



# RatioAir Burners

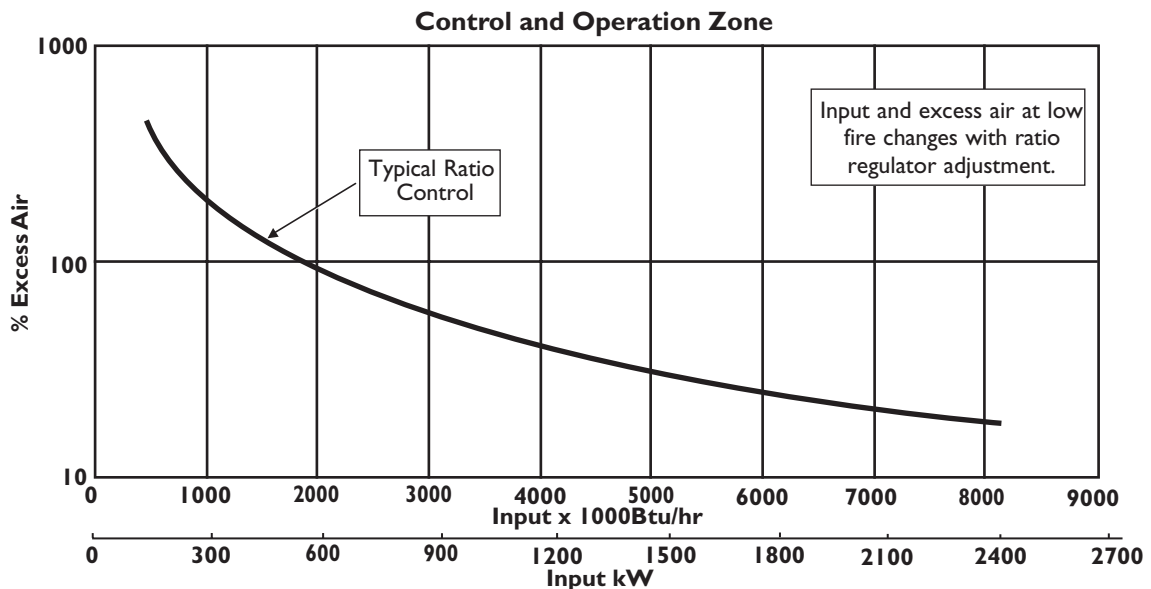
Model RA0750

Version 1

## Main Specifications - RA0750

PARAMETER		SPECIFICATIONS		
		Straight Tube	Medium Velocity Tube	High Velocity Tube
Maximum input, Btu/hr (kW) at neutral chamber conditions. (Natural Gas)	60Hz Packaged Blower	8,125,000 (2381)	8,200,000 (2400)	7,900,000 (2313)
	50Hz Packaged Blower	8,270,000 (2422)	8,350,000 (2447)	7,830,000 (2293)
Minimum input, Btu/hr (kW) • Lower inputs may be achieved. Contact factory.		250,000 (73)	250,000 (73)	250,000 (73)
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.		140 (3556)	125 (3175)	100 (2540)
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.



# Straight Tube Specifications

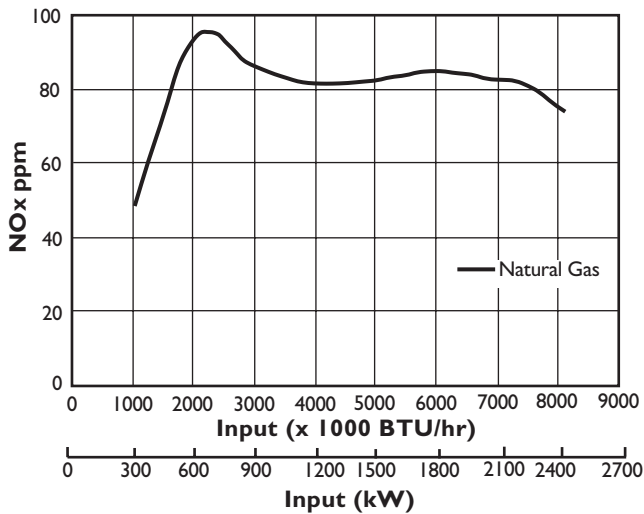
## Blower Model

**60Hz, 7D (10" w.c. @ 102,000 scfh, 5 hp)**

**50Hz, 7D (10" w.c. @ 91,600 scfh, 3.0 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	9,000,000	2638	9,150,000	2680
	-1.0	-2.5	8,600,000	2520	8,720,000	2555
	0.0	0.0	8,125,000	2380	8,270,000	2420
	1.0	2.5	7,600,000	2227	7,800,000	2285
	2.0	5.0	7,100,000	2080	7,300,000	2140

### NOx Emission Data



NOx emission data is given for:

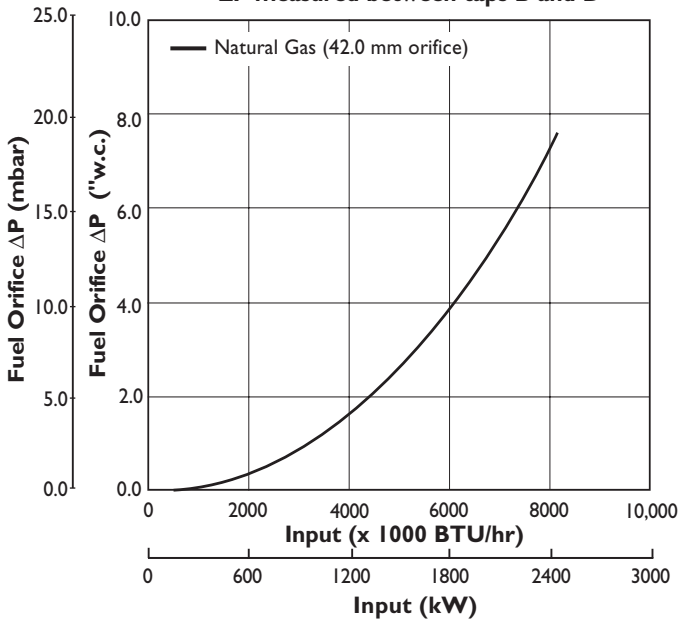
- Ambient combustion air ~70°F (20°C)
- Less than 1000°F (538°C firing chamber)
- Minimal process air velocity
- ppm volume dry at 3% O<sub>2</sub>
- Neutral chamber pressure

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:

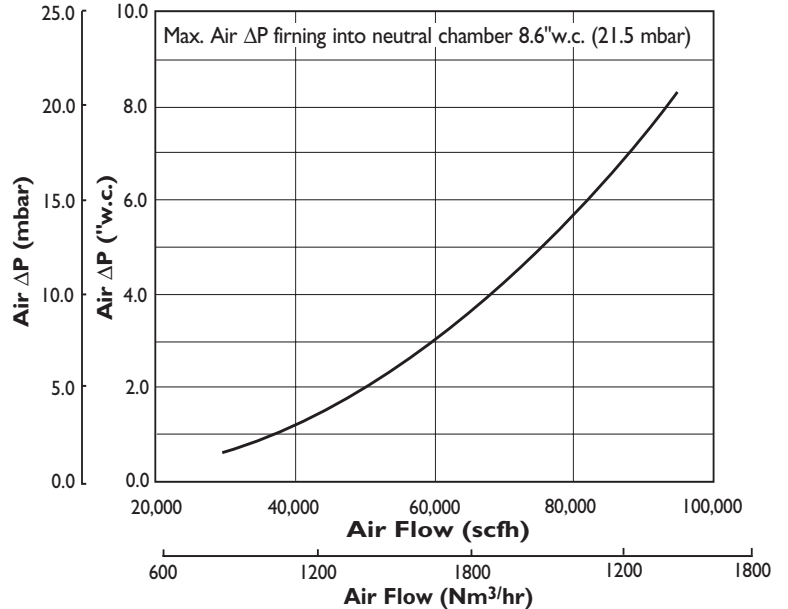
- Chamber conditions
- Fuel type
- Firing rate
- Ratio regulator adjustment
- Combustion air temperature

### Fuel Orifice ΔP vs. Input ΔP measured between taps B and D



### Air ΔP vs. Air Flow

(Measured between tap C and the chamber with the burner firing)



# Medium Velocity Tube Specifications

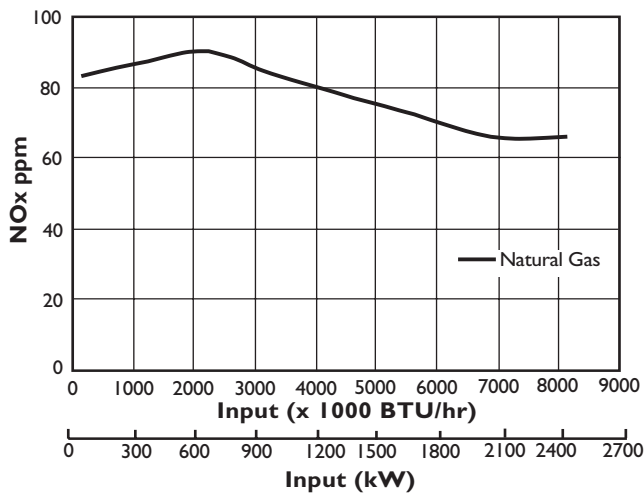
## Blower Model

60Hz, 7D (10" w.c. @ 102,000 scfh, 5 hp)

50Hz, 7D (10" w.c. @ 91,600 scfh, 3.0 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	9,100,000	2664	8280,000	2717
	-1.0	-2.5	8,700,000	2547	8,830,000	2585
	0.0	0.0	8,200,000	2400	8,350,000	2445
	1.0	2.5	7,700,000	2255	7,850,000	2298
	2.0	5.0	7,200,000	2108	7,300,000	2137

### NOx Emission Data



NOx emission data is given for:

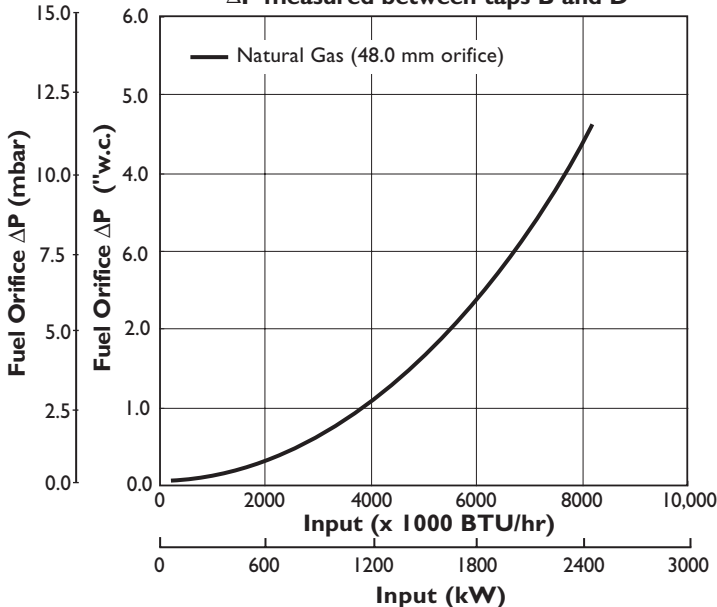
- Ambient combustion air ~70°F (20°C)
- Less than 1000°F (538°C firing chamber)
- Minimal process air velocity
- ppm volume dry at 3% O<sub>2</sub>
- Neutral chamber pressure

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

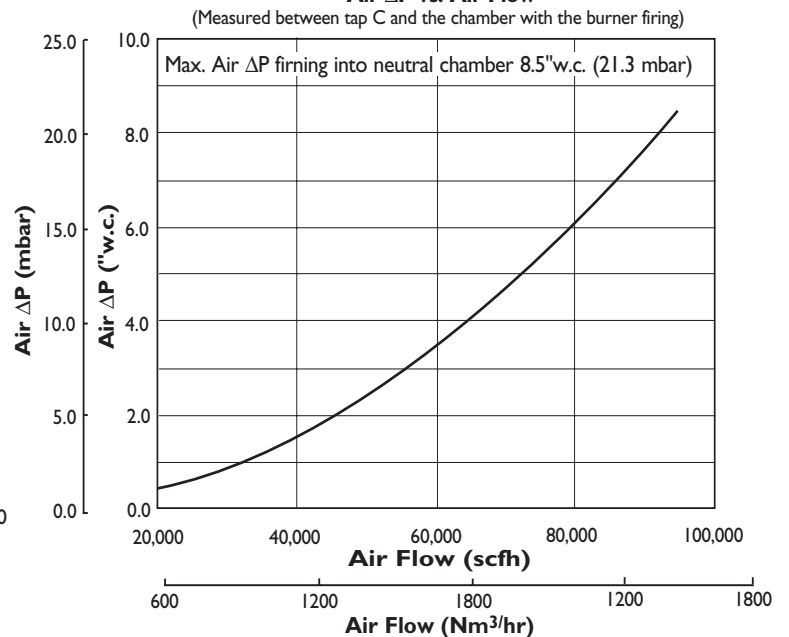
Emissions are influenced by:

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

### Fuel Orifice ΔP vs. Input ΔP measured between taps B and D



### Air ΔP vs. Air Flow



# High Velocity Tube Specifications

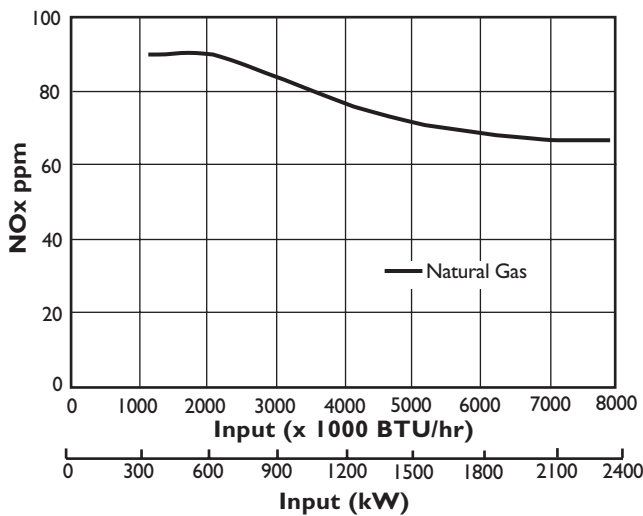
## Blower Model

60Hz, 7B (15" w.c. @ 110,000 scfh, 7.5 hp)

50Hz, 7B (15" w.c. @ 110,000 scfh, 5.5 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	8,350,000	2445	8,280,000	2414
	-1.0	-2.5	8,150,000	2386	8,050,000	2357
	0.0	0.0	7,900,000	2313	7,830,000	2293
	1.0	2.5	7,700,000	2255	7,600,000	2225
	2.0	5.0	7,450,000	2181	7,350,000	2152

### NOx Emission Data



NOx emission data is given for:

- Ambient combustion air ~70°F (20°C)
- Less than 1000°F (538°C firing chamber)
- Minimal process air velocity
- ppm volume dry at 3% O<sub>2</sub>
- Neutral chamber pressure

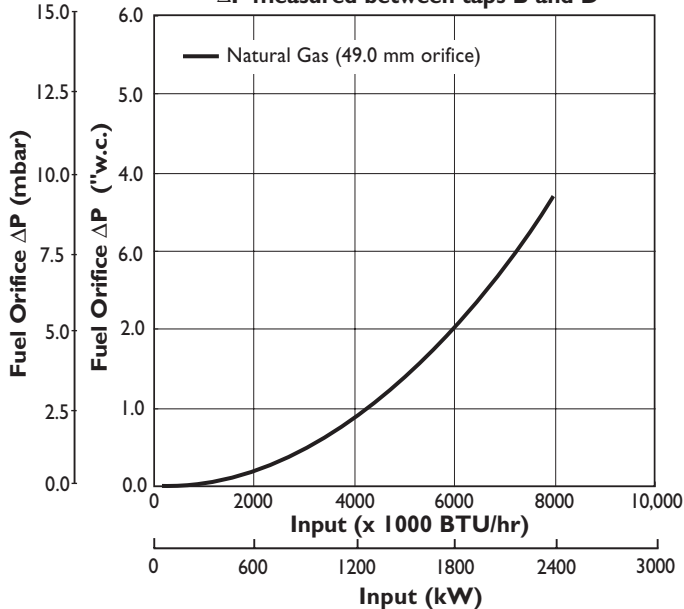
CO emission is largely influenced by chamber conditions.

Contact your local Eclipse Combustion representative for an estimate of CO emission on your application.

Emissions are influenced by:

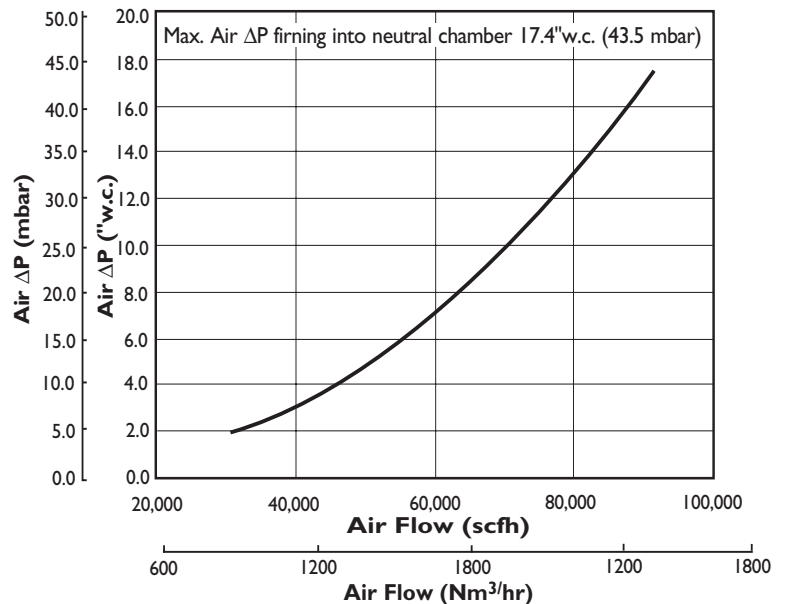
- Chamber conditions
- Fuel type
- Firing rate
- Ratio regulator adjustment
- Combustion air temperature

### Fuel Orifice ΔP vs. Input ΔP measured between taps B and D

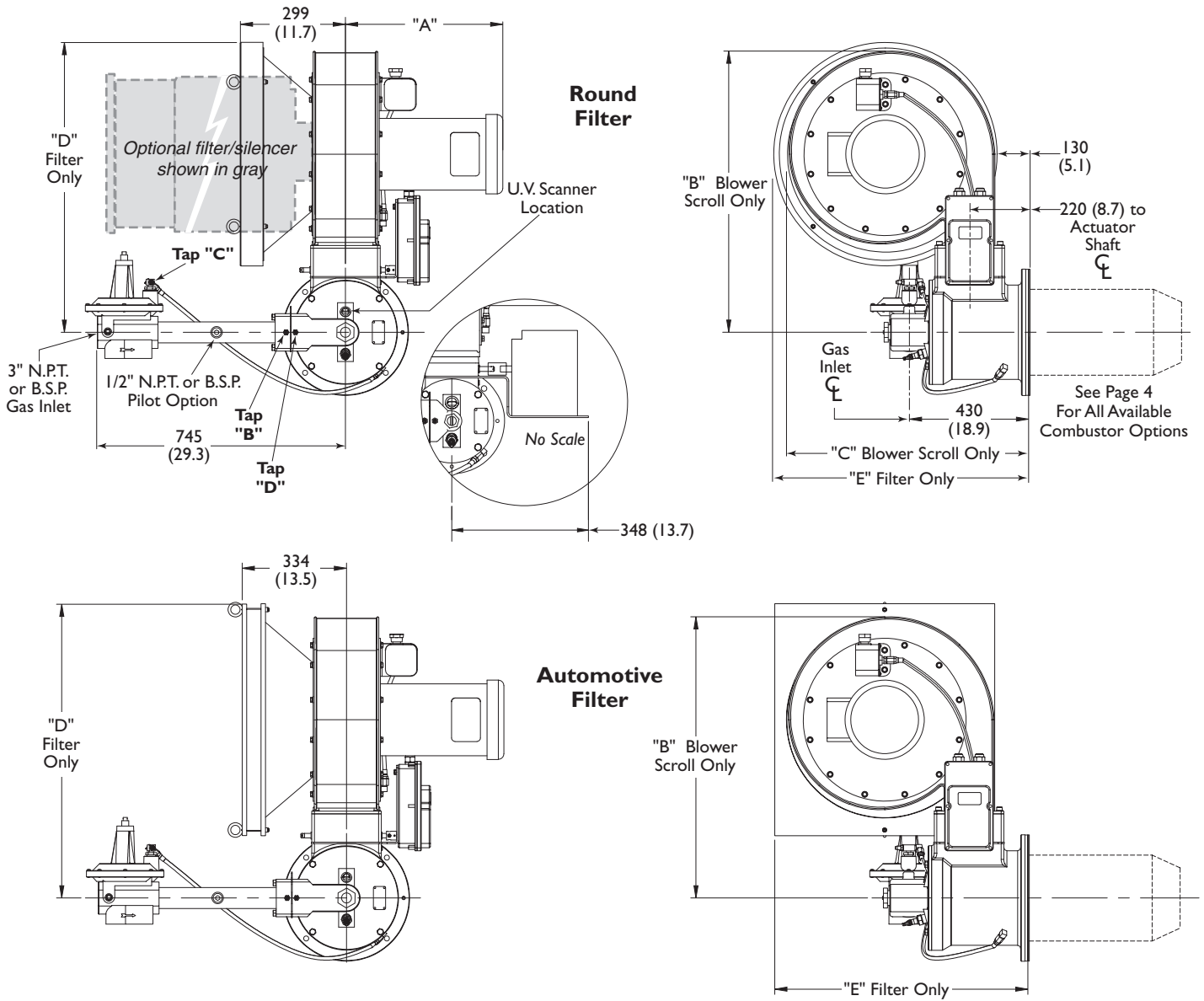


### Air ΔP vs. Air Flow

(Measured between tap C and the chamber with the burner firing)

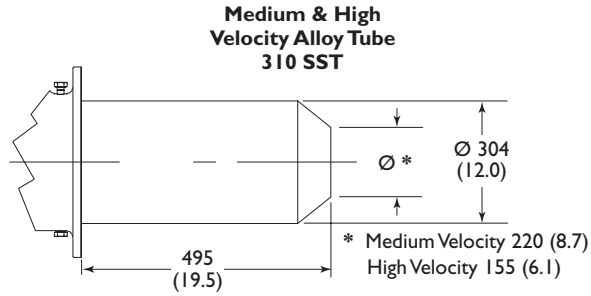
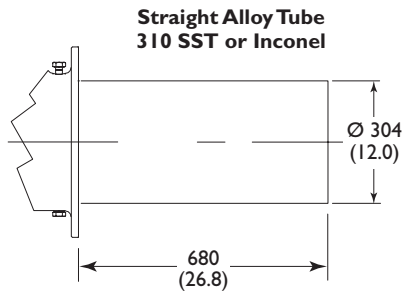


## Dimensions mm (Inches)

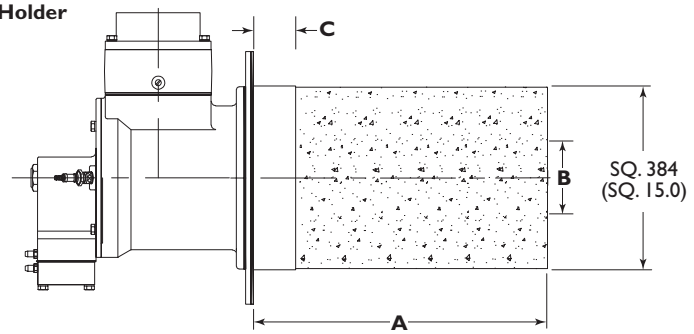
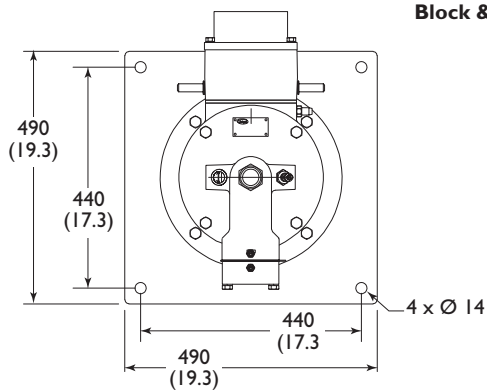
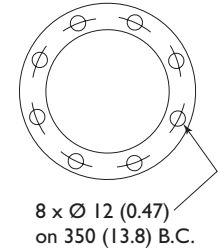


	Combustor Type	Blower Model	Filter Type	Dimensions mm (inches)				
				A	B	C	D	E
<b>60Hz Blower</b>	Straight	7D	Round	457 (18.0)	861 (13.9)	733 (28.8)	874 (34.4)	802 (31.6)
	Medium Velocity	7D	Round	457 (18.0)	861 (13.9)	733 (28.8)	874 (34.4)	802 (31.6)
	High Velocity	7B	Round	500 (19.7)	896 (15.3)	799 (31.5)	929 (36.6)	837 (33.0)
	Straight	7D	Automotive	457 (18.0)	861 (13.9)	733 (28.8)	904 (35.6)	793 (31.2)
	Medium Velocity	7D	Automotive	457 (18.0)	861 (13.9)	733 (28.8)	904 (35.6)	793 (31.2)
	High Velocity	7B	Automotive	500 (19.7)	896 (15.3)	799 (31.5)	896 (35.3)	902 (35.5)
<b>50Hz Blower</b>	Straight & Medium Velocity	7B	Round	488 (19.2)	984 (38.7)	921 (36.3)	945 (37.2)	912 (36.9)

## Combustor Options

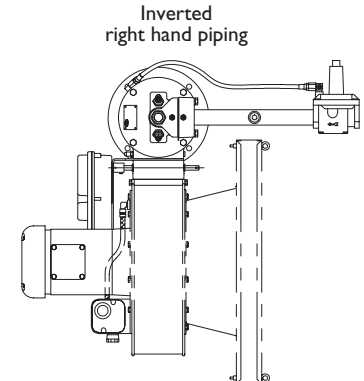
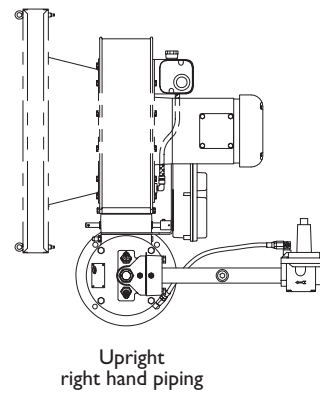
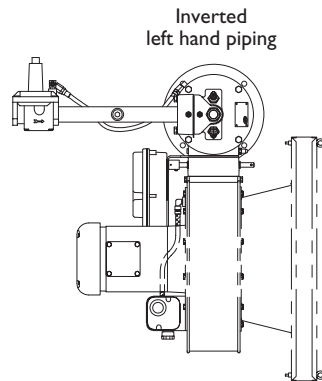
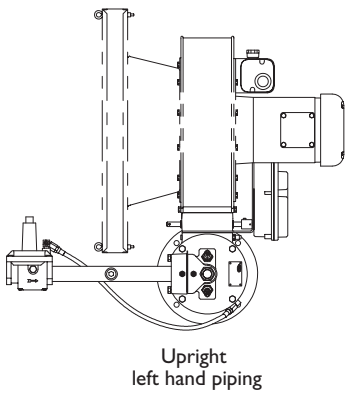


### Mounting Pattern



Block & Holder Option	Dimensions mm (Inches)		
	A	B	C
Straight	494 (19.4)	289 (11.4)	50 (2.0)
Medium Velocity	494 (19.4)	220 (8.7)	50 (2.0)
High Velocity	494 (19.4)	155 (6.1)	50 (2.0)

## Burner Configuration & Piping Arrangement





**Offered By:**

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Fax (804) 236-3882

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