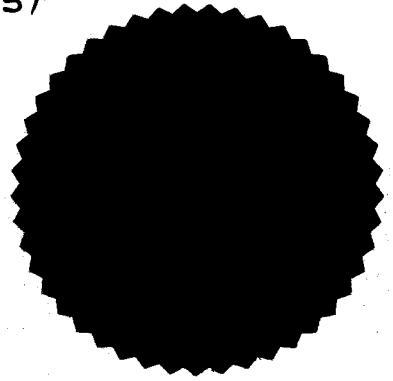


JD # 10151

Heusser Neweigh, LLC

Certificate of Weight Calibration



Customer Name: Micro Motion, Inc.
 Address: 7070 Winchester Circle
 City/State/Zip: Boulder, CO 80301

Test Number: 7947-08
 Manufacturer: Rice Lake
 Serial Number: 2DUP
 ID/Asset Number: 10151
 Accuracy Class: ASTM 4

Certification Date: 28 October 2008
 Metrologist: ALC & SP
 Test Method: WP-303 (Rev.2002-1)

Next Recommended Certification Due: October 2009

Environmental Conditions During Test:

Temperature: 21.5 °C Air Pressure: 1015.0 hPa Relative Humidity: 46.0 %

As Found / As Left Data

Nominal Mass g	Conventional Mass g	Correction mg	Class Tolerance mg	Uncertainty Budget mg	Assumed Density g/cm ³	Working Standard ID	Mass Comparator ID
5000	5000.01150000	+ 11.50000	100.00000	10.00000	7.84	8	8
5000 *	5000.01050000	+ 10.50000	100.00000	10.00000	7.84	8	8
2000	2000.00510000	+ 5.10000	40.00000	4.00000	7.84	8	8
2000 *	2000.00490000	+ 4.90000	40.00000	4.00000	7.84	8	8
1000	1000.00105000	+ 1.05000	20.00000	2.00000	7.84	9	6
500	500.00116000	+ 1.16000	10.00000	1.00000	7.84	9	6
200	200.00025050	+ 0.25050	4.00000	0.40000	7.84	53	15
200 *	200.00032011	+ 0.32011	4.00000	0.40000	7.84	53	15
100	100.00004608	+ 0.04608	2.00000	0.20000	7.84	53	22
50	50.00020247	+ 0.20247	1.20000	0.12000	7.84	53	22
mg	mg	mg	mg	mg			

Authorized Signature: 

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Note: This certificate may only be reproduced, in full, for internal use, by the customer to whom it is issued.

HEUSSER NEWEIGH, LLC 1400 Willow Pass Court, Concord, California 94520 800.672.1440

Page 1 of 2 (See Page 2 on Reverse Side)

Heusser Neweigh, LLC

Certificate of Weight Calibration

Information Pertaining to the Certificate of Weight Calibration

The weights listed on page one of this *Certificate of Weight Calibration* have been compared to mass reference standards that are directly traceable to the National Institute of Standards and Technology (NIST) Test # 822/275890.

The procedure used to calibrate the herein described weights and this *Certificate of Weight Calibration* meets the requirements and guidelines of ISO 9001:2000, ANCI/NCSL Z540-1-1994, ASTM E 617-97, the Heusser Neweigh Quality Assurance Program (Revision 2007-1) and the purchase requisition referenced herein, if any.

The procedure used to disseminate an assigned value for each weight was performed through a series of intercomparisons between NIST traceable mass reference standards and the weights listed on page one of this Weight Calibration Certificate.

The assigned uncertainties, as shown on page one, define the uncertainty of the Heusser Neweigh mass measurement process as computed in accordance with NIST Technical Note 1297, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results* and ANSI/NCSL Z540-2-1994. The expression figure is an expression of the expanded overall uncertainty for the measurement process, using two standard deviations as a limit to the effect of both random errors and systematic errors associated with the measurement process.

The calibration of the weights listed on page one of this Weight Calibration Certificate is based on an apparent mass vs. material of density 8.0 g/cm³.

Definitions

Calibration—the acts of determining the mass difference between a standard of known mass value and an “unknown” test weight or set of test weights, establishing the conventional mass value of the “unknown”, and of determining a quantitative estimate of the uncertainty to be assigned to the stated conventional mass value of the “unknown”.

Certificate of Calibration—a document that presents calibration results and other information relevant to a calibration, including the nominal mass values and corrections, together with a statement of the uncertainty of the values.

Class Tolerance—the maximum amount by which the conventional mass of the weight is allowed to deviate from the assigned nominal value.

Conventional Mass—conventional value of the result of weighing in air.

Correction—mass values are traditionally expressed by two numbers, one being the nominal mass of the weight, and the second being a correction. The mass of the weight is then the assigned nominal value plus the assigned correction. Positive corrections indicate that the weight embodies more mass than is indicated by the assigned nominal value.

Traceability—the property of the result of a measurement or the value of a standard whereby it can be related to national or international standards, through an unbroken chain of comparisons.

Uncertainty Budget—in any measurement of mass, there are a number of sources of uncertainty. The uncertainty figure is an expression of the expanded overall uncertainty for the measurement, using two standard deviations as a limit to the effect of both random errors and systematic errors associated with the measurement process. The Uncertainty Budget is Heusser Neweigh's *maximum* allowable expanded uncertainty.