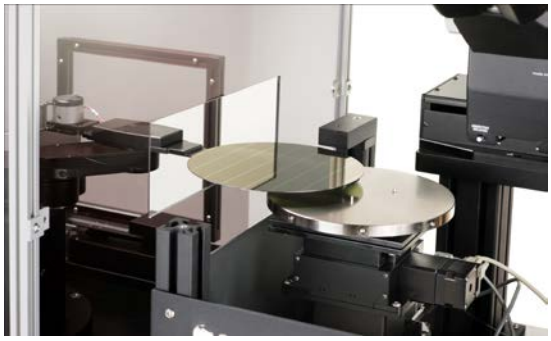
PROBE SYSTEM FOR LIFE

DATA SHEET

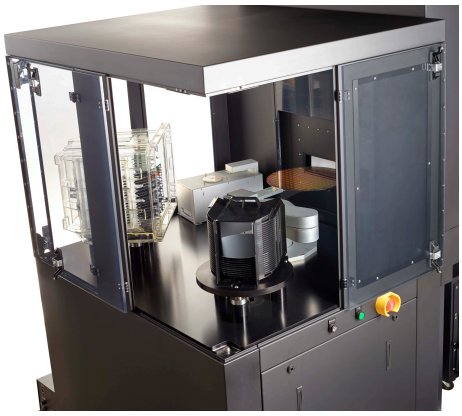
FA-8 (200 mm)
Fully Automatic probe system

The SemiProbe FA-8 is the most modular and flexible 200 mm automatic probe system available today. It is built using our patented Probe System for Life (PS4L) Adaptive Architecture which provides unsurpassed flexibility and significant capital equipment savings. With the PS4L, customers can purchase an automatic system that meets their precise specifications and requirements.



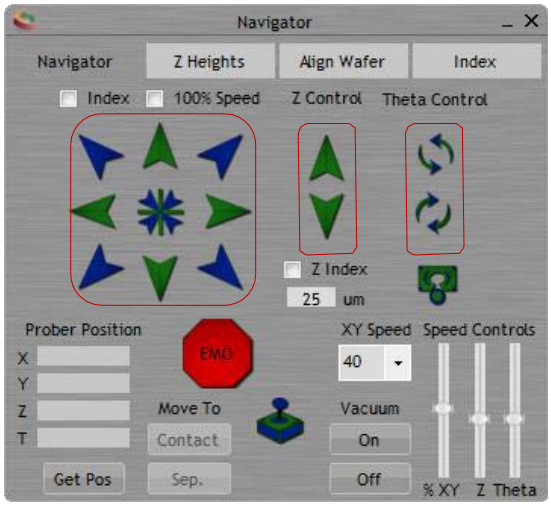
KEY FEATURES

- Multiple applications with the same system – DC, High Frequency, OPTO, MEMS & more
- Operates in three modes – automatic (24/7), semiautomatic and manual
    - Production & Analytical capabilities
- Handles 150 and 200 mm wafers & substrates
- Handles trays of die, wafers or wafers sawn on frames with dual end-effector
- Handles thin & warped wafers - 50 um to 70 um
    - Silicon & III-V compound
- Multiple Cassette Options – 2 are typical
- Flexible PILOT Control Software Suite - Automatic wafer & chip alignment, Z height detection & profiling, wafer map, interfaces and more
- Numerous Options – thermal chucks, optics, CCTV systems, bar code reader, OCR, manipulators, probe cards and more
- Modularity – unsurpassed flexibility with the PS4L platform

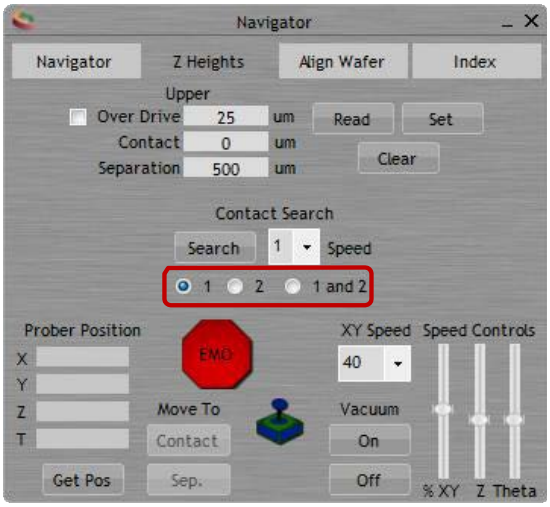


The Probe System for Life (PS4L) family of wafer probing systems is designed based on SemiProbe's patented adaptive architecture. Unlike traditional probe systems, all foundation modules – bases, stages, chucks, microscope mounts, microscope movements, optics, manipulators and more - are interchangeable, 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.

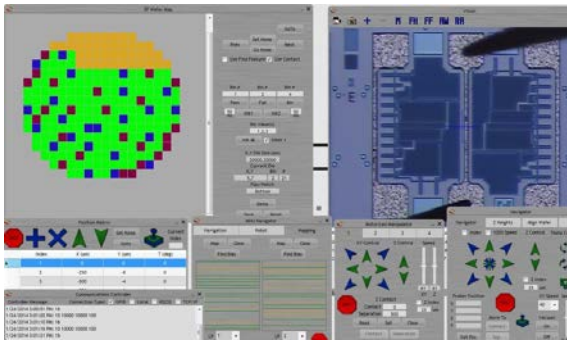
All SemiProbe automatic systems operate on the powerful PILOT control software suite, designed employing the same adaptive architecture philosophy as the PS4L hardware. PILOT is modular, intuitive and easy to learn. Additional control modules for added features and accessories can be added without changes to the core control software. Common functions such as 2 point alignment are wizard-based for easy operation - even for the occasional user. For setup or occasional users, the software can be bypassed and total control moved to a local joystick.



PILOT Software Navigator Window – easy and intuitive to use



Navigator Z Set-Up – user has the flexibility of setting the contact, separation and overdrive. Automatic contact search and speed is user selectable.



This powerful DLL-based software allows users to quickly and easily communicate with the probe system and test instrumentation. Full driver libraries are available for LabView, C++, and Visual Basic with specific instrument drivers to support the most advanced instrumentation available, including the Agilent B1500 Semiconductor Device Analyzer and Keithley 4200 Parametric Analyzer series. Communications may be made using RS-232, GPIB or TCP/IP enabling the system to be either a controller or a slave in an integrated solution.

A complete line of accessories is available for the PS4L including probe card holders, manipulators, manipulator arms and bases, probe tips, lasers, optics, CCTV systems, material handling (robotics for auto load), vibration isolation tables, dark boxes and much more.

FEATURES AND BENEFITS

- 200 mm fully automatic 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

Production Probe System for a variety of devices – Discrete, Integrated Circuit, MEMS, Optoelectronics, HF/Microwave, Photovoltaic and more

SPECIFICATIONS

Dimensions	900 mm x 1981 mm x 2438 mm (35.5" x 78.0" x 96") (W,H,L) – with optics, MHU, Dark Box and Monitor/Keyboard Rack
Weight	240 Kg (530 lbs.)
Chuck Stage X-Y Movement	Travel: 205 mm x 205 mm
	Speed: 50 mm/sec
	Resolution: 0.1 µm
	Repeatability: +/- 0.5 µm
	Accuracy: +/- 3 µm
	Planarity: +/- 8 µm over travel range
	Nema 17 stepper motor
	Optical linear encoder
Chuck Stage Z Movement	Z Travel: 15 mm
	Resolution: 0.5 µm
	Repeatability: +/-1.5 µm
Theta Movement	Travel: +/-4 degrees (User specified)
	Resolution: 0.29 arc-secs, (0.00001 degrees)
Chucks	Vacuum or mechanical clamping, round or square, HF, HV/HC, ambient, thermal and custom with lift pins
	Handle die, waffle packs, sawn wafers on frame, broken wafers and full wafers up to 200 mm
	Nickel plated steel with concentric vacuum rings (standard), other plating materials available
	Planarity: +/- 8 µm
Platen:	Aluminum with stainless steel top
	360 degree manipulator placement
	Manipulator fixation – magnetic, vacuum
Platen Movement	Platen Lift: Choice of fixed or adjustable
	Adjustable: coarse 40 mm, fine 200 um
Microscope Mounting/Movement	Mounting – Boom, Post or Bridge
	Movement – Manual or Programmable – 50 x 50 mm, 50 x 75 mm, 100 x 100 mm
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

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