



*Integrated  
Surface  
Technologies*

## RPX-540 Vapor Deposition System



- **Vapor Deposition Technology**
- **Configurable Process Kit**
- **Reliable Design**
- **Engineered for Safety**
- **High Capacity**
- **Small Footprint**
- **Low Cost**

The RPX-540™ from Integrated Surface Technologies (IST) delivers the lowest cost surface modification treatment system in the industry. The system deposits customized nano-composite structures with a hybrid ALD (Atomic Layer Deposition) /CVD (Chemical Vapor Deposition) process. Up to 5 precursors can be sequentially applied to create a variety of specialty films for each specific application. Vapors from heated precursors are precisely controlled and uniquely metered by IST's Vaporrix injector. Control of the chemistry, temperature, injection timing, precursor stream, and chemical stream overlaps, allow for the creation of advanced nano-composite coatings.

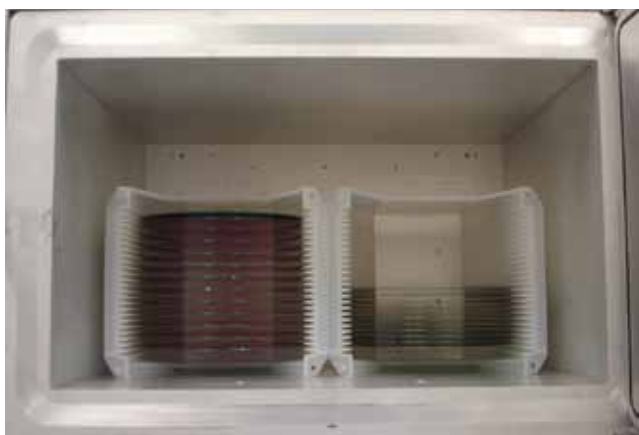
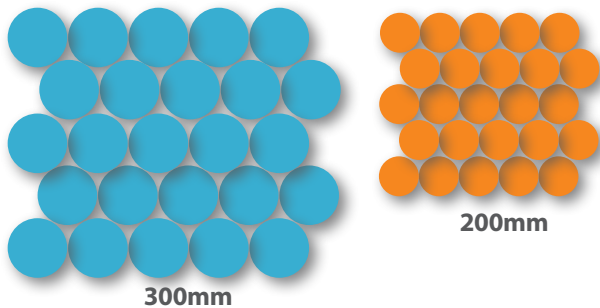
The RPX-540 provides highly repeatable and guaranteed manufacturable processes for production. Positive process control ensures safety and quality during operations. Environmental moisture is removed in the temperature controlled, sub-atmospheric chamber, to eliminate undesirable process effects. The entire process is closed loop and is monitored by a National Instruments Labview Controller. With IST's unique chemical cartridge design, no productivity is lost due to chemical replacement or conditioning. This allows the user to focus on manufacturing his products and not worry about chemical management or equipment maintenance.

## Large Capacity Chamber

The RPX-540 has the capacity to process large substrates, multiple 12"x16" printed circuit boards, 200mm wafer cassettes, or one 300mm wafer cassette. The surface modification chemistries can treat both sides of the product in the same process run.



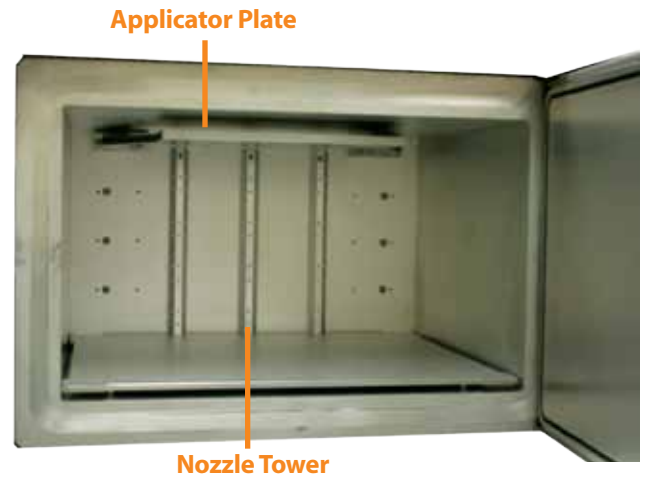
300mm versus 200mm Batch Area(one side)



Two 200mm Cassettes

## Configurable Process Kit

Vapors can be introduced in a variety of ways to optimize the coating process for a specific device geometry.



The standard configuration uses an applicator plate to distribute vapors into the chamber in a directional flow. Bifunctional precursors, which generate self-limiting surface reactions are introduced by nozzles for isotropic diffusion. The RPX-540 can fit up to 4 applicator plates, for either single or double sided flow, depending on the custom application.

### Low Cost, High Productivity Design

Capacity per Batch:	cm2	in2
Printed Circuit Boards	6,500	1,000
300mm Wafers (25 ea)	17,672	2,739
200mm Wafers (50 ea)	15,708	2,435

Dimensions	cm2	in2
Tray area (36 x 46 cm) (14" x 18")	1,646	252
Chamber Internal Width	51	20
Chamber Internal Depth	41	16
Chamber Internal Height	30	12

### Technical Specs

Weight	360 kg/ 800 lbs
System Frontal Width	66 cm/ 26"
System Depth	92 cm/ 36"
System Height	168 cm/ 66"

Facilities:	
CDA	80 PSI
N2	80 PSI / 10 PSI
Exhaust	6" line, 1/4" drop
Power	115 VAC
Running Current Draw	7 Amps
Peak Current Draw	23 Amps

All chemistries are self contained in the RPX-540's gas cabinet.



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