



# DISCOVERY DS

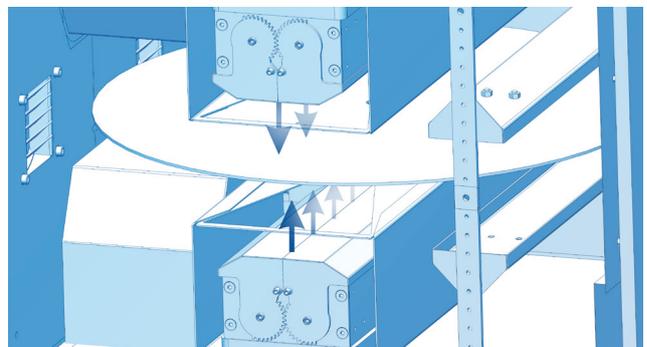
## DUAL SIDE SPUTTER DEPOSITION



Cryofox Discovery DS

The Discovery DS is a single chamber PVD system utilizing magnetron sputtering for applying thin layers of both metals and ceramics. The unit is designed for double side deposition with the capability of depositing multilayer structures from two opposite directions at the same time. All Cryofox systems are designed to meet the specific requirements from each end-user by approaching the PVD technology in the most innovative way.

The Discovery DS can be equipped with up to 4 rectangular magnetrons. Each magnetron comes with an integrated shutter to prohibit contamination across the different target materials. The substrate fixture can handle both regular wafers up to 6" and various planer and 3D objects. This makes the Discovery DS suitable for multi project environments for both universities R&D and batch production.



## SOFTWARE

All functions on the Discovery DS are controlled by programmable logic control (PLC) through a windows based HMI. Through several password protected user levels, recipe and pump failures are easily avoided.

- Full automated pump down and deposition process
- Password protected multi user interface
- Remote control via internet for both users and service
- Data logging



## SOURCES

- Magnetron sputtering with DC, RF or pulsed DC.
- Both circular and rectangular magnetrons

## OPTIONS

- Turbomolecular or cryogenic high vacuum pumping
- Ion source pre etch or assisted deposition
- Substrate heating
- Plasma cleaning prior to deposition
- Substrate fixture with planetary motion
- Sputtering masks for increased film uniformity



## TECHNICAL SPECIFICATIONS

Main dimensions	1400 x 1250 x 1850 mm	W x D x H
Vacuum chamber	620 x 700 x 500 mm	W x D x H App. 220 liter
Rotating tool plate	Ø 600 with deposition area from Ø 50 x to Ø 500 mm	
Roughing pump	35 m <sup>3</sup> /h dry pump	
High vacuum pump	Turbo pump: 2200 l/s	
Baffle valve	Baffle valve Ø250 with throttling position for sputtering pressure	
Sputtering power supply	DC, DC pulsed, RF and/or HIPIMS, range 2 – 5-10 kW	
Magnetrons	Patented dry change type, rectangular target 80 x 250 mm rectangular	
Uniformity	Range of +/- 10%	
Process gas	Standard: Ar, optional N <sub>2</sub> , O <sub>2</sub> lines	
Electric supply	3 x 400 V AC,	
Cooling water supply	20 C° +/- 2°	
Needed cooling capacity	Turbo pumped - Idle: 1,5 kW, peak by deposition: 5,5 kW*	
	Cryo pumped - Idle: 6 kW, peak by deposition: 10 kW*	
	*) basic configuration with 2 x 2 kW sputtering power supply	