

# Eclipse PrimeFire 400 Series

## Burners

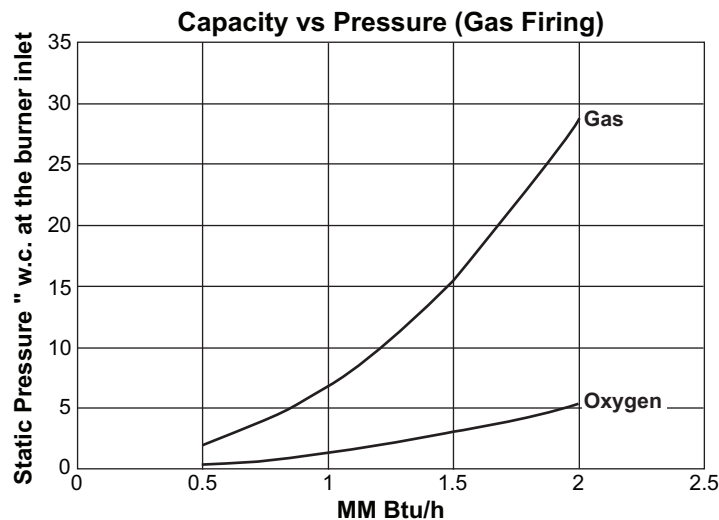
### Oxygen-Fuel Fired Combustion Systems

#### Model 02

The Eclipse Primefire 400 Series oxygen-fuel burner is an advanced, non-water cooled burner featuring a flat flame geometry which provides enhanced flame coverage over the load. This flat flame shape also provides uniform heat distribution resulting in improved product quality and extended furnace refractory life.

The Primefire Series 400 oxygen-fuel burner incorporates a pre-combustor at the back of the burner which mixes a portion of the combustion oxygen with the fuel stream. This causes gas cracking which produces soot or free carbon particles. These free carbon particles increase luminosity and improve the radiant heat transfer to the glass load. Overall furnace efficiency is improved, peak flame temperatures are reduced and NOx formation is lowered.

Primefire Series 400 oxygen-fuel burners are available 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.

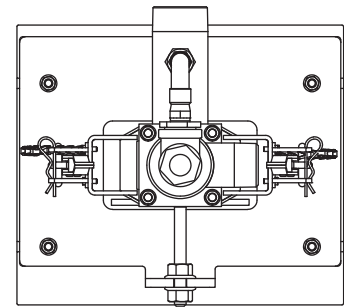
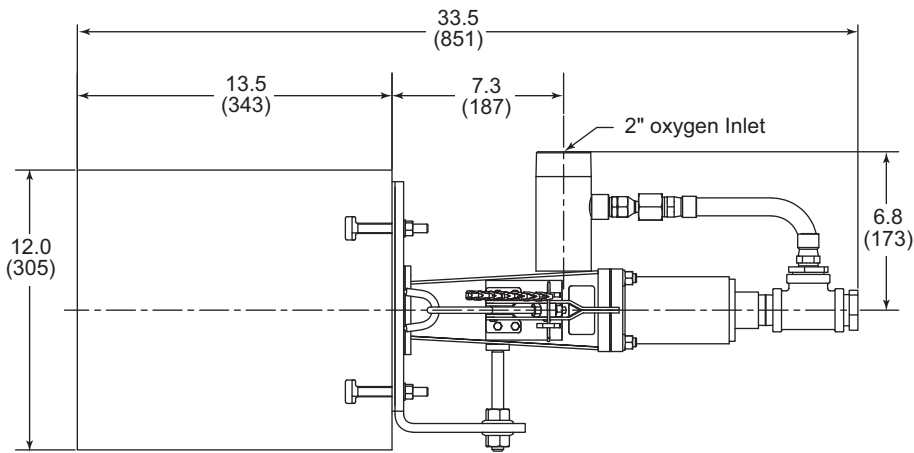
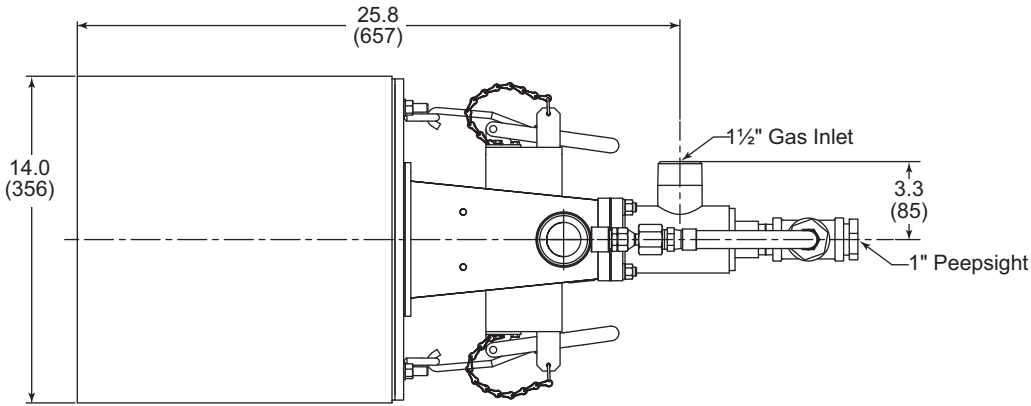


Capacity		Velocity		Flame Length		Flame Width	
Btu/h	kW	FPS	MPS	Feet	Meters	Feet	Meters
2,000,000	586	51	15.5	5.5	1.7	2.60	0.80
1,500,000	440	38	11.6	5.0	1.5	2.47	0.75
1,000,000	293	25	7.6	4.0	1.2	2.33	0.71
500,000	146	13	3.9	3.7	1.1	2.20	0.67

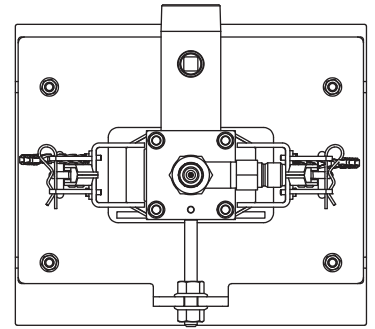
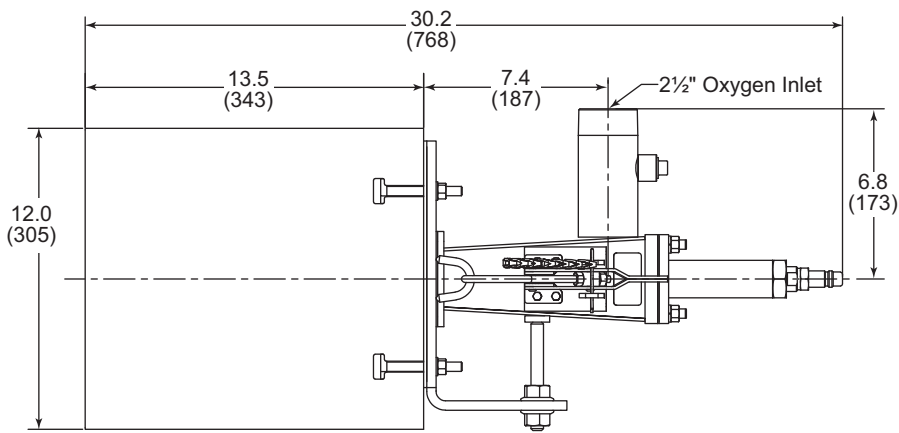
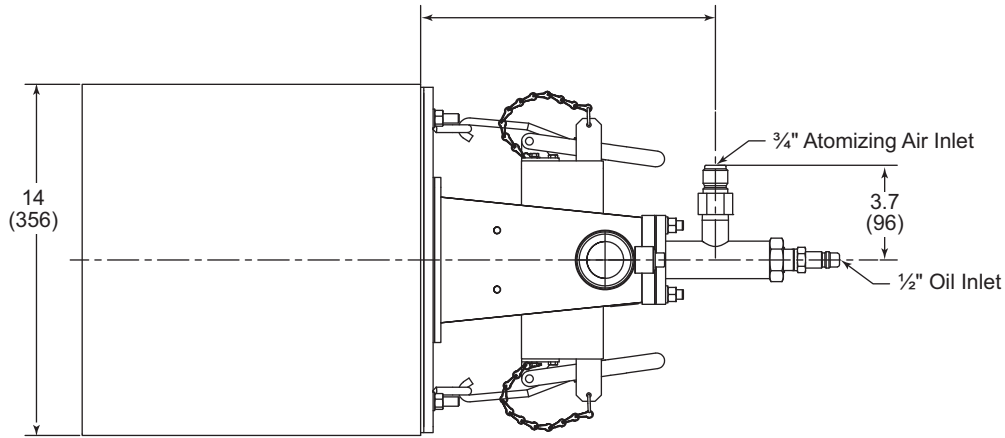
Burner weight less block: 29 lbs (13 kg)

**Dimensions**  
Dimensions in mm (inches)

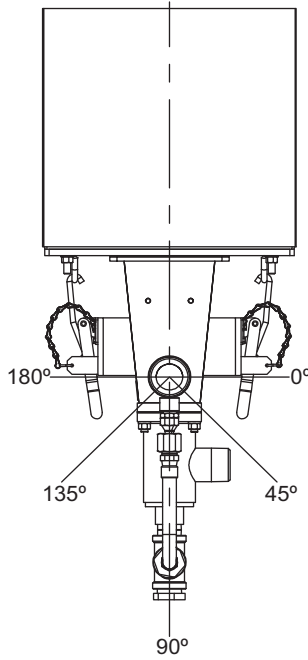
PrimeFire 400 2MM Gas



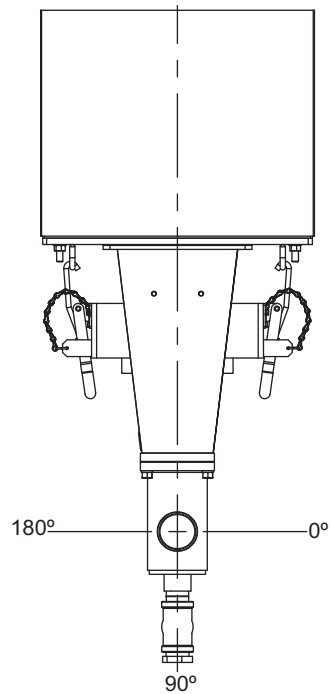
# PrimeFire 400 2MM Oil



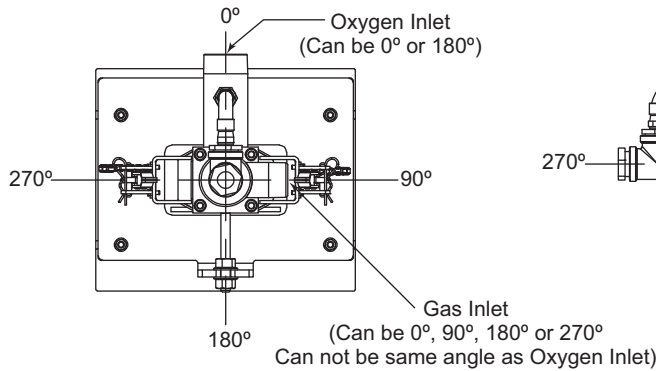
## Inlet Options PrimeFire 400 2MM



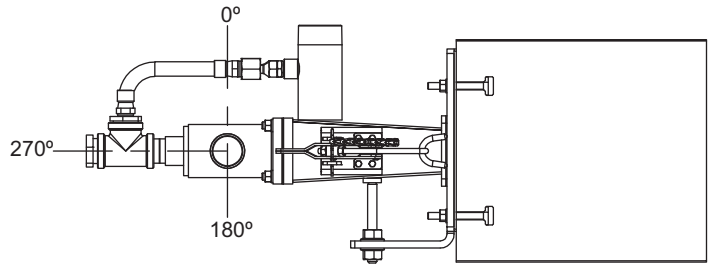
Oxygen Elbow Orientation







Gas Elbow Orientation  
(Can be at 0°, 90° or 180° When  
Gas Inlet is at 0° or 180°)



Gas Inlet  
(Can be 0°, 90°, 180° or 270°  
Can not be same angle as Oxygen Inlet)



Gas Elbow Orientation  
(Can be at 0°, 180° or 270° When  
Gas Inlet is at 90° or 270°)

Oxygen Quick Disconnect Options			
2 Inch	1½ Inch	2 Inch	1½ Inch
Gas Quick Disconnect Options			
1½ Inch	1 Inch	1½ Inch	1 Inch
			

### Specifications

**Lighting the Pre-Combustor in a furnace above the auto-ignition point:** Open oxygen first, open gas fully, burner is now lit. Slowly reduce gas until the pre-combustor makes a “pop” sound. Fully open the gas valve again. Check peepsight for blue swirl in pre-combustor.

**Maintenance:** Every four days or as necessary, shut off gas for 15 to 20 seconds while leaving the oxygen on, then relight the pre-combustor. The oxygen will clean off the carbon deposits on the gas nozzle.

**Material Specification:** 304 stainless steel for oxygen nozzle and 600 inconel for gas nozzle.