The highest quality ALD systems for demanding applications.

PICOSUN®
R-200 STANDARD

The PICOSUN® R-200 Standard ALD systems are suitable for R&D on dozens of applications such as IC components, MEMS devices, displays, LEDs, lasers, and 3D objects such as lenses, optics, jewelry, coins, and medical implants.

The PICOSUN® R-200 Standard ALD system is the market leader in thermal ALD research tools. It has become the tool of choice both for companies and research institutes driven by innovation.

The agile design enables the highest quality ALD film depositions together with the ultimate flexibility of the system to fit future needs and applications. The patented hot-wall design with fully separate inlets and instrumentation enables particle-free processing adaptable on a wide range of materials on wafers, 3D objects, and all nanoscale features. Excellent uniformity even on the most challenging through-porous, ultra-high aspect ratio, and nanoparticle samples can be achieved thanks to our proprietary Picoflow™ technology. The PICOSUN® R-200 Standard systems are equipped with highly functional and easily exchangeable precursor sources for liquid, gaseous, and solid chemicals. Integration with glove boxes, powder chambers, and various in situ analytics systems enable efficient and flexible research with good results, no matter what your research area is now, or what it might become later on.

TECHNICAL FEATURES

Typical substrate size and type

- 50-200 mm single wafers
- 156 mm x 156 mm solar Si wafers
- 3D objects
- Powders and particles
- Mini-batch
- Porous, through-porous, and high aspect ratio (up to 1:2500)

Processing temperature

- 50 – 500°C

Typical processes

- Al_2O_3, TiO_2, SiO_2, Ta_2O_5, HfO_2, ZnO, ZrO_2, TiN, AlN, metals such as Pt or Ir

Substrate loading

- Manual loading with a pneumatic lift
- Load lock with magnetic manipulator arm

Precursors

- Liquid, solid, gas, ozone
- Up to 6 sources with 4 separate inlets

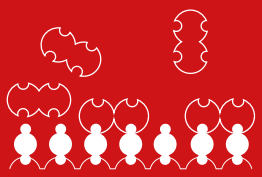
Options

- Picoflow™ diffusion enhancer, RGA, N_2 generator, gas scrubber, customized designs, glove box compatibility for inert loading

THE PRINCIPLE OF ALD

Introduction of molecules containing element A.

Adsorption of the molecules on the surface.



Introduction of molecules containing element B and reaction with element A on the surface.

Completion of one monolayer of compound AB.

Repeat cycle till desired film thickness is reached.

picosun

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