

ECLIPSE PRIMEFIRE 400 BURNERS

Gas pre-heating increases luminosity and heat transfer while significantly lowering NO_x formation.

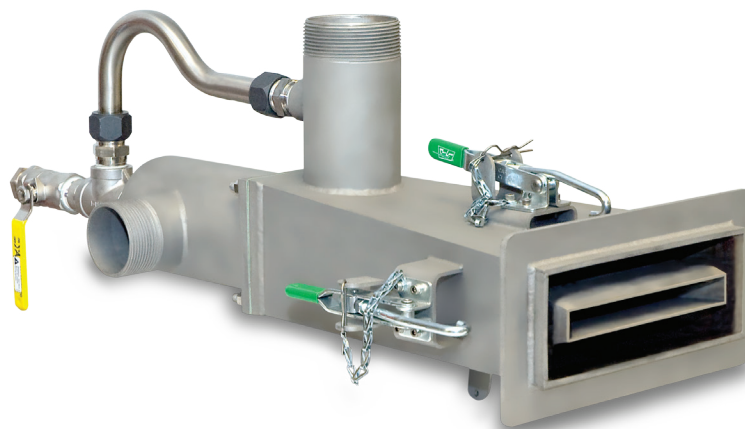
The Primefire 400 burner represents an evolution in the Eclipse burner design. Built upon our industry proven Oxy-Fuel Flat Flame Burner, the Primefire 400 is designed to significantly reduce NO_x emissions over comparable burners, while fitting into existing control schemes.

Higher Flame Luminosity

The Primefire 400 burner achieves these improved results by using a form of gas pre-heating. By injecting a small amount of oxygen into the gas stream prior to the main combustion process, the gas will actually begin to “crack”, releasing greater amounts of carbon. This carbon, which is consumed in the main combustion process, increases the luminosity of the flame. Since luminosity has a tremendous impact on heat transfer, the burner considerably improves heat transfer and fuel efficiency.

Lower Thermal NO_x

While luminosity and heat transfer are enhanced in the Primefire 400, NO_x production decreases. This is due to the effect the carbon has on the flame temperature. Since the gas is being cracked out in two



distinct areas of combustion, the overall flame temperature decreases. This noticeably reduces thermal NO_x.

Luminosity increases by 20 to 30 percent over comparable flat flame burners, while NO_x decreases by up to 18 percent. Flame geometry and flame length are also comparable with existing flat flame burners, so no changes in furnace design are needed to use the Primefire 400.

The Primefire 400 comes in four sizes with maximum capacities of 2MM, 4MM, 10MM and 20MM Btu/hr. All models are capable of 4:1 turndown and can be fired using natural gas or fuel oil.

