

SPECTRO iQ II

With simple operation and excellent analytical performance, the SPECTRO iQ II

The Fast Track to Precise Analytical Results

X-ray fluorescence analyzer delivers rapid, precise

and reliable analytical results for demanding

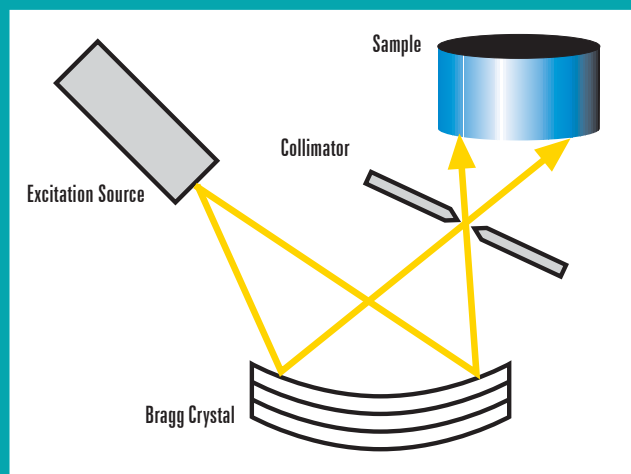
process control applications.



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MATERIALS ANALYSIS DIVISION

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The curved crystal in the C-Force polarization optical system optimally exploits the tube radiation output, achieving a sensitivity for the elements Na, Mg, Al, Si, P, S and Cl that has never been reached before.

The sensitivity, precision and speed of an analytical instrument are of particular importance for industrial process control applications. The SPECTRO iQ already set standards in this respect. The new SPECTRO iQ II maintains this course with further improved technologies and a consequent alignment towards simplicity and dependability of operation.

Excitation

The combination of a low-power X-ray tube and the advanced C-Force polarization optical system ensures optimum excitation of the elements in the sample. The close coupled, form-optimized HOPG crystal used to reflect the excitation radiation is located extremely close to the sample, resulting in significantly improved analytical performance for light elements such as Na, Mg, Al, Si, P, S and Cl. The sample chamber can be either evacuated or flushed with helium to further enhance the performance of the light elements.

Sample Presentation

The SPECTRO iQ II is designed to allow the use of a new generation of sample cups. They can be very accurately positioned, contributing to increased measurement precision. When analyzing liquids, powders or pressed

pellets, a safety window can be fitted to the cup to prevent instrument contamination. Samples can be exchanged without switching off the X-ray tube, ensuring maximum reliability, a higher sample throughput and extended instrument performance.

Detector

An exceptionally powerful silicon drift detector - technologically derived from the detector in the premium performance SPECTRO XEPOS spectrometer - is used in the SPECTRO iQ II. The high spectral resolution and the good signal to background ratios are the basis for low detection limits, especially in difficult matrices. With the high count rate processing capability, the operator simultaneously profits from excellent reproducibility and accuracy with short measurement times.

Analysis

For many applications the measurement precision of major components and the sensitivity for important trace elements place the SPECTRO iQ II into the same performance class as the much more expensive wavelength dispersive X-ray fluorescence spectrometers. Applications that were previously the domain of these types of instruments can now be handled using SPECTRO's unique energy dispersive technology. The SPECTRO iQ II is capable of analyzing trace levels of many important elements. The determination of ultra-low sulfur contents in fuels can be accomplished in just a few hundred seconds. For a wide range of production processes, the SPECTRO iQ II also offers exceptional analytical performance for important low atomic number elements.





Application Packages

The SPECTRO iQ II can be supplied with prepared applications packages for:

- ultra-low sulfur in fuel,
- additives in oil,
- cement and
- slag

Additional applications on request.

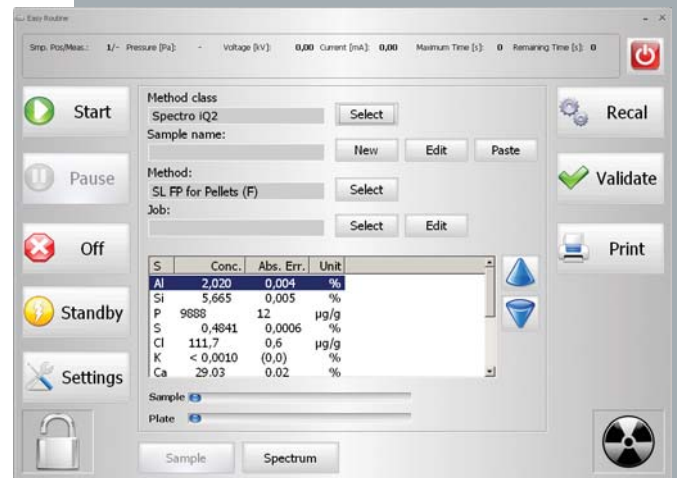


Software

Clarity, simplicity and focus: All hallmarks of the SPECTRO iQ II software.

The new graphical user interface displays all important functions for routine operation at a glance. A touch screen can make operation even less complicated and more intuitive.

The factory-calibrated, norm compliant, application packages are easily customized to meet individual analytical requirements. If no standards or information about the contents of a sample are available, the optional fundamental parameters method can be used to perform a screening analysis.



A glance at the new graphical user interface reveals all of the information important for routine operation.



Technical Specifications

Excitation

- X-ray end-window tube with Pd anode
- Air cooled
- Max. power 50 W
- Max. voltage 48 kV
- C-Force optics employing a doubly curved HOPG crystal

Detection system

- SDD with Peltier cooling ($\leq -25^{\circ}\text{C}/-13^{\circ}\text{F}$)
- Large active detector area
- 8 μm Moxtek Dura-Be Window
- Stable peak positions and spectral resolution up to an input count rate of 120 keps
- Spectral resolution (FWHM) at Mn $K\alpha \leq 160$ eV

Sample handling

- High precision sample cups with 32, 40 or 52 mm diameter
- Analysis in air, in He atmosphere, or in vacuum
- Optional sample spinner for 40 mm samples

Personal computer

- External computer system
- Windows operating system
- Keyboard and mouse
- Monitor
- Printer
- Optional touch computer

Software

- New graphical user interface for easy routine operation
- Optional applications prepared according to national and international testing methods
- Optional fundamental parameters method for screening of completely unknown samples

Spectrometer data

- Nominal input voltage: 120 V/230 V $\pm 10\%$ AC, 50/60 Hz
- UPS to achieve optimal operating conditions (also in case of a breakdown in voltage)
- Dimensions WxDxH: 600 x 641 x 243 mm (23.6" x 25.2" x 9.6")
- Weight: ca. 40 kg (88 lbs.)

Options

- Ambient temperature: 10-30°C / 50-85°F
- Specified instrument performance at 20-25°C / 68-77°F
- Rel. humidity at 25°C (77°F): 10-80 % not condensed
- Free of corrosive vapor and high dust pollution

Environment conditions

- High precision sample cups with 32, 40 or 52 mm diameter
- Sample spinner for 40 mm samples
- Vacuum system alternative to standard He-flush
- Application packages
- Fundamental parameters method
- Touch computer



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