

PORTABLE XRD ANALYZER - X-RAY DIFFRACTOMETER - SHINE MINERAL & ROCK EDITION



The Portable XRD Analyzer – X-ray Diffractometer – SHINE Mineral & Rock Edition, designed specifically for mineral phase analysis in the field, integrates XRD, XRF, and computer software technologies.

Portable XRD Analyzer – X-ray Diffractometer – SHINE Mineral & Rock Edition enables rapid qualitative and quantitative analysis, crystal structure analysis, material structure analysis, and crystallinity determination of mineral samples. It offers fast testing speed, affordability, and high precision. Utilizing transmission geometry technology, SHINE directs X-ray beams through the sample position.

A micro-focus X-ray tube emits X-ray beams through a collimator, irradiating powder particles in the sample pool. A unique vibration system ensures more crystal powder particles are exposed to the X-ray beam, complying with Bragg's law. The diffraction patterns are acquired by CCD, capturing the diffraction phenomenon.

The fixed sample size in the pool ensures that changes in sample density do not impact resolution. This feature is particularly advantageous for low-density materials like drug samples, where fixed penetration yields higher resolution compared to instruments based on reflective geometry.

APPLICATIONS

Portable XRD Analyzer - Geological exploration

Geological exploration / Track ore deposit

Portable XRD Analyzer - Tailings recycling and reuse

Tailings recycling and reuse

Portable XRD Analyzer - Mineral smelting and manufacture

Mineral smelting and manufacture

Titanium dioxide, fluorite, etc.

Portable XRD Analyzer - Mineral research and grade identification

Mineral research, grade identification

Lithium ore, beryllium ore grade analysis, etc.

FEATURES

Portable

The Portable XRD Analyzer – X-ray Diffractometer – SHINE Mineral & Rock Edition features a waterproof and dustproof all-in-one design, eliminating the need for mechanical moving parts. It is lightweight, compact, and easily portable, enabling seamless scientific research both in laboratory and field settings.

Integration

The integration of XRD and XRF technologies allows for the simultaneous collection of X-ray photon data in each test. This capability provides comprehensive material composition, phase, and structure information, leading to more accurate test results.

Simplicity

The Portable XRD Analyzer – X-ray Diffractometer – SHINE Mineral & Rock Edition operates with a single key, requiring no corrections and offering automatic detection. Users need not pay extra attention to the high-pressure system or water circulation cooling system, as the instrument does not feature additional components for high pressure or water circulation cooling.

Sample preparation is simple

For a single analysis, only about 20 mg of samples are required to achieve high-quality test results. Sample preparation is simple, requiring no molding, pressing, or scraping for uniformity. The entire sample preparation process, including crushing, screening, and sample loading, takes approximately 3 minutes to complete.

Data transmission

The Portable XRD Analyzer – X-ray Diffractometer – SHINE Mineral & Rock Edition enables high-speed connections via USB, Bluetooth, and WIFI to a laptop computer. This setup allows for real-time control of the SHINE instrument and phase analysis.

Good environmental adaptability

Portable XRD Analyzer – X-ray Diffractometer – SHINE Mineral & Rock Edition specially designed for geological investigation, the instrument is fog-proof, dust-proof, and shock-proof, capable of adapting to harsh usage environments.

Safety

The Portable XRD Analyzer – X-ray Diffractometer – SHINE Mineral & Rock Edition undergoes professional multiple protective radiation treatments, ensuring there is no radiation leakage in any direction during measurement.

TECHNICAL SPECIFICATIONS

XRD resolution	0.2°@2θ FWHM
Scope of XRD	5-55°2θ
The detector	2000 X 256 pixel, 2d, level 3 Peltier refrigeration CCD
X-ray tube target	Cluster microfocal spot X-ray tube, Cu or Co, Cr, Fe, Ni, Mo, Ag, W target (optional according to test sample)
X-ray tube voltage	Maximum 50kV, 0-50kV adjustable
X ray tube power	Maximum 50W, 0-50W adjustable
XRF energy resolution	127eV@8keV
XRF detection range	Mg—U
Cooling Method	Air Cooling
Sample particle size	Sample particle <150um (100 mesh sieve)
Sample weight	about 20mg

Working temperature	-10°C-35°C
Weight	15KG
The power supply	Lithium ion battery or power adapter
Size	50×40×18.8cm□ L×W×H□
CrystalX analysis software language	English and other languages



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