### Eclipse ThermJet Burners for Preheated Combustion Air

**Model TJPCA0500**

*Version 2*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Input BTU/hr (kW)</strong></td>
<td>Natural Gas: 5,000,000 (1465)</td>
</tr>
<tr>
<td><strong>Minimum Input, On-Ratio BTU/hr (kW)</strong></td>
<td>500,000 (146)</td>
</tr>
<tr>
<td><strong>Gas Inlet Pressure Required &quot;w.c. (mbar)</strong></td>
<td>Natural Gas: 5.5 (13.7)</td>
</tr>
<tr>
<td>Fuel Pressure at Gas Inlet</td>
<td>7.5 (18.5)</td>
</tr>
<tr>
<td>Combustion Air Temp</td>
<td>11.0 (27.3)</td>
</tr>
<tr>
<td><strong>1000°F (540°C)</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Air Inlet Pressure Required &quot;w.c. (mbar)</strong></td>
<td>Natural Gas: 4.8 (12.0)</td>
</tr>
<tr>
<td>15% Excess Air at Maximum Input</td>
<td>6.8 (16.9)</td>
</tr>
<tr>
<td>(Tap &quot;A&quot; - see page 3)</td>
<td>10.3 (25.6)</td>
</tr>
<tr>
<td><strong>1000°F (540°C)</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>High Fire Flame Length Inches (mm)</strong></td>
<td>&lt;100.0 (2550)</td>
</tr>
<tr>
<td>(Measured from End of Combustor)</td>
<td></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**

- **Preheated Air Temperatures °F (°C)**
- **NOX ppm (@ 3% O2)**
- **Natural Gas**
- **Prop./Butane**

**NOX vs Preheated Air Temperatures**
(Based on Maximum Firing Rate)

- **Natural Gas**
- **Prop./Butane**

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.
Dimensions in inches (mm)

Burner Housing

- Ø 13.39 (340)
- Ø 11.81 (300)
- 1/2" NPT UV Scanner Adapter
- 2" NPT or BSP Gas Inlet
- 4 x Ø 0.47 (12)
- Spark Plug M14
- 6.34 (161)
- 10.24 (260)
- 6" welded Pipe Connection Air Inlet (165 O/D)
- 6.9 (175)
- 13 (331)

Burner weight less combustor: 93 lbs (42 kg)

Tap Locations

- Tap “C”
- Tap “A”
- Tap “D”
- Tap “B”

Combustor

Exhaust Outlet Diameter - Medium Velocity: Ø 6.97 (177)

- Ø 13.39 (340)
- 4 x Ø 0.47 (12)
- Ø 11.81 (300)

Alloy Tube (AISI 310)
- Weight: 14.5 lbs (6.6 kg)
- Max. Chamber Temp: 1,750°F (950°C)
- (Not suitable for preheated air over 700°F)

Refractory Block
- (w/ 330 SS wrapper)
- Weight: 160 lbs (73 kg)
- Max. Chamber Temp: 2,800°F (1535°C)
Down Firing Block

Weight: 185 lbs (83.91 kg)
Max. Chamber Temp: 2800°F (1535°C)