

► Filamentless Ion Source Packages



Our Ion Source systems include the ion source, power supply, cabling, feedthroughs, flexible internal utilities, swivel/rotating mounting collar, and choice of grids.

Our patented ion sources do not use thermionic tips nor filaments when generating plasma and neutralizing up to 85% of energy.

These ion sources are offered in 3, 5, and 10 cm configurations.

NOTE: For additional product information and pricing, contact our ion source specialists at ionsource@lesker.com or call 1.800.245.1656

Features:

- 3, 5, and 10 cm configurations
- Filamentless sources
- Reactive gas compatible
- Internal or flange mount
- Collimated or focused grids
- UHV compatible

Applications include:

- Ion-assisted deposition
- Plasma cleaning
- Oxiding
- Nitriding
- Surface modification



Ion Source Remote Mount Configuration Kit

NOTE: We also offer (production linear and R&D) ion sources for applications requiring high ion current density, low energy fluxes, and where minimal damage to the substrate is essential—such as magnetic storage discs, flexible polymer substrates, and flat panel displays.

Because they employ no filaments, hollow cathode electron sources, or thermionic emitter and are intensively watercooled, the heat contribution to the overall process environment is low, an important factor in manufacturing processes with temperature-sensitive substrates.

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SPECIFICATIONS

	3cm Source	5cm Source	10 cm Source
Filaments	None	None	None
Process Gas	Argon (standard)	Argon (standard) Oxygen (optional)	Argon (standard) Oxygen (optional)
Ion Beam Currents	2 mA at 25 eV to 7 mA at 1,000 eV	2 mA at 25 eV to 35 mA at 1,200 eV	2 mA at 25 eV to 67 mA at 1,200 eV
Ion Optics	Molybdenum Collimated Optics (standard); Divergent, Convergent, and Graphite Ion Optics (optional)		
Ion Beam Uniformity	± 10% in the inner 75% of beam diameter		
Mounting	Remote Mount (standard) 8" min. CF Flange (optional)	Remote Mount (standard) 8" min. CF Flange (optional)	Remote Mount (standard) 10" min. CF Flange (optional)
Feedthrough	Dual 1" Gas and Electrical Feedthrough (standard); 2.75" CF Flanged Feedthrough (optional)		
Source Material	300/400 Series Stainless Steel; High Purity, High Temperature Fired Ceramic		
Required Gas Flow	7 to 15 sccm to Sustain the Plasma		
Operational Pressure (based on 2,000 L/s effective pumping speed for N₂)	1.2 x 10 ⁻⁴ to 4 x 10 ⁻⁴ Torr	9 x 10 ⁻⁵ to 2 x 10 ⁻⁴ Torr	9 x 10 ⁻⁵ to 2 x 10 ⁻⁴ Torr
Nominal Pump Speed	1,000 liters/sec	2,000 liters/sec	2,000 liters/sec
Emitter Power Supply (constant current controlled)	100V to 475V @ 0 to 225 mA	100V to 475V @ 0 to 225 mA	100V to 525V @ 0 to 225 mA
Anode Power Supply (constant voltage controlled)	0 to 1,000V @ 2 to 7 mA	0 to 1000V @ 2 to 35 mA	0 to 1000V @ 2 to 67 mA
Accelerator Power Supply (constant voltage controlled)	0 to 100V @ 1 to 2 mA		
Dimensions:			
Ion Source	3" diameter x 5.26" length	5.5" diameter x 7" length	6.1" diameter x 8.45" length
DC Switching Power Supply	19" Rackmount (5.25" height x 18" depth)		

Standard Ion Configuration & Pricing Matrix

Select from the configuration options to create a part number and price for a particular ion source package.

Example Configuration: **I 3 L M A X R X 1**

	Part No. Prefix	Base Price
Ion Gun		
Ion Gun	I	
Gun Size		
3 cm	3	Call
5 cm	5	Call
10 cm	1	Call
Grid Selection		
Collimated	L	N/C
Divergent	V	N/C
Convergent	N	N/C
Material		
Molybdenum	M	N/C
Graphite	G	N/C
Operating Primary Gas		
Argon (Standard)	A	N/C
100% Oxygen	O	Call
Four Gas Service		
None	X	N/C
Four Gas Service (5 cm/10 cm only)	C	Call
Mounting Type		
Remote	R	N/C
Flange	F	Call
Flange Type		
*None (remote)	X	N/C
*ISO	I	N/C
*ConFlat®	C	N/C
Power Supply Voltage		
110V	1	N/C
220V	2	N/C

*Must specify flange size.

NOTE:

Minimum ConFlat Flange Dimensions

- 3 cm gun — 6 3/4" flange with 5" diameter tube
- 5 cm gun — 8" flange with 6" diameter tube
- 10 cm gun — 10" flange with 8" diameter tube

Minimum ISO Flange Dimensions

- 3 cm gun — ISO 160
- 5 cm gun — ISO 200
- 10 cm gun — ISO 250



NOTE: Please visit www.lesker.com for our full line of Ion Sources.