VARIFLAME™
Low-NOx, High-Efficiency Burner for Package Boilers

The Industry Leader in Proven NOx Reduction.
- Reduces NOx, CO, VOC and particulate emissions
- Predictable and reliable combustion performance
- High turndown for maximum operating flexibility
- Stable flame with a wide range of excess air operation
- Simultaneous gas and oil firing capability
- For gas- or oil-fired boilers with heat inputs from 30 to 400 MMBtu/hr burner
- Advanced air-fuel staging and FGR for cost-efficient low-NOx performance
- Advanced oil tip design with lowest atomizing steam usage of any burner
- Quick ramp rate provides a rapid response to load swings

The VARIFLAME burner delivers high-efficiency performance in gas-fired package boilers with NOx emissions as low as 20 ppm at 3 percent O₂. With thousands of installations to its credit, the VARIFLAME burner uses advanced air-fuel staging techniques and can operate with or without FGR – setting a whole new standard for innovation that’s as simple as it is smart.

Clean Combustion Made Simple.
With no moving parts to adjust, the VARIFLAME burner is simplified in design but rugged in performance, even in the toughest applications.
- Venturi Register: turbulence-free axial airflow, venturi shape minimizes pressure loss through the burner and maximizes velocity.
- Swirler: produces stable flames and enables thorough mixing
- Throat: precisely matched with the register and swirler design to provide an aerodynamically stabilized flame
- Gas burner: unique injector orientation provides fuel staging within the flame envelope, reducing thermal NOx formation
- Oil burner: advanced sprayer plate designs achieve a precisely controlled flame geometry
Package Boiler Applications with Burner Heat Inputs up to 150 MMBtu/hr.

- Features breakthrough NOx-reduction techniques
- Low CO, VOC & particulate emissions
- Superior flame stability over existing zero-FGR designs
- Shorter flame length than burner with FGR
- Wide turndowns
- No moving parts
- Eliminates external FGR ductwork
- Sub-30 ppm NOx on natural gas – without FGR or steam injection

COOL Combustion, Dynamic Performance.

The VARIFLAME II burner features our breakthrough COOLflame™ NOx-reduction techniques that join forces with the advanced burner design for remarkably clean, remarkably efficient combustion. COOLflame stages gas injection into the furnace, mixing a portion of the fuel with large quantities of high-temperature furnace gases prior to combustion.

The Next Generation of Low-NOx Burners – Today.

- Venturi Register: turbulence-free axial airflow, venturi shape minimizes pressure loss through the burner and maximizes velocity.
- Swirler: a proven component for providing the rotational vortex necessary for stable flames and thorough mixing. The swirler creates a tightly controlled primary combustion zone with a fixed ignition point, ensuring reliable operation regardless of firing rate.

Coen Company has the highest quality, most advanced and dependable burner systems in the world. Coen’s ultra low-NOx technologies offer significant financial and performance benefits compared to other burner or post combustion systems.

For more information, talk to your Coen Representative about designing a dependable, integrated system to your company’s specifications using the VARIFLAME Burner or any of Coen’s other outstanding products.