



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

HEMCO GAGE  
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CALIBRATION

Valid To: July 31, 2017

Certificate Number: 2279.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1</sup>:

I. Dimensional

Parameter/Equipment	Range	CMC <sup>2,3</sup> (±)	Comments
Straight Thread Plugs – Major Diameter	Up to 6 in	(24 + 7L) μin	P & W Supermicrometer <sup>TM, 4</sup> model C
	Up to 12 in	(21 + 7.7L) μin	Mikrokator, gage blocks
Simple Pitch Diameter	Up to 5 in (5 to 12) in	(110 + 6.6L) μin (120 + 6.3L) μin	Mikrokator, 3-wire method custom supermic, 3-wire method
	Up to 6 in	(130 + 1.7L) μin	P & W Supermicrometer <sup>TM, 4</sup> model C
Lead	Up to 7.5 in > 2 in & 10 TPI or coarser	120 μin 71 μin	Horizontal lead checker Vertical lead checker
Half Angle	180°	4.3'	Optical comparator

Parameter/Equipment	Range	CMC <sup>2,3</sup> ( $\pm$ )	Comments
Straight Thread Rings –  Pitch Diameter  Minor Diameter	(0.05 to 5) in (5 to 12) in  (0.04 to 0.3124) in (0.3125 to 7.874) in (4.331 to 12) in	(110 + 6.6L) $\mu$ in (120 + 6.4L) $\mu$ in  (23 + 7.3L) $\mu$ in (180 + 0.4L) $\mu$ in (120 + 5L) $\mu$ in	Master setting plug  Gage pins Triga-bore (3-pt. probe) Federal int. comparator
Straight Plain Plugs –  Outside Diameter	Up to 12 in Up to 12 in Up to 6 in	(23 + 7.3L) $\mu$ in (5.4 + 8L) $\mu$ in (18 + 6.2L) $\mu$ in	Mikrokator, gage blocks P & W Labmaster <sup>TM,4</sup> UMM Heidenhan
Straight Plain Rings –  Inside Diameter	(0.04 to 1) in (1 to 12) in	(13 + 2.4L) $\mu$ in (16 + 8L) $\mu$ in	P & W Labmaster <sup>TM,4</sup> UMM
Tapered Thread Plugs –  Major Diameter  Simple Pitch Diameter  Lead  Half Angle  Taper	Up to 12 in  Up to 5 in (5 to 12) in  Up to 7.5 in  > 2 in & 10 TPI or coarser  180°  Up to 6 in (6 to 12) in	(33 + 8.5L) $\mu$ in  (120 + 6L) $\mu$ in (37 + 21L) $\mu$ in  120 $\mu$ in  69 $\mu$ in  4.3'  (160 + 17L) $\mu$ in (110 + 20L) $\mu$ in	Mikrokator, gage blocks w/ taper block  Mikrokator, 3-wire method custom supermic, 3-wire method  Horizontal lead checker  Vertical lead checker  Optical comparator  Mikrokator Custom supermic



Parameter/Equipment	Range	CMC <sup>2,3</sup> ( $\pm$ )	Comments
Tapered Thread Rings – Pitch Diameter Standoff Minor Diameter Taper	(0.05 to 12) in (0.05 to 12) in (0.05 to 12) in (0.05 to 12) in	(150 + 9.8L) $\mu$ in (2400 + 160L) $\mu$ in (120 + 5.8L) $\mu$ in 120 $\mu$ in	Master thread plug Master thread plug Master plain plug Sine plate, angle plate, gage balls
Tapered Plain Plugs – Outside Diameter Taper	Up to 12 in Up to 12 in	(98 + 3L) $\mu$ in (140 + 4.3L) $\mu$ in	Custom supermic
Tapered Plain Rings – Inside Diameter Taper	Up to 12 in Up to 12 in	(120 + 1.7L) $\mu$ in 97 $\mu$ in	Master plain plug Sine plate, electronic amp w/ probe
Gage and Step Height	Up to 12 in	(96 + 4L) $\mu$ in	Gage blocks, electronic amp w/ probe

<sup>1</sup> This laboratory offers commercial calibration service.

<sup>2</sup> 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.

<sup>3</sup> In the statement CMC,  $L$  is the length of the unit under test in inches.

<sup>4</sup> "Supermicrometer" and "Labmaster" are registered trade marks owned by Pratt & Whitney Measurement Systems, Inc., Connecticut U.S.A.





## *Accredited Laboratory*

A2LA has accredited

**HEMCO GAGE**

*Holland, MI*

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 any additional program requirements in the field of calibration. 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 28<sup>th</sup> day of May 2015.

A handwritten signature in black ink, reading "Peter Abney".

President & CEO  
For the Accreditation Council  
Certificate Number 2279.01  
Valid to July 31, 2017  
Revised: June 22, 2017

*For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.*



*For the tests or types of tests to which this accreditation applies, please refer to the laboratory's «field» Scope of Accreditation.*