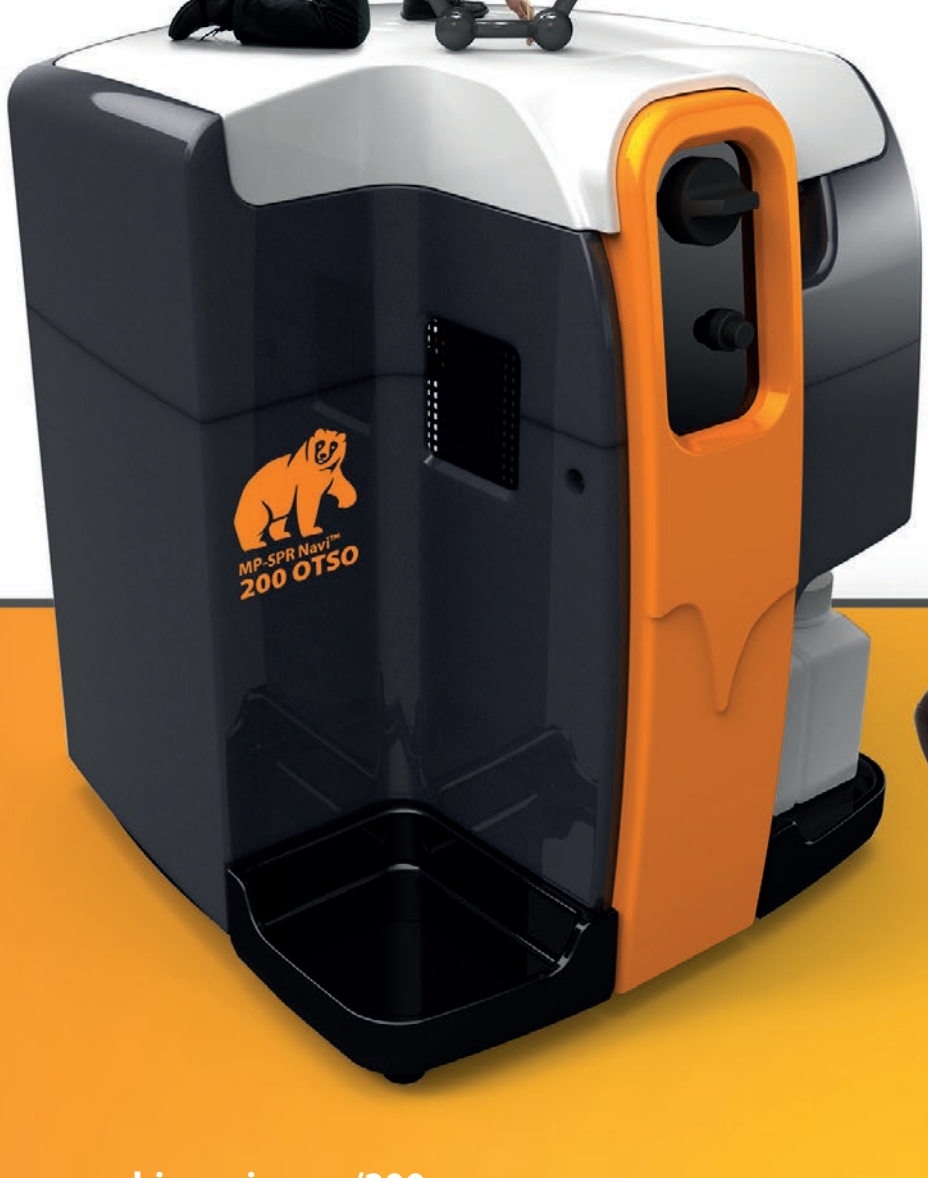
Excellence in Surface Plasmon Resonance

BioNavis

MP-SPR Navi™ 200 OTSO

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



www.bionavis.com/200

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. Two 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 L-option, each flow channels will be equipped with **2 lasers** (670nm and 785nm). Other wavelengths available on request. Additional wavelengths enable measurement of thickness and refractive index simultaneously.
Refractive index range	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.
Media	One scan encompasses both environments: **gas and liquid**. Measure not only in water based liquids but also in **organic liquids** such as ethanol and acetonitrile. Ask us about compatibility.
Mode of operation	Angular Scanning mode, or "MP-SPR mode": scanning across a range of angles providing full SPR curve and multiple parameters. Several sensograms can be distinguished from the full curve, such as PureKinetics™. Sampling rate depends on selected angular range and resolution, typically less than 2 seconds. Fixed Angle mode, "traditional SPR mode": measurement at a single angle, providing time – intensity sensogram. Mode for fast kinetic studies - sampling rate from 1ms
Measurement range	Thickness from Ångströms to micrometers (true range depends on 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
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, 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!
Flow cells	Flow cells can be easily exchanged with a single release button. Standard: PDMS material flow cell with a volume of **1 µl/channel**. Optional flow cells: SPR305-MS: high chemical resistance **PEEK flow cell** with wider tubing diameter, **SPR321-EC**: **Electrochemical flow cell**, SPR310-GS: **Gas flow cell**, SPR302-LS for fast kinetic studies, or request a **custom flow cell**!
Sensors/Substrates	Wide range of **surfaces** available, such as metals (Au, Ag, Cu, Pt, etc.), other inorganics (SiO_2, Al_2O_3, TIO_2, PDMS, PS, etc.) or functionalized surfaces (CMD, Ni^{2+}, etc.) 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 service contract required unless you want one. Fluidic parts are easily exchanged.
Computer requirements	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)
Dimensions & Weigth	W 33 x H 42 x D 39 cm (13" x 17" x 15"), 11 kg (24 lbs)
Power requirements	100-240V, 50/60Hz, Max. 40W

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