GAS PRESSURE
SPARK products are engineered, safety tested and certified to function properly within a specific gas supply pressure range. It is CRITICALLY IMPORTANT that the gas lines be properly sized and installed by a licensed plumber and/or certified gas technician to deliver continuous operating pressure within the range stated for each product. Several variables should be taken into consideration when sizing the gas lines:
   1. Overall peak demand on the system.
   2. Length of run
   3. No log lighter valves should be included in the system (if one is preexisting it must be removed) Failure to supply minimum running pressure will cause the unit to perform poorly- if at all- less than minimum supply pressure is not covered under warranty.

ATTENTION
SPARK Modern Fires wants to help you achieve your fireplace vision. We will review your planned installation of your LINEAR BURNER OUTDOOR. Please provide plan view and section drawings electronically, along with a rendering of the finishing details, and we will help you plan it properly.

· PROPER VENTILATION
Critical notes and details are available in this guide for proper and safe installation of the Linear Burner System Outdoor. Proper ventilation air requirements and details on how to provide this air to the underside of the burners is provided in the following pages.

A minimum requirement of (1) 4” round (+12 sq inches) ventilation air supply for a 2’or 3’ burner. At least (2) or more 4” round (each +12 sq inches) fresh air supplies required for larger burners.

· ELEVATION
All installations above 4500 feet above sea level require special consideration and possible product de-regulating at the factory. If you are planning to use a SPARK product above 4500 ft it is critical to indicate this early in your investigation/ product selection and certainly mention it in the order process.
SAFETY INFORMATION

WARNINGS

IMPORTANT: The appliance should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required as necessary. It is imperative that the control compartment, burners and circulating air passageways of the appliance be kept clean.

DANGER: Carbon monoxide poisoning may lead to death!

Carbon Monoxide Poisoning:
Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, or nausea. If you have these signs, the LBS-OD may not be working properly. Get fresh air at once! Have the LBSOD serviced. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol, and those at high altitudes.

Natural Gas: Natural gas is odorless. An odor making agent is added to the gas. The odor helps you detect a gas leak. However, the odor added to the gas can fade. Gas may be present even though no odor exists. Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this appliance.

WARNING: Any change to this appliance or its controls can be dangerous.

1. This appliance, as supplied, is only for use with the type of gas indicated on the rating plate.
2. When an appliance is for connection to a fixed piping system, the installation must conform with local codes, or in the absence of local codes with the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or International Fuel Gas Code, Natural Gas and Propane Installation Code, CSA B149.1, or Propane Storage and Handling Code, B149.2, as applicable.
3. Keep the appliance area clear and free from combustible materials, gasoline and other flammable vapors and liquids.
4. Do not burn solid fuel in the fireplace after installing the appliance. Do not use this appliance to cook food or burn paper or other objects.
5. Children and adults should be alerted to the hazards of high surface temperatures and should stay away to avoid burns or clothing ignition.
6. Clothing or other flammable materials should not be hung from the appliance, or placed on or near the appliance.
7. Young children should be carefully supervised when they are in the area of the appliance.
8. 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 or the Canadian Electrical Code, CSA C22.1, if applicable.
9. Do not use appliance if any part has been under water. Immediately call a qualified service technician to inspect the room appliance and to replace any part of the control system and any gas control which has been under water.
10. Inspect the burner before each use of LBS-OD. The burner must be replaced prior to the appliance being put into operation if it is evident that the burner is damaged. Please refer to “Illustrated parts List” for the replacement burner part number.
11. Turn the appliance off and let cool before servicing, installing, or repairing. Any guard or other protective device removed for servicing the appliance must be replaced prior to operating the appliance. Only a qualified service person should install, service, or repair appliance.

HIGH ALTITUDE INSTALLATIONS:
The appliance is rated for installations up to 4500’ (1372 m) above sea level. Above 4500’ the appliance must be de-rated at the factory for the appropriate altitude.

LOCAL CODES
Install and use LBSOD with care. Follow local codes. In the absence of local codes, use the latest edition of The National Fuel Gas Code ANSI Z223.1/NFPA 54 available from:

* American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018

* National Fire Protection Association, Inc., Batterymarch Park, Quincy, MA 02269.
**LINEAR BURNER SYSTEM OUTDOOR SPECIFICATIONS**

### BURNER DIMENSIONS

<table>
<thead>
<tr>
<th>MODEL #</th>
<th>OVERALL WIDTH (W)</th>
<th>BURNER TUBE LENGTH</th>
<th>INPUT RATE (Btu/hr)</th>
<th># ORIF.</th>
<th>ORIF. SIZE</th>
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<tbody>
<tr>
<td></td>
<td>N.G.</td>
<td>L.P.</td>
<td>N.G. (L.P.)</td>
<td>N.G.</td>
<td>L.P.</td>
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<tr>
<td>LBS-OD 24 - NG(LP)</td>
<td>24&quot;</td>
<td>20&quot;</td>
<td>41,000</td>
<td>2 (1)</td>
<td>44 49</td>
</tr>
<tr>
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<td>32&quot;</td>
<td>61,000</td>
<td>3 (1)</td>
<td>44 43</td>
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<td>44&quot;</td>
<td>82,000</td>
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<td>43 38</td>
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<tr>
<td>LBS-OD 60 - NG(LP)</td>
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<td>56&quot;</td>
<td>102,000</td>
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<td>43 36</td>
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<tr>
<td>LBS-OD 72 - NG(LP)</td>
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<td>68&quot;</td>
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<tr>
<td>LBS-OD 96 - NG(LP)</td>
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<td>92&quot;</td>
<td>142,000</td>
<td>8 (2)</td>
<td>43 35</td>
</tr>
</tbody>
</table>

### TOP COVER DIMENSIONS
**IMPORTANT:** LBS-OD models must have the burner system secured to the base in order to avoid warpage of the appliance!

**LINEAR BURNER SYSTEM OUTDOOR INSTALLATION (EXAMPLE)**
Clearances to combustibles must be maintained

- Minimum 0.75" lip to support appliance.
- Non-combustible materials only (complete structure).
- Allow for air flow from below (min. 12 Sq. In. per linear foot of burner).
- Maintain minimum 0.25" gap around appliance and pilot.

**NOTE:** Linear Burner System can be installed on any non-combustible materials. Above example is not a requirement. Cover (see Illustrated Parts List, page 13) must be in place when appliance is not in use.
PRODUCT ASSEMBLY

1. Remove Burner Assembly, Front Cover and Burner Media from packaging (see Parts List, page 14).

2. Connect the Burner Assembly to gas supply using supplied flex connector and shutoff valve.

3. Evenly fill the media compartment with burner media (broken tempered glass) fully covering the burner as shown on a picture.

4. Place and evenly distribute topping media (optional colored glass or lava rock) on top of burner media as shown on a picture.

5. Carefully leak test all connections following the procedure on page 5.

6. Having free access to the valve and manifold compartment of the Burner Assembly turn ON the appliance following the procedure on page 8. Make sure the flame is even along the burner and appliance is fully operational and safe for use. Turn OFF the appliance and let it cool before proceeding to the next step.

7. Cover manifold and valve compartment of the Burner Assembly with Front Cover.

8. Fill front cover tray with topping media to desired level.

INSTALLATION

CAUTION: Do not remove the metal data plates attached to the near Burner System. These plates contain important information.

NOTE: Installation and repair should be done by a qualified service person. The appliance should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required as necessary. It is imperative that control compartment, burner and circulating air passageways of the appliance be kept clean.

WARNING: Never light the appliance without having the clear glass media completely covering the burner!

CLEARANCES TO COMBUSTIBLE MATERIALS:
- Top ……… 60” (153 cm)
- Short Side of the Unit to Wall ……… 9” (23 cm)
- Long Side of the Unit to Wall …… 16” (41 cm)
No Thermal Floor Protection Required

Fuel pressure specification:
Inlet Nat. Gas (NG) Min: 4.5” w.c. Max: 10.5” w.c.
Manifold (NG) 3.5” w.c.
Inlet Propane (LP) Min: 11.0” w.c. Max: 13.0” w.c.
Manifold (LP) 10.0” w.c.
CHECK GAS TYPE

Use proper gas type for the fireplace you are installing. If you have conflicting gas type, do not install fireplace. See dealer where you purchased the fireplace for proper fireplace for your gas type or conversion kit.

INSTALLING GAS PIPING TO FIREPLACE / BURNER SYSTEM LOCATION

WARNING

A qualified installer or service person must connect appliance to gas supply. Follow all local codes.

CAUTION

For propane/LP units, never connect fireplace directly to the propane/LP supply. This burner system requires an external regulator (not supplied). Install the external regulator between the burner system and propane/LP supply.

INSTALLATION ITEMS NEEDED

Before installing fireplace and burner system, make sure you have the items listed below.

- External regulator (supplied by installer)
- Equipment shutoff valve*
- Tee joint
- approved flexible gas line with gas connector (if allowed by local codes — not provided)

* A CSA design-certified equipment shutoff valve with 1/8" NPT tap is an acceptable alternative to test gauge connection. Purchase the CSA design-certified equipment shutoff valve from your dealer.

For propane/LP connections only, the installer must supply an external regulator. The external regulator will reduce incoming gas pressure. You must reduce incoming gas pressure to between 11 and 13 inches of water. If you do not reduce incoming gas pressure, burner system regulator damage could occur. Install external regulator with the vent pointing down as shown in Figure 1. Pointing the vent down protects it from freezing rain or sleet.

CAUTION

Use only new black iron or steel pipe. Internally tinned copper or copper tubing can be used per National Fuel Code, section 2.6.3, providing gas meets hydrogen sulfide limits, and where permitted by local codes. Gas piping system must be sized to provide minimum inlet pressure (listed on data plate) at the maximum flow rate (BTU/hr). Undue pressure loss will occur if the pipe is too small.

When using copper or flex connectors use only fittings approved for gas connections. The gas control inlet is 3/8” NPT.

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Figure 1 - External Regulator with Vent Pointing Down (Propane/LP Only)