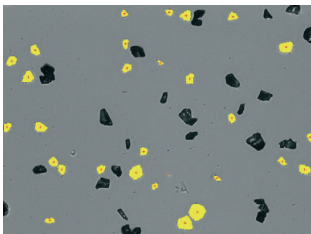


The inventor of
Laser Particle Size
Technology

For the last forty years, CILAS has maintained its position as the technological leader in the field of laser particle size and shape analysis.

Our commitment in Research and Development provides a product with the highest level of performance and innovation.



Cement particles
Objective x 20



Rotating nosepiece



The particle size and shape are measured simultaneously on the same sample

PRINCIPLE

CCD camera with inversed microscope for particle size and shape analysis, based upon statistical image data analysis for measurement of emulsions, suspensions and dry powders

Sample preparation:

Liquid mode: sedimentation of powders dispersed in carried liquid

Dry mode: deposition of the powder on a slide

FIELDS OF APPLICATION

This device permits to:

control the particle aggregation state

measure simultaneously the particle size and shape on the same sample

METHOD OF MEASUREMENT

The particles are measured by the acquisition of the statistical numerical images associated with inversed microscope and computed by «Expert Shape» software

OPTICAL SYSTEM

Light source: halogen bulb 6V-30W

Detection system: CCD detectors

Inversed microscope with different magnifications

Four objective lenses: EPlan, Achromat, LWM (Long Work Distance): x4, x10, x20, x40 in standard.

Other magnifications available upon request

CAMERA TYPE

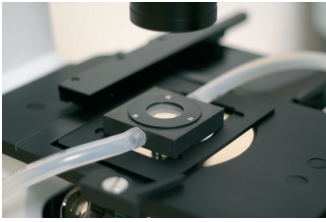
Number of pixels: 768 x 576 – CCIR

Pixel size: 8.6 μm (H) x 8.3 μm (V)

Sensor size: 1/2"

Voltage: 12V – DC

YOUR PARTNER IN PARTICLE ANALYSIS



Sample cell in wet mode



WELL PLATE HOLDER

Mechanical adapter for optical sample cell in wet mode and slide for dry powder with low x,y position coaxial controls

SIZE MEASUREMENT

Powder dispersion in dry or wet mode

Size range in standard and depending on materials properties and dispersion conditions optimized with CILAS Particle Size Analyzer:

Standard: 1 μm \rightarrow 300 μm

Option: fine particles \rightarrow 0,5 μm

Option: coarse particles \rightarrow 2500 μm

Compatible with CILAS particle size analyzer 1190, 1090, 990 and Ecosizer with a wet mode dispersion system configuration (see dispersion mode)

RESOLUTION

Approximate resolution of pixel size with corresponding of objective lens:

Magnification	X4	X10	X20	X40	Options } X1.25 X100
Resolution $\mu\text{m}/\text{pixel}$	\sim 3.8	\sim 1.5	\sim 0.9	\sim 0.45	

SHAPE MEASUREMENT

45 shape parameters permit to analyse each particle

Major parameters include: circle equivalent diameter, Feret maximum and minimum, area, aspect ratio, orientation, fiber parameters, convexity...

SOFTWARE

Display size and shape distribution

Data export possibility in Excel format, Html, format, and .mes: CILAS format compliant with the data computation in « Size Expert » software used for size distribution analysis comparison with laser diffraction technology

CONCENTRATION RANGE

Dispersion and concentration optimized for measurement without agglomerate particle

DISPERSION MODE

Dispersion wet module of CILAS PSA with build-in ultrasonic probe and controlled by software
Circulation by peristaltic pump

Mechanical stirrer

Adjustable ultrasounds power, with a variable temporization (50W – 30W – 20W)

Polished stainless steel 400 mL tank, with partial filling capability

Masterflex tube in standard (for compliance with aggressive solvent : contact us)

CALIBRATION

Microscope calibrated in CILAS factory with NIST traceable micrometer

ANALYSIS TIME

Some few seconds to several minutes

Based on statistical images acquisition and on material properties

DIMENSIONS

L=205mm, W=555mm, H=500mm

CONDITIONNEMENT

1 crate: 68 cm x 33 cm x 71 cm

Gross weight: 15,8 kg

Net weight: 10,7 kg



CILAS
8, AVENUE BUFFON
ZI LA SOURCE
45063 ORLEANS (FRANCE)
Tel: +33 2 38 64 59 00
Fax: +33 2 38 64 59 07
info.particle@cilas.com
www.cilas.com

