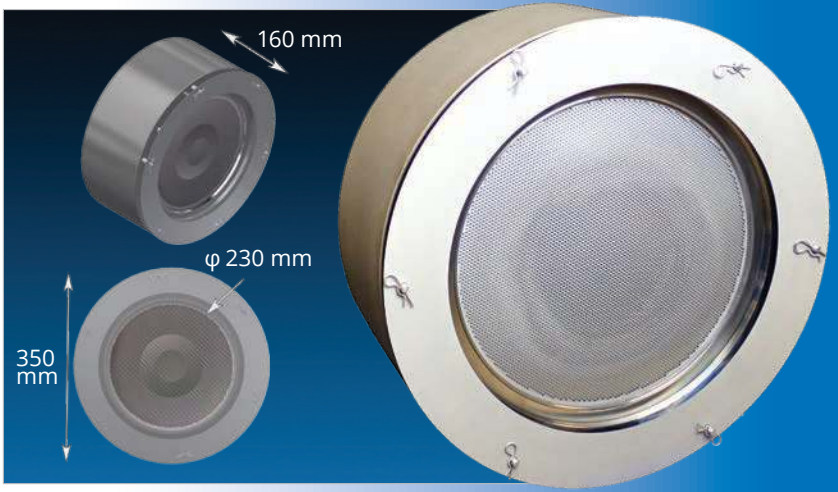
23cm Source

We offer a 23cm RF ion beam source for larger area, high current processes. This RF source is ideal for etch or assist applications. The 23cm ion source is typically used in production environments. Using RF discharge (no filaments) minimizes maintenance requirements, and enables use with typical process gases including many reactive species. Molybdenum grids are available for this ion source in a couple of configurations. The 23cm ion source is typically internal-mounted, but flange mounting is available. Every ion beam installation is unique so we are ready to help meet the requirements of your specific application.



SPECIFICATIONS

Model	23RF
Beam Current	200 – 1500 mA
Beam Voltage	100 – 1250 eV
Grid Material	Molybdenum
Water Cooling	Antenna Only
Weight	22 Kg (48 lbs)

FLANGE MOUNT

In the Flange Mount configuration the ion source is fixed directly to the vacuum flange, providing the maximum level of process repeatability. This ion source requires an ISO400 flange or larger, and uses the least space inside the vacuum chamber. Flange Mount packages include a high-voltage protective cover on the atmosphere side of the flange, to which the RF Matching Network mounts directly. Also provided are the connection points for antenna cooling water, source gas, and DC bias.

NOMINAL PERFORMANCE DATA - USING ARGON @ 20 SCCM

BEAM		ACCELERATOR		RF POWER		NEUTRALIZER
Voltage (V)	**Current (mA)**	**Voltage (V)**	**Current (mA)**	**Forward (W)**	**Reflected (W)**	**Emission (mA)**
100	1000	1000	58	510	0	1500
250	1000	750	64	460	0	1500
500	1100	500	62	450	0	1650
750	1250	300	55	520	0	1562
1000	1500	250	59	640	0	2000*
1250	1500	250	60	630	1	2000*

**Second neutralizer recommended*

OPTIONS & ACCESSORIES

Ion Source	23RF	Standard Ion Source	1500mA / 1250V Limits
Interface Kit	507178A	Internal Mount	Includes vacuum feedthroughs and vacuum-side connections to source for RF Power, DC Bias, and Gas
Neutralizer	504424B	RFN	Radio frequency – requires a mounting flange
Common Neutralizer Flanges	504854A	2¾" CF RFN Flange	Each flange has a RFN matching network.
	504891A	4.5" CF RFN Flange	
	504855A	6" CF RFN Flange	
Power Supply	IBEAM 701-6-1-2		I-Beam with I-Box Adapter. Requires RF Generator
RF Generator	505311A	1kW RF Generator	Required for I-Beam 701-series power supplies
RF Matching	505914Dx	Source RF	Includes Matching Network & Controller for source
Cable Kits	507128A	I-Beam Cable Kit for I-Beam 701 with I-Box configurations	

GRID OPTIONS

66cm FP, Divergent	507090A	Molybdenum	3-grid, 66cm FP, Divergent	Assist
3 Focal Point	507263A	Molybdenum	3-grid, 3 focal point	Sputter

INTERNAL MOUNT

The Internal Mount configuration places the ion source loosely inside the vacuum chamber allowing angular (pointing) adjustment to suit process needs. The maximum distance from the vacuum feedthrough is 18-inches. This option allows some freedom of location of the ion source, and provides the ability to adjust the tilt for specific chambers. It also allows the use of multiple smaller feedthroughs instead of one large feedthrough. The standard flanges for this configuration are two 2.75 inch Conflat. Other flange combinations are available. The RF Matching Network mounts directly to the RF feedthrough.