

Portable X-Ray Fluorescence Spectrometer ElvaX



**Non-destructive,
fast and versatile analysis**

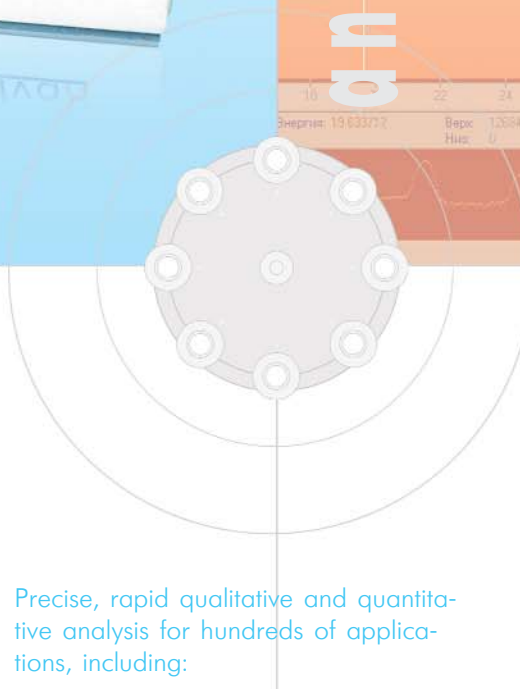
Introducing **ElvaX**:
The Next Generation Desktop
Spectrometer

Engineered to meet the growing demand for precise qualitative and quantitative analysis of solids, liquids and powders, **ElvaX** delivers the precision and accuracy of expensive stationary lab spectrometers for a fraction of the price of comparable performance systems.

Capable of detecting Mg (12) - U (92) in a wide range of elemental concentrations, **ElvaX** provides ultimate versatility for a vast array of modern industrial and scientific applications in which elemental composition has to be known in a matter of minutes. With a completely automated measuring process and an intuitive, user-friendly inter-

face, **ElvaX** is simple to operate for even the novice user. No time-consuming specimen preparation is required, and samples may be of any shape. In addition, **ElvaX** is one of the few desktop EDXRF analyzers that does not require liquid nitrogen cooling of its solid state X-ray detector.

For the past decade this unique tool has been widely used in Europe, US, Russia, Middle East, India and many other countries worldwide.



Precise, rapid qualitative and quantitative analysis for hundreds of applications, including:

- Jewelry & Precious Metals Assay
- Metallurgy & Chemical Analysis
- Customs & Criminal Forensics
- Medical Research & Diagnostics
- Food, Feed & Cosmetics Testing
- Environmental Monitoring
- Archeological Research

analytical equipment

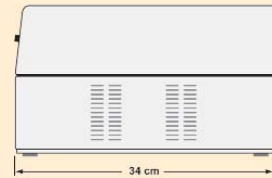
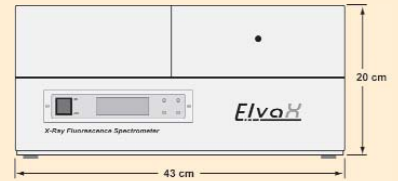
Applications Performance

Measurement Capability	
Detectable Range	Cl (17) - U (92). ElvaX Light option extends range to Mg (12) - U (92); uses Helium purge instead of vacuum chamber.
Detectable Concentration	1.0 ppm for most elements in light matrix; 0.01% for metal alloys.
Key Applications	
Metallurgy	Precious and non-precious metal analysis; steel; ore; solder.
Jewelry & Precious Metals Assay	Gold, Platinum, Silver, Palladium and other precious metals (with or without standard sample).
Chemicals	Elemental analysis of plating solutions, petroleum products, rubber.
Organics	Testing of food, feed and cosmetics for heavy metals and contaminants.
Environmental	Water, soil, burnt ash.
Forensics	Customs control, criminology lab analysis, archeological research.
Medical	Research & development, medical diagnostics.

System Specifications

X-Ray Generation	
X-Ray Tube	Ti or W or Rh target anode, 140 micron Be window, air cooled.
X-Ray Generator	4-50kV (adjustable in 0.1kV steps), 0-100µA (adjustable in 0.2µA steps), 5W max.
Stability	0.1% over 8 hours.
X-Ray Detection	
Detector	Si-PIN diode, thermoelectrically cooled.
Resolution	180eV at 5.9keV (Fe55 isotope).
Beam Size	3 x 4 mm. (Special order up to 10 mm).
Window	Be, 8µm.
Chamber	
Dimensions/Weight	Standard Chamber: 43cm x 34cm x 20cm, 18kg. Large Capacity Chamber: 50cm x 50cm x 38cm, 35kg.
Power Supply	110 VAC/60Hz or 220 VAC/50Hz.
Power Consumption	50W.
Analog-to-Digital Converter	4096-channel, successive approximation, sliding scale, 2µsec conversion time.
Data Acquisition Time	10 - 1200 sec.
Pulse Processing	Time variant shaping amplifier, base line restoration, pulse pile up rejection, rise-time discriminator, automated adaptation to count rate.
Optional Features	Automated multi-position sample carousel. (Contact for specifications.) Sample view video camera. (Contact for specifications.)
Software	
Operating Software	ElvaX™ analysis package, running under Microsoft Windows™ 98, 2000, XP or NT.
Control	X-ray source output, data acquisition system parameters, sample and filter selection (optional).
Spectrum Processing	Automatic peak search, peak deconvolution, background removal, automatic element identification, net peak intensities above background.
Quantitative Analysis Algorithms	Fundamental parameters, quadratic stepwise multiple regression, manual spectra comparison.

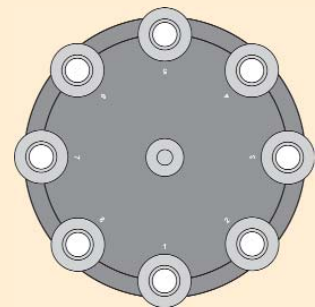
ElvaX Standard Chamber



ElvaX Large Capacity Chamber



Below: Optional multi-sample carousel.



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