



BENCHTOP XRD ANALYZER - X-RAY DIFFRACTOMETER - FRINGE



Infinite Fringe, Make the World More Clear

The Benchtop XRD Analyzer – X-ray Diffractometer – FRINGE is a desktop X-ray diffractometer. It integrates XRD, XRF, computer software, and other technologies. This instrument enables rapid qualitative and quantitative analysis, crystal structure analysis, material structure analysis, and crystallinity determination for various sample forms such as powder, block, or thin film.

It is characterized by high precision, accuracy, stability, a wide application range, simple operation, and intelligence. It provides high-precision analysis for materials research, universities, research institutes, building materials, metals, minerals, plastics, pharmaceuticals, semiconductors, and many other fields.

Benchtop XRD Analyzer “ X-ray Diffractometer ” FRINGE

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 - Ceramic and Cement

Ceramic 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.

Built-in water circulation cooling system

The Benchtop XRD Analyzer – X-ray Diffractometer – FRINGE 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 testing, Benchtop XRD Analyzer – X-ray Diffractometer – FRINGE features an automatic cutting protection device and a safety linkage lock device to ensure safety. 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" and let the CrystalX software handle the rest.

Integrated sola slits

The integrated Sora slits, devoid of any motion-adjustable parts, enhance the reliability of the goniometer system. This feature enables the FRINGE desktop XRD to be installed on in-vehicle laboratory platforms.

DPPC detector

The DPPC detector (digital pulse processing counting detector) achieves a counting throughput of $\geq 1 \times 10^7$ CPS. It efficiently suppresses sample fluorescence, even for strong fluorescent samples, and offers an excellent peak-to-background ratio without requiring a secondary monochromator. Additionally, the DPPC detector provides energy-dispersive spectral data alongside diffraction data.

TECHNICAL SPECIFICATIONS

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	The maximum output power of the high voltage generator is 600W
Size	580 x 450x 680mm□ L×W×H□
Weight	120KG
Power Supply	220V±10V, 50Hz, the whole power is 1000W (110V also available)

Heat dissipation	FRINGE has a built-in water circulation cooling system, no need to add additional chillers. The software can display the water temperature, flow rate and other information in the X-ray tube in real time
Detector	DPPC detector (digital pulse processing counting detector), counting throughput $\geq 1 \times 10^7 \text{CPS}$
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 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 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. 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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