

# MILLENNIUM® Regenerative Thermal Oxidizer

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MEGTEC's three interrelated businesses draw on common core competencies--environmental sciences, liquid and material processing and thermal air management - to provide significant synergies for high performance products across a broad range of industrial processing applications.

## MEGTEC Products

### Drying & Conditioning

Air flotation dryers  
Air flotation dryers with integrated oxidizer  
Roll support dryers  
Thru-air dryers  
Catenary ovens  
Festoon-style ovens  
Chill stands  
Silicone coaters

### Environmental Compliance and Sustainability

Regenerative thermal oxidizers (RTO)  
Regenerative catalytic oxidizers (RCO)  
Recuperative catalytic oxidizers  
Recuperative thermal oxidizers  
Direct thermal & catalytic oxidizers  
VOC biological treatment systems  
Solvent recovery/carbon adsorption systems  
Distillation systems  
Heat recovery systems  
Energy production from methane

### Roll & Web Handling Equipment

Match speed splicers  
Zero speed splicers  
Butt splicers  
Register splicers  
Web guides  
Roll loading systems  
Rewinders  
Infeed  
Air turns  
Web stabilizers  
High-speed sheeters

### MEGTEC Services

24/7d TeleCare Center  
Condition monitoring  
Preventive maintenance programs  
Spare parts & upgrades  
Training programs  
Project management  
Turnkey installation  
Equipment optimization  
Equipment rebuilds  
In-house pilot line testing  
Process energy audits  
Environmental compliance assistance  
Catalyst testing & supply  
In-house laboratory analysis

*A Major Innovation in Low-Flow Regenerative Thermal Oxidation*



Regenerative Thermal Oxidizers (RTOs) offer distinct operating cost and performance advantages over other VOC control technologies in high flow process applications. The MILLENNIUM RTO redefines the economics of clean air compliance in low-flow applications. This unique, compact system can meet the needs of a wide variety of industrial applications at flows extending to 15,000 SCFM. The MILLENNIUM provides the efficiency, effectiveness and reliability of RTOs at very affordable capital, installation and operating costs.

*The bottom line is process knowledge*

# MILLENNIUM®

## Regenerative Thermal Oxidizer



Preassembly and pretesting at the factory reduce the MILLENNIUM's installation and start-up times to a minimum



All units ship on commercial trucks



Installation and startup time is minimal. Turnkey installation available



The MILLENNIUM's low capital, operating and maintenance costs provide economic advantage



The MILLENNIUM'S small footprint allows the unit to be installed in tight spaces



Secondary heat recovery system returns energy to process or other plant energy requirements

### Performance Benefits

- Energy efficient variable frequency drive (VFD)
- Low pressure drop ceramic media
- Simple, touch-screen controls
- Modem Support
- Purge/idle makeup air damper

### Optional Equipment

- Recirculation systems
- Hot-side bypass
- Secondary heat recovery

### Compact, Cost-Effective Design

The system's integrated ductwork, individual poppet valves and unique, single-box configuration save on both capital and installation costs. The compact, space-saving unit offers considerable installation flexibility. Systems for either indoor or outdoor placement are available. The MILLENNIUM's relatively light weight easily permits rooftop placement.

### Money-Saving Media

The MILLENNIUM uses an inexpensive ceramic heat exchange media that is virtually indestructible. The media's exceptionally low resistance minimizes pressure drop. That means smooth operations and reduced electrical operating costs.

### Exceptional Fuel Efficiency

The system delivers thermal efficiencies of 95%. Even at relatively low solvent concentrations, the system can sustain thermal conditions with the heat released during VOC oxidation-requiring no additional fuel for VOC destruction.

### Regulatory Compliance

The MILLENNIUM's small entrained volume holds VOC puffs to a minimum. The standard system can achieve 99% VOC destruction, easily meeting most clean air requirements. For higher cleanup rates, a VOC Capture System is available. This option can be ordered as original equipment, or field-installed at a later date.

### Fast, Simple Installation

The system is preassembled, prewired, prepiped and pretested at the factory. All units ship on commercial trucks. Installation and start-up time is kept to a minimum, typically requiring less than one week. Turnkey installations are available.

### Operating Reliability

The MILLENNIUM practically operates by itself. In standard configuration, the only moving parts are two reinforced poppet-style valves. An advanced electronic control system automatically tunes the system for high VOC destruction rates with maximum fuel efficiency. The system's simple design offers low maintenance costs.

### Advanced Telemetry

Each MILLENNIUM comes equipped with a modem for trending, monitoring and remote diagnostics. A wealth of data is available to the operator for analysis, troubleshooting and fuel optimization.

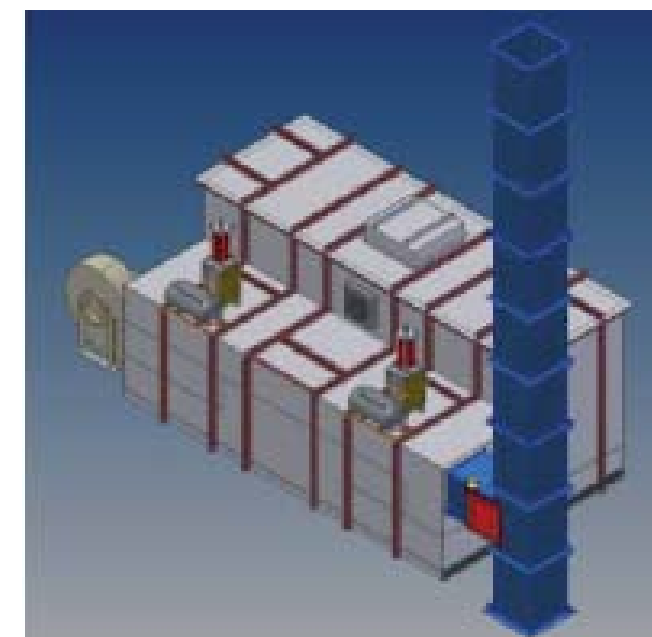
### Long-Lasting Performance

The system's rugged construction and reinforced body ensure years of reliable service. Special alloys provide superior resistance to embrittlement and cracking. Extra insulation helps control thermal stress while minimizing radiant heat loss.

### Secondary Heat Recovery

MEGTEC offers secondary heat recovery for applications where higher solvent loading yields more heat than is needed to sustain oxidation. The recovered energy can be returned to process applications or used to reduce other plant energy requirements.

The MILLENNIUM...  
the economic advantages of regenerative thermal oxidation for low-flow installation.



Six Sigma Quality...  
MEGTEC Systems uses DFSS (Design for Six Sigma) methodology to ensure the quality of our equipment and services.

Operating Specification	
Flow capacity	up to 15,000 SCFM (23,700 Nm <sup>3</sup> /hr)
VOC Destruction	98-99%
Thermal Efficiency	95%
System Fan	Force draft w/VFD
Optional Secondary Heat Recovery	Yes
Heat exchange media	Ceramic