



# **AIREM™ ENVIRONMENTAL SOLUTION**

Combining Efficient VOC Removal with Reliable Energy

## Airem™ Environmental Solution

More stringent emission regulations coupled with ongoing pressure to reduce operating costs are impacting the way we protect the environment. The conventional methods to abate the impact to the environment are expensive to operate and maintain with significant energy intensity.

The Airem™ environmental solution combines the efficient removal of volatile organic compounds (VOCs) with the ability to provide clean and reliable energy. This robust industrial gas turbine is fitted with a uniquely designed combustion chamber. The chamber efficiently destroys regulated VOC air emissions (US EPA and state standards) while cogenerating high quality electric power and thermal energy in sustainable combined heat and power applications.

### Product Description

The Airem environmental solution incorporates a single-shaft industrial gas turbine that is a proven engine for mechanical, electrical power, and cogeneration applications while operating in extreme environments. Combined with the VOC combustion chamber, the Airem technology is a reliable and cost effective VOC abatement alternative for major VOC source processes and operations in the industry. For industrial cogeneration, the high steam-raising capability of more than 5,000 pounds per hour supports total combined heat and power (CHP) system efficiencies of approximately 85 percent.



### Benefits

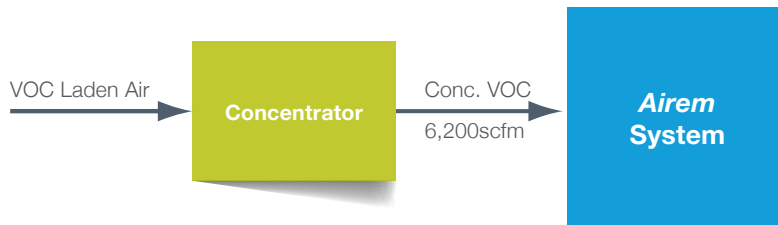
- Combined air pollution control and cogeneration solution
- Increased production efficiency of 20 percent with overall system energy efficiency of approximately 85 percent
- Annual net operating savings of more than USD \$1M with a less than 2-year payback on initial investment
- Empowers states to comply with planning needed to reduce Ozone as determined by the National Ambient Air Quality Standards (NAAQS)
- Exhausted emissions achieve US EPA and state air pollution control standards for stationary sources
- Reduces carbon emission footprint by approximately 60 percent.
- Creates qualified shovel-ready projects and jobs
- Avoidance of non-attainment air shed issues
- CHP offsets air pollutants greater than utility scale renewables, including: ground-level Ozone, toxics, and carbon equivalents (CO<sub>2</sub>e)

## Key Features

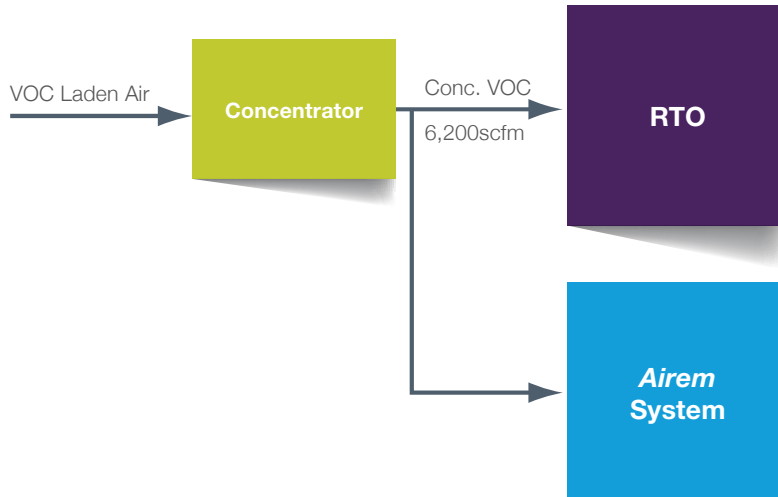
- Achieves federal and state standards
- Heavy duty construction
- Compact, skid-mounted and sound attenuated to 85 dB(a)
- Fuel flexibility - operates on natural gas and/or liquid fuel
- Operates in extreme environments
- Continuous or intermittent duty
- Fast stop and start
- Integrates with factory control system
- Replaces standby/emergency backup power
- Operates grid-connected or island mode
- Reduces downtime and maintenance costs compared to conventional thermal oxidizers

## Performance Specifications

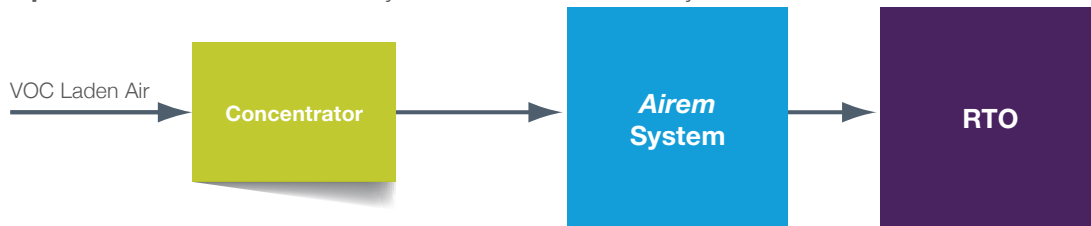
**Option A:** Replace RTO (thermal destruct device) with Airem™ system



**Option B:** Operate Airem system parallel to RTO for redundancy/backup



**Option C:** Flow VOC to Airem system and exhaust directly to RTO



*Airem technology configurations are designed to integrate with factory processes.*

**ESTIMATED PERFORMANCE  
NATURAL GAS FUEL**

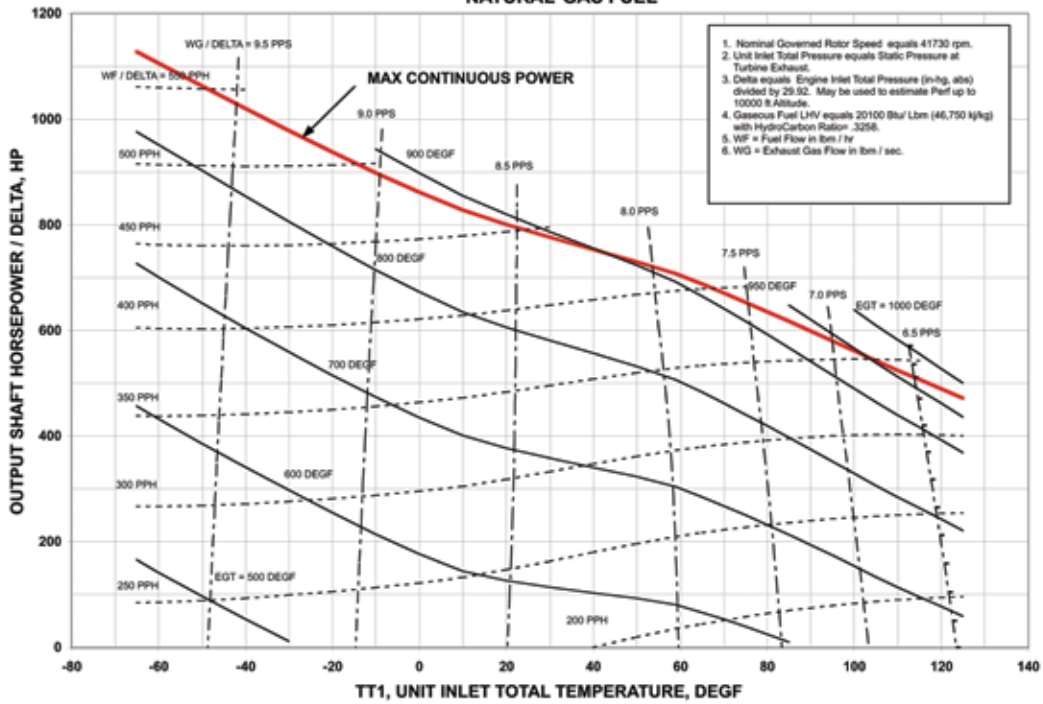


Table 1—Power versus inlet temperature.

**ESTIMATED PERFORMANCE  
NATURAL GAS FUEL**

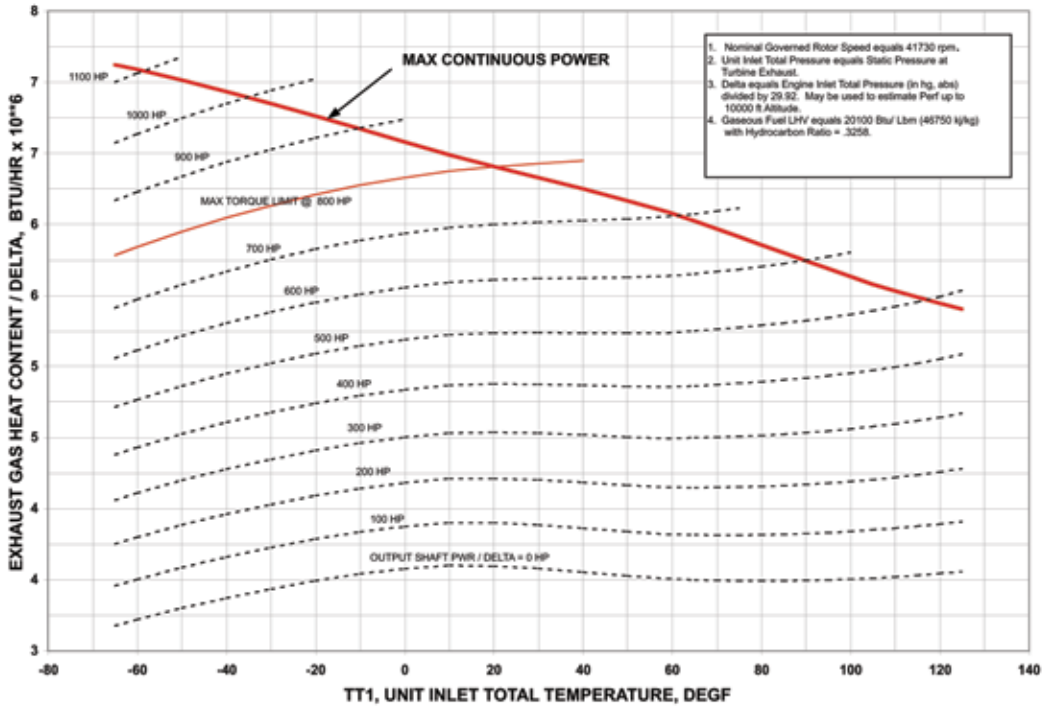


Table 2—Exhaust energy versus inlet temperature.



For more information about our environmental solutions, visit [afglobalcorp.com/airem](http://afglobalcorp.com/airem)