Silicon Analysis in Petroleum and Biofuels

From gasoline to ethanol and toluene, Signal® delivers total silicon analysis. Powered by MWDXRF®, Signal is a robust analysis solution for demanding petroleum and industrial environments.

APPLICATIONS

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

FEATURES AND BENEFITS

- **LOD:** 0.65 mg/kg (ppm) at 600s**
- **Dynamic Range:** 0.65 mg/kg (ppm) to 3000 mg/kg (ppm)
- Easy to use
  - Intuitive 10-inch touch screen
  - Just plug in and measure
  - Measurement time: 10-999 s
- **Low maintenance:** no gasses, heating elements, columns, or quartz tubing
- Traditional 43 mm XRF sample cups
- Small footprint
- LIMS integration for data management and transfer
- Custom sample presets to save data entry time and minimize data entry error on common samples
- Bar code reader autofills sample name to reduce data entry time
- Storage capacity for more than 50,000 measurement results
- Supports up to 30 calibration curves
- USB connectivity in front and back for connecting to printer, keyboard, mouse, and memory stick
- Supports USB and network printers
- Large, easy-to-remove side panels for easy serviceability
- Advanced error reporting and diagnostics

ASTM D7757

TRUSTED PRECISION

Monochromatic Wavelength Dispersive X-ray Fluorescence (MWDXRF®) utilizes state-of-the-art focusing and monochromating optics to increase excitation intensity and dramatically improve signal-to-background over high-power traditional WDXRF 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. MWDXRF is a direct measurement technique and does not require consumable gasses or sample conversion.
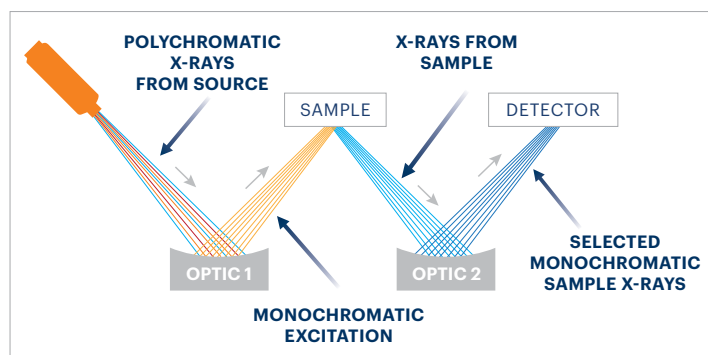
LOW RANGE CALIBRATION
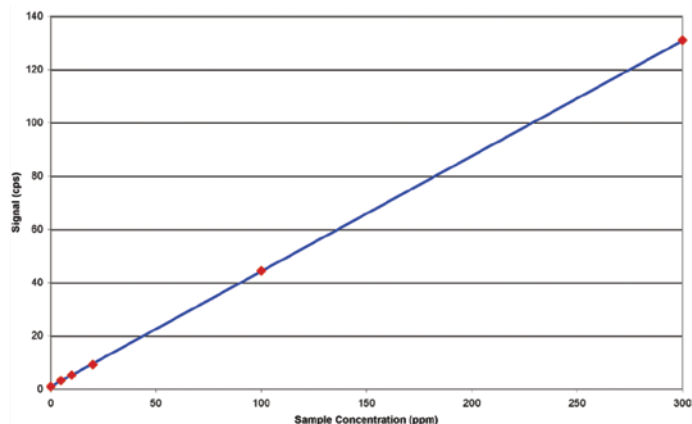
LOW RANGE CALIBRATION

Signal uses a weighted least squares regression which is extremely linear and easy to set up. Typical correlation (R value) is expected to be on the order of 0.999 or better.

PRODUCT SPECIFICATIONS

Model	Signal
Test Method	ASTM D7757
Dimensions	42 cm (h) x 40 cm (w) x 54 cm (d) 16.5 in (h) x 15.8 in (w) x 21 in (d)
Power	100-120 VAC, 47-63 HZ at 5.0 Amps/ 200-240 VAC, 47-63 HZ at 2.5 Amps
Minimum Sample Cup Volume	Traditional 43 mm – 5 ml
Ambient Temperature Requirements	5-40°C (40-104°F)
Optical Path	Vacuum
Excitation Source	75 W air-cooled

PRECISION

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

Silicon Concentration (pmm)	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

*All qualification herein are subject to user guide specifications. If you have further questions, reach out to our team of experts at **info@xos.com**.

Longer cycle time increases counts and lower LOD, but sample conditions over time must be considered. For further inquiries, please contact us at **info@xos.com.

DASTEC

Representantes / Distribuidores Exclusivos

Argentina
Tel: (+54 11) 5352 2500
Email: info@dastecsrl.com.ar
Web: www.dastecsrl.com.ar

Uruguay www.dastecsrl.com.uy