



WIDE-AREA BENCHTOP PVD SYSTEM

nanoPVD-S10A-WA

Compact wide-area RF/DC magnetron sputtering for larger research substrates and coating areas — up to 8" diameter.

8"

MAX SUBSTRATE

$<5 \times 10^{-7}$

BASE PRESSURE (MBAR)

2

MAGNETRON SOURCES

RF/DC

SPUTTERING

Wide-area sputtering in a compact benchtop platform

The nanoPVD-S10A-WA extends the compact nanoPVD sputtering workflow to substrates up to 8" (200 mm). Magnetron sources oriented upward toward rotating substrate platens, combined with exposure plates, give even coating across larger areas where tight uniformity is not critical. Water-cooled magnetrons accept industry-standard 2" targets, and turbomolecular pumping, recipe-based touchscreen operation and a compact benchtop design complete the platform.

- Wide-area coating on substrates up to 8"
- Configurable source, gas and pressure control
- Turbomolecular high-vacuum pumping
- RF/DC compatibility across a broad material range
- Recipe-driven operation via touchscreen HMI
- Compact footprint for labs and cleanrooms

Why choose the nanoPVD-S10A-WA

- ✓ **Faster wide-area coating cycles**
Bring larger-substrate PVD experiments closer to the team and iterate geometry, recipes and film properties without waiting for shared tools.
- ✓ **Ease of use for mixed teams**
Touchscreen operation and recipe-led workflows support day-to-day use across changing research projects.
- ✓ **Wide-area research flexibility**
Extends compact nanoPVD workflows where standard benchtop coverage is too restrictive, retaining configurable RF/DC options.
- ✓ **Lower operational friction**
Add practical wide-area sputtering in a lab or cleanroom without the burden of production-scale equipment.

Key features

- 📺 **Compact benchtop design**
Wide-area PVD capability in a space-efficient format for labs, teaching spaces and cleanrooms.
- 🔗 **RF/DC magnetron sputtering**
DC for conductive targets; RF for oxides, nitrides and other non-conductive materials.
- 🔄 **High-vacuum performance**
Turbomolecular pumping for low-contamination operation below 5×10^{-7} mbar.
- ⊕ **Wide-area coverage to 8"**
Upward sources, rotating platens and exposure plates give even coating across large substrates.
- 📺 **Recipe-based touchscreen control**
7" HMI with fully automatic operation and multiple saved process recipes.
- 🔧 **Configurable sources & gas**
Up to two water-cooled magnetrons for 2" targets, with co-deposition and reactive options.

Typical configurations

Start with a proven configuration, then tailor source, gas, stage and monitoring options around your materials and target films.

Wide-area metals

Contact metals, electrodes and seed layers where coating area matters.

- RF/DC sputtering process
- Larger coverage than standard systems
- For device and coating R&D

TCO / dielectrics

Transparent conductive oxides and insulating films needing controlled conditions.

- RF power option
- Oxygen process-gas options
- For PV, sensors, optoelectronics

Functional coatings

Exploratory workflows where compact footprint and larger area both matter.

- Research-friendly system scale
- Recipe-led process access
- Application-specific build

Technical specifications

Parameter	Specification
System type	Wide-area benchtop PVD — DC & RF sputtering
Base pressure	$<5 \times 10^{-7}$ mbar (turbo-pumped)
Pressure control	Capacitance manometer; optional MFC closed-loop
Process gas inlets	Up to 3 MFC-controlled gases
Sputter sources	Up to 2 × 2" water-cooled magnetrons
Target size	2"
Reactive sputtering	Yes; up to 3 MFCs, optional closed-loop
Magnetic targets	High-strength magnet pack available

Parameter	Specification
Max substrate size	8" (200 mm), wide-area
Substrate heating	Not available
Substrate cooling	Not available
Substrate bias	RF & DC bias available as an option
Load lock	Not available as standard
Glovebox compatible	No
Process control	Industrial PLC + 7" HMI touchscreen
Recipe control	Recipe save / load standard
Warranty	2 years

Exact specifications depend on final configuration and are confirmed at quotation.

Selected publications citing the nanoPVD range

- Designing MoO₃ and hard-carbon architecture for stable Li-ion anodes — Northumbria University
- HMR-based optical gas detection with CuO and ZnO coatings — Universidad Pública de Navarra
- In situ monitoring of aptamer-protein binding on a ZnO surface — University of Liverpool
- Influence of DC sputtering power on the surface evolution of Ti thin films — University of Johannesburg
- Evolution of TiAlSi thin-film coatings under varying target power — Northumbria University
- sp²-rich dendrite-like carbon nanowalls for nitroaromatic sensing — Gdańsk University of Technology

MOORFIELD
NANOTECHNOLOGY

A Judges Scientific company

Research-focused thin-film deposition, plasma etch and anneal systems for advanced materials and process development.

Web moorfield.co.uk
Email sales@moorfield.co.uk

© 2026 Moorfield Nanotechnology
nanoPVD-S10A-WA Datasheet | Page 2 of 2