

The inventor of  
Laser Particle Size  
Technology

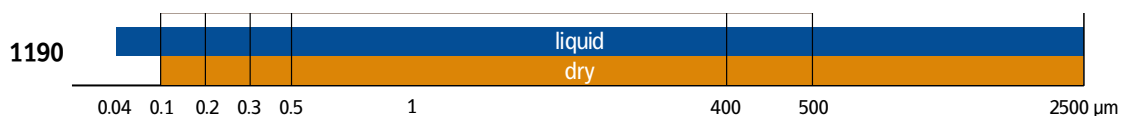
## PARTICLE SIZE ANALYZER CILAS 1190



- Rugged, alignment-free design
- Software controlled switching between liquid and dry dispersion modes
- High performance dry dispersion system
- Patented multilaser technology
- Simultaneous size and shape measurements (with *SHAPE ANALYZER* option)

YOUR PARTNER IN PARTICLE ANALYSIS

## MEASUREMENT RANGE



## TECHNICAL SPECIFICATIONS

Laser source	Longlife fiber and collimated laser
Wavelength	635 and 830 nm
Power (lasers)	2 and 5 mW
Peristaltic pump	variable 30 - 240 rpm
Mechanical Stirrer	adjustable from 180 rpm up to 500 rpm
Ultrasonic transducer	continuous or pulsed frequency 38 kHz adjustable power 20, 25, 50 W
Input	115 V/60 Hz - 230V/50 Hz consumption < 230 VA
Laser Safety Classification	21 CFR-1040 / NF EN 60825-1/A2
Closed Cover	Class I of NF EN 60825-1/A2
Open Cover	Class III of NF EN 60825-1/A2
Compliance	ISO 13320, 21 CFR-Part 11, CE, USP 429
EMC	NF EN 61326-1 directive 2004-108 / CEE
Safety	NF EN 61010-1 directive 72.23 / CEE

<b>Measurement</b>	Laser diffraction - based on Mie and Fraunhofer scattering theories
<b>Size range</b>	liquid mode 0.04-2500 µm dry mode 0.1-2500 µm
<b>Dispersion type</b>	venturi-free fall
<b>Repeatability</b>	< 1%
<b>Accuracy</b>	< 3%

<b>Acquisition time</b>	liquid mode 60 seconds dry mode 30 seconds
-------------------------	---

<b>External dimensions</b>	Length/width/height 890, 530, 430 mm 35, 21, 17 in Weight L/D/LD 57-50-63 kg / 126-110-139 lbs
----------------------------	--

## SHAPE ANALYSIS

- The *SHAPE ANALYSIS* package includes a CCD camera to view particle shape. Particles are analyzed in a flow through cell connected to the laser particle size analyzer. The system is fully automated through software and allows to measure 60 size and shape parameters.
- The *SHAPE ANALYSIS* system includes an easy to use software package for shape characterization.
- Range: from 0.5 µm to 2500 µm.



## ALCOHOL RECIRCULATOR

- The alcohol recirculator is used to regenerate alcohol when analyzing water soluble samples.
- The unit is fully automated using our *SIZE EXPERT* software.



## PRODUCTS AVAILABLE IN

- Liquid mode = 1190 L
- Dry mode = 1190 D
- Liquid and dry mode = 1190 LD

CILAS  
8, AVENUE BUFFON  
ZI LA SOURCE  
45063 ORLEANS (FRANCE)  
T : + 33 2 38 64 15 55  
F : + 33 2 38 64 59 22

[www.cilas.com](http://www.cilas.com)  
[info.particle@cilas.com](mailto:info.particle@cilas.com)

