THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

CROTTS & SAUNDERS ENGINEERING, INC.

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 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 18 June 2005*).

Presented this 25th day of September 2007.

President
For the Accreditation Council
Certificate Number 2624.01
Valid to March 31, 2010
REVISED January 29, 2010

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

CROTTS & SAUNDERS ENGINEERING, INC.
4000 Silas Creek Parkway
Winston-Salem, NC 27104
Chris Sealey Phone: 336 765 7250

CALIBRATION

Valid To: March 31, 2010 Certificate Number: 2624.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1]:

I. Dimensional

Parameter/Equipment	Range	CMC[2] (±)	Comments
Coordinate Measuring Machines[3] –			B89.4.1 Section 5.5.2 Using:
Linear	(0 to 650) mm (651 to 1200) mm	3.6 µm 6.4 µm	Webber bar
Volumetric	(0 to 1000) mm	1.5 µm	Ball bar
Video/Vision Measuring Machines[3] –			
Linear	(0 to 300) mm (301 to 600) mm	0.73 µm 1.2 µm	Glass scale
	(0 to 200) mm	0.41 µm	Gage blocks
Nonlinear	(150 mm × 200 mm) to (150 mm × 300 mm)	0.81 µm	NL glass master
	(300 mm × 300 mm) to (600 mm × 600 mm)	3.0 µm	

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Parameter/Equipment	Range	CMC[2] (±)	Comments
Optical Measuring Machines[3] –			
Linear	(0 to 300) mm (301 to 600) mm	4.2 µm 4.3 µm	Glass scale
Magnification	10x to 100x	2.5 µm	Magnification check gage

[1] This laboratory offers commercial and field 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.