



World Class Accreditation

The American Association for Laboratory Accreditation

# Accredited Laboratory

A2LA has accredited

## JONES INDUSTRIAL SERVICE L.L.C.

*Pemberville, OH*

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 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 29<sup>th</sup> day of September 2009.



A handwritten signature in black ink, appearing to read "Peter Meyer", written over a horizontal line.

President & CEO  
For the Accreditation Council  
Certificate Number 1440.01  
Valid to November 30, 2011

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

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

JONES INDUSTRIAL SERVICE  
 17221 Eisenhour Rd.  
 Pemberville, OH 43450  
 John Dibling Phone: 419 287 4553

CALIBRATION

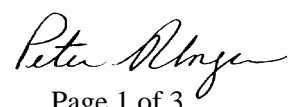
Valid To: November 30, 2011

Certificate Number: 1440.01

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>2,4</sup> (±)	Comments
Length Standards	(0 to 24) in	(15 + 10L) µin	ULM
Gage Blocks	(0 to 4) in	(4 + 3L) µin	Direct comparison
	(0 to 20) in	(15 + 10L) µin	ULM
Micrometers <sup>3</sup> – Outside and Depth	(0 to 30) in	0.6R + 30L µin	Length standards and/or gage blocks
Calipers <sup>3</sup>	(0 to 40) in	0.6R + 30L µin	Length standards and/or gage blocks
Height Gages <sup>3</sup>	(0 to 40) in	(60 + 20L) µin	Length standards and/or gage blocks
Dial Indicators <sup>3</sup>	(0 to 1) in	0.6R + 120L µin	Indicator calibrator
	(0 to 6) in	0.6R + 30L µin	Gage blocks
Test Indicators <sup>3</sup>	(0 to 0.1) in	0.6R + 30L µin	Height master



Parameter/Equipment	Range	CMC <sup>2,4</sup> (±)	Comments
OD Cylindrical Gages (Plugs, Pin and Disk)	(0 to 10) in	(15 + 10L) μin	Direct comparison, ULM
Optical Comparator <sup>3</sup> – Length of Travel Magnification	(0 to 12) in 5× to 100×	270 μin 400 μin	Glass scales Magnification overlay
Roughness Specimens <sup>3</sup> , ISO Type C	(5 to 150) μin	5 μin + 10 % of reading	Federal pocket surf
Profilometer <sup>3</sup> – Indirect Verification of Ra Measurement	15 μin at 0.03 in cut-off 120 μin at 0.03 in cut-off	20 % of reading 5 % of reading	Roughness specimens, ISO Type C
Radius Gages	(0 to 1) in	0.006 in	Optical comparator
Rules	(4 to 40) in	(0.000 7 + 0.000 16L) in	Optical comparator
Thread Plug Gages – Pitch Diameter and Major Diameter	(0.125 to 7) in and (4 to 40) TPI	100 μin	ULM Three wire method
Plain Ring Gages	(0.340 to 10) in (0.032 to 0.340) in	(40 + 10L) μin 23 μin	ULM ULM with electric touch probe
Thread Wires	(4 to 40) TPI	15 μin	ULM
Spheres and Precision Balls	(0 to 3) in	(20 + 10D) μin	ULM
Parallels	(0 to 36) in	(25 + 2L) μin	Electronic indicator and master gage blocks
Height Masters	(0.2 to 24) in	(30 + 10L) μin	Electronic indicators and gage blocks

Parameter/Equipment	Range	CMC <sup>2,4</sup> (±)	Comments
Adjustable Thread Ring Gages – Functional Fit	(0.125 to 3) in	200 μin	Setting masters

## II. Dimensional Testing

Parameter/Equipment	Range	CMC <sup>2,4</sup> (±)	Comments
Length – 1D	(0 to 20) in	(280 + 8L) μin	CMM (single axis)

## III. Mechanical

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Torque Wrenches	Up to 260 ft·lb	0.5 % of full scale	Torque calibrator

<sup>1</sup> This laboratory offers commercial and field calibration services.

<sup>2</sup> Calibration and Measurement Capability (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. Calibration and Measurement Capabilities 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> 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.

<sup>4</sup> In the statement of Calibration and Measurement Capability,  $L$  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 and  $D$  is the numerical value of the nominal diameter of the device measured in inches.