

ADVANTAGE DUCT BURNER

Duct Burners from Forney Corporation provide the latest designs in duct burner technology to meet the complex needs of the combined cycle and cogeneration industry. Forney Duct Burners were used in Power magazine's 2001 Power Plant of the year, Klamath Cogen's Kincaid Station.

The adVantage Duct Burner is our most advanced - state-of-the-art design for today's duct burners.

Our adVantage Duct Burner is the choice for the most demanding conditions of Advanced Gas Turbine applications. When the Turbine Exhaust Gas (TEG) inlet oxygen is low or water vapor is high, no other duct burner performs as well as Forney's adVantage.

Low inlet oxygen and high water vapor levels have typically required duct burners with augmenting air. Forney's adVantage design reduces the need for augmenting air by using an exclusive mixing process that optimizes the existing oxygen in the turbine exhaust.

The outstanding CO and VOC performance of the adVantage duct burner can help offset other plant costs such as downstream emission reduction equipment.

Our adVantage burner is less sensitive to inlet flow distribution - meaning you get low emission performance even with wide TEG flow profiles. The adVantage duct burner also produces a shorter flame length for the same pressure drop as recirculation type burners. Shorter flame lengths require less downstream duct distance and allow a greater residence time to mix with the bulk TEG and improve temperature distribution from the burner.

- **LOW CO AND VOC EMISSIONS** - up to 80% lower than recirculation-type burners - including over turn-down
- **LOW PRESSURE DROP & LOW NOx PERFORMANCE**- low emissions without efficiency loss
- **RELIABLE LIGHT-OFF** - High Energy Spark Ignition (HESI) for consistent performance in low oxygen and high water vapor environments
- **PATENT PENDING** design on mixing technology
- **NO AUGMENTING AIR REQUIRED** with TEG oxygen greater than 10.5% and water vapor as high as 20%
- **INVESTMENT CAST STABILIZERS** - Stainless steel stabilizers allow for long life and consistent performance
- **VORTEX SHEDDING ANALYSIS** - performed on each burner to ensure long life and trouble free operation
- **SHORT FLAME LENGTHS** - allows more mixing time to improve downstream temperature distribution

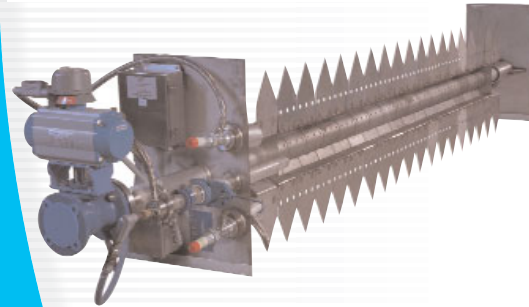


Re-powering your world



DUCT BURNERS

ADVANTAGE





ADVANTAGE DUCT BURNER

SCOPE OF SUPPLY

Horizontal (or vertical) Burner Elements (runners)
 Integral Flow Baffles
 ANSI B31.1 Fuel Skid with Integral PLC-based Burner Management System
 Redundant Scanner Cooling Air Blowers (Skid Mounted)

Optional:

- Distribution Grids
- Pressure Reducing Stations
- Fuel Flow Measurement
- CFD and Physical Flow Modeling

APPLICATIONS

HRSG & Waste Heat Boilers
 Industrial Cogeneration
 Outstanding for Power Augmented GTs - can offset CO catalyst cost directly and SCR cost indirectly through GT water/steam injection
 Low CO retrofits

APPLICATION SPECIFICATIONS

Duct cross sections of 3 to 50 feet
 Heat inputs from 3 to 1200 MMBTU/HR
 Inlet oxygen levels as low as 10.5% wet without augmenting air
 Inlet H₂O as high as 20% without augmenting air
 Typical TEG distribution to the burner $\pm 25\%$ of the avg. velocity over 90% of the cross section.

TYPICAL EMISSIONS

For most advanced gas turbine applications firing natural gas, we offer the following emission guarantees over turndown - without augmenting air:

Typical Guarantees (LB/MMBTU, HHV)

Non-Power Augmentation:

O ₂ : > 11.5% wet	NO _x : 0.08
H ₂ O: < 12% wet	CO: 0.04
Burner Inlet TEG Temperature: > 850°F	VOC: 0.004
Firing Temperatures: > 1200°F	

Power Augmentation:

O ₂ : \geq 10.5% wet	NO _x : 0.08
H ₂ O: > 12% wet	CO: 0.06
Burner Inlet TEG Temperature: > 750°F	VOC: 0.006
Firing Temperatures: > 1200°F	