

Eclipse RatioAir Burners

Model RA0300

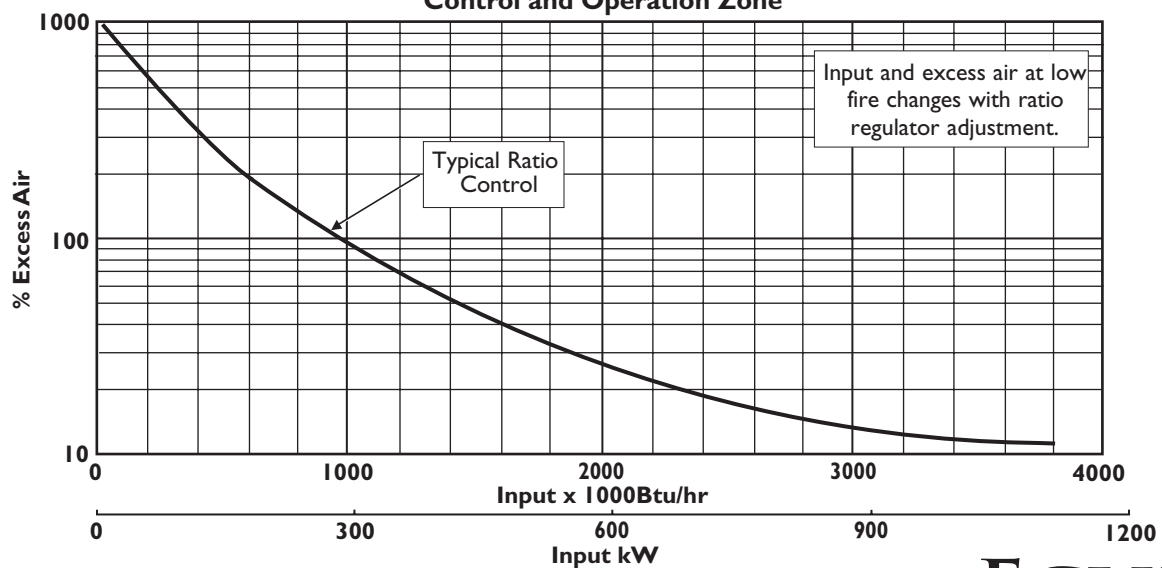
Version 1

Main Specifications - RA0300

PARAMETER		SPECIFICATIONS		
		Straight Tube	Medium Velocity Tube	High Velocity Tube
Maximum input, Btu/hr (kW) at neutral chamber conditions 60Hz Packaged Blower	Natural Gas	3,600,000 (1054)	3,200,000 (937)	3,050,000 (894)
	Propane	3,100,000 (908)	2,950,000 (865)	2,900,000 (850)
	Butane	3,100,000 (908)	3,000,000 (878)	2,800,000 (821)
Maximum input, Btu/hr (kW) at neutral chamber conditions 50Hz Packaged Blower	Natural Gas	3,660,000 (1072)	3,255,000 (953)	Not Available
	Propane	3,150,000 (922)	3,000,000 (878)	Not Available
	Butane	3,150,000 (922)	3,050,000 (893)	Not Available
Minimum input, Btu/hr (kW) • Lower inputs may be achieved. Contact factory.		65,000 (19)	65,000 (19)	65,000 (19)
Main Gas Inlet Pressure, "w.c. (mbar) • Fuel pressure at ratio regulator inlet.		15 to 55 (38 to 137)	15 to 55 (38 to 137)	20 to 55 (50 to 137)
High Fire Flame Length, inches (mm) • Measured from the outlet end of the combustor.		68 (1727)	64 (1630)	50 (1270)
Maximum Flame Velocity, ft/s (m/s) • Approximately 15% excess air at maximum input.		-----	250 (75)	500 (150)
Maximum chamber temperature, °F (°C)	Alloy tube	1500 (816)	1750 (954)	1750 (954)
	Block & Holder	1900 (1038)	2800 (1538)	2800 (1538)
Flame detection		UV scanner only		
Fuel		Natural Gas (For any other gas, contact Eclipse Combustion for orifice sizing.)		

- All information is based on laboratory testing in neutral (0.0" w.c.) chamber with standard combustor design. Different chamber conditions will affect the data.
- Maximum inputs are given for the standard combustion air blower without an air filter.
- All inputs based upon gross calorific values and standard conditions: 1 atmosphere, 70° F (21°C).
- Blower motor service factors greater than 1.0 may be required when firing into negative chamber pressure applications. For specific application questions, contact your Eclipse Combustion representative.
- 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.

Control and Operation Zone



Straight Tube Specifications

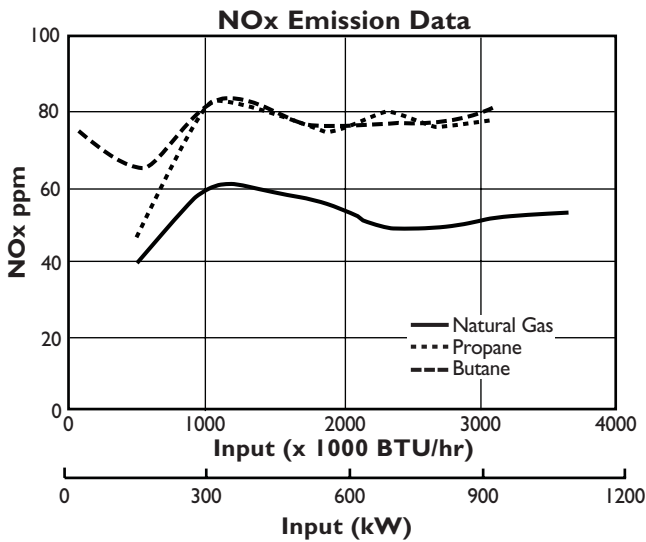
Blower Model

60Hz, 5B (10" w.c. @ 44,000 scfh, 2 hp)

50Hz, 5A (10" w.c. @ 33,000 scfh, 1.5 kW)

Specifications						
Parameter	"w.c. (mbar)		60Hz Packaged Blower		50Hz Packaged Blower	
	Btu/hr	kW	Btu/hr	kW	Btu/hr	kW
Maximum Input vs. Chamber Pressure (Natural Gas)	-2.0	-5.0	3,960,000	1160	4,000,000	1171
	-1.0	-2.5	3,790,000	1110	3,830,000	1121
	0.0	0.0	3,600,000	1054	3,660,000	1072
	1.0	2.5	3,430,000	1004	3,480,000	1019
	2.0	5.0	3,230,000	946	3,290,000	963

Blower Model 5A – 10" w.c., 33,000 scfh, 1.5 hp used for Propane or Butane operation.



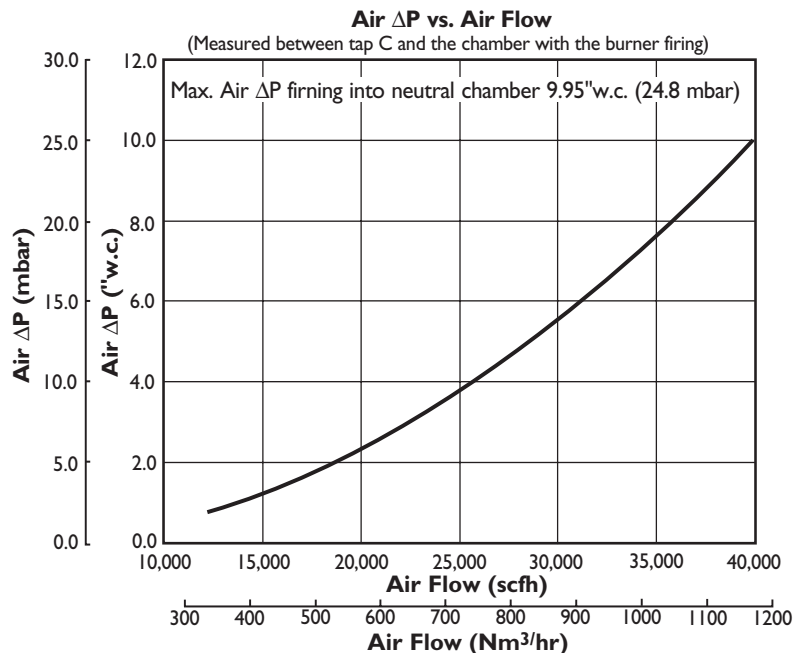
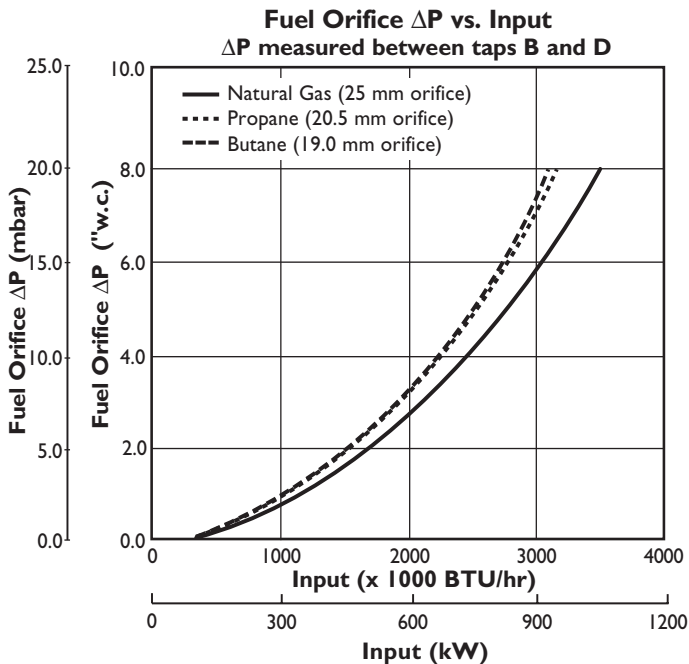
NOx emission data is given for:

- Ambient combustion air ~70 °F (20 °C)
- Minimal process air velocity
- ppm volume dry at 3% O₂
- Neutral chamber pressure

CO emission is largely influenced by chamber conditions. Contact your local Eclipse Combustion representative for an estimate of CO emission on your application.

Emissions are influenced by:

- Chamber conditions
- Fuel type
- Firing rate
- Ratio regulator adjustment
- Combustion air temperature



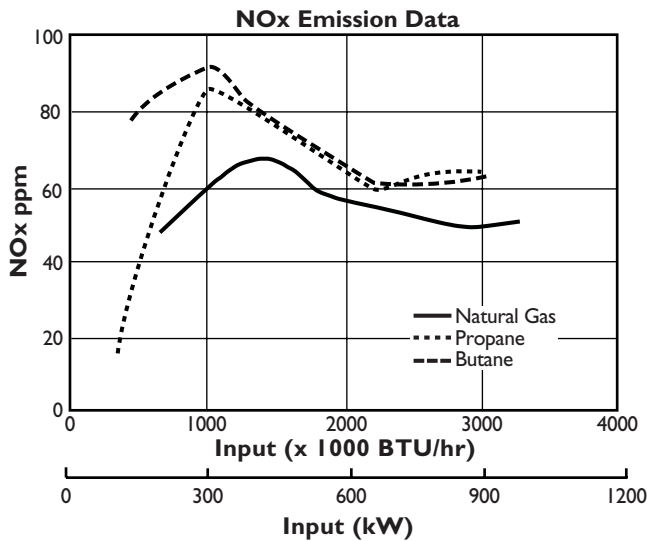
Medium Velocity Tube Specifications

Blower Model

60Hz, 5A (10" w.c. @ 33,000 scfh, 1.5 hp)

50Hz, 5A (10" w.c. @ 33,000 scfh, 1.5 kW)

Specifications						
Parameter	"w.c.	(mbar)	60Hz Packaged Blower		50Hz Packaged Blower	
			Btu/hr	kW	Btu/hr	kW
Maximum Input vs. Chamber Pressure (Natural Gas)	-2.0	-5.0	3,500,000	1025	3,560,000	1042
	-1.0	-2.5	3,360,000	984	3,410,000	998
	0.0	0.0	3,200,000	937	3,255,000	953
	1.0	2.5	3,050,000	893	3,090,000	905
	2.0	5.0	2,89,000	846	2,920,000	855



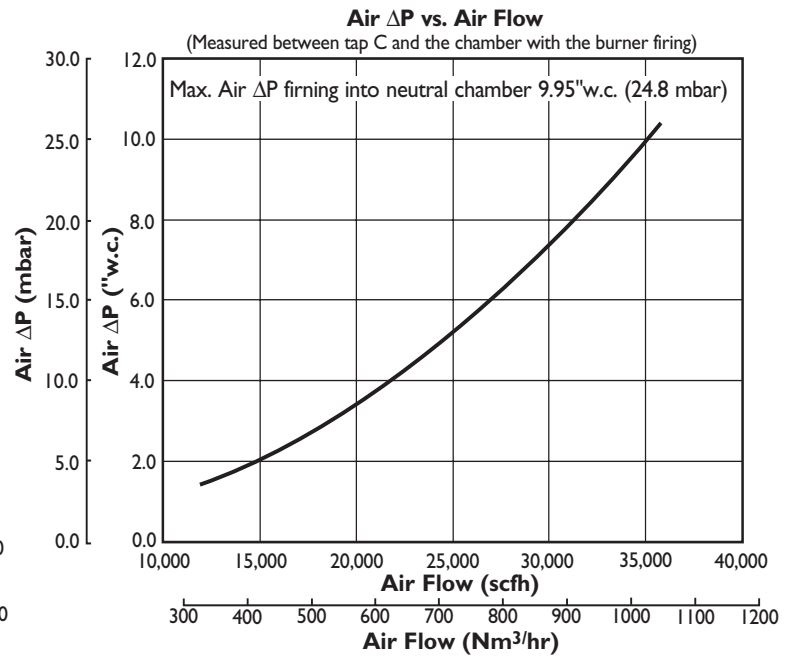
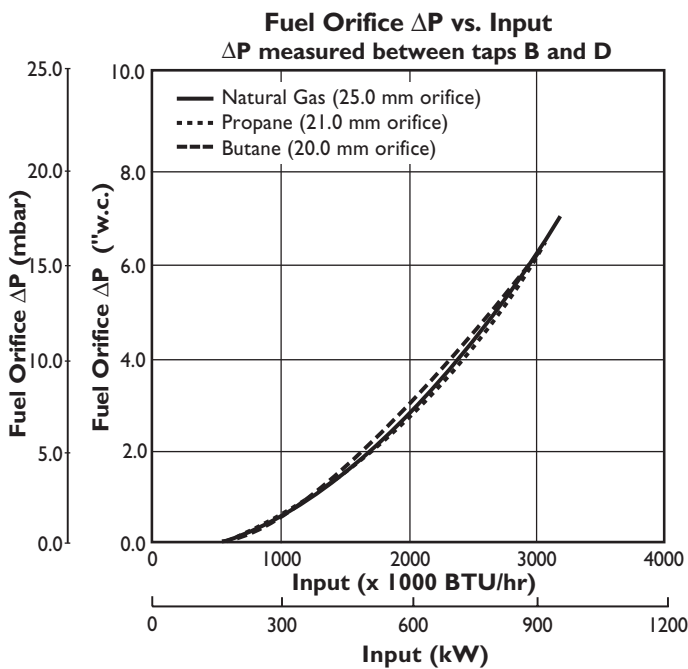
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- Minimal process air velocity
- ppm volume dry at 3% O₂
- Neutral chamber pressure

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Emissions are influenced by:

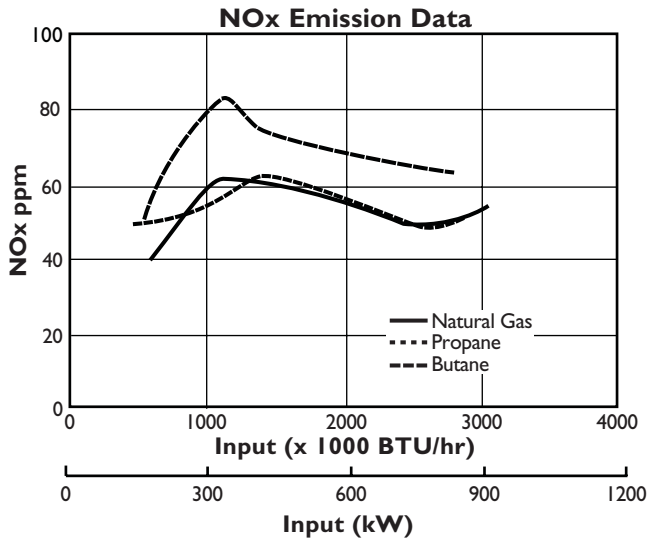
- Chamber conditions
- Fuel type
- Firing rate
- Ratio regulator adjustment
- Combustion air temperature



High Velocity Tube Specifications

Blower Model – 5C (15" w.c. @ 44,000 scfh, 3 hp)

Specifications					
Parameter	Frequency	Btu/hr	kW	"w.c.	(mbar)
Maximum Input vs. Chamber Pressure (Natural Gas)	60Hz Packaged Blower	3,240,000	949	-2.0	-5,0
		3,140,000	919	-1.0	-2,5
		3,050,000	893	0.0	0,0
		2,950,000	864	1.0	2,5
		2,850,000	835	2.0	5,0



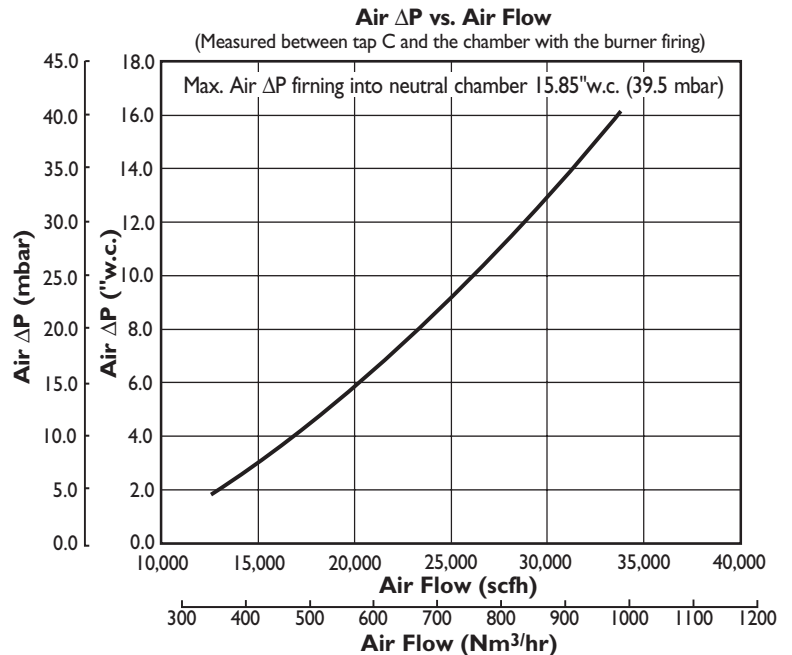
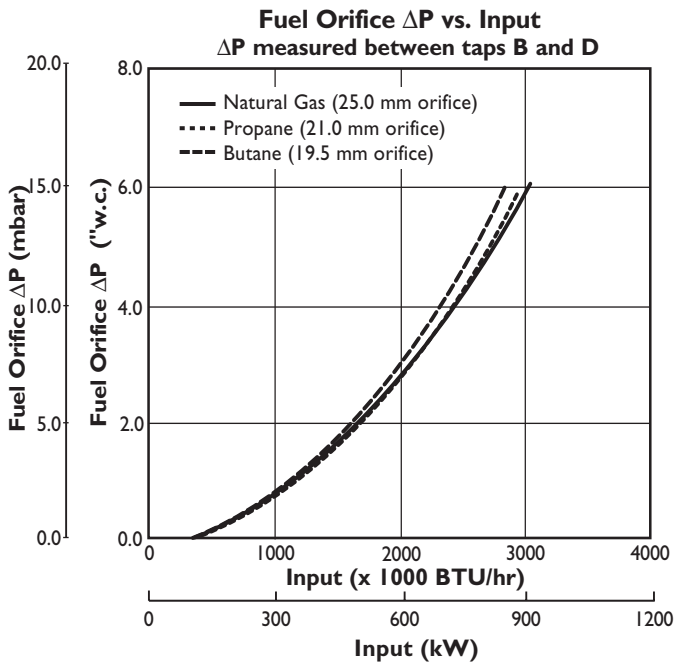
NOx emission data is given for:

- Ambient combustion air ~70 °F (20 °C)
- Minimal process air velocity
- ppm volume dry at 3% O₂
- Neutral chamber pressure

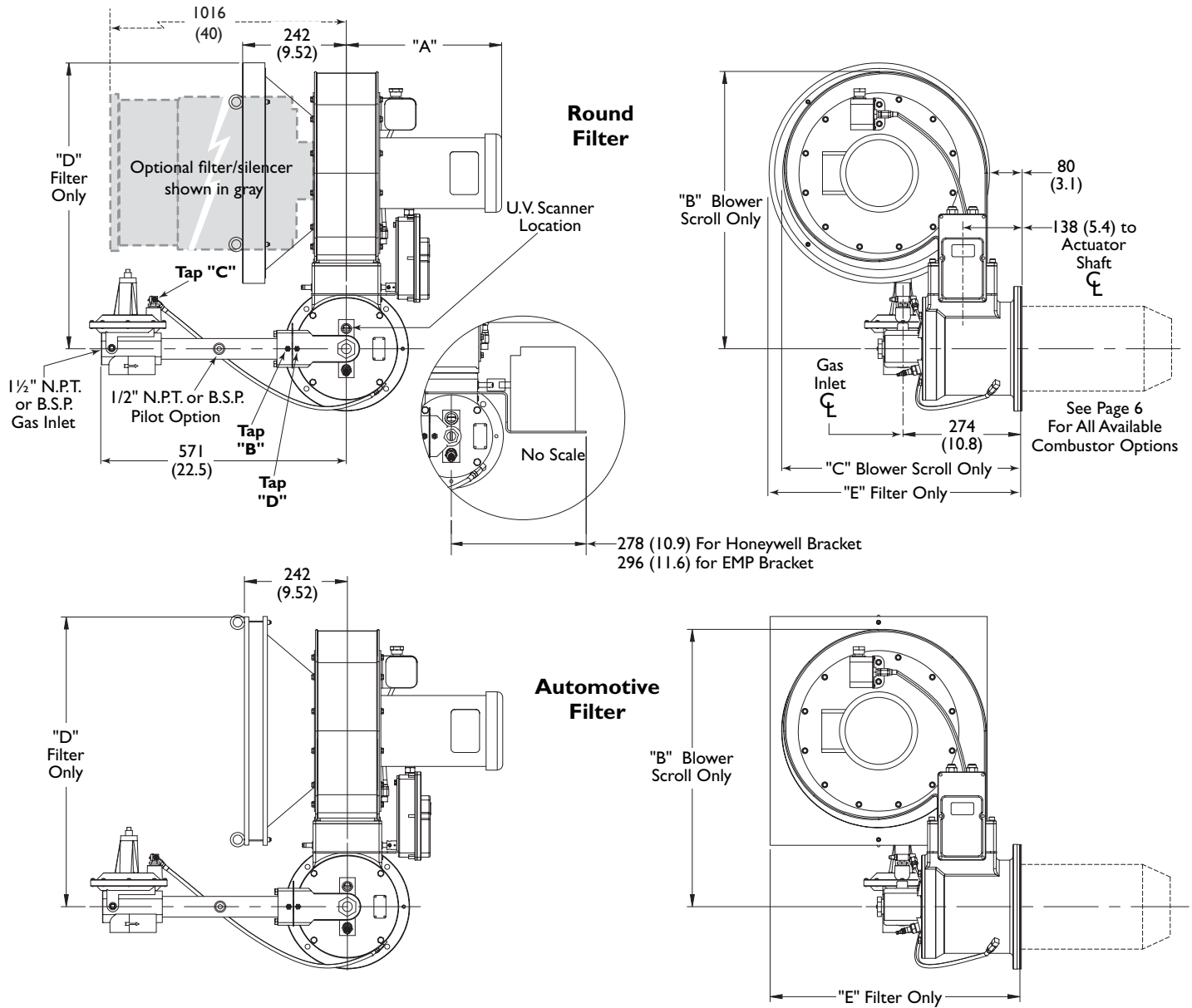
CO emission is largely influenced by chamber conditions. Contact your local Eclipse Combustion representative for an estimate of CO emission on your application.

Emissions are influenced by:

- Chamber conditions
- Fuel type
- Firing rate
- Ratio regulator adjustment
- Combustion air temperature



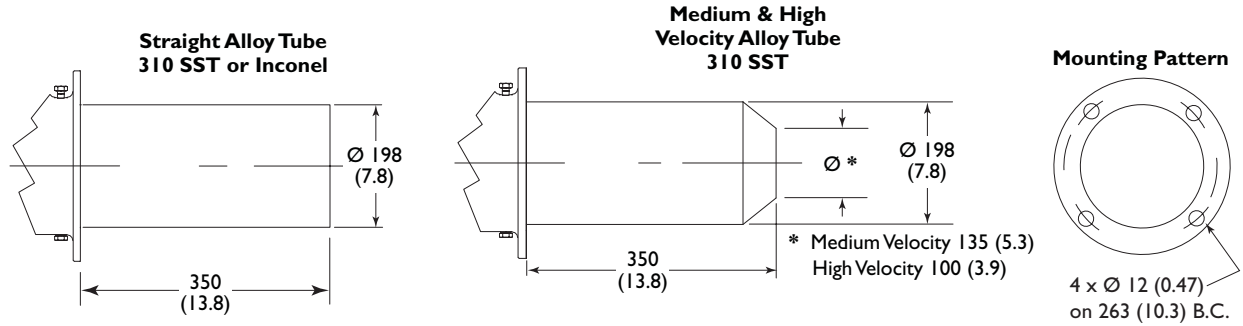
Dimensions mm (Inches)



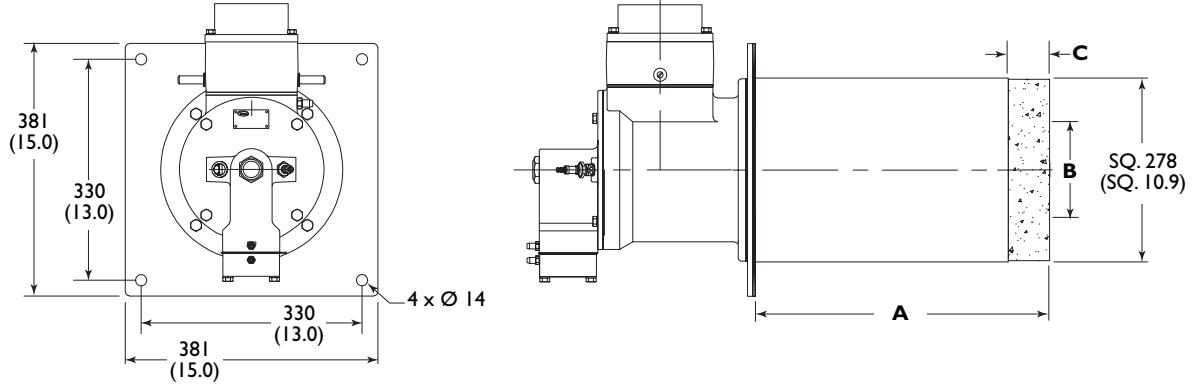
	Combustor Type	Blower Model	Filter Type	Dimensions mm (inches)				
				A	B	C	D	E
60Hz Blower	Straight	5B*	Round	362 (14.3)	647 (25.5)	552 (21.7)	667 (26.3)	587 (23.1)
	Medium Velocity	5A	Round	330 (13.0)	647 (25.5)	552 (21.7)	667 (26.3)	587 (23.1)
	High Velocity	5C	Round	362 (14.3)	702 (27.6)	611 (24.0)	692 (27.2)	615 (24.2)
	Straight	5B	Automotive	362 (14.3)	647 (25.5)	552 (21.7)	677 (26.6)	584 (23.0)
	Medium Velocity	5A	Automotive	330 (13.0)	647 (25.5)	552 (21.7)	677 (26.6)	584 (23.0)
	High Velocity	5C	Automotive	362 (14.3)	702 (27.6)	611 (24.0)	702 (27.6)	612 (24.1)
50Hz Blower	Straight & Medium Velocity	5A	Round	362 (14.3)	702 (27.6)	611 (24.0)	692 (27.2)	615 (24.2)

* Blower Model 5A is used with the Straight Combustor when operating on Propane or Butane.

Combustor Options

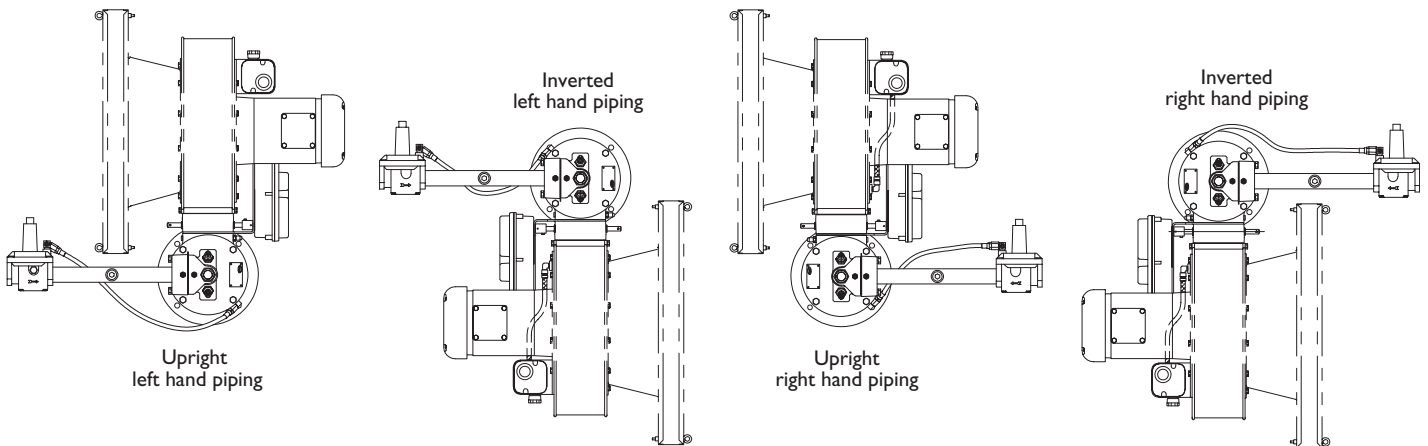


Block & Holder



Block & Holder Option	Dimensions mm (Inches)		
	A	B	C
Straight	344 (13.5)	188 (7.4)	44 (1.7)
Medium Velocity	350 (13.8)	135 (5.3)	50 (2.0)
High Velocity	350 (13.8)	100 (3.9)	50 (2.0)

Burner Configuration & Piping Arrangement



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Innovative Thermal Solutions



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