



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

J.A. KING & COMPANY, LLC
 950 Reynolds Blvd. Bldg. 611-9
 Winston-Salem, NC 27105
 Connie Foster Phone: 800 327 7727

CALIBRATION

Valid To: May 31, 2013

Certificate Number: 1741.07

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations and dimensional inspections¹:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Hand tools ³ – Calipers & Micrometers	Up to 8 in	(3.8 + 9.5L + 0.6R) μin	Gage blocks

II. Dimensional Testing/Calibration⁵

Parameter/Equipment	Range	CMC ² (±)	Comments
One Dimensional ³ – Length	Up to 8 in	0.0014 in	Digital calipers

III. Mechanical

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Balances ³	Up to 5 g Up to 100 g Up to 200 g Up to 500 g Up to 1000 g Up to 2000 g Up to 4000 g	0.12 mg + 0.6R 2.4 mg + 0.6R 4.8 mg + 0.6R 8.4 mg + 0.6R 12 mg + 0.6R 24 mg + 0.6R 43 mg + 0.6R	Class F weights
Force ³	Up to 10 kg	0.035 % of reading	Class F weights

Parameter/Equipment	Range	CMC ² (±)	Comments
Pressure Drop	50 mmH ₂ O 100 mmH ₂ O 200 mmH ₂ O 400 mmH ₂ O 800 mmH ₂ O	0.8 mmH ₂ O 1.3 mmH ₂ O 2.5 mmH ₂ O 5.4 mmH ₂ O 11 mmH ₂ O	Glass capillary rod standards, manometers and flow controllers
Permeability	(Up to 4149) ml/m	0.95 % of reading	Flow measured @ 4" WG pressure

IV. Thermodynamic

Parameter/Equipment	Range	CMC ² (±)	Comments
Temperature ³ – Measure	32 °F to 250 °F	2.5 °F	Fluke 740 series with T/C
Thermocouples ³ – Measure Type J Type K Simulation Type J Type K	 0 °C to 400 °C 0 °C to 400 °C 0 °C to 400 °C 0 °C to 400 °C	 0.40 °C 0.45 °C 0.25 °C 0.37 °C	Fluke 740 series
RTD ³ – Measure Simulation	 0 °C to 400 °C 0 °C to 400 °C	 0.6 °C 0.25 °C	Fluke 740 series

V. Time & Frequency

Parameter/Equipment	Range	CMC ² (±)	Comments
Time ³	2 s 30 s 60 s	0.02 s 0.05 s 0.085 s	Fluke 105B

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- ¹ This laboratory is available for commercial and field dimensional testing/calibration service.
- ² 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.
- 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 and R is the numerical value of the resolution of the device.
- ⁵ This laboratory meets R205 – *Specific Requirements: Calibration Laboratory Accreditation Program* for the types of dimensional tests listed above and is considered equivalent to that of a calibration certificate.



The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

A2LA has accredited

J.A. KING & COMPANY, LLC

Winston-Salem, NC

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/NCSL 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 12th day of April 2011.



A handwritten signature in black ink, appearing to read "Peter Meyer".

President & CEO
For the Accreditation Council
Certificate Number 1741.07
Valid to May 31, 2013

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