

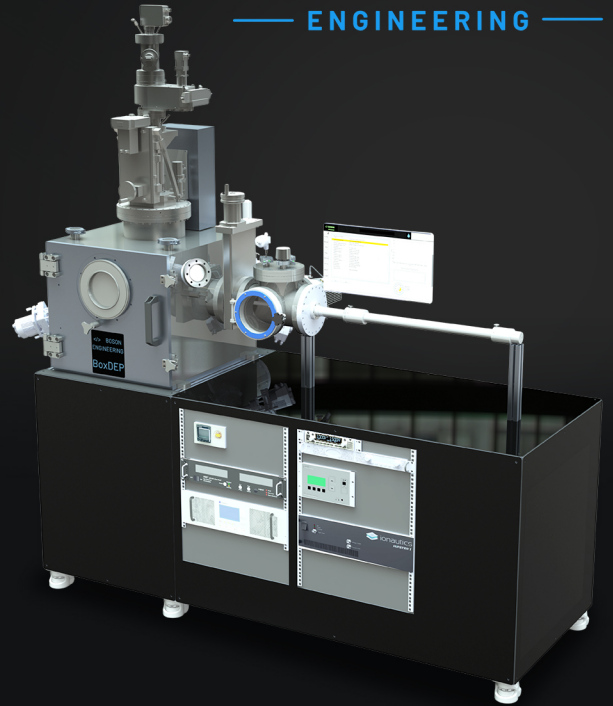
# boxDEP



## ULTIMATE THIN FILM DEPOSITION PLATFORM FOR DEMANDING R&D WORK

The boxDEP Physical Vapour Deposition (PVD) system is our ultimate R&D platform due to the flexibility of the substrate sizes, throughput & sources available.

Built for larger substrates, higher throughput, flexibility and ease of use, it is the platform of choice for R&D & Pilot production applications.



### Why boxDEP?



Larger chamber with maximum flexibility



High-vacuum performance with rapid pump-down



Manual or fully automated operation



Intuitive software with 22" touchscreen control system



Engineered for minimal outgassing & stability



Designed & built in Australia with 2-year warranty

### Key Applications

- ✓ Quantum & Photonic Devices
- ✓ Wearable electronics
- ✓ Photovoltaics & perovskite solar cells
- ✓ OLEDs, OPVs & OFETs
- ✓ Thin-film research & nanofabrication

## DESIGNED FOR *innovation*

Delivering reliable, high-quality thin films for cutting-edge technologies.



**GET IN TOUCH WITH US:**

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# TECHNICAL SPECIFICATIONS

|                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Substrate Size &amp; Uniformity</b> <ul style="list-style-type: none"> <li>• 12" (250mm) Diameter max – Multiple wafers optional</li> <li>• +/- 5% uniformity</li> </ul>                                                                                                                            | <b>Mass Flow Controllers (Sputtering)</b> <ul style="list-style-type: none"> <li>• Ar plus up to 7x reactive gases (O2, N2..etc) for sputtering &amp; IBAD</li> </ul>                                                                             |
| <b>Base Pressure</b> <ul style="list-style-type: none"> <li>• <math>&lt;5 \times 10^{-7}</math> mbar (<math>3.75 \times 10^{-7}</math> Torr)</li> </ul>                                                                                                                                                | <b>Deposition Control</b> <ul style="list-style-type: none"> <li>• Quartz Crystal monitor for either film monitoring or thickness control with PID loop</li> <li>• Optical Emission Spectroscopy</li> </ul>                                       |
| <b>Deposition Source Types</b> <ul style="list-style-type: none"> <li>• High Temperature Thermal Boat/Crucibles</li> <li>• Low Temperature Organics</li> <li>• 2"/3"/4" Magnetron Sputtering (DC, RF, Pulsed DC, HiPIMS)</li> <li>• E-Beam Evaporation (multi-pocket)</li> <li>• Ion Source</li> </ul> | <b>Substrate Heating/Cooling</b> <ul style="list-style-type: none"> <li>• Heating to 1000°C</li> <li>• Cooling to room temperature or optional -5°C</li> </ul>                                                                                    |
| <b>Typical Materials</b> <ul style="list-style-type: none"> <li>• High Temperature Thermal = Au, Ag, Cu, Cr, Al...etc</li> <li>• Organics = Small molecules ALQ3, C60...etc</li> <li>• Sputtering = Metals, Oxides or Nitrides</li> <li>• E-Beam = Ti, Pt, W, SiO2...etc</li> </ul>                    | <b>Vacuum Pumping</b> <ul style="list-style-type: none"> <li>• 1450l/s Turbomolecular pump with market leading pumping speeds for light gases or Cryogenic pump options</li> <li>• Optional oil sealed or oil free scroll backing pump</li> </ul> |
| <b>Warranty</b> <ul style="list-style-type: none"> <li>• 2 Years</li> </ul>                                                                                                                                                                                                                            | <b>Country of Manufacture</b> <ul style="list-style-type: none"> <li>• Australia</li> </ul>                                                                                                                                                       |

## System Features



Optional Load-lock available



Recipe control for accurate & repeatable films



Automatic film thickness and pressure control options



Comprehensive safety features

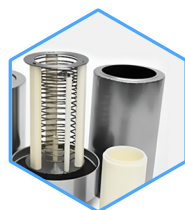
## Built for Performance & Reliability

All systems are engineered & assembled in Sydney, Australia to AS3000 electrical & safety standards using industrial PLC controllers, ensuring quality, durability & safety.

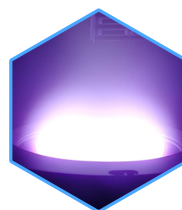
## Deposition Techniques



High Temp Thermal



Low Temp Organic



Sputtering



E-Beam