



BENCHTOP XRD ANALYZER - X-RAY DIFFRACTOMETER - FRINGE EV

Powerful KW-class power, excellent performance benchtop XRD harvester

The Benchtop XRD Analyzer – X-ray Diffractometer – FRINGE EV utilizes the solenoid slit to direct the X-ray beam, which then irradiates the sample through a divergent slit. The sample stage is positioned at the center of the goniometer, operating on the reflection geometry θ s- θ d. When the X-ray beam meets Bragg's law, diffraction occurs in a specific direction. The diffracted beam passes through anti-scatter, Soller, and receive slits before reaching the X-ray detector. Finally, the acquired diffraction map is displayed through the data processing system in the analysis software.

Benchtop XRD Analyzer – X-ray Diffractometer – FRINGE EV is a high-power, miniaturized benchtop X-ray diffractometer developed independently by the company. It enables quick characterization of sample phases in powder, block, or thin film forms, as well as crystal structure analysis, material structure analysis, and crystallinity determination. With its user-friendly operation, high precision, stability, and wide applicability, it serves as an ideal solution for material research, universities, research institutes, building materials, biomedicine, and various other fields.

Benchtop XRD Analyzer – X-ray Diffractometer – FRINGE EV

APPLICATIONS

Benchtop XRD Analyzer - Geology and Survey

Geology and Survey

Benchtop XRD Analyzer - Metal Material

Metal Material

Benchtop XRD Analyzer - Chemistry and Catalysts

Chemistry and Catalysts

Benchtop XRD Analyzer - Research and Education

Research and Education

Benchtop XRD Analyzer - Pharmaceutical Industry

Pharmaceutical Industry

Benchtop XRD Analyzer - Ceramics and Cement

Ceramics and Cement

FEATURES

Air spring large window lift door

The air spring large window lift door not only saves desktop space but is also suitable for any desk, effectively improving space utilization rates.

Built-in water circulation cooling system

The FRINGE EV features a built-in water circulation cooling system, eliminating the need for an additional chiller. The software can display real-time information such as the X-ray tube water temperature, flow, and flow rate.

Safety

During the testing process, it includes an automatic cutting protection device and a safety linkage lock device. Once closed, the sample chamber is fully enclosed, and the operation interface includes a function to close the sample chamber.

XRD for everyone

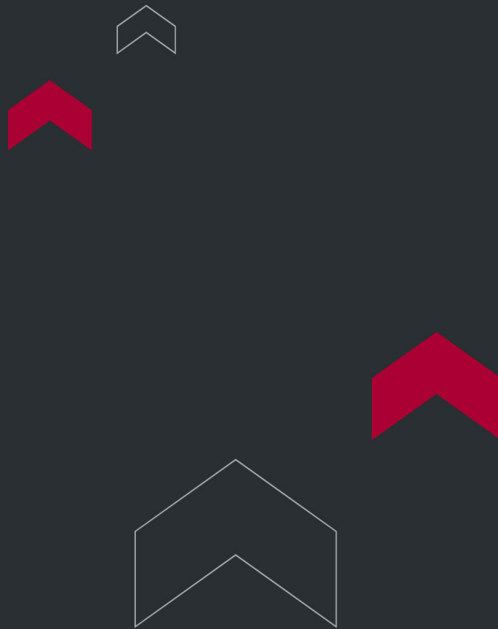
After collecting diffraction data, CrystalX automatically conducts phase analysis and provides the percentage of each component of the phase. This significantly reduces user requirements, as users only need to click "start testing," leaving the rest to the CrystalX software.

Integrated sola slits

The integrated Sora slits, without any motion-adjustable parts, enhance the reliability of the goniometer system. This feature enables the FRINGE EV desktop XRD to be installed on in-vehicle laboratory platforms.

Goniometer	θ - θ vertical goniometer, diffractive circle radius 150mm
Angle measuring range of Angle meter	-3° - +150°
Precision	The deviation of $\pm 0.02^\circ$ in the full spectrum
FWHM	$<0.04^\circ 2\theta$
Sola slit	The integrated sora slits, without any motion-adjustable parts, increase the reliability of the goniometer system, allowing the FRINGE desktop XRD to be installed on in-vehicle laboratory platforms
X-Ray Tube	Cermet X-ray tube, with maximum power of 2.2KW, focus: 1 x 10 mm, default configuration cu target, optional Co, Cr, Mo target
High Voltage Generator Power	1200W, maximum tube voltage 40KV, maximum tube current 30mA.
Size	580 x 450x 680mm□ L×W×H□
Weight	120KG
Power Supply	220V±10V, 50Hz, the whole power is 2000W (110V also available)
Heat dissipation	FRINGE EV uses an external water circulation cooling system to cool the surging power powerfully
Detector	DPPC detector
Interface	The compact home wall plug provides power, and the USB interface connects to the PC for controlling the XRD
Air source	A 2-way air supply interface is available for in-situ analysis or atmosphere protection
Security	The FRINGE EV has an air spring large window lift door, which can observe the in-situ analysis process without dead angle, and can effectively shield X-rays. It has a protection and safety interlock device that automatically cuts off during the test process. The operation interface has the function of closing the sample compartment
Cloud service capabilities	FRINGE EV uses a synchronizable mobile APP service to support card management of diffraction data and access to knowledge management systems

CrystalX software	A special crystal analysis software CrystalX for FRINGE EV. After obtaining diffraction data, CrystalX automatically conduct phase analysis, and give the percentage of each component of the phase, greatly reducing the requirements of the user, no manual retrieval, no need to buckle the background, no need to smooth, no need to manually peak, just need to click "start testing", the rest to the CrystalX software
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