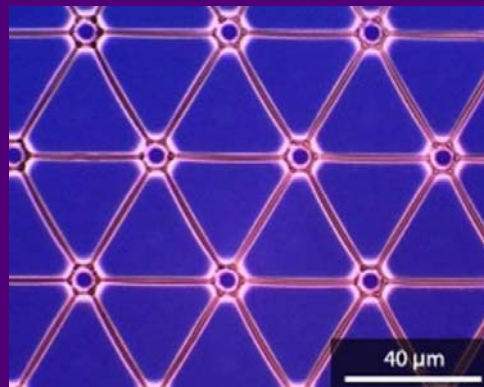
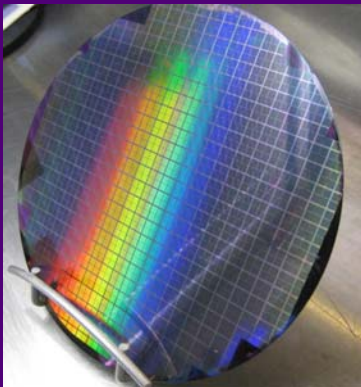


# SpinEtcher 1000

Oxygen Plasma Etching System



 **Micro Magnetics**  
*Sensible Solutions*



Micro Magnetics, Inc.

617 Airport Road, Fall River, MA 02720  
Phone: (508)672-4489 Fax: (508)672-0059  
www.micromagnetics.com admin@micromagnetics.com

## **Introduction**

The SpinEtcher-1000 Oxygen Plasma Etching System manufactured by Micro Magnetics, Inc., a US Corporation, is a unique plasma processing system capable of photoresist ashing and Reactive Ion Etching (RIE). The system will accommodate up to eight (8) inch substrates or a variety of smaller substrate sizes and shapes. The system is designed to provide a wide range of plasma operating conditions and is ideally suited for research, process development or low volume production. The system is designed with many standard features not found from other systems in its price range.

## **Applications**

- Asbestos sample preparation.
- Micro incineration of organic material.
- Etching of organic samples for SEM & TEM work.
- Removal of photoresist and electronic component encapsulations.
- Surface treatment of plastics.
- Cleaning of SEM/TEM sample holders.

## **Utility Requirements**

- Power: 110 V, 60 Hz, 15 Amps, or, 220 V, 50 Hz, 7 Amps
- Pump: 110 V, 60 Hz, 10 Amps
- Water: for electrode cooling
- Air: pressurized air for valve operation
- N<sub>2</sub>: for chamber ventilation
- Gas: process gas (O<sub>2</sub>)

## System Features

- Bench-type modular chamber (width 20" x depth 20" x height 15"). The whole system can sit on top of a standard office table, without consuming large space. Front door swing open mechanism, easy load or unload sample.
- Horizontal parallel plate configuration for planar processing. Electrodes are manufactured with 304 stainless steel. The use of 304 SST provides maximum lifetime of the electrode and minimizes water leaks and electrolysis of the electrode water channels. A small peripheral raised edge on the lower electrode prevents substrates from sliding off and shorting the electrode to ground.
- Chamber is manufactured from quality aluminum solid.
- Process chamber incorporates a wide-angle viewport allowing the user to view the entire process area.
- The system can use customer supplied RF power supply and RF auto matching network. The power supply can be easily decoupled from the system. Optional RF power supply and RF auto matching network is available.
- One gas channel for processing gas (O<sub>2</sub> default) with flow-rate controlled by MFC (mass flow controller). The system can be used to etch SiO<sub>2</sub> or SiN if supplied with different gas.
- The gas delivery system to the process chamber is accomplished via an easily replaceable gas showerhead located on the upper electrode. By tailoring the hole's size and placement on the showerhead, the system can deliver the maximum process uniformity for any plasma requirement. The thickness uniformity over a 3-inch wafer is better than 4%.
- The system is supplied with a direct drive, rotary vane, corrosive series, and mechanical pump. Pump package includes a full charge of inert pump fluid and all necessary vacuum hosing and fittings for complete installation.
- A computer and display screen are provided for complete automation of the system. Up to 10-recipe storage is provided with multilevel process steps. The system provides display of all operating parameters and can be easily controlled by the user.
- Complete calibration procedure is provided for etching various types of photoresist and electron-beam-resist.