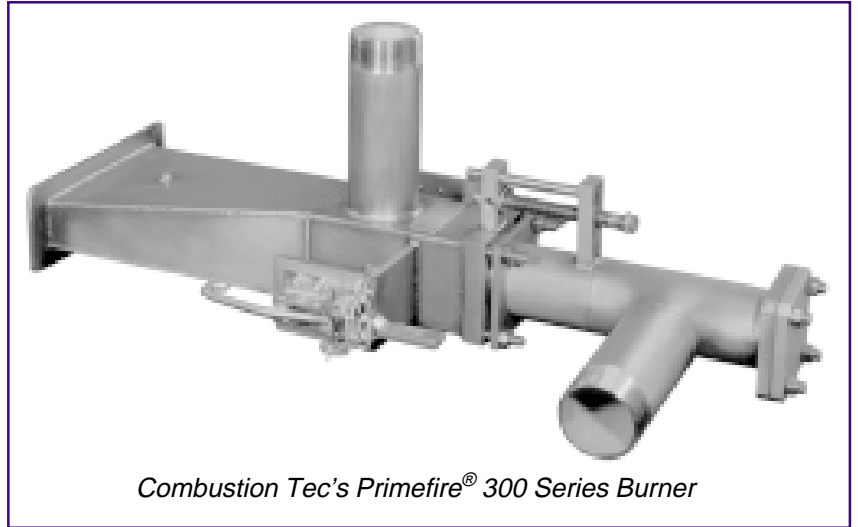

Primefire® 300 Series Burners

Oxygen-Fuel Fired Combustion Systems

The Primefire® 300 Series burner is a quantum leap in flame luminosity and glass bath coverage—providing:

- greater flexibility
- dual fuel capacity
- increased melter efficiency
- improved refractory life
- reduced melting cost!



- **Fish-Tail or Fan-Shaped Flame:** Apart from providing increased load coverage, the Primefire® 300 burner provides uniform heat distribution that improves product quality, throughput, and extends furnace refractory life.
- **Increased Flame Radiation:** In the visible light spectrum (500 to 2000 nanometers range), the Primefire® 300 burner will improve radiative heat transmission for the glass melting application and improve furnace efficiency.
- **Adjustable Flame Shape:** An adjusting mechanism on the burner allows you to change the flame shape (overall length and width) to suit the melter width and the required temperature profile.
- **Extremely Low Mixing Rates of Oxygen and Fuel Streams:** The Primefire® 300 burner creates a low momentum flame which has a lower peak flame temperature. This should result in lower operating crown temperatures and lower volatile transport rates.
- **Multi-Fuel Capability:** The same burner can fire natural gas or light/heavy fuel oil.



Primefire[®] 300 Series Burners

Oxygen-Fuel Fired Combustion Systems

The adjustable Primefire[®] 300 (Fish-Tail) burner is available in four capacity ranges:

- 0.25 to 1.00 MM Btu/Hr
- 0.75 to 3.00 MM Btu/Hr
- 2.00 to 8.00 MM Btu/Hr
- 5.00 to 20.00 MM Btu/Hr

As shown in Figure 1, the Primefire[®] 300 Fish-Tail burner spreads the flame significantly over the melting surface. The adjustable control on the burner allows variation in flame coverage to suit melter size and temperature profile. This would result in better temperature uniformity, reduced peak flame temperatures, and elimination of hot spots.

Radiation Measurements

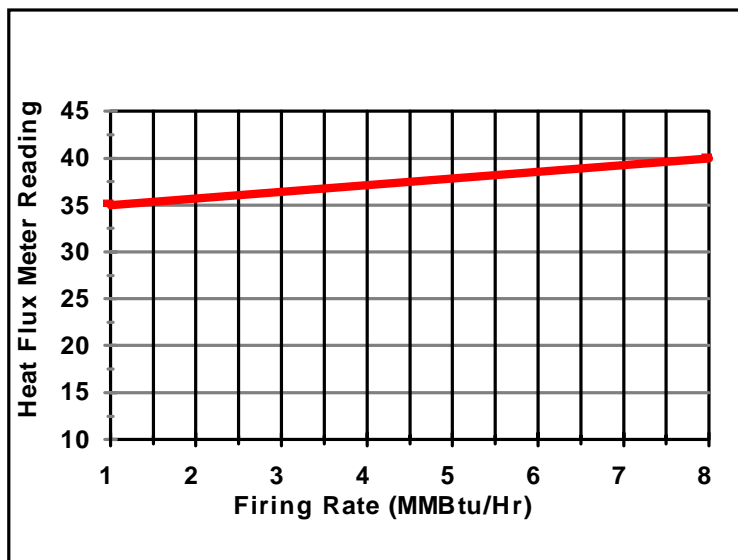


Figure 2. Measured Heat Flux Reading from the Adjustable Oxygen-Fuel Fish Tail Burner

Flame Coverage

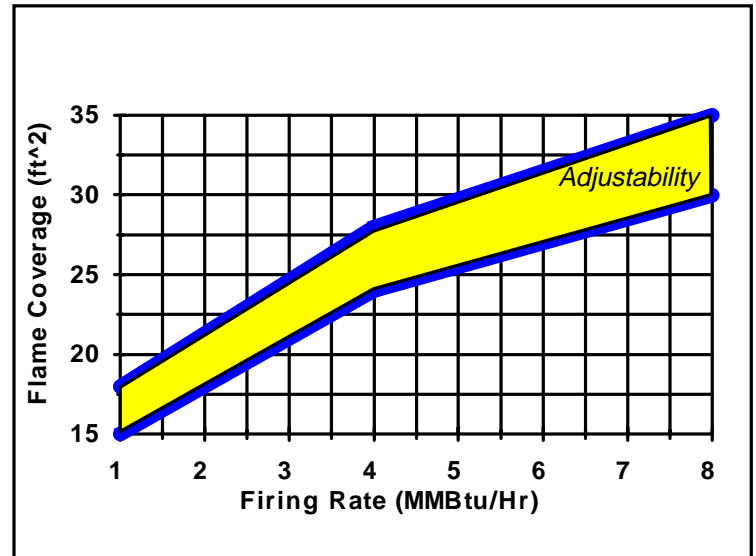


Figure 1. Flame Coverage of the Adjustable Oxygen-Fuel Fish-Tail Burner

As shown in Figure 2, most of the radiative heat flux gain is from increased visible wavelength radiation—which would be beneficial in improved transmittance through the glass and the reduction of scum and foam.

For Further Information on Primefire[®] 300 Oxygen-Fuel Burners, Contact:

COMBUSTION TEC



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