

Thermo Scientific SOLA II Flare

On-line sulfur analyzer for compliance with 40 CFR 60 Subpart Ja requirements

The Thermo Scientific™ SOLA II Flare on-line analyzer determines the total sulfur content of flare stack emissions with unparalleled accuracy and precision. The SOLA analyzer features proven reliability, low cost of ownership, comprehensive diagnostics and superior data communications to ensure process optimization and maximum uptime.

- Meets 40 CFR 60 Subpart Ja Performance Specifications
- Dual range measurement capabilities
- Automatic range switching and density compensation for ppm S wt/wt measurements
- Automatic Calibration/Validation



The Thermo Scientific SOLA II sulfur online analyzer replaces labor-intensive laboratory grab samples with online analysis for rapid determination of sulfur contamination sources and timely corrective action. With a worldwide installation base and a number of applications, this industry-leading instrument ensures maximum product yield, optimum product quality and improved operational efficiencies.

Clean Fuels

Producers of low-sulfur motor fuels use the SOLA II analyzer to ensure diesel and gasoline are produced within the targeted sulfur content. The superior analytical capability, including detection in parts per million (ppm), enables petroleum refiners to make timely process adjustments to enhance the economic efficiency of desulfurization and fuel blending operations.

Catalyst Protection

With detection in parts per billion (ppb), the SOLA II Trace analyzer controls the sulfur level of the hydrocarbon feed into the reactor catalyst, minimizing costly catalyst replacements and shutdowns.

Flare Feed Gas & Condensable Vapor

The highly accurate SOLA II Flare analyzer features a dynamic measuring range from 10 ppm to 95% S by volume with fast high-to-low response time, enabling reliable flare stack sulfur emission monitoring.

Dual Calibration/Dual Stream

The SOLA II Dual Calibration/Dual Stream analyzer enables two streams of radically different sulfur concentrations (i.e., batch processing, inlet/outlet of reactors, etc.) to be measured by a single analyzer, simplifying the process and reducing capital expenditures.

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Thermo Scientific SOLA II Flare On-line Analyzer

Linearity	<2% of minimum measuring range
Zero drift	<3% of minimum measuring range
Span drift	<2% of minimum measuring range
Influence of ambient temperature	<5% of minimum measuring range for zero and span with 20 °C as reference
Influence of sample gas pressure	None (pressure compensation)
Flow	~5 l/min
Response time T95	<3 minutes for all non-reactive gases; <5 minutes for NH ₃ , HCl and HF spiking; <10 minutes for NH ₃ , HCl and HF dry
Availability	>98%
Instrument Air	80-120 PSI, 5 SCFM
Ambient temperature	+60 to +95 °F/+15 to +35°C
Physical dimensions	22" (W) x 70" (H) x 36" (D); 31" (W) x 70" (H) x 36" (D) (built system)
Weight	~ 440 lbs (200kg)
Sample line length	Up to 120 feet
Power requirements	230 VAC, XX AMPS
Analog signals	4-20 mA for each measured concentration
Digital signals	FTIR data valid, temperature alarm for sample probe, heated lines, sample conditioning assembly, and FTIR cell; Status measurement/maintenance; Gas mode inputs and outputs: check span, check spike, check zero, background and flowback, blowback, and sample

Thermo Scientific™ Antaris™ IGS Analyzer

The Thermo Scientific Antaris IGS analyzer was specifically developed to meet the needs of demanding gas applications. Developed as an industrial FTIR system that can be deployed in either a rack-mount manufacturing environment or a table-top quality control area, the Antaris IGS analyzer provides the industry's highest possible performance in calibration and stability, method transferability and high speed data acquisition.



System Components

The main components of the system are the Antaris IGS analyzer, Sample Handling System, and an advanced software platform.

Sample Handling System

Consists of a direct extractive probe, heated sample line (not included with the system), pump assembly, hydrator, and purge gas generator. The probe assembly consists of a stainless steel/hastelloy probe barrel and a heated filter assembly. The entire sample stream, from the probe stinger to the analysis bench, is maintained at a temperature of 190°C to prevent sample loss or condensation.

Advanced Software Platform

The PC gathers information from the FTIR and temperature controller and reports readings over analog and digital I/O lines, Ethernet, and Serial.

Applications

The Omni FTIR CEMS uses the hot-wet extractive measurement technique and can be used in various applications including coal-fired power plants, cement kilns, waste incinerators, and to study industrial processes with multiple effluents.

Compound	Compound (ppm)	MDL 1σ 3 min. avg (ppm)
Carbon monoxide CO	0–750	0.15
Nitric oxide NO (gas turbine)	0–1200	0.40
Sulfur dioxide SO ₂	0–350	0.40
Hydrogen chloride HCl	0–150	0.10
Ammonia NH ₃	0–100	0.10
Water H ₂ O	0–40.0 vol%	0.01 vol%
Nitrogen dioxide NO ₂	0–50.0	0.10
Nitrous oxide N ₂ O	0–50.0	0.10
Hydrogen fluoride HF	0–15.0	0.15
Carbon dioxide CO ₂	0–30.0 vol%	0.02 vol%
Sulfur hexafluoride SF ₆	0–10.0	0.003

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. We offer comprehensive, flexible support solutions for all phases of the product life cycle. Through predictable, fixed-cost pricing, our services help protect the return on investment and total cost of ownership of your Thermo Scientific products.

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This product is manufactured in a plant whose quality management system is ISO 9001 certified.

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