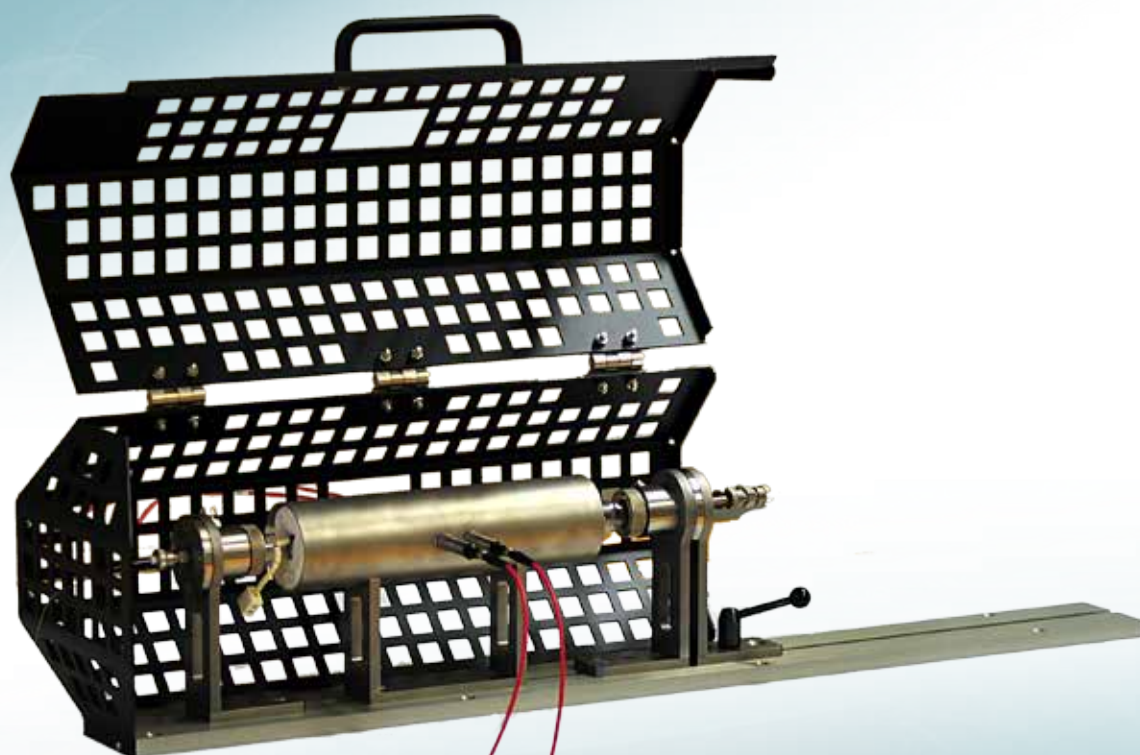




# Insplorion X1™

Study Solid State Reactions at Nanomaterial Interfaces



- **Ultrasensitive measurements at the nano-scale**

Monitor dynamic processes in/on nanoparticles, nanostructures, and thin films in the few to few 10 nm size-range and at the hidden internal interface of thick coatings.

- **Integrated gas flow control**

The X1™ system interfaces with up to 16 mass flow controllers for precise and timely control of gas mixture and flow.

- **Real-time analysis**

Measure with sub-second temporal resolution.

- **Easy and Robust**

Get started quickly with the Insplorer® software which offers complete instrument control and an intuitive user interface.

- **In-situ measurements**

Measure under practically relevant conditions at temperatures up to 600°C.

- **Dual sample system**

Measure simultaneously on up to two samples.

## Insplorion X1™ specifications

### High Temperature Reactor

Sensor Chip Positions	Dual Channel
Connections	Inlet: 1/8 inch, Outlet: 1/4 inch
Mass flow regulation*	Up to 16 Mass Flow Controllers can be connected
Materials	Quartz, Stainless Steel
Temperature range	Room temperature to 600°C

\* The Insplorion Software is compatible with Mass Flow Controllers from Bronkhorst®

### Sensor chip

Substrate	Fused silica
Size	1 x 1 cm, 1 mm thick
Surface	Nanostructured gold
Standard coatings*	Au, SiO <sub>2</sub> , Si <sub>3</sub> N <sub>4</sub> , TiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub>

\* Sensors can be ordered with custom thin film coatings.

### Optical readout characteristics

Light source*	Tungsten-Halogen lamp, minimum lifetime 2000 hours
Measured spot size	Circular area ~ 3 mm in diameter
Wavelength range**	450 - 1000 nm
Time resolution	10 sample points per second
Typical noise***	< 0.01 nm

\* Custom choices and replacements are available, \*\* Custom wavelength ranges are available. \*\*\* In liquid ambient at a sample rate of 1 Hz.

### Dimensions (Width x Depth x Height)

High Temperature Reactor incl. safety guard	28 x 28 x 100 cm
Optics Unit	25 x 27 x 9 cm
Temperature Control Unit (2 stackable parts)	25 x 27 x 9 cm, 22 x 40 x 9 cm

### Software

Operating system	Microsoft Windows 7
Output data format	ASCII compatible for straightforward use with any graph-drawing software
Analyzed parameters	Multiparameter output (e.g. resonance wavelength, width, and extinction)



# Insplorion

[www.insplorion.com](http://www.insplorion.com)