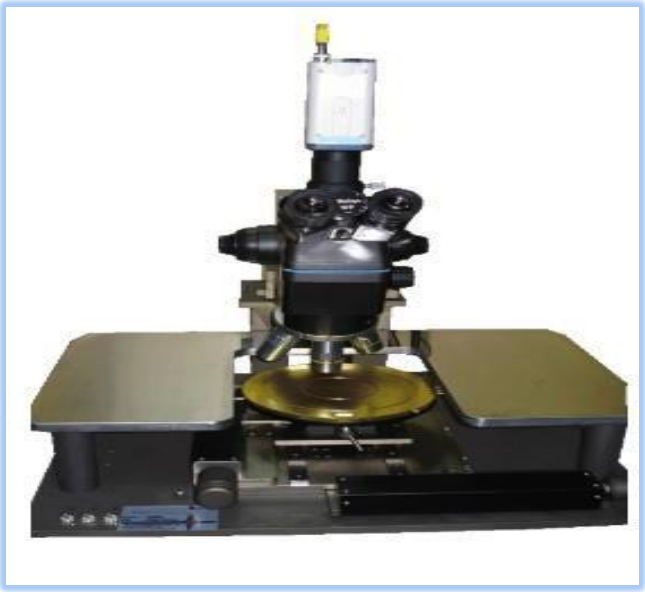
TECHNICAL DATASHEET

APS200 | 200 mm Analytical Probe Station for Semiconductor Wafer Testing

APPLICATIONS:

- **IV/CV and RF measurements**
- **Hall Effect Measurements**
- **Resistivity Measurements**
- **Semiconductor Wafer Testing**

FEATURES / BENEFITS



- **Manual stage assembly with up to 210mm x 205mm in X-Y range of motion**
- **Powder-coated steel platen holds up to 10 magnetic or vacuum- based positioners.**
- **High quality stereo/ compound microscopes with high-intensity LED lighting provide outstanding vision at magnifications. Includes camera port**
- **Standard boom mount assembly for full-range XYZ positioning of microscope.**
- **Bridge mounted scopes is also available on customer's request. XY range of 15mm x15mm (higher range available).**
- **Available high resolution Micropositioners**
- **RF options available (Up to 67 GHz) include customizable RF probes, RF bias-able chuck, and shielding enclosures**
- **4.5" probe card holder**

SPECIFICATIONS

Chuck XYZ Stage Travel:

Total travel range	**:**	Up to 210 mm x 205 mm
Travel resolution	:	< 1.0 µm
Chuck Z axis adjustment	:	10 mm
Chuck Theta travel	:	±5°, optional up to 360°
Chuck Pull Out Stage	:	Pull out Stage for easy wafer loading/unloading

Super Solutions & Services Co., Ltd.12F-4, No. 17, Lane 496, Niupu S. Rd., Hsinchu 30091, Taiwan,(R.O.C)
www.3-s.com.tw

AKAM Technologies. # 24/A, Nanjundeshwara Layout, JP Nagar, Vth Phase, Bangalore 560 078, INDIA, P: +91 9880028864 E: akamtech@gmail.com W: www.akamtech.in

PLATEN:

Specifications:

Material	:	**Stainless Steel**
Chuck to platen height	:	**Min. 10 mm**
Platen lift control	:	**Fixed, Platen lift of up 25 mm available on request(Optional)**
Max. No of Micro-Positioners	:	**Up to 10 Micropositioners**
Micropositioners Mounting	:	**Compatible for both Magnetic as well as Vacuum base micropositioners**
RF Micro-Positioner mounting	:	**Magnetic/Vacuum base with guided rail**
DC Micro-Positioner mounting	:	**Magnetic/Vacuum base**

NON-THERMAL CHUCKS

Standard Wafer Chuck:

Chuck Connections	:	**Coaxial(BNC)/ Triaxial**
Chuck Diameter	:	**Up to 200 mm**
Chuck Material	:	**Stainless Steel. Chuck made of other material is available as optional**
Chuck surface	:	**Planar with centric engraved vacuum grooves**
Chuck Sample actuation	:	**Vacuum actuation with three zone vacuum holes**
Sample Size	:	**Min 5mm x 5mm up to 200 mm wafer**
Chuck Surface Planarity	:	**10µm, Optional down to ±3µm**

RF Wafer Chuck:

Chuck Connections	:	**Coaxial(BNC)/Triaxial**
Chuck Diameter	:	**Up to 50 mm 2 AUX chuck as optional**
Chuck Material	:	**Aluminum Plated with Nickel, Copper Plated with Gold**
Chuck surface	:	**Planar with centric engraved vacuum grooves**
Chuck Sample actuation	:	**Vacuum actuation with three zone vacuum holes**
Sample Size	:	**Min 5mm x 5mm up to 200 mm wafer**
Chuck Surface Planarity	:	**10µm, Optional down to ±3µm**

Auxiliary Chuck:

Quantity	:	**2 Nos of AUX Chuck**
Chuck Diameter	:	**Up to 50 mm**

Chuck Material	:	**Derlin, Ceramic, RF absorbing material**
Chuck Sample actuation	:	**Separate vacuum control switches for auxiliary chucks**
Sample Size	:	**Min 5mm x 5mm up to 50 mm wafer**
Chuck Surface Planarity	:	**10µm, Optional down to ±3µm**

ELECTRICAL PERFORMANCE SPECIFICATIONS:

Standard Chuck @10 V:

Parameter	Coaxial Chuck	Triaxial Chuck	
Maximum voltage between chuck and GND	500 V DC	**500 V DC**	
Isolation	> 2 GΩ		
		Force to guard	**> 25TΩ**
		Guard to shield	**> 3T**
		Force to shield	**> 500GΩ**
Leakage current	< 50pA	≤ 50fA	
Capacitance	< 800pF	< 100fF	
Chuck Flatness	**≤10µm**	**≤10µm**	

THERMAL CHUCK:

Parameter	Coaxial Chuck	Triaxial Chuck
Temperature Control Method	Resistive type heating	**Resistive type heating**
Cooling	Water cooling/ Air cooling	**Water cooling /Air cooling**
Temperature Range	RT - 200°C, Optional up to 600°C	**RT - 200°C, Optional up to 600°C**
Temperature Control	Linear DC/PID	**Linear DC/PID**
Temperature Sensor	(RTD) Pt100/ /3DIN, 4-line wired	**(RTD) Pt100/ /3DIN, 4-line wired**
Temperature Stability	±0.5 °C	**±0.5 °C**
Temperature Accuracy	±1 °C	**±1 °C**
Connection Interface	RS232	**RS232**
Chuck Surface Plating	Nickel/Gold	**Nickel/Gold**
Surface Flatness	±10µm@RT & ≤ 30µm@ ≥300°	**±10µm@RT & ≤ 30µm@ ≥300°C**
Leakage Current	**< 100pA**	**<100fA**

Micropositioners:

Model	Description	
MH100	Fixed Magnet Base	
	Switchable Magnet Base	
	Vacuum Base	
MH100	Foot dimension	**70 x 50mm**
	Travel range X,Y	**12mm**
	Travel range Z	**12mm**
	Feature Resolution	**1µm/0.8µm**
	TPI resolution	**80 TPI/100TPI**
MH300	Fixed Magnet Base	
	Switchable Magnet Base	
	Vacuum Base	
MH300	Foot dimension	**70 x 35mm**
	Travel range X,Y	**12mm**
	Travel range Z	**12mm**
	Feature Resolution	**3µm**
MH500	Switchable magnet base	
	Vacuum Base	
MH500	**Foot dimension**	**80 x 90mm**
	Travel range X ,Y	**±15 mm**
	Travel range Z	**±15**
	Feature	**mm**
	Resolution	**3µm**

Probe Tip Holders with Connecting Cable:

Model	Description
	Coaxial Tip Holder with Coaxial Cable
SHC15	**Spring Holder/1.5m coax cable/BNC male**
THC15	**Tube Holder/1.5m coax cable/BNC male**
NHC15	**Nut Holder/1.5m coax cable/BNC male**
	Triaxial Tip Holder with Triaxial Cable
THT15	**Tube Holder/1.5m Triax cable/Triax male**
NHT15	**Nut Holder/1.5m Triax cable/Triax male**
	High Frequency Probe Arms
MWA-EW	**HF probe arm (east-west)**
MWA-NS	**HF probe arm(north - south)**

System Dimensions: 660mm wide x660mm deep x 700mm high

Weight: 80kg to 150kg depending on options selected