



200 OTSO



# MP-SPR NAVI™ 200 OTSO



Semi-automated MP-SPR Navi™ 200 OTSO. Open design is ideally suited for teaching purposes, gas measurements, electrochemistry, thin films characterization and when auxiliary instruments are used with 200 OTSO.

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# MP-SPR NAVI™ 200 OTSO SPECIFICATIONS

<b>Measurement principle</b>	Real-time and label-free Multi-Parametric Surface Plasmon Resonance (MP-SPR) is 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>	Controlled buffer flow conditions with peristaltic pump. Flow rate range from 10 µl/min up to 400 µl/min. <b>2 flow channels</b> and manual sample injector. Instrument can be later upgraded with dedicated autosampler, effectively making it 210A VASA.
<b>Sample consumption</b>	Typical required sample volume 200-500 µl. Sample volume can be further varied by changing sample loops.
<b>Wavelength of light</b>	Standard 670 nm in both flow channels. With additional options, each flow channel can be equipped with <b>2 lasers</b> (670 nm and 785 nm), <b>3 lasers</b> (670, 785 and 980nm) or <b>4 lasers</b> (670, 785, 850 and 980nm) Additional lasers are utilized to detect conformation changes and allow layer characterization.
<b>Refractive index range</b>	1.00-1.40 (measurement bulk environment) which can be extended with additional wavelengths Layers that MP-SPR can measure may have much higher RI such as diamond like carbon (2.7) and inorganic crystals. MP-SPR determines also complex refractive index.
<b>Media</b>	One scan encompasses both environments: <b>gas and liquid</b> . Measure not only in water based liquids but also in some <b>organic liquids</b> such as ethanol and acetonitrile. <b>PureKinetics™</b> enables liquid composition correction between running buffer and the sample (bulk effect).
<b>Mode of operation</b>	Angular Scanning mode, or "MP-SPR mode": scanning across a range of angles providing complete SPR curve and multiple parameters. Several types of sensograms can be extracted from the recorded SPR curves, 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>	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 Thickness from Ångströms to micrometers (true range depends on refractive index of the material).
<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 and enables further analysis of sample with other methods.
<b>Flow cells</b>	Standard: 2 channel PDMS flow cell. Flow cell volume is 1 µl. Optional flow cells: SPR321-EC: <b>Electrochemical</b> flow cell, SPR305-MS: <b>High chemical resistant</b> PEEK flow cell, SPR310-GS: <b>Gas</b> flow cell, SPR303-C: <b>Cell</b> flow cell, SPR323-F3: <b>Fluorecence</b> flow cell or request custom made flow cell
<b>Sensors/Substrates</b>	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.). The sensor holder allows for <i>ex situ</i> depositions on sensors (e.g. spin coating). If you cannot find what you are looking for, request a custom made surface!
<b>Software</b>	Unlimited MP-SPR Navi™ Control and DataViewer software. Export data easily to Excel or use our dedicated analyzing tools. Optional: LayerSolver™ fitting tool for layer characterization and/ or TraceDrawer™ software for kinetic analysis.
<b>Maintenance</b>	No mandatory service contract required. Fluidic parts are easily exchanged. Annual maintenance contract (AMC) recommended.
<b>Computer requirements</b>	Win 10 or Win 11, 1 x USB 2.0, 4GB RAM, 10GB hard disk space (1GB for installation + space for measured data)
<b>Dimensions &amp; Weight</b>	W 33 x H 44 x D 39 cm (13" x 17" x 15"), 11 kg (24 lbs)
<b>Power requirements</b>	100-240V, 50/60Hz, max. 40W

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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.

