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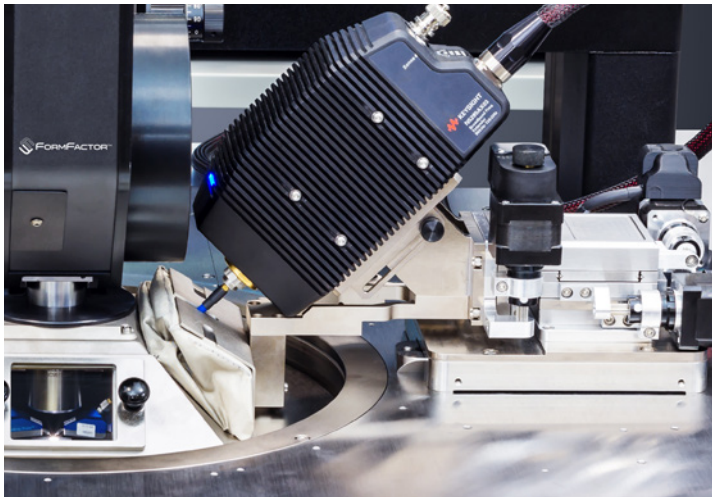
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Cascade

Probe Positioners

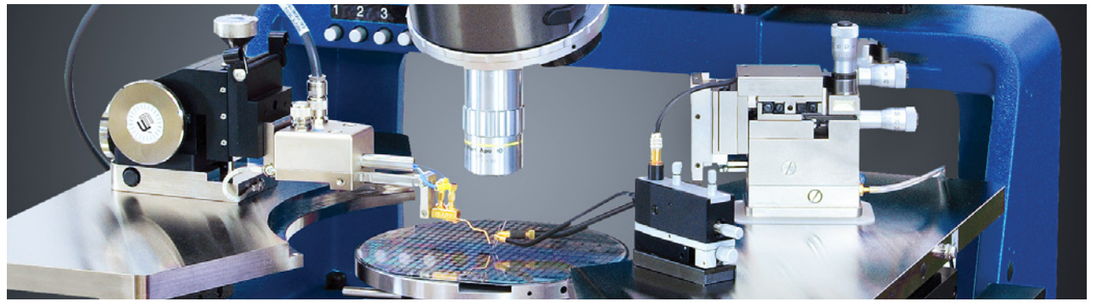
DC, RF and Optical Probe Positioning
for Highest Accuracy Measurements

FormFactor™





DC, RF and Optical Probe Positioning for Highest Accuracy Measurements



- Highest accuracy with backlash-free positioning
- Drift-free measurements over temperature and time*
- Easy, and safe swapping between arms
- Best signal integrity using optimized probe cabling systems
- Full thermal capability*
- Manual or progammable

FormFactor offers a wide variety of manual and motorized probe positioners for any application from DC to terahertz measurements and beyond.

Engineered for high stability and accuracy, FormFactor's positioners enable precise, backlash-free and repeatable probe tip placements - from simple IV/CV measurements to highly challenging measurement tasks.

Enhanced with FormFactor's **High Thermal Stability (HTS)**, the positioners become part of our exclusive **Contact Intelligence™ Technology** that enables small pad probing over a full temperature range of -60°C to 300°C.

Unsurpassed accuracy and highest productivity is achieved with the revolutionary **Autonomous Measurement Assistants** for DC, RF and Silicon Photonics testing. These wafer probing assistants utilize our programmable positioners and enable fully autonomous, hands-free measurements – minimizing training needs and accelerating time to market.

Designed and validated with proven quality standards, our positioners are always the perfect match to your FormFactor probe system.

Application Flexibility

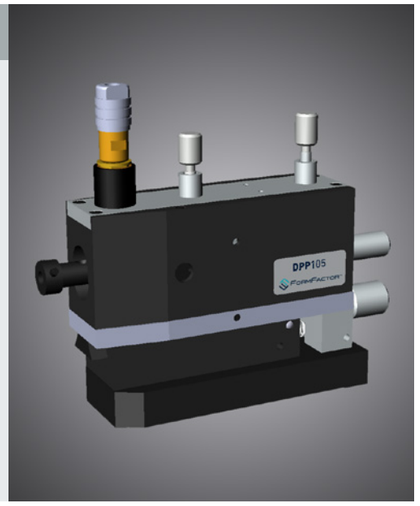
/ Device Characterization and Modeling
/ Ultra-low Noise Measurements (1/f)
/ RF, mm-Wave and Terahertz Measurements
/ High Power Test
/ Failure Analysis
/ Silicon Photonics Measurements
/ MEMS Test

**With HIgh Thermal Stability (HTS).*

Manual DC Probe Positioners

DPP105

Probe technology	Use with PTT DC probe needles
Feature resolution	5 µm
Travel range (X/Y/Z)	8 / 6 / 25 mm
Mounting	Vacuum, magnetic
Footprint (WxD)	60 mm x 20 mm
Applications	Basic IV probing Ideal for applications that require more than eight positioners



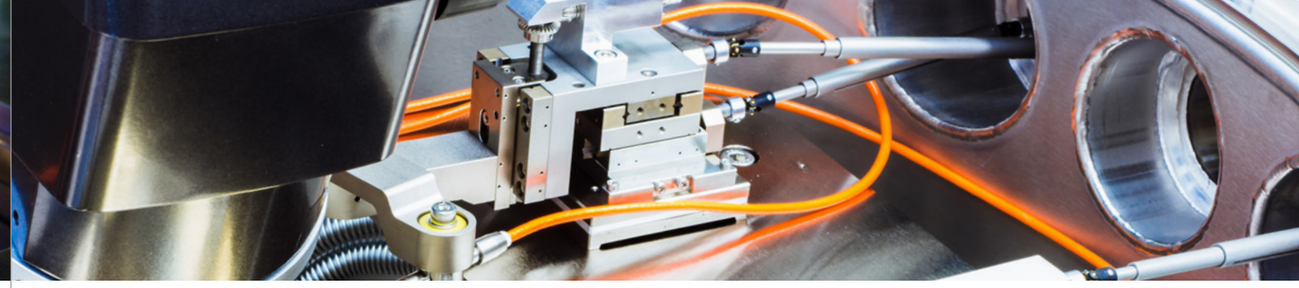
DPP205 / DPP210 / DPP220

Probe technology	Use with DCP high performance DC probes
Feature resolution	<2 µm (DPP205) / <1 µm (DPP210) / 0.5 µm (DPP220)
Travel range (X/Y/Z)	12.5 / 12.5 mm / 12.5 mm
Mounting	Vacuum, magnetic
Footprint (W x D)	90 mm x 60 mm
Application	IV/CV probing Failure analysis



For station compatibility see last page. For detailed specifications see the Probe Station Accessory Catalog.

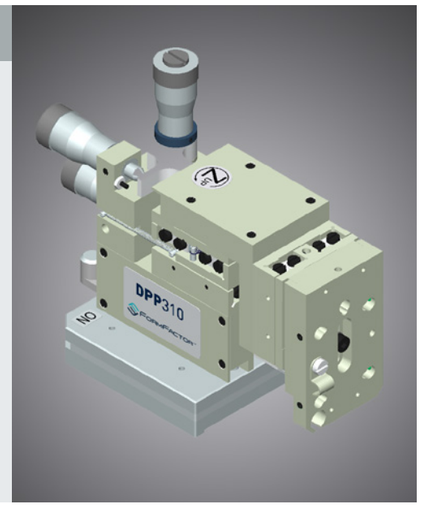




Manual DC Probe Positioners (Continued)

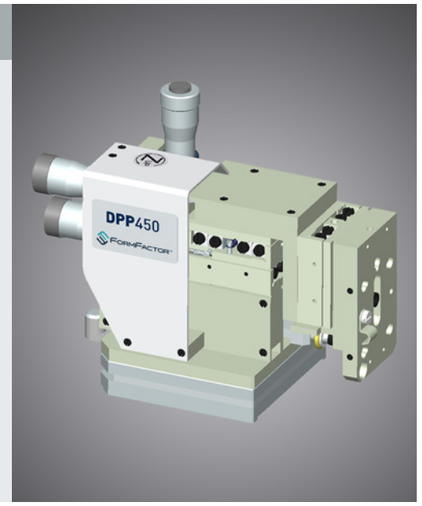
DPP305 / DPP310

Probe technology	Use with DCP high performance DC probes
Feature resolution	0.5 µm
Travel range (X/Y/Z)	10 mm / 10 mm / 8 mm
Mounting	Vacuum, magnetic
Footprint (WxD)	75 mm x 50 mm
Applications	High-precision and high-resolution probing High-performance IV/CV probing and failure analysis Internal node probing



DPP450

Probe technology	Use with DCP high performance DC probes
Feature resolution	0.2 µm
Travel range (X/Y/Z)	10 mm / 10 mm / 8 mm
Mounting	Vacuum, magnetic
Footprint (W x D)	75 mm x 50 mm
Application	High-resolution probing High-performance IV/CV probing and failure analysis High-performance internal node probing



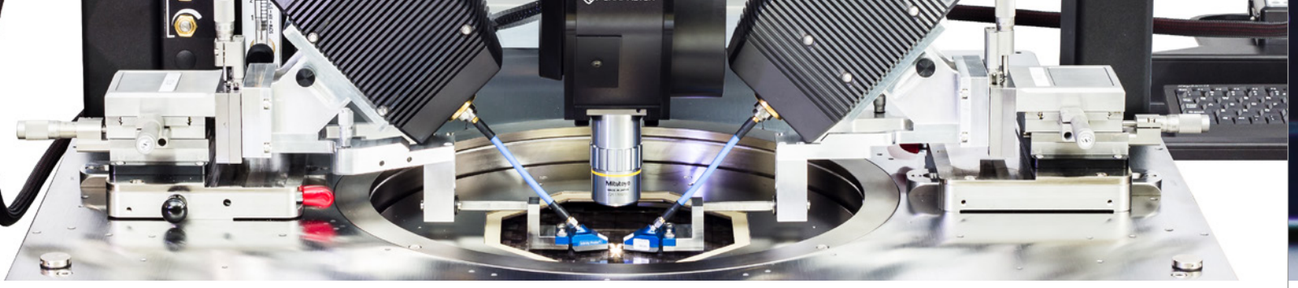
Manual Vacuum/Cryogenic Probe Positioner

VCP110

Probe technology	Use with high performance DC or RF probes
Feature resolution	3 µm
Travel range (X/Y/Z)	12 mm / 12 mm / 12 mm
Mounting	Magnetic
Footprint (WxD)	65 mm x 65 mm
Applications	IV/CV/RF probing and failure analysis in vacuum/cryogenic environment



For station compatibility see last page. For detailed specifications see the Probe Station Accessory Catalog.





Manual RF Probe Positioners

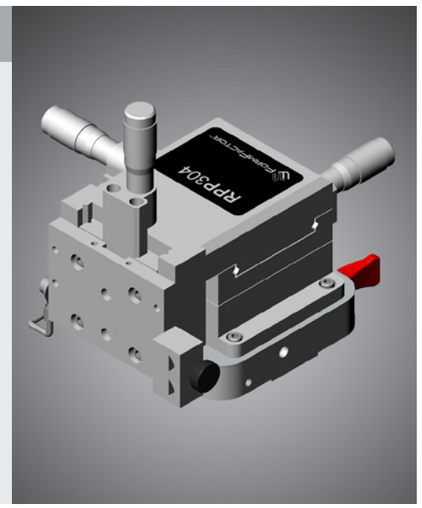
RPP210

Probe technology	Use with Infinity / ACP / |Z| Probe high performance RF probes
Feature resolution	<1 µm
Travel range (X/Y/Z)	12.5 mm / 12.5 mm / 12.5 mm
Mounting	Vacuum, magnetic
Footprint (W x D)	90 mm x 60 mm
Application	RF and multi-contact/ mixed-signal probing Wafer-level reliability probing



RPP304

Probe technology	Use with Infinity / ACP / |Z| Probe / T-Wave high performance RF probes
Feature resolution	<1 µm
Travel range (X/Y/Z)	12 mm / 12 mm / 12 mm
Mounting	Bolt down
Footprint (WxD)	133 mm x 147 mm
Applications	High-performance RF, multi-contact/mixed signal probing High-performance wafer-level reliability probing Single-ended broadband/ mm-Wave, terahertz, source/load-pull, RF noise probing



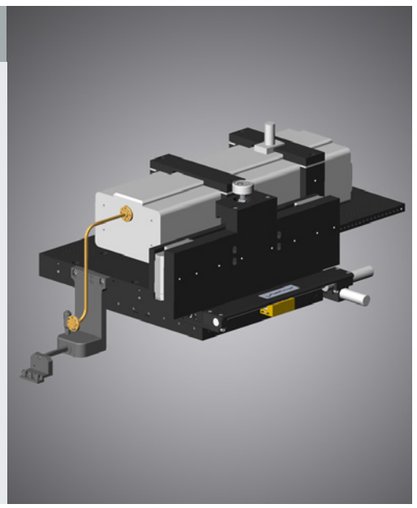
RPP305

Probe technology	Use with Infinity / ACP / |Z| Probe / T-Wave high performance RF probes
Feature resolution	<1 µm
Travel range (X/Y/Z)	25 mm / 25 mm / 10 mm
Mounting	Bolt down
Footprint (W x D)	124 mm x 124 mm
Application	High-performance RF, multi-contact/mixed signal probing High-performance wafer-level reliability probing Single-ended broadband/ mm-Wave, terahertz, source/load-pull, RF noise probing



mmW Large Area Positioner

Probe technology	Use with Infinity / ACP / T-Wave high performance RF probes
Feature resolution	3 µm
Travel range (X/Y/Z)	150 mm / 150 mm / 12.5 mm
Mounting	Bolt down
Footprint (W x D)	204 mm x 204 mm
Application	High-performance single-ended/differential broadband/ mm-Wave, sub-THz S-parameters, source/ load-pull, RF noise



For station compatibility see last page. For detailed specifications see the Probe Station Accessory Catalog.

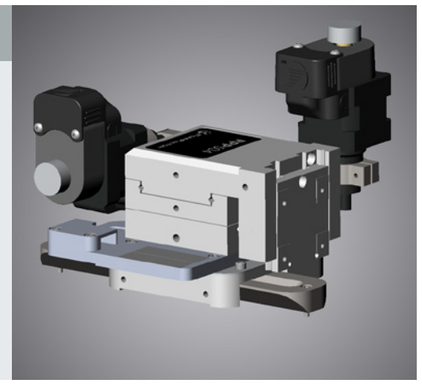


Motorized RF Probe Positioner RPP504

for Autonomous RF, mm-Wave and Terahertz Measurements

Contact Intelligence™

RPP504	
Probe technology	Use with Infinity / ACP / |Z| Probe / T-Wave high performance RF probes
Feature resolution	<1 µm
Travel range (X/Y/Z)	12 mm / 12 mm / 12 mm
Minimum step size	0.3 µm / 0.1 µm resolution
Mounting	Bolt down
Footprint (WxD)	128 mm x 140 mm
Applications	Autonomous RF, mm-Wave and THz probing, automatic multi-line TRL

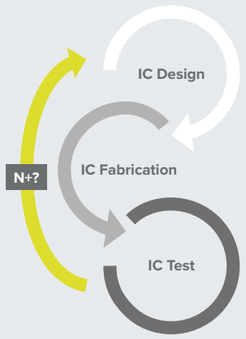


The RPP504 is part of FormFactor's revolutionary **Autonomous RF Measurement Assistant****, which enables fully autonomous, hands-free RF calibrations and measurements over multiple temperatures.

Featuring the exclusive Contact Intelligence™ Technology, it significantly reduces cost of test and accelerates time to market with increased accuracy and reduced design cycles.

Faster Time to Market

/ More modelling data with increased accuracy and reduced uncertainty

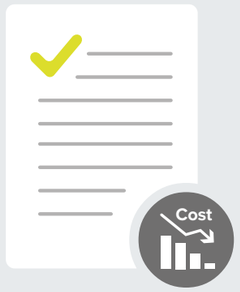


Fewer Design Cycles

Reduced Cost of Test

/ More tool utilisation with unattended test

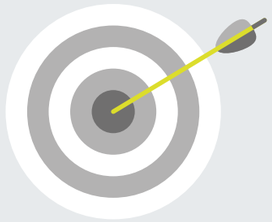
/ Minimized training costs



Lower Cost of Test

Increased Data Accuracy

/ True autonomous calibration monitoring and re-calibration



More Accuracy

** Available for CM300xi, SUMMIT200 and Elite 300.*



VIDEO

Motorized HexNano Probe Positioner

for Autonomous Silicon Photonics Measurements

FormFactor offers a completely integrated and validated solution for Silicon Photonics measurements at wafer level*. Our Autonomous SiPh Measurement Assistant is supported by our unique Contact Intelligence™ Technology and enables you to measure your photonic devices in days instead of months or years – without further development.

Part of our solution is the HexNano positioner with a precision XYZ piezo positioner and high rigidity space frame fiber arms.

Industry-First Features

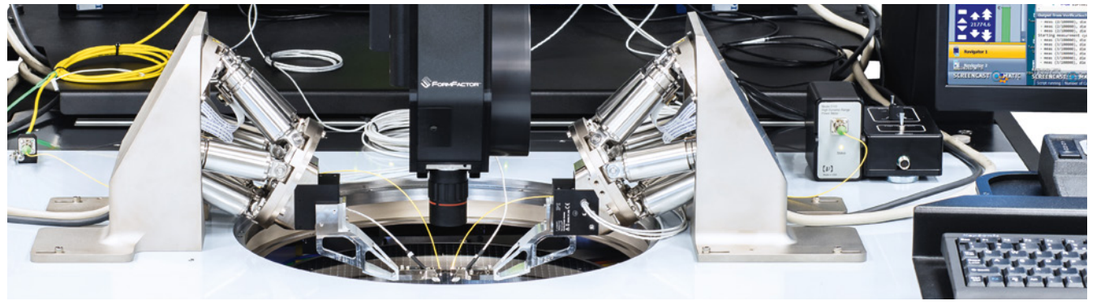
/ Validated Integration

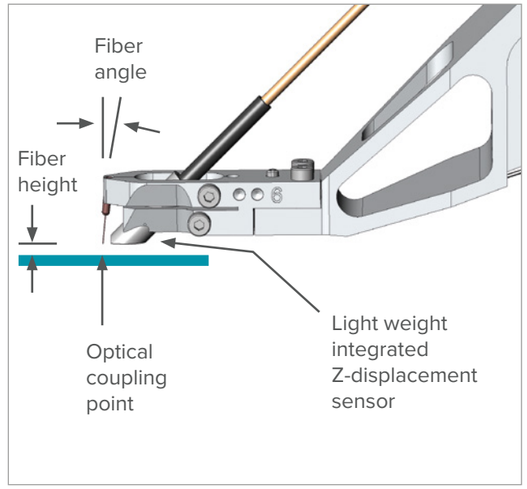
/ Verified Performance

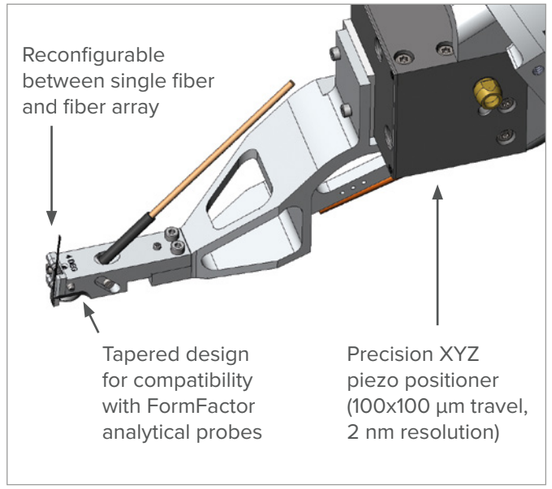
/ Automated Calibrations and Alignments

/ Integrated Z-Displacement

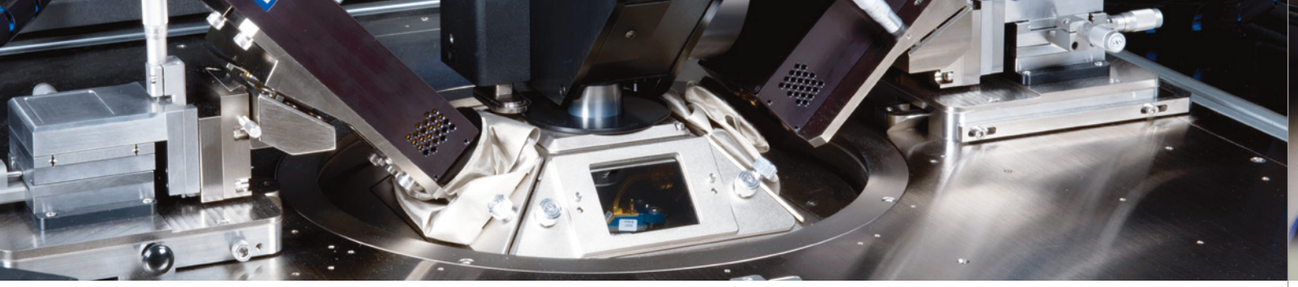
/ Reconfigurable Fiber Arms with Light Guide Technology

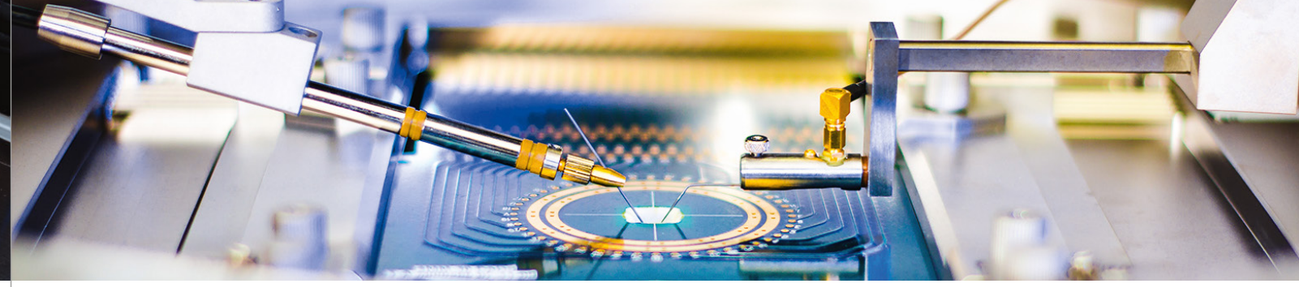






**Available for CM300xi and SUMMIT200.*





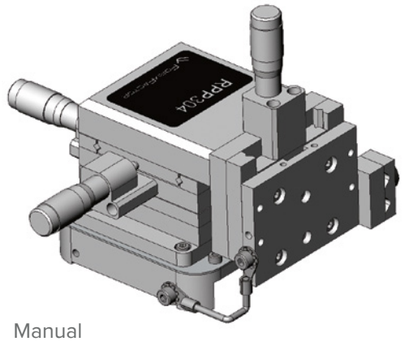
Easy Swapping Between Probe Arms

Our positioners are highly flexible, and with the corresponding positioner arms they are the perfect match to your FormFactor probe station. Intuitive installation and easy swapping between different positioner arms reduces training needs and leads to faster time to test.

In particular, our positioners for RF, mm-Wave and THz measurements are completely modular. You can simply choose between a manual or programmable positioner body and add a specific arm (for example VDI Mini Extender Arm or Keysight N5291 Arm). The arms are equipped with a dove tail that makes it easy, safe and fast to change between different bands.

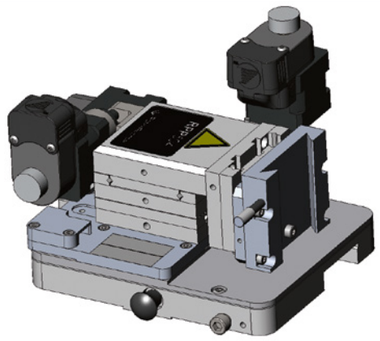
Example: mm-Wave and THz Positioners:

Positioner Body



Manual

OR



Programmable

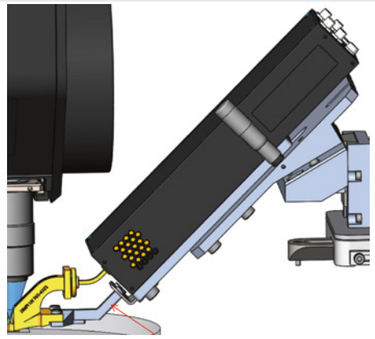
Positioner Arm

(...and more)



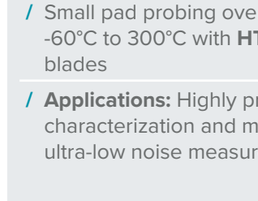
Keysight N5291 Arm

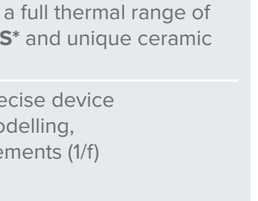
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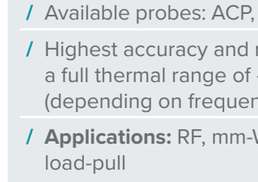


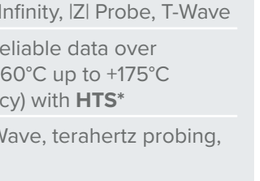
VDI Mini Extender Arm

Probe Arms









General CV/IV Arms

- Basic Coax/Triax measurements down to pA-level
- PTT needles
- **Applications:** Failure analysis, Device characterization and modelling

Dedicated High Voltage/Current Arms

- On-wafer power device characterization up to 10,000 V DC / 600 A
- Increased isolation resistance and dielectric strength to provide full triaxial capability at high voltage (3,000 V) for low-leakage measurement
- Full temperature range of -55 to 300°C
- Highest safety for the device and the operator
- **Applications:** High power semiconductor test

Advanced CV/IV and Low Current Arms

- Advanced Coax/Triax measurements down to fA-level
- Easy switching between CV and IV measurements
- Small pad probing over a full thermal range of -60°C to 300°C with **HTS*** and unique ceramic blades
- **Applications:** Highly precise device characterization and modelling, ultra-low noise measurements (1/f)

RF/mm-Wave and Terahertz Arms

- Ergonomic concept: completely modular
- Lowest possible insertion loss
- Highest raw directivity and dynamic range
- Extremely stable calibrations
- Available probes: ACP, Infinity, |Z| Probe, T-Wave
- Highest accuracy and reliable data over a full thermal range of -60°C up to +175°C (depending on frequency) with **HTS***
- **Applications:** RF, mm-Wave, terahertz probing, load-pull

***High Thermal Stability (HTS)**

High Thermal Stability (HTS) is part of FormFactor's unique Contact Intelligence Technology. A special dedicated low-thermal expansion material enables extremely stable probing over time and at multiple temperatures. HTS is available for certain CV/IV, RF, mm-Wave and terahertz arms.



Probe Station Compatibility

	MPS150/ EPS150	SUMMIT	BlueRay	PM8/ EPS200	CM300xi	PA300/ PM300	TESLA	Vac/Cryo
Manual Positioners								
DPP105	●	O	O	●	—	●	—	—
DPP2xx	●	●	●	●	●	●	●	—
DPP3xx	●	O	O	●	O	●	O	—
DPP450	●	O	—	O	O	O	—	—
VCP110	—	—	—	—	—	—	—	●
RPP210	●	●	●	●	●	●	●	—
RPP304	●	●	—	●	●	—	—	—
RPP305	●	O	●	●	●	●	—	—
RPP404	●	●	—	●	●	—	—	—
mmW LAP	—	●	—	●	●	O	O	—
Motorized Positioners								
RPP504	—	●	—	●	●	—	—	—
MS1	—	●*	—	—	—	—	—	—
PH510	—	—	●	●	O	●	—	—
SiPh	—	●**	—	—	●	—	—	—

● *Recommended* O *Possible but not recommended* — *Not available*

**Summit12000 only*
***SUMMIT200 only*

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BR-POSITIONERS-0819

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

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We're here to make your life easier. How can we help you today?

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