ANSI National Accreditation Board

CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Canadian Measurement-Metrology Inc. O/A CMMXYZ

2433 Meadowvale Blvd.
Mississauga, Ontario, L5N 5S2 Canada

Fulfills the requirements of

ISO/IEC 17025:2017

In the fields of

CALIBRATION and DIMENSIONAL MEASUREMENT

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.

Jason Stine, Vice President

Expiry Date: 17 July 2027

Certificate Number: ACT-1284

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

Canadian Measurement-Metrology Inc. O/A CMMXYZ
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CALIBRATION & DIMENSIONAL MEASUREMENT

ISO/IEC 17025 Accreditation Granted: **17 July 2025**

Certificate Number: **ACT-1284** Certificate Expiry Date: **17 July 2027**

CALIBRATION

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
CMM X, Y, Z Linear Displacement Accuracy[1, 2]	(25 to 2 250) mm	$(1.1 + 0.05L^2)$ µm	ASME B89.4.1B-1997/2001 using Starrett-Weber or MTI Step Bar
	(25 to 6 000) mm	$(0.01 + 0.45L + 0.04L^2)$ µm	ASME B89.4.1B-1997/2001 using Renishaw Laser Interferometer
CMM Length Measurement Error[1, 2] CMM	(25 to 610) mm	$(1.2 + 0.05L^2)$ µm	ISO 10360.2:2009 using Mitutoyo Step Bar
	(25 to 6 000) mm	$(0.98 + 0.01L + 0.11L^2)$ µm	ISO 10360.2:2009 using Renishaw Laser with Gage Block
	(100 to 500) mm	$(0.73 + 0.09L + 0.33L^2)$ µm	ISO 10360.2:2009 using Gauge Blocks
CMM Scanning Probing Error (THP)[1]	Nominal Sphere Diameter: 25 mm	0.74 µm	ISO 10360-5:2020 using Precision Sphere
CMM Scanning Probe Error – Precision Ring[1]	Nominal Ring Diameter: 50 mm	0.87 µm	ISO 10360-5:2020 – Annex A

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
CMM Single-stylus Probing Error[1] (Pftu and Pstu)	Nominal Sphere Diameter: 25 mm	0.60 µm	ISO 10360-5:2020 at 6.2 using Precision Sphere
Optical/Contour Projectors X, Y Linear Accuracy[1, 2]	X, Y: Up to 600 mm	$(1.2 + 0.02L + 0.22L^2)$ µm	ASME B89.4.18 using Glass Scale
Optical/Vision Measuring Systems X, Y, Z Linear Accuracy[1, 2]	X, Y: Up to 610 mm	$(0.81 + 0.12L^2)$ µm	Internal Calibration Procedure using Optical Grid Plate
	Z: Up to 102 mm	$(2.4 + 0.43L^2)$ µm	Internal Calibration Procedure using Optical Step Gage
Articulated Arm CMM (AACMM) Volumetric Performance[2]	Up to 1 210 mm	$(3.1 + 0.50L + 1.6L^2)$ µm	ASME B89.4.22, except Effective Diameter using Test Length Standard
Length Standard for AACMM[2]	Up to 1 210 mm	$(2.4 + 0.52L + 1.4L^2)$ µm	Internal Calibration procedure using CMM
Articulated Arm CMM (AACMM) Volumetric Performance[2]	Up to 3 000 mm	$(2.7 + 3.6L + 0.05L^2)$ µm	ISO 10360-12 Using KOBA length Standard
Articulated Arm CMM (AACMM) Probing Size and Form[2]	Nominal Sphere Diameter: 25 mm	2.0 µm	ISO 10360-12:2016 at 6.2 and 6.3 using Precision Sphere
Articulated Arm CMM (AACMM) Laser Size and Form[2]	Nominal Sphere Diameter: 25 mm	2.0 µm	ISO 10360-8:2014 at 6.2 using Precision Sphere

DIMENSIONAL MEASUREMENT

3 Dimensional

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Dimensional Measurement 3D[2]	X = Up to 1 000 mm Y = Up to 2 000 mm Z = Up to 700 mm	$(4.9 + 0.15L + 1.2L^2)$ µm	Measurement using Coordinate Measuring Machine and Software as Reference Standard for Dimensional Measurement
	X = Up to 2 000 mm Y = Up to 5 100 mm Z = Up to 1 500 mm	$(16 + 0.23L + 2.8L^2)$ µm	

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Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Dimensional Measurement 3D[2]	X= Up to 1 200 mm Y = Up to 2 000 mm Z = Up to 1 000 mm	$(4.4 + 1.1L + 1.8L^2)$ µm	Measurement using Coordinate Measuring Machine and Software as Reference Standard for Dimensional Measurement
	X= Up to 700 mm Y = Up to 1 000 mm Z = Up to 700 mm	$(3.6 + 0.22L + 1.2L^2)$ µm	
	X= Up to 900 mm Y= Up to 1 200 mm Z= Up to 800 mm	$(3.6 + 0.3L + 1.1L^2)$ µm	
Dimensional Measurement 3D[1, 2]	Measuring Envelopes (1.2 to 3.6) m	38 µm	Measurement using Articulated Arm CMM and Software utilized as Reference Standard for Dimensional Measurement
Dimensional Measurement 3D[1, 2]	Measurement of 2 500 mm Spatial Length from Distance (1 to 80) m	$(23 + 0.02L + 1.0L^2)$ µm	Measurement using AT402 Leica Laser Tracker with Corner Cube Reflector and Software as Reference Standard for Dimensional Measurement
Dimensional Measurement 3D[2]	X = Up to 300 mm Y = Up to 300 mm Z = Up to 250 mm	$(3.7 + 0.08L + 5.3L^2)$ µm	Measurement using Optical Vision Measuring System and Software as Reference Standard for Dimensional Measurement

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. L = Length in meter and that value is squared.

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