


# Eclipse RatioAir Burners

Model RA0200

Version 2

Parameter		Specifications		
		Packaged Blower Nominal (50Hz and 60Hz)		
Maximum Input, Btu/h (kW) <sup>1,2</sup>	Chamber Pressure "w.c. (mbar)	Straight Combustor	Medium Velocity Combustor	High Velocity Combustor
	-2.0 (-5.0)	2,540,000 (744)	2,350,000 (689)	2,430,000 (712)
	-1.0 (-2.5)	2,405,000 (705)	2,200,000 (645)	2,350,000 (689)
	0.0 (0.0)	2,260,000 (662)	2,110,000 (618)	2,270,000 (665)
	1.0 (2.5)	2,150,000 (630)	2,000,000 (586)	2,185,000 (640)
	2.0 (5.0)	1,940,000 (568)	1,850,000 (542)	2,095,000 (614)
<b>Minimum Input, Btu/h (kW)</b> <i>Lower inputs may be achieved. Contact factory.</i>		40,000 (12)	40,000 (12)	40,000 (12)
<b>Main Gas Inlet Pressure, "w.c. (mbar)<sup>3</sup></b> <i>Fuel pressure at ratio regulator inlet.</i>	Maximum	55 (137)	55 (137)	55 (137)
	Minimum	15 (37)	15 (37)	20 (50)
<b>High Fire Flame Length, inches (mm)</b> <i>Measured from the outlet end of the combustor.</i>		54 (1370)	36 (915)	27 (685)
<b>Approximate Flame Velocity, ft/s (m/s)</b> <i>Approximately 15% excess air at maximum input.</i>		-	250 (75)	500 (150)
<b>Maximum Application Temperature, °F (°C)</b>	Alloy Combustor	1500 (820)	1950 (1070)	1950 (1070)
	SiC Combustor	1900 (1040)	2500 (1370)	2500 (1370)
	Block & Holder	-	2800 (1540)	2800 (1540)
<b>Flame Detection</b>		UV scanner available for all combustors. Flame rod available for alloy or SiC combustors with left hand piping only (270° CW from air inlet).		
<b>Blower Motor Power, Hp</b>	60 Hz	10" w.c. @ 22,000 scfh, 1 hp	10" w.c. @ 22,000 scfh, 1 hp	15" w.c. @ 22,000 scfh, 2 hp
	50 Hz	10" w.c. @ 22,000 scfh, 0.75 kW	10" w.c. @ 22,000 scfh, 0.75 kW	-
<b>Weight, lbs (kg)<sup>5</sup></b>	Alloy Combustor	170 (77)		
	Block and Holder	236 (107)		
<b>Fuels</b> <i>For any other mixed gas, contact Eclipse, Inc.</i>		Natural Gas, Propane or Butane <sup>4</sup>		
<b>Approvals</b>				

<sup>1</sup> Maximum inputs for packaged blower versions are given for the standard combustion air blower without an inlet air filter.

<sup>2</sup> Blower motor service factors greater than 1.0 may be required when firing into negative chamber pressure applications. For specific application questions, contact Eclipse.

<sup>3</sup> For proper performance, this pressure must be kept constant across the burner operating range.

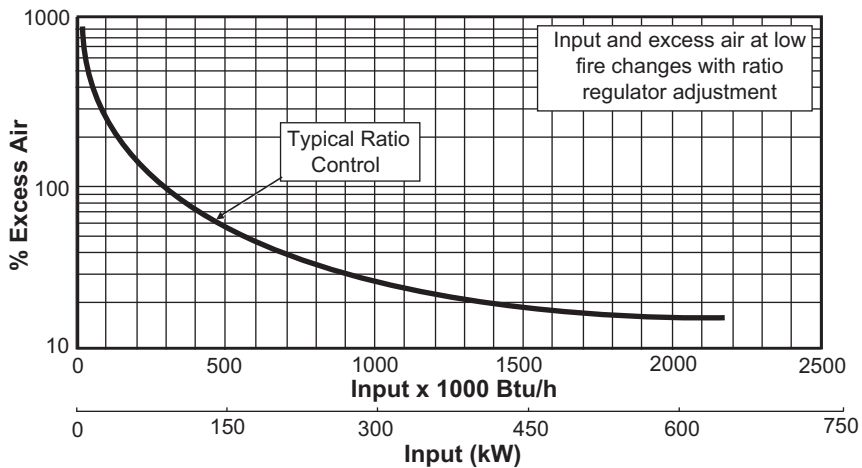
<sup>4</sup> See Design Guide 111 for more information about typical fuel composition and properties.

<sup>5</sup> All weights are approximate.

- 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 Eclipse.
- 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.
- All information is based on laboratory testing. Different chamber conditions will affect the data.

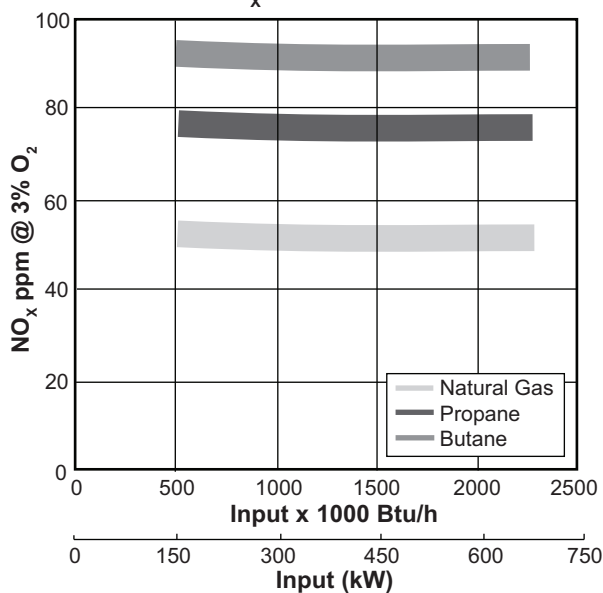


## Control Zone



## Straight Combustor Specifications

### NO<sub>x</sub> Emission Data



### NO<sub>x</sub> emission data is given for:

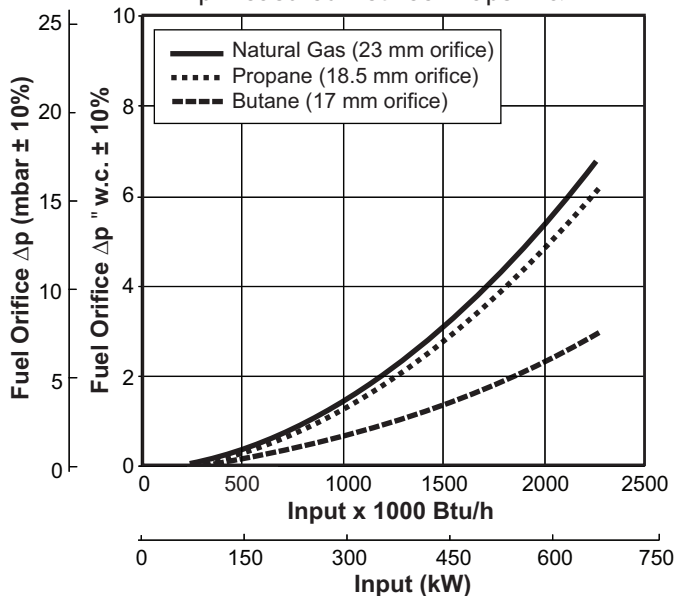
- Ambient combustion air ~70°F (21°C)
- Minimal process air velocity
- ppm volume dry at 3% O<sub>2</sub>
- Neutral chamber pressure

### Emissions from the burner are influenced by:

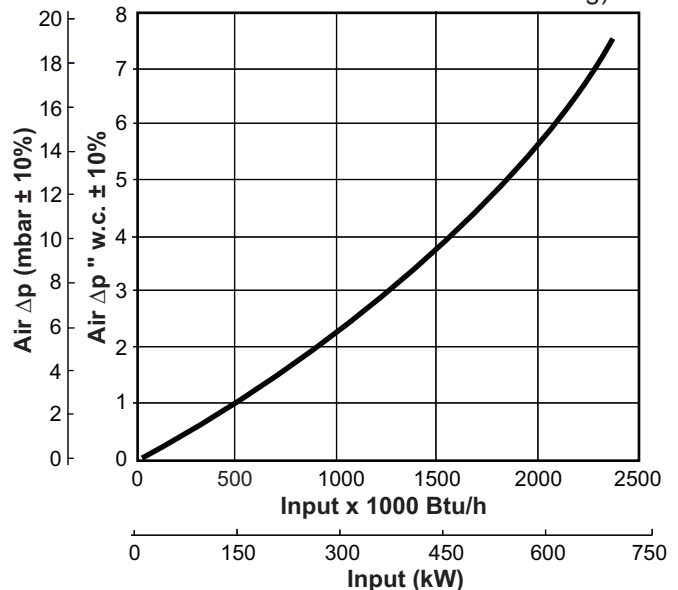
- Chamber conditions
- Fuel type
- Firing rate
- Ratio regulator adjustment
- Combustion air temperature

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

### Fuel Orifice $\Delta p$ vs. Input $\Delta p$ Measured Between Taps B & D

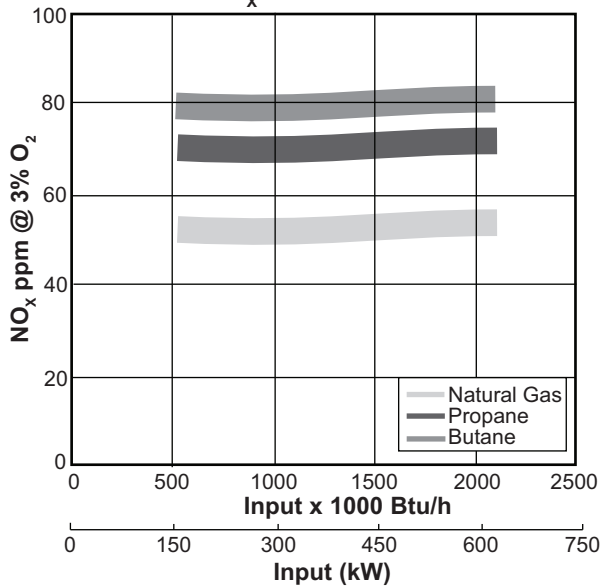


### Air $\Delta p$ vs. Input (Measured Between Tap C & the Chamber with the Burner Firing)



# Medium Velocity Combustor Specifications

## NO<sub>x</sub> Emission Data



NO<sub>x</sub> emission data is given for:

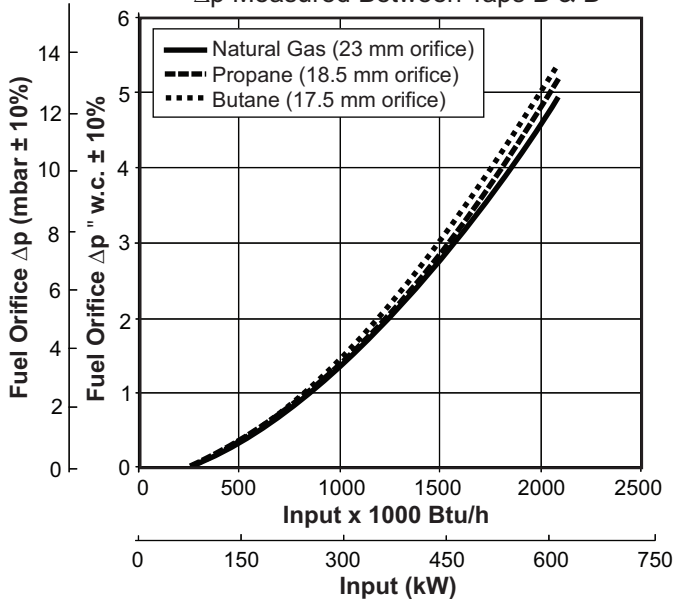
- Ambient combustion air ~70°F (21°C)
- Minimal process air velocity
- ppm volume dry at 3% O<sub>2</sub>
- Neutral chamber pressure

Emissions from the burner are influenced by:

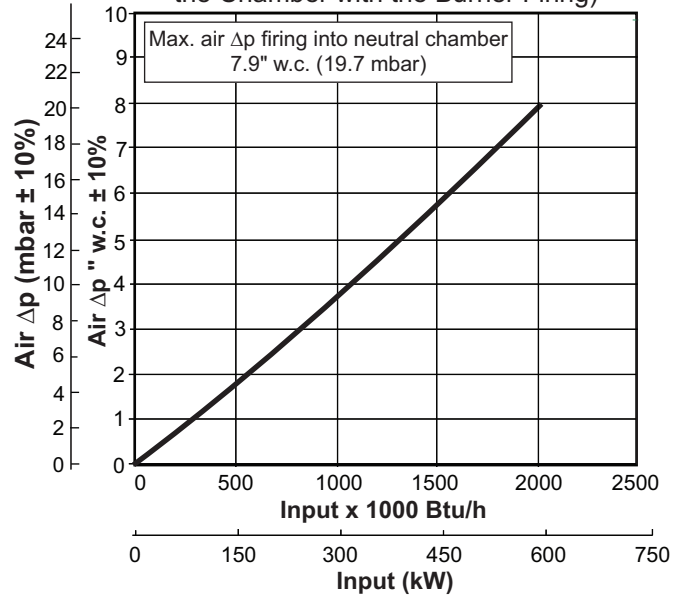
- Chamber conditions
- Fuel type
- Firing rate
- Ratio regulator adjustment
- Combustion air temperature

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

## Fuel Orifice Δp vs. Input Δp Measured Between Taps B & D

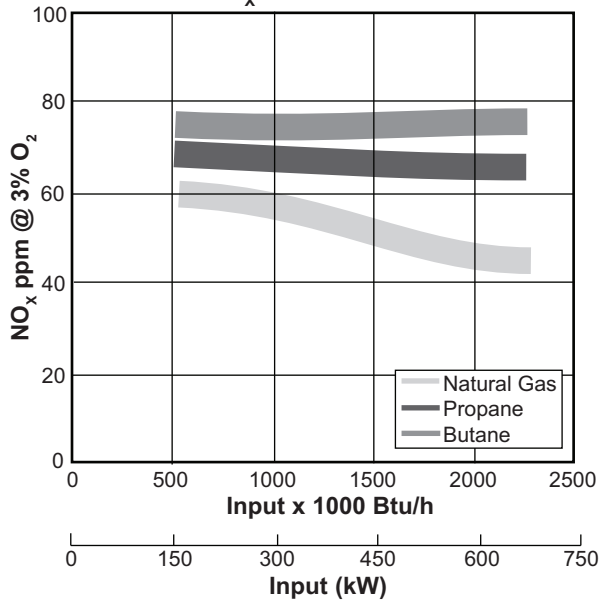


## Air Δp vs. Input (Measured Between Tap C & the Chamber with the Burner Firing)



# High Velocity Combustor Specifications

## NO<sub>x</sub> Emission Data



NO<sub>x</sub> emission data is given for:

- Ambient combustion air ~70°F (21°C)
- Minimal process air velocity
- ppm volume dry at 3% O<sub>2</sub>
- Neutral chamber pressure

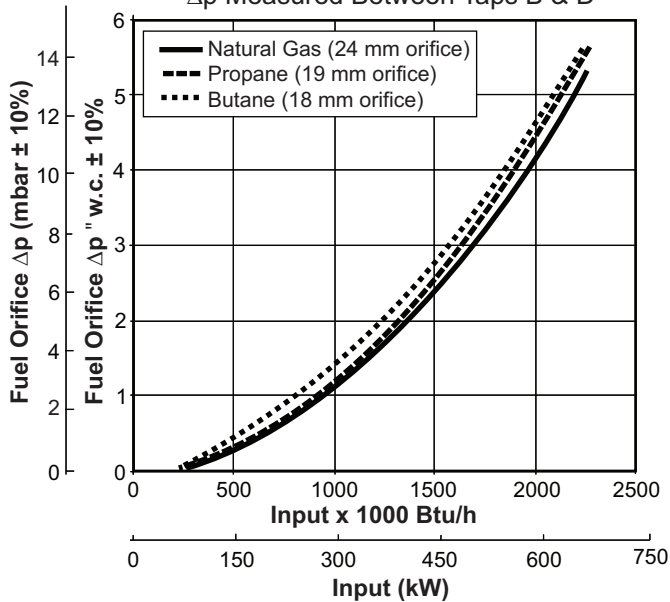
Emissions from the burner are influenced by:

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

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

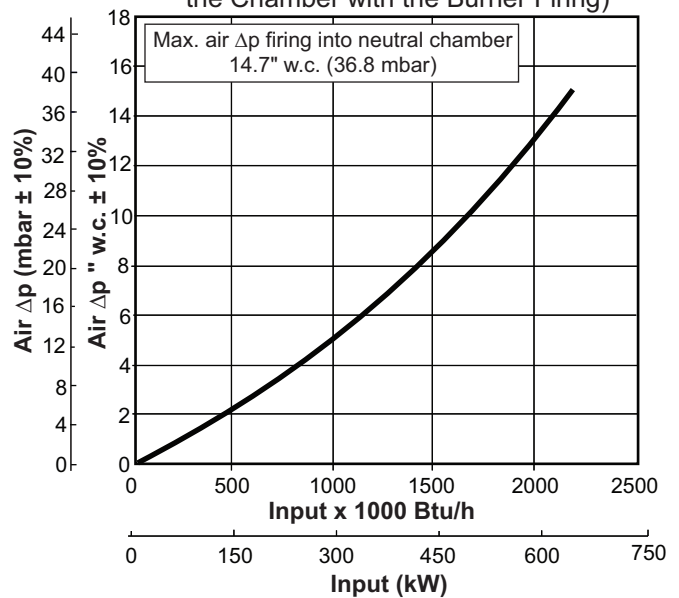
## Fuel Orifice Δp vs. Input

Δp Measured Between Taps B & D



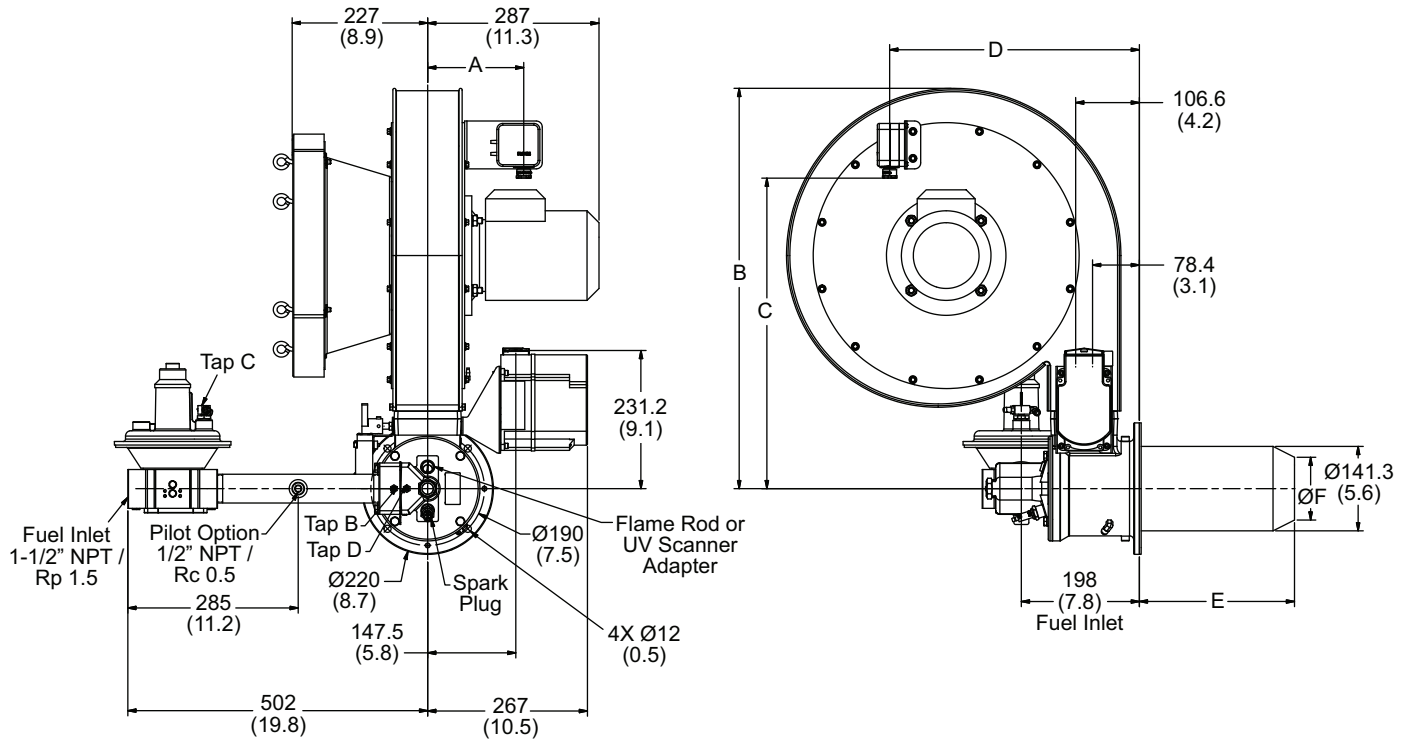
## Air Δp vs. Input

(Measured Between Tap C & the Chamber with the Burner Firing)



## Dimensions and Specifications

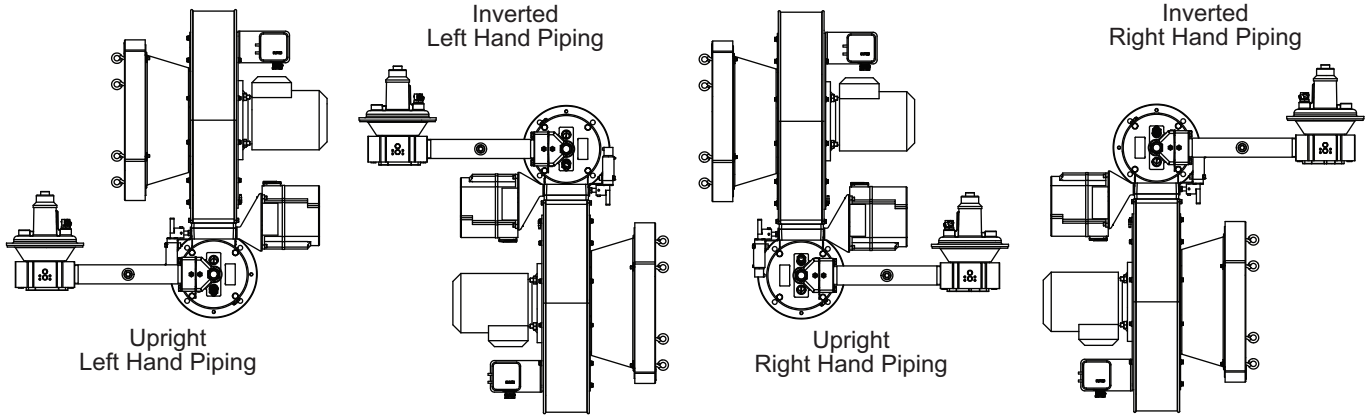
### Dimensions in mm (inches)



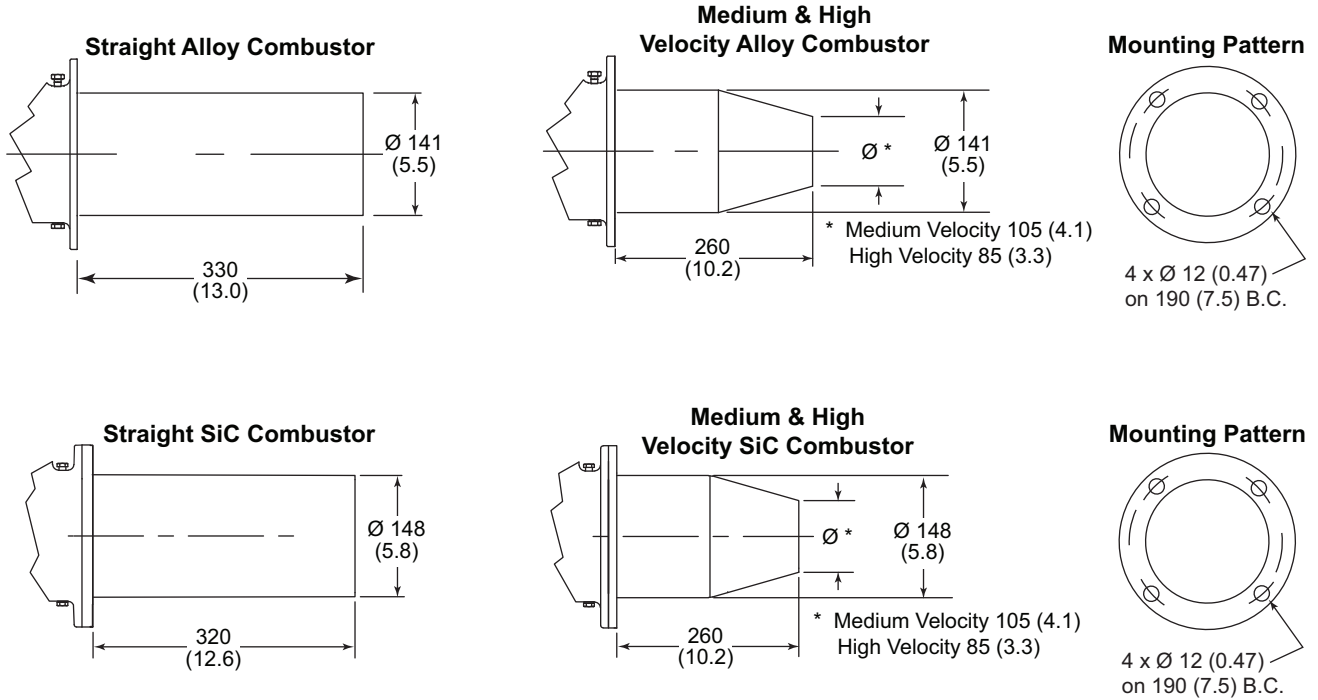
	Dimensions mm (inches)			
	A	B	C	D
<b>60 Hz Blower</b>	161 (6.3)	670 (26.4)	520 (20.5)	418 (16.5)
	161 (6.3)	670 (26.4)	520 (20.5)	418 (16.5)
<b>50 Hz Blower</b>	161 (6.3)	575 (22.6)	431 (16.7)	368 (14.5)

Combustor Type	Dimensions mm (inches)	
	E	F
Straight Alloy Tube	330 (13.0)	137 (5.4)
Straight Silicon Carbide Tube	330 (13.0)	136 (5.4)
Medium Velocity Alloy Tube	260 (10.2)	105 (4.1)
Medium Velocity Silicon Carbide Tube	270 (10.6)	105 (4.1)
High Velocity Alloy Tube	260 (10.2)	85 (3.3)
High Velocity Silicon Carbide Tube	270 (10.6)	85 (3.3)

## Burner Configuration



## Combustor Options



## Block & Holder

