COX
ANALYTICAL SYSTEMS

The Itrax XRF Scanner

This new, compact, high performance XRF scanner is equipped with multi element XRF, optical RGB camera, and UV fluorescence. It is available in two versions, the SC where one Single Core can be loaded at the time, and the MC for Multi Core batch scanning. These new XRF Scanners offer a new, higher level of performance for smaller XRF scanners, offering high speed of analysis, high sensitivity for all detected elements, best data repeatability, quantitative capacity and unbeaten value for money.

Advantages

• Itrax XRF Scanner offers the best available sample throughput. This is achieved by the cutting edge XRF system that offers very high data rate.

• Detection limits are the best available for the whole element range Na-U, and these scanners can present data as peak areas or as concentrations, with calibrated values

• Scanning is performed without touching the sample surface and without Helium, maximizing scan speed

• Itrax scanners are the only XRF scanners that determined all elements in one scan while maintaining highest sensitivity for every element determined.

• Itrax XRF Scanner is the only XRF scanner that scans in one scan sequence without spending time on lowering and lifting the scan head between each increment.

• The non-contact analysis in combination with the very small scan head makes Itrax XRF Scanner very good at handling sample cracks and slopes, without corrupting the data.

• Itrax can scan as fast as 1 second per increment for XRF analysis, even when the increments are only 1 millimeter. This greatly increases the sample throughput compared to other scanners.

General features

Itrax XRF Scanner is a robust, standalone construction built for 24/7 scanning. It is well adapted for scanning of cores, providing information of all elements Na-U in one speedy scan. As all XRF scanners from Cox Analytical, it is equipped with Cox proprietary Polyflat™ x-ray focusing technology, making every analysis very time efficient and precise. Another unique feature is that all measurements are performed without contact with the sample surface, a feature that adds data reliability and reduces the scan time further.

Itrax XRF scanner scans a 8 millimeter wide streak along the samples, without stopping or missing any part of the sample.

An overview of all elements in one meter of core can be scanned in down to 100 seconds with 10 millimeter increments. Detailed core information with 1 millimeter increments can be gathered in down to 1000 seconds with the MC. Already at this high scan speed the high sensitivity is good enough to determine any concentration down to the low PPMs for most elements, with high data repeatability.

The included software package is extensive.

MORE INFORMATION ON THE REVERSE SIDE

Technical specifications

Dimensions: The MC is ~2060x1240x1650 millimeters LxWxH including stand, but plus lamp. The SC is 2060x1000x1650 millimeters LxWxH including stand but plus lamp.

Weight: ~ 570 kilos (MC) / 420 kilos (SC).

Power requirements: 230 volts/50Hz 16 amperes as standard. Other specs on request.

Standard laboratory environment apply.

Sample length is up to 1.25 meter as standard, but please contact us if you have other requirements.

Sample diameter range is up to 127 millimeters, but please contact us if you have other requirements.

The MC accepts up to six samples, with an added width of up to 450 millimeters. In the MC, all samples in the holder can be scanned in one batch, also core boxes. The SC version accepts one sample.

Each delivery includes a complete, ready-to-use instrument with x-ray tube, XRF system, RGB camera, computer, software package, UPS with battery backup, training and warranty.

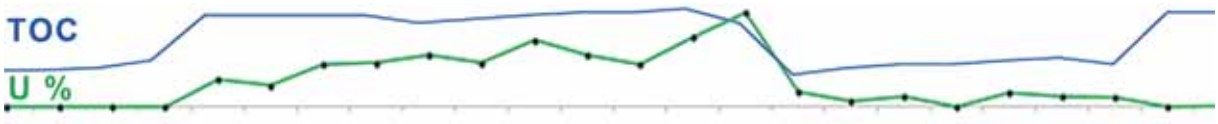
XRF scanning can be done at any increment size in the range 10 millimeters down to 1 millimeter.

X-ray tube: 60watts (MC), 15 watts (SC), water-to-air cooled tube with Rhodium anode. The expected life time is 50,000 hours.

XRF: the detector offering a supreme resolution of 135eV and up to ~100,000 counts per second (SC ~25,000) for very fast analyses with very good discrimination between elements. A distance meter keeps the XRF measuring head at perfect distance to the sample surface at all times during scanning. Typical scan time is 1-3 seconds per point (MC) / 3-10 seconds per point (SC).

The included software package is extensive, with an easy to use GUI, raw data display for user interpretation, automated spectra evaluation, quantification of concentrations of chemical elements, and extensive data display software where element profiles, element ratio profiles, TOC proxy profiles, and images can be examined together.

Instrument upgrades include a 3x higher sample throughput by XRF upgrade to 300,000 counts per second for the MC. For the SC an x-ray tube upgrade is available that gives a scan speed increase of 4x.



Applications and use

The Itrax XRF Scanners MC and SC are both intended for scanning of rock cores, wet split sediment cores in liners, soil, and ice cores, as well as other flat samples. The element range for drill cores is Na-U, and for wet sediment cores it is Mg-U. These scanners are also useful for scanning of e.g. pressed powder tablets and fusion beads, applying the software for quantitative data on sample elements.

Drill cores can be scanned without sample preparation, whether they are from mining, petroleum industry, or research. Itrax very high capacity compared to other XRF scanners makes it ideal for applications where large amounts of core are involved. There are more than 60 proxies identified for for XRF from sedimentary material. Itrax high capacity makes it useful for corroboration as well as improvement of down-hole data.

Wet cores can be studies for e.g. environmental purposes or paleo-climate studies.

The very high maximum count rate is an important feature also when analyzing mineral cores, assuring correct quantification also when the core composition varies much. XRF data is of high quality, making it ideal for element ratios and correlation studies e.g. in mineralogy. Itrax has good sensitivity also for heavy elements like Uranium and REE, see the graph above.

The software offers capacity for peak area profiles per element as well as profiles that show the variation of element ratios along a sample. Profiles for quantitative data can also be calculated and displayed with the included software package. The software also has support for mineral phase identification based on element information.

The qutting edge XRF makes the analyses fast, the element information precise and data repeatability excellent.

The specs in this data sheet are subject to updates and changes

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