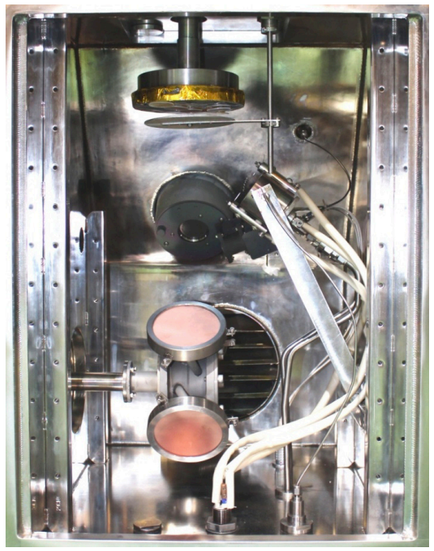
ION BEAM SPUTTERING SERIES

HHV ADVANCED Technologies

The HHV Ion Beam Sputtering (IBS) System is a precision thin-film deposition solution engineered for advanced optical and dielectric coatings, combining cutting-edge ion beam technology with robust design and precise process control to deliver exceptional film density, uniformity, and reproducibility, making it an ideal and versatile choice for research laboratories, prototyping, and small-scale production environments requiring high-quality, low-loss coatings for applications in optics, photonics, and advanced materials science.

CHAMBER CONFIGURATIONS

Dual ion beam configuration



Four target carousel

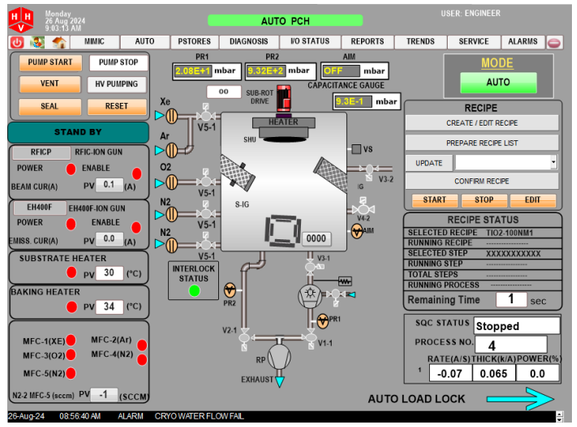
Single ion beam configuration

GLAD workholder

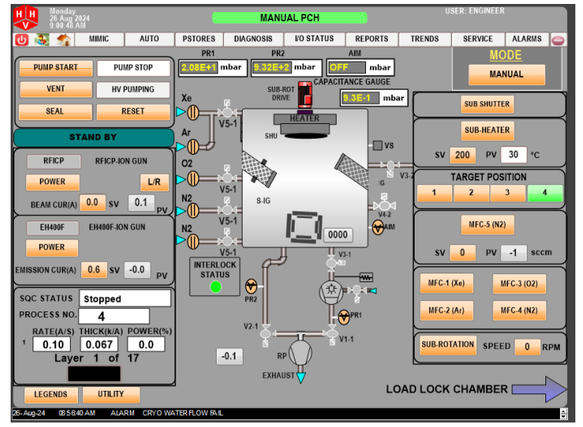
SPECIFICATIONS

CHAMBER SIZE	500 mm (W) x 600 mm (D) x 700 mm (H), custom chamber height.
HV PUMPING OPTIONS	2000 l/s Turbo, 3000 l/s Cryo Pump
PRIMARY PUMPING OPTIONS	Dry/Multistage roots
BASE PRESSURE	1 x 10^{-7} mbar
SUBSTRATE SIZE	Up to 200 mm diameter
SUBSTRATE HOLDER OPTIONS	Rotary, Watercooled, Heated, Bias and Z shift

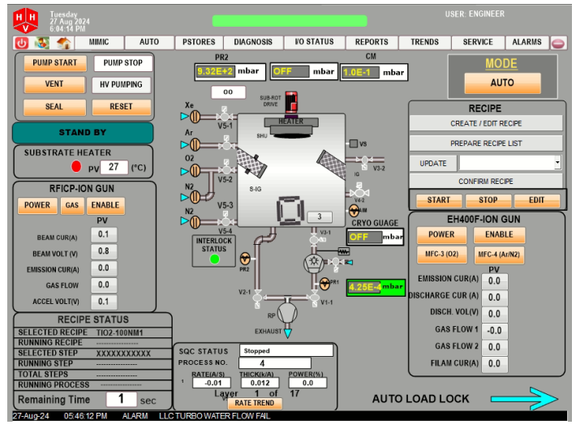
CONTROL OPTIONS



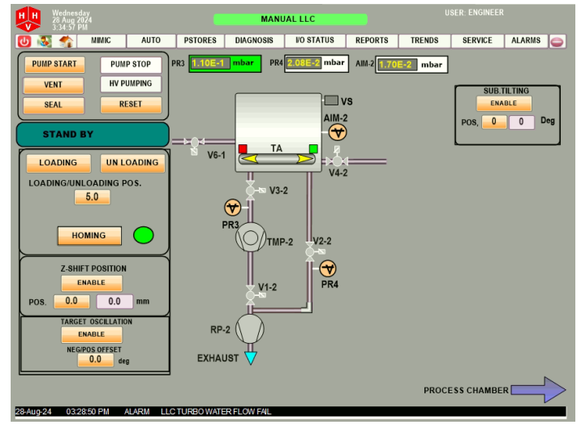
Auto mode



Manual mode



Recipe screen



Load lock screen

RESULTS

- Thickness non-uniformity of < ± 5% over Ø 100mm substrate
- Optical non-uniformity of < ± 3% over Ø 100mm substrate

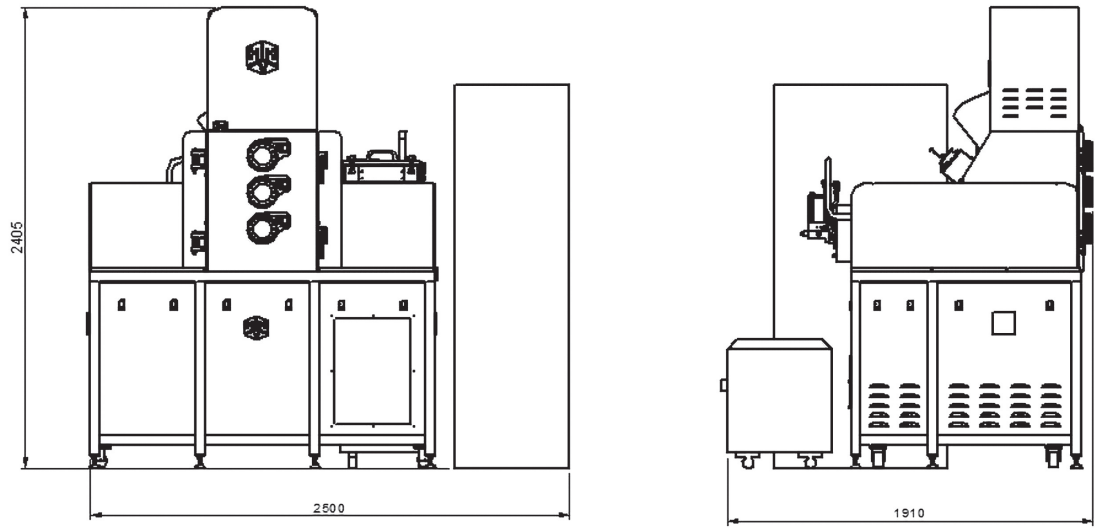
KEY FEATURES

- Single or Dual Ion Beam configuration
- Flexible substrate holders for diverse product requirements
- Capability to deposit up to four materials in a single coating cycle
- Fully automated system with user-friendly touchscreen control
- High-vacuum processing in the 10^{-5} to 10^{-4} Torr range
- Optional load lock and advanced optical thickness monitoring system (T%/R%-based)

APPLICATIONS

- Laser facet coating (including high and anti-reflection)
- Ring laser gyroscope mirrors
- Dielectric Coatings
- Beam Spiller coatings, Optical Filters
- Transparent conductive oxides
- Precision Multilayer structures
- Sensors and thin film devices

SYSTEMS LAYOUT



All dimensions in mm

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