

Dimensional



Parameter/Equipment	Range	CMC ^{2,6} (±)	Comments
UMM, Supermic™	Up to 11.5 in	(10 + 0.7L) μin	Gage blocks
Bore Mic (Intramic)	(0.10 to 8.0) in	40 μin + 0.60R	Ring gage
Calipers ³	Up to 40 in	(20 + 7L) μin + 0.6R	Gage Blocks
Cylindrical Square - Squareness	Up to 12 in	24 μin	Federal Comparator 232, Surface Plate
Dial Indicator ³	(0.01 to 2) in	170 μin	Dial Indicator Checker
Length Standards	Up to 50 in	(10 + 2.0L) μin	Laser Measurement Machine (LMM)
Feeler Gages	Up to 0.06 in	0.1% IV + 20 μin	Gage Blocks, or LMM & Gage Blocks
Height Gages	Up to 49 in	61 μin + 9.6 μin/in	Gage Blocks, Federal Comparator 232
Micrometers ³⁻			Gage Blocks, LMM
Inside	Up to 1 in (1 to 4) in (4 to 6) in (6 to 24) in (24 to 36) in	11 μin + 0.60R 26 μin + 0.60R 37 μin + 0.60R 85 μin + 0.60R 120 μin + 0.60R	
Outside	Up to 36 in	12 μin/in + 0.6R	

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Depth	Up to 12 in	12 μin/in + 0.6R	
Stage Micrometer Standard	(0.004 to 2) in	20 μin + 10 μin/in	LMM/Agilent 5519A
Optical Comparator ³⁻ Length Magnification, (Only for Overlay & Lens Systems) Angle	Up to 11 in 10× to 100× Up to 45°	100 μin 0.6M 0.033°	Gage Blocks, Magnification Balls M is resolution of the overlay
Outside Diameter - Pins/Plugs Spheres/ Balls	Up to 10 in Up to 6 in	15 μin + 3 μin/in 15 μ + 3 μin/in	Pratt & Whitney Supermic TM
Protractors	Up to 90°	0.01°	Sine Plate, Gage Blocks, Cylindrical Square
Paint Coat Thickness - Thin Film Shims Paint Thickness Gage	(0.001 to 0.060) in	0.01% IV + 20 μin 100 μin + 0.6R	LMM, Gage Blocks Calibrated Shims
Roughness ³ Measure Generate	< 1 to 200 Ra 38, 120 Ra	2% IV + 2.0 Ra 1% IV + 2.0 Ra	Roughness Tester Roughness Standards
Ultrasonic Thickness Gages	Up to 5 in	100 μin + 0.6R	LMM, Gage Blocks

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Rulers ³	(1 to 120) in	0.005% IV + 0.6R	LMM
Sine Plate, Sine Bar, Fixed Points	5 in 10 in 20 in	190 μ in 160 μ in 450 μ in	Angle Blocks, Gage Blocks, Federal Comparator 232
Levels - Digital Bubble	120 in 96 in	0.25 in 0.6R	Sine Plate, Gage Blocks
Tape Measure	Up to 300 ft	0.01% + 0.6R	LMM
Flatness ³	(2 to 6) in	6 μ in	Optical Flat
Surface Plate ³ (Flatness Only)	71 in \times 240 in	100 μ in	Autocollimator
Thread Rings	(Up to 1.5) in (1.5 to 4) in (4 to 6) in Minor Diameter	61 μ in + 9.6 μ in/in	Gage Blocks, Federal Comparator 232
Thread Wires	(4 to 80) tpi	14 μ in	LMM, Pratt & Whitney Supermic TM , Gage Blocks
Thread Plugs	(0.1 to 4) in (4 to 80) in	75 μ in 75 μ in	Pratt & Whitney Supermic TM , Gage Blocks, Master Thread Wires
Ring Gages	(0.25 to 8.0)	15 μ in + 2 μ in/in	Pratt & Whitney Supermic TM , Gage Blocks, Master Ring Gages

Footnotes

1. This laboratory offers commercial calibration service and field calibration service where noted.
2. Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.
3. Field calibration service is available for this calibration and this laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.
4. Where ranges are not specified, the CMC stated is for the cardinal points only.
5. This calibration is performed in Absolute Measure Mode.
6. In the statement of CMC, percentages are to be read as percent of reading unless noted otherwise, IV is defined as the indicated value, FS is defined as full scale, L is the numerical value of the nominal length of the device measured in inches, D is the diameter of the device in inches; and R is the resolution of the unit under test.
7. Contact the laboratory for information on availability of service for specific gasses not listed, gasses that are not listed are not considered accredited services.