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- Plasma Etch & Deposition
- Atomic Layer Deposition
- Molecular Beam Epitaxy
- Ion Beam Etch & Deposition

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TEOS

Delivery module enabling TEOS-based PECVD in
Plasmalab®System100 and **Plasmalab**System133 process tools

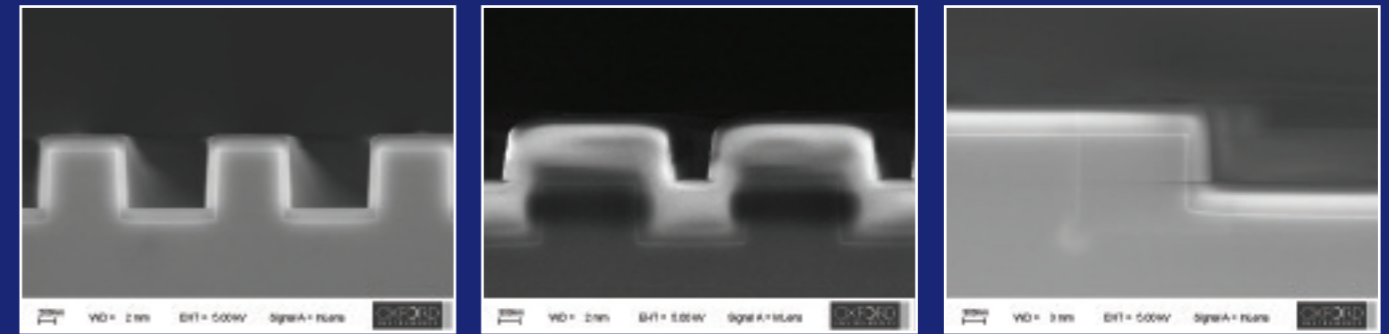


The Business of Science™



TEOS¹ delivery module for **Plasmalab**[®]System100 and **Plasmalab**System133 PECVD process tools

TEOS PECVD showing 170 nm (left), 990 nm (centre) and 84% conformal step coverage (415 nm horizontal, 350 nm sidewall) (right) SiO₂ on Si step structures



TEOS delivery module mounted to a **Plasmalab**System133 PECVD system; the module may also be wall mounted



- Excellent uniformity and conformality of deposition
- Integrated purpose-designed solution
- Optimised heated delivery lines
- Easy source access and changeover
- Flexible mounting options
- Available as upgrade to existing **Plasmalab**System100 and **Plasmalab**System133 PECVD tools

Excellent control in SiO₂ deposition

The complete TEOS PECVD system enables:

- High quality, conformal deposition of SiO₂ for photonics, dielectric layers and other structures
- Control of film stress by pulsed high/low frequency power mixing
- Control of deposition directionality and hence degree of step coverage by controlling oxygen radicals

TEOS supply - hardware

Heated TEOS delivery module

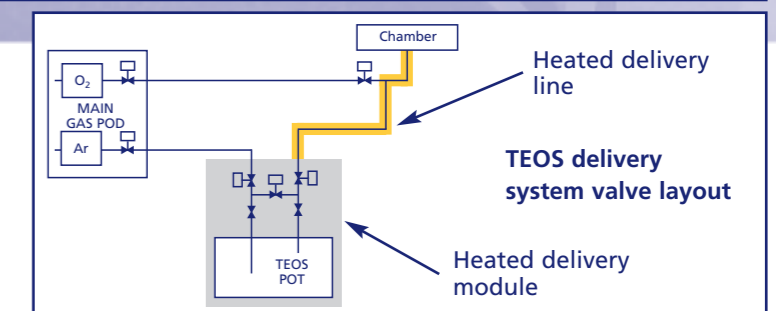
- Fan-assisted oven
- Housekeeping control valves
Pipe work prepared as standard for a Schumacher BK1200SSH container, which comes supplied with two manual valves: inlet valve (connected to dip tube) with 1/4 inch female VCR gland; outlet connected to vapour space with 1/2 inch male VCR nut. Other valve configurations available upon request.
- Heated gas line to chamber
- Optional glovebox and extraction for use during bubbler changeover

Gas delivery system

- Argon gas line and mass flow controller (MFC) on split manifold
- Oxygen gas line on main manifold

Process tool hardware

- Heater-chiller for top electrode and gas inlet assembly heating
- Chamber wall heating kit



The heated TEOS module offers easy access, together with safe change-over using the optional clip-on glovebox. The module can be connected into cleanroom extraction systems for complete health and safety assurance

¹ tetraethoxysilane, tetraethyl orthosilicate



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