UMF Equipment – Inductively Coupled Plasma Etcher

Trion Phantom III

Inductively Coupled Plasma Etcher (ICP) is a dry etching system used in micro-fabrication. The system makes use of chemically reactive plasma to remove material deposited on a substrate. The plasma is generated under low pressure (vacuum) by an electromagnetic field. Depending on the gas mixture, a chemical reaction or sputter etch process occurs at the surface of the substrate. Using a mask or photomask, plasma etching can occur on the exposed areas of the substrate. By varying the gas mixture, pressure, and power, the plasma etch process can be modified to create an anisotropic or isotropic profile.

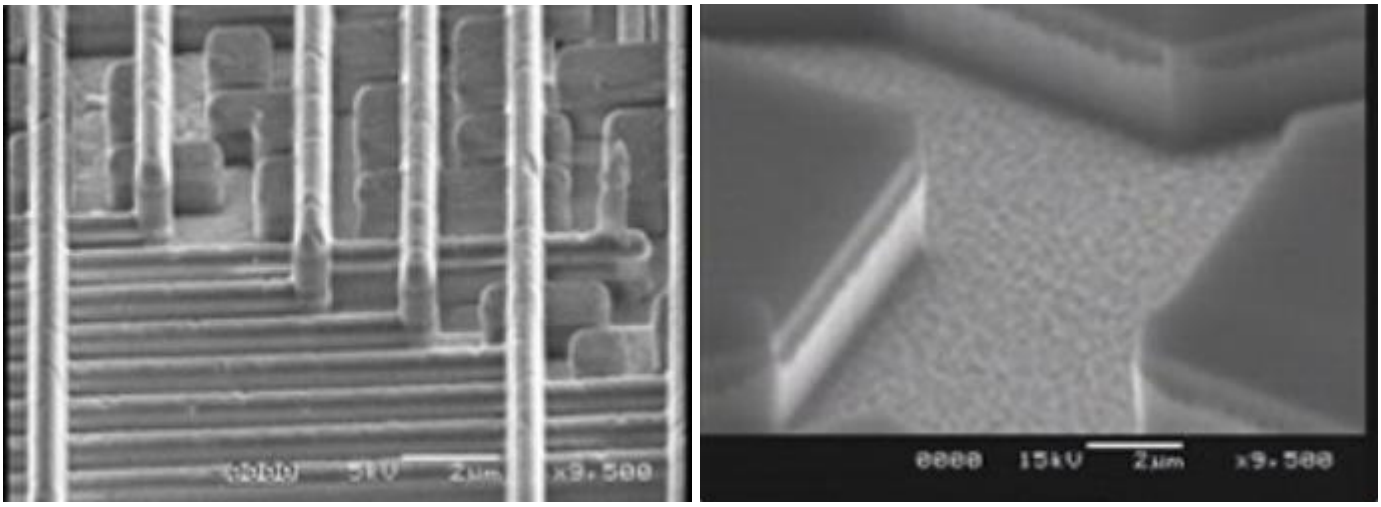
Features:

- Substrate size: Up to 4”
- Pressure control: Automatic
- Gas: 6 gas lines (CF_4, SF_6, Ar, O_2, CH_4, H_2)
- RF generator: 600W, 13.56MHz, solid state RF generator
- Reactor temp. control: External chiller is used to enhance process reproducibility and the etch by-products are more readily volatilized
- Application: Isotropic or anisotropic etching of silicon dioxide, silicon nitride etc

Please refer to supplier information page: https://triontech.com/etch-platform/phantom-icp/ for further details of the system.

For any inquiry, please contact Dr. Terence Wong (Tel: 3400 2075; Email: tai-lun.wong@polyu.edu.hk).

Trion Phantom ICP



Dielectric etching - Silicon Oxide (left) and Silicon (right)

[source: https://triontech.com/process/etching/dielectric-etching/]