

# PHOENIX II

## Using Polarization

### Benchtop ED-XRF Analyzer

The PHOENIX II is a polarized Energy Dispersive X-Ray Fluorescent (ED-XRF) benchtop analyzer that offers extreme simplicity of operation in a low-cost compact design. It is ideal for elemental analysis of liquids, solids, pastes, slurries and powders for measuring Al through U qualitatively and quantitatively. This ED-XRF spectrometer has been designed for use in the rugged environment of production process and quality control, but is also well suited for the laboratory. An onboard PC makes use of Windows XP™ operating system along with a simple, intuitive touch-screen display, making analysis easy for non-technical operators, but advanced enough for even the more experienced user as well.

The PHOENIX II combines polarized source X-rays, a movable secondary target and a rugged gas-filled proportional counter detection system, giving the PHOENIX II improved performance for the measurement of low atomic number elements such as Al and Si as well as S and Cl. The detector design yields a high X-ray count rate throughput and makes use of X-ray filters to separate the spectral peaks of elements with adjacent atomic numbers. With its onboard computer, no external computer is needed. The PHOENIX II does not require an external mouse or keyboard, yet offers USB, VGA and Ethernet connections for networking and connecting to external devices. This compact, simple to operate XRF system offers a unique combination of high powered polarized X-rays and a high sample throughput with rugged detector at a very affordable price and low cost of ownership.

#### Typical Applications include:

- ▶ Sulfur in diesel, gasoline, crude oil, bunker fuel, other petroleum distillates
- ▶ S, Cl, Ca in waste oil
- ▶ Silicone coating on paper and film
- ▶ Conversion coatings
- ▶ Ti, Fe, Zn, Se, Al, Si, Cl, Zr in cosmetics and body care products
- ▶ Zn, Ti, Ca, Fe, Sb, Br, P in plastics
- ▶ Many other applications possible



ASOMA Instruments was established in Austin, Texas, in 1979 as one of the first companies to offer low-cost benchtop EDXRF instrumentation. Throughout the next decade and a half, ASOMA became established as an industry leader with the development and release of the Models 100, 200 and 200T-series of XRF analyzers, as well as instrumentation for measuring sulfur in hydrocarbon streams.



#### Features and Benefits

- ▶ 48kV X-ray tube
- ▶ Polarized X-rays using HOPG for measuring lighter elements
- ▶ One moveable secondary target for measuring heavier elements
- ▶ Rugged proportional counter detector with filters
- ▶ Onboard computer with touch-screen interface
- ▶ Windows XP™ operating system
- ▶ Networking capability
- ▶ Simple one-button analysis
- ▶ Low cost of ownership



## Detection Systems

- ▶ Rugged gas-filled proportional counter detector
- ▶ Automatic energy drift compensation
- ▶ Up to 5 moveable filters (optional)
- ▶ Low cost of ownership
- ▶ Rapid flush helium purge (optional)

## Sample Chamber

- ▶ Single position (30mm cups)
- ▶ Bulk or flat samples (12 x 12 x 3 cm)
- ▶ Analysis of solids, liquids, powders, pastes, slurries, coatings, films, filter deposits
- ▶ Rapid flush helium purge (optional)
- ▶ Sample Spinner (optional)

## Software/User Interface

- ▶ Touch-screen display
- ▶ Embedded Panel PC computer
- ▶ Password protection
- ▶ Windows XP™ operating system
- ▶ USB and Ethernet connections
- ▶ Networking capability
- ▶ External monitor connection
- ▶ Onboard thermal printer

## Spectrometer Data

- ▶ Voltage: 115-220 VAC ±10% , 60W, 50/60Hz
- ▶ Dimensions: W x D x H:  
38 x 46 x 31 cm (15 x 18 x 12")
- ▶ Weight: 18 kg (40 lbs)

## Environmental Specifications

- ▶ Ambient Temperature: 10°C to 35°C
- ▶ Humidity: 10% to 90% non-condensing

## Technical Data

### Excitation

- ▶ Polarized X-ray excitation
- ▶ HOPG Crystal (Highly Oriented Pyrolytic Graphite)
- ▶ One moveable secondary target
- ▶ End-window X-ray tube
- ▶ Max voltage 48 kV
- ▶ Max power 50 W

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