

PyreTron™ Ladle Heating System

The PyreTron™ Combustion System is designed to heat ladle homogenously via a long flame using both oxygen and air

Highlights of the PyreTron™ Combustion System

- 🔥 Safe and Reliable Operation
- 🔥 Over 180 references world wide
- 🔥 Air/Oxy design
- 🔥 10%-95% O₂ Participation
- 🔥 Heating/Drying/Curing
- 🔥 High speed jet fuel stream
- 🔥 From 1.5 to 5 MW nominal power
- 🔥 Built-in UV detection and pilot burner
- 🔥 Fuel gas/oil capabilities
- 🔥 Staged burner design
- 🔥 Adjustable flame length and flame temperature
- 🔥 Air-cooled refractory combustor
- 🔥 For vertical or horizontal mount

Benefits of the PyreTron™ Technology for Customers

- 🔥 Fuel Savings
- 🔥 Cost Optimization based on NG and O₂ Costs
- 🔥 Fast Heating Rate
- 🔥 Accurate Temperature Control
- 🔥 Increased Operational Flexibility

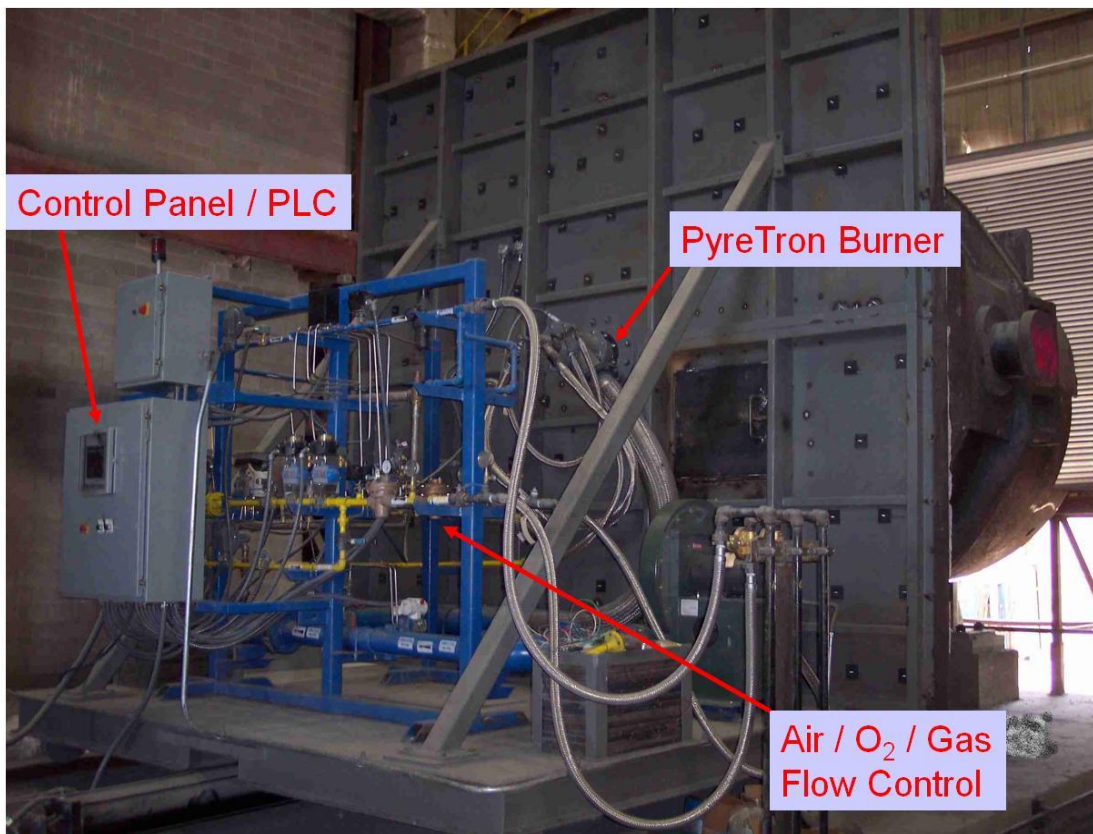
PyreTron™ Ladle Heating System

Gas Control Valve Trains

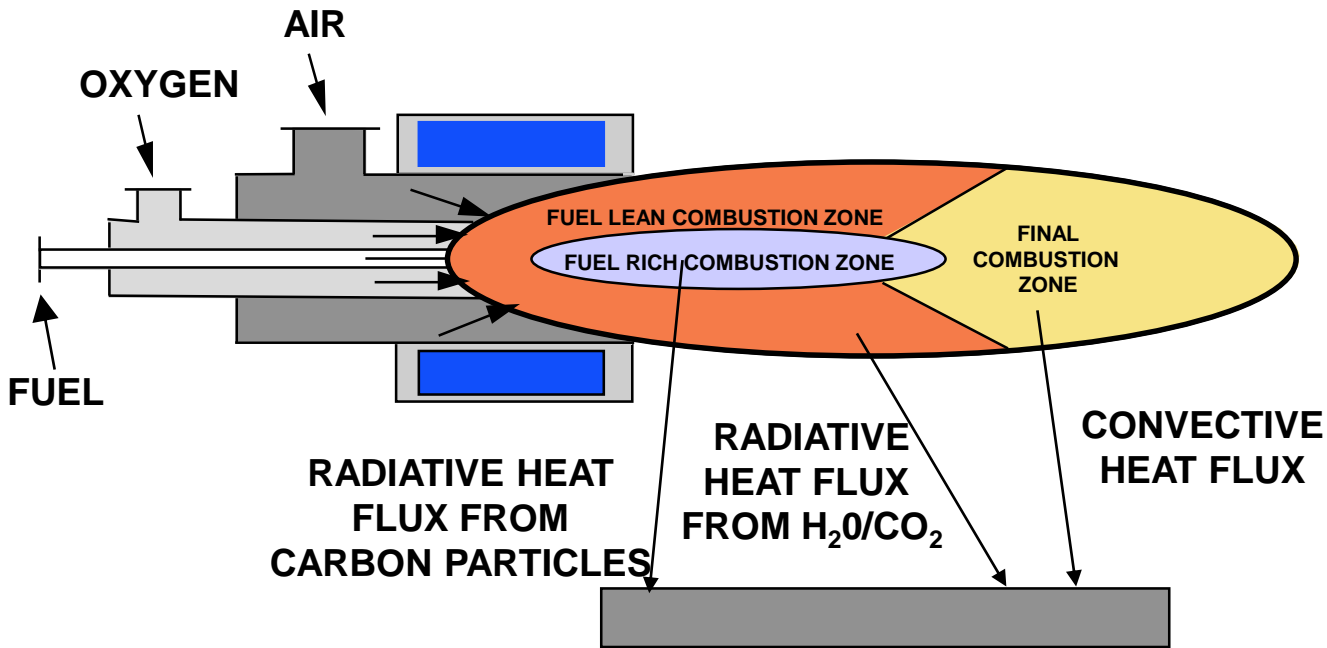
- 🔥 O₂ valves trains are specifically designed for safe operation
- 🔥 Fuel valve trains can be designed for a variety of fuel types
- 🔥 Includes combustion air spool and blower

PLC Programming and HMI

- 🔥 Provides control logic to continuously optimize flame characteristics to quickly bring ladle to temperature
- 🔥 PLC options: Allen-Bradley, Siemens, Square D, GE, Modicon, Mitsubishi
- 🔥 HMI options: Allen-Bradley, Siemens, Mitsubishi, Automation Direct



Benefits of PyreTron™ Ladle Heaters



Fuel Savings

- 🔥 Up to 60% fuel savings compared to air burners
- 🔥 Decreased heat loss through the flue gases
- 🔥 Fuel savings through increased heat transfer efficiency
- 🔥 Decreased amount of excess air in the ladle
- 🔥 Less energy required during heating and soaking compared to air burners

Cost Optimization

- 🔥 Air/Oxy design allows for flexible operation according to fuel and O₂ costs
- 🔥 Adjustable flame temperature
- 🔥 Improved ladle refractory life
- 🔥 Short payback period of __ months

Benefits of PyreTron™ Ladle Heaters

Increased Operational Flexibility

- 🔥 Based on PLC control and temperature feedback from thermocouples
- 🔥 Custom heating profile for accurate control of all aspects of Ladle Heating
- 🔥 Air cooled burner, lowering maintenance requirements and increasing operational reliability

Fast Heating Rate and Accurate Temperature Control

- 🔥 Up to 50% increase in heating rate of ladles compared to air burners
- 🔥 Up to 30% reduction in heating time compared to air burners
- 🔥 Allows higher operating temperatures without large increase in energy use
- 🔥 Enables heating to higher face temperature when needed
- 🔥 Longer heat retention of steel inside ladle, reducing heat requirements for the downstream processes

