

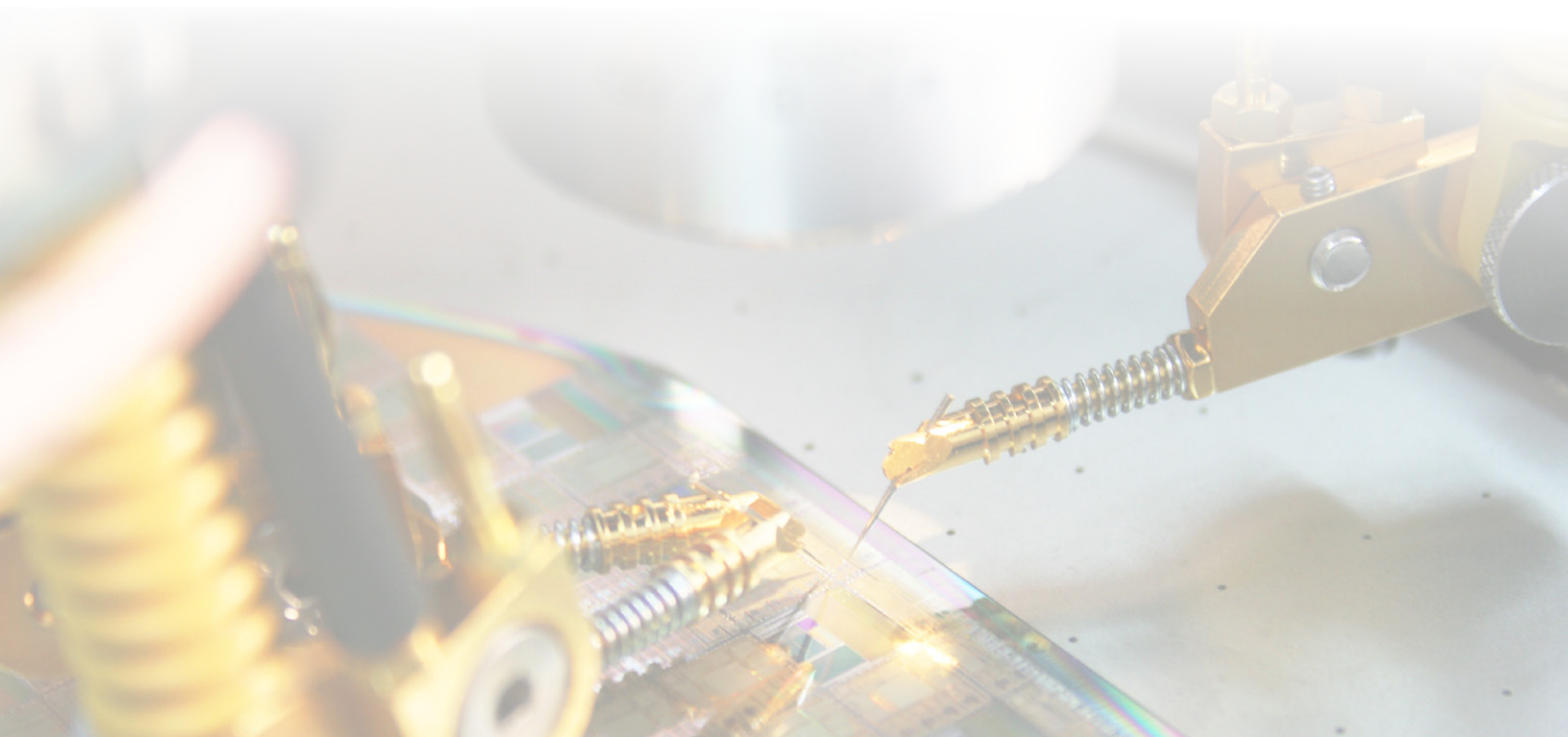
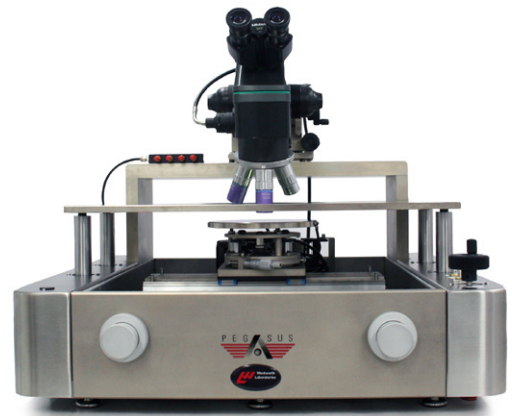
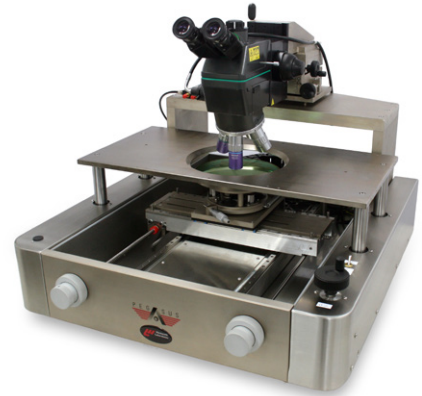


# ANALYTICAL PROBERS

# M200FA

# M300FA

# MANUAL



# KEY FEATURES

## Microscope quick lift arm

## Microscope with optional camera

Stable microscope bridge mount, choice of high power and stereo optics available

## TC300 temperature chuck

Wide range of thermal and non-thermal chucks available

## Chuck lift switch vacuum on/off switch

For simple operation

## Theta adjustment

## Y stage controls

Quick coarse and fine adjustment of Y stage

## TC300 controller

Enables fine setting of chuck temperature and displays current temperature

## Manual microscope mount

Easy adjustment of both x and y axes

## Large area platen

Suitable for mounting up to 8 manipulators

## Platform quick lift

Quick lift lever for simple wafer loading

## Platform adjustment

Coarse and fine controls for platform height adjustment

## X stage controls

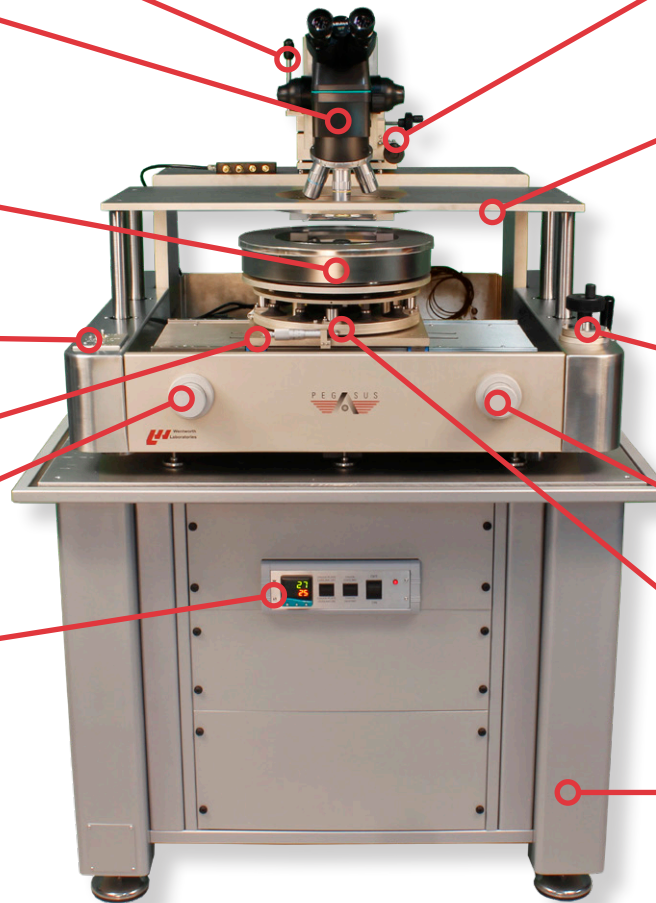
Quick coarse and fine adjustment of X stage

## Chuck load/unload access

Extended stage for easy wafer loading

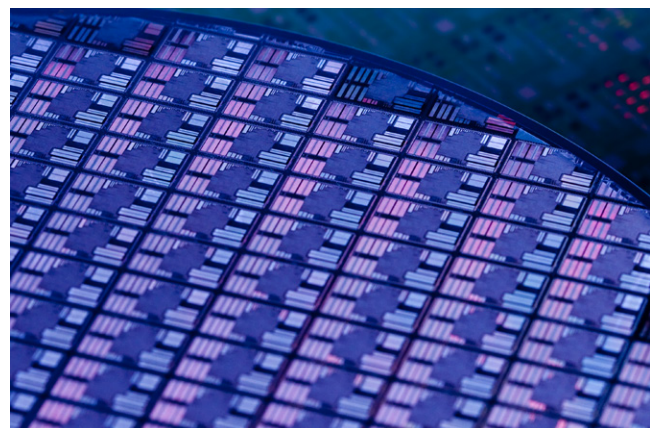
## Anti-vibration table

For high performance vibration isolation



## DESIGNED FOR A WIDE RANGE OF APPLICATIONS

- ▶ Failure analysis
- ▶ Design verification and characterization
- ▶ Parametric testing (DC to low level)
- ▶ Ideal for high power and ultra fast IV and CV probing



# THE DESIGN

## SETTING THE STANDARD

Wentworth Pegasus™ manual FA Series probers enable you to quickly obtain accurate measurements. At their core is a highly stable, feature-laden platform to capture repeatable measurements.

Utilizing either Wentworth replaceable probes or DC cantilever probe cards the Pegasus™ M200FA and M300FA provide an ideal platform for a variety of test applications.

Pegasus™ M200FA can accommodate wafer sizes from 50 mm (2") to 200 mm (8"), whilst the M300FA is suitable for wafers up to 300 mm (12"). Both can be used to test full or partial wafers to reduce waste and increase yield.

## CONFIGURABLE DESIGN

Ergonomic design and controls make the Pegasus™ manual FA Series platform extremely user friendly. The precision X/Y stage features lead screws with linear rails to deliver repeatable accuracy over a wide temperature range using our exclusive calibration process.

Features include:

- ✓ Large area platen height adjustment
- ✓ Fine lift chuck mechanism
- ✓ Robust microscope bridge used with Stereo Zoom and High Powered Microscopes
- ✓ Localized light-tight, EMC & HV safety enclosure (GuardMaster™) with dedicated cable feed through bulkheads

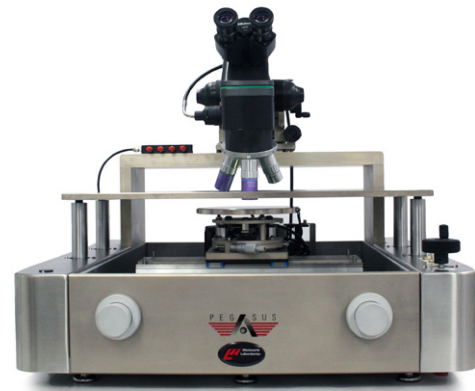
## VERSATILITY

The Pegasus™ manual FA series probers 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.

Customizable chuck solutions allow handling of full wafers, shards, single chips and packaged parts.

## FAILURE ANALYSIS

Failure analysis applications require mechanical versatility and ease to make multiple measurements. The Pegasus™ M200FA and M300FA have been designed with these aspects in mind. Offering multiple FA tools/options we offer easy upgrade options including a wide range of



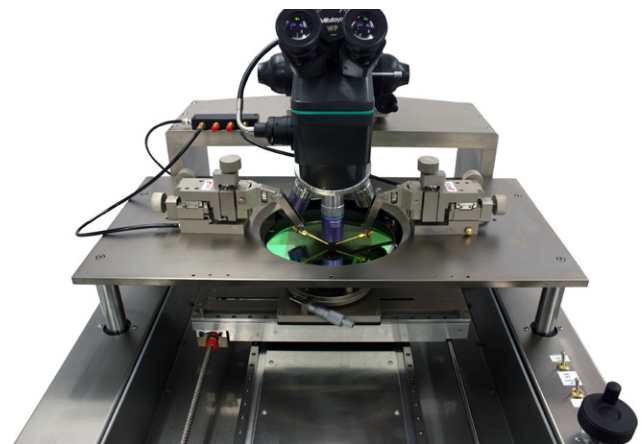
manipulator probe heads, probe needles and laser-ready optics.

## THERMAL CHARACTERIZATION

Wentworth offer performance thermal chuck solutions for device testing from -60 °C to +400 °C. Wentworth's propriety Heating and Cooling management system is an integral part of GuardMaster™, utilizing CDA or Nitrogen to reduce thermal effects and keeping the probing environment controlled.

### OPTIONS

Temperature	Control
-60 °C to +300 °C	Air cooled high end system combining very low and high temperatures within one chuck system
-60 °C to +300 °C	Liquid cooled for high power applications
up to +400 °C	details available on request



*Pegasus™ M200FA with PVX500 manual manipulators*



# LEADING EDGE APPLICATIONS

## DC PARAMETRIC

Utilizing Wentworth's PVX 400 or PVX 500 manipulators or cantilever probe cards, the Pegasus™ M200FA and M300FA probers offer an ideal platform for parametric testing. A choice of chuck solutions enables probing of full wafers, shards, single chips and packaged devices.

### SPECIFICATION

Frequency	DC > 100Mhz
Breakdown Voltage	500V
Leakage (depending on configuration)	down to +/-10fA -65°C > +200°C down to +/-20fA +200°C > +400°C



Analytical DC Test

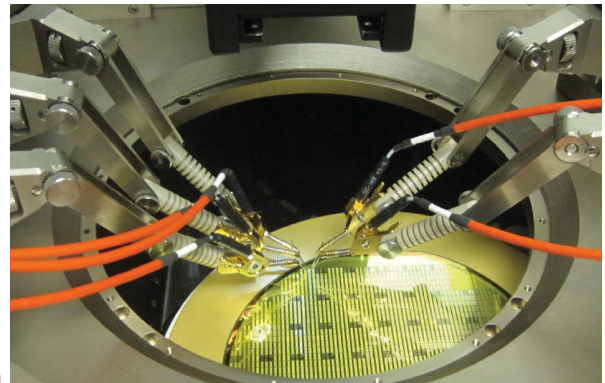
## HIGH POWER

A high power configuration addresses today's power semiconductor test challenges with low contact resistance measurements requiring accuracy at high voltages. Kelvin chucks and reverse side probing solutions allow contact resistance measurements in the milliohm range.

High current probes and probe cards (up to 100A) handle and distribute excessive current loads. Dedicated HV and HC probes reduce probe and device destruction at high voltages/currents by preventing arcing at the tip.

### SPECIFICATION

Voltage	3KV (Triax), 10KV (Coax)
Current	200 Amps (Pulsed)
Leakage	<1 pA (3KV)



High Power Test

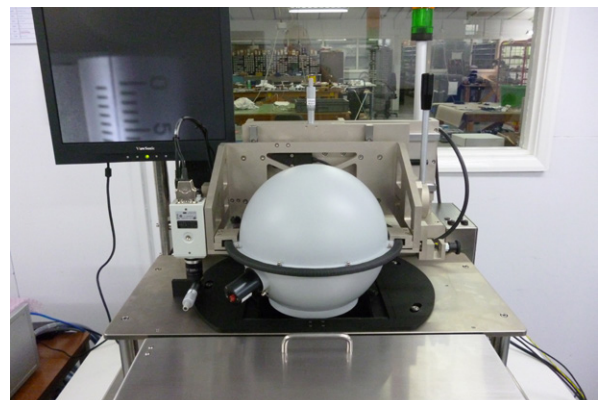
## OPTO ELECTRONICS

Our manual FA Series probers can be specifically designed for production sampling and analytical probing of semiconductor light emitting diodes (LEDs), laser diodes and optical MEMS devices.

Chuck solutions allow handling of full wafers, shards, single chips and packaged parts. The set-up can accommodate spectrometer probes, fibre optics, integrating spheres, glass chucks, thermal imaging cameras and more.

### SPECIFICATION

Reverse emission	Glass chuck, reverse side
------------------	---------------------------



Opto Electronics Test

# SPECIFICATION

## PEGASUS™ M200FA/M300FA MANUAL PROBE STATION

	Pegasus™ M200FA	Pegasus™ M300FA
<b>Chuck Stage</b>		
<b>X-Y Stage</b>		
X Travel	210 mm (8.25")	310 mm (12.2")
Y Travel	310 mm (12.2")	410 mm (16.14")
Planarity	8 µm	
Maximum speed	100 mm/sec	
<b>Linear motion guides</b>		
Coarse ratio 1:1	70 microns per degree	
Fine ratio 10:1	7 microns per degree	
<b>Chuck</b>		
Chuck flatness	Flat to within 10 µm (0.0004")	
Theta	Micrometer drive theta, 15°	
Fine lift movement	250 microns	
<b>Weight</b>		
Prober	131kg	150 kg

	Pegasus™ M200FA	Pegasus™ M300FA
<b>Platen</b>		
Height adjustment	Via fine adjustment level	
Separation lift	10 mm (0.4")	
<b>Utilities</b>		
Power	100-240 VAC 50/60 Hz auto select 600 VA	
Vacuum	0.5 cfm @20" Hg (min)	
Compressed air	4 bar min	
<b>Dimensions (W x D x H)</b>		
Prober (excludes optics & scope mount)	770 x 800 x 415 mm 30.3 x 31.5 x 16.3"	923 x 878 x 415 mm 36.3 x 34.6 x 16.3"
<b>Shielding</b>		
Light	> 120 dB	
EMI	>20 dB 0.05 - 0.5 Ghz, >30 dB 0.5 - 30 Ghz	

<b>MANIPULATORS</b>	
Type	TPI/Resolution/Travel
PVX400 (vacuum or magnetic)	50 TPI / 1.2 µm/° / X = 10 mm, Y = 10 mm, Z = 10 mm
PVX500-100 (vacuum or magnetic)	100 TPI / 0.7 µm/° / X = 10 mm, Y = 10 mm, Z = 10 mm
PVX500-200 (vacuum or magnetic)	200 TPI / 0.35 µm/° / X = 10 mm, Y = 10 mm, Z = 10 mm

<b>MICROSCOPES</b>	
MICROSCOPE TYPE	MODELS AVAILABLE
Stereozoom	Wentworth, Leica
High magnification	Mitutoyo FS-70 Series, A-Zoom Micro
Without eyepieces	A-Zoom Micro

## ABOUT WENTWORTH LABORATORIES

With over 50 years 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.

**UNITED KINGDOM / EUROPE**  
**Wentworth Laboratories Ltd**  
 1 Gosforth Close, Sandy, Bedfordshire  
 SG19 1RB, United Kingdom  
**Tel:** +44 1767 681221  
**Email:** info@wentworthlabs.com

**UNITED STATES**  
**Wentworth Laboratories, Inc**  
 1087 Federal Road, Unit 4, Brookfield,  
 Connecticut 06804, United States  
**Tel:** +1 203 775 0448  
**Email:** info@wentworthlabs.com



vs 02/19