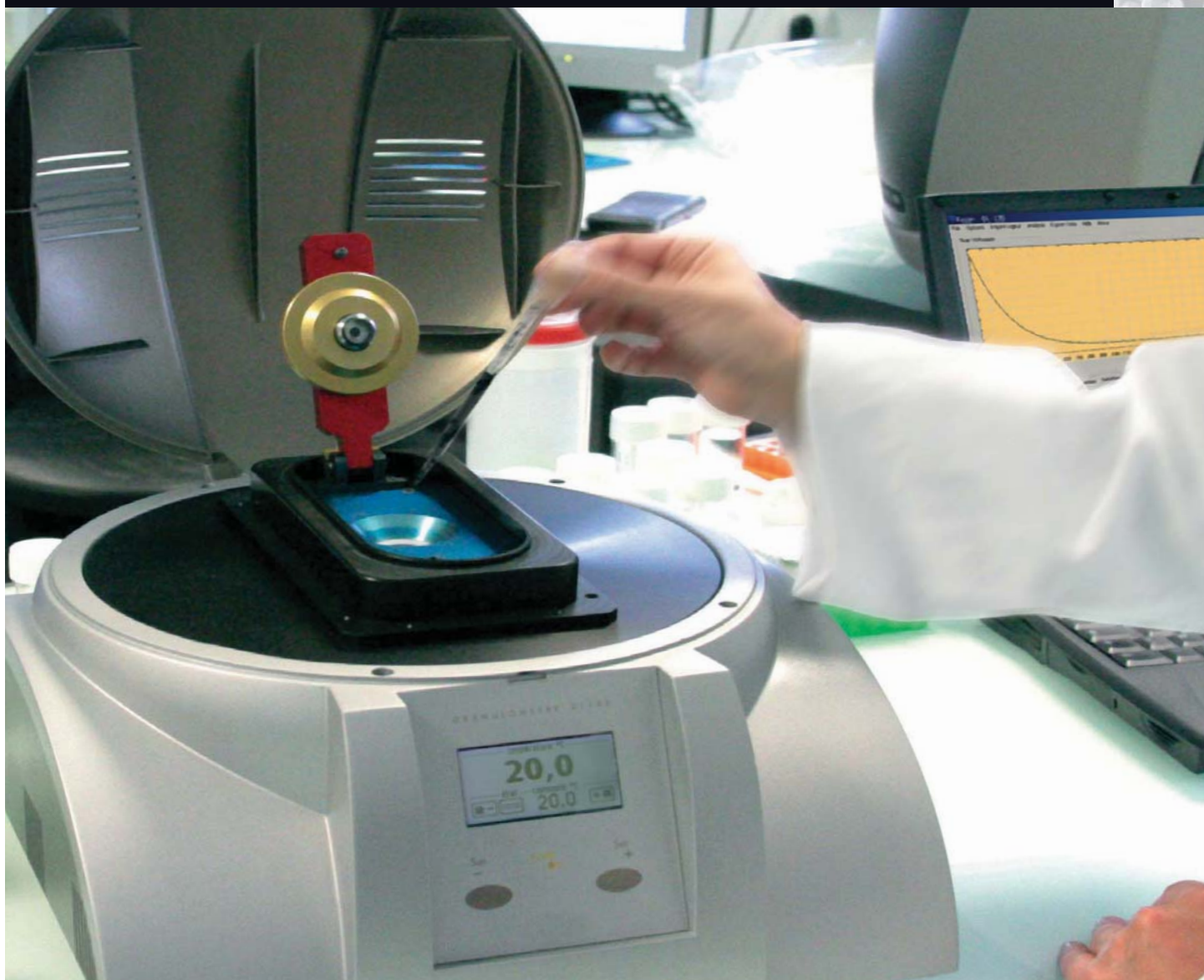


Want to **see** your **nano**  
**particles** in the **dark**



**VASCO**

*particle size analyzer  
a new light in your lab*



**Particulate  
Systems**



## # Nano to Micro

With an original and ergonomic product design, VASCO is a portable instrument dedicated to lab and field applications.

# VASCO

### Nano to Micro Particle Size Measurements in Dark and Concentrated Suspensions



Download the VIDEO at  
[www.cordouan-tech.com](http://www.cordouan-tech.com)

Based on a patented innovative technology developed in collaboration with the French Institute of Petroleum (IFP), the VASCO particle size analyzer is a unique instrument for nano to micro particle size measurements in suspensions. The measurement principle is based on Dynamic Light Scattering (DLS) of back-scattered light.

CORDOUAN TECHNOLOGIES offers an original optical configuration that combines back-scattered light detection and the capability to control the sample thickness. Compared to conventional analyzers, this configuration avoids multiple scattering and allows accurate measurements even in **concentrated** and **dark** dispersions. Moreover, in most cases **no sample dilution** is necessary which makes measurements almost instantaneous.

The granulometer VASCO can also performs **on-line measurements** of concentrated samples and provides real-time analysis of particle size in a pipeline or a reactor without stop flow.



# particle size analyzer

1 nm up to 6  $\mu\text{m}$

Concentration range up to 40%

Small sample volume (50  $\mu\text{L}$ )



Patented innovative technology

No consumable part

Easy cleaning procedure

ISO 13321 / 21CFR part 11

Intuitive software Rean<sup>®</sup>

Size distribution display



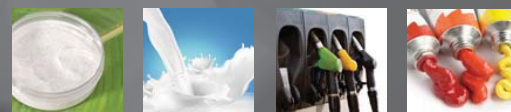
## Applications

- **Food Industry** : milk, chocolate, coffee, beer, emulsions
- **Pharmaceutical** : suspensions, powders, syrups, injectables, microcapsules
- **Chemicals** : polymers, dispersants, pesticides
- **Environmental** : tap water, waste water, flocculation, membrane filtration.
- **Cosmetic** : perfumes, creams, emulsions
- **Petrochemical** : fuel, crude oils, bitumen additives
- **Pigments** : inks, toners, paints, varnishes

On-line measurement option

Kinetic of aggregation

Portable instrument (<12 kg)





# VASCO

## particle size analyzer

### PRODUCT SPECIFICATIONS:

#### Description

Particle size range (nm)  
 Sample concentration range (% volume)<sup>(1)</sup>  
 Photon counting unit  
 Sample setting temperature

Laser diode characteristics  
 Applications

#### VASCO-1

10 to 6000  
 0.01% to 40%  
 PMT<sup>(2)</sup>  
 Fixed at 20 °C  
 Temperature stabilized  
 658 nm/15 mW  
 Ink, bitumen, metallic  
 oxide dispersions,  
 emulsions, etc...

#### VASCO-2

2 to 6000  
 0.001% to 40%  
 PMT<sup>(2)</sup>  
 + 15 to + 70 °C  
 Temperature stabilized  
 658 nm/65 mW  
 Ink, polymers, metallic  
 oxide nanoparticles,  
 emulsions, etc...

#### VASCO-3

1 to 6000  
 0.0003% to 40%  
 APD<sup>(3)</sup>  
 + 15 to + 70 °C  
 Temperature stabilized  
 658 nm/65 mW  
 Ink, polymers, metallic  
 oxide nanoparticles,  
 micellar dispersions, etc...

#### General characteristics

Reproducibility / Repeatability  
 Analysis Software

Measurement time (typical)  
 Sample volume  
 Ambient temperature  
 Warm up time (cold start)  
 Solvent<sup>(4)</sup>  
 Dimensions (HxWxD)  
 Power supply  
 Power consumption  
 Instrument configuration  
 Operating System  
 Normalisation  
 Laser safety classification  
 Computer configuration<sup>(5)</sup>  
 Accessories

Computer Interface

Better than 5%  
 REAN<sup>®</sup> performs multi-acquisitions, size distribution simulation, kinetic size of  
 aggregation monitoring, features Cumulants, Contin and unique **Padé-Laplace**  
 inversion algorithms.  
 30 sec to 5 min depending on sample and measurement settings (programmable)  
 < 50  $\mu$ L  
 +15 to +30 °C  
 < 5 min  
 Aqueous and organic solvents  
 30 x 33 x 28 cm  
 110/220 V  
 < 50 W  
 Bench top (< 12 Kg)  
 Windows 2000, XP, Vista  
 CE marked product, CFR 21 part 11, ISO 13321 compliant  
 Class I compliant EN 60825-1/A2  
 Pentium III or equivalent, RAM 512 Mo  
 Power supply and USB cable, REAN<sup>®</sup> installation CD ROM,  
 Pelicase<sup>™</sup> transport case  
 USB 2

(1): maximum concentration value is limited by particle interactions  
 (2): photomultiplier tube (3): avalanche photodiode (4): solvent proof cell  
 (5): minimal expected configuration for optimal operation



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