



Excellence in Surface Plasmon Resonance

**BioNavis**



## MP-SPR Navi™ 210A VASA

**Wider inner diameter of the flow-cell tubings and 6-sample automation make MP-SPR Navi™ 210A VASA ideal for material characterization and nanoparticle research.**





## MP-SPR Navi™ 210A VASA specifications

<b>Measurement principle</b>	Real-time and label-free Multi-Parametric Surface Plasmon Resonance (MP-SPR) based on a true goniometric SPR arrangement with a rotating detector. Exceptionally <b>wide angular range</b> 40-78° is measured, real angular resolution 0.001°.
<b>Liquid handling</b>	Automated liquid handling of up to 6 different samples for unattended runs. Controlled buffer flow conditions with precise syringe pumps and integrated degasser. 2 separate flow channels. Software switch to select serial or parallel injection. Flow rate range from 1 µl/min up to 1000 µl/min.
<b>Sample consumption</b>	<b>Partial loop injections</b> enabling minimized sample consumption. Minimum sample volume 100 µl. Minimum injected volume 50 µl.
<b>Wavelength of light</b>	Standard 670 nm in both flow channels. With additional L-option, each flow channel will be equipped with <b>2 lasers</b> (670 nm and 785 nm). Other wavelength combinations available on request. Additional lasers enable measurement of thickness and refractive index simultaneously.
<b>Refractive index range</b>	1.00-1.40 (measurement bulk environment) which can be extended with additional wavelength Layers that MP-SPR can measure can have much higher RI such as diamond like carbon (2.7) and inorganic crystals. MP-SPR determines also complex refractive index of liquids, gases and solid layers.
<b>Media</b>	One scan encompasses both environments: <b>gas and liquid</b> . Measure not only in water based liquids but also in <b>organic liquids</b> such as ethanol and acetonitrile. Ask us about compatibility. <b>PureKinetics™</b> enables liquid composition difference between running buffer and the sample, even 5% DMSO difference can be compensated!
<b>Mode of operation</b>	Angular Scanning mode, or "MP-SPR mode": scanning across a range of angles providing full SPR curve and multiple of parameters. Several sensograms can be distinguished from the full curve, such as PureKinetics™. Sampling rate depends selected angular range and resolution, typically less than 2 seconds. Fixed Angle mode, or "traditional SPR mode" - measurement from single angle, providing time – intensity sensogram. Mode for fast kinetic studies - sampling rate from 1 ms.
<b>Measurement range</b>	Thickness from Ångströms to micrometers (true range depends refractive index of the material). Kinetics: $k_a = 10^3 - 10^8$ 1/(M*s), $k_d = 10^{-7} - 0.1$ 1/s, $K_D = 10^{-3} - 10^{-12}$ M
<b>Sensitivity</b>	Smallest detected molecule: In gas: Hydrogen (2 Da); in liquid: small molecules <100 Daltons
<b>Noise</b>	Short-term noise 0.3 µRIU, Baseline drift (long term) < 1µRIU/min.
<b>Temperature</b>	Measurement temperature range from 15 – 45 °C (7° below to 20°C above ambient).
<b>Prism</b>	Prism with <b>elastomer</b> enables quick sensor exchange, avoids contamination of sample with RI matching oil and enables further analysis of sample with other methods. No need to use RI oil or expensive gold coated prisms!
<b>Flow cells</b>	Flow cells are easily exchanged with a single release button. Standard: high chemical resistant PEEK flow cell with wider tubing diameter which is optimal for material research. Flow cell volume is 1 µl per channel. Optional flow cells: SPR321-EC: <b>Electrochemical flow cell</b> , SPR310-GS: <b>Gas flow cell</b> , SPR302-LS for fast kinetic studies, SPR301 <b>PDMS flow cell</b> or request a custom made flow cell!
<b>Sensor/Substrates</b>	A wide range of <b>surfaces</b> is available. Such as metals (Au, Ag, Cu, Pt, etc.), other inorganics (SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> , etc.) or functionalized surfaces (CMD, Ni <sup>2+</sup> , etc.) If you cannot find what you are looking for, request a custom made surface!
<b>Software</b>	Unlimited MP-SPR Navi™ Control and Data Viewer software. Export data easily to Excel or use our dedicated analyzing tools: <b>LayerSolver™</b> fitting tool for layer characterization included. Optional <b>TraceDrawer™</b> software for kinetic analysis.
<b>Maintenance</b>	No service contract required unless you want one. Fluidic parts are easily exchanged.
<b>Computer requirements</b>	Win 7, Win 8.1 or Win 10, 1 x USB 2.0, 4GB RAM, 10GB hard disk space (1GB for installation + space for measured data)
<b>Dimensions &amp; Weight</b>	W 45 x H 41 x D 51 cm (18" x 16" x 20.5"), 22 kg (48 lbs)
<b>Power requirement</b>	100-240V, 50/60Hz, max. 100W

Specifications are subject to change without prior notice.

Information in this catalogue is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions.

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