

ionPRO¹⁸⁰⁰

Ion implantation industrial line dedicated to the treatment of large surfaces



Designed by ionics

The ionPRO industrial line is dedicated to the treatment of large flat parts with the innovative ion implantation technology. Five ionGUN 2000 arranged in line ensure the efficiency and homogeneity of the ion implantation treatment. The lock chamber is composed of two loading plates allowing a fluent semi-continuous treatment in the process chamber. The treated surface area reaches 1600x1800 mm with a maximum speed of 150mm/s.

TECHNICAL DATA	
Power supply	General power: 400V / 125A Per implanter <ul style="list-style-type: none"> • 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 $\mu\text{ln}/\text{min}$
Vacuum chamber level	10^{-6} mbar
Connection	160 mm \varnothing flange
Cathode size	Max L 2000 mm (rotating)
Number of ionGUN used	5
Substrate size	1800x1600x75 mm (Max 200 kg)
Processing capacity	semi-continuous or batch processes
Dimensions of the machine	L13000xW7500xH3000 mm
Weight	4000 kg
Water cooling system	Yes – 1 demineralized water and 1 regular water

Features

- ▲ Coating sources: ion implantation - PVD also available on request
- ▲ XY table of 2 m available
- ▲ Load and lock system
- ▲ Lock chamber allowing continuous treatment in the process chamber
- ▲ Type of water cooling: demineralized water and regular water systems integrated in the machine
- ▲ Basic vacuum pressure: 10^{-7} mbar MAP / 10^{-6} mbar Chamber
- ▲ Fully integrated automated control system
- ▲ Any gas can be used: Ar, He, N₂, O₂, SiH₄ and mixtures

Option

- ▲ 2 or 3 cathodes and 1 ion source for vertical treatment



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.