



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017
& ANSI/NCSL Z540-1-1994

MICHELLI MEASUREMENT GROUP, INC.
 7933 SW Nimbus #28
 Beaverton, OR 97008
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CALIBRATION

Valid until: December 31, 2020

Certificate Number: 5104.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1,5}:

I. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments	
Scales and Balances ³	1 kg	100 µg	Class 1 weights	
	500 g	84 µg		
	300 g	70 µg		
	200 g	65 µg		
	100 g	26 µg		
	50 g	16 µg		
	30 g	15 µg		
	20 g	12 µg		
	10 g	12 µg		
	5 g	4.3 µg		
	3g	3.3 µg		
	2 g	2.5 µg		
	1 g	2.3 µg		
	453.6 kg (1000 lb)	7.2 g		Class F weights
	226.8 kg (500 lb)	5.4 g		
	22.7 kg (50 lb)	290 mg		
	11.34 kg (25 lb)	160 mg		
	4.54 kg (10 lb)	84 mg		
	2.27 kg (5 lb)	70 mg		
	0.91 kg (2 lb)	65 mg		
0.46 kg (1 lb)	64 mg			

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Scales and Balances ³ (cont)	0.23 kg (0.5 lb) 0.09 kg (0.2 lb) 0.045 kg (0.1 lb) 0.02 kg (0.05 lb) 9.07 g (0.02 lb) 4.54 g (0.01 lb) 2.27 g (0.005 lb) 0.91 g (0.002 lb) 0.45 g (0.001 lb)	8.4 mg 6.7 mg 6.5 mg 2.8 mg 2.7 mg 2.7 mg 2.7 mg 2.7 mg 2.7 mg	Class F weights
	227 g (8 oz) 113 g (4 oz) 56.7 g (2 oz) 28.35 g (1 oz) 14.17 g (1/2 oz) 7.09 g (1/4 oz) 3.54 g (1/8 oz) 1.77 g (1/16 oz)	0.57 mg 0.32 mg 0.27 mg 0.31 mg 0.20 mg 0.16 mg 0.14 mg 0.10 mg	
	20 kg 10 kg 5 kg 2 kg 1 kg	250 mg 140 mg 87 mg 68 mg 65 mg	
	500 g 200 g 100 g 50 g 20 g 10 g (1 to 5) g	8.7 mg 4.8 mg 2.4 mg 1.2 mg 0.5 mg 0.27 mg 0.24 mg	
	(100 to 500) mg (10 to 50) mg 5 mg 1 mg	0.12 mg 60 µg 24 µg 13 µg	
	1406.14 kg (3100 lb)	270 g	Class F test cart
Force – Measuring Equipment (Tension Only)	(0 to 5000) lbf (0 to 10 000) lbf	0.42 lbf 1.3 lbf	Dillon load cells

¹ This laboratory offers commercial calibration service and field calibration service.

² 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.

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 The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

⁵ This scope meets A2LA's P112 *Flexible Scope Policy*.



Accredited Laboratory

A2LA has accredited

MICHELLI MEASUREMENT GROUP, INC.

Beaverton, OR

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSL 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 April 2017).



Presented this 8th day of November 2018.

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

President and CEO
For the Accreditation Council
Certificate Number 5104.02
Valid to December 31, 2020

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