Technical specifications and characteristics					
	HORIBA OpenPlex www.sprimaging.com	**OWLS 210** www.owls-sensors.com	**Biacore X100** www.biacore.com	**Biacore T200** www.biacore.com	**EVA2.0** www.pcbiosensors.com
Detection technology	SPR sensor	Optical Waveguide Lightmode Spectroscopy	Surface Plasmon Resonance (SPR) sensor		Photonic Crystal Surface Modes (PC SM) sensor
Working surface	Gold (Au)	metal oxides with high RI (Ta_2O_5, TiO_2 etc.)	Gold (Au)		Silica (SiO_2)
Max adlayer thickness	$\sim$ 100 nm	$\sim$ 1000 nm	100 nm ($\simeq$ penetration depth of SP wave)		$\sim$ 1000 nm
Flow rate range	(not specified)	0.1 to 30 000 μL/min	1 to 100 μL/min		50 to 1000 μL/min
Flow cell height	70 μm	100 to 800 μm	50 μm	40 μm	20 to 50 μm
Flow cell volume	11 μL	1.5 to 12 μL	0.05 μL	0.06 μL	2 to 5 μL
Sample volume	50 to 2000 μL (Delivered with 200μL sample loop)	20 to 500 μL	5 to 90 μL	2 to 350 μL	50 to 200 μL
Number of flow cells	3	1	2	4	1 to 12 (registration channels)
time resolution	(not specified)	1 to 3 sec	(not specified)	(not specified)	0.1 to 10 sec
baseline noise, δn_e	3×10^{-6} RIU	3×10^{-6} RIU	10^{-7} RIU ($\simeq$ 0.1 RU)	3×10^{-8} RIU ($\simeq$0.03 RU))	5×10^{-8} RIU$/\sqrt{\text{Hz}}$
baseline noise, δm_a	10 pg/mm^2 (optional 5 pg/mm^2)	10 pg/mm^2	0.2 pg/mm^2	0.06 pg/mm^2	0.07 (pg/mm^2)$/\sqrt{\text{Hz}}$
baseline drift	(not specified)	(not specified)	0.3 (pg/mm^2)/min	0.3 (pg/mm^2)/min	0.1 (pg/mm^2)/min
Dimensions (W x D x H)	304 x 480 x 490 mm	(not specified)	596 x 593 x 563 mm	600 x 690 x 615 mm	215 x 443 x 135 mm
Net weight	13 kg	(not specified)	47 kg	60 kg	6.5 kg
price	**€70 000**	**€60 000**	**€114 421**	**€386 958**	**€49 000**

The exploitation of the 1D PCs as substrates supporting the long-range surface wave propagation permits researchers to:

(1) increase the sensitivity of PC SW biosensors to the level $\delta d_a \simeq 7 \times 10^{-14}$ $\mathrm{m/Hz^{1/2}}$ (that corresponds to mass sensitivity $\delta m_a \simeq 70\,\mathrm{fg/mm^2}$),

(2) segregate surface and volume events in biosensing (that may be an important advantage in applications where temperature and composition of the liquid under study vary over a wide range),

(3) enhance the detection of RI variation in the Abbe-like refractometer to the level $n_e \simeq 5 \times 10^{-8}$ $\mathrm{RIU/Hz^{1/2}}$,

(4) work with thick target ligands, such as living cells, with thickness up to $1\mu m$

(5) obtain one-dimensional spatial selectivity that makes multichannel registration possible and increases throughput of the sensor,

(6) use the same PC chip many times, since a thick final SiO_2 layer may be effectively cleaned by some active treatment (e.g., in a plasma cleaner).