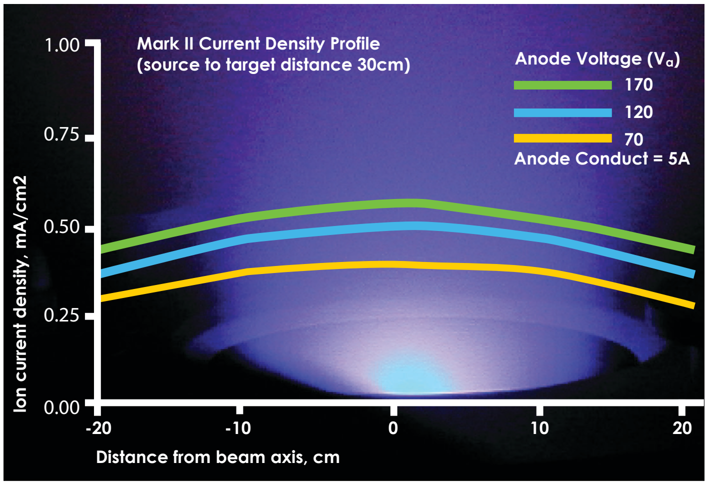
IntlVAC
THIN FILM

MARK II ION SOURCE

MARK II ION SOURCE

TECHNICAL SPECIFICATIONS

Device / Process	Materials
Source dimensions:(dia. x length)	14 cm x 19 cm
Chamber size	60-150 cm
Throw distance:(source-to-substrate)	30 - 90 cm
Ion energy	60 - 170 eV
Beam current	Up to 1000 mA
Neutralization current	~1–3 A @ 300 V (power limited)
Base pressure (recommended)	30–180 eV (≈60% of VA setpoint)
Operating pressure	~1–2 A (argon/oxygen dependent)



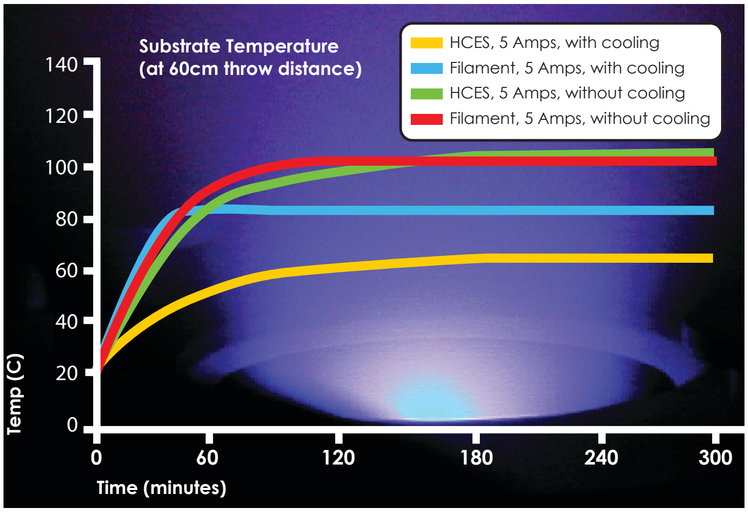
The Mark II is the industry standard source for optical coating systems and is the most widely used ion assist source.

FEATURES

- Production proven design
- Reactive gas compatible
- Low contamination
- Numerous options available

WATER-COOLED MARK II ION SOURCE

The Water-Cooled Mark II Ion Source adds efficient cooling for processes requiring low temperatures and reduced cycle times. Engineered and tested to withstand rigourous production environments, the Water-Cooled Mark II has a distinctive anode design which promotes excellent heat transfer out of the vacuum chamber and away from substrates.



WATER-COOLED FEATURES & BENEFITS

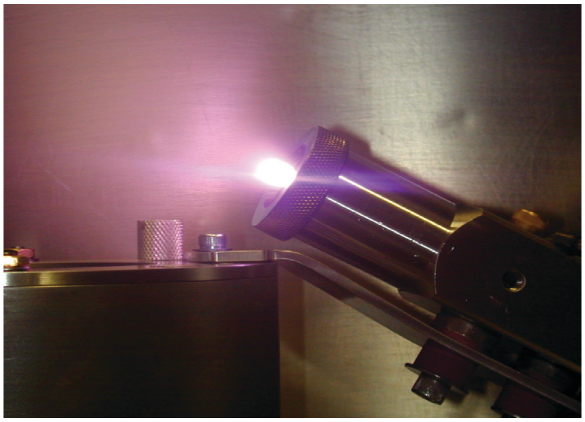
- Dramatically reduced substrate temperatures
- Elimination of cool-down prior to venting
- Greater ion beam stability/control

RESULTS

- Reduced stress
- Increased production throughput
- Reproducible film properties

MARK II - HCES

The Mark II ion source is configured with a Hollow Cathode Electron Source (HCES) to permit long run times with reactive gases while maintaining consistent and reliable operation. Ideal for oxygen and other long reactive processes, the HCES provides sufficient electron emission for ionization and beam neutralization. When combined with the Water-cooled anode, the Mark II-HCES provides the coolest operation of the Mark II Series.



BENEFITS

- Filamentless operation
- Reduced contamination
- Cool source operation

www.intlvac.com

Intlvac
THIN FILM

ABOUT INTLVAC

Intlvac Thin Film Corporation

247 Armstrong Ave, Unit 6-11
Halton Hills, ON
Canada L7G 4X6

1401 Duff Drive, Unit 600
Fort Collins, CO
USA, 80524

Convenient Online Shopping

Talk To Us Today!
thinfilm@intlvac.com
www.intlvac.com

Research and development play a major role in our technology's edge in the market. Our in-house development lab designs, engineers and manufactures machinery used for Physical Vapor Deposition and Ion Beam Etching. We specialize in engineering solutions for a variety of specific results and outcomes using this process. We provide our customers with machinery needed for creating coatings including ion source and all parts needed to make it function. Additionally, we manufacture high quality PVD coatings using techniques such as Ion Assisted Thermal and Electron Beam Evaporation, Reactive and non-Reactive Magnetron Sputtering and Diamond Like Carbon by Plasma Enhanced Chemical Vapor Deposition.

Intlvac Thin Film has become an authority in Ion Beam Etch/Sputter systems and reactive sputter systems for precision optical coating.

Edition 3: printed January 2026