

NanoBrook™ CORE

Dynamic Light Scattering Simplified

Applications

- Proteins
- Liposomes & Exosomes
- Nanoparticles
- Polymer Latexes
- Micelles
- Colloids & Biocolloids
- Oil/water Emulsions
- Bioformulations
- Pigments, Inks and Toners
- Submicron Particles

About Brookhaven Instruments

Brookhaven Instruments is a world leader in scientific instruments that use scattered light to measure zeta potential, particle size and molecular weight. We take the time to understand each customer's requirements and deliver the solution that best fits their needs.

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Dynamic Light Scattering, made straightforward

The NanoBrook™ CORE is a compact, robust DLS instrument built to give reliable results you can understand and trust, without unnecessary complexity. It measures hydrodynamic diameters from 0.6 nm to 1 μ m, which covers the vast majority of nanoparticle and biomolecular analysis needs.

Built to be your lab's workhorse

The NanoBrook™ CORE measures the size and size distribution of biomolecules and nanoparticles from just 12 μ L of sample. A high-quality quartz cuvette gives excellent optical performance, and the sample is fully recoverable.

In minutes you can assess:

- Size
- Monodispersity
- Aggregation and Agglomeration
- Solution behavior of your molecules, nanoparticles and colloids

Performance without the excess

As instruments become more complex and more expensive, Brookhaven Instruments set out to do the opposite. We wanted to make dynamic light scattering simpler and accessible to more researchers. The result is the NanoBrook™ CORE, an affordable, high-performance DLS instrument that does what you need, and does it well.



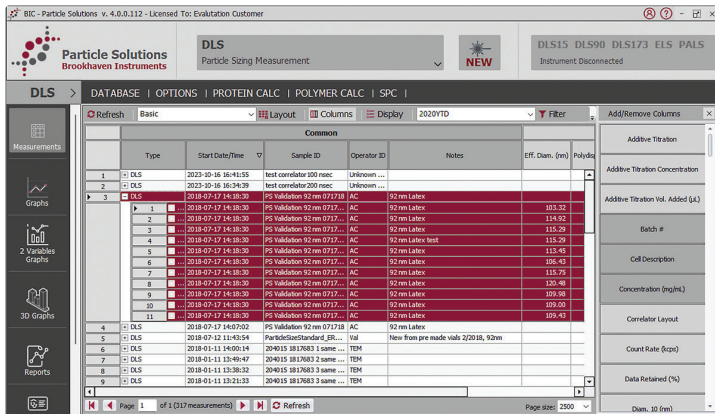
Size Range	0.6 nm — 1 μ m hydrodynamic diameter
Optical Design	Optimized 90 degree scattering optics using modern focused beam technology delivering small scattering volumes requiring minimal sample amounts with maximum sensitivity
Minimum Sample Volume	12 μ L using optimized quartz cuvette. Larger volumes also possible using 45 μ L and 3 mL plastic, disposable cuvettes
Software Analysis	Cumulants and Non-Negative Least Squares (NNLS) sizing algorithms. Standard reports include Protein Analysis, Colloidal Stability, General Purpose, Aggregation Indicator
Measurement Modes	Size and distribution analysis, Debye Plot molecular weight determinations, thermal ramp/temperate stability analyses, concentration determinations
Temperature Control	4 — 90 °C
Dimensions	20" depth, 6.5" height, 10.5" width, 17.8 lbs
PC Control	Particle Solutions Software running on Windows11 with simple USB connection (PC not included)

Particle Solutions Software

The data grid is completely customizable and includes a number of different standard display options.

New column layouts can be saved as presets, and easily recalled. A wide range of column selections are available including count rate, diameter, and a host of others.

Particle Solutions allows the import of data from previous versions of Particle Solutions, as well as from select legacy products, imported data can be given custom labels allowing for easy recall. Filtering options are available to sort data by date, column or tag label. Customized filters can also be saved as presets.



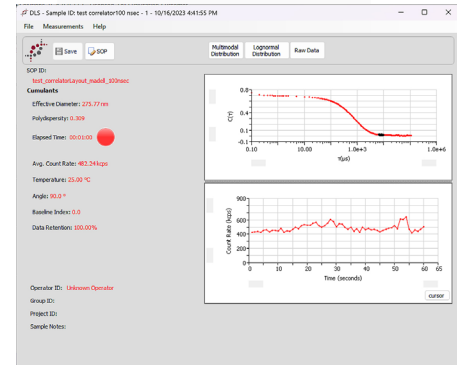
Sample ID	Start Date/Time	Operator ID	Notes	Eff. Diam. (nm)	Polydispersity
1	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	103.32
2	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	114.92
3	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	115.29
4	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	115.29
5	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	113.45
6	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	106.43
7	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	115.75
8	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	123.46
9	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	109.98
10	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	109.00
11	2018-07-17 14:38:30	PS Validation 92 nm 0717...	AC	92 nm Latex	109.41

Measurement Review

You can view multimodal and lognormal distributions with intensity, volume, surface area or number weighting.

The Raw Data view shows:

- The normalized autocorrelation function and the count rate history
- The baseline index, which helps you judge data quality
- The data retention rate, which shows how effectively the dust-rejection algorithm is working

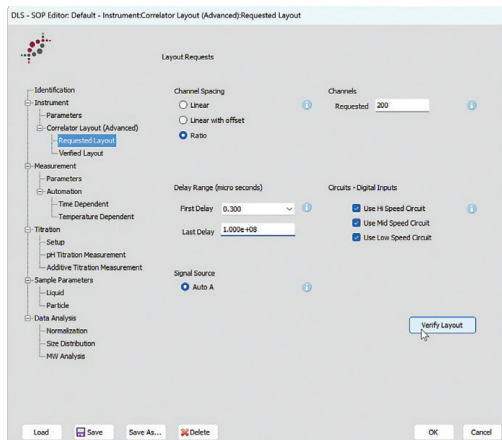


Points discarded by the dust filter are marked on the count rate history graph, so you can see exactly what was excluded.

Customizable Correlator Layout

Particle Solutions lets you define your own correlator layout.

You can set the channel spacing, the number of channels, and the first and last delay times. This is especially valuable for samples with very slow decay rates, whether the cause is large particle size or a viscous diluent.



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