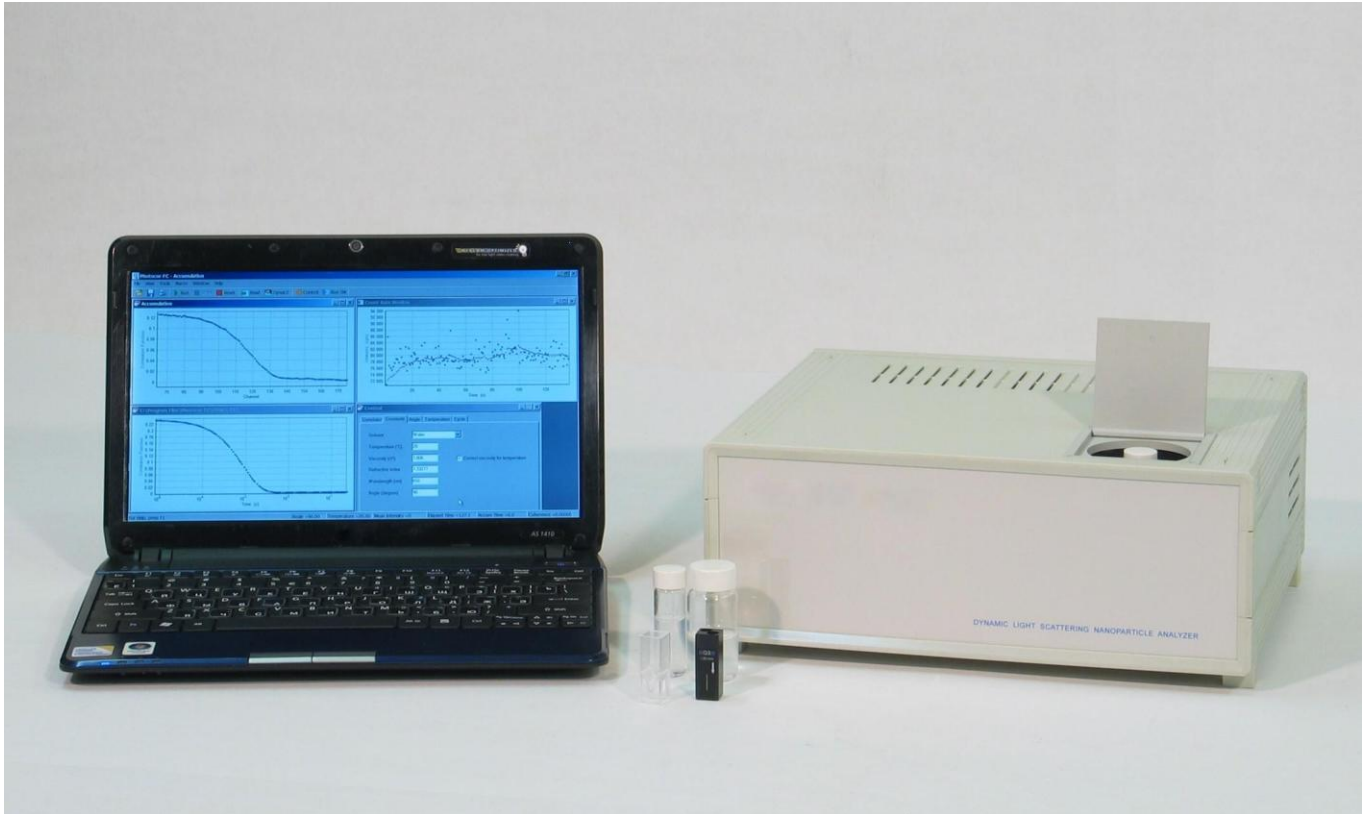


IKOsizer Z – series



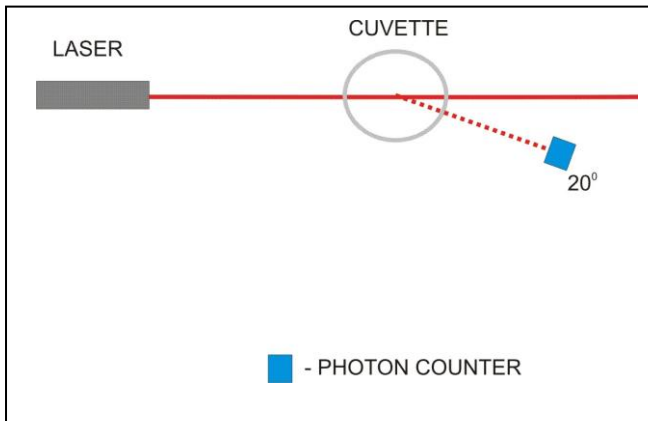
IKOsizer Z are instruments for measurements of Zeta potential and electrophoretic mobility, particle size, size distribution, particle concentration, weight, diffusion coefficient. The analyzers are based on the dynamic light scattering (photon correlation spectroscopy). These devices fully comply with International standard ISO 22412:2008.

Features

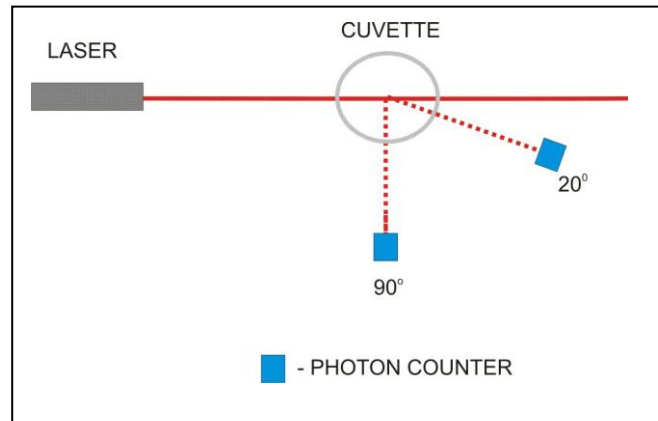
- ▲ Zeta potential and electrophoretic mobility measurement
- ▲ Dynamic light scattering, fast measurements, real-time size monitoring of nanoparticles
- ▲ Non-Invasive 173° backscattering technology for measuring opaque or high-concentrated samples
- ▲ New high sensitive photon counters based on APD diode
- ▲ Temperature stabilizer for Laser and APD diodes
- ▲ Photon counting cross-correlation system (increases the accuracy of measurements of very small sizes in the 0.3 nm to 10 nm range)
- ▲ Unique flex-logic correlators (autocorrelation and cross-correlation functions), linear and multiple-tau time scale, upgrade of hardware configurations.
- ▲ USB interface provides easy connection to any computer
- ▲ Precise thermostat for samples
- ▲ Easy-to-prepare samples, suitable for various commercial sample cells and vials

IKOsize Z is available in 4 models

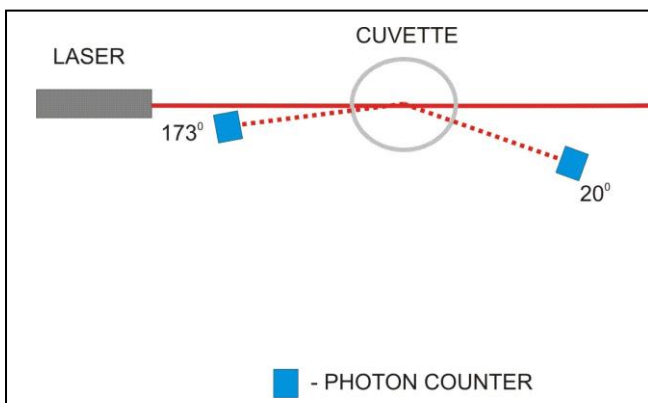
Z



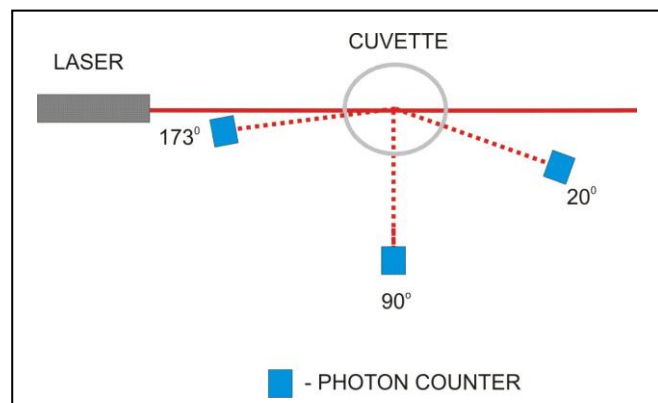
ZS-1



ZS-2



ZS-3



Specifications

Measurement range		Z	ZS-1	ZS-2	ZS-3
Size*	0.3 ... 10000 nm	-	●	●	●
Accuracy	0.8%	-	●	●	●
Diffusion coefficient	$10^{-5} \dots 10^{-10} \text{ cm}^2/\text{s}$	-	●	-	●
Molecular weight	$10^3 \dots 10^{12} \text{ g/mol}$	-	●	-	●
Zeta potential	+/- 200mV	●	●	●	●
Electrophoretic mobility	+/- 10 $\mu\text{cm/Vs}$	●	●	●	●
Sample concentration*	0.0001 ... 5%	●	●	-	-
Sample concentration*	0.0001 ... 40%	-	-	●	●
Scattering angles		20°	20°, 90°	20°, 173°	20°, 90°, 173°

General specifications

Sample volume	1 μL ... 10 mL (for Zeta potential measurement minimum 1mL)
Laser	Diode laser: 650 nm, 50 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	290 x 258 x 108 mm / 3.2 kg /198-240V 50 Hz 90W

*Sample and application dependent

Applications

Industry	Manufacturing of nanostructured and nanocomposite materials
Physics and Chemistry	Colloids, polymers, latex, micelles, micro emulsions, 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

IKOsize 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.

