KARAT METER G-series

Fixed sample position "bottom-up" geometry bench-top metal spectrometer for determination of precious alloys is and jewellery samples

Quantum the well-known organization consist group of professionals, each having several years of experience in the field of analytical, scientific, process, test & measuring instrumentation. The company with its experience for more than 2 decades in X-ray technology introduces always innovation in precious measurements with latest hardware, intuitive software and simplicity in operation at affordable cost.

Karatmeter G-series is bench-top, fast, precise & non-destructive unit for accurate elemental analysis. Fixed sample position precisely & swiftly determines the percentage by weight (or Karat) in a solid piece of jewellery, precious coins or any other piece of noble metal making use of X-ray assay technique. It successfully determines the elemental composition of Gold alloys, Platinum group metals & Silver alloys. The analysis of bulk material & layer thickness is non-contact and non-destructive without any requirement for sample preparation. With additional calibration module, it can be even use for special coating thickness applications and plating chemical analysis.

Who Benefits

Karatmeter G-series metal spectrometer is ideal for labs and production lines, particularly where users have:

- Limited bench space
- Budget limitations
- A preference for "bottom-up" operation with optional motorized z-focusing
- The need to position smaller samples quickly and easily for fast output

Key Features

The two most distinctive features of the G-series are precision video imaging, and "bottom-up" measurement using a fixed plate or optional motorized z-axis with laser-based auto-focus. An optional manual X-Y stage with 1.5X1.5" travel facilitates easy positioning of small and large parts. These features are unique as compared with other suppliers.

Configuration

The standard configuration includes a dual collimator, a camera with a fixed focal distance, solid-state silicon PIN detector, and a long-life X-ray tube. As with all existing or new models, components can be upgraded to include multiple collimators, a variable focal depth camera or high resolution SDD/FSDD detector.

Elemental Analysis

Coating Thickness Measurement

Solution & Powder Analysis

KARAT METER G-series

Standard Specifications:

Principle Energy dispersive (ED-XRF) X-ray fluorescence spectrometer to measure precious metals and alloys.

Design Universal robust “bottom-up” geometry to measure samples with fast output. The large door opening hood allows easy sample handling for positioning and measurement.

Electrical Conditions Operates on standard external AC adaptor works with mains power supply between 110-240VAC, 50/60Hz, 100W.

External Conditions Operating 0 - 40 degree C

Storage/transportation 0 - 50 degree C

Relative Humidity < 95%

Sample Handling Fixed sample plate, optional motorized Z-axis with laser based auto-focus and optional manual X-Y position stage.

Sample Image High resolution CCD color video microscope for optical image of sample position with cross -hair and spot size on calibrated scale. Adjustable illumination and magnification upto 40x.

Interface Standard single USB interface with external laptop/desktop WIN based computer.

Software XralizeR special software package pre-calibrated for major precious metals and alloys with help driven menu and customized report generation formats.

Approvals CE design approval, AERB approval for radiation safety, IP40 dust & moisture protection, DIN ISO 3497 & 23345 and ASTM B 568 approvals for standard XRF measuring techniques.

	Karatmeter G3	Karatmeter G4
Excitation Source	W-target, micro-focus, Be-window tube	W-target, micro-focus, Be-window tube
High Voltage	50kV/1mA Programmable	50kV/1mA Programable
Primary Filter	5-slectable filters	5-selectable filters
Collimator	Dual 0.5 & 1.5mm	4-selectable
Detector Type Resolution	Silicon drift SDD detector, peltier cooled <160eV	Fast large window silicon drift FSDD detector, peltier cooled <145eV
Element Range	Al (13) to U (92)	Na (11) to U (92)
Precision @60sec	< 0.3%	< 0.3%
Application Area	Refineries, assay offices, hallmarking centres, bullion traders	Refineries, goldsmith, hallmarking and assaying centres, bullion merchants
Dimensions(WxDxH)	350x450x350mm	350x450x350mm
Weight	approx. 24kgs	approx. 24kgs

- Karatmeter is a registered trademark of Quantum Equipment Co. Pvt. Ltd., Mumbai – India.
- The above listed specifications are standard and any specification change or special product modification available upon request.

Quantum Equipment Co. Pvt. Ltd.

301, Rajshree Plaza, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086. India.
+91 (22) 2500 5010 / 11 /12
quantum@karatmeter.com • www.karatmeter.com

MAKE IN INDIA