### Eclipse ThermJet

**Burners**

**Model TJ0500**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Burner Velocity</th>
<th>Model TJ0500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Input Btu/h (kW)</td>
<td>Medium &amp; High Velocity</td>
<td>5,000,000 (1465)</td>
</tr>
<tr>
<td>Minimum Input, On-Ratio Btu/h (kW)</td>
<td>Medium &amp; High Velocity</td>
<td>500,000 (146)</td>
</tr>
<tr>
<td>Minimum Input, Fixed Air Btu/h (kW)</td>
<td>Medium &amp; High Velocity</td>
<td>100,000 (29)</td>
</tr>
<tr>
<td>Gas Inlet Pressure Required &quot;w.c. (mbar)&quot; Fuel Pressure at Gas Inlet (Tap “B” - see page 3)</td>
<td>High Velocity</td>
<td>Natural Gas 13.5 (34.0)</td>
</tr>
<tr>
<td></td>
<td>Medium Velocity</td>
<td>Natural Gas 5.5 (14.0)</td>
</tr>
<tr>
<td>Air Inlet Pressure Required “w.c. (mbar) 15% Excess Air at Maximum Input (Tap “A” - see page 3)</td>
<td>High Velocity</td>
<td>Natural Gas 18.5 (46.0)</td>
</tr>
<tr>
<td></td>
<td>Medium Velocity</td>
<td>Natural Gas 10.0 (25.0)</td>
</tr>
<tr>
<td>High Fire Flame Length Inches (mm) (Measured from End of Combustor)</td>
<td>High Velocity</td>
<td>Natural Gas 75 (1900)</td>
</tr>
<tr>
<td></td>
<td>Medium Velocity</td>
<td>Natural Gas 100 (2550)</td>
</tr>
<tr>
<td>Maximum Flame Velocity ft/s (m/s) 15% Excess Air at Maximum Input</td>
<td>High Velocity</td>
<td>580 (177)</td>
</tr>
<tr>
<td></td>
<td>Medium Velocity</td>
<td>280 (85)</td>
</tr>
<tr>
<td>Maximum Combustion Air Temperature</td>
<td>300°F (149°C). For higher temperatures, use TJPCA (Data 206)</td>
<td></td>
</tr>
<tr>
<td>Flame Detection</td>
<td>UV scanners can be used with all combustors.</td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td>Natural gas, propane or butane. For any other mixed gas, contact Eclipse for orifice sizing.</td>
<td></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

- % Excess Air
- Input (x 1,000 Btu/h)
- Input (kW)

NO$_x$ Emissions
(High Velocity Combustor)

- NO$_x$ Ppm (@ 3% O$_2$
- Input (x 1,000 Btu/h)
- Input (kW)

Correction factor for medium velocity combustor is 1.20.

Emissions data based on on-ratio control, firing 15% excess air, corrected to 3% O$_2$.

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**

- **Gas Inlet**: 6” welded
- **Pipe Connection**: 6.5 (165 O/D)
- **Air Inlet**: 13.15 (334)
- **Burner Housing**: 10.24 (260)
- **Sparks Plug M14**: 6.34 (161)
- **Welded 6” pipe**: 0.39 (10)
- **Combustor**: 13.66 (347)

**Tap Locations**

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

**Burner weight less combustor**: 93 lbs (42 kg)

**Combustor**

- **Exhaust Outlet Diameter**: 
  - High Velocity: Ø4.92 (125)
  - Medium Velocity: Ø6.97 (177)

**Alloy Tube (AISI 310)**

- **Weight**: 14.5 lbs (6.6 kg)
- **Max. Chamber Temp**: 1,750°F (950°C)

**Refractory Block**

- **Weight**: 160 lbs (73 kg)
- **Max. Chamber Temp**: 2,800°F (1535°C)
Down Firing Block

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