



SPECTROLAB

The XF-6000 “ EDXRF Series For analyzing all elements from Mg to U



Portable desk top EDXRF analyzers
Responsive, bright, color touch screen display
Uses Silicon Drift or Silicon PIN Detector systems for ultra fast analytical times
and optimized precision for trace elements.
One-button operation for fast accurate analysis

Typical Applications

- Metallurgy
- Petrochemicals and Oil
- Metal in oil products
- Mineralogy
- Cement
- Coating thickness measurements
- Alloy analysis and Alloy PMI
- Hazardous metals Inspection: Including Hg, Cd, Cr, Pb
- Electroplating liquid analysis
- RoHS
- Perfect for all types of sample , metal alloys, Precious metals, jewelry and finished product

Features

Accurate determine all elements present
An analysis within 10 seconds.
Identify and characterize a wide range of alloys others
Identify toxic elements in samples or finished products
Manage quality control of refining and smelting operations
Many options for coating thickness measurement and alloy PMI
Quickly and easily create analysis certificates

Safe and secure closed-beam system.
Requires minimal training.
A unique compact instrument taking up minimal desk space.
Can be networked for easy access to testing results as they are being generated.

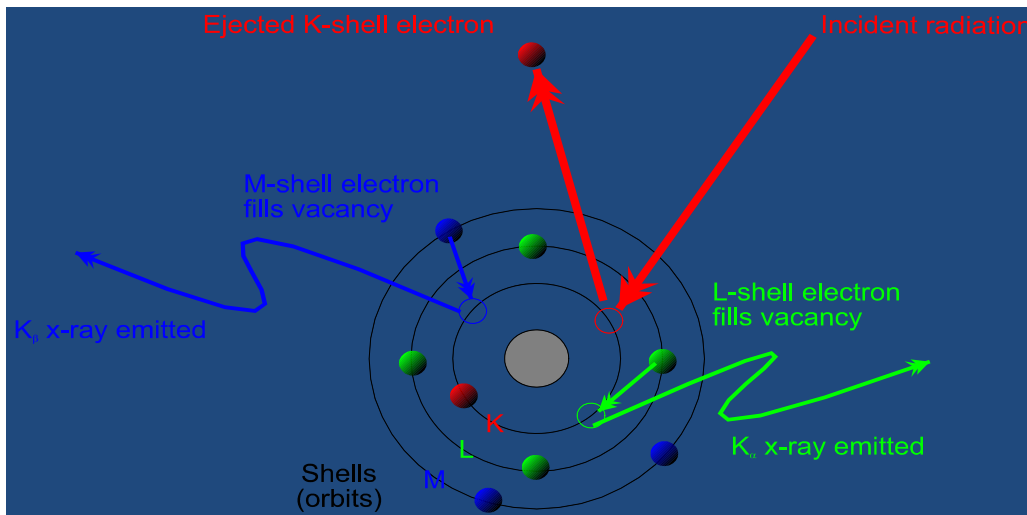
Overview

Nondestructive Precious Metals Assay and Karat ID

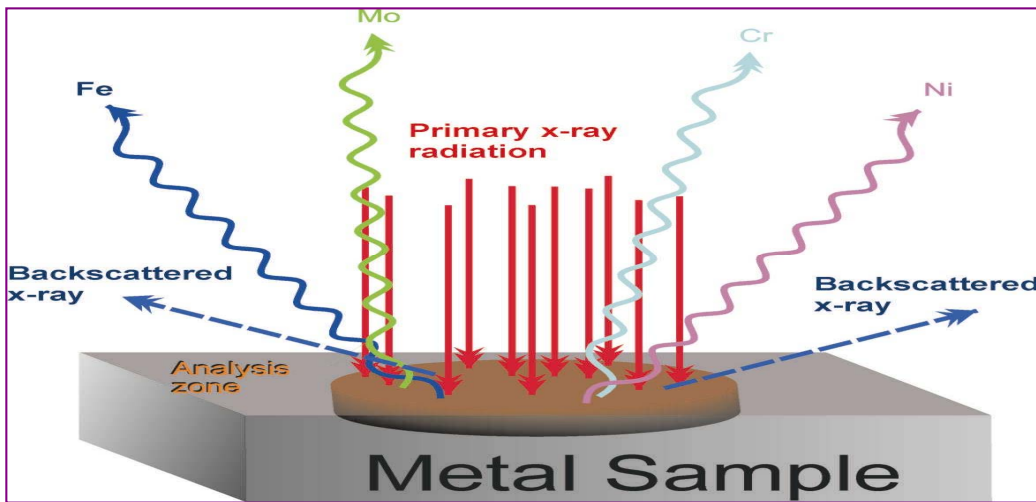
XRF is a widely used, proven and accepted method of chemical analysis used for the determination of purity and quantity of all elements present in any type of sample including solids and liquids, films, coatings, powders or gels. XRF analysis is a multi-elemental testing alternative optical emission and atomic absorption methods but is quicker and less expensive. For those interested in precious metals or jewelry, XRF provides on-the-spot analysis of your Gold, Silver, Platinum, and PGM metals and impurities, plus emeralds, diamonds, and precious stones ensuring customer confidence and dealer reliability. Given the current high value of gold, quantifying its fineness and purity is more critical than ever. Whether you buy or sell gold, manufacture jewelry, fabricate metal, or recycle scrap metal, you always need a fast, highly accurate method to determine karat (gold content) for quality control and pricing.

RoHS applications are a major analytical technique and our Model 6000 is perfect for this need. We offer excellent software suitable for most applications

The Spectrolab XF-6000 series XRF analyzer is an easy-to-use, cost-effective method to obtain a complete analysis of all elements present in a sample in one nondestructive and nonintrusive test.



How the XF-6000 analyzer makes an X-ray fluorescence photon (EDXRF



How the XF-6000 analyzer makes an X-ray fluorescence photon (EDXRF

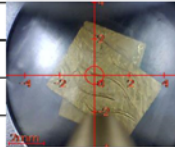

How XRF works

X-rays have a unique ability to ionize or “excite” elements present in materials including oil. When elements such as Sulfur have been ionized by X-rays the electrons quickly return to a relaxed or stable state. In so doing they will emit fluorescent photons whose energy levels are “signatures” of specific elements present. Spectrolab XRF analyzers utilize this phenomenon by imaging ionizing x-rays onto a sample and measure the energy levels of the returning fluorescent x-rays (the elements’ “signature”), The quantity and energy of X-rays measured determines the relative concentration of each individual element present. The onboard microprocessor then provides a complete elemental analysis of the sample and displays it on to a high brightness screen. All of this is done in just a few seconds, The analyzed results are stored in an Excel test report. The onboard microprocessor then provides a complete elemental analysis of the sample and displays it on to a high brightness screen. All of this is done in just a few seconds, The analyzed results are stored in an Excel test report.

Customized Reporting

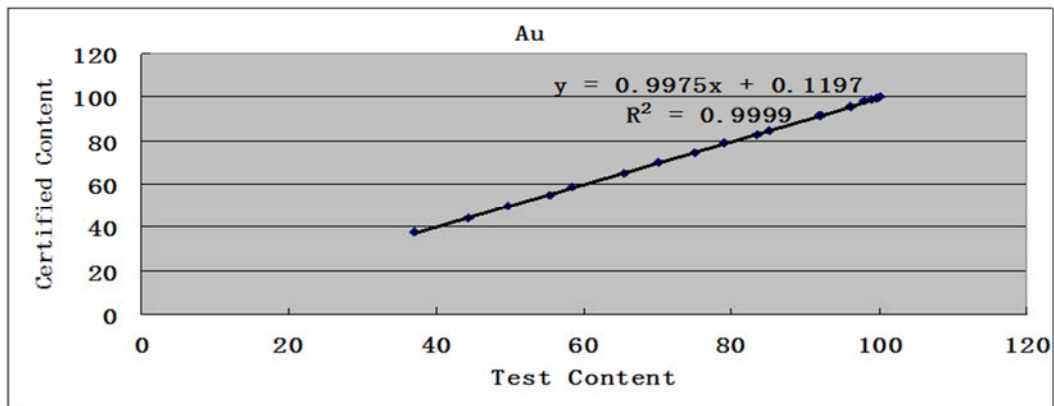
Data can be exported easily to a spreadsheet format, and the integrated memory can be accessed remotely when the XF-6000 is networked via its Windows CE operating system. Customized results and reporting certificates including analytical results, an image of the tested sample, the company logo, and more, can be generated via the optional PC Software with the click of a button.

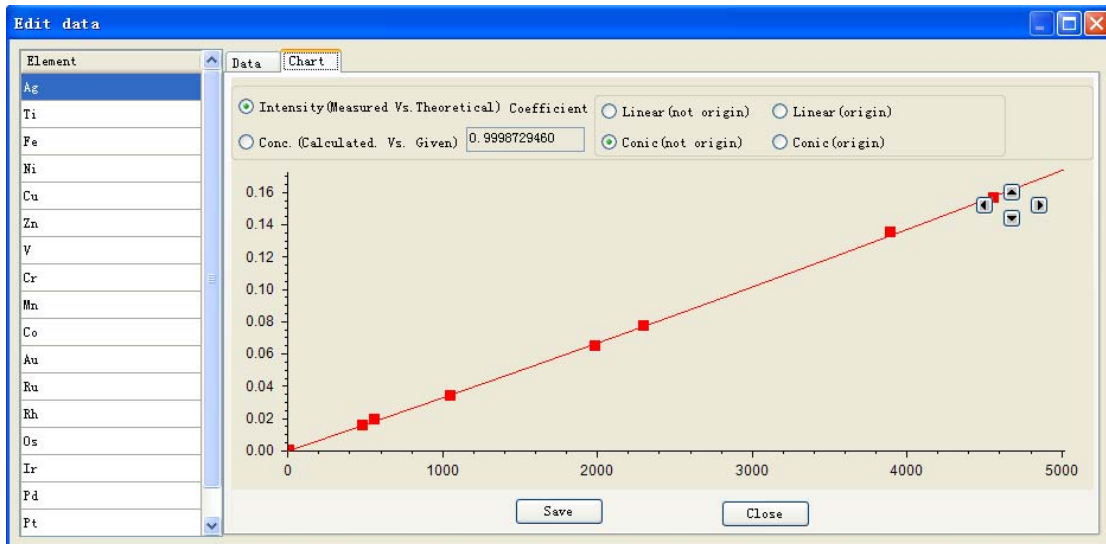
Typical test report format

Test Report													
Sample Name		Gold Piece											
Test Time(s)		30(s)											
Test Date		2014/1/1 17:01											
Gold		75.005(%)				Karat		18 Karat					
Element	Au	Ag	Ni	Cu	Zn	Ru	Rh	Pd	Cd	In	Sn	W	Re
Content	75.005	14.860	2.04	4.010	4.000	0	0	0	0	0	0	0	0
	Os	Ir	Pb	Fe	Co	Ti	Cr	Ge	Mn				
	0	0	0	0	0	0	0	0	0				
Spectrum Photo													

Spectrolab XF-6000 Typical Series Test performance

Showing accuracy for Au in certified Gold alloy standards

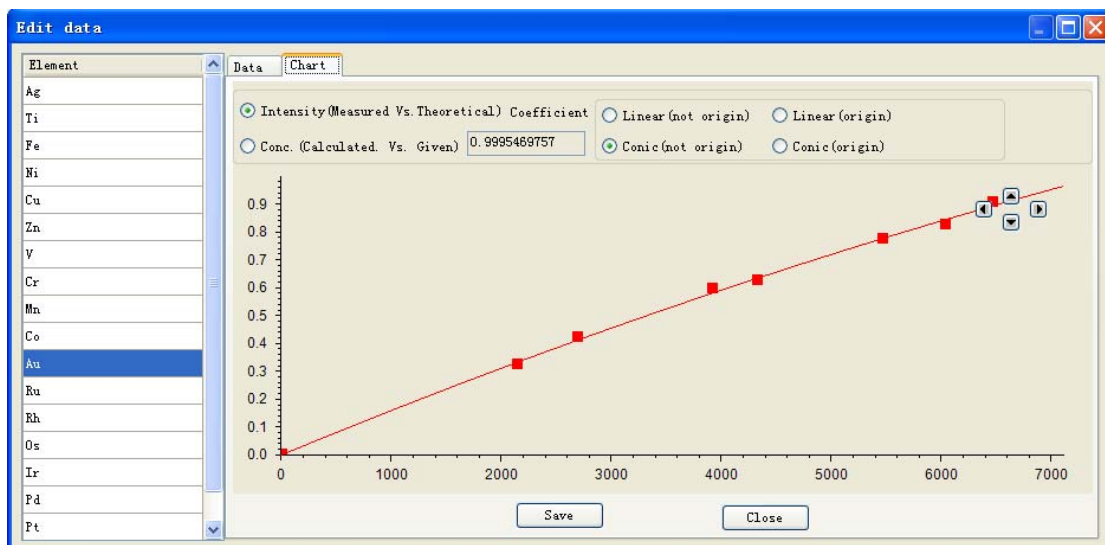




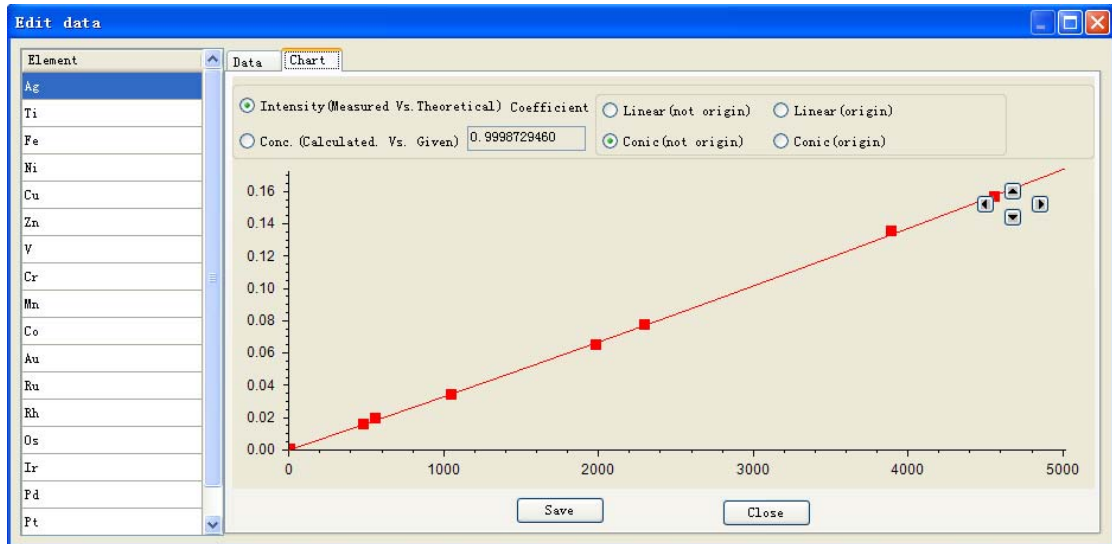
3. Application Examples of the unique **FP** Fundamental Parameter Calibration software

(1) Precious Metal

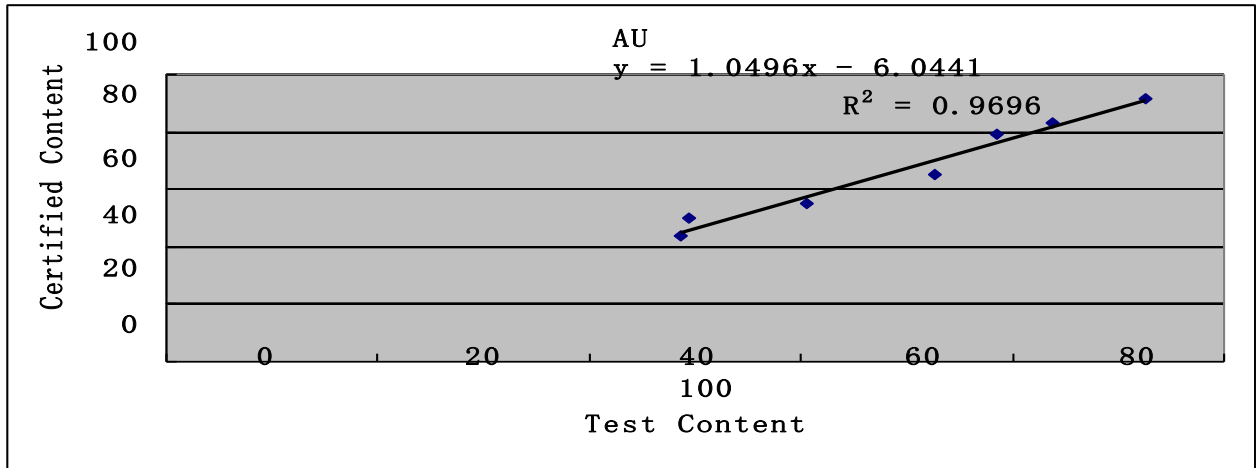
Graph below shows the FP calibration curve of **Au**. (Y axis is theoretical intensity and the X axis is the measured intensity)



Graph below shows the FP calibration curve of **Ag**. (Y axis is theoretical intensity and the X axis is the measured intensity)



Comparison of FP and EC calibration for the same gold standards using the EDX 6000 series E.



Graph above is the EC result (Y axis is the certified value and X axis is the measured value)

General Applications

- | | | |
|-----------------|-----------------|--------------------|
| Metals analysis | Refineries | Mineralogy |
| Pharmaceuticals | Forensics | General Laboratory |
| Alloy analysis | Precious metals | Gold Assaying |
| Archeology | Refining | Field work |
| Petrochem | Oil analysis | RoHS |

Configurations

Model		XF-6000S	XF-6000E
Detector		Si-Pin detector	SDD detector
Description	E serial with integrated touch-screen industrial microprocessor.		
Content Range		2ppm-99.99%	1ppm-99.99%
Element Range		S-U	Mg-U
Calibrations available		Yes	Yes
Calibration Mode		Standard less FP+ Empirical calibrations	Standard less FP+ Empirical calibrations
X-ray Tube power		50 watts & 50KV	50 watts & 50KV
Resolution		145ev	135ev
Test time		60s	30s
Max CPS		50.000	100.000
Collimator		3mm 1mm	1mm 0.5mm(Micro spot)
Precision		<0.05%	<0.02%

Accessories:

Sample cup for liquid and powders

Ring holder



Who needs an XF-6000 EDXRF

The XF 6000E series is recommended for all general applications and those who need the utmost in analytical precision, fast reading times and lighter elements.

The XF 6000S series is recommended for general purpose high accuracy analytical applications including Sulfur in Oil products and RoHS.

Specifications

Spellman High Voltage unit 0-50kV

50 Watts Be window X-ray tube 0-1mA

Silicon Pin detector. Resolution 145 eV at Fe55 Ka

Si Drift detector options

Digital Multichannel analyser

Collimators 1, 3, 8mm plus options

High resolution sample camera included

Includes replacement sample membrane film

Software includes FPP fundamental parameter calibration and

EC Empirical Coefficient algorithms

Programs for Automatic quality analysis, spectrum processing, spectrum comparison,

Intensity correction functions plus standard and standard less calibration modes

Applications

Element range Magnesium to Uranium

Samples Liquids, solids, powders

Test time 100 – 300 secs

Dynamic range for Sulfur in Petroleum

20-1000mg/kg, 0.1%-1%, 1%-5%

Detection limit for Sulfur in petroleum: 2.8mg/kg

Limits of detection (LOD) Sulfur 2.8ppm

Range Sulfur 2.8ppm to 100%

Spectrolab in Science

XRF

FTIR

UV Vis

Raman

GC

Atomic Absorption

Hollow cathode lamps

XRD

Microscopes

Visit our growing web site @



SPECTROLAB

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