



# COOLstar™ Burner



## The Industry's Most Compact Ultra Low-NOx Gas Burner

John Zink Company, the world leader in advanced clean-air solutions and technologies, introduces its COOLstar burner, the industry's most compact, ultra low-NOx burner.

The patent-pending COOLstar burner employs a new proprietary flue-gas entrainment and mixing strategy using the potential energy of incoming fuel and air streams. The result? Stable, compact flames with single-digit NOx.

The engineers at Zink® developed the COOLstar burner from the customer's point of view with a focus on safety, ease of operation and optimum performance. Its compact design fits the furnace cutouts of conventional burners with little to no modifications. The COOLstar burner requires minimal maintenance and operates with a range of fuels, setting a new standard for economical, ultra low-NOx combustion.

.....➤ To learn more about the COOLstar burner, call the clean combustion experts at John Zink Company.

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JZ Burner	Predicted NOx (ppm)	Heater Cutout (in.)	Title O.D. (in.)
PVYD-17RM	163	18.5	24.5
PSFG-16RM	50	18.5	24.25
PQMR-17RM	15	31.5	30.5
COOLstar-315	8	15.5	24.25

- Predicted NOx: single burner test furnace for comparison basis
- Fuel: 50% natural gas; 25% propane; 25% hydrogen
- Furnace temperature: 1,600 °F
- Draft: 0.3 in.
- Heat release: 8 MM Btu/hr

## COOLstar Burner Features

- **Ultra low-NOx**
  - Reduces emissions by as much as 90%
  - Delivers single digit (ppm) NOx in some refinery conditions
- **Compact size**
  - Installs into existing burner opening
  - Innovative axial damper reduces space required around burner plenum
- **Ease of operation**
  - Provides stable cold-furnace start-up
  - Features single fuel gas connection
  - Features single air control
- **Low maintenance**
  - Eliminates metal flame holder
  - Fewer tips and larger orifices than other burners in its class
  - Tips positioned in furnace floor for protection from heat
- **Short, stable flame**
  - Exhibits short visible flame (as low as 1.5 ft/MM Btu)
- **Wide-range of fuels**
  - Natural gas through refinery fuel containing H<sub>2</sub> and other components
- **High turndown**
  - 4:1 and higher turndown

The COOLstar™ burner has patent pending in the USA.



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