

Cascade

PA200 DSP

200 mm Semi-automated Double-sided Probe System

000111100010

➤ Overview

The PA200DSP is the most precise and flexible semi-automatic double-sided test solution for wafers and substrates up to 200 mm. It is ideal for all applications requiring access from both the front and back sides of the wafer, such as failure analysis with emission microscopes, optoelectronic test (e.g. spectrum analysis), MEMS test (e.g. Si-microphones) and testing 3D stacks like through-silicon vias (TSVs).

The patented design of the probe station includes a unique chuck for handling fragile substrates and provides full access to the DUT from underneath or from the top. Probe positioners and probe cards can be positioned separately or simultaneously on either side of the DUT. As a result, stimulus and the measurement of the output can be applied to the front and/or back side.

The PA200DSP can be equipped with a wide range of accessories, such as laser-doppler vibrometers, integrating spheres or laser cutters. In combination with a high-resolution emission microscope, the probe station becomes an integrated wafer-level emission microscopy system, offering excellent quality for both front-side and back-side emission analysis.



➤ Features / Benefits

Flexibility	<ul style="list-style-type: none">• Patented design for front-side and back-side inspection of the DUT• Ideal for emission microscopy, optoelectronic, MEMS and TSV test• Accommodates probe positioners and probe cards (simultaneously)• Large number of accessories available
Stability	<ul style="list-style-type: none">• Best position accuracy available on the market• Ideal for small structures even down to submicron probing• Highly-stable mechanics
Ease of use	<ul style="list-style-type: none">• QuietMode™ technology for sensitive measurements• Unique and easy to operate Velox™ probe station control software• Joystick controller with color display for full prober control• Intuitive and ergonomic layout of system controls

X-Y Movement

Travel range	200 mm x 200 mm
Resolution	0.5 μm
Repeatability / Accuracy	$\pm 1.0 \mu\text{m}$ / $\pm 2.5 \mu\text{m}$
Planarity	8 μm

Z Movement

Travel range	30 mm
Resolution	0.25 μm
Repeatability	$\pm 1.0 \mu\text{m}$

Theta Movement

Travel range	$\pm 6^\circ$
Resolution	0.0001 $^\circ$

Programmable Microscope Movement

Travel range	50 mm x 50 mm
Resolution	0.25 μm
Repeatability / Accuracy	$\pm 1.0 \mu\text{m}$ / $\pm 2.5 \mu\text{m}$
Access lift	130 mm

Manual Platen Movement (Optional)

Drive type/ Coarse adjustment	Compound knob / 20 mm
Contact / Separation stroke	0.4 mm linear with 1 μm repeatability

Remote Interfaces

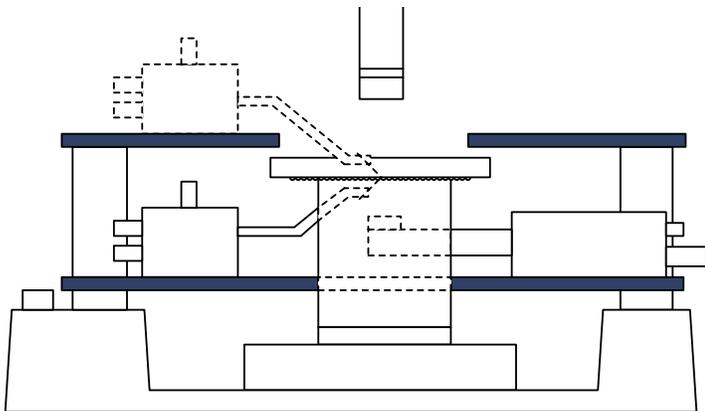
PC	RS232, LAN, GPIB
Graphical User Interface (GUI)	Windows based

Utilities

Vacuum / Compressed air	Less than 200 mbar abs / 4 bar min
Power	115/230 V, 50/60 Hz, 600 W (150 VA maximum**)

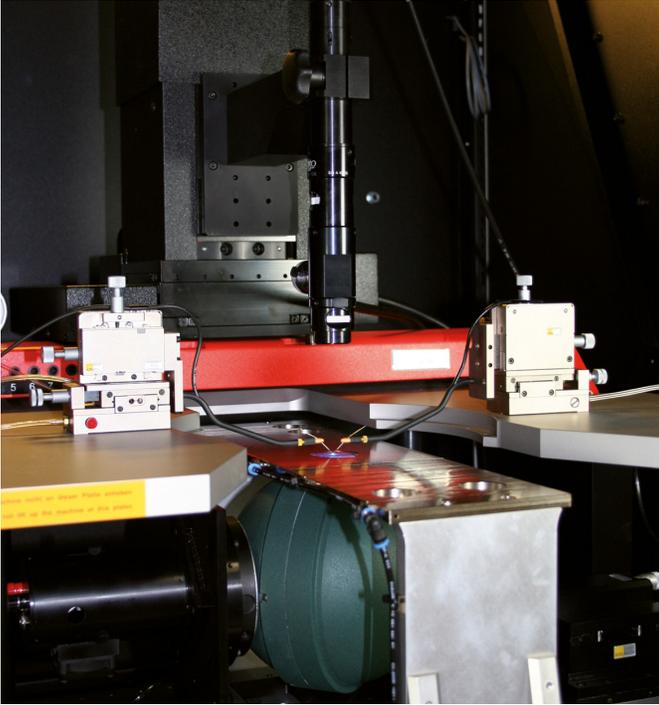
* Data, design and specification depend on individual process conditions and can vary according to equipment configurations.
 Not all specifications may be valid simultaneously.

** Depending on tool configuration.

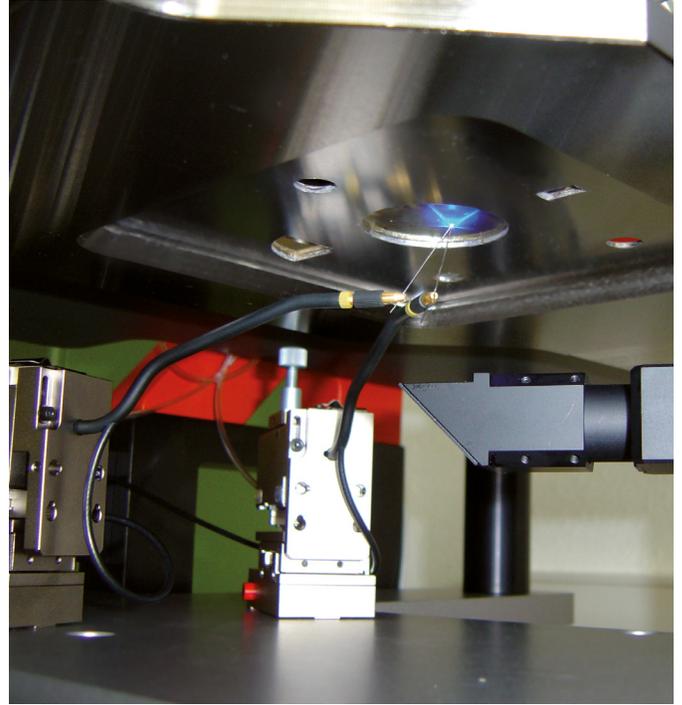


Simultaneous electrical contact of the DUT from the front side and the back side.

> Application



Spectrum analysis of optoelectronic devices with an integrating sphere.



Electrical contact of the DUT from the back side: A back-side camera is located beneath the chuck and views upward in order to position the probes.

> Warranty

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

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