# HiPSTER® 25

# A flexible 25 kW HiPIMS Pulser Unit for the new generation of industrial coatings


**Image for reference purpose only.**

## HiPSTER 25 HiPIMS Pulser

*Our new HiPSTER 25 is equipped with cutting-edge transistors made from SiC (Silicon Carbide), unlocking advanced operational modes for superior performance and efficiency.*

*The HiPSTER BiPolar HiPIMS Units represent the next generation of HiPIMS technology. Expertly designed by leaders in plasma process development and thin-film deposition, these units deliver robust and repeatable HiPIMS processes. With ultra-fast switching technology and enhanced HiPIMS pulse control, the HiPSTER BiPolar series is the ideal solution for developing and executing state-of-the-art HiPIMS applications.*

## FEATURES

- Bipolar operation provides ion acceleration without the need of substrate biasing
- Stable and robust process control using multiple process parameters
- Can be triggered externally (multiple power supplies)
- New switching technology allowing HiPIMS pulsing frequencies up to 150 kHz
- Tested using a wide range of magnetrons and processes (incl. reactive HiPIMS)
- Add Ionautics' reactive process control for increased stability and higher deposition rate

## 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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# HiPSTER® 25

## Output Specifications

| | |
|---|---|
| Output Average Power: | ≤ 25 kW |
| Regulation Modes: | Voltage<br>Current<br>Power<br>Pulse Current<br>Pulse charge |
| 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: | 1 000 V max, fully floating +/- 1 kv<br>kV from ground |
| Remote communication: | RS 232, RS 485, EtherCat, Profibus |

## Unipolar Mode (negative pulse)

| | |
|---|---|
| Output Peak Voltage: | ≤ 1 000 V |
| Output Peak Current: | ≤ 1 500 A |
| Pulse Duration: | 3.5 µs to 1 000 µs |
| Pulse Frequency | 50 to 10 000 Hz |

## Enviromental Specifications:

| | |
|---|---|
| Cooling: | Water Cooling |

## Optional Bipolar Mode (positive pulse)

| | |
|---|---|
| Output Peak Voltage: | ≤ 250 V |
| Pulse Duration: | ≤ 1 500 µs<br>(to be confirmed) |
| Pulse Delay: | 3.5 µs to 1 000 µs<br>(to be confirmed) |

## Dimensions:

| | |
|---|---|
| Size: | 19" rack (3U)<br>135 mm (H) X 483 mm (W) X 510 mm (D) |
| Weight: | 25 Kg |

## Optional Pulsed Mode DC

| | |
|---|---|
| Pulse Frequency: | up to 150 kHz<br>(to be confirmed) |


**DANIEL LUNDIN**
**Associate Professor**

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

**ULF HELMERSSON**
**Professor**

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

**RAFAEL SANCHEZ**
**Global Sales Manager**

In charge of sales and marketing worldwide.
10 years of experience in thin film deposition using magnetron sputtering.

**Tel: +46-704 39 76 76**
**E-mail: rafael.sanchez @ionautics.com**

**CONTACT››››**



**SWEDEN:** LINKÖPING: *STORA TORGET 3, 582 19 LINKÖPING, SWEDEN*
PITEÅ (POSTAL AND SHIPPING ADDRESS) *KABELGATAN 9B, SE-943 31 ÖJEBYN, SWEDEN*
STOCKHOLM: *STRANDVÄGEN 1, 114 51 STOCKHOLM, SWEDEN*
**USA:** POSTAL ADDRESS: *19924 163RD AVE NE WOODINVILLE WA 98072 USA*


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www.ionautics.com