



Fast, Reliable Quantitative Mineralogy with the TERRA™ II and BTX™ III Analyzers

Next-Generation Mobile and Benchtop XRD

The Olympus next-generation mobile TERRA™ II and benchtop BTX™ III X-ray diffraction (XRD) instruments provide fast, reliable quantitative mineralogical and phase analysis of major and minor components in real-time directly on the analyzer.

Both instruments feature a unique small sample holder to provide a portable, lightweight, and virtually maintenance-free alternative to conventional XRD. These standalone instruments run without the need for compressed gas, water cooling, a secondary chiller, or external transformer, and have no ongoing service requirements, keeping the cost of ownership low. Operators can directly connect the instruments to other devices using a wireless connection, as well as with an Ethernet connection for the BTX III analyzer. Since both instruments are easily transportable, you have the flexibility to analyze samples onsite, enabling decisions to be made in real time.

Our XRD tools are powered by intuitive SwiftMin® software to streamline your workflow with a single dashboard, preset calibrations, easy data export, and automatic data transfer. You can connect directly to the analyzer using any wireless device.

TERRA™ II and BTX™ III XRD Analyzers

Olympus' TERRA II XRD instrument is self contained and fully portable. Featuring a battery life up to six hours and a rugged, weatherproof case, the TERRA II system is built for fast in-field analysis.



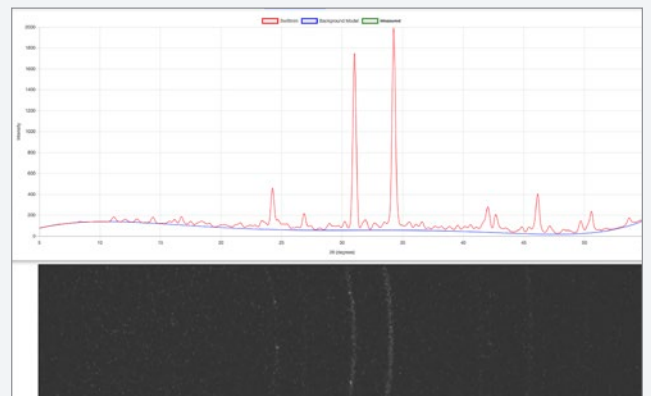
Increased Speed and Sensitivity Powers Swift Decisions

Powerful, intuitive software is paired with improved X-ray detectors on both TERRA II and BTX III systems for enhanced sensitivity, faster analysis times, and more reliable results. The updated X-ray detector hardware runs faster and offers more intensity, leading to lower LODs. SwiftMin automated phase ID and quantitative software provides real-time data directly on the XRD analyzer, so you can make decisions quickly and with confidence.

Greater Productivity with SwiftMin® Software

Boost productivity and save time on repetitive tasks with SwiftMin software's intuitive features, including:

- **One dashboard for data:** see all recipes, calibration, and analysis information in a single view to speed up your workflow.
- **Preset calibrations:** input preset calibrations in a password-protected lab manager screen, enabling any operator to use the analyzer and quickly get reliable results.
- **Automatic data transfer:** automatically send data to your network when the operator hits stop or after a preset amount of time.
- **Easy data export:** easily export quantitative mineralogy results for visualization or further analysis, and access raw data files using a network folder to analyze diffractograms.



The BTX III instrument offers the same analytical performance in a compact design intended for benchtop laboratory analysis.



Sample Prep Made Easy

Olympus radically simplifies sample preparation procedures and the collection of X-ray diffraction data. Conventional X-ray diffraction instruments require that a large batch of sample be finely ground and pressed into a pellet to ensure a sufficiently random orientation of the crystals. In contrast, the small vibrating sample holder utilized by both the BTX III and TERRA II analyzers convects all particles within the sample chamber, ensuring data is virtually free of orientation effects. As a result, the instruments require a mere 15 mg of sample, easily obtained using the supplied sample kit. Thanks to the vibrating chamber and transmission geometry, loading samples is easy, so a trained technician is not required.

Common Applications

Our compact and fast XRD analyzers are used for a wide range of applications, including:

- Mineral exploration
- Mining and mineral processing
- Oil and gas exploration
- Mud logging
- Petrochemical maintenance (scaling/corrosion)
- Cement manufacturing
- Geological research
- Security applications (narcotics and explosives)
- Catalyst QA/QC
- Pharmaceuticals

Specifications Table

	TERRA™ II XRD Analyzer	BTX™ III XRD Analyzer
XRD resolution	0.25° 2θ FWHM	0.25° 2θ FWHM
XRD range	5°–55° 2θ	5°–55° 2θ
Detector type	1024 × 256 pixels—2D Peltier-cooled CCD	1024 × 256 pixels—2D Peltier-cooled CCD
Sample grain size	<150 μm crushed minerals—(100 mesh screen, 150 μm)	<150 μm crushed minerals—(100 mesh screen, 150 μm)
Sample quantity	~15 mg	~15 mg
X-ray target material	Copper (Cu) or cobalt (Co)	Copper (Cu) or cobalt (Co)
X-ray tube voltage	30 kV	30 kV
X-ray tube power	10 W	10 W
Data storage	240 GB—Ruggedized internal hard drive	240 GB—Ruggedized internal hard drive
Wireless connectivity	802.11b/g for remote control from web browser	802.11b/g for remote control from web browser
Operating temperature	-10 °C to 35 °C (14 °F to 95 °F)	-10 °C to 35 °C (14 °F to 95 °F)
Weight	14.5 kg (32 lb) with four batteries	12.5 kg (27.6 lb)
Size	48.5 cm × 39.2 cm × 19.2 cm (19.1 in. × 15.4 in. × 7.6 in.)	30 cm × 17 cm × 47 cm (11.75 in. × 6.9 in × 19.5 in)
Enclosure	IP67, MIL C-4150J rugged case	—
Field autonomy	~4 hours (hot-swap batteries)	—
Power requirements	—	Simple AC power (no cooling systems)

The BTX III operates off software embedded in the unit itself. The user accesses the operating system through a wireless connection (802.11 b/g). This unique method of operation allows for a wide degree of flexibility in controlling the instrument and subsequent data handling.

Global Support

Olympus is a leader in XRD technology with a reputation for quality and accuracy. We are committed to providing the best support for our products, applications, training, and technologies through our global network of sales and customer service teams.

www.olympus-ims.com/

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