

Nanoquest Pico

A compact, low-cost Ion Milling platform for advanced R&D



Applications

Semiconductor
Nanotechnology
Photonics
Spintronics

Process Methods

Ion Beam Etching (IBE)
Reactive Ion Beam Etching (RIBE)

Materials

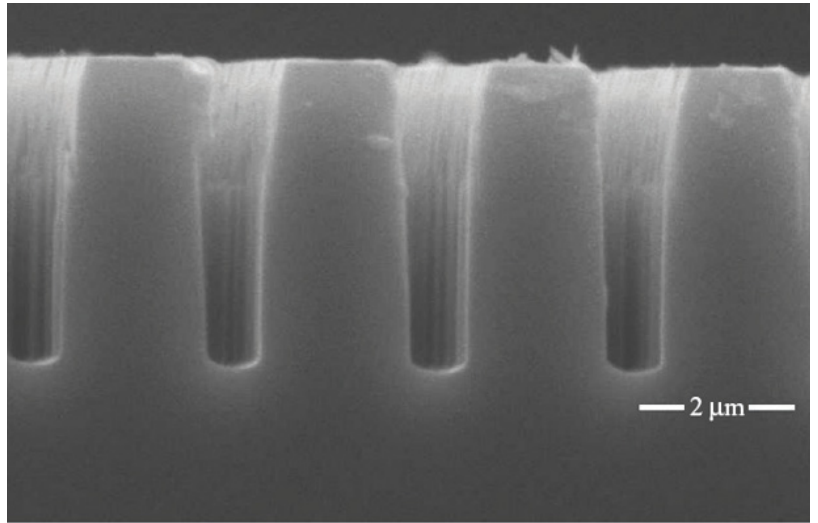
Nobel Metals
Insulators
Diamond Films
Optical Wave Guides
Superconducting Materials
Magnetic Materials

NANOQUEST PICO

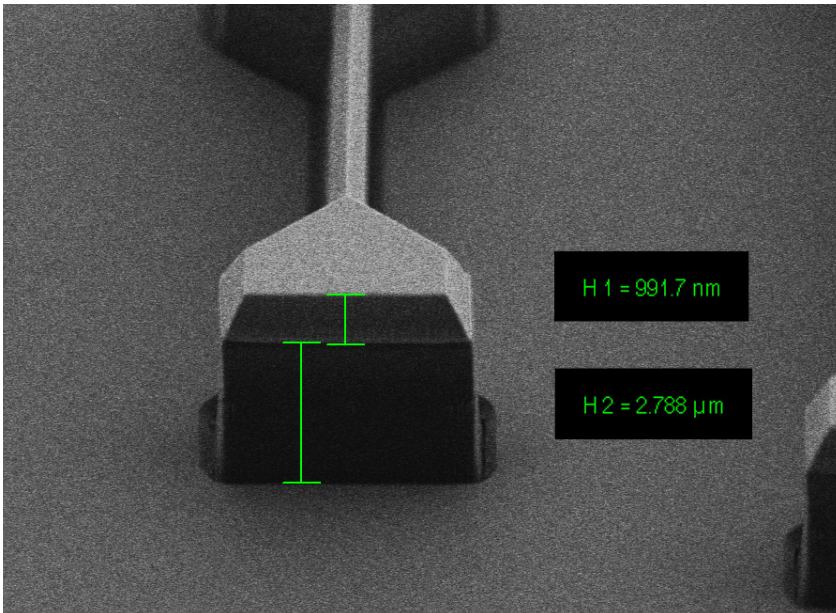
ION BEAM ETCHING

The Intlvac Nanoquest Pico is the ultimate compact ion milling platform for research and development of thin film applications such as Data Storage, Spintronics, and Semiconductors. It can be configured for a number of ion sources and gases depending on your application. With its 14" D-shaped chamber and small footprint, it can fit into any lab.

The Nanoquest Pico is designed to etch small wafers and dies and is ideal for fast etching of thin films that do not respond well to conventional chemical or dry etching processes.



SEM Cross-section of a GaAs element.



Reactive Ion Beam Etching (RIBE) of Diamond.

4cm RFICP Ion Source - 150mA beam current, 100-1200eV ion energy, low energy remote neutralizer.

8cm DC Ion Source - 250mA beam current, 100-1200eV ion energy, filament neutralizer.

EXPANSION: Customizable for load-lock, glovebox, or retrofit onto cluster tool.

SPECIFICATIONS

PUMPING: 5×10^{-6} Torr in under 10 minutes and better than 1×10^{-7} Torr ultimate pressure.

SUBSTRATE FIXTURING: Rotary table or water cooled stage with 0-10rpm rotation and variable incident angle, offset, and tilt from 0° to 270° .

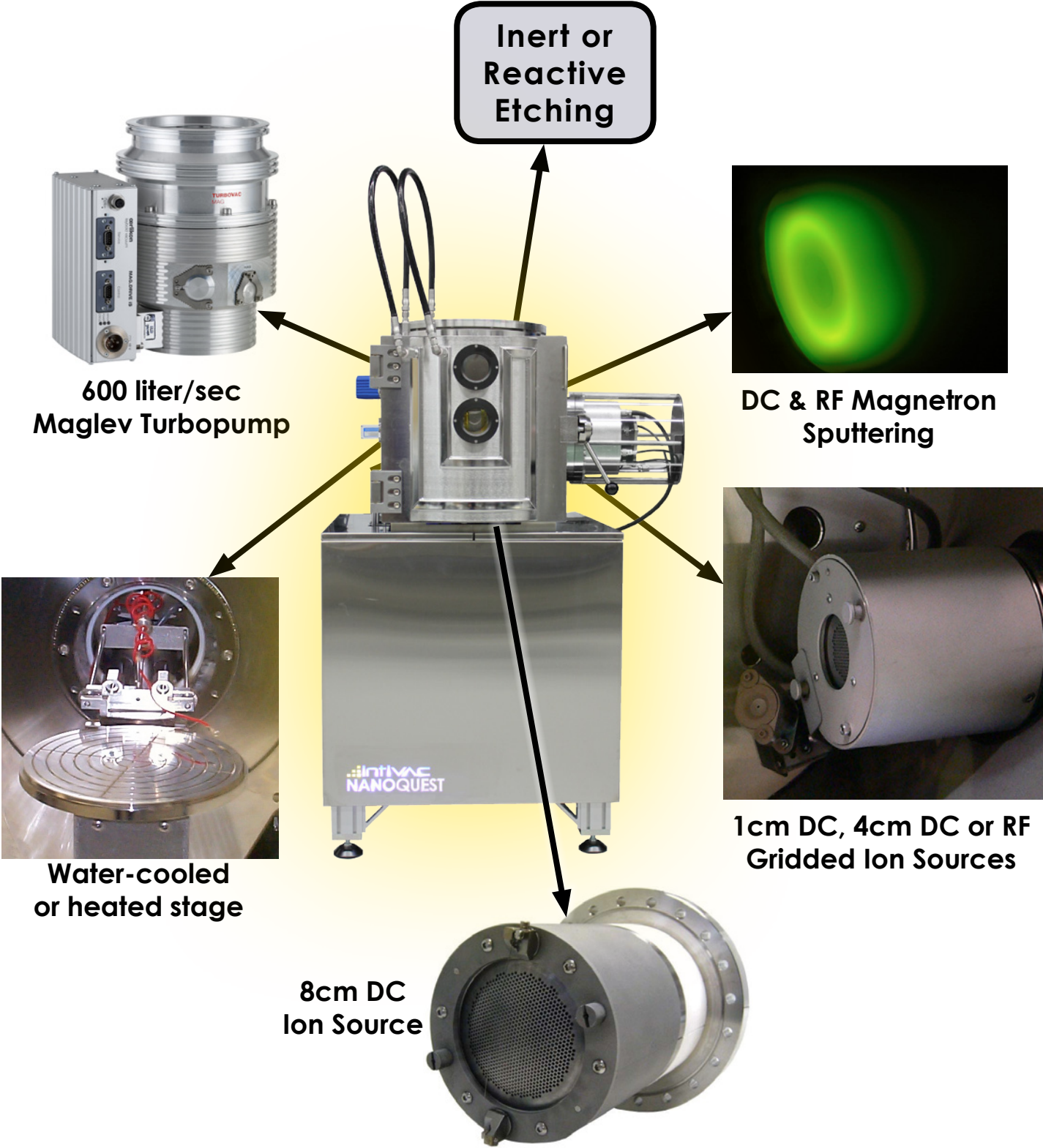
SUBSTRATE SIZE: Up to 50mm diameter

ION MILLING:

1cm DC Ion Source - 10mA beam current, up to 500eV ion energy.

4cm DC Ion Source - Up to 120mA beam current and 1200eV ion energy, filament neutralizer.

ION MILLING SYSTEM FOR R&D



PROVIDING LEADING-EDGE TECHNOLOGY SOLUTIONS

At Intlvac, we design and manufacture a wide variety of systems for Thin Film PVD and Etch. Our product line ranges from small R&D/pilot project systems to large production systems utilizing processes such as Ion Beam Etching, Sputtering, E-beam, Thermal Evaporation, Fiber-optic coating, and more!



Clockwise from left: Nanochrome™ Plasma-Enhanced Reactive Magnetron Sputtering (PARMS) / PECVD-DLC System / Nanoquest II Ion Beam & Magnetron Sputter Plus Etch.

Our line-up of Nanochrome™ Thin Film Deposition systems cover a wide range of needs starting with our Nanochrome™ PICO for R&D or Engineering quantities up to our Nanochrome P.A.R.M.S. for production of high performance interference filters. Contact INTLVAC to learn more about which tool might be suitable for you.



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