

# HiPSTER 10

## An industrial HiPIMS pulser for the latest generation of coatings



### HiPSTER 10 HiPIMS Pulser

Our HiPSTER HiPIMS units are designed by experts in the field with an excellent track record of plasma process development and thin film deposition in order to generate robust and repeatable HiPIMS processes.

With the new ultra-fast switching technology and extended HiPIMS pulse control the HiPSTER is a perfect tool when developing and running state-of-the-art HiPIMS processes. HiPSTER 10 is a 10 kW HiPIMS unit for industrial use and R&D departments and suitable for magnetron sizes up to 800 cm<sup>2</sup>.

#### 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 for industrial use on planar and rotatable magnetrons in joint collaboration with our customers and partners
- ✦ Real-time control of the discharge pulse voltage and current
- ✦ Add Ionautics' superposition technology for HiPIMS + DC
- ✦ Reactive HiPIMS process control option can be implemented upon request

#### 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

Average Power:	10 000 W
Peak Voltage:	1000 V
Peak Current:	1000 A
Regulation Modes:	Voltage, Current, Power, Pulse current, Pulse charge
Pulse Frequency:	50-10 000 Hz
Pulse Duration:	3.5 $\mu$ s to 1000 $\mu$ s
Arc control:	reaction time < 2 $\mu$ s

## Input Specifications

Input Voltage:	AC 1 phase + N, 100-240 VAC, 1A 50/60 Hz
Input Current at 230 V:	0.7 A
DC Charging Input:	1000 V max, floating

## Dimensions

Size:	19" rack (6U) 266 mm (H) x 435 mm (W) x 490mm (D)
Weight:	$\approx$ 26 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



**DANIEL LUNDIN**  
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Expert in the field of HiPIMS processes and magnetron sputtering with focus on deposition processes and process characterization.



**ULF HELMERSSON**  
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Expert in the field of physical vapor deposition, such as magnetron sputtering and HiPIMS processes with focus on material science.

### Contact!

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