

Introduction Of Dry Laser Particle Size Analyzer

Model No.: YK-3003



Overview:

YK-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.

This product use air as the dispersing medium, the use of turbulent dispersion principle, with high-precision feeding apparatus and Patent powder injection pumps, No-Oil silent air source, ensure that the sample is thoroughly dispersed. It is applied to any powder material, particularly good for materials occurs chemical reaction in water, or shape change in the liquid. It have same accuracy and repeatability compared with the wet method.

Main Specifications:

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Model Name		YK-3003 Auto Dry Laser Particle Size Analyzer
Size Range		0.1 μ m-300 μ m
Theory		Laser diffraction theory
Method		Mie and Fraunhofer scattering
Optical path		Converged light Fourier transform optical path
Standard		ISO13320-2020,GB/T19077.1-2016,Q/0100JWN001-2013
Channels Number		40 pcs (log-spaced array)
Accuracy error		<1% (Deviation of D50 on national standard sample)
Repeatability error		<1% (Deviation of D50 on national standard sample)
Light Source		High Performance Laser (λ = 639 nm, P>2.0MW) Lifetime>5000 hours
Dispersion Method		Dry-turbulence dispersion mode
Operation Mode		Manual/Automatic SOP
Optical Path Calibration System		Automatic optical alignment system
Software		Unconstrained free fitting analysis mode
Sample Feeding		Automatic sampler (speed adjustment is available in the computer)
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 of samples Different batches of samples testing result, Samples before and after processing, Test result of samples in different time.
	User-defined Analysis	Figure out percentage according to the particle size Figure out particle size according to the percentage Figure out percentage according to the particle size range Meet demands of representation of particle test in different industries.
	Test Report	Word, Excel,Photo(Bmp), Text etc
	Automatic test data selection	Automatically selects stable optical concentration test data, reducing human error and improving test repeatability and reliability.
	Intelligent Operation Mode	Automatically control Air flow speed, dispersion,test and analysis.Better Repeatability after remove human-factor
	Data analysis	Average, statistics, and comparison of sample test data in different time periods,Create groups for sample testing to facilitate storage and comparison of sample test data.
Request computer configuration		Optional
Request computer configuration		Windows XP/Windows 7/ Win 10- 64 bits,Core i3/better 2G, Hard



	disk 160G, Disk D
Volume	L765*W450*H325mm Dispersion unit: L260*W285*H135mm
Net Weight	26Kg+7Kg

Main 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 the corresponding test range, make sure the testing accuracy and reliability within the full range.

2)Scientific and automatic dry dispersing system

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 realize one key test

Just need put in sample, Dust collection, air supply,feeding and others are all automatic. It only only reduces workload, but eliminate errors caused by human factors, further improve testing accuracy and authenticity of the testing results.

4)Software

Unique unconstrained free fitting technology make particle analysis not be restricted by any functions, truly reflect particles distribution, ensure accuracy of testing result.

Auto samplers:

It's used to deliver dry powders in the Precise sampling after a variable time duration as required.

The injection speed can be set on the computer according to the fluidity of the sample, very simple to use.

Application:

YK-3003 Dry laser particle size analyzer used in cement, ceramics, pharmaceuticals, dyes, pigments, fillers, chemical products, catalysts, coal dust, additives, pesticides, explosives, graphite, photographic materials, fuel, metal and non-metal powder, carbonated calcium, kaolin and other powder industry, particularly for materials which occurs chemical reaction, the shape change and the loss in the liquid, such as herbs, magnetic materials and relatively wide distribution and larger particles powders, have more unique applicability and practicality.

Patents Technology:

- Optical bench design is protected by patent No.- ZL 2014 2 0378380.8,
- Three dimensional-optical bench alignment system is protected by patent No.- ZL 2013 2 0835882.4.
- MIE scattering principle application patent No.- ZL 2013 2 0812021.4.
- Dry particle size analyzer full sealed sample cuvette application is protected by patent No.- ZL.2011 2 0267646.8.
- Powder dispersion pump design application is protected by patent No.-ZL 2007 2 0018648.7

Principle:

