

# Eclipse Cross-Flow Recuperators

Model CFR021

Version 1

| Parameter   |  | Specification*                        |
|-------------|--|---------------------------------------|
| Recuperator | Maximum Input  | 2.0 MM BTU/hr (585 kW)                |
|             | Maximum Exhaust Temperature with No Combustion Air         | 1800°F (1000°C)                       |
|             | Maximum Exhaust Temperature with 500 scfh Combustion Air   | 2100°F (1150°C)                       |
|             | Air Pressure Drop at Maximum Input                         | 13" w.c. (33 mbar)                    |
|             | Exhaust Pressure Drop at Maximum Input                     | 1.75" w.c. (4.3 mbar)                 |
|             | Weight of Recuperator                                      | 310 lbs (140 kg)                      |
| Eductor     | Suction at Maximum Input at Eductor Inlet                  | 1.75" w.c. (4.44 mbar)                |
|             | Entrainment Air Volume at Maximum Input                    | 24,000 scfh (670 Nm <sup>3</sup> /hr) |
|             | Entrainment Air Pressure at Eductor Inlet at Maximum Input | 20" w.c. (50 mbar)                    |
|             | Weight of Eductor  | 113 lbs (51.3 kg)                     |

\* See Design Guide 530 for application specific operational limitations.

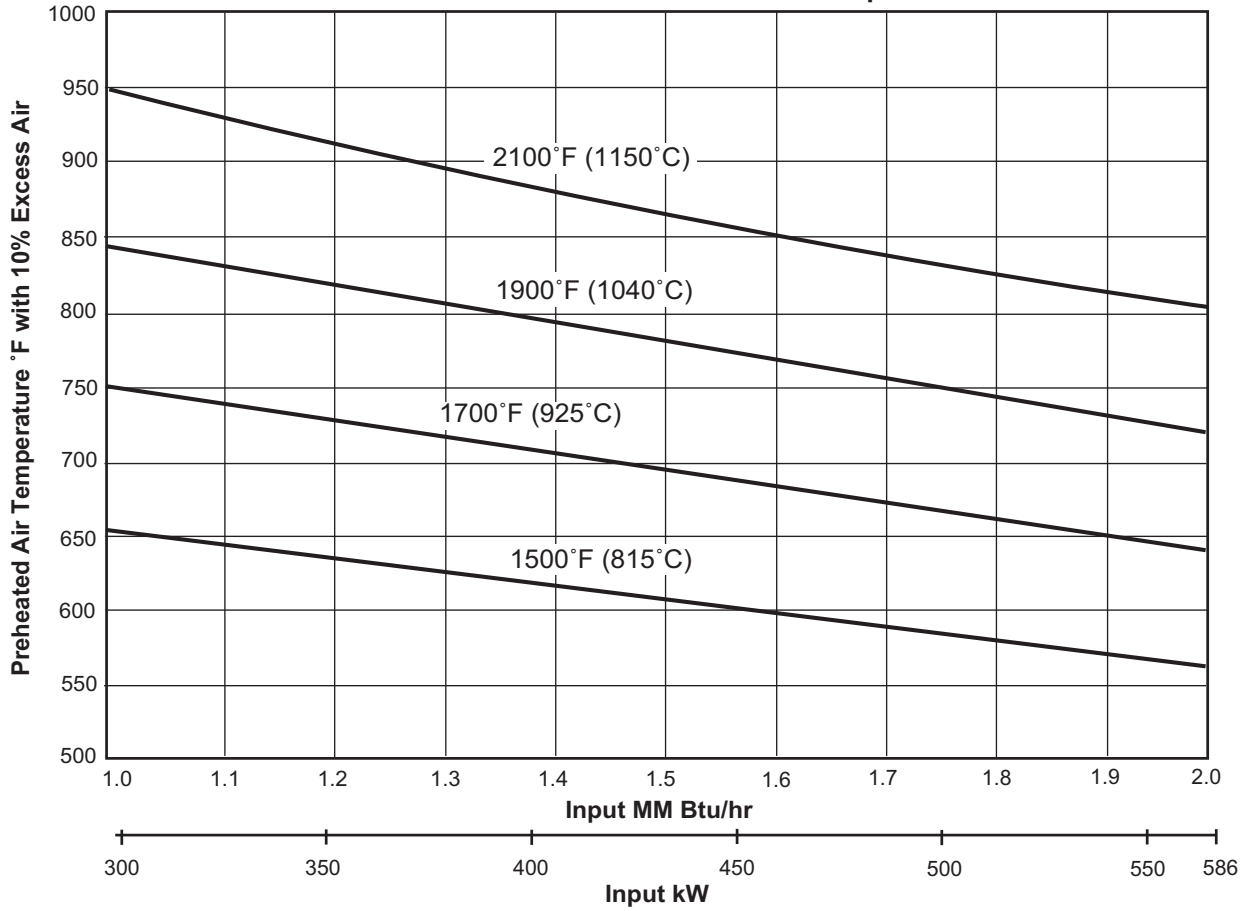
- All inputs based upon gross calorific values.
- Eclipse reserves the right to change the construction and/or configuration of our products at any time without being obligated to adjust earlier supplies accordingly.

## Percent Fuel Savings at Given Furnace Exhaust Temperatures and Combustion Air Preheat Temperatures (10% Excess Air)

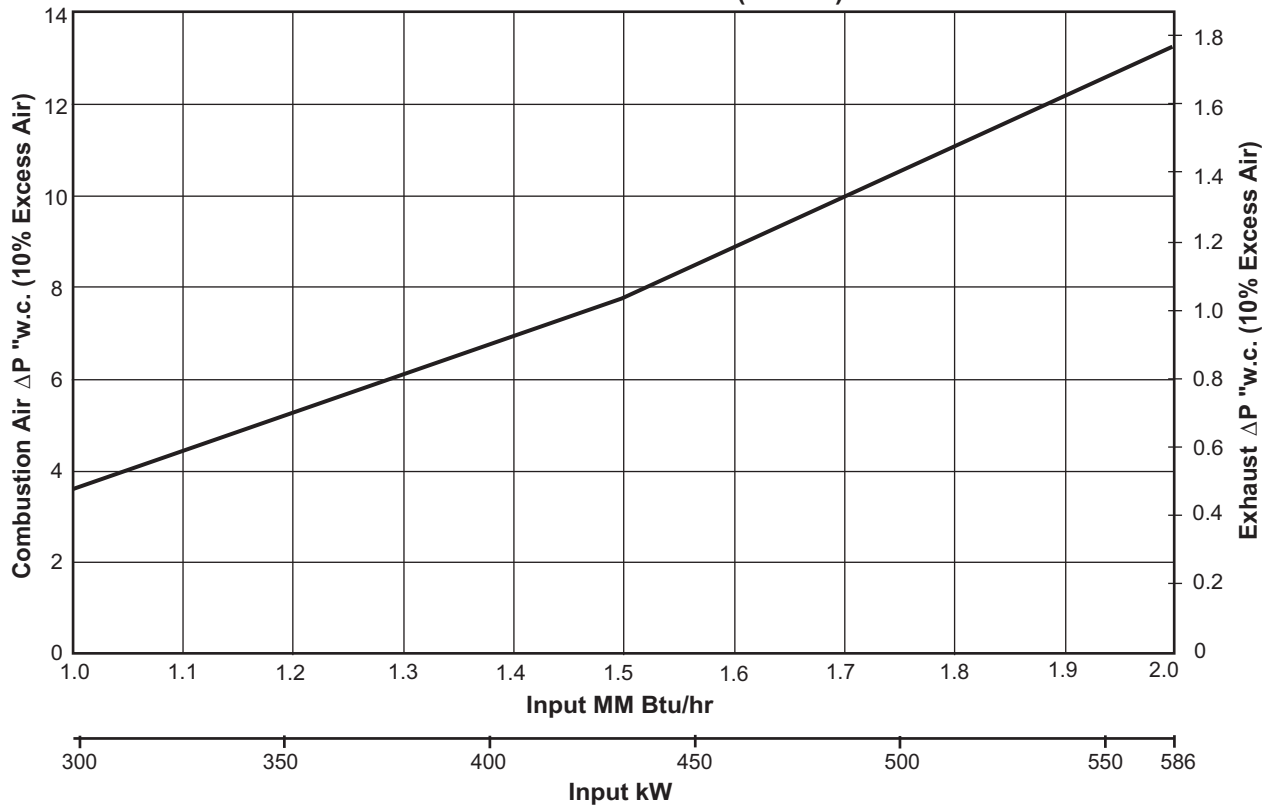
| Furnace Exhaust<br>Temperature °F (°C) | Preheated Air Temperature, °F (°C) |           |           |            |            |
|--|------------------------------------|-----------|-----------|------------|------------|
|  | 700 (370)                          | 800 (425) | 900 (480) | 1000 (540) | 1100 (590) |
| 2400 (1315)                            | 29%                                | 32%       | 35%       | 38%        | 41%        |
| 2200 (1200)                            | 26%                                | 29%       | 31%       | 34%        | 36%        |
| 2000 (1090)                            | 23%                                | 26%       | 28%       | 31%        | 33%        |
| 1800 (980)                             | 21%                                | 23%       | 26%       | 28%        | 31%        |
| 1600 (870)                             | 19%                                | 22%       | 24%       | 26%        | 28%        |
| 1400 (760)                             | 18%                                | 20%       | 22%       | 24%        | 26%        |
| 1200 (650)                             | 17%                                | 19%       | 21%       | 23%        | 25%        |
| 1000 (540)                             | 15%                                | 18%       | 20%       | -          | -          |

# Specifications

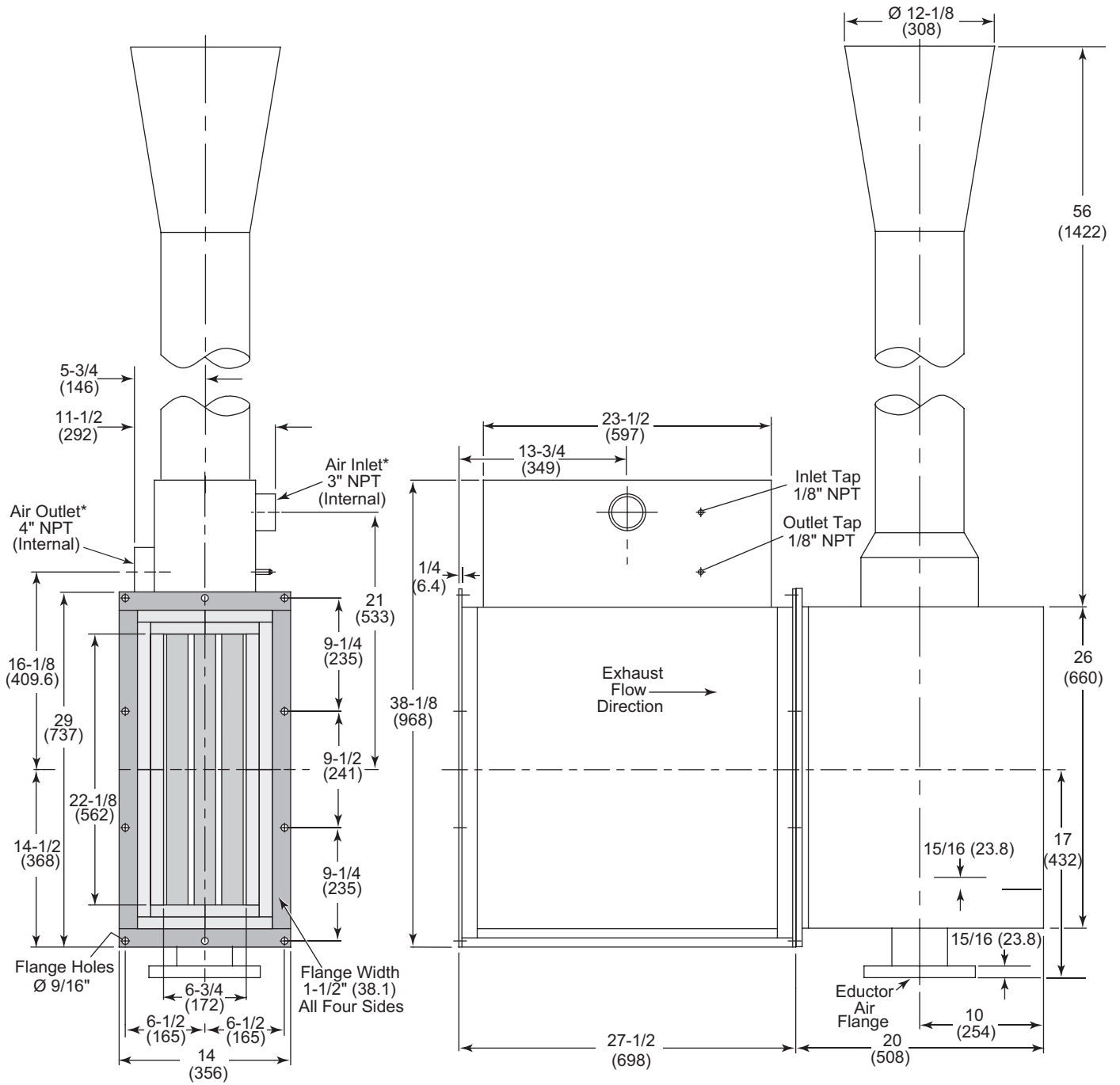
**21 Tube Cross Flow Preheated Air Temperature**



**ΔP 21 Tube Cross Flow with 1900°F (1040°C) Exhaust**



**Dimensions in inches (mm)**



\* NOTE: The air inlet and outlet can be relocated to the opposite side by reversing the CrossFlow recuperator. This will not affect the recuperator performance.

