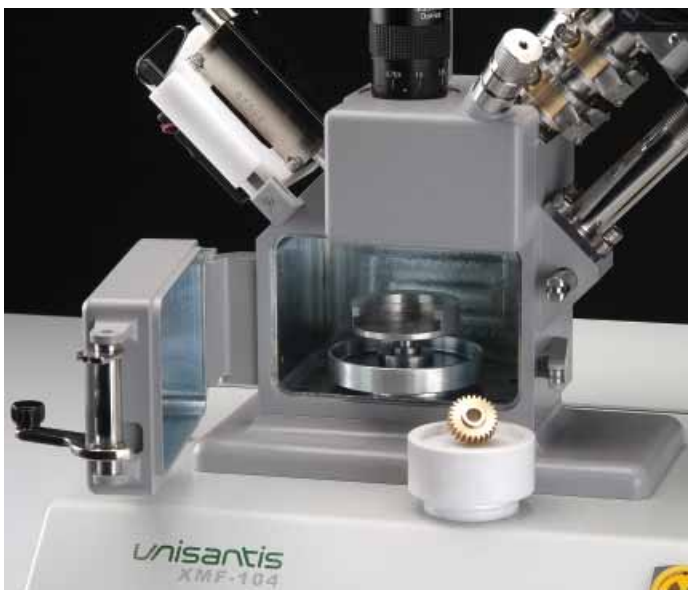




## High Speed Micro ED X-Ray Spectrometer



- Precise, fast and reliable micro EDXRF analysis
- Compact table-top design
- High intensity X-Ray spot using patented focusing polycapillary optics
- Maintenance free, lightweight and user-friendly operation
- Qualitative and quantitative micro analysis of varied materials
- LCD display with membrane key-pads for device settings

## XMF-104

## User Benefits

- Measurement range: ppm to 100%
- Rapid non-destructive micro EDXRF analysis
- Minimal/zero sample preparation
- Elemental detection range from Al (Aluminium) to U (Uranium) under atmospheric conditions
- Easy to operate and near-zero maintenance
- Joystick operated XYZ stage for precise sample positioning
- Powerful software for qualitative and quantitative analysis with intelligent element identification, up to 20 elements simultaneously
- Standard USB 2.0 interface over PC or laptop
- Optical microscope with 15x to 60x magnification
- Greater radiation safety
- Transportable table-top design



## Applications

The XMF-104 offers a variety of analysis, quality control and research applications in several fields, including:

- Engineering and metallurgical industries
- Jewellery and precious metal industry
- University and educational institutions
- Geology and mining
- Archaeological and art studies
- Cement, refractories and ceramic industries
- Paint and chemical industries
- Forensic and customs inspection labs
- Food and cosmetics
- Plastic, PVC and rubber industries
- RoHS & WEEE (cables, switches, plastic devices, etc.)
- XMF-104 compact table-top  $\mu$ EDXRF



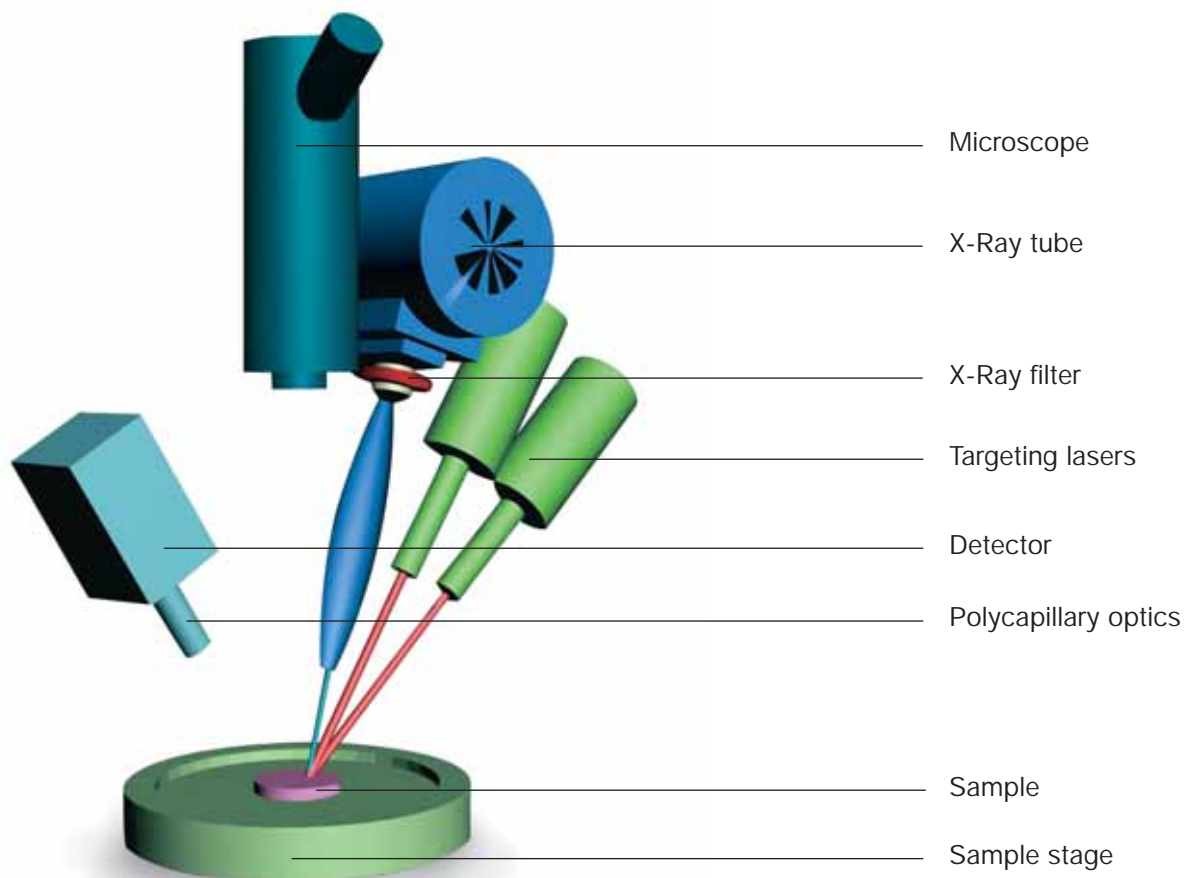
# Technical Features

The XMF-104 uses a two-stage Peltier cooled, compact Si-PIN detector. This reduces the dimensions of the instrument significantly and also eliminates the need for cooling of the detector with liquid nitrogen.

- Rapid analysis using patented polycapillary focusing optics
- Air cooled X-Ray tube and solid state detector for near-zero maintenance
- Highest degree of radiation protection
- Low power (50W), high intensity 80 micron X-Ray beam spot



XMF-104 compact table-top μEDXRF



- Dual lasers to focus the analysis point precisely
- Optical microscope with 15x to 60x zoom

# Type of Analysis

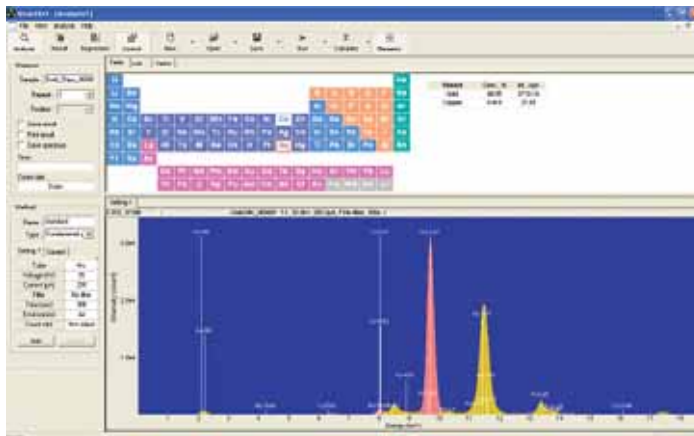
- Non-destructive elemental analysis.
- Qualitative and quantitative elemental analysis for low concentrations and sizes down to 100 microns.
- Samples in a wide range of physical forms – solids, powders, pressed
- Pellets, granules, films, coatings, irregular shapes and particles.



Gold Analysis



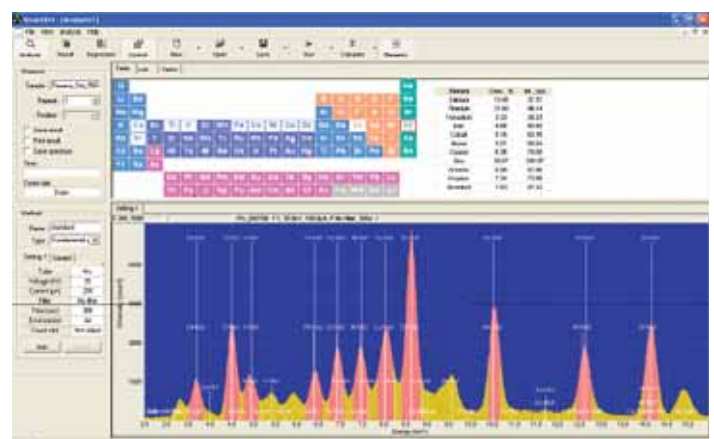
Geological Analysis



Spectrum of Gold Chip using Unisantis XMF-104

# Software Features

- User-friendly device control & analysis software
- Including context sensitive on-screen help
- Analysis methods include – Fundamental Parameters,
- Alpha Correction and Regression
- Easy calibration and monitoring of energy scale
- On-screen Instrument status display
- Operates under Windows XP environment
- Optional offline spectral simulation



Spectrum of Fluxana multi element Standard using Unisantis XMF-104

# Technical Specifications

## General Information

Elemental detection range	Al (13) to U (92) in air media
Type of samples	Solid, powder and films
Concentration range	ppm to 100%
Sample positioning	Optical microscope, assisted by dual laser beams
Microscope magnification	15x to 60x
Maximum sample size	50(Ø) x 30(H)mm

## Detector

Type	Si-PIN (Liquid N2 Free)
Cooling method	Two-stage Peltier
Energy resolution @ 5.9keV, Fe55	186eV
Detection area	7mm <sup>2</sup>

## X-Ray Tube

Anode current	0 to 1mA
Anode voltage	4kV to 50kV
Maximum power	50W continuous
Focal spot size	<100µm
Anode material	Mo
Cooling method	Forced air

## X-Ray Optics

Type	Patented polycapillary focusing lens
Lens focal spot size	~80µm (for Mo-tube)

## PC configuration (Recommended by Unisantis)

CPU	Pentium IV – 1.8GHz or higher
Notebook (preferred) or desktop PC	IBM-Compatible
RAM	Minimum 512MB
Hard disk	Minimum 40GB
Removable media	CD-RW – DVD ROM drive
Ports	3 or more free USB
Display	SVGA / TFT colour monitor

## Software

Operating system	MS Windows XP
Analysis functions	Qualitative and quantitative
Functions	Data acquisition Background stripping Curve fitting Peak identification Instrument status monitor
Quantitative analysis methods	Fundamental parameters & alpha correction (standard less) Regression (using standards)

## General

Power supply	100 to 275V AC ± 10% ; 50/60Hz
Power consumption	<100W
Weight	34kg (approx)
Operating temperature	5 to 40°C
Humidity	20 to 80% RH non condensing

## Safety

Comply with	CE, IEC, EN and Vollschutz standards
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## X-Ray Radiation Safety

Equipment	RöV Vollschutz He/Ro/V/3 23/95
Radiation level	less than 1µSv/h at 10cm from the outside surface

## Company Profile

Unisantis Europe GmbH is a global leader in development and manufacture of innovative X-Ray analytical instrumentation, complete solutions and software for structural and elemental analysis. Unisantis products utilize patented optics, well known for excellent beam collimation and focussing. Success in research has enabled Unisantis to develop new cutting edge X-Ray technology, applications and products for the market. Our products have particular applications in material characterization, life sciences and industrial analysis.

Their instruments incorporate a new range of user benefits, including transportability and multifunctionality all comprised in compact, bench top, user-friendly, environmentally safe and low energy consumption equipment.



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OS/MNF/2/Mar-08

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