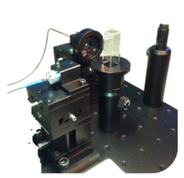
VASCO *FLEX*



	DTC head	« In situ » head	Thermalized Head	Custom head
Measurement principle		Optical Fiber Dynamic Light Scattering (DLS)		
HARDWARE SPECIFICATIONS (central unit)				
Temperature Monitoring	Yes	Yes + Customer sensor interfacing	Yes	Yes + Customer sensor interfacing
Temperature Range (°C)	15°C - 70°C (option 90°C)	Customer range	5°C - 80°C	Customer range
Min. Sample Volume (µL)		<50µL (cell dependant)		
Sample Cells	Built-in (patented)	In situ	Standard cell*	Custom
Solvent compatibility	Aqueous & Organic solvents		All solvents	
Scattering Angle (°)	135°	170°	170°	Custom
Particle size range		0.5 nm – 10 µm (sample dependant)		
Concentration range	10^{-4} % to 40% volume		10^{-5} % to 5~10% volume (sample dependant)	
Head's weight	3.5 kg	< 0.5 kg	0.5 kg	Custom
Head's dimensions	110 x 185 x 250 mm (HWD)	50 x 25 x 120 mm (HWD)	100 x 90 x 235 mm (HWD)	Custom
Options & accessories	Online measurement	Thermalized cell (10-70°C)	-	-

HARDWARE SPECIFICATIONS (central unit)	
Laser source	High stability laser diode – 65 mW @658 nm (option @488 and @532 nm)
Detector	High sensitivity-low noise Photon counting Avalanche Photodiode (APD)
Data processing	Proprietary hardware correlator and algorithm software : ***NanoQ®***
Accuracy	+/-5% (depending on measurement time)
Calibration	Calibration free. NIST Certified latex suspension available (option) for regular check
Measurement time (typ)	20 sec to 5 min depending on sample and measurement settings
Operating conditions / Storage conditions	15°C to 40°C / -10°C to 50°C – Relative humidity < 70% non condensing
Computer interface / OS	USB 2.0 / Windows XP,7 or 8 – 32 or 64-bits
Dimensions / Weight	Central unit: 132 x 342 x 271 mm / <12 kg
SYSTEM COMPLIANCE	
CE certification	CE marked product - Class 1 laser product – EN-60825-1: 2001, CDRH
Computer interface	ISO 13321 (1996) & ISO 22412 (2008) compliant, CFR 21 part 11 (option)
ACCESSORIES & SERVICES	
	1 year warranty, on site installation and training, online support
	NanoQ® installation CDROM & Instruction manual
	Pelicase™ transportation case (option) http://www.ybc-agency.eu/img/twitter-icon.png
	NIST Certified latex suspension kit (option)

**Cell : disposable cell, glass cell, micro-cell, flow cell …*

Specifications subject to change without notice

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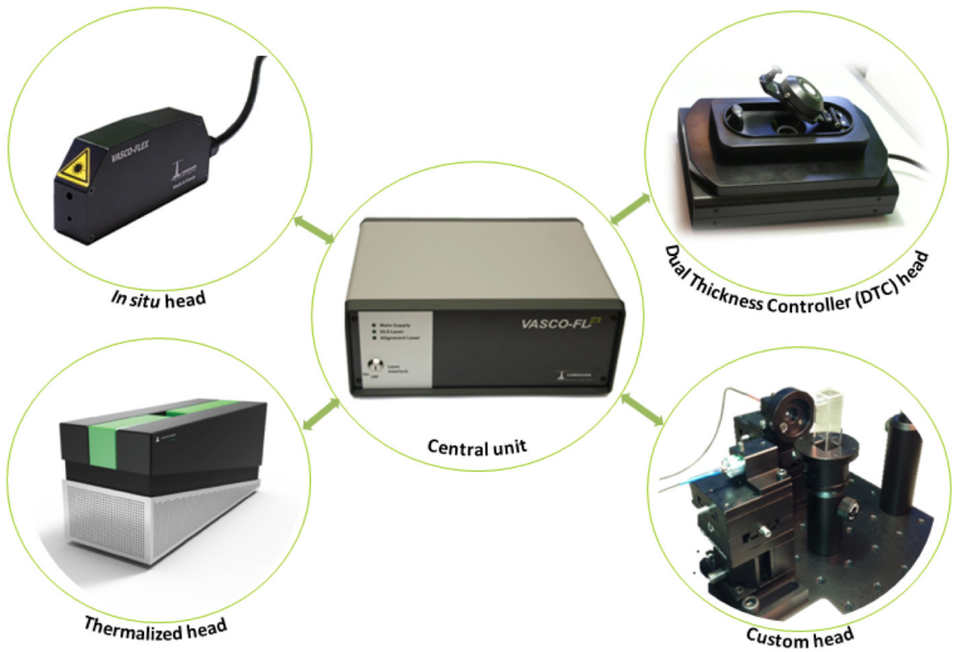
CORDOUAN Technologies
Enlight the Nanoworld

VASCO *FLEX*

THE MOST VERSATILE NANOPARTICLE SIZE ANALYZER

When no solution exists, we do it !



"In various situations, VASCO Flex helps you finding out your nanoparticle size distribution."

IDEAL FOR

- *Real time nanoparticle growth process monitoring*
- *In situ measurement (inside reactor)*
- *Measurement in confine environment (ex glove box)*
- *Coupling particle size measurements with other instruments (SAXS, spectroscopy, etc)*

www.cordouan-tech.com

CORDOUAN Technologies
Enlight the Nanoworld

VASCO *FLEX*

- Unique concept of DLS technology
- In Situ measurements
- Flexible for process monitoring

The power of DLS, the flexibility of optical fiber

Applications areas

Manufacturing & Control of Polymers

Pharmaceutical Industry & Cosmetics

Petrochemical Industry

Paints, Inks & Pigments

The VASCO Flex's concept

VASCO Flex™ is :

- A unique and flexible nanoparticle size analyzer based on **Optical Fiber Dynamic Light Scattering** (DLS)
- Four optimized **Optical Fiber Remote Heads**
- A central unit with core hardware (laser, photodiode, correlator, temperature regulation, …)

4 heads available

A compact and robust system for contactless and in situ particle size measurements.

Advanced data analysis

VASCO Flex™ system is powered by the proprietary ***NanoQ 2.0*** software featuring :

- Advanced Pade Laplace inversion algorithm for multimodal analysis;
- Multiple acquisition for size kinetics monitoring and statistical analysis
- Device settings wizard for measurement optimization
- **User-friendly** graphical & intuitive interface

"In situ" head

Ideal for :

- In situ measurement
- Harsh environment, high pressure and/or temperature
- Industrial process control

Key benefits :

- Non-intrusive measurement
- Monitoring / Study of kinetic or growth of NP
- Small footprint, easy to align

Dual Thickness Controller (DTC) head

Ideal for :

- Highly concentrated sample
- Measurement in limited space environment

Key benefits :

- Small footprint, plug and play
- Artefact free
- Extended concentration range
- No consumables

Thermalized head

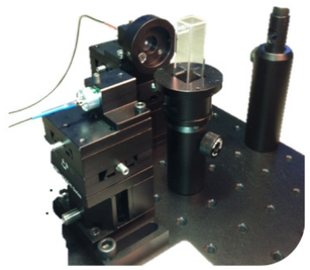
Ideal for :

- Batch measurement with a temperature regulated cell
- Measurement in limited space environment

Key benefits :

- No risk of cross-contamination
- Compliant with organic solvent
- Small footprint, plug and play

Custom head



Ideal for :

- Measurement in user-defined conditions (limited access, wavelength, NP size dispersion, long haul remote sensing
- Coupling with users set up

Key benefits :

- Complete adaptation to customers' requirements
- Reconfigurable

Examples of application

Reactor

Glove box

SAXS