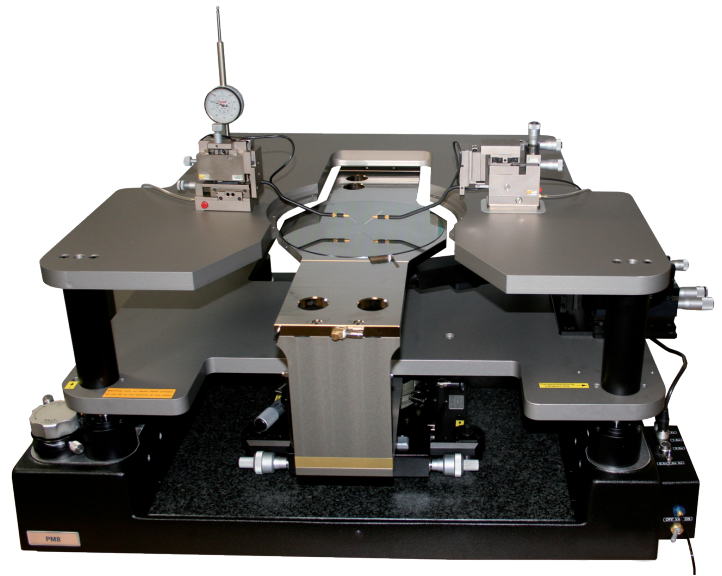## ❯ Overview

The PM8DSP is the most precise and flexible manual double-sided test solution for wafers and substrates up to 200 mm. It is ideal for all applications requiring access from both the top 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 such as through-silicon vias (TSV).

The patented design of the probe station includes a unique chuck for handling fragile substrates and provides full access to the device under test (DUT) from underneath or from the top. Probe positioners and probe cards can be positioned separately or simultaneously on either side of the DUT. Stimulus and the measurement of the output can then be applied to the front side and/or back side.

The innovative fine-glide chuck stage offers unique simplicity and accuracy. Once it is moved into the test position, the stage locks into place and provides additional micrometer screw fine movement.

The PM8DSP can be equipped with a wide range of accessories like laser-doppler vibrometers, integrating spheres, laser cutters or the remote-controlled manual submicron positioners. In combination with a high-resolution emission microscope, the probe station becomes an integrated wafer-level emission microscopy system, offering the highest-quality front-side and back-side emission analysis.

❯ Features / Benefits

Flexibility	• 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	• Fine-glide chuck stage on highly stable granite base
	• Ideal for submicron probing
	• Massive, web-cast frame
Precision	• Best position accuracy available on the market
	• Ideal for small structures down to submicron probing
	• Highly stable mechanics
Ease of use	• Straightforward layout of controls
	• Rapid, independent X-Y chuck stage movement

Specifications*

Chuck Stage	
X-Y travel coarse	200 mm x 200 mm
X-Y travel fine	10 mm x 10 mm
X-Y travel resolution	< 1 μm
Z load stroke	8 mm
Theta travel	± 6°
Planarity**	< ± 12.5 μm
Probe Platen Drive	
Z travel	32 mm
Contact / separation stroke	0.5 mm
Repeatability	< ± 1 μm
Manual Microscope Stage (Option)	
Travel range	200 mm x 200 mm
Resolution	88 mm/rev. (coarse) 0.25 mm/rev. (fine)
Access lift	Manual, tilt back
Programmable Microscope Stage (Option)	
Travel range	50 mm x 50 mm
Resolution	0.25 μm
Access lift	Pneumatic or motorized
Utilities	
Power	115/230 V, 50/60 Hz
Vacuum	-0.8 bar
Compressed Air	4 bar

* Data, design and specification depend on individual process conditions and can vary according to equipment configurations.
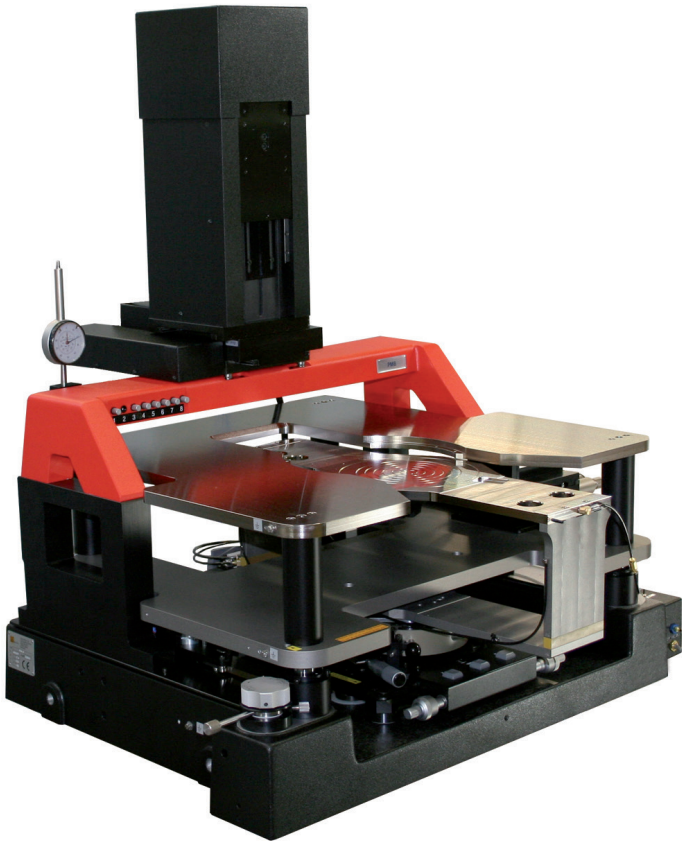 Not all specifications may be valid simultaneously.
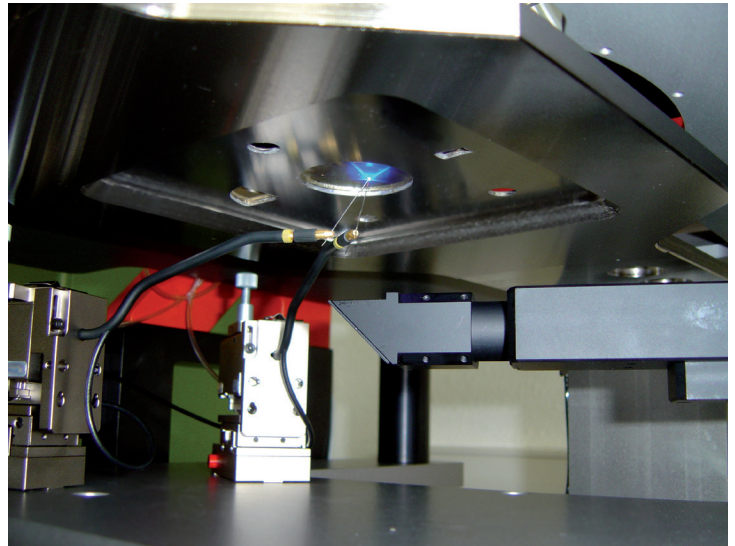** Deviations in the maximum chuck Z height at the center when moving the stage over a full X/Y range.

Physical Dimesions

Width x depth x height	740 mm x 600 mm x 550 mm
Weight	~ 110 kg (depending on options)

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Application

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.

Setup prepared to integrate an OEM emission microscope camera system onto the microscope bridge.
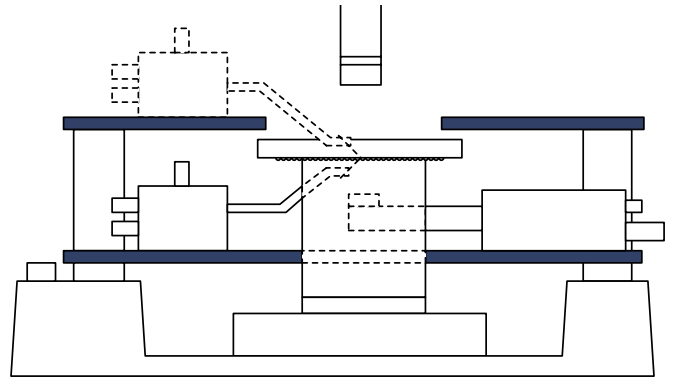
Simultaneous electrical contact and observation of the DUT from the top side and back side.

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

*See FormFactor´s Terms and Conditions of Sales for more details.

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