

QL-AlloyScan Pro

QUAKELOGIC

HANDHELD XRF ALLOY ANALYZER



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Handheld XRF Alloy Analyzer



RAPID NON-DESTRUCTIVE ELEMENTAL ALLOY ANALYSIS

The QL-AlloyScan Pro is a portable energy-dispersive X-ray fluorescence (EDXRF) analyzer for rapid, non-destructive elemental and alloy identification in field, laboratory, manufacturing, aerospace, and quality-control settings. It measures Magnesium through Uranium with enhanced light-element performance and no helium or vacuum, delivering Positive Material Identification and quantitative results in about one second. A 50 kV silver-anode tube and high-performance SDD detector drive accuracy in a compact handheld platform.

- Delivers Positive Material Identification and quantitative results in approximately one second, keeping inspection throughput high on production lines and in the field.
- Analyzes light elements Mg, Al, Si, P, and S without helium purge or vacuum, simplifying operation and reducing consumable costs.
- Rechargeable 9,000 mAh battery supports up to 12 hours of operation, enabling all-shift portable use away from mains power.
- Sealed waterproof, dust-resistant construction with integrated safety interlocks protects the operator and instrument across harsh field environments.

STANDARD FEATURES »

- SDD / Fast-SDD Detector
- Silver-Anode X-Ray Tube
- Automatic Filter System
- Selectable Dual Collimators
- 5-inch HD Touchscreen
- Sample-Positioning Camera
- Wi-Fi and Bluetooth
- USB Data Interface
- Automatic Sample Detection
- X-Ray Tube Shutoff
- Safety Interlock
- Radiation Shielding
- Sealed Waterproof Housing
- Dust-Resistant Construction
- Status Indicator Lights
- Rechargeable Lithium Battery
- User & Expert Modes
- Analytical Software Included
- Expandable Storage Support

Key Features

- Analyzes Magnesium through Uranium (Z 12–92) and up to 40 elements simultaneously, covering the full alloy-identification range in a single measurement.
- 50 kV, 200 μ A silver-anode miniature X-ray tube pairs with a high-performance SDD detector for accurate excitation and fast, precise readings.
- Detector resolution to 128 eV separates closely spaced spectral peaks, improving grade discrimination and quantitative accuracy for demanding PMI work.
- Selectable 4.0 mm and 2.0 mm collimators with a multi-position automatic filter system optimize measurement for varied sample sizes and elements.
- 5-inch HD touchscreen and integrated sample-positioning camera streamline aiming, operation, and on-screen review of elemental identification results.
- USB, Wi-Fi, and Bluetooth connectivity plus professional software enable downloading, managing, reviewing, storing, and exporting scans and analytical data.
- Automatic sample detection blocks X-ray emission with no sample present, backed by automatic tube shutoff and integrated interlock protection.
- User Mode and Expert Mode adapt the interface to operator skill level, from guided routine checks to detailed analytical configuration.
- Rechargeable 9,000 mAh lithium battery and universal 110–220 V adapter provide up to 12 hours of continuous field operation.

PRODUCT FEATURES

Excitation Source

50 kV, 200 μ A miniature X-ray tube · Silver (Ag) anode / target · Integrated high-voltage power supply

Detection

High-performance SDD / Fast-SDD detector · Resolution up to 128 eV · Up to 40 elements simultaneously

Measurement

Range Mg through U (Z 12–92) · ppm to 99.99% concentration · $\approx$ 1 s analysis, adjustable to 60 s

Optics & Sampling

4.0 mm and 2.0 mm selectable collimators · Multi-position automatic filter system · Solid, liquid, and powder samples

User Interface

5-inch HD touchscreen, 1080 $\times$ 720 · Integrated sample-positioning camera · User Mode and Expert Mode

Connectivity & Data

USB computer interface · Wi-Fi and Bluetooth wireless · Expandable mass storage

Safety

Automatic sample detection cutoff · Automatic X-ray tube shutoff · Interlock and radiation shielding

Power

9,000 mAh rechargeable lithium battery · Up to 12 hours operation · Universal 110–220 V adapter

For more information about the features, specifications, and available configurations of the QL-AlloyScan Pro, please contact QuakeLogic.

MACHINE CONFIGURATION

COMPONENT	CONFIGURATION
System Type	Portable Handheld EDXRF Analyzer
Excitation Source	Miniature End-Window X-Ray Tube, 50 kV / 200 µA
Anode / Target	Silver (Ag)
Detector	High-Performance SDD / Fast-SDD
Collimator	4.0 mm & 2.0 mm Selectable
Filter System	Multi-Position Automatic
Display	5-inch HD LCD Touchscreen, 1080 × 720
Camera	Integrated High-Resolution Positioning Camera
Connectivity	USB, Wi-Fi, Bluetooth
Power Source	9,000 mAh Rechargeable Lithium Battery
Charging Input	Universal 110–220 V Adapter
Software	Professional Alloy-Analysis & Results Management

CAPACITY

SPECIFICATION	VALUE
Elemental Range	Mg through U (Atomic No. 12–92)
Light Elements	Mg, Al, Si, P, S (no He/vacuum)
Simultaneous Elements	Up to 40
Concentration Range	ppm to 99.99%
Typical Analysis Time	≈1 second
Max Measurement Time	Up to 60 seconds
Detector Resolution	Up to 128 eV
Sample Types	Solid, Liquid, Powder
Battery Operation	Up to 12 hours

OPTIONAL FEATURES & ACCESSORIES

EXPANDABLE MEMORY STORAGE

Adds memory card capacity beyond the integrated storage for high-volume logging of scans and analytical results in the field.

SPARE LITHIUM BATTERY PACK

A second 9,000 mAh rechargeable battery extends continuous operation across long shifts and remote deployments without downtime for charging.

VEHICLE CAR CHARGER

12 V vehicle charging accessory keeps the analyzer powered during mobile inspection routes and site-to-site travel.

HEAVY-DUTY CARRYING CASE

Rugged protective case secures the analyzer, batteries, and accessories for safe transport and storage in demanding environments.

TECHNICAL SPECIFICATIONS (CONT.)

SPECIFICATION	DESCRIPTION
System Type	Portable Handheld EDXRF Analyzer
Primary Application	Elemental & Alloy Analysis, PMI
Elemental Measurement Range	Mg through U (Z 12-92)
Light Element Analysis	Mg, Al, Si, P, S enhanced
Helium / Vacuum Requirement	Not required
Typical Analysis Time	≈1 second
Adjustable Measurement Time	Up to 60 seconds
X-Ray Tube Voltage	50 kV
X-Ray Tube Current	200 µA
Anode / Target	Silver (Ag)
Excitation Source	Miniature End-Window X-Ray Tube
Detector	High-Performance SDD / Fast-SDD
Detector Resolution	Up to 128 eV
Simultaneous Analysis	Up to 40 elements
Measurement Range	ppm to 99.99%
Sample Types	Solid, Liquid, Powder
Analysis Method	EDXRF

SPECIFICATION	DESCRIPTION
Collimator	4.0 mm & 2.0 mm selectable
Filter System	Multi-position automatic
Display	5-inch HD LCD Touchscreen
Display Resolution	1080 × 720
Integrated Camera	High-resolution positioning camera
Data Storage	Integrated, expandable
Computer Connectivity	USB interface
Wireless Connectivity	Wi-Fi and Bluetooth
Operating Modes	User Mode & Expert Mode
Sample Detection Safety	Auto-blocks emission without sample
Automatic X-Ray Protection	Automatic tube shutoff
Safety Interlock	Integrated linkage/interlock
Radiation Protection	Shielding & reinforced test wall
Electrical Safety	NEC-compliant design
Battery	9,000 mAh rechargeable lithium
Typical Battery Operation	Up to 12 hours
Charging Input	Universal 110–220 V adapter

TECHNICAL SPECIFICATIONS (CONT.)

SPECIFICATION	DESCRIPTION
Operating Humidity	<90% RH
Operating Temperature	-4°F to +122°F (-20°C to +50°C)
Dimensions	9.6 × 3.5 × 13.0 in (244 × 90 × 330 mm)

SPECIFICATION	DESCRIPTION
Weight	3.7 lb (1.7 kg)
Environmental Protection	Sealed, waterproof, dust-resistant
Status Indicators	Multi-color intelligent indication

QL-AlloyScan Pro

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About QuakeLogic:

QuakeLogic Inc. is a California-based engineering and technology company providing innovative, reliable, high-quality solutions to customers worldwide.

Our Commitment

We are committed to quality, innovation, and customer satisfaction – building lasting partnerships through reliable solutions and dependable support.

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