



SPRAY-319

Spray Particle Size Analyzer

Gold APP Instruments China

Lead You to Particle World Better



ES France - Département Bio-tests & Industries
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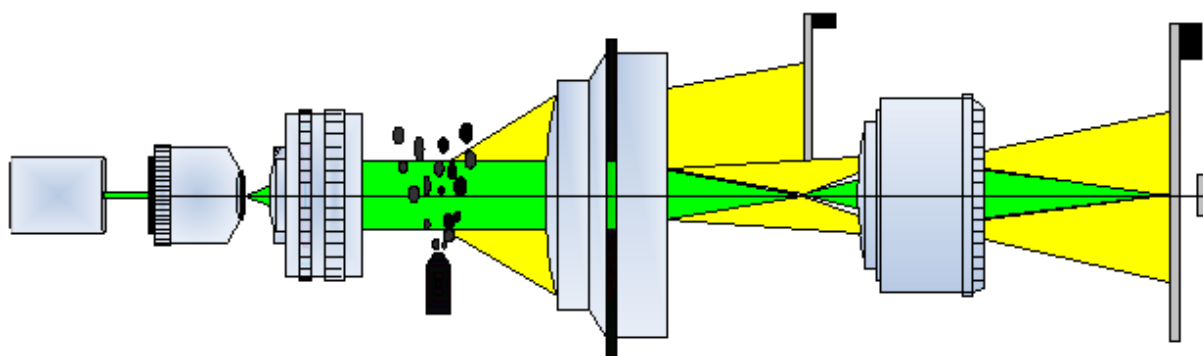
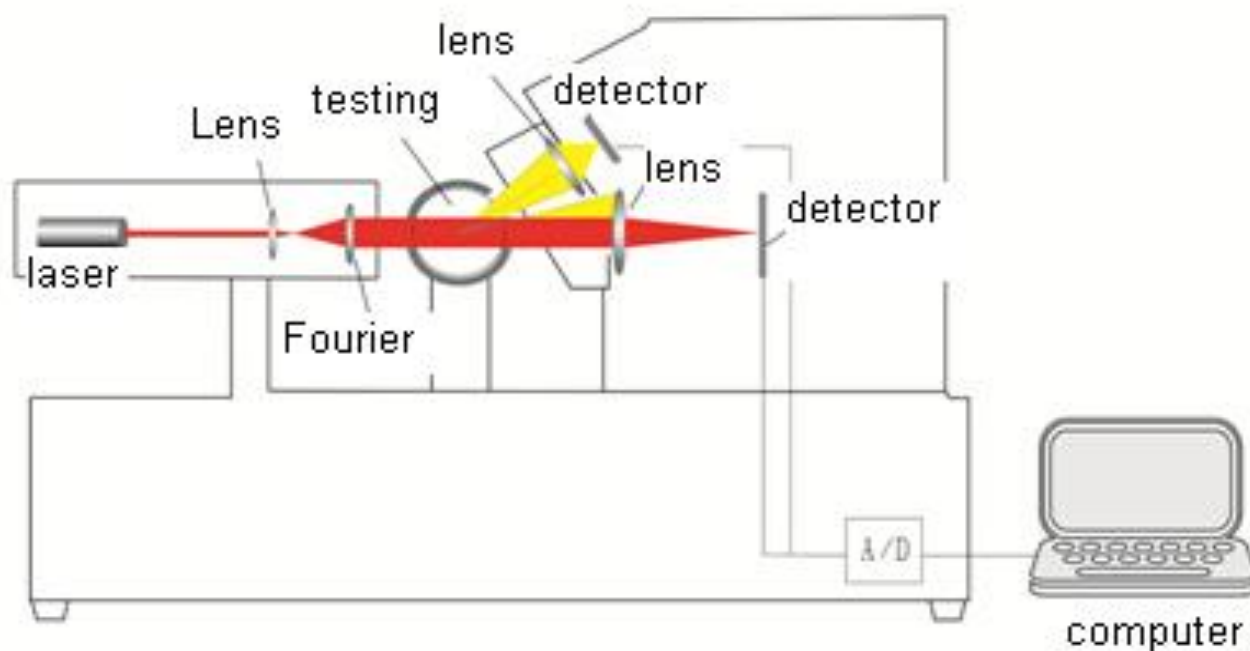
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INTRODUCTION

SPRAY-319 Industrial laser particle size analyzer is a specially designed and developed bench-top laser particle size analyzer for spray droplet size testing. This instrument adopts laser diffraction & Fraunhofer diffraction principles, with parallel light path design, equips high-performance and high-power laser which working lifetime >25000 hours, guarantee the requirements of spray droplet test easily. The testing range can be adjusted according to the customers' requirement.



working schematic of spray particle size analyzer

SPRAY-319 can be applied in a wide variety of fields, including droplets from injectors, pesticide spray, nebulizers, medicine nebulizer droplet, lotions, humidifiers, nozzle research and aerosol, mist separators, powder paint and various powders, etc., it is especially suitable for laboratories of enterprises, universities, and research institutes.



FEATURES

1. Exclusive Patent Technology

It adopts representative parallel optical testing technology and spectrum amplification technique, can realize the wide range expansion in limited space. Besides, it adds several auxiliary integration photoelectric detectors, which can effectively collect scattering light from every angle in the testing range, realizing the testing accuracy and reliability in the whole range.

2. Unique Airflow Protection Device

It has an airflow protection device, which can effectively protect lens and avoid droplet pollution to lens in testing process.

3. Split-type Structure Design

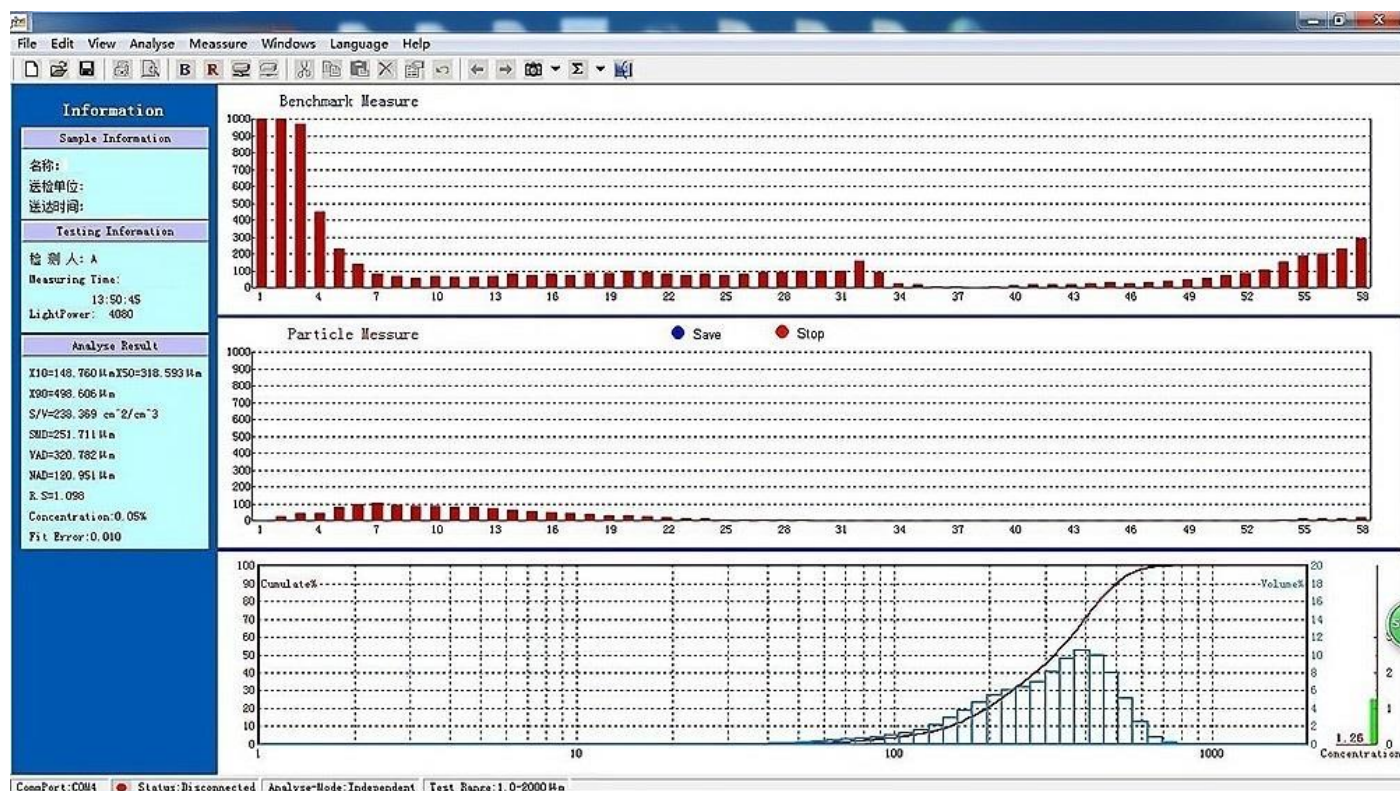
Split-type structure and adjustable testing area can meet the needs of the spray test in any conditions and it has many specialties, such as non-contact measurements, non-interfering etc.

4. Stable Automatic Optical Path Alignment System

The optical path alignment system can be corrected by one click, avoid adjustment difficulties caused by the optical path movement.

5. Multiple Size Distribution Models

Offer free choice standard model, RR distribution and Lognormal distribution. Can convert the volume distribution and individual number distribution freely.



SPECIFICATIONS

Models	SPRAY-319A	SPRAY-319B	SPRAY-319C
Standards	ISO13320-1 :1999, GB/T19077.1-2008, Q/0100JWN001-2013		
Principle	Fraunhofer diffraction principle		
Instrument Structure	split-type		
Testing Range	1μm-500μm	1μm-1000μm	1μm-2000μm
Number of Channels	50 pcs	51 pcs	58 pcs
Accuracy Error	<1% (Reference to CRM D50)		
Repeatability Error	<1% (Reference to CRM D50)		
Reproducibility	<1% (Reference to CRM D50)		
Data Acquisition Rate	≧ 2KHZ		
Laser	LD Pump Laser; λ=532nm, p>40mw, life time>25000 hours		
Laser Safety	class 3B		
Air Purging System	equipped with airflow protection device, can effectively protect lens, and avoid droplet pollution to lens in testing process.		
Sampling Mode	open style		
Optical Alignment System	automatic		
Working Temperature	10-40°C		
Humidity	≦75%		
PC System	Windows 7/8/10/11 (64 bits) with Office		
Output Parameters	particle volume distribution curve, D10-D100 any parameters		
Testing Area Length	0.1-10m/adjustable		
Lens Protection	double gas episodic		
Outer Dimension	pkg 1: L369*W295*H360mm, pkg 2: L858*W295*H360mm		
Power Supply	220V, 50HZ		
Weight	68 kgs		

Vx: particle diameter, < X particle volume summation percent of total particle's volume;

Nx: particle diameter, < X particle number summation percent of total numbers of particles;

VAD: the volume weighted average particle size;

SMD: surface area weighted average particle size;

NAD: the number of weighted average particle size;

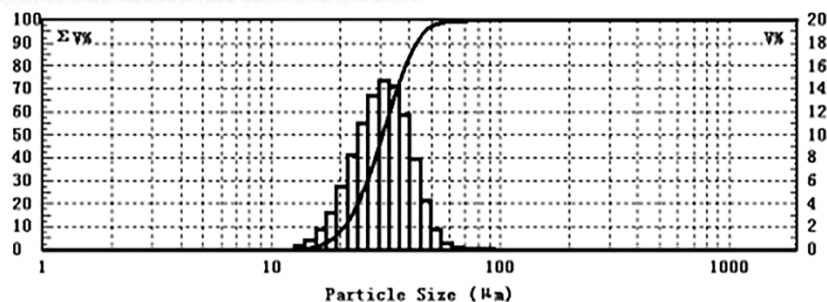
R.S: sample dispersion index;

N/V: N50/V50, characterization of

Analyse Result (Analyse-Mode:Independent)

V10=20.748 μm V50=30.612 μm V90=43.171 μm VAD=31.465 μm
 N10=16.119 μm N50=23.488 μm N90=34.637 μm NAD=24.592 μm
 R.S=0.732 N/V=0.767 SMD=29.024 μm
 Fit Error:0.012 Optics Concentration:1.5 Concentration:0.01%

(V: cumulative volume distribution, N: cumulative number distribution)



d (μm)	V%	ΣV%	d (μm)	V%	ΣV%	d (μm)	V%	ΣV%
12.599	0.000	0.000	26.380	10.976	30.766	55.234	1.805	98.853
14.002	0.325	0.325	29.317	13.390	44.156	61.384	0.588	99.441
15.561	0.839	1.164	32.582	14.735	58.891	68.219	0.201	99.642
17.294	1.707	2.872	36.209	14.248	73.139	75.815	0.135	99.777
19.219	3.235	6.107	40.241	11.685	84.824	84.256	0.121	99.898
21.359	5.450	11.557	44.721	7.915	92.739	93.637	0.102	100.000
23.737	8.233	19.790	49.701	4.309	97.048	104.053	0.000	100.000



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