

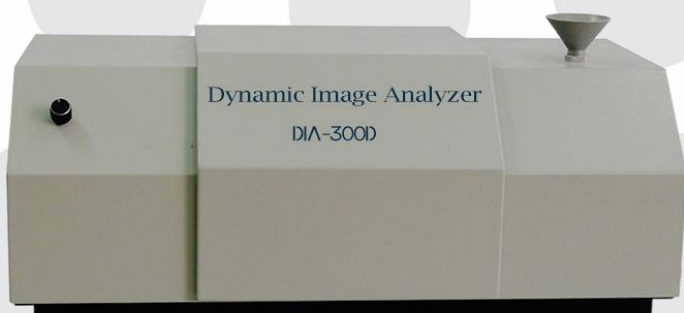


DIA-300D

Dynamic Image Analysis Particle Analyzer

Gold APP Instruments China

Lead You to Particle World Better



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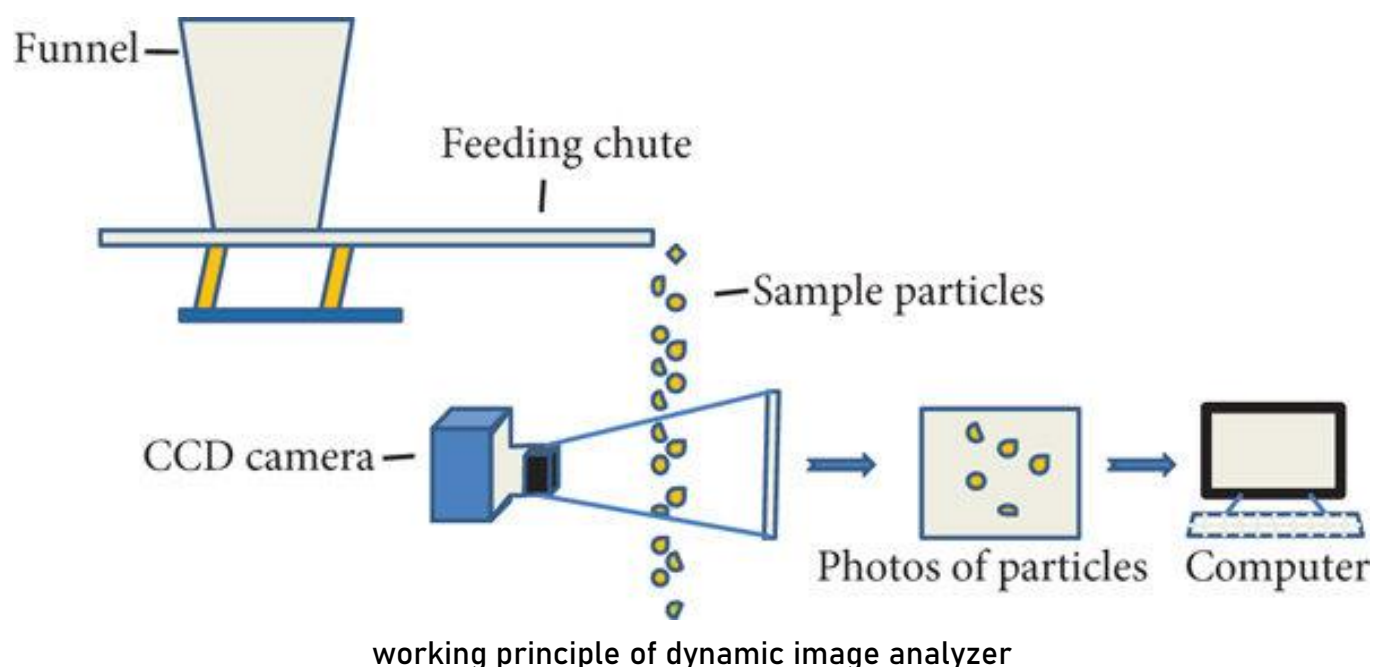
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INTRODUCTION

The DIA-300D dynamic image analyzer can easily and reliably characterize the size and shape of particles via analysis of their direct images, also test particle size distribution and morphology in range 10 μ m-10000 μ m (meet international standard: ISO/DIS-13322-2).

The image of sample particles can be captured, stored, and processed in real time. The amount of sample is larger than statistic mode, the analysis result is more representative and reproducible.

In Dynamic Image Analysis (DIA), a stream of particles is generated, the whole action is recorded and analyzed by a high-definition camera system. The particles are therefore in motion during the image acquisition. In most cases, Dynamic Image Analysis involves illuminating the particle stream from one side by a light source and recording the particle images as shadow projections. The particles move either in free fall (like granules), in a liquid or in an air stream, which ensures particle separation even for agglomerated powders.



FEATURES

Particle morphology analysis: offer sphericity, circularity, roundness, aspect ratio, sphericity, and other particle morphology prepositional parameters, and add self-developed software for particle circularity (roundness) computation module. The analysis of the particle circularity in line with US oil and gas standards: API_RP58, and geological plates suitable for this abrasive, oil and gas and other industry standards.

Compared with the static sample preparation method of the static imager, DIA-300D can measure massive particle data, has great significance for the representativeness of the particle data.

High-definition Clarity: the combination of wide field, far-reaching central light path and constrained plane sampling window can effectively improve the clarity of particle sample photos.



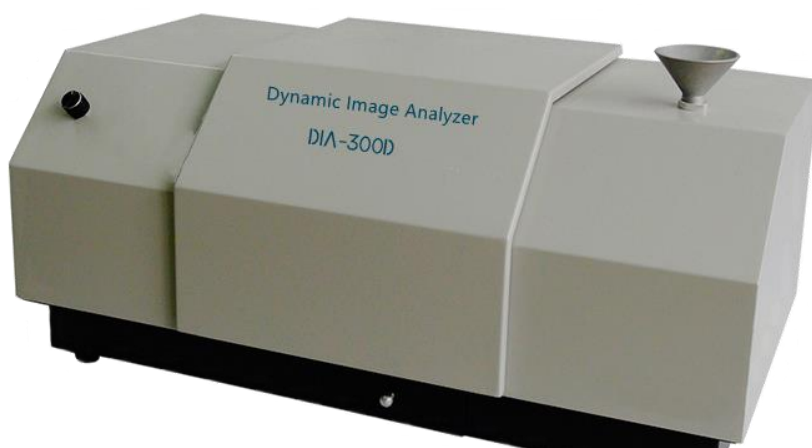
Free selection: Off-line testing, test data can be obtained in 2 minutes by adding offline samples to the tan. On-line testing is available (by installing on-line sampling device, and samples states in different sampling periods can be obtained.)

Analysis Software Functions:

1. Task management mechanism: according to the task management, ensure that the data management is in a good order.
2. Video acquisition: video and pictures are collected at any time.
3. Scale calibration: through scale calibration operation, the actual size can be correlated, the actual size value can be obtained directly on the image.
4. Picture batch processing mode: it supports processing while data collecting, without memory limitation, and get more accurate data by processing many pictures.
5. Tool set for automatic particle processing: 12 types automatic processing tools like automatic elimination of particle adhesion, automatic elimination of miscellaneous points, automatic elimination of incomplete boundary particles, automatic filling of hollow areas of particles, automatic smoothing of particle edges, etc.
6. Dynamic processing mode: is suitable for processing dynamic flow samples.
7. Report output: the report output style and data type can be selected, can be customized as requests.

Output Parameters:

1. Single particle data: area equivalent diameter, circumference equivalent diameter, Martin diameter, circumference, projection area, particle length, particle width, surface area estimation, volume estimation, X tangent, Y tangent, tangent diameter, spherical aspect ratio.
2. Statistical mean diameter: X_{nl} , X_{ns} , X_{nv} , X_{ls} , X_{lv} , X_{sv} and other commonly used statistical mean diameter
3. Particle size distribution, sphericity distribution, length-width ratio distribution, roundness distribution.
4. Distribution types: by quantity, by volume, by area, by length, etc.
5. Equivalent diameter types: area equivalent particle size, perimeter equivalent particle size, martin diameter and needle equivalent particle size.
6. Number statistics: if the tested sample is a particle sample, the number of particles in the sample can be obtained.



SPECIFICATIONS

Model number	DIA-300D
Measuring size range	10-10000 um
Maximum resolution	3000 x 2000
Lens group	high-definition telecentric lens (specifications optional)
Accuracy error	<1% (CRM D50)
Repeatability error	<1% (CRM D50)
No. of particles analyzed	>100000 pieces/minute
High speed imaging module	Maximum frame rate 120 frames/s
Blanking method	using electromagnetic pulse vibration 150 levels of speed adjustment and conversion
Decentralized approach	electromagnetic vibration and ultrasonic dispersion
Frame rate	350 FPS
Exposure time	5 microseconds
Measuring time	2-3 mins (depending on sample properties and feeding quantity)
Dispersion mode	free fall dispersion
Dual camera system	0.3x and 1x cameras
Analysis Reports	<p>Particle Size: including particle size distribution, D10, D50, D90 and other typical particle size values (be customized), maximum particle size;</p> <p>Customize: interval content, content greater than or less than a certain particle size, particle gradation;</p> <p>Particle Shape: aspect ratio and distribution, circularity and distribution, particle image photos, particle counting.</p>
Outer Dimension	L68.4*W36*H50 cm, G.W.:24 kgs



It can perform particle imaging, size analysis, and foreign object detection, and obtain size distributions and number concentration etc. within few minutes. Has significance for paint, emulsions, lithium-ion battery cleaning solutions, inks, drugs, food & drinks and so on.



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