

# Eclipse ThermAir Burners

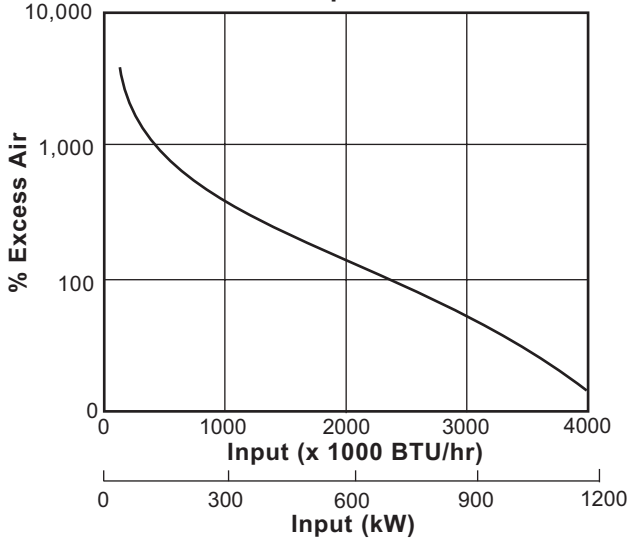
Model TA400  
Version 1

Parameter		Specifications			
Maximum Input (BTU/hr)  <i>(To maintain 15% air with the standard air orifice and standard combustion air blower.)</i>	<b>Frequency</b>	<b>BTU/hr</b>	<b>" w.c.</b>	<b>kW</b>	<b>mbar</b>
	60 Hz Packaged Blower	4,332,000	-1.0	1270	-2,5
		4,000,000	0.0	1173	0,0
		3,919,000	1.0	1149	2,5
	50 Hz Packaged Blower	4,273,000	-1.0	1251	-2,5
		4,080,000	0.0	1195	0,0
3,837,000		1.0	1124	2,5	
Minimum Input <i>Natural Gas, Propane, Butane</i>		<b>BTU/hr</b>		<b>kW</b>	
		133,000		39,0	
Main Gas Inlet Pressure <i>Fuel pressure at gas inlet (Tap B)</i>		<b>" w.c.</b>		<b>mbar</b>	
<i>Natural Gas</i>		5.4		13	
<i>Propane</i>		6.4		16	
<i>Butane</i>		6.5		16	
High Fire Flame Length <i>Measured from outlet end of combustor</i>		<b>inches</b>		<b>mm</b>	
<i>Natural Gas</i>		74		1880	
<i>Propane</i>		88		2235	
<i>Butane</i>		90		2286	
Maximum Chamber Temperature <i>Note: For higher temperatures, contact Eclipse.</i>		<b>Tube</b>	<b>°F</b>		<b>°C</b>
		Alloy Tube	1500		820
		SiC Tube	1900		1040
Flame Detection		UV scanner only			
Fuel		Natural gas, propane, or butane <i>For any other gas, contact Eclipse.</i>			

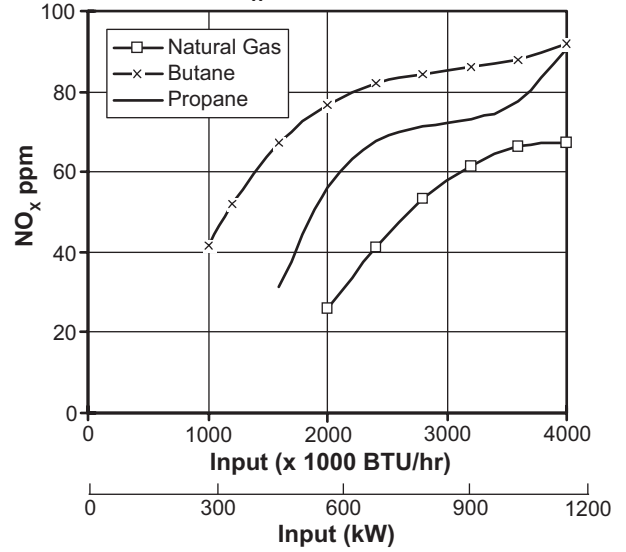
- All information is based on laboratory testing in neutral (0.0" w.c.) chamber with standard combustion design. Different chamber conditions and/or combustor design will affect the data.
- Maximum inputs are given for the standard combustion air blower without an air filter.
- All inputs based upon 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 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.

## Performance Graphs

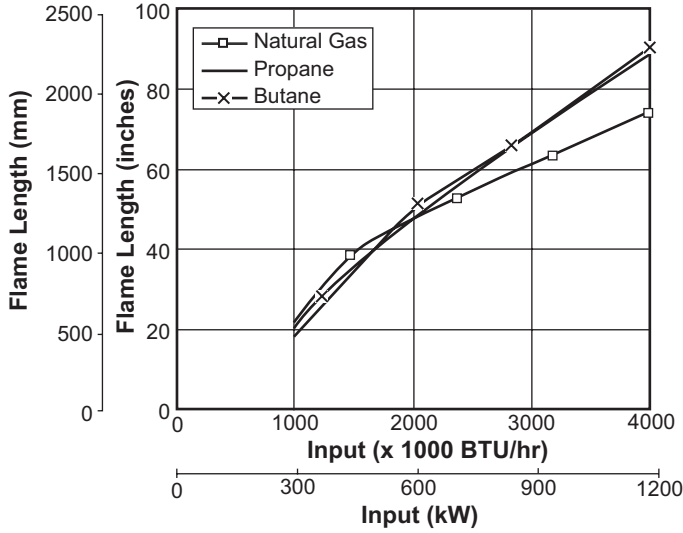
### Control & Operation Zone



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



### Burner Flame Length

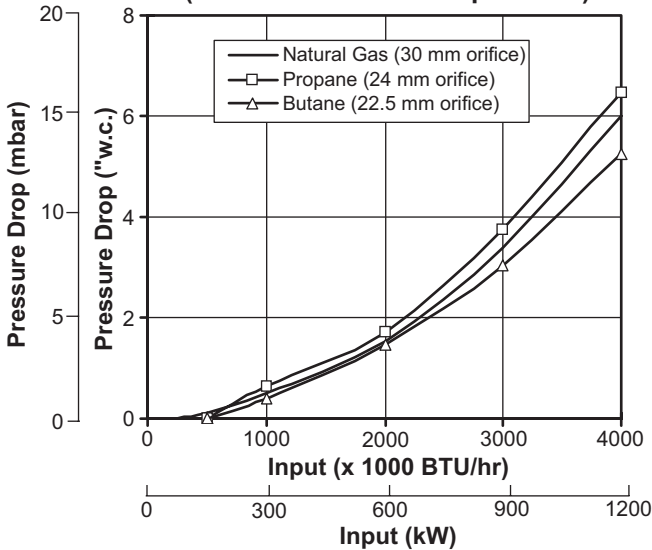


#### Notes on Emission Data

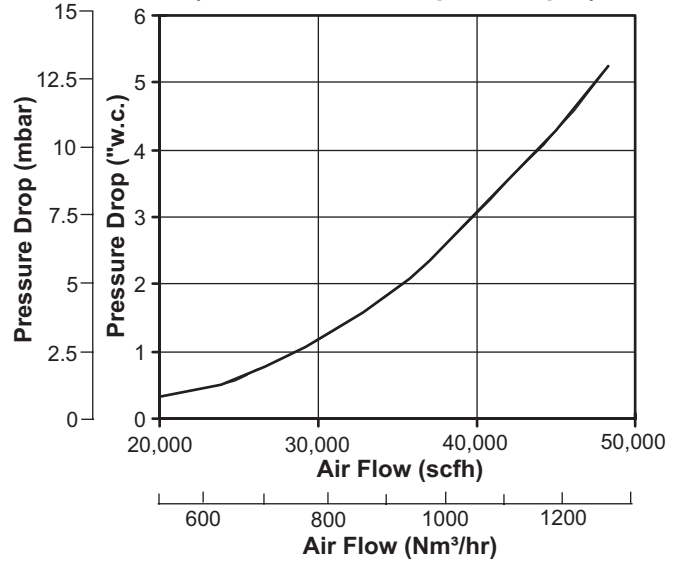
- NO<sub>x</sub> emission data is given for:**
- Ambient combustion air ~70° F (20° C)
  - Minimal process air velocity
  - ppm volume dry at 3% O<sub>2</sub>
  - Neutral chamber pressure
- Emissions are influenced by:**
- Chamber conditions
  - Fuel type
  - Firing rate
  - Combustion air temperature

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

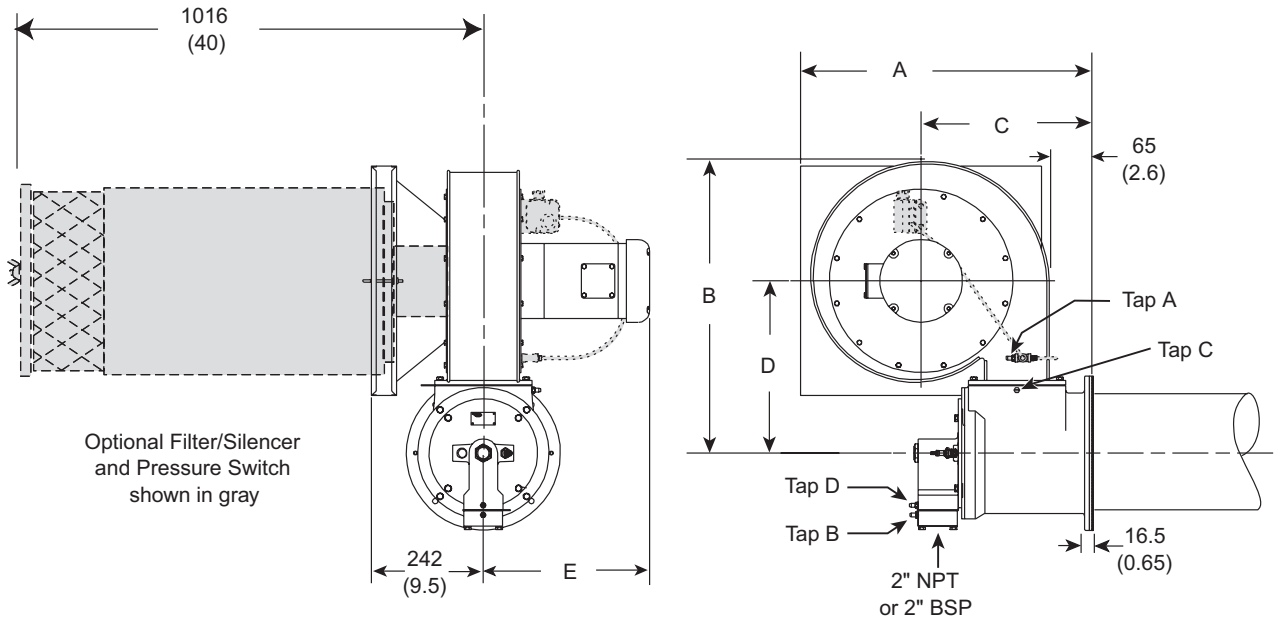
### Fuel Orifice ΔP vs. Input (Measured Between Taps B & D)



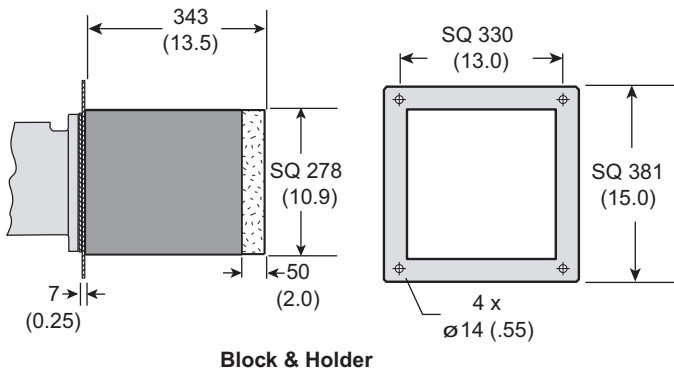
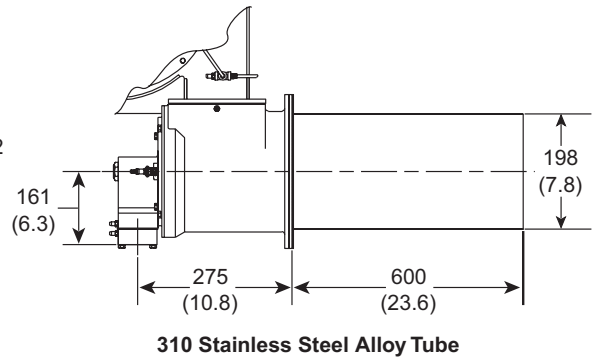
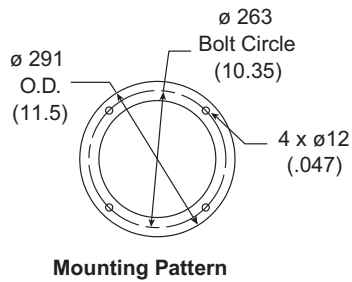
### Air Flow vs. Air Orifice ΔP (Measured From Tap A to Tap C)



### Dimensions mm (inches)

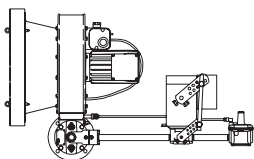
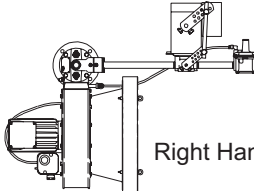
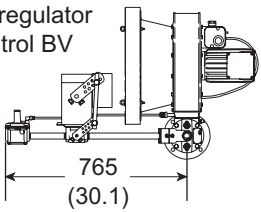
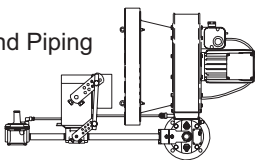
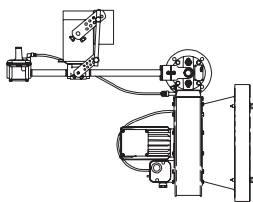
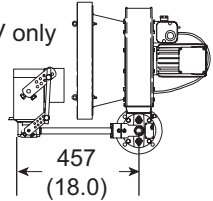
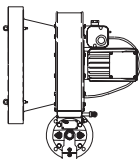
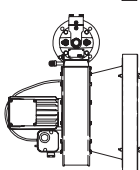
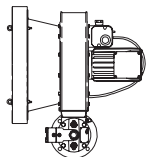


Port Connection		
Spark Plug	14mm	
Flamerod or Scanner	0.5" NPT	
Peepsight	1" NPT	
Weights		
	lbs	kg
Burner with blower	163	74
Burner less blower	90	41
Filter/Silencer	52	24



Hz	Blower 10" w.c.									
	A		B		C		D		E	
	mm	in	mm	in	mm	in	mm	in	mm	in
50	614	24.2	636	25.0	359	14.1	367	14.4	362	14.3
60	597	23.5	582	22.9	331	13.0	342	13.5	333	13.1

# Piping

Orientation (All illustrations indicate right hand blower motor.)*		Piping Options
Upright	Inverted	
<p>Right Hand Piping</p> 	<p>Right Hand Piping</p> 	<p>With ratio regulator and control BV</p>  <p>765 (30.1)</p>
<p>Left Hand Piping</p> 	<p>Left Hand Piping</p> 	<p>With control BV only</p>  <p>457 (18.0)</p>
<p>No Piping</p> 	<p>No Piping</p> 	<p>Less ratio regulator and control BV</p> 

\* Even though the blower motor is on the "left" side of the inverted units, it is still a "right hand" motor in relationship to the blower assembly.



**Offered By:**

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