



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

BIOTECHNICAL SERVICES, INC.  
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San Diego, CA 92126  
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CALIBRATION

Valid To: January 31, 2020

Certificate Number: 2901.01

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. Mechanical

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Balances <sup>3</sup>	(1 to 100) mg (100 to 1000) mg (1 to 200) g (0.2 to 2) g	0.0027 % + 0.011 mg 0.0011 % + 0.012 mg 0.00023 % + 0.000023 g 0.00022 % + 0.00015 g	Class 1 weight set
Mass <sup>3</sup>	1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 mg 2 mg 3 mg 5 mg 10 mg 20 mg 30 mg 50 mg 100 mg 200 mg 300 mg 500 mg	0.3 mg 0.92 mg 1.5 mg 1.2 mg 1.3 mg 0.3 mg 1.9 mg 3.0 mg 2.1 mg 0.03 mg 0.01 mg 0.01 mg 0.02 mg 0.01 mg 0.01 mg 0.01 mg 0.01 mg 0.01 mg 0.01 mg 0.01 mg 0.03 mg 0.02 mg	Class 2 ASTM and higher (e.g. Class 3)

## II. Thermodynamics

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Temperature	(-50 to 300) °C	0.07 °C	Hart 1502A
	(-180 to 100) °C	0.18 °C	Fluke 743B

## III. Time & Frequency

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Frequency	(1 to 10 000) Hz	1.7 Hz	Unomat MCX
RPM <sup>3</sup>	(60 to 18 000) RPM	1.7 RPM	Monarch
Time/Stopwatch <sup>3</sup>	5 s to 24 hrs	1 s/day	VWR timer/counter

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



## *Accredited Laboratory*

A2LA has accredited

**BIOTECHNICAL SERVICES, INC.**

*San Diego, CA*

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/NCCL 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 21<sup>st</sup> day of September 2018.

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

President and CEO  
For the Accreditation Council  
Certificate Number 2901.01  
Valid to January 31, 2020

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