Designing/Development/Manufacturing/Sale/Service

Skyray Instrument

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Skyray Instrument

EDX-Pocket-Ⅲ

Handheld X-ray Fluorescence Spectrometer

Precision Instruments, Skyray Elaborates

EDX-Pocket-Ⅲ

Handheld X-ray Fluorescence Spectrometer

Skyray Skyray Instrument

Company Profile

Established in 1992, Skyray Instrument Inc specializes in the development, manufacture, sales and support of X-ray Fluorescence Spectrometers. XRF technology is characterized as rapid, accurate and non-destructive. XRF analyzers can be used in areas requiring elemental analysis from Na to U, e.g., electronic and electric appliances (RoHS), jewelries and ornaments (precious metals, plating thickness), toy safety (EN71-3), building materials (cement, glass, ceramic), metallurgy (steel, non-ferrous metals), petroleum (trace elements S, Pb, etc), chemistry, geography, commodity inspection, quality control and even human body trace elements analysis. Up to now Skyray has won two World's No.1 titles: No. 1 in Sales Amount and No. 1 in Product Categories.

EDX-Pocket-Ⅲ

Handheld X-ray Fluorescence Spectrometer

The 3rd and 4th generation of Handheld X-ray Fluorescence Spectrometers i.e. EDX-Pocket-III and EDX-Pocket-IV are to be put on the market soon. They are improved on basis of the 2nd generation. They have the features of more functions, better accuracy and simpler operation. Their introduction makes on-site elemental analysis practical and feasible.

EDX-Pocket-Ⅲ Handheld X-ray Fluorescence Spectrometer Application Fields:

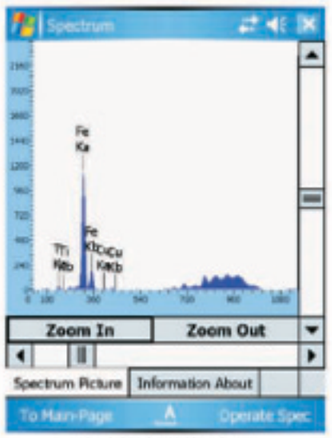
EDX-Pocket-Ⅲ Handheld X-ray Fluorescence Spectrometer Specifications:

- Working principle: XRF analysis using X-ray fluorescence Spectrometry
- Measurable elements: Ti-Bi
- Detector: advanced electric-cooling Si-PIN semiconductor X-ray detector with high performance and high energy resolution
- Excitation source: mini 40kV/50μA X-ray tube, Ag anode
- Data display: high definition and high resolution PDA (Personal Digital Assistant), Windows CE operating system, Bluetooth communication, personal data handling and e-mail sending.
- Data storage: Large capacity SD card and SD card reader enable the data to store on PC and print out
- Power supply: operating time of two fully-charged Lithium batteries is 8 hours
- Weight: 1.35 kg
- Overall size: 260×25×25mm（L×H×W）
- Ambient environment: temperature -20℃-50℃; humidity <85%
- Safety: both PDA and software operations require passwords. Unauthorized people are not allowed to operate.
- Standard accessories: shock, pressure & water-proof carrying case with padlocks, 110v/220v general-purpose charger, large capacity SD memory card, SD card reader, two 4000mAh Lithium batteries, Lithium battery charger, PDA accessories, lab test stand (optional), etc.

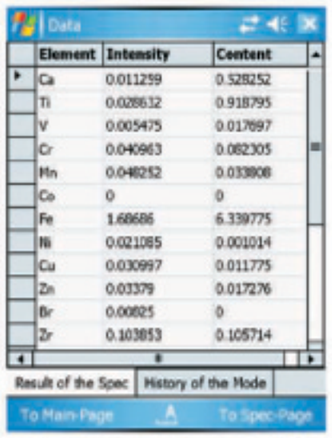
EDX-Pocket-Ⅲ Handheld X-ray Fluorescence Spectrometer Main characteristics:

- The instrument is small, light and portable, providing rapid and non-destructive analysis of the tested samples on the site.
- Figurative interface, flexible software operation, intuitive spectrum display and definite results
- Several working curves are provided in the software, which can even be edited and renewed upon test requirements.
- Optional GPS helps locate the tested sample when mining or surveying in the field.
- SD card with super large capacity is available. There is no limit of data storage.
- Attractive design and comfortable feel when held in hand
- The carrying case has high strength and high sealing capacity, drop and shock proof as well.
- Faster analysis and better accuracy, delivering lab-quality results
- Measurable elements: Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Sn, Hf, Ta, W, Re, Pb, Bi, Se, Sb, Pb, Au and Hg
- Application fields: RoHS screening; full-element analysis; analyzing alloy steel, stainless steel, tool steel, Chrome-Molybdenum Steel, Nickel alloy, Cobalt alloy, Nickel-Cobalt heat-resistant alloy, Titanium alloy, Copper alloy, Bronze, Zinc alloy and Tungsten alloy; Grade identification of light Aluminum and Magnesium alloys by measuring other alloy elements.

EDX Pocket III
Test Example and Analysis

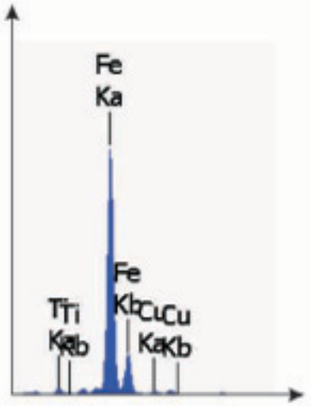


▲Spectrum of soil test

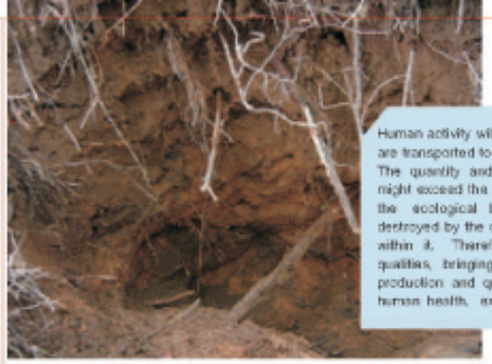


▲Results of soil test

Heavy metals contained in the soils are Fe, Ti, Ca, Zr, Cr, and Mn.



▲Heavy metals spectrum in soils



Human activity will produce different wastes, which are transported to the soils through different ways. The quantity and generation speed of the wastes might exceed the purifying ability of the soils. Then the ecological balance of the soils may be destroyed by the dominant accumulation of wastes within it. Therefore, soils lose functions and qualities, bringing a harmful effect on the growth, production and quality of the crops and that on human health, existence and development.

▲soil cutaway view

EDX Pocket III
Application fields

An introduction to heavy metals in soils

Soils may be polluted by liquid and solid wastes from cities and industries dealing with heavy metals. The surface soil full of high intensity heavy metals, driven by wind or water forces, may continue to pollute the air, the surface water, the underground water and the ecological system, which altogether pose a great threat to human life and health. This is especially true when the pollutants are Hg, Cd, Pb, As, Cu, Zn, Ni, Co and V. Hg is usually found in waste water released by some plants. They will continue to exit in the soils for a very long time. Pb is usually found in car exhausts and steel melting industry. They are most often discovered in the soils on both sides of the roads. Arsenic is usually found in pesticide, antiseptic, rodenticide, weed killer and vulcanization ores exploration, separation and melting industry.

As a powerful weapon to keep soils safe, EDX Pocket III Handheld X-ray Fluorescence Spectrometer is widely used to provide multi-elemental analysis of all types of soils. It can also be used in archeology. The samples can be solids, dust, powder, scraps, slurry filtered substances and membranes.

▲On-site analysis of suspicious polluted area

▲Area identification of landfills

Applied to:

- Pre-sorting of contaminated soil before landfill
- Protection of water resource
- Environment protection institutes
- Archeology and soil research

▲Evaluation of soil ecological balance influenced by industrial liquid wastes