
ComCell

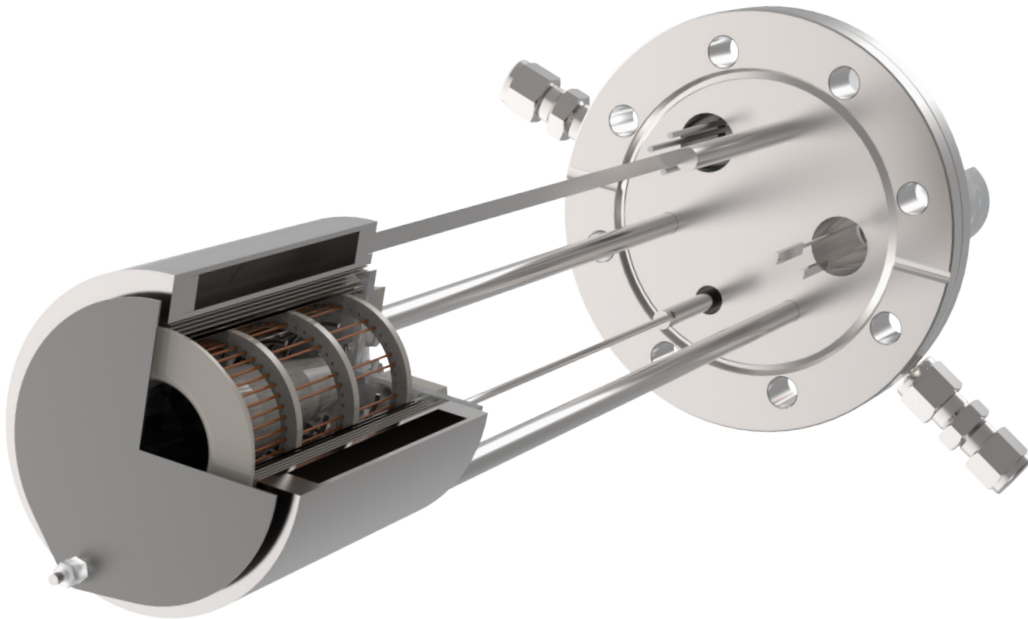
Effusion Cells

MBE Growth

Composite Materials Growth

Doping in MBE

Sample Preparation



Technical Information

The MANTIS ComCell effusion cell series are designed for high-purity, high-precision evaporation of materials in MBE or hybrid UHV applications. The sources are all equipped with integrated water cooling which ensures minimal outgassing contamination during operation. All elements in the hot zone are manufactured from either refractory materials or high-purity pyrolytic boron nitride. ComCells are 100% UHV compatible allowing clean operation in UHV systems.

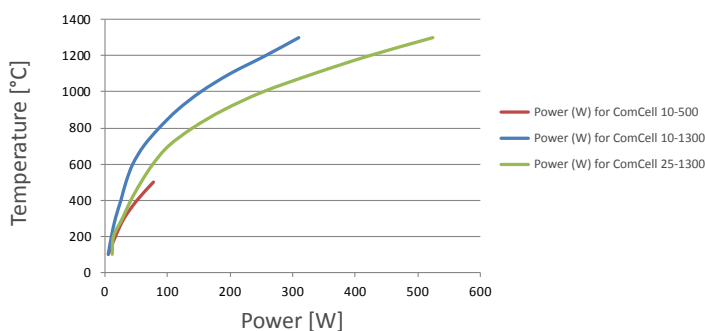
The long life filament and its housing forms a discrete unit which can be removed and replaced as a sub-assembly, allowing rapid and reliable maintenance by the end user.

Options

The ComCell series can be supplied in a variety of options with either a standard or hot-lip filament design enabling excellent temperature and flux stability. All sources have an optional manual or motorised shutter.

Based on a compact and robust cell design, MANTIS low power ComCells are available as a 500°C low temperature version or as a 1300°C version for high temperature deposition.

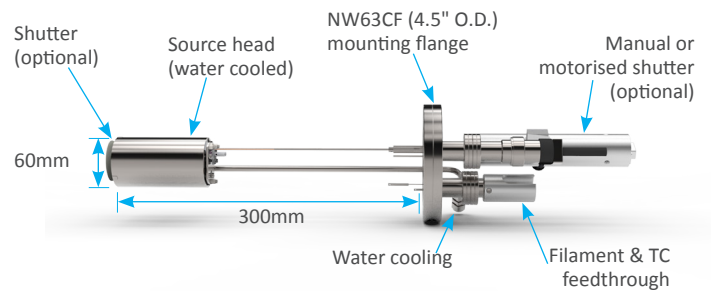
Various crucible sizes are available, including 10cc, 16cc (conical), and 25cc. Users can select between PBN, Al₂O₃ and BeO crucibles depending on material and maximum operating temperature. Other crucible materials are available on special request.



Power consumption for three different effusion cells: ComCell 10-500, ComCell 10-1300, ComCell 25-1300.

Layout Schematics

ComCell 10-1300



	ComCell 10-500	ComCell 10-1300	ComCell 16-500	ComCell 16-1300	ComCell 25-1300
Mounting flange	NW63CF (4.5" O.D.)				
UHV compatible	Yes, bakeable up to 250°C				
In-vacuum length	300mm - special length on request				
In-vacuum diameter	60mm	60mm	60mm	60mm	60mm
Maximum output power	400W	600W	500W	700W	750W
Maximum temperature (degassing)	600°C	1400°C	600°C	1400°C	1400°C
Maximum temperature (continuous)	500°C	1300°C	500°C	1300°C	1300°C
Crucible capacity	10cc	10cc	16cc (conical)	16cc (conical)	25cc
Crucible type	PBN, alumina, BeO or quartz crucibles				
Filament	Ta-Filament, standard or hot-lip configuration				
Cooling	Minimum water flow of 0.7 l/min				
Shutter	Integral manual or motorised shutter (optional)				

Power Supply (optional)

Cable length	5m - special length on request
PID controller	Up to two Eurotherms (or similar)
Power supply	Single phase, 100 - 240VAC, 50/60Hz



For further information please contact:
sales@mantis-sigma.com

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