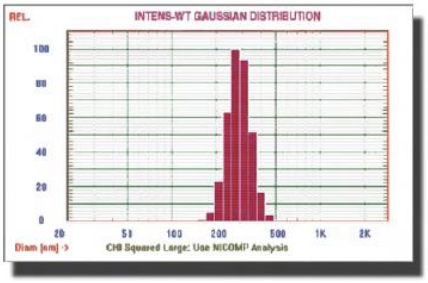
NICOMP

Dynamic Light Scattering & Zeta Potential Analyzer

A flexible dynamic light scattering (DLS) system that can be built to the requirements of your application.

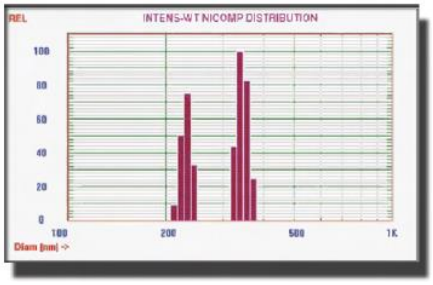
All Nicomp DLS systems measure particles size and generate results as Gaussian distributions or multi-modal using the unique Nicomp algorithm that remains the most advanced for accurately separating close bimodals and native populations from aggregate tails. See examples on right.

Add zeta potential analysis to measure dispersion stability. Measures both in frequency and phase analysis light scattering (PALS) for increased sensitivity. Dip cells available for aqueous and organic solvents. Our dip cell design keeps the applied voltage lower than other systems, lowering Joule heating, extending cell lifetime, providing thousands of stable results.



Gaussian distribution

- Optional multi-angle goniometer for angle vs. intensity studies.
- Optional autosampler for investigation requiring high sample volume.
- Optional autodilution system to automate sample preparation.
- Optional avalanche photodiode detector (APD) for higher sensitivity.
- Optional high power lasers at various wavelengths.
- Online system for process monitoring.
- Low volume cells for 90° and backscatter measurements.
- IQ/OQ and 21CFR software for pharmaceutical requirements.



Nicomp Multimodal result

No other system offers this range of system configurations so customers can choose the instrument that is ideal for their samples. But the main reason so many customers keep buying a Nicomp DLS system is the quality of the generated data. If you want a DLS system with have high sensitivity, the ability to control measurement and result calculations, quick/high accuracy zeta potential measurements using PALS, then the Nicomp is the system for your lab. We come to your lab for installation and training – always have, always will.

Particle Sizing Systems

Building solutions one particle at a time.

PSS

NICOMP
Technical Specifications

Particle size range	0.3 nm - 10 µm
Minimum concentration	0.1 mg/mL lysozyme
Maximum concentration	40 % w/v
Size Analysis types	Gaussian and Nicomp high resolution multi-modal with ability to split peaks separated by 1.5 x in size (220 and 340 nm)
Measurement angles	90^{o} standard or 10^{o} - 175^{o} multi-angle goniometer includes high concentration backscatter
Lasers	15 mW standard, optional 5, 12, 35, 50, 100 mW red laser diode, and 20, 50, 100 mW blue/green laser diode
Detectors	PMT standard, optional 7x gain APD
Light adjustment	Light intensity automatically controlled using a neutral density filter
Temperature range	0 to 90^{0} C
Sample cells	Box of 100 4 mL (1 cm x 1 cm) plastic and 1 mL round glass tube in square holder standard, optional 4 mL quartz cell, 4 mL quartz flow through cell, RI matched 10 µL round cell compatible with centrifuge to separate large particles, accommodates many other 1 cm x 1cm cells
Zeta potential analysis	Frequency analysis and phase analysis light scattering (PALS)
Zeta potential	+/- 500 mV (theoretical) for particles 0.3 nm – 100 µm
Conductivity	10^{-5} S/m – 0.2 S/m (for zeta potential only)
Zeta cells	Aqueous dip cell standard, optional organic dip cell, 1 – 1.5 mL volume
Molecular weight	Single angle, using Mark-Houwink equation, or Debye plot using external spreadsheet
Pharmaceutical options	21 CFR part 11 software, validation documents
Physical	W 17” (43 cm) x D 24” (61 cm) x H 10” (25 cm), 62 lb (28 kg) standard, can vary with options
Power	100-120 VAC, 60 Hz or 220-240 VAC, 50 Hz
Modular options	Auto-dilution, auto-sampler, on-line

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Sample dependent and may require hardware options, subject to change without notice

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