



● D8 ENDEAVOR Minerals

Global minerals and metal companies are continuously striving to improve productivity. Increasing costs for mining, chemicals and energy, the need for processing lower grade and more complex ores, and more stringent environmental regulations call for accurate characterization of mineral raw materials. The most direct method of mineral identification and quantification is powder X-ray diffraction (XRD) with the D8 ENDEAVOR Minerals. Complex geologic materials can reliably be analyzed using TOPAS quantitative analysis. Furthermore, cluster analysis techniques can be used to quickly and automatically analyze large amounts of data for similarities and generate exploration mappings. Suppliers of industrial minerals have to ensure consistency and quality of their deliverables. Customers from pharmaceutical, feed and food industries, in particular, demand strict quality

control of mineral products that form the input to their production. The D8 ENDEAVOR Minerals covers all requirements for minerals detection, abundance estimation, and Rietveld quantitative rock and ore analysis.

- Exploration geology
- Bulk-rock and clay mineralogy
- Drill cuttings from blast holes or oil, gas and shale wellbores
- Process feeds, concentrates and residues
- Breathable silica dust and asbestos



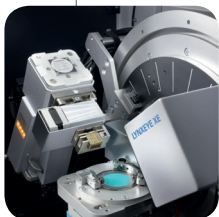
High altitude



Dust



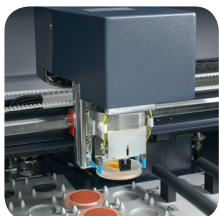
Eco



LYNXEYE XE detector



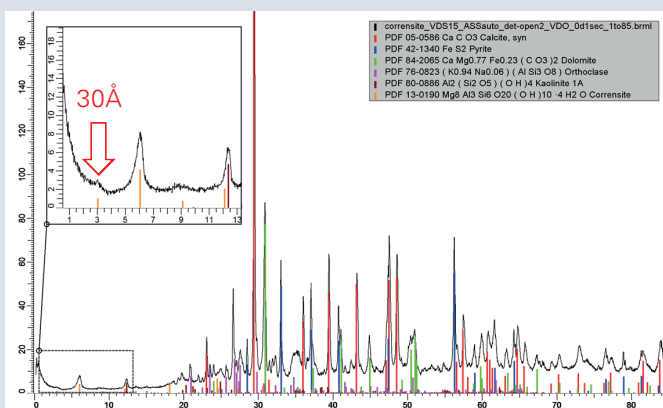
Motorized anti-scatter screen



Sample gripper

Features

- Energy dispersive LYNXEYE detector with integrated K β filtering
 - improved quantification of amorphous phases by low and flat background without fluorescence or white-beam residues
 - lowest Limits of Detection (LOD) and Quantification (LOQ)
 - highest intensity for minimum sample turnaround times and increased throughput
- Dynamic Beam Optimization (Variable Divergence Slit, Motorized Anti-Scatter Screen; special scan options that allow continuous scans from 1° to high angles)
 - simultaneous measurement of clays and bulk-rock minerals from about 1°
 - no cropping of the high angle intensities
 - no reconfiguration of the instrument required
 - virtually background-free data for improved amorphous compounds quantification
- Environmental instrument options
 - Harsh Environment - Extended operation conditions for dust, high operational temperatures and high altitudes at highest power (3 kW)
 - ECO - Remote location operation without need for external cooling water at 1 kW
- Software
 - DIFFRAC.EVA for minerals identification, cluster analysis, and semi-quantitative analysis
 - DIFFRAC.TOPAS and DIFFRAC.DQUANT for quantification
 - COD databases for minerals identification in DIFFRAC.EVA and crystal structures for DIFFRAC.TOPAS
- Customer specific application support and training
- Co radiation to minimize micro-absorption for Rietveld quantitative analysis with DIFFRAC.TOPAS



Identification of a long d-spacing clay (Corrensite). This unambiguous assignment is based on the clearly visible 30 Å peak at about 3° 2 θ which became visible by using the variable divergence slit in combination with the motorized anti-scatter screen (DBO). At the same time the data show extremely low noise and a smooth background. These are prerequisites for accurate quantitative Rietveld analysis using DIFFRAC.TOPAS.

• Bruker AXS GmbH

Karlsruhe · Germany
 Phone +49 721 50997-0
 Fax +49 721 50997-5654
 info.baxs@bruker.com

www.bruker.com