



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

ALPHAGAGE
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CALIBRATION

Valid To: July 31, 2018

Certificate Number: 1925.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations¹:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Micrometers ³ – Hole Outside	Up to 4 in Up to 12 in	130 µin (110 + 6L) µin	Ring masters Grade 3 gage blocks
Cylindrical Plain Ring Gages	(0.25 to 7.8) in	(14 + 2.4L) µin	ULM
Calipers ³ – Analog/Vernier Digital	Up to 12 in Up to 12 in	0.6R 0.6R	Grade 3 gage blocks
Indicators ³ – Test Dial and Digital	Up to 0.100 in Up to 4 in	20 µin 82 µin	Federal products digital indicator calibrator

Parameter/Equipment	Range	CMC ^{2,4} (\pm)	Comments ⁵
Pin Gages and Cylindrical Plain Plug Gages	Up to 10 in	$(11 + 2.1L) \mu\text{in}$	ULM
Tapered Threaded Plug Gages –			
Pitch Diameter	Up to 3 in	110 μin	Tapered sine block, three wire method
Major Diameter	Up to 3 in	80 μin	Supermicrometer TM
Lead	Up to 3 in	190 μin	Optical comparator
Half Angle	0° to 30°	10'	Optical comparator
Straight Threaded Plug Gages –			
Pitch Diameter	Up to 4 in	91 μin	Three wire method
Major Diameter	Up to 4 in	62 μin	Supermicrometer TM
Lead	Up to 4 in	190 μin	Optical comparator
Half Angle	0° to 30°	10'	Optical comparator
Thread Measuring Wires	(4 to 80) TPI	12 μin	ULM over master cylinders
Fastener Length Gages ³	Up to 6 in	620 μin	Gage blocks
Protrusion Height Gages ³	Diameters Up to 1.000 in	94 μin	Master gaging balls and digital indicator
Gauging Balls	Up to 2 in	$(34 + 2.4L) \mu\text{in}$	ULM
Gage Blocks	(0.1 to 4) in	$(2 + 1.5L) \mu\text{in}$	By dual contact mechanical comparison

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments ⁵
Gear Wires – All Series	Up to 0.5 in	(15 + 2.1L) μin	ULM
Micrometer Length Standards	(1 to 10) in	(25 + 2.8L) μin	ULM, gage blocks and master plugs
Chamfer Gages ³ – Dial and Digital	Up to 2 in	580 μin	Cylindrical master ring gages
Thickness (Feeler) Gages	Up to 0.10 in	170 μin	O.D. Micrometer
Depth Micrometers ³ – Vernier Digital	Up to 12 in Up to 12 in	0.6R 260 μin	Gage blocks
Fastener Penetration Recess Gages – Hex Phillips Hexalobular Form: Circumscribed Diameter Inscribed Diameter	Up to 1 in Up to 1 in Up to 1 in Up to 1 in	130 μin (300 + 66L) μin 30 μin 34 μin	Supermicrometer™ Optical comparator Supermicrometer™ Digital amplifier/LVDT probe
Specialty Plug Gages (Square, Flat, Hex)	Up to 4 in	130 μin	Supermicrometer™

II. Mechanical

Parameter/Equipment	Range	CMC ^{2, 4} (\pm)	Comments
Torque Wrenches and Screwdrivers ³	(25 to 250) in·lbf	0.9 % + 0.6 <i>T</i>	Torque calibrator
	(5 to 250) ft·lbf	0.9 % + 0.6 <i>T</i>	

¹ This laboratory offers commercial calibration service and field calibration service.

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. CMC's 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 In the statement of CMC, L is the numerical value of the nominal length of the device measured in inches; R is the numerical value of the resolution of the device in microinches; T is the numerical value of the resolution of the device.

⁵ "Supermicrometer" is a registered trademark owned by Pratt & Whitney Measurement Systems, Inc., Connecticut U.S.A.



Accredited Laboratory

A2LA has accredited

ALPHAGAGE

Rockford, IL

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSLI Z540-1-1994 and R205 – Specific Requirements: Calibration Laboratory Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 25th day of October 2016.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 1925.01
Valid to July 31, 2018
Revised June 21, 2018

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.