



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

Measurement principle	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 wide angular range 40-78° is measured, real angular resolution 0.001°.
Liquid handling	Controlled buffer flow conditions with peristaltic pump. Flow rate range from 10 µl/min up to 400 µl/min. 2 flow channels and manual sample injector. Instrument can be later upgraded with dedicated autosampler, effectively making it 210A VASA.
Sample consumption	Typical required sample volume 200-500 µl. Sample volume can be further varied by changing sample loops.
Wavelength of light	Standard 670 nm in both flow channels. With additional options, each flow channel can be equipped with 2 lasers (670 nm and 785 nm), 3 lasers (670, 785 and 980nm) or 4 lasers (670, 785, 850 and 980nm) Additional lasers are utilized to detect conformation changes and allow layer characterization.
Refractive index range	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.
Media	One scan encompasses both environments: gas and liquid . Measure not only in water based liquids but also in some organic liquids such as ethanol and acetonitrile. PureKinetics™ enables liquid composition correction between running buffer and the sample (bulk effect).
Mode of operation	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.
Measurement range	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).
Sensitivity	Smallest detected molecule: In gas: Hydrogen (2 Da); in liquid: small molecules <100 Daltons
Noise	Short-term noise 0.3 µRIU, Baseline drift (long term) < 1µRIU/min.
Temperature	Measurement temperature range from 15 – 45 °C (7° below to 20°C above ambient).
Prism	Prism with elastomer enables quick sensor exchange and enables further analysis of sample with other methods.
Flow cells	Standard: 2 channel PDMS flow cell. Flow cell volume is 1 µl. Optional flow cells: SPR321-EC: Electrochemical flow cell, SPR305-MS: High chemical resistant PEEK flow cell, SPR310-GS: Gas flow cell, SPR303-C: Cell flow cell, SPR323-F3: Fluorescence flow cell or request custom made flow cell
Sensors/Substrates	Wide range of surfaces is available, such as metals (Au, Ag, Cu, Pt etc.), other inorganics (SiO ₂ , Al ₂ O ₃ , TiO ₂ etc.) or functionalized surfaces (CMD, Ni ²⁺ 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!
Software	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.
Maintenance	No mandatory service contract required. Fluidic parts are easily exchanged. Annual maintenance contract (AMC) recommended.
Computer requirements	Win 10 or Win 11, 1 x USB 2.0, 4GB RAM, 10GB hard disk space (1GB for installation + space for measured data)
Dimensions & Weight	W 33 x H 44 x D 39 cm (13" x 17" x 15"), 11 kg (24 lbs)
Power requirements	100-240V, 50/60Hz, max. 40W

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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