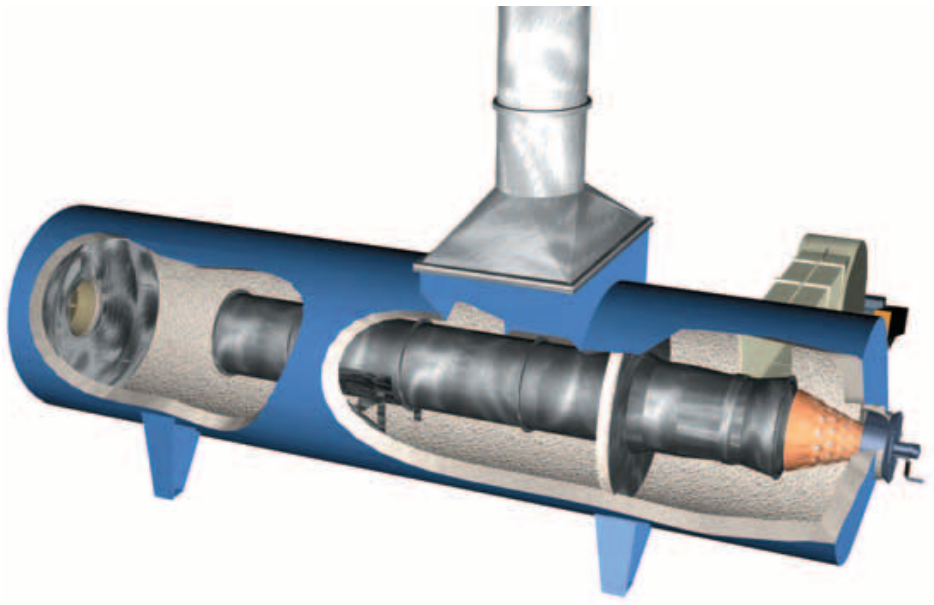
Catalytic Products
INTERNATIONAL

# QUADRANT NR-Series Thermal Oxidizer



Catalytic Products International has applied nearly 50 year history of providing innovative air pollution control solutions towards a line of highly flexible and efficient Non-Recuperative thermal oxidizers. Commonly referred to as afterburners, incinerators, or direct-fired thermal oxidizers, our line of QUADRANT NR-Series Thermal Oxidizers routinely exceed all worldwide regulatory requirements while providing a level of sophistication that is unmatched in our industry. QUADRANT NR-Series Systems are used on applications where primary air-to-air heat exchangers are unneces-sary. Special applications that have very high solvent concentrations, low air volumes, high energy demand secondary heat recovery needs, can benefit from our QUADRANT NR-Series Thermal Oxidizers. In today's ever-tightening regulatory climate, traditional technologies such as scrubbers, strippers, flares, and the like cannot achieve ultra-high VOC elimina-tion at an economical installed cost. Low cost, High Performance, and Long Life are the key advantages of our QUADRANT NR-Series Thermal Oxidizers. What sets the QUADRANT NR-Series Systems apart from others?

## *Round Modular Design*

All QUADRANT NR-Series systems incorporate a proven round design that protects against stress and fatigue commonly found in other systems that utilize an antiquated "square box" design. Damaging thermal-mechanical stresses inherent in every thermal oxidizer is eliminated with the QUADRANT NR-Series Thermal Oxidizer and its round design.

## *Center Combustion Tube*

One of the most unique features found in any QUADRANT System is the center combustion tube coupled with the preheat burner. This pairing of components has paved the way for QUADRANT Systems to operate at the lowest temperatures while still providing the highest VOC destruction. Faced with today's compliance requirements, the old design strategies of time and temperature are not enough. Only the QUADRANT System, by maximizing turbulent mixing, flame impingement, and temperature uniformity, can assure users of low cost, ultra-high destruction. The center combustion tube, when designed in conjunction with one of the specially selected preheat burners, is unmatched in our industry. QUADRANT Systems have passed compliance tests worldwide, at lower combustion chamber temperatures than expected and even lower than we guarantee!

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## Pre-Heat Burners

The combustion system in every QUADRANT Oxidizer is selected based on the exact needs of the user. QUADRANT NR-Series Systems offer a variety of preheat burner choices all designed for low-cost operation, low NOx and CO emissions, and high performance. Advancements in our systems have allowed us to utilize waste-gas-lancing equipment for processing high-concentration gas streams without adding excess dilution air. Users that normally rely on inefficient flares can now benefit from the ultra-high VOC destruction offered in our QUADRANT NR Thermal Oxidizers. Users of QUADRANT NR-Series Systems gain value and comfort from knowing their choice of pollution control has unmatched flexibility, even beyond what is standard in today's industry.

## Insulation System

All QUADRANT NR-Series Systems utilize a specialized insulation system that will retain heat for low cost and cool shell temperatures, while allowing fast startups and long equipment life. The insulation system works in conjunction with the round design to eliminate fatigue for industry-leading uptime reliability and the lowest maintenance costs.

## Temperature Safety System

Every QUADRANT System is integrated with our customized Ethernet based PLC-control panel called Temperature Safety System (TSS). TSS communicates with the QUADRANT and your process for optimal performance, safety, and reliability. TSS optimizes the system's efficiency by managing temperatures, controlling drive, and positioning valves. This user friendly system provides automated operations, one-button starts/stops, self-diagnostics, with data monitoring options for simplified maintenance and compliance verification.

### QUADRANT NR systems offer these standard features:

- Air volume capacities up to 50,000 scfm
- VOC destruction up to 99.99%
- High volumetric turndowns
- Automatic volume control
- Automated operation via TSS control systems
- Combustion system choices based on application
- Pre-piped and wired components
- Compact design with installation flexibility

### QUADRANT NR Systems offer these optional features:

- Variable frequency drives
- Tandem setup for multiple QUADRANT installations
- Infinite process volumetric turndowns
- Ultra-high LEL capability
- Heat recovery solutions such as future primary heat exchangers, steam generation, oil heating systems, direct process heating, etc.
- Severe Duty (SD) Series System for corrosive air streams
- Multiple fuel blends or oil-fired combustion systems

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