

PROBE SYSTEM FOR LIFE



DATA SHEET

M-4 (100 mm) Manual Probe System

The SemiProbe M-4 is the most modular and flexible 100 mm manual probe system available today. It is built using our patented Probe System for Life (PS4L) architecture which provides unsurpassed flexibility and significant capital equipment savings. With the PS4L, customers can purchase a manual 100 mm system that meets their precise specifications and requirements.

The Probe System for Life (PS4L) family of wafer probing systems is designed based on SemiProbe's patented adaptive architecture. Unlike traditional probe systems, all foundation modules – bases, stages, chucks, microscope mounts, microscope movements, optics, manipulators and more - are interchangeable, making the PS4L the consummate solution for many different applications and budgets. This unique modular design enables customers to acquire test capabilities that precisely match their requirements. More important, as the environment or test conditions change, the PS4L can easily be field-upgraded to meet these new demands. With this design philosophy, PS4L customers realize substantial time and cost savings over traditional probe systems because they do not need to invest in a new platform when wafer size, levels of automation or test requirements change.



M-4 configured above with a 100 mm triaxial chuck, a microscope boom, stereozoom optics and manipulators with triaxial probe arms - several configurations available

A complete line of accessories is available for all systems including probe card holders, manipulators, probe arms & bases, probe tips, thermal chucks, environmental chambers, lasers, optics, CCTV systems, vibration isolation tables, dark boxes and more.

FEATURES AND BENEFITS

- 100 mm manual system with upgrade path to 150/200 mm manual system
- 100 mm manual system with upgrade path to 150/200 mm semiautomatic system
- All key components are interchangeable which enables the system to easily be configured to meet applications and budgets – present and future
- Software and hardware modules provide a perpetual field upgrade path

Major Applications/Markets Served

Device Characterization, MEMS, Optoelectronics, HF/Microwave, High Power, Photovoltaic, Failure Analysis, Research, Material Science and more

SPECIFICATIONS

Dimensions	900 mm x 650 mm x 750 mm (35.5" x 25.4" x 29.5") (W,H,L) - with optics
Weight	70 Kg (155 lbs.)
Chuck Stage X-Y Movement	Rapid align with coarse and fine stage movements - coarse >100 mm, fine is 25 mm (X, Y)
	Travel: Fine X, Y stage movement of 25 mm via precision micrometers
	Planarity: +/- 7.5 µm over travel range
	Resolution: 5 µm
	Stage Types: Rapid Align (standard), coaxial and programmable (optional)
Chuck Stage Z Movement	Z Travel: >20 mm with precision micrometer
Theta Movement	Travel: Coarse (360 degrees) and fine (>10 degrees) with theta locking knob
Chucks	Vacuum or mechanical clamping, round or square, triaxial, HF, HV/HC, ambient, thermal and custom
	Handle die, wafer packs, sawn wafers on frame, broken wafers and full wafers up to 100 mm
	Nickel plated steel with concentric vacuum rings (standard), other plating materials available
	Planarity: +/- 8 µm
Platen:	Aluminum with stainless steel top with removable front wedge
	360 degree manipulator placement
	Manipulator fixation – magnetic (standard), vacuum (optional with vacuum manifold kit)
Platen Movement	Platen Lift: Choice of fixed or adjustable (linear)
	Adjustable: Coarse - 40 mm, Fine – 200 um contact/separation stroke via lever - lockable
Microscope Mounting/Movement	Mounting – Boom, Post or Bridge
	Movement – Manual or Programmable – 50 x 50 mm, 50 x 75 mm, 100 x 100 mm and 200 x 200 mm
Microscope (Optics)	Stereo Zoom, Zoom Tube, A-Zoom or Compound Microscope
Utilities	Power: AC 110/220V AC 50-60 Hz 20A
	Vacuum: 23 Hg or -0.8 bar

Note: Data, specifications and pictures vary depending on probe system configurations and accessories

PHYSICAL DIMENSIONS

