



CERTIFICATE OF ACCREDITATION

ANSI National Accreditation Board
11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

Northern Gauge, Inc.
#400 – 280 Portage Close
Sherwood Park, Alberta, Canada T8H 2R6

has been assessed by ANAB and meets the requirements of international standard

ISO/IEC 17025:2017

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

L2350

Certificate Number


ANAB Approval

Certificate Valid Through: 03/25/2021
Version No. 003 Issued: 03/25/2019



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, 2021**

Certificate Number: **L2350**

Length – Dimensional Metrology

| Parameter/Equipment | Range | Expanded Uncertainty of Measurement (+/-) ² | Reference Standard, Method, and/or Equipment |
|---|----------------------------------|--|---|
| Gauge Blocks: Central Length | (0.05 to 4) in | (5.7 + 5.9L) μin | ISO 3650 using gauge block comparator and Master gauge blocks |
| Plain Plug Gauges | (0.1 to 4) in | (42.2 + 1.65D) μin | Trimos Horizon Premium comparator |
| Plain Ring Gauges | (0.25 to 4) in (0.20 to 7) in | (85.6 + 0.78D) μin (61 + 1.29D) μin | Trimos Horizon Premium Zeiss Micura CMM |
| Thread Plug Gauges: (4-80 TPI) Pitch Diameter Major Diameter | Diameter: (0.1 to 4) in | (80.2 + 1D) μin (42.2 + 1.8D) μin | Trimos Horizon Premium |
| Thread Ring Gauges: (4-80 TPI) Pitch Diameter Minor Diameter | Diameter: (0.25 to 4) in | (85.9 + 0.75D) μin (85.9 + 0.75D) μin | Trimos Horizon Premium |
| Rod Length Standards | (0.1 to 20) in | (49.5 + 3.5L) μin | Trimos Horizon Premium |
| Calipers - OD, ID and depth | (0.5 to 48) in | (577.5 + 17.35L) μin | Master gauge blocks |
| | (0.5 to 25.5) in | (611.6 + 23.1L) μin | Caliper Checker |
| Micrometers | (0.05 to 59) in | (58.9 + 21.48L) μin | Master gauge blocks |



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Length – Dimensional Metrology

| Parameter/Equipment | Range | Expanded Uncertainty of Measurement (+/-) ² | Reference Standard, Method, and/or Equipment |
|---|-------------------------------|--|--|
| 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 | (147 + 3.2L) μin | Master gauge blocks |
| Lead Gauge Setting Standards: Thread Length | (0 to 18) in | (46.5 + 4.6L) μin | API 7-2 at 7.4 using Zeiss Micura CMM |
| Ring Groove Setting Standards: Distance between Groove | (0 to 18) in | (46.5 + 4.6L) μin | API 6A using Zeiss Micura CMM |
| Surface Plates ¹ : Flatness Overall | Length/Width: (0.3 to 3) m | 1.6 μm + 1.2 % of flatness | ISO 8512-2 using Electronic Level Systems |

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 (5 000 to 10 000) psig | 0.065 % of reading 0.12 % of reading | Digital Pressure Gauges |
| 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 | |

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:

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


 Vice President