ionLAB 400

Low-pressure system equipped with ion implantation and plasma PVD technologies for flat or 3D parts treatment

Designed by ionics

The ionLAB equipment allows ion implantation of flat surfaces of 400X400 mm controlled by an automated XY table. The system is equipped with an ionGUN 2000: an industrial ion source able to use different gases and to reach ion beam currents of several milliampere with accelerating voltages up to 40 kV.

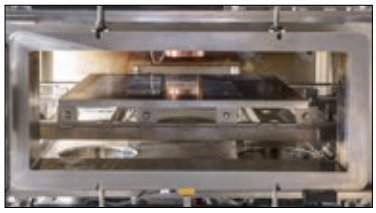
TECHNICAL DATA	
Power supply	General power: 400 V / 63 A Frequency: 10 GHz / 50 W Power: up to 600 W Ion energy: up to 40 kV Ion current: up to 15 mA
Gas flow	From 10 to 200 µln/min
Vaccum chamber level	10^{-6} mbar
Connection	160 mm Ø flange
Cathode size	3-inch / 76 mm (circular)
Number of ionGUN used	1 or 2
Substrat size	L400xW400xH75 mm
Processing capacity	Batch processes
Dimensions of the machine	L3500xW1500xH2300 mm
Weight	2800 kg
Water cooling system	Yes – demineralized water integrated in the machine

Features

- Coating sources: ion implantation - PVD also available on request
- XY table available (moving: 200 mm/s max.)
- Faraday's cup for each ionGUN 2000 integrated in the process chamber
- Basic vacuum pressure: 10^{-7} mbar in MAP / 10^{-6} mbar in Chamber
- Fully automatized with intuitive HMI
- Any gas can be used: Ar, He, N_2, O_2, SiH_4 and mixtures

Option

- PVD cathode : circular or rectangular



Applications

Mechanical
- Increase hardness
- Corrosion resistance
- Low friction coefficient

Decoration
- Scratch resistance
- Colors or surface finish
- Anti-reflective

Biomedical
- Biocompatibility
- Antibacterial
- Low cytotoxicity

Treated materials are : metals, ceramics, polymers and elastomers, glass, sapphire, cermets…

The innovation is supported by the Walloon Region through the WALIBEAM project which gathers major industrial actors in the fields of surface treatment of glass, metal and polymer.