

## SprayCVD-050

Low cost 2" Spray CVD system  
In-situ annealing capability



### APPLICATIONS

- Solar Cells:  $\text{SnO}_2$ ,  $\text{ZnO}$ ,  $\text{TiO}_2$ ,  $\text{In}_2\text{O}_3$ ,...
- Electro-optic coatings:  $\text{NiO}$ ,  $\text{Co}_3\text{O}_4$ ,...
- Ferroelectric memories:  $\text{SrTiO}_3$ ,...
- Insulating barrier layers:  $\text{MgO}$ ,...
- Catalytically active coatings:  $\text{Co}_3\text{O}_4$ ,  $\text{NiCo}_2\text{O}_4$ ,...
- Semiconductors:  $\text{Nb}_2\text{O}_5$ ,...
- Superconductors: YBCO,...
- Electrochromic coatings:  $\text{WO}_3$ ,...
- Solid oxide fuel cell (SOFC):  $\text{ZrO}_2$ , YSZ, GCO,...

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### SPECIFICATIONS

The AnnealSys SprayCVD-050 is a 2-inch Spray CVD reactor especially developed to meet the requirements of research and development units.

The infrared lamp heating system provides in-situ rapid thermal annealing process capability inside the deposition chamber.

The system can be equipped with Kemstream Atokit for the precursor atomization and spray generation.

The system has vacuum capability and gas mixing capability.

The Spray CVD tool is fully computer controlled for easy utilization and data logging. The software is Windows compatible.

### PERFORMANCE CHARACTERISTICS

- Maximum substrate size: 2"x2"
- Temperature range: RT to 1200°C
- Gas lines with mass flow controllers
- Vacuum range: Atmosphere to  $10^{-3}$  Torr

## SprayCVD-050

### General features

Maximum substrate diameter	2-inch
Process chamber	Quartz tube with stainless steel flanges
Heating	Halogen lamps Optional top or/and bottom source heating
Temperature control	Thermocouple temperature control Fast digital PID temperature controller
Vacuum, gas and liquid	Purge gas line with needle valve Up to 3 process gas lines with mass flow controllers Kemstream Atokit for precursor atomization Vacuum valve and vacuum gauge Optional vacuum rotary pump Optional pressure control with throttle valve
Control	Full PC control
Facilities	Electricity: 3x400V+N+Gr or 3x220V+Gr, 50/60 Hz Power: 15 kW Water: 2 to 6 bars, pressure drop 1 bar, 8 l/mn Compressed air: 6 bars (valve actuation, low consumption) Process gas fittings: Swagelok ¼
Dimensions and weight	Width: 700 mm Depth: 700 mm Height: 700 mm Weight: 90 kg

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