# ThermJet Burners Model TJ0050

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Burner Velocity</th>
<th>Model TJ0050</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Input, Btu/h (kW)¹</strong></td>
<td>Medium &amp; High Velocity</td>
<td>500,000 (132)</td>
</tr>
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<td><strong>Minimum Input, Btu/h (kW)¹</strong></td>
<td>Medium &amp; High Velocity</td>
<td>50,000 (13)</td>
</tr>
<tr>
<td><strong>Minimum Input Fixed Air, Btu/h (kW)¹</strong></td>
<td>Medium &amp; High Velocity</td>
<td>10,000 (3)</td>
</tr>
</tbody>
</table>

| Main Gas Inlet Pressure, "w.c. (mbar) | High Velocity | Natural Gas 16.2 (40.3) |
| Fuel pressure at gas inlet | Propane 19.6 (48.8) |
| Tap B (see page 3) | Butane 17.1 (42.6) |

| Air Inlet Pressure, "w.c. (mbar) | High Velocity | Natural Gas 16.7 (41.6) |
| 15% excess air at maximum input | Propane 18.0 (44.8) |
| Tap A (see page 3) | Butane 17.4 (43.3) |

| High Fire Visible Flame Length, inches (mm) | High Velocity | Natural Gas 25 (635) |
| Measured from the outlet end of the combustor | Propane 33 (838) |
| | Butane 30 (762) |

| Approximate Flame Velocity, ft/s (m/s) | High Velocity | 540 (165) |
| Approximately 15% excess air at maximum input | Medium Velocity | 320 (98) |

| Maximum Combustion Air Temperature | 300°F (149°C). For higher temperatures use TJPCA (Datasheet 206). |
| Flame Detection | Flame rods can be used with all combustors, any fuel listed below, and operating temperatures up to 2,200°F (1,204°C). UV scanners can be used with all combustors, any fuel listed below, and up to the maximum operating temperature. |

| Fuels² | Natural gas, Propane or Butane |
| For any other mixed gas, contact Eclipse, Inc. | |

| Approvals | EAC |

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¹ All imperial inputs based upon gross calorific values (HHV). All metric inputs based upon net calorific 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

10,000
1,000
100
10
1,000
100
10

Input HHV (x 1,000 Btu/h)

Input LHV (kW)

Emissions correction factor for medium velocity combustor is 1.20. Emissions data based on, on-ratio control firing at 15% excess air corrected to 3% O₂.

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 and Specifications
Dimensions in mm (inches)

**Burner Housing**

![Burner Housing Diagram]

**Tap Locations**

![Tap Locations Diagram]

**Dimensions in mm (inches)**
- 1" NPT / Rc 1.0 Fuel Inlet
- 130.5 (5.1) mm
- 78.5 (3.1) mm
- 86.5 (3.4) mm
- 180 (7.1) mm

**Tap Locations**
- Tap A
- Tap B
- Tap C
- Tap D

**Burner weight less combustor: 37 lbs (17 kg)**
### Dimensions and Specifications

**Dimensions in mm (inches)**

#### Combustors

- **Alloy Combustor (AISI 310)**
  - Weight: 3.0 lbs (1.4 kg)
  - Maximum Chamber Temp: 1,750°F (950°C)

- **Silicon Carbide Combustor**
  - Weight: 3.3 lbs (1.5 kg)
  - Maximum Chamber Temp: 2,500°F (1,371°C)

- **Refractory Combustor with AISI 330 wrapper**
  - Weight: 62.5 lbs (28.3 kg)
  - Maximum Chamber Temp: 2,800°F (1,538°C)

- **Down Firing Block with AISI 330 wrapper**
  - Weight: 60 lbs (27.2 kg)
  - Maximum Chamber Temp: 2,800°F (1,538°C)

#### Dimensions

<table>
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<tr>
<th>Dimension</th>
<th>High Velocity</th>
<th>Medium Velocity</th>
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<tr>
<td>ØA</td>
<td>Ø 41 (1.6)</td>
<td>Ø 53.5 (2.1)</td>
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</table>

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

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**For More Information**

The Honeywell Thermal Solutions family of products includes Honeywell Combustion Safety, Eclipse, Exothermics, Hauck, Kromschröder and Maxon. To learn more about our products, visit ThermalSolutions.honeywell.com or contact your Honeywell Sales Engineer.

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