Brookhaven

# NanoDLS
# Nanoparticle Size Analyser


- On-Line and Batch Modes
- Large Concentration Range
- Ultra High Sensitivity
- Low Volume Cell

The **NanoDLS** is the gateway to absolute nanoparticle sizing including proteins and their aggregates (oligomers), polymers, dendrimers, micelles, and other colloidal materials. Either on-line (ASEC or SEC/GPC), or in batch-mode, it is an excellent tool for determination of hydrodynamic radii from 0.5 nm to a few microns.

Based on the principles of dynamic light scattering, the **NanoDLS** uses an automatic, variable-power laser at 638 nm, maximum 35 mW power, a patented* optical cell design, a single-mode fiber, a self-protecting avalanche photodiode and a 25ns/522-channel digital autocorrelator. Due to the patented* cell, the **NanoDLS** can measure samples from extremely low to high concentrations. Such a design allows for small volumes and a vertical flow pattern, minimizing the effects of bubbles.

For globular proteins and other rare samples, sizes are often small and concentrations low. Because of its unique and patented cell design, the **NanoDLS** makes obtaining reliable data from such samples easy. In addition aggregate (oligomer) formation is readily probed because light scattering is supremely sensitive to small amounts of larger specie

The **NanoDLS** is a superb addition to existing and new chromatography systems for the characterization of proteins and polymers since the instrument enables particle sizing without column or instrument calibration. The high sensitivity and small-volume cell allows for low sample concentrations and small injection volumes. These features lead to accurate, absolute data from minute amounts of sample.

## Typical Applications

### Flow Mode:

**Size Exclusion Chromatography / Gel Permeation Chromatography**

- Monitor Aggregate Formation
- Continous Size Monitoring During Sample Processing
- Pharmaceutical Preparations

### Batch Mode:

- Particle Size and Size Distribution Measurements

# NanoDLS

Particle Size Analyzer for Flow & Batch Mode Applications

## Specifications

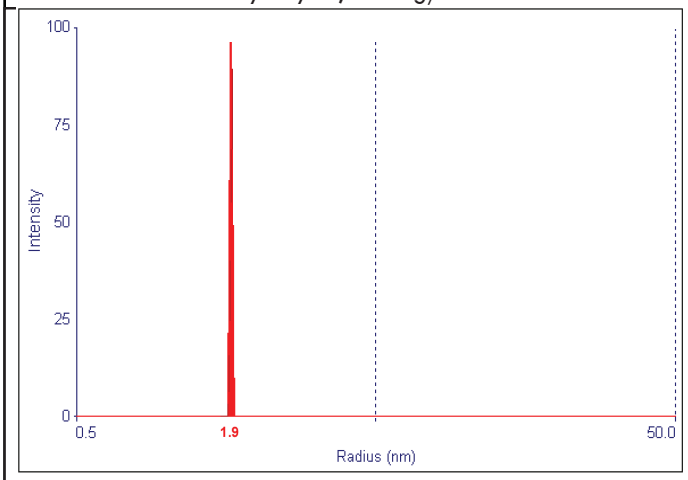
| | |
|---|---|
| Size Range | $R_H$ 0.5 nm to 3 μm, sample dependent |
| Cell Volume | 2.5 μL |
| Concentration Range | 0.1 to 100 mg/mL, sample dependent |
| Measurement Precision | 1% typically, depending on concentration and the size distribution |
| Laser | Variable up to 35 mW, 638 nm, and temperature stabilized with precision power control |
| Scattering Angle | 90 ° |
| Detector | Custom avalanche photodiode, APD |
| Temperature Range | 5 °C to 90 °C |
| Computer Interface | USB 2.0 & 1.1 |
| Correlator | Brookhaven TurboCorr, multi-τ, research grade with 512 channels, covering the equivalent of $10^7$ linearly-spaced channel layout, 100% efficiency, real-time operation over the entire delay-time range |
| Fittings | HPLC Inlet/Outlet on front panel. Two sets: batch and flow modes. |
| Pressure Range | Up to 200 bar (2,940 psi) |
| Analog Inputs | 4 standard. Suitable for use with most common RI and UV outputs |
| Weight | 5.8 kg |
| Dimensions | 180 (H) x 210 (W) x 380 (D) mm |
| Power Requirements | 100/115/220/240 VAC, 50/60 Hz, 45 Watts max |
| Environmental Characteristics | Temperature: 10 °C to 75 °C , Humidity: non-condensing. |
| Measurement Modes | Software selectable |

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

## Features at a glance

- Hydrodynamic Radii Using Dynamic Light Scattering (DLS)
- Small-Volume Flow-Cell
- On-Line and Batch-Mode Measurement
- Biological Compatible Sample Cell and Tubing
- Automatic Sampling/Flushing
- Continuous Size Measurement for SEC/GPC/ASEC

Lysozyme, 0.1 mg/ml




Batch mode NanoDLS results on 0.1 mg/mL lysozyme. $R_H$=1.9 nm

** Patent pending*

CE Marked


**Brookhaven Instruments**

750 Blue Point Road
Holtsville, NY 11742-1896 USA
Tel: +1(631)758-3200
shipping@BrookhavenInstruments.com
www.BrookhavenInstruments.com


*With distributors around the world. Contact us for details of the office nearest you.*