



Receipt Date: December 12, 2017
Cal. Date: January 20, 2018
Report Date: January 20, 2018

Report No.: 338616
Set Serial No.: #HSS 2G/5500
Barcode: 202652

Calibration Certificate

HAWKEYE STATE SCALE
5040 BLAIRS FOREST WAY NE
CEDAR RAPIDS, IA 52402
Contact: DUANE SYTSMA
Phone: 319-364-4173
PO Number: NONE
SOP: NIST SOP 4
Technician ID: 09

Item(s) Submitted: Metric weight set
Manufacturer: RICE LAKE
Weight Type: I & II
Equipment ID: None
Condition: Good
Temperature: 20.0 °C
Pressure: 734.2 mmHg
Relative Humidity: 47.4 %

Nominal Value	Serial No.	CM Correction (mg)		ASTM E617 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
2000	08	-0.1	-0.1	2	2	2.04	3.1
1000	08	0.88	0.88	2	2	2.04	0.37
1000 .	08	1.13	1.13	2	2	2.04	0.37
500	08	0.64	0.64	2	2	2.03	0.33
100	08	0.237	0.237	2	2	2.03	0.043
100 .	08	0.262	0.262	2	2	2.03	0.043
100 ..	08	0.312	0.312	2	2	2.03	0.043
100 ::	08	0.302	0.302	2	2	2.03	0.043
50	08	0.123	0.123	2	2	2.04	0.040
50 .	08	0.133	0.133	2	2	2.04	0.040
20	08	0.068	0.068	3	3	2.05	0.033
10	08	0.040	0.040	2	2	2.03	0.019
5	08	0.0260	0.0260	2	2	2.05	0.0059
2	08	0.0209	0.0209	2	2	2.05	0.0036
2 .	08	0.0144	0.0144	2	2	2.05	0.0036
1	08	0.0248	0.0248	2	2	2.05	0.0034
0.5	08	-0.0021	-0.0021	2	2	2.04	0.0037
0.2	08	0.0027	0.0027	2	2	2.05	0.0028
0.2 .	08	0.0042	0.0042	2	2	2.05	0.0028
0.1	08	0.0046	0.0046	2	2	2.05	0.0027

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Relative Humidity: 47.4 %

Nominal Value	Serial No.	CM Correction (mg)		ASTM E617 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
0.05 g		0.0009	0.0009	2	2	2.05	0.0027
0.02 g		0.0059	0.0059	2	2	2.04	0.0025
0.02 g		0.0064	0.0064	2	2	2.04	0.0025
0.01 g		0.0009	0.0009	2	2	2.05	0.0025
0.005 g		0.0039	0.0039	2	2	2.05	0.0018
0.002 g		0.0056	0.0056	2	2	2.06	0.0021
0.002 g		0.0051	0.0051	2	2	2.06	0.0021
0.001 g		0.0049	0.0049	2	2	2.06	0.0023

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to ASTM E617 (2013) and SAP 20. Uncertainty calculations contain the components in NIST SOP 4 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (*k*) calculated at the approximate 95.45 % confidence level. Results apply to

Heidi Jones
Heidi Jones
Laboratory Administrator

Reviewed by:
Pete Whebbe
Peter Whebbe
Metrologist