



# EcoCoat

## Silane Monolayer Vapor Phase Deposition System with In-situ Plasma

Lithography  
Anti-stiction films  
Microarrays, Microfluidics  
AR/VR adhesion layers

With its configurable large capacity chamber, the manual load EcoCoat Silane Vapor Phase Deposition System is designed to meet your process development and volume production requirements. Three independent vapor delivery lines, excellent thermal uniformity and in-situ gas plasma give the system process flexibility while maintaining excellent silane monolayer deposition uniformity for wafers, glass slides or thermoplastic surfaces.

- Surface modification to promote/prevent adhesion
- Anti-stiction films for NIL, MEMS, AR/VR
- Covalent bonding of biomolecules to glass, plastic, or silicon
- Plasma clean and activate surfaces, control hydrophobicity



### ADVANCED AUTOMATION OPTIONS FOR WAFER LOAD/UNLOAD

- Two load port EFEM and large capacity chamber fits 50 200/300 mm wafers
- Coating temperature up to 250°C
- Up to five independent vapor lines with MFC control



The flexible chemical vapor delivery system is compatible with a wide range of organosilanes. Small test bottles or large ampoules can be used allowing transition from research to high-volume manufacturing at low cost. Three independent vapor delivery lines accommodate multiple precursors or water to enable surface hydration for optimal silane-substrate bonding. Integrated plasma functionality is achieved through three independent MFC-controlled process gas inputs. Flexible chamber shelving/electrodes allow a wide variety of substrate form factors to be used from wafers (200/300 mm) to glass slides and 3D thermoplastic devices.

**Contact Us:** We offer process demonstrations. If you would like to submit samples, please call us. We can run your samples and provide a detailed process report.

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## SPECIFICATIONS

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#### PERFORMANCE

RF Plasma Frequency / Power	40 kHz, 100-1000 Watts
Operation Temperature	Ambient to 205°C
Temperature Uniformity	± 1.5% after stabilization
Chamber Pressure Control	100 mT - 100 T
Chemical Usage	0.1 – 3.0 mL (typical process)
Chemical Dispense Volume	Increments of 0.1 mL
Number of Chemicals	Up to three
Vent Gas Consumption	10 SCF run average

#### HARDWARE

Chamber Material	316L stainless steel
Chamber Size	40.6 cm (W) x 46 cm (D) x 40.6 cm (H) (16"x 18"x 16")
Overall System Dimensions	116 cm (W) x 98.4 cm (D) x 112.73 cm (H) (46" x 38.75" x 44.38") Light tower adds 30 cm
Loading	12 removable stainless steel shelves allow flexible substrate loading and multiple plasma operating modes including active, downstream, RIE and ion-trap
Wafer Capacity	8 cassettes 100 mm - 150 mm wafers
	2 cassettes 200 mm wafers
	1 cassette 300 mm wafers
Slide Capacity	Up to 2,000 with custom racks
Vapor Delivery Lines	Three, with independent process and thermal control

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