

Introduction Of Photon Correlation DLS Nano particle Size Analyzer

Model No.: YK-802



Brief Introduction:

Yuke YK-802 dynamic light scattering nanometer particle size analyzer which based on the dynamic light scattering principle, and also 1st one which use digital correlator in China. And It's upgrade from Yuke YK-801, which is 1st set of Nanometer particle size analyzer. Based on Brownian motion principle, smaller particle, faster speed, bigger particle, more slowly. It adopt 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 angle, 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 company product lab



research and university use.

Main specification:

Model		Yuke YK-802
Standard		GB/T 19627-2005/ISO 13321:1996 GB/T 29022-2012/ISO 22412:2008
Measure range		0.3nm-10000nm
Concentration range		0.1mg/ml--100mg/ml
Accuracy error		<1%(CRM D50)
Repeatability error		<1% (CRM D50)
Light source		Semiconductor laser $\lambda = 532\text{nm}$ $P = 30\text{mW}$
Detector		Imported Japan HAMAMATSU photo-multiplier (19-90℃)
Scattering angle		90°
Sample cuvette		1-4mL
Test temperature		5-40 ℃ (temperature controller 5-90℃, precision within 0.1℃)
Test speed		<5 Min
Power Supply		220V 50HZ/60HZ
Outer Dimension		L48cm*W27cm*H17cm
G.W.		12Kg
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 mode		NNSL, multi-peak and CONTIN
Digital Correlator	Model	CR256
	Auto-correlation channels	256
	Baseline channel	4
	Physical channels	5000
	Unit delay time	100ns-10ms



Application:

Nano metallic oxide, Nano metallic powder, Nano ceramic material, protein, polymer latex, preparation of pharmaceutical, water/oil emulsion, paint, coating material, pigment, ink, toner, cosmetics and other fields of research, preparation and application of nano materials.

Main 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 is 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, so ensure good accuracy.

4) High speed data collection and calculation

Self-developed patent product-CR256 digital correlation, It could finish dynamic scattering light intensity collection and autocorrelative function 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-fibre technology, 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.

7) Output parameters: Real particle size distribution, freely set D10-D100, D[4,3], D[3,2], D[2,1], D[1,0] and specific surface area.

