

ionPOWDER¹⁰⁰

Low-pressure system equipped with ion implantation technologies dedicated to the treatment of powders and loose parts

The ionPOWDER equipment allows powders surface treatment with a double low-pressure technology: Ion implantation with our ionGUN 2000 implantation system; PVD and PECVD processes allowing new alloys with rare elements, core shells hybrid structure, nano structuration to reach enhanced properties.



Designed by ionics

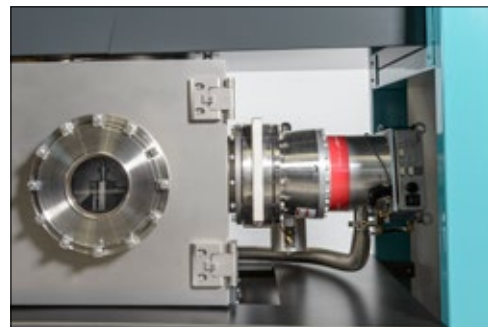
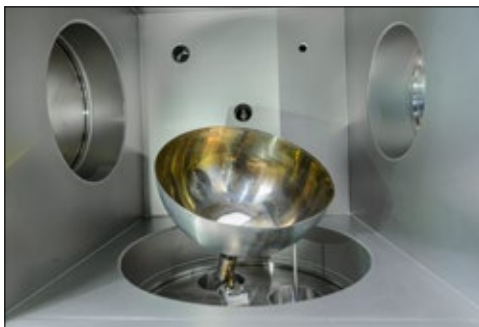
TECHNICAL DATA	
Power supply	General power: 400 V / 32 A Frequency: 10 GHz / 50 W Power: up to 600 W Ion energy: up to 40 kV Ion current: up to 15 mA
Gas flow	From 10 to 200 µln/min
Vacuum chamber level	10 ⁻⁶ mbar
Cathode size	2-inch / 51 mm (circular)
Connection	160 mm Ø flange
Number of ionGUN used	1
Substrat size	max 300 ml
Processing capacity	batches up to 1 liter
Dimensions of the machine	L2600xW900xH2500 mm
Weight	750 kg
Water cooling system	Yes – demineralized water

Features

- ▲ Coating sources: ion implantation - PVD also available on request
- ▲ Basic vacuum pressure: specific pumping system compatible with powders to reach 10⁻⁶ mbar within one hour
- ▲ Fully integrated automated control system
- ▲ Any gas can be used: Ar, He, N₂, O₂, SiH₄ and mixtures

Option

- ▲ 1 circular PVD cathode + Power supply



Applications

▲ On powders/diamonds

- ▲ Core shells
- ▲ Pseudo alloying

▲ On fibers

- ▲ Core shells

▲ On loose parts/balls

- ▲ Amorphous alloys
- ▲ Ion implantation

Powder modification for AM, catalyst, injection and sintering molding, thermal spraying,...

Fibers treatment for composites, filtration, GO polymers and batteries.

Loose parts treatment for new surface functionalities and enhanced durability.

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.