

AMC200 | 200 mm Manual Analytical Probe Station

For True DC/CV and RF measurements

FEATURES / BENEFITS

✚ *Manual stage assembly with up to 200mm x 200mm range of motion*

✚ *Powder-coated steel platen holds up to 8 magnetic or vacuum-based positioners.*

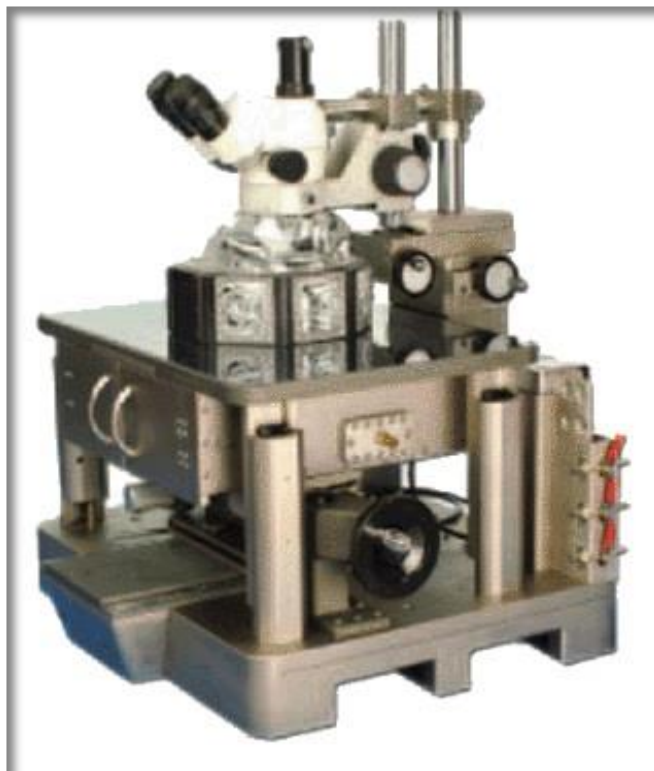
✚ *High quality stereo zoom/compound microscopes with high-intensity LED lighting provide outstanding vision at magnifications. Includes camera port*

✚ *Standard boom/bridge mounts assembly for full-range XYZ positioning of microscope. XY range of 25mm x 25mm (higher range available).*

✚ *Available high resolution micropositioners*

✚ *Compatible for the temperature Range:-70°C to 300°C*

✚ *RF options available (Up to 67 GHz) include customizable RF probes, RF bias-able chuck, and shielding enclosures*



SPECIFICATIONS

Chuck XYZ Stage Travel:

Total travel range	: Up to 200 mm x 200 mm
Travel resolution	: < 1.0 μ m
Planarity	: \leq 10 μ m, Optional available on request
Chuck Z axis adjustment	: 10 mm

Chuck Theta travel	: $\pm 5^\circ$
Chuck Pull Out Stage	: pull out Stage

PLATEN:

Specifications:

Material	: Stainless Steel
Chuck to platen height	: Min. 10 mm
Platen lift control	: Fixed, Platen lift of up 20 mm available on request(Optional)
Max. No of Micro-Positioners	: Up to 4DC and 4 RF Positioners
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	: 10 μ m, Optional down to $\pm 3\mu$ m

RF Wafer Chuck:

Chuck Connections	: Coaxial(BNC)
Chuck Diameter	: Up to 200 mm 2 AUX chuck as optional
Chuck Material	: Nickel Plated aluminum, Ceramic etc
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	: 10 μ m, Optional down to $\pm 3\mu$ m

Auxiliary Chuck:

Quantity	: 2 Nos of AUX Chuck
Chuck Diameter	: Up to 100 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 100 mm wafer
Chuck Surface Planarity	: 10 μ m, Optional down to \pm 3 μ m

Micro-Chamber:

EMI shielding	: >20 dB 0.5-20 GHz
Spectral noise floor	: < -150 dBVrms/rtHz
System AC noise	: < 15 mVp-p

Light Shielding:

Type	: Dark enclosure around chuck
Wafer access	: Pullout stage for easy wafer loading access with Front opening door
Probe compatibility	: Micro-Chamber compatible for up to eight Micropositioners (Probes)
Light attenuation	: > 120 dB

Purge and Condensation Control:

Dew point capability	: Frost free measurements: Up to -70°C
Purging gas	: Dry air or nitrogen
Purging flow rate	: Standard purge - manual controls, variable 0 to 110 l/min Quick Purge Control: 0 or maximum air flow
Purging time	: < 15 min @ -55°C

ELECTRICAL SPECIFICATIONS:

Standard Chuck @10 V:

Parameter	Coaxial Chuck	Triaxial Chuck
Maximum voltage between chuck and GND	500 V DC	500 V DC
Isolation	> 2 G Ω	
		Force to guard > 25T Ω
		Guard to shield > 3T

Leakage current	< 50pA	Force to shield $> 500G\Omega$ $\leq 50fA$
Capacitance	< 800pF	< 100fF
Chuck Flatness	$\leq 10\mu m$	$\leq 10\mu m$

Thermal Chuck:

Parameter	Coaxial Chuck	Triaxial Chuck
Temperature Control Method	Resistive type heating	Resistive type heating
Cooling	Air cooling/Water cooling	Air cooling/Water 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	$\pm 0.5\text{ }^{\circ}C$	$\pm 0.5\text{ }^{\circ}C$
Temperature Accuracy	$\pm 1\text{ }^{\circ}C$	$\pm 1\text{ }^{\circ}C$
Connection Interface	RS232	RS232
Chuck Surface Plating	Nickel/Gold	Nickel/Gold
Surface Flatness	$\pm 10\mu m@RT$ & $\leq 30\mu m@ \geq 300^{\circ}$	$\pm 10\mu m@RT$ & $\leq 30\mu m@ \geq 300^{\circ}C$
Leakage Current	< 100pA	<100fA

HOT and COLD CHUCK:

Parameter	Coaxial Chuck	Triaxial Chuck
Temperature Control Method	Peltier (-30°C to 140°C)/ Air Cool(-70°C to 200°C)/ Liquid cool(-70°C to 200°C)	Peltier (-30°C to 140°C)/ Air Cool (-70°C to 200°C)/ Liquid cool (-70°C to 200°C)
Temperature Range	-70°C - 200°C	-70°C - 200°C
Temperature Accuracy	$\pm 0.5\text{ }^{\circ}C$	$\pm 0.5\text{ }^{\circ}C$
Temperature Stability	$\pm 1\text{ }^{\circ}C$	$\pm 1\text{ }^{\circ}C$
Connection Interface	RS232/RS484	RS232/RS485
Chuck Surface Plating	Copper plated with Nickel/Gold	Copper Plated with Nickel/Gold
Leakage Current	< 100pA	<100fA
Nitrogen or CDA purge to avoid frost free characterization		

✚ 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	8mm
	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
	Switchable magnet base	
MH500	Vacuum Base	
	Foot dimension	80 x 90mm
	Travel range X , Y	±15 mm
MH500	Travel range Z	±15 mm
	Feature 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: 580mm wide x460mm deep x 245mm high

Weight: 100kg to 200kg depending on options selected