# Eclipse AirHeat
## Burners
### AH-MA Series

**Parameter** | **Description**
---|---
Maximum Input, Btu/h/ft (kW/m) | 1,200,000 (1,153.85)
Combustion Air Pressure Drop, "w.c. (mbar) | 0.2 to 1.4 (0.5 to 3.5)
Pilot | Interruptible pilot for natural gas, propane or butane
Integral Pilot Capacities, Btu/h (kW) | 20,000 (5.9)
Burner Bodies | Standard Aluminum  
Low Pressure Aluminum¹  
Standard Cast Iron  
Corrosion Resistant, EN Plated Cast Iron  
Low Pressure Cast Iron¹
Burner Section Sizes | 6" (150mm) straight section  
12" (300mm) straight section  
12" (300mm) straight section with back inlet  
12" (300mm) straight section with pilot  
6" (150mm) by 12" (300mm) tee section  
6" (150mm) by 12" (300mm) tee section with pilot  
12" (300mm) by 12" (300mm) cross section
Maximum Upstream Air Temperature, °F (°C) | 450 (232)
Maximum Downstream Air Temperature, °F (°C) | 850 (454)
Maximum Temperature Rise, °F (°C) | 750 (400)
Pipe Threads | NPT or BSP
Flame Detection² | Flame rod or UV scanner
Ignition (6kVAC transformer)³ | Direct Spark Ignition  
Spark Ignited Pilot
Minimum Inlet Air Oxygen | 18%
Fuels | Natural Gas, Propane, Butane⁴
**Approvals**

1 For use with Natural Gas only.
2 When using UV scanners, Eclipse recommends a flame monitoring system that terminates the ignition spark at the end of the trial for ignition period not when it "sees" flame. Eclipse recommends that flame supervision is fitted at both ends of the burner when the flame travels more than 10 ft.
3 Direct spark ignition can be used on burners up to 18 inches (460 mm) long and up to 60% capacity.
4 See Design Guide 160 for more information about typical fuel composition and properties.

- All information is based on laboratory testing. Different chamber conditions may affect the data.
- All inputs based upon gross calorific values and standard conditions; 1 atmosphere, 70°F (21°C). Contact Eclipse, Inc. for performance data above ambient temperature.
- 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.
Operating Range and Duct Pressure Measurement

Inlet Air Temperature Correction

<table>
<thead>
<tr>
<th>Air Inlet Temp., °F(°C)</th>
<th>0  (-18)</th>
<th>30  (-1)</th>
<th>70  (21)</th>
<th>150 (66)</th>
<th>200 (93)</th>
<th>250 (121)</th>
<th>300 (149)</th>
<th>350 (177)</th>
<th>400 (204)</th>
<th>450 (232)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correction Factor</td>
<td>0.87</td>
<td>0.92</td>
<td>1.00</td>
<td>1.15</td>
<td>1.25</td>
<td>1.34</td>
<td>1.43</td>
<td>1.53</td>
<td>1.62</td>
<td>1.72</td>
</tr>
</tbody>
</table>

Air Velocity Calculation

Imperial units:

\[
\text{Air Velocity (fpm)} = 1096.2 \sqrt{\frac{\text{Air Pressure Drop ("w.c.")}}{\text{Air Density (lbs/ft}^3\text{)}}}
\]

Metric units:

\[
\text{Air Velocity (m/s)} = 4.43 \sqrt{\frac{\text{Air Pressure Drop (mm w.c.)}}{\text{Air Density (kg/m}^2\text{)}}}
\]
Differential Pressure Measurement and Gas Pressure Drops

Flame Lengths

Note:
Flame length may vary slightly from these values depending on actual fuel, air handling system, duct configurations and profile plates used.

Emissions Data