

Nanochrome™ Pico

A compact, low-cost platform for
advanced Thin Film Coating



Process Methods

Magnetron Sputtering
e-Beam Evaporation
Thermal Evaporation
Ion Assisted Deposition
Knudson Cell Evaporation

Applications

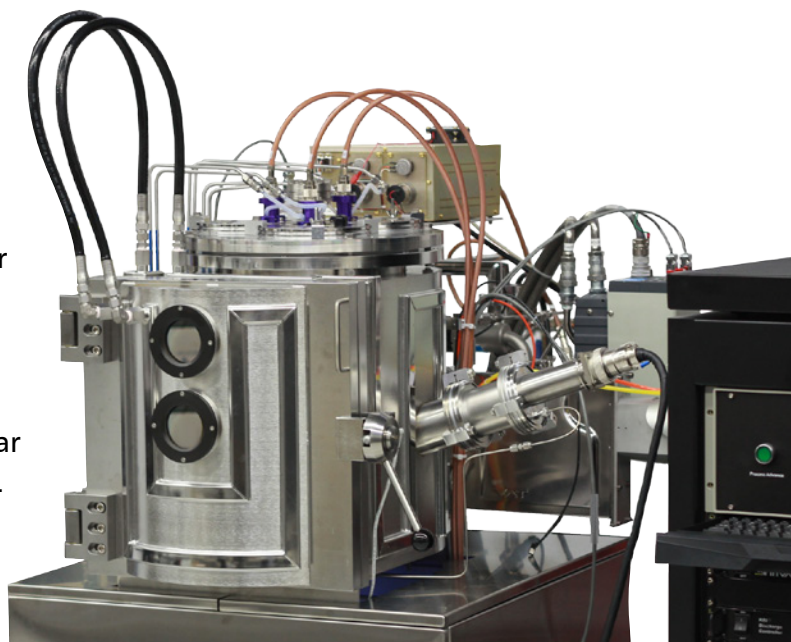
Transparent Conductive
Oxides (TCO)
Magnetic Materials
Semiconductors
Optoelectronics
Interference Filters
Barrier Layers
MEMS
OLED

NANOCHROME™ PICO

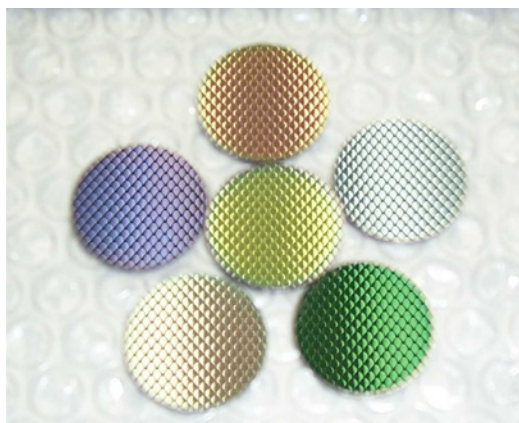
DEPOSITION CHAMBER

The Intlvac Nanochrome™ Pico is the ultimate all-purpose prototyping and R&D physical vapor deposition (PVD) platform on the market. It can be configured for a wide range of applications such as e-Beam evaporation for lift-off, optical interference filters, multi-layer barrier coatings, and transparent conductive oxides (TCOs).

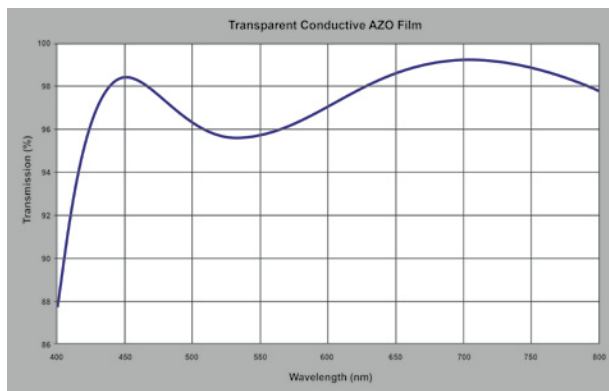
The NC Pico with its 14" D-shaped chamber and small footprint can fit into any lab and the modular design allows for easy process reconfiguration (ie. sputter up to sputter down). The NC Pico is also designed to incorporate a load-lock transfer from atmosphere or between a pair of connected Pico chambers. Useful for systems dedicated to either metal films or oxides.



Pico with RF and Dual DC Magnetron Sputtering with Ion Assist.



Produce a variety of metallic and dielectric films.



Create Transparent Conductive Oxides.

SPECIFICATIONS

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

SUBSTRATE FIXTURING: Standard rotary table or hub. Optional water cooled stage or 500°C to 800°C heated stage.

HEATING: Chamber heating up to 300°C.

E-BEAM: Up to 2 single-pocket or multi-pocket sources.

ION ASSIST: Mark I end-Hall ion source for pre-clean, ion assist, and reactive deposition.

SPUTTERING: Up to 3×3 " DC, RF, AC, or Pulsed-DC magnetrons. Configurable to sputter up or sputter down and horizontally for passivation in the Ion Milling configuration.

THERMAL EVAPORATION: Configurable with up to 6 High Voltage or Low Voltage evaporation sources.

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

UNIVERSAL THIN FILM COATING PLATFORM

DC, RF, AC, P-DC
Magnetron Sputtering

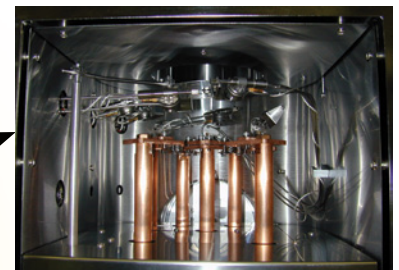


Glove Box

Quartz Crystal Control

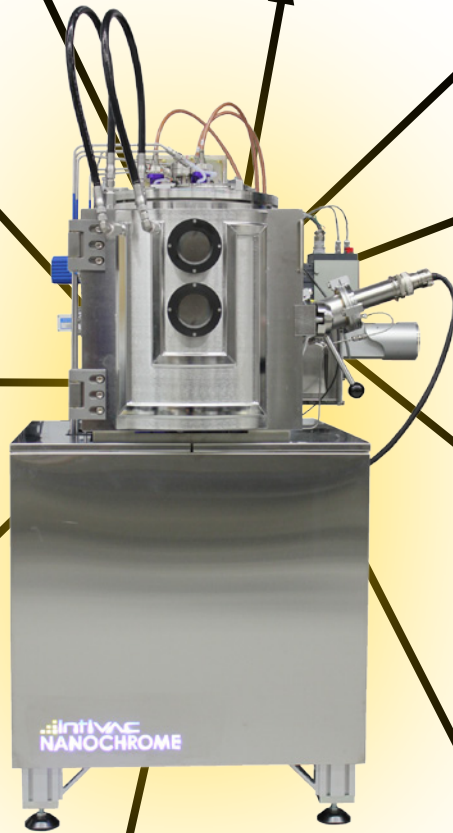


Load Lock



Thermal Evaporation

500°C or
800°C
Heated Stage

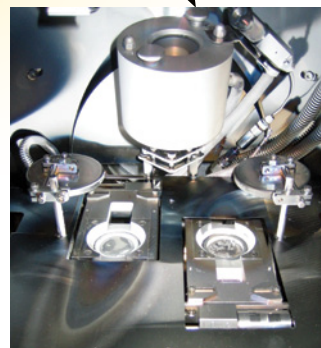


Mark I Ion Source



Knudson Cell
Evaporation

Lift-off*



e-Beam Evaporation

*Lift-off available in our extended-height Pico chamber

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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