

PARTICLE SIZE ANALYZERS

CILAS 1180

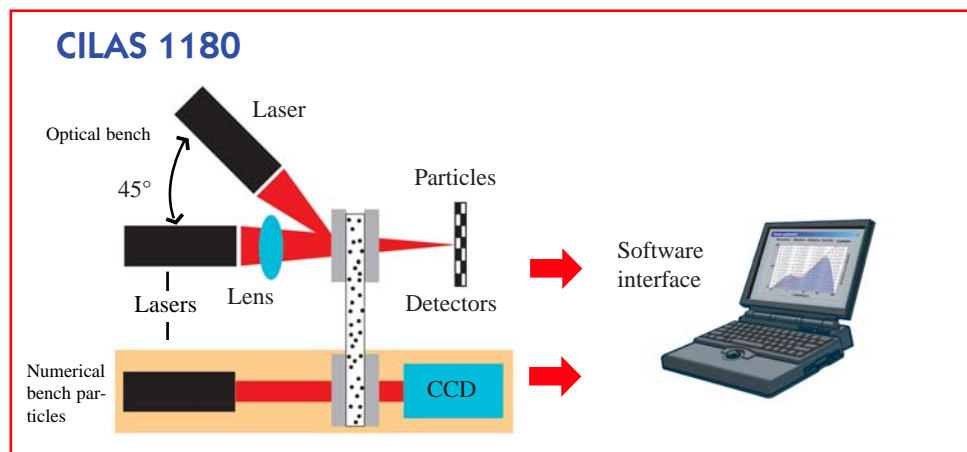
PRINCIPLE OF MEASUREMENT



The CILAS 1180 uses a new patented technology (laser diffraction and CCD camera) which allows, in one single range, the measure of particles between 0.04 and 2,500 μm .

The fine particles are measured by the diffraction pattern, using Fraunhofer or Mie theory. The coarse particles are

measured using a real-time Fast Fourier Transform of the image obtained with a CCD camera equipped with a digital processing unit (DSP).



THE "2 IN 1" CONCEPT

As for all the range of CILAS particle size analyzers, the CILAS 1180 benefits of concept "2 in 1" from this patented original and unique design which switches by a simple "click of a mouse", between liquid and dry mode in a matter of seconds.

There is no need for an additional module, nor is there any need for realignment or recalibration. You use one instrument to analyze all types of samples, thereby increasing your productivity dramatically.

FIELDS OF APPLICATIONS

The CILAS 1180, owing to a large range, is the best solution for applications like : Pharmaceutical, healthcare / Food industry / Construction, building industry, Chemical industry / metallurgy / environment ...

2 in 1
Concept



CILAS 1180

- CILAS patented laser diffraction + CCD Camera.
- From 0.04 up to 2,500 μm
- "2 in 1" concept :
 - Liquid and dry mode
- Multitasking and user friendly software interface
- Wide variety of applications

PARTICLE SIZE ANALYZERS

CILAS 1180

SPECIFICATIONS

Principal of measurement	Laser diffraction and CCD camera	
Operating specifications		
Size range (μm)	0.04 - 2,500	
Liquid mode	0.04 - 2,500	
Dry mode	0.3 - 500	100 - 2,500
Dispersion type	venturi	free fall
Amount of sample required		
Liquid mode	< 5 g	
Dry mode	< 20 g	
Standard deviation		
Repeatability	$\pm 0.5 \%$	
Reproducibility	< 2 %	
Proper operation		
Temperature	+ 10 to + 40° C	
Humidity	0 to 90 %	
Acquisition time		
Liquid mode	< 1 minute	
Dry mode	< 1 minute	
Technical specifications		
Number of lasers	3	
Laser source	Fiber and collimated laser diodes	
Wavelength	635 and 830 nm	
Power	3 / 7 mW	
Beam diameter	2 and 20 mm	
Peristaltic pumps	typical 120 rpm (adjustable from 0 to 300 rpm)	
Mechanical stirrer	adjustable from 0 to 300 rpm	
Ultrasonic	continuous or pulsed, frequency 38 KHz, adjustable power 20, 35, 50 W	
Power	110/240 V / 50/60 Hz / consumption < 100 VA	
External dimensions		
Length/width/height/weight	830 mm / 560 mm / 480 mm / 60 kg (33 in / 22 in / 19 in / 132 lbs)	
Safety certification		
Laser		
Closed cover	Classe I of NF EN 60025-1	
Opened cover (safety shunt)	Classe III of NF EN 60685	
Electric	Classe B of NF EN 61010-1 & EN 6132	
Fire	Classe VO of UL94	

ACCESSORIES

- Small volume unit : 50 ml for aggressive solvents and high cost samples.
- Alcohol recirculator : to decrease the cost of alcohol, when analyzing hydrophilic particles.
- Auto sampler : 28 cups for unattended analysis.
- Remote control module to increase productivity.

CILAS RANGE

- CILAS 920 : single laser system for a measuring range from 0.3 to 400 μm .
- CILAS 1064 : With dual sequenced laser system for a measuring range 0.04 to 500 μm .

Many tasks are performed automatically by the particle size analyzer, such as cleaning, rinsing, and system checking. Designed to be robust and field proven, our particle size analyzers require very little maintenance.

AXIOME - Photos copyright : Patrice Delatouche - Non contractual Document

All the informations and specifications of the particle size analyzers are subject to change without notice by CILAS.



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