### Eclipse ThermJet Burners

#### for Preheated Combustion Air

**Model TJPCA0015**

**Version 2**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural Gas</strong></td>
<td><strong>Propane</strong></td>
</tr>
<tr>
<td><strong>Maximum Input BTU/hr (kW)</strong></td>
<td>150,000 (44)</td>
</tr>
<tr>
<td><strong>Minimum Input, On-Ratio BTU/hr (kW)</strong></td>
<td>15,000 (4.4)</td>
</tr>
<tr>
<td><strong>Gas Inlet Pressure Required “w.c. (mbar)”</strong></td>
<td><strong>Fuel Pressure at Gas Inlet</strong></td>
</tr>
<tr>
<td><strong>Ambient</strong></td>
<td>7.5 (18.6)</td>
</tr>
<tr>
<td><strong>300°F (150°C)</strong></td>
<td>9.8 (24.4)</td>
</tr>
<tr>
<td><strong>700°F (370°C)</strong></td>
<td>14.0 (34.9)</td>
</tr>
<tr>
<td><strong>1000°F (540°C)</strong></td>
<td>17.2 (42.7)</td>
</tr>
<tr>
<td><strong>Air Inlet Pressure Required “w.c. (mbar)”</strong></td>
<td><strong>15% Excess Air at Maximum Input</strong></td>
</tr>
<tr>
<td><strong>Ambient</strong></td>
<td>3.5 (8.7)</td>
</tr>
<tr>
<td><strong>300°F (150°C)</strong></td>
<td>5 (12.5)</td>
</tr>
<tr>
<td><strong>700°F (370°C)</strong></td>
<td>7.7 (19.2)</td>
</tr>
<tr>
<td><strong>1000°F (540°C)</strong></td>
<td>9.6 (23.9)</td>
</tr>
<tr>
<td><strong>High Fire Flame Length Inches (mm)</strong></td>
<td>&lt;11.0 (279)</td>
</tr>
<tr>
<td><strong>Flame Detection</strong></td>
<td>UV scanner available for all combustors.</td>
</tr>
<tr>
<td><strong>Fuel</strong></td>
<td>Natural gas, propane, or butane</td>
</tr>
</tbody>
</table>

- All information is based on laboratory testing in neutral (0.0" w.c.) pressure chamber. Different chamber size and conditions may affect the data.
- All information is based on standard combustor design. Changes in combustor will alter performance and pressures.
- All inputs based upon gross calorific values.
- Eclipse reserves the right to change the construction and/or configuration of our products at any time without being obliged to adjust earlier supplies accordingly.
- Plumbing of air and gas will affect accuracy of orifice readings. All information is based on generally acceptable air and gas piping practices.
Performance Graphs

**Ignition & Operational Zones**

![Graph showing ignition and operational zones](image)

**NO\textsubscript{x} vs Preheated Air Temperatures**

*(Based on Maximum Firing Rate)*

![Graph showing NO\textsubscript{x} vs temperature](image)

Emissions from the burner are influenced by:

- Fuel type
- Combustion air temperature
- Firing rate
- Chamber conditions
- Percent of excess air

For estimates of other emissions, contact Eclipse.

**Gas Orifice \( \Delta P \) vs. Input**

*(Measured from Tap B to Tap D)*

![Graph showing gas orifice \( \Delta P \) vs. input](image)

High Fire Gas Orifice \( \Delta P \)'s:
- Natural Gas - 3.6” w.c.
- Propane - 3.3” w.c.
- Butane - 3.0” w.c.

\( \Delta P \) (mbar ± 10%):
- Nat. Gas \( \Delta P \) - 7.0mm orifice
- Propane \( \Delta P \) - 5.5mm orifice
- Butane \( \Delta P \) - 5.5mm orifice
Burner weight less combustor: 17.9 lbs (8.1 kg)

**Dimensions in inches (mm)**

**Combustor**

Exhaust Outlet Diameter - Medium Velocity: Ø 1.26 (32)

**Alloy Tube (AISI 310)**

Weight: 2.1 lbs (0.95 kg)

Max. Chamber Temp: 1,750°F (950°C)

(Not suitable for preheated air over 700°F)

**Silicon Carbide Tube**

Weight: 3.6 lbs (1.63 kg)

Max. Chamber Temp: 2,200°F (1200°C)

**Refractory Block (w/330 SS wrapper)**

Weight: 14 lbs (6.35 kg)

Max. Chamber Temp: 2,800°F (1538°C)