



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

C.S.C. Force Measurement, Inc.
84 Ramah Circle North, P.O. Box 887
Agawam, MA 01001

Fulfills the requirements of

ISO/IEC 17025:2017

and national standard

ANSI/NCSL Z540-1-1994 (R2002)

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

A handwritten signature in black ink, appearing to be 'Jason Stine', is positioned above a horizontal line.

Jason Stine, Vice President

Expiry Date: 05 March 2026
Certificate Number: L1142-1



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
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).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

AND

ANSI/NCSL Z540-1-1994 (R2002)

C.S.C. Force Measurement, Inc.

84 Ramah Circle North, P. O. Box 887

Agawam, MA 01001

Matthew Bard 413-789-3086

CALIBRATION

Valid to: **March 5, 2026**

Certificate Number: **L1142-1**

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Voltage – Measure	0.1 μ V to 100 mV (0.1 to 1) V (1 to 10) V (10 to 100) V	9.1 μ V 0.35 mV 0.62 mV 5.2 mV	Digital Multimeter

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Crosshead Displacement (0.000 1 in resolution) (0.001 in resolution)	(0 to 30) in (0 to 30) in	0.001 6 in 0.001 5 in	ASTM 2309 using Gage Blocks

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Force Verification of Testing Machines	(2 000 to 10 000) lbf (10 000 to 50 000) lbf (50 000 to 100 000) lbf	4.8 lbf 40 lbf 53 lbf	ASTM E4, Method C using Load Cells.

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Force Verification of Testing Machines	(0.02 to 0.1) lbf	0.000 1 lbf	ASTM E4, Method A using Class 6 Masses.
	(0.1 to 0.5) lbf	0.000 22 lbf	
	(0.5 to 2) lbf	0.000 5 lbf	
	(2 to 10) lbf	0.002 6 lbf	
	(10 to 50) lbf	0.016 lbf	
	(50 to 100) lbf	0.021 lbf	
	(100 to 200) lbf	0.054 lbf	
	(200 to 500) lbf	0.09 lbf	
Force Measuring Devices	(0.02 to 0.1) lbf	0.000 1 lbf	ASTM E74 using Masses.
	(0.1 to 0.5) lbf	0.000 22 lbf	
	(0.5 to 2) lbf	0.000 5 lbf	
	(2 to 10) lbf	0.002 6 lbf	
	(10 to 50) lbf	0.016 lbf	
	(50 to 100) lbf	0.021 lbf	
	(100 to 200) lbf	0.054 lbf	
	(200 to 500) lbf	0.09 lbf	
Force Measuring Devices	(2 000 to 10 000) lbf	4.8 lbf	ASTM E74 using Load Cells.
	(10 000 to 50 000) lbf	40 lbf	
	(50 000 to 100 000) lbf	53 lbf	
Scales (0.001 lb resolution) (0.01 lb resolution) (0.1 lb resolution) (1 lb resolution)	Up to 10 lb	0.002 4 lb	NIST Class F Weights and NIST Handbook 44 utilized for the calibration of the Weighing System.
	Up to 100 lb	0.067 lb	
	Up to 1 000 lb	0.16 lb	
	Up to 10 000 lb	2.2 lb	
Laboratory Balance (0.000 1 g resolution) (0.001 g resolution)	Up to 400 g	0.43 mg	ASTM E617 Class 1 Weights and NIST Handbook 44 utilized for the calibration of the Weighing System.
	Up to 400 g	1.7 mg	
Torque Calibration Systems (Torque Transducers, Torque Analyzers, etc.)	(1 to 50) ozf·in	0.05 ozf·in	Direct Comparison using Torque Arms and NIST Class F Weights.
	(50 to 100) ozf·in	0.2 ozf·in	
	(6 to 50) lbf·in	0.1 lbf·in	
	(50 to 250) lbf·in	0.29 lbf·in	
	(250 to 1 200) lbf·in	1.3 lbf·in	
	(100 to 250) lbf·ft	0.29 lbf·ft	
	(250 to 600) lbf·ft	0.62 lbf·ft	
	(600 to 2 000) lbf·ft	1.6 lbf·ft	

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Torque Indicating Devices (Click Wrenches, Dial Torque Wrenches, etc.)	(1 to 48) ozf·in (3 to 50) lbf·in (50 to 250) lbf·in (250 to 1 000) lbf·in (80 to 250) lbf·ft (250 to 600) lbf·ft (600 to 2 000) lbf·ft	0.75 ozf·in 0.17 lbf·in 7.4 lbf·in 13 lbf·in 2.8 lbf·ft 4.9 lbf·ft 20 lbf·ft	Digital Torque Analyzer

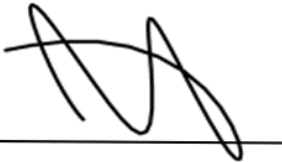
Time and Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Crosshead Speed	Up to 80 in/min	0.22 in/min	ASTM 2658 using Length Standards and Digital Stopwatch.

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ($k=2$), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. This scope is formatted as part of a single document including Certificate of Accreditation No. L1142-1.



Jason Stine, Vice President