

## Convenient, Quantitative, High Resolution X-Ray Particle Sizing

Based on first principles, the **BI-XDC** is the only X-Ray disc centrifuge that measures particle size without calibration or absorption correction. This high resolution instrument can resolve peaks as close as a 15% size differential and quantify distribution accurately. Homogeneous start with scanning head makes for quick measurements.



The Brookhaven **BI-XDC** is the ideal instrument for QC, QA and research. The instrument combines gravitational and centrifugal sedimentation for fast and accurate size distribution from nanometers to tens of micrometers. The scanning X-ray head speeds up measurements which are typically completed in 8 minutes. The X-ray detection provides highly accurate quantitative measurements with no optical corrections. The **BI-XDC** features a reproducible, digitally-controlled disk speed for best performance and accuracy. Merging the centrifuge and gravity mode covers a broad size range from 0.01 to 100 microns.

### Materials

- » Oxide nanoparticle
- » Metal oxides and metal powders
- » Alumina and alumina ceramics
- » TiO<sub>2</sub> suspensions
- » Nanoparticle zirconia suspension and polycrystals
- » Super-paramagnetic iron oxide nanoparticles (SPION)
- » Tungsten nanoparticles
- » Abrasives
- » Nanosize ceramic particles
- » Cerium dioxide nanoparticles
- » Metal phthalocyanine nanocomposites
- » Silicon Carbide, Silicon Nitride sizing
- » Gelcasting particle size
- » Grinding effects on ceramics size
- » Minerals
- » Clays

Based on the principle of photosedimentation, the **BI-XDC** measures the size of particles according to the time the particle takes to sediment in the detector according to Stokes' law. By providing both centrifugal and gravitational sedimentation in one instrument, the **BI-XDC** brings these well-established methods of particle sizing up to date for today's fine particle technology. With an X-ray technology to give error free quantitative measurements, fast and accurate size distributions across the "one-micron" transition region are easily obtained. Now, with a single instrument you can get true high resolution, accurate, particle size distributions from 10 nanometers right up to 100 microns. Brookhaven's advanced scanning detector technology and wide disc speed range lets you optimize analysis times and broaden the range of samples you can analyze.

With the Brookhaven **BI-XDC** there are no optical corrections and no optical properties to worry about, just a simple mass sensitive response based on X-ray absorption. The BI-XDC is a great alternative/orthogonal method.

## Key Features & Specifications

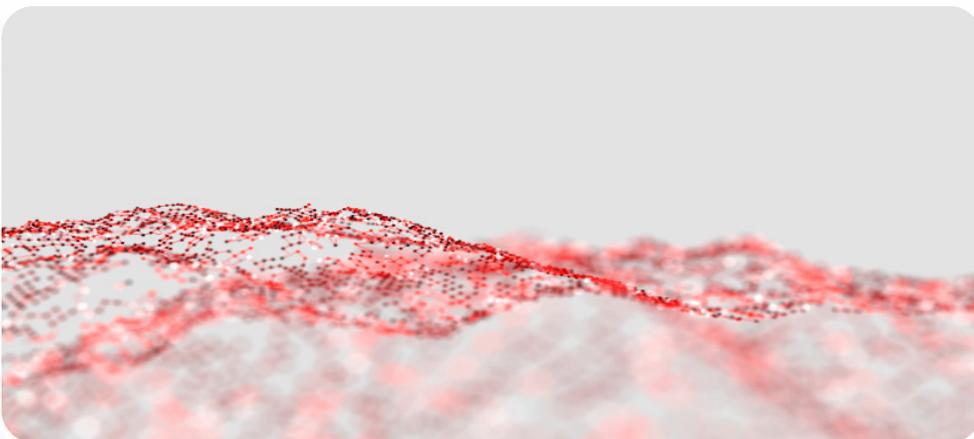
<b>Analysis</b>	Size range of 0.01 to 100 $\mu\text{m}$ , depending on particle and liquid density and liquid viscosity. Measurement time of 3-30 min, typically 8 min/decade in particle diameter.
<b>Instrument</b>	Microprocessor-controlled digitally driven electric motor. Digital readout for setting and monitoring speed. Speed continuously variable from 500 to 10,000 rpm. Speed accuracy and stability better than + 0.01%. Temperature sensor and digital readout. Dual purpose integral strobe.
<b>Disc Cavity</b>	Polymethylmethacrylate with stainless steel hub. Dynamically balanced over range of rotational speeds. Spin fluid volume from 10 to 30 mL. Solvent resistant disc available.
<b>Power Requirements</b>	100/115 VAC, 220/240 VAC, 50/60 Hz, 1000 Watts.
<b>Dimensions (H x W x D)</b>	260 x 500 x 600 mm.
<b>Weight</b>	35 kg.
<b>Certifications</b>	CE Marked.

*A policy of continual improvement may lead to specification changes.*

## About Brookhaven Instruments

Our talented team of scientists and engineers is dedicated to delivering the most accurate, reliable, and easy-to-use particle characterization instruments on the market. Our modular instrument design allows us to fully customize every aspect of our products, ensuring that our customers receive precisely what they need to meet their research goals. We are continuously improving our products based on feedback from customers, building on our legacy of innovation in particle science.

We strive to act as partners with our customers to ensure they get the most benefit and maximum value from their Brookhaven equipment. We offer extensive post-sale support to educate and empower customers. Whether you have questions about a specific function or are trying to set up a new experiment, our experts will be there to help you every step of the way.



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