



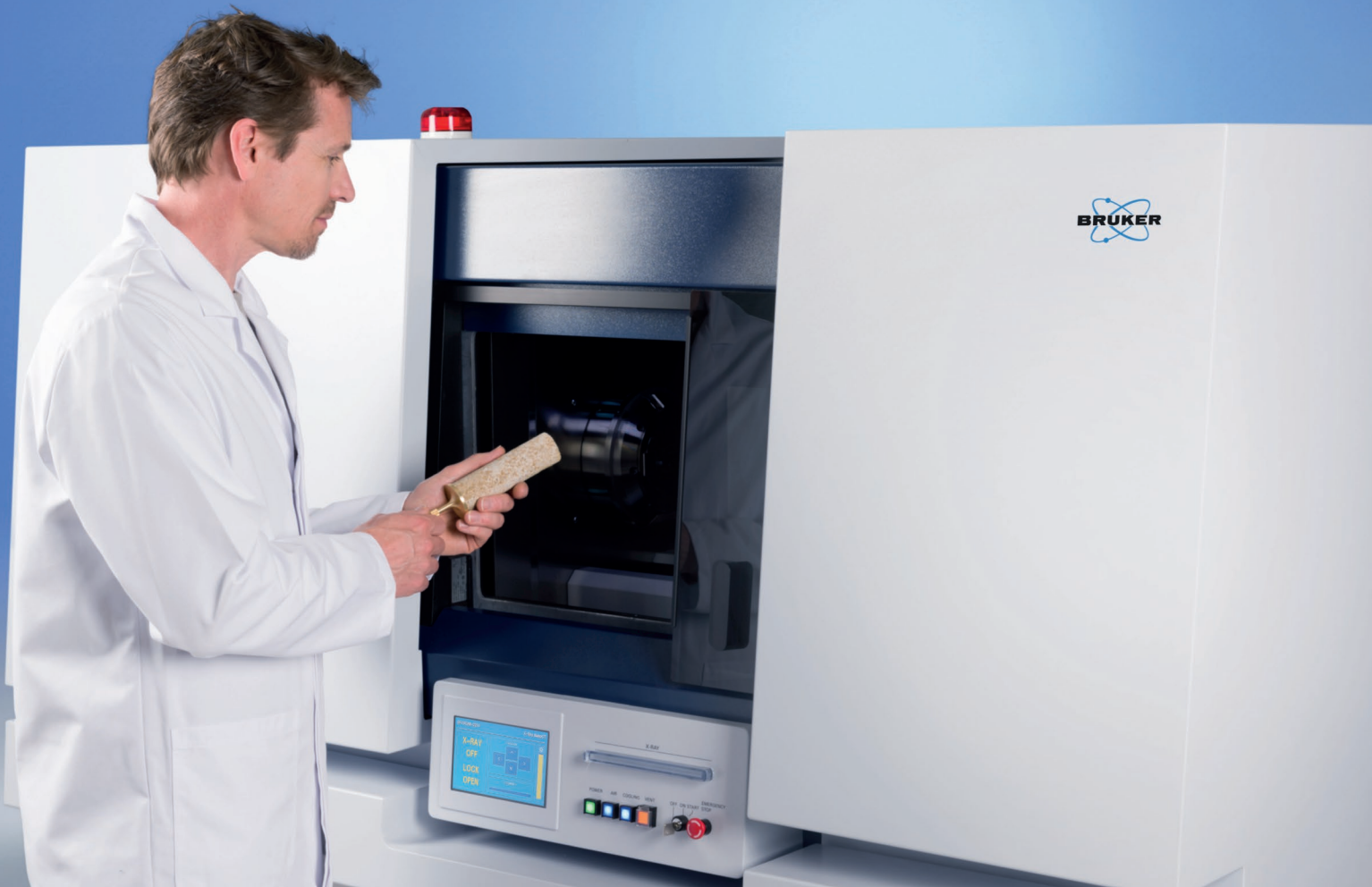
# SKYSCAN 2214

- High-Resolution Multiscale Nanotomograph

# SKYSCAN 2214 – High-Resolution, Multiscale Nano-CT

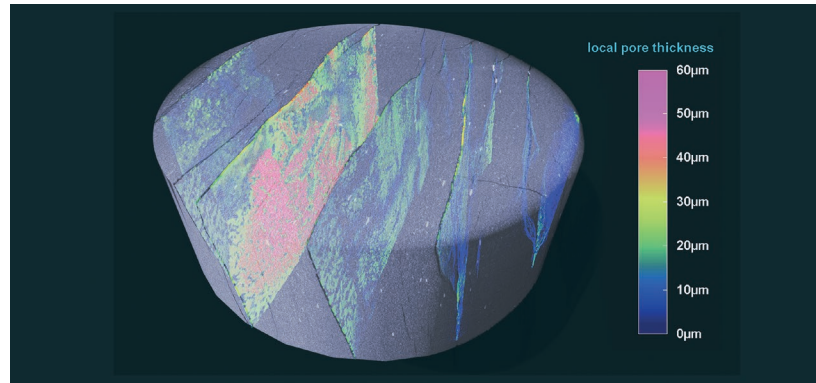
The SKYSCAN 2214 is the latest nanotomograph by Bruker, the pioneer of microCT technology. The SKYSCAN 2214 offers X-ray microscopy at extreme resolutions with an unparalleled user experience. The latest technologies in each of the components make this the most complete and versatile system on the market today.

- Multipurpose system for samples up to 300 mm in size and resolution down to 60 nm pixel size.
- Unique X-ray source with <500 nm spot size.
- Innovative modular design with up to 4 different, field-upgradeable detectors for ultimate flexibility.
- World's fastest 3D reconstruction (InstaRecon®).
- Exact reconstruction algorithm for helical scanning.
- Almost maintenance-free system, reducing downtime and cost of ownership.



## Geology, Oil & Gas Exploration

- High-resolution imaging of conventional and unconventional reservoirs in full core size or in volume of interest
- Measure pore size and permeability, grain size, and shape
- Calculate distribution of mineral phases in 3D
- Analyze dynamic processes



Shale scanned at 6.2 μm voxel size.  
Volume rendered 3D model with color coded local thickness of the pores.

## Polymers & Composites

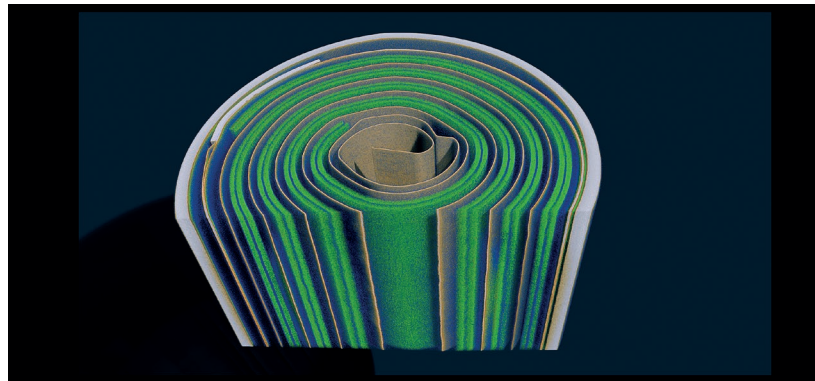
- Resolve fine structures with true 3D-resolution <500 nm
- Assess microstructural architecture and porosity
- Quantify defects, local fiber orientation and thickness



CFRP (Carbon-Fiber Reinforces Polymer) scanned at 600 nm voxel size.  
Volume rendered 3D model with color coded local fiber orientation.

## Batteries & Energy Storage

- Non-destructive 3D imaging of batteries and fuel cells
- Quantify defects
- Anode and cathode structural analysis
- Dynamic experiments monitoring structural changes over time



Lithium-ion battery scanned at 900 nm voxel size.  
Volume rendered 3D model with virtual cut.

## Life Sciences

- Resolve structures with true submicron resolution, e.g. soft tissues, bone osteocytes and dentin tubules
- Artefact-free imaging of osteointegration of biomaterials and high-dense implants
- High-resolution characterization of biological samples, e.g. plants and insects

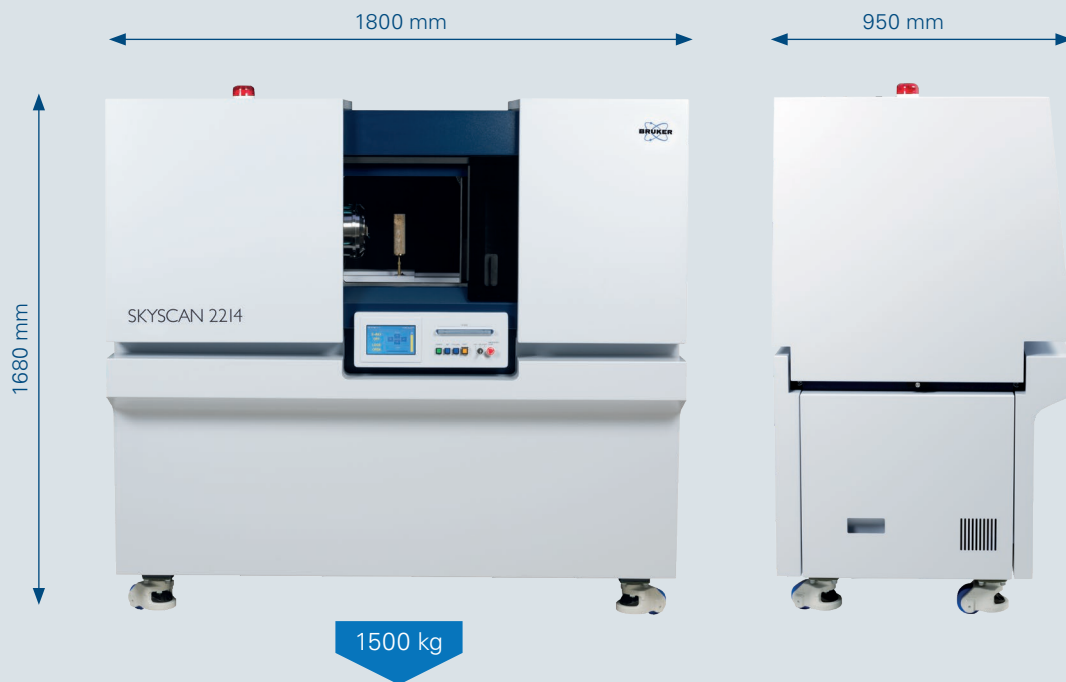


Lung scanned at 3 μm voxel size.  
Volume rendered 3D model with virtual cut.

## Technical Data

<b>X-ray Source</b>	Open (pumped) type with diamond window 20-160 kV, 13 W max.
<b>X-ray Detector(s)</b>	6 Mp active pixel flat-panel 11 Mp large format cooled CCD 11 Mp mid format cooled CCD 8 Mp hi-res cooled CCD
<b>Image Formats</b>	Up to 8000 x 8000 x 2300 pixels after a single scan
<b>Spatial Resolution</b>	60 nm smallest pixel size, <500 nm low-contrast resolution (10% MTF)
<b>Positioning Accuracy</b>	<50 nm for rotation, anti-vibration granite platform with pneumatic leveling
<b>Maximum Object Size</b>	300 mm in diameter (140 mm scanning size), 400 mm in length, maximum object weight 25 kg
<b>Radiation Safety</b>	<1 $\mu$ Sv/h at any place of the instrument surface

### System Dimensions



Bruker microCT is continually improving its products and reserves the right to change specifications without notice.  
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