

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

Rugged. Reliable. Remarkable.

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



VARIFLAME II™

Dramatic NOx Reduction with Zero FGR



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.