



## The Meaglow UHV series Hollow Cathode Plasma Source



For the UHV series, 3 and 3/8" and 4 and 5/8" conflat vacuum flanges are most common, but other sizes are made on request. These Hollow Cathode plasma sources are often used for ALD equipment conversions, but also for homemade ALD systems.

They feature:

- 300 or 600 Watt (higher on request) RF or DC operation.
- 316 Stainless steel cathode construction (other materials including titanium, inconel on request).
- Wide range of gas usage.
- Low oxygen contamination (no dielectric windows).
- Low cost.
- High electron density – similar to inductively coupled sources.
- Wide range of operating pressures (eg. from < 100 mTorr to > 5 Torr).
- Low plasma damage.
- Customised solutions available.



### Related Papers:

- K. S. A. Butcher, B. W. Kemp, I. B. Hristov, P. Terziyska, P. W. Binsted and D. Alexandrov, Japanese Journal of Applied Physics **51** (2012) 01AF02.
- C. Ozgit-Akgun, E. Goldenberg, A. Kemal Okyay and N. Biyikili, Journal of Materials Chemistry C **2** (2014) 2123.
- K. S. A. Butcher, V. Georgiev and D. Georgieva, Coatings **11** (2021) 1506.

For more information on Meaglow Ltd or its hollow cathode plasma sources, visit our website [www.meaglow.com](http://www.meaglow.com) or contact us at [info@meaglow.com](mailto:info@meaglow.com).



## The Meaglow UHV series Hollow Cathode Plasma Source specifications:

- Conflat fittings, sizing on request 3 and 3/8" and 4 and 5/8" most common.
- Nipple housing on request.
- 300 or 600 Watt maximum applied power, higher on request.
- DC or 13.56 MHz RF operation.
- N, HN or 7/16 DIN input voltage connectors, others on request.
- Male or female VCR gas input.
- Water cooling, 1-3 litres/min room temperature water (distilled or deionised preferable). Swagelok connections.
- Integrated matching box on request.
- 316 stainless is standard, but other cathode materials on request.
- Operation from < 100 mTorr to > 5 Torr. Low pressure option available.
- Gases to date: NH<sub>3</sub>, N<sub>2</sub>, H<sub>2</sub>, Ar, O, NO, others (F and Cl for instance) possible depending on material compatibility.
- RF generator, matching network and matching network controller supplied on request. Will advise for modification of existing equipment.

For more information on Meaglow Ltd or its hollow cathode plasma sources, visit our website [www.meaglow.com](http://www.meaglow.com) or contact us at [info@meaglow.com](mailto:info@meaglow.com).

Meaglow Ltd manufactures and sells crystal growth research reactors and supplies hollow cathode plasma sources for advanced semiconductor applications.

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