

# ElvaX Gold

## X-Ray Fluorescence Spectrometers



### ElvaX Gold: Maximum Performance, Minimum Investment.

**ElvaX Gold** is a compact Energy-Dispersive X-Ray Fluorescence (EDXRF) spectrometer ideally suited for qualitative and quantitative analysis of metal alloys and other solids, liquids and powders.

**ElvaX Gold** is a cost-effective, high performance solution for applications such as jewelry, alloy sorting, and express QC in metallurgy.

With a detectable range of Ti (22) to Pu (94), **ElvaX Gold** delivers accuracy better than 0.3% when measuring metal concentrations in alloys.

**ElvaX Gold** combines a powerful analytical software toolkit with an easy to use interface, meaning even novice operators can be measuring in minutes! The sample chamber accommodates a wide variety of part shapes and sizes, and no time-consuming specimen preparation is required.

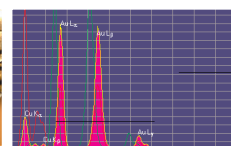
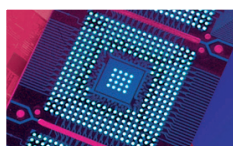
In the lab or in the field, **ElvaX Gold** delivers the performance and precision of an expensive full-size bench top spectrometer - at a considerably lower cost of ownership.

**XCalibur XRF Services** is the exclusive USA distributor of **ElvaX** series EDXRF analysis systems. Please visit [www.xcaliburxrf.com](http://www.xcaliburxrf.com) for our complete range of XRF products and services.

### Key Applications:

**A versatile, cost-effective solution for hundreds of industrial and scientific applications, including:**

- **Precise metal concentrations in complex alloys**
- **Jewelry and precious metals assay**
- **WEEE/RoHS compliance testing and screening of regulated elements (Pb, Hg, Cr, Cd, Br)**

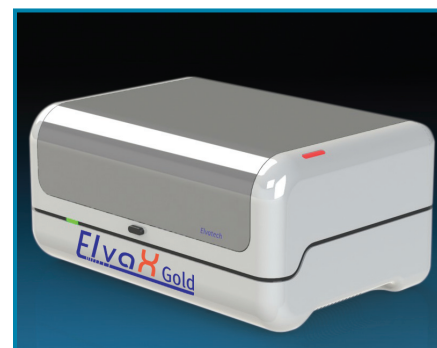


## Applications Performance

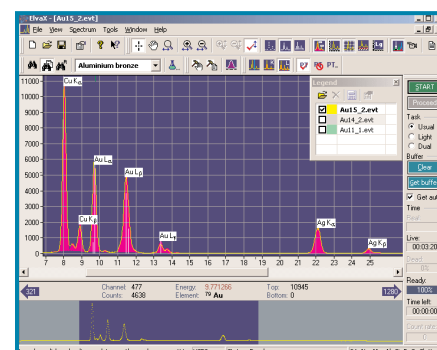
Measurement Capability	
<b>Detectable Range</b>	Ti (22) - Pu (94)
<b>Detectable Concentration</b>	Greater than 0.3% for any metal alloy. 1ppm for most elements in a light matrix.
Key Applications	
<b>WEEE/RoHS</b>	Elemental analysis of plastic, PCB, solder, electronic parts, plating solutions, rubber.
<b>Jewelry and Precious Metals Assay</b>	Gold, Platinum, Silver, Palladium and other precious metals (with or without standard sample).
<b>Metallurgy</b>	Precious and non-precious metal analysis; steel, ore, solder.
<b>Organics</b>	Testing of food, feed and cosmetics for heavy metals and contaminants.
<b>Environmental</b>	Water, soil, burnt ash.
<b>Forensics</b>	Customs control, criminology lab analysis, archeological research.
<b>Medical</b>	Research & development, medical diagnostics.

## System Specifications

X-Ray Generation	
<b>X-Ray Tube</b>	Ti or W target anode, 140 micron Be window, air cooled.
<b>X-Ray Generation</b>	Tube Voltage: 4-40kV (adjustable in 100V steps) Tube Current: 0-100µA (adjustable in 0.2µA steps), 4W max.
<b>Stability</b>	0.1% per 8 hours.
X-Ray Detection	
<b>Detector</b>	Si-PIN diode, thermoelectrically cooled.
<b>Resolution</b>	200 eV at 5.9 keV (Mn Ka line)
<b>Beam Size</b>	5.5 mm <sup>2</sup>
<b>Window</b>	Be, 25µm.
Chamber	
<b>Dimensions/Weight</b>	41cm x 26cm x 20cm, 10kg.
<b>Power Supply</b>	90-240 VAC 50/60Hz
<b>Power Consumption</b>	30W.
<b>ADC</b>	4096-channel, 32 bit per channel.
<b>Data Acquisition Time</b>	10 - 1200 sec.
<b>Pulse Processing</b>	Digital pulse processor, base line restoration, pulse pile up rejection, rise-time discriminator, automated adaptation to count rate.
Software	
<b>Operating Software</b>	ElvaX™ analysis package, running under Microsoft Windows™ 98/NT/2K/XP/7.
<b>Control</b>	X-ray source output, DAQU system parameters, filter selection (optional)
<b>Spectrum Processing</b>	Automatic peak search, peak deconvolution, background removal, automatic element identification, net peak intensities above background.
<b>Quantitative Analysis Algorithms</b>	Fundamental parameters, quadratic stepwise multiple regression, manual spectra comparison.
<b>Reporting</b>	User-customizable data print out.
Options <i>(Special order; contact for details &amp; pricing)</i>	
<b>Optics</b>	Built-in CCD camera; VGA, 640 x 480 pixel field of view.



ElvaX Gold EDXRF Analysis System



ElvaX Gold sample spectrum, Gold alloy