

What do you call a technology  
so intelligent it can  
reduce NOx from any burner?...

**COOL**

Very Cool.

## > Think Solutions

TODD Combustion™ has redefined ultimate emissions reduction with a remarkable new solution – **COOL Technologies™**.

**COOL Technologies** is a patent-pending process applied like "building blocks" to attain the lowest possible NOx while improving gas and oil burner performance. Used in concert, **COOLfuel**, **COOLflow** and **COOLburn** can lower NOx by more than 90%.

Available as a retrofit to any manufacturer's fired equipment or as an integral part of a new TODD Combustion system, **COOL Technologies** can help you meet the toughest emissions requirements.

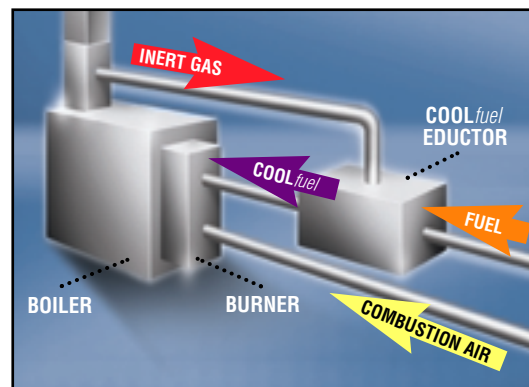


## > COOLfuel™

Ideal for reducing emissions from any existing or new gas fired burner with the addition of our patented external gas conditioning system. **COOLfuel** uses available inert gases to lower peak flame temperatures, lower available oxygen concentration and minimize reaction times, reducing both thermal and prompt NOx formation.

Inert gas is induced via existing fuel pressure into the **COOLfuel** eductor to dilute and cool the flame, thereby reducing emissions. Additional NOx reduction can be achieved by injecting steam into the eductor to further dilute the fuel and induce larger amounts of inert gas.

Because inert gas is induced through the eductor, **COOLfuel** does not require additional horsepower, moving parts, added controls or motors, which means less maintenance and lower operating costs. **COOLfuel** requires significantly less inert gas to achieve the same level of NOx emissions than standard flue gas recirculation (FGR) systems, saving money and improving boiler operation.





## **COOLflow™**

Maximize boiler efficiency, while minimizing emissions, by optimizing your combustion air systems. Airflow to and around burners must be carefully balanced to ensure combustion systems operate at peak efficiencies. **COOLflow** determines existing airflow patterns within the combustion air system, corrects distribution, eliminates unwanted swirl and improves flame stability. **COOLflow** can also assist in the design of staged combustion air systems, such as over fire air or FGR, to maximize emissions reduction while reducing system pressure drop and horsepower requirements.

Whether on single or multi-burner installations, **COOLflow** can improve airflow distribution, including FGR, reduce vibration, increase capacity, lower NOx and other emissions, lower O<sub>2</sub> and increase efficiency. These are the key advantages to introducing **COOLflow** into your total **COOL Technologies** solution.



## **COOLburn™**

**COOLburn** gas and oil staging techniques are incorporated in custom-engineered kits that are used to modify existing fired equipment for maximum NOx reduction. Our patented designs stabilize burner flames to emulate the stability and performance of a new TODD™ burner on your existing burner system. This technology has been developed to allow easy equipment retrofit. For maximum emissions reduction, a complete, new VARIFLAME, DYNASWIRL or RMB burner can be supplied, incorporating **COOLfuel** as an integral part of the burner system design.

The superior performance offered by **COOLburn's** proven staging techniques makes it a key component in the emissions reduction solution for both new and retrofit applications.



## **Think Innovation**

**COOL Technologies** delivers all of the advantages you'd expect from TODD Combustion.

- Best Fit for New and Existing Units
- Reduced Maintenance
- Reduced Impact on System
- Minimized Downtime
- Economical Emissions Solution
- Lower Operating Cost

To learn more about **COOL Technologies**, call our **COOLteam** today at (203) 925-0380 or e-mail us at [cooltech@kochind.com](mailto:cooltech@kochind.com)





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