Eclipse ThermJet Burners

Model TJ0040

Data sheet Edition 9.14

Version 2

Parameter	Burner Velocity		Model TJ0040
Maximum Input, Btu/h (kW)[1]	Medium & High Velocity		400,000 (106)
Minimum Input, Btu/h (kW)[1] *For lower inputs, contact Eclipse, Inc.*	Medium & High Velocity		40,000 (11)
Minimum Input Fixed Air, Btu/h (kW)[1]	Medium & High Velocity		10,000 (3)
Main Gas Inlet Pressure, "w.c. (mbar) *Fuel pressure at gas inlet* *Tap B (see page 3)*	High Velocity	Natural Gas	12.0 (29.9)
		Propane	13.0 (32.4)
		Butane	12.0 (29.9)
	Medium Velocity	Natural Gas	5.5 (13.7)
		Propane	5.5 (13.7)
		Butane	5.0 (12.5)
Air Inlet Pressure, "w.c. (mbar) *15% excess air at maximum input* *Tap A (see page 3)*	High Velocity	Natural Gas	15.5 (38.6)
		Propane	17.0 (42.3)
		Butane	17.0 (42.3)
	Medium Velocity	Natural Gas	9.0 (22.4)
		Propane	9.5 (23.7)
		Butane	9.5 (23.7)
High Fire Visible Flame Length, inches (mm) *Measured from the outlet end of the combustor*	High Velocity	Natural Gas	14.0 (356)
		Propane	17.0 (432)
		Butane	17.0 (432)
	Medium Velocity	Natural Gas	18.0 (457)
		Propane	19.0 (483)
		Butane	19.0 (483)
Approximate Flame Velocity, ft/s (m/s) *Approximately 15% excess air at maximum input*	High Velocity		540 (165)
	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.		
Fuels[2] *For any other mixed gas, contact Eclipse, Inc.*	Natural gas, Propane or Butane		
Approvals	АИ30		

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.

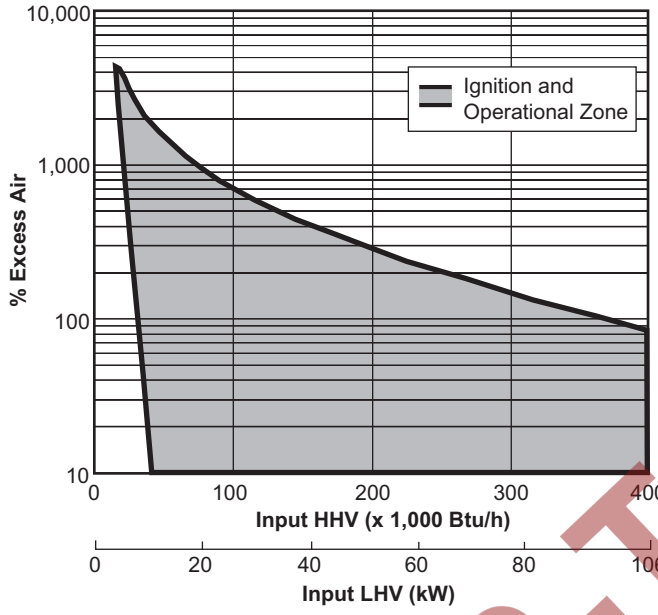
- All information is based on laboratory testing in neutral (0 "w.c., 0 mbar) pressure chamber. Different chamber conditions may affect the data.
- All information is based on standard combustor design. Changes in combustor will alter performance and pressures.
- All inputs based upon standard conditions; 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.

elster
Thermal Solutions

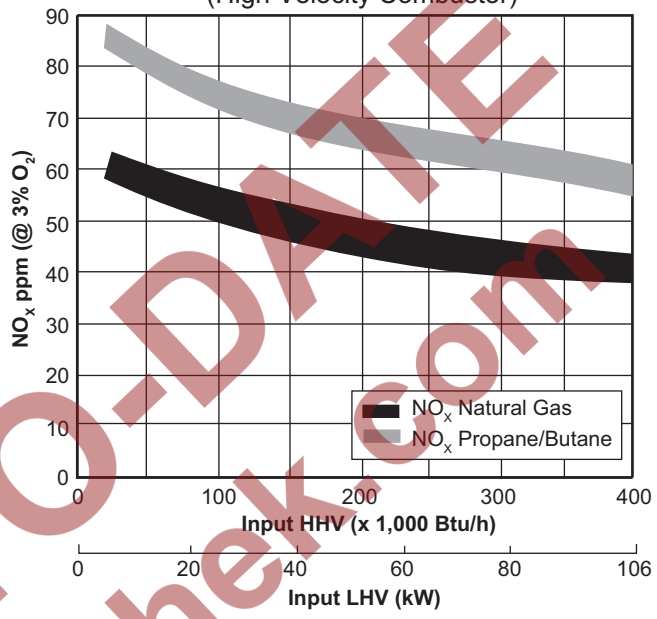
NOT UP-TO-DATE
www.docutnek.com

Performance Graphs

Ignition and Operation Zone



NO_x Emission
@ 1700°F (930°C) Chamber Temperature
(High Velocity Combustor)



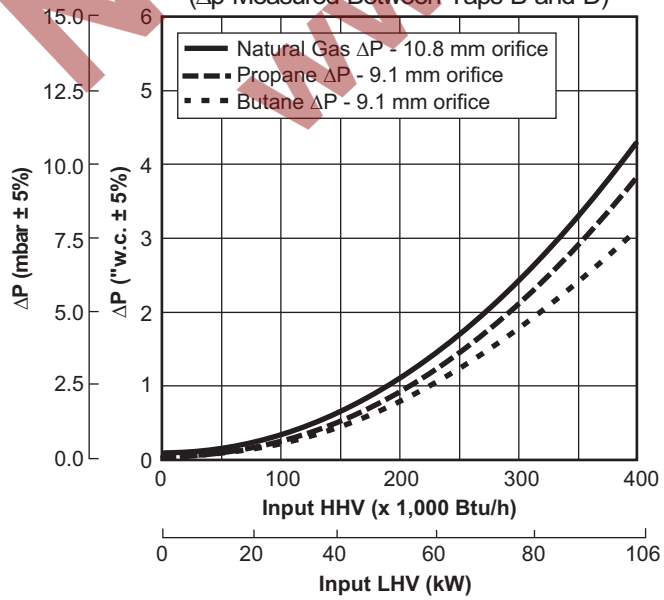
Emissions correction factor for medium velocity combustor is 1.20. Emissions data based on, on-ratio control firing at 15% excess air corrected to 3% O2.

Emissions from the burner are influenced by:

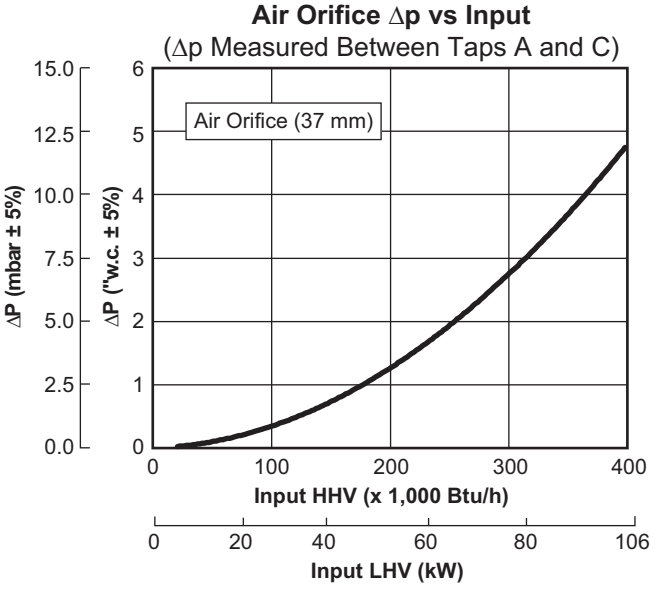
- Fuel type
- Combustion air temperature
- Firing rate
- Chamber conditions
- Percent of excess air

For estimates of other emissions, contact Eclipse.

Fuel Orifice Δp vs. Input
(Δp Measured Between Taps B and D)



Air Orifice Δp vs Input
(Δp Measured Between Taps A and C)

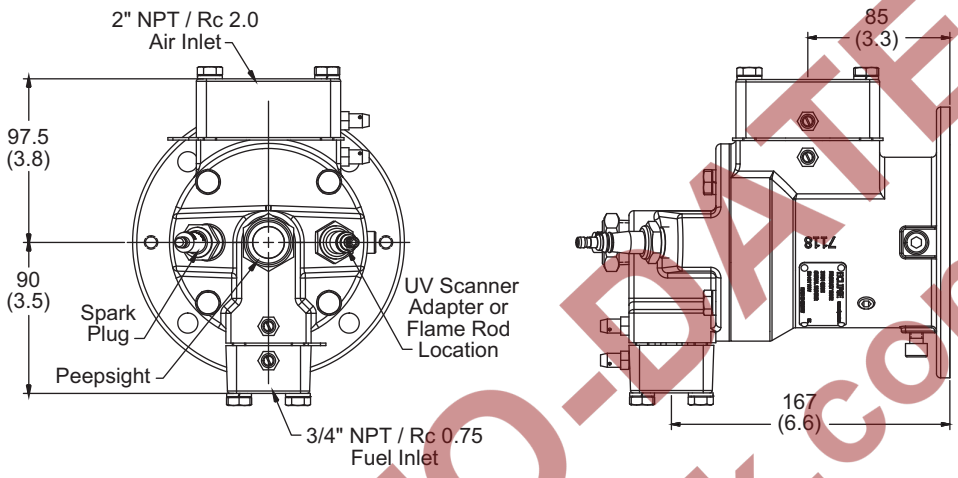


NOT UP-TO-DATE
www.docuthek.com

Dimensions and Specifications

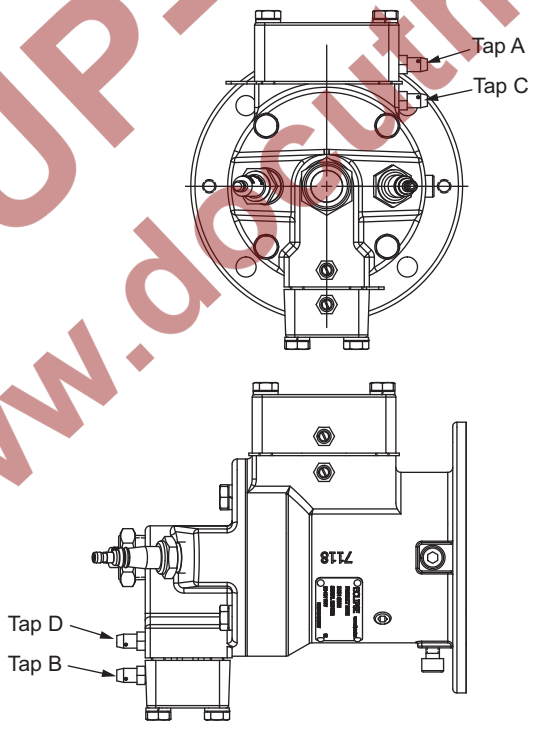
Dimensions in mm (inches)

Burner Housing



Burner weight less combustor: 21.6 lbs (9.8 kg)

Tap Locations

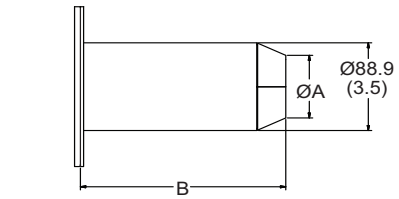


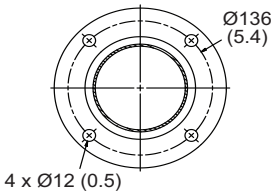
NOT UP-TO-DATE
www.docuthek.com

Dimensions and Specifications

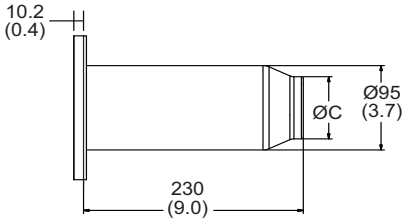
Dimensions in mm (inches)

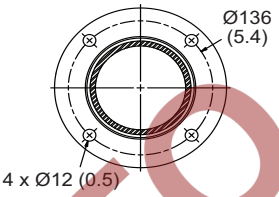
Combustors



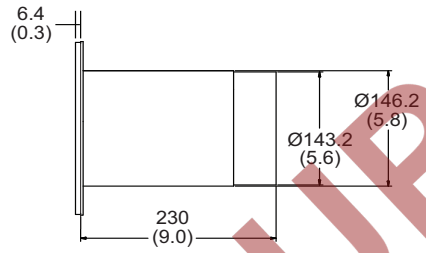


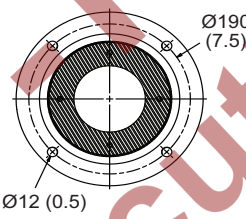
Alloy Combustor (AISI 310)
Weight: 2.1 lbs (0.95 kg)
Maximum Chamber Temp: 1,750°F (950°C)





Silicon Carbide Combustor
Weight: 3.6 lbs (1.6 kg)
Maximum Chamber Temp: 2,500°F (1,371°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.

Dimension	High Velocity	Medium Velocity
ØA	Ø45.4 (1.8)	Ø63.4 (2.5)
B	212.6 (8.4)	193.3 (7.6)
ØC	Ø52 (2.0)	Ø70 (2.8)

NOT UP TO DATE
www.docuthek.com

© Eclipse, Inc. All Rights Reserved