

QLN® Burner

For Steam Flood Generators
in the Canadian Oil Sands

Ultra-Low NO_x, Now With No FGR Required

Today's steam flood generators for enhanced oil recovery face many economical and operational challenges to meet increasingly lower emissions standards. But Coen brand burners from John Zink Hamworthy Combustion deliver ultra-low emission performance with efficient, reliable operation. In fact, our proven QLN burner technology now delivers ultra-low NO_x emissions without the use of flue gas recirculation (FGR), which can translate into thousands of dollars of reduced capital and operational costs for oil production operations.

Simplicity and Versatility

The easy operation and maintenance of the QLN burner is ideal for steam flood generators that are often required to operate unattended for extended periods of time. In addition, QLN burner packages are available in a variety of configurations for operations: without FGR, and also using induced FGR or forced FGR coming from a dedicated FGR fan for even lower NO_x. Our experts can help determine the optimal solution depending upon the target level of NO_x and the sulfur content in the fuel. QLN burner packages can also be designed up-front to meet current regulatory requirements and be Future Regulatory Ready (FRR).

At A Glance

- + Can meet ultra-low NO_x statute of sub 7.9 g/GJ (15 PPM) NO_x without FGR
- + Delivers improved operational efficiency with excess air as low as 5% at full load conditions
- + Installs with integrated bolt-on package for easy retrofits
- + Offers wide operating window for reliable operation performance
- + Provides even heat distribution within the generator furnace
- + Fires variable heating-value fuels such as natural, mixed and produced gas



*Meet 7.9 g/GJ NO_x
Without FGR*

For more than
15 years, our proven
QLN technology has been
the leading choice
for OTSGs in the
Canadian Oil Sands.

Proven Performance For Canadian OTSG

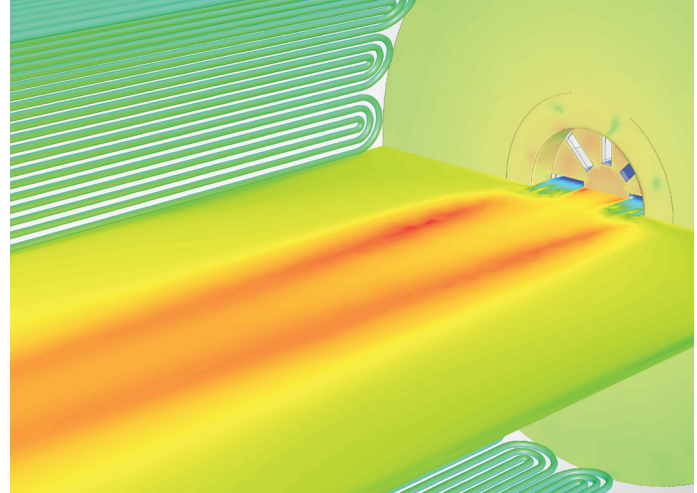
Designed for simple and reliable operation, our burners have proven efficient and effective in more than 400 OTSG unit installations. We can design systems to meet various guidelines, codes and emissions requirements, offering single-burner capacities to 420 MMBtu/hr.



OTSG UNIT WITH QLN BURNER

Optimized Combustion Through CFD

Using state-of-the-art computational fluid dynamics (CFD) modeling techniques, we can maximize your facility's operating performance and achieve your emission requirements. With CFD analysis, we can predict and improve air distribution, flame characteristics and pollutant formation for optimal combustion.



CFD ANALYSIS OF A QLN BURNER

Additional Solutions and Support

We know a burner may not solve all your challenges. That's why we offer a comprehensive line of burner packages, safety systems and auxiliary products – the most advanced and dependable available. From cost-effective predesigned control systems with operator interface and custom-engineered burner management control systems to ancillary components including burner ignition systems, burner flame detection systems, fuel valve trains and more, our proven solutions work hand-in-hand with your combustion equipment. You can also rely on our experience and expertise through worldwide support services including:

- + CFD modeling
- + Installation
- + Startup service
- + Operator training
- + Preventive maintenance
- + Complete turnkey service
- + After sales support



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