e-TRIM
Burner Management System

Air/Fuel Ratio Monitoring System

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

\[ \text{CH}_4 + 4\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O} + 2\text{O}_2 \]

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.

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

Increased burner efficiency
Faster ramp to heat
Less fuel per load
Greater throughput
Reduce NOx & CO\text{2}
Increased radiant-tube life

SuperSystems incorporated
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 O₂ in combustion gasses

Excess gas
- Sooting in radiant tubes
- Lower flame temperature
- Unburned fuel
- Dangerous gas emissions (higher CO)

Other benefits
- Process repeatability
- Maximum throughput
- Ensure temperature uniformity
- Longer radiant tube life

Oxygen Verification
Continuous Mesh Belt Furnace

Belt Return Oxygen Verification
Low Level Oxygen Detection
Modular Design
Alarm Contact