



EXPLORER GLAD

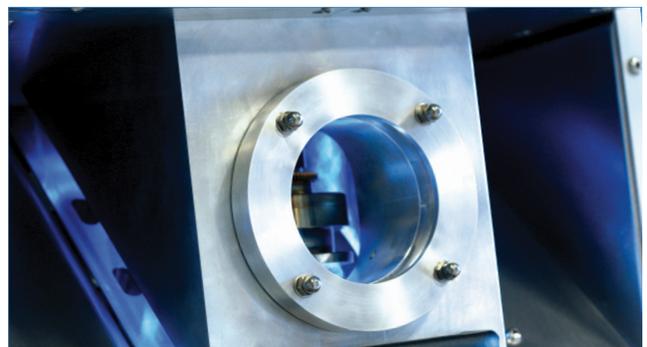
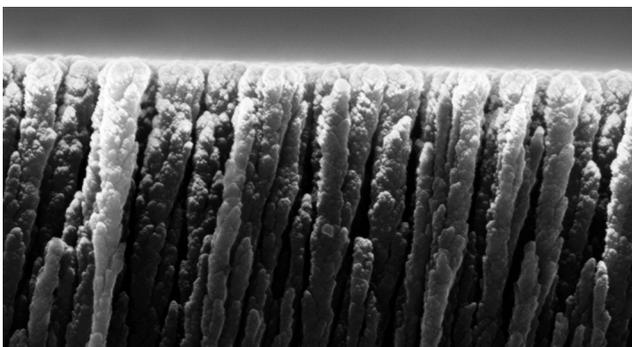
CONTROLLED NANOSTRUCTURES
BY GLANCING ANGLE DEPOSITION

The Cryofox explorer GLAD is a double chamber deposition unit equipped with a multi pocket electron beam evaporator and an optional ion gun source. A two axis substrate carrier is able to precisely position the sample during the deposition. In this way, three dimensional ordered arrays of nanostructures of various materials can be deposited.



Cryofox Explorer GLAD

Post oxidation of the individual layers can be done by plasma treatment set up directly in the versatile recipe software. The system is composed by a turbo molecular pumped loading chamber and a cryogenic pumped main chamber. This combination yields a short pumping time and a high throughput.



SOFTWARE

In the recipe software it is possible to load in position arrays from an imported file, of which the sample motion will follow during the deposition. Multilayer structures from predefined deposition models are included in the software. The deposition can be done either automatic, semi automatic, and in manual mode. The HMI system is running in windows on top of a PLC, which fully controls the safety and system control in general. Several password protected user levels all with individual flexibility can be set up, making the machine suitable for multi project R&D environments.

- Automated pump down
- Full motion control by design of pos. arrays for each layer
- Angular precision less than 0.2°
- Datalogging

SOURCES

- Ion source for pre etch or assisted deposition
- Elevated e-beam for source-substrate distance control
- Substrate heating
- Residual gas analyzing



TECHNICAL SPECIFICATIONS

Main dimensions	1400 x 1250 x 2240 mm W x D x H
Electric supply	3 x 400 V AC,
1-axis sample rotation	360° unlimited, resolution 0.1°, speed 1-10 rpm,
2-axis tilt angle	0 – 90°, resolution 0.1° , speed
E-beam gun	Standard: 5 kW with 4 crucibles of 7 cm ³
Throwing distance	Variable 240 – 780 mm, motorized positioning
Roughing pump	35 m ³ /h dry pump
Load lock, turbo pump	400 l/sec
Main chamber pump	Cryo pump: 4500 l/s air, or Turbo pump: 2200 l/s
Base pressure	10E-8 mbar range, main chamber
Process gas	Ar, N ₂ , O ₂ lines for load-lock and main chamber
Ion gun	Optional equipment
Cooling water supply	20 C° +/- 2°
Needed cooling capacity	Turbo pumped: 7,5 kW, or Cryo pumped: 12 kW