

MANUAL PROBE SYSTEM PM5



Cost-Effective, Manual Wafer Probing

The SUSS PM5 is the most cost-effective and simple, yet highly precise, probing solution for wafers and substrates up to 150 mm. Great application flexibility is ensured for DC and HF measurements, device and wafer characterization tests (DWC), failure analysis (FA), submicron probing, MEMS and opto engineering tests. It can also be used as a flexible probe card for special wafer level reliability (WLR) applications, allowing up to 20 SUSS ProbeHeads™ at one time to be placed on the stable platen.

The platen drive distributes force equally over two massive, stable columns to the base of the system. Its height can be adjusted up to 40 mm allowing a quick and easy setup of the system. The additional contact separation of 200 µm ensures accurate fine adjustment of the probe platen. According to your application needs, you can choose vacuum, magnetic or dedicated high frequency probe platens.

The stability of the system is further maintained by the microscope bridge, which spans the width of the probe system and is fastened to the base. This provides stability for any microscope you chose and isolates it from all other moving parts.

Your Needs

Flexibility

PM5 Solutions

- › Ideal for all applications such as HF, failure analysis, DWC, MEMS and opto tests and WLR
- › Works as flexible probe card with up to 20 SUSS ProbeHead™ PH100 manipulators
- › Large number of accessories available, such as laser cutters and platens & chucks for HF testing

Stability

- › Massive, web-cast frame
- › Superior vibration attenuation
- › Rigid microscope bridge

Ease of use

- › Comfortable and ergonomic operation
- › Straightforward layout of controls
- › Low-profile design
- › Simple microscope operation
- › Quick and ergonomic change of DUT through pull-out stage

All microscope lift options, manual or pneumatic, are easy to use and allow convenient access to the probes and DUT. Our modular design concept allows us to mount the microscope you require thus giving you the freedom to upgrade the system from the simplest manual microscope stages to the most sophisticated programmable microscope movements or to simply add a non-contact vibration analyzer for testing MEMS on wafer level.

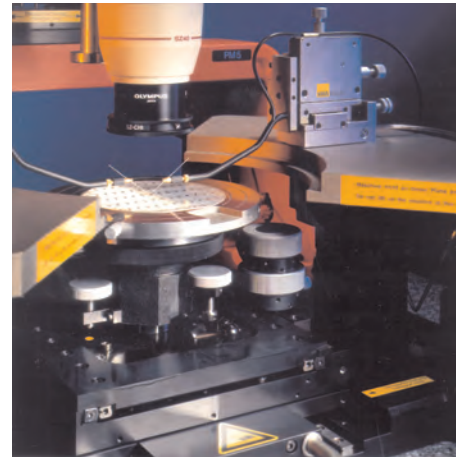
Ergonomically, the PM5 has been designed with you, the operator, in mind. All knobs are located to allow easy and precise movement of the chuck stage with just one hand. The X and Y axes can be adjusted independently. Once it has reached the test position, the stage locks into place and provides additional fine adjustment in the Z direction. A pull-out stage permits quick and ergonomic loading and unloading of your DUT.

The PM5 can be outfitted with a number of SUSS accessories and upgrades. These include, among others, laser cutters for failure analysis applications, chucks with special designs for calibration substrates and burnishing pads for high frequency applications.

Technical Data: PM5 Manual Probe Station

Wafer/Substrate size	up to 6"/150 diameter
X, Y, Theta Stage	
Planarity over 6"	<10 μm
Resolution	5 μm
Range of movement	155 x 155 mm
Load stroke Y axis	90 mm
Z height adjustment range	10 mm
Z contact/separation stroke	3 mm
Theta travel (standard)	360°
Theta travel, fine (optional)	$\pm 10^\circ$
Chuck	
Planarity	3 μm
Vertical rigidity 6"	<15 $\mu\text{m}/10\text{ N}$
ProbeHead Platen	
Fixation Type	Vacuum, magnetic, HF
Travel range	40 mm
Contact/separation stroke	0.2 mm
Repeatability	1 μm
Utilities	
Vacuum	-0.8 bar
Compressed air	4 bar
Dimensions & Weight	
Width x Depth x Height	490 x 490 x 480 mm
Weight	60 kg

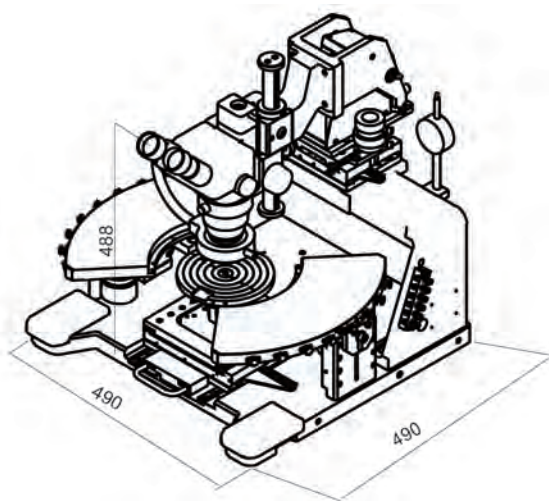
Data, design and specification depend on individual process conditions and can vary according to equipment configurations. Not all specifications may be valid simultaneously. Illustrations, photos and specifications in this brochure are not legally binding. SUSS reserves the right to change machine specifications without prior notice.



Design verification with SUSS PM5



MEMS testing with SUSS PM5 and Polytec MSA 400



Testing HF on PM5 (for small budgets)

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