

# TriOx

Triple Air Staged Ultra Low NOx Burner

TriOx-1  
Edition 02-12



- Ultra low NOx emissions of 20 ppm or less with patented Invisiflame® technology
- Models available for standard firing mode, the ability to switch between standard and Invisiflame® firing modes, and Invisiflame® only firing mode
- Designed for low excess air operation (5%) for maximum fuel efficiency
- Ambient or preheated air versions available
- Direct spark or pilot ignition
- Reduced metal loss in aluminum and steel applications
- Low CO emissions including on cold start





Hauck's TriOx burner is ideally suited for aluminum furnaces, steel reheat furnaces, thermal fluid heaters, and other high temperature heat processes requiring ultra low NOx emissions. The burner's three-staged air injection maximizes production efficiency while minimizing NOx and CO emissions. The unique air-staged design of the TriOx burner also has the proven benefit of scale or dross reduction in aluminum and steel applications. Low excess air operation (5%) results in outstanding fuel efficiency. The TriOx fires any clean industrial fuel gas with a higher heating value of 500 Btu per cubic foot (19.7 MJ/nm<sup>3</sup>) or greater with ambient or preheated combustion air.

The TriOx burner is ideally suited for industrial heat processes in excess of 1600°F (870°C) requiring ultra low NOx emissions of 20 ppm or less. The burner's 13.9" w.c. (35 mbar) air pressure design makes it well-suited for preheated air applications.

Capacities range from 4.2 to more than 27 MM Btu/hr (1230 to 7910 kW). Nominal burner air supply pressure is 13.9" w.c. (35 mbar). Nominal gas supply pressure required is 20" w.c. (50 mbar) or less. Consult Hauck for mounting options and field installation recommendations.

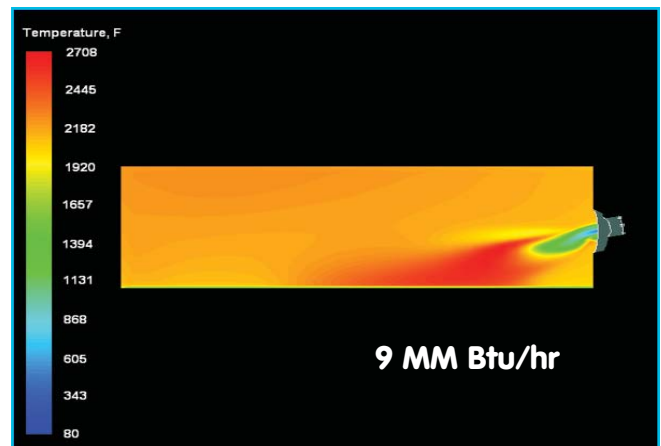
In addition to its operating efficiency, the TriOx offers excellent flame safety. When operating in the Invisiflame<sup>®</sup> mode, the 1000 and 2000 series burners still produce a visible, scannable flame.

For applications where continuous high temperature operation is required, TriOx models are available that operate in Invisiflame<sup>®</sup> mode only, without the need for flame safety or ignition sources.

The TriOx features a single air connection and a single low pressure gas connection.

The burner design and performance characteristics were optimized using FLUENT<sup>®</sup> computational fluid dynamics (CFD) software.

**CFD Modeling of TriOx Burner Firing at a 10° Angle on Aluminum Bath**



Burner Series	Burner Size					Ignition			Air Temperature		Operating Mode			Flame Supervision			
	6" Air Inlet	8" Air Inlet	12" Air Inlet	14" Air Inlet	16" Air Inlet	Direct Spark	IPG Pilot	ZMI Pilot	None	Cold Air	Preheated Air	Firing Mode Only	Switching Valve for Firing and Invisiflame Modes	Invisiflame Mode Only	1/2" UV Scanner Port	3/4" UV Scanner Port	None
TriOx 1000 Series	•	•	•	•	•	•	•	•		•		•	•		•	•	•
TriOx 2000 Series	•	•	•	•	•	•	•	•			•	•	•		•	•	•
TriOx 3000 Series		•	•	•					•	•				•			•
TriOx 4000 Series		•	•	•					•		•			•			•

For additional information on this product, visit our website at:

[www.hauckburner.com](http://www.hauckburner.com)

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