### Eclipse ThermJet Burners

**for Preheated Combustion Air**

**Model TJPCA0040**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specifications</th>
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</thead>
<tbody>
<tr>
<td>**Maximum Input, Btu/h (kW)**¹</td>
<td>Natural Gas</td>
</tr>
<tr>
<td></td>
<td>400,000 (106)</td>
</tr>
<tr>
<td>**Minimum Input, Btu/h (kW)**¹</td>
<td>40,000 (11.0)</td>
</tr>
<tr>
<td><strong>Main Gas Inlet Pressure, &quot;w.c. (mbar)</strong></td>
<td>Ambient</td>
</tr>
<tr>
<td>Fuel pressure at gas inlet</td>
<td>5.5 (13.7)</td>
</tr>
<tr>
<td>Tap B (see page 3)</td>
<td>300°F (150°C)</td>
</tr>
<tr>
<td></td>
<td>700°F (370°C)</td>
</tr>
<tr>
<td></td>
<td>1000°F (540°C)</td>
</tr>
<tr>
<td><strong>Air Inlet Pressure, &quot;w.c. (mbar)</strong></td>
<td>Ambient</td>
</tr>
<tr>
<td>15% excess air at maximum input</td>
<td>3.4 (8.5)</td>
</tr>
<tr>
<td></td>
<td>300°F (150°C)</td>
</tr>
<tr>
<td></td>
<td>700°F (370°C)</td>
</tr>
<tr>
<td></td>
<td>1000°F (540°C)</td>
</tr>
<tr>
<td><strong>High Fire Visible Flame Length, inches (mm)</strong></td>
<td><strong>Measured from the outlet end of combustor</strong></td>
</tr>
<tr>
<td><strong>Flame Detection</strong></td>
<td>UV scanner available for all combustors.</td>
</tr>
<tr>
<td><strong>Fuels</strong>²</td>
<td>Natural gas, Propane, or Butane</td>
</tr>
<tr>
<td>For any other mixed gas, contact Eclipse for orifice sizing.</td>
<td></td>
</tr>
</tbody>
</table>

**Approvals**

1. All imperial inputs based upon gross caloric values (HHV). All metric inputs based upon net caloric values (LHV).
2. See Design Guide 205 for more information about typical fuel composition and properties.
   - All information is based on laboratory testing in neutral (0 °w.c., 0 mbar) pressure chamber. Different chamber 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 standard conditions; 1 atmosphere, 70°F (21°C).
   - 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 and Operation Zone

% Excess Air

Input HHV (x 1,000 Btu/h)

Input LHV (kW)

Fuel Orifice $\Delta p$ vs. Input
($\Delta p$ Measured Between Taps B and D)

$\Delta P$ (mbar ± 10%)

$\Delta P$ (" w.c. ± 10%)

Natural Gas $\Delta p$ - 10.8 mm orifice
Propane $\Delta p$ - 9.1 mm orifice
Butane $\Delta p$ - 9.1 mm orifice
**Dimensions and Specifications**

*Dimensions in mm (inches)*

**Burner Housing**

- 2" NPT / Rc 2.0 Air Inlet
- 3/4" NPT / Rc 0.75 Fuel Inlet
- Tap C
- Tap D
- Tap B
- Spark Plug
- Peepsight
- UV Scanner Adapter

Burner weight less combustor: 21.6 lbs (9.8 kg)
Dimensions and Specifications
Dimensions in mm (inches)

Combustors

Alloy Combustor (AISI 310)
Weight: 2.1 lbs (0.95 kg)
Maximum Chamber Temp: 1,750°F (950°C)
[Not Suitable for Preheated Air Over 700°F (371°C)]

Silicon Carbide Combustor
Weight: 3.6 lbs (1.6 kg)
Maximum Chamber Temp: 2,200°F (1,200°C)

Refractory Combustor with AISI 330 wrapper
Weight: 14 lbs (6.4 kg)
Maximum Chamber Temp: 2,800°F (1,538°C)

NOTE: Mounting gasket shown on right side of combustor flange. Dimensions shown do not account for mounting gasket.