

## High Resolution Particle Sizing Disc Centrifuge

Based on first principles, the **BI-DCP** is the only optical disc centrifuge that measures particle size without calibration. This high resolution instrument can resolve peaks as close as a 13% size differential and quantify distribution accurately. Two possible methods are available: homogenous or line start.



### Materials

- » Polystyrene Latex
- » Nanodispersions
- » Carbon blacks/furnace blacks
- » PLGA shell - drug delivery
- » Ink particulates
- » Metal oxides and refractories
- » Protein-loaded microcapsules
- » Coated latex
- » Paints and coatings
- » Encapsulated systems
- » Pharmaceuticals, cosmetics, food

Based on the principle of photosedimentation, the **BI-DCP** measures the size of particles according to the time the particle takes to sediment in the detector according to Stokes' law. High resolution measurements are obtained typically in 5 to 30 minutes. Modeling software is included to predict optimal experimental conditions like disc speed and run time.

The instrument can work in line start (LIST) where the sample is injected on the spinning fluid or the simpler method of homogenous start (HOST) where all the sample is loaded in the disc and spun. Either method results in high resolution measurements of your particles. No other type of instrument can resolve several peaks in the difficult range around 1 micron. Quantitative calculation of weight distribution is achieved if the extinction coefficient is known. For materials with unknown extinction coefficients, the size is still measured accurately. The **BI-DCP** is a great alternative/orthogonal method.

### Benefits of Use

- » Resolve complex particle size distributions to improve rheological and structural properties.
- » Monitor incoming raw materials to reduce rework.
- » Fingerprint finished products to minimize lot-to-lot variations.
- » Increase cost effectiveness by reducing process and scale-up time.
- » Optimize material properties to enhance product performance.
- » Study particle size fundamentals to develop new products and processes.

## Key Features & Specifications

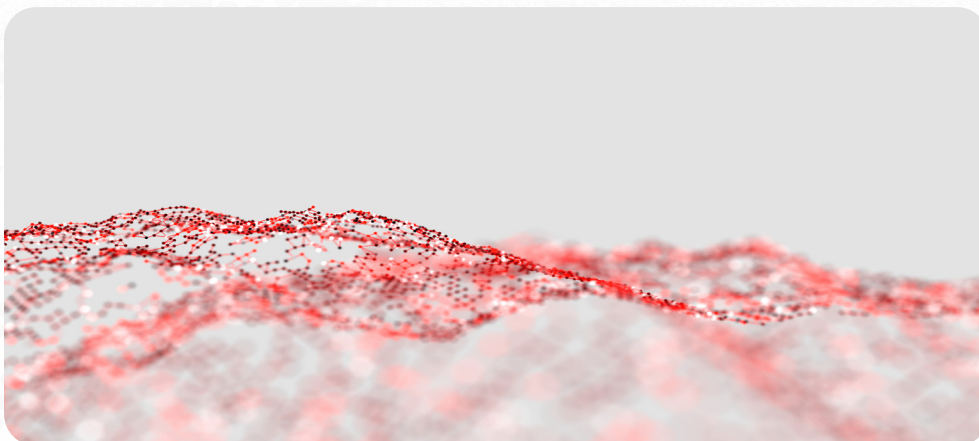
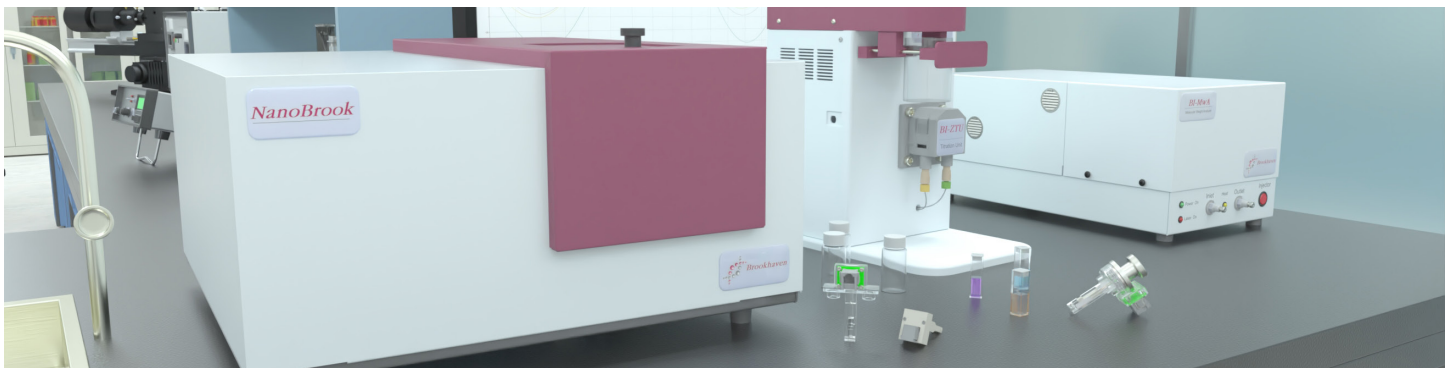
<b>Analysis</b>	Size range of 0.005 to 30 $\mu\text{m}$ maximum; 0.05 to 10 $\mu\text{m}$ typical for low density particles, 0.005 to 2 $\mu\text{m}$ for high density particles; wide variety of materials dispersed in water and other solvents.
<b>Instrument</b>	Microprocessor-controlled digitally driven electric motor. Digital readout for setting and monitoring speed. Speed continuously variable from 500 to 15,000 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 40 mL.
<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>	33 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.



 Brookhaven  
Instruments Corporation

750 Blue Point Road  
Holtsville, NY 11742-1832 USA

[info@brookhaveninstruments.com](mailto:info@brookhaveninstruments.com)  
[www.brookhaveninstruments.com](http://www.brookhaveninstruments.com)

Telephone: +1 631.758.00  
Fax: +1 631.758.3255