COMPACT FRONT-LOADING MODULAR PVD SYSTEM

MiniLab 030

Front-loading modular PVD for compact labs, glovebox integration and flexible thin-film process development.

6″	30 L	3	$<5\times10^{-7}$
MAX SUBSTRATE	CHAMBER CLASS	SPUTTER SOURCES (UP TO)	BASE PRESSURE (MBAR)

Front-loading modular PVD in a compact footprint

MiniLab 030 delivers the flexibility of the MiniLab architecture in a compact, front-loading chamber. The ergonomic 304L stainless-steel chamber supports practical daily access while retaining configurable source, substrate and gas-control options for magnetron sputtering, thermal / low-temperature evaporation and e-beam deposition, with glovebox integration available.

- Front-loading 304L stainless-steel chamber for ergonomic access
- Sputtering, thermal / LTE evaporation and e-beam by configuration
- Configurable heating, rotation, Z-shift, cooling and bias
- Compact ~590 × 590 mm single-rack footprint
- Glovebox mating interface or retrofit options
- Retrofittable, future-ready baseplate architecture

Why choose the MiniLab 030

Ergonomic front loading
A front-loading chamber makes daily loading and source servicing practical in a compact lab.

Multiple deposition techniques
Magnetron sputtering, thermal / LTE evaporation and e-beam in one configurable platform.

Integration flexibility
Add glovebox, load-lock, transfer and automation capability when the application requires it.

Future-ready architecture
A retrofittable baseplate lets the platform be reconfigured as research priorities evolve.

Key features

Front-loading chamber
Ergonomic access for loading substrates and servicing sources during daily research use.

Compact modular footprint
Approx. 590 × 590 mm single-rack footprint; double-rack layouts available.

Multi-technique deposition
Magnetron sputtering, thermal, low-temperature and e-beam evaporation by configuration.

Glovebox integration
Specify a glovebox mating interface or retrofit option for protected workflows.

Configurable substrate handling
Heating, rotation, Z-shift, cooling and bias options specified by application.

Recipe-led control
Touchscreen HMI and/or Windows PC control with QCM monitoring.

Typical configurations

Start with a proven configuration, then tailor sources, gases, substrate handling and integration around your materials and workflow.

Compact sputtering

Repeatable thin-film development with multiple sputter sources.

- Up to 3 × 2″ sputter sources
- Manual or automatic MFC / throttle control
- QCM rate and thickness monitoring

Hybrid evap. + sputter

Material sets needing more than one deposition approach.

- Dual thermal evaporation options
- Low-temperature evaporation
- E-beam evaporation by configuration

Glovebox-integrated

Sensitive handling and protected transfer workflows.

- Glovebox mating interface / retrofit
- Compact front-loading chamber
- For OLED, OPV and sensitive films

Technical specifications

Parameter	Specification
System type	Compact modular PVD / vacuum deposition
Chamber style	Front-loading vacuum chamber
Chamber material	304L stainless steel
Chamber volume	Approx. 30 L class
Footprint	Approx. 590 × 590 mm single rack
Base pressure	$<5\times10^{-7}$ mbar
Pumping	Turbo + rotary or scroll backing
Substrate capacity	Up to 6″ diameter

Parameter	Specification
Source capacity	Up to 3 sputter or multiple evaporation
Deposition methods	Sputter, thermal, LTE, e-beam
Materials	Metals, dielectrics and organics
Substrate options	Heating, rotation, Z-shift, cooling, bias
Process monitoring	QCM thickness / rate
Control system	Touchscreen HMI and/or Windows PC
Glovebox integration	Mating interface / retrofit option
Warranty	2 years

MiniLab platforms are configurable; exact specifications depend on the final build and are confirmed at quotation.

Selected publications citing the MiniLab range

- High-efficiency semitransparent solar cells from magnetron-sputtered Sb_2S_3 films — Luleå University of Technology
- Direct single-molecule detection with a low-cost smartphone microscope — University of Fribourg
- Thin-film Bragg reflector for monolithic GaAs devices — Published study
- Transmissive hybrid metal–dielectric metasurface bandpass filters for the mid-IR — University of Cambridge
- Cadmium- and zinc-doped p-type Sb_2Se_3 single crystals and solar cells — University of Liverpool
- Insights into the self-inhibiting photoreduction of Cu_2O — University of Antwerp