

 **QUAKELOGIC**

QL-SpectraED12

ENVIRONMENTAL ELEMENTAL ANALYSIS SYSTEM



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- The QL-SpectraED12 EDXRF Environmental Elemental Analysis System is a high-performance benchtop Energy Dispersive X-Ray Fluorescence (EDXRF) spectrometer designed for rapid, non-destructive elemental analysis across a broad range of environmental, geological, industrial, and research applications. The system is optimized for air filter analysis, soil and sediment testing, petrochemical analysis, pharmaceuticals, minerals, ceramics, and advanced material characterization.
- Equipped with an advanced Silicon Drift Detector (SDD), intelligent multi-sample automation, vacuum and helium-assisted light element analysis capability, and powerful quantitative analysis software, the system delivers highly sensitive, reliable, and repeatable results from fluorine (F) through heavy elements.
- The platform supports simultaneous multi-element analysis with automated sample recognition, advanced matrix correction algorithms, and flexible application-specific calibration modules suitable for laboratory and regulatory analytical workflows.

✓ Technical Specifications:

- Benchtop / standalone Energy Dispersive X-Ray Fluorescence (EDXRF) spectrometer system

- Elemental analysis range: Fluorine (F) to Uranium (U)

- Analytical concentration range: Sub-ppm to 100 wt%

- Analytical detection limit: As low as 0.2 ppm for light matrices

- Detector energy resolution: ≤ 129 eV @ 5.9 keV

- Count rate capability: ≥ 1000 kcps @ 50% dead time

- Tube voltage range: 50 kV

- Tube current range: 0–1000 μ A

- Simultaneous multi-element analysis capability

- Advanced electrically cooled Silicon Drift Detector (SDD)

- High-speed digital multi-channel analyzer with advanced signal processing

- X-ray tube excitation source with silver (Ag) anode

- Multi-filter excitation system with automated filter switching

- Intelligent collimator and excitation optimization system

- Vacuum, helium, and atmospheric operating modes



Technical Specifications:

- Optimized light-element analysis capability for fluorine and other low-Z elements
- Automated sample recognition and intelligent analytical curve selection
- Multi-position removable sample changer system
- Integrated sample spinning / rotation system for improved sample homogeneity analysis
- 12-position autosampler
- Factory calibration support for environmental air filter analysis in accordance with EPA IO-3.3 methodology
- Compatible with air filters up to 51.5 mm diameter
- Quantitative and standardless analysis capability
- Multi-layer sample analysis capability
- Fresh and used lubricating oil analysis modules
- User-definable quantitative calibration functionality
- Batch spectra export capability in ASCII/plain text format
- Advanced matrix correction and multivariate regression algorithms
- Integrated HD sample observation camera



✓ Technical Specifications:



- Automated report generation and historical data management
- Windows-based instrument control and data processing software
- Compatible with 230 V / 50 Hz power supply
- Simultaneous analysis of multiple elements within a single measurement
- Manufactured in accordance with ISO 9001 quality standards
- Fully enclosed radiation-shielded safety design with multi-level interlock protection
- Includes on-site operator training
- Includes installation, commissioning, and operational verification
- Spare parts and technical support availability guaranteed for minimum 5 years
- Includes comprehensive 12-month warranty
- Remote technical support and application assistance included



Advanced Elemental Analysis & Environmental Spectroscopy Solutions

Corporate Headquarters

QUAKELOGIC INC.
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Executive Support Line

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Direct support for EDXRF spectroscopy systems, elemental analysis solutions, and laboratory analytical applications.

Available Monday - Friday, 9 AM - 5 PM PST

Strategic Inquiries

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For environmental elemental analysis systems, material characterization solutions, and laboratory spectroscopy applications.

Our Commitment to Advanced Elemental Analysis Solutions

High-Sensitivity Element Detection

Delivering precise and repeatable elemental analysis performance for environmental, geological, industrial, and research applications.

Advanced EDXRF Analytical Performance

Providing stable multi-element analysis capability with intelligent matrix correction algorithms and optimized light-element detection.

Dedicated Client Support

Ensuring reliable operational and technical support, application assistance, operator training, and commissioning services for laboratory environments.

Scan to Explore Environmental Elemental Analysis Solutions



Explore EDXRF Spectroscopy Capabilities and Multi-Element Analysis Applications

Discover how QL-SpectraED12 enhances analytical accuracy, automation, and environmental elemental analysis performance for modern laboratory workflows.

www.quakelogic.net