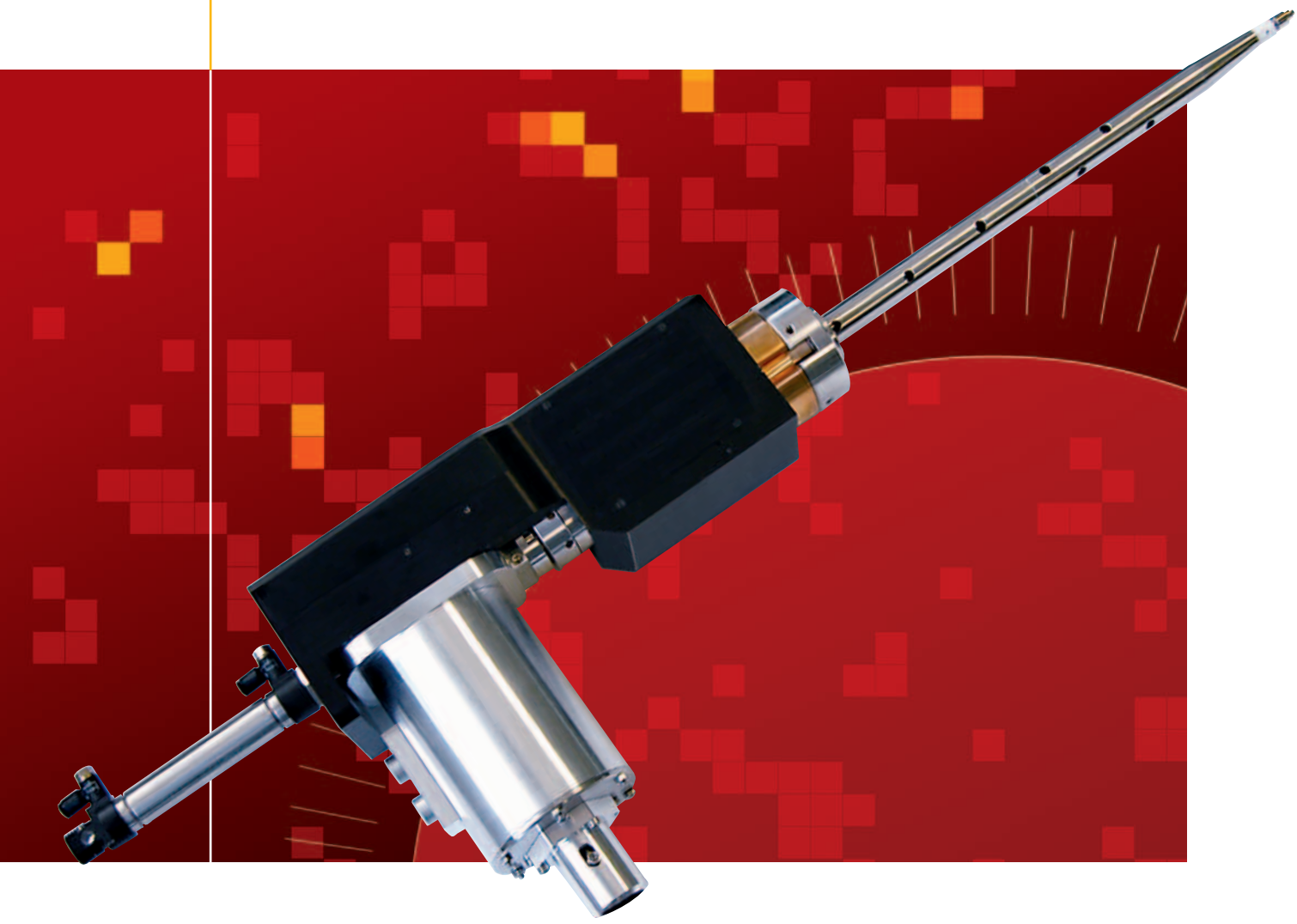
MonoGIS

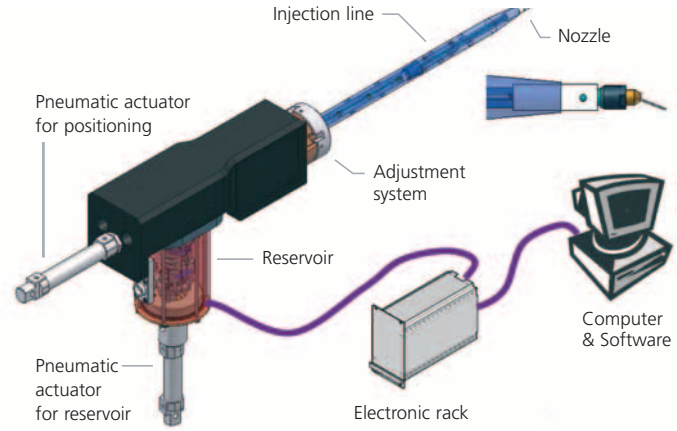
Single Gas Injection System
For FIB and SEM



NANOSOLUTIONS
by
ORSAYPHYSICS

MonoGIS

The MonoGIS is a single line Gas Injection System which is used in combination with a focused beam to extend its capabilities. This technique of micro or nanofabrication can be used for local deposition or etching of material and is named FEBIP or FIBIP (Focused Electron/Ion Beam Induced Processes).

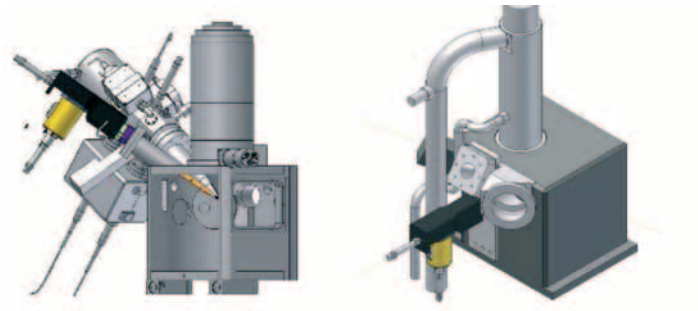


Description :

The chemical product, called "precursor" is stored in the system in a proof reservoir. The gas is obtained by heating the chemical precursor (sublimation or vaporization processes). While the reservoir is open, the gas flows through a heated line and is injected in the chamber through the nozzle.

Orsay Physics MonoGIS has one single axis motion, and two positions (stand-by and working positions). In stand-by mode, the nozzle is parked 25 mm far from the sample. The working position can be reached thanks to a pneumatic actuator within 1 second, and with a reproducibility better than 10µm. Orsay Physics MonoGIS is compatible with most of the commercial SEMs and FIBs. It is also possible to connect an external gas source on the system.

Two MonoGIS versions are available:
- heating version for low vapour pressure precursors
- cooling version for hig pressure precursors



Examples of installation on microscope chambers

Applications

"Nano-Stonehenge"
3D insulator deposition
H.Dallaporta - CINaM Marseille

"Nano-Yacht"
Bitmap Carbon deposition
Orsay Physics - in house Application

"Nano-Chess"
3D deposition
S.Bauerdick – Raith GmbH

Available Precursors for deposition :

List of available precursors for deposition :
- Carbon
- Platinum
- Tungsten
- Silicon oxide

List of available precursors for selective etching :
- Fluorine
- Iodine
- Oxygen

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