



GAGE Measuring Arm Series

CoreGAGE



PlusGAGE



ProGAGE



API's All New Measuring Arm Series

API's GAGE Scanning and Inspection Arm series provides an ideal combination of contact and non-contact measurement across the ProGAGE, PlusGAGE, and CoreGAGE options. The innovative design utilizes advanced materials to provide a reliable, portable, and lightweight coordinate measuring machine. These CMM arms are essential for quality control, part inspection, reverse engineering, and alignment tasks in industries where high precision is critical, like aerospace, automotive, and manufacturing.

Features & Benefits

- **Internal counterbalance** - Built-in mechanism for ensuring measurement stability and accuracy across all arm positions.
- **Dual high performance batteries** - Multiple battery setup allows for 10+ hours of continuous measurement life to support your day's tasks.
- **Perfect equi-arm design** - Aerodynamically designed for the most streamlined footprint with maximum functionality.
- **High-speed WiFi performance** - Ensures rapid measurement data transfer to reporting software for immediate analysis.
- **Aerospace grade carbon-fiber material** - Sturdy, lite material allows for long measurement life with complete portability.
- **High accuracy** - Contact measurement accuracies within 20 microns and scanning accuracies within half a mm.



CoreGAGE

API's CoreGAGE Inspection Arm is the premiere probing portable CMM arm option available. It's battery-enabled operation and sturdy, carbon-fiber design make give it unmatched portability and reliability to bring CMM accuracy wherever you need it.

Non-Contact Measurement (ScanArm)

Measurement Range	System Accuracy	
	HD	SD
2.0m	0.079mm	0.094mm
2.5m	0.096mm	0.115mm
3.0m	0.128mm	0.146mm
3.5m	0.172mm	0.191mm
4.0m	0.199mm	0.221mm
4.5m	0.245mm	0.268mm



Axis Accuracy Specifications

Measurement Range	SPAT ¹		EUNI ²		PSIZE ³		PFORM ⁴		LDIA ⁵	
	6 Axis	7 Axis	6 Axis	7 Axis	6 Axis	7 Axis	6 Axis	7 Axis	6 Axis	7 Axis
1.5m	0.050mm	--	0.065mm	--	0.027mm	--	0.053mm	--	0.068mm	--
2.0m	0.054mm	0.059mm	0.072mm	0.079mm	0.031mm	0.037mm	0.060mm	0.067mm	0.074mm	0.082mm
2.5m	0.063mm	0.071mm	0.081mm	0.091mm	0.036mm	0.040mm	0.068mm	0.073mm	0.090mm	0.102mm
3.0m	0.099mm	0.105mm	0.117mm	0.128mm	0.051mm	0.058mm	0.081mm	0.086mm	0.144mm	0.168mm
3.5m	0.135mm	0.146mm	0.144mm	0.159mm	0.063mm	0.071mm	0.104mm	0.111mm	0.176mm	0.195mm
4.0m	0.162mm	0.178mm	0.180mm	0.198mm	0.079mm	0.088mm	0.122mm	0.129mm	0.209mm	0.235mm
4.5m	0.200mm	0.221mm	0.216mm	0.238mm	0.086mm	0.099mm	0.155mm	0.162mm	0.230mm	0.261mm

• All values represent MPE (Maximum Permissible Error).
• Contact Measurement (Arm): In accordance with ISO 10360-12
• Non-Contact Measurement (ScanArm): In accordance with ISO 10360-8

Accuracy Specification Key

- **SPAT¹** - Single Point Articulation Test.
- **EUNI²** - Distance Error between two points comparing measured versus nominal values.
- **PSIZE³** - Sphere Probing Size Error comparing measured versus nominal values.
- **PFORM⁴** - Sphere Probing Form Error.
- **LDIA⁵** - Sphere Location Diameter Error (Diameter of the spherical zone containing the centers of a sphere measured from multiple orientations).

PlusGAGE

API's PlusGage Scanning and Inspection Arm is the all-in-one tool that can handle any inspection task for any industry at any position in the factory. Transmit dense scan data quickly over Wi-Fi for faster reporting and reduced downtime.

Non-Contact Measurement (ScanArm)

Measurement Range	System Accuracy	
	HD	SD
2.0m	0.040mm	0.050mm
2.5m	0.045mm	0.055mm
3.0m	0.052mm	0.062mm
3.5m	0.065mm	0.076mm
4.0m	0.081mm	0.090mm
4.5m	0.131mm	0.139mm



Axis Accuracy Specifications

Measurement Range	SPAT ¹		EUNI ²		PSIZE ³		PFORM ⁴		LDIA ⁵	
	6Axis	7Axis	6Axis	7Axis	6Axis	7Axis	6Axis	7Axis	6Axis	7Axis
1.5m	0.018mm	--	0.025mm	--	0.009mm	--	0.016mm	--	0.026mm	--
2.0m	0.020mm	0.022mm	0.028mm	0.030mm	0.010mm	0.012mm	0.018mm	0.022mm	0.032mm	0.040mm
2.5m	0.023mm	0.027mm	0.030mm	0.032mm	0.012mm	0.013mm	0.022mm	0.025mm	0.038mm	0.048mm
3.0m	0.034mm	0.042mm	0.042mm	0.053mm	0.016mm	0.020mm	0.032mm	0.035mm	0.052mm	0.078mm
3.5m	0.043mm	0.055mm	0.056mm	0.066mm	0.020mm	0.024mm	0.038mm	0.043mm	0.066mm	0.092mm
4.0m	0.052mm	0.065mm	0.066mm	0.082mm	0.024mm	0.029mm	0.044mm	0.048mm	0.083mm	0.102mm
4.5m	0.061mm	0.073mm	0.089mm	0.099mm	0.038mm	0.043mm	0.078mm	0.082mm	0.108mm	0.132mm

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ProGAGE

API's ProGAGE Scanning and Inspection Arm is the pinnacle of scanning and probing accuracy. Available in a range of sizes from 1.5m to 4m, ProGAGE is capable of hitting tolerances as tight as 0.012mm to ensure product quality where it matters most.

Non-Contact Measurement (ScanArm)

Measurement Range	System Accuracy	
	HD	SD
2.0m	0.038mm	0.043mm
2.5m	0.042mm	0.048mm
3.0m	0.047mm	0.055mm
3.5m	0.060mm	0.068mm
4.0m	0.074mm	0.080mm
4.5m	0.120mm	0.125mm



Axis Accuracy Specifications

Measurement Range	SPAT ¹		EUNI ²		PSIZE ³		PFORM ⁴		LDIA ⁵	
	6Axis	7Axis	6Axis	7Axis	6Axis	7Axis	6Axis	7Axis	6Axis	7Axis
1.5m	0.012mm	--	0.022mm	--	0.007mm	--	0.012mm	--	0.024mm	--
2.0m	0.016mm	0.018mm	0.024mm	0.026mm	0.008mm	0.010mm	0.015mm	0.019mm	0.030mm	0.038mm
2.5m	0.018mm	0.020mm	0.026mm	0.028mm	0.009mm	0.011mm	0.018mm	0.022mm	0.032mm	0.042mm
3.0m	0.026mm	0.032mm	0.038mm	0.048mm	0.012mm	0.016mm	0.025mm	0.032mm	0.045mm	0.072mm
3.5m	0.036mm	0.045mm	0.052mm	0.061mm	0.016mm	0.020mm	0.034mm	0.039mm	0.060mm	0.088mm
4.0m	0.045mm	0.055mm	0.063mm	0.076mm	0.020mm	0.026mm	0.038mm	0.044mm	0.077mm	0.098mm
4.5m	0.055mm	0.065mm	0.080mm	0.095mm	0.028mm	0.036mm	0.050mm	0.065mm	0.101mm	0.122mm

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Laser Line Probe Specifications

Item	HD	SD
Accuracy	$\pm 15\mu\text{m}(2\sigma)$	$\pm 28\mu\text{m}(2\sigma)$
Stand-off	115mm	
Effective Scan Width	Near Field 80mm • Far Field 150mm	
Points Per Line	Max. 4,000 points/line	
Scan Rate	1.2 Million Points Per Second	
Laser	Class 2	
Weight	536g	

Arm Hardware Specifications

	Specification
Operating temp range	5°C - 45°C (41°F - 113°F)
Temperature rate	3°C/5 min (37.4°F/5 min)
Operating humidity range	0 - 95% • non-condensing
Power supply	Universal worldwide voltage • 100-240VAC • 50/60Hz
Battery life	Normal mode 5h+ (1 piece) • Normal mode 10h+ (2 pieces)
Data transmission mode	USB or WIFI
Weight (range)	8.8kg ~ 10.6kg

Complies with the following EC Directives: 2014/53/EU Radio Equipment Directive; 2014/32/EU Measuring Instruments Directive; Shock and Vibrations Testing per International Electrotechnical Commission (IEC) Standard: IEC 60068-2-6; Extreme Temperature Cycling (-20°C to 60°C). Based on: IEC 60068-2-1



About API

For more than 30 years, API has pioneered advancements in laser-based metrology equipment for industrial inspection and calibration. API is continually developing products to deliver innovation and automation to the manufacturing floor. API's advanced 6DoF Laser Trackers, Scanners, and 9D LADAR provide customers from every industry with tools to complete complex production tasks with next-level speed and efficiency. Our customers can perform in-line inspection, automated measurement, and precision robot verification to increase production and decrease costs. API is a partner to our customers, providing custom, Globally Local automated metrology solutions for integrated smart manufacturing.

Scan Here for More Info
on the API GAGE Arm
Series



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