



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

HORIBA Instruments Incorporated
2890 John R. Rd.
Troy, MI 48083
(and satellite location as shown on the scope)

Fulfills the requirements of

ISO/IEC 17025:2017

In the fields of

CALIBRATION and TESTING

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: 24 February 2024

Certificate Number: ACT-1312



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

HORIBA Instruments Incorporated

2890 John R Rd.

Troy, MI 48083

Marie Squier Phone: 248 689 9000

marie.squier@horiba.com www.hii.horiba.com

CALIBRATION AND TESTING

Valid to: February 24, 2024

Certificate Number: ACT-1312

TESTING

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Radial Loading (force / strain) Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Hydraulic Actuator up to 100 000 pounds-force / 2 500 $\mu\epsilon$ (micro-strain)
Axial Loading (force / strain) Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Hydraulic Actuator up to 100 000 pounds-force / 2 500 $\mu\epsilon$ (micro-strain)
Torsional Loading Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Rotary Hydraulic Actuation up to 5 000 pound-feet; Dynamometer up to 5 000 pound-feet
Dynamic Loading (Force/Acceleration/ Strain) Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Hydraulic Actuator up to 100 G's/measure up to 500 G's / 2 500 $\mu\epsilon$ (micro-strain)
Dynamic Torsional Loading Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Rotary Hydraulic Actuator up to 2 500 pound-feet; Dynamometer up to 5 000 pound-feet
Static Pressure Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Hydraulic Pressure up to 20 000 psi
Dynamic Pressure Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Hydraulic Pressure up to 10 000 psi



ANSI National Accreditation Board

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Rotational Speed Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Dynamometers/Motors up to 18,000 RPM
Linear Displacement Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Hydraulic Actuator – up to 20 in / measure –up to 20 in
Angular/Rotary Displacement Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Encoder: +/- 2 880 ° Inclinometer: +/- 90 ° (Digital Gage)

Thermodynamic / Environmental Simulation

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Temperature Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Thermal Chambers (- 100 to 250) °F Natural Gas Burners up to 2 000 °F
(Static and Dynamic) Fatigue and/or durability	Customer Supplied and/or F12-LMS-Test-Acceptance-Document	Customer Supplied	Thermal Chamber Humidifier/Steam Generator (25 to 95) %RH

Satellite Site

Horiba Instruments Incorporated

5900 Hines Drive
Ann Arbor, MI 48108
Marie Squier Phone: 248 689 9000
marie.squier@horiba.com www.hii.horiba.com

CALIBRATION

Mass and Mass Related Calibration

Calibration Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Remarks
Flow	Up to 30 slm (Standard Liters/Minute)	22 mL/min	Gas Divider-Checker (GDC) WI-QM-B-009 WI-QM-B-019
Flow	Up to 30 slm (Standard Liters/Minute)	48 mL/min	Span Gas Divider (SGD) WI-QM-B-010 WI-QM-B-020
Flow	Up to 30 slm (Standard Liters/Minute)	0.17%	Gas Divider-Checker (GDC ONE) WI-QM-B-023
Flow	Up to 10 slm (Standard Liters/Minute)	26 mL/min	CFO Kit WI-QM-B-015

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. ACT-1312.
2. Calibration and Measurement Uncertainties (Expanded Uncertainty) are based on approximately a 95% confidence interval, using a coverage of k=2



Jason Stine, Vice President