

PA200PS

200 mm Semi-automatic Probe System



DATA SHEET

The PA200PS is the world's best device characterization tool, combining excellent positioning accuracy with excellent measurement accuracy for better device modeling and wafer-level reliability (WLR) tests.

The unique design of the PA200PS is enhanced with ProbeShield® technology, providing a fully electromagnetically shielded, ultra low-noise, light-tight environment. This means your measurements are more accurate, resulting in more efficient model extraction, faster model turnaround and less design iterations, faster time to market and ultimately a higher return on investment (ROI) on your devices.

The PA200PS has been designed to provide best-in-class measurements, allowing easy integration to sensitive measurement equipment inside the shielded environment of the ProbeShield system. This significantly reduces cable lengths, which increases measurement dynamic, and eliminates the need for an additional, expensive shielded room for measurements such as low-frequency flicker (1/f) noise.

FEATURES / BENEFITS

Efficient model extraction with highly accurate parameter measurements	Low-noise test environment with advanced EMI-shielding concept and CeramPlate, which eliminates thermal chuck's interference AccuraCV™ control of 4294A provide accurate high-k, thin oxide C-V characterization Unique measurement equipment integration with shortest cable lengths for best measurement dynamic and accuracy LRM+™ and RRMT+™ for accurate wafer-level calibration Unattended test at different temperatures (-60 °C to +300°C) with Automated Thermal Management™ and optional ReAlign™ for thermal shift compensation
Automated generation of modeling and reliability data	Automated calibration substrate alignment Interfaces with all leading data acquisition and modeling software Extended microscope movement and multi-site, high-temperature probe cards for reliability parallelization
Fine-pitch probing on small pads	Best-in-class mechanical precision for accurate positioning Highest Z accuracy for reducing skating of probe needles on pads
Easy and safe operation	Unique handling of probe cards and positioners Patented ContactView™ and ProbeHorizon™ options for easy and safe contact setting Integrated probe card holder - no mechanical change over Simultaneous use in EMI-shielded environment

SPECIFICATIONS*

General Features

Substrate sizes	Single chips to 200 mm wafers
Temperature range	-60°C to 300°C
Automated temperature test	ReAlign (optional), Automated Thermal Management

Chuck Stage

X-Y Movement	Closed-loop, DC servo with linear encoder feedback
Travel / Resolution	203 mm x 203 mm / 0.5 μ m
Repeatability	\pm 1 μ m
Accuarc	\pm 2 μ m
Planarity	\pm 8 μ m
Maximum speed	50 mm/sec
Z Movement	DC servo with rotary encoder feedback
Travel / Resolution	12 mm / 0.25 μ m
Repeatability	\pm 1 μ m
Theta Movement	DC servo with rotary encoder feedback
Travel / Resolution	7.5° / 0.0001°

Programmable microscope	Closed-loop, DC servo with rotary encoder movement feedback
Travel / Resolution	50 mm x 80 mm (iVista™, A-Zoom) / 0.25 μ m
Access lift	130 mm motorized or pneumatic

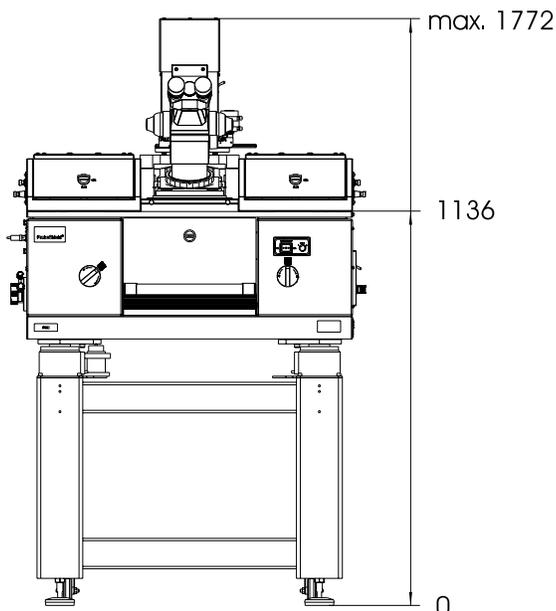
Utilities

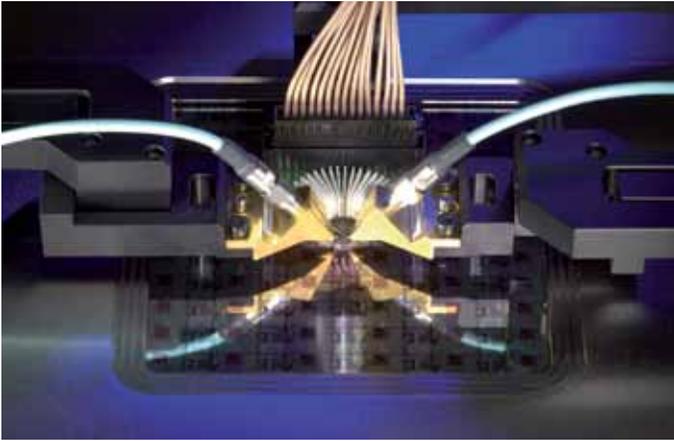
Vacuum	Less than 200 mbar abs
Dry air	6 - 10 bar; dewpoint lower than - 65° C; maximum flow rate 180 liters/min at SATP (depending on system configuration)
Power	100/240 V, 50/60 Hz, maximum 1500 VA (depending on system configuration)

*Data, design and specification depend on individual process conditions and can vary according to equipment configurations.
Not all specifications may be valid simultaneously.

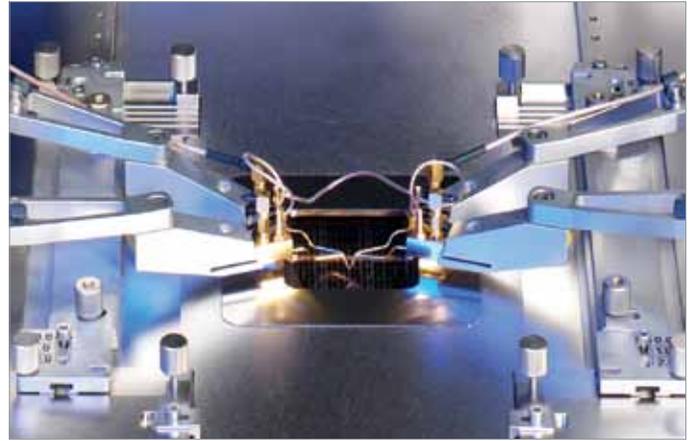
PHYSICAL DIMENSIONS

Weight	Maximum 600 kg (depending on system configuration)
Dimensions (mm)	





Device characterization in an EMI-/RFI-shielded environment using the |Z| Probe® and ProbeWedge™.



Setting up complex measurements such as pulsed I-V is no challenge with the advanced ergonomic design of the PA200PS.

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Data subject to change without notice

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Cascade Microtech, Inc.
Corporate Headquarters
toll free: +1-800-550-3279
phone: +1-503-601-1000
email: cmi_sales@cmicro.com

Germany
phone: +49-811-60005-0
email: cmg_sales@cmicro.com

Japan
phone: +81-3-5615-5150
email: cmj_sales@cmicro.com

China
phone: +86-21-3330-3188
email: cmc_sales@cmicro.com

Singapore
phone: +65-6873-7482
email: cms_sales@cmicro.com

Taiwan
phone: +886-3-5722810
email: cmt_sales@cmicro.com