SMALL BATCH PVD SYSTEM

Small Batch Coater

Scalable thin-film deposition for startups, SMEs and pilot process development.

11″	Pilot	Yes	<5×10⁻⁷
SUBSTRATE CLASS	R&D TO PILOT	LOAD-LOCK OPTION	BASE PRESSURE (MBAR)

Scale from R&D to repeatable small-batch coating

The Small Batch Coater positions MiniLab capability for teams moving from R&D into repeatable small-batch and pilot deposition — without the cost and complexity of full production tools. Compact and modular, it delivers research-grade films on substrates up to 11″ with thermal, e-beam and sputtering options, recipe-driven automation and load-lock throughput in a cleanroom-ready platform.

- Scale from R&D to pilot process development
- Load-lock and automation options to improve throughput
- Substrates up to 11″ with good film uniformity
- Metals, dielectrics and organics by configuration
- Recipe-led operation opens the system to new users
- Cleanroom-ready without production-scale complexity

Why choose the Small Batch Coater

Affordable scale-up
Entry-level pricing and a floor-standing footprint bridge research and small-batch production.

Versatile in one system
Metals, dielectrics and organics via thermal, e-beam and sputtering methods.

Throughput options
Load-lock and dual-chamber options speed changeovers and preserve film quality.

Repeatable automation
Recipe-driven operation gives consistent multi-layer runs at the touch of a button.

Key features

Modular platform
Configure sources, stages and monitoring around the coating workflow.

Multi-technique deposition
Thermal evaporation, e-beam and magnetron sputtering by configuration.

Load-lock throughput
Rapid sample changeovers without breaking vacuum, preserving film quality.

Automatic mask & substrate
Position up to five masks / substrates for repeatable small-batch runs.

Recipe-driven automation
Repeatable multi-layer processes accessible to less experienced users.

Cleanroom-ready
Research-grade uniformity for semiconductors, optics and advanced tech.

Typical configurations

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

Startup & SME pilot

Repeatable capability before full production tooling.

- Small-batch throughput
- Modular source choices
- Cost-conscious scale-up

Load-lock productivity

Faster changeovers and better vacuum integrity.

- Load-lock option
- Substrate cleaning option
- Reduced chamber exposure

Mask & substrate automation

Repeatable runs with lower operator burden.

- Automatic mask control
- Repeatable positioning
- Recipe-led operation

Technical specifications

Parameter	Specification
System type	Small-batch modular PVD
Processes	Thermal, e-beam & sputtering by config
Base pressure	$<5\times10^{-7}$ mbar
Pumping	Turbomolecular or cryo
Substrate scale	Up to 11″ class

Parameter	Specification
Automation	Recipe-driven; optional mask / substrate automation
Throughput options	Load-lock, dual chamber
Materials	Metals, dielectrics and organics
Control	Touchscreen HMI / PC
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

- Thin-film Bragg reflector for monolithic GaAs devices — Published study
- HexAuFoil: cryo-EM with sub-1 Å specimen movement — MRC Laboratory of Molecular Biology
- Direct single-molecule detection with a low-cost smartphone microscope — University of Fribourg
- Cadmium- and zinc-doped p-type Sb_2Se_3 single crystals and solar cells — University of Liverpool
- High-efficiency semitransparent solar cells from sputtered Sb_2S_3 films — Luleå University of Technology
- Insights into the self-inhibiting photoreduction of Cu_2O — University of Antwerp