Performance Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum lineal heat release, Btu/hr/ft</th>
<th>1,000,000</th>
<th>1,250,000</th>
<th>1,500,000</th>
<th>1,750,000</th>
<th>2,000,000</th>
<th>2,250,000</th>
<th>2,500,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lineal heat release at high fire</td>
<td>Btu/hr/ft</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Turndown ratio</td>
<td>10:1</td>
<td>12.5:1</td>
<td>15:1</td>
<td>17.5:1</td>
<td>20:1</td>
<td>22.5:1</td>
<td>25:1</td>
<td></td>
</tr>
<tr>
<td>Flame length</td>
<td>feet [1]</td>
<td>2.7</td>
<td>3.2</td>
<td>3.6</td>
<td>4.0</td>
<td>4.3</td>
<td>4.7</td>
<td>5.0</td>
</tr>
<tr>
<td>Pilot pressure/heat release</td>
<td>&quot;w.c.&quot; [2]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-8&quot; w.c. / 40,000 Btu/hr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air pressure at burner inlet</td>
<td>SCFM</td>
<td>250</td>
<td>313</td>
<td>375</td>
<td>438</td>
<td>500</td>
<td>563</td>
<td>625</td>
</tr>
<tr>
<td>Air pressure at burner test connection</td>
<td>&quot;w.c.&quot; [3]</td>
<td>2.3</td>
<td>3.6</td>
<td>5.1</td>
<td>7.0</td>
<td>9.1</td>
<td>11.5</td>
<td>14.2</td>
</tr>
<tr>
<td>Fuel pressure at burner inlet (natural gas)</td>
<td>&quot;w.c.&quot; [3]</td>
<td>8.5</td>
<td>13.3</td>
<td>19.2</td>
<td>26.1</td>
<td>34.1</td>
<td>43.2</td>
<td>53.3</td>
</tr>
<tr>
<td>Fuel pressure at burner test connection (natural gas)</td>
<td>&quot;w.c.&quot; [3]</td>
<td>7.4</td>
<td>11.5</td>
<td>16.6</td>
<td>22.5</td>
<td>29.4</td>
<td>37.3</td>
<td>46.0</td>
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<tr>
<td>NOx emissions [4]</td>
<td>ppm @ 3% O₂</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CO emissions [4]</td>
<td>ppm @ 3% O₂</td>
<td>&lt;25 ppm corrected to 3% O₂ dry</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

[1] Flame length is based on 50% excess combustion air. Flame length will vary depending on various application parameters (e.g. passing air stream velocity, oxygen content, and combustion air preheat temperature).


* Differential pressures measured at burner test connections. Air and gas DP is differential over system static pressure.

Operating Environment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inlet Combustion Air Temp.</td>
<td>°F</td>
<td></td>
</tr>
<tr>
<td>Inlet Combustion Air O₂ Level</td>
<td>% O₂</td>
<td></td>
</tr>
<tr>
<td>Air Stream Cross Velocity</td>
<td>ft/min</td>
<td></td>
</tr>
<tr>
<td>Air Stream Axial Velocity</td>
<td>ft/min</td>
<td></td>
</tr>
<tr>
<td>Upstream Air Temperature</td>
<td>°F</td>
<td></td>
</tr>
<tr>
<td>Downstream Air Temperature</td>
<td>°F</td>
<td></td>
</tr>
<tr>
<td>Process Air Stream O₂ Level</td>
<td>% O₂</td>
<td></td>
</tr>
</tbody>
</table>

The burner can operate in a variety of environments. Typical operating environments, limits on their variables, and notes concerning operation of the burner are presented at left.

It is important to note that inlet combustion variables such as O₂ level and combustion air temperature will change air pressure requirements and/or maximum firing capacity.
Capacities and Operating Data

Natural Gas Fuel/Air Settings

![Graph showing Natural Gas Fuel/Air Settings]

**NOTE:** Pressure measured at burner test connections; refer to inlet pressure requirements for fan sizing.

Propane Fuel/Air Settings

![Graph showing Propane Fuel/Air Settings]

**NOTE:** Pressure measured at burner test connections; refer to inlet pressure requirements for fan sizing.
**Dimensions** (in inches)

**Side View** (back inlet section shown)

**Bottom View**

*end inlet section*

**Bottom view**

*back inlet section w/round air inlet*

**Bottom view**

*back inlet section w/rectangular air inlet*

**Pilot End View**

*Round air inlet 4" & 6" dia.*

*Round air inlet 8" dia.*

*Rectangular air inlet 6.5" W x 7.5" H*
Dimensions (in inches)
Straight Burner Sections

.5 ft. burner - end inlet

1 ft. burner - end inlet

1.5 ft. burner - end inlet

2 ft. burner - back inlet

3 ft. burner - back inlet

4 ft. burner - back inlet

5 ft. burner - back inlet

6 ft. burner - back inlet
Dimensions (in inches)
Straight Burner Sections

7 ft. burner - back inlet

8 ft. burner - back inlet

9 ft. burner - back inlet
Dimensions (in inches)
2 ft. back inlet grid sections

2 BI XF GRD with 12" span

2 BI XF GRD with 18" span

2 BI XF GRD with 24" span

2 BI XF GRD with 30" span

2 BI XF GRD with 36" span

2 BI XF GRD with 48" span
Dimensions (in inches)
3 ft. back inlet grid sections

3 BI XF GRD with 12" span

3 BI XF GRD with 18" span

3 BI XF GRD with 24" span

3 BI XF GRD with 30" span

3 BI XF GRD with 36" span

3 BI XF GRD with 48" span
Dimensions (in inches)
4 ft. back inlet grid sections

4 BI XF GRD with 12" span

4 BI XF GRD with 18" span

4 BI XF GRD with 24" span

4 BI XF GRD with 30" span

4 BI XF GRD with 36" span

4 BI XF GRD with 48" span
Dimensions (in inches)
5 ft. back inlet grid sections

5 BI XF GRD with 12" span

5 BI XF GRD with 18" span

5 BI XF GRD with 24" span

5 BI XF GRD with 30" span

5 BI XF GRD with 36" span

5 BI XF GRD with 48" span
Dimensions (in inches)
6 ft. back inlet grid sections

6 BI XF GRD with 12" span

6 BI XF GRD with 18" span

6 BI XF GRD with 24" span

6 BI XF GRD with 30" span

6 BI XF GRD with 36" span

6 BI XF GRD with 48" span
Dimensions (in inches)
7 ft. back inlet grid sections

7 BI XF GRD with 12" span

7 BI XF GRD with 18" span

7 BI XF GRD with 24" span

7 BI XF GRD with 30" span

7 BI XF GRD with 36" span

7 BI XF GRD with 48" span
Dimensions (in inches)
8 ft. back inlet grid sections

8 BI XF GRD with 12" span

8 BI XF GRD with 18" span

8 BI XF GRD with 24" span

8 BI XF GRD with 30" span

8 BI XF GRD with 36" span

8 BI XF GRD with 48" span
Dimensions (in inches)
9 ft. back inlet grid sections

9 BI XF GRD with 12" span

9 BI XF GRD with 18" span

9 BI XF GRD with 24" span

9 BI XF GRD with 30" span

9 BI XF GRD with 36" span

9 BI XF GRD with 48" span
Dimensions (in inches)

Horizontal spacing of CROSSFIRE® ladders

- **4 ft. CROSSFIRE® Ladder**
  - Dimensions: 62.9 in, 48.0 in, 7.5 typ.
  - Spacing: 9.0 in, 9.0 in

- **5 ft. CROSSFIRE® Ladder**
  - Dimensions: 74.9 in, 60.0 in, 7.5 typ.
  - Spacing: 9.0 in, 9.0 in

- **6 ft. CROSSFIRE® Ladder**
  - Dimensions: 86.9 in, 36.0 in, 36.0 in, 7.5 typ.
  - Spacing: 15.0 in, 15.0 in

- **7 ft. CROSSFIRE® Ladder**
  - Dimensions: 98.9 in, 42.0 in, 42.0 in, 7.5 typ.
  - Spacing: 15.0 in, 15.0 in, 33.0 in, 33.0 in

- **8 ft. CROSSFIRE® Ladder**
  - Dimensions: 110.9 in, 48.0 in, 48.0 in, 7.5 typ.
  - Spacing: 15.0 in, 15.0 in, 39.0 in, 39.0 in

- **9 ft. CROSSFIRE® Ladder**
  - Dimensions: 122.9 in, 54.0 in, 54.0 in, 7.5 typ.
  - Spacing: 15.0 in, 15.0 in, 45.0 in, 45.0 in
Vertical spacing of CROSSFIRE® ladders

<table>
<thead>
<tr>
<th>Cross Member Designation</th>
<th>Description</th>
<th>Dim. A (inches)</th>
<th>Dim. B (inches)</th>
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<tbody>
<tr>
<td>112</td>
<td>Qty. 1 - 12&quot; spacing</td>
<td>12</td>
<td>24</td>
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<tr>
<td>118</td>
<td>Qty. 1 - 18&quot; spacing</td>
<td>18</td>
<td>36</td>
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<tr>
<td>124</td>
<td>Qty. 1 - 24&quot; spacing</td>
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<td>48</td>
</tr>
<tr>
<td>130</td>
<td>Qty. 1 - 30&quot; spacing</td>
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<td>60</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cross Member Designation</th>
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<th>Dim. B (inches)</th>
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<tr>
<td>212</td>
<td>Qty. 2 - 12&quot; spacing</td>
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<td>36</td>
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<td>218</td>
<td>Qty. 2 - 18&quot; spacing</td>
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<td>54</td>
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<td>224</td>
<td>Qty. 2 - 24&quot; spacing</td>
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<td>230</td>
<td>Qty. 2 - 30&quot; spacing</td>
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<table>
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<tr>
<th>Cross Member Designation</th>
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<th>Dim. A (inches)</th>
<th>Dim. B (inches)</th>
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<td>48</td>
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<tr>
<td>318</td>
<td>Qty. 3 - 18&quot; spacing</td>
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<td>72</td>
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<tr>
<td>324</td>
<td>Qty. 3 - 24&quot; spacing</td>
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<tr>
<td>330</td>
<td>Qty. 3 - 30&quot; spacing</td>
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<td>120</td>
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<thead>
<tr>
<th>Cross Member Designation</th>
<th>Description</th>
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<th>Dim. B (inches)</th>
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<td>412</td>
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<tr>
<td>430</td>
<td>Qty. 4 - 30&quot; spacing</td>
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See page 5616 for horizontal spacing of CROSSFIRE® ladders
Notes