www.sptcorp.com

Sacrificial Layer Etching

Engineered for MEMS release using anhydrous HF to achieve uniform, stiction-free oxide removal.

Vetelgeuse

SPT's sacrificial layer etching system is optimized for MEMS release, enabling uniform and stiction-free removal of silicon dioxide using anhydrous HF. With high selectivity and stable process control, it supports reliable fabrication of complex MEMS structures.

Applications:

- MEMS Devices

FEATURES

Why Choose SPT for High-Precision Sacrificial Layer Etching

Aluminum-Compatible Etching

Supports oxide removal in MEMS structures with aluminum, without corrosion or damage—ideal for CMOS-compatible designs.

Clean and Stable Dry Process

Uses vapor-phase etching to eliminate liquid waste and reduce tool downtime, offering stable performance with low environmental impact.

High Selectivity and Process Control

Delivers precise control over etch depth and selectivity between oxide and structural layers, ensuring process repeatability for MEMS devices.

Extended Undercut Capability

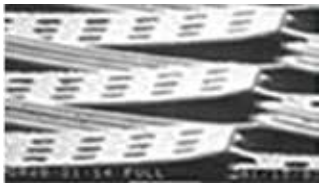
Enables precise sacrificial etching with extended undercut lengths, supporting both micron-scale features and millimeter-range cavities.

Flexible System Configuration

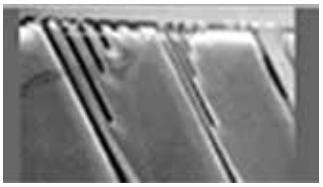
Available in manual, load-lock, and cluster configurations to meet various fab needs from prototype development to high-volume manufacturing.

PERFORMANCE

Performance for Reliable MEMS Release and Structural Integrity



Infrared Bolometer Structure



Cantilever Structure

SOI Wafer BOX Layer Release

Silicon Oscillator Structure (Courtesy of SiTime)

Specification

Process Module	Vetergeuse
Wafer size (mm)	200
Platform	VPX
Etching Speed	Medium
Substrates	SiO_2
Application	MEMS

Platform	VPX
Intended Use	Small Volume
Number of Chambers	3
Cassette Transfer Robot	Vacuum
Robot Motion	3-Axis
Number of Cassette Stations	1

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