Data 205-3
5/21/2010

Eclipse ThermJet

Burners

Model TJ0050

Version 2

Parameter	Burner Velocity		Model TJ0050
Maximum Input BTU/hr (kW)	Medium & High Velocity		500,000 (146.5)
Minimum Input, On-Ratio BTU/hr (kW)	Medium & High Velocity		50,000 (14.6)
Minimum Input, Fixed Air BTU/hr (kW)	Medium & High Velocity		10,000 (2.9)
Gas Inlet Pressure Required "w.c. (mbar) **Fuel Pressure at Gas Inlet** **(Tap "B" - see page 3)**	High Velocity	Natural Gas	16.2 (40.3)
		Propane	19.6 (48.8)
		Butane	17.1 (42.6)
	Medium Velocity	Natural Gas	8.9 (22.2)
		Propane	11.4 (28.4)
		Butane	9.6 (23.9)
Air Inlet Pressure Required "w.c. (mbar) **15% Excess Air at Maximum Input** **(Tap "A" - see page 3)**	High Velocity	Natural Gas	16.7 (41.6)
		Propane	18.0 (44.8)
		Butane	17.4 (43.3)
	Medium Velocity	Natural Gas	9.9 (24.6)
		Propane	10.9 (27.1)
		Butane	10.5 (26.1)
High Fire Flame Length Inches (mm) **(Measured from End of Combustor)**	High Velocity	Natural Gas	25 (635)
		Propane	33 (838)
		Butane	30 (762)
	Medium Velocity	Natural Gas	28 (711)
		Propane	36 (914)
		Butane	39 (991)
Maximum Flame Velocity ft/s (m/s) **15% Excess Air at Maximum Input**	High Velocity		500 (152.4)
	Medium Velocity		250 (76.2)
Maximum Combustion Air Temperature	300°F (149°C). For higher temperatures, use TJPCA (Data 206).		
Flame Detection	UV scanner and flamerod available for all combustors for application under 2,200°F (1,204°C). Flamerod available for use with alloy or silicon carbide combustors only.		
Fuel	Natural gas, propane, or butane. For any other mixed gas, contact Eclipse for orifice sizing.		
Approvals	АИ30		

- 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.

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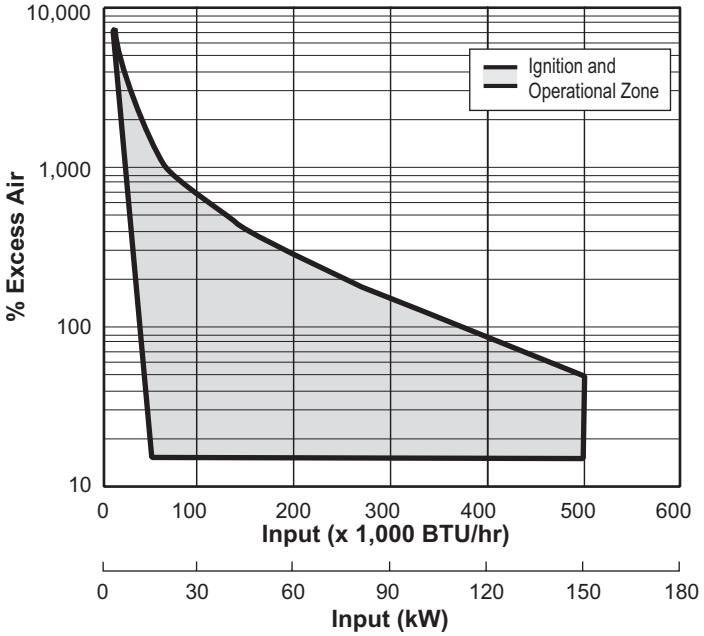
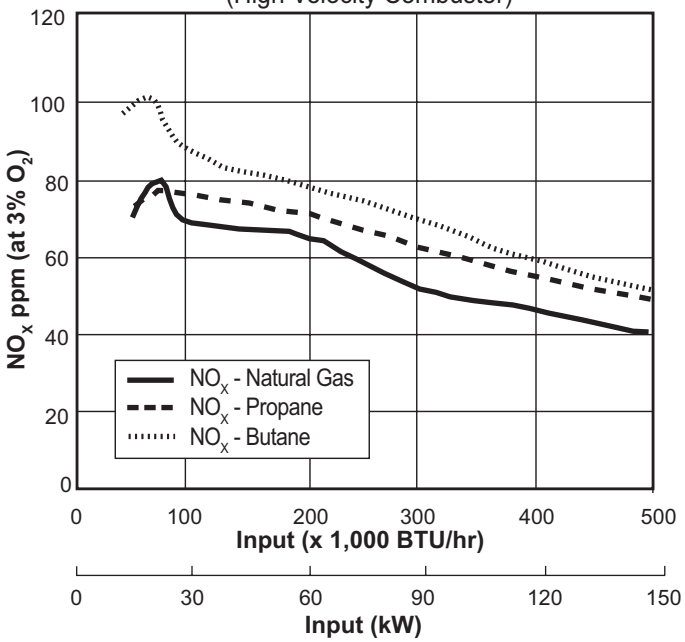
Performance Graphs

Operational/Ignition Zone



NO_x Emissions

(High Velocity Combustor)



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.

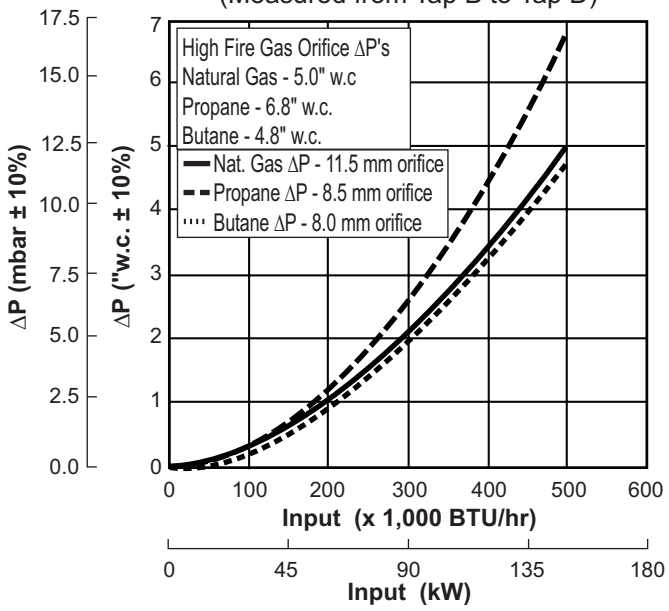
Emissions from the burner are influenced by:

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

For estimates of other emissions, contact Eclipse.

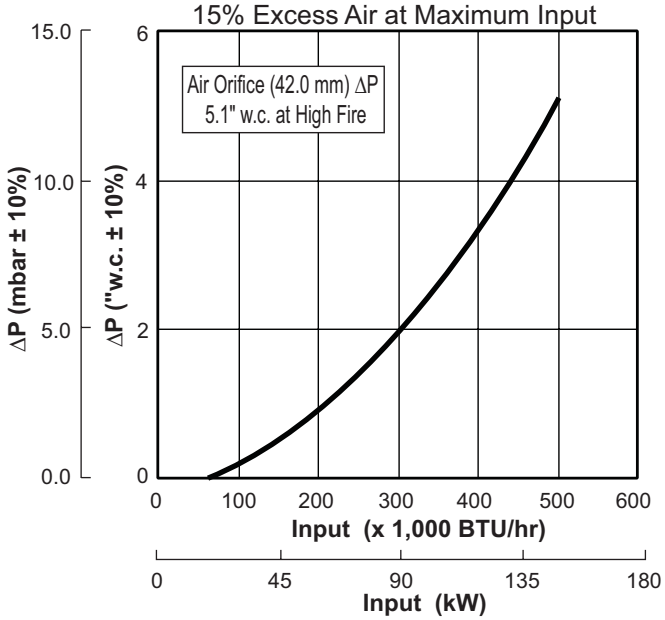
Gas Orifice ΔP vs. Input

(Measured from Tap B to Tap D)



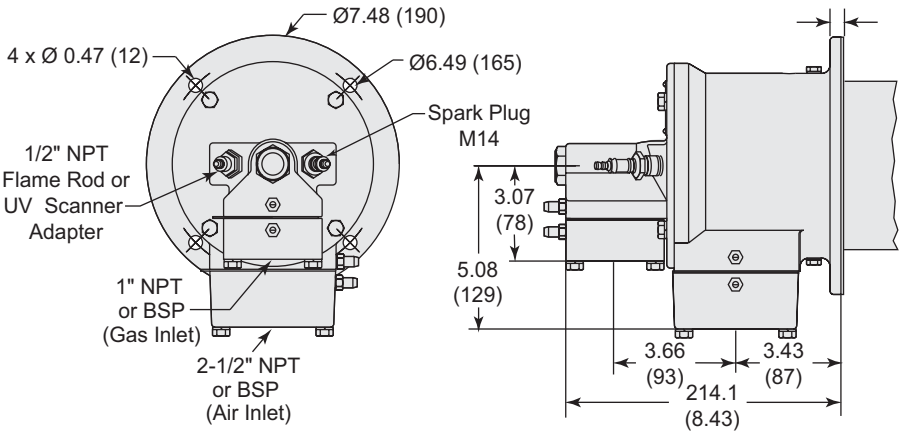
Air Orifice ΔP vs. Input

(Measured from Tap A to Tap C)
15% Excess Air at Maximum Input



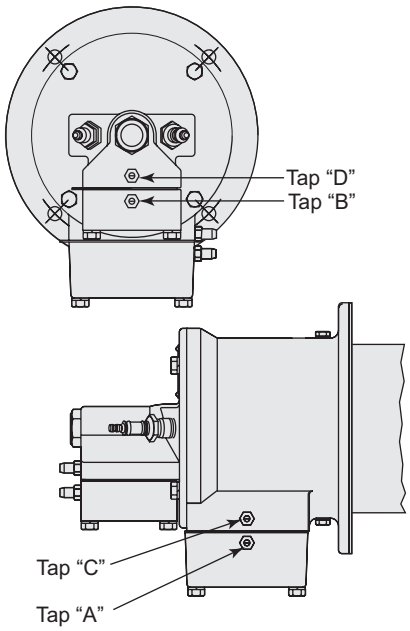
Dimensions in inches (mm)

Burner Housing



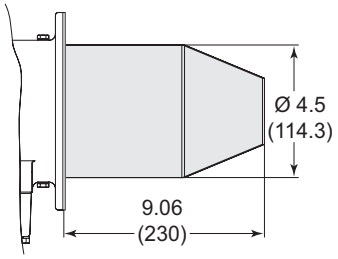
Burner weight less combustor: 37 lbs (17 kg)

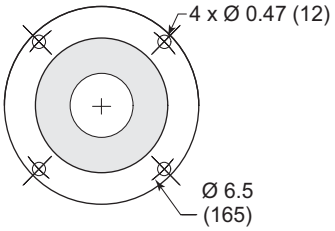
Tap Locations



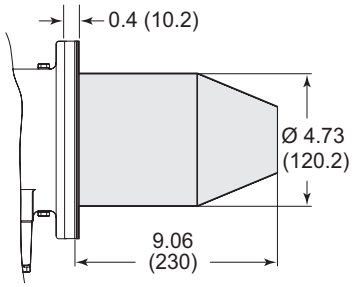
Combustor

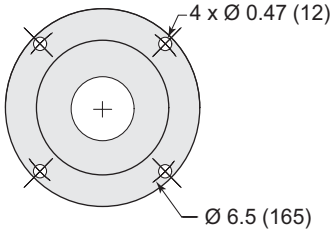
Exhaust Outlet Diameter: Medium Velocity: Ø2.11 (53.5)
High Velocity: Ø1.61 (41)



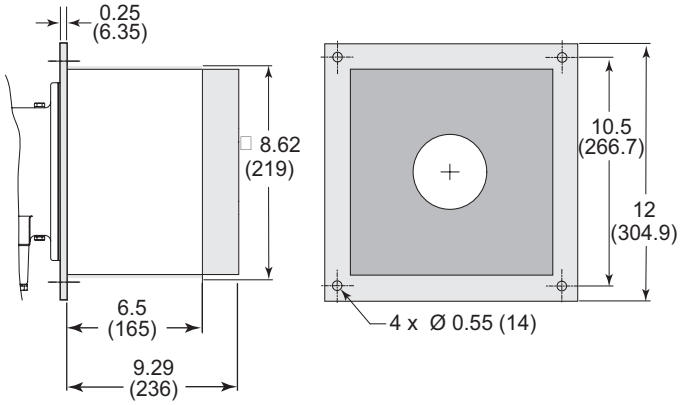


Alloy Tube (AISI 10)
Weight: 3.0 lbs (1.36 kg)
Max Chamber Temp: 1,750°F (950°C)



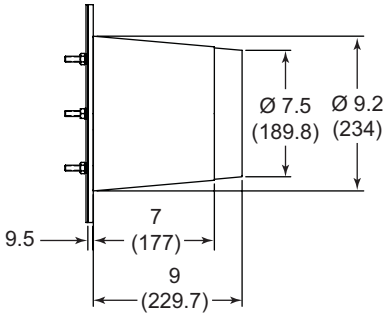


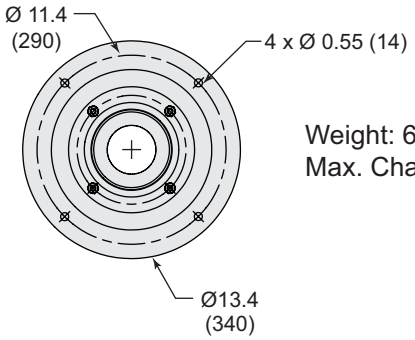
Silicon Carbide Tube
Weight: 3.3 lbs (1.5 kg)
Max Chamber Temp: 2,500°F (1371°C)



Refractory Block
(w/RA330 wrapper)
Weight: 62.5 lbs (28.3 kg)
Max Chamber Temp: 2,800°F (1538°C)

Down Firing Block





Weight: 60 lbs (27.22 kg)
Max. Chamber Temp: 2800°F (1535°C)

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