

DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION

AUGUSTA, MAINE 04333-0028

Amanda E. Beal Commissioner

Celeste Poulin Director

REPORT OF CALIBRATION MAINE TEST NUMBER 8111ME

High precision metric standards Date of Report: February 12, 2024

SUBMITTED BY Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described below have been compared with standards of the State of Maine by NIST SOP 4: Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The mass standards are listed in the table below and used at 20 °C for air buoyancy correction calculations. Measurements conducted by this laboratory are traceable to the International System of Units (S.I.). Weights were received in good condition.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance. Weights found in an out of tolerance condition will have conventional mass correction values in bold.

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Page 1 of 3



PHONE: (207) 287-7587 FAX: (207) 287-7161

Maine Scale Company Maine Test Number 8111ME

Page 2 of 3

Nominal & Identification	Density g/cm ³	True Mass	True Mass correction mg	Conventional Mass, g	Conventional Mass correction mg	Uncertainty mg	ASTM E617- 18 Class 2 Tolerance, mg
5000 g - 64651	7.85	5000.0099	9.9	4999.9956	- 4.4	3.2	25
2000 g - 64639	7.84	2000.0057	5.7	1999.9996	-0.4	1.7	10
2000 g 98-J20352-12	7.85	2000.0062	6.2	2000.0000	0.0	1.7	10
2000 g - 782X	7.84	2000,0064	6.4	2000.0003	0.3	1.7	10
2000 g 98-J20355-2	7.85	2000.0026	2.6	1999.9969	-3.1	1.7	10
1000 g - 782Y	7.84	1000.00459	4.59	1000.00152	1.52	0.48	5.0
1000 g - 100317-1	7.84	1000.00374	3.74	1000.00068	0.68	0.48	5.0
1000 g - 98631	7.84	1000.00389	3.89	1000.00083	0.83	0.48	5.0
500 g - CP500-6	7.84	500.00177	1.77	500.00024	0.24	0.30	2.5
300 g 091018-1W	7.85	300.00099	0.99	300.00013	0.13	0.24	1.5

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Standards of the State of Maine are traceable to the National Institute of Standards and Technology through State of Oregon Department of Agriculture State Test No: OR-18-257-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2023.

Laboratory environmental range:

Temperature: 21.19 °C to 21.26 °C Relative humidity: 40.62 % to 41.96 %

Barometric pressure: 745.93 mmHg to 746.51 mmHg

Date Received: November 21, 2023 Date of test: December 29, 2023 Calibration due: December 31, 2024



PHONE: (207) 287-7587 FAX: (207) 287-7161

Maine Scale Company Maine Test Number 8111ME Page 3 of 3

Bradford Bachelder, Metrologist





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION

AUGUSTA, MAINE 04333-0028

Amanda E. Beal Commissioner

Celeste Poulin Director

REPORT OF CALIBRATION **MAINE TEST NUMBER 8126ME**

Weight set SN: 1351F (4) 500 g ASTM E617-18 Class 2 tolerances Date of Report: February 12, 2024

SUBMITTED BY Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4: Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The mass standards are assumed to be stainless steel with a density of 7.84 g/cm³ at 20 °C for air buoyancy correction. Measurements conducted by this laboratory are traceable to the International System of Units (S.I.). Weights were received in good condition.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance. Weights found in an out of tolerance condition will have conventional mass correction values in bold.

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Page 1 of 2



FAX: (207) 287-7161

PHONE: (207) 287-7587 https://stateofmaine-my.sharepoint.com/personal/bradford_bachelder_maine_gov/Documents/OldHomeDirectory/Metrology Lab/CALIBRATIONS/Calibration 2024/Mass II/MaineCal/2024/2024 8126ME 1351F 4x500g/Maine Scale 8126ME.doc

Maine Scale Company Maine Test Number 8126ME

Page 2 of 2

Nominal &	True Mass	True Mass	Conventional	Conventional	Uncertainty	ASTM E617-
identifier	g	correction	Mass, g	Mass correction	mg	18 Class 2
		mg		mg	<u>.</u>	Tolerance, mg
500 g (1)	500.00198	1.98	500.00045	0.45	0.30	2.5
500 g (2)	500.00209	2.09	500.00056	0.56	0.30	2.5
500 g (3)	500.00225	2.25	500.00073	0.73	0.30	2.5
500 g (4)	500.00166	1.66	500.00013	0.13	0.30	2.5

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Standards of the State of Maine are traceable to the National Institute of Standards and Technology through State of Oregon Department of Agriculture State Test No: OR-18-257-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2023.

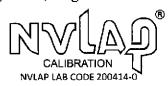
Laboratory environmental range:

Temperature: 21.09 °C to 21.14 °C Relative humidity: 42.18 % to 42.29 %

Barometric pressure: 746.51 mmHg to 746.64

Date Received: November 21, 2023 Date of test: December 29, 2023 Calibration due: December 31, 2024

Bradford Bachelder, Metrologist





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal COMMISSIONER

Celeste Poulin Director

REPORT OF CALIBRATION MAINE TEST NUMBER 8117ME

Weight set SN: 91217-1W 200 g to 2 mg, ASTM E617-18 Class 2 tolerances Date of Report: February 13, 2024

SUBMITTED BY: Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4, Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The weights are stainless steel and aluminum with a density of 8.03 g/cm³ for the 200 gram to 1 gram, 7.95 g/cm³ for the 500 mg to 5 mg, and 2.70 g/cm³ for the 2 mg, all at 20 °C for air buoyancy correction. Weights were received in good condition.

Standards of the State of Maine are traceable to the International System of Units (S.I.) through Oregon State Test Number OR-18-240-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2024.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. Weights found in an out of tolerance condition will have the conventional mass correction value in bold. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance.

Page 1 of 3



Maine Scale Company Maine Test Number 8117ME

Page 2 of 3

Nominal	True Mass	True mass	Conventional	Conventional	Uncertainty	ASTM E617-
	g	correction	Mass	Mass Correction	mg	18 Class 2
	_	g	g	mg	_	Tolerance, mg
200 g	200.00014	0.14	200.00025	0.25	0.22	1.0
200 g *	200.00010	0.10	200.00021	0.21	0.22	1.0
100 g	100.000019	0.019	100.000075	0.075	0.050	0.50
50 g	49.999563	-0.437	49.999591	-0.409	0.032	0.25
20 g	19.999894	-0.106	19.999906	-0.094	0.025	0.10
20 g *	19.999966	-0.034	19.999977	-0.023	0.025	0.10
10 g	9.999946	-0.054	9.999952	-0.048	0.016	0.074
5 g	5.0000067	0.0067	5.0000095	0.0095	0.0067	0.054
2 g	1.9999719	-0.0281	1.9999731	-0.0269	0.0063	0.054
2 g *	1.9999689	-0.0311	1.9999701	-0.0299	0.0063	0.054
1 g	0.9999948	-0.0052	0.9999954	-0.0046	0.0063	0.054
500 mg	0.5001485	0.1485	0.5001480	0.1480	0.0062	0.025
200 mg	0.2000279	0.0279	0.2000277	0.0277	0.0062	0.025
200 mg *	0.2000971	0.0971	0.2002092	0.2092	0.0062	0.025
100 mg	0.1000385	0.0385	0.1000384	0.0384	0.0024	0.025
50 mg	0.0500035	0.0035	0.0500035	0.0035	0.0024	0.014
20 mg	0.0200069	0.0069	0.0200069	0.0069	0.0024	0.014
20 mg *	0.0200029	0.0029	0.0200029	0.0029	0.0024	0.014
10 mg	0.0100083	0.0083	0.0100083	0.0083	0.0015	0.014
5 mg	0.0050082	0.0082	0.0050082	0.0082	0.0015	0.014
2 mg	0.0020057	0.0057	0.0020051	0.0051	0.0015	0.014

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/EIC 17025:2017

Laboratory environmental range:

Temperature: 20.65 °C to 21.01 °C Relative humidity: 43.40 % to 45.18 %

Barometric pressure: 747.45 mmHg to 762.75 mmHg

Date Received: November 21, 2023

Date of test: January 3, 2024 & January 4, 2024

Calibration due: January 31, 2025



Maine Scale Company Maine Test Number 8117ME Page 3 of 3

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Artifacts are compared to ASTM tolerances only. Other ASTM weight class specifications are not evaluated.

Bradford Bachelder, Metrologist





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal Commissioner

Celeste Poulin

REPORT OF CALIBRATION MAINE TEST NUMBER 8115ME

Weight set SN: 9WCA 200 g, 20 g, 20 mg ASTM E617-18 Class 2 tolerances Date of Report: February 12, 2024

SUBMITTED BY Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4: Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The mass standards are assumed to be stainless steel with a density of 7.95 g/cm³ at 20 °C for air buoyancy correction. Measurements conducted by this laboratory are traceable to the International System of Units (S.I.). Weights were received in good condition.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance. Weights found in an out of tolerance condition will have conventional mass correction values in bold.

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Page 1 of 2



PHONE: (207) 287-7587 FAX: (207) 287-7161

Maine Scale Company Maine Test Number 8115ME

Page 2 of 2

Nominal	True Mass	True Mass	Conventional	Conventional	Uncertainty	ASTM E617-
	g	correction	Mass, g	Mass correction	mg	18 Class 2
		mg		mg		Tolerance, mg
200 g	200.00029	0.29	200.00010	0.10	0.22	1.0
20 g	20.000047	0.047	20.000029	0.029	0.025	0.1
20 mg	0.0200058	0.0058	0.0200058	0.0058	0.0024	0.025

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Standards of the State of Maine are traceable to the National Institute of Standards and Technology through State of Oregon Department of Agriculture State Test No: OR-18-257-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2023.

Laboratory environmental range:

Temperature: 19.86 °C to 20.27 °C Relative humidity: 42.18 % to 42.59 %

Barometric pressure: 746.51 mmHg to 746.98 mmHg

Date Received: November 21, 2023 Date of test: December 29, 2023 Calibration due: December 31, 2024

Bradford Bachelder, Metrologist

This report may not be reproduced, except in full, without written permission from this laboratory. This report must not be used to claim product certification, approval, or endorsement by NIST, NVLAP, The State of Maine, or any agency of the U.S. government. Calibrations performed at 333 Cony Road, Augusta ME.



Maine Scale Company Maine Test Number 8114ME

Page 2 of 2

Nominal	True Mass	True Mass	Conventional	Conventional	Uncertainty	ASTM E617-
	g	correction	Mass, g	Mass correction	mg	18 Class 2
		mg		mg		Tolerance, mg
100 g	100.00013	0.13	100.00003	0.03	0.05	0.50
10 g	10.000012	0.012	10.000003	0.003	0.016	0.074
200 mg	0.2000042	0.0042	0.2000040	0.0040	0.0062	0.025

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Standards of the State of Maine are traceable to the National Institute of Standards and Technology through State of Oregon Department of Agriculture State Test No: OR-18-257-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2023.

Laboratory environmental range:

Temperature: 19.86 °C to 20.19 °C Relative humidity: 42.18 % to 42.59 %

Barometric pressure: 746.51 mmHg to 746.98 mmHg

Date Received: November 21, 2023 Date of test: December 29, 2023 Calibration due: December 31, 2024

Bradford Bachelder, Metrologist

This report may not be reproduced, except in full, without written permission from this laboratory. This report must not be used to claim product certification, approval, or endorsement by NIST, NVLAP, The State of Maine, or any agency of the U.S. government. Calibrations performed at 333 Cony Road, Augusta ME.





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal

Celeste Poulin Director

REPORT OF CALIBRATION MAINE TEST NUMBER 8113ME

Weight set SN: 76GT 100 g to 1 mg, ASTM E617-18 Class 2 tolerances Date of Report: February 13, 2024

SUBMITTED BY: Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4, Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The weights are stainless steel with a density of 7.95 g/cm³ at 20 °C for air buoyancy correction. Weights were received in good condition.

Standards of the State of Maine are traceable to the International System of Units (S.I.) through Oregon State Test Number OR-18-240-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2024.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k-2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. Weights found in an out of tolerance condition will have conventional mass correction values in bold. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance.

Page 1 of 3



Maine Scale Company Maine Test Number 8113ME

Page 2 of 3

Nominal	True Mass	True mass	Conventional	Conventional	Uncertainty	ASTM E617-
	g	correction	Mass	Mass Correction	mg	18 Class 2
		g	g	mg		Tolerance, mg
100 g	100.000203	0.203	100.000108	0.108	0.050	0.50
50 g	50.000054	0.054	50.000007	0.007	0.032	0.25
20 g	20.000047	0.047	20.000028	0.028	0.025	0.10
20 g *	20.000035	0.035	20.000016	0.016	0.025	0.10
10 g	10.000013	0.013	10.000004	0.004	0.016	0.074
5 g	5.0000160	0.0160	5.0000113	0.0113	0.0067	0.054
2 g	2.0000110	0.0110	2.0000091	0.0091	0.0063	0.054
2 g *	2.0000123	0.0123	2.0000104	0.0104	0.0063	0.054
1 g	1.0000033	0.0033	1.0000024	0.0024	0.0063	0.054
500 mg	0.5000070	0.0070	0.5000065	0.0065	0.0062	0.025
200 mg *	0.2000041	0.0041	0.2000039	0.0039	0.0062	0.025
200 mg **	0.2000045	0.0045	0.2000043	0.0043	0.0062	0.025
100 mg	0.1000050	0.0050	0.1000049	0.0049	0.0024	0.025
50 mg	0.0500080	0.0080	0.0500079	0.0079	0.0024	0.014
20 mg	0.0200012	0.0012	0.0200012	0.0012	0.0024	0.014
20 mg *	0.0200027	0.0012	0.0200027	0.0027	0.0024	0.014
10 mg	0.0100059	0.0059	0.0100059	0.0059	0.0015	0.014
5 mg	0.0050034	0.0034	0.0050034	0.0034	0.0015	0.014
2 mg	0.0020003	0.0003	0.0020003	0.0003	0.0015	0.014
2 mg *	0.0020045	0.0045	0.0020045	0.0045	0.0015	0.014
1 mg	0.0010026	0.0026	0.0010026	0.0026	0.0015	0.014

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/EIC 17025:2017

Laboratory environmental range: Temperature: 20.62 °C to 21.02 °C Relative humidity: 42.59 % to 46.20 %

Barometric pressure: 746.98 mmHg to 751.33 mmHg

Date Received: November 21, 2023

Date of test: January 3, 2024 & January 4, 2024

Calibration due: January 31, 2025



Maine Scale Company Maine Test Number 8113ME Page 3 of 3

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Artifacts are compared to ASTM tolerances only. Other ASTM weight class specifications are not evaluated.

Bradford Bachelder, Metrologist





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal COMMISSIONER

Celeste Poulin Director

REPORT OF CALIBRATION MAINE TEST NUMBER 8112ME

Weight set SN: 4000016924 100 g to 1 mg, ASTM E617-18 Class 2 tolerances Date of Report: February 13, 2024

SUBMITTED BY: Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4, Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The weights are stainless steel and aluminum with a density of 8.03 g/cm³ for the 100 gram to 1 gram, 7.95 g/cm³ for the 500 mg to 5 mg, and 2.70 g/cm³ for the 2 mg to 1 mg, all at 20 °C for air buoyancy correction. Weights were received in good condition.

Standards of the State of Maine are traceable to the International System of Units (S.I.) through Oregon State Test Number OR-18-240-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2024.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. Weights found in an out of tolerance condition will have a note with the as found value. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance.

Page 1 of 3



Maine Scale Company Maine Test Number 8112ME

Page 2 of 3

Nominal	True Mass	True mass	Conventional	Conventional	Uncertainty	ASTM E617-
	g	correction	Mass	Mass Correction	mg	18 Class 2
		g	g	mg		Tolerance, mg
100 g	100.000018	0.018	100.000074	0.074	0.050	0.50
50 g	50.000026	0.026	50.000054	0.054	0.032	0.25
20 g	20.000026	0.026	20.000037	0.037	0.025	0.10
20 g *	20.000011	0.011	20.000023	0.023	0.025	0.10
10 g	9.999993	-0.007	9.999999	-0.001	0.016	0.074
5 g	5.0000138	0.0138	5.0000166	0.0166	0.0067	0.054
2 g	1.9999974	-0.0026	1.9999986	-0.0014	0.0063	0.054
2 g *	1.9999954	-0.0046	1.9999966	-0.0034	0.0063	0.054
1 g	1.0000137	0.0137	1.0000142	0.0142	0.0063	0.054
500 mg	0.4999974	-0.0026	0.4999969	-0.0031	0.0062	0.025
200 mg	0.2000029	0.0029	0.2000027	0.0027	0.0062	0.025
200 mg *	0.2000065	0.0065	0.2000063	0.0063	0.0062	0.025
100 mg	0.0999997	-0.0003	0.0999996	-0.0004	0.0024	0.025
50 mg	0.0500050	0.0050	0.0500049	0.0049	0.0024	0.014
20 mg	0.0200049	0.0049	0.0200049	0.0049	0.0024	0.014
20 mg *	0.0200014	0.0014	0.0200014	0.0014	0.0024	0.014
10 mg	0.0100055	0.0055	0.0100055	0.0055	0.0015	0.014
5 mg	0.0050045	0.0045	0.0050045	0.0045	0.0015	0.014
2 mg	0.0020050	0.0050	0.0020044	0.0044	0.0015	0.014
2 mg *	0.0020030	0.0030	0.0020024	0.0024	0.0015	0.014
1 mg	0.0010022	0.0022	0.0010019	0.0019	0.0015	0.014

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/EIC 17025:2017

Laboratory environmental range: Temperature: 20.62 °C to 21.02 °C Relative humidity: 43.40 % to 45.18 %

Barometric pressure: 747.87 mmHg to 762.39 mmHg

Date Received: November 21, 2023

Date of test: January 3, 2024 & January 4, 2024

Calibration due: January 31, 2025



PHONE: (207) 287-7587 FAX: (207) 287-7161 https://stateofmaine-my.sharepoint.com/personal/bradford_bachelder_maine_gov/Documents/OldHomeDirectory/Metrology

Lab/CALIBRATIONS/Calibration 2024/Mass II/MaincCal/2024/2024 8112ME 4000016924 kit/Mainc Scale_8112ME_4000016924.doc

Maine Scale Company Maine Test Number 8112ME Page 3 of 3

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Artifacts are compared to ASTM tolerances only. Other ASTM weight class specifications are not evaluated.

Bradford Bachelder, Metrologist





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal COMMISSIONER

Celeste Poulin

REPORT OF CALIBRATION MAINE TEST NUMBER 8107ME

Weight set SN: 21801 100 g to 1 mg, ASTM E617-18 Class 2 tolerances Date of Report: February 19, 2024

SUBMITTED BY: Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4, Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The weights are stainless steel with a density of 7.95 g/cm³ at 20 °C for air buoyancy correction. Weights were received in good condition.

Standards of the State of Maine are traceable to the International System of Units (S.I.) through Oregon State Test Number OR-18-240-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2024.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. Weights found in an out of tolerance condition will have conventional mass correction values in bold. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance.

Page 1 of 3



Maine Scale Company Maine Test Number 8107ME Page 2 of 3

Nominal	True Mass	True mass	Conventional	Conventional	Uncertainty	ASTM E617-
	g	correction	Mass	Mass Correction	mg	18 Class 2
		g	g	mg		Tolerance, mg
100 g	100.000016	0.016	99.999921	-0.079	0.050	0.50
50 g	50.000053	0.053	50.000006	0.006	0.032	0.25
20 g	20.000047	0.047	20.000028	0.028	0.025	0.10
20 g *	20.000017	0.017	19.999998	-0.002	0.025	0.10
10 g	9.999976	-0.024	9.999966	-0.034	0.016	0.074
5 g	5.0000141	0.0141	5.0000094	0.0094	0.0067	0.054
2 g	2.0000269	0.0269	2.0000250	0.0250	0.0063	0.054
2 g *	2.0000163	0.0163	2.0000144	0.0144	0.0063	0.054
1 g	1.0000208	0.0208	1.0000198	0.0198	0.0063	0.054
500 mg	0.5000102	0.0102	0.5000098	0.0098	0.0062	0.025
200 mg	0.2000013	0.0013	0.2000011	0.0011	0.0062	0.025
200 mg *	0.2000029	0.0029	0.2000027	0.0027	0.0062	0.025
100 mg	0.0999867	-0.0133	0.0999866	-0.0134	0.0024	0.025
50 mg	0.0499899	-0.0101	0.0499899	-0.0101	0.0024	0.014
20 mg	0.0200061	0.0061	0.0200061	0.0061	0.0024	0.014
20 mg *	0.0200042	0.0042	0.0200042	0.0042	0.0024	0.014
10 mg	0.0099975	-0.0025	0.0099975	-0.0025	0.0015	0.014

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/EIC 17025:2017

0.0050031

0.0020040

0.0020070

0.0010027

0.0031

0.0040

0.0070

0.0027

0.0015

0.0015

0.0015

0.0015

0.014

0.014

0.014

0.014

Laboratory environmental range: Temperature: 20.62 °C to 21.02 °C

0.0050031

0.0020040

0.0020070

0.0010027

Relative humidity: 42.59 % to 46.20 %

Barometric pressure: 746.98 mmHg to 751.33 mmHg

0.0031

0.0040

0.0070

0.0027

Date Received: November 21, 2023

Date of test: January 3, 2024 & January 4, 2024

Calibration due: January 31, 2025



PHONE: (207) 287-7587

5 mg

2 mg

1 mg

2 mg *

Maine Scale Company Maine Test Number 8107ME Page 3 of 3

Page 3 of 3

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Artifacts are compared to ASTM tolerances only. Other ASTM weight class specifications are not evaluated.

Bradford Bachelder, Metrologist





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal Commissioner

Celeste Poulin Director

REPORT OF CALIBRATION
MAINE TEST NUMBER 8115ME

Weight set SN: 9WCA 200 g, 20 g, 20 mg ASTM E617-18 Class 2 tolerances Date of Report: February 12, 2024

SUBMITTED BY
Maine Scale Company
4 Washington St. North
Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4: Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The mass standards are assumed to be stainless steel with a density of 7.95 g/cm³ at 20 °C for air buoyancy correction. Measurements conducted by this laboratory are traceable to the International System of Units (S.I.). Weights were received in good condition.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance. Weights found in an out of tolerance condition will have conventional mass correction values in bold.

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Page 1 of 2

CALIBRATION NVLAP LAB CODE 200414-0

PHONE: (207) 287-7587

FAX: (207) 287-7161

https://stateofmaine-my.sharepoint.com/personal/bradford_bachelder_maine_gov/Documents/OldHomeDirectory/Metrology Lab/CALIBRATIONS/Calibration 2024/Mass II/MaineCal/2024/2024 8115ME 9WCA 200g, 20g, 20gg/Maine Scale_8115ME.doc

Maine Scale Company Maine Test Number 8115ME Page 2 of 2

Nominal	True Mass g	True Mass correction mg	Conventional Mass, g	Conventional Mass correction mg	Uncertainty mg	ASTM E617- 18 Class 2 Tolerance, mg
200 g	200.00029	0.29	200.00010	0.10	0.22	1.0
20 g	20.000047	0.047	20.000029	0.029	0.025	0.1
20 mg	0.0200058	0.0058	0.0200058	0.0058	0.0024	0.025

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Standards of the State of Maine are traceable to the National Institute of Standards and Technology through State of Oregon Department of Agriculture State Test No: OR-18-257-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2023.

Laboratory environmental range:

Temperature: 19.86 °C to 20.27 °C Relative humidity: 42.18 % to 42.59 %

Barometric pressure: 746.51 mmHg to 746.98 mmHg

Date Received: November 21, 2023 Date of test: December 29, 2023 Calibration due: December 31, 2024

Bradford Bachelder, Metrologist

This report may not be reproduced, except in full, without written permission from this laboratory. This report must not be used to claim product certification, approval, or endorsement by NIST, NVLAP, The State of Maine, or any agency of the U.S. government. Calibrations performed at 333 Cony Road, Augusta ME.

CALIBRATION NVLAP LAB CODE 200414-0

PHONE: (207) 287-7587

FAX: (207) 287-7161



DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal Commissioner

Celeste Poulin Director

REPORT OF CALIBRATION MAINE TEST NUMBER 8114ME

Weight set SN: 8INP 100 g, 10 g, 200 mg ASTM E617-18 Class 2 tolerances Date of Report: February 12, 2024

SUBMITTED BY Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4: Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The mass standards are assumed to be stainless steel with a density of 7.95 g/cm³ at 20 °C for air buoyancy correction. Measurements conducted by this laboratory are traceable to the International System of Units (S.I.). Weights were received in good condition.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance. Weights found in an out of tolerance condition will have conventional mass correction values in bold.

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Page 1 of 2

CALIBRATION NVLAP LAB CODE 200414-0

PHONE: (207) 287-7587

FAX: (207) 287-7161

https://stateofmaine-my.sharepoint.com/personal/bradford_bachelder_maine_gov/Documents/OldHomeDirectory/Metrology Lab/CALlBRATIONS/Calibration 2024/Mass II/MaineCal/2024/2024 8114ME 8INP 100g. 10g. 200mg/Maine Scale_8111ME.doc

Maine Scale Company Maine Test Number 8114ME Page 2 of 2

Nominal	True Mass g	True Mass correction mg	Conventional Mass, g	Conventional Mass correction mg	Uncertainty mg	ASTM E617- 18 Class 2 Tolerance, mg
100 g	100.00013	0.13	100.00003	0.03	0.05	0.50
10 g	10.000012	0.012	10.000003	0.003	0.016	0.074
200 mg	0.2000042	0.0042	0.2000040	0.0040	0.0062	0.025

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Standards of the State of Maine are traceable to the National Institute of Standards and Technology through State of Oregon Department of Agriculture State Test No: OR-18-257-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2023.

Laboratory environmental range:

Temperature: 19.86 °C to 20.19 °C Relative humidity: 42.18 % to 42.59 %

Barometric pressure: 746.51 mmHg to 746.98 mmHg

Date Received: November 21, 2023 Date of test: December 29, 2023 Calibration due: December 31, 2024

Bradford Bachelder, Metrologist

This report may not be reproduced, except in full, without written permission from this laboratory. This report must not be used to claim product certification, approval, or endorsement by NIST, NVLAP, The State of Maine, or any agency of the U.S. government. Calibrations performed at 333 Cony Road, Augusta ME.

CALIBRATION NVLAP ŁAB CODE 200414-0

PHONE: (207) 287-7587

FAX: (207) 287-7161

https://stateofmaine-my.sharepoint.com/personal/bradford_bachelder_maine_gov/Documents/OldHomeDirectory/Metrology Lab/CALIBRATIONS/Calibration 2024/Mass II/MaineCal/2024/2024 8114ME 8INP 100g, 10g, 200mg/Maine Scale_8111ME.doc



DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal Commissioner

Celeste Poulin Director

REPORT OF CALIBRATION
MAINE TEST NUMBER 8126ME

Weight set SN: 1351F (4) 500 g ASTM E617-18 Class 2 tolerances Date of Report: February 12, 2024

SUBMITTED BY
Maine Scale Company
4 Washington St. North
Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4: Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The mass standards are assumed to be stainless steel with a density of 7.84 g/cm³ at 20 °C for air buoyancy correction. Measurements conducted by this laboratory are traceable to the International System of Units (S.I.). Weights were received in good condition.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance. Weights found in an out of tolerance condition will have conventional mass correction values in bold.

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Page 1 of 2

CALIBRATION NVLAP LAB CODE 200414-0

PHONE: (207) 287-7587

FAX: (207) 287-7161

https://stateofmaine-my.sharepoint.com/personal/bradford_bachelder_maine_gov/Documents/OldHomeDirectory/Metrology Lab/CALIBRATIONS/Calibration 2024/Mass II/MaineCal/2024/2024 8126ME 1351F 4x500g/Maine Scale_8126ME.doc

Maine Scale Company Maine Test Number 8126ME

Page 2 of 2

Nominal & identifier	True Mass	True Mass correction mg	Conventional Mass, g	Conventional Mass correction mg	Uncertainty mg	ASTM E617- 18 Class 2 Tolerance, mg
500 g (1)	500.00198	1.98	500.00045	0.45	0.30	2.5
500 g (2)	500.00209	2.09	500.00056	0.56	0.30	2.5
500 g (3)	500.00225	2.25	500.00073	0.73	0.30	2.5
500 g (4)	500.00166	1.66	500.00013	0.13	0.30	2.5

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Standards of the State of Maine are traceable to the National Institute of Standards and Technology through State of Oregon Department of Agriculture State Test No: OR-18-257-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2023.

Laboratory environmental range:

Temperature: 21.09 °C to 21.14 °C Relative humidity: 42.18 % to 42.29 %

Barometric pressure: 746.51 mmHg to 746.64

Date Received: November 21, 2023 Date of test: December 29, 2023 Calibration due: December 31, 2024

Bradford Bachelder, Metrologist

This report may not be reproduced, except in full, without written permission from this laboratory. This report must not be used to claim product certification, approval, or endorsement by NIST, NVLAP, The State of Maine, or any agency of the U.S. government. Calibrations performed at 333 Cony Road, Augusta ME.

CALIBRATION TO NVI AP LAB CODE 200414-0

PHONE: (207) 287-7587

FAX: (207) 287-7161

https://stateofmaine-my.sharepoint.com/personal/bradford_bachelder_maine_gov/Documents/OldHomeDirectory/Metrology Lab/CALIBRATIONS/Calibration 2024/Mass Il/MaineCal/2024/2024 8126ME 1351F 4x500g/Maine Scale_8126ME.doc



DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal COMMISSIONER

Celeste Poulin

REPORT OF CALIBRATION MAINE TEST NUMBER 8130ME

Metric Weight Kit: 5 kg to 1 g SN: 28620

Date of Report: February 6, 2024

SUBMITTED BY: Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 8 (Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019), and were found to be or adjusted to within NIST Handbook 105-1 Class "F" tolerances. Weights received in good condition.

Standards of the State of Maine are traceable to the International System of Units (S.I.) through Oregon State test number OR-18-240-C. The Maine Laboratory is recognized by NIST, OWM, under the "Laboratory Metrology Program", at Mass Echelon III for 2024. Measurements by this laboratory are traceable to the National Standards at NIST.

The mass standards described above were found to have mass values at the time of test as indicated in the tabulation on the following page. Weights received in an out of tolerance condition will show a bold value in a "before adjustment" column if required.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard and procedure used, including bias, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and Type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor of 2.0 (k=2.0) representing a 95% confidence level. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0 g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance.

Page 1 of 3

CALIBRATION NVIAP LAB CODE 200414-0

PHONE: (207) 287-7587

FAX: (207) 287-7161

https://stateofmaine-my.sharepoint.com/personal/bradford_bachelder_maine_gov/Documents/OldHomeDirectory/Metrology Lab/CALIBRATIONS/Calibration 2024/Mass III Metric/Maine Scale 28620 8130ME.doc

Maine Scale Company MAINE TEST NUMBER 8130ME

Page 2 of 3

Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017. Environmental conditions at time of test:

Temperature: 21.0 °C Relative Humidity: 41.9 %

Barometric Pressure: 749.30 mmHg.

Data reduction sheets are on file at the laboratory.

Nominal &	Correction	NIST Class F	Uncertainty	Before
Marking	mg	Tolerance mg	mg	Adjustment
5 kg	125	500	31	
5 kg *	143	500	31	
2 kg	63	200	13	
2 kg *	49	200	13	
1 kg	26.7	100	7.2	
500 g *	16.1	70	5.8	
500 g **	18.1	70	5.8	
500 g ***	12.1	7 0	5.8	
500 g ****	24.1	7 0	5.8	
500 g ****	22.1	70	5.8	
200 g	14.6	40	4.7	
200 g *	15.6	40	4.7	
100 g	4.9	20	1.2	
50 g	4.74	10	0.61	
20 g	0.96	4.0	0.27	
20 g *	0.96	4.0	0.27	
10 g	0.85	2.0	0.13	
5 g	0.49	1.5	0.10	
2 g	0.183	1.1	0.080	
2 g *	0.353	1.1	0.080	
1 g	0.403	0.90	0.061	

Date Received: December 27, 2023 Date of Test: January 11, 2024 Calibration Due: January 31, 2026 Calibration by: Bradford Bachelder



Maine Scale Company MAINE TEST NUMBER 8130ME

Page 3 of 3

Bradford Bachelder, Metrologist





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal COMMISSIONER

Celeste Poulin

REPORT OF CALIBRATION MAINE TEST NUMBER 8106ME

Metric Weight Kit: 5 kg to 1 g SN: 74742

Date of Report: February 7, 2024

SUBMITTED BY: Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 8 (Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019), and were found to be or adjusted to within NIST Handbook 105-1 Class "F" tolerances. Weights received in good condition.

Standards of the State of Maine are traceable to the International System of Units (S.I.) through Oregon State test number OR-18-240-C. The Maine Laboratory is recognized by NIST, OWM, under the "Laboratory Metrology Program". at Mass Echelon III for 2024. Measurements by this laboratory are traceable to the National Standards at NIST.

The mass standards described above were found to have mass values at the time of test as indicated in the tabulation on the following page. Weights received in an out of tolerance condition will show a bold value in a "before adjustment" column if required.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard and procedure used, including bias, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and Type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor of 2.0 (k=2.0) representing a 95% confidence level. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0 g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance.

Page 1 of 3



Maine Scale Company MAINE TEST NUMBER 8106ME

Page 2 of 3

Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017. Environmental conditions at time of test:

Temperature: 21.0 °C Relative Humidity: 40.8 %

Barometric Pressure: 749.64 mmHg.

Data reduction sheets are on file at the laboratory.

Nominal &	Correction	NIST Class F Uncertainty		Before
Marking	mg	Tolerance mg	mg	Adjustment
5 kg	151	500	31	
2 kg	56	200	13	
2 kg *	62	200	13	
1 kg	26.7	100	7.2	
500 g	7.1	70	5.8	
200 g	-0.5	40	4.7	
200 g *	12.6	40	4.7	
100 g	10.4	20	1.2	
50 g	4.64	10	0.61	
20 g	1.01	4.0	0.27	***
20 g *	0.82	4.0	0.27	
10 g	0.69	2.0	0.13	
5 g	0.25	1.5	0.10	
2 g	0.673	1.1	0.080	
2 g *	0.383	1.1	0.080	
1 g	0.083	0.90	0.061	

Date Received: November 21, 2023 Date of Test: January 11, 2024 Calibration Due: January 31, 2026 Calibration by: Bradford Bachelder

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.



Maine Scale Company MAINE TEST NUMBER 8106ME Page 3 of 3

Bradford Bachelder, Metrologist





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal COMMISSIONER

Celeste Poulin

REPORT OF CALIBRATION MAINE TEST NUMBER 8142ME

Metric Weight Kit: 2 kg to 5 mg SN: MS54

Date of Report: February 7, 2024

SUBMITTED BY: Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 8 (Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019), and were found to be or adjusted to within NIST Handbook 105-1 Class "F" tolerances. Weights received in good condition.

Standards of the State of Maine are traceable to the International System of Units (S.I.) through Oregon State test number OR-18-240-C. The Maine Laboratory is recognized by NIST, OWM, under the "Laboratory Metrology Program", at Mass Echelon III for 2024. Measurements by this laboratory are traceable to the National Standards at NIST.

The mass standards described above were found to have mass values at the time of test as indicated in the tabulation on the following page. Weights received in an out of tolerance condition will show a bold value in a "before adjustment" column if required.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard and procedure used, including bias, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and Type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor of 2.0 (k=2.0) representing a 95% confidence level. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0 g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance.

Page 1 of 3

CALIBRATION NVLAP LAB CODE 200414-0

PHONE: (207) 287-7587

FAX: (207) 287-7161

Maine Scale Company MAINE TEST NUMBER 8142ME

Page 2 of 3

Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017. Environmental conditions at time of test:

Nominal &	Correction	NIST Class F	Uncertainty	Before
Marking	mg	Tolerance mg	mg	Adjustment
2 kg	63	200	13	
1 kg	26.7	100	7.2	
500 g	16.1	70	5.8	
200 g	14.6	40	4.7	
200 g *	15.6	40	4.7	
100 g	4.9	20	1.2	
50 g	4.74	10	0.61	
20 g	0.96	4.0	0.27	
20 g *	0.96	4.0	0.27	
10 g	0.85	2.0	0.13	
5 g	0.49	1.5	0.10	
2 g	0.183	1.1	0.080	
2 g *	0.353	1.1	0.080	
1 g	0.403	0.90	0.061	
500 mg	0.187	0.72	0.053	
200 mg	0.075	0.54	0.045	
200 mg *	0.095	0.54	0.045	
100 mg	0.017	0.43	0.037	
50 mg	0.064	0.35	0.034	
20 mg	-0.004	0.26	0.031	
20 mg *	0.016	0.26	0.031	200
10 mg	0.036	0.21	0.029	
5 mg	0.025	0.17	0.017	440

Temperature: 21.0 °C Relative Humidity: 41.9 %

Barometric Pressure: 749.30 mmHg.

Data reduction sheets are on file at the laboratory.



Maine Scale Company MAINE TEST NUMBER 8142ME Page 3 of 3

Date Received: January 17, 2024 Date of Test: February 5, 2024 Calibration Due: February 28, 2026 Calibration by: Bradford Bachelder

Bradford Bachelder, Metrologist





DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY DIVISION OF QUALITY ASSURANCE AND REGULATIONS 28 STATE HOUSE STATION AUGUSTA, MAINE 04333-0028

Amanda E. Beal Commissioner

Celeste Poulin Director

REPORT OF CALIBRATION MAINE TEST NUMBER 8111ME

High precision metric standards Date of Report: February 12, 2024

SUBMITTED BY Maine Scale Company 4 Washington St. North Auburn, ME 04210

The mass standards described below have been compared with standards of the State of Maine by NIST SOP 4: Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The mass standards are listed in the table below and used at 20 °C for air buoyancy correction calculations. Measurements conducted by this laboratory are traceable to the International System of Units (S.I.). Weights were received in good condition.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard, including bias, and procedure used, and (2) Type A, random errors determined by the standard deviation of the measurement process. Type A and type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor k (k=2.17) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0g/cm³ at 20 °C. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance. Weights found in an out of tolerance condition will have conventional mass correction values in bold.

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Page 1 of 3



PHONE: (207) 287-7587

FAX: (207) 287-7161

Maine Scale Company Maine Test Number 8111ME

Page 2 of 3

Nominal & Identification	Density g/cm ³	True Mass g	True Mass correction mg	Conventional Mass, g	Conventional Mass correction mg	Uncertainty mg	ASTM E617- 18 Class 2 Tolerance, mg
5000 g - 64651	7.85	5000.0099	9.9	4999.9956	-4.4	3.2	25
2000 g - 64639	7.84	2000.0057	5.7	1999.9996	-0.4	1.7	10
2000 g 98-J20352-12	7.85	2000.0062	6.2	2000.0000	0.0	1.7	10
2000 g - 782X	7.84	2000.0064	6.4	2000.0003	0.3	1.7	10
2000 g 98-J20355-2	7.85	2000.0026	2.6	1999.9969	-3.1	1.7	10
1000 g 782Y	7.84	1000.00459	4.59	1000.00152	1.52	0.48	5.0
1000 g - 100317-1	7.84	1000.00374	3.74	1000.00068	0.68	0.48	5.0
1000 g - 98631	7.84	1000.00389	3.89	1000.00083	0.83	0.48	5.0
500 g - CP500-6	7.84	500.00177	1.77	500.00024	0,24	0.30	2.5
300 g 091018-1W	7.85	300.00099	0.99	300.00013	0.13	0.24	1.5

Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Standards of the State of Maine are traceable to the National Institute of Standards and Technology through State of Oregon Department of Agriculture State Test No: OR-18-257-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2023.

Laboratory environmental range:

Temperature: 21.19 °C to 21.26 °C Relative humidity: 40.62 % to 41.96 %

Barometric pressure: 745.93 mmHg to 746.51 mmHg

Date Received: November 21, 2023 Date of test: December 29, 2023 Calibration due: December 31, 2024



PHONE: (207) 287-7587

FAX: (207) 287-716

Maine Scale Company Maine Test Number 8111ME Page 3 of 3

Bradford Bachelder, Metrologist

