



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

GLEASON METROLOGY SYSTEMS CALIBRATION LABORATORY

300 Progress Road  
Dayton, OH 45449  
Mark Cowan Phone: 937 384 8934

CALIBRATION

Valid To: October 31, 2021

Certificate Number: 2054.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations and dimensional testing<sup>1, 5</sup>:

I. Dimensional

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Composite Verification of Analytical Gear and Spline Measurement Systems for Slope Deviation of –  Involute Curve <sup>3</sup>  Helix <sup>3</sup>	Limited to direct comparison method	1.8 µm  1.8 µm	Following AGMA ISO 10064-5-A06 and AGMA 915-1-A02

II. Dimensional Testing/ Calibration<sup>4</sup>

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Outside Diameter –  Plain Cylinders and Gear/Spline	Up to 125 mm  Up to 450 mm	1.3 µm  4.5 µm	ULM-600E  300GMSL

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Inside Diameter –  Plain Rings and Gear/Spline	(20 to 125) mm  (4 to 450) mm	1.5 µm  4.5 µm	ULM-600E or gage pins and blocks  300GMSL
Sphere Diameter  Precision Spheres	(0.5 to 25) mm  (5 to 25) mm	1.0 µm  0.6 µm	ULM-600E
Sphere Roundness	(0.5 to 25) mm	0.07 µm	Roundness instrument MMQ400
Dimension Over Pins (DOP) <sup>4</sup> –  External Gear/Spline	Up to 125 mm	2.0 µm	ULM-600E with gage pins and gage blocks
Dimension Between Pins (DBP) –  Internal Gear/Spline with Spur Teeth	(20 to 125) mm	5.8 µm	Gage pins and gage blocks
Dimension Over Balls (DOB) –  External Gear/Spline with Spur and Helical Teeth	Up to 450 mm	7.9 µm	300GMSL (derived from tooth thickness)
Dimension Between Balls (DBB) –  Internal Gear/Spline with Spur and Helical Teeth	(20 to 125) mm  (4 to 450) mm	3.5 µm  7.9 µm	ULM-600E with gage balls  300GMSL (derived from tooth thickness)

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Tooth Thickness –  External/Internal Involute Gear/Spline	Up to 10 mm Tooth size	2.8 µm	300GMSL
Involute Curve, Total Deviation –  Reference Artifact, Gear, or Spline	Base Diameter:  (4 to 100) mm (100 to 225) mm (225 to 356) mm	1.6 µm 1.9 µm 2.2 µm	Gleason model 300GMSL following AGMA 915-1-A02
Helix, Total Deviation –  Reference Artifact, Gear, or Spline	Helix Angle: (0 to 42) °  Test Diameter: (4 to 450) mm	1.6 µm	Gleason model 300GMSL following AGMA 915-1-A02
Eccentricity/ Concentricity –  Periphery of Slow Taper and LeCount Arbors	Test Diameter: Up to 125 mm	0.2 µm	Gleason model 300GMSL
Pitchline Runout –  Reference Artifact, Gear, or Spline	Test Diameter: Up to 450 mm	2.0 µm	Gleason model 300GMSL following AGMA 915-1-A02
Single Pitch –  Reference Artifact, Gear, or Spline	Test Diameter: Up to 450 mm	0.9 µm	Gleason model 300GMSL following AGMA 915-1-A02

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Cumulative Pitch –  Reference Artifact, Gear, or Spline	Test Diameter: Up to 450 mm	1.3 µm	Gleason model 300GMSL following AGMA 915-1-A02

<sup>1</sup> This laboratory offers commercial calibration services, dimensional testing, and field calibration services.

<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. 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.

<sup>4</sup> This laboratory meets A2LA R205- *Specific Requirements: Calibration Laboratory Accreditation Program* for the types of dimensional tests listed above and is considered equivalent to that of a calibration.

<sup>5</sup> This scope meets A2LA's *P112 Flexible Scope Policy*.



## Accredited Laboratory

A2LA has accredited

**GLEASON METROLOGY SYSTEMS CALIBRATION LABORATORY**

*Dayton, OH*

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 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 3<sup>rd</sup> day of December 2019.

A blue ink signature of a person, likely the Vice President, written over a horizontal line.

Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 2054.01  
Valid to October 31, 2021  
Revised February 8, 2021

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