## Eclipse ThermJet

### Burners

**Model TJ0100**

![Datasheet 205-5](#)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Burner Velocity</th>
<th>Model TJ0100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Input Btu/h (kW)</td>
<td>Medium &amp; High Velocity</td>
<td>1,000,000 (293)</td>
</tr>
<tr>
<td>Minimum Input, On-Ratio Btu/h (kW)</td>
<td>Medium &amp; High Velocity</td>
<td>100,000 (29)</td>
</tr>
<tr>
<td>Minimum Input, Fixed Air Btu/h (kW)</td>
<td>Medium &amp; High Velocity</td>
<td>20,000 (6)</td>
</tr>
<tr>
<td>Gas Inlet Pressure Required &quot;w.c. (mbar) Fuel Pressure at Gas Inlet (Tap “B” - see page 3)&quot;</td>
<td>High Velocity Natural Gas 12.5 (31.0) Propane 13.5 (34.0) Butane 14.5 (36.0) Medium Velocity Natural Gas 5.5 (14.0) Propane 8.0 (20.0) Butane 7.5 (19.0)</td>
<td></td>
</tr>
<tr>
<td>Air Inlet Pressure Required &quot;w.c. (mbar) 15% Excess Air at Maximum Input (Tap “A” - see page 3)&quot;</td>
<td>High Velocity Natural Gas 16.5 (41.0) Propane 17.0 (43.0) Butane 17.0 (43.0) Medium Velocity Natural Gas 9.0 (23.0) Propane 9.0 (23.0) Butane 9.0 (23.0)</td>
<td></td>
</tr>
<tr>
<td>High Fire Flame Length Inches (mm) (Measured from End of Combustor)</td>
<td>High Velocity Natural Gas 33 (835) Propane 34 (865) Butane 35 (890) Medium Velocity Natural Gas 38 (965) Propane 37 (940) Butane 42 (1065)</td>
<td></td>
</tr>
<tr>
<td>Maximum Flame Velocity ft/s (m/s) 15% Excess Air at Maximum Input</td>
<td>High Velocity 630 (192) Medium Velocity 310 (95)</td>
<td></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>Flamerods can be used with all combustors and operating temperatures up to 2,200°F (1,204°C). 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>
<tr>
<td>Approvals</td>
<td></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.
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*

- 4 x Ø0.47 (12)
- Ø8.66 (220)
- 1/2" NPT
- Flame Rod or UV Scanner Adapter
- 1-1/2" NPT or BSP
- 3" NPT or BSP

*Tap Locations*

- 4 x Ø0.47 (12)
- Ø7.48 (190)
- Ø5.56 (141)
- 4 x Ø0.55 (14)

*Burner weight less combustor: 42 lbs (19 kg)*

*Combustor*

Exhaust Outlet Diameter: High Velocity: Ø2.13 (54)
Medium Velocity: Ø3.0 (76.4)

*Alloy Tube (AISI 310)*

- Weight: 3.2 lbs (1.45 kg)
- Max Chamber Temp: 1,750°F (950°C)

*Silicon Carbide Tube*

- Weight: 3.2 lbs (1.45 kg)
- Max Chamber Temp: 2,500°F (1371°C)

*Refractory Block*

(w/RA330 wrapper)
- Weight: 61.3 lbs (28 kg)
- Max Chamber Temp: 2,800°F (1538°C)
Down Firing Block

Weight: 75 lbs (34 kg)
Max. Chamber Temp: 2800°F (1535°C)