## Eclipse ThermJet Burners

for Preheated Combustion Air

Model TJPCA0015

**Parameter** | **Specifications**
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**Maximum Input, Btu/h (kW)**<sup>1</sup> | Natural Gas: 150,000 (40) | Propane: 150,000 (40) | Butane: 150,000 (40)
**Minimum Input, Btu/h (kW)**<sup>1</sup> | Natural Gas: 15,000 (4.0) | Propane: 15,000 (4.0) | Butane: 15,000 (4.0)
Main Gas Inlet Pressure, "w.c. (mbar)"<br>**Fuel pressure at gas inlet**<br>**Tap B (see page 3)** | **Ambient**<br>**Combustion Air Temperature**<br>300°F (150°C) | Natural Gas: 7.5 (18.6) | Propane: 7.5 (18.6) | Butane: 7.5 (18.6)
| Propane: 9.8 (24.4) | Butane: 9.8 (24.4)
| 700°F (370°C) | Natural Gas: 14.0 (34.9) | Propane: 14.0 (34.9) | Butane: 14.0 (34.9)
| Propane: 17.2 (42.7) | Butane: 17.2 (42.7)
| 1000°F (540°C) | Natural Gas: 17.2 (42.7) | Propane: 17.2 (42.7) | Butane: 17.2 (42.7)
| Propane: 17.2 (42.7) | Butane: 17.2 (42.7)
Air Inlet Pressure, "w.c. (mbar)"<br>**15% excess air at maximum input** | **Ambient**<br>**Combustion Air Temperature**<br>300°F (150°C) | Natural Gas: 3.5 (8.7) | Propane: 3.5 (8.7) | Butane: 3.5 (8.7)
| Propane: 5 (12.5) | Butane: 5 (12.5)
| 700°F (370°C) | Natural Gas: 7.7 (19.2) | Propane: 7.7 (19.2) | Butane: 7.7 (19.2)
| Propane: 9.6 (23.9) | Butane: 9.6 (23.9)
| 1000°F (540°C) | Natural Gas: 9.6 (23.9) | Propane: 9.6 (23.9) | Butane: 9.6 (23.9)
| Propane: 9.6 (23.9) | Butane: 9.6 (23.9)
High Fire Visible Flame Length, inches (mm)<br>**Measured from the outlet end of combustor** | <11.0 (279) | <10.0 (254) | <11.0 (279)
Flame Detection | UV scanner available for all combustors.
Fuels<sup>2</sup> | Natural gas, Propane, or Butane
For any other mixed gas, contact Eclipse for orifice sizing.
Approvals | [AM30](#)

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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.

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**ECLIPSE**

Innovative Thermal Solutions
Performance Graphs

Ignition and Operation Zone

- % Excess Air vs. Input HHV (x 1,000 Btu/h) and Input LHV (kW)

Fuel Orifice ∆p vs. Input

- ∆p (mbar ± 10%) vs. Input HHV (x 1,000 Btu/h) and Input LHV (kW)

Graphs showing the relationship between excess air and input fuel at different pressures for natural gas, propane, and butane.
Dimensions and Specifications
Dimensions in mm (inches)

Burner Housing

Burner weight less combustor: 17.9 lbs (8.1 kg)

Tap Locations

Tap C
Tap D
Tap B

Eclipse ThermJet Preheated Combustion Air TJPCA0015, V2, Datasheet 206-1, 9/20/2014
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 (1,204°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.