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## **Многоэлементные анализаторы Heavy Metal On-Line Техническое описание**

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# XOS Heavy Metal On-Line Analyzer



## Product Features

- Innovative monochromatic wavelength dispersive X-ray fluorescence (MWDXRF) technology
- High performance testing and accuracy, with a lower limit of detection: 0.025ppm (lead) and 0.015ppm (arsenic)
- No issues with chromatic or turbidity interference compared with conventional colorimetry
- No consumption of reagents and chemicals and no secondary environmental pollution
- Direct measurement: no sample processing
- Replaceable, air-cooled, low-capacity (50W) X-ray tube
- Plug-and-play with common power supply
- Easy operation, no need for trained professionals
- Optional measurement time
- User-friendly touch screen
- Ultra-low maintenance requirements

## Precise Measurement Without Frequent Maintenance

The XOS Heavy Metal On-Line Analyzer is a state-of-the-art instrument that measures lead and arsenic levels in water. This analyzer utilizes innovative Monochromatic Wavelength Dispersive X-Ray Fluorescence (MWDXRF) technology to ensure the precise measurement performance and testing accuracy of the analyzer and to provide a convenient and reliable means of operation. It is a ground-breaking, cutting-edge product, leagues above other heavy metal analyzers on the market.

# Operating Principles

The XOS Heavy Metal On-Line Analyzer utilizes Monochromatic Wavelength Dispersive X-Ray Fluorescence (MWDXRF) technology for the measurement of lead and arsenic levels in water.

It contains the main MWDXRF analyzer, an on-line flow sampling device, a touch screen, an accessory electronic circuit device and corresponding computer hardware and software systems. The operating principles of the instrument are detailed in the following diagram. An X-ray tube generates a continuous X-ray spectrum with a maximum power of 50W (50kV and 1mA). The Doubly-Curved Crystal (DCC) reflector intercepts X-rays of a certain wavelength from the X-ray tube and focuses them into a highly intensive monochromatic excitation beam, which is cast onto the test sample to excite the electrons of the lead or arsenic. The emitted X-rays from the sample are then intercepted by another DCC reflector and focused onto a detector. The intensity measured by the detector (counts per second) is in direct proportion to the content of lead or arsenic (mg/kg) in the sample. As such, the content of lead or arsenic can be calculated via a calibration formula according to the detected intensity.

Compared with the multichromatic light excitation adopted by traditional high-capacity WDXRF technology, the XOS Heavy Metal On-Line Analyzer requires only a low-capacity X-ray tube integrated with a DCC reflector to generate monochromatic excited light rays of sufficient intensity. Monochromatic X-ray excitation distinctively reduces background noise, simplifies the base correction, and increases the Signal to Noise Ratio (SNR).

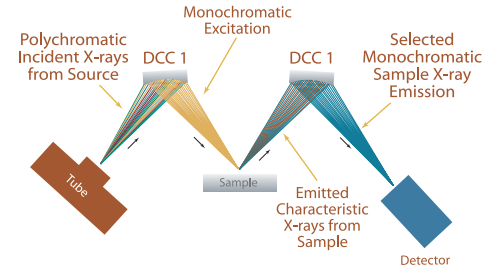


Figure 1. Optical Path of the MWDXRF Analyzer

## Product Parameters

SPECIFICATIONS	DESCRIPTIONS
Power source	230 VAC ± 10%, 50-60 Hz (hertz)
Power consumption	400 VA (volt-ampere)
Fuse rating	Independent breaker, 4A, 250V, with leakage protection (leaking current 30mA)
Equipment AC requirements	90-264 V AC, 47 – 63 Hz (hertz)
Measurement technology	Monochrome wavelength dispersive X-ray fluorescence (MWDXRF) technology
Analytical ranges	Arsenic – 0.015 mg/L.- 5 mg/L Lead – 0.025 mg/L.- 10 mg/L
Detection limits	Arsenic – 0.015 mg/L. Lead – 0.025 mg/L
Flow rate	50-80mL/min
Sample pressure	5-50psi
IP rating	IP 53
Communication ports	RS-485 (Modbus)
Relative humidity	30% - 85%
External dimensions	1040 mm × 600 mm × 437.16mm (H x W x D)
Operating temperature	10 - 40 degrees Celsius
Relays	220V, 3A, 2 channels
<b>Product Name</b>	<b>Order Number</b>
XOS 2-1 Heavy Metal On-Line Analyzer	402505-01PbAs
XOS Total Lead On-Line Analyzer	402505-01Pb
XOS Total Arsenic On-Line Analyzer	402505-01As



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