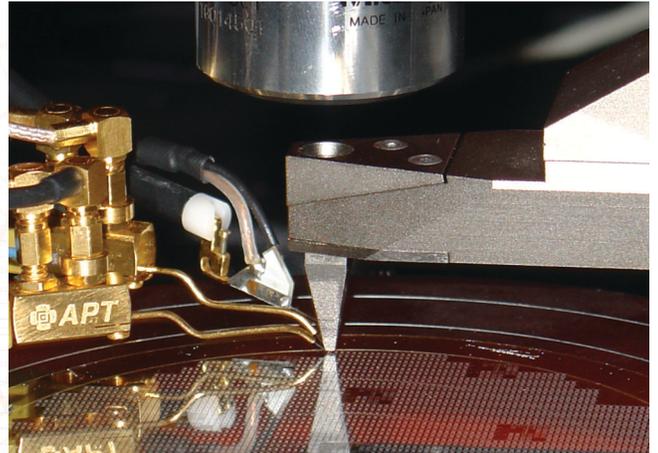


PPM

Pressure Probe Module



DATA SHEET

Cascade Microtech's Pressure Probe Module is the ideal solution for testing absolute and relative/differential pressure sensors at wafer level that work based on the piezoresistive or capacitive principle. Its patented design applies an air stream of up to 7 bar overpressure to the top side of the diaphragm. During test, the sensor is not mechanically in contact with the nozzle tip. The proximity is controlled to maintain a constant impact pressure.

An optical window is implemented in the upper part of the pressure head. This allows the user to have an unrestricted view of the device under test (DUT) with the microscope. As a result, the nozzle can be positioned accurately above the DUT, and additional optical measurements to detect the deflection or topology of the membrane can also be used.

The Pressure Probe Module can be used with semiautomatic and manual probe stations. Single probe tips or probe cards can be used to contact the sensor electrically. The shape of the nozzle is designed and manufactured to fit the DUT. The nozzle can be exchanged easily, and if necessary, a non-metallic nozzle can be provided.

The Pressure Probe Module's own software interface always displays the current status of the module. All necessary functions are accessible through the control panel. Additionally, the module can be controlled by an external program with the provided set of remote commands.

For relative/differential pressure measurements, Cascade Microtech offers special chuck add-ons to obtain atmospheric pressure on the wafer's bottom side while holding it securely via a small vacuum ring on the edge.

FEATURES / BENEFITS

Unique pressure testing	Using non-contact, impact-pressure technique 100 mbar to 7 bar (relative)
Accuracy	Calibration is possible at any time of the measurement process Use of external measurement standards possible
Automation	PC based software controlled platform Remote control thru ProberBench™ Operating Environment
Flexibility	For wafer sizes up to 200 mm Absolute or relative/differential pressure measurements Exchangeable nozzle according to diaphragm size For use with single probes or probecards

SPECIFICATIONS

General

Working pressure (Pw)	100 mbar to 7 bar (relative)
Working distance (W.D.)	~ 40 μm
Settling time	~ 0.5 s

Repeatability

Effective pressure	< 500 mbar: ± 5 mbar / > 500 mbar: 1%
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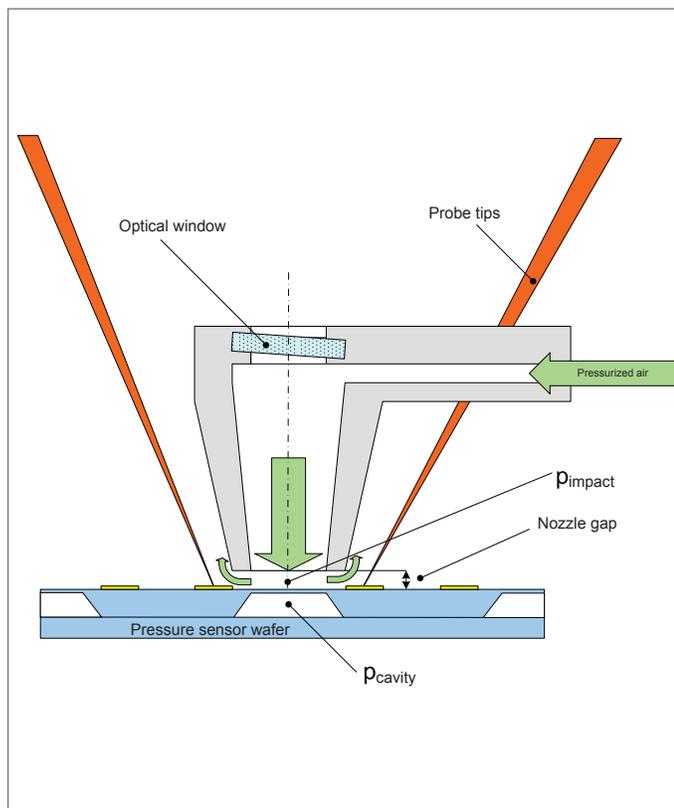
Utilities

Media	Nitrogen or pressurised air, clean, dry, oil free
Supply pressure	8 to 10 bar (relative)
Media consumption	~ 6 l/min/bar (typical)
Electrical supply	85 to 264 VAC / 50 to 60 Hz / 30 W

Platform

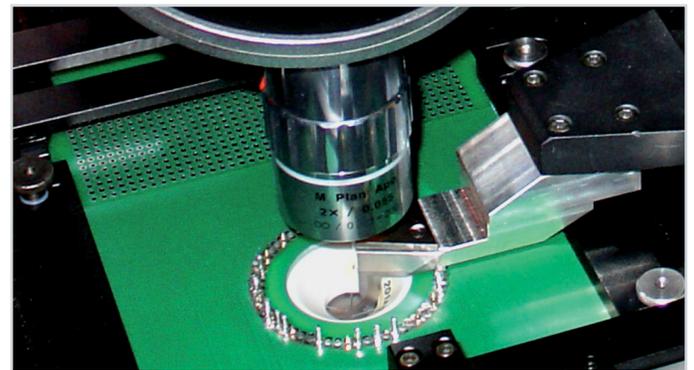
Motorized	Automated Z-axis control (suitable for manual probe stations)
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*Data, design and specification depend on individual process conditions and can vary according to equipment configurations.
Not all specifications may be valid simultaneously.

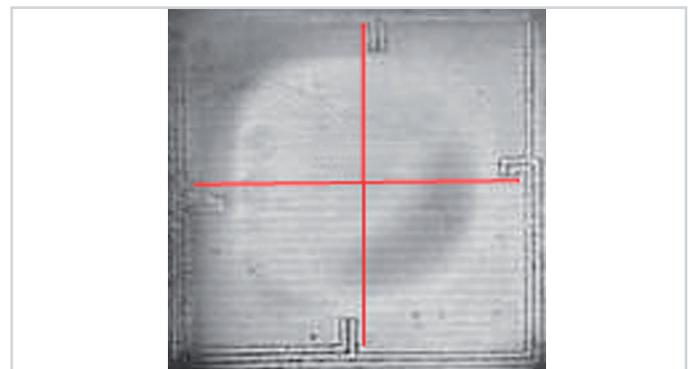


Principle of the Pressure Probe Module.

(Patent numbers: DE10000133C2 from 06/26/2003 and DE102005015335A1 from 10/05/2006)

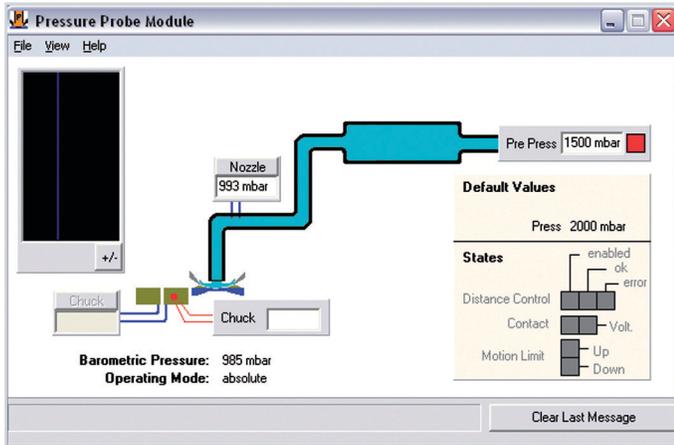


The Pressure Probe Module can be used with probecards.

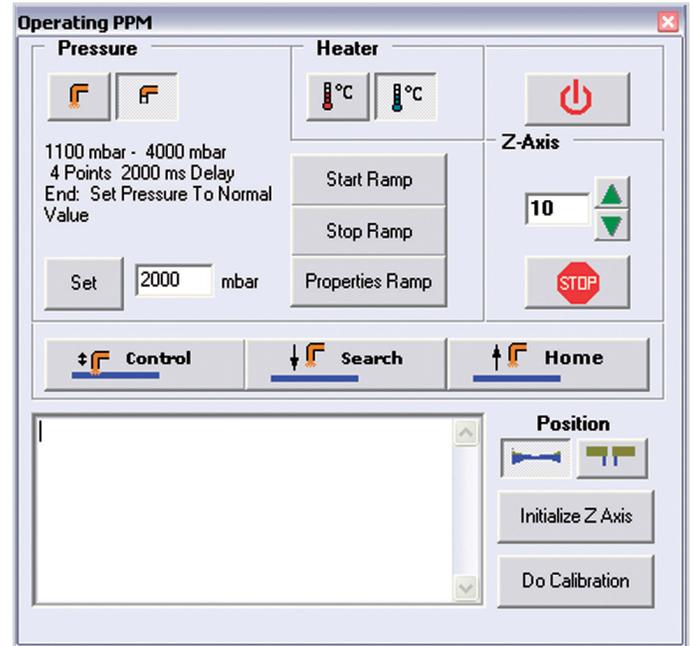


View through the optical window of the Pressure Probe Module onto the membrane of a pressure sensor. The deflection caused by the impact pressure can clearly be observed.

SOFTWARE



The Pressure Probe Module's own software interface always displays the current status of the tool.



The necessary operation functions are accessible in the control panel.

WARRANTY

Warranty*	Fifteen months from date of delivery or twelve months from date of installation (whichever comes first)
Service contracts	Single- and multi-year programs available to suit your needs

*See Cascade Microtech's Terms and Conditions of Sale for more details.

ORDERING INFORMATION

Consult factory for more detailed specifications, additional options, suitability of configuration for intended usage, part numbers, pricing, and delivery.

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