DATA SHEET

GOLDSTARK® XGM - 500

Microanalytik Instruments Pvt. Ltd. - presents

GOLDSTARK series XRF with High Performance X-Ray Fluorescence for Fast and Non-destructive Material Analysis and Coating Thickness Measuring Instruments Analysis of Jewelry, Coins and Precious Metals

Description

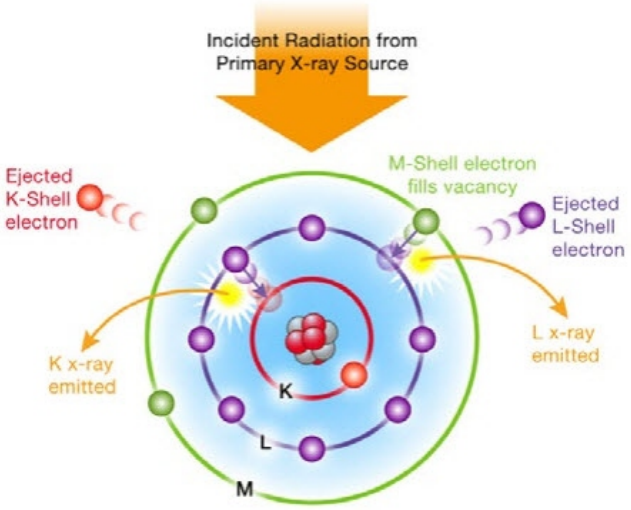
The GOLDSTARK SI-PIN is latest Innovation in field of XRF it is equipped with latest detector technology with very less noise and better count rate as compare with Prop Counter detector.

They are well suited for the non-destructive coating thickness measurement and material analysis to trace even very small amount of metal presence because of very high count rate.

The GOLDSTARK SI-PIN Instruments are especially well suited for measuring Analyzing thin coatings, even with very complex compositions or small concentrations can be possible with high accuracy rate because of better resolution ≤145 eV than those Prop Counter technologies.

XRF Principle

X-ray fluorescence analysis has it's basis in the phenomenon that, when atoms in a material sample are excited by the primary X-ray radiation, electrons from innermost shells are released, the resultant vacancies are filled by electron from the outer shells.



During these transitions, fluorescent radiation is generated that is characteristic for each elements.
This is ready by the detector and provides information on the composition of the samples.

Applications

Because ED-XRF is capable of determination the composition of materials and measuring thin coatings and coating systems, there is a wide variety of applications for this technology, Examples include :

- In the electronics and semiconductor industries, thin Gold, Palladium and Nickel coatings are as certained on contacts or on traces.
- In the watch and jewellery industries or in precious metal refining, accurate knowledge of the composition of precious metal alloys is required.
- For manufacturers and importers of electronic goods, it is critical to be able to monitor compliance with the Restriction of Hazardous substances (RoHS) Directive.
- The toy industry also dependent on the reliable detection of harmful substances.
- X-RAY measurement systems are optimally suited for all these purposes.

Typical fields of application

- Gold Testing / Touch Shop
- Gold Bullion and Jewellery Valuer
- Platinum and silver

Advance Features

- Technological alternative to fire assay for elemental analysis
- On the spot certification of Karat content, (0-24 KARAT)
- Identification impurities & Powder like Ir, Ru, Rh, Ni, Pb, Fe, Co, Sn, Os, In And other Elements
- Analysis of platinum, gold, silver and other precious alloys
- Silver Analysis is also possible
- Verification of gold content in scrap gold
- Outstanding accuracy and long term stability are characteristics of all GOLDSTARK Instruments
- X-RAY systems the necessity of recalibration is dramatically reduced, saving time and effort for high accuracy tasks calibrations can be performed at any time
- The fundamental parameter method by GOLDSTARK allows for the analysis of solid and liquid specimens as well as coating systems without calibration

Technical Specification

Parameter	GOLDSTARK XGM - 500
Element Range	Elements can be identified from Ti (22)-U (92)
Design	Bench Top unit with upwards opening hood
Measuring Direction	Bottom to Top
X-Ray Tube	Micro-Focus Tungsten Tube with W-Target
High Voltage	Adjustable 50 KV
Aperture (Collimator)	Fixed Collimator Ø 1.0 mm or larger
X-Ray Detector	SI-PIN (Silicon Pin AMPTEK)
Resolution (Mn-Ka)	≤ 145 eV
Sample Positioning	Manually
Sample View	Color CCTV High Resolution camera systems, Magnification between 20X
Sample Stage	Fixed Sample Support
Power Supply	110 to 230V AC, 50/60 Hz, Max 120W
Dimensions	425 x 550 x 310 mm WxDxH
Weight	28 Kg Approx
Environment Temp Range	10 - 40 °c

Advance Features