



## Multi Purpose Sputtering System MS150x4-AE

- Vacuum Equipment
- PVD
- CVD
- PE/RIE
- RTP
- Target Materials
- Target Bonding
- Scanning Probe  
Microscopes

## Multi Purpose Sputtering System MS 150x4-AE

### Application:

Versatile system for thin film deposition processes in production for PVD (Physical Vapor Deposition ) processes by DC- and RF-sputtering with pre-treatment facilities by heating and sputter etching.

- Semiconductors
- Sensors
- Microsystems etc.
- Optoelectronics

### Design:

The equipment is based upon a modular concept with central handling system, two manual vacuum load locks, a separate pre-treatment chamber and two main deposition chambers. The main deposition chambers can be equipped with up to four sputtering sources. The substrates are located on a rotating table with high precision step motor drive - enabling to run the deposition processes in different modes for batch or single substrate deposition.

### Main parameters:

Substrate size:	100 mm and 150 mm diameter
Handling chamber:	Five (six) ports, Vacuum robot, also for heavy load available, Turbomolecular pump, rotary vane pump, Final pressure: $8 \cdot 10^{-6}$ mbar
Load locks:	Manual loaded, minimal volume, Turbomolecular pump, rotary vane pump, Final pressure: $5 \cdot 10^{-5}$ mbar, Cassette to cassette loading, Options: Substrate heating
Pretreatment chamber:	RF-sputter etching, Rate: 1 .... 20 nm/min, Uniformity: $< \pm 5\%$ , Turbomolecular pump, rotary vane pump, Final pressure: $1 \cdot 10^{-6}$ mbar, Options: PE module
Deposition chambers:	Up to 4 sputter sources, max. 4 x 8 kW DC, 2,5 -3 kW RF, Processes: DC-Sputtering, RF-Sputtering, Reactive DC-Sputtering Deposition rate: 100 .... 1000 nm/min depending upon selected materials

Uniformity: <math>\pm 5\%</math> depending upon type of source,  
 <math>\pm 3\%</math> on 100 mm wafers with FHR magnetron  
 type S 200

Cryo pump or turbo pump, rotary vane pump,  
 Final Pressure:  $2 \cdot 10^{-7}$  ...  $1 \cdot 10^{-6}$  mbar

Options: Halogen lamp heaters, RF-bias

Control system:

PLC, SIMATIC S7  
 Process visualisation,  
 Manual and automatic operation mode,  
 Maintenance mode,  
 Data storage and processing,  
 Remote diagnostics and support

Options:

Other process modules for PE, RIE, PECVD and RTP

*Processes and process guarantees will be provided on request !*

### Process visualisation

