

3600E

Gold Purity Testing Meter/ Karat Meter



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

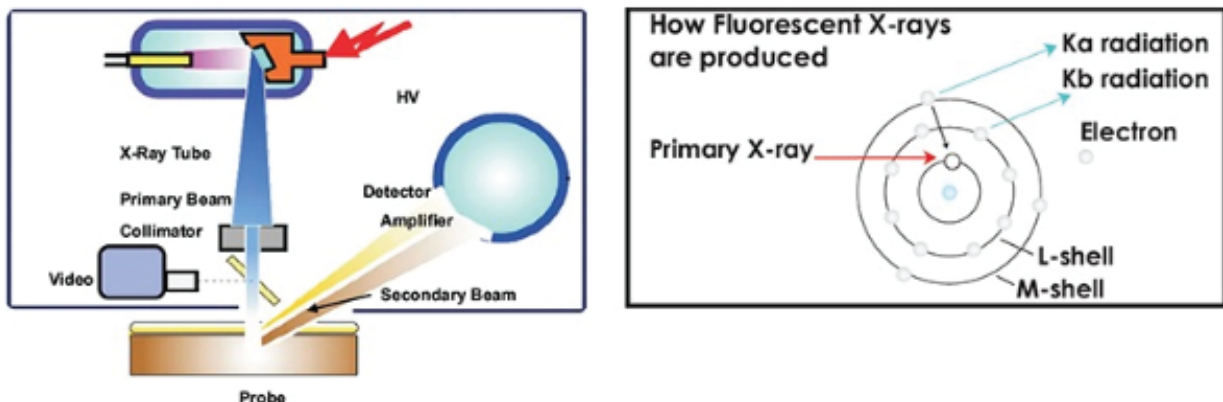
An ISO 9001 Certified Company

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Principal of X-ray Measurement High energy photons emitted by a X-ray tube interact with metal & materials. The high energy photon is absorbed by an electron of the atom. This electron is accelerated and forced to leave the atom. The so created hole in the structure of the electron shell is filled up by an electron of higher energy. The difference is energy between the leaving electrons position and the filling up electron may leave the atom as a photon of defined energy or as an electron. In the case of a leaving photon this process is called X-ray fluorescent and the energy of the leaving photon is characteristic for this atom therefore for the element. The electron shells of an atom are called K-, L-, M-shell.

Filling up a hole in the K-Shell creates, K-radiation (K_α if the filling up electron has its origin in the L-shell, K_β if the filling up electron has its origin in the M-shell). Filling up a hole in the L-shell creates L-radiation and so on. Only K and L radiation is of interest because the energy of K and L radiation is in the region which can be detected with standard detectors.

Principal of X-ray Measurement:



Features:

- X-Master is the user-friendly operating software for the modern suit of X-ray systems.
- This program used most modern software tools available for Windows operating platforms.
- The main task of the operating software is the control of all system parameters such as high voltage settings, X-ray tube current, display of collimators and filters as well as the collection and manipulation of the measurement data.

Capability:

- Empirical calibration mode for calibrating unit using well assessed standard samples.
- Fundamental calibration mode for standard free calibrations.
- Simultaneous quantitative measurement up to 8 elements.
- Qualitative material identification upto 20 elements.
- Spectrum analysis for semi-quantitative concentration measurement.

Applications:

Plating/Coating Thickness Analyzer

Hallmarking Centers

Gold Jewellery

Banks

Technology:

Proportional Counter Detector

(Prop counter)

Based on Gas filled prop counter for measuring most common alloys including gold for jewellery industry.

(Prop counter)

Gas filled Proportional counter has distinct advantages like high efficiency, wide bandwidth larger area where it can be scaled to almost arbitrarily large size.

Silicon Detector (Si-PIN):

Based on high resolution Si-PIN is used for alloys analyzing in jewellery industry including gold & silver, even one step ahead for accuracy & repeatability compare to Gas filled pro counter.

Si-PIN with the usage of a high resolution silicon detector in conjunction digital signal processing achieves best detection limits and highest precision. Based on that, an about four times better resolution (in comparison with conventional technique) the element separation is much better.

Furthermore lowest detection limits are achieved because of better signal to noise ratio. The Si-PIN is available with a larger active area and thicker depletion depth. Where resolution is not critical but high detection efficiency is important, the Si-PIN is the best choice.

Silicon Drift Detector (SDD):

Based on high resolution SDD which is ultimate for alloys analysing industry it's high resolution helps better repeatability and accuracy of measurement.

SDD has better energy resolution than a Si-PIN of the Same area. The SDD has much better energy resolution at short peaking times, which is particularly helpful at high count rates. At the noise corner (the peaking time where the noise is minimal) the SDD's resolution is still better. So where the highest resolution is needed, or where good resolution is needed at high count rates, the SDD is the choice.

Measurement performance features:

Automatic application, recognition. application & standards library.
 Numerical filtering package with peak deconvolution.

Chamber performance capability:

Automatic application, recognition. application & standards library.
 Numerical filtering package with peak deconvolution.

Technical Specification:

Model	3600E
Brand	Analytical
Measuring Direction	Bottom to Top
Applied Application	Gold, Brass & Silver Analysis in jewellery and alloys, Coating Thickness Measurement on Metals
X-Ray Tube	Mini-focus, high performance, W-target, Spot 0.2mm-0.8mm
High Voltage	50kV (1.2mA) Software Control Optimized
Major Element Analysis	Au,Ag,Cu
Detector	High resolution Gas Filled Prop Counter (Optional Si-PIN & SDD)
Detector Resolution	130-160 eV
Measurement Time	60 sec. to 180 sec.
Collimator	0.3mmØ or 0.5mmØ, Optional four positions Collimator changer
Sample Stage	Fixed Sample Positioning
Power Supply	230VAC, 50/60Hz, 120W/100W
Inside chamber	300 mm X 300 mm X 250 mm
Dimension	350 x 450 x 310 mm (WxDxH)
Weight	32 kg



HPLC Servicing, Validation, Trainings and Preventive Maintenance :

HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

Trainings :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

AMC's/CMC :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

Validations :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

Instruments :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



About Analytical Technologies

Analytical Technologies is synonymous for offering technologies for doing analysis and is the Fastest Growing Global Brand having presence in at least 96 countries across the global. Analytical Technologies Limited is an ISO:9001 Certified Company engaged in Designing, Manufacturing, Marketing & providing Services for the Analytical, Chromatography, Spectroscopy, Bio Technology, Bio Medical, Clinical Diagnostics, Material Science & General Laboratory Instrumentation. Analytical Technologies, India has across the Country operations with at least 4 Regional Offices, 6 Branch Offices & Service Centers. Distributors & Channel partners worldwide.

Our Products & Technologies



LCMS



Automated Prep-Flash
Chromatography system



Maldi TOF



Optima Gas
Chromatograph



Flash
Chromatograph



DAC
Column



GCMS
3068



UHPLC



HPTLC



Ion Chromatograph



Production
HPLC



HPLC



Column



DLS



Water purification
system

▶▶▶ Regulatory compliances



▶▶▶ Corporate Social Responsibility

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Analytical Foundation

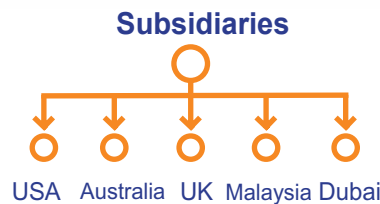
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2. Improving quality of life by offering **YOGA Training courses, Work shops / Seminars** etc.

3. **ANALYTICAL FOUNDATION** aims to DETOXIFY human minds, souls and body by means of Yoga, Meditation, Ayurveda, Naturecure, Health Care, Ara, Events, Camps etc.

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