

CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Crescent Gage & Tool Sales 3809 Melcer Drive

Rowlett, TX 75088 (and satellite as listed on the scope)

Fulfills the requirements of

ISO/IEC 17025:2017

and national standard

ANSI/NCSL Z540-1-1994 (R2002)

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 <u>www.anab.org</u>.





Jason Stine, Vice President

Expiry Date: 16 December 2026 Certificate Number: L2439



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)

Crescent Gage & Tool Sales

3809 Melcer Drive Rowlett, TX 75088 Marshall Carey 972-472-4265

CALIBRATION & DIMENSIONAL MEASUREMENT

Valid to: December 16, 2026

Certificate Number: L2439

CALIBRATION

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) ²	Reference Standard, Method, and/or Equipment
Dimensional Measurement of fixtures, gauges, first article, etc.	X= Up to 1 200 mm Y= Up to 1 800 mm Z= Up to 1 000 mm	(1.7 + 0.003 6 <i>L</i>) μm	Measurement using Zeiss Accura Coordinate Measuring Machine Active Scanning Head
	X= Up to 47.244 in Y= Up to 70.866 in Z= Up to 39.370 in	(66 + 3.6 <i>L</i>) μin	Measurement using Zeiss Accura Coordinate Measuring Machine Active Scanning Head
	X= Up to 1 200 mm Y= Up to 1 800 mm Z= Up to 1 000 mm	(2.1 + 0.003 6 <i>L</i>) μm	Measurement using Zeiss Accura Coordinate Measuring Machine Passive Scanning Head
	X= Up to 47.244 in Y= Up to 70.866 in Z= Up to 39.370 in	(81 + 3.6 <i>L</i>) μin	Measurement using Zeiss Accura Coordinate Measuring Machine Passive Scanning Head
	X= Up to 1 200 mm Y= Up to 3 000 mm Z= Up to 1 000 mm	(1.8 + 0.003 7 <i>L</i>) μm	Measurement using Zeiss Accura Coordinate Measuring Machine Active Scanning Head





Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) ²	Reference Standard, Method, and/or Equipment
Dimensional Measurement of fixtures, gauges, first article, etc.	X= Up to 47.244 in Y= Up to 118.110 in Z= Up to 39.370 in	(70 + 3.7 <i>L</i>) μin	Measurement using Zeiss Accura Coordinate Measuring Machine Active Scanning Head
	X= Up to 1 200 mm Y= Up to 3 000 mm Z= Up to 1 000 mm	(2.1 + 0.003 7 <i>L</i>) μm	Measurement using Zeiss Accura Coordinate Measuring Machine Passive Scanning Head
	X= Up to 47.244 in Y= Up to 118.110 in Z= Up to 39.370 in	(81 + 3.7 <i>L</i>) μin	Measurement using Zeiss Accura Coordinate Measuring Machine Passive Scanning Head
	X = Up to 900 mm Y = Up to 1 200 mm Z = Up to 800 mm	(1.5 + 0.003 6 <i>L</i>) μm	Measurement using Zeiss Contura Coordinate Measuring Machine Active Scanning Head
	X= Up to <mark>35.433 in</mark> Y= Up to 47.244 in Z= Up to 31.496 in	(59 + 3.6 <i>L</i>) μin	Measurement using Zeiss Contura Coordinate Measuring Machine Active Scanning Head
	$\begin{array}{l} X = Up \text{ to } 900 \text{ mm} \\ Y = Up \text{ to } 1 \ 200 \text{ mm} \\ Z = Up \text{ to } 800 \text{ mm} \end{array}$	(1.7 + 0.003 5 <i>L</i>) μm	Measurement using Zeiss Contura Coordinate Measuring Machine Passive Scanning Head
	X= Up to 35.433 in Y= Up to 47.244 in Z= Up to 31.496 in	(66 + 3.5 <i>L</i>) μin	Measurement using Zeiss Contura Coordinate Measuring Machine Passive Scanning Head
	$\begin{split} \mathbf{X} &= \mathbf{U}\mathbf{p} \text{ to } 500 \text{ mm} \\ \mathbf{Y} &= \mathbf{U}\mathbf{p} \text{ to } 500 \text{ mm} \\ \mathbf{Z} &= \mathbf{U}\mathbf{p} \text{ to } 500 \text{ mm} \end{split}$	(2.3 + 0.003 6 <i>L</i>) μm	Measurement using Zeiss DuraMax Coordinate Measuring Machine
	X= Up to 19.685 in Y= Up to 19.685 in Z= Up to 19.685 in	(88 + 3.6 <i>L</i>) μin	Measurement using Zeiss DuraMax Coordinate Measuring Machine
	X = Up to 500 mm $Y = Up to 400 mm$ $Z = Up to 300 mm$	(1.8 + 0.004 2 <i>L</i>) μm	Measurement using Zeiss O-Inspect Coordinate Measuring Machine





Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) ²	Reference Standard, Method, and/or Equipment
Dimensional Measurement of fixtures, gauges, first article, etc.	X= Up to 19.685 in Y= Up to 15.748 in Z= Up to 11.811 in	(70 + 4.2 <i>L</i>) μin	Measurement using Zeiss O-Inspect Coordinate Measuring Machine
Video Measuring Systems ¹	X & Y up to 450 mm	(2.8 + 0.063 <i>L</i>) μm	Comparison to glass scale
	X & Y up to 17.716 in	(110 + 6.3 <i>L</i>) μin	Comparison to glass scale
	Z up to 101.6 mm	(4.6 + 0.002 5 <i>L</i>) μm	Comparison to Step Gage or gage blocks
	Z up to 4 in	$(180 + 2.5L) \mu in$	Comparison to Step Gage or gage blocks





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DIMENSIONAL MEASUREMENT

3D Dimensional

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) ²	Reference Standard, Method, and/or Equipment
Dimensional Measurement 3D	X= Up to 1 200 mm Y= Up to 1 800 mm Z= Up to 1 000 mm	(1.7 + 0.003 6 <i>L</i>) μm	Measurement using Zeiss Accura Coordinate Measuring Machine Active Scanning Head
	X= Up to 47.244 in Y= Up to 70.866 in Z= Up to 39.370 in	(66 + 3.6 <i>L</i>) μin	Measurement using Zeiss Accura Coordinate Measuring Machine Active Scanning Head
	X= Up to 1 200 mm Y= Up to 1 800 mm Z= Up to 1 000 mm	(2.1 + 0.003 6 <i>L</i>) μm	Measurement using Zeiss Accura Coordinate Measuring Machine Passive Scanning Head
	X= Up to 47.244 in Y= Up to 70.866 in Z= Up to 39.370 in	(81 + 3.6 <i>L</i>) μin	Measurement using Zeiss Accura Coordinate Measuring Machine Passive Scanning Head
	X= Up to 1 200 mm Y= Up to 3 000 mm Z= Up to 1 000 mm	(1.8 + 0.003 7 <i>L</i>) μm	Measurement using Zeiss Accura Coordinate Measuring Machine Active Scanning Head
	X= Up to 47.244 in Y= Up to 118.110 in Z= Up to 39.370 in	(70 + 3.7 <i>L</i>) μin	Measurement using Zeiss Accura Coordinate Measuring Machine Active Scanning Head
	X= Up to 1 200 mm Y= Up to 3 000 mm Z= Up to 1 000 mm	(2.1 + 0.003 7 <i>L</i>) μm	Measurement using Zeiss Accura Coordinate Measuring Machine Passive Scanning Head
	X= Up to 47.244 in Y= Up to 118.110 in Z= Up to 39.370 in	(81 + 3.7 <i>L</i>) μin	Measurement using Zeiss Accura Coordinate Measuring Machine Passive Scanning Head
	$\begin{split} \mathbf{X} &= \mathbf{Up} \text{ to } 900 \text{ mm} \\ \mathbf{Y} &= \mathbf{Up} \text{ to } 1 200 \text{ mm} \\ \mathbf{Z} &= \mathbf{Up} \text{ to } 800 \text{ mm} \end{split}$	(1.5 + 0.003 6 <i>L</i>) μm	Measurement using Zeiss Contura Coordinate Measuring Machine Active Scanning Head





3D Dimensional

Dimensional Measurement 3D	X= Up to 35.433 in Y= Up to 47.244 in Z= Up to 31.496 in	(66 + 3.5 <i>L</i>) μin	Measurement using Zeiss Contura Coordinate Measuring Machine Passive Scanning Head
	$\begin{split} X &= Up \text{ to } 900 \text{ mm} \\ Y &= Up \text{ to } 1 \text{ 200 mm} \\ Z &= Up \text{ to } 800 \text{ mm} \end{split}$	(1.7 + 0.003 5 <i>L</i>) μm	Measurement using Zeiss Contura Coordinate Measuring Machine Passive Scanning Head
	X= Up to 35.433 in Y= Up to 47.244 in Z= Up to 31.496 in	(66 + 3.5 <i>L</i>) μin	Measurement using Zeiss Contura Coordinate Measuring Machine Passive Scanning Head
	$\begin{array}{l} X = Up \text{ to } 500 \text{ mm} \\ Y = Up \text{ to } 500 \text{ mm} \\ Z = Up \text{ to } 500 \text{ mm} \end{array}$	(2.3 + 0.003 6 <i>L</i>) μm	Measurement using Zeiss DuraMax Coordinate Measuring Machine
	X= Up to 19.685 in Y= Up to 19.685 in Z= Up to 19.685 in	(88 + 3.6 <i>L</i>) µin	Measurement using Zeiss DuraMax Coordinate Measuring Machine
	$\begin{array}{l} X = Up \text{ to } 500 \text{ mm} \\ Y = Up \text{ to } 400 \text{ mm} \\ Z = Up \text{ to } 300 \text{ mm} \end{array}$	(1.8 + 0.004 2 <i>L</i>) μm	Measurement using Zeiss O-Inspect Coordinate Measuring Machine
	X= Up to 19.685 in Y= Up to 15.748 in Z= Up to 11.811 in	(70 + 4.2 <i>L</i>) μin	Measurement using Zeiss O-Inspect Coordinate Measuring Machine
	$ X = Up \text{ to } 4\ 000 \text{ mm} \\ Y = Up \text{ to } 4\ 000 \text{ mm} \\ Z = Up \text{ to } 4\ 000 \text{ mm} $	(47 + 0.035 <i>L</i>) μm	Measurement using Zeiss T-Scan Hawk 2
	X= Up to 157.480 in Y= Up to 157.480 in Z= Up to 157.480 in	(1 900 + 35 <i>L</i>) µin	Measurement using Zeiss T-Scan Hawk 2
Surface Finish	Up to 10 µm Ra	0.063 + (0.011 <i>Ra</i>) μm Ra	Measurement using Surface Analyzer
	Up to 393 µin Ra	2.5 + (0.011 <i>Ra</i>) μin Ra	Measurement using Surface Analyzer



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Services performed at satellite location

5040 SH 123 Bldg. 200, Suite 1 San Marcos, TX 78666

CALIBRATION

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) ²	Reference Standard, Method, and/or Equipment
Video Measuring Systems ¹	X & Y up to 450 mm	$(2.8 + 0.006 \ 3L) \ \mu m$	Comparison to glass grids
	X & Y up to 17.716 in	(110 + 6.3 <i>L</i>) μin	Comparison to glass scale
	Z up to 101.6 mm	(4.6 + 0.002 5 <i>L</i>) μm	Comparison to Step Gage or gage blocks
	Z up to 4 in	(180 + 2.5 <i>L</i>) μin	Comparison to Step Gage or gage blocks

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 millimeters for metric parameter, length in inches for imperial parameters.
- This scope is formatted as part of a single document including Certificate of Accreditation No. L2439.

Jason Stine, Vice President





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