

CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Imada, Inc.
and Hoto Instruments (Division of Imada, Inc.)
3100 Dundee Road, Suite 707
Northbrook, IL 60062

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.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 27 June 2022 Certificate Number: L2086-1





SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Imada, Inc. and Hoto Instruments (Division of Imada, Inc.)

3100 Dundee Road, Suite 707 Northbrook, IL 60062 Aki Morita 847-562-0834

CALIBRATION

Valid to: June 27, 2022 Certificate Number: L2086-1

Length – Dimensional Metrology

| Parameter/Equipment | Range | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method, and/or Equipment |
|--------------------------------|--------------------------------|-------------------------------------------|----------------------------------------------------|
| Digital Distance Meter | (0.000 <mark>5 to 8) in</mark> | 800 µin | Gauge Blocks |
| Durometer Indenter Diameter | (0.001 to 26) mm | 0.01 mm | Image Measuring System |
| Durometer Indenter Angle | (0.01 to 35) ° | 0.15 ° | Image Measuring System |
| Durometer Indenter Radius | (0.001 to 15) mm | 0.006 mm | Image Measuring System |
| Durometer Indenter Length | (0.001 to 3) mm | 0.012 5 mm | Gauge Blocks |

Mass and Mass Related

Version 004 Issued: April 22, 2020

| Parameter/Equipment | Range | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method, and/or Equipment |
|-------------------------|----------------------------------------------|-------------------------------------------|----------------------------------------------------|
| Mechanical Force Gauges | (0.2 to 300) lbf | 0.08 % of reading | Dead Weight applied |
| | (301 to 500) lbf | 0.22 % of reading | Dead Weight applied and Load Cell System |
| Digital Force Gauges | (0.044 to 220) lbf | 0.11 % of reading | Dead Weight applied |
| | (44 to 4 400) lbf | 0.2 % of reading | Dead Weight applied and Load Cell System |
| Torque Testers | (0.1 to 1.4) lbf·in (1.4 to 4 344) lbf·in | 0.003 3 lbf·in 0.24 % of reading | Torque Arm with Dead Weight applied |

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Mass and Mass Related

| Parameter/Equipment | Range | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method, and/or Equipment |
|---------------------|----------------|-------------------------------------------|----------------------------------------------------|
| Durometer | (0.01 to 9) N | 0.05 N | Force Gauge |
| Spring Force | (0.01 to 45) N | 0.2 N | |

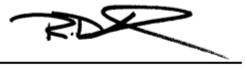
Time and Frequency

| Parameter/Equipment | Range | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method, and/or Equipment |
|----------------------------------|----------------------|-------------------------------------------|----------------------------------------------------|
| Digital Stroboscope ¹ | (0.1 to 150 000) fpm | 0.005 % of reading | Universal Counter |
| Digital Tachometer | (0.01 to 25 000) rpm | 0.005 % of reading | Universal Counter |

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. The unit of measure fpm corresponds to flashes per minute as measured in Hz using an electronic counter.
- 2. This scope is formatted as part of a single document including Certificate of Accreditation No. L2086-1.



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