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Signal
Silicon Analyzer



Silicon Analysis in Petroleum and Bio Fuels

From gasoline to ethanol and toluene, the Signal bench-top analyzer delivers unprecedented precision and accuracy in quantitative analysis of silicon. The analyzer is based on XOS' MWD XRF technology platform (as applied in Sindie and Clara analyzers) ensuring a robust analysis solution for demanding petroleum and industrial environments.

Application Areas:

- Total silicon analysis in hydrocarbons and bio fuels.
- For use in refinery labs, pipeline terminals, additive plants, and inspection laboratories.

Features and Benefits:

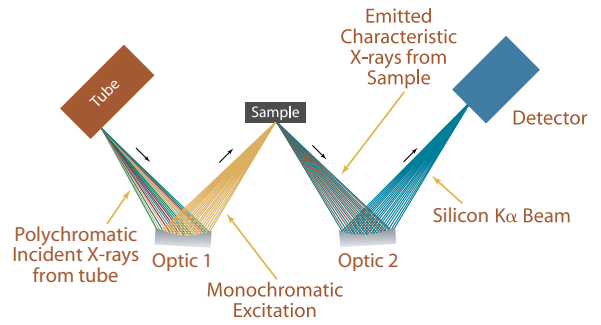
- LOD: 0.5 ppm at 600 s.
- Dynamic Range: 0.5 ppm to 3000 ppm.
- Fits on any bench.
- Touch Screen user interface.
- User programmable measurement time: 30-900 s.
- No conversion gasses, heating elements, quartz tubes or columns.
- 75 W air-cooled excitation tube.

Options:

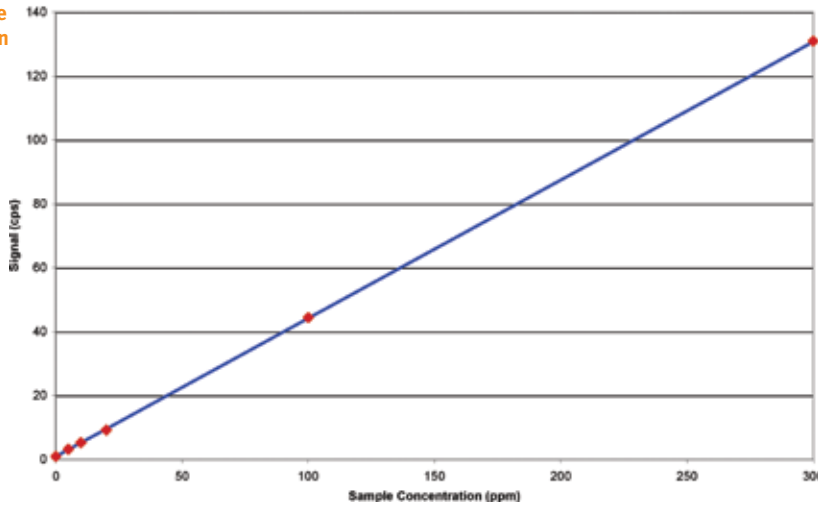
- LIMS compatible data output software.

MWD XRF

Monochromatic Wavelength Dispersive X-Ray Fluorescence (MWD XRF) utilizes state-of-the-art focusing and monochromating optics to increase excitation intensity and dramatically improve signal-to-background over high power traditional WD XRF instruments. This enables significantly improved detection limits and precision and a reduced sensitivity to matrix effects. A monochromatic and focused primary beam excites the sample and secondary characteristic fluorescence x-rays are emitted from the sample. A second monochromating optic selects the silicon characteristic x-rays and directs these x-rays to the detector. MWD XRF is a direct measurement technique and does not require consumable gasses or sample conversion.



Low Range Calibration



Precision

Typical repeatability (r) and reproducibility (R) values in gasoline, at 95% confidence. 600 s measurement time.

| Silicon Concentration (ppm) | r | R |
|-----------------------------|-----|-----|
| 2 | 0.4 | 0.7 |
| 5 | 0.5 | 0.8 |
| 8 | 0.6 | 1.0 |
| 15 | 0.8 | 1.4 |
| 100 | 2 | 4 |
| 500 | 5 | 10 |

Product Specifications

| | |
|---|--|
| Dimensions | 37 cm (w) x 50 cm (d) x 34 cm (h) |
| Power | 100-120 VAC, 47-63 HZ at 6.0 Amps/200-240 VAC, 47-63 HZ at 6.0 Amps |
| Other Utilities | Helium (10 psi maximum inlet pressure) |
| Sample Cup Volume | 10 ml |
| I/O Ports | Ethernet 10/100 base T, RS232 |
| Optional Computer Interface | Pentium, 100 MHz, 32 MB RAM/Windows 98 or newer operating system |
| Ambient Temperature Requirements | 5-40°C (40-104°C) |
| Dynamic Range | Standard: 1 – 3000 ppm |
| Measurement | User selectable: 30-900 s |
| Calibration | 8 calibration curves. Automatic and Manual Calibration functionality |



better analysis counts

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