Karatmeter


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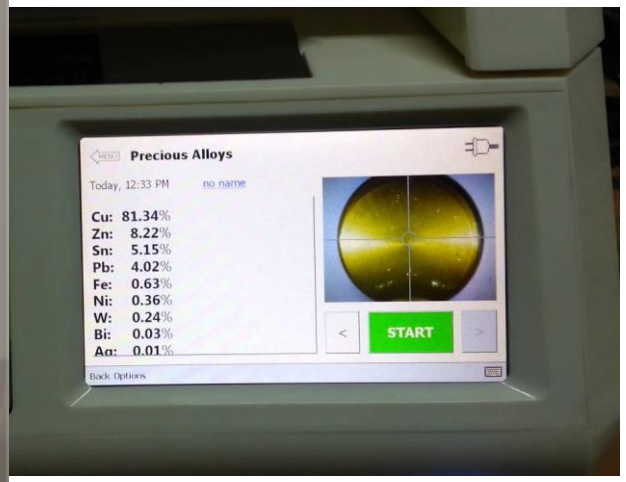
Precious Alloys
Today, 12:33 PM
no name
Cu: 81.34%
Zn: 8.22%
Sn: 5.15%
Pb: 4.02%
Fe: 0.63%
Ni: 0.36%
W: 0.24%
Bi: 0.03%
Ag: 0.01%
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Introduction

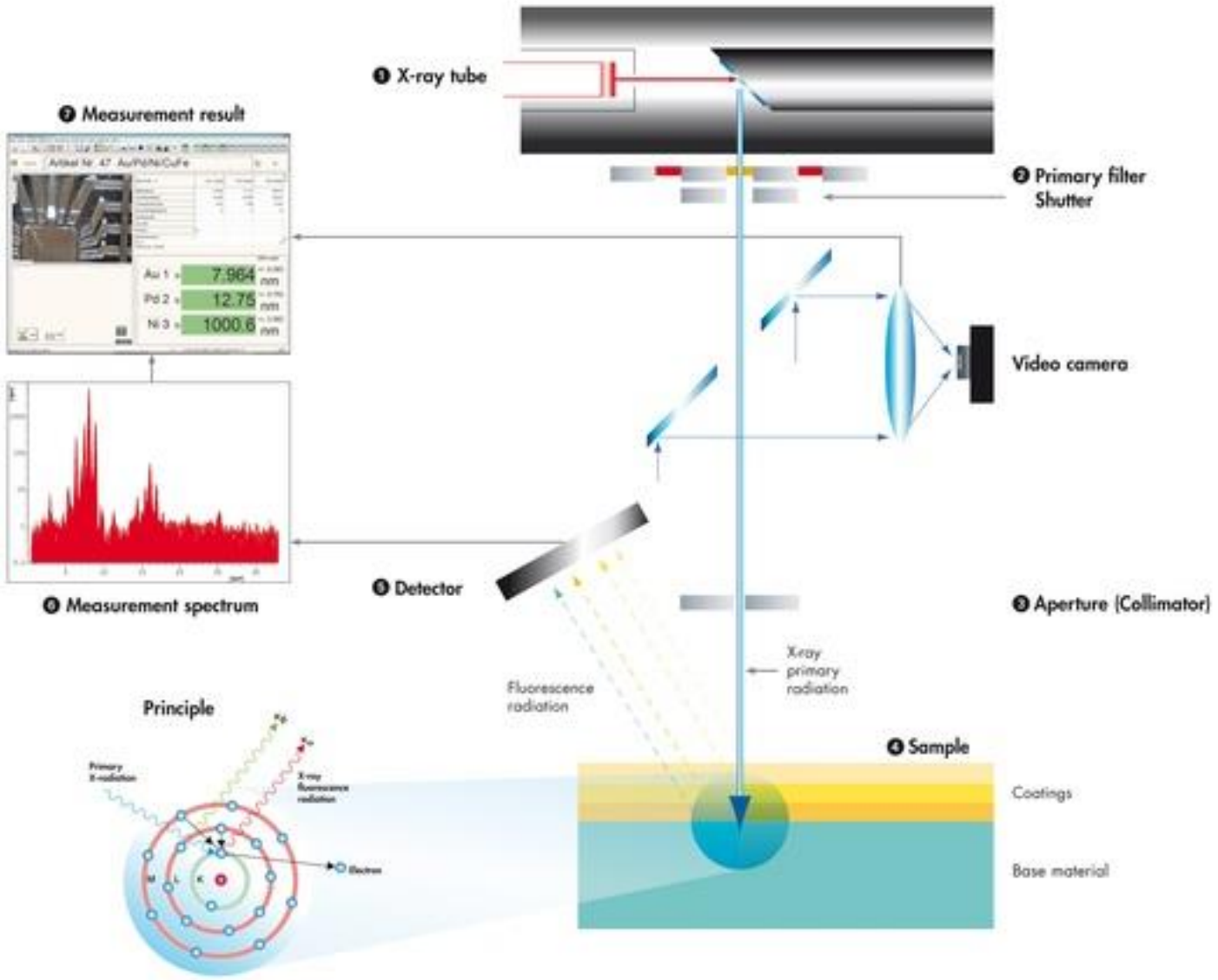
- Karatmeter is a fast, accurate, and non-destructive tool to test the purity of gold and other precious metals.
- First developed by an India-based company named Quantum Equipment Co. Pvt. Ltd. founded by Mr. DM Musale and Mrs. Vaishali Dake-Musale.
- International agencies use Karameter as a part of certification to hallmark gold.
- Karatmeter gold alloy analyzer is based on Energy Dispersive X-Ray Fluorescence (ED-XRF) technique.
- It can successfully determine the elemental composition of the alloys of gold, silver, platinum, and rhodium.
- The device can analyze the bulk and layer in non-contact non-destructive with requirement for little sample preparation.

Technical Specifications

Parameter	MODEL KARATMETER SL
X-Ray Tube	50 W (50kV and 1mA) micro-focused W anode tube from top.
Detector	Silicon solid state PIN detector with 190eV resolution or better. Optional Silicon Drift Detector (SDD) with 135eV resolution or better.
Detectable Range	From Al(13) to U(92) • Composition Analysis of up to 25 elements simultaneously. • 5 layers (4 layers + base) and 10 elements in each layer.
Filters / Collimator	4 Primary Filters / Optional 4 motorised collimators.
Digital Pulse Processing	• 4096 CH digital multi-channel analyser with flexible shaping time. • Automatic signal processing including dead time and escape peak correction.
Camera Optics	1/4" CMOS-1280x720 VGA resolution
Measuring Stage	• Manual Scissor Z-Stage • Optional motorized Z-axis /auto focus and programmable X-Y stage
Focal Depths	Multi fixed focal depths with laser
Computer	Intel, CORE i5 3470 Processor (3.2GHz), 8GB DDR3 Memory, Microsoft Windows 7 Professional 64bit or equivalent or better.
Power Supply	230/110 VAC, 50/60 Hz
Unit Dimensions	Height: 450 mm (18"), Width: 450 mm (18"), Depth: 600 mm (24")
Chamber Dimensions	Height: 140mm (5.5"), Width: 310mm (12") , Depth: 355 mm (14")
Weight	34 Kg

Operating Mode of a FISCHERSCOPE® X-RAY Instrument

Coating Thickness Measurement and Material Analysis Using X-Ray Fluorescence



Advantages

- It is non- contact and non-destructive for of gold testing
- Short analysis time
- Gives a accurate metal composition
- Sample can be solid, liquid, and powder
- Lab-quality analysis in a fully portable, easy-to-use system

Disadvantages

- Karatmeter can’t measure below 6K gold.