

Center for Nanotechnology Education and Utilization

Low Pressure Chemical Vapor Deposition System (LPCVD)

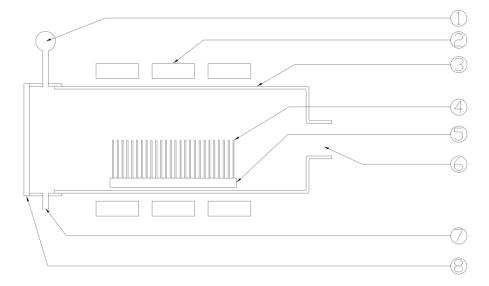


How It Works:

A gas or vapor precursor is transformed into solids such as thin films, powders, or various structured materials inside a reactor. Temperature and pressure are controlled to tailor the deposition results.

Material / Applications:

Chemical vapor deposition (CVD) is a versatile technique often used in the semiconductor industry for deposition of material on various substrates such as silicon nitride. It has also been used to produce carbon fibers, filaments, and tubular carbon materials for many years. Recently, CVD has been used to synthesize a variety of nanostructured materials, including carbon nanotubes and nanowires composed of various materials.



- L Pressure sensor
- 2 3-zone furnace
- 3 Quartz tube
- 4 Wafers
- 5 Boat
- 6 Pump
- 7 Gas inlet
- 8 Load door

Automate LPCVD

Hydride Gases: Diborane, Silane

Other Gases: Nitrogen, Hydrogen, Argon,

Methane, Ethylene

Tube Dimensions: 25 mm diameter x 200 mm single

zone reaction chamber

Vacuum Base Pressure: 50 mTorr

Pump Description: Rotary Vacuum Pump