QUALITEST™

ADVANCED TESTING TECHNOLOGIES

PORTABLE HANDHELD XRF ANALYZER

QualiX-2000 Series

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The **QualiX-2000 Series** is a highly versatile and portable XRF Analyzer designed for accurate and non-destructive analysis of various materials such as steel, stainless steel alloys, precious metals, minerals, electronic components, toys, food products, and more. Its compact, handheld design makes it ideal for use in the lab, on the shop floor, or in the field, offering mobility with its shoulder and wrist straps. The QualiX-2000 is also perfect for verifying incoming materials, identifying unknown samples, determining specific alloy grades, and ensuring compliance with industry standards (RoHS, NSF, CBCC, etc.).

The analysis process is simple: place the detector on the sample and press the trigger. The built-in 5" touchscreen displays real-time elemental analysis, including the percentage of each detected element. With pre-loaded libraries of common materials, the system improves accuracy with longer testing and can identify material grades if found in its database.

The QualiX-2000 Series is available in two configurations:

- **QualiX-2000-A:** Optimized for **alloy analysis**, suited for manufacturers and fabricators working with metals.
- **QualiX-2000-M:** Designed for **mineral analysis**, specialized for detecting trace elements in geological samples.

MATERIALS AND INDUSTRY APPLICATIONS

Metal and Alloy Identification

Verifies the composition of stainless steel, aluminum, titanium, and other industrial alloys with precision and speed.

Precious Metal Testing

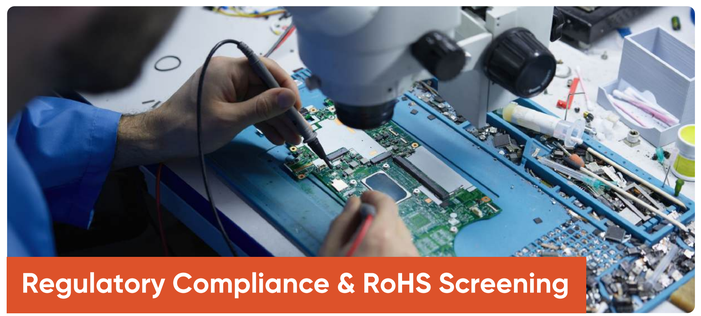
Accurately measures the purity of gold, silver, and platinum, making it ideal for jewelry, refining, and precious metal industries.

Scrap Metal Recycling

Enables fast and reliable sorting and valuation of scrap metals, optimizing recycling efficiency and profitability.

Mining and Geological Exploration

Detects and quantifies elemental composition in ores, minerals, and raw materials for exploration and quality assessment.



Regulatory Compliance & RoHS Screening

Confirms that materials meet environmental and safety standards by identifying restricted elements such as lead (Pb), mercury (Hg), and cadmium (Cd).

Coating Thickness Measurement

Provides precise analysis of plating and surface coatings in manufacturing and quality control applications.

FEATURES/ADVANTAGES

Ergonomic and Durable Design: The lightweight, compact QualiX-2000 Series features an ergonomic handle and a durable instrument bumper for easy field use. It includes a portable test bench, a 360° rotatable 5-inch HD screen for flexible viewing, and a waterproof, dustproof construction for reliable operation in harsh conditions, all without needing sample preparation.

Fast and Versatile Detection: The QualiX-2000 provides rapid, nondestructive detection with results in under one second, delivering accuracy comparable to benchtop analyzer. It supports simultaneous multi-element analysis, including light elements like magnesium, without the need for helium. Its ultra-near optical path design ensures high performance.

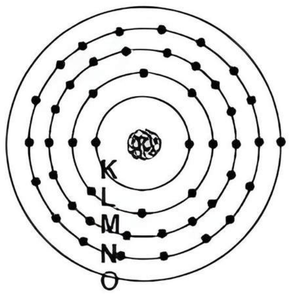
Intelligent Software Integration: Offers advanced software designed for fast, high-sensitivity analysis with user-friendly operation. It features dual-mode operation—User mode for simple one-key sample identification and Expert mode for detailed, in-depth analysis. Additionally, the internal intensity correction method ensures accuracy by compensating for sample variations in geometry, density, and structure.

Advanced Configuration: Equipped with four core components —Miniature X-ray tube, Fast-SDD detector, digital signal processor, and intelligent multi-channel analysis module—delivering accuracy comparable to benchtop systems. It also features a built-in 500W pixel high-definition camera for precise sample positioning, ensuring more accurate measurements.

Extended Battery Life: Equipped with a high-capacity 27,000mAh lithium battery, the QualiX-2000 can operate for up to three days on a single charge. It also includes a built-in memory battery to ensure continuous power during battery replacements, and comes with a car charger for convenient recharging in the field.

Comprehensive Safety Features: Features a tricolor LED early-warning system that displays the instrument's status at a 360° angle—green for power on, red for active testing, and yellow for equipment faults. It also includes triple safety protection with automatic induction to prevent operation without a sample, thickened walls to block radiation, and a safety cover to prevent light scattering.

ASTM E1621: XRF ELEMENTAL ANALYSIS for Accurate Material Identification



As described in ASTM E1621, X-ray fluorescence (XRF) spectrometry is utilized to determine the presence of metallic and non-metallic elements in solid and liquid samples. The process involves bombarding a sample with high-energy X-rays, which ionize atoms by causing electrons in the inner orbital shells to be ejected into outer shells.

This ionization creates instability within the atom, causing an electron from an outer orbital shell to fall into the inner orbital to replace the ejected electron. When the electron moves from an outer, higher-energy orbital to an inner, lower-energy orbital, the energy difference is released as a photon.

The energy of this photon is characteristic of the specific elements in the sample. The XRF detector collects these photons and measures their energy levels, categorizing them based on the emitted radiation. The relative intensity of each wavelength of characteristic radiation provides a precise indication of the proportion of the elements in the sample.

TECHNICAL SPECIFICATIONS

Specification	QualiX-2000-A	QualiX-2000-M
Analytical Method	Energy dispersive X ray fluorescence analytical Method	
Elements Measuring Range	Atomic number from 12 to 92 [elements from magnesium (Mg) to uranium (U)] can be measured	
Simultaneous detector elements	Simultaneous analyze 40 elements at a time	
The content range	ppm ~ 99.99%	
The detection time	1 – 60 seconds (results will be displayed within 1 second); duration of test will increase accuracy of results	
Connectivity	GPS, Wi-Fi, Bluetooth	
Power Supply	Rechargeable lithium battery, standard is 9000mAh, sustainable work up to 12 hours; optional is 27000mAh superbattery with wide voltage 110V ~ 220V universal adapter for recharging power supply	
Detection Objective	Solid, liquid, powder	
Detector	Fast-SDD detector (optional Fast-SDD detector is available upon request)	
Detector resolution	Minimum can reach 128eV	
The excitation source	50KV/200μA– Ag/Rh end window integrated miniature X-ray tube and high voltage power supply	
Collimator and filter	Collimator diameters are 4.0mm and 2.0mm, 6 kinds of filters with automatic switching functions	
Video system	800W pixel high resolution camera	500W pixel high resolution camera
Display screen	5-inch HD LCD touch screen with 1080*720 resolution; Supports multi-touch with 2 or more touch points; Screen can rotate 90 degrees up and down and 270 degrees left and right, facilitating data viewing in bright light conditions	

TECHNICAL SPECIFICATIONS

Specification	QualiX-2000A	QualiX-2000M
Analytical Method	Energy Dispersive X-ray Fluorescence (EDXRF)	
Elements Measuring Range	Atomic number 12–92 (Element from Magnesium (Mg) to Uranium (U))	
Simultaneous Detector Elements	Up to 40 elements simultaneously	
Microcomputer System	8 GB internal memory, 32 GB mass storage	Customized CPU, 1 GB system memory, up to 32 GB storage (standard 4 GB)
Content Range	ppm – 99.99%	
Detection Time	1–60 s (as fast as 1 s reporting)	
Built-in System	GPS, Wi-Fi, Bluetooth	
Power Supply	Rechargeable lithium battery 9000 mAh (≈12 h); optional 27000 mAh super battery; 110–220 V universal adapter	
Detection Objective	Solid, liquid, powder	
Detector	Fast-SDD detector	SDD detector (Fast-SDD optional)
Detector Resolution	Minimum 128 eV	
Excitation Source	50 kV / 200 µA Rh target X-ray tube	50 kV / 200 µA Ag (silver) target X-ray tube
Collimator & Filter	4.0 mm & 2.0 mm collimators; 6 filters with automatic switching	

TECHNICAL SPECIFICATIONS

Specification	QualiX-2000A	QualiX-2000M
Video System	500 W-pixel high-resolution camera	
Display Screen	5-inch transflective LCD touchscreen (readable in bright sunlight and low-light environments) Resolution: 1080 × 720	
Detection Limit	Minimum 1–500 ppm	
Safety	Multiple safety protections; no radiation during standby; automatic X-ray tube shut-off; radiation levels far below international standards; thickened alloy test wall	
Specialty / Software	Special ores analytical software; intelligent one-key testing	
Convenience of Application	Automatic curve matching; no manual curve selection required	
Data Transmission	Digital multi-channel technology; SPI data transmission; waterproof mini-USB; desktop PC connection	
Operating Ambient Humidity	≤ 90%	
Operating Temperature	–20 °C to +50 °C	
Instrument Dimensions	244 mm × 90 mm × 330 mm (L × W × H)	
Instrument Weight	1.7 kg (3.74 lbs)	
Intelligent Warning Indicator	Green: power on · Red flashing: testing · Yellow flashing: error/problem	
Accessories (Standard & Optional)	Military-grade protective case (compression, waterproof, shock-proof), universal charger, car charger, SD card & reader, PDA accessories, radiation shield; optional large battery, test stand, Bluetooth printer, mill, manual press, sieves.	

OPTIONAL ACCESSORIES

Military-Grade Protective Box:
A high-strength, moisture-proof, and shockproof protective case that also functions as an emergency rescue tool in critical situations.

Horseshoe Shaped Battery:
With a capacity of 27,000mAh, this high-performance battery extends testing time by up to three times and doubles as a convenient seat stent.

Portable Bluetooth Printer:
Enables on-site data printing, offering greater mobility and convenience during testing operations.

Optional Portable Test Bench:
Available in both portable and seat types, giving customers greater flexibility in how they conduct their testing operations.

Four-in-One Car Charger:
Designed to extend charging options in the field, allowing for efficient charging of multiple devices simultaneously.

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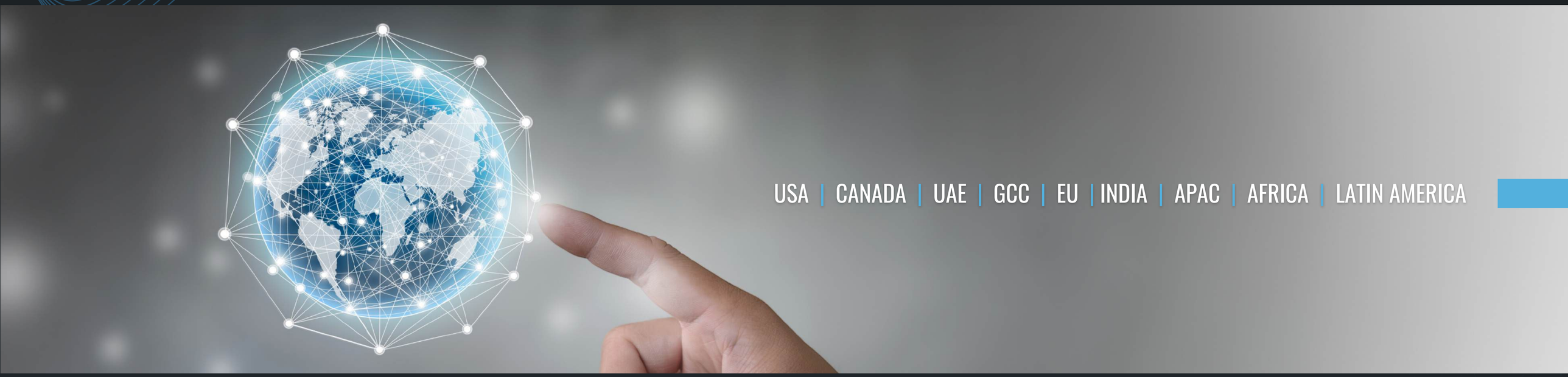

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Connect with us

*Contact our **QualiTeam** today to find out how we can help your organization **select the most suitable testing solution** for your application, requirements, and budget.*

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