

PLD 950

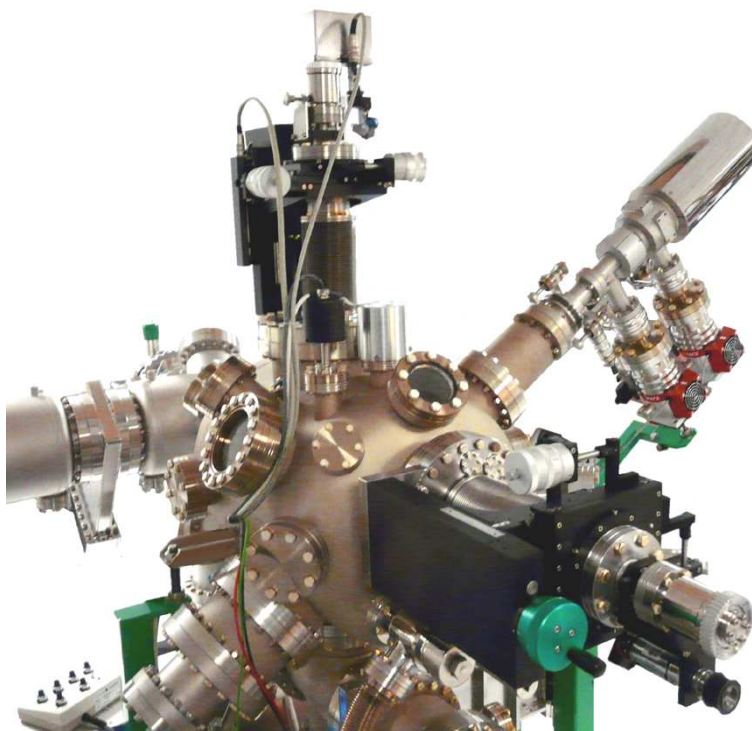
UHV PULSED LASER DEPOSITION SYSTEM

Applications :

- ♦ Thin film growth for stoichiometric films of complex compounds

Primary Features:

- ♦ Reactive or UHV Pulsed Laser Deposition capability
- ♦ RF plasma source
- ♦ 5-axis target holder (4 targets or 8 upon request)
- ♦ Transferable 2-inch substrate and target holders
- ♦ Oxygen-resistant 950°C 2" sample holder
- ♦ 10^{-10} mbar chamber
- ♦ Turbo molecular, ion & titanium sublimation pumping
- ♦ Ports for in-situ characterization
- ♦ High pressure RHEED
- ♦ Quick maintenance of laser window
- ♦ Load lock chamber
- ♦ Transfer tunnel compatibility
- ♦ Evolutionary system



Synthesis of complex materials & crystalline structures is a ever growing request from research & development. The Pulsed Laser Deposition (PLD) technique provides an intelligent to such requirements . It is a versatile coating technique that allows the growth of various materials such as nitrides, oxides, super lattices, polymers, composites..

With over 30 years experience in vacuum and UHV, Vinci Technologies / Meca2000 provides tailored solutions to customer requirements with the laser-MBE system. This configuration adapts to a large field of growth parameters. For example, process pressure ranges from 10^{-10} to hundreds of mbar.

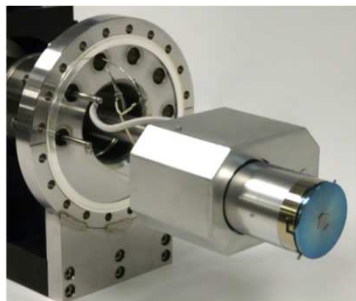
Flexible and evolving, this PLD equipment consists of a chamber with ports for process and characterization.

This system is compatible with 2-inch samples. The UHV & dry pumping design prevent the deposited films from contamination by external sources of pollution.

Samples can be transferred from load-lock chamber or from the UHV transfer tunnel like Meca 2000 Mecatrans™

Substrate manipulator

- ◆ O₂ compatible 950°C heater
- ◆ 2" substrate



Consisting of XYZ table on CF150 for positioning sample holder and adjusting distance from target to substrate. Oxygen resistant heater is limited at a maximum temperature of 950°C. 0 to 60 rpm continuous rotation of the substrate. Manual or pneumatic integrated shutter following XYZ stage movements can be added.

4-target holder manipulator

- ◆ Up to 8 targets (option)



Consisting of XYZ stage on CF200 for positioning targets. Motorized Z-axis allows transfer on to the substrate manipulator. 0 to 60 rpm continuous rotation of the targets. Manual or motorized carousel for sequential ablation.

High pressure RHEED system

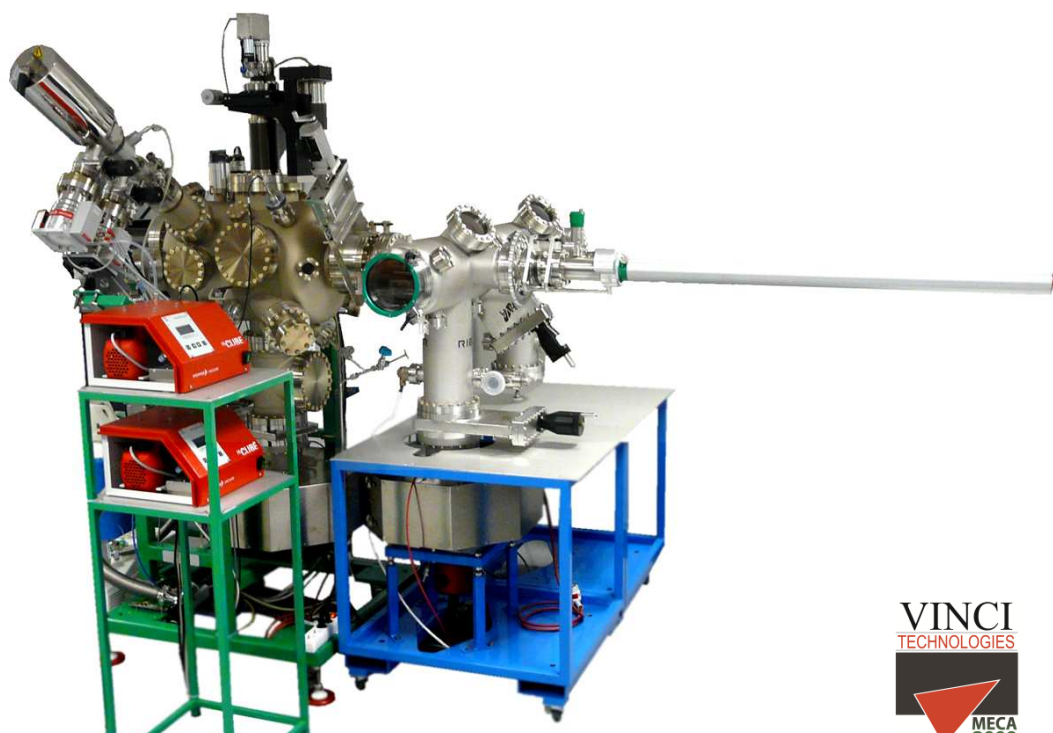
- ◆ 0.4 Torr O₂ with 30 kV



2 deflection units & 1 mechanical tilt. 2 differential pumping stages with isolation valves. Max oxygen pressure of 0.4 torr with 30kV electron source. Specific phosphorus screen with shutter.

Transfer tunnel compatibility

Compatible with UHV transfer tunnel Mecatrans™, customer transfer modules or specific loading/unloading chambers.



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