New Hampshire
Department of Agriculture,
Markets & Food

Lorraine S. Merrill, Commissioner

REPORT OF CALIBRATION

State Test Number:
2016-157

New Hampshire Metrology Laboratory
25 Capitol Street
Concord, NH 03301

Metrological
Traceable
Calibration

Customer: **ADVANCED SCALE INC**
13 DELTA DRIVE UNIT 6
LONDONDERRY, NH 03053-2372

The artifacts in this report have been compared to the state standards of New Hampshire. The U.S. Department of Commerce, National Institute of Standards and Technology (NIST), Office of Weights and Measures (OWM) has granted Recognition to the New Hampshire Metrology Laboratory, as defined by its scope, for demonstrated proficiency of performance standards under the State Laboratory Program. The laboratory meets the requirements of NIST Handbook 143:2007, ISO/IEC 17025:2005, and ANSI/NCSL Z540-1-1994 Part I.

These calibrations have metrological traceability as defined by the International Vocabulary of Metrology (VIM); JCGM 200:2012 3rd edition. These calibration have: 1) An unbroken chain of comparisons to a national or international standard; 2) A realization to the International System of Units (SI); 3) A documented calibration procedure; 4) A documented measurement uncertainty; 5) Were performed by technical competent personnel; 6) Were calibrated with standards that have defined (and up to date) calibration intervals; 7) Fall under a measurement assurance program.

Uncertainties were calculated based on the Guide to the Expression of Uncertainty in Measurement (GUM). Type A components (statistical analysis of the measurement process) and Type B components (technical analysis and scientific judgment) were combined by the root sum squared method, with a coverage factor of k=2, representing a confidence level of approximately 95%.

The State Test Number is unique to these calibrations. Values apply to the artifacts identified in this report only, and indicate the artifacts' value at the time of test.

This Report of Calibration does not constitute an endorsement from any agency associated with the Federal or State Government, to include but not limited to NVLAP, NIST, OWM, New Hampshire Department of Agriculture, Markets, and Food, or the Division of Weights & Measures.

File: 14NHML127JI

Division of Weights and Measures 25 Capitol Street PO Box 2042 Concord, NH 03302-2042
www.agriculture.nh.gov/divisions (603) 271-3700 Fax: (603) 271-1109
TDD Access: Relay NH 1-800-735-2964

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Serial Number:	**07735**	Date Received:	**2016-Sep-02**
ID / Set / Kit:	**None**	Date(s) Calibrated:	**2016-Sep-6, 8**
Description:	**Mass Standards**	Report Date:	**2016-Sep-08**
*Material(s):	**Stainless Steel**	Calibration Due:	**2017-Sep-30**
*Tolerance Accuracy Class:	**1 (ANSI/ASTM E617)**	Calibration Cycle:	**Annual**
Ambient Temperature (°C):	**21.7**	Calibrated By:	**RPC**
Ambient Humidity (%RH):	**49.9**	Calibration Procedure:	**NIST SOP 4 and/or 5**
Ambient Pressure (mmHg):	**756**		**Double Substitution NISTIR 6969 (2012Feb) 3-1 NISTIR 5672 (2012Mar)**

Conventional Mass: The mass an object would appear to have as a result of weighing in "normal" air with a reference air density of 0.0012 g/cm³, at a reference temperature of 20 °C, and compared to a reference weight density of 8.0 g/cm³.

Air buoyancy corrections were included in calculating calibration values.

Conventional Mass Correction: The error an artifact has from the nominal value.

Out-of-Tolerance (OOT): A mark in the OOT column indicates that the value of the Conventional Mass Correction combined with its uncertainty, exceeds the tolerance value.

As Found & As Left: All values listed represent both the "As Found" and "As Left" value, unless labeled otherwise.

*The listed accuracy class (weight class) is provided for comparison to tolerances and was not evaluated for accuracy. It may not accurately reflect the artifact's conformance with specifications associated with this class. These specifications may include material, finish, density, design, markings, adjustment cavities, magnetism, magnetism susceptibility, or other components.

Not evaluated for use in the State of New Hampshire for legal weights & measures applications.

Approved Signatory:

Timothy L. Osmer / Metrologist

New Hampshire Metrology Laboratory
25 Capitol Street, Concord NH 03301
(603) 271-0894

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OOT	Nominal Mass (g)	Weight SN / ID	Density* (g/cm³)	Conventional Mass (g)	Conventional Mass Correction (mg)	Uncertainty (k=2) ± (mg)	Tolerance ± (mg)
	1000		7.95	1000.00114	1.14	0.10	2.5
	500		7.95	500.000438	0.438	0.072	1.2
	300		7.95	300.000519	0.519	0.064	0.75
	200		7.95	200.000158	0.158	0.062	0.50
	100		7.95	100.000066	0.066	0.021	0.25

SI conversion: 1 lb = 0.453 592 37 kg
SI conversion: 1 oz = 0.028 349 523 1 kg

SI conversion: 1 g = 0.001 kg
SI conversion: 1 mg = 0.000 001 kg

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