Refining and petrochemical industry monitoring solutions

Faced with unprecedented demands to meet increasing customer process expectations, as well as clean air regulations while optimizing plant performance...you need a partner that understands the challenges you face and offers instrument and service solutions that work.

**Common applications**
- Opacity Monitoring
- Gas Analysis for Reaction Kinetics/Catalytic Cracking
- Sulfur Recovery Units
- Total Sulfur Analysis
- Flare Gas Monitoring
- Fence Line Ambient Air Quality Monitoring
- Fugitive Emissions Detection (EPA Method 21)
- \( \text{SO}_2, \text{NO}_x, \text{CO} & \text{Acid Measurement} \)
- Olefins (Ethylene) & Poly Olefins (PE, PP)
- Ethylene Oxide (EO/EG)
- Fuel Gas Processing
- Ammonia & Methanol Measurement
- Fischer Tropsch (gas-to-liquid)
- Coal Gasification/Coal Chemical
- Catalyst Cracking & Research
- Process Development & Catalyst Research
- Distillation Units
- Chemical Rearrangement Units
- Alkylation
- Continuous Platformers
- Purification Units
- Knock Out Drum Pump Out Vessels
- High Density Polyethylene Loop Reactor
- And many more!

**Refining**
- Fuel Products Analysis
- Stack Gas / Emissions Monitoring
- Process Gas Analysis
- Particulate Measurement
- Flow Measurement and Control
- Leak Detection
- Field Service & Application Expertise

**Petrochemical manufacturing**
- Liquid & Gas Flow Measurement
- Field Service & Application Expertise

**Additional Thermo Scientific Solutions**
- Sulfur Analyzers
- X-Ray Fluorescence
- Electron & Infrared Microscopes
- Gas Chromatographs for Hydrocarbons
- Laboratory Equipment & Consumables
- Lab Information Management System (LIMS)
- Unity Lab Services™
- Furniture and Fume Hoods
- Water Analyzer, Monitors & Sensors
- Handheld X-Ray Fluorescense
Thermo Scientific™ Product Solutions

Process Monitoring
- Density Measurement
  - Sarasota Series of Gas Density Gauges

Mass Spectrometry
- Sentinel PRO Environmental Analyzer
- Prima PRO Process Analyzer

Flow Measurement and Control
- AutoPILOT PRO
- AutoEXEC
- AutoXP

Systems
- Total Sulfur
  - SOLA iQ Sulfur On-line Analyzer
  - SOLA iQ Trace Sulfur On-line Analyzer
  - SOLA iQ Flare Sulfur On-line Analyzer

Continuous Emissions Monitoring Systems (CEMS)
- Dilution CEMS
- Extractive CEMS
- Particulate Matter CEMS

Service and Support
- On-Site
  - Preventive Maintenance
  - Emergency Repair
  - Startup and Recommissioning

Technical Training Courses
- Factory Training Centers
- Customer Site
- E-Learning

In the Factory
- Depot Repair Service
- Factory Acceptance Testing (FAT)
- Extended Warranty
- Calibration and Certification

Gas & Particulate Analyzers
- Nitrogen Oxide (NOx)
  - 42iQ Gas Analyzers
- Sulfur Dioxide (SO2)
  - 43iQ Gas Analyzers
- Carbon Monoxide (CO)
  - 48iQ Gas Analyzers
- Carbon Dioxide (CO2)
  - 410iQ Gas Analyzers
- Hydrogen Sulfide/ Sulfur Dioxide Analyzer (H2S/SO2)
  - 450iQ Gas Analyzers
- Total Hydrocarbon
  - 51i Gas Analyzer
- Methane (NMHC)
  - 55i Gas Analyzer
- Toxic Vapor Leak Detection
  - TVA2020 Toxic Vapor Analyzer
- MIC-6 (Multi-Instrument Calibrator)

Continuous Ambient Particulate
- 5014i Beta Monitor

Find out more at thermofisher.com

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