

**OWLS ProductList**  
 Effective from January 2, 2007

|                  | <b>Model</b> | <b>Description</b>  | <b>Usage</b>   |
|------------------|--------------|---|--|
| 1.               | OWLS 120     | <i>Optical Waveguide Lightmode Spectroscopy System (Standard)</i>                                 | The OWLS measuring unit is a high sensitivity ( ~1ng/cm <sup>2</sup> ) , label free biosensor system. Chemical and bio-chemical interactions can be followed and quantified in real time, thus revealing the specificity, the dynamics and the strength of the reaction and/or the binding. <i>More details in the OWLS 120 brochure.</i>  |
| <b>INCLUDING</b> |              |   |  |
|                  |              | Main measuring unit, including optomechanical system with built in PC                             | Electro-optical system with built in PC and integrated sensor holder   |
|                  |              | 17" LCD Monitor, Keyboard, Mouse, USB flash drive   |  |
|                  |              | OEM MS Windows™ XP operation system   |  |
|                  |              | BioSense software, one user license   | BioSense is a MS Windows compatible application software that provides flexible control of measurement on OWLS 120 instrument, data acquisition, analysis and storage. It is designed for easy parameter set-up and data display. <i>More details in OWLS 120 brochure.</i>  |
|                  |              | SH-0812 Integrated sensor holder with flow through cuvette made from PEEK with Kalrez O ring      | The glass sensor chip (size 8mm x 12 mm) is placed on the sensor holder and tightened to its sealing O-ring. The sensor holder forms a cuvette above the glass sensor . The sensor holder is made from biocompatible PEEK material, the O ring is made from Kalrez and the tubings are made from Teflon. The glass sensor chip and the sensor holder forms an integrated unit, which is placed in the OWLS instrument during measurement. Integrated sensor holder with different cuvette volumes are available. More details see leaflet. |
|                  |              | SIS-06 Sample Injection System with variable speed syringe pump and Injector valve made from PEEK | This Sample Injection System provides bubble-free, controlled flow rate fluid supply through the cuvette of the sensor holder with flow rate setting in the range of 0.01µl/min - 35ml/min. Selectable 20µl - 200 µl sample loop is offered for controlled-volume sample injection with Rheodyne Model 9725 injector valve. The syringe pump (Type: NE-1000) is a stand alone unit controlled by manual or PC commands. More details on SIS-03-200 drawing.  |
|                  |              | Gas tight syringe with 3 pcs replacement needle   | This syringe is used to fill the sample loop in the injection valve. It has a special leak tight syringe with blunt tip needles. Type: Hamilton 1725 RNR   |
|                  |              | TC 40 Temperature controller (from 20°C to 40°C)  | A Peltier controlled subunit for in situ, vibration-free heating and cooling of the sensor holder in the OWLS 120 system . Temperature stability of the sensor chip is better than 0.1 °C , heating/ cooling rate ~8°C/min.  |
|                  |              | OW 2400 Sensor chips, 5 pcs   | More details in OW2400 sensor brochure   |
|                  |              | On-site installation and customer training  |  |
|                  |              | Operation Manual in English   |  |
|                  |              | Free BioSense software upgrade for one year   |  |
|                  |              | Customer support by phone or e-mail,  |  |
|                  |              | Remote technical support via Internet or modem  | Via RADMIN or GOTOMYPC software  |
|                  |              | One year warranty at the manufacturers site   |  |

**OPTIONS**

|    | <b>Model</b> | <b>Description</b>   | <b>Usage</b>   |
|----|--------------|--|--|
| 2. | TC-80        | Extended temperature range on the temperature controller (from 20°C to 80°C)                               | Same as TC-40 but has an extended temperature range from 20°C to 80°C  |
| 3. | SIS-03       | Stand alone Sample Injection System with variable speed peristaltic pump and injector valve made from PEEK | Same as SIS but has a peristaltic pump with digital control (Ismatec Reglo-E MS/CA1) instead of the syringe pump. The peristaltic pump is mounted in a stand alone housing. Flow rate can be adjusted from 2µl/min to 38ml/min. A plastic tray is located on the top of the housing to accommodate buffer and waste bottles. |
| 4. | BioSense     | BioSense software, second user license   | BioSense second user license is installed on separate PC. Measured data can be imported from OWLS data base to the second user Biosense Software and all the calculations, data evaluation functions are available. The Biosense with second user license is not suitable for controlling the OWLS instrument.               |

## ACCESSORIES

|     | Model       | Description   | Usage   |
|-----|-------------|---|---|
| 5.  | SH-0812     | Integrated sensor holder with flow through cuvette made from PEEK with Kalrez O                                   | See above.  |
| 6.  | SHEC-0812   | Integrated sensor holder with flow through cuvette with Pt or Ag electrodes for Electrochemical OWLS measurements | Same as SH-0812 but has a round metal electrode inside the cuvette, ~1mm above the sensing area of the sensor chip. The metal electrode can be made from Ag or Pt, depending on the customer need. More detail see leaflet.   |
| 7.  | SHECFL-0812 | Integrated sensor holder with flow through cuvette with metal electrodes and with fiber optic probe               | Same as SHEC-0812 sensor holder, but the metal electrode above the sensing area is made from a metal tube. Inside this tube a polymer or quartz fiber optic cable is inserted. This sensor holder is used to run parallel OWLS, electrochemical, and fluorescence measurement. More detail see leaflet.   |
| 8.  | CUG-0812    | Integrated sensor holder with flow through cuvette with glass inspection window                                   | Same as SH-0812 but has a round glass window inside the cuvette, ~1mm above the sensing area of the sensor chip. The glass window is used to allow light illumination during the microscopic observation in a inverted microscope. Inverted microscopy inspection is useful in applications when the microscope picture is correlated with the OWLS measurements, like experiments using live cells.  |
| 9.  | RI-J157     | BioSense controlled in-line refractometer (temperature controll up to 40 °C)                                      | This is an in-line, temperature controlled refractometer, which measures continuously the refractive index of liquid flowing through its special flow-type cuvette. The measured refractive index is continuously forwarded to the Biosense software and used in the OWLS calculations. The measuring wavelength of the refractometer is 633 nm, the same as used in the OWLS. It also can be used as a stand alone refractometer. More details: J 157 datasheet.   |
| 10. | RI-J357     | BioSense controlled in-line refractometer (temperature controll up to 100 °C)                                     | This is an in-line, temperature controlled refractometer similar to RI-J157 but has an extended temperature range up to 100 OC. More details: see J357 datasheet.   |
| 11. | RI-MV751    | BioSense controlled in-line, refractometer (temperature controll up to 40 °C)                                     | Similar to RI-J157 but has a small volume flow type cuvette. It can be used only as an in-line refractometer. More details: coming 2007 summer  |
| 12. | PO-CV       | BioSense controlled potenciostat for the EC-OWLS measurement  | The PO-CV potentiostat/galvanostat is an electrochemical analyzer that provides a user-configurable instrument for electrochemical application. When PO-CV used with OWLS instrument it is connected via serial port to the main unit and its 3 pcs measuring wires are connected to the SHEC-0812 type sensor holder. The BioSense software allows to run parallel OWLS and electrochemical measurements. It is also possible to run standard EC techniques such as cyclic voltammetry, chronoamperometry, square wave, and differential pulse voltammetry. The EC-OWLS measurement needs OW2400c ITO coated sensor chips. More details: see PG 580 datasheet. |
| 13. | PSC-10      | Plasma surface cleaner  | This equipment is designed for cleaning the surface of the sensor chips. It is recommended to clean the surface of the sensor chip before functionalizations of the sensors or before starting the OWLS measurement to clean the sensor surface from hydrocarbon contamination. The plasma cleaner contains a reaction chamber made from glass tube equipped with vacuum sealing. A plasma generator with control electronics is included in the table top system. Vacuum pumps, gas valves etc. are options.   |
| 14. | N2          | Blow off N2 gun with membrane filter  | It is a hand-held, finger triggered "gun" shape device, used to blow off particles, dust from the surface of the sensor chip. It is connected to a low pressure ( max 1 bar) high purity nitrogen, air or argon line (not included) and it is using a filter housing which accommodates changeable membrane filters (1 µm pore size)  |
| 15. | OW 2400     | Sensor chip<br>Sensor chip size:12 mm x 8 mm x 0.5 mm   | Prices are quantity dependent<br>Available with different surface chemistry<br>APTES silanized (APTES coating is made with vacuum silanization.)<br>biofunctionalized surface ( antibody , etc.)  |
| 16. | OW 2400c    | Coated sensor chips   | MgO coated<br>SiO2 coated<br>TiO2 coated<br>ZrO2 coated<br>Al2O3 coated<br>Ta2O5 coated<br>ITO coated<br>Metal-oxide coatings are 10-20 nm thick, deposited onto the surface of a regular OW 2400 chip with a SOL-GEL or vacuum evaporation method. (Other coatings are available on request)   |

### Note:

Sensor chip size:12 mm x 8 mm x 0.5 mm  
 OWLS instrument, its accessories and the sensor chips are sold for scientific and research purposes.  
 Sales Terms and Conditions apply: see our web site  
 Specifications are subject to change without notice