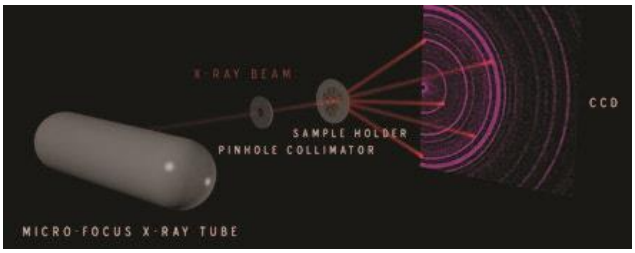
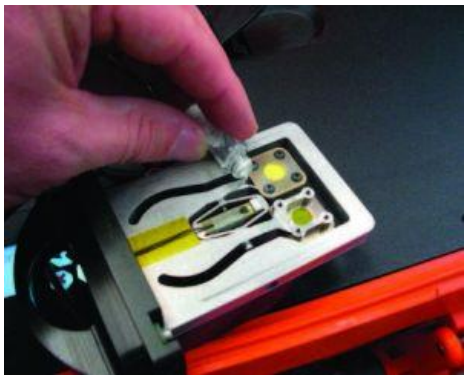
OLYMPUS X-RAY DIFFRACTION FOR TEACHING LABS AND ACADEMIC RESEARCH

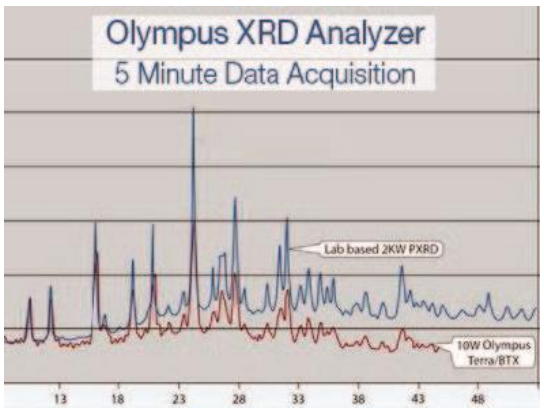
Olympus provides several choices of XRD analyzers that can be utilized in the academic setting. Our small and aff ordable instruments can put XRD technology directly in the hands of the students to expand their knowledge and enrich their experience with crystallography and mineralogy.



These instruments use patented technology developed for the NASA Mars Rover project and off er some unique features compared to conventional XRD that makes them well suited for the academic environment.



- No goniometer makes them free from routine calibration and maintenance to provide a more robust tool for student use
- Area detector utilizing a CCD camera collects the entire 2Θ range all at once allowing the complete pattern to be viewed almost immediately for fast analysis
- Vibration sample cell uses convection to result in the random orientation needed for a representative diffraction pattern and requires minimal preparation of the powdered samples
- Transmission geometry contributes to the instruments being more compact which saves valuable space in the laboratory environment
- A lower power X-ray tube is used because of the proximity of the tube to the detector which eliminates the need for external cooling and results in overall lower power consumption



Excellent Analysis Tool for Research Projects

- Easy sample prep and fast analysis time provides quick turnaround for results

- Reduce the number of samples sent to the central analytical laboratory
- Proven research tool featured in numerous international scientific publications

A compact benchtop instrument allows you to screen many samples in your lab quickly without waiting for analysis by the central analytical laboratory. This provides instant feedback to the scientist on the outcome of either chemical synthesis work or numerous samples collected in the field.

Small, Portable Instruments can Serve Multiple Labs or Field Operations

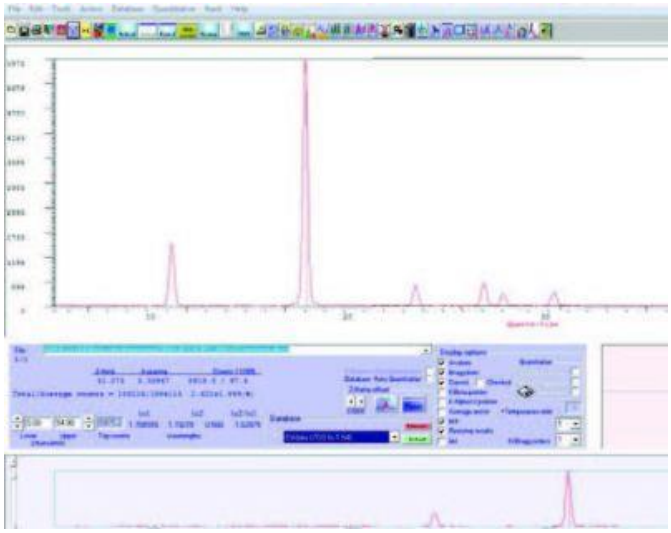
- Operates on standard power outlet or batteries for the TERRA
- No extra cooling required
- Easily moveable and weighs only 12.5kg

The BTX II benchtop units can be easily moved to provide XRD analysis to multiple teaching labs. No special setup required – just plug them in to a standard outlet and turn them on. The TERRA off ers field portable XRD with a battery operated unit in a rugged case making it perfect for site work.

Great Teaching Tool for Students

- Easy-to-operate – exposes students to a sophisticated analytical instrument with minimal training
- Analysis within minutes – allows many students to gain experience on the instrument during a teaching lab
- Small benchtop – small size is perfect for limited space in teaching labs and can be easily moved if sharing with other labs
- Safe X-ray instrument – includes interlocking safety features

These simple to run instruments allows students to become proficient in XRD analysis without extensive instrument training. A diffraction pattern can be collected within several minutes which allows many students to have a turn running samples during a teaching lab. The unique vibration sample cell analyzes powder materials with very little preparation making it fast and easy for students to perform XRD analysis.



Economical XRD Instruments

- Affordable purchase price with academic discounts available
- Low operational costs – operates on standard power with no additional cooling required
- Low maintenance costs – no internal moving parts and a low power tube requires no routine maintenance
- X-Powder analysis software available with a 3–month student license to use during their coursework
- AMCSD mineralogical database avaliable with instrument

The purchase price, operational cost and potential maintenance costs are all considerations for the total expenditure of an instrument. The total cost of ownership makes the Olympus XRD analyzers a perfect choice for the academic community. The available analysis software and crystallography database provided through X-Powder and AMCSD allows students to perform search-match and semiquantitative analysis without needing expensive software packages.

Olympus XRD Instruments

Olympus offers several XRD analyzers for phase identification and quantification that are easy to use and affordable to purchase and operate. The simple operation and robust design of these instruments make them the ideal teaching tool to put XRD technology in the hands of students. They are also ideal as a research tool, allowing many samples to be analyzed quickly in the lab to provide the scientist instant feedback.

These instruments have already been used in many peer-reviewed scientific publications to provide the XRD analysis in a wide range of research and application work. A list of these peer-reviewed articles published in international journals is available upon request.

QUANTANALITICA

Via Guido Rossa 14
23875 Osnago (LC) - Italy
Tel. +39 039 9280061
Fax. +39 039 9289636
info@quantanalitica.com
www.quantanalica.com