

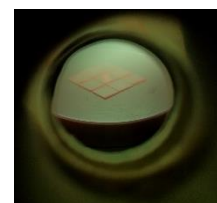
5kW Microwave Plasma CVD System
SDS5250M/5250S/6350

De-facto Standard Diamond Deposition System for R&D

SDS5250 series is a high-performance, high-reliability and high-repeatability diamond deposition system capable of high growth rates for poly and single crystal film processes. With its unique all metal cylindrical chamber design, high-power density plasma can be achieved with high stability for long term processes. This system is widely proven worldwide for wide range of thin and thick film diamond processes.

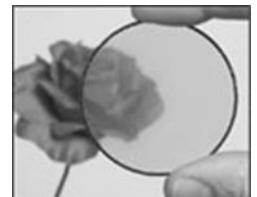
Features

- Water cooled metal chamber with high vacuum integrity
- Motorized water cooled stage for high density plasma
- Stable process at High Power Density Plasma (5kW)
- Si contamination free
- Extremely stable plasma for long term growth
- User-friendly GUI (SDS6350)
- SDS6350 Computer controlled recipe-driven; SDS5250S semi-automatic; SDS5250M manual



Applications

- Quantum devices and isotopically controlled diamond synthesis
- Electronic grade material
- Power devices and electronic components
- Sensors, MEMS
- Optical Devices
- Electron emission devices
- Optical windows/lenses
- Electrochemical Electrodes
- Gem (Lab-grown-diamond), etc.



Main Specifications

● System

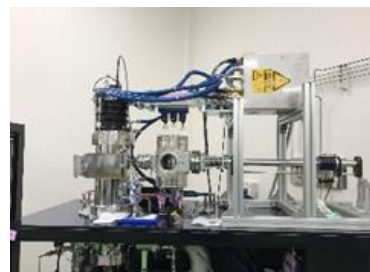
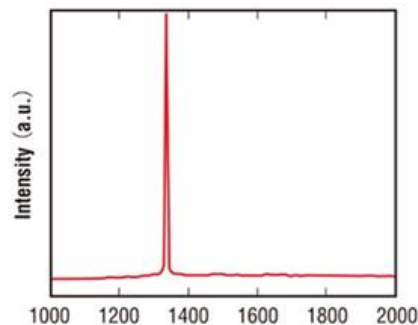
Microwave Power	5kW (2.45GHz)
Reactor Chamber Material	Stainless Steel
Stage Type	Water-cooled
Standard Substrate Holder	50mm (2inch) ϕ
Standard Gas Channel (up to 6 channels)	3 channels (H ₂ /CH ₄ /O ₂)
Operating Pressure Range	10-220Torr
Vacuum Leak Integrity (by He leak detector)	<1 x 10 ⁻⁹ Torr l/sec
Vacuum Pump Type (standard)	Rotary Vacuum Pump (17.0/20.4 m ³ /h (50/60Hz))
System Dimension (approx.)	Reactor Chamber: 1600mm (W) x 700mm (D) x 2050mm (H) Control Rack: 570mm (W) x 850mm (D) x 1790mm (H)
System Weight (approx.)	Reactor Chamber: 300kg Control Rack: 400kg

Available Configurations

- SDS5250M — 5kW, water-cooled stage, full manual control
- SDS5250S — 5kW, water-cooled stage, touch-panel GUI with manual control
- SDS6350 — 5kW, water-cooled stage, computer recipe operation with data logging

Available Options

- MFC Kit (up to 6 channels)
- TMP (Turbo Molecular Pump) Kit
- Load-Lock Sample Loading System
- Auto Temperature Control Software for SDS6350
- Dual Wavelength IR Pyrometer (475-1475°C)
- Disappearing Filament Optical Pyrometer (850-1750°C)
- Optical Emission Spectrometer
- Dry Pump



Load-Lock Sample Loading Systems

The World's Premier Provider of Diamond Synthesis Solutions



For more information, visit our web site
<http://sekiamond.com/>