1)      |
|  | 113   | Smoke Dome-96<br>(Qty: 2)        |
|  | 122   | Top Plate-82L96<br>(Qty: 2)      |

| Component  | Part#       | Description  |
|--|-------------|--|
|    | 191         | Base Plate-84/96/108<br>(Qty: 1)                         |
|    | 167         | Damper Beam-96<br>(Qty: 2)                               |
|    | M65A        | Sidewall-Maximus Linear See-Thru<br>(Qty: 1)             |
|  | M91         | Magnum Base Plate-36<br>(Qty: 1)                         |
|  | M93         | Magnum Base Plate-48<br>(Qty: 1)                         |
|  | M94L & M94R | Magnum Damper End Block; Left and Right<br>(Qty: 1 Each) |



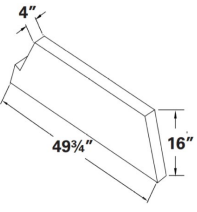
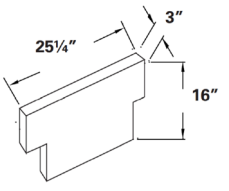
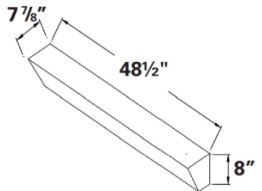
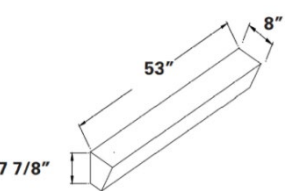
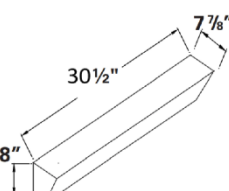
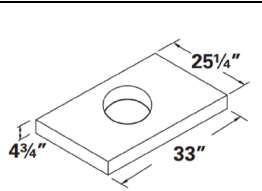
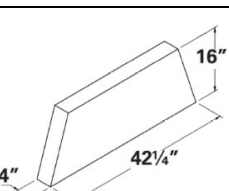
## Isokern Maximus Linear Series 120" See-Thru (82L120ST)

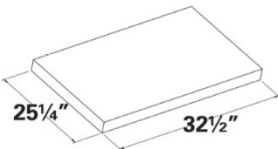
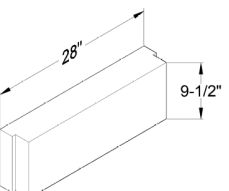
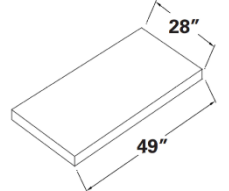
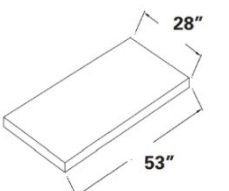
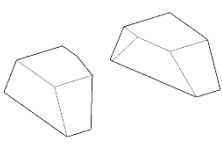
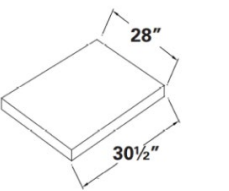
**Steel angle: 6" x 6" x 1/2" cut to span firebox opening. This item is not included in the components and can be sourced locally**



**Isokern Maximus Linear Series 120" See-Thru Components****(82L120 ST)**

**Steel angle: 6" x 6" x 1/2" cut to span firebox opening. This item is not included in the components and can be sourced locally**

| Component   | Part# | Description                      |
|---|-------|----------------------------------|
|    | 16    | Smoke Dome-60/72<br>(Qty: 4)     |
|    | 34    | Smoke Dome Side Wall<br>(Qty: 2) |
|   | 69    | Damper Beam-42<br>(Qty: 2)       |
|  | 70    | Damper Beam-46/48<br>(Qty: 2)    |
|  | 74    | Damper Beam-60<br>(Qty: 2)       |
|  | 77A   | Top Plate-36/42<br>(Qty: 1)      |
|  | 116   | Smoke Dome-120<br>(Qty: 2)       |

| Component  | Part#       | Description  |
|--|-------------|--|
|    | 123         | Top Plate-82L120<br>(Qty: 2)                             |
|    | M65A        | Sidewall-Maximus Linear See-Thru<br>(Qty: 4)             |
|   | M92         | Magnum Base Plate-42<br>(Qty: 1)                         |
|  | M93         | Magnum Base Plate-48<br>(Qty: 1)                         |
|  | M94L & M94R | Magnum Damper End Block; Left and Right<br>(Qty: 1 Each) |
|  | 96          | Magnum Base Plate-60<br>(Qty: 1)                         |

## Required Clearance to Combustibles Framing

**IMPORTANT:** “Combustibles” are defined as “normal construction materials” such as: wood framing materials, particle board, mill board, plywood paneling, plywood sub-flooring and wood flooring.

The Maximus Linear Series See-Thru fireplaces and chimney systems are tested and listed for installation with “clearance to combustibles” as follows:

- Zero-inch (0”) clearance to the combustible floor; (Isokern Base Plate must be used)
- Eight-inch (8”) clearance to combustible sheathing/ trim at opening top and sides.
- Zero-inch (0”) clearance to combustible trim at the Isokern smoke dome front.
- One- and one-half inches (1-1/2”) clearance at the sides of the Isokern firebox and smoke dome sides.
- One-inch (1”) minimum air space to combustibles at all B-Vent double wall chimney components’ outer layer.

**WARNING!!!:** 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.

**IMPORTANT:** When installing on a combustible floor system the area in front of the fireplace must be covered with a non-combustible hearth extension that is set tight against the fireplace front. The hearth extension shall extend at least twenty inches (20”) beyond the finished front, and at least twelve inches (12”) beyond the finished sides of the fireplace opening.

**CAUTION:** Maintain three inches (3”) clearance to insulation and vapor barriers from all firebox, smoke dome, and B-Vent flue components.

**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:

1. The fireplaces must sit upon a support designed to bear the total installed weight of the fireplace.
2. All Maximus Linear installations will result in the minimum finished fire brick floor of the firebox being at least five- and one-half inches (5-1/2”) above the combustible floor system. **Never place a Maximus Linear on a combustible floor without the base plate!!!**

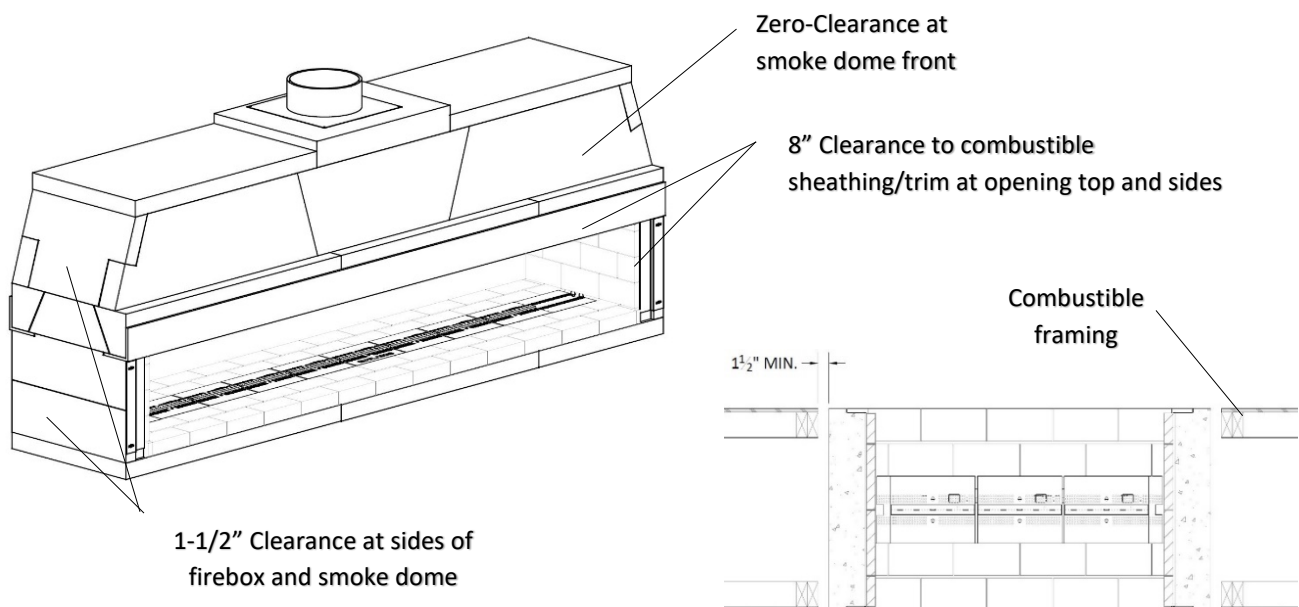


FIGURE 1

FIGURE 2

## Calculating Flooring Loads

Floor framing for Maximus Linear See-Thru installation will need to be designed and built to accept substantial dead loads spread over a relatively small floor area. **(Figure 3)**

The following weights and sizes can be used to calculate loading. It is the contractor's responsibility to provide adequate floor system load capacity.

### **WEIGHTS AND LOAD CALCULATIONS**

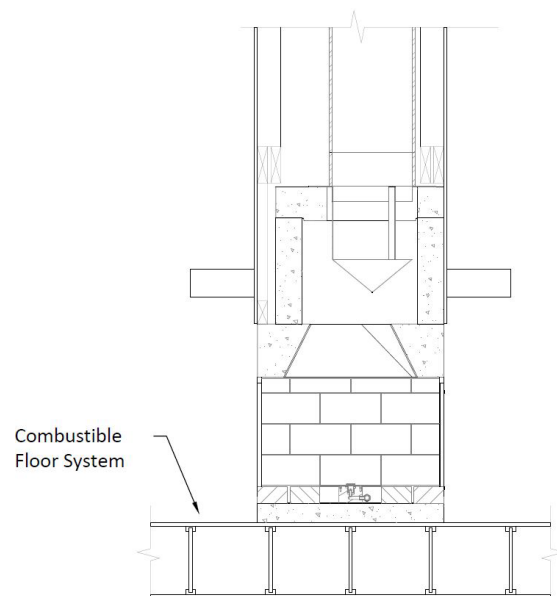
Total dead load amounts include (but are not necessarily limited to) the following items and their corresponding weight estimates as listed below:

- 1) Isokern See-Thru unit weights:
  - a) Maximus Linear See-Thru - 48: 1,112 lbs. (no burner, flue, accessories)
  - b) Maximus Linear See-Thru - 72: 1,828 lbs. (includes steel angle; but no burner, flue, accessories)
  - c) Maximus Linear See-Thru - 96: 2,247 lbs. (includes steel angle; but no burner, flue, accessories)
  - d) Maximus Linear See-Thru - 120: 2,756 lbs. (includes steel angle; but no burner, flue, accessories)
- 2) Approximate weight of log set: 100 lbs.
- 3) Fire brick and Adhesive: 350 lbs. - 1800 lbs. depending on brick size and pattern
- 4) Facing material: per general contractor
- 5) B-Vent metal flue: per manufacturer and installation requirements

The floor area for each model is as follows:

- Maximus Linear See-Thru – 48: @ 53" x 28" = 10.3 sq. ft.
- Maximus Linear See-Thru - 72: @ 85-3/4" x 28" = 16.67 sq. ft.
- Maximus Linear See-Thru – 96: @ 108-1/4" x 28" = 21.04 sq. ft.
- Maximus Linear See-Thru – 120: @ 131-3/4" x 28" = 25.62 sq. ft.

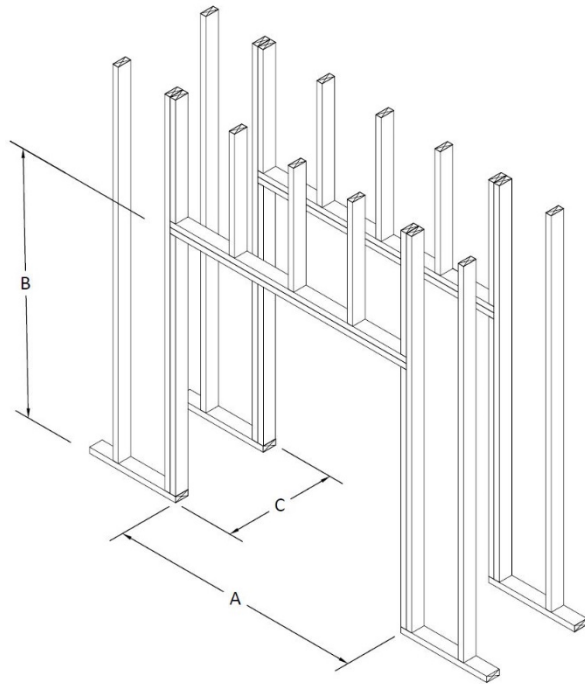
Earthcore is not responsible for structural floor support details for this fireplace system. Unless otherwise noted all floor framing drawings in this manual are merely illustrations to indicate the presence of an underlying floor system. Consult your local structural engineer for proper floor system design, sizing, and specifications.



**NOTE:** The required noncombustible hearth extensions not shown in this view.

**FIGURE 3**

## Rough Framing Dimensions



**FIGURE 4**

### TYPICAL INSTALLATION FRAMING DIMENSIONS

| Model #  | A - Width | B - Height | C - Depth |
|----------|-----------|------------|-----------|
| 82L48ST  | 56"       | 51"        | 28"       |
| 82L72ST  | 89"       | 51"        | 28"       |
| 82L96ST  | 112"      | 51"        | 28"       |
| 82L120ST | 135"      | 51"        | 28"       |

### NOTES:

- 1) "B" includes the required 3" thick base plate.
- 2) If the Maximus Linear See-Thru installation is to be elevated, this "Raised hearth" installation will require additional rough opening height at "B" that is equal to the height of the raised hearth.

**RAISED HEARTH INSTALLATION OPTION:** If the design preference is for a raised hearth (floor of the fireplace elevated above the room's floor), the base plate can be set on a platform that is built up to the desired raised hearth height. When calculating raised hearth height, be sure to allow for the 3"-thick base plate plus the 2-1/2"-thick fire brick floor in addition to the height of the platform. The platform shall be designed to accommodate the full weight of the firebox, venting, and accessories.

For all "raised hearth" construction - even where concrete blocks are used to create the raised platform, it is still mandatory to use the Isokern base plate. Be sure to Earthcore Adhesive the concrete block platform together. All CMU used for base plate support should be rated ASTM 90.

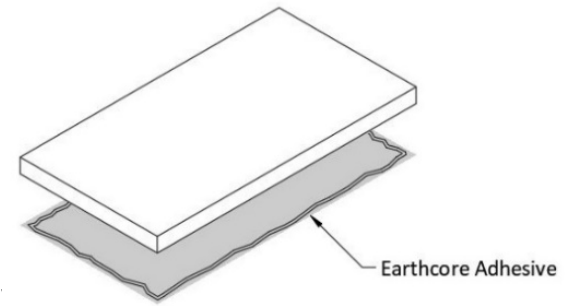
**IMPORTANT:** Whether a traditional hearth or a raised hearth is installed, the combustible floor in front of the fireplace must be covered with a noncombustible hearth extension set tight against the fireplace front and extending at least 20" out from the finished fireplace's front and at least 12" beyond the sides of the fireplace opening.

## General Assembly Instructions

When beginning the assembly process, mix the Earthcore Adhesive 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 Earthcore Adhesive mixture is not too thin or runny, as this will not allow the Earthcore Adhesive to reach its maximum bonding strength.

Mark out the position of the base plate on the supporting floor system. Apply thin layer of Earthcore Adhesive to the area and set base plate in the adhesive (**Figure 5**).



**FIGURE 5**

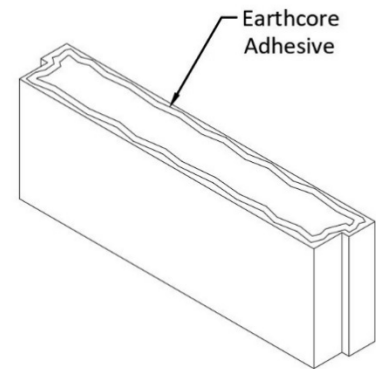
Earthcore Adhesive is then squeezed from a grout bag onto the contact surfaces of the Isokern components as they are fitted together.

**NOTE:** It is important that a ½” bead of Earthcore Adhesive is piped onto all the components’ contact surfaces, about ½” in from all edges (**Figure 6**).

When setting the next component onto the Earthcore Adhesive contact surface of the base plate, some Earthcore Adhesive 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 ½” beads of the Earthcore Adhesive to the area to assure proper sealing of the joint.

Proper firebox and smoke dome assembly requires approximately 100 pounds (dry measure) of Earthcore Adhesive.



**FIGURE 6**

### **LEVELING AND ALIGNING COMPONENTS:**

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

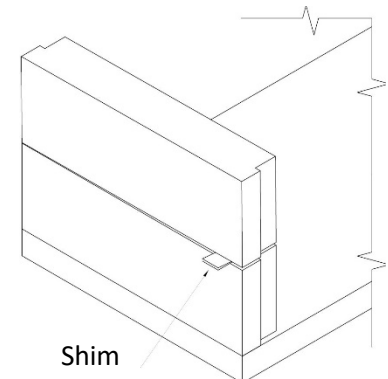
Earthcore Adhesive is not intended to create a joint of any thickness for leveling purposes. Leveling and alignment adjustments are accomplished with the use of small plastic shims supplied with the unit (**Figure 7**).

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

### **BROKEN COMPONENTS:**

Components can be repaired by using Earthcore Adhesive along the break line as the component is set into place.

Components broken into multiple small pieces should be discarded and replaced.



**FIGURE 7**

### **IMPORTANT:**

- 1) Do not mix Earthcore Adhesive with anti-freeze agents.
- 2) The maximum recommended Earthcore Adhesive joint thickness between Isokern components is ¼”.

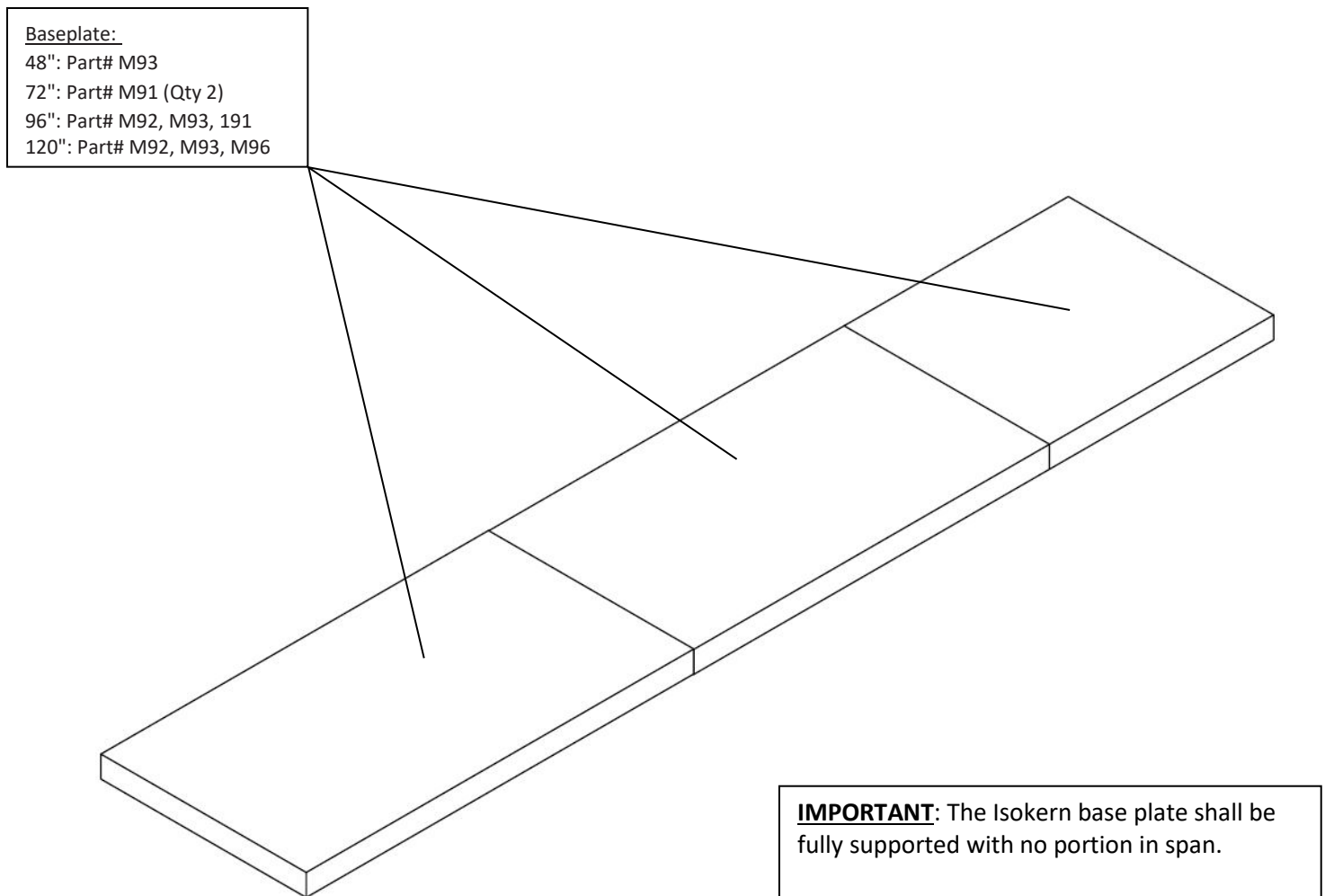
## Isokern Maximus Linear See-Thru Installation

The following assembly instructions identify the parts by name, part number, and illustrate the placement of each part in the assembly process for the Maximus Linear See-Thru Fireplace.

**NOTE:** At all component joints, be sure to mortar all contact surfaces with Earthcore Adhesive. Check for complete sealing of each contact joint as the firebox assembly progresses.

- 1) Apply Earthcore Adhesive to the joints between each baseplate part and ensure to set each base plate in a full bed of Earthcore Adhesive on a level support surface (**Figure 8**). See page 15 for information regarding the supporting floor system. Do not set the base plate so that it is in span. Refer to pages 6-13 for part and assembled firebox dimensions.

**IMPORTANT: ENTIRE BASEPLATE ASSEMBLY SHALL BE FLUSH, LEVEL, AND ALIGNED WITH EACH OTHER.**

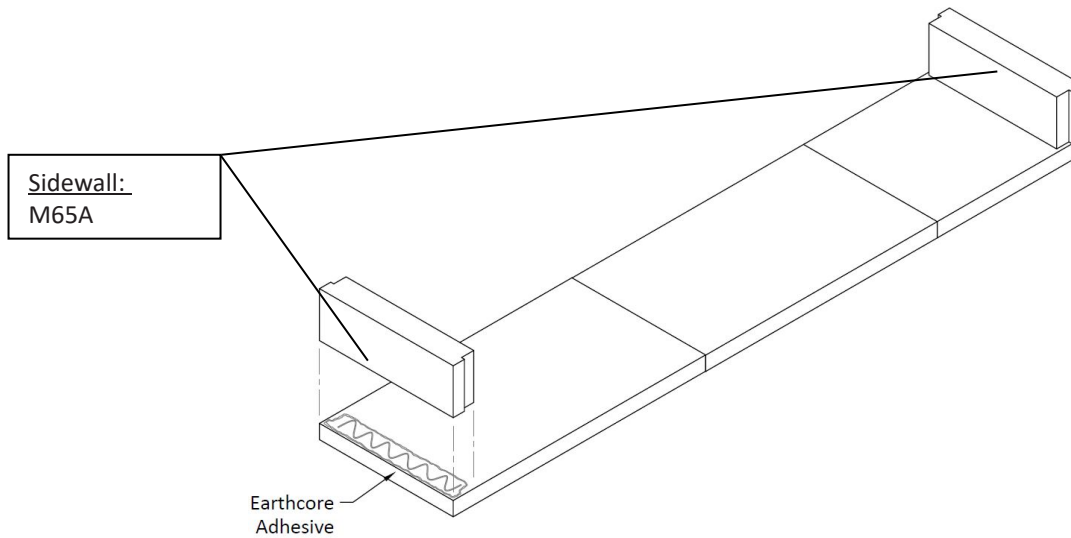


**FIGURE 8**



## Isokern Maximus Linear See-Thru Installation

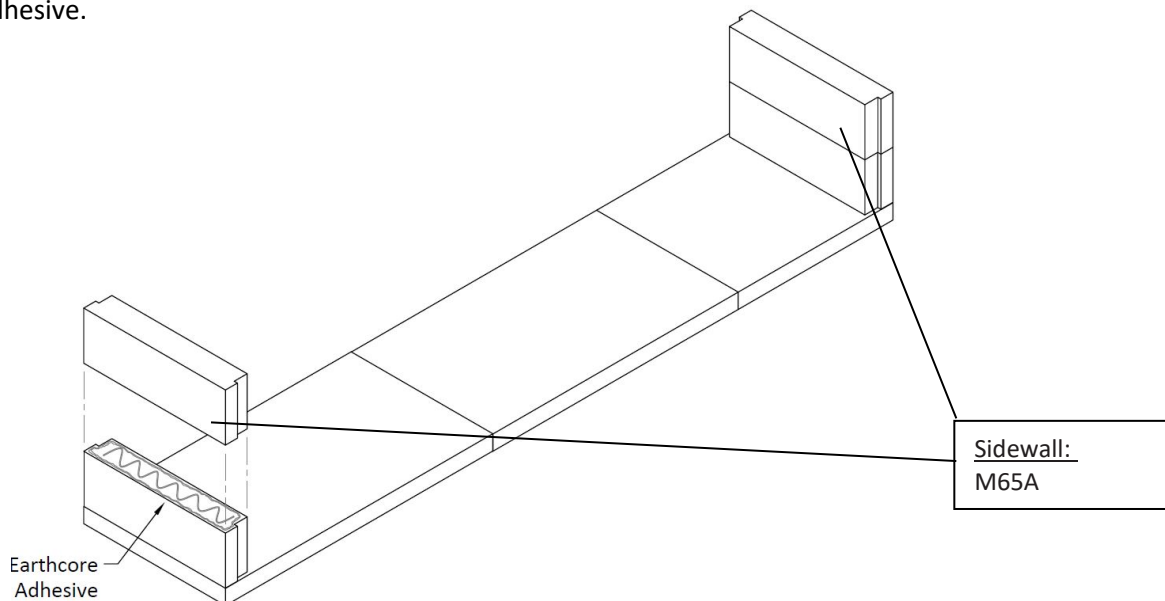
- 2) Set the first course of the firebox side walls and back walls into place (**Figure 9**).



**FIGURE 9**

**NOTE:** It may be convenient to dry set the first course of side walls in place atop the Isokern base plate and trace their position onto the base plate. After outlining the dry set pieces, remove them and apply Earthcore Adhesive to the areas traced on the base plate where the side walls are to sit. By doing this, the first layer of wall components can be set directly into Earthcore Adhesive already applied to the proper areas on the base plate.

- 3) Continue assembly of the consecutive courses of the firebox side walls. Apply Earthcore Adhesive to the top of each layer of side wall components before setting the next course in place (**Figure 10**). Look for some Earthcore Adhesive to squeeze out along the joints of all contact surfaces as a sign that the joint is thoroughly sealed with the approved Earthcore Adhesive.



**FIGURE 10**

- 4) When all the firebox side 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 supplied with the unit between the lowest wall component and the top surface of the base plate. Any gap created under the wall components during the shim leveling process must be filled with Earthcore Adhesive.

## Isokern Maximus Linear See-Thru Installation

- 5) Two steel angle irons with measurements of **6" x 6" x 1/2"** that are cut to span the width of the firebox will be needed to assemble the 72", 96", and 120" fireboxes (not required for the 48" model).

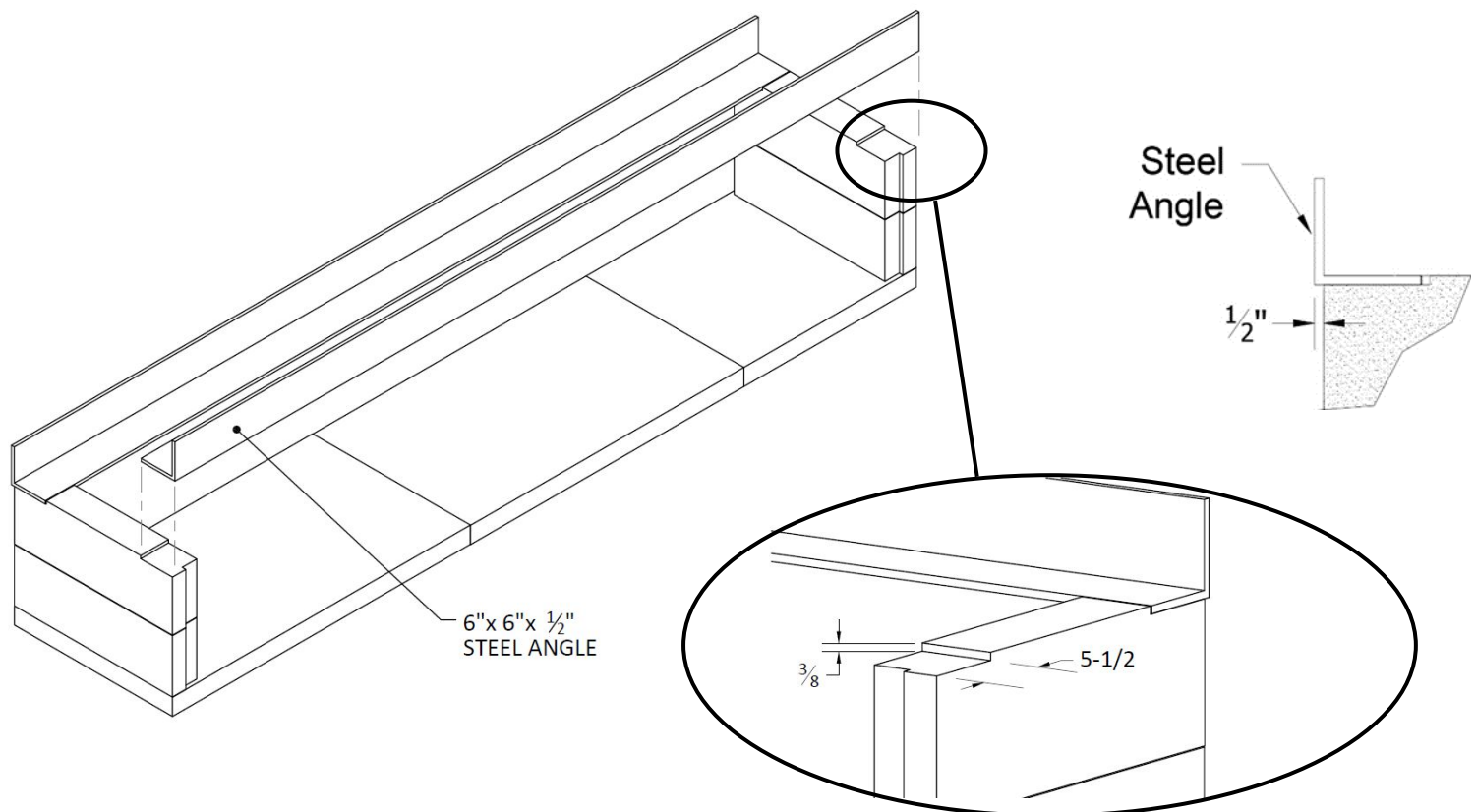
It is necessary to cut four 1/2" deep recesses to properly seat the angle iron. These recesses shall begin at the front of the top sidewall components and extend 5 1/2" towards the center of the firebox. These notches ensure that the angle iron is level and flush with the top of the side wall components.

When properly installed, the angle iron will protrude 1/2" beyond the front edge of the side wall components (**Figure 11**).

**NOTE:** It is not necessary to apply Earthcore Adhesive between angle and Isokern sidewall components.

**NOTE:** The steel angle should not be longer than the width of the firebox.

**NOTE:** Angle iron is not included but required for installation.



**FIGURE 11**

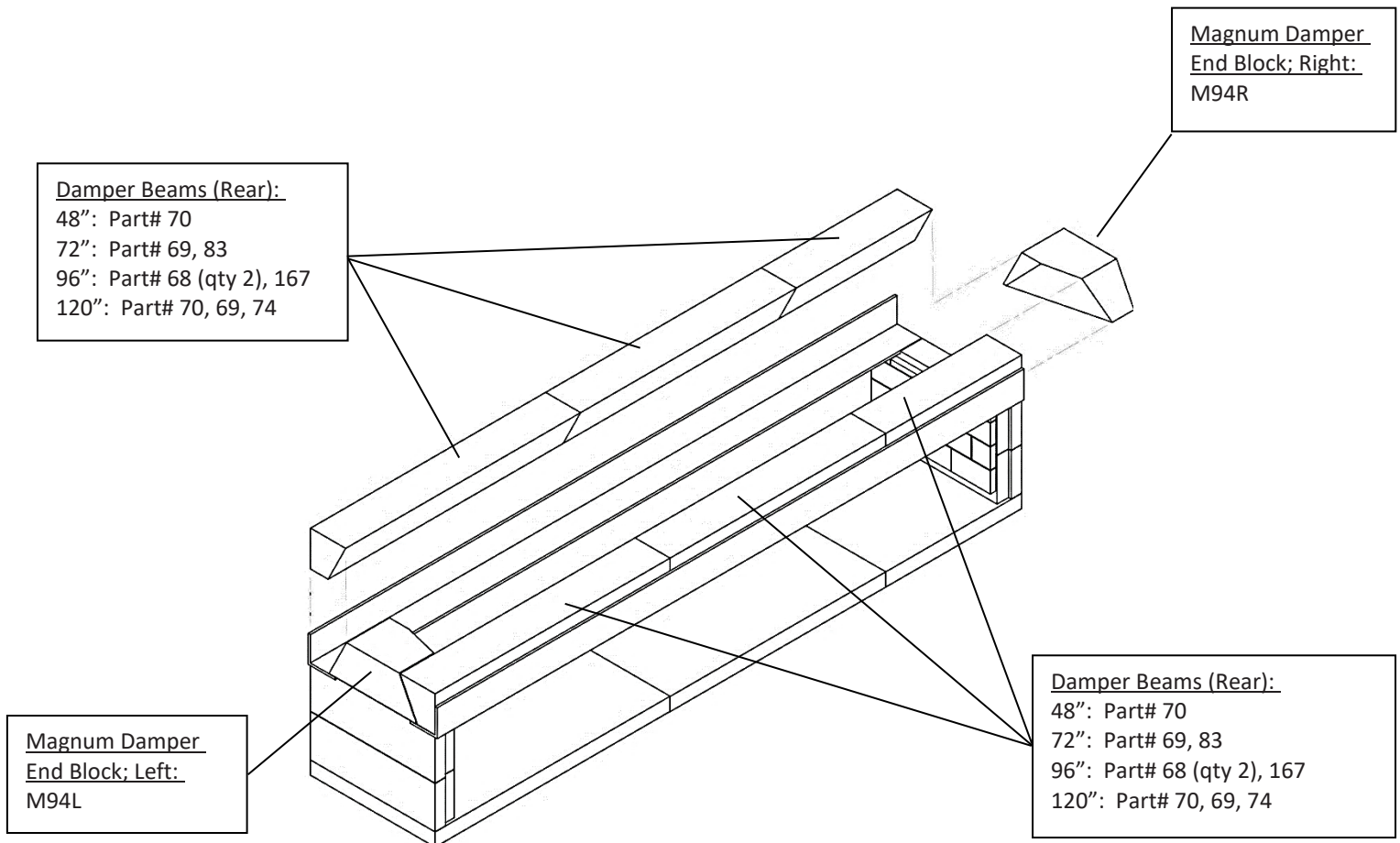
## Isokern Maximus Linear See-Thru Installation

- 6) The fireplaces come with an 8"-thick damper beam assembly, a component group that is to be assembled on top of the firebox side walls and steel angle iron (no steel angle iron in 48" model). The damper beam assembly consists of long lintel pieces and two (2) short damper end blocks. The lintels will be equal to the width of the fireplace model that they serve. These components both sit on their narrow base so that their beveled face points down and into the firebox interior (**Figure 12**).

The damper end blocks are designed to sit on the firebox side wall between the front lintel and the back lintel. Each of the damper end blocks are designed for a specific side of the unit. When properly set, the vertical face of each damper end block will be flush with the outside face of the firebox side wall (**Figure 12**).

Begin by setting the rear Damper Beam components into place. Next, set the Damper End Blocks into place atop the sidewalls in a bed of Earthcore Adhesive. Be sure to apply Earthcore Adhesive to the contact surfaces of each Damper End Block component where it will meet the front and back damper beam lintel components. Next, set the front Damper Beams into place.

**NOTE:** Be sure to apply Earthcore Adhesive to contact surfaces between all Isokern components

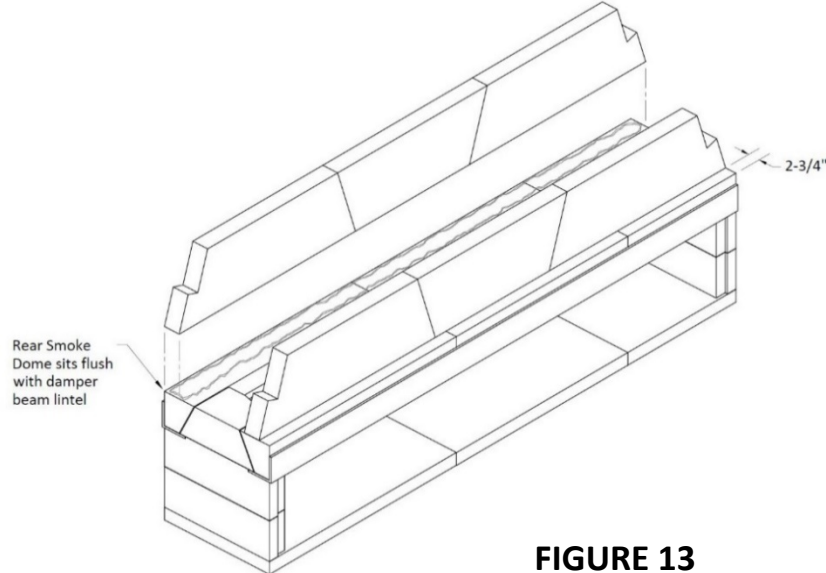


**FIGURE 12**

## Isokern Maximus Linear See-Thru Installation

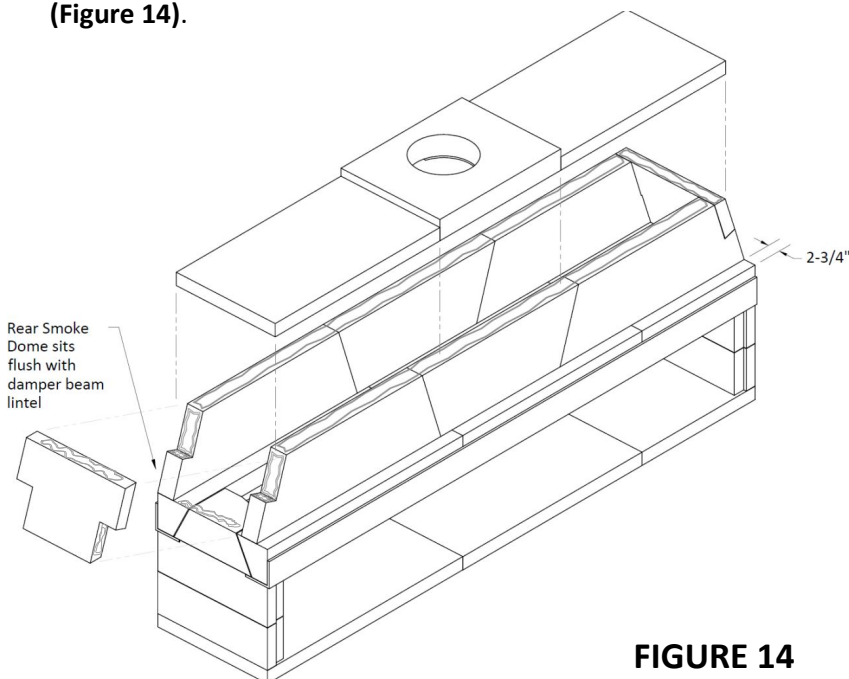
- 7) Set the rear smoke dome component(s) across the damper beam in a bed of Earthcore Adhesive and flush with the back face of the rear damper beam lintel.

Apply Earthcore Adhesive along the top of the front damper beam along its entire length; bead should be 3" from the front edge. Place the front smoke dome component(s) on the bead of Earthcore Adhesive so that approximately a 17" gap exists between the front and rear smoke dome components (**Figure 13**).



**FIGURE 13**

- 8) With the front/rear smoke dome components in place, apply Earthcore Adhesive to all adjoining surfaces of the sloping sidewall components. The sloping side walls will be placed in between the front and rear smoke dome components at the ends of the firebox and are designed to rest in their notched ends. Once assembled, compress the smoke dome components by applying pressure to the front/rear of the smoke dome assembly to force the components together. Repeat this process on the opposite side of the firebox (**Figure 14**).
- 9) Apply Earthcore Adhesive on top of the smoke dome wall assembly and set the top plates into position as shown in (**Figure 14**).



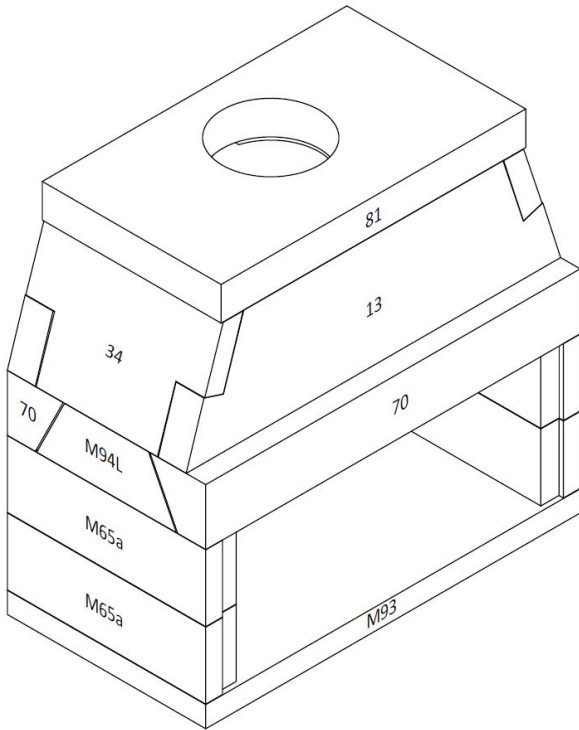
**FIGURE 14**

**NOTE:** The underside of the M77 top plate has a stop ledge to seal the smoke dome; the top side is flat.

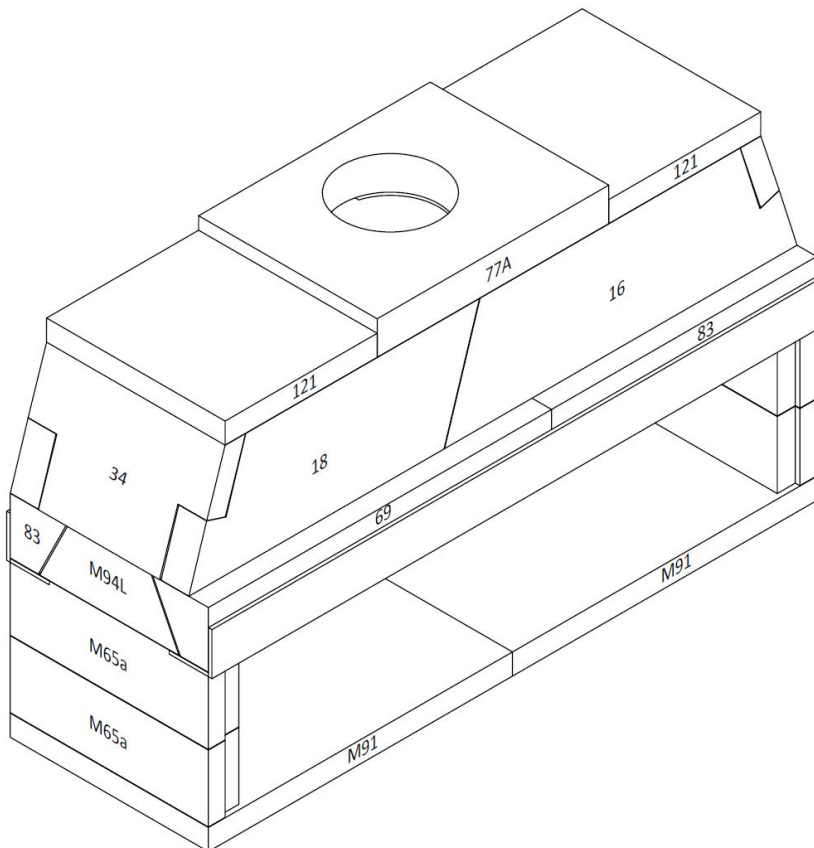
One side of the top plate shows a thickened center. This side is the bottom face.

The flue opening in the top plate is centered in the smoke dome from side to side but is offset towards the rear with the center being 10 3/4" from the back of the firebox.

## Assembled Maximus Linear See-Thru Units

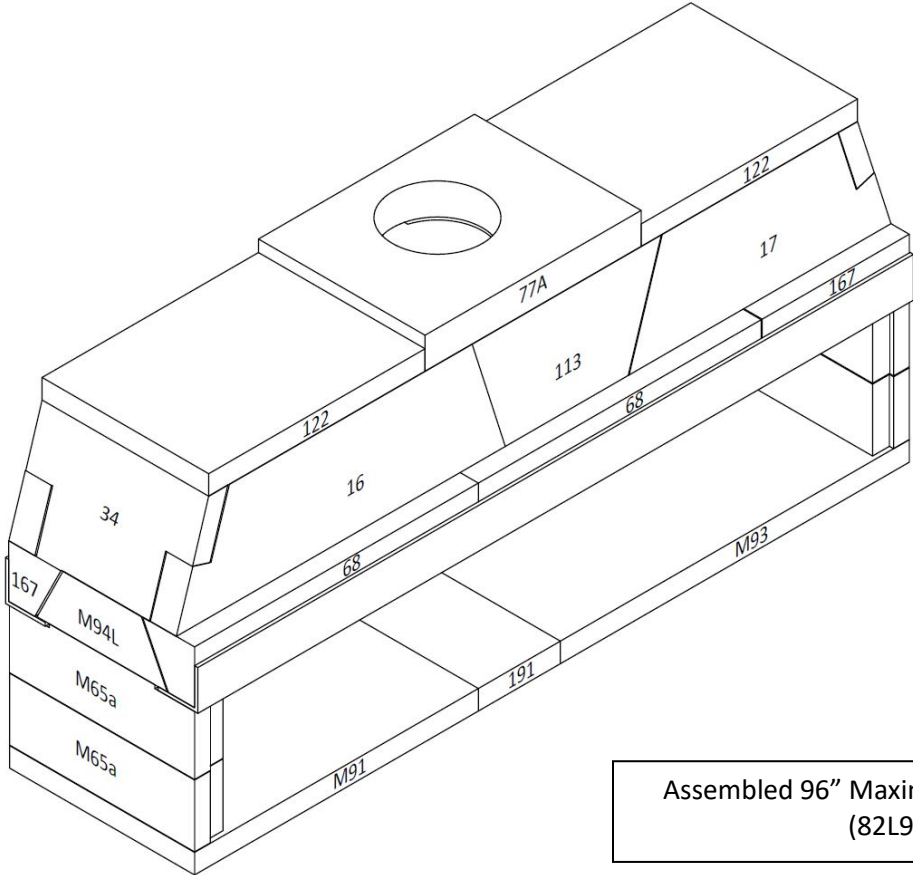


Assembled 48" Maximus Linear See-Thru  
(82L48ST)

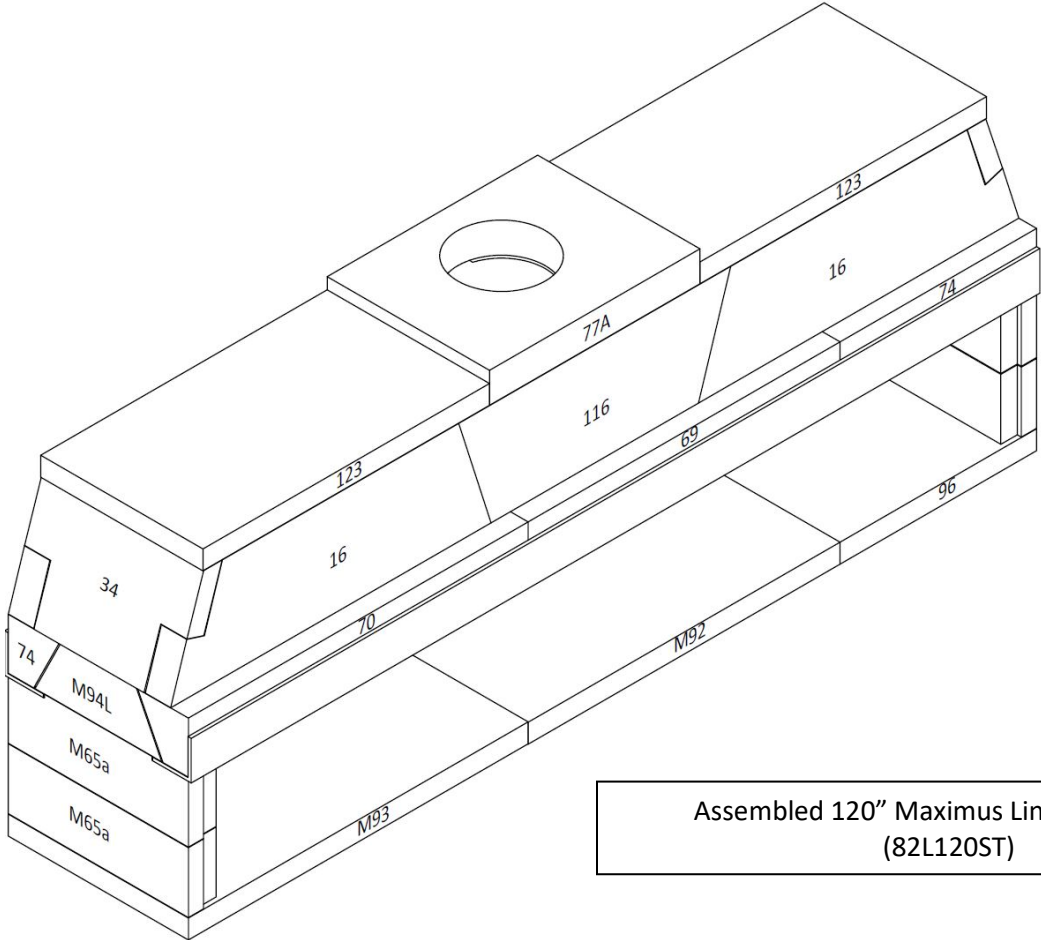


Assembled 72" Maximus Linear See-Thru  
(82L72ST)

**Assembled Maximus Linear See-Thru Units**



Assembled 96" Maximus Linear See-Thru  
(82L96ST).



Assembled 120" Maximus Linear See-Thru  
(82L120ST)



## Access Modification

### Combustion Air Kits, Gas & Electrical Line Feed

4" air kits are not required but recommended by Earthcore for the installation of this fireplace. Air kits may help improve fireplace operation in homes that are tightly sealed and with other ventilating appliances installed (**Figures 15 and 16**).

#### **TYPICAL AIR KIT COMPONENTS:**

- 4" diameter flexible stainless-steel duct
- Stainless steel sleeve approximately 12"
- Exterior vent termination with dress plate
- Weather hood including rodent prevention  $\frac{1}{4}$ " mesh screen

On one side of the firebox, the access door is fitted into the front  $\frac{1}{3}$  of the side wall. On the other side of the firebox, install in the opposing corner. The air kit's sleeve can be introduced into the firebox side wall by core drilling an appropriately sized hole at the selected firebox location. Keep the top of the access hole no more than six inches (6") above the finished firebrick floor. The hole size should allow for a one-quarter inch ( $\frac{1}{4}$ ") mortar joint around the air access sleeve for heat expansion.

**IMPORTANT:** It is highly recommended that the air kit duct be routed in the most direct path to the outside wall of the building. Air kits are typically supplied with 10' duct sections. It is recommended not to exceed twenty feet (20') of four-inch (4") pipe. If a longer length is required, it is recommended that a six-inch (6") diameter pipe be utilized, extending up to forty feet (40').

**WARNING!!!:** Do not use combustible duct material. Avoid installing a combustion air inlet where the opening could be blocked by snow, bushes, or other obstacles. Air inlet ducts shall not terminate in attics, basements, or garage spaces.

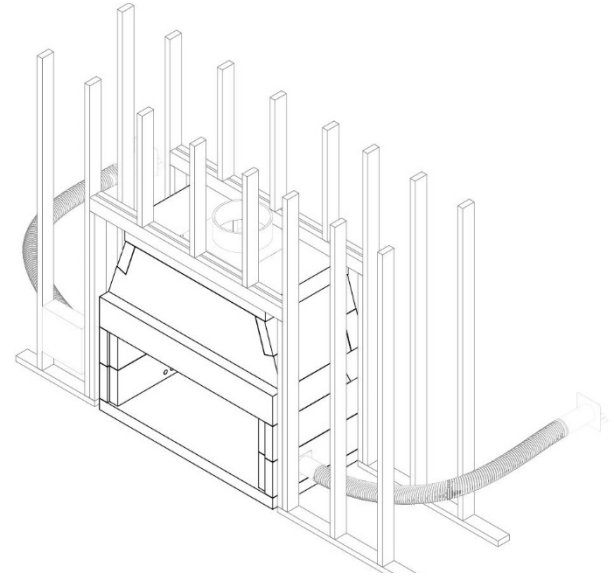
#### **GAS LINE FEED**

All Maximus Linear fireplaces require a  $\frac{3}{4}$ -1" hole be drilled into the sidewall for the installation of  $\frac{3}{8}$ " hard-piped gas supply to the Isoflames Linear Burner. Ensure all holes are filled with Earthcore Adhesive after installation (**Figure 17**).

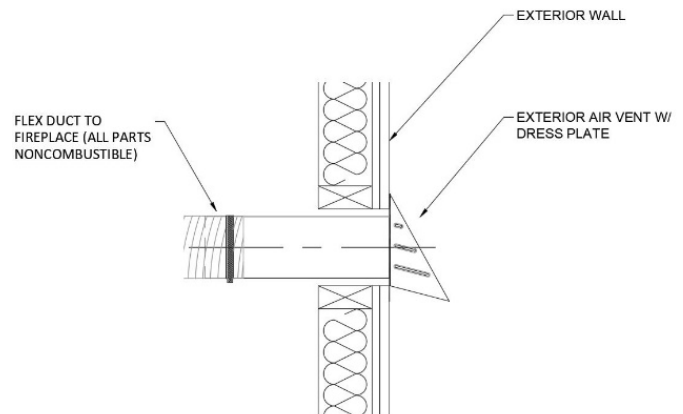
#### **ELECTRICAL LINE FEED**

All Maximus Linear fireplaces require a  $\frac{3}{4}$ -1" hole be drilled into the side wall for the connection of the pilot assembly gas and electrical connections. Be sure to follow the explicit electrical line connection instructions for the Isoflames Linear Burner and mechanical ventilation system as detailed in this manual. Ensure all holes are filled with Earthcore Adhesive after installation (**Figure 17**).

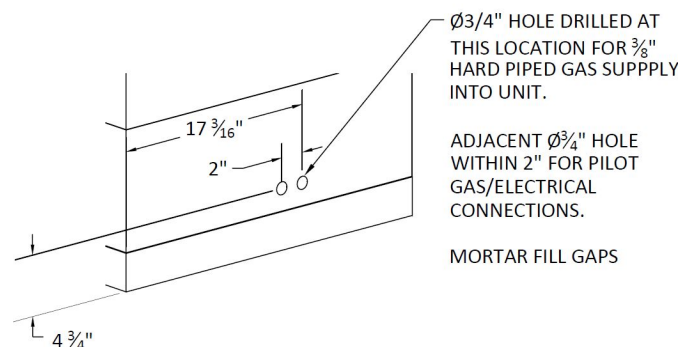
**NOTE:** Main gas line and electric line must be fed through separate access holes.



**FIGURE 15**



**FIGURE 16**



**FIGURE 17**



## B-Vent Metal Chimney - General Information

The Maximus Linear Series See-Thru Fireplaces are tested and listed for use only with the specified factory-built metal B-Vent chimney system as detailed in this manual. All Maximus Linear fireplace systems require 12" Metal-Fab Type-B Gas Vent Chimney System with Anchor Plate with Down-Draft Diverter.

### **APPROVED MANUFACTURERS**

Metal-Fab® (UL 441 & ULC S605) Type B Gas Vent

**NOTE:** The selected, approved chimney manufacturer must provide the masonry anchor plate with down draft diverter designed to fit their flue system.

All chimneys and chimney liners must be installed in accordance with the manufacturer's installation instructions and under the terms of their listing.

Refer to metal flue manufacturer instructions for information regarding the number of offsets allowed, approved chimney shrouds, clearance to combustibles, and or any information specific to that flue system. B-Vent Chimney is not designed for use on products that operate at continuous temperatures exceeding in excess of 1000°F.

**IMPORTANT:** Never fill any required clearance space with insulation or any other building materials surrounding the chimney. B-Vent chimney pipe requires one (1") air space clearance. Do not place any material within the required one (1") clearance zone. The vent pipe listing may be voided if the clearance requirement is not adhered to.

Exterior metal parts of the chimney, with exception of the mechanical draft components, can be painted with a high temperature rust proof paint. Wash the metal surface with a vinegar and water solution to remove any residue before painting. Painting the chimney will help to increase chimney life.

Interior chimneys shall be enclosed where they extend through closets, storage areas, occupied spaces, or anywhere the surface of the chimney could be contacted by persons or combustible materials. The air space between the outer wall of the chimney and the enclosure shall not be less than 1 inches.

Except for installation in one- or two-family dwellings, a factory-built chimney that extends through any zone above that on which the connected appliance is located is to be provided with an enclosure having a fire resistance rating equal to or greater than that of the floor or roof assemblies through which it passes.

In cold climates, chimneys routed outside of the building should be enclosed in a chase. Exterior chases reduce condensation and enhance draft.

Proper planning for your B-Vent Chimney installation will result in enhanced safety, efficiency, and convenience. You must use only B-Vent Chimney parts and components to maintain a listed chimney system. Do not mix parts or try attempt to match with other products or use improvised solutions.



Install your Isokern fireplace as described in this installation manual and maintain all required clearances.


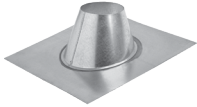



Connect only one fireplace per chimney. Follow the fireplace safety manual for maximum efficiency and safety. Do not over fire. Any damage to the fireplace or chimney can possibly void the warranty.

Do not burn food, wood, driftwood, plastic, or chemically treated wood such as railroad ties. They are corrosive to your chimney system. Use of any fuel other than gas on burner rating plate will void the warranty of this fireplace and is prohibited. **THIS IS A GAS ONLY FIREPLACE.**

**IMPORTANT:** A major cause of chimney related fires is failure to maintain required clearance (air spaces) to combustible material. Minimum clearance for 12" diameter B-vent chimney is one (1) inch. It is of utmost importance that this chimney system is installed only in accordance with these instructions.

**B-Vent Metal Chimney & Components**

| Component  | Part#  | Description                  |
|--|--------|------------------------------|
|   | 12M12  | B-Vent 12" Length            |
|  | 12M18  | B-Vent 18" Length            |
|  | 12M24  | B-Vent 24" Length            |
|  | 12M3   | B-Vent 3' Length             |
|  | 12M4   | B-Vent 4' Length             |
|  | 12M5   | B-Vent 5' Length             |
|   | 12M12A | B-Vent 12" Adjustable Length |
|  | 12M18A | B-Vent 18" Adjustable Length |
|   | 12M45  | 45 Deg Adjustable Elbow      |
|  | 12MDD  | 12" B-Vent Draft Diverter    |

| Component  | Part# | Description                    |
|--|-------|--------------------------------|
|  | 12MGR | B-Vent Guy Ring                |
|  | 12MF  | B-Vent Standard Flashing       |
|  | 12MFS | B-Vent Firestop                |
|  | 12MSC | B-Vent Storm Collar            |
|   | 12MFT | B-Vent Flat Tall Cone Flashing |

**General Venting Requirements**

The Maximus Linear fireplace may be vented with a vertical or horizontal termination. The ideal termination must be determined for each fireplace that is to be installed. Venting paths may be vertical, horizontal, or a combination of vertical and horizontal paths.

Vent systems are limited to the dimensions listed in **Table 1**:

|  | Minimum | Maximum |
|--|---------|---------|
| Vertical Termination Only  | 10 feet | 75 feet |
| Horizontal Termination Only  | 4 feet  | 75 feet |
| 90° offsets*   | 0       | 2       |
| *Note: Sum of all offsets shall not exceed 180° in a run, with a maximum offset angle of 90° |         |         |

**Table 1**

Contact Earthcore representative for total distances exceeding the table minimums / maximums.

**Selecting Horizontal or Vertical Venting System**

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.

## General Vent Systems – Vent Configurations

- 1) Mount Anchor Plate with Down Draft Diverter: Chimneys for all Maximus Linear fireplace systems must begin with an Anchor Plate with Down Draft Diverter. It is important that the surface of the Isokern chimney has a level surface on which to attach the Anchor Plate. If the top of the Isokern does not have a level surface, then it will need to be modified accordingly.
- 2) Center the Isowool blanket over Isokern Top Plate's outlet and trace the outlet's outline with a pen or marker. Cut a hole in the blanket along this outline to match the hole in the Isokern top plate. Center the cut Isowool blanket over the Isokern Top Plate flue opening, then center anchor plate over the Isowool blanket (**Figure 18**).
- 3) Secure the Anchor Plate with four (4) masonry anchors.
- 4) Starting at the anchor plate, attach the first section of B-Vent Pipe.

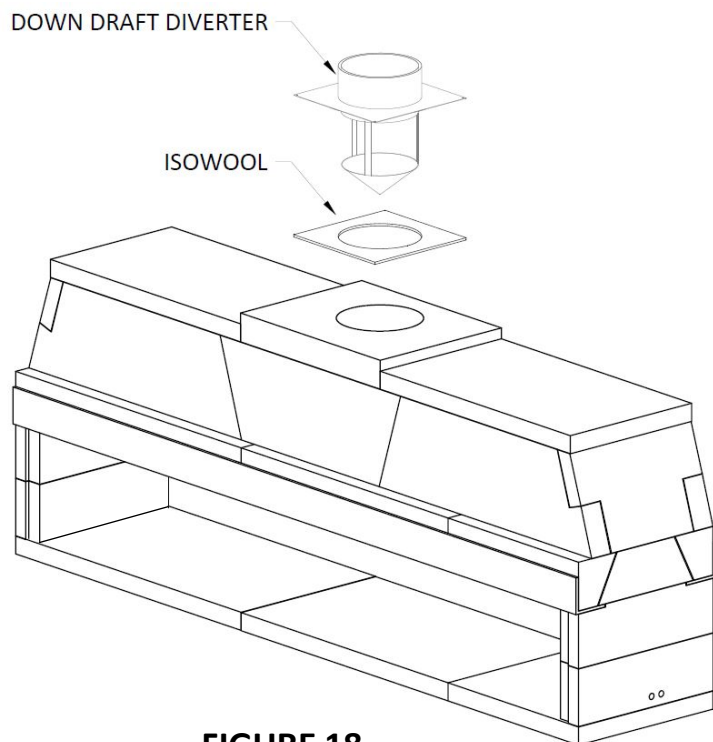
The B-Vent sections and components use the Metal-Fab positive twist-lock for interconnections. Align the ends of the vent, push together then twist section to lock in place (**Figure 19**).

No additional fasteners are required to assure a safe installation. It is acceptable to apply screws at the joints if local code requires, or at the installing contractor's option, provided that the screws do not penetrate the flue inner wall.

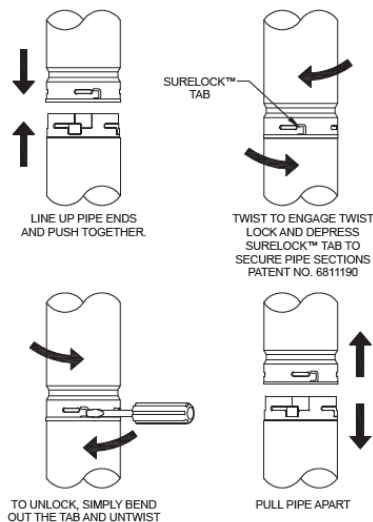
**NOTE:** When installing B-Vent always align "Up" arrow away from appliance. Chimneys must be installed so that access is provided for inspection and cleaning.

**NOTE:** Vent height minimum is 10 feet, maximum height shall comply with NFPA 54, chapter 13.1 requirement

**For vertical termination proceed to step 5; for horizontal termination proceed to step 10**



**FIGURE 18**



**FIGURE 19**

## General Vent Systems – Vent Configurations

**IMPORTANT:** The B-Vent type chimney system must be enclosed within a chase when installed in or passing through a living area where combustibles or people may contact the chimney. This is important to prevent possible personal injury or fire hazard.

- 5) If the installation is a continuous vertical run that does not pass through any attic, floors, or ceilings; continue the installation of the chimney by installing sections of B-vent pipe up to the location of termination. Proceed to Step 8.
- 6) If the installation must pass through an attic, floor, or ceiling the B-vent Firestop shall be utilized. To pass the pipe through the floor/ ceiling, begin by cutting a hole in the floor/ ceiling that is 2 inches larger than the outside diameter (OD) of the B-vent pipe's outer casing. The B-vent Firestop is installed at the underside of this penetration. The B-Vent pipe is to be centered in the firestop's opening. When installed, check to make sure the one-inch (25.4 mm) clearance to combustible has been maintained.

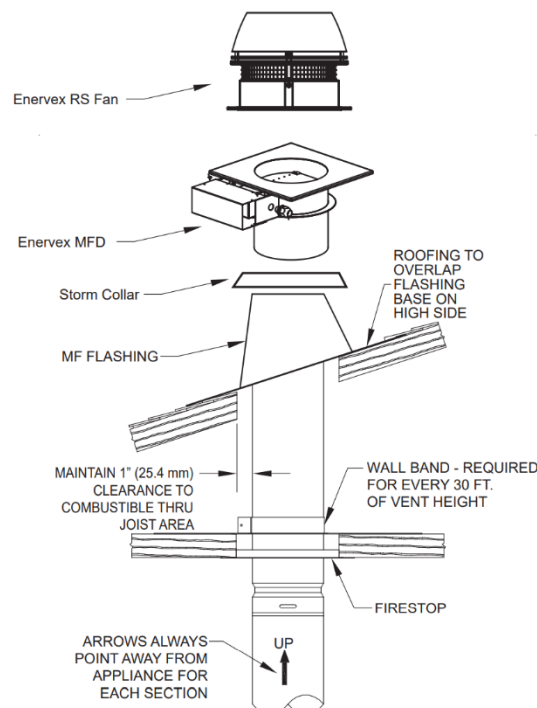
**IMPORTANT:** If the area above the penetration is an attic, the firestop shall be installed above the joist to prevent insulation from filling the required clearance area between the pipe and joists.

- 7) 45° Elbows are available to install the B-vent chimney around obstructions. If the installation requires more than two 90-degree offsets, contact Earthcore Technical representative for assistance.

**NOTE:** Two 45° elbows may be combined to achieve 90° offset.

**NOTE:** Sum of all offsets shall not exceed 180° in a vent run, with a maximum offset angle of 90°. Contact Earthcore Technical representative for issues regarding offset allowance

- 8) Where the B-Vent installation penetrates the roof, begin by cutting a hole that is 2 inches larger than the outside diameter (OD) of the B-vent pipe's outer casing. The B-Vent pipe is to be centered in this opening. Above the roof, a flashing is required to maintain the one-inch (25.4 mm) clearance to the combustibles of the roof. Installation of a storm collar allows water to drain over the flashing (**Figure 20**).



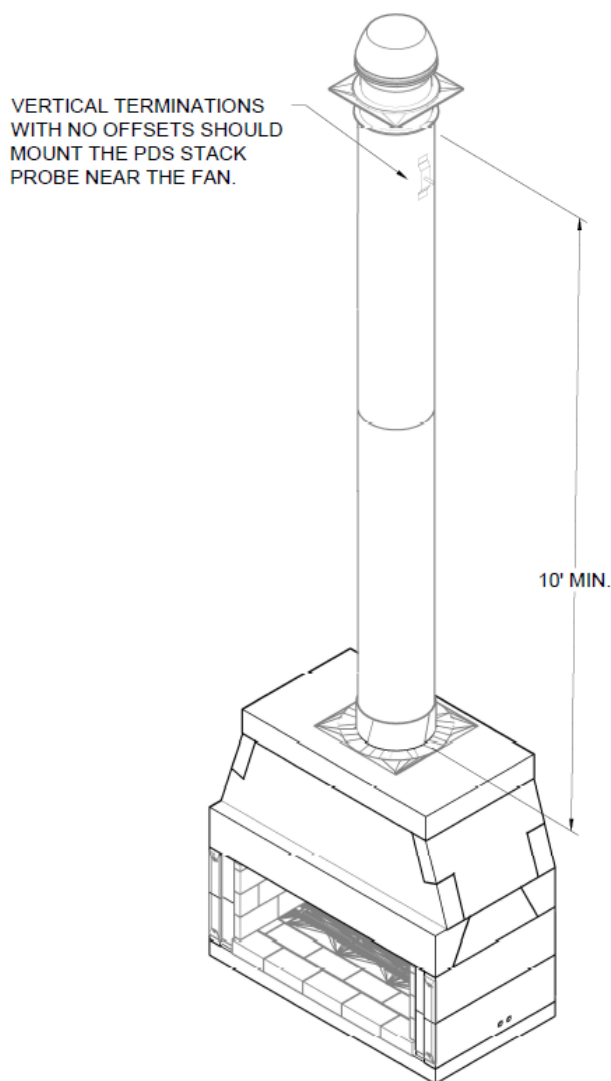
**FIGURE 20**

## Vertical Termination Systems – Vent Configurations

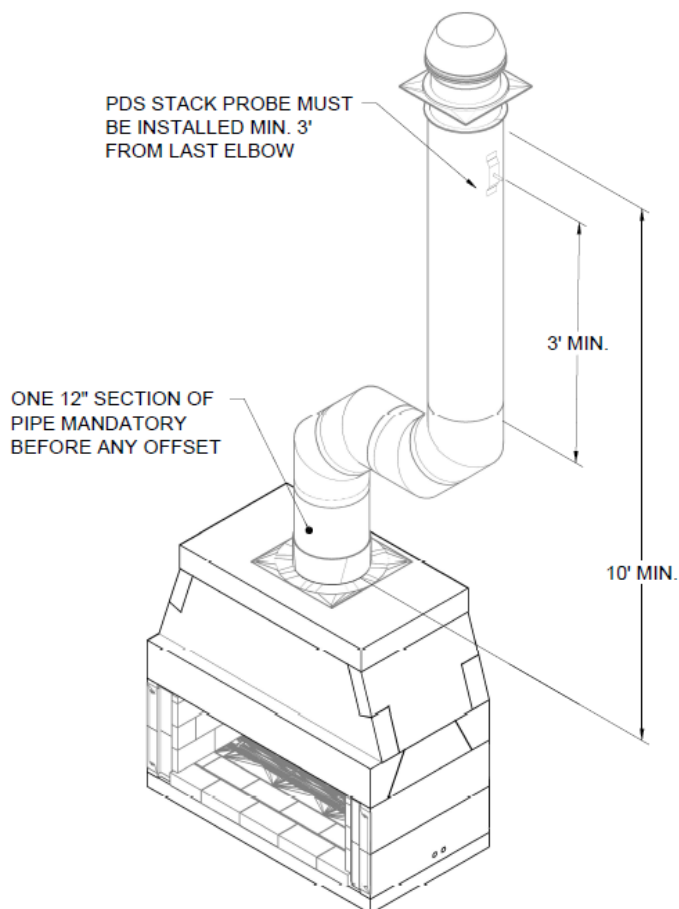
**NOTE:** A B-Vent support plate (MSP) is required if vertical height exceeds 30 feet. Maximum of 30 feet between supports.

- 9) The vertical vent system will be terminated with a mechanical draft system. Installation instruction for the mechanical draft system begins on page 32

**NOTE:** Vertical termination skip steps 10-11



**FIGURE 21**



**FIGURE 22**

## Horizontal Termination Systems – Vent Configurations

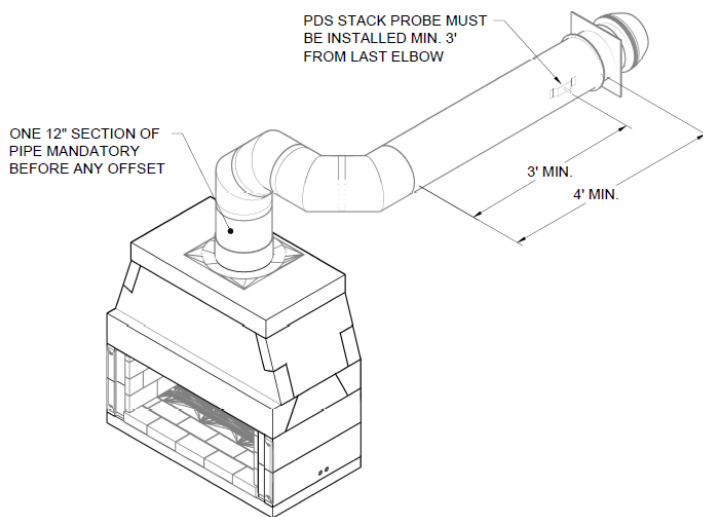
- 10) For horizontal terminations, install at least one 12" vertical pipe section on the anchor plate before any elbow installation

**NOTE:** Two 45° elbows may be combined to achieve 90° offset.

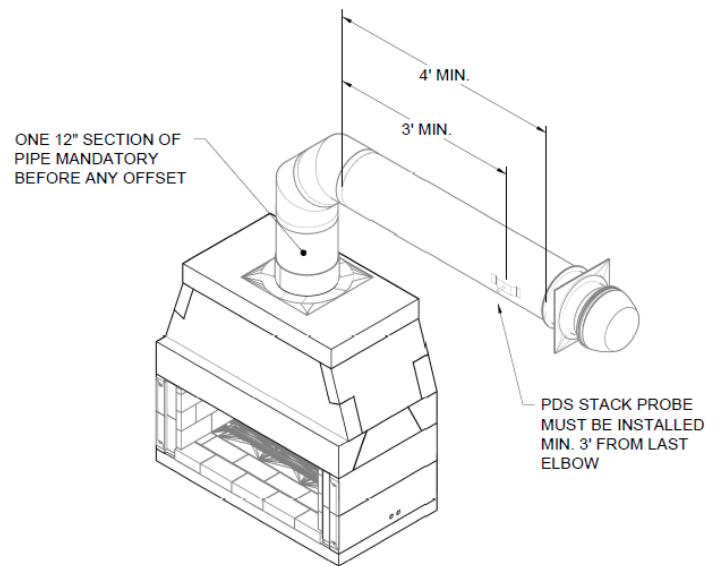
**NOTE:** A minimum of 48" length of chimney pipe is required from the last elbow for horizontal termination.

- 11) If the installation is a continuous horizontal run that passes through any combustible wall, a wall thimble is to be utilized at each wall penetration. Continue the installation of the chimney by installing sections of B-vent pipe up to the location of termination.
- 12) If the installation must pass through an attic, floor, or ceiling the B-vent Firestop shall be utilized. To pass the pipe through the floor/ ceiling, begin by cutting a hole in the floor/ ceiling that is 2 inches larger than the outside diameter (OD) of the B-vent pipe's outer casing. The B-vent Firestop is installed at the underside of this penetration. The B-Vent pipe is to be centered in the firestop's opening. When installed, check to make sure the one-inch (25.4 mm) clearance to combustible has been maintained.
- 13) The horizontal vent system will be terminated with a mechanical draft system. Installation instruction for the mechanical draft system begins on page 32.

**IMPORTANT:** Framing and sheathing at horizontal termination shall require non-combustible material within the 18" clearance zone as measured from outer diameter of MFD collar.


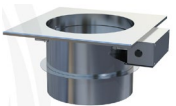
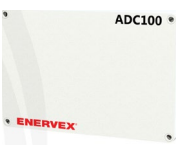


**FIGURE 23**



**FIGURE 24**

## Enervex RS Chimney Fan & MFD Components

| Component   | Part#         | Description   |
|---|---------------|---|
|  | 101.0499.1200 | Enervex RS 12 Chimney Fan w/ controls                   |
|   | 101.0699.1200 | Enervex RS 14 Chimney Fan w/ controls                   |
|   | 101.0899.1200 | Enervex RS 16 Chimney Fan w/ controls                   |
|  | 216.0100.1212 | 12" MFD for RS 09 and RS 12- 304 stainless steel, 120V  |
|   | 216.0200.1212 | 12" MFD for RS 14 and RS 16 - 304 stainless steel, 120V |
|  | 302.0100.1200 | ADC100, Universal Control w. variable speed & PDS       |

### Enervex RS Chimney Fan & MFD - General Information

**IMPORTANT: READ THESE INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION.**

**IMPORTANT: EXAMINE ALL COMPONENTS FOR POSSIBLE SHIPPING DAMAGE PRIOR TO INSTALLATION.**

This installation manual does not contain any system design documentation. System design documentation is available from any authorized ENERVEX representative. Accessories, fans, and variable frequency drives are not covered by this manual. Please refer to these component's individual manuals.

**IMPORTANT: TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:**

- 1) Use this unit in the manner intended by the manufacturer. If you have questions, contact the manufacturer at the address or telephone number listed on the front of the manual.
- 2) Before servicing or cleaning the unit, switch off at service panel and lock service panel to prevent power from being switched on accidentally.
- 3) Installation work and electrical wiring must be done by a qualified person(s) in accordance with applicable codes and standards.
- 4) Follow the appliance manufacturer's guidelines and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
- 5) This unit must be grounded.



## MFD - General Information

The ENERVEX MFD is a low profile, automated fireplace damper. It is for use in conjunction with an ENERVEX ADC100 control and RS model chimney fan as part of the Ecodamper System. It prevents excess heat from escaping through the chimney when the fireplace is not in use.

The MFD is designed for chimney top installations and is for use with gas fireplaces only.

The MFD is powered by a 120 / 24 VAC actuator. The actuator is interlocked to the control, so it only operates when the fireplace is in use and the fan is running. When there is a call for heat from the fireplace, the ADC100 control begins its operational sequence to open the damper and start the chimney fan. Once the damper opens and there is sufficient draft in the chimney, the control releases the gas valve for fireplace operation.

The actuator has two end switches to prove damper position (open or closed) and is equipped with the Enerdrive fail safe system to open the damper in the event of an electrical or mechanical failure.

The damper is rated for temperatures up to 575°F (300°C). The damper is sized to provide sufficient clearance between the damper blade and the fan inlet when open. The MFD is constructed of 18-gauge, type 304 stainless steel.

System installation must conform to the requirements of the authority having jurisdiction. When required by the authority having jurisdiction, the installation must also conform to the NFPA31, NFPA54 or NFPA211.

All electrical wiring must be in accordance with the requirements of the authority having jurisdiction or, in absence of such requirements, with the National Electric Code, NFPA 70.

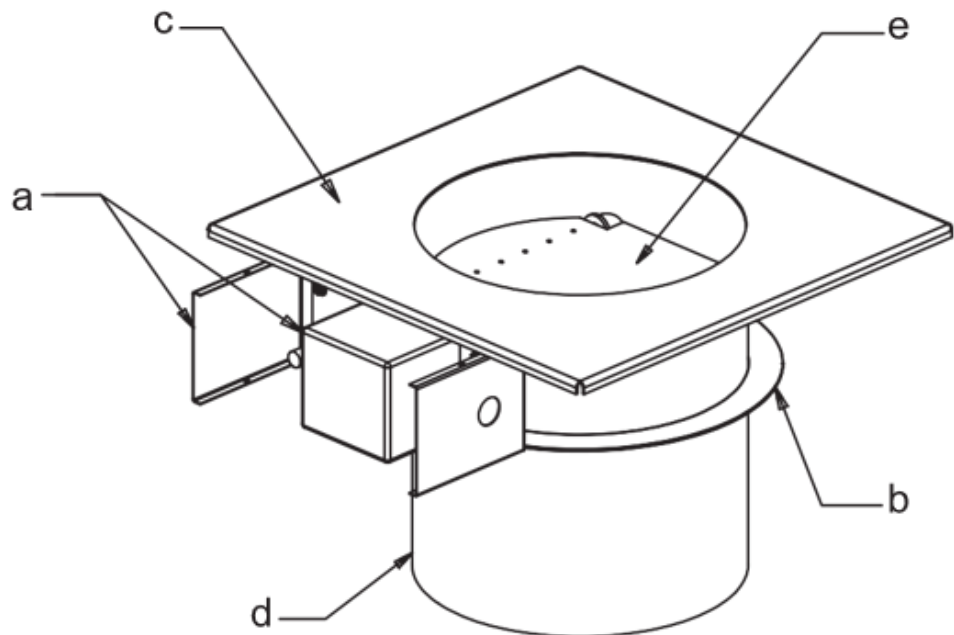
### WARRANTY

2-Year Factory Warranty. Complete warranty conditions are available from ENERVEX, Inc.

### COMPONENTS

Components of the MFD (**Figure 25**) are listed below:

- a - Actuator / Actuator Cover
- b - Stop Flange
- c - Fan Adapter
- d - Collar
- e - Damper Blade



**FIGURE 25**

## RS Chimney Fan - General Information

The RS Chimney Fan is a chimney top mounted ventilator that is designed to provide large flue gas volume capacities. It is designed and intended for use with residential gas or oil-fired central space heating systems, for volume water heating or for combination space heating/volume water heating. It is also suitable for use with gas-fired fireplaces.

This product is developed to prevent draft problems from occurring by creating a mechanical draft in venting systems and thereby also increasing the capacity and efficiency of a venting system.

The use of the RS Chimney Fan is not restricted to any type of chimney, because the fan creates a negative pressure (below atmospheric) in the chimney or vent.

### CODE COMPLIANCE

Installations must conform to requirements of the authority having jurisdiction. Where required by the authority having jurisdiction, the installation must also conform to the Standard for Draft Equipment and The National Fuel Gas Code, ANSI Z223.1/NFPA 54.

All electrical wiring must be in accordance with the requirements of authority having jurisdiction or, in the absence of such requirements, with the National Electrical Code, NFPA70.

### LISTINGS

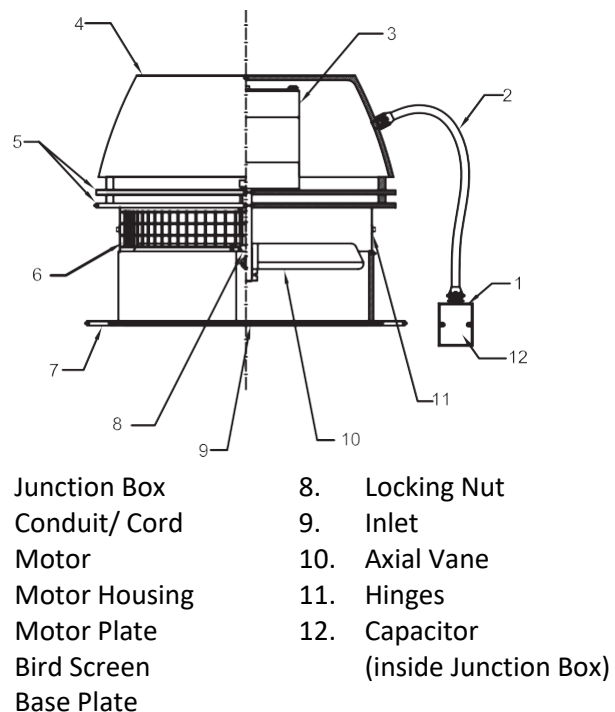
The Model RS is tested and listed to UL Standard 378, Standard for Draft Equipment. The fan is manufactured at an ISO9001 certified plant and bears the European CE compliance label.

The chimney fan must be interlocked with the connected appliance(s) to ensure proper combustions and to avoid flue gas spillage.

### WARRANTY

ENERVEX products are warranted for a period of two (2) years following the date of invoice. Replacement or repair will be at ENERVEX's discretion, provided factory inspection shows a defect in material or workmanship.

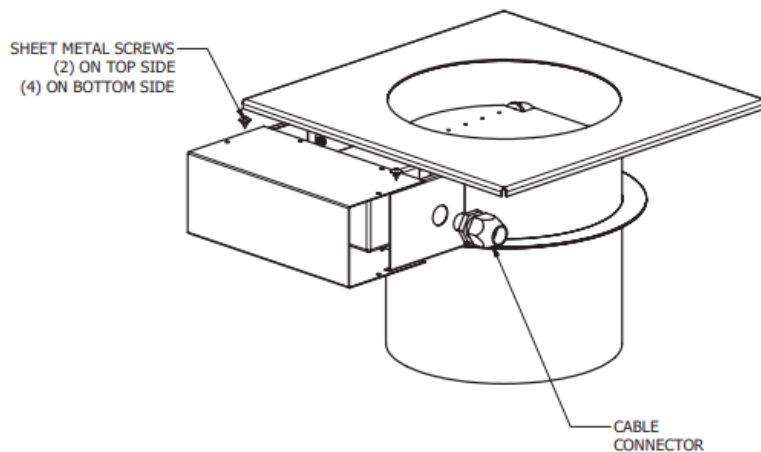
Complete warranty conditions are available from ENERVEX.



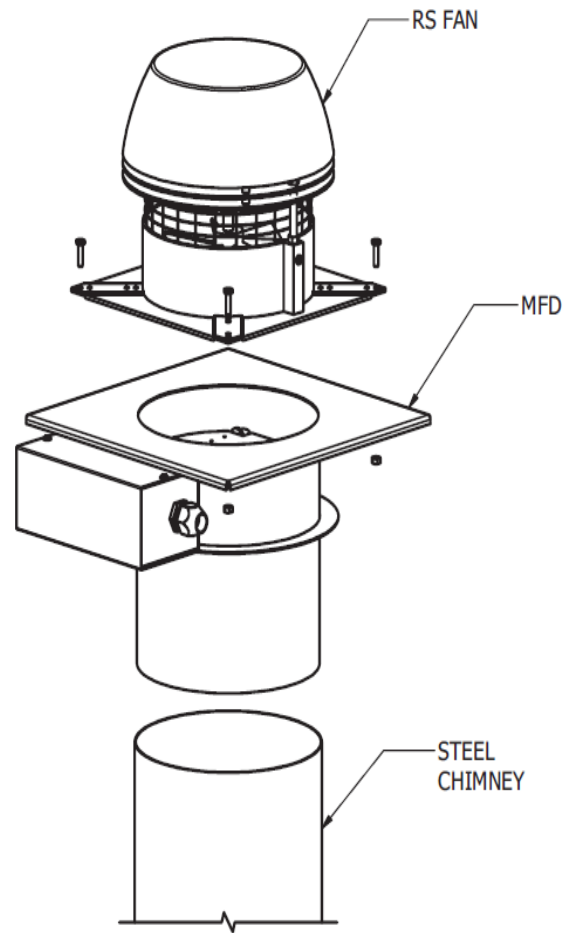
**FIGURE 26**

## MFD – Vertical Termination Installation

1. Before installing the MFD on the chimney, a power cable should be wired to the actuator and the actuator cover should be secured (**Figure 27**).
2. Use 4-conductor cable (min. 18 AWG) with a weatherproof jacket such as rubber or silicone. Install a weatherproof cable connector on the side of the actuator cover to prevent water ingress to the actuator.
3. Use (6) of the included sheet metal screws to secure the actuator cover to the MFD. Once secure, apply a bead of silicone around the seams of the cover.
4. Mount the MFD outdoors at the top of the steel chimney run. Slide the collar of the MFD into the steel chimney until the damper rests on the stop flange. Sheet metal screws may be installed around the collar into the chimney for additional support.



**FIGURE 27**



**FIGURE 28**

## RS Chimney Fan Installation

### Support system for the chimney fan

Prior to installation of the chimney fan, it must be assured the chimney can safely carry the weight of the chimney fan. A steel chimney should be well supported at the roof penetration point. If the chimney extends more than 20' above the roof, the chimney and the fan should be secured by wires attached on the chimney and on the roof at 2 to 3 different points.

Brick chimneys usually do not need any kind of support to carry the weight of the chimney fan.

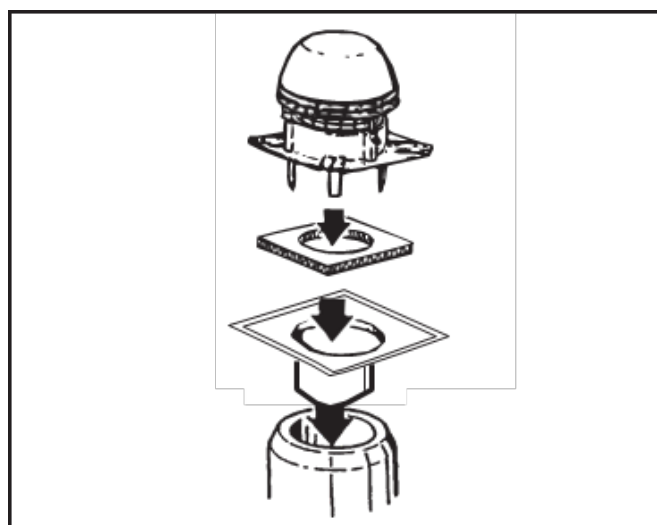
### TRANSPORT SAFETY DEVICE

If a transport safety device is present, remove it from the vane and make sure that the vane can revolve without hindrance.

Before mounting any transport safety device on the hinges must be removed.

### Fan Installation – Vertical Termination

5. Measure the inside diameter of the flue and cut a corresponding hole in the center of the fiber mat. If the flue is so big that the throat in the adapter has been reduced to fit the throat of the fan, the hole in the fiber mat should correspond to the throat.
6. The aluminum foil on the fiber mat must face upward (against fan base).
7. The chimney fan is now ready for installation on the top of the chimney. Place the fiber mat with the aluminum foil facing upwards on the top of the MFD and place the fan on top of the mat. High temperature silicone can be applied on the side of the mat but is not required. It can also be painted. Use the mounting holes on the fan base as a drill template to make one mounting hole in each corner of the adapter. Use bolts and locking nuts to secure the fan to the MFD. **(Figure 29)**



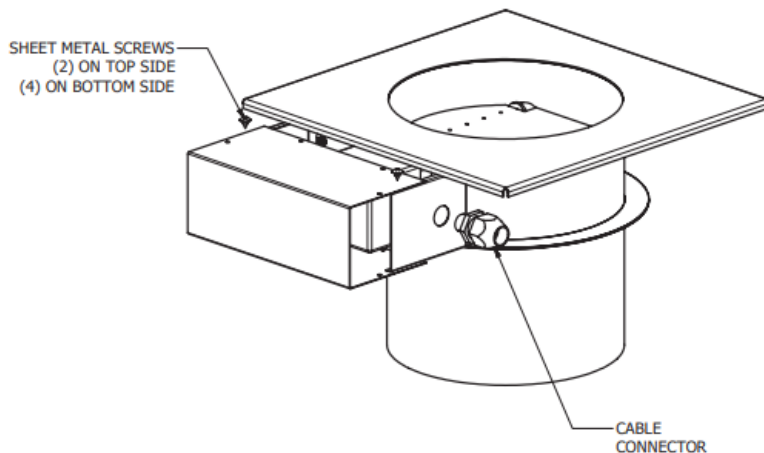
**FIGURE 29**

**WARNING!!!:** Under conditions with extremely strong winds surrounding the top of the chimney, the chimney fan must be secured by steel wires supplied with the fan.

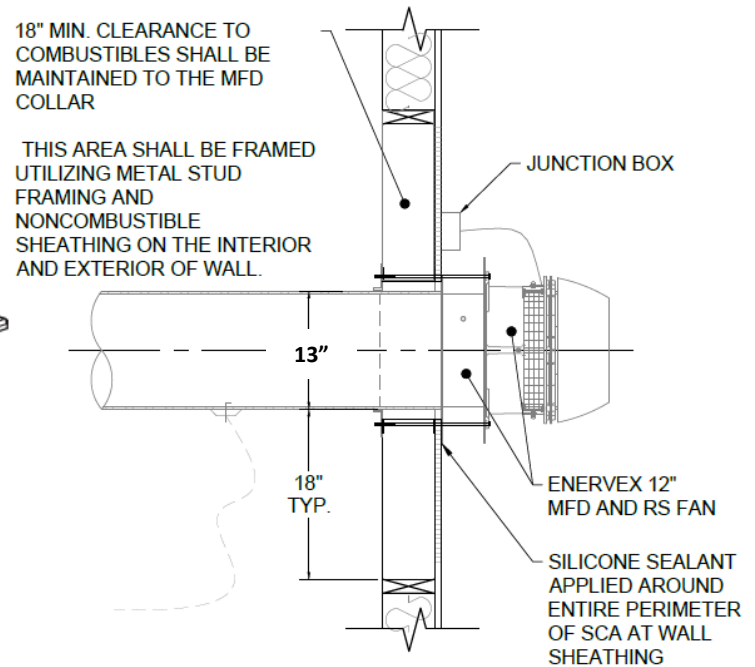
## MFD – Horizontal Termination Installation

1. Before installing the MFD on the chimney, a power cable should be wired to the actuator and the actuator cover should be secured (**Figure 30**).
2. Use 4-conductor cable (min. 18 AWG) with a weatherproof jacket such as rubber or silicone. Install a weatherproof cable connector on the side of the actuator cover to prevent water ingress to the actuator.
3. Use (6) of the included sheet metal screws to secure the actuator cover to the MFD. Once secure, apply a bead of silicone around the seams of the cover.
4. Mount the MFD outdoors at the end of a steel chimney. Slide the collar of the MFD into the steel chimney until the damper rests on the stop flange. Sheet metal screws may be installed around the collar into the chimney for additional support. Fasten the MFD to noncombustible framing with metal fasteners or bolts with locking nuts (**Figure 31**)

**NOTE:** An 18" clearance to combustibles is required for the MFD.



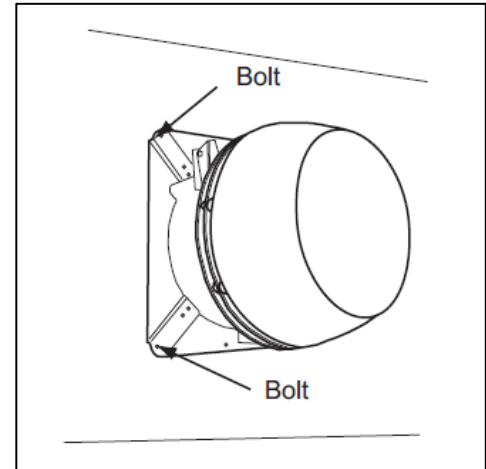
**FIGURE 30**



**FIGURE 31**

## RS Chimney Fan – Horizontal Termination Installation

5. To ease installation, detach the fan base by removing the bolts holding the hinges together. Center the fan base over the outlet and bolt the base onto the wall with the hinges pointing upwards. (**Figure 32**)
6. After mounting the base securely, attach the fan motor housing by reassembling the fan hinges. Seal with silicone all around the fiber mat to prevent rain from entering the flue.
7. In order to achieve optimal performance and energy consumption for the RS Fan, the duct must be installed as shown below and the distances observed. From the last elbow to the termination point the distance must be 4 times the diameter of the flue. For example, if you using 12in flue (12 X 4 = 48in). The distance from the last elbow to the fan termination point should be 48 inches. (**Figure 33**)

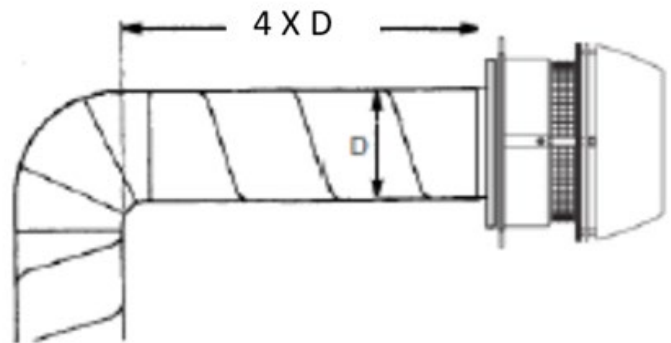


**FIGURE 32**

8. A venting system that terminates in the sidewall of a structure shall terminate at least 3 ft (0.9 m) above any air inlet to the structure that is within 10 ft (3 m) of the termination point.

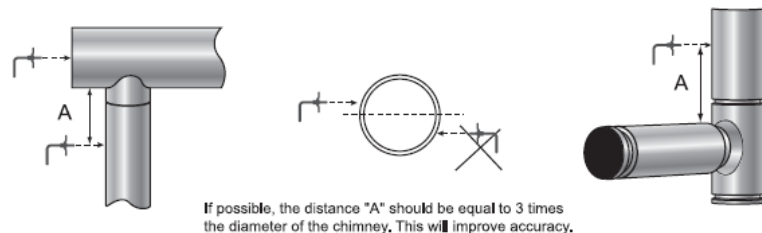
**Exception:** This requirement shall not apply to the separation distance between the circulating air inlet and the vent discharge of a listed outdoor appliance.

**NOTE:** The flue gas outlet of this appliance shall terminate at least 4 ft (1.2 m) below, 4 ft (1.2 m) horizontally from, or 1 ft (0.3 m) above any door, window, or gravity air inlet of the structure. The outlet also shall terminate at least 1 ft (0.3 m) above grade.



**FIGURE 33**

9. ADC100 must be interlocked with the appliance(s). The safety system will utilize a Proven Draft Switch, PDS. The PDS device must be interlocked with the gas appliance, so it shuts down in case of insufficient draft, fan failure or power failure. Please refer to the PDS Installation Manual if this control is used.
10. The **Figure 34** shows the location of the probe for the PDS. Location is important to make sure there is enough pressure or draft available or the switch to work. PDS location to be at 3' from last elbow before termination of vent system.

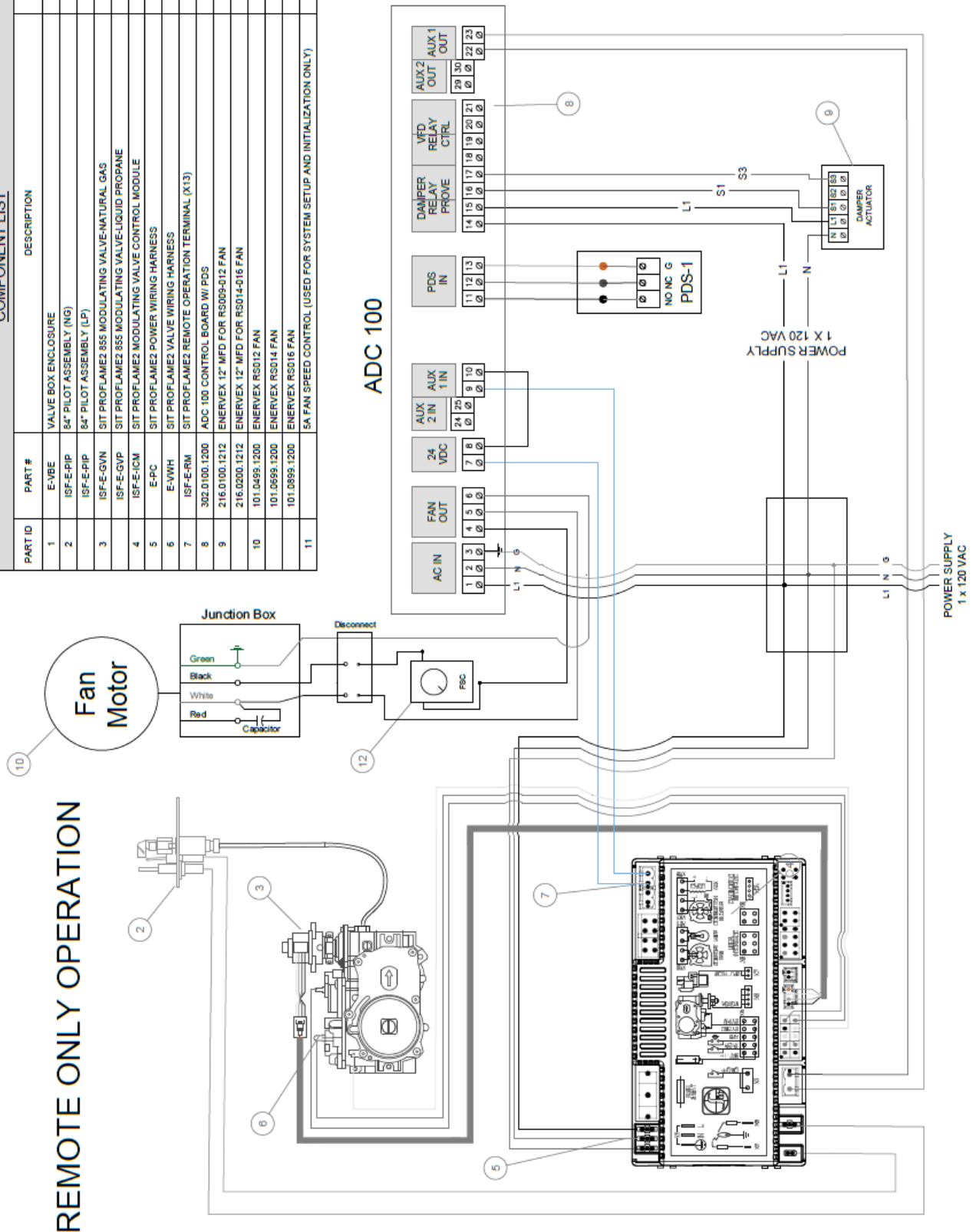


**FIGURE 34**

**IMPORTANT:** Framing and sheathing at horizontal termination shall require non-combustible material within the 18" clearance zone as measured from outer diameter of MFD collar.

## Complete Electrical Schematic

| COMPONENT LIST |               |  |     |
|----------------|---------------|--|-----|
| PART ID        | PART #        | DESCRIPTION  | QTY |
| 1              | E-VBE         | VALVE BOX ENCLOSURE  | 1   |
| 2              | ISF-E-PIP     | 84" PILOT ASSEMBLY (NG)  | 1   |
|                | ISF-E-PIP     | 84" PILOT ASSEMBLY (LP)  |     |
| 3              | ISF-E-GVN     | SIT PROFLAME2 855 MODULATING VALVE-NATURAL GAS                       | 1   |
|                | ISF-E-GVP     | SIT PROFLAME2 855 MODULATING VALVE-LIQUID PROPANE                    |     |
| 4              | ISF-E-ICM     | SIT PROFLAME2 MODULATING VALVE CONTROL MODULE                        | 1   |
| 5              | E-PC          | SIT PROFLAME2 POWER WIRING HARNESS                                   | 1   |
| 6              | E-VWH         | SIT PROFLAME2 VALVE WIRING HARNESS                                   | 1   |
| 7              | ISF-E-RM      | SIT PROFLAME2 REMOTE OPERATION TERMINAL (X13)                        | 1   |
| 8              | 302.0100.1200 | ADC 100 CONTROL BOARD W/ PDS   |     |
| 9              | 216.0100.1212 | ENERVEEX 12" MFD FOR RS009-012 FAN                                   | 1   |
|                | 216.0200.1212 | ENERVEEX 12" MFD FOR RS014-016 FAN                                   |     |
| 10             | 101.0495.1200 | ENERVEEX RS012 FAN   | **  |
|                | 101.0595.1200 | ENERVEEX RS014 FAN   | **  |
|                | 101.0595.1200 | ENERVEEX RS016 FAN   | **  |
| 11             |               | 5A FAN SPEED CONTROL (USED FOR SYSTEM SETUP AND INITIALIZATION ONLY) | 1   |



**FIGURE 35**

## Enervex ADC 100 INSTALLATION

### Connection Diagram

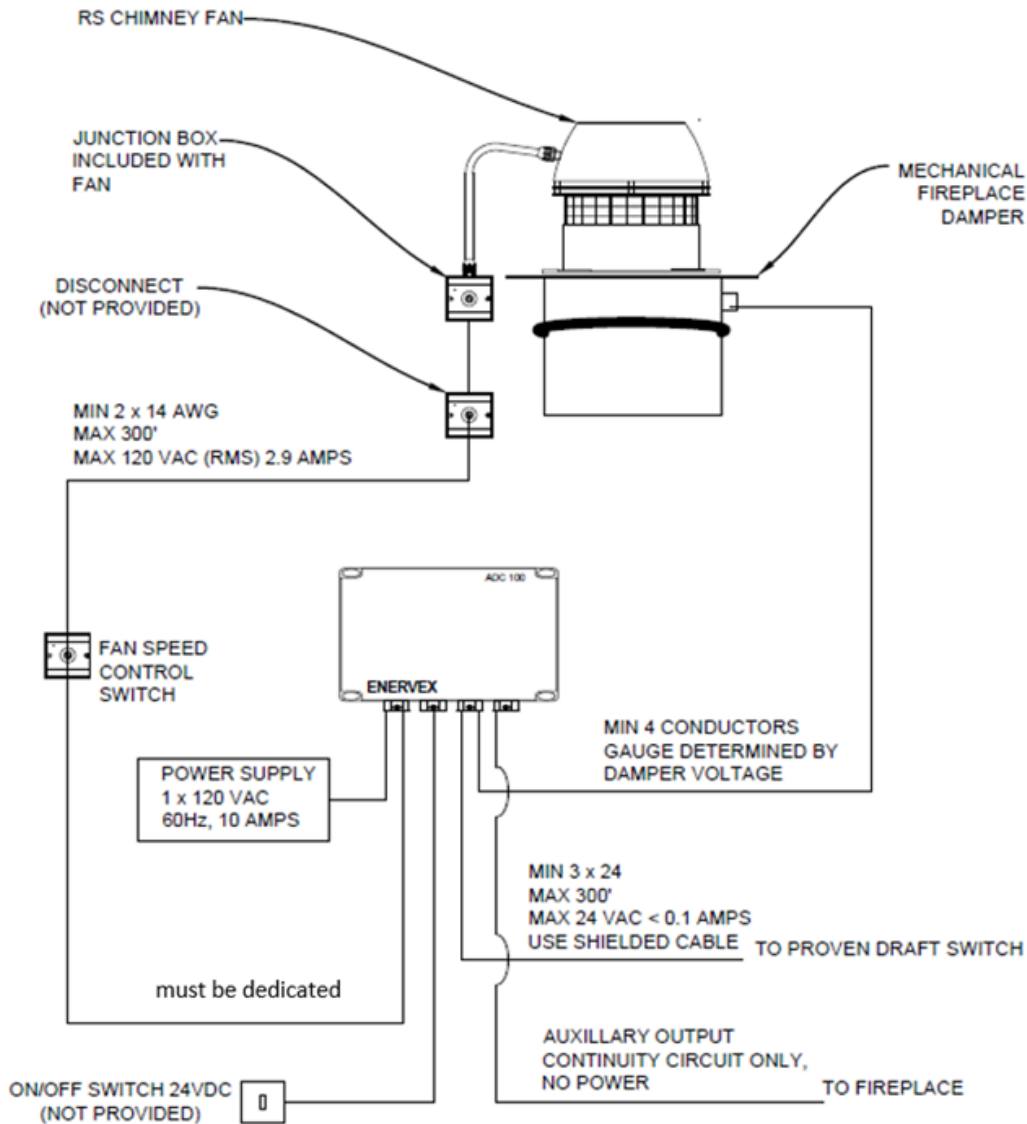


FIGURE 36

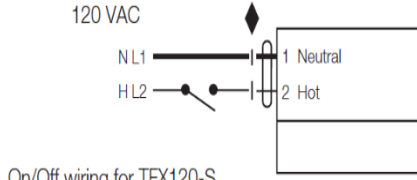
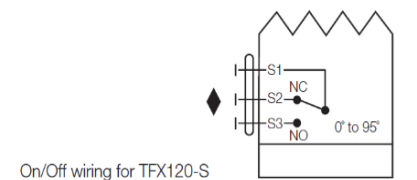
#### Overall Connection Diagram Notes

- Power supply shall be from building source power on a dedicated circuit
- RS fan wiring shall be dedicated for the fan; branching of the circuit will cause erratic fan behavior
- RS Fan and Mechanical Fireplace Damper may be installed in a vertical mount above the roof or in a horizontal mount on an outside wall.
- Junction / capacitor box will be mounted near the fan mount
- Fan circuit disconnect de-energizes the fan circuit for the purpose of servicing - recommended installed by the manufacturer – must meet local code requirements; not supplied
- Fan speed control switch is installed for the purpose of fan speed initial set up; should be mounted in a location that is not accessible to the general public
- MFD wiring details – page 41
- RS fan circuit wiring details – page 41
- Proved Draft Switch, PDS wiring details – page 42
- ADC100 wiring details - page 44
- Fireplace wiring details – page 55



## MFD Wiring

Wire that actuator for 2 wire/ 2 position operation as shown in **Figure 37** (120 VAC) and **Figure 38** (24 VAC) below. The actuator should be set for clockwise (CW) rotation and should fail to 90° (MFD will open). Verify settings of the actuator before wiring.

| Damper Actuator   | Wiring Notes  |
|---|---|
|  <p>On/Off wiring for TFX120-S</p> <p><b>FIGURE 37</b></p> | <p>The damper actuator will have a chord with 2 wires- black insulation wire and white insulation wire. This chord supplies power for damper open / close operation</p> <ul style="list-style-type: none"> <li>The black insulation wire is <b>L1</b> power -connect to <b>terminal 15</b> of ADC 100</li> <li>The white insulation wire is <b>Neutral</b> – <b>DOES NOT CONNECT TO ADC 100</b> - must connect to any neutral wire that traces back to the circuit breaker box neutral bus bar</li> </ul> |
|  <p>On/Off wiring for TFX120-S</p> <p><b>FIGURE 38</b></p> | <p>The damper actuator will have a chord with 3 wires. These wires provide an electrical signal that indicates the damper position open / close</p> <ul style="list-style-type: none"> <li>purple insulation labeled <b>S1</b> will connect to <b>terminal 16</b> of ADC 100</li> <li>red insulation wire labeled <b>S2 NOT USED</b>, cap this wire</li> <li>white insulation wire labeled <b>S3</b> will connect to <b>terminal 17</b> of ADC 100</li> </ul>   |

## RS FAN Wiring

All electrical wiring must be in compliance with the local codes or in their absence, with the National Electric Code, NFPA 70 — latest edition. If an external electrical source is utilized, system must be electrically grounded in accordance with requirements of the authority having jurisdiction or, in the absence of such requirements, with the National Electrical Code NFPA 70 — latest edition.

Power requirements for the system depends on the fan size. Electrical requirements are:

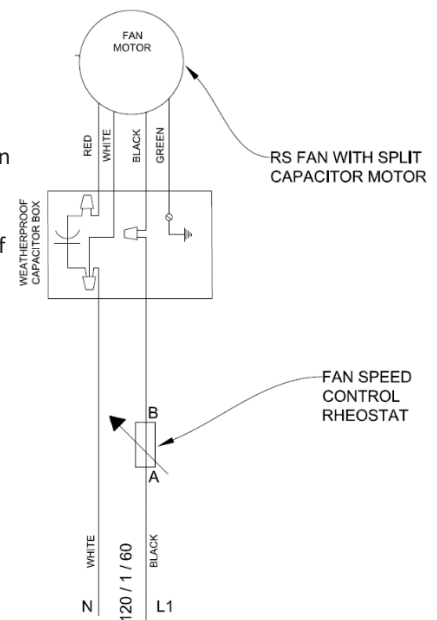
- RS012 1 x 120 V/60 Hz 1.2 Amps
- RS014 1 x 120 V/60 Hz 1.4 Amps
- RS016 1 x 120 V/60 Hz 3.9 Amps

The chimney fans have a split capacitor motor with infinitely variable speed.

The fan speed control supplied is rated 1 x 120 V/60 Hz and 5 Amps. It has an adjustable low voltage set point of min. 65 V +/- 5 V. (**Figure 39**)

### RS Fan Wiring Notes

- N** - white insulated wire connects **terminal 5** of ADC 100 positive side of capacitor, black insulation wire (in capacitor box) and white wire from fan motor (in capacitor box)
- L1** - black insulated wire connects **terminal 4** of ADC 100 to A terminal of Fan Speed Control rheostat switch
- B terminal of Fan Speed Control rheostat connects to black insulated wire from fan (in capacitor box)



**FIGURE 39**

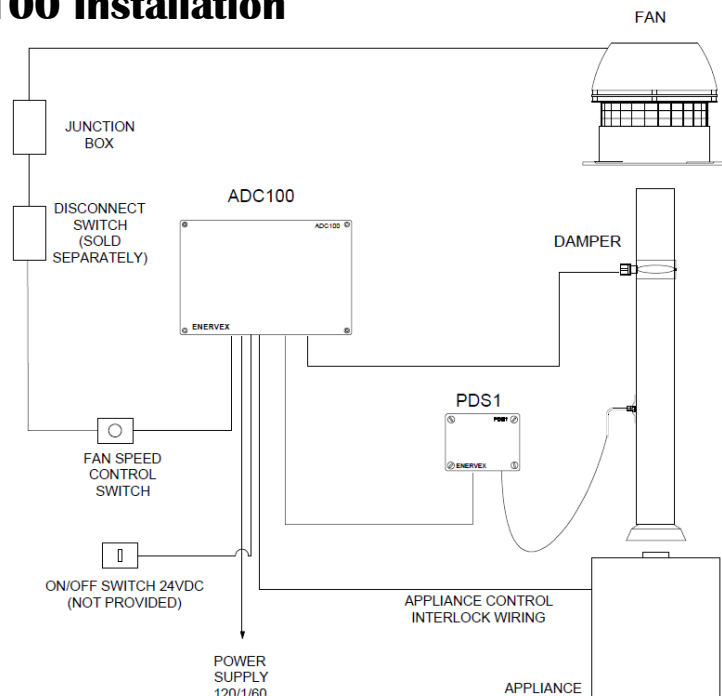
### NOTICE



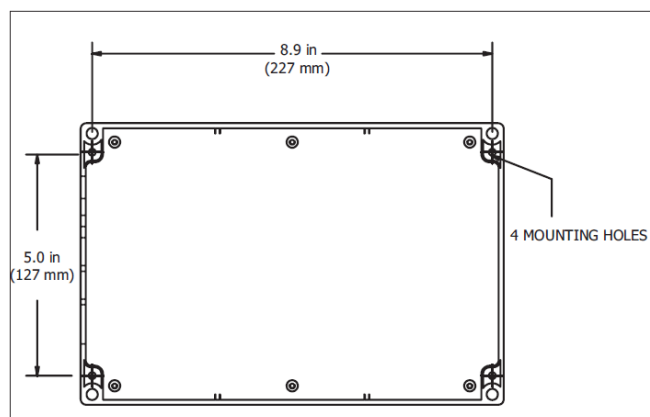
If any of the original wire supplied with the system must be replaced, use similar wire of the same temperature rating. Otherwise, insulation may melt or degrade, exposing bare wire.

## Enervex ADC 100 Installation

1. The ADC100 Control Unit must be installed indoors. As shown in **Figure 40**, the control will be wired directly to a 120/1/60 VAC power supply. The control will also be connected to the fan, appliance, and damper.
2. The ADC100 control may be mounted directly to a wall. To mount, remove the cover and locate the (4) mounting holes. Using the hole-pattern shown below, mount the control using #6 screws.
3. The Proven Draft Switch (PDS) must be installed indoors, in the vertical position (pre-drilled knockouts face down). Mount the control upright to a wall or other flat surface. DO NOT lay the control down or mount horizontally.
4. A Proven Draft Switch (PDS) must be used with the ADC100 control as a system safety device. The PDS monitors the pressure inside the stack and signals the control to shut down the appliance if insufficient draft exists. A stack probe senses the pressure read by the PDS and is connected via silicone tubing. The silicone tubing supplied with the PDS should be connected to the NEGATIVE (-) port of the PDS. This is the bottom port on the switch. See **Figure 42**. The standard tube length is 6 feet. The distance can be extended up to 25 feet by using 1/4" rigid plastic or copper tubing as temperature allows (not supplied).



**FIGURE 40**



**FIGURE 41**

| Proven Draft Switch Notes   |  |
|---|--|
| Proven Draft Switch is a diaphragm switch that closes when pressure is applied to the diaphragm.  |  |
| <ul style="list-style-type: none"> <li>• <b>purple</b> insulation wire is <b>C</b>, common, connect to <b>terminal 13</b> on ADC 100</li> </ul>         |  |
| <ul style="list-style-type: none"> <li>• <b>gray</b> insulation wire is <b>NC</b>, normally closed; connect to <b>terminal 12</b> on ADC 100</li> </ul> |  |
| <ul style="list-style-type: none"> <li>• <b>white</b> insulation wire is <b>NO</b>, normally open; connect to <b>terminal 11</b> on ADC 100</li> </ul>  |  |

**FIGURE 42**

**Enervex ADC 100 INSTALLATION**

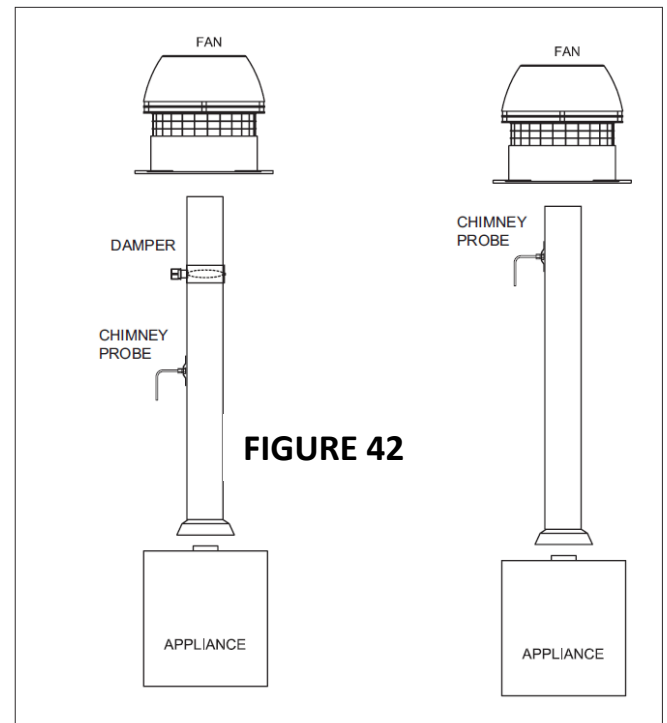
5. The probe must be installed between the appliance and the exhaust fan. If a damper is used in the system, the probe should be installed between the appliance and damper. The probe needs to be at least 3' from the last elbow in the vent run.
6. For fireplace installations, the probe should be installed close to the fan inlet. **See Figure 43.**
7. To produce an accurate pressure reading, the probe should be installed flush with the inner wall of the chimney or stack. If double walled stack is used, the probe should be flush with the inner most wall.

**Fan Speed Control**

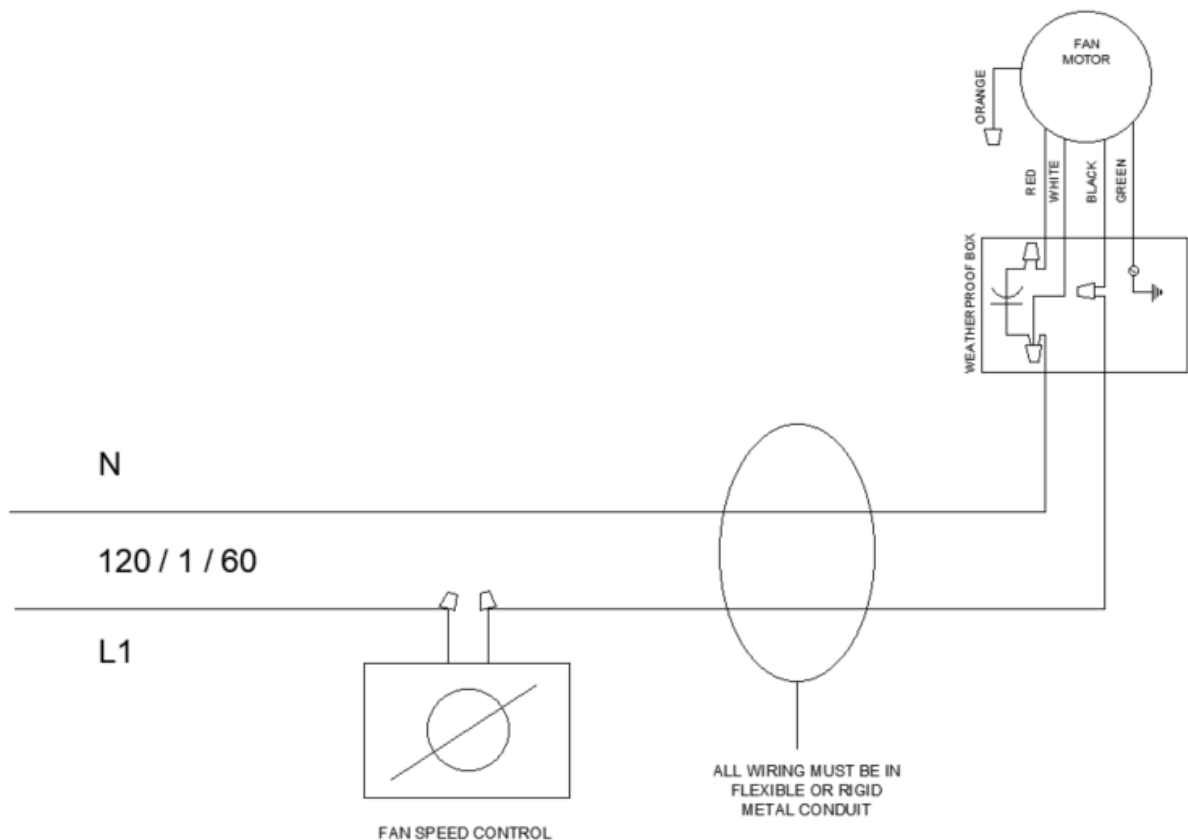
8. Locate the FSC in close proximity to the burner valve control system but only in a location accessible to service technician.

Connect the FSC control switch as shown in **Figure 44.**

The FSC will be utilized for the initialization set up, see **page 64**

**FIGURE 42****FIGURE 43**

**NOTE:** After the installation is complete, perform a functional check.

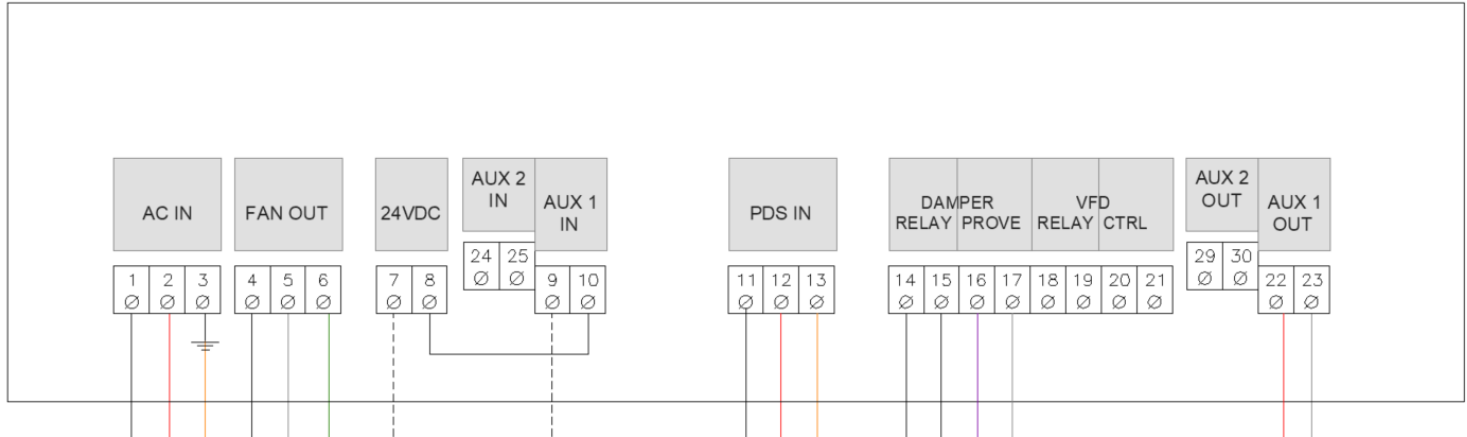
**FIGURE 44**

## Enervex ADC 100 INSTALLATION

### ADC 100 Terminal Designation

The designations for each terminal on the control board are shown below. Note that **Figure 45** only shows the terminals relevant to the Maximus Linear installation. Also shown in this section is a general connection diagram for an ADC100 control system.

# ADC 100



**FIGURE 45**

| Terminal | Description                     | Terminal    | Description  |
|----------|---------------------------------|-------------|--|
| 1        | Line Power – L1                 | 11          | Proven Draft Switch NO; white                            |
| 2        | Line Neutral                    | 12          | Proven Draft Switch NC; gray                             |
| 3        | Ground                          | 13          | Proven Draft Switch C; purple                            |
| 4        | Fan Power to FSC                | 14          | Line Power – L1 from junction box                        |
| 5        | Fan Neutral                     | 15          | Damper Power cord L                                      |
| 6        | Fan Ground                      | 16          | Damper – actuator cord S1 NC; purple                     |
| 7        | Terminal X13 on Proflame Module | 17          | Damper – actuator cord S3 NO; white                      |
| 8        | Jumper to terminal 10           | 22          | Terminal X4 on Proflame Module                           |
| 9        | Terminal X13 on Proflame Module | 23          | Terminal X4 on Proflame Module                           |
| 10       | Jumper to terminal 8            | <b>NOTE</b> | Damper power cord N must connect to junction box neutral |

## Firebrick Installation - General Information

Earthcore/ Isokern requires the Maximus Linear Series fireboxes be lined with a minimum one and one-eighth (1-1/8") thick firebrick ("Split") for the sidewalls and 2-1/4" thick firebrick ("Full") on the floor. Thicker firebrick may be used as an option. The pattern for the firebrick lining is an owner option. The ISOSET mortar by Earthcore is to be used when lining the Isokern Fireplace.

### **ISOSET FIREBRICK MORTAR APPLICATION:**

- Add .75 quarts of water per 10 lbs. of dry product until completely blended.
- Only mix what can be utilized within 15 minutes.
- Do not re-temper (the addition of water after the chemical reaction has begun).
- The use of warm water will accelerate setup.
- Joint thickness should be thin (1/4" - 3/8")
- Complete set time is between 48 and 72 hours.
- For best results, please allow 28 days before heat is applied.
- Approximately 35 to 40 lbs. of prepared mortar will lay up one hundred 9" x 4 - 1/2" x 2 - 1/2" straights.

**IMPORTANT!!!: DO NOT add additives, such as fire-clay, sand, cement, or other accelerators.**

These instructions may vary because of different climates and conditions. The use of good masonry practices for your area should also be considered.

### **INSTALLATION INSTRUCTIONS:**

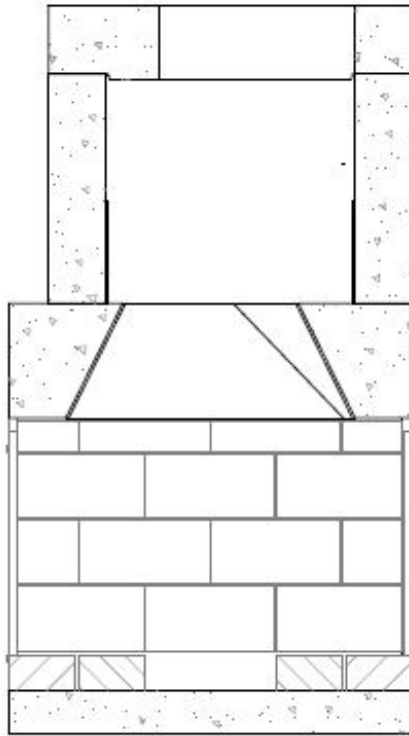
1. Wet mop the inside of the fireplace with a damp sponge to remove dust and loose particles from the interior before installing firebrick. Keep the fireplace damp while installing firebrick.

### **FOR BEST RESULTS:**

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

**NOTE: 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.**

## Firebrick Installation - Maximus Linear See-Thru Fireplace



FIGURE

1. Lay two courses of "full" sized firebrick on floor so that the leading edge of the coursing is aligned with opening of the firebox. Ensure a gap of approximately  $\frac{1}{2}$ " is kept between firebrick and sidewall to allow for expansion.
2. Repeat Step 1 for the opposite side of See – Thru firebox.
3. Starting at the front edge of the unit's sidewall, apply "split" firebrick to the side wall of the unit. Ensure approximately  $\frac{1}{4}$ " gap is kept between firebrick and damper beam/damper block assembly to allow for expansion.
4. Repeat on opposite side wall.

### **IMPORTANT:**

Ensure that the required holes for the Isoflames Linear burner's  $\frac{3}{8}$ " gas supply and pilot assembly gas and electrical connections are drilled prior to firebrick installation. **DO NOT COVER THESE AREAS WITH FIREBRICK!**

LEADING EDGE OF FIREBRICK  
ON SIDEWALLS MAY BE LAID  
FLUSH WITH FRONT OF UNIT

TWO ROWS OF "FULL"  
2-1/2" THICK FIREBRICK  
REQUIRED ON FLOOR OF  
FIREBOX (EACH SIDE).

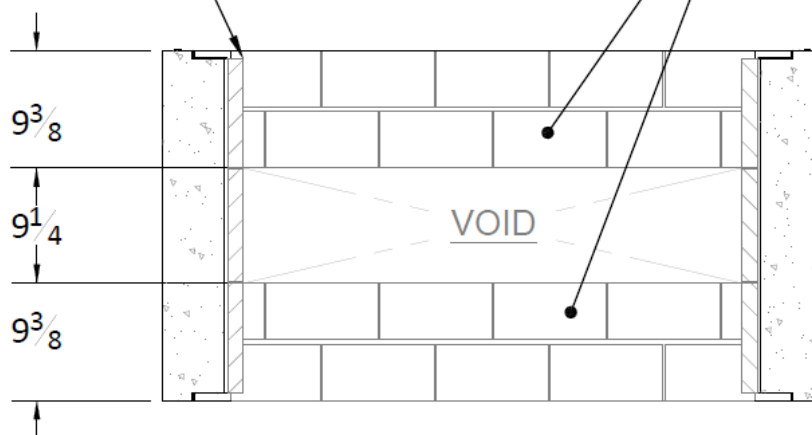


FIGURE 47

## Flush Wall Finish Detail

Maximus Linear see thru units shall be installed so that the rough front faces of the Isokern firebox are flush to the outside edges (room side) of the rough framing members that create the room wall's finish (**Figure 48**).

**IMPORTANT!!!:** Do not build a combustible frame wall in front of the Maximus Linear Fireboxes (**Figure 49**).

### **CLEARANCE TO DRYWALL:**

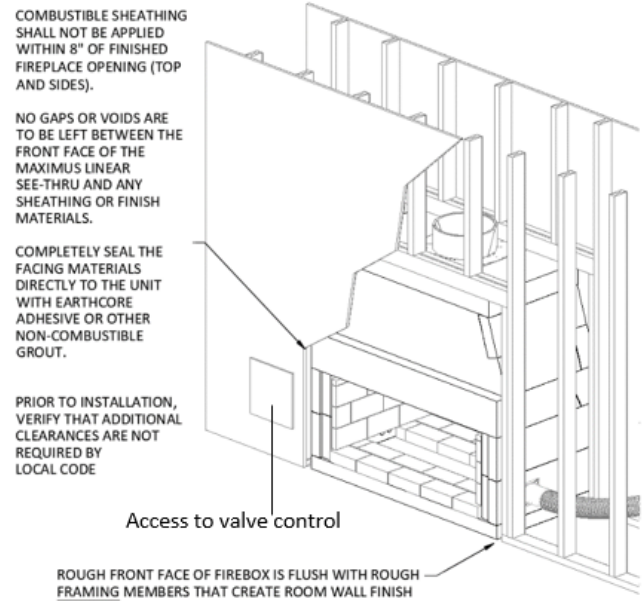
The Maximus Linear See-Thru fireplace will require drywall to be placed directly in contact with the front of the Maximus Linear smoke dome on one side of the firebox. On the opposite side of the firebox, framing will need to pass above the damper beam assembly and span the width of the framed opening to support drywall. Drywall can be hung on the framing members and pass across the face(s) of the Maximus Linear smoke dome and in contact with it.

Combustible wood sheathing materials such as plywood and particle board may be used to cover the front of the Isokern smoke dome and be in direct contact with it. This sheathing shall terminate a minimum of eight inches (8") away from each side of the finished fireplace opening and a minimum of eight inches (8") inches above the top of the finished fireplace opening.

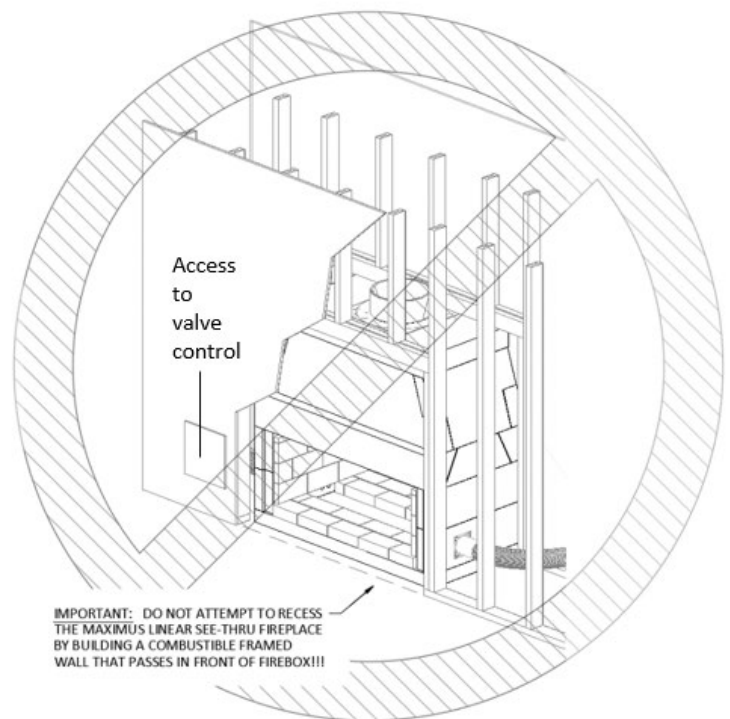
**IMPORTANT:** When setting the noncombustible facing material onto the drywall that spans across the top of the firebox opening there will be a gap between the back of the noncombustible finish material and the rough front face of the Isokern firebox.

Be sure to fill this gap with Earthcore Adhesive in conjunction with placement of the code required noncombustible finish facing material that is set across the top of the firebox opening.

The code required noncombustible facing/finish material shall be installed and shall extend a minimum of 8" to sides and 8" to the top of the finished firebox opening. Any gaps or voids that may be left behind the noncombustible finished facing materials and the firebox must be filled with Earthcore Adhesive.-



**FIGURE 48**

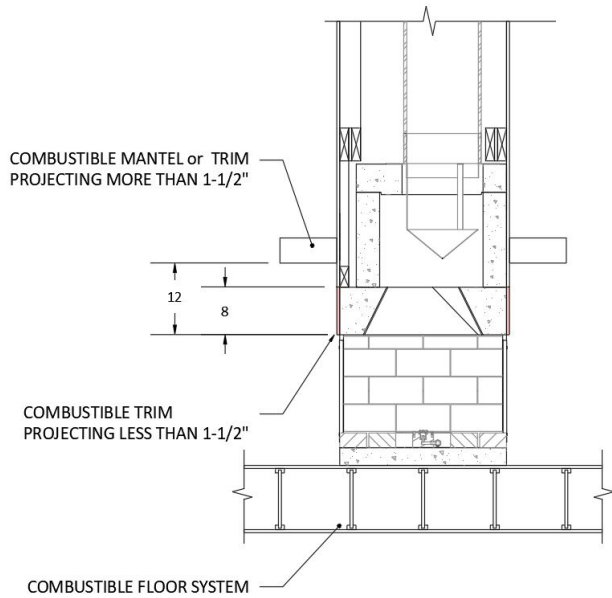


**FIGURE 49**

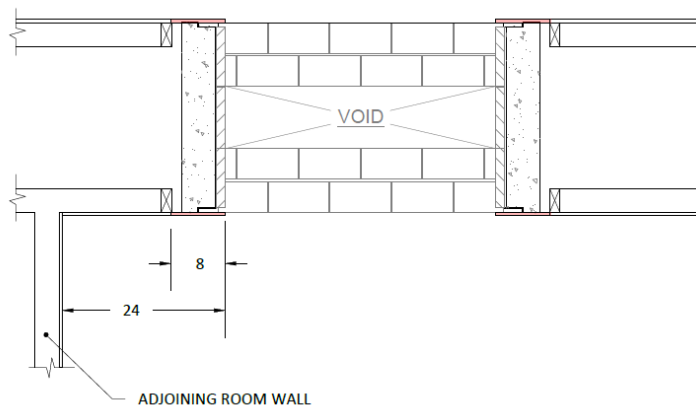
**WARNING!!!:** Avoid false chimneys. Failure to seal any gaps between the front face(s) of the firebox and the back of the noncombustible finished facing material will create what is known as a "false chimney" or "secondary chimney". A "false chimney", in this case is the narrow gap between the back of the noncombustible facing material at the top of the firebox opening and the rough front of the Maximus Linear damper assembly/ smoke dome. If left unfilled this gap creates a "false, chimney" which can cause a fire hazard by drawing considerable heat out of the firebox and into the space behind the noncombustible finish facing and then up into the wall cavity behind the drywall or other sheathing material that houses the Isokern fireplace.



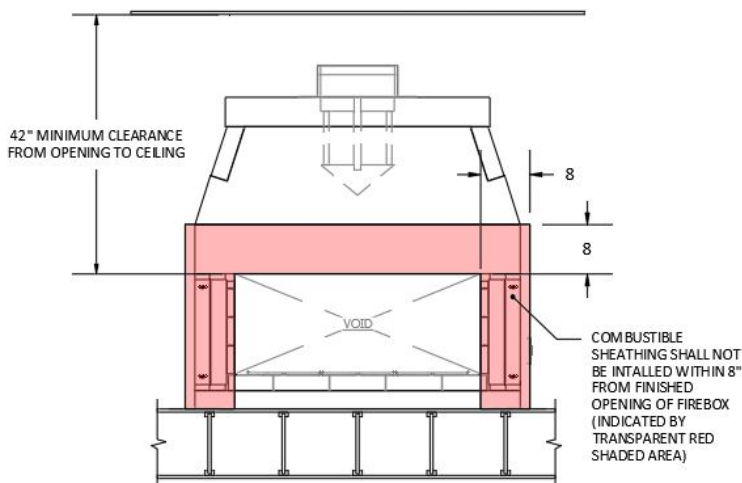
## Clearance to Combustible Trim



**FIGURE**



**FIGURE**



**FIGURE**

**NOTE:** "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 variables 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 AND MANTEL SHELF CLEARANCES:**

Maximus Linear See Thru units are designed to be installed so that the rough front face(s) of the Isokern firebox and smoke dome sit flush with the face of the rough framing members that create the room wall finish.

All combustible trim projecting less than one-and-one-half inch (1-1/2") from this plane must be kept a minimum of eight inches (8") from the sides/top of the firebox openings.

All combustible trim projecting more than one and one-half inch (1-1/2") must be kept a minimum of twelve inches (12") from the fireplace opening.

Parts of the combustible mantle assembly located along the sides of the fireplace opening, which project more than one-and-one-half inches (1-1/2") from the face of the fireplace, shall have additional clearance equal to that of the projection.

Parts of the combustible mantle assembly located above and projecting more than one- and one-half inches (1-1/2") from the fireplace opening shall not be placed less than twelve inches (12") from the top of the fireplace opening (**Figure 50**).

### **ADJOINING WALLS:**

Side walls and walls to rooms adjoining the Isokern fireplace installation cannot be closer than twenty-four inches (24") to the finished fireplace opening (**Figure 51**).

### **CEILINGS:**

The minimum clearance from the top of the fireplace opening to a ceiling is forty-two inches (42") (**Figure 52**).



## Isoflames Linear Burner - Safety Instructions

**WARNING!!!**: This appliance assembly contains burner orifices specifically for the input gas specified on the burner and box, as well as the BTU rating specified in this manual. Modifying or failure to use the factory orifice may cause property damage, personal injury, or loss of life.

**Read these instructions completely before installing and using ISOFLAMES Linear Burner.**

- 1) This Maximus Linear Series fireplaces must utilize the Isoflames Linear Burner that is specified for the particular fireplace model.
- 2) The Maximus Linear Series fireplaces utilize a mechanical draft system that interlocks with the Isoflames Linear burner to ensure burner operation is only possible when the mechanical draft system is energized, and safe operation is proved by the control. This ensures all carbon monoxide and other flue gases will be expelled through chimney system.
- 3) Solid fuels shall not be burned in the Maximus Linear Series fireplaces, or any fireplace where a decorative appliance has been installed.
- 4) The minimum inlet supply pressure for the purpose of input adjustment is 5.0 inches (natural gas) 11.0 inches (propane) in water column. The maximum inlet supply pressure is 10.5 inches (natural gas) 13.0 inches (propane) in water column.
- 5) Gas type will be indicated on the burner rating plate. Do not use a natural gas burner with propane or a propane burner with natural gas. Appliance is not convertible to use other gases.
- 6) The installation, provisions for combustion, and ventilation air must conform to the National Fuel Gas Code, ANSI Z223.1/ NFPA 54, or the Natural Gas and Propane Installation code, CSA B149.1.
- 7) The appliance and its 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 psi (3.5 kPa). The appliance must be isolated from the gas piping system by closing its equipment shutoff valve during any pressure testing of the supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa).
- 8) 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 control system and any gas control which has been under water.
- 9) Periodic examination and cleaning of the venting system of the solid fuel burning fireplace, including frequency of such examination and cleaning, by a qualified agency.
- 10) The appliance area is to be clear and free from combustible materials, gasoline and or flammable vapors and liquids. For warranty to be valid gas log sets must be installed by a NFI certified or other qualified professional installer.
- 11) Always check local building codes governing fireplaces and fireplace installations. ISOFLAMES Linear Burner installation must comply with all local, regional, state, and national codes and regulations.
- 12) This appliance is only for use with the type of gas indicated on the rating plate. This appliance SHALL NOT be field converted for use with other gases with Propane (LP) or Natural Gas (NG).
- 13) This appliance shall only be installed, serviced, or inspected by qualified professional service technician.
- 14) For propane (LP) use do not place propane supply tank(s) inside any structure. Locate propane supply tank(s) outdoors.
- 15) To prevent performance problems, do not use propane fuel tank of less than 100 lbs. capacity.
- 16) This decorative gas appliance 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.
- 17) Turn the appliance off and allow to cool before servicing. Always shut off any electricity and gas to the appliance while working on it. Only a qualified service person should install, service or repair this appliance. Have your appliance inspected annually by a qualified service person.

## **Isoflames Linear Burner - Safety Instructions**

- 18)** It is imperative that the unit's control areas, burners and circulation air passages be kept clean.
- 19)** Keep all combustible material, gasoline, and other flammable liquids at a safe distance from the fireplace. Do not use the appliance where these items are used or stored. Decorations, clothing, and other such combustible items should not be placed on the appliance.
- 20)** Do not cook food or burn paper or other object(s).
- 21)** Do not use any solid fuels - wood, coal, paper, cardboard, etc. - Use only the gas type listed on the fireplace's burner rating plate.
- 22)** 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.
- 23)** Never install an ISOFLAMES Linear Burner component or accessory that has visible or suspected physical damage. These items should be inspected by a qualified representative to ensure safe condition. When in doubt, consult your local supplier.
- 24)** Do not alter or modify the ISOFLAMES Linear Burner or burner components under any circumstances. Modification or alteration of any sort may void manufacturer's warranty, listings, and approvals.
- 25)** The ISOFLAMES Linear Burner system is not intended to heat an entire home or to be used as a primary heat source.
- 26)** 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.
- 27)** 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.
- 28)** Clothing or flammable material should not be placed on or near the appliance.
- 29)** Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
- 30)** Any safety screen, guard, or barrier removed for servicing an appliance must be replaced prior to operating the appliance.
- 31)** 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.

## Isoflames Linear Burner - 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!

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 guidebook to safe operation of this fireplace.

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

## Isoflames Linear Burner - Rating Plate

### Natural Gas

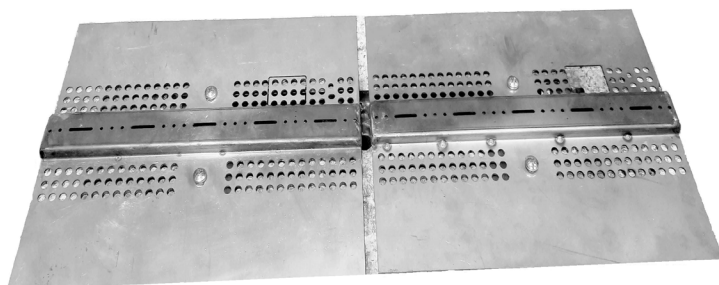
|   |  |   |  |
|---|--|---|--|
| <b>ISOFLAMES</b><br><small>MADE IN THE USA<br/>CHESAPEAKE, VA 23323</small>   |  | <b>ISOFLAMES LINEAR BURNER</b><br><b>NOT FOR USE WITH SOLID FUEL</b><br>SERIAL NO: LBN000001  |  |
| GAS TYPE: NATURAL GAS<br>MANIFOLD PRESSURE: 3.5" - 1.6" WC<br>MINIMUM INLET GAS SUPPLY PRESSURE: 5" WC<br>MAXIMUM INLET GAS SUPPLY PRESSURE: 10.5 WC  |  | ANSI Z21.50-2019 • CSA 2.22-2019 Decorative Gas Appliances for Installation in Vented Fireplace   |  |
| MODEL #<br><input type="checkbox"/> ISO36LBN MAX BTU 54,000; MIN BTU 38,000<br><input type="checkbox"/> ISO60LBN MAX BTU 90,000; MIN BTU 63,000<br><input type="checkbox"/> ISO72LBN MAX BTU 108,000; MIN BTU 75,000<br><input type="checkbox"/> ISO96LBN MAX BTU 110,000; MIN BTU 84,000 |  | 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 |  |
| ELECTRICAL RATING:<br>UNIT: ELECTRONIC<br>1 PH<br>60 HZ<br>120 VOLTS<br>LESS THAN 5 AMPS  |  |   |  |
| EARTHCORE INDUSTRIES, INC HEADQUARTERS<br>6899 PHILLIPS INDUSTRIAL BLVD<br>JACKSONVILLE, FL 32256   |  |   |  |

### Propane

|  |  |   |  |
|--|--|---|--|
| <b>ISOFLAMES</b><br><small>MADE IN THE USA<br/>CHESAPEAKE, VA 23323</small>  |  | <b>ISOFLAMES LINEAR BURNER</b><br><b>NOT FOR USE WITH SOLID FUEL</b><br>SERIAL NO: LBP000001  |  |
| GAS TYPE: PROPANE (LPG)<br>MANIFOLD PRESSURE: 10" - 6.4" WC<br>MINIMUM INLET GAS SUPPLY PRESSURE: 11" WC<br>MAXIMUM INLET GAS SUPPLY PRESSURE: 14" WC  |  | ANSI Z21.50-2019 • CSA 2.22-2019 Decorative Gas Appliances for Installation in Vented Fireplace   |  |
| MODEL #<br><input type="checkbox"/> ISO36LBP MAX BTU 48,000; MIN BTU 36,000<br><input type="checkbox"/> ISO60LBP MAX BTU 80,000; MIN BTU 60,000<br><input type="checkbox"/> ISO72LBP MAX BTU 96,000; MIN BTU 72,000<br><input type="checkbox"/> ISO96LBP MAX BTU 105,000; MIN BTU 87,000 |  | 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 |  |
| ELECTRICAL RATING:<br>UNIT: ELECTRONIC<br>1 PH<br>60 HZ<br>120 VOLTS<br>LESS THAN 5 AMPS   |  |   |  |
| EARTHCORE INDUSTRIES, INC HEADQUARTERS<br>6899 PHILLIPS INDUSTRIAL BLVD<br>JACKSONVILLE, FL 32256  |  |   |  |

## Isoflames Linear Burner - Components List

NOTE: burner segment shown



Top view

①

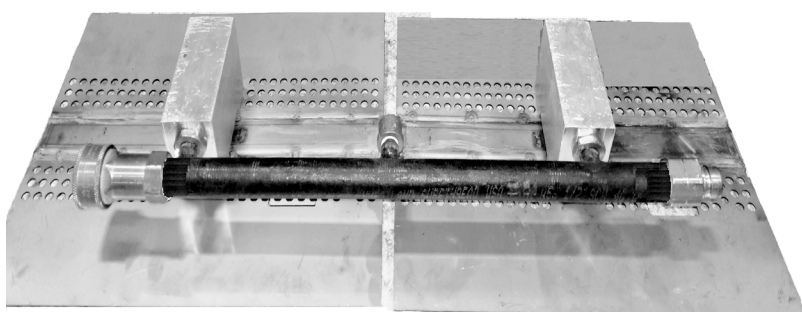


②



③

④



Bottom view

⑥



⑦



⑤



TABLE 2

| Item No. | Description                        | Part No.           | Qty |
|----------|------------------------------------|--------------------|-----|
| 1        | Main Burner Assembly (natural gas) | ISF-E-36/60/72/96N | 1   |
|          | Main Burner Assembly (propane)     | ISF-E-36/60/72/96P | 1   |
| 2        | Pilot Assembly (natural gas)       | ISF-E-PAN          | 1   |
|          | Pilot Assembly (propane)           | ISF-E-PAP          | 1   |
| 3        | Gas Valve (natural gas)            | ISF-E-GVN          | 1   |
|          | Gas Valve (propane)                | ISF-E-GVP          | 1   |
| 4        | Control module/remote receiver     | ISF-E-ICM          | 1   |
| 5        | Remote Transmitter                 | ISF-E-RM           | 1   |
| 6        | 1/2" Flared fitting female adapter | ISF-E-FFA1         | 1   |
| 7        | 3/8" Flared fitting female adapter | ISF-E-FFA2         | 1   |

## Isoflames Linear Burner - Specifications

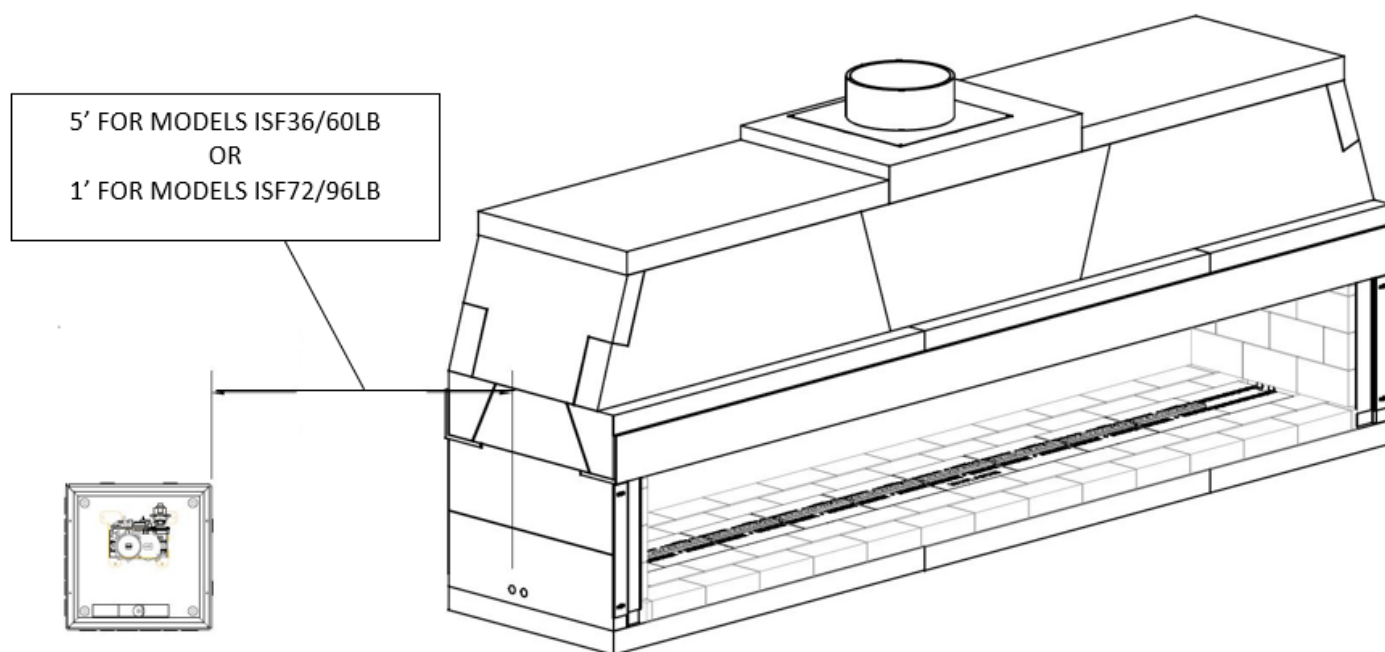
TABLE 3

| Burner Specifications |                                  |        |       |      |          |     |          |     |
|-----------------------|----------------------------------|--------|-------|------|----------|-----|----------|-----|
| Burner Model          | Minimum Fireplace Dimension (in) |        |       |      | BTU      |     |          |     |
|                       | Depth                            | Height | Width |      | Nat. Gas |     | L.P. Gas |     |
|                       |                                  |        | Front | Rear | High     | Low | High     | Low |
| ISF36LB               | 17.5                             | 16     | 48    | 37   | 54K      | 38K | 48K      | 36K |
| ISF60LB               | 17.5                             | 16     | 72    | 61   | 90K      | 63K | 80K      | 60K |
| ISF72LB               | 17.5                             | 16     | 84    | 73   | 108K     | 75K | 96K      | 72K |
| ISF96LB               | 17.5                             | 16     | 108   | 97   | 110K     | 84K | 105K     | 87K |

## Gas Line & Valve Box Installation

This appliance must be connected to the gas line in accordance with local codes and/or the National Fuel Gas Code, ANSI Z223.1. 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.

- 1) The valve control box comes with an 84" pilot assembly lead; therefore, the box must be mounted within 5' of the fireplace for models ISF36/60LB and within 1' for models ISF72/96LB. **(Figure 53)**
- 2) Attach the metal enclosure to the studs using standard building materials. The metal enclosure must be mounted in a location that can be accessed in the future for additional connections & future servicing.
- 3) Installation and servicing of gas appliances and ignition systems must only be performed by qualified personnel.
- 4) Turn off gas and electricity before starting installation or service.
- 5) Make sure gas piping is pressure tested before control is connected. High pressure can damage the control causing a hazardous condition.
- 6) Make sure piping is clean and free from burrs. Apply a small amount of good quality gas-rated pipe thread compound or plumbers' tape suitable for the gas being used. Thread compound should be used sparingly on male threads only, leaving the first two threads clean.
- 7) It is recommended that a safety shut off valve is installed on either the gas in or gas outside of the valve.
- 8) It is recommended to hard pipe in the connections with unions installed inside the box.
- 9) Uncoil the pilot assembly. Be careful to not create unwanted kinks in the pilot tubing.
- 10) Feed the spade connector ends of the pilot assembly from inside the fireplace to the outside being careful not to clog the flared fitting of the pilot tube or damage the spade connectors.
- 11) Plug the spade connectors into the module according to the below wiring diagram **(Figures 54 & 55)**, insert the pilot tubing into the right side of the valve and, using a wrench, tighten the nut so that the pilot tubing cannot be pulled out.



**FIGURE 53**



# Valve Box & Burner Wiring Diagram

**WARNING!!!: Do not connect 120 VAC to the control valve.**

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 homeowner’s care and operation manual, go to [www.earthcore.com](http://www.earthcore.com) or call 1-800-642-2920.

FIGURE 54

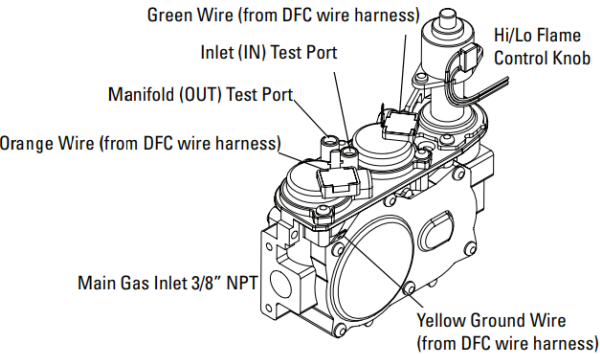


TABLE 4

| 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    |

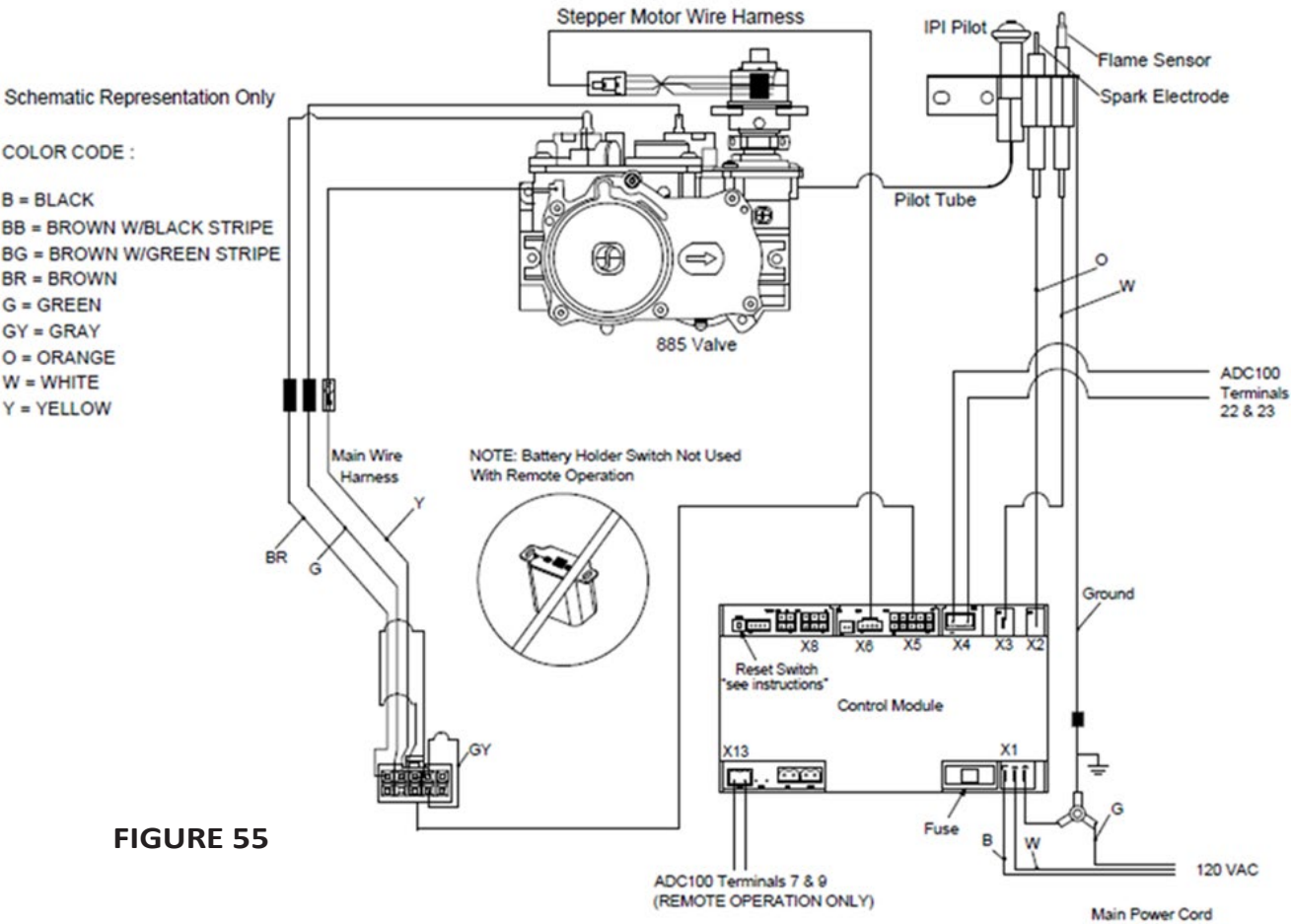


FIGURE 55

Burner Installation

**IMPORTANT:** Prior to installation: Shut off main gas supply to fireplace.

- 1) The ISOFLAMES Linear Burner system shall be installed by qualified professional service technician. To ensure proper performance of the appliance the owner’s installation manual must be followed carefully.
- 2) When used in the Maximus Linear Fireplace, the ISOFLAMES Linear Burner is designed to be recessed into the 2 1/2” deep firebrick cavity constructed as detailed in the Firebrick Installation portion of this manual (pgs. 45-46).
- 3) The burner cavity must have a height of 2-1/2”, a depth of 9-1/4”, and the length shall extend the entire width of firebox. **Table 5**
- 4) The 48” and 72” Maximus Linear See-Thru fireplaces (82L48ST & 82L72ST) will require the ISF36/60LB (respectively): Gas supply piping for these models shall terminate not less than 3” from sidewall. **(Figure 56, 57, 58)**
- 5) The 96” and 120” Maximus Linear See-Thru fireplaces (82L96ST & 82L120ST) will require the ISF72/96LB (respectively): Gas supply stub piping for these models shall terminate within 3” from center of the cavity. **(Figure 56, 57, 58)**

TABLE 5

| BURNER CAVITY DIMENSIONS (in) |        |       |        |
|-------------------------------|--------|-------|--------|
| Burner Model                  | Height | Width | Length |
| ISF36LB                       | 2-1/2  | 9-1/4 | FULL   |
| ISF60LB                       | 2-1/2  | 9-1/4 | FULL   |
| ISF72LB                       | 2-1/2  | 9-1/4 | FULL   |
| ISF96LB                       | 2-1/2  | 9-1/4 | FULL   |

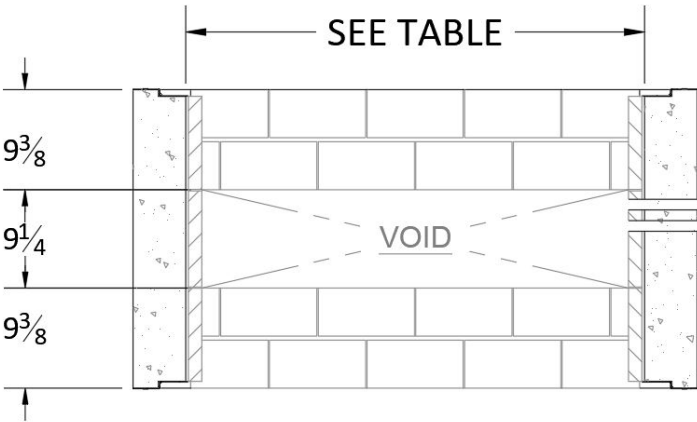


FIGURE 56

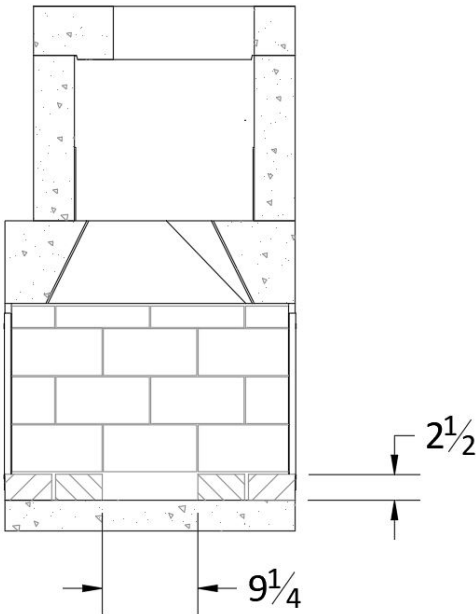
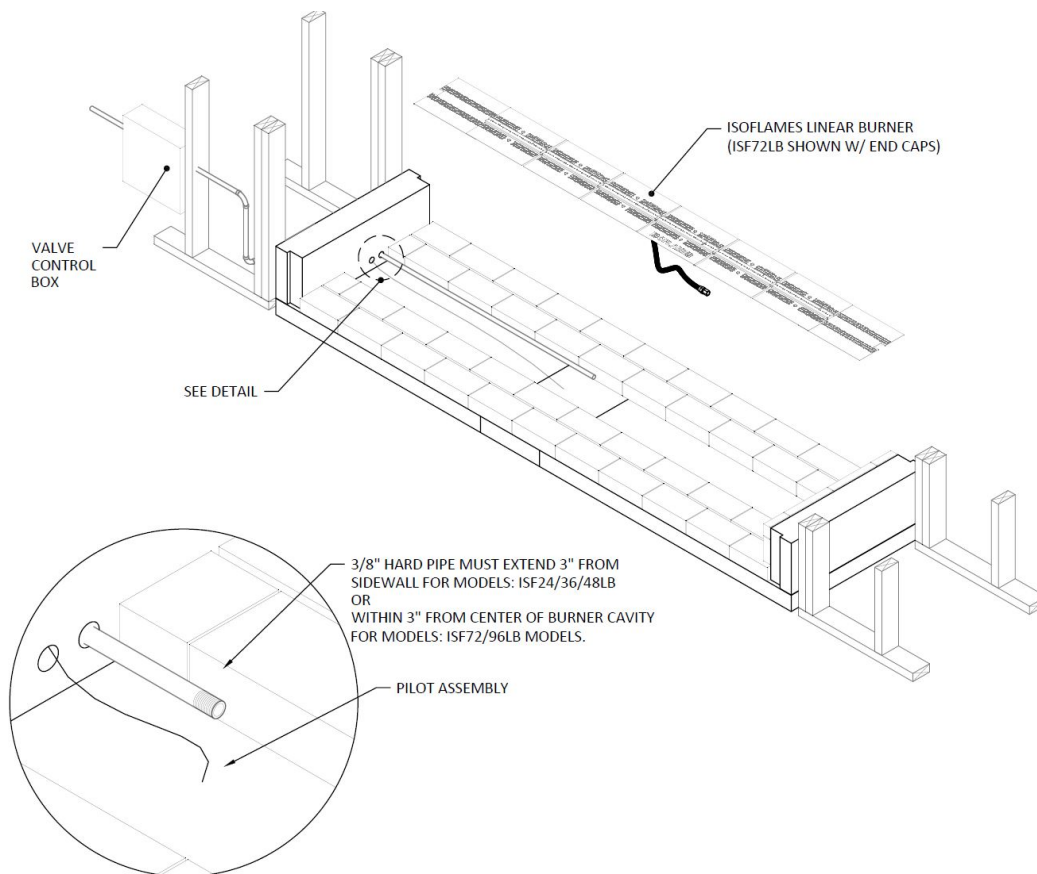


FIGURE 57

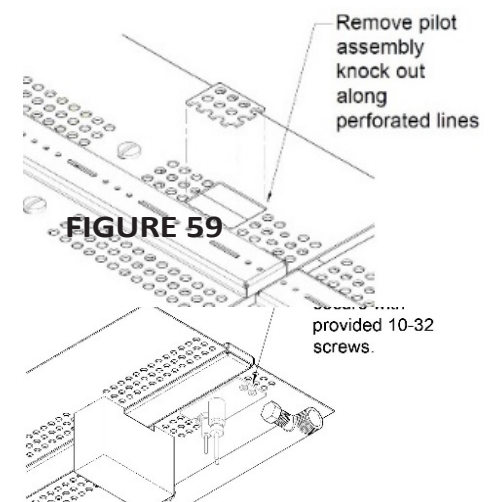


## Burner Installation

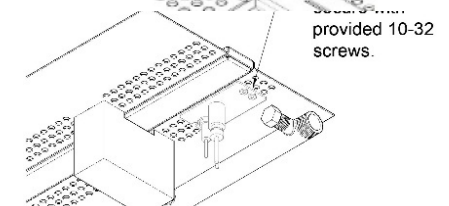
1. Connect all burner segments according to burner model diagram Page 58-60. Make sure all connections are tightly secured.
2. Place burner assembly in center of fireplace floor/cavity.
3. Rotate the burner to position the gas inlet flared fitting to be on same side as the gas-supply stub coming from the gas valve.  
(Not necessary for models ISF72/96LB)
4. Remove the burner top closest to the gas-supply stub. Remove the top pan by unscrewing the two screws. This will allow easier access and connection of flex connector to the flared fitting. This will also be used for pilot assembly installation.
5. Ensure the appropriate 3/8" flared fitting is connected to the gas supply stub.
6. Connect the 12" flex connector to the gas inlet flared fitting on the burner assembly.
7. Connect the other end of 12" flex connector to the gas-supply.
8. Avoid creating kinks in the flex connector.
9. Make sure all connections are tightly secured.
10. Before replacing the removed burner top from **step 4**, locate the perforated rectangular section in the pan. Gently remove this section along the perforations using a screwdriver or pliers. **Figure 59**
11. Insert the pilot assembly from underneath the existing burner pan to the area of the removed burner section. **Figure 60**
12. Mount the pilot assembly to the removed burner pan using the screws provided with the pilot assembly. Be careful not to kink the pilot assembly tube as it can severely damage the pilot tube. **Figure 61**
13. Place the removed burner top back on to the orifice block and secure tightly with the pan head screws.
14. With gas line installed, complete burner lighting instructions on page 61 and full system initialization on page 64



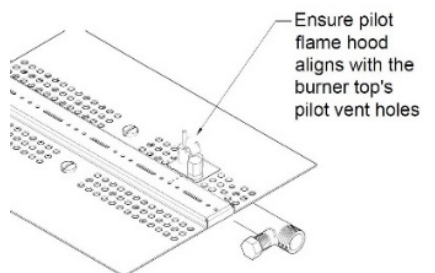
**FIGURE 58**



**FIGURE 59**



**FIGURE 60**

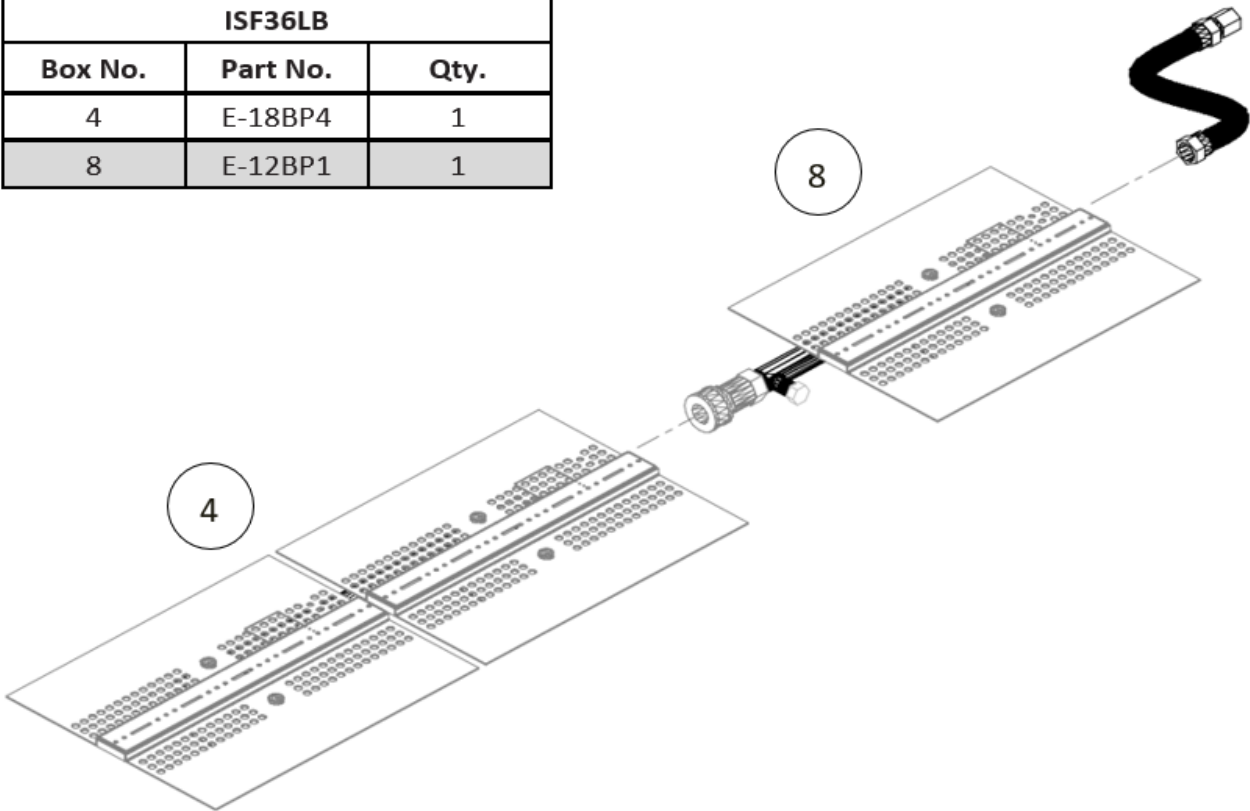


**FIGURE 61**

**36” Burner Connection - ISF36LB**

For Isokern Maximus Linear 82L48ST

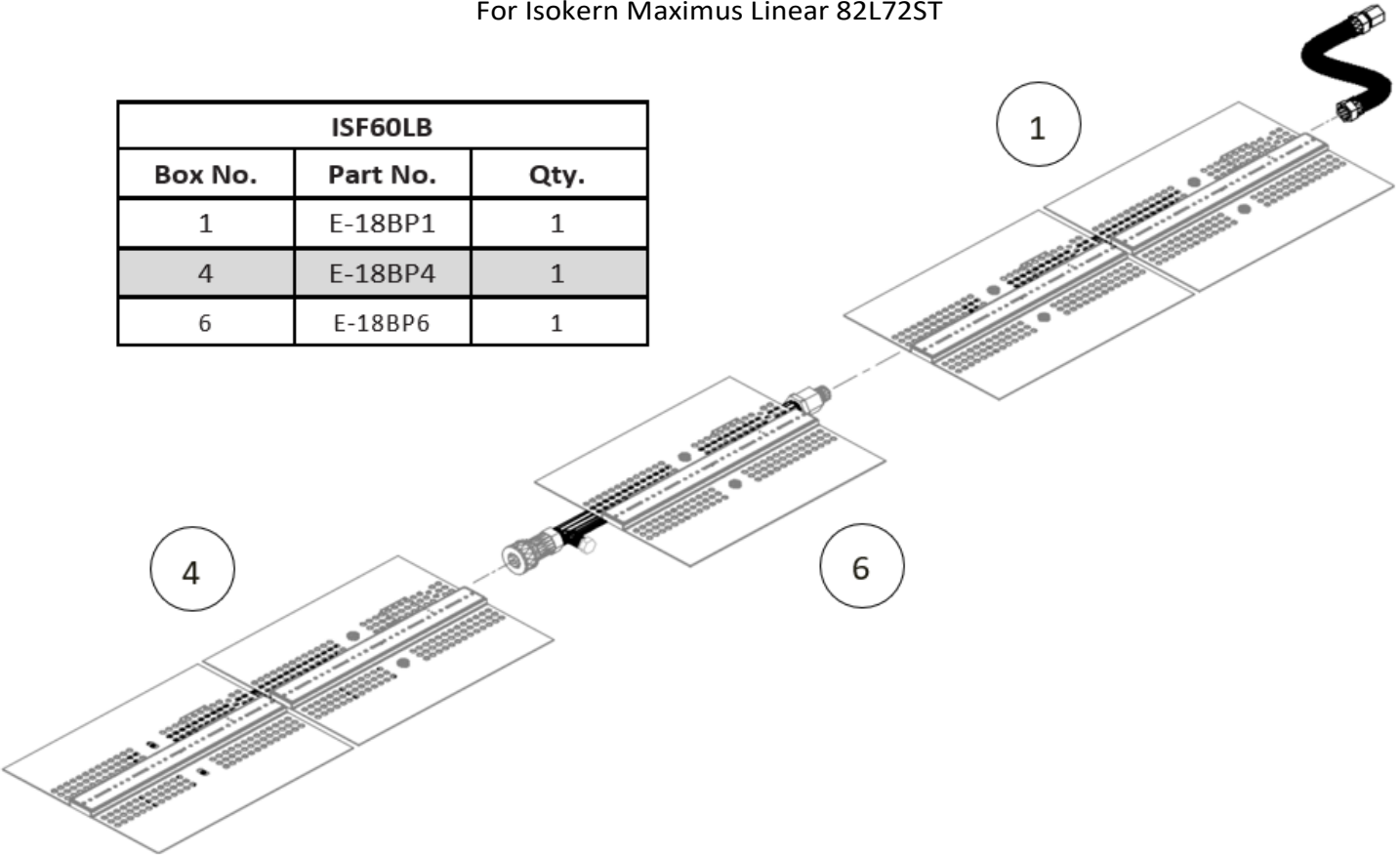
| ISF36LB |          |      |
|---------|----------|------|
| Box No. | Part No. | Qty. |
| 4       | E-18BP4  | 1    |
| 8       | E-12BP1  | 1    |



**60” Burner Connection – ISF60LB**

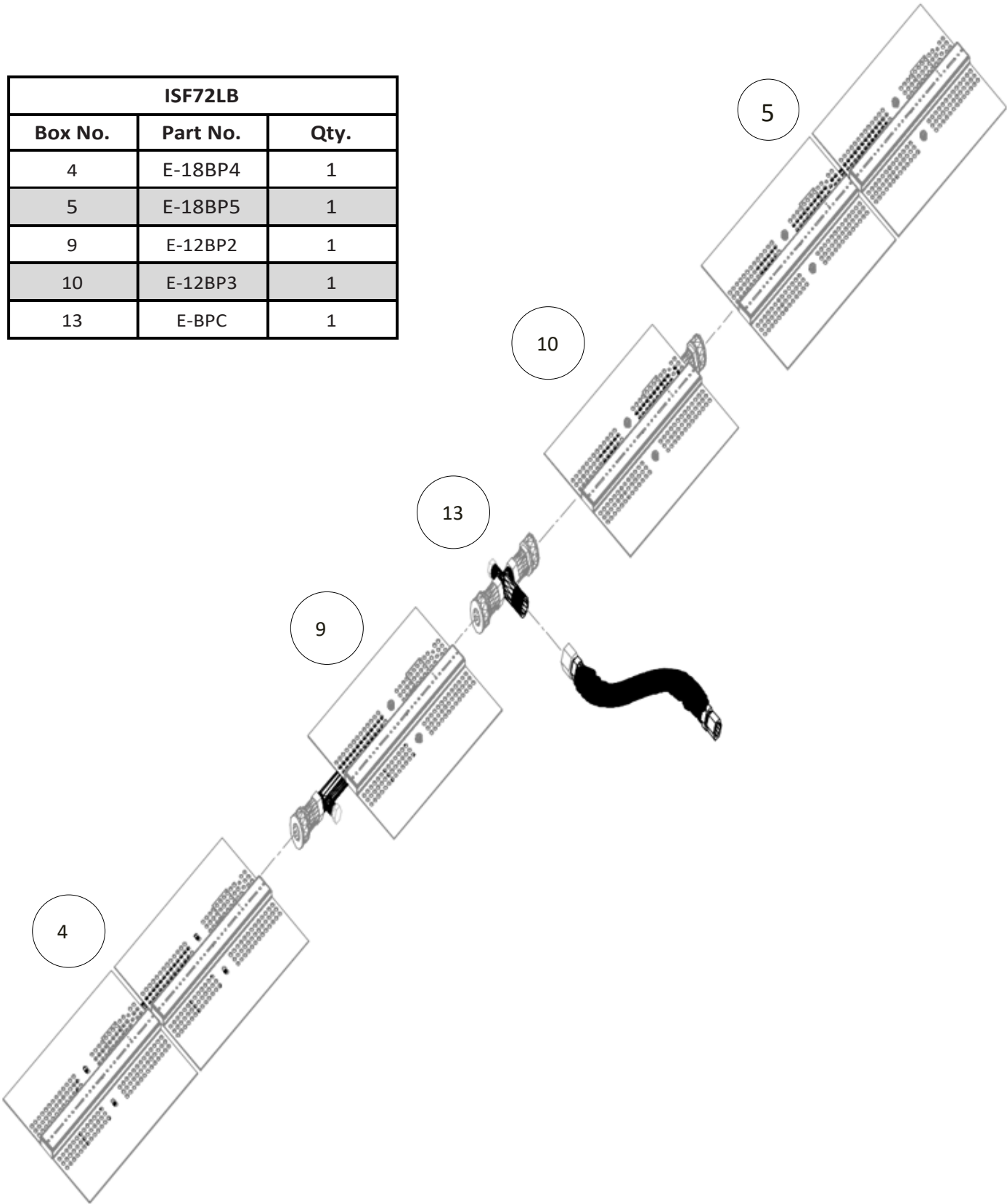
For Isokern Maximus Linear 82L72ST

| ISF60LB |          |      |
|---------|----------|------|
| Box No. | Part No. | Qty. |
| 1       | E-18BP1  | 1    |
| 4       | E-18BP4  | 1    |
| 6       | E-18BP6  | 1    |



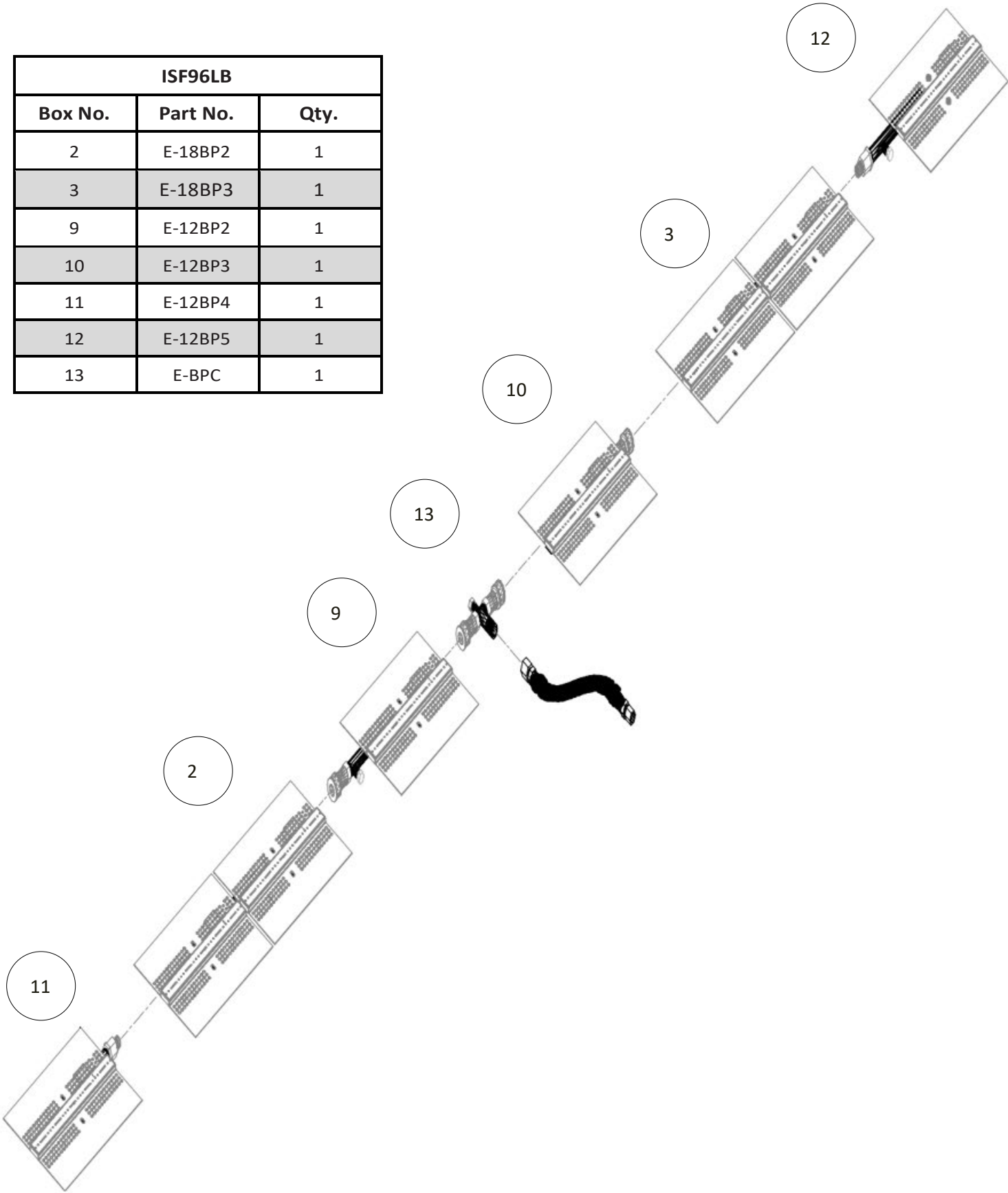
**72” Burner Connection – ISF72LB**  
For Isokern Maximus Linear 82L96ST

| ISF72LB |          |      |
|---------|----------|------|
| Box No. | Part No. | Qty. |
| 4       | E-18BP4  | 1    |
| 5       | E-18BP5  | 1    |
| 9       | E-12BP2  | 1    |
| 10      | E-12BP3  | 1    |
| 13      | E-BPC    | 1    |



**96” Burner Connection – ISF96LB**  
For Isokern Maximus Linear 82L120ST

| ISF96LB |          |      |
|---------|----------|------|
| Box No. | Part No. | Qty. |
| 2       | E-18BP2  | 1    |
| 3       | E-18BP3  | 1    |
| 9       | E-12BP2  | 1    |
| 10      | E-12BP3  | 1    |
| 11      | E-12BP4  | 1    |
| 12      | E-12BP5  | 1    |
| 13      | E-BPC    | 1    |



## Remote Control System

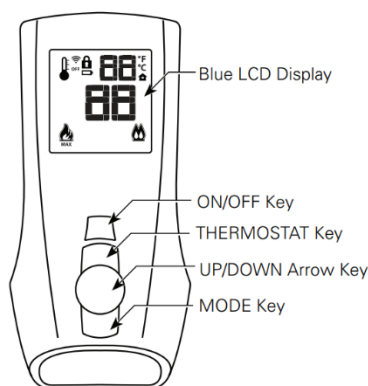
The Remote allows you to power ON/OFF the fireplace appliance and adjust flame height from the comfort of your chair. It is configured to initialize the ADC100 powering on the fan and damper. Once draft is proved, the ADC100 will allow for burner to operate. The flame height can be adjusted by the remote through six (6) levels.

### SYNCHRONIZE REMOTE TO CONTROL MODULE FOR THE FIRST TIME

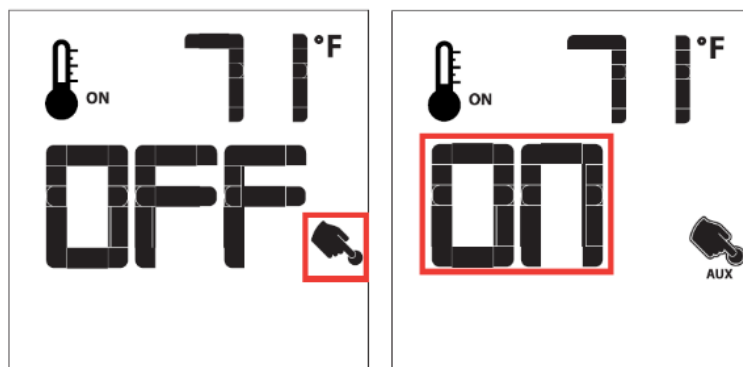
- 1) Insert the three (3) provided AAA batteries into the battery bay in the remote. Correctly align polarity (+/–).
- 2) Press the red SW1 button on the control module. The control module will beep 3 times and an amber LED is illuminated to indicate that the control module is ready to synchronize with a remote within 10 seconds.
- 3) Push the “ON” button on the remote. The control module will beep four (4) times to indicate acceptance of the remote’s command. The system is now synchronized.

### INITIALIZE WITH ADC100

Press the ON/OFF key on the Remote (**Figure 62**). A single beep from module will confirm command. Press the MODE Key until AUX icon is visible (**Figure 63**). Pressing the Up Arrow Key will turn the AUX to “ON” and this will activate the ADC100 to power on the fan and damper. Press the MODE Key until Flame Level screen appears (**Figure 64**) then press the ON/OFF key to turn off system. The fireplace system will now initialize once the remote “ON” key is pressed.



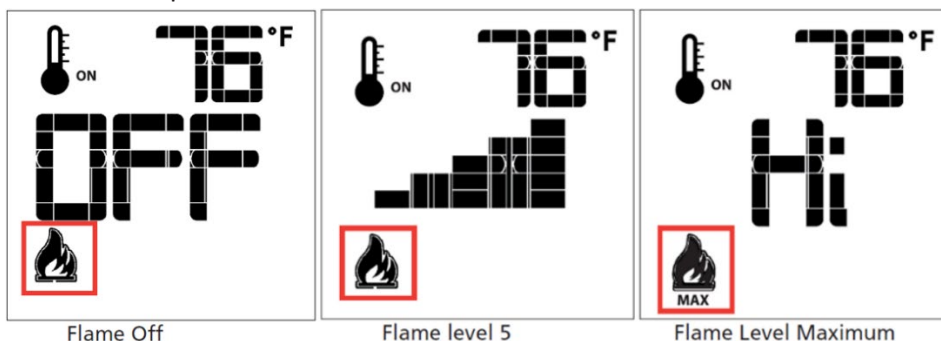
**FIGURE 62**



**FIGURE 63**

### REMOTE FLAME CONTROL

The system has six (6) flame levels. See (**Figure 66**) 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 64**). A single “beep” will confirm reception of the command.

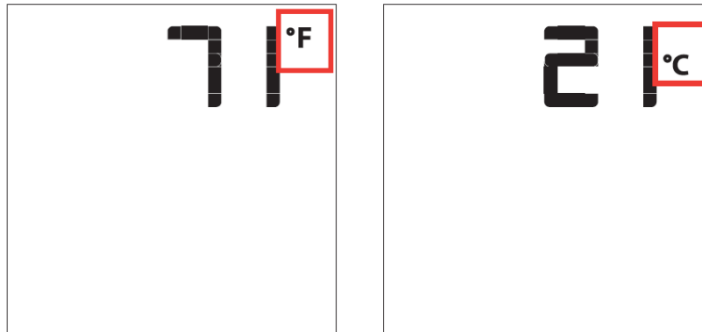


**FIGURE 64**

## Remote Control System

### TEMPERATURE INDICATOR DISPLAY

With the system in the “OFF” position, press the Thermostat Key and the Mode Key at the same time (**Figure 65**). 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 65**).



**FIGURE 65**

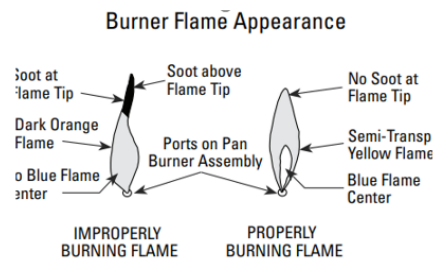
### TURN OFF THE APPLIANCE

Press the ON/OFF Key on the Remote. The Remote LCD display will only show the room temperature and Icon and the appliance will turn off. A single “beep” from the Receiver confirms 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 66**) showing proper flame appearance.



**FIGURE 66**

### LOW BATTERY POWER DETECTION

The life span of the remote-control batteries depends on various factors: quality of the batteries used, the number of ignitions of the appliance, the number of changes to the flame height, etc.

When the remote batteries are low, a Battery icon will appear on the LCD display of the remote before all battery power is lost. When the batteries are replaced, this icon will disappear.

**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 remote where children cannot reach it.

## 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 appliance:

- Gas pressure has been checked carefully
- All gas fittings have been checked for leaks.
- All clearances to combustibles have been met
- All combustibles materials have been removed from the area in front of the appliance.
- All vented areas of the appliance face are unobstructed.
- House is ventilated to clear initial paint curing odors
- All packaging materials have been removed from the appliance.
- 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.

**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.

### **Main Power Switch and Battery Holder Switch Pack**

The ADC100 and the control module must have 120 VAC. The remote will not operate the appliance if power is not supplied to ADC100 and control module. When wired correctly, the remote will initiate the fan and damper operation when the "ON/OFF" key is pressed. Once draft is proven, the ADC100 will allow the burner pilot to spark. Once pilot is ignited the main burner will turn on.

### **TO TURN OFF GAS TO APPLIANCE**

- 1) Place the main power switch in the 'OFF' position
- 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.**



## Full System Initialization

**Once the burner system, MFD, Fan, PDS, and ADC100 have been wired correctly, a full system check is required.**

1. Turn ON main gas supply to appliance.
2. Press the ON/OFF button on remote to turn ON appliance
3. Verify, if possible, the fan and MFD has been activated.
4. Once draft is proven by the PDS, the ADC100 sends a signal to burner control module to allow for burner operation.
5. The burner pilot will begin sparking.
  - a. If pilot does not light after 30 seconds, turn off appliance for 30 seconds and retry step 2.
  - b. It may take several attempts to purge out all the air in pilot tube.
6. Once the pilot is ignited, the main burner valve will turn on within 7 seconds.
7. The burner should ignite, and the flames should travel along the length of the burner.
8. Initially, the flames will have a bluish appearance and will gradually become more yellow as appliance heats up.
9. After a few minutes, shut off burner by pressing OFF on the remote, allow the burner to cool to the touch.
10. Glass media can be spread evenly across the entire the length burner. **DO NOT** leave excessive amounts of media directly on top of burner ports. **DO NOT** obstruct pilot assembly with glass media.
11. Restart sequence on step 2.
12. Observe flame pattern. The fan speed control can be adjusted to minimize erratic flame patterns. The fan speed control voltage shall not be less than 90 VAC as measured with voltage meter at junction nearest fan.

**NOTE:** The fan speed control should only be used for initialization set up and should only be altered by qualified professional.
13. Once a satisfactory flame appearance has been achieved, system is complete.



## Troubleshooting

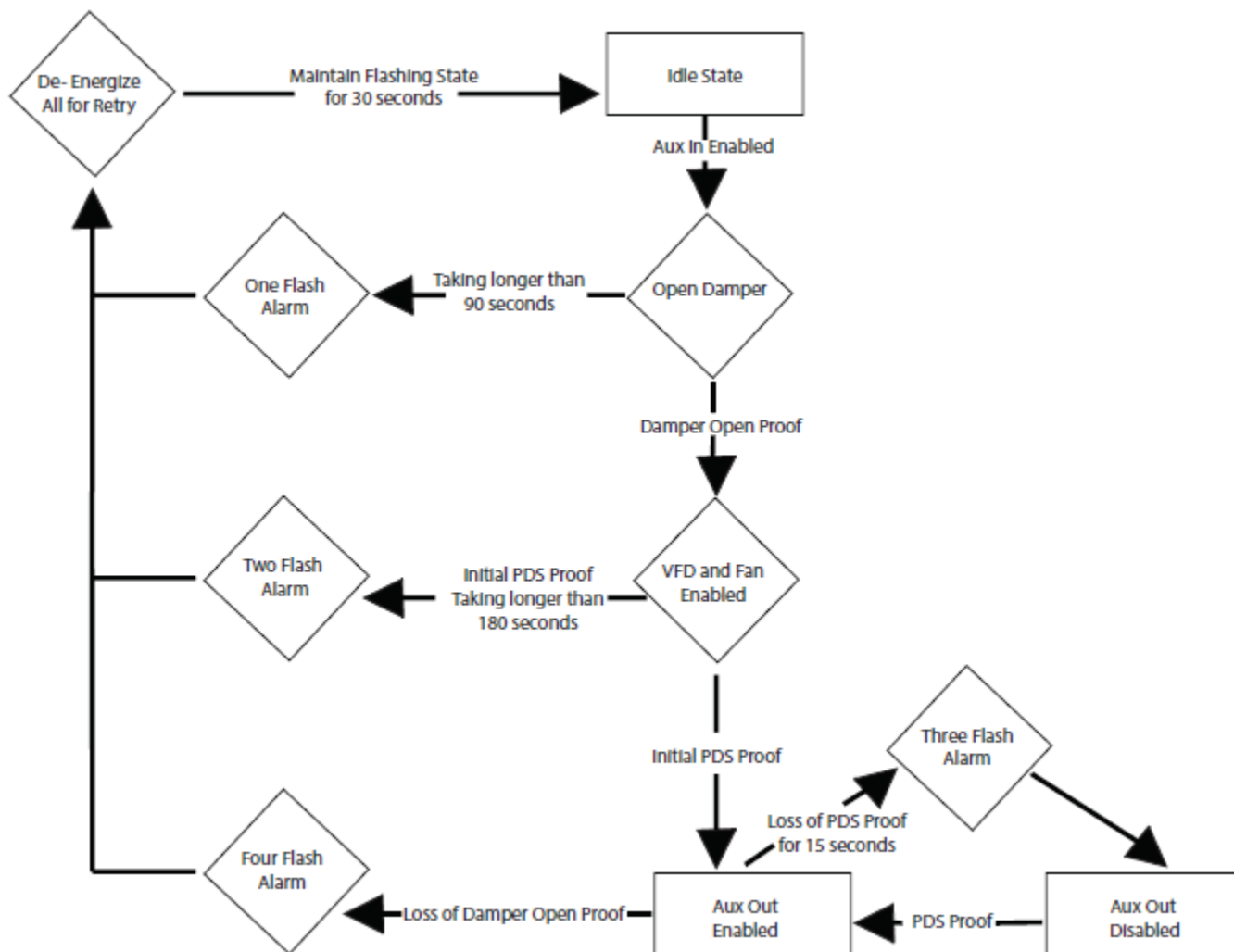
**Earthcore Industries Technical Support: 1-800-642-2920**

| Issue                              | Probable Cause                         | Possible Solution  |
|------------------------------------|--|--|
| Mechanical draft system inoperable | No power                               | <ul style="list-style-type: none"> <li>- Verify power at the switch</li> <li>- Verify wiring connections</li> <li>- Verify "POWER" LED on ADC100 is illuminated</li> <li>- Refer to Enervex mechanical draft system installation manuals for detailed troubleshooting</li> </ul> |
|                                    | Draft system component alarm / failure | Consult Enervex manual for detailed draft system troubleshooting   |
| No spark on pilot                  | No power                               | <ul style="list-style-type: none"> <li>- Verify power is ON</li> <li>- Check wiring on ignition module, ADC 100, and gas valve are correct</li> </ul>  |
|                                    | Ignitor misalignment                   | Verify ignitor not contacting pilot gas hood   |
|                                    | Loose pilot connections                | - Check pilot wiring assembly is tightly secured to ignition module  |
|                                    | Mechanical draft system error          | Refer to Enervex mechanical draft system installation manuals for detailed troubleshooting   |
| Pilot won't ignite                 | No spark                               | - See "No spark on pilot"  |
|                                    | Air in pilot gas line                  | It may take a few minutes to purge out all the air from the pilot gas tube to ignite   |
|                                    | No gas                                 | <ul style="list-style-type: none"> <li>- Verify pilot gas tube is threaded sufficiently to gas valve</li> <li>- Verify all gas connections going to and from gas valve are tight</li> <li>- Verify main gas-shutoff valve is in ON position</li> </ul>                           |
| Pilot won't stay ignited           | Flame sensor obstruction               | Remove any obstruction near pilot igniter and flame sensor   |
|                                    | Loose pilot connections                | - Check pilot wiring assembly is tightly secured to ignition module  |
|                                    | Low gas pressure                       | - Verify adequate gas supply pressure  |
| Remote won't work/unresponsive     | Range                                  | - Remote is too far from receiver  |
|                                    | Batteries need replacement             | - Replace batteries on remote transmitter  |
|                                    | Program remote to receiver             | - Sync remote transmitter to ignition module; Page 42  |
| Main burner won't ignite           | Pilot won't ignite                     | - See "Pilot won't ignite"   |
|                                    | Pilot flame won't stay ignited         | - See "Pilot won't stay ignited"   |
|                                    | Loose burner segments                  | - Verify burner segments are tight and secure  |
|                                    | Orifice blockage                       | Remove burner top pan tray and visually inspect orifice gas block  |
|                                    | Defective valve/ignition module        | - Replace gas valve or ignition module   |






## Troubleshooting

### ADC100 Alarm Stages

- **Flashes 1** - If damper prove does not close 90 seconds after AUX IN, go into alarm for 30 seconds, followed by a full retry
- **Flashes 2** - If initial PDS prove does not close 180 seconds after damper prove, go into alarm for 30 seconds, followed by a full retry
- **Flashes 3** - If PDS loses proof for 15 seconds after initial PDS prove, AUX OUT de-energize, stay in alarm until PDS prove returns and AUX OUT will re-energize
- **Flashes 4** - If at any point after AUX OUT proves the damper prove is removed, the board immediately goes into alarm for 30 seconds, followed by a full retry
- **Flashes 5** - \*must have sw3 on\* if PDS is proved prior to AUX IN, board will go into alarm and no further states can be achieved until proof is removed



## Glass Media Options

| Component   | Part#     | Description   |
|---|-----------|---|
|    | RFG-10-PB | 1/2" REFLECTIVE POSEIDON BLUE<br>FIRE GLASS (10 LB JAR)     |
|    | RFG-10-TC | 1/2" REFLECTIVE TERRA COPPER<br>FIRE GLASS (10 LB JAR)      |
|    | RFG-10-VB | 1/2" REFLECTIVE VESPER BLACK<br>FIRE GLASS (10 LB JAR)      |
|   | RFG-10-KD | 1/2" REFLECTIVE KRYSTALLO<br>DIAMOND FIRE GLASS (10 LB JAR) |
|  | RFG-10-AD | 1/2" REFLECTIVE AMBER<br>DIAMOND FIRE GLASS (10 LB JAR)     |

Glass Media will be included with the Isoflames Linear Burner for each Maximus Linear Unit. A color selection will need to be chosen when ordering your fireplace unit. The following designated amount will be included for each size.

- 82L48 - 3 (10lb) Jars
- 82L72 - 5 (10lb) Jars
- 82L96 - 7 (10lb) Jars
- 82L120 - 9 (10lb) Jars

## Registration Card

Please tear along dash lines and send to:

Earthcore Industries

ATTN: Technical Department

6899 Philipps Industrial BLVD

Jacksonville, FL 32256

Dealer: \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Date of Installation: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, and Zip \_\_\_\_\_

Phone number: \_\_\_\_\_

Fireplace Model (circle one)      82L48ST      82L72ST      82L96ST      82L120ST

Gas Type(circle one):      Natural Gas      LP (Propane)

Glass Front (circle one)      Yes      No

Fireplace Serial Number: \_\_\_\_\_

Buyer: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, and Zip \_\_\_\_\_

Phone number: \_\_\_\_\_

Installed By: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, and Zip \_\_\_\_\_

Phone number: \_\_\_\_\_

# Warranty & Disclaimer

## Isokern Maximus Linear Series 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 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

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.

6899 Phillips Industrial Blvd. • Jacksonville, FL 32256 • 904.363.34

**earthcore®**