



DIPA 20000

Particle Size and Shape Analyzer
The Ultimate Combination For Particle Characterization



Laser Channel - High Resolution & Accuracy

The **DIPA 20000** Laser Channel is a straight-forward technique for determining micro-particle size distribution (0.1 - 3,600 microns), without any assumptions or sample pre-knowledge.

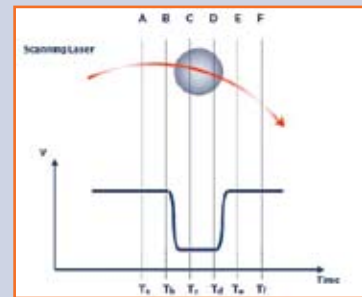
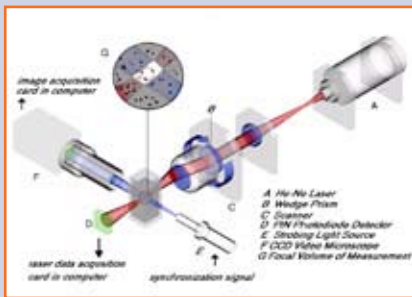
This unique analytical technique is called “Laser Obscuration Time” (LOT).

The major advantage of direct particle size measurement over other laser used techniques is its higher resolution obtained by the individual particle measurement approach that allows minor fraction detection and better measurement accuracy.

Main benefit of using the LOT is that the analysis results aren't affected by any physical or chemical property of the particle or its medium, enabling reliable and “assumptions free” results.

State-Of-The-Art software analyses the obscuration time as multiple pulses algorithm complex, providing within seconds clear and accurate particles size distribution results.

The **DIPA 20000** real time sample visualization capabilities efficiently allow its users to easily monitor sample preparation procedures or contamination presence, and by that eliminating unwanted analytical results due to irrelevant and/or unwanted fractions in the sample: “SEEING IS BELIEVING”.



Modular Approach

With dozens of analytical measurement cells, optical elements and accessories, all adjusted specifically to the application, particle size and/or shape can be determined more accurately and quickly.

Measurement Cells:

Magnetic Stirring, Mechanical Stirring, Liquid flow-through, Fibre flow-through, Aerosol flow-through, Micro Flow-through, Slide, Heated, Free Fall.

Accessories:

Automated liquid flow controller, Aerosol controller, Temperature controller, Dry powder feeder, Dry powder disperser, Compatible PC.



On-Line Measurement

The **DIPA 20000** On-Line series offer “tailor made” analytical solutions for a wide variety of applications and processes in-line, in-situ, in pilot plants, in reactors, or in the lab: Grinding, Crystallization, polymerization, homogenization, Filtration, Separation, D r y i n g , Dispersion, and so on.



Video Channel - Dynamic Image Analysis

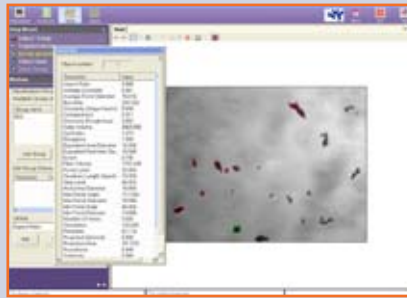
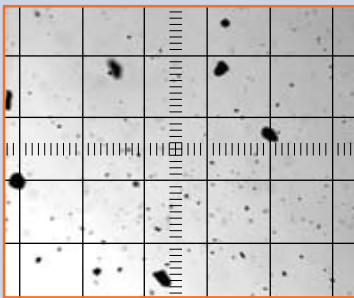
The **DIPA 20000** Video Channel performs 2-D particles Dynamic Size and Shape Analysis in a wide size range (1 - 5,000 microns).

Acquired images are displayed and analyzed by powerful image analysis software and are automatically processed and analyzed while dozens of useful analytical parameters of the sampled particles are efficiently determined.

User friendly software provides automated and advanced Image Analysis features that assist in optimizing sample measurement.

Software algorithms enable automatic pre-programmed calculation for all of the available parameters including Ferret diameter, area, perimeter, circularity, aspect ratio and many other useful size and shape analytical parameters.

This remarkable S/W can be used also in a stand-alone microscopy application, when a compatible CCD camera is mounted on an optical microscope, and the captured images are being analyzed accordingly.



Software Features

The comprehensive information that is generated by laser and video analysis is easily accessible by intuitive data output software.

Data comparison is made easy by the data mining features, which allows overlay graphs and comparison tables to be compiled.

Real images of the measured particles can be easily saved and printed separately or added directly into the analysis report document.

Your Application - Our Technology

Our **DIPA 20000** analyzers are highly advanced analytical tools suitable for nearly all of today's known laboratories and on-line applications.

Our unique products are positioned to meet the challenges posed by today's application diversity and therefore provide a superior analytical solution for particles size and shape characterization.



Application Examples

Geology

Soil; clay; sand; kaolin.

Environmental

Ocean water; tap water; waste water; dust; membrane filtration; flocculation.

Pharma & Bio-tech

Powders; suspensions; syrups; emulsions; pastes; micro-carriers; injectable solutions; collagen; microcapsules; drug powders.

Chemicals

Pesticides; dispersants; catalysts; resins; emulsions; preservatives.

Ceramics and Metals

Alumina; silica; magnetic powders; tungsten; sintered products; stainless steel; strontium; cobalt.

Energy

Coal; fuels; slurries; shale oil emulsions; fly ash.

Food Products

Emulsions; fine powders; beer; coffee; chocolate; ground products; agglomerated crystals; flour; peanut butter; corn-flakes.

Heavy Industry

Polymers; oil droplets; wear particle; chalk; fillers; toners; pulp & paper; coatings; pigments; PVC; paint.

Life Science

Bacteria; smears; yeast; inhalation toxicology; cell research; algae growth; blood analysis.

Specifications:

Measured parameters:	Particle Size and/or Shape
Total particle size range:	0.1-5000 μm
Concentration range:	Up to 10^9 particles/cc (for $1\mu\text{m}$ particles)
Particle presentation phases:	Liquid, dry and airborne phases
System dimensions & weight:	740L x 420W x 240H (mm); 14 Kg
Electricity:	100-130V, 205-240V, 50/60Hz, 100VA
Laser:	2mW HeNe, 632.8 nm, Silicon PIN Photodiode Detector
Laser resolution:	0.33% of full scale, up to 0.2 μm
Video Illumination:	Synchronized strobe light, adjustable intensity & duration
Video resolution:	B&W CCD camera, NTSC 640x480 pixels, PAL 768x572 pixels
Software Packages:	Windows XP; MS Office; DIPA-2000 compatible S/W package
FDA:	21 CFR part 11 compliant
ISO:	Compliant to numerous ISO-methods
Modular measurement cells:	Liquids, emulsions, dry powders, fibers, magnetic particles, heated liquids and aerosols
Available Accessories:	Automatic liquid flow controller, dry powder dispenser, dry powder feeder, temperature controller, aerosol controller and compatible PC

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