Nanochrome I

Thin Film Deposition System

Process Methods

- Ion Beam Assisted Deposition (IBAD)
- Co-Evaporation
- Multi-layered E-beam Deposition
- Thermal Evaporation
- Planar Magnatron Sputtering

Applications

- Precision Optical Coatings
- Optical Filters
- Anti-reflective Coatings
- Semiconductors & Dielectric Materials
- Superconductors

IntlVAC THIN FILM

nanochrome thin

NANOCHROME I

INTLVAC THIN FILM's Nanochrome I system is an R&D/Pilot Physical Vapor Deposition System. A variety of configurations are possible, all tailored to your specific needs. With its small footprint, low cost, and ease of operation, the Nanochrome system is an ideal choice for your research or pilot project. Electron beam evaporation or Magnetron sputtering is used to produce thin films for: precision optical coatings, semiconductors & dielectric materials, and superconductors.

CHAMBER DESIGN

The Nanochrome I incorporates a clamshell style chamber, which gives you easy access to all parts of the chamber. It is an all stainless steel construction that is electro-polished for a clean finish and high vacuum capability. The instrument rack can be positioned on the left or right of the chamber depending on your needs. Three iewports are strategically placed to allow viewing of evaporation source and substrates.

MULTIPLE CONFIGURATIONS

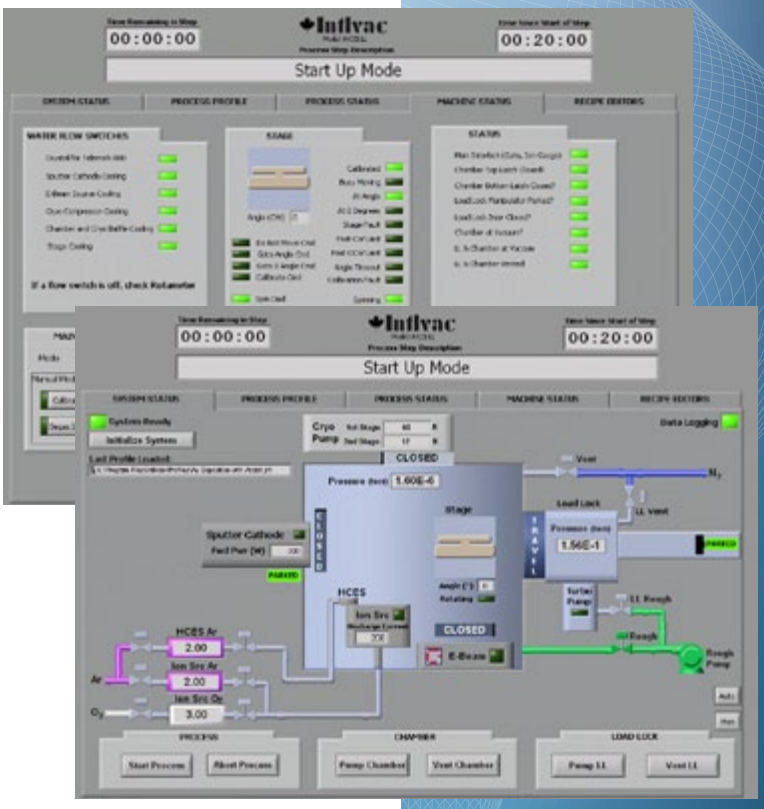
Your system can be designed for a number of different substrate holders such as: flat plate planetary, flip fixture planetary, or planetary dome. Substrate revolution and rotation ensures even coatings. Inside the Nanochrome, you'll find quartz halogen lamp eaters and fully automated shutters for total process control. The system can be configured with a variety of PVD sources such as: thermal evaporation boats, single and multi-hearth electron beam guns, and

film deposition

magnetron sputter guns.

HIGH VACUUM CAPABILITIES

The system can achieve an ultimate pressure of 5×10^{-8} Torr. High vacuum pumping standards are the CTI On-Board series or Turbo-Molecular pumps. Dry rough pumping is accomplished using an Alcatel ACP series Dry Roots for clean oil-free pumping. The system can achieve 5×10^{-6} Torr in less t han 15 minutes. Continuous pressure read out from atmosphere to high vacuum is displayed on the INTLVAC THIN FILM system screen. A variety of sensors are available depending on your requirements. Granville-Phillips "Convectron" modules are used; one in the main deposition chamber, and the other located on the cryo-pump for regeneration control. All pumping and venting is fully automated including cryo-pump regeneration, all with the touch of a button.



AUTOMATED SYSTEM CONTROL

The Nanochrome system is fully automated using INTLVAC THIN FILM's AUTOSYS Control System. The standard on all INTLVAC systems is the AUTOSYS touch screen interface. Our AUTOSYS Interface provides you with a powerful Graphical User Interface (GUI) developed using National Instruments LabVIEW.

This software package provides a simple, yet comprehensive,graphical interface to all aspects of your AUTOSYS system control. Our new AUTOSYS interface allows you to easily view, edit, save, and upload an unlimited number of recipes. The complete history of your systems runs is ready to import to your favorite spreadsheet software for analysis.

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