BURNERS:
FLAME SHAPES/TYPES
Combustion is liberation of energy from fuel to create usable heat.
Maxon OXY-THERM® LE
Maxon OXY-THERM® LE - FF
Maxon XPO® Low NOx Burner

XPO Burner
Operation Range
Sub 10ppm NOx at 4.5 - 5.2% O2
Sub 20ppm NOx at 3 - 4 % O2
In-Duct, Incineration, and Conductive (Flat Flame)
Fired Tube Burner
This is What We Don’t Want!
Combustion Safeguard and Good Control
Sizing Fuel Trains & Control Valves

\[ d = \sqrt{\frac{Q_A \times 4}{60 \text{ft/s} \times 3600 \text{ s/hr} \times \pi}} \times 12''/\text{ft} \]

\[ Q_A = Q_{stp} \times \frac{460 + T_2}{460 + T_1} \times \frac{14.7 + P_1}{14.7 + P_2} \]
OVENPAK® LE

LAR Training
1. Air control valve
2. High precision connecting linkcage
3. Fuel control valve
4. Access cover to turning screw
5. Viewing window
Burner Operating Pressures

OVENPAK® LE
Pressure Adjustments

Differential Fuel Pressure (" wc)

Differential Air Pressure (" wc)

EB Burners
Packaged Burners
Where used?

- **Emission requirements**
  - Less than 50ppm NOx
  - Less than 200ppm CO

- **High turndown requirements**
  - 50 to 1 thermal turndown on packaged burners
  - 100 to 1 thermal turndown on EB burners
  - 10 to 1 emission turndown on all burners

- **Capacities up to 6.5 MM Btu/hr**

- **Where standard OVENPAKS can’t meet emissions**

- **Where Ultra Low Emissions burners exceed emission requirements, are too expensive, or have insufficient turndown**

- **ANY NEW APPLICATION**