



Designed by ionics

Low-pressure system equipped with ion implantation for flat treatment

The ionLAB equipment allows ion implantation of flat surfaces of 400X400 mm controlled by an automated XY table. The system is equipped with one or two ionGUN's 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
Vacuum pressure	10^{-7} mbar in MAP / 10^{-6} mbar in Chamber
Number of ionGUN's 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

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
- ▲ Fully automatized with intuitive HMI
- ▲ Any gas can be used: Ar, He, N₂, O₂, SiH₄ as well as mixtures

Option

- ▲ Circular or rectangular PVD cathode (max 3-inch / 76 mm)



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, textiles, carbon fibers,...

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.