

PROVEN SOLUTIONS FOR THE BIOGAS INDUSTRY

Superior Performance and Trusted Experience

Customers worldwide look to John Zink for solutions they can count on. And we deliver, with industry-leading products that have been proven in thousands of installations worldwide.

For the biogas industry, our experience dates back to our first installation in the 1970s. Since then, we've been a leader in research and development, manufacturing, advanced testing, and skillful field installation, helping customers optimize their entire biogas system to meet even the toughest environmental regulations.

Every John Zink system is backed by:

- An uncompromising commitment to helping you improve the performance and efficiency of your operations
- Unrivalled experience gained from field-proven and tested systems in the biogas industry
- Research, development and testing at the largest, most comprehensive R&D test center of its kind
- 24-hour parts and service support and worldwide field technicians for installation supervision, start-up and training



Proven biogas solutions to meet the toughest requirements. That's smart. That's John Zink.



Zbrid Hybrid Thermal Oxidizer

Proven Solutions and Services for the Biogas Industry:

- Gas Conditioning and Compression Packages
- ZTOF® Enclosed Flares
- ZULE® Ultra Low Emissions Flares
- ZBRID Hybrid Thermal Oxidizer
- ZEF™ Elevated (Open) Flares
- ZNIX™ Hydraulic Elevated (Open) Flares
- ZES Evaporator Systems
- Blower Skids
- Aftermarket, Rental, and Service
- Research and Design

Additional Capabilities

- John Zink InstituteSM accredited training classes
- Worldwide offices and sales representatives
- Global fabrication for international projects
- Carbon credit projects

ZTOF® Enclosed Flare

- Capacities up to 6,000 SCFM at 50% methane
- Biogas units in operation since the 1970's
- 10:1 or greater turndown without external adjustments, rumblings, or vibrations
- Greater than 98% destruction rate efficiencies
- Turndown kits for new or existing enclosed flares
- Off gas from siloxane systems, VOC engine exhaust, and condensate injection capabilities

ZULE® Zink Ultra Low Emissions Flare

- Field-proven and tested with systems in operation since 1998
- Lowest achievable NOx in the industry, tested as low as 3-4 ppm
- Near-zero CO emissions for temperatures as low as 1,200° F
- Greater than 99.5% destruction efficiencies expected
- Patented technology
- Capacities up to 6,000 SCFM

ZEF™ Elevated (Open) Flare

- Engineered windshield design to increase turndown and stability
- Up to 10:1 instantaneous turndown without adjustments
- Adjustable thermocouples for optimum temperature control
- Unique skid-mounted ZNIX hydraulic design to eliminate the need for a crane during start-up and maintenance

ZBRID Hybrid Thermal Oxidizer

- Oxidizes low BTU off gasses (typically less than 15% CH4) from CO₂ stripping processes and landfill perimeter wells
- Cost-effective alternative to traditional thermal oxidizers to effectively destroy low methane waste gas streams
- Field-proven design and technology with more than 5 years of operating history
- Achieves a 98% or greater destruction efficiency

Digester Applications

- Enclosed, elevated, and ultra low emission flares for the agriculture, industrial, and municipal waste water markets

Gas Conditioning and Blower Skid Packages

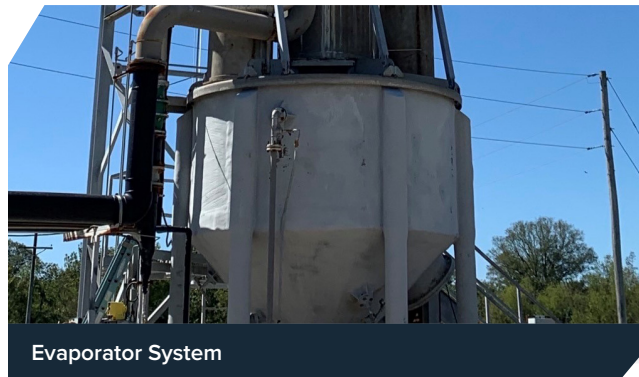
- Pre-piped and pre-wired system to minimize field installation
- Shop tested prior to shipment
- Skid capacities up to 15,000 SCFM for multiple flare systems
- Dehydration, compression, and conditioning equipment

ZES Evaporator Systems

- Evaporate up to 50,000 gallons per day with landfill gas or Natural Gas
- Continuous hands-free operation with automatic filling of leachate or waste water
- Enhanced design for lower operational costs, less maintenance and lower power requirements
- Blowers and controls factory piped, wired and skidmounted for easy installation

Aftermarket and Service

- Rental flares, both enclosed and open
- 24-hour parts and service
- Technicians worldwide
- Preventative maintenance programs
- Full staff of controls engineers and project managers to handle the most complicated retrofit



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