



# Rosemount™ Quantum Cascade Laser Analyzers for Continuous Emissions Monitoring Systems

**SIMPLIFY THE WAY YOU HANDLE  
ENVIRONMENTAL MONITORING**

**PROVEN RESULTS COMPLY WITH ALL  
CFR TITLE 40 PART 60 AND PART 75  
REQUIREMENTS**

**SUPERIOR AVAILABILITY AND REDUCE  
MAINTENANCE REQUIREMENTS**

Environmental compliance when monitoring and reporting emissions is an essential prerequisite for the competitiveness and success of industries.

The Rosemount CT5000 Series analyzers combine Quantum Cascade Lasers (QCL) and Tunable Diode Lasers (TDL) in a single system and are designed to comply with the Environmental Protection Agency (EPA) Emissions Monitoring regulations, CFR Title 40. They have low maintenance requirements helping you meet emissions monitoring and reporting requirements with a simple to use and easy to maintain system.

**ROSEMOUNT™**

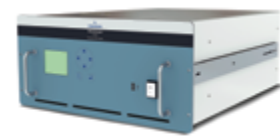
  
**EMERSON™**

# Rosemount™ Quantum Cascade Laser Analyzers are designed for Best in Class Continuous Emissions Monitoring

## THE EMERSON SOLUTION

### CT5000 Series Quantum Cascade Laser Gas Analyzers

- **Measure all your critical components in a single analyzer:** utilizing multiple QCL/TDL lasers with unique laser chirping technology
- **Unmatched sensitivity vs. conventional technologies:** detects trace analytes at sub ppm concentrations
- **Field mountable version available as Class I Division II:** eliminates the need for expensive analyzer shelters and minimizes sample transport time
- **374 °F heated solution:** Hot/Wet measurements available for general purpose areas
- **Real time self validation:** guarantees performance and minimizes field maintenance
- **Inherently stable QCL / TDL light sources:** makes routine calibration unnecessary
- **Interchangeable modular components:** for easy field service and configuration
- **Remote factory support available:** via direct connection or secure file exchange



CT5400 Continuous Gas Analyzer  
19" Rack Mount



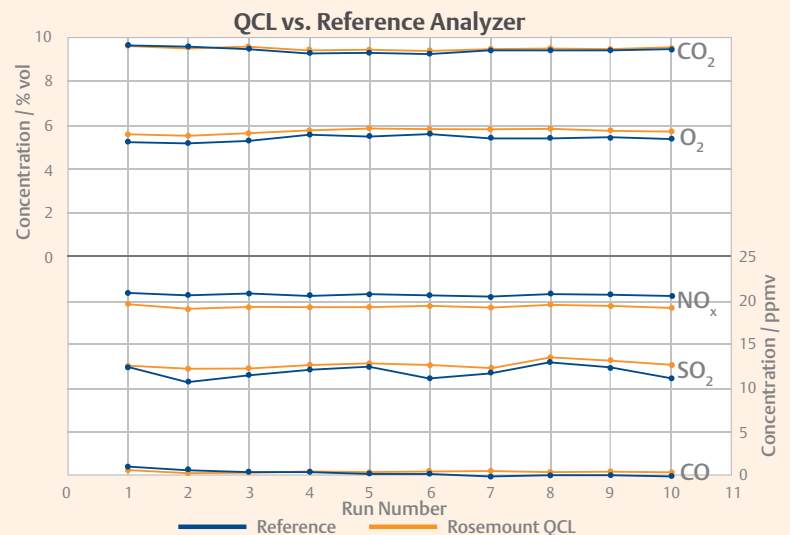
CT5100 Continuous Gas Analyzer Field Mount

## Relative Accuracy Test Audit (RATA) Case Study

- Rata Performed with CT5000 Series Analyzer at a Major North American Refinery
- Application: Gas Fired Heater fired with refinery fuel gas
- Audit Details:
  - Unit operating normally at >50% of the annual average firing rate
  - Unit firing rate, process, and fuel gravity stable
  - Response time vs reference analysis systems equal
  - Reference measurements made with 5 conventional analyzers: Paramagnetic, NDIR, Ultraviolet-Photometric, Chemiluminescent and Gas Filter Correlation
  - No runs were eliminated

For more information, contact your local Emerson representative.

| Analyzer Range  |             |            |
|-----------------|-------------|------------|
| Component       | Range       | LOD        |
| NO <sub>x</sub> | 0-1200 ppmv | 0.1 ppmv   |
| CO <sub>2</sub> | 0-25 % vol  | 0.05 % vol |
| SO <sub>2</sub> | 0-200 ppmv  | 1 ppmv     |
| CO              | 0-500 ppmv  | 1 ppmv     |
| O <sub>2</sub>  | 0-25 %      | 0.1 % vol  |



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