

HiPSTER 1

The most flexible HiPIMS pulser for R&D departments and academia



HiPSTER 1 HiPIMS Pulser

The HiPSTER unit is designed by expert users in the field of thin film deposition in order to generate a robust and repeatable HiPIMS process, also in reactive mode. This means stable operation with constant voltage throughout the whole discharge pulse without any unwanted oscillations.

With new ultra-fast switching technology the HiPSTER will be the perfect tool when developing and running state-of-the-art HiPIMS processes. Also, upgrading your existing magnetron system to HiPIMS has never been easier: The HiPSTER can be directly fitted to existing DC power supplies. This is also a cost-efficient way to true HiPIMS.

Features

- + Stable and robust discharge process (constant voltage and no unwanted oscillations)
- + Can be triggered externally (multiple power supplies)
- + New switching technology allowing HiPIMS pulsing frequencies up to 10 kHz
- + Tested using a wide range of magnetrons and processes (incl. reactive HiPIMS)
- + Unique feedback system allowing process regulation by controlling the pulse current
- + Real-time information on the discharge pulse voltage and current
- + Add Ionautics' superposition technology for HiPIMS + DC

Applications

- + **Hard coatings:** Smoother and denser elemental as well as reactively deposited compound coatings, which result in increased hardness, reduced corrosion, and less friction
- + **Optical coatings:** Increased optical properties through smoother interfaces and denser structures
- + **Diffusion barriers:** Better performance through increased coating density
- + **Electrical coatings:** Improved conductivity enabling reduced coating thickness and reduced heat load. Also increased isolation in the case of insulators can be obtained
- + **3-D coatings:** Uniform film coverage on complex shaped substrates

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Output Specifications

Output Average Power:	≤ 1000 W
Output Peak Voltage:	≤ 1000 V
Output Peak Current:	≤ 100 A
Regulation Modes:	Voltage, Current, Power, Pulse current
Pulse Frequency:	1 to 10 000 Hz
Pulse Duration:	2.5 μs to 1000 μs
Arc control: reaction time	< 2 μs

Input Specifications

Input Voltage AC:	1 phase + N, 100-240 VAC, 50/60 Hz
Input Current at 230 V:	0.3 A
DC Charging Input:	1000 V max, positive grounded
Trigger In:	Ground-Referenced 5V CMOS input

Dimensions

Size:	19" rack (3U) 135 mm (H) x 483 mm (W) x 390 mm (D)
Weight:	5 kg



Environmental Specifications

Operating Temperature:	+5°C to + 40°C
Storage Temperature:	-25°C to +55°C
Relative Humidity:	max 85% non-condensing
Air Pressure:	80 kPa to 106 kPa
Cooling:	Air Cooling
Pollution degree:	2 (or better). Cooling air must normally be free of corrosive vapors and conductive particles.
Norms:	CE marked