Precision and **Vacuum** Technology

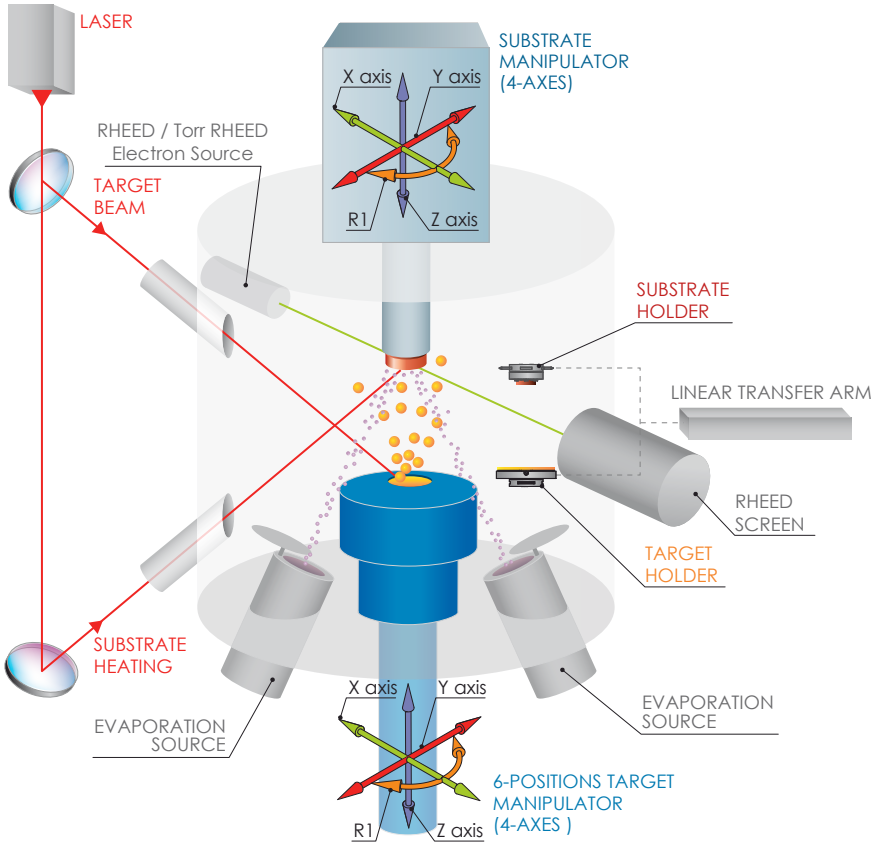
PULSED LASER DEPOSITION SYSTEMS

Complete lab equipment for PLD researches

www.prevac.eu

PREVAC's PLD system is a state-of-the-art apparatus that can be supplied in a standalone configuration or as part of a larger integrated research system. Fully automated process driven recipes combine highly flexible laser optics and operating pressure ranges, placing the system in a unique position to support leading edge research. The innovative transfer system features a six position target manipulator which allows transfer of both target and substrate holders for simple and efficient operation.

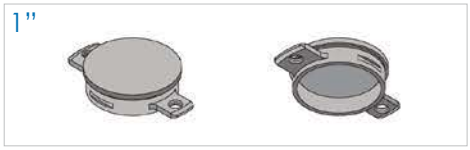
VERTICAL PLD PROCESS GEOMETRY



6-POSITION TARGET MANIPULATOR

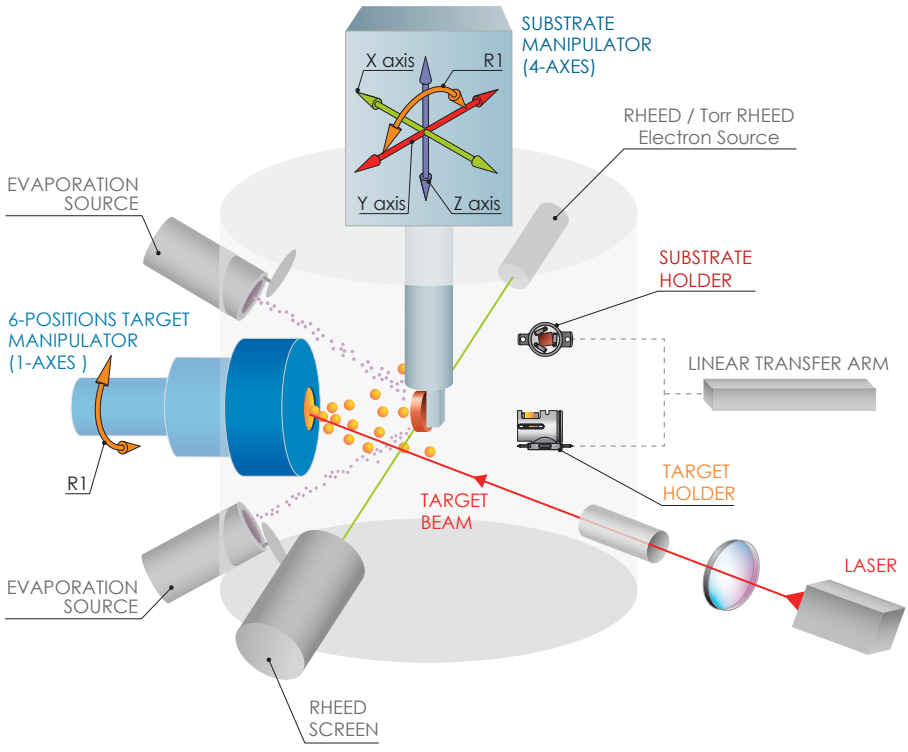
TARGET HOLDER

1"



2"

HORIZONTAL PLD PROCESS GEOMETRY



6-POSITION TARGET MANIPULATOR

TARGET HOLDER

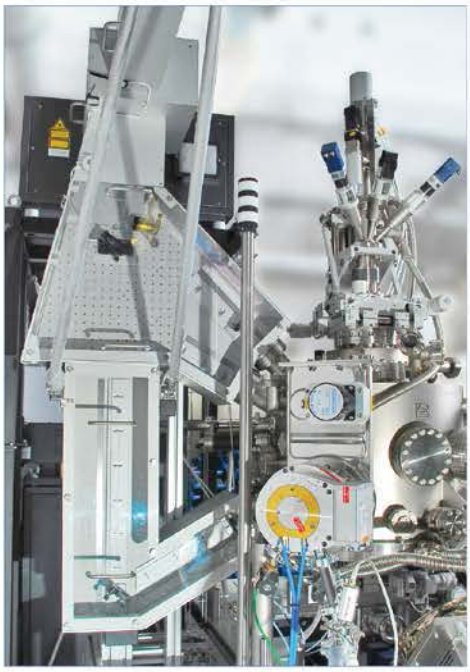
1"

PLD SYSTEMS WITH LINEAR TRANSFER

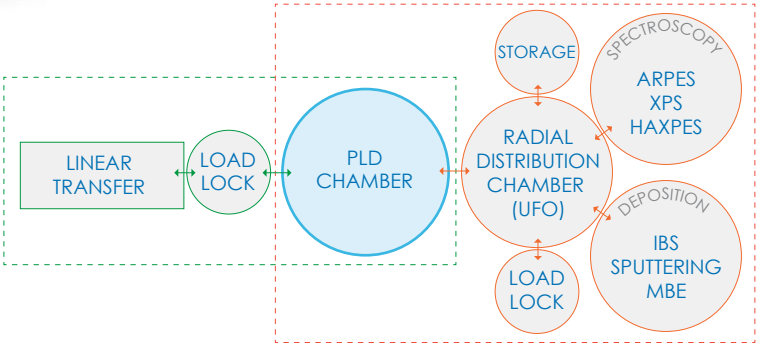
- Vertical PLD process geometry
- Based on EXIMER laser
- Laser beam driving system
- **Insitu target exchange system**
- Lifting trolley for bottom flange with target manipulator
- Load lock with halogen heating
- 1" - 2" target holders
- Sample size: 2"

LASER BEAM DRIVING SYSTEM

Designing, calculating and production of optical paths for lasers.

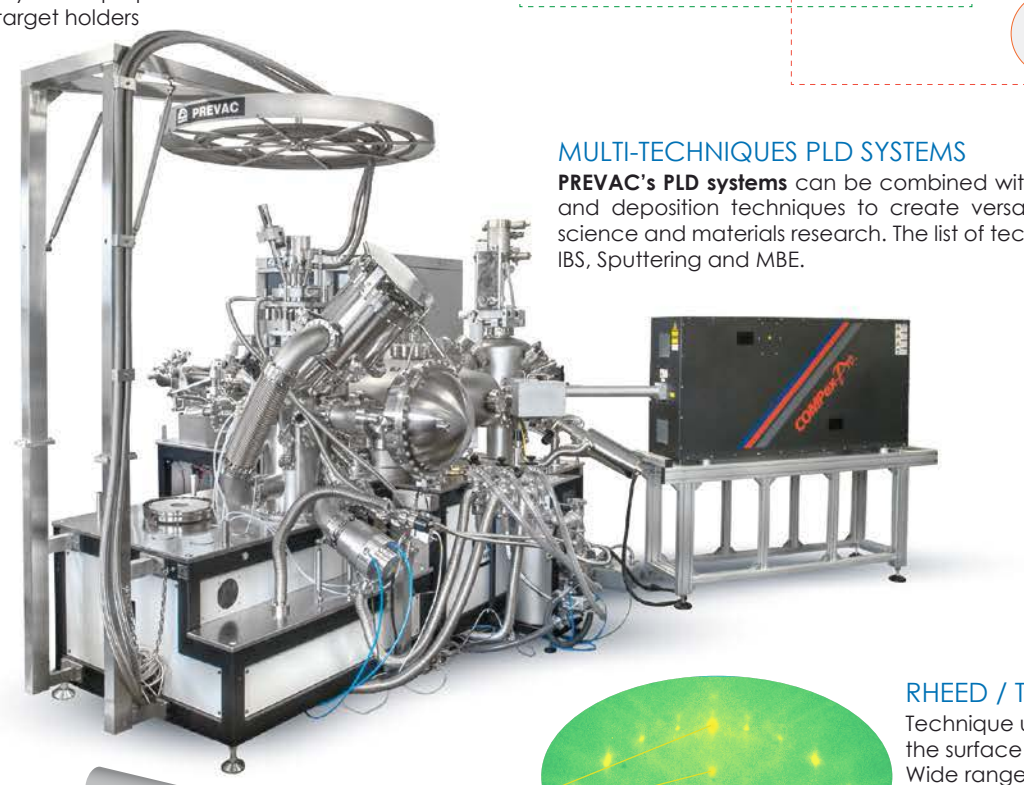


EXTENSION POSSIBILITY



MULTITECHNIQUE PLD SYSTEMS WITH RDC

- Horizontal PLD process geometry
- Based on EXIMER laser
- High pressure ranges
- **Insitu target exchange system**
- Analysis and preparation module
- 1" target holders



MULTI-TECHNIQUES PLD SYSTEMS

PREVAC's PLD systems can be combined with an array of analytical and deposition techniques to create versatile designs for surface science and materials research. The list of techniques includes ARPES, IBS, Sputtering and MBE.

RHEED / Torr RHEED

Technique used for characterise the surface of crystalline materials. Wide range of working pressures **from UHV ranges up to 100 mbar**.

PLD SYSTEMS WITH RDC

- Horizontal PLD process geometry
- Based on EXIMER laser
- **Insitu target exchange system**
- **Vacuum optical path for laser**
- High pressure ranges

PLD SYSTEMS WITH RDC

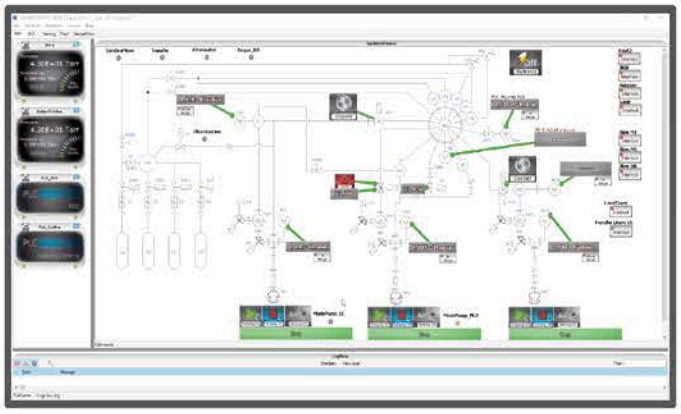
- Horizontal PLD process geometry
- Based on YAG laser
- **Insitu target exchange system**
- Ion beam cleaning & assisting option

SOFTWARE PROCESS CONTROL

Software provides complete computer control for valves, gauges and pumps interlocks. It also permits planning and controlling of complex processes such as sample preparation procedures or deposition. User personalized control panel contains intuitive schemes and graphics, including diagrams of the whole system. Online access to control setup and mobile monitoring is standard.

AUTOMATIC TARGET/SUBSTRATE TRANSFER

The automated system enables effortless transfer of targets and substrates from the load lock to the the PLD manipulator stations. Under full central PC control, it provides complete remote monitoring and control of sample and target positions, transfer and manipulation motions, and position states of associated interlocking valves. All sample information (including sample identification number, history in the UHV system etc.) is stored an a database for retrieval and review by the central control system.



UHV DEPOSITION SYSTEMS

PREVAC

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

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