



# DLS-802

Dynamic Light Scattering Particle Analyzer

**Gold APP Instruments China**

**Lead You to Particle World Better**



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## INTRODUCTION

DLS-802 nanometer particle size analyzer is based on the Dynamic Light Scattering principle, the first manufacturer used digital correlator in China. It was upgraded from DLS-801 which is the first set of nanometer particle size analyzer in China.

Based on Brownian motion principle, the small particles cause the intensity to fluctuate more rapidly than the large ones. It adopts great performance of Japan HAMAMATSU photomultiplier and self-developed high speed digital correlator as core parts, get diffusion coefficient by test scattering light change in some angles, and calculate particle diameter and distribution according to stokes-Einstein equation. the machine is with characters of fast calculation, high resolution ration, good accuracy, and repeatability, therefore it's widely used in factory production labs, researching institutes and universities.

## FEATURES

### 1. Advanced test principle

Dynamic light scattering principle and photon correlation spectrum technology, according to Brownian motion speed of particle to test particle size, different size of particles have different speed, when laser illuminate these particles, it will make scattering light happen different speed of fluctuations- downs.

Photo correlation spectrum method will analyze these particle size according to Photon fluctuations -downs in particular direction.

### 2. High resolution

Using PCR technology test nanometer-scale particle size, must be able to distinguish nanosecond signal fluctuations. The core components of the instrument are CR256 digital correlator developed by our company, with 8ns high resolution speed.

### 3. High sensitivity and Noise-signal ratio

Detector is composed of imported HAMAMATSU photomultiplier, ensure good accuracy.

### 4. High speed data collection and calculation

Self-developed patent product-CR256 digital correlation, it can finish dynamic scattering light intensity collection and autocorrelative function by real time calculation. Data processing speed is up to 162M, effectively reflect dynamic scattering light information of different sizes of particles.

### 5. High stable optical path system

Photon correlation spectrum detect system adopt optical-fiber technology, with smaller size and high anti-interference and reliability.

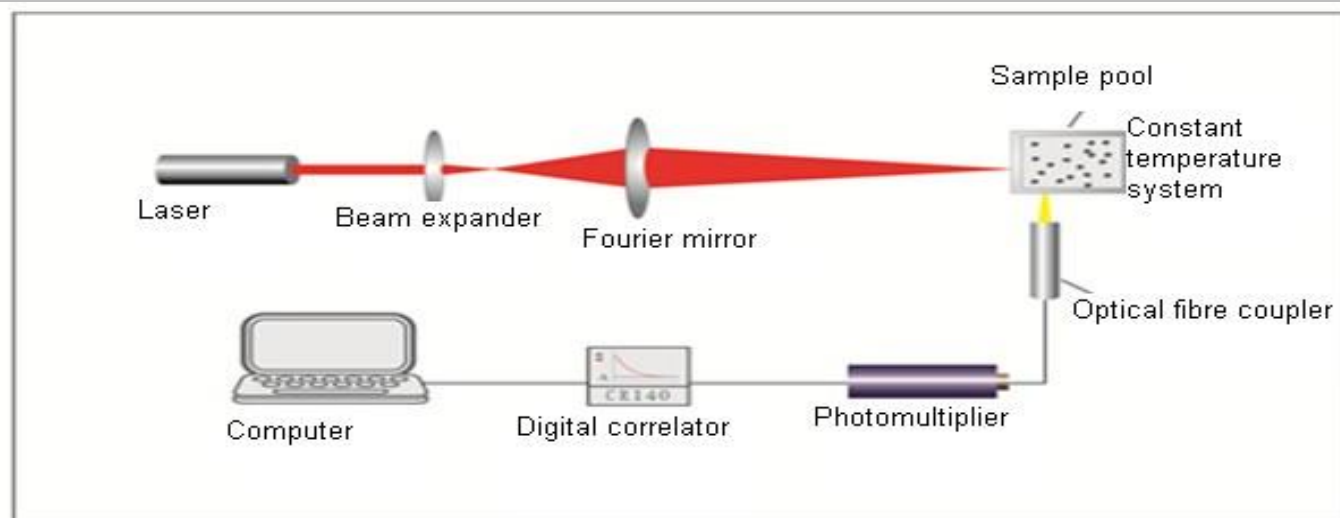
### 6. High precision constant temperature control system

Semiconductor temperature control technology, precision control within  $\pm 0.1^{\circ}\text{C}$ , make samples be in a constant state throughout the testing process, prevent testing error because temperature change will change liquid viscosity and Brownian movement speed.



## SPECIFICATIONS

Model	DLS-802	
Standards	GB/T 19627-2005/ ISO 13321:1996 GB/T 29022-2012/ ISO 22412:2008	
Measure Range	1nm - 10000nm	
Concentration Range	0.1mg/ml - 100mg/ml	
Accuracy Error	<1% (CRM D50)	
Repeatability Error	<1% (CRM D50)	
Data Output	D10-D100, D [4,3], D [3,2], D [2,1], D [1,0]	
Light Source	Semiconductor laser $\lambda = 532\text{nm}$ P=30mW	
Detector	Imported Japan HAMAMATSU photo-multiplier (19-90°C)	
Scattering Angle	90°	
Sample Cuvette	1-4mL	
Test Temperature	5-40 °C (temperature controller 5-90°C, precision within 0.1°C)	
Test Speed	<5 Min	
Power Supply	220V, 50Hz/ 60Hz	
Outer Dimension	L48cm x W27cm x H17cm	
Gross Weight	12 Kgs	
Operation System	Win XP/ Win 7/ Win 10, 64 bits, USB port: 2.0 /3.0	
Analysis	Average particle diameter, particle distribution, photon counting rate etc.	
Analysis Modes	NNSL, multi-peak and CONTIN	
Digital Correlator	Model	CR256
	Auto-correlation Channels	256
	Baseline Channel	4
	Physical Channels	5000
	Unit Delay Time	100ns-10ms



Working Schematic



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*Our policy of continuous development may cause the information and specifications contained herein to change without notice or liability.*



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