better analysis counts

Silicon Analysis in Petroleum and Bio Fuels

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 ppm at 600 s
- Dynamic Range: 0.65 ppm - 3000 ppm
- Fits on any lab 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

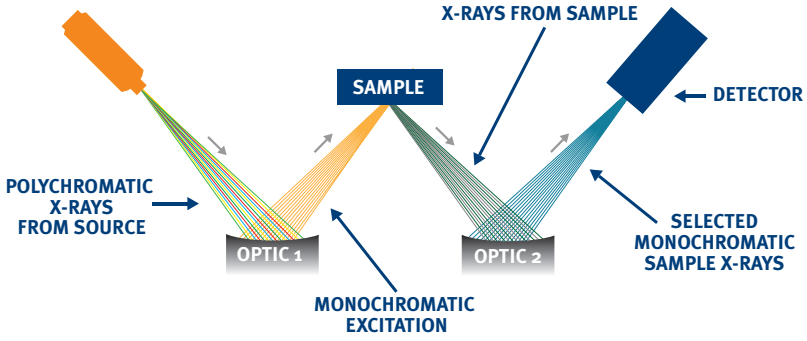
Options

- LIMS data output compatible software

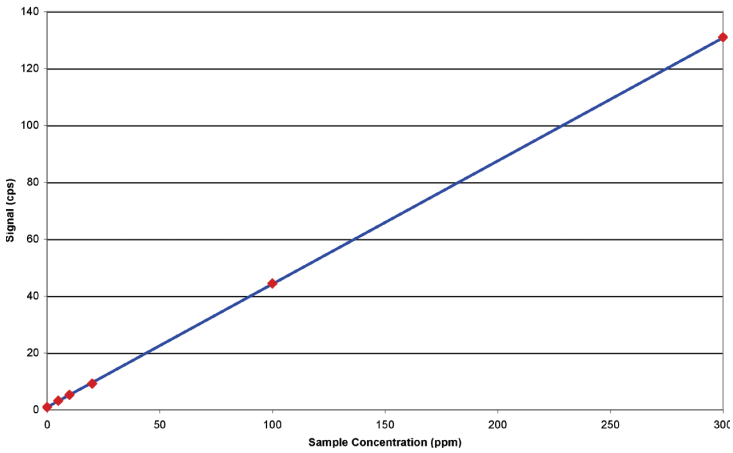
ASTM D7757

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	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
Sample Cup Volume	10 ml
Ambient Temperature Requirements	5-40° C (40-104° F)
Dynamic Range	0.65 ppm - 3000 ppm
Measurement	User selectable: 30-900 s
Calibration	8 calibration curves. Automatic and manual calibration functionality

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

XOS®
better analysis counts

P.O. Box 1128
Granger, IN 46530
Lazar Scientific, Inc.
574-271-7020
sales@lazarsci.com
www.lazarsci.com