Datasheet 205-9
2/11/2013

Eclipse ThermJet

Burners

Model TJ0500

Version 2.7

Parameter	Burner Velocity		Model TJ0500
Maximum Input, Btu/h (kW)	Medium & High Velocity		5,000,000 (1465)
Minimum Input On-Ratio, Btu/h (kW)	Medium & High Velocity		500,000 (146)
Minimum Input Fixed Air, Btu/h (kW)	Medium & High Velocity		100,000 (29)
Gas Inlet Pressure Required, "w.c. (mbar) Tap B (see page 3)	High Velocity	Natural Gas	13.5 (34.0)
		Propane	14.0 (35.0)
		Butane	13.0 (33.0)
	Medium Velocity	Natural Gas	5.5 (14.0)
		Propane	6.0 (15.0)
		Butane	5.5 (14.0)
Air Inlet Pressure Required, "w.c. (mbar) 15% Excess Air at Maximum Input Tap A (see page 3)	High Velocity	Natural Gas	18.5 (46.0)
		Propane	17.5 (44.0)
		Butane	17.5 (44.0)
	Medium Velocity	Natural Gas	10.0 (25.0)
		Propane	10.0 (25.0)
		Butane	10.0 (25.0)
High Fire Flame Length, inches (mm) *Measured from the outlet end of the combustor*	High Velocity	Natural Gas	75 (1900)
		Propane	90 (2285)
		Butane	85 (2160)
	Medium Velocity	Natural Gas	100 (2550)
		Propane	100 (2550)
		Butane	105 (2670)
Approximate Flame Velocity, ft/s (m/s) 15% Excess Air at Maximum Input	High Velocity		580 (177)
	Medium Velocity		280 (85)
Maximum Combustion Air Temperature	300°F (149°C). For higher temperatures use TJPCA (Datasheet 206)		
Flame Detection	UV scanners can be used with all combustors.		
Fuel *For any other mixed gas, contact Eclipse, Inc.*	Natural gas, propane or butane[1]		
Approvals	АИ30		

1. 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 gross calorific values and 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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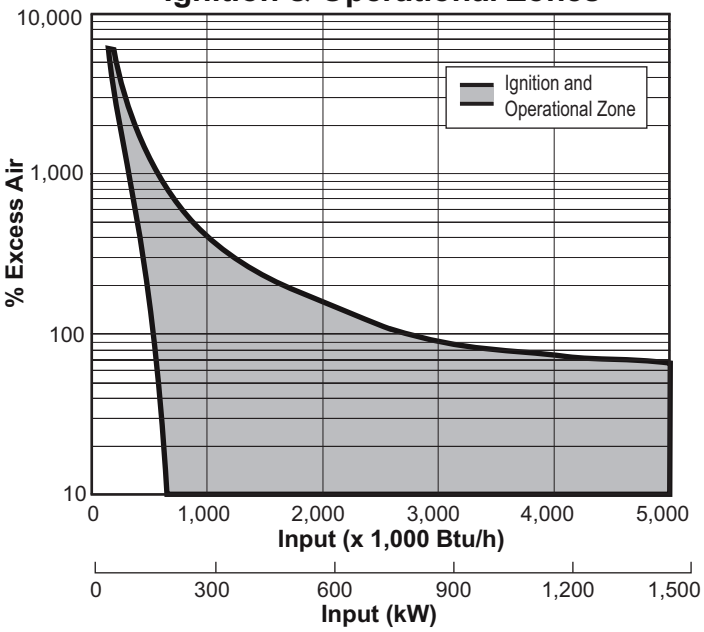
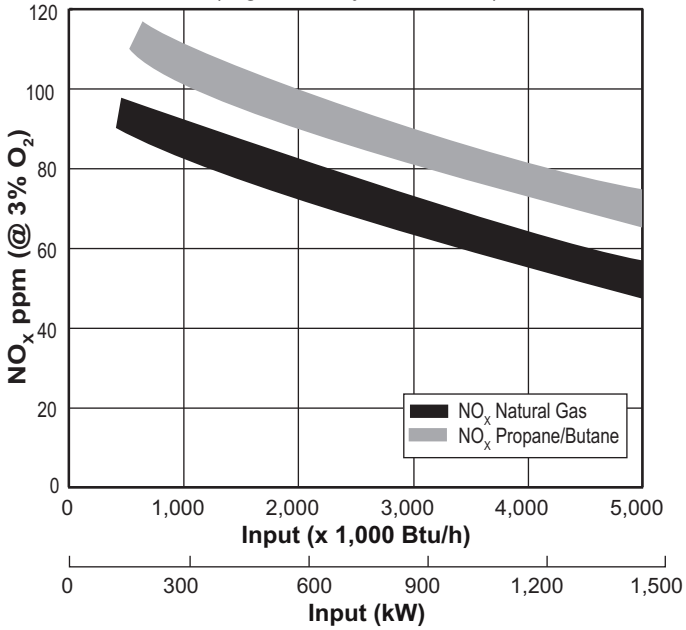
Performance Graphs

Ignition & Operational Zones



NO_x Emissions

(High Velocity Combustor)



Emission correction factor for medium velocity combustor is 1.20. Emissions data based on, on-ratio control firing at 15% excess air corrected to 3% O_2.

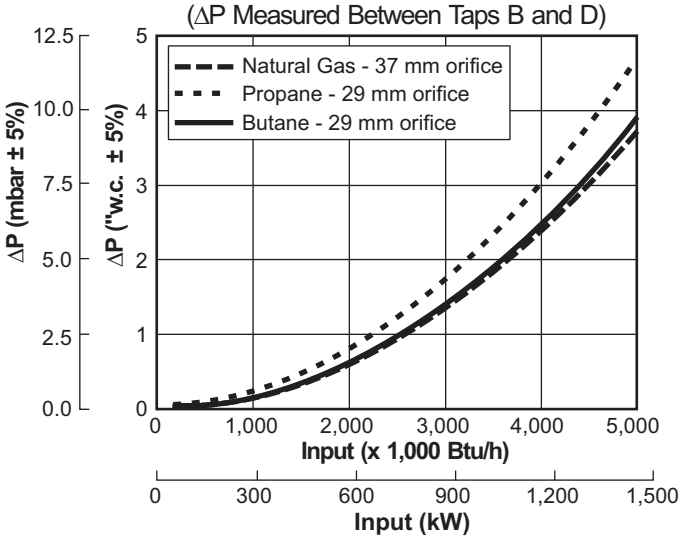
Emissions from the burner are influenced by:

- Fuel type
- Combustion air temperature
- Firing rate
- Chamber conditions
- Percent of excess air

For estimates of other emissions, contact Eclipse.

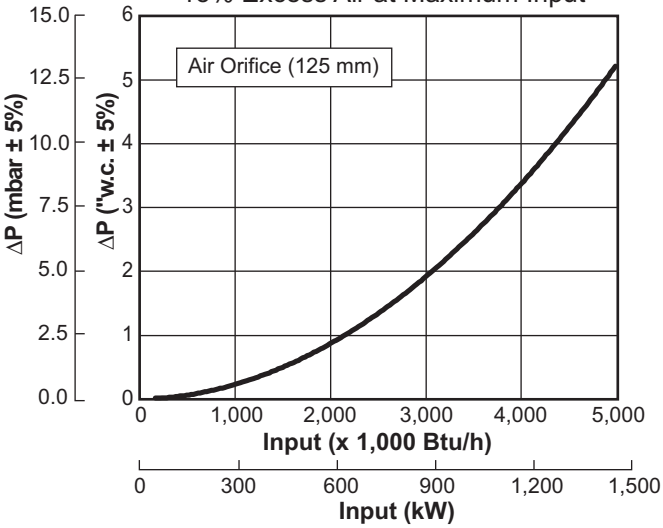
Fuel Orifice ΔP vs. Input

(ΔP Measured Between Taps B and D)



Air Orifice ΔP vs. Input

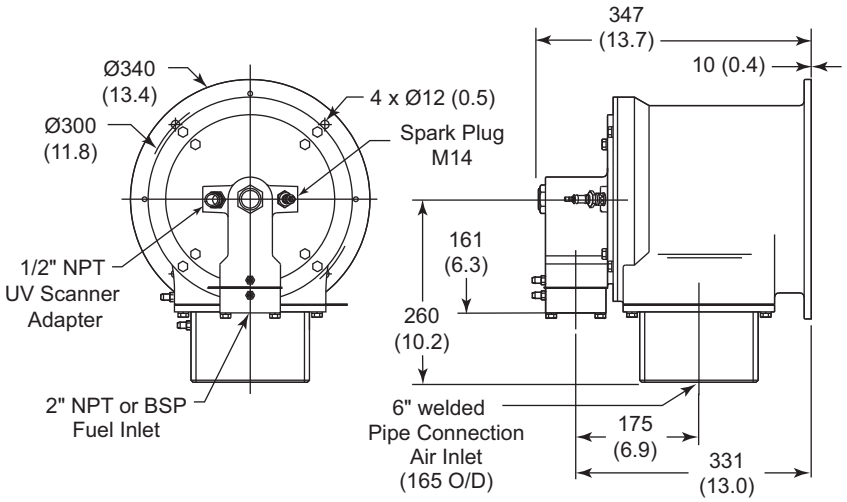
(ΔP Measured Between Taps A and C)
15% Excess Air at Maximum Input



Dimensions and Specifications

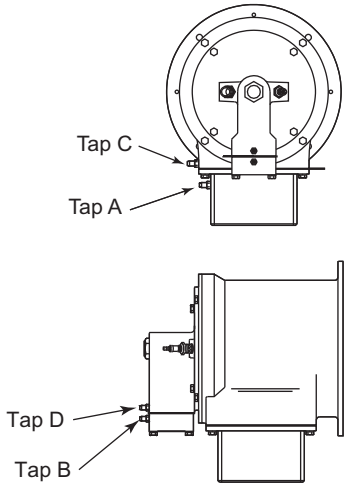
Dimensions in mm (inches)

Burner Housing



Burner weight less combustor: 93 lbs (42 kg)

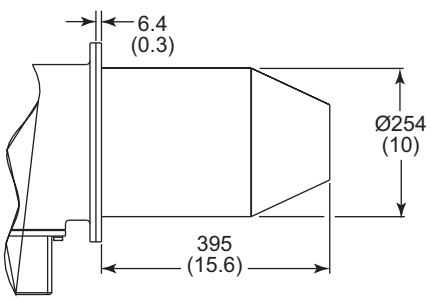
Tap Locations

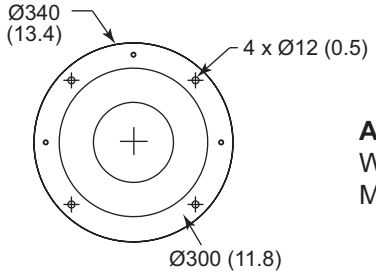


Dimensions and Specifications

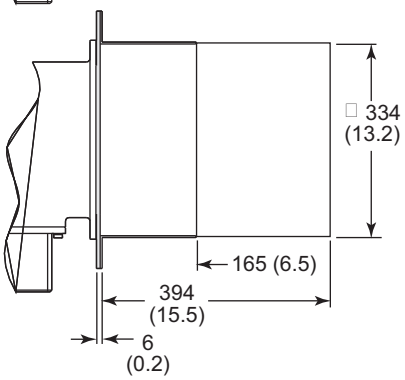
Dimensions in mm (inches)

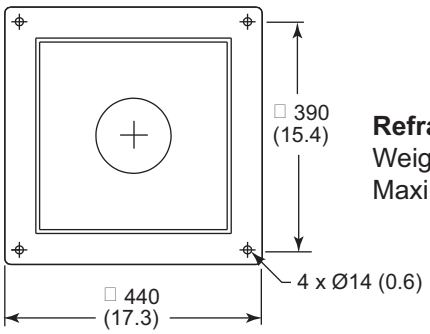
Combustors





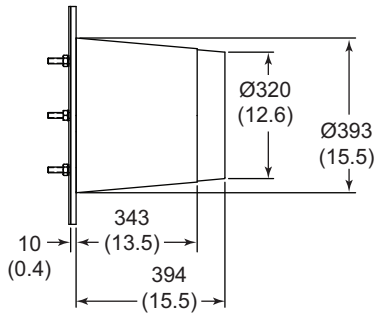
Alloy Combustor (AISI 310)
Weight: 14.5 lbs (6.6 kg)
Maximum Chamber Temp: 1,750°F (950°C)

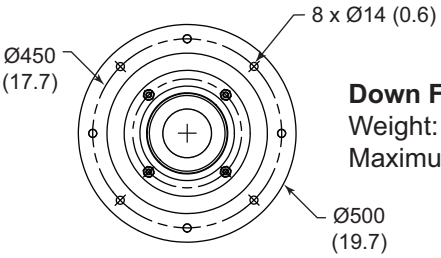




Refractory Combustor with AISI 330 wrapper
Weight: 160 lbs (73 kg)
Maximum Chamber Temp: 2,800°F (1,535°C)

Exhaust Outlet Diameter:
High Velocity: Ø125 (4.9)
Medium Velocity : Ø177 (7.0)





Down Firing Block with AISI 330 wrapper
Weight: 185 lbs (83.9 kg)
Maximum Chamber Temp: 2,800°F (1,535°C)

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