

Laser Particle Size Analyzer(Dry) Model-3201 Plus



Brief introduction of 3201plus(Dry):

Model-3201 plus(Dry) particle size analyzer is a high performance particle size distribution analyzer. Dry dispersing system adopts Venturi dispersing effect by measures of shear, inertia, collision, etc, to ensure that the powders are in complete dispersing state when pass through testing zone. Even for the sample which is difficult to disperse such as NdFeB powder, it can be dispersed completely made by large scale integrated circuit technique which is specially designed, and it has high resolution and good accuracy; adopts whole process Mie theory and data processing mode of multiple distribution models; adopts a series of advanced technologies and manufacturing techniques including high precision data transmission and processing circuit etc., to make the instrument has outstanding features including accuracy and reliability, fast test speed, good repeatability, easy operating, etc. It is a new generation of particle size test instrument which integrates laser technology, computer technology and photoelectron technology

Main Specification of 3201 plus(Dry)

No	Item	Specification	No	Item	Specification
1	Measuring range	0.1-1000 μ m	6	Sample Feeding Method	Auto Electromagnetic Vibration
2	Repeatability Error	<3% (standard sample D50)	7	Gas Pressure	0.0-0.8Mpa
3	Accuracy Error	<3% (standard sample D50)	8	Gas Flowrate	400-6000L/min
4	Resolution	Single peak, Double-peak, Multi-peak	9	Laser and Life Time	Semiconductor Laser, 25000 hours
5	Focus Mode	Auto-Alignment	10	Detector and Number	Forward and Backward, 84 PCS

Main application fields of 3201plus

(1) Water-soluble samples: Such as medicine including raw material drug, Western medicine, traditional Chinese medicine, carrier of powder medicine, etc.

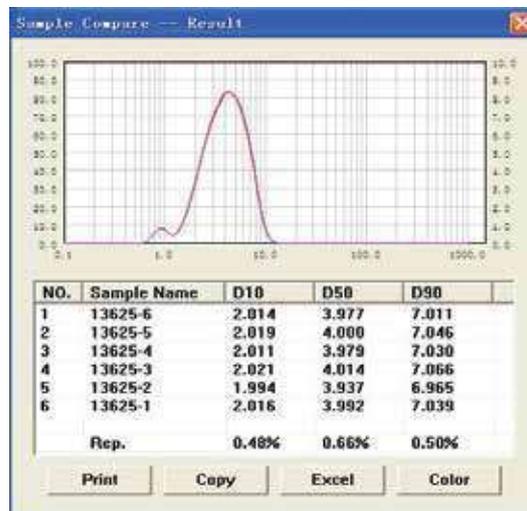
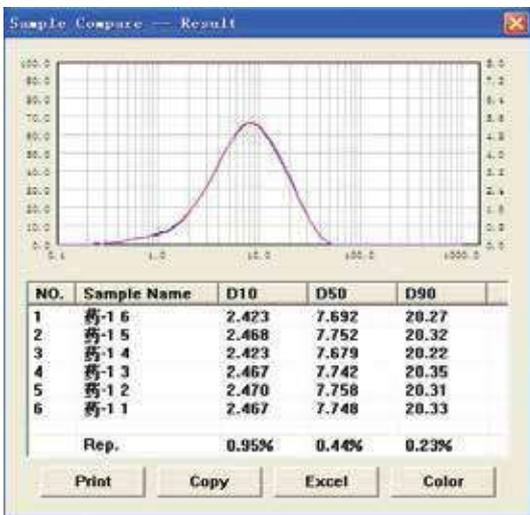
- (2) Samples which physical and chemical changes will occur under the influence of water: Such as cement, starch, coffee, salt, alkali, flavouring, chemical products, etc.
- (3) Samples which are hardly dispersed by wet dispersing: Such NdFeB powder, soft magnetic powder, permanent magnetic powder
- (4) Others: Other samples which are not suit for dispersing by liquid.

Good repeatability:

- (1) reasons for good repeatability: a) Laser, detector and signal transmission system are stable and reliable. b) Stable and effective dispersing system. c) Automatic alignment system keeps the instrument always in optimum condition. d) Sampling rate can reach 3500 times/second, and mass data can effectively reduce the influence of repeatability caused by little abnormal data.
- (2) Repeatability verification example: a) Repeatability of continuous test for same sample

Kindly reminder: About Repeatability
Repeatability is primary index of particle size analyzer. It is worthless for particle size analyzer if repeatability is not good. Repeatability is related to the instrument, also, related to the operator, voltage, water quality and interference. It is a reflecting of integrated factors.

- b) Repeatability of re-sampling teas



Good accuracy:

- (1) Reasons for good accuracy: a) Adopts semi-conductor laser of stable output, good monochromaticity and high efficiency which improves the precision of measurement greatly. b) the number of photodetectors reach 84 pcs, plus high performance software, can carry out auto test accurately no matter it is single peak, double-peak sample. c) Complete sample preparation system includes circulation, ultrasonic dispersing, stirring, auto water supply, etc. d) Use standard sample to verify and result is identical with value.
- (2) Examples for multiple verifications of accuracy a) Accuracy which approved by china national Accreditation: Satisfied.

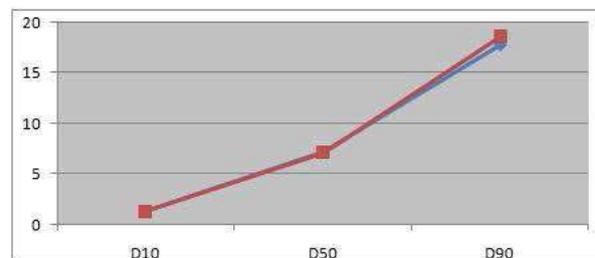
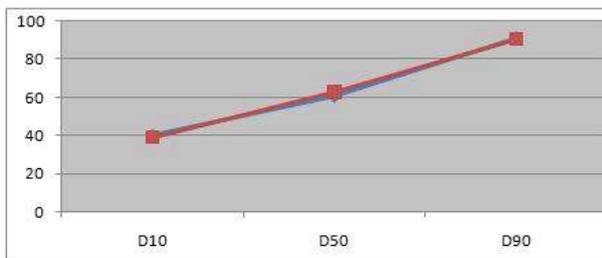
Letter of Notice for Ability Verification Plan Results					
Lab Name: Analytical Technologies Ltd.					
Test Item	Sample	Lab Result (μ m)	Designated Value (μ m)	Deviation Percentage (%)	Result Evaluation
Main Diameter D _{Mean}	2012FT-A1	13.55	14.06	-3.6	Satisfied
	2012FT-A2	12.26	12.55	-2.3	Satisfied
Median Diameter D ₅₀	2012FT-A1	13.49	14.04	-4.1	Satisfied
	2012FT-A2	12.27	12.54	-2.2	Satisfied

Note: if absolute value of deviation percentage is less than or equal to 10%, it is satisfied result: if absolute value is more than 10%, it is unsatisfied result.

b) Compare with test results of overseas advanced laser size analyzer: Good consistency.

MedicineA	D10	D50	D90
Malvern	1.318	7.202	17.810
BT-2001	1.342	7.146	18.570

Lactose	D10	D50	D90
Malvern	39.890	60.499	91.083
BT-2001	38.880	62.480	90.140

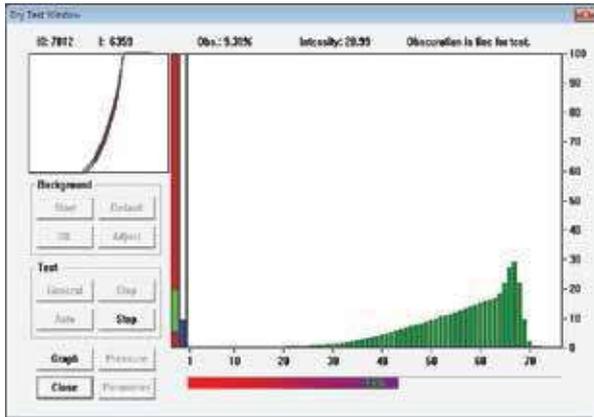


c) Use Bettersize standard sample to verify accuracy and test value is identical with standard value.



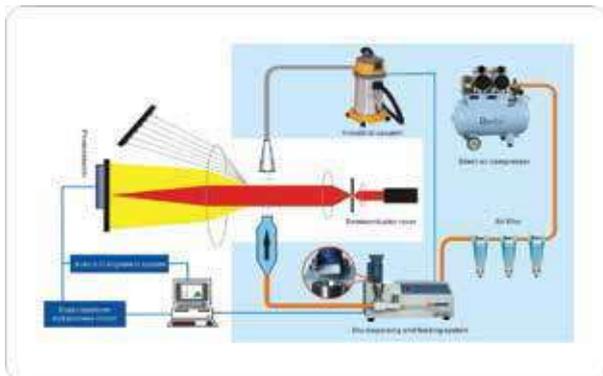
Good quality, easy operation and liability exemption service:

- (1) Reasons for low failure rate: a) Use international standard materials and famous brand or imported components such as imported optical fiber semiconductor laser, imported Fourier lens, integrated circuit that can be traced. Have continuous 48-hour aging test before leaving the factory. c) Use advanced technologies to guarantee the quality such as anti-dry ultrasonic, auto alignment, dew-point temperature detecting and abrasive tools, etc d) passed CE, FDA 21 CFR Part 11 and ISO9001-2008 Certification.
- (2) Easy operation: Auto test, auto alignment, continuous testing, conversion of report format, etc. It will take only ten minutes to learn and the result will not be affected because of different operators. Auto alignment system can ensure that light path always in optimum condition which makes the test more accurate.

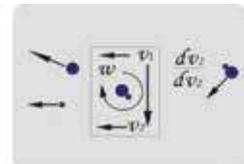
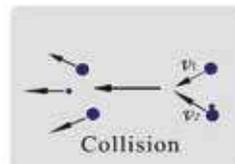
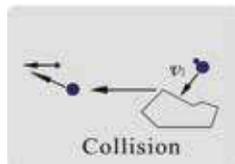


- (3) Commitments for free liability exemption service: Free liability exemption warranty one year. Within China, arrival in 24 hours, door-to door service, visit at fixed period, regular call back service from 30 professional after-sales service engineers and supply spare part at cost price in the long term. There are five offices located in Shanghai, Beijing, Shandong, Guangdong and Guangxi which shorten the distance for service greatly.

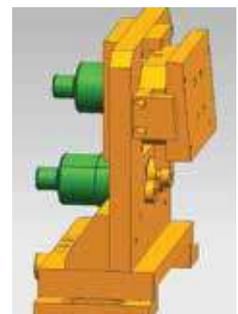
Uniqui technology and reliable quality



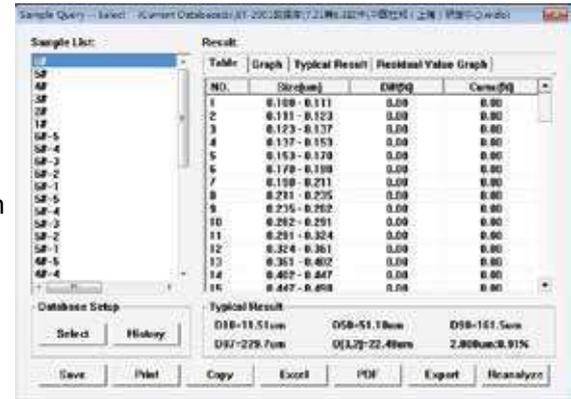
- (1) Unique dry dispersing technology: It adopts dry dispersing system which is uniquely designed the measures of shear inertia, collision etc. to ensure that the powders are in completely dispersing state when pass test window. It adopts oil free and silent air compressor with high efficient water filter to huarantee that pure compressed air is produced. Meanwhile, it has the advantages of low noise, auto start, auto stop, long running time, etc.



- (1) Auto alignment technology: Auto alignment individually invented by Bettersize is composed of stepping motor, precise guide rail, subdivision controller and software system. Its function is to let the center point of photodetector which is installed on it always keep optimum location, to guarantee accuracy and precision of the measurement.



(3) Software system: The functions of the software system for model-3201 plus 9(Dry) are vary powerful. Herein, Only list the conversion of report format for example. Just click Excel, PDF, Copy and Export button, the conversion of report format can be realized. It is convenient for communication such as email, etc. The system has saved optical parameters of hundreds, and almost covers all common sampsles, to eansure that the test result is more accurate.



NO.	Stripes	DMG%	Conc(%)
1	0.189 - 0.111	0.00	0.00
2	0.131 - 0.123	0.00	0.00
3	0.123 - 0.137	0.00	0.00
4	0.137 - 0.153	0.00	0.00
5	0.153 - 0.170	0.00	0.00
6	0.170 - 0.188	0.00	0.00
7	0.188 - 0.211	0.00	0.00
8	0.211 - 0.235	0.00	0.00
9	0.235 - 0.262	0.00	0.00
10	0.262 - 0.291	0.00	0.00
11	0.291 - 0.324	0.00	0.00
12	0.324 - 0.361	0.00	0.00
13	0.361 - 0.402	0.00	0.00
14	0.402 - 0.447	0.00	0.00
15	0.447 - 0.498	0.00	0.00

(3) Reliable dry feeding system: The operations of Model-3201plus dry feeding system which matches Model-3201 plus (Dry). Including sample feeding, gas feeding oressure test sample collection, ect,. are controlled by computer uniformly. The operations are completed automatically according to the procedures set in advance and convenient for operating.



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