

PROCESS MONITOR PROBING

Introduction

Process monitoring is critical for statistical control of manufacturing operations.



Model 4060 Manual Probe Station

Process Monitoring includes quality assurance and manufacturing verification testing at various stages of the semiconductor process.

Process monitoring includes common tests such as:

- Capacitance-Voltage
- Oxide breakdown
- Mobile Ion testing

In probing terms, Process Monitor testing requires these key capabilities:

- **Prober Operation**
Many process monitor tests can be done on manual, interactive probers. For generating larger

volumes of data, especially for C-V testing, an automated prober is desirable.

- **Geometries Probed**
Typically greater than 1 μm . Testing is typically done on test pads. For occasional higher resolution probing, such as on actual gates, a high resolution manipulator can be used.
- **Number of samples tested**
Many; typically repeating.
- **Sample types**
Typically Wafers.

- **Depassivation or Decapsulation**
Not a common requirement.
- **Thermal Chuck used**
Yes, typically above ambient.
- **Current levels measured**
Typically greater than 1 pA.

The Model 4060 manual and 4460 semi-automatic probing stations are ideally suited for Process Monitoring work. These stations feature:

- **Easy Interactive operation**
With the conveniently located direct drive controls, the 4060 makes quick moves to test structures easy and efficient.

With its multiple function pendant, the 4460 can step to memorized locations or desired locations with the push of a button. Or program it remotely!



Pendant

- **Wide open platen with 4-point support and lift drive**
Plenty of room for multiple probes to test multiple sites or high temperature probe cards, and the platen can support them!

H1000 Thermal Chuck: Features cooled mount to prevent transfer of heat to probe station stage



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Specifications subject to change without notice.

- **Super stable base with small footprint**
Maintain probe contact even over a thermal ramp but doesn't use up all your lab space!
- **4" x 4" (150mm x 150mm) microscope X-Y range with locking tilt up**
Probe multiple structures and get the microscope away for thermal probing.

- **Internal plumbing for thermal chucks**
Organize the cables and hoses and keep them from pulling on the stage.

- **Supports the ISE environment**
Provides dark and electrically shielded environment for testing without taking up extra lab space.

- **Long term reliability**
Rugged design, leadscrew/leadnut drive, and Micromanipulator support will keep your key process support station reliably operational.

- **Economical price and low cost of ownership**
The *right* tool costs less in the long run.

Look to Micromanipulator for super stable, coaxial, high temperature probes and special high temperature probe tips.



Model 4460 Semiautomatic Probe Station Shown with pendant and controller



Controller



8800-ISE: Dry/Shielded environment/enclosure for 4060 and 4460 probe stations