

AUTOMATED DEPOSITION SYSTEM

Advanced research platform
for thin film growth by MBE technology

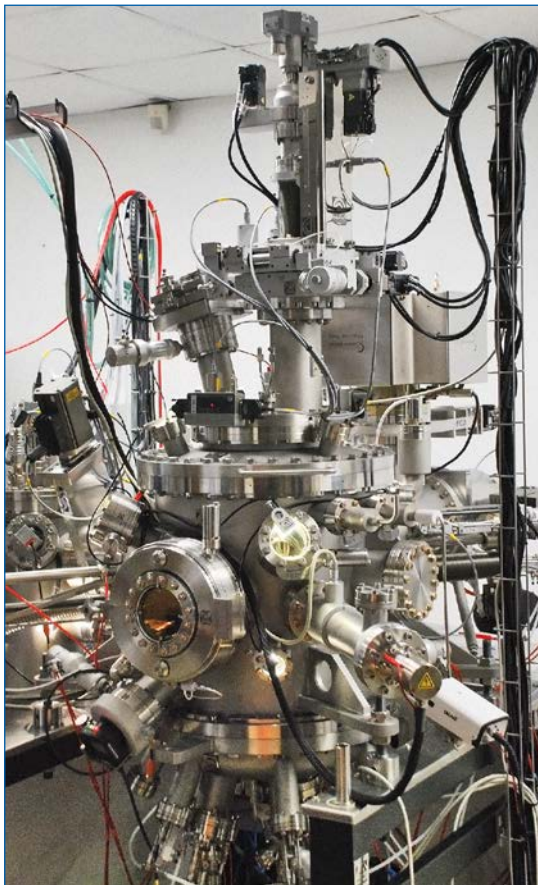


AUTOMATED DEPOSITION SYSTEM

The MBE standalone system for thin-film deposition of single crystals features in-situ characterization of magnetic properties, topography, crystallography, film thickness and more. The basic UHV MBE systems comprise a deposition process chamber together with a load lock chamber and linear transfer system. The deposition process can be controlled over a wide temperature range (from LN₂ up to 1400°C) and can be fully software programmed and controlled via a PLC controller.

- adapted for deposition sources such as: effusion cells (high, low-temp., single, multi-filament), electron beam evaporators
- equipped with quartz balances
- includes ports for RHEED source and screen
- load lock chamber and linear transfer system for fast & easy substrate holders loading
- process chamber with door access
- base pressure range from 5x10⁻¹⁰ – 5x10⁻¹¹ mbar
- manipulator with Z-motion and rotation, full motorised
- substrate heating up to 1400 °C
- Synthesium software and HMI panel for full control over the deposition process & equipment
- The bottom flange with sources can be fully accessed or replaced using the lifting trolley.

One versatile trolley can be used to replace both the bottom flange, cryo-panel and liner (for easy cleaning). Thanks to the possibility of replacing the bottom flange with sources, one deposition chamber can be adapted to different applications.



The chamber is equipped with connecting flanges in UHV standard in different sizes for connecting current and future equipment, including:

- evaporation sources,
- substrate manipulator,
- pumping system: combination of different types of pumps (e.g. forevacuum pumps, ion pumps, cryo-pumps, turbo pumps, titanium sublimation pumps) individually selected to achieve the best pumping performance according to application demands,
- transferring system: entry port for linear transfer
- RHEED electron source (and RHEED screen),
- residual gas analyser
- quartz balances
- viewports (observation windows with shutters)
- heated viewports for diagnostic
- beam flux monitor
- vacuum gauges



If you need any further information, please do not hesitate to contact our sales department

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