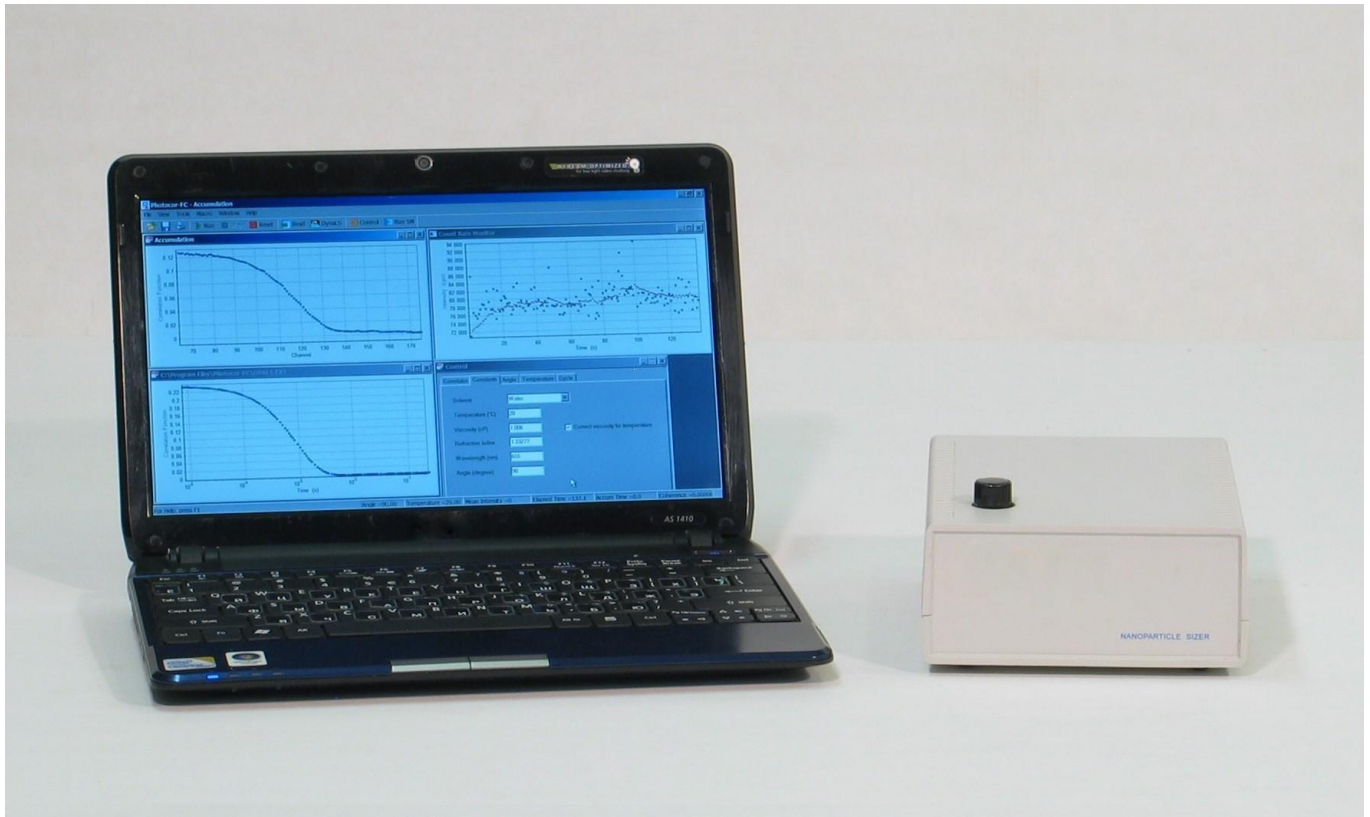


## IKOsizer MINI-1 and MINI-2

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IKOsizer MINI is a model for measurements of nanoparticle size, diffusion coefficient and molecular weight in solutions. The analyzer is based on the dynamic light scattering (photon correlation spectroscopy). This device fully complies with International standard ISO 22412:2008.

### Features

- ▲ Dynamic light scattering, fast measurements, real-time size monitoring of nanoparticles
- ▲ Easy-to-prepare samples, suitable for various commercial sample cells and vials, replaceable index-matching vat system
- ▲ Unique flex-logic single-board correlator, linear and multiple-tau time scale, upgrade of hardware configurations
- ▲ USB interface provides easy connection to any computer, including a laptop
- ▲ USB powered
- ▲ Software and measurement technique are compatible with other IKOsizer devices
- ▲ New high sensitive photon counter based on APD diode, exceptional quality and reliability with all light scattering features for optimal price

## Specifications

Measurement range:	
Size*	0.8 ... 10000 nm
Diffusion coefficient	$10^{-5}$ ... $10^{-10}$ cm <sup>2</sup> /s
Molecular weight	$10^3$ ... $10^{12}$ g/mol
Measurement precision	±1.5%
Sample volume	10 µL ... 10 mL
Sample concentration*	0.001 ... 5%
Scattering angle	90°
Laser	LED laser: 650 nm, 25 mw (also available: 405 nm, 635 nm, 780 nm with power up to 100 mw)
Thermostat**	5° - 100°C , accuracy 0.1°C
Dimensions /Weight /Power	137 x 190 x 60 mm / 1.0 kg / 5 V, 0.4 A

\*Sample and application dependent

\*\***Only in MINI-2.** Thermostat powered by additional external power supply.

## Applications

Industry	Manufacturing of nanostructured and nanocomposite materials
Physics and Chemistry	Colloids, polymers, latex, micelles, microemulsions, vesicles, gels, soles, liquid crystals, nucleation and aggregation processes, chemical reaction kinetics, phase transitions...
Chemical Engineering	Pigments, dyes, glues, powders, abrasives, lubricants, petroleum and fuels, mud fluids, membrane filters and ultra filtration testing...
Biochemistry and Biotechnology	Cells, viruses, proteins, liposomes, membranes, DNA, immunology reactions...
Environmental Technology	Disperse pollution, water and food quality testing...
Education and Training	Novel labs for physical, chemical, biological, medical and engineering education...

## Software

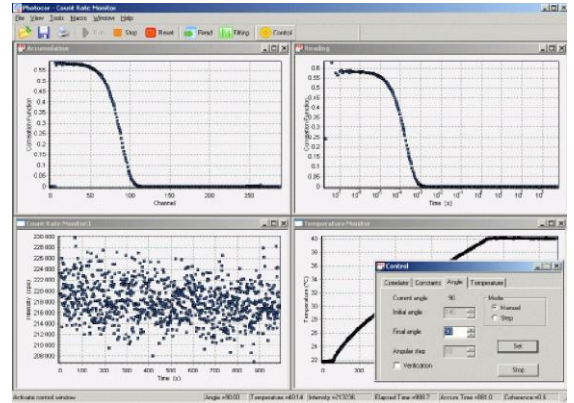
IKOsizer instruments come standard with the original user-friendly software package. Instruments work with software that includes an easy-to-use set of programs to control a measurement process and to perform data fitting and analysis. This software package provides support to various experimental procedures - from elementary to most sophisticated. If one needs to develop his/her own environment to control measurements and perform data analysis, the code of the library containing all low-level correlator control functions and procedures is also available.

To simplify measurement control and data analysis, the software has its own built-in command Interpreter to develop and use various sets of commands that together accomplish an assigned task. The Interpreter includes all possible commands that may be accessed via menu or dialog windows. It can be used fruitfully as a part of a larger arrangement due to the possibility of dynamic data exchange with other applications. A user can install his/her own routines of raw data interpretation directly to the Interpreter. A complete on-line context-sensitive help that can be used without interrupting the work in the Interpreter is provided. The help on the keyboard as well as on selected commands, open dialog windows, or messages is available, or can be browsed through as a general reference.

## Features

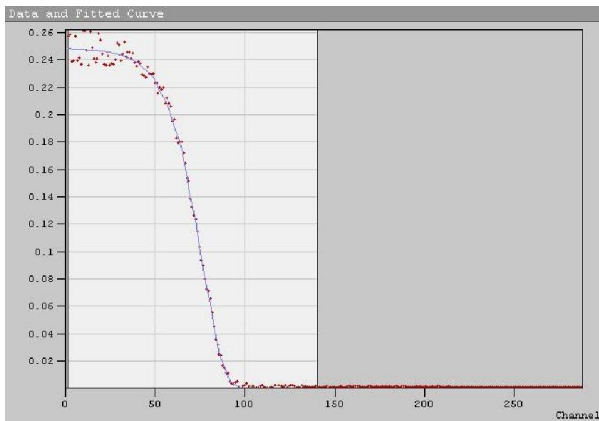
Various programs of polydisperse analysis (regularization method - Dynals, cumulant method, direct approximation using nonlinear-least-squares method)

- ▲ Determination of average particle size and size distribution
- ▲ Determination of molecular weight using Debye and Mark-Houwink methods
- ▲ Ability to fully automate measurements using built-in macro language
- ▲ Different methods of presenting the results

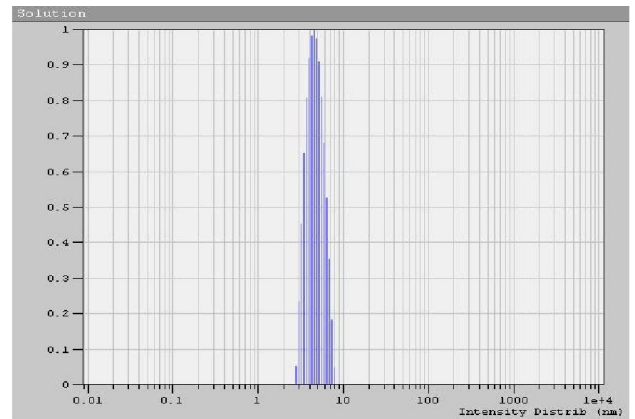


## Typical measurements

Albumin particle size measurement. The average albumin particle size is  $R_{BSA} = 4.52$  nm.



The correlation function of scattered light



Particle size distribution