



**better analysis counts**

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# Signal

Silicon Analyzer M-SERIES



## 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 Clora 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:

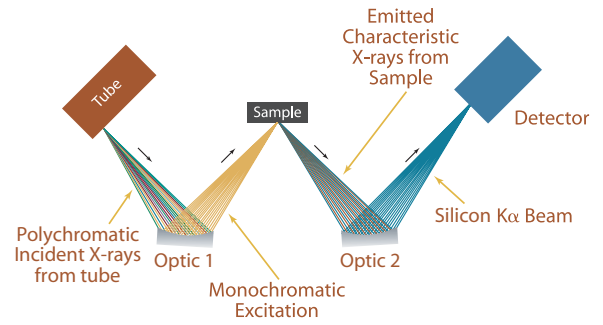
- LOD: 0.5 ppm at 600 s.
- Dynamic Range: 0.5 ppm to 3000 ppm.
- Fits on any bench.
- Touch Screen user interface.
- User programmable measurement time: 30-900 s.
- No conversion gasses, heating elements, quartz tubes or columns.
- 75 W air-cooled excitation tube.

### Options:

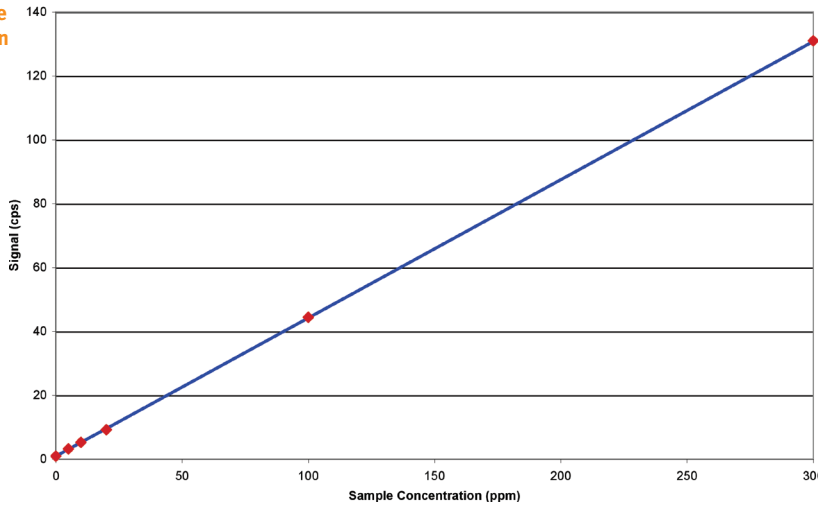
- LIMS compatible data output software.

# 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: 0.5 – 3000 ppm
Measurement	User selectable: 30-900 s
Calibration	8 calibration curves. Automatic and Manual Calibration functionality



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