

# SEMI-AUTOMATIC PRODUCTION PROBERS: PEGASUS™ S200, S300





# KEY FEATURES

## Microscope with optional camera

Variety of stereo zoom optics available to suit individual applications.

## Platen

Suitable for probe card holders and Pegasus™ probes.

## Wide range of chucks

Thermal and non-thermal chucks.

## Heavy duty work bench

Provides solid and stable platform, includes rack mounting.

## LabMaster™ Pro software

Simple to integrate with LabVIEW™ software and other standard industry platforms.

## Joystick/keypad

For simple and intuitive system operation.

## High speed Z stage

For high throughput production probing.

## Pegasus™ controller

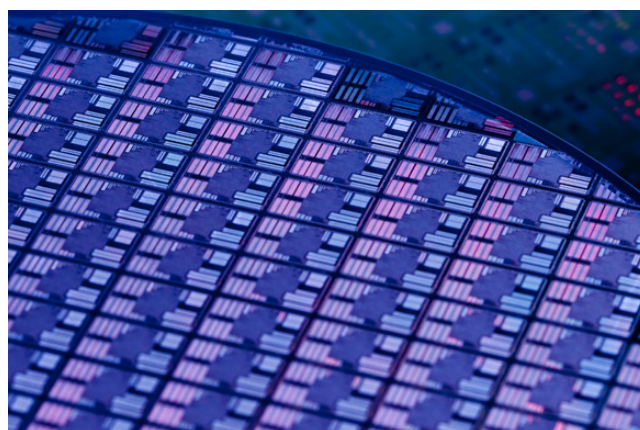
Configurable for multi-axis applications.

## Optional industrial PC

To support prober control software and pattern recognition requirements.

## DESIGNED FOR A WIDE RANGE OF APPLICATIONS

- ✓ High volume production testing
- ✓ Device characterization
- ✓ Ideal for testing laser diodes, SAW filter, MEMS, LED
- ✓ Also designed for testing discrete devices



# THE DESIGN

The Pegasus™ S200 and S300 semi-automatic probe stations are designed as low cost, compact, flexible probing platforms to enable rapid probing of wafers.

## EASY CONTROL

Ergonomic design and intuitive controls make the S200 and S300 platform one of the easiest prober platforms on the market to use. Quick start-up and simple menus allow users to be probing in minutes.

They can be used in 'local' or 'remote' mode. This flexibility allows the prober to be easily integrated with industry standard testers and data acquisition software.

## ROBUST DESIGN

Combining stainless steel and aluminium in their construction, the S200 and S300 probers provide an extremely stable platform for sub-micron probing and precision applications such as laser cutting.

Lightweight chucks and drive mechanics allow extremely fast probing with no loss of accuracy.



*Pegasus™ S200 with integrated keypad/joystick.*

## SPEED & FLEXIBILITY

Pegasus™ S200 and S300 are specifically designed and highly recommended for the characterization of wafers.

The S200 can accommodate wafer sizes from 50 mm (2") to 200 mm (8"), whilst the S300 is suitable for wafers up to 300 mm (12"). Both can be used to test full or partial wafers and offer rapid probing, with tunable speeds for specific applications.



*Pegasus™ S300 probe station*

All stages are controlled by the **Pegasus™ Controller** consisting of the drive electronics, joystick, keypad and optional Windows user interface.

Interfacing is made easy with TTL, GPIB (IEEE488.2) and RS232 ports located on the back panel.

## USER-FRIENDLY

The Pegasus™ S200 and S300 offer an intuitive menu-driven operation interface with keypad and integrated or separate joystick.

User interface includes:

- ✓ Programmable device parameters
- ✓ Local device file storage
- ✓ Menu driven user interface
- ✓ Intelligent theta alignment

## VERSATILITY

The Pegasus™ S200 and S300 can be configured for a variety of applications at affordable cost. Wentworth's many years of experience serving the electronics industry, allows even the most challenging application to be managed within standard lead times and budgets.

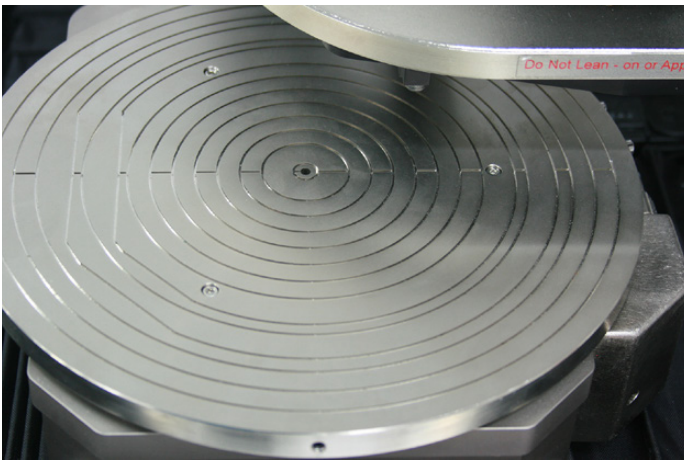
“ Turntable speeds and product enhancing accessories allow for fast probing and increased throughput.



# ACCURATE, COST EFFECTIVE PROBING

## CHUCK SOLUTIONS

The Pegasus™ S200 and S300 probe stations can accommodate various vacuum chuck designs for full and partial wafers, providing users the ability to electrically ground, float or bias the chuck.



Vacuum chuck

## THERMAL CHARACTERIZATION

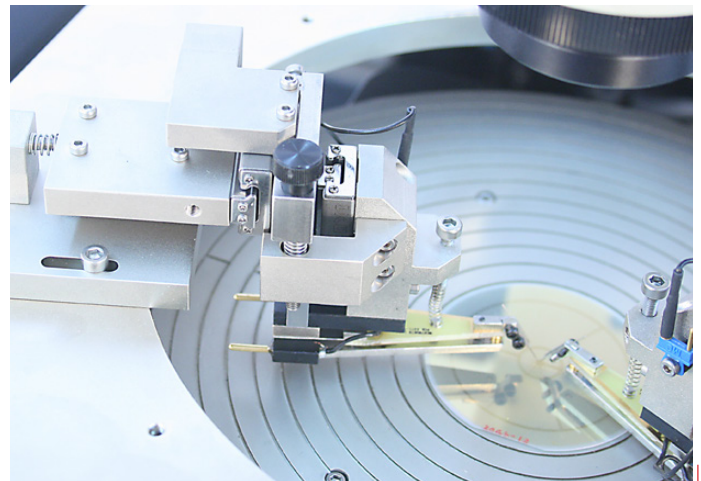
Our performance thermal chuck solutions are suitable for device testing from -40°C to +300°C. This can be achieved thanks to our proprietary heating and cooling management system, which forms an integral part of **ShieldMaster™**, a localised light tight and safety enclosure.



Pegasus™ S200 with ShieldMaster™

## PEGASUS™ PROBE

Pegasus™ Probe has an integrated wafer edge and height sensor and is commonly used on the Pegasus™ S200 and S300. It combines both these functions into one compact unit and uses an open loop control system to automatically adjust the chuck Z height while probing. This is often referred to as Active Wafer Profiling (AWP).



Pegasus™ S200 with Pegasus™ Probe

## ACTIVE WAFER PROFILING

The Pegasus™ S200 and S300 probe stations support Active Wafer Profiling which produces repeatable probe marks across the full wafer—an important advantage when probing for Known Good Die (KGD). Variable contact force adjustment makes it easy to obtain the desired probe mark and throughput.

Over-travel is applied from the point where the sensor has detected the surface. Parameters can be easily configured by the user. The same principle applies for probe cards using an edge sensor(s).

“ Pegasus™ Probe, height detection and variable contact force adjustment makes it easy to obtain the desired probe mark.

# SPECIFICATIONS

## PEGASUS™ S200/S300 SEMI-AUTOMATIC PROBE STATIONS

	Pegasus™ S200	Pegasus™ S300
Chuck Stage		
X-Y Stage		
Precision ball-screws & stepper motors		
Travel	210 x 210 mm (8.3 x 8.3")	310 x 380 mm (12.2 x 15.0")
Resolution	1.25 µm	
Repeatability	± 4.0 µm	
Accuracy	± 7.0 µm	
Planarity	8.0 µm	
Maximum speed	100 mm/sec	
Z Stage		
Precision ball-screws & stepper motors		
Travel	11 mm (0.43")	
Resolution	1.0 µm	
Repeatability	± 1.0 µm	
Theta Stage		
Travel	± 8.0°	
Resolution	0.2 µm, 0.0001° measured at edge of 200 mm chuck	0.3 µm, 0.0001° measured at edge of 300 mm chuck
Graphical User Interface		
Windows 7,8.1 and 10		

Pegasus™ S200		Pegasus™ S300
Communication Interfaces		
PC	TTL, RS232, GPIB (IEEE488.2), ETHERNET	
Utilities		
Power	100-240 VAC 50/60 Hz auto select 600 VA	
Vacuum	0.5 cfm @ 20 in Hg (min)	
Dimensions (w x d x h), excluding optics and monitor		
Prober (excludes optics)	634 x 610 x 350 mm (25.0 x 24.0 x 13.8")	888 x 878 x 400 mm (35.0 x 34.6 x 15.7")
Controller	450 x 480 x 180 mm (17.7 x 18.9 x 7.1")	
Shielding (using optional enclosures)		
Light	> 120 db	
EMI	> 20 db 0.05 - 0.5 Ghz, 30 db 0.5 - 3Ghz	
Weight		
Prober	45 kg (99 lbs)	100 kg (220 lbs)
Controller	13 kg (29 lbs)	13 kg (29 lbs)
Probe Platform		
Drive type	Manual	Motorized
Platform Z adjust	25 mm	Up to 50 mm variable setting
Material	Nickel plated steel	

## ABOUT WENTWORTH LABORATORIES

With over 50 years of experience in wafer probing technology, our solutions are the number one choice for many leading-edge wafer test applications across the globe.

With the support of a world-wide network of representatives, we enable our customers to fulfil even the most challenging wafer probing goals, maximizing their productivity and reducing costs.

We look forward to discussing your wafer probing requirements.

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