



# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

### Northern Gauge, Inc.

#400 – 280 Portage Close  
Sherwood Park, Alberta, Canada T8H 2R6

Fulfills the requirements of

### ISO/IEC 17025:2017

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](http://www.anab.org).

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

Jason Stine, Vice President

Expiry Date: 25 March 2025

Certificate Number: L2350



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

**Northern Gauge, Inc.**  
#400 – 280 Portage Close  
Sherwood Park, Alberta, Canada T8H 2R6  
Peter Laurensse  
780-628-0844

### CALIBRATION

Valid to: **March 25, 2025**

Certificate Number: **L2350**

#### Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) <sup>2</sup>	Reference Standard, Method, and/or Equipment
Gauge Blocks: Central Length	(0.05 to 4) in	(2.7 + 4.5L) μin	ISO 3650/ASME B89.1.9 Octagon Precision Gauge Block Comparator & Master Gauge Blocks
Plain Plug Gauges	(0.1 to 7) in (0.20 to 7) in	(46 + 2.4D) μin (41 + 3.8D) μin	ANSI/ASME B89.1.5: Trimos Horizon Premium Micura CMM
Plain Ring Gauges	(0.25 to 7) in (0.20 to 7) in	(74 + 5.5D) μin (41 + 3.8D) μin	ANSI/ASME B89.1.6: Trimos Horizon Premium Micura CMM
Thread Plug Gauges: (4-80 TPI) Pitch Diameter Major Diameter	Diameter: (0.1 to 7) in	(82 + 2D) μin (46 + 2.4D) μin	ANSI/ASME B1.1-B1.2, ANSI/ASME B1.5-B1.8 Trimos Horizon Premium
Thread Ring Gauges: (4-80 TPI) Pitch Diameter Major Diameter	Diameter: (0.25 to 7) in	(74 + 10D) μin (74 + 5.5D) μin	ANSI/ASME B1.1-B1.2, ANSI/ASME B1.5-B1.8 Trimos Horizon Premium
NPT/NPTF Tapered Threads: Standoff	(0.062 5 to 6) in	0.000 6 in	ASME B1.20.1:2013 MAHR Digimar 816CL
API 5B/7-2 Tapered Threads: Standoff	(1 to 10.75) in	0.000 7 in	API 5B/API 7-2 MAHR Digimar 816CL
Rod Length Standards	(0.1 to 20) in	(50 + 3.5L) μin	Trimos Horizon Premium

**Length – Dimensional Metrology**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-) <sup>2</sup>	Reference Standard, Method, and/or Equipment
Calipers - OD, ID and depth	(0.5 to 48) in	(580 + 18L) μin	Master gauge blocks
	(0.5 to 25.5) in	(620 + 23L) μin	Caliper Checker
Micrometers	(0.05 to 59) in	(59 + 22L) μin	Master gauge blocks
Dial/Digital Indicators	(0 to 3) in	38 μin	Master gauge blocks
	(0 to 3) in	55 μin	Trimos Horizon Premium
Height Gauges	(0 to 24) in	(150 + 3.2L) μin	Master gauge blocks
Lead Gauge / Ring Groove Setting Standards	(0 to 18) in	(47 + 4.6L) μin	API 5B & API 6A using CMM Micura
Universal Length Measuring Machines (ULM's) <sup>1</sup>	(0 to 20) in	(10 + 2.2L) μin	Renishaw XL-80 Laser Interferometer
Tape Measures & Ruler	Up to 300 in	(540 + 3.1L) + 11N μin	JIS B 7512 using Octagon Tape and Scale Measuring Machine N = number of resets of the 6 inch reference standard
Profile Projectors <sup>1</sup> : Linear Accuracy Magnification Angle	Up to 8 in 10x, 20x & 50x 0° to 45°	210 μin 355 μin 0.05°	JIS B 7184:1999 using Master Glass Scale Angle Gauge Blocks
Thread Profile – Comparison Method	(2 to 20) pitch	500 μin	API 7-2 / API 5B ANSI B1.5, B1.8, B1.9 Thread Profile Overlays using Optical Comparator
Surface Plates <sup>1</sup> : Flatness Overall Flatness on any Local Area	Length/Width/Diameter: Up to 48 in Any (250 mm x 250 mm)	90 μin 0.99 μm (39 μin)	ISO 8512-2 using: Electronic Level System

**Mass and Mass Related**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Pneumatic Pressure Gages	(0 to 5 000) psig (0 to 20 000) psig (0 to 40 000) psig	10 psig 11 psig 53 psig	API 6D/ISO 14313:10.2.3 using ADDITEL Intelligent Pressure Modules
Pressure Transducers	(0 to 30 000) psig	39 psig	EURAMET CG-17 Additel Process Calibrator Additel Pressure Modules
Torque Wrenches	(20 to 100) lbf·in	2.3 % of reading	ISO 6789:2003 using Torque Transducers and Readout, or Torque Analyzer
	(20 to 100) lbf·ft	3 % of reading	
	(100 to 200) lbf·ft	3.4 % of reading	
	(200 to 1 000) lbf·ft	3 % of reading	

**Electrical – DC / Low Frequency**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Voltage – Source	(0 to 0.33) V (0.33 to 3.3) V (3.3 to 33) V (33 to 330) V (330 to 1 000) V	0.004 6% of reading + 3 $\mu$ V 0.004 3% of reading + 5 $\mu$ V 0.004% of reading + 50 $\mu$ V 0.004% of reading + 500 $\mu$ V 0.004% of reading + 1.5 mV	EURAMET cg-15 Ver. 3 Fluke 5500A Multifunction Calibrator
DC Current - Source	(0 to 3.3) mA (3.3 to 33) mA (33 to 330) mA (0.33 to 2.2) A (2.2 to 11) A	0.009 9% of reading + 0.05 $\mu$ A 0.007 6% of reading + 0.25 $\mu$ A 0.007 8% of reading + 3.3 $\mu$ A 0.023% of reading + 44.0 $\mu$ A 0.046% of reading + 330 $\mu$ A	EURAMET cg-15 Ver. 3 Fluke 5500A Multifunction Calibrator

**Electrical – DC / Low Frequency**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Resistance – Source	(0 to 11) $\Omega$ (11 to 33) $\Omega$ (33 to 110) $\Omega$ (110 to 330) $\Omega$ (330 to 1 100) $\Omega$ (1.1 to 3.3) k $\Omega$ (3.3 to 11) k $\Omega$ (11 to 33) k $\Omega$ (33 to 110) k $\Omega$ (110 to 330) k $\Omega$ (330 to 1 100) k $\Omega$ (1.1 to 3.3) M $\Omega$ (3.3 to 11) M $\Omega$ (11 to 33) M $\Omega$ (33 to 50) M $\Omega$	0.055% of reading + 1.25 m $\Omega$ 0.041% of reading + 1.25 m $\Omega$ 0.004% of reading + 15 m $\Omega$ 0.006% of reading + 15 m $\Omega$ 0.006% of reading + 60 m $\Omega$ 0.007% of reading + 60 m $\Omega$ 0.005 8% of reading + 0.6 $\Omega$ 0.006 6% of reading + 0.6 $\Omega$ 0.007 3% of reading + 6.0 $\Omega$ 0.008 9% of reading + 6.0 $\Omega$ 0.010 5% of reading + 55 $\Omega$ 0.011 4% of reading + 55 $\Omega$ 0.045% of reading + 550 $\Omega$ 0.077% of reading + 550 $\Omega$ 0.39% of reading + 5.5 k $\Omega$	EURAMET cg-15 Ver. 3 Fluke 5500A Multifunction Calibrator
DC Voltage – Measure	(0 to 10) V (10 to 500) V (500 to 1 000) V	0.30% of reading + 0.2 V 0.24% of reading + 5.3 V 0.23% of reading + 10.4 V	EURAMET cg-15 Ver. 3 Fluke 376 FC Clamp Meter
DC Current - Measure	(0 to 10) A (10 to 100) A (100 to 250) A (250 to 500) A	0.01% of reading + 0.4 A 0.30% of reading + 2.3 A 0.01% of reading + 5.3 A 0.03% of reading + 10.3 A	EURAMET cg-15 Ver. 3 Fluke 376 FC Clamp Meter
Welding Machines <sup>1</sup>	(0 to 400) Amps DC (0 to 90) Volts DC (100 to 750) IPM Feed Rate	2.3% of reading ADC 1.3% of reading VDC 3.1 IPM	IEC 60974-14 Fluke 376 FC Clamp Meter Contact Tachometer

**Thermodynamics**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Analog/Digital Thermometers	(20 to 30) $^{\circ}\text{C}$	0.3 $^{\circ}\text{C}$	VAISALA Temperature Data Logger

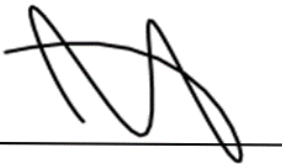
**Thermodynamics**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Temperature Measuring Equipment – Indicators, RTD’s, Thermocouples	(-20 to 150) °C	0.6 °C	ADDITEL 875 Dry Well Calibrator TECHNE Tecal Dry Block Calibrator
	(20 to 650) °C	1.3 °C	
Infrared Thermometer (IR Gun)	(20 to 99) °C	1.2 °C	Thermoworks Blackbody Source (Flat Plate) $\epsilon = 0.95$
	(100 to 299) °C	2.4 °C	
	(300 to 500) °C	3.6 °C	
Pyrometer (IR Gun) / Thermal Imager	(500 to 899) °C	4.5 °C	Nagman Blackbody Source (Ceramic Wall) $\epsilon = 0.98$
	(900 to 1200) °C	7.7 °C	

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 inches,  $D$  = Diameter in inches.
3. This scope is formatted as part of a single document including Certificate of Accreditation No. L2350.



Jason Stine, Vice President