# In Line Milli-fluidic remote DLS probe

For real time Nano-Particle size monitoring



### Easy coupling with other setups:

- ✓ Microfluidic chip
- ✓ A4F, SEC, HPLC Chromatography
- Nanoparticle synthesis chip
- ✓ Spectroscopy (UV/VIS, Fluo, Mass etc.)
- ✓ Recirculation system

### Real Time process control:

- ✓ LNP synthesis/production bench
- ✓ CMP Slurries in-line quality control
- ✓ NP Sample formulation

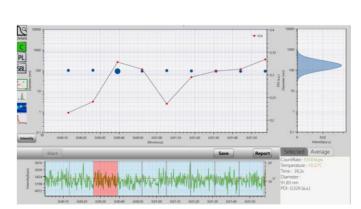
## IDEAL FOR

In-line measurements

Size distribution of your formulation at the outlet of your microfluidic chip

Real-time control of your formulation at various flow rates

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Inlet tubing

Stainless steel

connectors



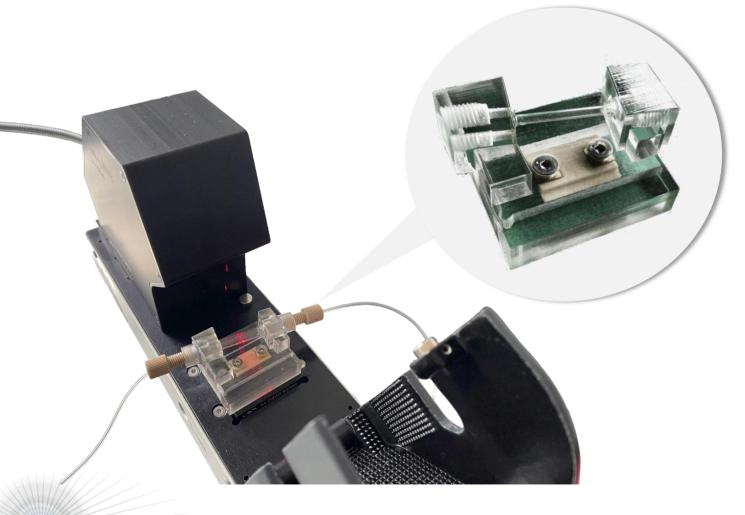
# Main characteristics & uses

# Interchangeable glass millifluidic channels

- Plug and play module (no alignment required)
- □ Internal channel diameter fitted to your application (0,5-200 mm)
- Possibility to couple with microfluidic chip
- Easy implementation in process line; compatible with standard tubing
- □ No sample batching required : integrity and sterility preserved

# Easy to include in various experiments/applications

- □ For industrial processes : process monitoring (ex: Slurries, LNP production)
- □ For research purposes : coupling to analytic tools (A4F, SEC, fluidic chip, etc)
- □ Optical fiber connection: compatible with VASCO Kin and AMERIGO devices

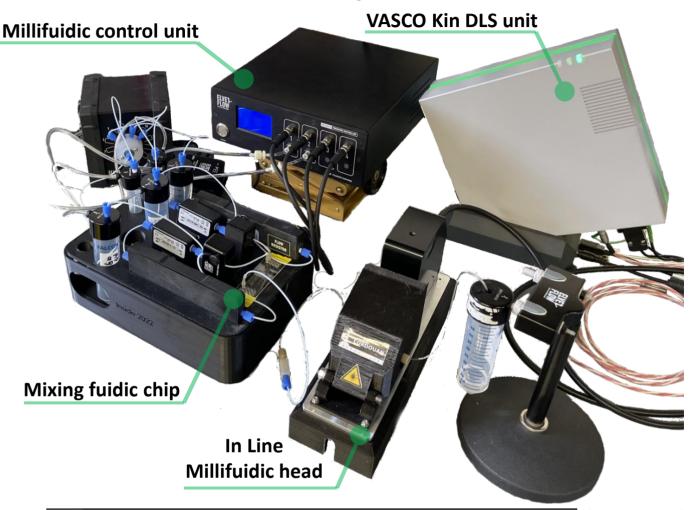


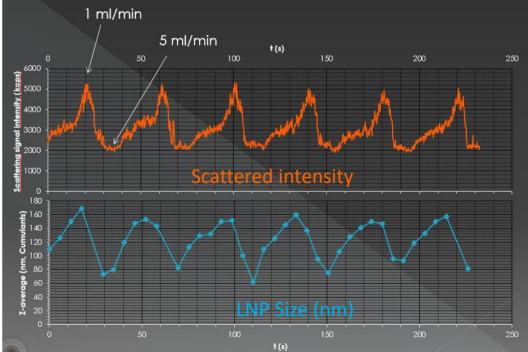


Innovative removable capillary holder concept for easy cleaning, replacement and maintenance

# Main characteristics & uses

# Example of use: In line & real time monitoring of Lipidic Nano Particle production





Scattered intensity & LNP size evolution over time for two different fluidic flow rate

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# SPECIFICATIONS

OPTICAL HEAD SPECIFICATIONS	
Measurement principle	Optical Fiber Dynamic Light Scattering (DLS)
Particle size range	0.5 nm – 10 µm (sample dependent)
Sample concentration range	10 <sup>-5</sup> % to 5~10% volume (sample dependent)
Scattering Angle ( )	130 *
Dimensions / Weight	145 x 85 x 265 mm (HWD) / < 1,0 kg

FLUIDIC SYSTEM SPECIFICATIONS	
Sample Cells	Millifluidic glass channels of various diameters (500 $\mu$ m – 30 mm) (optionally customizable)
Min. sample volume	<50 µL (channel dependent)
Solvent compatibility	Aqueous & Organic solvents (channel dependent)
Sample flow rate range	0,01-20,0 ml/min (sample and capillary- diameter dependent)
Options	Dilution & recirculation system





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