

Sizer - 3803



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Analytical Technologies Limited

An ISO 9001 Certified Company

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►► Product Profile

Sizer 3803 dynamic light scattering nanometer particle size analyzer which based on the dynamic light scattering principle, Based on Brownian motion principle, smaller particle, faster speed, bigger particle, more slowly. It adopt great performance of 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, it's widely used in company product lab research and university use, especially good for testing particle size distribution of coloured particles.

►► 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.

Model		Sizer 3803
Standard		GB/T 19627-2005/ISO 13321:1996 GB/T 29022-2012/ISO 22412:2008
Measure range		1nm-10000nm (reference to sample)
Concentration range		0.1mg/ml--100mg/ml
Accuracy error		<1%(average size of CRM)
Repeatability error		<1% (average size of CRM)
Light source		Semiconductor laser $\lambda=532\text{nm}$ $P=30\text{ mW}$ Auxiliary blue laser $\lambda=450\text{nm}$ $P=5.0\text{ mW}$
Detector		PMT -Imported photo-multiplier (19-90°C)
Scattering angle		90°
Sample cuvette		1-4mL
Test temperature		5-90 °C (temperature controller 5-90°C, precision within 0.1°C)
Test speed		<5 Min
Power Supply		220V 50HZ/60HZ
Outer Dimension		L48cm*W27cm*H17cm
G.W.		12Kg
Operation system (MIN)		Win XP/Win 7/Win 10 64 bits, USB port: 2.0 /3.0
Analysis		Average particle diameter, particle distribution, photon counting rate etc.
Digital Correlator	Model	CR 3256
	Auto-correlation channels	256
	Baseline channel	4
	Unit delay time	100ns-10ms

►► Main Features

1) Dual-wavelength laser, automatic switching

Exclusively using dual-wavelength ($\lambda = 450 \text{ nm}$, $\lambda = 532 \text{ nm}$) laser to build the optical system. The correlation spectrum detection system is not only small size, but also has strong anti-interference ability, thus ensuring the stability of the test. For some samples with absorbance properties, which can not be detected by traditional single-wavelength laser, it can be tested effectively.

2) 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.

3) 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 CR 3256 digital correlator developed by our company, with 8ns high resolution speed.

4) High sensitivity and Noise-signal ratio

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

5) High speed data collection and calculation

Self-developed patent 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.

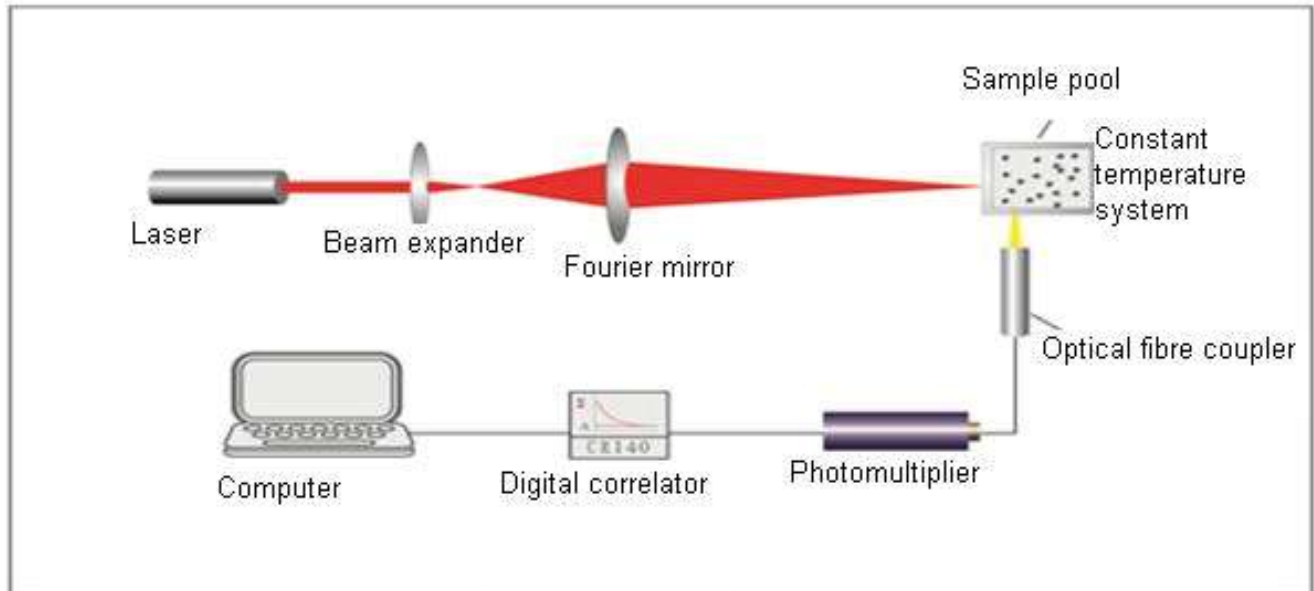
6) High stable optical path system

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

7) 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.

8) 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.



HPLC Servicing, Validation, Trainings and Preventive Maintenance :

HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

Trainings :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

AMC's/CMC :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

Validations :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

Instruments :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



About Analytical Technologies

Analytical Technologies is synonymous for offering technologies for doing analysis and is the Fastest Growing Global Brand having presence in at least 96 countries across the global. Analytical Technologies Limited is an ISO:9001 Certified Company engaged in Designing, Manufacturing, Marketing & providing Services for the Analytical, Chromatography, Spectroscopy, Bio Technology, Bio Medical, Clinical Diagnostics, Material Science & General Laboratory Instrumentation. Analytical Technologies, India has across the Country operations with at least 4 Regional Offices, 6 Branch Offices & Service Centers. Distributors & Channel partners worldwide.

Our Products & Technologies



UV/VIS
Spectro 2080+
Double Beam



Infra FTIR



Optima Gas
Chromatograph
3007



Optima Gas
Chromatograph
2979 Plus



Flash
Chromatograph



Atomic Absorption
Spectrophotometer



Liquid Particle
Counter



Optical Emission
Spectrophotometer



DSC/TGA



Semi Auto Bio
Chemistry Analyzer



HEMA 2062
Hematology
Analyzer



Micro Plate
Reader/Washer



URINOVA 2800
Urine Analyzer



Total Organic
Carbon 3800



Fully Automated
CLIA



NOVA-2100
Chemistry Analyzer



PCR/Gradient PCR/
RTPCR



TOC
Analyzer



Laser Particle
Size Analyzer



Ion Chromatograph



Water purification
system

Regulatory compliances



Corporate Social Responsibility

Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:



Analytical
Foundation

1. Research & Innovation Scientist's awards/QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at Info@analyticalfoundation.org

2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.



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