

## e-TRIM

**Burner Management System** 

# Air/Fuel Ratio Monitoring System

Managing Excess Air - What's right for your application?

 $CH_4 + 40_2 ---> CO_2 + 2H_2O + 2O_2$ 



3.5" Color Touch-Screen Display
Data Logging to Flash Memory
Burner "Out of Tune" Alarm
ETHERNET
Multi-Sensor Inputs

Digital Input for High-Fire Notification

Burner Status Indication available remotely via Web-Browser

Burner "Not Lit" Alarm

Checking and tuning air/fuel ratios is one of the simplest ways to get maximum efficiency out of fossil fuel fired process heat equipment.



Increased burner efficiency
Faster ramp to heat
Less fuel per load
Greater throughput
Reduce NOx & CO<sub>2</sub>
Increased radiant-tube life

According to DOE studies - optimizing combustion air can deliver 35% fuel savings

SSi

Super Systems incorporated

### e-TRIM

### engineered for air/fuel ratio monitoring

#### Excess air dilutes combustion

Lowers flame temperature

Less heat for the load

More wasted heat in the exhaust gasses

Increases NOx

#### Optimum excess air for energy efficiency and pollution prevention:

10% excess air - yields 2% excess  $O_2$  in combustion gasses

#### Excess gas

Sooting in radiant tubes

Lower flame temperature

Unburned fuel

Dangerous gas emissions (higher CO) Flue Gas

#### Other benefits

Process repeatability

Maximum throughput

Ensure temperature uniformity

Longer radiant tube life



## Oxygen Verification Continuous Mesh Belt Furnace



Low Level Oxygen Detection Modular Design Alarm Contact





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