DRY-3003

Dry Dispersion Particle Size Analyzer

Gold APP Instruments China

Lead You to Particle World Better

Laser Particle Size Analyzer
DRY-3003

ES France - Département Bio-tests & Industries
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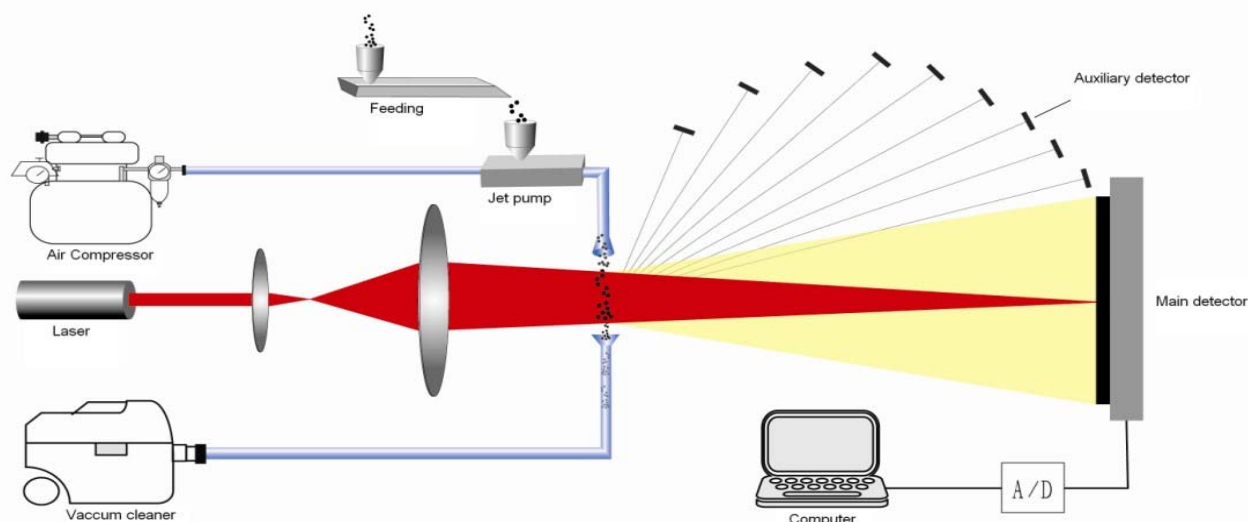e-mail : bio@es-france.com
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INTRODUCTION

DRY-3003 is a universal dry dispersion laser particle size analyzer, using the scientific structure design and a new generation of dispersion device, the dispersion effect is better than similar instruments. Using MIE scattering theory as the theoretical basis, converging Fourier transform optical path, and with high stability and He-Ne laser high-sensitivity photodetectors ring ensures repeatability and accuracy of test results.

The analyzer uses air as the dispersing medium, the use of turbulent dispersion principle, with high-precision feeding apparatus and patent powder injection pumps. No-oil & quite air source ensures samples are thoroughly dispersed. It can be applied to any powder materials, particularly for materials occurs chemical reaction in water, or shape changes in the liquid. It has same accuracy and repeatability compared with the wet method.

FEATURES

1. Unique patent technology of optical path and detection system, greatly improve testing resolution. Converging Fourier transform optical path patent technology overcome lens aperture restriction on the scattering angle, expand testing range in limited space, and add more secondary integrated photodetectors, which can effectively collect scattered light from all angles in the corresponding test range, make sure the testing accuracy and reliability within the full range.
2. The turbulence dispersion patented technology and normal shock shearing effect make particles sufficient dispersion, dispersion core part using wearable ceramics, not only improve dispersion system's working life but ensure more accurate and stable testing result.
3. Intelligent operation system realizes one key test. Put into a sample, then auto complete dust collection, air supply, feeding and others steps. It is not only reducing workload, but eliminate errors caused by human factors, further, improve testing accuracy and authenticity of the testing results.
4. Unique unconstrained free fitting technology make particle analysis not be restricted by any functions, truly reflect particles distribution, ensure accuracy of testing result.

Working Schematic

SPECIFICATIONS

Model No.	DRY-3003
Size Range	0.1μm–300μm
Standards	ISO13320-2020, GB/T19077.1-2008, Q/0100JWN001-2013
Channels Number	40 pcs
Accuracy error	<1% (deviation of D50 on national standard sample)
Repeatability error	<1% (deviation of D50 on national standard sample)
Light Source	red fiber laser (λ= 632.8nm, P>2.0MW)
Dispersion Method	dry-turbulence dispersion mode
Operation Mode	manual/ automatic (SOP)
Optical Path Calibration System	three-dimension alignment
Sample Feeding	automatic feeding (speed adjustment is available)
Dispersing Medium	compressed air
Test Speed	<1min for each time
Connection Port	USB
Software function	Analysis mode	free distribution, R-R distribution, logarithm normal distribution, mesh number classification
	Statistic Method	volume distribution, quantity distribution
	Statistic Comparison	several testing results, different batches of samples testing result, samples before and after processing, test result of samples in different times.
	User-defined Analysis	calculate percentage based on particle size; calculate particle size based on percentage; calculate the percentage based on the particle size range.
	Test Report	Word, Excel, Photo (bmp), Text etc.
	Multi-language	Chinese & English
	Intelligent Operation Mode	intelligent operation mode can automatically control the test procedures, not only reduces the workload, but also makes the test results more repeatable, no interference from human factors.
Computer configuration	Windows XP, 7 & 10, 64 bits, core i3/ better 2G, hard disk 160G
Dimension	L88cm×W40cm×H30cm
Net Weight	36 kgs

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ranges:0.1-300 µm   Printing Time:2024-03-19 10:17 Tuesday

Sample Info

Delivery Co.:
Sample4-平均   Delivery Date:2024-03-19
Retractive Index:1.68-0.100   Sample Density:0

Testing Information

Organization: Analysis Mode:: Free Distribution
Operator:KF   Detection Intensity: 4092   Measure Time:2024-03-19 10:16:10
Dispersed Phase:air   Dispersed Phase:air

Analysis Result

D10=12.813µm   D50=32.595µm   D90=71.656µm
D[3,2]=23.353µm   S/V=2569.210cm^2/cm^3   Fitting Deviation:0.003
D[4,3]=39.133µm   Optics Concentration:30.476

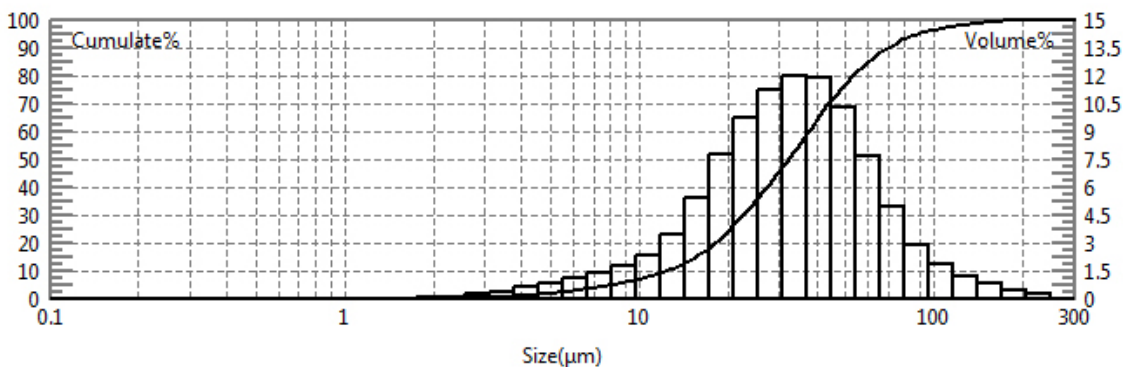**Customize project analysis results**

D100=247.932µm   <10µm=6.574%   <100µm=95.914%   <30µm=45.027%
<45µm=70.245%   <63µm=86.183%   <70µm=89.408%

Size(µm)	Volume	Cumulate	Size(µm)	Volume	Cumulate	Size(µm)	Volume	Cumulate
1.745	0.000	0.000	11.741	2.260	8.505	78.995	4.898	92.622
2.112	0.036	0.036	14.207	3.441	11.946	95.585	2.898	95.520
2.555	0.085	0.121	17.191	5.400	17.346	115.659	1.790	97.310
3.092	0.188	0.309	20.801	7.715	25.061	139.948	1.216	98.526
3.741	0.347	0.656	25.169	9.748	34.809	169.338	0.813	99.340
4.527	0.571	1.227	30.455	11.181	45.989	204.901	0.451	99.790
5.477	0.833	2.060	36.851	11.989	57.978	247.932	0.210	100.000
6.627	1.106	3.167	44.590	11.816	69.794	300.000	0.000	100.000
8.019	1.384	4.550	53.954	10.286	80.080			
9.703	1.695	6.245	65.285	7.644	87.724			

Laser diffraction particle size analyzer supports dry measurement whereby the target particle group is dispersed in air and measured. Dry measurement is used for measuring samples which cannot be met by wet liquid, like drugs and foods that cannot be measured by wet measurement due to their dissolving in water or dispersion medium; also, such as powder paints, in consideration of their purpose and conditions of use.

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