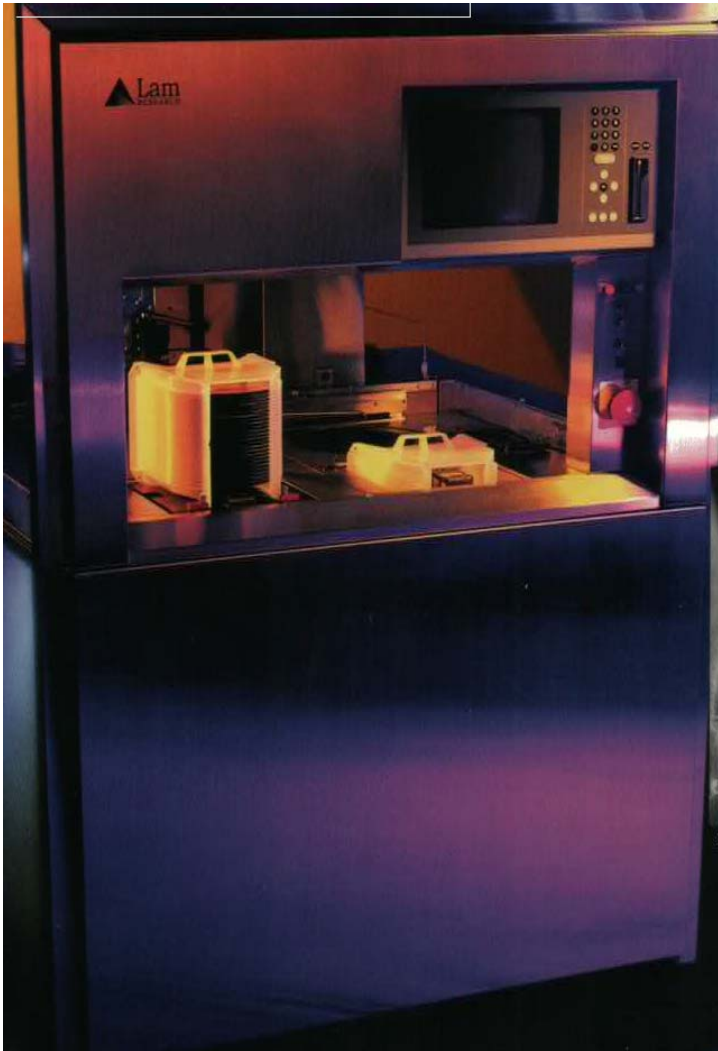


Rainbow® 4720 Etch



The Rainbow® 4720 etch system has achieved customer recognition for its high throughput, extended MWBC and low particle levels.

The system is designed for optimum process performance over a wide range of operating conditions, active wafer temperature control enables the Rainbow® 4720 to consistently control etch uniformity and minimize plug loss and glue layer trenching.

Applications

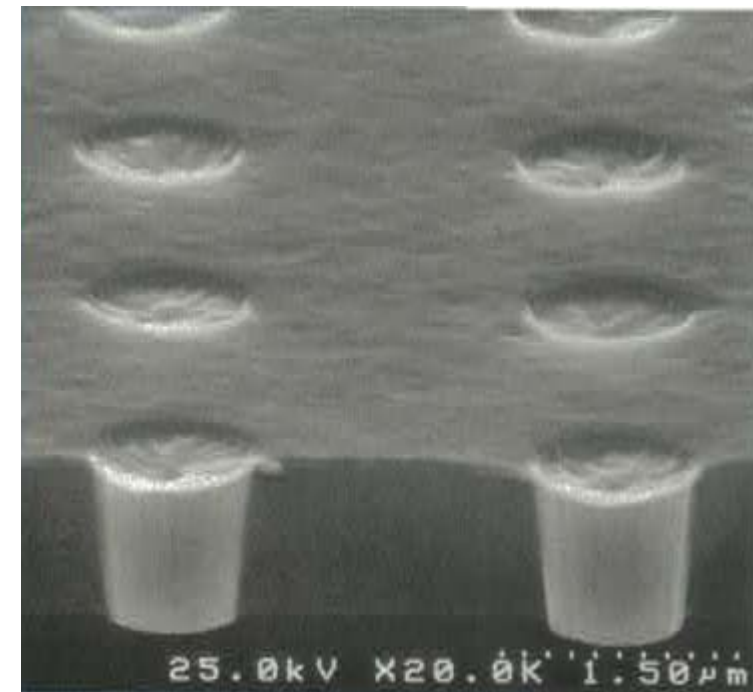
- ◆ Tungsten plug
- ◆ Ti N etch
- ◆ Ti W etch
- ◆ Blanket W

Typical Results

- ◆ W etch rate >8000 Å/min
- ◆ Uniformity $\pm 10\%$ 3σ
- ◆ Plug loss ≤ 1200 Å
- ◆ W to Ti N selectivity $\geq 10:1$
- ◆ Particles $<0.06/\text{cm}^2$ at $>0.3\mu\text{m}$ size

System Reliability

- ◆ Uptime $\geq 85\%$
- ◆ MTTC < 4 hours
- ◆ MTBF ≥ 125 hours
- ◆ MTTR ≤ 4 hours



Feature

- ◆ Heated chamber and exhaust manifold
- ◆ Electrostatic chuck
- ◆ Precise temperature control
- ◆ Optical endpoint detection

Benefits

Decrease particles and increase MWBC.
Eliminates edge exclusion
Reduce plug loss and enable a more uniform etch
Consistent etching wafer to wafer

